



June 10, 2020

Reference No. 081618

Mr. Steven Scharf
New York State Department of Environmental Conservation
Division of Solid & Hazardous Waste
Bureau of Solid Waste and Corrective Action
625 Broadway
Albany, New York
12233-7258

Dear Mr. Scharf:

**Re: Sub Slab Depressurization System – Final Engineering Report – Revision 1
RUCO Polymer Corp. Site
Hicksville, New York**

1. Introduction

The assessment and potential remediation of off-site soil vapor associated with the RUCO Polymer Corp. (RUCO) Site in Hicksville, New York was designated as Operable Unit 05 (OU5) by the New York State Department of Environmental Conservation (NYSDEC) and is subject to NYSDEC Order on Consent and Administrative Settlement Order (Order) Index #A1-0799-12-10, effective September 30, 2013.

In accordance with the Record of Decision (ROD) issued March 31, 2017 for Operable Unit 05: Off-site Soil Vapor, GHD, on behalf of Covestro and Glenn Springs Holdings, Inc. (GSH), prepared a Remedial Design (RD) for the installation, operation, maintenance, and monitoring of sub-slab depressurization (SSD) systems underneath the Simone Enterprises building located at 1 Enterprise Place in Hicksville, New York. The RD was submitted to the NYSDEC on January 16, 2018 and approved by NYSDEC on January 25, 2018. The Remedial Action Objective (RAO) under the ROD is to mitigate impacts to public health resulting from existing, or the potential for soil vapor intrusion into buildings at a site.

The Remedial Action included a phased approach for implementation of six SSD systems. The SSD systems consist of a 3-inch diameter high density polyethylene (HDPE) horizontal vapor extraction pipe beneath the building at six locations. The first phase involved the construction, operation, maintenance, and monitoring of the first SSD system (Phase I). A Phase I Six Month Operation Report was submitted to the NYSDEC on February 28, 2019. A copy of the report is presented in Attachment A. As stated in the RD, the data collected during Phase I was used to evaluate the installation, operating, and monitoring procedures for possible modifications to the remainder of the installations (Phase II). The Phase I Six Month Operation Report recommended that the remaining five wind powered SSD systems be installed using the methods implemented for installation of the Phase I SSD system and operated and monitored as proposed in the RD and Site Management Plan (SMP). NYSDEC approved installation of the remaining five wind powered SSD systems in a letter dated April 10, 2019.



This letter presents the Final Engineering Report (FER) for the remedial action presented in the RD, and includes details regarding the installation, operation, maintenance, and monitoring of the all six SSD systems during both Phase I and II. Figure 1 shows the layout of the area, including the building and the former RUCO property. Figure 2 focuses on the 1 Enterprise Place building area and the locations of vapor monitoring points and the SSD systems.

2. SSD System Overview

2.1 System Description

As outlined in the RD, wind powered SSD systems were proposed as the engineering control to mitigate the potential for migration of contaminated soil vapor beneath the building by providing a preferential pathway.

The SSD systems consist of slotted 3-inch diameter DR-11 high density polyethylene (HDPE) horizontal vapor extraction pipes installed beneath the building. The extraction pipes were designed to reduce sub-slab pressure and draw soil vapor from the pore space of the sub slab bedding materials.

Six-inch diameter rotary turbines are attached to each vertical pipe, which are in turn connected to the sub-slab horizontal vapor extraction pipes, in order to provide airflow to extract soil vapor.

2.2 Green Remediation Principles and Techniques

An important part of any remedial measure is its sustainability and long term impact on the environment. Based on the green guideline principles listed in the ROD, it was determined that the wind powered turbine is the proper choice for the SSD systems. It is a green solution, will be effective, and requires no external power source. This section provides a description of how the installed SSD systems incorporate green remediation principles and techniques contained within NYSDEC DER-31/Green Remediation.

2.2.1 Long-term Environmental Impacts of Treatment Technology and Remedy Stewardship

The impact of the SSD systems has been the reduction of soil vapor concentrations beneath the building over time, which has mitigated the potential for soil vapor migration into the building.

2.2.2 Direct and Indirect Greenhouse Gas Emissions

The primary man-made greenhouse gases are carbon dioxide, methane, and nitrous oxide. Manufacturing and installation of the physical components of the SSD systems (piping, wind powered turbines) did not require extensive energy, other than for installation. This limited the amount of such gases generated. Operation of the SSD systems does not use any energy sources other than natural wind. Thus, no greenhouse gases are generated during operation.

2.2.3 Minimizing Use of Non-Renewable Energy

Other than for the manufacturing of the components of the SSD systems and for their installation, operation requires no consumption of non-renewable energy.



2.2.4 Conserving and Efficiently Managing Resources and Materials

Other than for the manufacturing of the components of the SSD systems and for their installation, implementation required no consumption of resources or materials.

2.2.5 Reducing Waste, Increasing Recycling and Reuse of Materials

No wastes were generated other than excess soil and asphalt generated during drilling for installation of the SSD systems. The asphalt was shipped off Site for recycling and the soil was shipped off Site for reuse.

2.2.6 Maximizing Habitat Value

The Site is located within an industrial/commercial area. Thus, habitat is not a principle applicable to this Site.

2.2.7 Fostering Green and Healthy Communities

The Site is located within an industrial/commercial area. Thus, this is not a principle applicable to this Site.

2.2.8 Integrating Remedy with Land Use

The SSD systems were installed at an existing facility and their design took into account the facility's utilities, property and building uses, and the building aesthetics. Thus, the remedy was integrated with the existing land use.

2.3 Institutional Controls

The SSD systems were installed on property owned by Simone. An agreement between Simone and Covestro/GSH was executed to allow access by Covestro/GSH for the operation, maintenance, and monitoring (OM&M) of the SSD systems. Should Simone decide to redevelop/renovate the building, a clause in the agreement provides Covestro/GSH the opportunity to review the planned redevelopment/renovation prior to the work being performed to determine if operation of the SSD systems are still needed at such time and, if needed, to insure that the integrity and operational effectiveness of the SSD systems are not compromised.

3. Summary of Activities

3.1 Preliminary Testing

As outlined in the RD, preliminary testing was conducted at one location to establish an effective radius of influence beneath the floor slab. As indicated in a letter dated June 4, 2018 presenting the results of the preliminary testing, acceptable sub-slab vacuum was present as much as 30 feet southward from the extraction well. Therefore, it was recommended that the Phase I SSD system be installed using the wind powered rotary turbine.



3.2 SSD System Installation

The Phase I SSD system was installed between June 27 and June 29, 2018. Construction was performed by AARCO Contractors of Farmingdale, New York (AARCO) under the supervision of GHD.

Installation of the five remaining SSD systems was conducted from May 13 to May 30, 2019 by AARCO and Preferred Environmental Services of North Merrick, New York. The work was performed under the supervision of GHD.

The SSD systems are identified from south to north as SSD-1 through SSD-6, with the Phase I SSD system designated as SSD-5 (see Figure 2). Each location was spaced approximately 100 feet apart, with minor adjustments made based on field conditions. The horizontal vapor extraction pipes were installed between approximately 1 to 2 feet below the underside of the slab. The locations of the SSD systems are shown on Figure 2.

Construction details were consistent with those presented in the RD. In general, the work began with the removal of a 7 foot to 10 foot wide by 12 foot long area of asphalt pavement outside the west wall of the building. The area was excavated to a depth of 3 feet below ground surface to expose a portion of the building foundation to the top of the spread footer for the building. To expose the backfill beneath the floor slab, a 10-inch diameter hole was cored through the concrete building foundation, which was approximately 14-inches thick.

Sand and gravel were removed from beneath the floor slab using a 6-inch diameter vacuum hose from a vacuum truck connected to a 6-inch diameter Schedule 80 flush joint polyvinyl chloride (PVC) casing. The 6-inch PVC casing was extended through the corehole as the soil was removed. Due to the presence of stone cobbles, an 8-inch temporary casing also was used at SSD-5 for 4 feet. The PVC casings were installed to approximately 52 feet from the outside wall of the building foundation. A 3-inch diameter HDPE extraction pipe was then installed through the 6-inch PVC casing. At each location, 45 feet of slotted HDPE pipe (#20 slot) and 5 feet of solid HDPE pipe were installed except at SSD-5, where 40 feet of slotted HDPE pipe and 10 feet of solid HDPE pipe were installed. The shorter length solid pipe was used for SSD-1 to 4 and SSD-6 based on the thickness (14-inches) and integrity of the foundation wall and performance of SSD-5 during Phase I. The thickness and integrity of the foundation wall mitigated the potential for short-circuiting of air flow from outside the building which allowed for a shorter length of solid pipe. This also allowed for an extra 5 feet of slotted pipe to improve soil vapor collection especially at SSD-2 and SSD-3, where compacted or dense sand and silt were present (see below). Slotted HDPE pipe was used in place of perforated HDPE pipe due to the presence of fine sand observed in the soil materials removed.

Course sand (#2 quartz sand) was blown into the void space while the PVC casing was removed. When sand reached approximately 3 feet from the building wall, a bentonite seal was placed and hydrated to fill the remainder of the annulus. Bricks were mortared into place in the interior portion of the corehole to fill the void between the corehole and 3-inch pipe. The outer portion of the corehole around the well pipe was then sealed with mortar and troweled into place by hand.



A 1-foot transition piece was added to each well pipe to convert from a flush joint to a threaded joint, then a black iron tee was installed onto the threads. The end of each tee was sealed with a threaded plug. A 10-foot length of 3-inch diameter black iron pipe was extended upward from the tee to approximately 8 feet above ground surface along the building wall for stability. A 3-inch diameter PVC pipe was attached to the black iron pipe and extended approximately 2 to 3 feet above the roofline. The riser was fastened to the wall in four places to support the torque created by the wind powered rotary turbines during operation. The riser was covered with aluminum downspout pipe to match the other downspouts on the building.

A 6-inch diameter wind-powered rotary turbine was connected via a flexible reducer to the top of each PVC riser pipe.

A sample/access port was installed on each riser approximately 4 feet above ground level to allow for flow rate monitoring, soil vapor monitoring with a photoionization detector, and soil vapor sample collection.

At SSD-2 and SSD-3, compacted or dense sand and silt (finer grained) soil material containing fine to coarse rounded gravel and small to large cobbles was encountered. The material could not be penetrated using the 6-inch PVC casing/vacuum method. An air-operated hammer drill was inserted and used to penetrate the hard soil materials in advance of the 6-inch PVC casing. The air-operated hammer drill created an approximate 4-inch diameter hole, which allowed the 6-inch PVC casing/vacuum method to advance.

Upon completion of each SSD system installation, the excavation outside the building wall was backfilled in 1-foot lifts and compacted with a plate tamper. The surface at each location was completed with 3-inches of asphalt pavement to match the existing grade.

Waste material generated included approximately 8 cubic yards of asphalt and approximately 12 cubic yards of soil from beneath the building. These non-hazardous materials were transported off Site to Dale Transfer Corporation in West Babylon, New York. The asphalt was recycled and the soil was shipped to Clean Earth of Carteret, LLC in Carteret, New Jersey for reuse in accordance with applicable regulations.

As-recorded drawings of the six SSD systems are presented in Attachment B. A photolog documenting Phase II installation is presented in Attachment C. A photolog documenting Phase I installation was presented in the Phase I Six Month Operation Report dated February 28, 2019.

3.3 SSD System Monitoring

3.3.1 Field Measurements

Field measurements were conducted to measure weather, flowrate, vacuum, and volatile organic compounds (VOCs) exiting the SSD systems in accordance with the schedule presented in the RD. These were conducted daily for the first week after installation, then weekly for the next three weeks, then monthly for the next two months, then quarterly thereafter. VOCs were monitored using a photoionization detector (PID) and by collecting samples for laboratory analysis using procedures specified in the RD. These data are presented in Table 1. No issues were encountered with respect to collecting field measurements. Overall, the readings collected throughout the operation period (July 2018 through



December 2019) indicate that air is moving through the pipe, that a vacuum has been in the horizontal system induced as indicated by the negative pressure readings in Table 1, and that soil vapor contaminants as measured by the PID are being removed.

The average air flowrate and soil pore volume exchanges for each SSD system over the operating period are summarized below.

SSD System	Average Air Flow Rate (cubic feet per day)	Soil Pore Volume Exchanges per day
SSD-1	33,009	2.2
SSD-2	36,609	2.4
SSD-3	30,517	2.0
SSD-4	33,785	2.3
SSD-5	17,269	1.2
SSD-6	33,895	2.3

The above soil pore volume exchanges are within or slightly above the anticipated range of 1.2 to 2.1 pore volume exchanges as stated in the RD.

3.3.2 Vapor Sampling

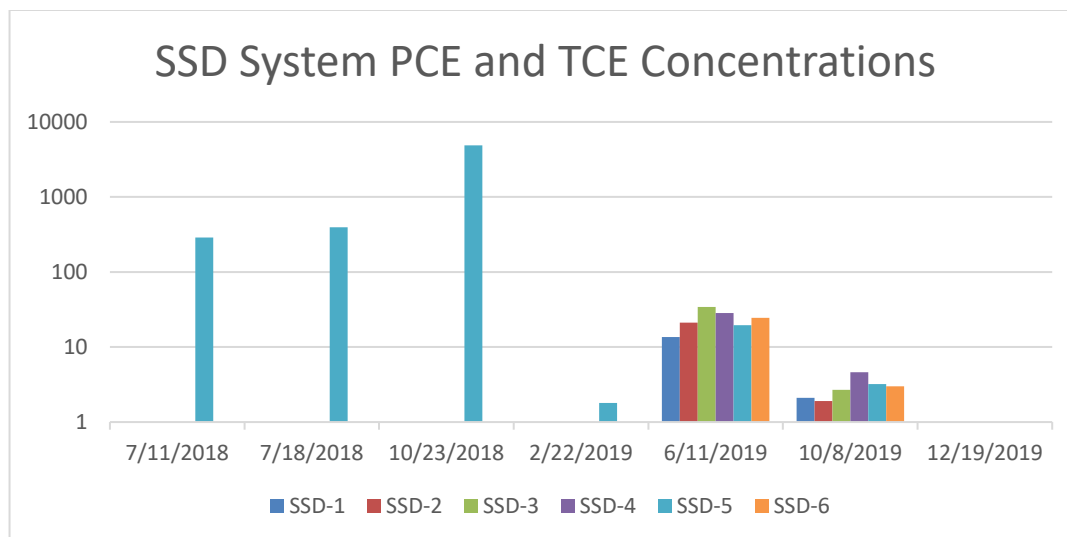
Prior to startup, vapor samples were collected from the Phase I SSD system (SSD-5) on July 11, 2018. SSD-5 was sampled again 1 week after startup, three months after startup on July 18, 2018, after an additional three months on October 23, 2018, and again on February 22, 2019.

Following the installation of the Phase II SSD systems (SSD-1 to 4 and SSD-6), samples were collected from the Phase II SSD systems prior to startup on June 4, 2019 and then one week after start up on June 11, 2019. A sample was also collected for the Phase I SSD system (SSD-5) on June 11, 2019. Samples from all six of the SSD systems were again collected on October 8, 2019 and December 19, 2019.

All samples were collected in accordance with the schedule and procedures specified in the RD.

Results of these samples are presented in Table 2. Laboratory reports are presented in Attachment D and data validation memorandums are presented in Attachment E. The data were found to be acceptable with the qualifications noted.

Table 3 presents a summary of trichloroethylene (TCE) and tetrachloroethylene (PCE) concentrations in the samples collected from the SSD systems. The chart below shows the TCE and PCE concentration trends in all six SSD systems in Phase II.



The highest concentrations were found in SSD-5. This was expected as SSD-5 was installed in the vicinity of sub-slab vapor sampling location SSV-5 where the highest PCE sub-slab concentration was detected during the Remedial Investigation (Remedial Investigation Report, Operable Unit 5, dated April 14, 2016). During the initial Phase I six-month period, PCE concentrations in the SSD-5 system went from 280 $\mu\text{g}/\text{m}^3$ at startup, to 4,800 $\mu\text{g}/\text{m}^3$ after 3 months. TCE concentrations rose from 8.1 $\mu\text{g}/\text{m}^3$ at startup, to 14 $\mu\text{g}/\text{m}^3$ after one week, to 65 $\mu\text{g}/\text{m}^3$ after three months (October 2018). The increasing concentrations showed that the system was extracting impacted soil vapor. The samples collected from SSD-5 in 2019 show a significant decrease in PCE and TCE concentrations over time. PCE concentrations decreased to 13 $\mu\text{g}/\text{m}^3$ in June 2019 to 3.2 J (estimated) $\mu\text{g}/\text{m}^3$ in October 2019 to non-detect in December 2019. TCE concentrations decreased to 6.6 $\mu\text{g}/\text{m}^3$ in June 2019 to non-detect in October and December 2019. The increasing trend after startup is expected as operation of the SSD system extracted impacted soil vapor from the area around SSV-5. The subsequent decreasing trend indicates that operation of the SSD-5 has mitigated the impacted soil vapors in the area of SSV-5.

As shown in Table 3, the PCE and TCE concentrations detected in the five Phase II SSD systems (SSD-1 to 4, and SSD-6) were significantly lower than the concentrations detected in SSD-5. The highest PCE and TCE concentrations were detected after the first week of operation and ranged between 11 $\mu\text{g}/\text{m}^3$ and 31 $\mu\text{g}/\text{m}^3$ and 2.2 J $\mu\text{g}/\text{m}^3$ to 5.6 $\mu\text{g}/\text{m}^3$, respectively. The PCE and TCE concentrations decreased to non-detect in the December 2019 samples.

3.4 Additional Activities

3.4.1 Interior Work

In accordance with the RD, accessible floor penetrations, floor joints, or slab cracks within the building were inspected. Any penetrations, joints or cracks in accessible areas that were found to provide a potential pathway from the sub-slab were sealed with urethane caulk or hydraulic cement, as determined



based on the observed conditions. The sealing activities were conducted in May 2018. Additional details are provided in the Phase I Six Month Operation Report dated February 28, 2019.

3.4.2 Sub-Slab Vapor and Indoor Air Monitoring

Prior to startup of the Phase I SSD system, vapor samples were collected from a sub-slab vapor monitoring location near SSV-5 (SV-1) on July 11, 2018. SV-1 is located approximately 80 feet southwest of the eastern end of SSD-5. Additional indoor and outdoor air samples were collected during the heating season on February 22, 2019, along with another sample from SV-1.

The results of July 11, 2018 sampling were presented in the Phase I Six Month Operation Report dated February 28, 2019. The sub-slab monitoring point SV-1 (near SSV-5) showed a PCE concentration of 10,000 $\mu\text{g}/\text{m}^3$ and a TCE concentration of 89 $\mu\text{g}/\text{m}^3$ at startup of SSD-5. The most recent prior sampling of SSV-5 was conducted in 2011. The PCE concentration in SSV-5 in 2011 was 32,000 $\mu\text{g}/\text{m}^3$. TCE was not detected at this location in 2011; however, TCE was detected in nearby SSV-6 at 56 $\mu\text{g}/\text{m}^3$ in 2011. SSV-6 also is located in the general vicinity of the SSD-5. The concentrations in SV-1 are lower than those detected in the area in 2011.

The analytical results for the indoor and outdoor air samples and the sample collected from SV-1 on February 22, 2019 are presented in Table 5. Laboratory reports are presented in Attachment D and data validation memorandums are presented in Attachment E. The data were found to be acceptable with the qualifications noted.

Indoor and outdoor air samples collected on February 22, 2019 in the heating season showed no detections of PCE. TCE was reported as not detected (or not found) but at higher than typical laboratory detection limits in the indoor air samples. The TCE and PCE concentrations in the sample collected from SV-1 on February 22, 2019 were significantly lower than those in the sample collected on July 11, 2018. The TCE concentration decreased from 89 $\mu\text{g}/\text{m}^3$ to 6.9 $\mu\text{g}/\text{m}^3$ and the PCE concentration decreased from 10,000 $\mu\text{g}/\text{m}^3$ to 59 $\mu\text{g}/\text{m}^3$. The decrease in concentrations demonstrates the effectiveness of vapor extraction by SSD-5 at a distance of approximately 80 feet from the eastern of the system.

3.4.3 Air Emission Evaluation

In the April 10, 2019 letter approving installation of the Phase II SSD systems, NYSDEC requested that an evaluation be performed to confirm that multi-stack system emissions are within and below the updated NYSDEC Division of Air Resources (DAR) 6 NYCRR Part 200 Series Emission Guideline Values. The evaluation is presented in Attachment F. A worst case scenario was evaluated using only the initial concentrations from SSD-5 rather than the non-detect/low concentrations of all six SSD systems from the most recent sampling event.

Air quality impacts of individual VOCs were evaluated using the United States Environmental Protection Agency (USEPA)'s AERSCREEN air dispersion model. The ambient VOC concentrations estimated using the model were compared to corresponding short-term guideline concentrations (SGCs) and annual



guideline concentrations (AGCs) established by the NYSDEC for use in air quality assessment and permitting.

The results show that maximum impacts are well below the NYSDEC guideline concentrations. All short-term impacts are less than 0.2 percent of the corresponding SGCs. All annual impacts are less than 2 percent of the corresponding AGCs. Thus, any fluctuations in soil vapor concentrations or SSD systems flows are also expected to result in impacts well below guideline concentrations.

3.4.4 Off-Site Soil Vapor Monitoring

The RD and SMP require annual sampling of off-Site soil vapor monitoring locations VP-41, VP-42, and VP-46 for a period of four years. The first annual sampling event was conducted on November 7, 2018. Soil vapor monitoring locations VP-41 and VP-46 were the only two sampled in the first annual sampling as VP-42 could not be located and was believed destroyed. VP-42 was replaced (VP-42R) on July 23, 2019 and sampled on July 26, 2019. The second annual sampling event was conducted on December 19, 2019.

Samples were collected in accordance with the procedures specified in the RD. The analytical results for the samples collected from VP-41, VP-42R, and VP-46 are presented in Table 5. Laboratory reports are presented in Attachment D and data validation memorandums are presented in Attachment E. The data were found to be acceptable with the qualifications noted.

The current and previous analytical results for samples collected in 2014 and 2015 at these locations for PCE and TCE are summarized in Table 6.

The PCE concentration in VP-41 in the December 2019 sample was non-detect. This is a decrease in concentration compared to that detected in the previous sampling events conducted in 2014 (2,100 $\mu\text{g}/\text{m}^3$), 2015 (3.4 J $\mu\text{g}/\text{m}^3$) and 2018 (18 $\mu\text{g}/\text{m}^3$). TCE was not detected in the December 2015, November 2018, or December 2019 samples collected from VP-41. This is a decrease in concentration compared to that detected in 2014 at VP-41 (51 $\mu\text{g}/\text{m}^3$).

The PCE concentration in VP-46 in the December 2019 sample was 20 $\mu\text{g}/\text{m}^3$. This is a decrease in concentration compared to that detected in the previous sampling events in 2014 (530 $\mu\text{g}/\text{m}^3$), 2015 (380 $\mu\text{g}/\text{m}^3$), and 2018 (690 $\mu\text{g}/\text{m}^3$). The TCE concentration in VP-46 in the December 2019 sample was 0.76 J $\mu\text{g}/\text{m}^3$. This is a decrease in concentration compared to that detected in the previous sampling event in 2014 (7.7 $\mu\text{g}/\text{m}^3$), 2015 (2.9 J $\mu\text{g}/\text{m}^3$) and 2018 (7.1 $\mu\text{g}/\text{m}^3$). Overall, the concentrations in VP-46 indicate a significant decrease in concentrations compared to past sampling events. As stated in the RD, a determination of appropriate sampling frequency will be discussed with the NYSDEC after the four years of sampling have been completed, with the intent to sample until the PCE concentration reaches a concentration of less than 30 $\mu\text{g}/\text{m}^3$ or some other higher appropriate level based on the trends observed. However, as indicated above, the PCE concentration decreased to 20 $\mu\text{g}/\text{m}^3$ in December 2019, below the target concentration presented in the RD.

The PCE concentration in VP-42R in the December 2019 sample was non-detect. This is a decrease in concentration compared to that detected in July 2019 (2.9 J $\mu\text{g}/\text{m}^3$), as well as VP-42 in 2014



(2,900 $\mu\text{g}/\text{m}^3$) and 2015 (3.7 J $\mu\text{g}/\text{m}^3$). TCE was not detected in the December 2015, July 2019, and December 2019 samples collected from VP-42/42R. This is a decrease in concentration compared to that detected in 2014 at VP-42 (71 $\mu\text{g}/\text{m}^3$).

These results indicate a decreasing concentration trend in the three off-Site soil vapor probes.

4. Conclusions

Based on the operation of the SSD systems and monitoring conducted in accordance with the RD, the following conclusions are made:

- The SSD systems are operating effectively based on the following:
 - Soil pore volume exchanges are within or slightly above the anticipated range of 1.2 to 2.1 pore volume exchanges per day as stated in the RD.
 - Soil vapor PCE and TCE concentrations initially increased after startup of the SSD system, particularly in SSD-5; however, PCE and TCE concentrations in all SSD systems were not detected in the most recent December 2019 sampling event.
 - TCE and PCE concentrations at SV-1, located approximately 80 feet southeast of the eastern end of the SSD-5 system, were significantly lower in the sample collected on February 22, 2019 than those in the sample collected on July 11, 2018 at system start up. The TCE concentration decreased from 89 $\mu\text{g}/\text{m}^3$ to 6.9 $\mu\text{g}/\text{m}^3$ and the PCE concentration decreased from 10,000 $\mu\text{g}/\text{m}^3$ to 59 $\mu\text{g}/\text{m}^3$. The decrease in concentrations demonstrates the effectiveness of vapor extraction by SSD-5.
- Indoor and outdoor air samples collected during February 2019 during the heating season showed no presence of TCE or PCE.
- The results of air emission dispersion modeling show that maximum potential impacts are well below the NYSDEC guideline concentrations. All short-term impacts are less than 0.2 percent of the corresponding SGCs. All annual impacts are less than 2 percent of the corresponding AGCs. Thus, any fluctuations in soil vapor concentrations or SSD systems flows are also expected to result in impacts well below guideline concentrations.
- The results of the first two years of annual monitoring of off-Site vapor probes VP-41, VP-42R, and VP-46 indicate a decreasing concentration trend in the three off-Site soil vapor probes, with non-detect PCE and TCE concentrations in VP-41 and VP-42R in the most recent sampling event conducted in December 2019.

5. Recommendations

Based on the above conclusions, it is recommended that operation of the SSD systems continue for up to an additional two years with monitoring on an annual basis concurrent with two remaining annual monitoring events for VP-41, VP-42R, and VP-46. A report will be submitted after the first year to evaluate



the performance of the system and present a recommendation regarding the need for the second year of operation.

Should you have any questions on the above, please do not hesitate to contact the undersigned at 519-340-4313 or email john.pentilchuk@ghd.com.

Yours truly

GHD

A handwritten signature in blue ink, appearing to read "John Pentilchuk", with a stylized flourish at the end.

John Pentilchuk

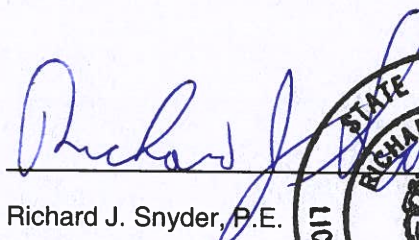
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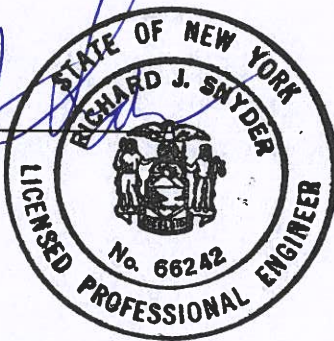
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cc: Renata Ockerby (NYSDOH)
Dena Putnick, Esq. (NYSDEC)
Jaclyn Kondrk (USEPA)
Pete Mannino (USEPA)
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Joseph Simone (Simone Development Company, LLC)
Dina Gupta, Esq. (Simone Development Company, LLC)
Sean Heneghan (Simone Development Company, LLC)
Dave Wagner, Esq. (Covestro)
Tim Troutman (Covestro)
Paul Bluestein (GSH)
Andrea Whitley (GSH)

Certification

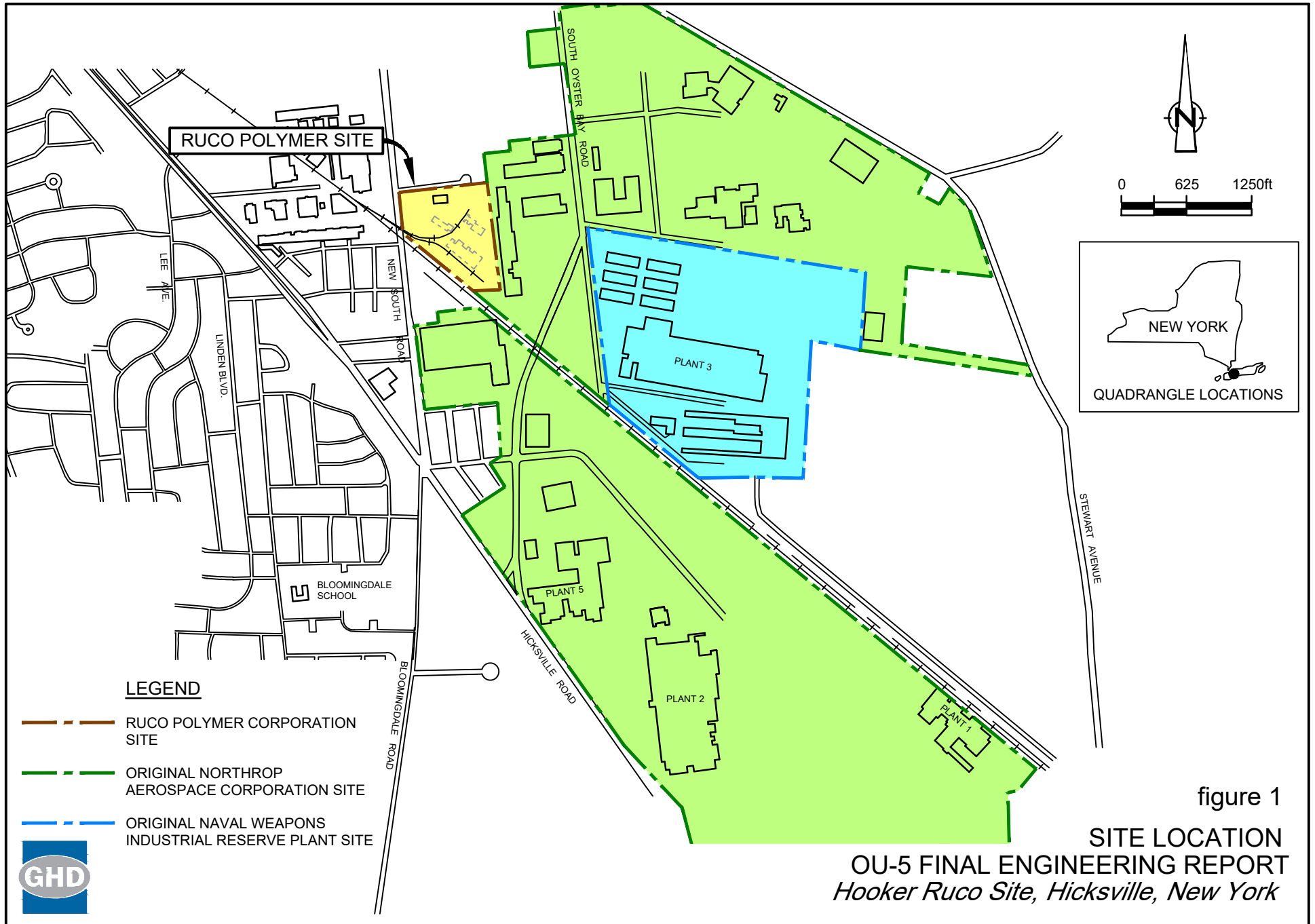
I certify that I am currently a NYS registered professional engineer and that this Final Engineerin Report for the RUCO Polymer Corp. Site was prepared in accordance with applicable statues and regulations and in substantial conformance with the New York State Department of Environmental Conservation (NYSDEC) DER Technical Guidance for Site Investigation and Remediation (DER-10).


Richard J. Snyder, P.E.
Senior Engineer



June 10, 2020

Date



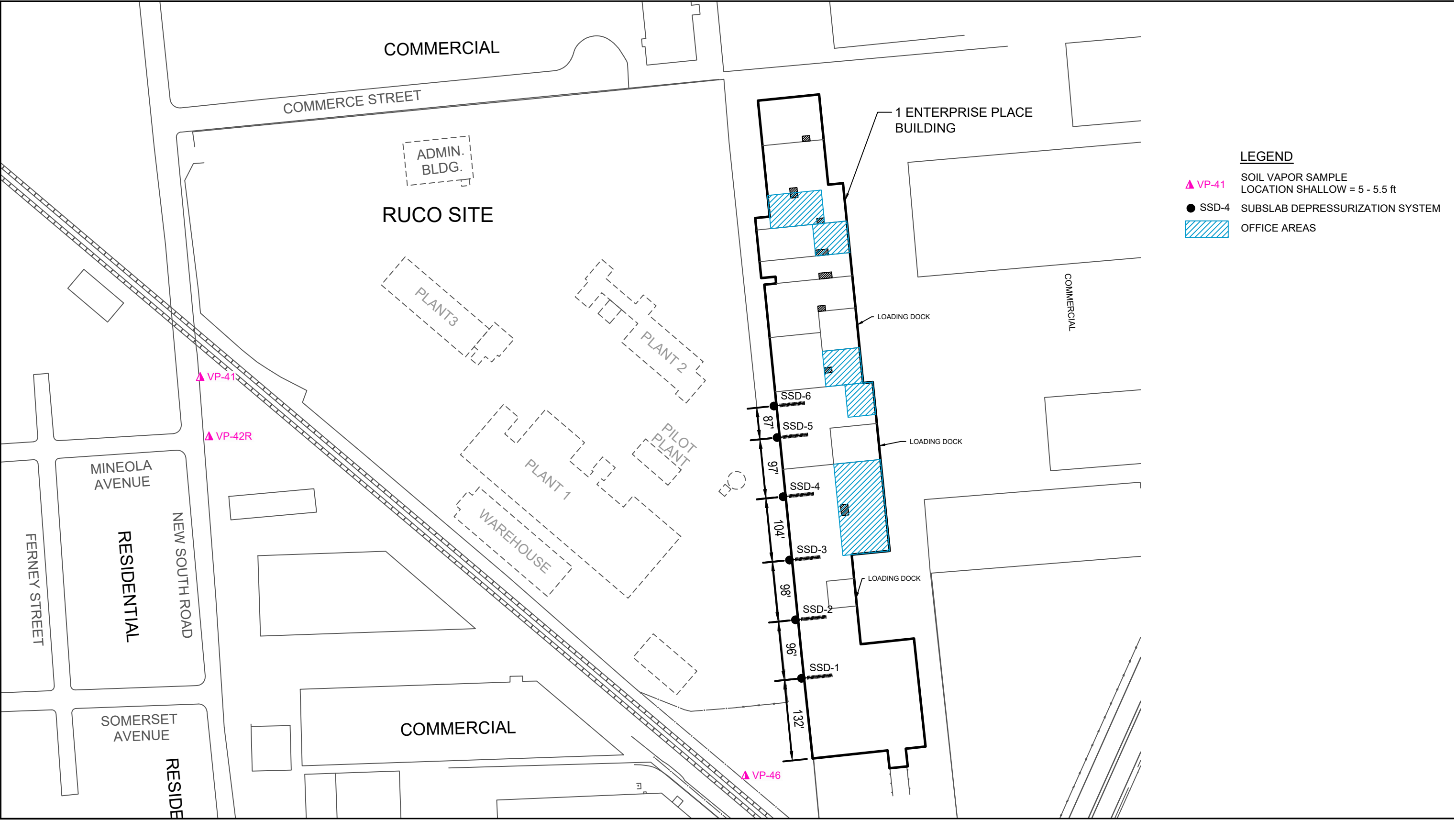


Table 1

SSD System Measurements
One Enterprise Place
Hicksville, New York

Date: Time: Weather:		7/11/2018 11am Sunny light breeze	7/11/2018 Start up 12pm Sunny light breeze	7/11/2018 12:30pm Sunny light breeze	7/11/2018 1:30pm Sunny light breeze	7/12/2018 4pm Very still day	7/13/2018 4:30pm windy	7/16/2018 8:30am still day	7/17/2018 8am light breeze	7/18/2018 4:15pm breeze	7/25/2018 11:00am gusty	8/1/2018 11:00am light wind	8/8/2018 10:30am light wind
SSD-6	VOCs (ppm) ¹	--	--	--	--	--	--	--	--	--	--	--	--
	Flow (cfm)	--	--	--	--	--	--	--	--	--	--	--	--
	Vacuum	--	--	--	--	--	--	--	--	--	--	--	--
SSD-5	VOCs (ppm) ¹	0	0	0	0	0.2	1.2	0.01	0	0.1	1.4	1.3	0.8
	Flow (cfm)	1.00	20.00	7.00	20.00	5.00	23.00	0.00	12.00	11.00	19.20	20.70	20.60
	Vacuum	-0.006	-0.04	-0.016	-0.03	-0.002	-0.025	0.001	-0.016	-0.023	-0.041	-0.05	0.001
SSD-4	VOCs (ppm) ¹	--	--	--	--	--	--	--	--	--	--	--	--
	Flow (cfm)	--	--	--	--	--	--	--	--	--	--	--	--
	Vacuum	--	--	--	--	--	--	--	--	--	--	--	--
SSD-3	VOCs (ppm) ¹	--	--	--	--	--	--	--	--	--	--	--	--
	Flow (cfm)	--	--	--	--	--	--	--	--	--	--	--	--
	Vacuum	--	--	--	--	--	--	--	--	--	--	--	--
SSD-2	VOCs (ppm) ¹	--	--	--	--	--	--	--	--	--	--	--	--
	Flow (cfm)	--	--	--	--	--	--	--	--	--	--	--	--
	Vacuum	--	--	--	--	--	--	--	--	--	--	--	--
SSD-1	VOCs (ppm) ¹	--	--	--	--	--	--	--	--	--	--	--	--
	Flow (cfm)	--	--	--	--	--	--	--	--	--	--	--	--
	Vacuum	--	--	--	--	--	--	--	--	--	--	--	--

- Notes:
- 1

- measured by
photoionization
detector
- VOCs

- volatile organic
compounds
- ppm

- parts per million
- cfm

- cubic feet per meter

Table 1

SSD System Measurements
One Enterprise Place
Hicksville, New York

	Date: Time: Weather:	8/15/2018 11:35am light wind	9/12/2018 11:00am light wind	10/15/2018 2:00pm windy and rain	1/27/2019 2pm Windy	6/4/2019 12:30pm Sunny 70F	6/5/2019 2pm Sunny 77 F	6/6/2019 2pm Sunny 80F	6/7/2019 2pm Sunny 81F	6/10/2019 10am Cloudy 65F	6/11/2019 10:30am Sunny 70F	6/18/2019 0.392361111 Cloudy 69F	6/26/2019 9:30AM Fair 85F
SSD-6	VOCs (ppm) ¹	--	--	--	--	0	0	0	0.7	0	0	0	0
	Flow (cfm)	--	--	--	--	5 to 70 cfm	13-35	8 to 19	19 to 31	10 to 21	27 to 103	7 to 21	2 to 38
	Vacuum	--	--	--	--	-.002 to + .002	-.051 to -.001	-.088 to -.008	-.019 to -.008	-.038 to -.009	-.217 to -.025	-.011 to -.006	-.041 to -.005
SSD-5	VOCs (ppm) ¹	0.8	1.2	1.3	1.2	0	0	0	1.8	0	0	0	0
	Flow (cfm)	12.00	15.70	19.85	18.57	3 to 70 cfm	2 to 8 cfm	0 to 3 cfm	0 to 5	1 to 23	14 to 47	1 to 5	1 to 7
	Vacuum	0.59	-0.009	-0.166	-0.079	-.002 to + 0.17	-.048 to 0.00	-.080 to -.008	-.020 to -.006	-.040 to -.009	-.324 to -.038	-.012 to -.004	-.039 to -.002
SSD-4	VOCs (ppm) ¹	--	--	--	--	0	0	0	2.7	0	0	0	0.2
	Flow (cfm)	--	--	--	--	40 to 45 cfm	14 to 25 cfm	2 to 11 cfm	16 to 23	28 to 32	2 to 111	6 to 13	5 to 28
	Vacuum	--	--	--	--	0.001	-.095 to - 0.023	-.036 to - 0.006	-.026 to - 0.009	-.033 to - 0.025	-.456 to - 0.021	-.002 to -.008	-.007 to -.002
SSD-3	VOCs (ppm) ¹	--	--	--	--	0	0	0	0	0	1.3	0	0.5
	Flow (cfm)	--	--	--	--	3 to 40 cfm	27 to 45 cfm	2 to 7 cfm	18 to 32	36 to 38	2 to 53	3 to 18	3 to 11
	Vacuum	--	--	--	--	+.001 to + .002	-0.044 to - .018	-0.025 to - .004	-0.020 to - .006	-0.048 to - .020	-0.187 to - .020	-.019 to-.008	-.026 to-.003
SSD-2	VOCs (ppm) ¹	--	--	--	--	0	0	0.4	1.3	0	4.2	0	0.4
	Flow (cfm)	--	--	--	--	5 to 21 cfm	16 to 55 cfm	5 to 21 cfm	11 to 31	20 to 27	5 to 151	14 to 25	4 to 14
	Vacuum	--	--	--	--	-.001 to + .002	-.053 to - .016	-.019 to - .005	-.014 to - .004	-.065 to - .032	-.250 to - .03	-.009 to -.003	-.013 to -.003
SSD-1	VOCs (ppm) ¹	--	--	--	--	0	0	0	1.5	0	3.6	0	1
	Flow (cfm)	--	--	--	--	5 to 26 cfm	5 to 35 cfm	6 to 31 cfm	6 to 22	10 to 20	30 to 100	3 to 11	10 to 26
	Vacuum	--	--	--	--	-0.001	-.052 to - .011	-.024 to - .010	-.020 to - .006	-.022 to - .012	-.323 to - .031	-.021 to -.003	-.008 to -.003

- Notes:
- 1

- measured by photoionization detector
- VOCs

- volatile organic compounds
- ppm

- parts per million
- cfm

- cubic feet per meter

Table 1

SSD System Measurements
One Enterprise Place
Hicksville, New York

	Date: Time: Weather:	7/2/2019 9:30AM Cloudy 81F	7/23/2019 8:45am Cloudy 70F	8/19/2019 1:15:00 PM Sunny 86F	10/8/2019 11:50:00 AM Sunny 61F	12/19/2019 9:45am Clear 21F
SSD-6	VOCs (ppm) ¹	0	0	0	1.2	0
	Flow (cfm)	2 to 29	3 to 20	18 to 44	6 to 37	3 to 21
	Vacuum	-.030 to -.012	-.017 to -.004	-.064 to -.031	-.028 to -.002	-.022 to -.002
SSD-5	VOCs (ppm) ¹	0	0	0	0	0
	Flow (cfm)	2 to 38	5 to 12	2 to 25	2 to 11	2 to 21
	Vacuum	-.062 to -.013	-.019 to -.007	-.099 to -.058	-.023 to -.000	-.040 to -.009
SSD-4	VOCs (ppm) ¹	0.1	0.1	0	0	0
	Flow (cfm)	12 to 33	5 to 23	22 to 37	8 to 42	7 to 20
	Vacuum	-.074 to -.022	-.018 to -.006	-.084 to -.057	-.037 to -.009	-.026 to -.008
SSD-3	VOCs (ppm) ¹	0.1	0	1.8	0	0
	Flow (cfm)	15 to 47	2 to 18	1 to 29	22 to 52	5 to 22
	Vacuum	-.034 to-.011	-.016 to-.011	-.086 to-.047	-.066 to-.014	-.046 to-.016
SSD-2	VOCs (ppm) ¹	0	0	0	0	0
	Flow (cfm)	33 to 58	3 to 15	9 to 32	10 to 42	7 to 27
	Vacuum	-.082 to -.021	-.021 to -.006	-.047 to -.032	-.042 to -.016	-.057 to -.021
SSD-1	VOCs (ppm) ¹	0	0	1.4	0	0
	Flow (cfm)	18 to 34	10 to 27	17 to 34	32 to 41	12 to 25
	Vacuum	-.018 to -.002	-.014 to -.004	-.068 to -.041	-.034 to -.009	-.012 to -.005

Notes:

- 1
- measured by
photoionization
detector
- VOCs
- volatile organic
compounds
- ppm
- parts per million
- cfm
- cubic feet per meter

Table 2

Analytical Results Summary
SSD System Vapor Sampling
One Enterprise Place
Hicksville, New York

Location ⁽³⁾ : Sample Name: Sample Date:		SSD-1 SV6419VW005 06/04/2019 ⁽¹⁾	SSD-1 SV61119CM006 06/11/2019 ⁽²⁾	SSD-1 SV10819CM006 10/08/2019	SSD-1 SV121919CM006 12/19/2019	SSD-2 SV6419VW004 06/04/2019 ⁽¹⁾	SSD-2 SV61119CM007 06/11/2019 ⁽²⁾	SSD-2 SV10819CM005 10/08/2019
Parameters	Unit							
Volatile Organic Compounds								
1,1,1-Trichloroethane	µg/m3	4.2 U	4.4 U	4.9 U	3.8 U	4.0 U	5.6 U	4.7 U
1,1,2,2-Tetrachloroethane	µg/m3	5.4 U	5.6 U	6.1 U	4.8 U	5.1 U	7.1 U	5.9 U
1,1,2-Trichloroethane	µg/m3	4.2 U	4.4 U	4.9 U	3.8 U	4.0 U	5.6 U	4.7 U
1,1-Dichloroethane	µg/m3	3.2 U	3.3 U	3.6 U	2.8 U	3.0 U	4.2 U	3.5 U
1,1-Dichloroethene	µg/m3	3.1 U	3.2 U	3.5 U	2.8 U	2.9 U	4.1 U	3.4 U
1,2,4-Trichlorobenzene	µg/m3	23 U	24 U	26 U	21 U	22 U	31 U	25 U
1,2,4-Trimethylbenzene	µg/m3	3.8 U	4.0 U	4.4 U	3.5 U	3.6 U	5.1 U	4.2 U
1,2-Dibromoethane (Ethylene dibromide)	µg/m3	6.0 U	6.2 U	6.9 U	5.4 U	5.7 U	8.0 U	6.6 U
1,2-Dichlorobenzene	µg/m3	4.7 U	4.9 U	5.4 U	4.2 U	4.4 U	6.2 U	5.1 U
1,2-Dichloroethane	µg/m3	3.2 U	3.3 U	3.6 U	2.8 U	3.0 U	4.2 U	3.5 U
1,2-Dichloropropane	µg/m3	3.6 U	3.7 U	4.1 U	3.2 U	3.4 U	4.8 U	4.0 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m3	5.4 U	5.7 U	6.2 U	4.9 U	5.2 U	7.2 U	6.0 U
1,3,5-Trimethylbenzene	µg/m3	3.8 U	4.0 U	4.4 U	3.5 U	3.6 U	5.1 U	4.2 U
1,3-Butadiene	µg/m3	1.7 U	1.8 U	2.0 U	1.6 U	1.6 U	2.3 U	1.9 U
1,3-Dichlorobenzene	µg/m3	20	2.4 J	5.4 U	4.2 U	22	4.5 J	5.1 U
1,4-Dichlorobenzene	µg/m3	4.7 U	4.9 U	5.4 U	4.2 U	4.4 U	6.2 U	5.1 U
1,4-Dioxane	µg/m3	11 U	12 U	13 U	10 U	11 U	15 U	12 U
2,2,4-Trimethylpentane	µg/m3	0.81 J	3.8 U	4.2 U	3.3 U	0.70 J	14	4.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m3	15	15	10 U	8.3 U	17	15	10 U
2-Hexanone	µg/m3	13 U	13 U	15 U	12 U	12 U	17 U	14 U
4-Ethyl toluene	µg/m3	3.8 U	4.0 U	4.4 U	3.5 U	3.6 U	5.1 U	4.2 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m3	2.2 J	2.4 J	3.7 U	2.9 U	2.0 J	2.7 J	3.5 U
Acetone	µg/m3	86	120	48 J	4.7 J	140	130	99 J
Allyl chloride	µg/m3	9.8 U	10 U	11 U	8.8 U	9.3 U	13 U	11 U
Benzene	µg/m3	5.0	2.3 J	2.5 J	0.53 J	6.8	1.5 J	3.1
Benzyl chloride	µg/m3	4.0 U	4.2 U	4.6 U	3.6 U	3.8 U	5.4 U	4.4 U
Bromodichloromethane	µg/m3	5.2 U	5.4 U	6.0 U	4.7 U	5.0 U	6.9 U	5.7 U
Bromoform	µg/m3	8.1 U	8.4 U	9.2 U	7.3 U	7.6 U	11 U	8.8 U
Bromomethane (Methyl bromide)	µg/m3	30 U	31 U	35 U	27 U	29 U	40 U	33 U
Carbon disulfide	µg/m3	2.2 J	3.9 J	11 U	8.8 U	2.0 J	8.6 J	11 U
Carbon tetrachloride	µg/m3	4.9 U	5.1 U	5.6 U	4.4 U	4.6 U	6.5 U	5.4 U
Chlorobenzene	µg/m3	0.75 J	3.7 U	4.1 U	3.2 U	0.84 J	4.8 U	3.9 U
Chloroethane	µg/m3	8.2 U	8.5 U	9.4 U	7.4 U	7.8 U	11 U	9.0 U
Chloroform (Trichloromethane)	µg/m3	3.8 U	4.0 U	4.4 U	3.4 U	3.6 U	5.0 U	4.2 U
Chloromethane (Methyl chloride)	µg/m3	16 U	17 U	18 U	14 U	15 U	2.8 J	18 U
cis-1,2-Dichloroethene	µg/m3	3.1 U	3.2 U	3.5 U	2.8 U	2.9 U	4.1 U	3.4 U
cis-1,3-Dichloropropene	µg/m3	3.5 U	3.7 U	4.1 U	3.2 U	3.4 U	4.7 U	3.9 U
Cyclohexane	µg/m3	2.7 U	2.8 U	3.1 U	2.4 U	2.5 U	3.6 U	2.9 U

Table 2

Analytical Results Summary
SSD System Vapor Sampling
One Enterprise Place
Hicksville, New York

	Location ⁽³⁾ : Sample Name: Sample Date:	SSD-1 SV6419VW005 06/04/2019 ⁽¹⁾	SSD-1 SV61119CM006 06/11/2019 ⁽²⁾	SSD-1 SV10819CM006 10/08/2019	SSD-1 SV121919CM006 12/19/2019	SSD-2 SV6419VW004 06/04/2019 ⁽¹⁾	SSD-2 SV61119CM007 06/11/2019 ⁽²⁾	SSD-2 SV10819CM005 10/08/2019
Parameters	Unit							
Volatile Organic Compounds								
Dibromochloromethane	µg/m3	6.6 U	6.9 U	7.6 U	6.0 U	6.3 U	8.8 U	7.3 U
Dichlorodifluoromethane (CFC-12)	µg/m3	2.6 J	2.8 J	3.6 J	3.1 J	2.6 J	2.8 J	3.0 J
Ethanol	µg/m3	200	380	180 J	9.9	310	460	530 J
Ethylbenzene	µg/m3	0.84 J	3.5 U	3.9 U	3.1 U	3.2 U	4.5 U	3.7 U
Hexachlorobutadiene	µg/m3	33 U	34 U	38 U	30 U	32 U	44 U	36 U
Hexane	µg/m3	8.3	8.0	4.0	0.73 J	8.4	9.4	3.0 U
Isopropyl alcohol	µg/m3	55	37	11	6.9 U	49	31	16
Isopropyl benzene	µg/m3	3.8 U	4.0 U	4.4 U	3.5 U	3.6 U	5.1 U	4.2 U
m&p-Xylenes	µg/m3	3.7	3.5 U	3.9 U	3.1 U	1.9 J	4.5 U	3.7 U
Methyl tert butyl ether (MTBE)	µg/m3	11 U	12 U	13 U	10 U	11 U	15 U	12 U
Methylene chloride	µg/m3	27 U	28 U	31 U	24 U	26 U	36 U	30 U
N-Heptane	µg/m3	0.94 J	3.3 U	3.7 U	2.9 U	1.0 J	4.2 U	3.5 U
N-Propylbenzene	µg/m3	3.8 U	4.0 U	4.4 U	3.5 U	3.6 U	5.1 U	4.2 U
o-Xylene	µg/m3	1.0 J	3.5 U	3.9 U	3.1 U	3.2 U	4.5 U	3.7 U
Styrene	µg/m3	1.2 J	3.4 U	3.8 U	3.0 U	0.54 J	4.4 U	3.6 U
Tetrachloroethene	µg/m3	5.3 U	11	2.1 J	4.8 U	5.0 U	19	1.9 J
Tetrahydrofuran	µg/m3	2.3 U	4.0	2.6 U	2.1 U	2.2 U	3.1	2.5 U
Toluene	µg/m3	57	2.7 J	3.4 U	1.7 J	40	4.8	3.2 U
trans-1,2-Dichloroethene	µg/m3	3.1 U	3.2 U	3.5 U	2.8 U	2.9 U	4.1 U	3.4 U
trans-1,3-Dichloropropene	µg/m3	3.5 U	3.7 U	4.1 U	3.2 U	3.4 U	4.7 U	3.9 U
Trichloroethene	µg/m3	4.2 U	2.6 J	4.8 U	3.8 U	4.0 U	2.2 J	4.6 U
Trichlorofluoromethane (CFC-11)	µg/m3	1.4 J	2.1 J	3.1 J	0.91 J	1.4 J	1.5 J	2.3 J
Trifluorotrichloroethane (CFC-113)	µg/m3	6.0 U	6.2 U	6.8 U	5.4 U	5.7 U	7.9 U	6.6 U
Vinyl chloride	µg/m3	0.88 J	2.1 U	2.3 U	1.8 U	1.9 U	2.6 U	2.2 U

Notes:

- (1) - Samples collected immediately prior to start up
(2) - Samples collected one week after startup
(3) - SSD-1 is the southernmost system, SSD-6 is the northernmost system, and SSD-5 is the Phase I system installed in 2018
J - Estimated concentration
U - Not detected at the associated reporting limit

Table 2

**Analytical Results Summary
SSD System Vapor Sampling
One Enterprise Place
Hicksville, New York**

Location ⁽³⁾ :	SSD-2	SSD-3	SSD-3	SSD-3	SSD-3	SSD-4	SSD-4	SSD-4
Sample Name:	SV121919CM005	SV6419VW003	SV61119CM008	SV10819CM004	SV121919CM004	SV6419VW002	SV61119CM009	SV10819CM003
Sample Date:	12/19/2019	06/04/2019 ⁽¹⁾	06/11/2019 ⁽²⁾	10/08/2019	12/19/2019	06/04/2019 ⁽¹⁾	06/11/2019 ⁽²⁾	10/08/2019

Parameters**Volatile Organic Compounds**

1,1,1-Trichloroethane	3.8 U	4.1 U	5.4 U	4.6 U	4.1 U	3.8 U	4.1 U	5.2 U
1,1,2,2-Tetrachloroethane	4.8 U	5.2 U	6.8 U	5.8 U	5.1 U	4.8 U	5.2 U	6.6 U
1,1,2-Trichloroethane	3.8 U	4.1 U	5.4 U	4.6 U	4.1 U	3.8 U	4.1 U	5.2 U
1,1-Dichloroethane	2.8 U	3.1 U	4.0 U	3.4 U	3.0 U	2.8 U	3.0 U	3.9 U
1,1-Dichloroethene	2.8 U	3.0 U	3.9 U	3.3 U	3.0 U	2.8 U	3.0 U	3.8 U
1,2,4-Trichlorobenzene	21 U	22 U	30 U	25 U	22 U	21 U	22 U	28 U
1,2,4-Trimethylbenzene	3.5 U	3.7 U	4.9 U	4.1 U	3.7 U	3.5 U	3.7 U	4.7 U
1,2-Dibromoethane (Ethylene dibromide)	5.4 U	5.8 U	7.6 U	6.4 U	5.7 U	5.4 U	5.8 U	7.3 U
1,2-Dichlorobenzene	4.2 U	4.6 U	6.0 U	5.0 U	4.5 U	4.2 U	4.5 U	5.7 U
1,2-Dichloroethane	2.8 U	3.1 U	4.0 U	3.4 U	3.0 U	2.8 U	3.0 U	3.9 U
1,2-Dichloropropane	3.2 U	3.5 U	4.6 U	3.9 U	3.4 U	3.2 U	3.5 U	4.4 U
1,2-Dichlorotetrafluoroethane (CFC 114)	4.9 U	5.3 U	7.0 U	5.9 U	5.2 U	4.9 U	5.3 U	6.7 U
1,3,5-Trimethylbenzene	3.5 U	3.7 U	4.9 U	4.1 U	3.7 U	3.5 U	3.7 U	4.7 U
1,3-Butadiene	1.6 U	1.7 U	2.2 U	1.8 U	1.6 U	1.6 U	1.7 U	2.1 U
1,3-Dichlorobenzene	4.2 U	20	3.9 J	5.0 U	4.5 U	20	2.3 J	5.7 U
1,4-Dichlorobenzene	4.2 U	4.6 U	6.0 U	5.0 U	4.5 U	4.2 U	4.5 U	5.7 U
1,4-Dioxane	10 U	11 U	14 U	12 U	11 U	10 U	11 U	14 U
2,2,4-Trimethylpentane	3.3 U	0.67 J	4.6 U	3.9 U	0.86 J	0.64 J	0.79 J	4.5 U
2-Butanone (Methyl ethyl ketone) (MEK)	8.3 U	14	17	9.9 U	8.8 U	28	24	11 U
2-Hexanone	12 U	12 U	16 U	14 U	12 U	12 U	12 U	16 U
4-Ethyl toluene	3.5 U	3.7 U	4.9 U	4.1 U	3.7 U	3.5 U	3.7 U	4.7 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	2.9 U	2.1 J	2.4 J	3.4 U	3.0 U	2.7 J	3.4	3.9 U
Acetone	6.0 J	100	130	110 J	6.0 J	170	130	76 J
Allyl chloride	8.8 U	9.5 U	12 U	10 U	9.3 U	8.8 U	9.4 U	12 U
Benzene	2.2 U	5.3	1.0 J	2.7 U	0.76 J	7.7	0.86 J	2.4 J
Benzyl chloride	3.6 U	3.9 U	5.2 U	4.3 U	3.8 U	3.6 U	3.9 U	4.9 U
Bromodichloromethane	4.7 U	5.1 U	6.7 U	5.6 U	5.0 U	4.7 U	5.0 U	6.4 U
Bromoform	7.3 U	7.8 U	10 U	8.7 U	7.7 U	7.3 U	7.8 U	9.9 U
Bromomethane (Methyl bromide)	27 U	30 U	39 U	33 U	29 U	27 U	29 U	37 U
Carbon disulfide	8.8 U	2.0 J	4.2 J	3.6 J	9.3 U	1.5 J	2.4 J	12 U
Carbon tetrachloride	4.4 U	4.8 U	6.3 U	5.3 U	4.7 U	4.4 U	4.8 U	6.0 U
Chlorobenzene	3.2 U	0.83 J	4.6 U	3.9 U	3.4 U	0.70 J	3.5 U	4.4 U
Chloroethane	7.4 U	8.0 U	10 U	8.9 U	7.9 U	7.4 U	8.0 U	10 U
Chloroform (Trichloromethane)	3.4 U	3.7 U	4.8 U	4.1 U	3.6 U	3.4 U	3.7 U	4.7 U
Chloromethane (Methyl chloride)	14 U	16 U	20 U	17 U	15 U	14 U	16 U	20 U
cis-1,2-Dichloroethene	2.8 U	3.0 U	3.9 U	3.3 U	3.0 U	2.8 U	3.0 U	3.8 U
cis-1,3-Dichloropropene	3.2 U	3.4 U	4.5 U	3.8 U	3.4 U	3.2 U	3.4 U	4.3 U
Cyclohexane	2.4 U	2.6 U	3.4 U	2.9 U	0.52 J	2.4 U	2.6 U	3.3 U

Table 2

Analytical Results Summary
SSD System Vapor Sampling
One Enterprise Place
Hicksville, New York

Location ⁽³⁾ :	SSD-2	SSD-3	SSD-3	SSD-3	SSD-3	SSD-3	SSD-4	SSD-4	SSD-4
Sample Name:	SV121919CM005	SV6419VW003	SV61119CM008	SV10819CM004	SV121919CM004	SV6419VW002	SV61119CM009	SV10819CM003	SV10819CM003
Sample Date:	12/19/2019	06/04/2019 ⁽¹⁾	06/11/2019 ⁽²⁾	10/08/2019	12/19/2019	06/04/2019 ⁽¹⁾	06/11/2019 ⁽²⁾	10/08/2019	10/08/2019

Parameters**Volatile Organic Compounds**

Dibromochloromethane	6.0 U	6.5 U	8.5 U	7.2 U	6.3 U	6.0 U	6.4 U	8.1 U
Dichlorodifluoromethane (CFC-12)	2.6 J	2.6 J	2.4 J	4.4	2.8 J	2.6 J	2.7 J	2.6 J
Ethanol	14	260	470	500 J	17	250	430	450 J
Ethylbenzene	3.1 U	3.3 U	4.3 U	3.6 U	3.2 U	3.1 U	3.3 U	4.1 U
Hexachlorobutadiene	30 U	32 U	42 U	36 U	32 U	30 U	32 U	41 U
Hexane	0.31 J	5.5	9.2	2.1 J	1.1 J	7.9	14	2.3 J
Isopropyl alcohol	6.9 U	40	32	14	7.3 U	42	39	15
Isopropyl benzene	3.5 U	3.7 U	4.9 U	4.1 U	3.7 U	3.5 U	3.7 U	4.7 U
m&p-Xylenes	3.1 U	2.1 J	4.3 U	3.6 U	0.41 J	2.4 J	3.3 U	4.1 U
Methyl tert butyl ether (MTBE)	10 U	11 U	14 U	12 U	11 U	10 U	11 U	14 U
Methylene chloride	24 U	26 U	34 U	29 U	26 U	86	45	33 U
N-Heptane	2.9 U	1.3 J	4.1 U	3.4 U	3.0 U	1.0 J	3.1 U	3.9 U
N-Propylbenzene	3.5 U	3.7 U	4.9 U	4.1 U	3.7 U	3.5 U	3.7 U	4.7 U
o-Xylene	3.1 U	3.3 U	4.3 U	3.6 U	3.2 U	0.96 J	3.3 U	4.1 U
Styrene	3.0 U	0.69 J	4.2 U	3.6 U	3.2 U	0.77 J	3.2 U	4.1 U
Tetrachloroethene	4.8 U	5.2 U	31	2.7 J	5.0 U	3.5 J	24	4.6 J
Tetrahydrofuran	2.1 U	2.2 U	2.1 J	2.5 U	2.2 U	21	24	2.8 U
Toluene	0.33 J	46	3.2 J	3.2 U	1.1 J	60	2.1 J	3.6 U
trans-1,2-Dichloroethene	2.8 U	3.0 U	3.9 U	3.3 U	3.0 U	2.8 U	3.0 U	3.8 U
trans-1,3-Dichloropropene	3.2 U	3.4 U	4.5 U	3.8 U	3.4 U	3.2 U	3.4 U	4.3 U
Trichloroethene	3.8 U	4.1 U	3.1 J	4.5 U	4.0 U	0.81 J	4.5	5.1 U
Trichlorofluoromethane (CFC-11)	0.93 J	1.2 J	1.9 J	2.8 J	1.2 J	1.5 J	1.9 J	2.0 J
Trifluorotrichloroethane (CFC-113)	5.4 U	5.8 U	7.6 U	6.4 U	5.7 U	5.4 U	5.8 U	7.3 U
Vinyl chloride	1.8 U	0.67 J	2.5 U	2.1 U	1.9 U	1.8 U	1.9 U	2.4 U

Notes:

- (1) - Samples collected immediately prior to start up
 (2) - Samples collected one week after startup
 (3) - SSD-1 is the southernmost system, SSD-6 is the northernmost system, and SSD-5 is the Phase I system installed in 2018
 J - Estimated concentration
 U - Not detected at the associated reporting limit

Table 2

Analytical Results Summary
SSD System Vapor Sampling
One Enterprise Place
Hicksville, New York

Location ⁽³⁾:	SSD-4	SSD-5	SSD-5	SSD-5	SSD-5	SSD-5	SSD-5	SSD-5
Sample Name:	SV121919CM003	SSDS-1	SSDS-2	SSD-Leg (Enterprise)	SSDS Leg	SV61119CM010	SV10819CM002	SV121919CM002
Sample Date:	12/19/2019	07/11/2018 ⁽¹⁾	07/18/2018 ⁽²⁾	10/23/2018	02/22/2019	06/11/2019	10/08/2019	12/19/2019

Parameters**Volatile Organic Compounds**

1,1,1-Trichloroethane	3.8 U	0.74 J	1.2 J	20 U	3.8 U	4.3 U	5.2 U	3.4 UJ
1,1,2,2-Tetrachloroethane	4.8 U	5.0 U	5.5 U	25 U	4.8 U	5.4 U	6.6 U	4.2 UJ
1,1,2-Trichloroethane	3.8 U	4.0 U	4.4 U	20 U	3.8 U	4.3 U	5.2 U	3.4 UJ
1,1-Dichloroethane	2.8 U	3.0 U	3.2 U	15 U	2.8 U	3.2 U	3.9 U	2.5 UJ
1,1-Dichloroethene	2.8 U	2.9 U	3.2 U	14 U	2.8 U	3.1 U	3.8 U	2.4 UJ
1,2,4-Trichlorobenzene	21 U	22 U	24 U	110 U	21 U	23 U	28 U	18 UJ
1,2,4-Trimethylbenzene	3.5 U	33	33	18 U	3.4 U	3.8 U	4.7 U	3.0 UJ
1,2-Dibromoethane (Ethylene dibromide)	5.4 U	5.6 U	6.2 U	28 U	5.3 U	6.0 U	7.3 U	4.8 UJ
1,2-Dichlorobenzene	4.2 U	4.4 U	4.8 U	22 U	4.2 U	4.7 U	5.7 U	3.7 UJ
1,2-Dichloroethane	2.8 U	3.0 U	3.2 U	15 U	2.8 U	3.2 U	3.9 U	2.5 UJ
1,2-Dichloropropane	3.2 U	3.4 U	3.7 U	17 U	3.2 U	3.6 U	4.4 U	2.9 UJ
1,2-Dichlorotetrafluoroethane (CFC 114)	4.9 U	5.1 U	5.6 U	25 U	4.8 U	5.5 U	6.7 U	4.3 UJ
1,3,5-Trimethylbenzene	3.5 U	9.0	10	18 U	3.4 U	3.8 U	4.7 U	3.0 UJ
1,3-Butadiene	1.6 U	1.6 U	1.8 U	8.0 U	1.5 U	1.7 U	2.1 U	1.4 UJ
1,3-Dichlorobenzene	4.2 U	6.5	5.2	22 U	4.2 U	4.5 J	5.7 U	3.7 UJ
1,4-Dichlorobenzene	4.2 U	4.4 U	4.8 U	22 U	4.2 U	4.7 U	5.7 U	3.7 UJ
1,4-Dioxane	10 U	10 U	12 U	52 U	10 U	11 U	14 U	8.9 UJ
2,2,4-Trimethylpentane	3.3 U	19	70	17 U	5.5	3.7 U	4.5 U	2.9 UJ
2-Butanone (Methyl ethyl ketone) (MEK)	8.3 U	32	26	28 J	8.2 U	16	11 U	7.3 UJ
2-Hexanone	12 U	12 U	13 U	60 U	11 U	13 U	16 U	10 UJ
4-Ethyl toluene	3.5 U	25	30	18 U	1.7 J	3.8 U	4.7 U	3.0 UJ
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	2.9 U	4.6	13	15 U	2.8 U	2.7 J	3.9 U	2.5 UJ
Acetone	7.1 J	130	130	31 J	15 J	130	86 J	4.7 J
Allyl chloride	8.8 U	9.1 U	10 U	46 U	8.7 U	9.8 U	12 U	7.8 UJ
Benzene	2.2 U	6.6	15	12 U	3.0	1.2 J	0.96 J	0.52 J
Benzyl chloride	3.6 U	3.8 U	4.2 U	19 U	3.6 U	4.1 U	4.9 U	3.2 UJ
Bromodichloromethane	4.7 U	4.9 U	5.4 U	24 U	4.6 U	5.2 U	6.4 U	4.2 UJ
Bromoform	7.3 U	7.5 U	8.3 U	38 U	7.2 U	8.1 U	9.9 U	6.4 UJ
Bromomethane (Methyl bromide)	27 U	28 U	31 U	140 U	27 U	30 U	37 U	24 UJ
Carbon disulfide	8.8 U	9.1 U	3.6 J	45 U	8.6 U	6.1 J	12 U	7.7 UJ
Carbon tetrachloride	4.4 U	4.6 U	0.82 J	23 U	4.4 U	4.9 U	6.0 U	3.9 UJ
Chlorobenzene	3.2 U	0.89 J	3.7 U	17 U	3.2 U	3.6 U	4.4 U	2.8 UJ
Chloroethane	7.4 U	7.7 U	8.5 U	38 U	7.3 U	8.3 U	10 U	6.5 UJ
Chloroform (Trichloromethane)	3.4 U	3.7	4.6	4.9 J	3.4 U	1.2 J	4.7 U	3.0 UJ
Chloromethane (Methyl chloride)	14 U	15 U	17 U	75 U	14 U	16 U	20 U	13 UJ
cis-1,2-Dichloroethene	2.8 U	2.9 U	3.2 U	14 U	2.8 U	3.1 U	3.8 U	2.4 UJ
cis-1,3-Dichloropropene	3.2 U	3.3 U	3.6 U	16 U	3.2 U	3.6 U	4.3 U	2.8 UJ
Cyclohexane	2.4 U	5.2	7.3	12 U	1.8 J	2.7 U	3.3 U	2.1 UJ

Table 2

Analytical Results Summary
SSD System Vapor Sampling
One Enterprise Place
Hicksville, New York

Location ⁽³⁾:	SSD-4	SSD-5	SSD-5	SSD-5	SSD-5	SSD-5	SSD-5	SSD-5
Sample Name:	SV121919CM003	SSDS-1	SSDS-2	SSD-Leg (Enterprise)	SSDS Leg	SV61119CM010	SV10819CM002	SV121919CM002
Sample Date:	12/19/2019	07/11/2018 ⁽¹⁾	07/18/2018 ⁽²⁾	10/23/2018	02/22/2019	06/11/2019	10/08/2019	12/19/2019

Parameters**Volatile Organic Compounds**

Dibromochloromethane	6.0 U	6.2 U	6.8 U	31 U	5.9 U	6.7 U	8.1 U	5.3 UJ
Dichlorodifluoromethane (CFC-12)	2.6 J	3.0 J	3.2 J	18 U	2.8 J	3.3 J	3.4 J	2.9 J
Ethanol	16	660 J	760 J	13 J	48	400	360 J	7.3 J
Ethylbenzene	3.1 U	12	20	16 U	1.7 J	3.4 U	4.1 U	2.7 UJ
Hexachlorobutadiene	30 U	31 U	34 U	160 U	30 U	33 U	41 U	26 UJ
Hexane	0.36 J	55	24	5.5 J	4.5	2.1 J	3.4 U	0.70 J
Isopropyl alcohol	6.9 U	72	40	7.2 J	6.8 U	43	13	6.1 UJ
Isopropyl benzene	3.5 U	1.7 J	3.0 J	18 U	3.4 U	3.8 U	4.7 U	3.0 UJ
m&p-Xylenes	3.1 U	40	64	16 U	4.9	3.4 U	4.1 U	2.7 UJ
Methyl tert butyl ether (MTBE)	10 U	10 U	12 U	52 U	10 U	11 U	14 U	8.9 UJ
Methylene chloride	24 U	25 U	28 U	9.3 J	5.4 J	3.3 J	33 U	22 UJ
N-Heptane	2.9 U	6.8	16	15 U	1.9 J	3.2 U	3.9 U	2.5 UJ
N-Propylbenzene	3.5 U	5.2	6.2	18 U	3.4 U	3.8 U	4.7 U	3.0 UJ
o-Xylene	3.1 U	19	26	16 U	1.9 J	3.4 U	4.1 U	2.7 UJ
Styrene	3.0 U	10	11	16 U	3.0 U	3.3 U	4.1 U	2.6 UJ
Tetrachloroethene	4.8 U	280	380	4800	1.2 J	13	3.2 J	4.2 UJ
Tetrahydrofuran	2.1 U	29	31	11 U	2.3	2.0 J	2.8 U	1.8 UJ
Toluene	0.68 J	52	84	14 U	9.3	5.5	3.6 U	0.32 J
trans-1,2-Dichloroethene	2.8 U	1.2 J	3.2 U	14 U	2.8 U	3.1 U	3.8 U	2.4 UJ
trans-1,3-Dichloropropene	3.2 U	3.3 U	3.6 U	16 U	3.2 U	3.6 U	4.3 U	2.8 UJ
Trichloroethene	3.8 U	8.1	14	65	0.60 J	6.6	5.1 U	3.3 UJ
Trichlorofluoromethane (CFC-11)	1.7 J	2.1 J	3.0 J	20 U	1.1 J	2.4 J	3.2 J	0.93 J
Trifluorotrichloroethane (CFC-113)	5.4 U	5.6 U	6.2 U	28 U	5.3 U	6.0 U	7.3 U	4.8 UJ
Vinyl chloride	1.8 U	1.9 U	2.0 U	9.3 U	1.8 U	2.0 U	2.4 U	1.6 UJ

Notes:

- (1) - Samples collected immediately prior to start up
- (2) - Samples collected one week after startup
- (3) - SSD-1 is the southernmost system, SSD-6 is the northernmost system, and SSD-5 is the Phase I system installed in 2018
- J - Estimated concentration
- U - Not detected at the associated reporting limit

Table 2

**Analytical Results Summary
SSD System Vapor Sampling
One Enterprise Place
Hicksville, New York**

Location ⁽³⁾:	SSD-6	SSD-6	SSD-6	SSD-6
Sample Name:	SV6419VW001	SV61119CM011	SV10819CM001	SV121919CM001
Sample Date:	06/04/2019 ⁽¹⁾	06/11/2019 ⁽²⁾	10/08/2019	12/19/2019

Parameters**Volatile Organic Compounds**

1,1,1-Trichloroethane	4.2 U	4.5 U	5.0 U	4.0 U
1,1,2,2-Tetrachloroethane	5.2 U	5.7 U	6.3 U	5.0 U
1,1,2-Trichloroethane	4.2 U	4.5 U	5.0 U	4.0 U
1,1-Dichloroethane	3.1 U	3.3 U	3.7 U	3.0 U
1,1-Dichloroethene	3.0 U	3.3 U	3.6 U	2.9 U
1,2,4-Trichlorobenzene	23 U	24 U	27 U	22 U
1,2,4-Trimethylbenzene	3.8 U	4.0 U	4.5 U	3.6 U
1,2-Dibromoethane (Ethylene dibromide)	5.9 U	6.3 U	7.0 U	5.6 U
1,2-Dichlorobenzene	4.6 U	5.0 U	5.5 U	4.4 U
1,2-Dichloroethane	3.1 U	3.3 U	3.7 U	3.0 U
1,2-Dichloropropane	3.5 U	3.8 U	4.2 U	3.4 U
1,2-Dichlorotetrafluoroethane (CFC 114)	5.3 U	5.8 U	6.4 U	5.1 U
1,3,5-Trimethylbenzene	3.8 U	4.0 U	4.5 U	3.6 U
1,3-Butadiene	1.7 U	1.8 U	2.0 U	1.6 U
1,3-Dichlorobenzene	19	6.0	5.5 U	4.4 U
1,4-Dichlorobenzene	4.6 U	5.0 U	5.5 U	4.4 U
1,4-Dioxane	11 U	12 U	13 U	10 U
2,2,4-Trimethylpentane	3.6 U	3.8 U	4.3 U	3.4 U
2-Butanone (Methyl ethyl ketone) (MEK)	16	22	11 U	8.6 U
2-Hexanone	12 U	14 U	15 U	12 U
4-Ethyl toluene	3.8 U	4.0 U	4.5 U	3.6 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	3.0 J	3.2 J	3.7 U	3.0 U
Acetone	90	160	73 J	8.8 J
Allyl chloride	9.6 U	10 U	11 U	9.1 U
Benzene	11	2.1 J	13	2.3 U
Benzyl chloride	4.0 U	4.3 U	4.7 U	3.8 U
Bromodichloromethane	5.1 U	5.5 U	6.1 U	4.9 U
Bromoform	7.9 U	8.5 U	9.4 U	7.5 U
Bromomethane (Methyl bromide)	30 U	32 U	36 U	28 U
Carbon disulfide	1.8 J	2.6 J	11 U	9.1 U
Carbon tetrachloride	4.8 U	5.2 U	5.8 U	4.6 U
Chlorobenzene	0.61 J	3.8 U	4.2 U	3.4 U
Chloroethane	8.1 U	8.7 U	9.6 U	7.7 U
Chloroform (Trichloromethane)	1.4 J	1.9 J	1.8 J	3.6 U
Chloromethane (Methyl chloride)	16 U	1.6 J	19 U	15 U
cis-1,2-Dichloroethene	3.0 U	3.3 U	3.6 U	2.9 U
cis-1,3-Dichloropropene	3.5 U	3.7 U	4.2 U	3.3 U
Cyclohexane	2.6 U	2.8 U	3.1 U	0.42 J

Table 2

**Analytical Results Summary
SSD System Vapor Sampling
One Enterprise Place
Hicksville, New York**

Location ⁽³⁾:	SSD-6	SSD-6	SSD-6	SSD-6
Sample Name:	SV6419VW001	SV61119CM011	SV10819CM001	SV121919CM001
Sample Date:	06/04/2019 ⁽¹⁾	06/11/2019 ⁽²⁾	10/08/2019	12/19/2019

Parameters**Volatile Organic Compounds**

Dibromochloromethane	6.5 U	7.0 U	7.8 U	6.2 U
Dichlorodifluoromethane (CFC-12)	2.8 J	3.2 J	3.9 J	3.3 J
Ethanol	220	470	200 J	7.4
Ethylbenzene	3.3 U	3.6 U	4.0 U	3.2 U
Hexachlorobutadiene	33 U	35 U	39 U	31 U
Hexane	4.5	5.6	2.0 J	2.6 U
Isopropyl alcohol	24	36	12	7.2 U
Isopropyl benzene	3.8 U	4.0 U	4.5 U	3.6 U
m&p-Xylenes	2.7 J	3.6 U	4.0 U	3.2 U
Methyl tert butyl ether (MTBE)	11 U	12 U	13 U	10 U
Methylene chloride	1.2 J	29 U	32 U	2.3 J
N-Heptane	1.2 J	3.4 U	3.7 U	3.0 U
N-Propylbenzene	3.8 U	4.0 U	4.5 U	3.6 U
o-Xylene	3.3 U	3.6 U	4.0 U	3.2 U
Styrene	1.1 J	3.5 U	3.9 U	3.1 U
Tetrachloroethene	5.2 U	19	3.0 J	5.0 U
Tetrahydrofuran	1.6 J	5.0	2.7 U	2.2 U
Toluene	57	2.5 J	3.4 U	1.1 J
trans-1,2-Dichloroethene	3.0 U	3.3 U	3.6 U	2.9 U
trans-1,3-Dichloropropene	3.5 U	3.7 U	4.2 U	3.3 U
Trichloroethene	1.7 J	5.6	4.9 U	3.9 U
Trichlorofluoromethane (CFC-11)	2.1 J	2.8 J	4.8 J	1.7 J
Trifluorotrichloroethane (CFC-113)	5.9 U	6.3 U	7.0 U	5.6 U
Vinyl chloride	2.0 U	2.1 U	2.3 U	1.9 U

Notes:

- (1) - Samples collected immediately prior to start up
 (2) - Samples collected one week after startup
 (3) - SSD-1 is the southernmost system, SSD-6 is the northernmost system, and SSD-5 is the Phase I system installed in 2018
 J - Estimated concentration
 U - Not detected at the associated reporting limit

Table 3

**TCE and PCE Concentration Comparison Over Time
SSD System Vapor Sampling
One Enterprise Place
Hicksville, New York**

Location ⁽³⁾ :	SSD-1	SSD-1	SSD-1	SSD-1	SSD-2	SSD-2	SSD-2	SSD-2
Sample Name:	SV6419VW005	SV61119CM006	SV10819CM006	SV121919CM006	SV6419VW004	SV61119CM007	SV10819CM005	SV121919CM005
Sample Date:	06/04/2019 ⁽¹⁾	06/11/2019 ⁽²⁾	10/08/2019	12/19/2019	06/04/2019 ⁽¹⁾	06/11/2019 ⁽²⁾	10/08/2019	12/19/2019
Parameters (µg/m³)								
Volatile Organic Compounds								
Tetrachloroethene	5.3 U	11	2.1 J	5.0 U	5.0 U	19	1.9 J	4.2 UJ
Trichloroethene	4.2 U	2.6 J	4.8 U	3.9 U	4.0 U	2.2 J	4.6 U	3.3 UJ

Notes:

- (1) - Samples collected immediately prior to start up
- (2) - Samples collected one week after startup
- (3) - SSD-1 is the southernmost system, SSD-6 is the northernmost system, and SSD-5 is the Phase I system installed in 2018
- J - Estimated concentration
- U - Not detected at the associated reporting limit
- µg/m³ - Micrograms per cubic meter

Table 3

TCE and PCE Concentration Comparison Over Time
SSD System Vapor Sampling
One Enterprise Place
Hicksville, New York

Location ⁽³⁾ :	SSD-3	SSD-3	SSD-3	SSD-3	SSD-4	SSD-4	SSD-4	SSD-4
Sample Name:	SV6419VW003	SV61119CM008	SV10819CM004	SV121919CM004	SV6419VW002	SV61119CM009	SV10819CM003	SV121919CM003
Sample Date:	06/04/2019 ⁽¹⁾	06/11/2019 ⁽²⁾	10/08/2019	12/19/2019	06/04/2019 ⁽¹⁾	06/11/2019 ⁽²⁾	10/08/2019	12/19/2019
Parameters (µg/m³)								
Volatile Organic Compounds								
Tetrachloroethene	5.2 U	31	2.7 J	4.8 U	3.5 J	24	4.6 J	5.0 U
Trichloroethene	4.1 U	3.1 J	4.5 U	3.8 U	0.81 J	4.5	5.1 U	4.0 U

Notes:

- (1) - Samples collected immediately prior to start up
 (2) - Samples collected one week after startup
 (3) - SSD-1 is the southernmost system, SSD-6 is the northernmost system, and SSD-5 is the Phase I system installed in 2018
 J - Estimated concentration
 U - Not detected at the associated reporting limit
 µg/m³ - Micrograms per cubic meter

Table 3

TCE and PCE Concentration Comparison Over Time
SSD System Vapor Sampling
One Enterprise Place
Hicksville, New York

Location ⁽³⁾ :	SSD-5	SSD-5	SSD-5	SSD-5	SSD-5	SSD-5	SSD-5
Sample Name:	SSDS-1	SSDS-2	SSD-Leg (Enterprise)	SSDS Leg	SV61119CM010	SV10819CM002	SV121919CM002
Sample Date:	07/11/2018 ⁽¹⁾	07/18/2018 ⁽²⁾	10/23/2018	02/22/2019	06/11/2019	10/08/2019	12/19/2019
Parameters (µg/m³)							
Volatile Organic Compounds							
Tetrachloroethene	280	380	4800	1.2 J	13	3.2 J	4.8 U
Trichloroethene	8.1	14	65	0.60 J	6.6	5.1 U	3.8 U

Notes:

- (1) - Samples collected immediately prior to start up
- (2) - Samples collected one week after startup
- (3) - SSD-1 is the southernmost system, SSD-6 is the northernmost system, and SSD-5 is the Phase I system installed in 2018
- J - Estimated concentration
- U - Not detected at the associated reporting limit
- µg/m³ - Micrograms per cubic meter

Table 3

TCE and PCE Concentration Comparison Over Time
SSD System Vapor Sampling
One Enterprise Place
Hicksville, New York

Location ⁽³⁾ :	SSD-6	SSD-6	SSD-6	SSD-6
Sample Name:	SV6419VW001	SV61119CM011	SV10819CM001	SV121919CM001
Sample Date:	06/04/2019 ⁽¹⁾	06/11/2019 ⁽²⁾	10/08/2019	12/19/2019

Parameters (µg/m³)

Volatile Organic Compounds

Tetrachloroethene	5.2 U	19	3.0 J	4.8 U
Trichloroethene	1.7 J	5.6	4.9 U	3.8 U

Notes:

- (1) - Samples collected immediately prior to start up
- (2) - Samples collected one week after startup
- (3) - SSD-1 is the southernmost system, SSD-6 is the northernmost system, and SSD-5 is the Phase I system installed in 2018
- J - Estimated concentration
- U - Not detected at the associated reporting limit
- µg/m³ - Micrograms per cubic meter

Table 4

**Analytical Results Summary
Indoor Air and Soil Gas Sampling
One Enterprise Place
Hicksville, New York**

Location ID:	IA-1	IA-2	IA-3	OA-1	SV-1
Sample Name:	Near IA-6 ⁽¹⁾	South of IA-5 in office area ⁽¹⁾	Near IA-4 ⁽¹⁾	Outdoor Air	
Sample Date:	IA-1 02/22/2019	IA-2 02/22/2019	IA-3 02/22/2019	OA-1 02/22/2019	SV-1 02/22/2019
Parameters	Unit				
Volatile Organic Compounds					
Helium	%	-	-	-	0.074 U
1,1,1-Trichloroethane	µg/m ³	3.8 U	3.8 U	4.1 U	2.1 J
1,1,2,2-Tetrachloroethane	µg/m ³	4.8 U	4.8 U	5.1 U	5.1 U
1,1,2-Trichloroethane	µg/m ³	3.8 U	3.8 U	4.1 U	4.1 U
1,1-Dichloroethane	µg/m ³	2.8 U	2.8 U	3.0 U	3.0 U
1,1-Dichloroethene	µg/m ³	2.8 U	2.8 U	3.0 U	3.0 U
1,2,4-Trichlorobenzene	µg/m ³	21 U	21 U	22 U	22 U
1,2,4-Trimethylbenzene	µg/m ³	3.5 U	3.5 U	3.7 U	4.3
1,2-Dibromoethane (Ethylene dibromide)	µg/m ³	5.4 U	5.4 U	5.7 U	5.7 U
1,2-Dichlorobenzene	µg/m ³	4.2 U	4.2 U	4.5 U	4.5 U
1,2-Dichloroethane	µg/m ³	2.8 U	2.8 U	3.0 U	3.0 U
1,2-Dichloropropane	µg/m ³	3.2 U	3.2 U	3.4 U	3.4 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m ³	4.9 U	4.9 U	5.2 U	5.2 U
1,3,5-Trimethylbenzene	µg/m ³	3.5 U	3.5 U	3.7 U	1.3 J
1,3-Butadiene	µg/m ³	1.6 U	1.6 U	1.6 U	1.5 U
1,3-Dichlorobenzene	µg/m ³	4.2 U	4.2 U	4.5 U	4.1 U
1,4-Dichlorobenzene	µg/m ³	4.2 U	4.2 U	4.5 U	4.1 U
1,4-Dioxane	µg/m ³	10 U	10 U	11 U	9.8 U
2,2,4-Trimethylpentane	µg/m ³	3.3 U	6.1	3.5 U	3.2 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m ³	2.0 J	1.2 J	5.9 J	8.0 U
2-Hexanone	µg/m ³	12 U	12 U	12 U	11 U
4-Ethyl toluene	µg/m ³	3.5 U	3.7	3.7 U	2.4 J
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m ³	2.9 U	2.9 U	3.0 U	2.8 U
Acetone	µg/m ³	9.2 J	12 J	10 J	5.6 J
Allyl chloride	µg/m ³	8.8 U	8.8 U	9.3 U	8.5 U
Benzene	µg/m ³	0.71 J	1.6 J	0.62 J	0.59 J
Benzyl chloride	µg/m ³	3.6 U	3.6 U	3.8 U	3.5 U

Table 4

**Analytical Results Summary
Indoor Air and Soil Gas Sampling
One Enterprise Place
Hicksville, New York**

Location ID:	IA-1	IA-2	IA-3	OA-1	SV-1	
Sample Name:	Near IA-6 ⁽¹⁾	South of IA-5 in office area ⁽¹⁾	Near IA-4 ⁽¹⁾	Outdoor Air		
Sample Date:	IA-1 02/22/2019	IA-2 02/22/2019	IA-3 02/22/2019	OA-1 02/22/2019	SV-1 02/22/2019	
Parameters	Unit					
Volatile Organic Compounds						
Bromodichloromethane	µg/m ³	4.7 U	4.7 U	5.0 U	4.6 U	5.0 U
Bromoform	µg/m ³	7.3 U	7.3 U	7.7 U	7.0 U	7.7 U
Bromomethane (Methyl bromide)	µg/m ³	27 U	27 U	29 U	26 U	29 U
Carbon disulfide	µg/m ³	8.8 U	8.8 U	9.3 U	8.5 U	9.3 U
Carbon tetrachloride	µg/m ³	4.4 U	4.4 U	4.7 U	4.3 U	0.64 J
Chlorobenzene	µg/m ³	3.2 U	3.2 U	3.4 U	3.1 U	3.4 U
Chloroethane	µg/m ³	7.4 U	7.4 U	7.9 U	7.2 U	7.9 U
Chloroform (Trichloromethane)	µg/m ³	3.4 U	3.4 U	3.6 U	3.3 U	0.52 J
Chloromethane (Methyl chloride)	µg/m ³	14 U	14 U	15 U	14 U	15 U
cis-1,2-Dichloroethene	µg/m ³	2.8 U	2.8 U	3.0 U	2.7 U	3.0 U
cis-1,3-Dichloropropene	µg/m ³	3.2 U	3.2 U	3.4 U	3.1 U	3.4 U
Cyclohexane	µg/m ³	2.4 U	0.78 J	2.6 U	2.3 U	1.8 J
Dibromochloromethane	µg/m ³	6.0 U	6.0 U	6.3 U	5.8 U	6.3 U
Dichlorodifluoromethane (CFC-12)	µg/m ³	2.9 J	2.6 J	2.7 J	2.7 J	2.9 J
Ethanol	µg/m ³	5.4	5.5	5.0 J	3.4 J	290
Ethylbenzene	µg/m ³	0.72 J	12	2.1 J	3.0 U	3.1 J
Hexachlorobutadiene	µg/m ³	30 U	30 U	32 U	29 U	32 U
Hexane	µg/m ³	2.5 U	6.3	2.6 U	2.4 U	3.7
Isopropyl alcohol	µg/m ³	6.9 U	6.9 U	7.3 U	6.7 U	7.3 U
Isopropyl benzene	µg/m ³	3.5 U	3.5 U	3.7 U	3.3 U	3.7 U
m&p-Xylenes	µg/m ³	1.4 J	52	7.4	2.2 J	10
Methyl tert butyl ether (MTBE)	µg/m ³	10 U	10 U	11 U	9.8 U	11 U
Methylene chloride	µg/m ³	24 U	24 U	26 U	24 U	26 U
N-Heptane	µg/m ³	2.9 U	5.4	3.0 U	2.8 U	3.1
N-Propylbenzene	µg/m ³	3.5 U	3.5 U	3.7 U	3.3 U	3.7 U
o-Xylene	µg/m ³	3.1 U	23	2.1 J	3.0 U	4.4
Styrene	µg/m ³	0.83 J	1.3 J	0.81 J	2.9 U	3.2 U
Tetrachloroethene	µg/m ³	4.8 U	4.8 U	5.0 U	4.6 U	59
Tetrahydrofuran	µg/m ³	0.81 J	1.5 J	0.70 J	2.0 U	9.4
Toluene	µg/m ³	5.2	27	4.5	1.4 J	13

Table 4

**Analytical Results Summary
Indoor Air and Soil Gas Sampling
One Enterprise Place
Hicksville, New York**

	Location ID:	IA-1	IA-2	IA-3	OA-1	SV-1
	Sample Name:	Near IA-6 ⁽¹⁾	South of IA-5 in office area ⁽¹⁾	Near IA-4 ⁽¹⁾	Outdoor Air	
	Sample Date:	IA-1 02/22/2019	IA-2 02/22/2019	IA-3 02/22/2019	OA-1 02/22/2019	SV-1 02/22/2019
Parameters	Unit					
Volatile Organic Compounds						
trans-1,2-Dichloroethene	µg/m ³	2.8 U	2.8 U	3.0 U	2.7 U	3.0 U
trans-1,3-Dichloropropene	µg/m ³	3.2 U	3.2 U	3.4 U	3.1 U	3.4 U
Trichloroethene	µg/m ³	3.8 U	3.8 U	4.0 U	3.6 U	6.9
Trichlorofluoromethane (CFC-11)	µg/m ³	1.2 J	1.4 J	1.1 J	1.3 J	2.1 J
Trifluorotrichloroethane (CFC-113)	µg/m ³	5.4 U	5.4 U	5.7 U	5.2 U	1.4 J
Vinyl chloride	µg/m ³	1.8 U	1.8 U	1.9 U	1.7 U	1.9 U

Notes:

- J - Estimated concentration
- U - Not detected at the associated reporting limit
- - Not applicable

Table 5

**Analytical Results Summary
Soil Vapor Probe Sampling
One Enterprise Place
Hicksville, New York**

Location ID:	VP-41	VP-41	VP-42R	VP-42R	VP-46	VP-46
Sample Name:	VP-41	SV121919CM008	SV72619VW001	SV121919CM007	VP-46	SV121919CM009
Sample Date:	11/07/2018	12/19/2019	07/26/2019	12/19/2019	11/07/2018	12/19/2019

Parameters	Unit						
Volatile Organic Compounds							
Helium	%	0.063 U	0.074 U	0.0024 J	0.079 U	0.070 U	0.014 J
1,1,1-Trichloroethane	µg/m ³	0.82 J	4.1 U	4.0 U	4.3 U	2.8 J	3.9 U
1,1,2,2-Tetrachloroethane	µg/m ³	4.3 U	5.1 U	5.0 U	5.4 U	4.8 U	4.9 U
1,1,2-Trichloroethane	µg/m ³	3.4 U	4.1 U	4.0 U	4.3 U	3.8 U	3.9 U
1,1-Dichloroethane	µg/m ³	2.6 U	3.0 U	3.0 U	3.2 U	2.8 U	2.9 U
1,1-Dichloroethene	µg/m ³	2.5 U	3.0 U	2.9 U	3.1 U	2.8 U	2.8 U
1,2,4-Trichlorobenzene	µg/m ³	19 U	22 U	22 U	23 U	21 U	21 U
1,2,4-Trimethylbenzene	µg/m ³	3.1 U	3.7 U	1.6 J	3.9 U	3.4 U	3.5 U
1,2-Dibromoethane (Ethylene dibromide)	µg/m ³	4.8 U	5.7 U	5.6 U	6.1 U	5.4 U	5.5 U
1,2-Dichlorobenzene	µg/m ³	3.8 U	4.5 U	4.4 U	4.7 U	4.2 U	4.3 U
1,2-Dichloroethane	µg/m ³	2.5 U	3.0 U	3.0 U	3.2 U	2.8 U	2.9 U
1,2-Dichloropropane	µg/m ³	2.9 U	3.4 U	3.4 U	3.6 U	3.2 U	3.3 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m ³	4.4 U	5.2 U	5.1 U	5.5 U	4.9 U	5.0 U
1,3,5-Trimethylbenzene	µg/m ³	3.1 U	3.7 U	3.6 U	3.9 U	3.4 U	3.5 U
1,3-Butadiene	µg/m ³	1.4 U	1.6 U	1.6 U	1.7 U	1.5 U	1.6 U
1,3-Dichlorobenzene	µg/m ³	3.8 U	4.5 U	2.7 J	4.8 U	4.2 U	4.3 U
1,4-Dichlorobenzene	µg/m ³	3.8 U	4.5 U	4.4 U	4.8 U	4.2 U	4.3 U
1,4-Dioxane	µg/m ³	9.1 U	11 U	10 U	11 U	10 U	10 U
2,2,4-Trimethylpentane	µg/m ³	2.9 U	3.5 U	2.7 J	3.7 U	3.3 U	3.4 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m ³	7.4 U	8.8 U	7.8 J	9.3 U	8.2 U	8.5 U
2-Hexanone	µg/m ³	10 U	12 U	12 U	13 U	11 U	12 U
4-Ethyl toluene	µg/m ³	3.1 U	3.7 U	1.6 J	3.9 U	3.4 U	3.5 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m ³	2.6 U	3.0 U	4.8	3.2 U	2.9 U	2.9 U
Acetone	µg/m ³	3.4 J	3.6 J	36	3.7 J	6.8 J	3.3 J
Allyl chloride	µg/m ³	7.9 U	9.3 U	9.2 U	9.9 U	8.8 U	9.0 U
Benzene	µg/m ³	2.0 U	1.0 J	2.7	0.78 J	2.2 U	0.95 J
Benzyl chloride	µg/m ³	3.3 U	3.8 U	3.8 U	4.1 U	3.6 U	3.7 U
Bromodichloromethane	µg/m ³	4.2 U	5.0 U	4.9 U	5.3 U	4.7 U	4.8 U
Bromoform	µg/m ³	6.5 U	7.7 U	7.6 U	8.2 U	7.2 U	7.4 U
Bromomethane (Methyl bromide)	µg/m ³	24 U	29 U	28 U	31 U	27 U	28 U
Carbon disulfide	µg/m ³	7.8 U	9.3 U	3.3 J	9.8 U	8.7 U	9.0 U
Carbon tetrachloride	µg/m ³	4.0 U	4.7 U	4.6 U	5.0 U	7.6	1.1 J
Chlorobenzene	µg/m ³	2.9 U	3.4 U	3.4 U	3.6 U	3.2 U	3.3 U
Chloroethane	µg/m ³	6.6 U	7.9 U	7.8 U	8.3 U	7.4 U	7.6 U
Chloroform (Trichloromethane)	µg/m ³	3.1 U	3.6 U	3.6 U	3.8 U	2.0 J	3.5 U
Chloromethane (Methyl chloride)	µg/m ³	13 U	15 U	15 U	16 U	14 U	15 U
cis-1,2-Dichloroethene	µg/m ³	2.5 U	3.0 U	2.9 U	3.1 U	1.1 J	2.8 U
cis-1,3-Dichloropropene	µg/m ³	2.8 U	3.4 U	3.3 U	3.6 U	3.2 U	3.3 U
Cyclohexane	µg/m ³	2.2 U	2.6 U	1.4 J	2.7 U	2.4 U	2.5 U
Dibromochloromethane	µg/m ³	5.4 U	6.3 U	6.3 U	6.7 U	6.0 U	6.1 U
Dichlorodifluoromethane (CFC-12)	µg/m ³	3.1 J	2.8 J	2.8 J	2.4 J	3.0 J	2.7 J
Ethanol	µg/m ³	4.7 U	5.6 U	180	6.0 U	5.3 U	5.4 U
Ethylbenzene	µg/m ³	1.1 J	3.2 U	2.5 J	3.4 U	3.0 U	3.1 U
Hexachlorobutadiene	µg/m ³	27 U	32 U	31 U	34 U	30 U	31 U
Hexane	µg/m ³	2.2 U	0.66 J	3.4	0.47 J	2.5 U	0.59 J
Isopropyl alcohol	µg/m ³	6.2 U	7.3 U	280	7.8 U	6.9 U	7.1 U
Isopropyl benzene	µg/m ³	3.1 U	3.7 U	3.6 U	3.9 U	3.4 U	3.5 U
m&p-Xylenes	µg/m ³	5.2	3.2 U	7.1	3.4 U	3.0 U	3.1 U
Methyl tert butyl ether (MTBE)	µg/m ³	9.1 U	11 U	10 U	11 U	10 U	10 U
Methylene chloride	µg/m ³	22 U	26 U	2.5 J	27 U	24 U	25 U
N-Heptane	µg/m ³	2.6 U	3.0 U	1.7 J	3.2 U	2.9 U	3.0 U
N-Propylbenzene	µg/m ³	3.1 U	3.7 U	3.6 U	3.9 U	3.4 U	3.5 U
o-Xylene	µg/m ³	2.9	3.2 U	2.0 J	3.4 U	3.0 U	3.1 U
Styrene	µg/m ³	2.7 U	3.2 U	1.4 J	3.4 U	3.0 U	3.1 U
Tetrachloroethene	µg/m ³	18	5.0 U	2.9 J	5.4 U	690	20
Tetrahydrofuran	µg/m ³	1.8 U	2.2 U	2.2 U	2.3 U	2.1 U	2.1 U
Toluene	µg/m ³	0.49 J	1.2 J	30	1.0 J	2.6 U	0.92 J
trans-1,2-Dichloroethene	µg/m ³	2.5 U	3.0 U	2.9 U	3.1 U	1.6 J	2.8 U

Table 5

**Analytical Results Summary
Soil Vapor Probe Sampling
One Enterprise Place
Hicksville, New York**

Location ID:	VP-41	VP-41	VP-42R	VP-42R	VP-46	VP-46
Sample Name:	VP-41	SV121919CM008	SV72619VW001	SV121919CM007	VP-46	SV121919CM009
Sample Date:	11/07/2018	12/19/2019	07/26/2019	12/19/2019	11/07/2018	12/19/2019

Parameters	Unit						
Volatile Organic Compounds							
trans-1,3-Dichloropropene	µg/m ³	2.8 U	3.4 U	3.3 U	3.6 U	3.2 U	3.3 U
Trichloroethene	µg/m ³	3.4 U	4.0 U	4.0 U	4.2 U	7.1	0.76 J
Trichlorofluoromethane (CFC-11)	µg/m ³	1.6 J	1.0 J	1.9 J	1.4 J	1.5 J	1.0 J
Trifluorotrichloroethane (CFC-113)	µg/m ³	4.8 U	5.7 U	5.6 U	6.0 U	5.4 U	5.5 U
Vinyl chloride	µg/m ³	1.6 U	1.9 U	1.9 U	2.0 U	1.8 U	1.8 U

Notes:

- µg/m³ - Microgram per cubic meter
 J - Estimated concentration
 U - Not detected at the associated reporting limit

Table 6

**TCE and PCE Concentration Summary
Soil Vapor Probe Sampling
One Enterprise Place
Hicksville, New York**

Location:		VP-41				VP-42/42R				VP-46			
Sample Date:		11/11/2014	12/21/2015	11/7/2018	12/19/2019	11/11/2014	12/21/2015	7/26/2019	12/19/2019	11/11/2014	12/21/2015	11/7/2018	12/19/2019
Parameters	Unit												
Tetrachloroethene	µg/m ³	2100	3.4 J	18	5.0 U	2900	3.7 J	2.9 J	5.4 U	530	380	690	20
Trichloroethene	µg/m ³	51	5.4 U	3.4 U	4.0 U	71	5.4 U	4.0 U	4.2 U	7.7	2.9 J	7.1	0.76 J

Notes:

- µg/m³ - Micrograms per cubic meter
 J - Estimated concentration
 U - Not detected at the associated reporting limit

Attachment A

Phase I Six Month Operation Report



February 28, 2019

Reference No. 81618

Mr. Steven Scharf
New York State Department of Environmental Conservation
Division of Solid & Hazardous Waste
Bureau of Solid Waste and Corrective Action
625 Broadway
Albany, New York
12233-7258

Dear Mr. Scharf:

**Re: Sub Slab Depressurization System – Phase I Six Month Operation Report
RUCO Polymer Corp. Site
Hicksville, New York**

1. Introduction

The assessment and potential remediation of off-site soil vapor associated with the RUCO Polymer Corp. (RUCO) Site in Hicksville, NY was designated as Operable Unit 05 (OU5) by the New York State Department of Environmental Conservation (NYSDEC) and is subject to NYSDEC Order on Consent and Administrative Settlement Order (Order) Index #A1-0799-12-10, effective September 30, 2013.

In accordance with the Record of Decision (ROD) issued March 31, 2017 for Operable Unit 05: Offsite Soil Vapor, GHD, on behalf of Covestro and Glenn Springs Holdings Inc. (GSH), prepared a Remedial Design (RD) for the installation, operation, maintenance, and monitoring of sub-slab depressurization (SSD) systems underneath the Simone Enterprises building located at 1 Enterprise Place in Hicksville, New York. The RD was submitted to the NYSDEC on January 16, 2018 and approved by NYSDEC on January 25, 2018. The Remedial Action Objective (RAO) under the ROD is to mitigate impacts to public health resulting from existing, or the potential for soil vapor intrusion into buildings at a site.

The Remedial Action includes a phased approach for implementation of six SSD systems. The SSD systems will include the installation of a 3-inch diameter high density polyethylene (HDPE) horizontal vapor extraction pipe beneath the building at six locations. The first phase involved the construction, operation, maintenance, and monitoring of the first SSD system (Phase I). As stated in the RD, the data collected during Phase I will be used to evaluate the installation, operating, and monitoring procedures. Should difficulties be encountered during Phase 1, the installation, operating, and/or monitoring procedures may be modified for the remainder of the installations.

This letter presents the data collected during the first 6 months of operation, maintenance, and monitoring of the Phase I SSD system, and recommendations regarding installation of the remaining five SSD systems. Figure 1 shows the layout of the area, including the building and the former RUCO property.



Figure 2 focuses on the 1 Enterprise Place building area and the locations of vapor monitoring points and the Phase I SSD system, including data gathered during monitoring of Phase I.

2. Phase I SSD System Overview

As outlined in the RD, wind powered SSD systems were proposed to mitigate the potential for migration of contaminated soil vapor beneath the building by providing a preferential pathway.

The Phase I SSD system consists of a 3-inch diameter DR-11 HDPE horizontal vapor extraction pipe installed beneath the building. The extraction pipe will reduce sub-slab pressure and draw soil vapor from the pore space of the sub slab bedding materials.

A 6-inch diameter rotary turbine is attached to a vertical pipe, which is in turn connected to the sub-slab horizontal pipe, in order to provide airflow to extract soil vapor.

3. Summary of Activities

3.1 Preliminary Testing

As outlined in the RD, preliminary testing was conducted at one location to establish an effective radius of influence beneath the floor slab. As indicated in a letter dated June 4, 2018, acceptable sub-slab vacuum was present as much as 30 feet southward from the extraction well. Therefore, it was recommended that the Phase I SSD system be installed using the wind powered rotary turbine.

3.2 Phase I Installation

Phase I SSDS was installed between June 27 and June 29, 2018. Construction details were consistent with those presented in the RD. The 3-inch diameter horizontal DR-11 HDPE pipe was installed using vacuum techniques to a distance of 50 feet beneath the building from the west wall. A vacuum truck was used to remove the soil and advance an 8-inch diameter temporary casing a distance of 4 feet, a 6-inch diameter temporary casing a distance of 35 feet, and then a 4-inch diameter temporary casing to the 50-foot mark. The 3-inch extraction pipe was then inserted through the casings. Coarse sand was blown into the void space while the casings were removed. The presence of stone cobbles necessitated the use of the 8-inch temporary casing. The 3-inch extraction pipe was solid for the first 10 feet and then slotted for the remaining 40 feet. Slotted HDPE pipe (20 slot) was used in place of perforated HDPE pipe due to the presence of fine sand observed in the soil materials removed. A bentonite seal was placed immediately inside the wall and the corehole was filled with bricks and mortar.

The riser pipe consisted of 10 feet of 3-inch diameter black iron pipe for stability, followed by HDPE pipe to approximately 2 feet above the roof line. The riser was fastened to the wall in four places and covered with aluminum downspout pipe to match the other downspouts on the building. The wind turbine was connected via a reducer to the HDPE pipe.



Startup of the SSDS commenced on July 11, 2018. Attachment A contains a photolog documenting Phase I installation.

3.3 Monitoring

3.3.1 Field Measurements

Periodic field measurements were conducted to measure weather, flowrate, vacuum, and volatile organic compounds (VOCs) exiting the SSDS between July 11, 2018 and January 27, 2019. VOCs were monitored using a photoionization detector (PID) and by collecting samples for laboratory analysis using procedures specified in the RD. These data are presented in Table 1. No issues were encountered with respect to collecting field measurements. Overall, the readings collected throughout the 6-month period indicate that air is moving through the pipe, that a vacuum has been induced in the horizontal system, and that soil vapor contaminants as measured by the PID are being removed.

The average air flowrate over the 6-month period is approximately 14 cubic feet per minute (cfm), which corresponds to approximately 20,160 cubic feet per day (cf/day). Based on a 150 foot building width, one pore volume is approximately 15,000 cubic feet, so this average flowrate is 1.34 soil pore volume exchanges per day. This is within the anticipated range of 1.2 to 2.1 pore volume exchanges as stated in the RD.

PID readings of the SSD system averaged 0.59 parts per million (ppm), with a maximum of 1.4 ppm. This shows that the system is extracting impacted soil vapor.

3.3.2 Vapor Sampling

Prior to startup of Phase I, vapor samples were collected from a sub-slab vapor monitoring location near SSV-5 (SV-1), and from the SSD system. Samples were collected in accordance with the procedures presented in the RD. The SSD system was sampled again 1 week after startup and then again 3 months after startup. The Phase I SSD system is located in the general vicinity of SSV-5. All samples were collected in accordance with the procedures specified in the RD. No issues were encountered with respect to sample collection.

Results of these samples are presented in Table 2. Laboratory reports are presented in Attachment B and data validation memorandums are presented in Attachment C. The data were found to be acceptable with the qualifications noted.

During the 6-month period, tetrachloroethylene (PCE) concentrations in the SSD system went from 280 $\mu\text{g}/\text{m}^3$ at startup, to 380 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after 1 week, to 4,800 $\mu\text{g}/\text{m}^3$ after 3 months. Trichloroethylene (TCE) concentrations rose from 8.1 $\mu\text{g}/\text{m}^3$ at startup, to 14 $\mu\text{g}/\text{m}^3$ after 1 week, to 65 $\mu\text{g}/\text{m}^3$ after 3 months. The increasing concentrations show that the system is extracting impacted soil vapor.

The sub-slab monitoring point SV-1 (near SSV-5) showed a PCE concentration of 10,000 $\mu\text{g}/\text{m}^3$ and a TCE concentration of 89 $\mu\text{g}/\text{m}^3$ at startup. The most recent sampling of SSV-5 was conducted in 2011.



The PCE and TCE concentrations for this event as well as the 2018 sampling events are presented on Figures 2 and 3, respectively. The PCE concentration in SSV-5 in 2011 was 32,000 $\mu\text{g}/\text{m}^3$. TCE was not detected at this location in 2011; however, TCE was detected in nearby SSV-6 at 56 $\mu\text{g}/\text{m}^3$ in 2011. SSV-6 also is located in the general vicinity of the Phase I SSDS.

Given the concentrations detected in 2011 in SSV-5 and SSV-6, the presence of PCE and TCE in samples collected from the SSDS and SV-1 is expected. These concentrations are either lower (PCE) or consistent (TCE) with those detected in 2011. The presence of PCE and TCE in the SSD system indicates that the system is extracting impacted soil vapor.

3.4 Additional Activities

3.4.1 Interior Work

In accordance with the RD, accessible floor penetrations, floor joints, or slab cracks within the building were inspected. Any penetrations, joints or cracks in accessible areas that were found to provide a potential pathway from the sub-slab were sealed with urethane caulk or hydraulic cement, as determined based on the observed conditions. The sealing activities were conducted in May 2018. Attachment D contains a photolog documenting representative sealing activities.

3.4.2 Off-Site Soil Vapor Monitoring

The RD requires annual sampling of off-Site soil vapor monitoring locations VP-41, VP-42, and VP-46 for a period of 4 years. The first annual sampling event was conducted in November 2018. Soil vapor monitoring locations VP-41 and VP-46 were the only two sampled as VP-42 could not be located using coordinates and a metal detector. It is believed that VP-42 has been destroyed. The vapor probe will not be replaced at this time due to its proximity to VP-41. As stated in the November monthly progress report, should the analytical results from sampling VP-41 and VP-46 indicate VOC concentrations of concern, then consideration will be given to reinstalling and sampling VP-42.

Samples were collected in accordance with the procedures specified in the RD. The analytical results for the samples collected from VP-41 and VP-46 are presented in Table 3. Laboratory reports are presented in Attachment B and data validation memorandums are presented in Attachment C. The data were found to be acceptable with the qualifications noted. The current and previous analytical results for samples collected in 2014 and 2015 at these locations for PCE and TCE are presented on Figures 2 and 3 respectively.

The PCE concentration in VP-41 in the November 2018 sample was 18 $\mu\text{g}/\text{m}^3$. This is an increase in the concentration compared to that detected in the previous sampling event conducted in 2015 (3.4 $\mu\text{g}/\text{m}^3$); however, the concentration is significantly lower than detected in 2014 (2,100 $\mu\text{g}/\text{m}^3$), and below the New York State Department of Health (NYSDOH) indoor air guidance value of 30 $\mu\text{g}/\text{m}^3$. TCE was not detected in the November 2018 sample collected from VP-41, consistent with the previous sample collected in 2015.



The PCE concentration in VP-46 in the November 2018 sample was 690 $\mu\text{g}/\text{m}^3$. This is an increase in the concentration compared to that detected in the previous sampling event in 2015 (380 $\mu\text{g}/\text{m}^3$) but is similar to the concentration detected in 2014 (530 $\mu\text{g}/\text{m}^3$). The TCE concentration in VP-46 in the November 2018 sample was 7.1 $\mu\text{g}/\text{m}^3$. This is a slight increase in the concentration compared to that detected in the previous sampling event in 2015 (2.9 $\mu\text{g}/\text{m}^3$) but is essentially the same as that detected in 2014 (7.1 $\mu\text{g}/\text{m}^3$). Overall, the concentrations in VP-46 do not indicate a significant change in conditions compared to past sampling events.

4. Recommendations

Based on the installation, operating, and monitoring procedures, and data collected during the first 6-months of operation of the Phase I SSD system, it is recommended that the remaining five wind powered SSD systems be installed using the methods implemented for installation of the Phase I SSD system and operated and monitored as proposed in the RD.

Should you have any questions on the above, please do not hesitate to contact the undersigned at 519-340-4313 or email john.pentilchuk@ghd.com.

Yours truly

GHD

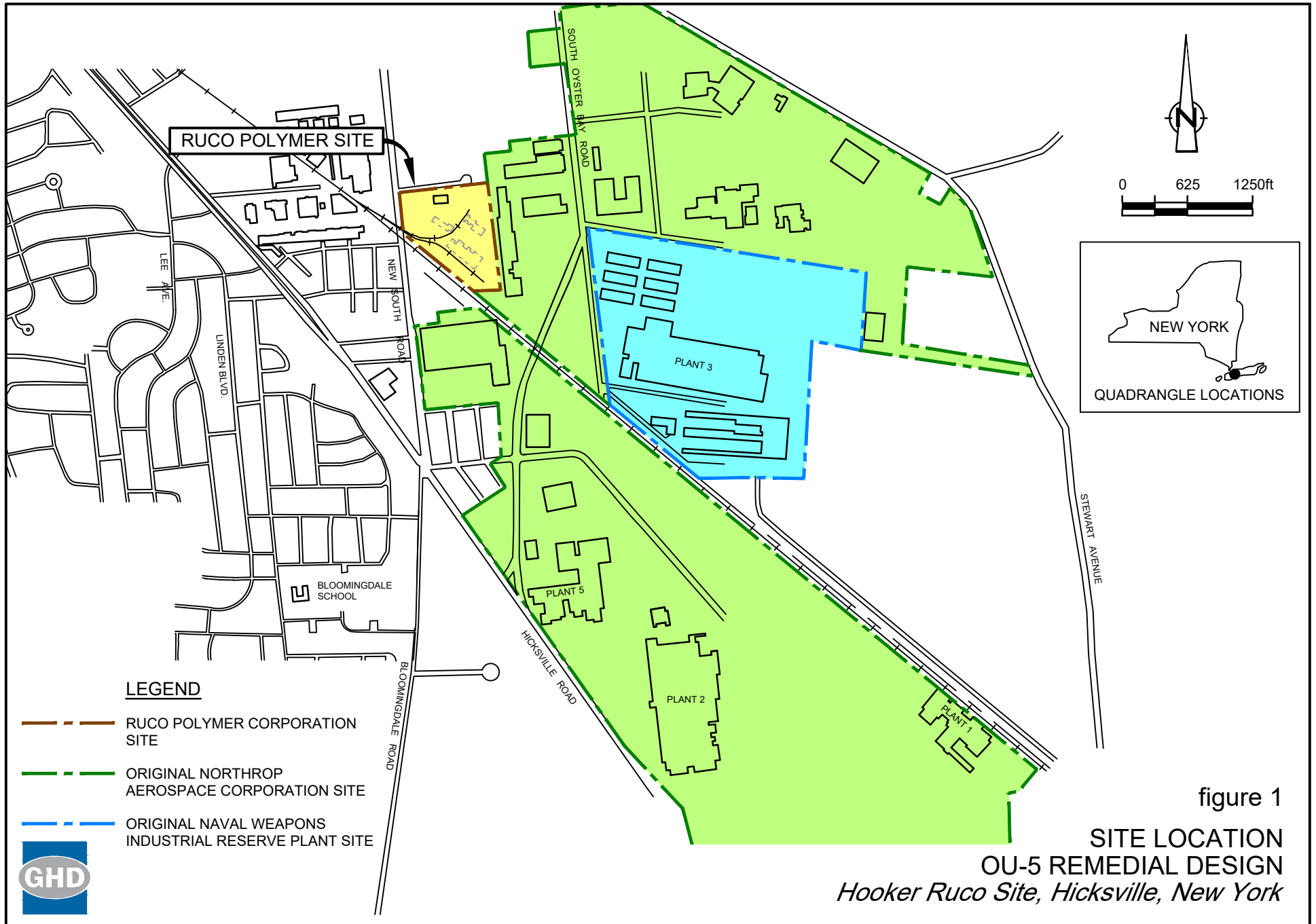
A handwritten signature in blue ink that reads "John Pentilchuk". The signature is fluid and cursive, with the first and last names being clearly legible.

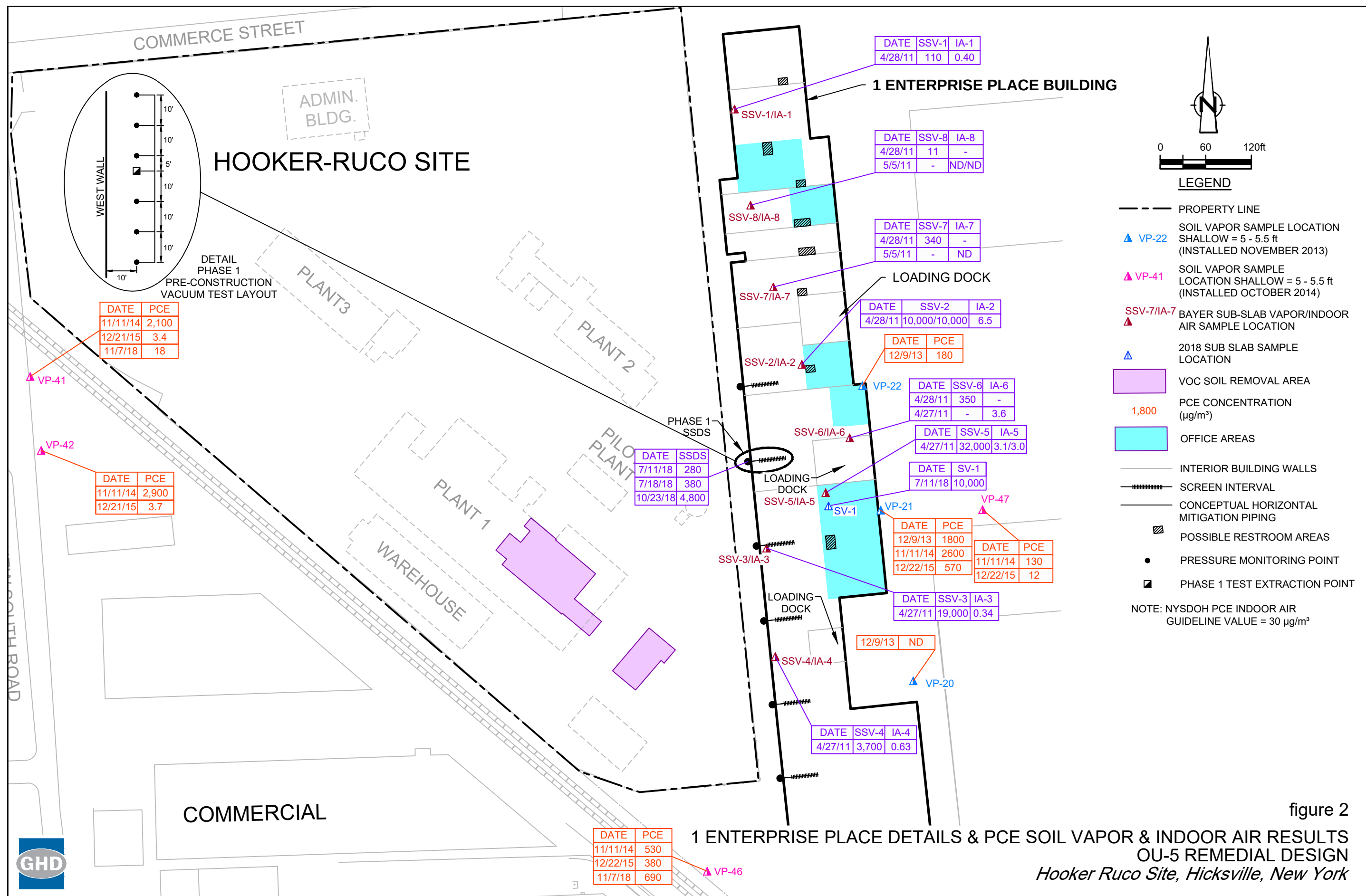
John Pentilchuk

JS/kf/76

Encl.

cc: Renata Ockerby (NYSDOH)
Dena Putnick, Esq. (NYSDEC)
Jackie Kondrk (USEPA)
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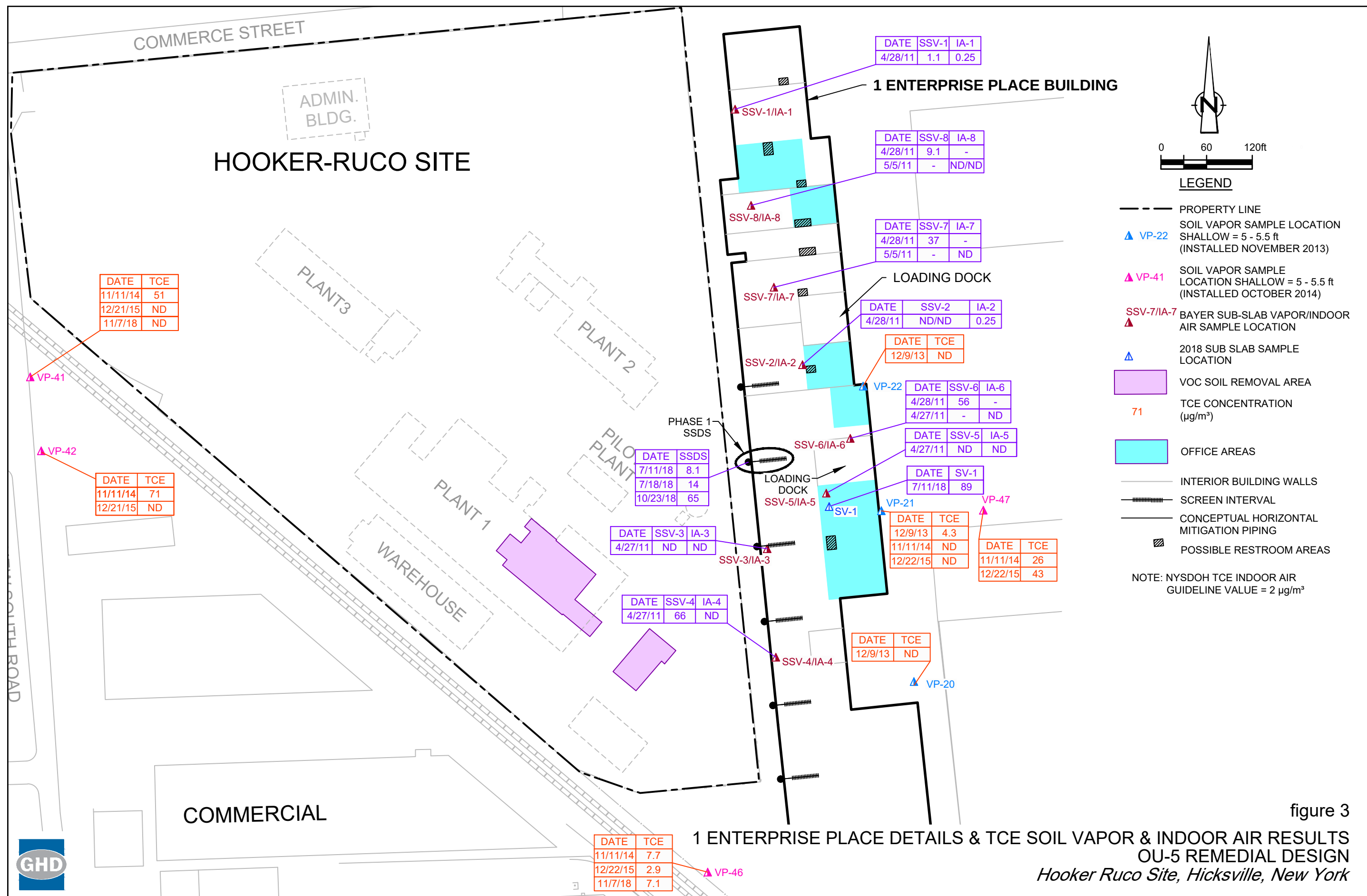


Table 1
SSD System Field Measurements
One Enterprise Place
Hicksville, New York

Date:	7/11/2018	7/11/2018	7/11/2018	7/11/2018	7/12/2018	7/13/2018	7/16/2018	7/17/2018
Time:	11am	Start up 12pm	12:30pm	1:30pm	4pm	4:30pm	8:30am	8am
Weather:	Sunny light breeze	Sunny light breeze	Sunny light breeze	Sunny light breeze	Very still day	windy	still day	light breeze
VOCs (ppm)¹	0	0	0	0	0.2	1.2	0.01	0
Flow (cfm)	1	20	7	20	5	23	0	12
Vacuum	-0.006	-0.04	-0.016	-0.03	-0.002	-0.025	0.001	-0.016
Date:	7/18/2018	7/25/2018	8/1/2018	8/8/2018	8/15/2018	9/12/2018	10/15/2018	1/27/2019
Time:	4:15pm	11:00am	11:00am	10:30am	11:35am	11:00am	2:00pm	2pm
Weather:	breeze	gusty	light wind	light wind	light wind	light wind	windy and rain	Windy
VOCs (ppm)¹	0.1	1.4	1.3	0.8	0.8	1.2	1.3	1.2
Flow (cfm)	11	19.2	20.7	20.6	12	15.7	19.85	18.57
Vacuum	-0.023	-0.041	-0.05	0.001	0.59	-0.009	-0.166	-0.079
	Minimum	Average	Maximum					
VOCs (ppm)¹	0	0.59	1.4					
Flow (cfm)	0	14.1	23					

Notes:

- 1 - measured by photoionization detector
- VOCs - volatile organic compounds
- ppm - parts per million
- cfm - cubic feet per meter

Table 2

**Analytical Results Summary
SSD System Vapor Sampling
One Enterprise Place
Hicksville, New York**

	Location ID: Sample Name: Sample Date:	SSD System SSDS-1 07/11/2018	SSD System SSDS-2 07/18/2018	SV-1 SV-1 07/11/2018	SSD System SSD-Leg (Enterprise) 10/23/2018
Parameters	Unit				
Volatile Organic Compounds					
Helium	%	-	-	0.070 U	-
1,1,1-Trichloroethane	µg/m ³	0.74 J	1.2 J	11 J	20 U
1,1,2,2-Tetrachloroethane	µg/m ³	5.0 U	5.5 U	48 U	25 U
1,1,2-Trichloroethane	µg/m ³	4.0 U	4.4 U	38 U	20 U
1,1-Dichloroethane	µg/m ³	3.0 U	3.2 U	28 U	15 U
1,1-Dichloroethene	µg/m ³	2.9 U	3.2 U	28 U	14 U
1,2,4-Trichlorobenzene	µg/m ³	22 U	24 U	210 U	110 U
1,2,4-Trimethylbenzene	µg/m ³	33	33	34	18 U
1,2-Dibromoethane (Ethylene dibromide)	µg/m ³	5.6 U	6.2 U	53 U	28 U
1,2-Dichlorobenzene	µg/m ³	4.4 U	4.8 U	42 U	22 U
1,2-Dichloroethane	µg/m ³	3.0 U	3.2 U	28 U	15 U
1,2-Dichloropropane	µg/m ³	3.4 U	3.7 U	32 U	17 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m ³	5.1 U	5.6 U	48 U	25 U
1,3,5-Trimethylbenzene	µg/m ³	9.0	10	11 J	18 U
1,3-Butadiene	µg/m ³	1.6 U	1.8 U	15 U	8.0 U
1,3-Dichlorobenzene	µg/m ³	6.5	5.2	42 U	22 U
1,4-Dichlorobenzene	µg/m ³	4.4 U	4.8 U	42 U	22 U
1,4-Dioxane	µg/m ³	10 U	12 U	100 U	52 U
2,2,4-Trimethylpentane	µg/m ³	19	70	10 J	17 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m ³	32	26	82 U	28 J
2-Hexanone	µg/m ³	12 U	13 U	110 U	60 U
4-Ethyl toluene	µg/m ³	25	30	29 J	18 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m ³	4.6	13	28 U	15 U
Acetone	µg/m ³	130	130	36 J	31 J
Allyl chloride	µg/m ³	9.1 U	10 U	87 U	46 U
Benzene	µg/m ³	6.6	15	22 U	12 U
Benzyl chloride	µg/m ³	3.8 U	4.2 U	36 U	19 U
Bromodichloromethane	µg/m ³	4.9 U	5.4 U	46 U	24 U
Bromoform	µg/m ³	7.5 U	8.3 U	72 U	38 U
Bromomethane (Methyl bromide)	µg/m ³	28 U	31 U	270 U	140 U
Carbon disulfide	µg/m ³	9.1 U	3.6 J	86 U	45 U
Carbon tetrachloride	µg/m ³	4.6 U	0.82 J	44 U	23 U
Chlorobenzene	µg/m ³	0.89 J	3.7 U	32 U	17 U
Chloroethane	µg/m ³	7.7 U	8.5 U	73 U	38 U
Chloroform (Trichloromethane)	µg/m ³	3.7	4.6	34 U	4.9 J
Chloromethane (Methyl chloride)	µg/m ³	15 U	17 U	140 U	75 U
cis-1,2-Dichloroethene	µg/m ³	2.9 U	3.2 U	28 U	14 U
cis-1,3-Dichloropropene	µg/m ³	3.3 U	3.6 U	32 U	16 U
Cyclohexane	µg/m ³	5.2	7.3	24 U	12 U
Dibromochloromethane	µg/m ³	6.2 U	6.8 U	59 U	31 U
Dichlorodifluoromethane (CFC-12)	µg/m ³	3.0 J	3.2 J	34 U	18 U
Ethanol	µg/m ³	660 J	760 J	64	13 J
Ethylbenzene	µg/m ³	12	20	14 J	16 U
Hexachlorobutadiene	µg/m ³	31 U	34 U	300 U	160 U
Hexane	µg/m ³	55	24	24 U	5.5 J
Isopropyl alcohol	µg/m ³	72	40	68 U	7.2 J

Table 2

**Analytical Results Summary
SSD System Vapor Sampling
One Enterprise Place
Hicksville, New York**

Location ID: Sample Name: Sample Date:		SSD System SSDS-1 07/11/2018	SSD System SSDS-2 07/18/2018	SV-1 SV-1 07/11/2018	SSD System SSD-Leg (Enterprise) 10/23/2018
Parameters	Unit				
Volatile Organic Compounds					
Isopropyl benzene	µg/m ³	1.7 J	3.0 J	34 U	18 U
m&p-Xylenes	µg/m ³	40	64	52	16 U
Methyl tert butyl ether (MTBE)	µg/m ³	10 U	12 U	100 U	52 U
Methylene chloride	µg/m ³	25 U	28 U	240 U	9.3 J
N-Heptane	µg/m ³	6.8	16	28 U	15 U
N-Propylbenzene	µg/m ³	5.2	6.2	6.4 J	18 U
o-Xylene	µg/m ³	19	26	24 J	16 U
Styrene	µg/m ³	10	11	13 J	16 U
Tetrachloroethene	µg/m ³	280	380	10000	4800
Tetrahydrofuran	µg/m ³	29	31	11 J	11 U
Toluene	µg/m ³	52	84	50	14 U
trans-1,2-Dichloroethene	µg/m ³	1.2 J	3.2 U	28 U	14 U
trans-1,3-Dichloropropene	µg/m ³	3.3 U	3.6 U	32 U	16 U
Trichloroethene	µg/m ³	8.1	14	89	65
Trichlorofluoromethane (CFC-11)	µg/m ³	2.1 J	3.0 J	39 U	20 U
Trifluorotrichloroethane (CFC-113)	µg/m ³	5.6 U	6.2 U	53 U	28 U
Vinyl chloride	µg/m ³	1.9 U	2.0 U	18 U	9.3 U

Notes:

- J - Estimated concentration
- U - Not detected at the associated reporting limit
- - Not applicable

Table 3

Analytical Results Summary
Off-Site Soil Vapor Probe Sampling
One Enterprise Place
Hicksville, New York

Parameters	Unit	Location ID:	VP-41	VP-46
		Sample Name:	VP-41	VP-46
		Sample Date:	11/07/2018	11/07/2018
Volatile Organic Compounds				
Helium	%		0.063 U	0.070 U
1,1,1-Trichloroethane	µg/m ³		0.82 J	2.8 J
1,1,2,2-Tetrachloroethane	µg/m ³		4.3 U	4.8 U
1,1,2-Trichloroethane	µg/m ³		3.4 U	3.8 U
1,1-Dichloroethane	µg/m ³		2.6 U	2.8 U
1,1-Dichloroethene	µg/m ³		2.5 U	2.8 U
1,2,4-Trichlorobenzene	µg/m ³		19 U	21 U
1,2,4-Trimethylbenzene	µg/m ³		3.1 U	3.4 U
1,2-Dibromoethane (Ethylene dibromide)	µg/m ³		4.8 U	5.4 U
1,2-Dichlorobenzene	µg/m ³		3.8 U	4.2 U
1,2-Dichloroethane	µg/m ³		2.5 U	2.8 U
1,2-Dichloropropane	µg/m ³		2.9 U	3.2 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m ³		4.4 U	4.9 U
1,3,5-Trimethylbenzene	µg/m ³		3.1 U	3.4 U
1,3-Butadiene	µg/m ³		1.4 U	1.5 U
1,3-Dichlorobenzene	µg/m ³		3.8 U	4.2 U
1,4-Dichlorobenzene	µg/m ³		3.8 U	4.2 U
1,4-Dioxane	µg/m ³		9.1 U	10 U
2,2,4-Trimethylpentane	µg/m ³		2.9 U	3.3 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m ³		7.4 U	8.2 U
2-Hexanone	µg/m ³		10 U	11 U
4-Ethyl toluene	µg/m ³		3.1 U	3.4 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m ³		2.6 U	2.9 U
Acetone	µg/m ³		3.4 J	6.8 J
Allyl chloride	µg/m ³		7.9 U	8.8 U
Benzene	µg/m ³		2.0 U	2.2 U
Benzyl chloride	µg/m ³		3.3 U	3.6 U
Bromodichloromethane	µg/m ³		4.2 U	4.7 U
Bromoform	µg/m ³		6.5 U	7.2 U
Bromomethane (Methyl bromide)	µg/m ³		24 U	27 U
Carbon disulfide	µg/m ³		7.8 U	8.7 U
Carbon tetrachloride	µg/m ³		4.0 U	7.6
Chlorobenzene	µg/m ³		2.9 U	3.2 U
Chloroethane	µg/m ³		6.6 U	7.4 U
Chloroform (Trichloromethane)	µg/m ³		3.1 U	2.0 J
Chloromethane (Methyl chloride)	µg/m ³		13 U	14 U
cis-1,2-Dichloroethene	µg/m ³		2.5 U	1.1 J
cis-1,3-Dichloropropene	µg/m ³		2.8 U	3.2 U
Cyclohexane	µg/m ³		2.2 U	2.4 U
Dibromochloromethane	µg/m ³		5.4 U	6.0 U
Dichlorodifluoromethane (CFC-12)	µg/m ³		3.1 J	3.0 J
Ethanol	µg/m ³		4.7 U	5.3 U
Ethylbenzene	µg/m ³		1.1 J	3.0 U
Hexachlorobutadiene	µg/m ³		27 U	30 U
Hexane	µg/m ³		2.2 U	2.5 U
Isopropyl alcohol	µg/m ³		6.2 U	6.9 U

Table 3

**Analytical Results Summary
Off-Site Soil Vapor Probe Sampling
One Enterprise Place
Hicksville, New York**

Location ID:		VP-41	VP-46
Sample Name:		VP-41	VP-46
Sample Date:		11/07/2018	11/07/2018
Parameters	Unit		
Volatile Organic Compounds			
Isopropyl benzene	µg/m ³	3.1 U	3.4 U
m&p-Xylenes	µg/m ³	5.2	3.0 U
Methyl tert butyl ether (MTBE)	µg/m ³	9.1 U	10 U
Methylene chloride	µg/m ³	22 U	24 U
N-Heptane	µg/m ³	2.6 U	2.9 U
N-Propylbenzene	µg/m ³	3.1 U	3.4 U
o-Xylene	µg/m ³	2.9	3.0 U
Styrene	µg/m ³	2.7 U	3.0 U
Tetrachloroethene	µg/m ³	18	690
Tetrahydrofuran	µg/m ³	1.8 U	2.1 U
Toluene	µg/m ³	0.49 J	2.6 U
trans-1,2-Dichloroethene	µg/m ³	2.5 U	1.6 J
trans-1,3-Dichloropropene	µg/m ³	2.8 U	3.2 U
Trichloroethene	µg/m ³	3.4 U	7.1
Trichlorofluoromethane (CFC-11)	µg/m ³	1.6 J	1.5 J
Trifluorotrchloroethane (CFC-113)	µg/m ³	4.8 U	5.4 U
Vinyl chloride	µg/m ³	1.6 U	1.8 U

Notes:

- J - Estimated concentration
- U - Not detected at the associated reporting limit
- - Not applicable



Photo 1 - Vacuum Operation



Photo 2 - Casing pipes and 3-inch extraction pipe after installation



Phase I SSD System Photographs



Photo 3 - Connection between vertical riser and horizontal pipe



Photo 4 - Riser Pipe



Phase I SSD System Photographs



Photo 5 - Sealed corehole through foundation wall



Photo 6 - Completed riser pipe with "downspout" cover. Backfilling ongoing.



Phase I SSD System Photographs



Photo 7 - Complete system



Photo 8 - Wind turbine at top of riser pipe



Phase I SSD System Photographs

Attachment A

Photo Log, SSDS Installation

Attachment B Laboratory Reports

Electronic Comprehensive Validation Package (eCVP)

COMPREHENSIVE VALIDATION PACKAGE

TO-15

INVENTORY SHEET

Work Order #: 1807359A

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a. ATL Sample Results Form		
b. Target Compound Raw Data		
-Internal Standard Area and Retention Time Summary		
-Surrogate Recovery Summary (If Applicable)		
-Chromatogram(s) and Ion Profiles (If Applicable)		
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e. Matrix Spike/Matrix Spike Duplicate (Results + Raw Data)	--	--
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5. Other Records (describe or list)		
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g. <u>Variance Table</u>	--	--
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i. <u>Data Review Check Sheet</u>	397	398

Comments:

Completed by:

Vera Belitsky

Vera Belitsky / Document Control

8/7/18

(Signature)

(Print Name & Title)

(Date)

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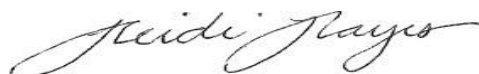
WORK ORDER #: 1807359A

Work Order Summary

CLIENT:	Ms. Kathy Willy GHD 2055 Niagara Falls Blvd. Suite Three Niagara Falls, NY 14304	BILL TO:	Ms. Kathy Willy GHD 2055 Niagara Falls Blvd. Suite Three Niagara Falls, NY 14304
PHONE:	716-297-6150	P.O. #	256-402-D02-3100
FAX:	716-297-6296	PROJECT #	
DATE RECEIVED:	07/23/2018	CONTACT:	Rachel Selenis
DATE COMPLETED:	07/27/2018		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SSDS-2	TO-15	5.0 "Hg	5 psi
02A	SV-1	TO-15	1.0 "Hg	5 psi
03A	SSDS-1	TO-15	2.5 "Hg	5 psi
04A	Lab Blank	TO-15	NA	NA
05A	CCV	TO-15	NA	NA
06A	LCS	TO-15	NA	NA
06AA	LCSD	TO-15	NA	NA

CERTIFIED BY:



Technical Director

DATE: 07/27/18

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
EPA Method TO-15
GHD
Workorder# 1807359A

Three Client Canister samples were received on July 23, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives.

Dilution was performed on sample SSDS-2 due to the presence of high level target species.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Table 1

Client Sample ID	Lab Sample ID	Date Collected	Date Received	Date Extracted	Sample	Sample Extract		Sample Condition
					Holding Time (Days)	Date Analyzed	Holding Time (Days)	
SSDS-2	1807359A-01A	7/18/2018	7/23/2018	NA	9	7/27/2018	NA	Good
SV-1	1807359A-02A	7/11/2018	7/23/2018	NA	16	7/27/2018	NA	Good
SSDS-1	1807359A-03A	7/11/2018	7/23/2018	NA	16	7/27/2018	NA	Good
Lab Blank	1807359A-04A	NA	NA	NA	NA	7/26/2018	NA	Good
CCV	1807359A-05A	NA	NA	NA	NA	7/26/2018	NA	Good
LCS	1807359A-06A	NA	NA	NA	NA	7/26/2018	NA	Good
LCSD	1807359A-06AA	NA	NA	NA	NA	7/26/2018	NA	Good

Sample Results and Raw Data

Client ID:	SSDS-2	Date/Time Analyzed:	7/27/18 01:18 AM
Lab ID:	1807359A-01A	Dilution Factor:	1.61
Date/Time Collecte	7/18/18 04:10 AM	Instrument/File name:	msd17.i / 17072625
Media:	Client Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.79	3.5	4.4	1.2 J
1,1,2,2-Tetrachloroethane	79-34-5	0.99	4.4	5.5	Not Detected
1,1,2-Trichloroethane	79-00-5	1.0	3.5	4.4	Not Detected
1,1-Dichloroethane	75-34-3	0.59	2.6	3.2	Not Detected
1,1-Dichloroethene	75-35-4	1.4	2.6	3.2	Not Detected
1,2,4-Trichlorobenzene	120-82-1	2.2	18	24	Not Detected
1,2,4-Trimethylbenzene	95-63-6	1.0	3.2	4.0	33
1,2-Dibromoethane (EDB)	106-93-4	1.7	4.9	6.2	Not Detected
1,2-Dichlorobenzene	95-50-1	0.87	3.9	4.8	Not Detected
1,2-Dichloroethane	107-06-2	0.52	2.6	3.2	Not Detected
1,2-Dichloropropane	78-87-5	0.97	3.0	3.7	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.87	3.2	4.0	10
1,3-Butadiene	106-99-0	0.39	1.4	1.8	Not Detected
1,3-Dichlorobenzene	541-73-1	0.68	3.9	4.8	5.2
1,4-Dichlorobenzene	106-46-7	0.97	3.9	4.8	Not Detected
1,4-Dioxane	123-91-1	2.6	8.7	12	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.60	3.0	3.8	70
2-Butanone (Methyl Ethyl Ketone)	78-93-3	1.5	7.1	9.5	26
2-Hexanone	591-78-6	1.3	9.9	13	Not Detected
2-Propanol	67-63-0	1.3	5.9	7.9	40
3-Chloropropene	107-05-1	2.4	7.6	10	Not Detected
4-Ethyltoluene	622-96-8	0.71	3.2	4.0	30
4-Methyl-2-pentanone	108-10-1	1.6	2.6	3.3	13
Acetone	67-64-1	2.8	5.7	19	130

EPA METHOD TO-15 GC/MS FULL SCAN

Client ID:	SSDS-2	Date/Time Analyzed:	7/27/18 01:18 AM
Lab ID:	1807359A-01A	Dilution Factor:	1.61
Date/Time Collecte	7/18/18 04:10 AM	Instrument/File Name:	msd17.i / 17072625
Media:	Client Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.42	3.3	4.2	Not Detected
Benzene	71-43-2	1.4	2.0	2.6	15
Bromodichloromethane	75-27-4	1.3	4.3	5.4	Not Detected
Bromoform	75-25-2	1.3	6.6	8.3	Not Detected
Bromomethane	74-83-9	2.4	9.4	31	Not Detected
Carbon Disulfide	75-15-0	2.3	7.5	10	3.6 J
Carbon Tetrachloride	56-23-5	0.81	4.0	5.1	0.82 J
Chlorobenzene	108-90-7	0.59	3.0	3.7	Not Detected
Chloroethane	75-00-3	2.8	6.4	8.5	Not Detected
Chloroform	67-66-3	0.63	3.1	3.9	4.6
Chloromethane	74-87-3	1.9	5.0	17	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.51	2.6	3.2	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.80	2.9	3.6	Not Detected
Cumene	98-82-8	0.47	3.2	4.0	3.0 J
Cyclohexane	110-82-7	0.66	2.2	2.8	7.3
Dibromochloromethane	124-48-1	0.96	5.5	6.8	Not Detected
Ethanol	64-17-5	2.4	4.6	6.1	760 E
Ethyl Benzene	100-41-4	0.63	2.8	3.5	20
Freon 11	75-69-4	0.81	3.6	4.5	3.0 J
Freon 113	76-13-1	1.5	4.9	6.2	Not Detected
Freon 114	76-14-2	1.2	4.5	5.6	Not Detected
Freon 12	75-71-8	0.88	3.2	4.0	3.2 J
Heptane	142-82-5	1.2	2.6	3.3	16
Hexachlorobutadiene	87-68-3	4.3	26	34	Not Detected

Client ID:	SSDS-2	Date/Time Analyzed:	7/27/18 01:18 AM
Lab ID:	1807359A-01A	Dilution Factor:	1.61
Date/Time Collecte	7/18/18 04:10 AM	Instrument/File name:	msd17.i / 17072625
Media:	Client Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.57	2.3	2.8	24
m,p-Xylene	108-38-3	0.56	2.8	3.5	64
Methyl tert-butyl ether	1634-04-4	1.6	8.7	12	Not Detected
Methylene Chloride	75-09-2	1.8	8.4	28	Not Detected
o-Xylene	95-47-6	0.49	2.8	3.5	26
Propylbenzene	103-65-1	0.40	3.2	4.0	6.2
Styrene	100-42-5	0.48	2.7	3.4	11
Tetrachloroethene	127-18-4	0.76	4.4	5.5	380
Tetrahydrofuran	109-99-9	0.52	1.9	2.4	31
Toluene	108-88-3	0.48	2.4	3.0	84
trans-1,2-Dichloroethene	156-60-5	0.96	2.6	3.2	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.44	2.9	3.6	Not Detected
Trichloroethene	79-01-6	1.6	3.5	4.3	14
Vinyl Chloride	75-01-4	0.49	1.6	2.0	Not Detected

J = Estimated value.

E = Exceeds instrument calibration range.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	92
4-Bromofluorobenzene	460-00-4	70-130	97
Toluene-d8	2037-26-5	70-130	102

US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/26jul18.b/17072625.d
Lab Smp Id: 1807359A-01A
Inj Date : 27-JUL-2018 01:18
Operator : DF
Smp Info : 200ml 0663cl
Misc Info : 5.0 Hg->5 psi
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/26jul18.b/178q0613b.m
Meth Date : 26-Jul-2018 13:48 p5fl
Cal Date : 23-JUL-2018 12:23
Als bottle: 5
Dil Factor: 1.61000
Integrator: HP RTE
Sample Matrix: AIR
Processing Host: us32apptv003

Inst ID: msd17.i
Quant Type: ISTD
Cal File: 17072306.d
Compound Sublist: AT12mdl.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

CONCENTRATIONS								
			ON-COL		FINAL		TARGET RANGE	RATIO
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)			
==	=====	=====	=====	=====	=====	=====	=====	=====

* 98 Bromochloromethane			CAS #: 74-97-5					
5.514	5.499 (1.000)	130	125050	25.0000		80.00- 120.00	100.00	
5.506	5.499 (1.000)	128	94805			48.32- 108.32	75.81	
5.506	5.499 (1.000)	49	105387			63.40- 123.40	84.28	

* 123 1,4-Difluorobenzene			CAS #: 540-36-3					
6.395	6.386 (1.000)	114	417595	25.0000		80.00- 120.00	100.00	
6.395	6.386 (1.000)	88	60793			0.00- 44.55	14.56	

* 163 Chlorobenzene-d5			CAS #: 3114-55-4					
8.830	8.830 (1.000)	117	391666	25.0000		80.00- 120.00	100.00	
8.830	8.830 (1.000)	82	187675			17.97- 77.97	47.92	

\$ 117 1,2-Dichloroethane-d4			CAS #: 17060-07-0					
6.044	6.036 (1.096)	65	131446	23.1493	23.149	80.00- 120.00	100.00	
6.044	6.036 (1.096)	67	71171			23.66- 83.66	54.14	

\$ 146 Toluene-d8			CAS #: 2037-26-5					
7.598	7.598 (1.188)	98	413748	25.4395	25.440	80.00- 120.00	100.00	
7.598	7.598 (1.188)	70	45796			0.00- 40.01	11.07	

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET	RANGE	RATIO
					ON-COL	FINAL			
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
\$ 146 Toluene-d8 (continued)									
7.598	7.598	(1.188)	100	262265			35.43-	95.43	63.39

\$ 177 4-Bromofluorobenzene CAS #: 460-00-4									
9.819	9.819	(1.112)	174	300245	24.2759	24.276	80.00-	120.00	100.00
9.819	9.819	(1.112)	95	271389			59.41-	119.41	90.39
9.819	9.819	(1.112)	176	292640			68.33-	128.33	97.47

9 Propylene CAS #: 115-07-1									
1.509	1.501	(0.274)	41	9927	3.77676	6.080	80.00-	120.00	100.00
1.509	1.501	(0.274)	42	5992			36.13-	96.13	60.37
1.509	1.501	(0.274)	39	9513			46.53-	106.53	95.83

11 Freon 12 CAS #: 75-71-8									
1.545	1.534	(0.280)	85	4450	0.40077	0.6452	80.00-	120.00	100.00(a)
1.545	1.534	(0.280)	87	1425			2.38-	62.38	32.02

17 Chloromethane CAS #: 74-87-3									
1.803	1.752	(0.327)	50	6807	2.36578	3.809	80.00-	120.00	100.00(a)
1.796	1.752	(0.326)	52	1005			5.22-	65.22	14.77

23 Butane CAS #: 106-97-8									
1.825	1.816	(0.331)	58	675	0.80462	1.295	80.00-	120.00	100.00(a)
1.817	1.816	(0.330)	43	7258			637.12-	697.12	1075.20

26 1,3-Butadiene CAS #: 106-99-0									
1.803	1.876	(0.327)	54	1332	0.47251	0.7607	80.00-	120.00	100.00(a)
1.803	1.876	(0.327)	39	27278			72.44-	132.44	2046.79

31 Isopentane CAS #: 78-78-4									
2.369	2.359	(0.430)	43	24490	5.94909	9.578	80.00-	120.00	100.00
2.369	2.359	(0.430)	57	18672			45.20-	105.20	76.25

35 Freon 11 CAS #: 75-69-4									
2.598	2.593	(0.471)	101	4248	0.32618	0.5251	80.00-	120.00	100.00(a)
2.605	2.593	(0.473)	103	2461			34.28-	94.28	57.94

42 Ethanol CAS #: 64-17-5									
2.956	2.946	(0.536)	45	358612	251.407	404.76	80.00-	120.00	100.00(A)
2.956	2.946	(0.536)	46	137231			9.17-	69.17	38.27

52 Acetone CAS #: 67-64-1									
3.436	3.429	(0.623)	58	69715	34.5887	55.688	80.00-	120.00	100.00
3.436	3.429	(0.623)	43	212318			290.24-	350.24	304.55

56 Carbon Disulfide CAS #: 75-15-0									
3.515	3.503	(0.638)	76	9439	0.72353	1.165	80.00-	120.00	100.00(a)

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET	RANGE	RATIO
					ON-COL	FINAL			
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
57 2-Propanol					CAS #: 67-63-0				
3.623	3.607	(0.657)	45	65707	10.1265	16.304	80.00-	120.00	100.00
3.623	3.607	(0.657)	43	13786			0.00-	51.65	20.98
3.623	3.607	(0.657)	59	2903			0.00-	34.46	4.42

71 tert-Butyl alcohol					CAS #: 75-65-0				
4.074	4.063	(0.739)	59	41235	4.32741	6.967	80.00-	120.00	100.00
4.081	4.063	(0.740)	41	15046			0.00-	49.54	36.49
4.088	4.063	(0.741)	57	15154			0.00-	40.61	36.75

78 Hexane					CAS #: 110-54-3				
4.396	4.384	(0.797)	57	28306	4.29899	6.921	80.00-	120.00	100.00
4.396	4.384	(0.797)	43	18226			28.25-	88.25	64.39
4.396	4.384	(0.797)	86	5675			0.00-	48.98	20.05

92 2-Butanone					CAS #: 78-93-3				
5.299	5.292	(0.961)	72	12121	5.37414	8.652	80.00-	120.00	100.00
5.306	5.292	(0.962)	43	50624			305.24-	365.24	417.65
5.299	5.292	(0.961)	57	3762			0.00-	59.67	31.04

99 Tetrahydrofuran					CAS #: 109-99-9				
5.506	5.493	(0.999)	42	27923	6.54949	10.545	80.00-	120.00	100.00
5.506	5.493	(0.999)	71	14541			18.99-	78.99	52.08
5.506	5.493	(0.999)	72	15167			20.78-	80.78	54.32

100 Chloroform					CAS #: 67-66-3				
5.571	5.560	(1.010)	83	5653	0.58244	0.9377	80.00-	120.00	100.00
5.607	5.560	(1.017)	85	12709			35.00-	95.00	224.83

102 Cyclohexane					CAS #: 110-82-7				
5.671	5.659	(1.029)	84	8613	1.31817	2.122	80.00-	120.00	100.00
5.678	5.659	(1.030)	56	16361			70.31-	130.31	189.95
5.678	5.659	(1.030)	41	9527			25.25-	85.25	110.61

103 1,1,1-Trichloroethane					CAS #: 71-55-6				
5.686	5.679	(1.031)	97	1487	0.13753	0.2214	80.00-	120.00	100.00(a)
5.693	5.679	(1.032)	99	975			34.84-	94.84	65.58

106 Carbon Tetrachloride					CAS #: 56-23-5				
5.800	5.795	(1.052)	119	955	0.08106	0.1305	80.00-	120.00	100.00(a)
5.807	5.795	(1.053)	117	883			73.53-	133.53	92.49

113 2,2,4-Trimethylpentane					CAS #: 540-84-1				
5.994	5.985	(1.087)	57	181033	9.30723	14.985	80.00-	120.00	100.00
5.994	5.985	(1.087)	56	63641			2.59-	62.59	35.15
5.994	5.985	(1.087)	41	54665			0.00-	55.57	30.20

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET	RANGE	RATIO
					ON-COL	FINAL			
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
116	Benzene				CAS #: 71-43-2				
6.022	6.010	(0.942)	78	39524	2.98479	4.806	80.00-	120.00	100.00
6.022	6.010	(0.942)	77	11256			0.00-	53.90	28.48
121	Heptane				CAS #: 142-82-5				
6.165	6.153	(0.964)	71	11057	2.38683	3.843	80.00-	120.00	100.00
6.158	6.153	(0.963)	43	13194			110.59-	170.59	119.33
6.158	6.153	(0.963)	57	9487			64.25-	124.25	85.80
125	Trichloroethene				CAS #: 79-01-6				
6.588	6.582	(1.030)	95	10545	1.66359	2.678	80.00-	120.00	100.00
6.588	6.582	(1.030)	130	12722			81.76-	141.76	120.64
6.588	6.582	(1.030)	97	6838			34.64-	94.64	64.85
127	Methylcyclohexane				CAS #: 108-87-2				
6.681	6.675	(1.212)	83	26273	2.95197	4.753	80.00-	120.00	100.00
6.681	6.675	(1.212)	98	12372			18.58-	78.58	47.09
6.681	6.675	(1.212)	55	22107			37.28-	97.28	84.15
138	Bromodichloromethane				CAS #: 75-27-4				
7.018	7.048	(1.097)	83	1495	0.15134	0.2437	80.00-	120.00	100.00(a)
7.054	7.048	(1.103)	85	336			34.11-	94.11	22.52
145	4-Methyl-2-pentanone				CAS #: 108-10-1				
7.526	7.526	(1.177)	58	7426	1.94769	3.136	80.00-	120.00	100.00
7.534	7.526	(1.178)	43	17145			214.83-	274.83	230.85
7.534	7.526	(1.178)	85	3979			23.05-	83.05	53.58
147	Toluene				CAS #: 108-88-3				
7.655	7.655	(1.197)	91	236726	13.7673	22.165	80.00-	120.00	100.00
7.655	7.655	(1.197)	92	134604			27.80-	87.80	56.86
150	trans-1,3-Dichloropropene				CAS #: 10061-02-6				
7.849	7.899	(0.889)	75	7574	0.98941	1.593	80.00-	120.00	100.00
7.799	7.899	(0.883)	77	13827			1.77-	61.77	182.54
7.813	7.899	(0.885)	39	845			14.97-	74.97	11.17
155	1,1,2-Trichloroethane				CAS #: 79-00-5				
8.092	8.056	(0.916)	97	2026	0.33212	0.5347	80.00-	120.00	100.00(a)
8.085	8.056	(0.916)	99	363			32.71-	92.71	17.94
8.092	8.056	(0.916)	83	6749			55.53-	115.53	333.09
156	Tetrachloroethene				CAS #: 127-18-4				
8.092	8.092	(0.916)	166	387664	35.1658	56.617	80.00-	120.00	100.00
8.092	8.092	(0.916)	129	255935			36.14-	96.14	66.02
8.092	8.092	(0.916)	131	243970			34.69-	94.69	62.93

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
					ON-COL	FINAL		
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====
158 2-Hexanone					CAS #: 591-78-6			
8.300	8.214	(0.940)	58	1842	0.37216	0.5992	80.00- 120.00	100.00(a)
8.300	8.214	(0.940)	43	15216			146.83- 206.83	825.72
8.221	8.214	(0.931)	100	226			0.00- 55.52	12.29
167 Ethyl Benzene					CAS #: 100-41-4			
8.902	8.902	(1.008)	106	21913	2.82412	4.547	80.00- 120.00	100.00
8.902	8.902	(1.008)	91	65421			268.52- 328.52	298.54
169 m,p-Xylene					CAS #: 108-38-3			
8.995	8.998	(1.019)	106	88729	9.19651	14.806	80.00- 120.00	100.00
8.995	8.998	(1.019)	91	166719			161.75- 221.75	187.90
171 o-Xylene					CAS #: 95-47-6			
9.339	9.339	(1.058)	106	34728	3.79874	6.116	80.00- 120.00	100.00
9.339	9.339	(1.058)	91	70221			170.98- 230.98	202.20
172 Styrene					CAS #: 100-42-5			
9.360	9.360	(1.060)	104	23206	1.60093	2.578	80.00- 120.00	100.00
9.360	9.360	(1.060)	78	13389			16.10- 76.10	57.70
175 Cumene					CAS #: 98-82-8			
9.625	9.625	(1.090)	105	10443	0.37693	0.6069	80.00- 120.00	100.00(a)
9.632	9.625	(1.091)	120	2560			0.00- 58.56	24.52
9.625	9.625	(1.090)	51	1012			0.00- 37.61	9.70
181 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5			
10.026	9.947	(1.135)	83	2732	0.20945	0.3372	80.00- 120.00	100.00(a)
10.019	9.947	(1.135)	85	10678			35.03- 95.03	390.74
182 Propylbenzene					CAS #: 103-65-1			
9.976	9.975	(1.130)	91	24446	0.78079	1.257	80.00- 120.00	100.00
9.976	9.975	(1.130)	120	6078			0.00- 56.23	24.86
9.976	9.975	(1.130)	105	1099			0.00- 33.80	4.50
188 4-Ethyltoluene					CAS #: 622-96-8			
10.048	10.069	(1.138)	120	32997	3.76269	6.058	80.00- 120.00	100.00
10.048	10.069	(1.138)	105	100732			275.42- 335.42	305.27
190 1,3,5-Trimethylbenzene					CAS #: 108-67-8			
10.119	10.119	(1.146)	120	16310	1.33884	2.156	80.00- 120.00	100.00
10.119	10.119	(1.146)	105	32461			165.32- 225.32	199.02
196 1,2,4-Trimethylbenzene					CAS #: 95-63-6			
10.442	10.444	(1.183)	120	45978	4.22339	6.800	80.00- 120.00	100.00
10.442	10.444	(1.183)	105	96487			176.48- 236.48	209.85

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
					ON-COL	FINAL		
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====
208 1,3-Dichlorobenzene					CAS #: 541-73-1			
10.735	10.735	(1.216)	146	9874	0.53411	0.8599	80.00- 120.00	100.00
10.735	10.735	(1.216)	148	6580			34.93- 94.93	66.64
10.735	10.735	(1.216)	111	6022			5.13- 65.13	60.99

209 1,4-Dichlorobenzene					CAS #: 106-46-7			
10.735	10.820	(1.216)	146	9874	0.52277	0.8417	80.00- 120.00	100.00
10.735	10.820	(1.216)	148	6580			34.11- 94.11	66.64
10.735	10.820	(1.216)	111	6022			4.00- 64.00	60.99

212 alpha-Chlorotoluene					CAS #: 100-44-7			
10.915	10.936	(1.236)	91	3397	0.17344	0.2792	80.00- 120.00	100.00(a)
11.022	10.936	(1.248)	126	569			0.00- 55.13	16.76

228 Naphthalene					CAS #: 91-20-3			
12.813	12.806	(1.451)	128	17064	0.49064	0.7899	80.00- 120.00	100.00(a)
12.813	12.806	(1.451)	127	2657			0.00- 43.59	15.58

QC Flag Legend

- a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
- A - Target compound detected but, quantitated amount exceeded maximum amount.

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17072625.d
Lab Smp Id: 1807359A-01A
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem/msd17.i/26jul18.b/178q0613b.m
Misc Info: 5.0 Hg->5 psi

Calibration Date: 26-JUL-2018
Calibration Time: 10:10
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	128867	77320	180414	125050	-2.96
123 1,4-Difluorobenze	450283	270170	630396	417595	-7.26
163 Chlorobenzene-d5	413209	247925	578493	391666	-5.21

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.51	5.18	5.84	5.51	0.13
123 1,4-Difluorobenze	6.39	6.06	6.72	6.39	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

US32APPTV002

RECOVERY REPORT

Client Name: Client SDG: 26jul18
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1807359A-01A
Level: LOW Operator: DF
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AT12mdl.sub
Method File: /chem/msd17.i/26jul18.b/178q0613b.m
Misc Info: 5.0 Hg->5 psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
\$ 117 1,2-Dichloroethane-d4	25.000	23.149	92.60
\$ 146 Toluene-d8	25.000	25.440	101.76
\$ 177 4-Bromofluorobenzene	25.000	24.276	97.10

Data File: /chem/msd17.1/26jul18.b/17072625.d

Date : 27-JUL-2018 01:18

Client ID:

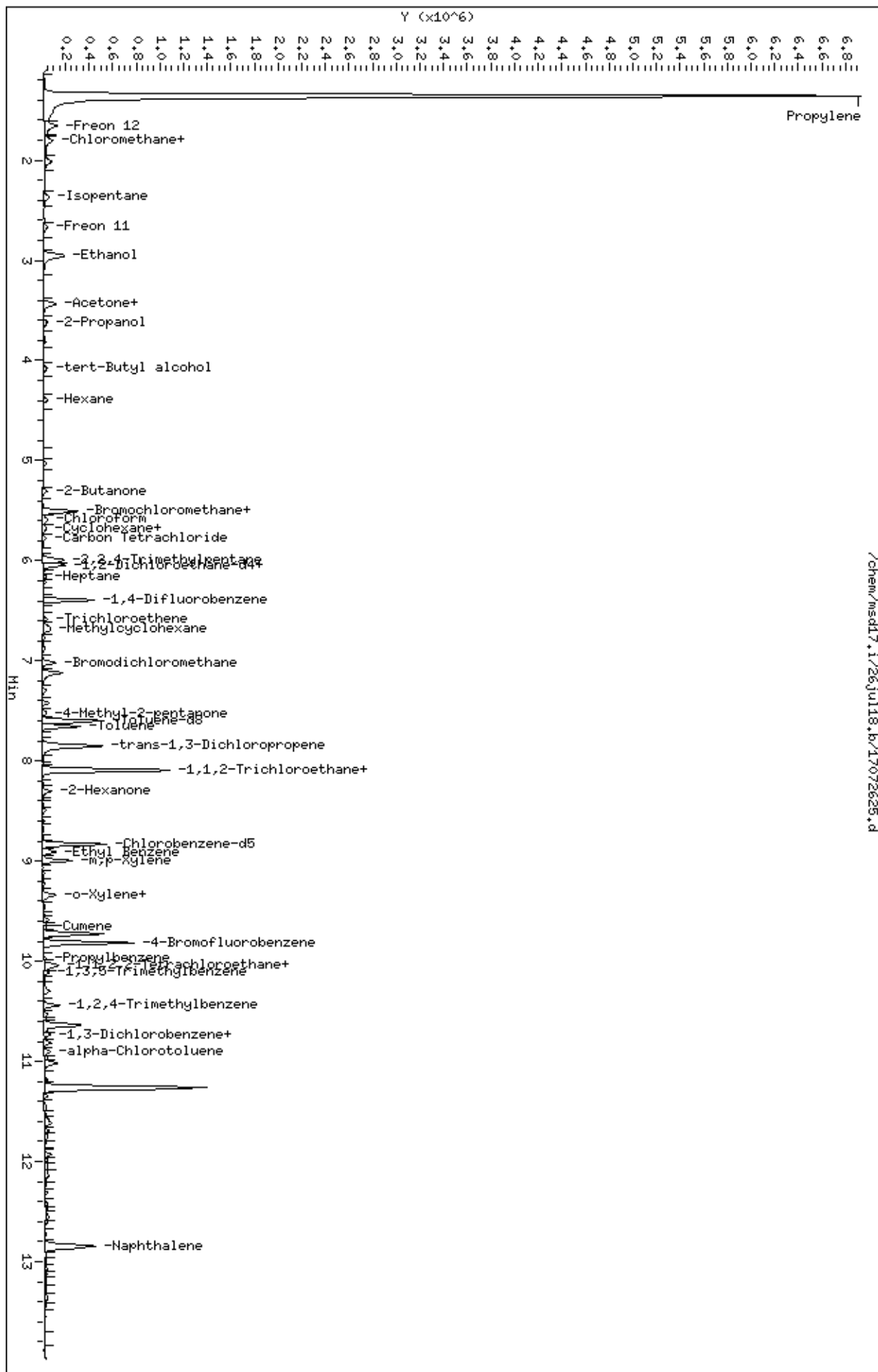
Sample Info: 200ml 066361

Column phase: RTX-624

Instrument: msd17.1

Operator: DF

Column diameter: 0.25



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

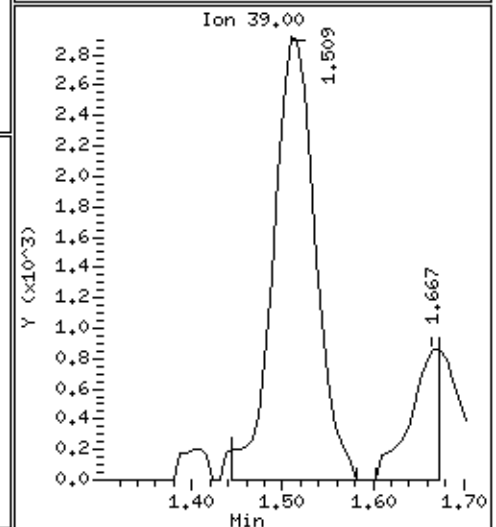
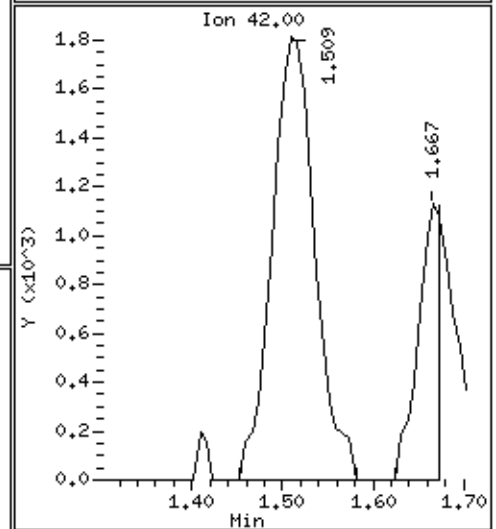
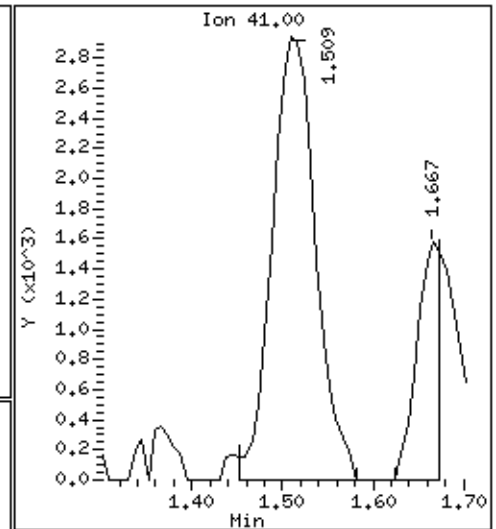
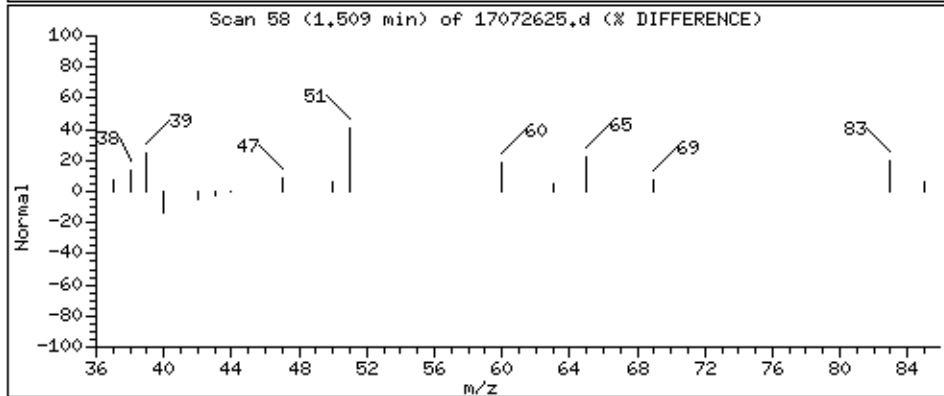
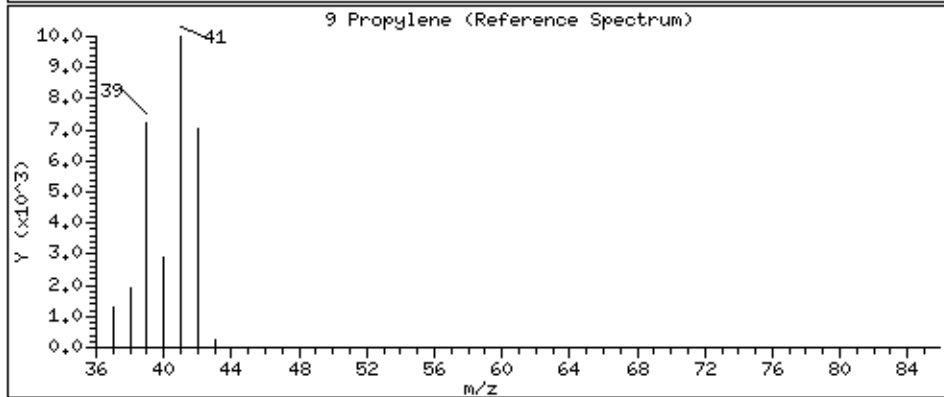
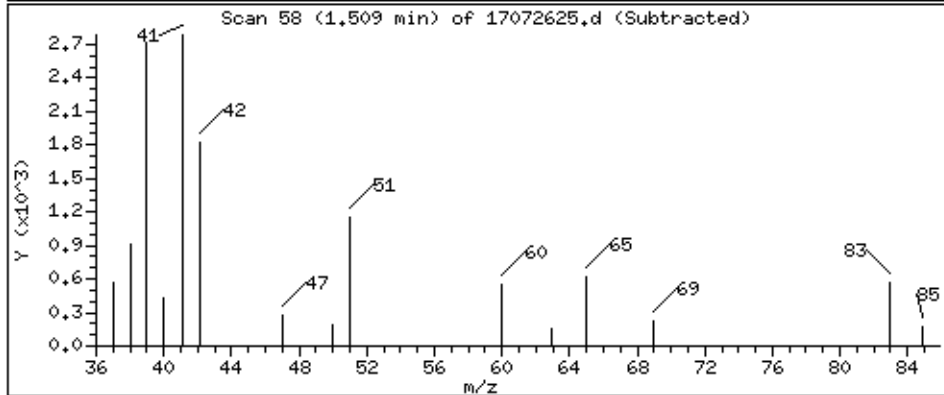
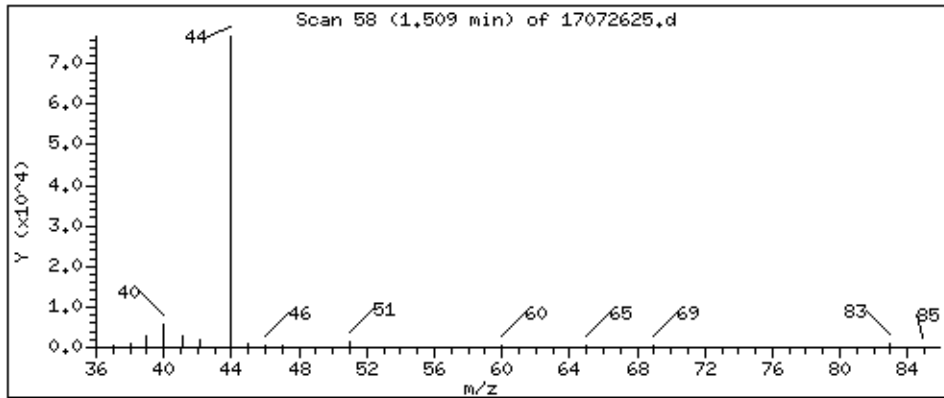
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

9 Propylene

Concentration: 6.080 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

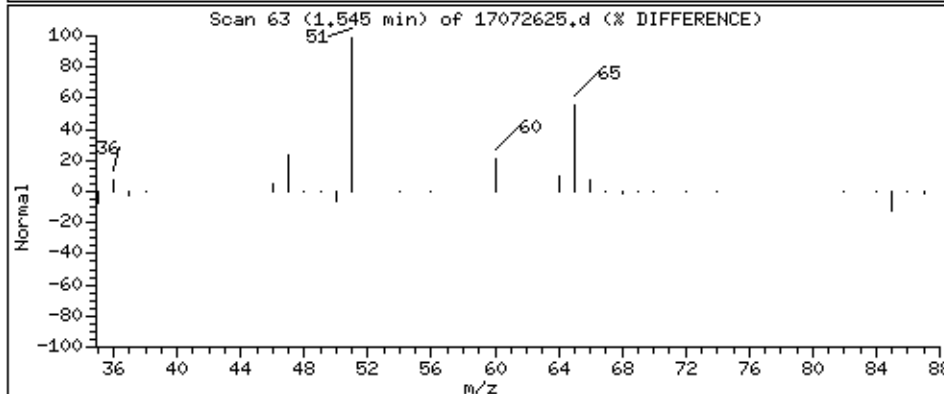
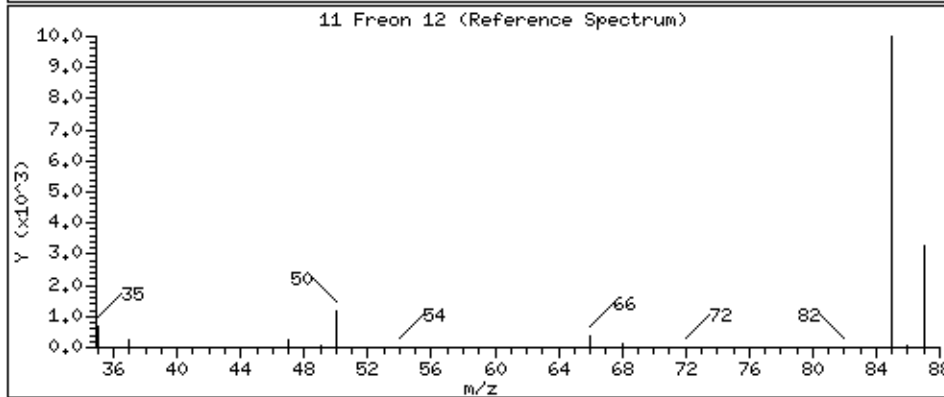
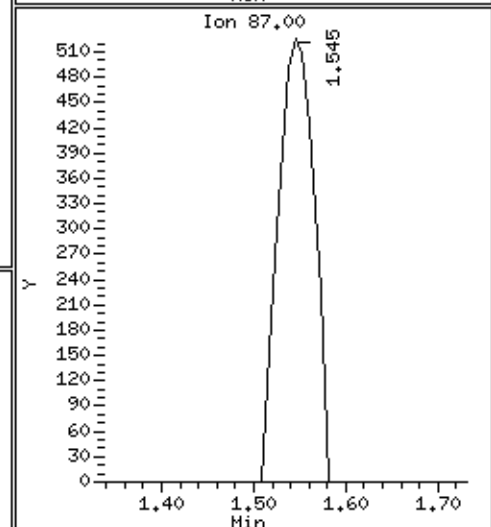
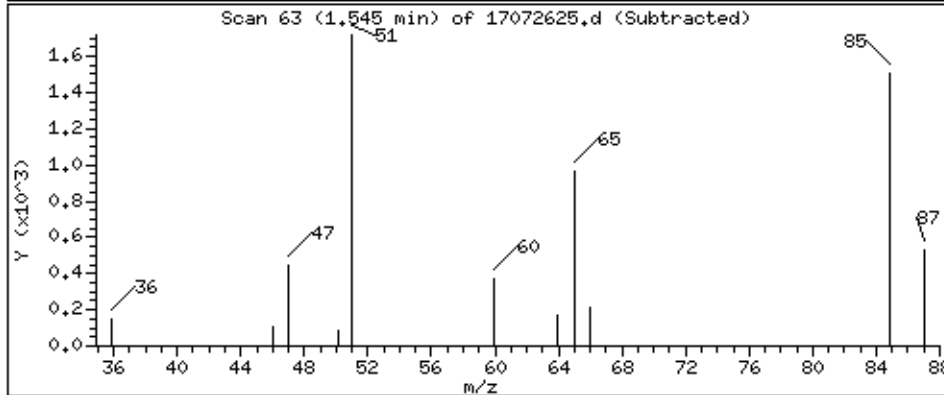
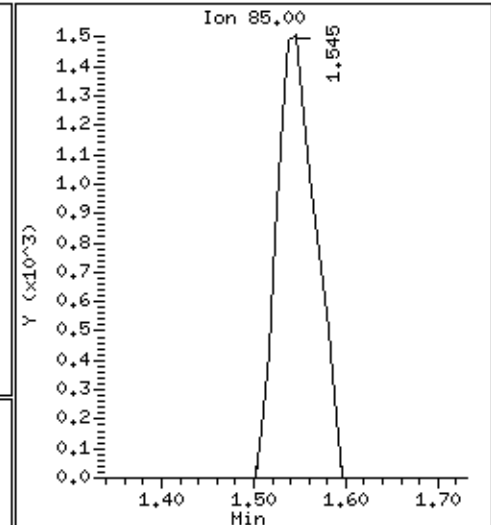
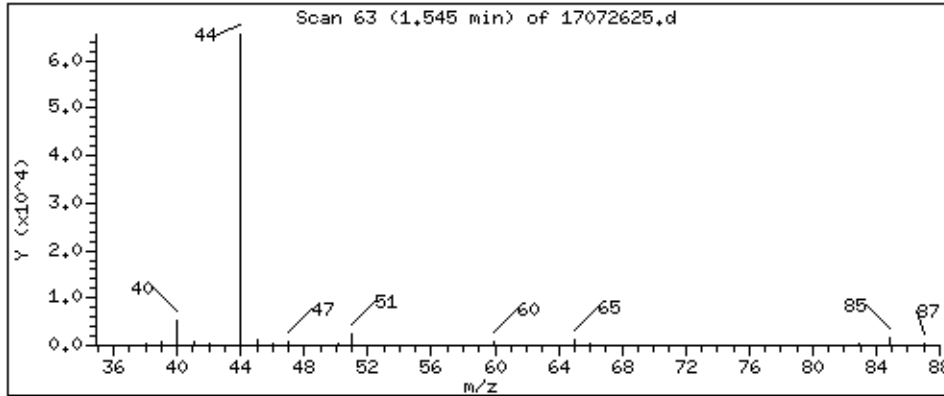
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

11 Freon 12

Concentration: 0.6452 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663cl

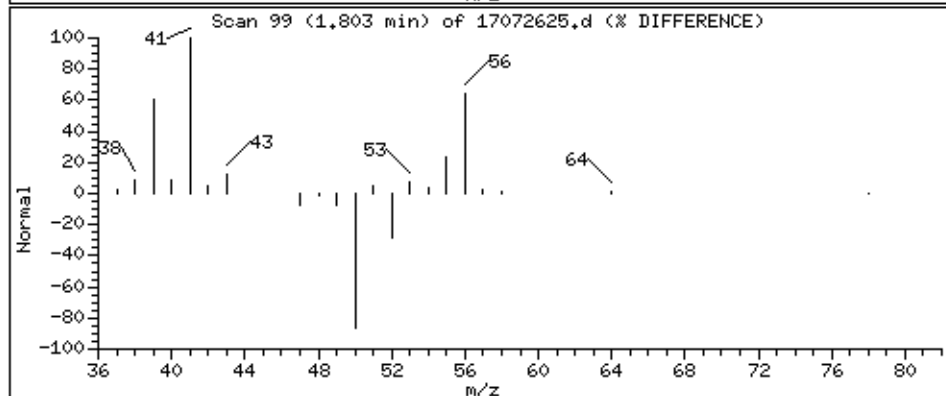
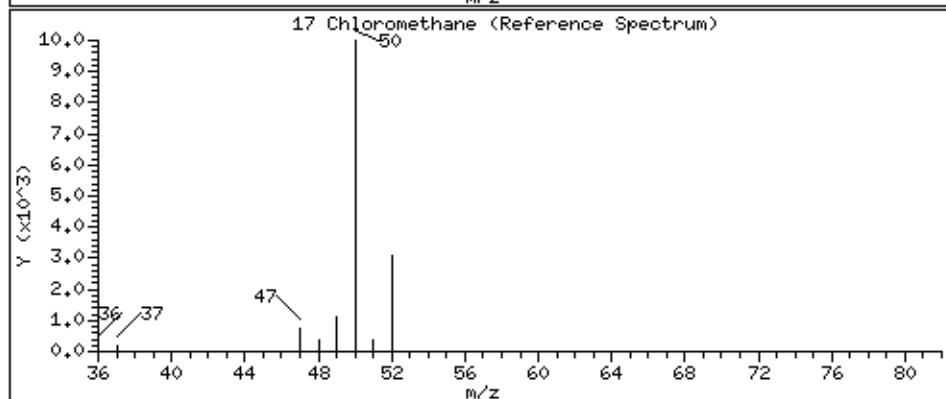
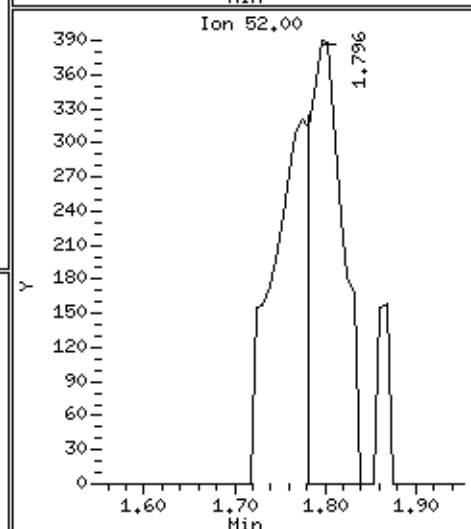
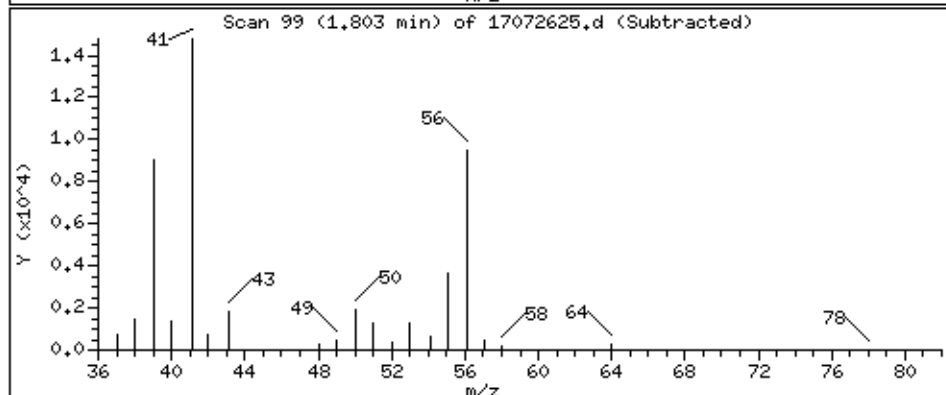
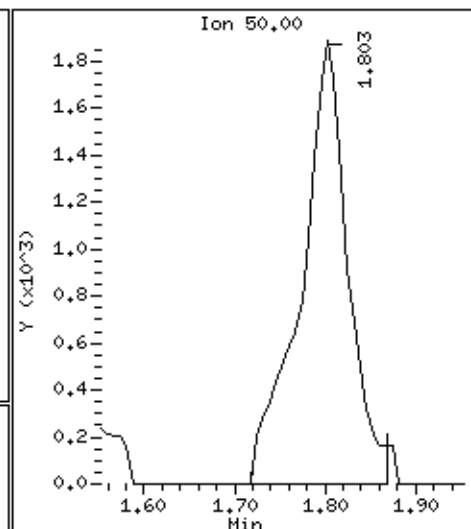
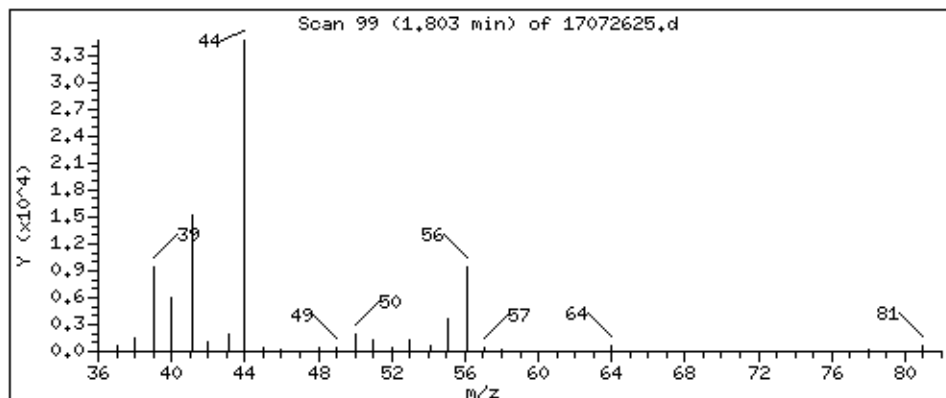
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

17 Chloromethane

Concentration: 3.809 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

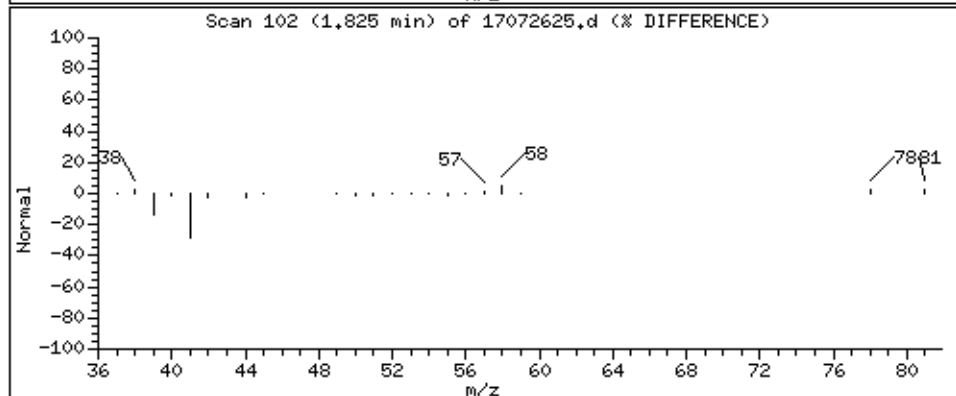
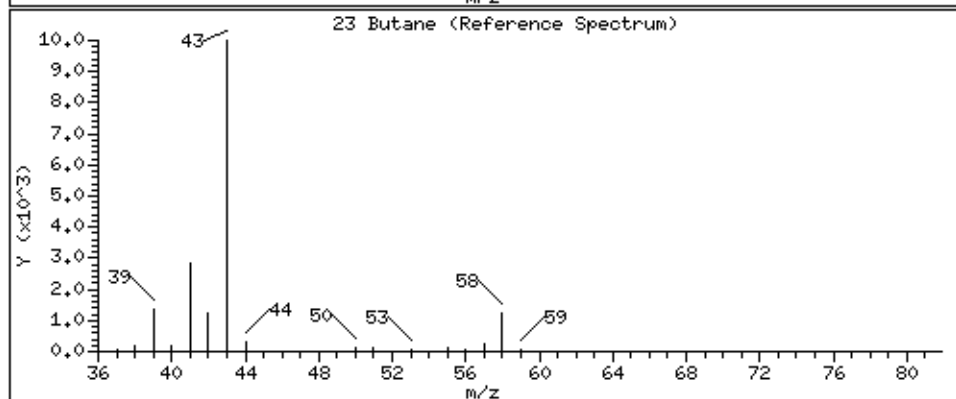
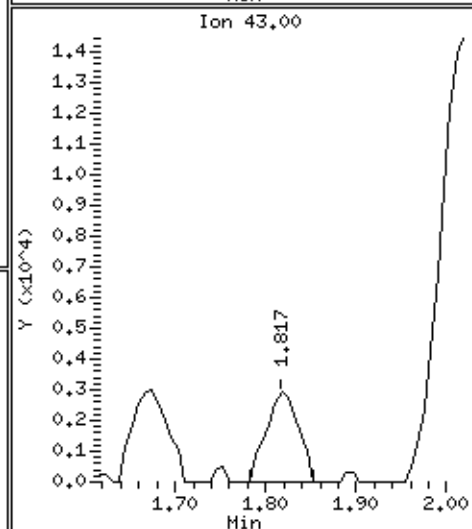
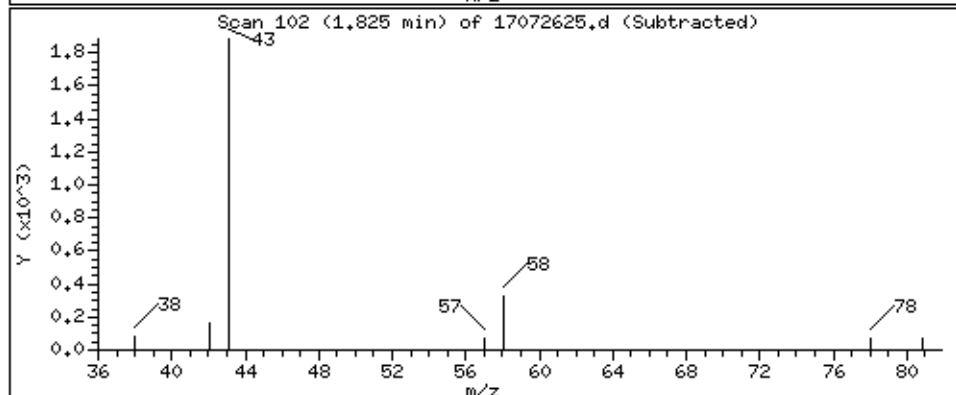
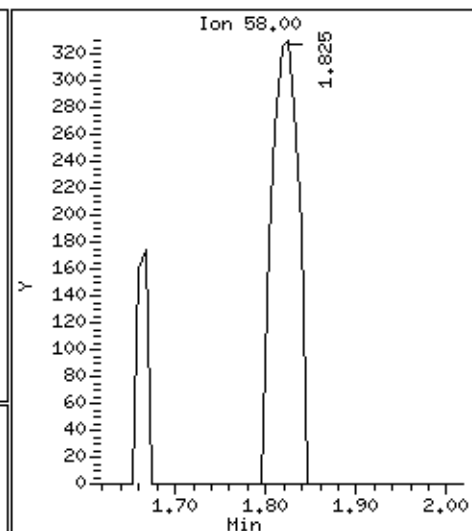
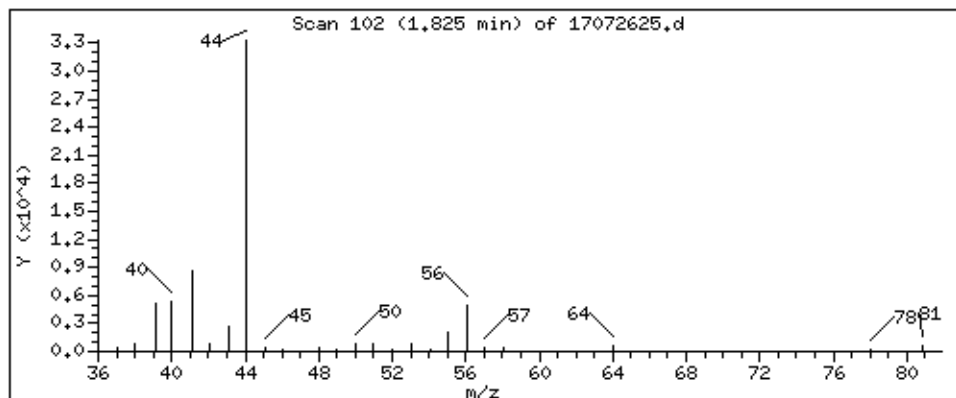
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

23 Butane

Concentration: 1.295 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

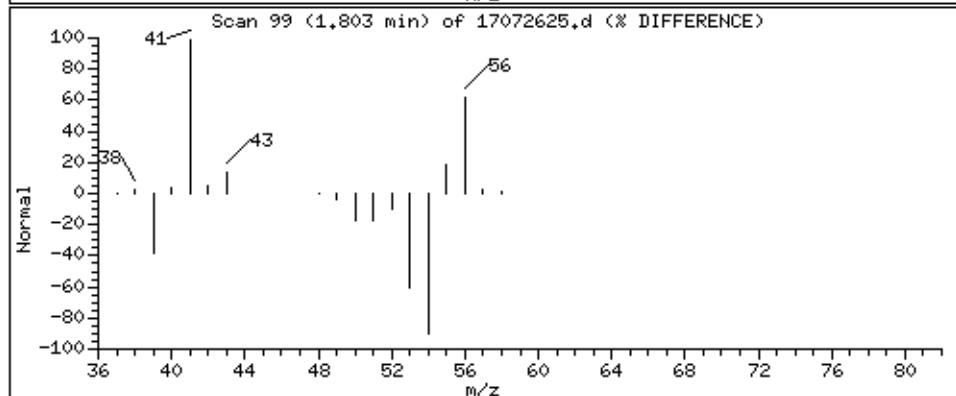
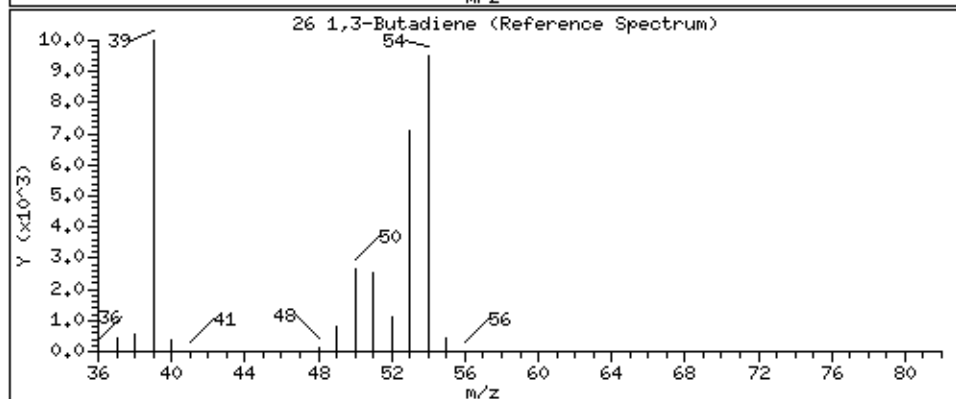
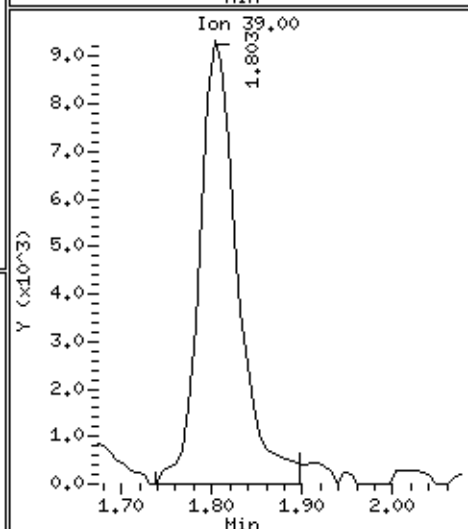
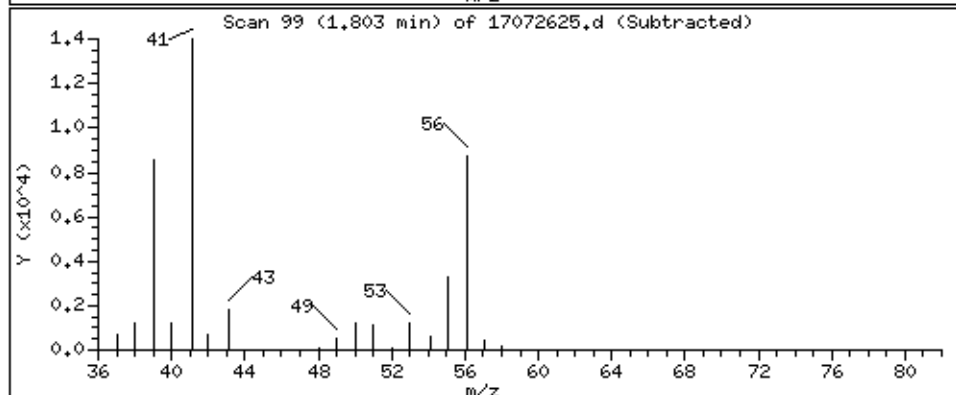
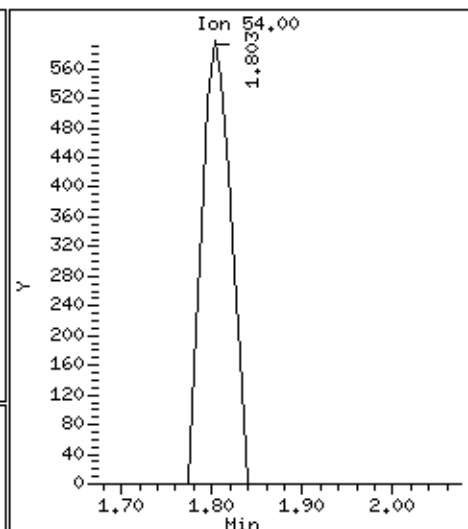
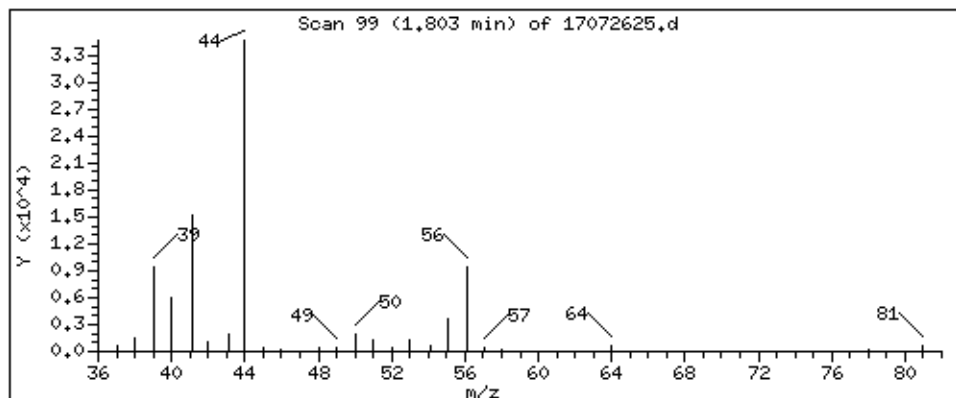
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

26 1,3-Butadiene

Concentration: 0.7607 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

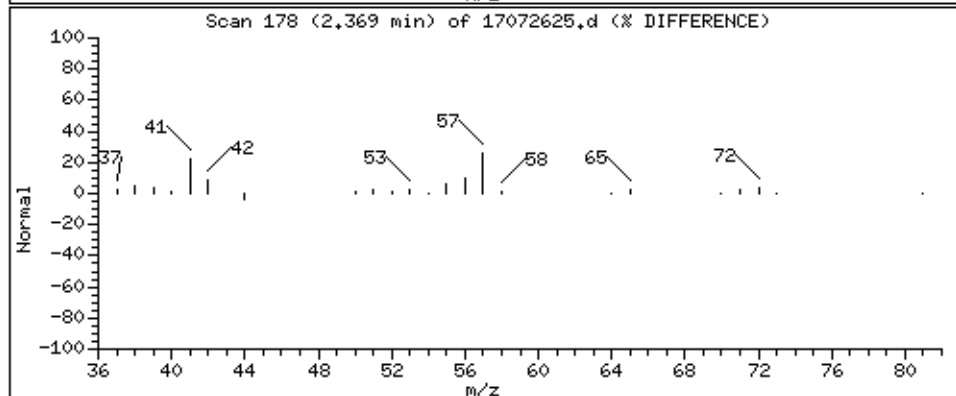
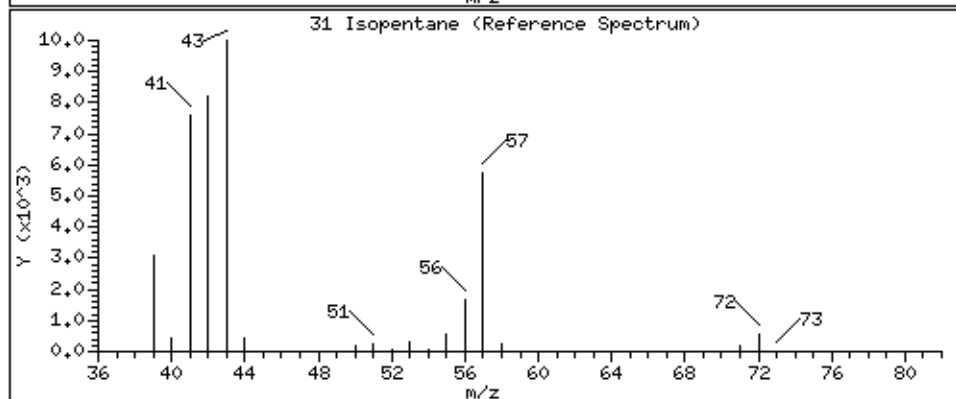
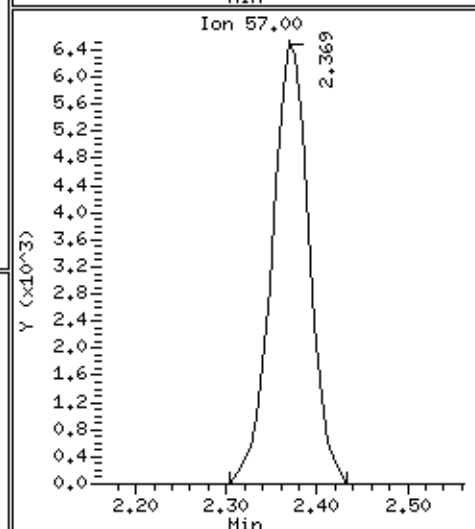
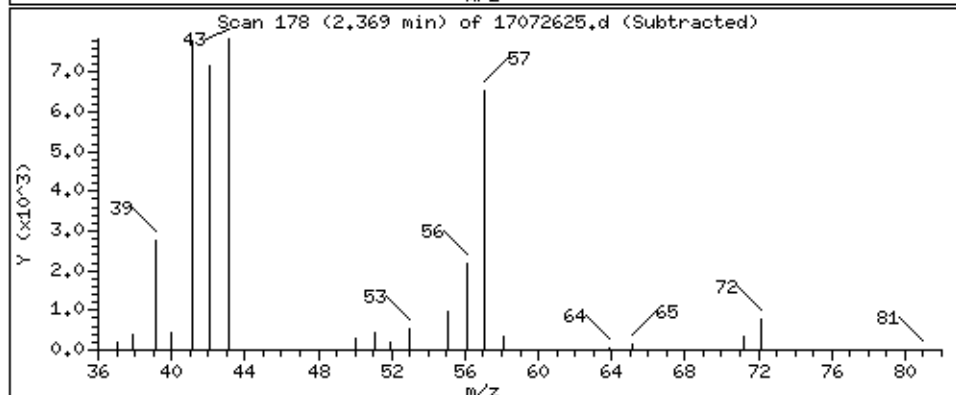
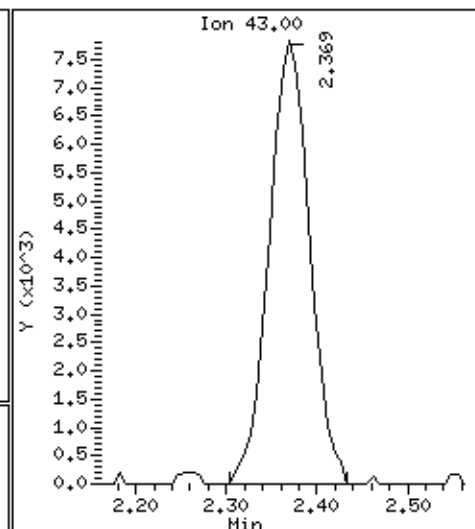
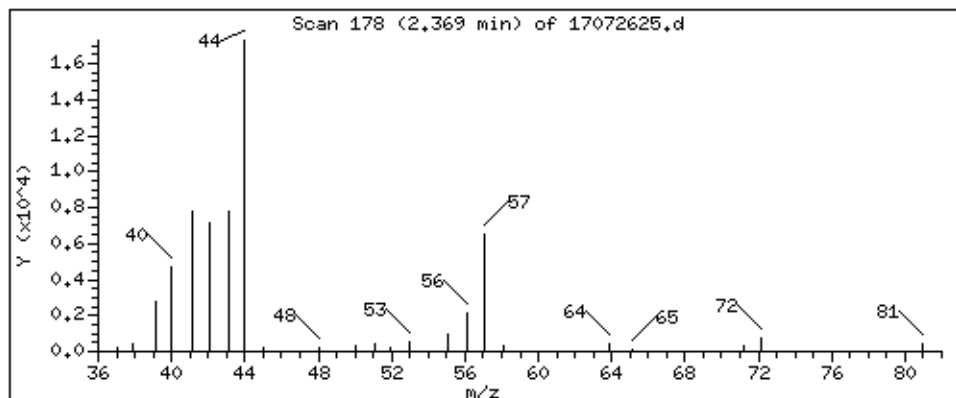
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

31 Isopentane

Concentration: 9.578 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

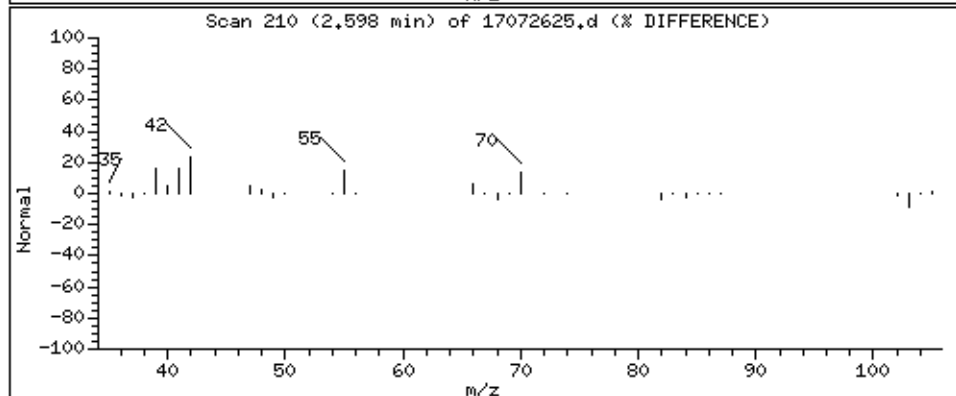
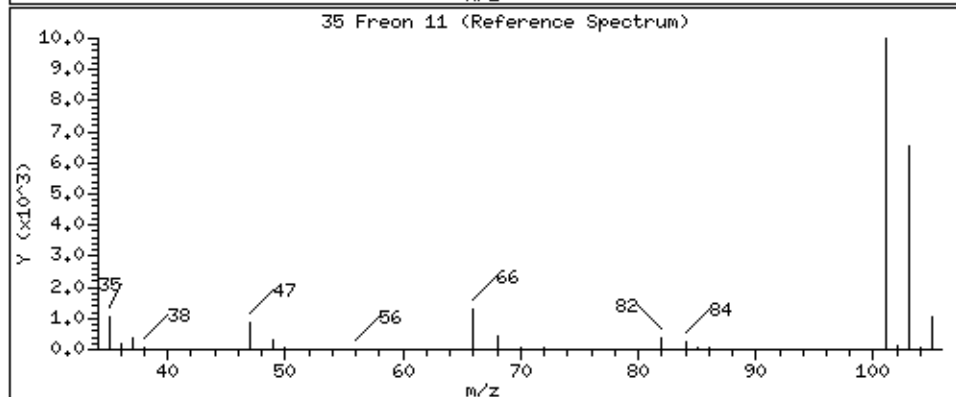
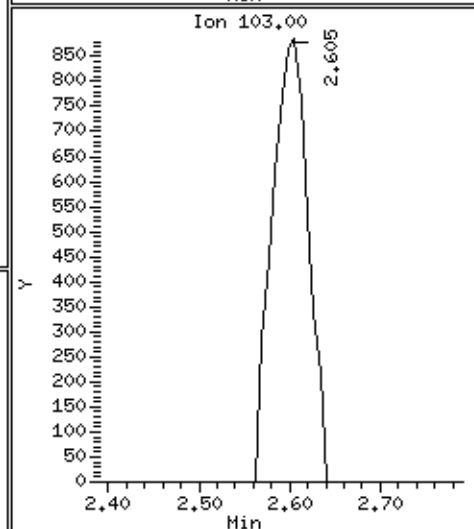
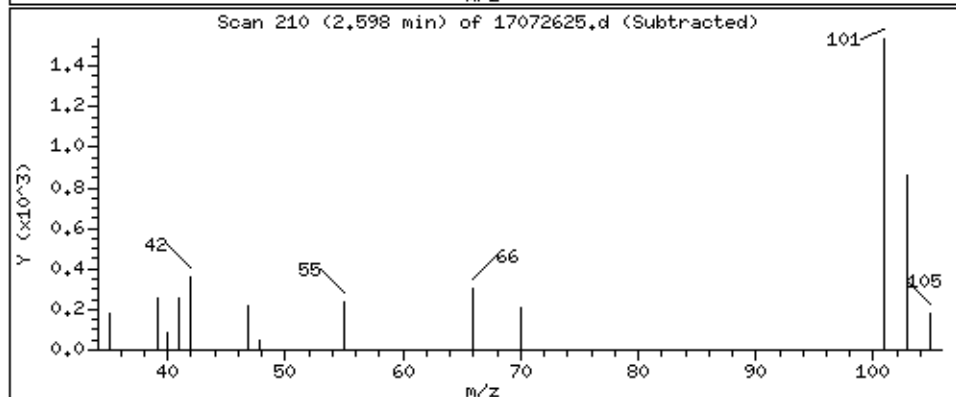
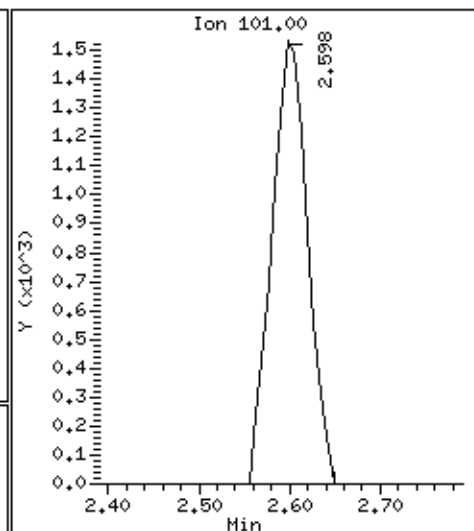
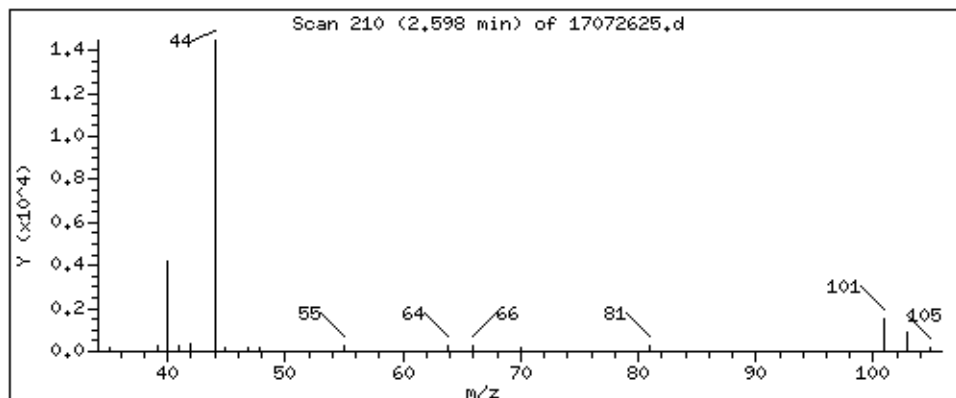
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

35 Freon 11

Concentration: 0.5251 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

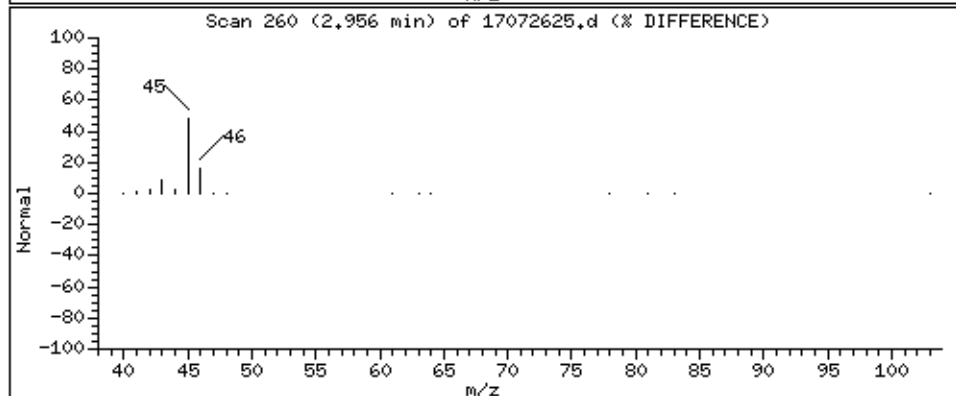
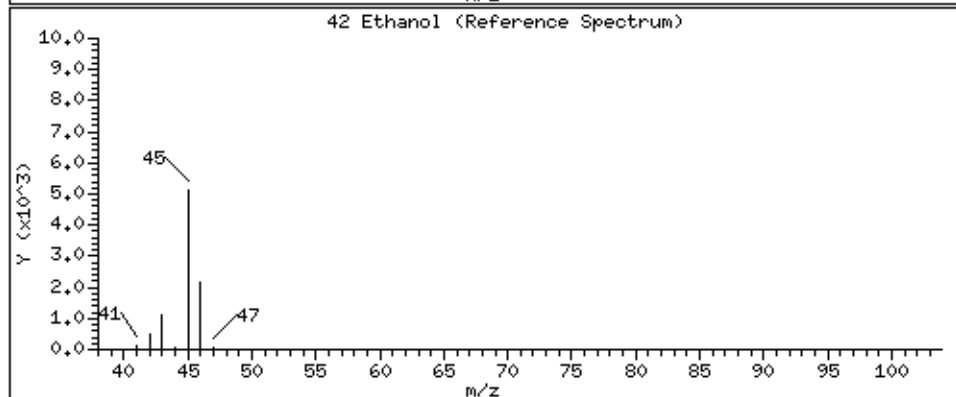
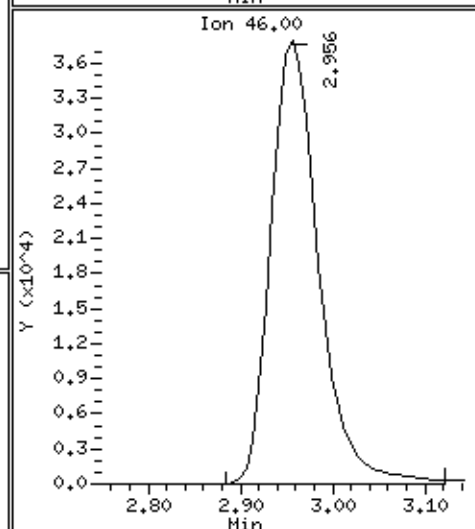
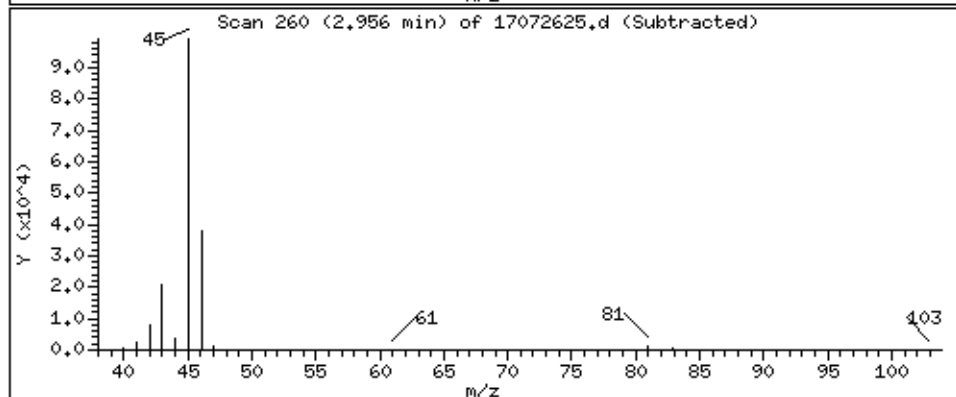
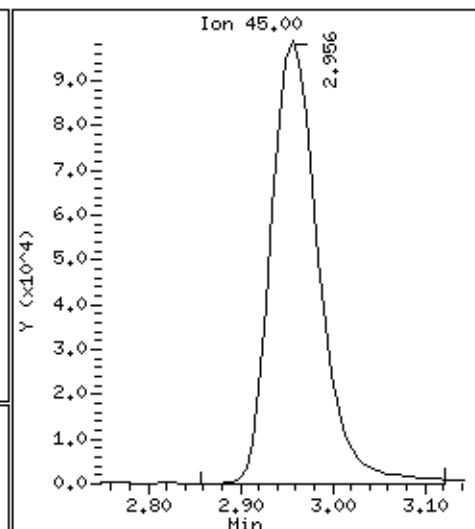
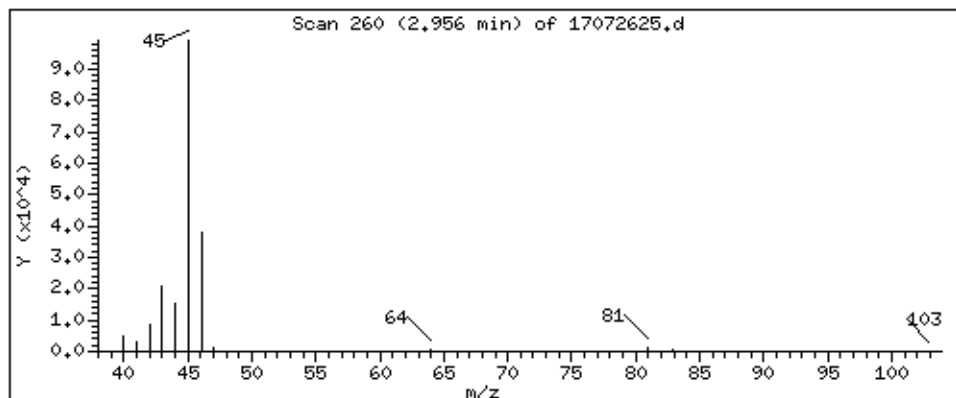
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

42 Ethanol

Concentration: 404.76 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

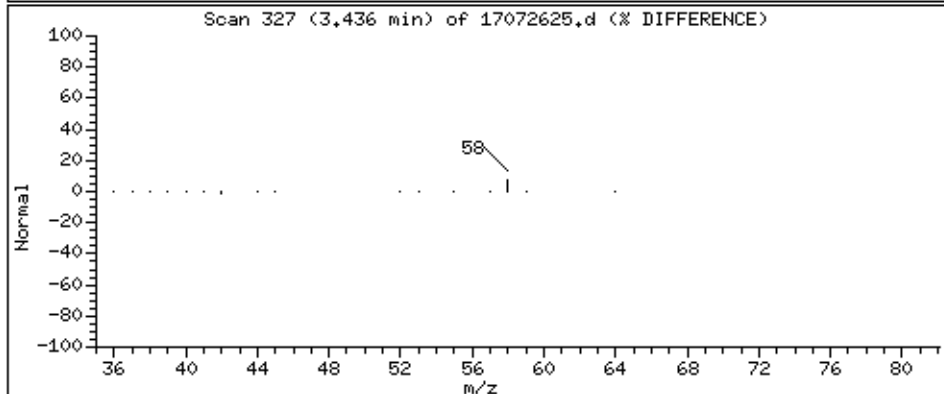
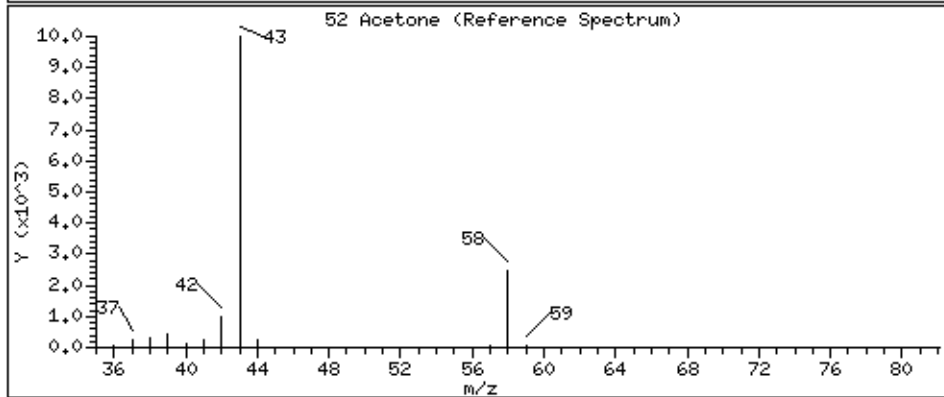
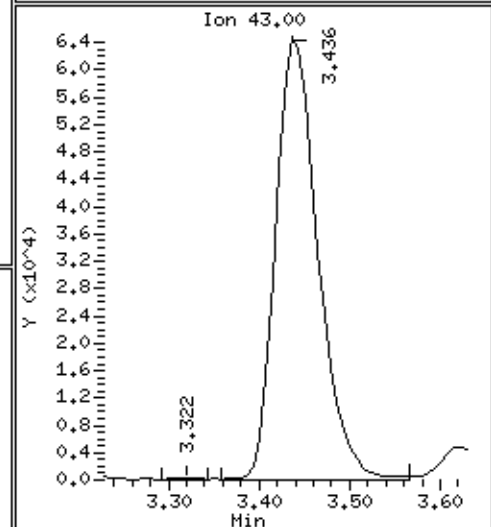
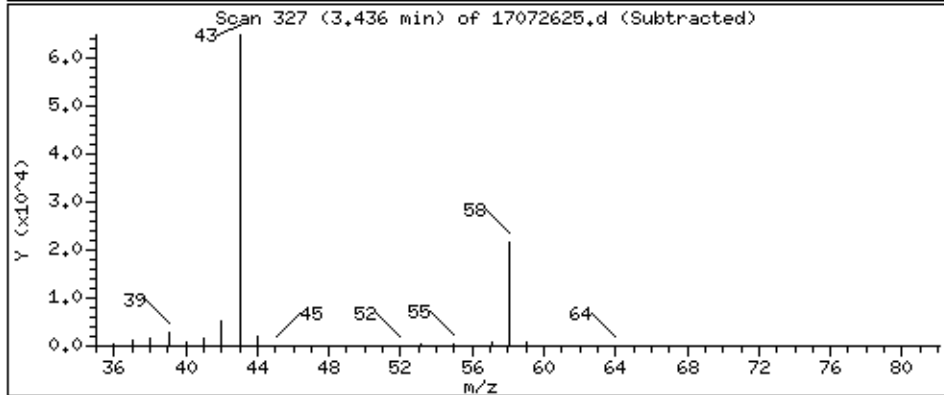
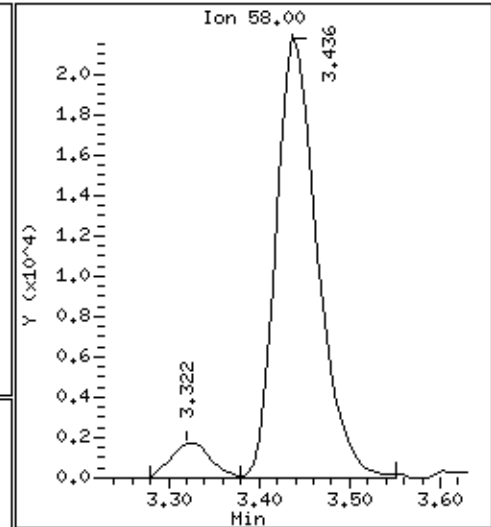
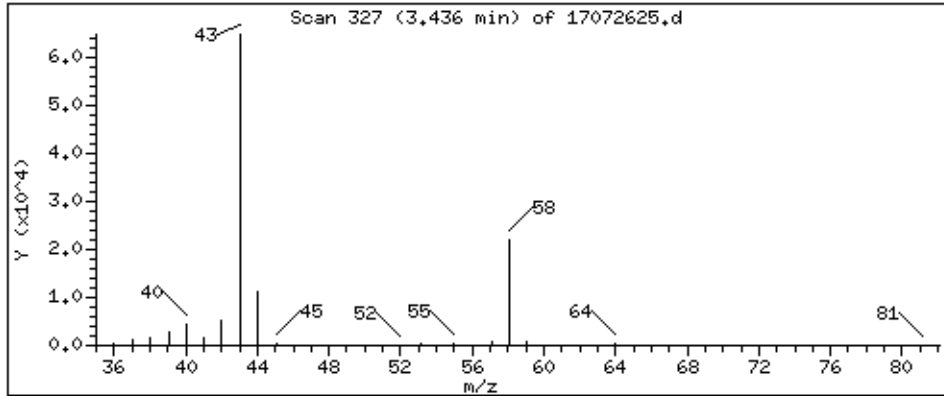
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

52 Acetone

Concentration: 55,688 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663cl

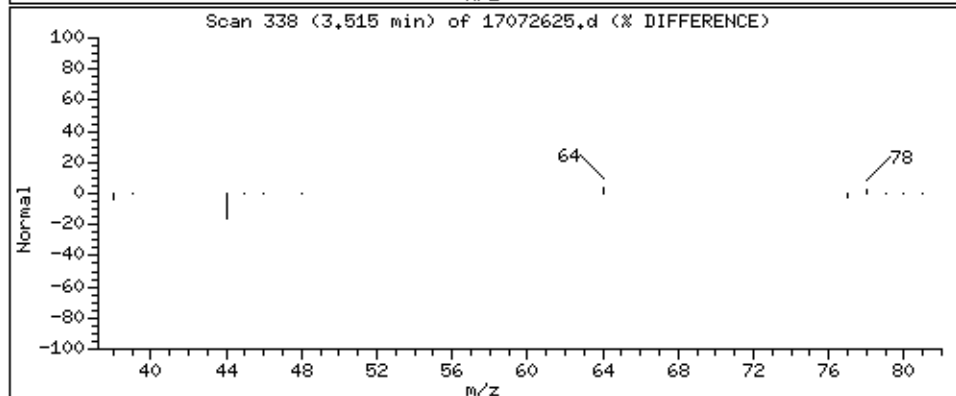
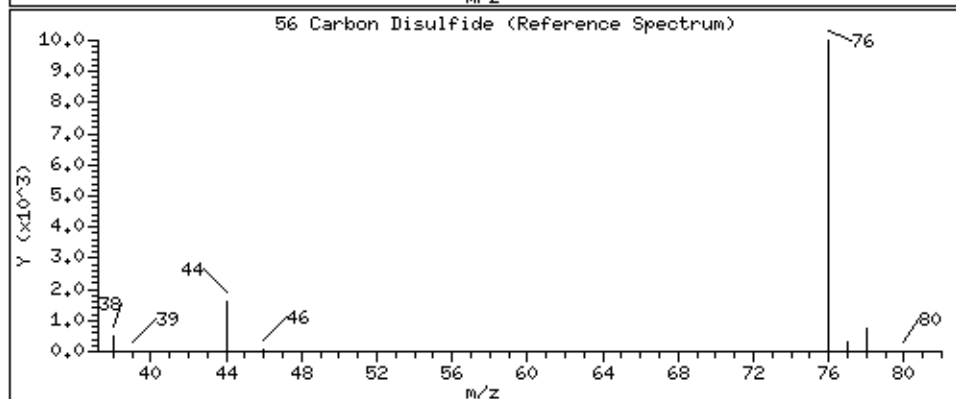
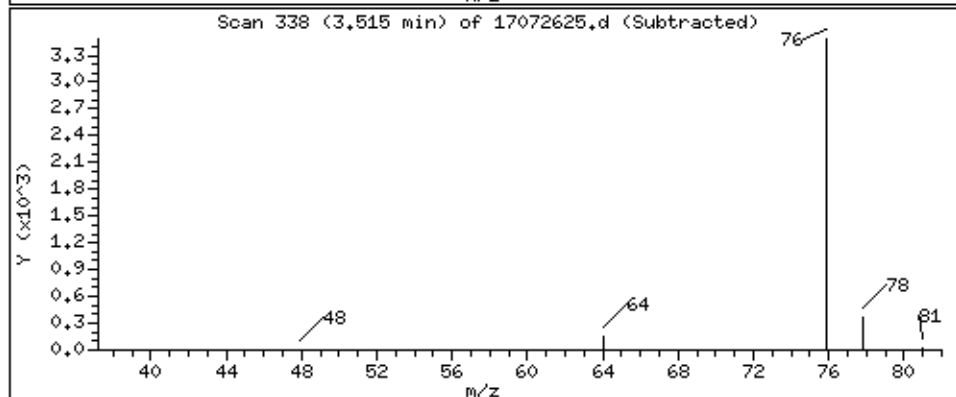
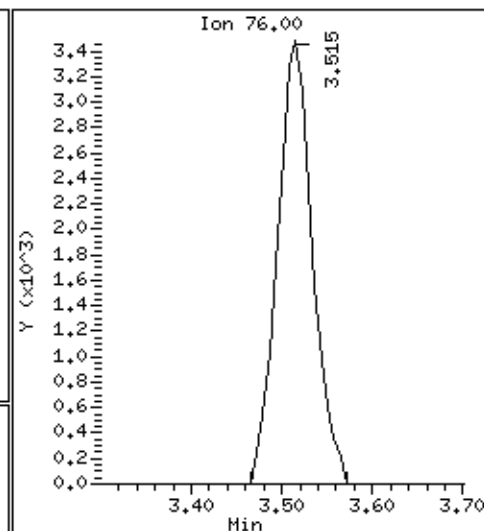
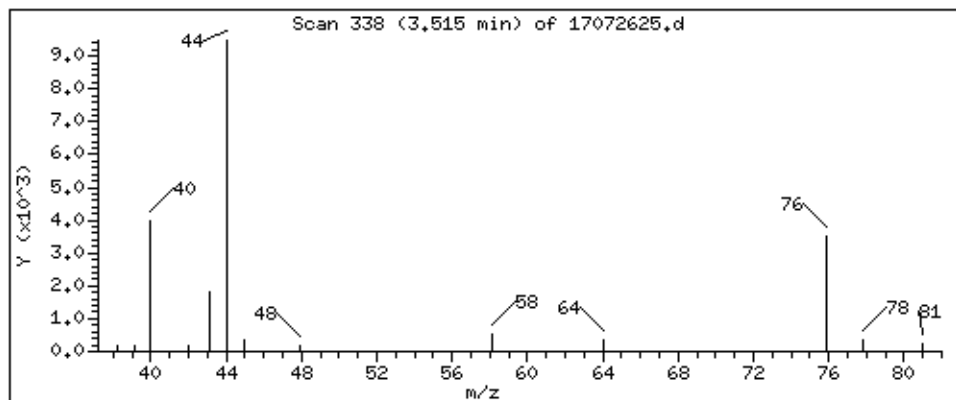
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

56 Carbon Disulfide

Concentration: 1.165 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

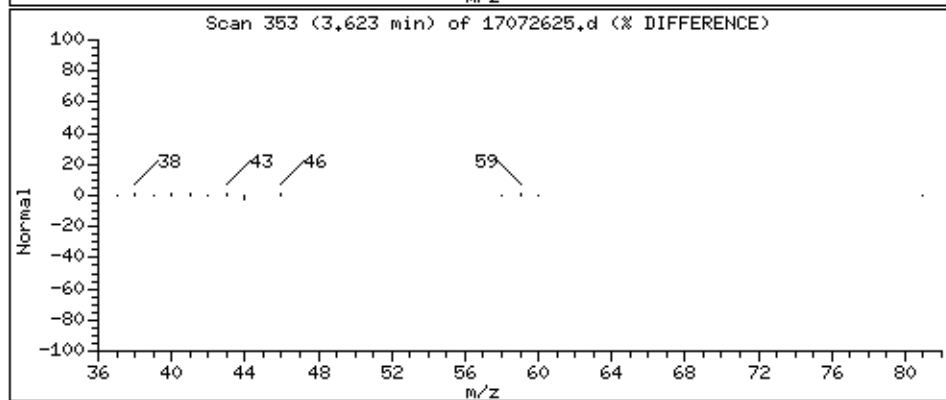
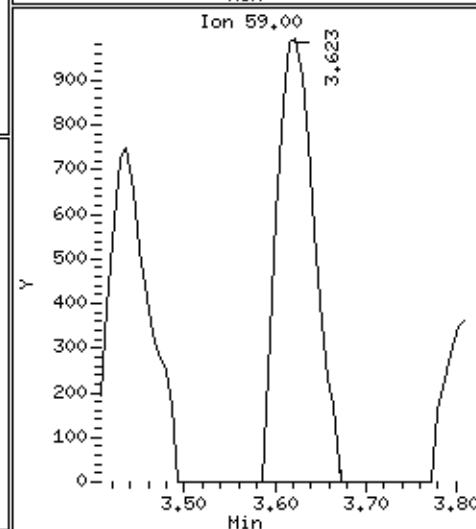
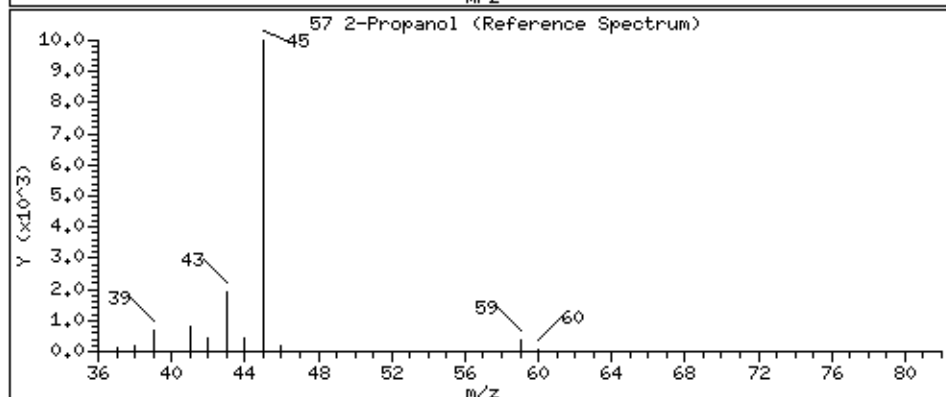
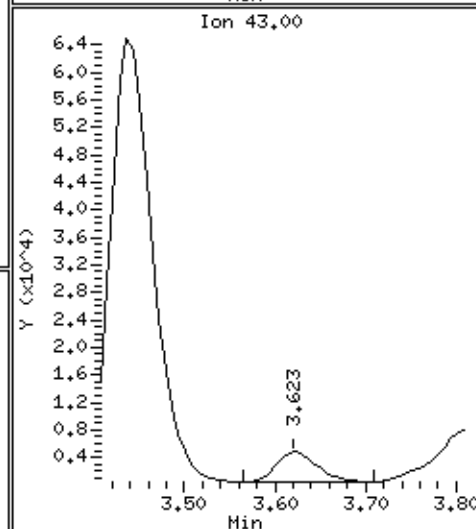
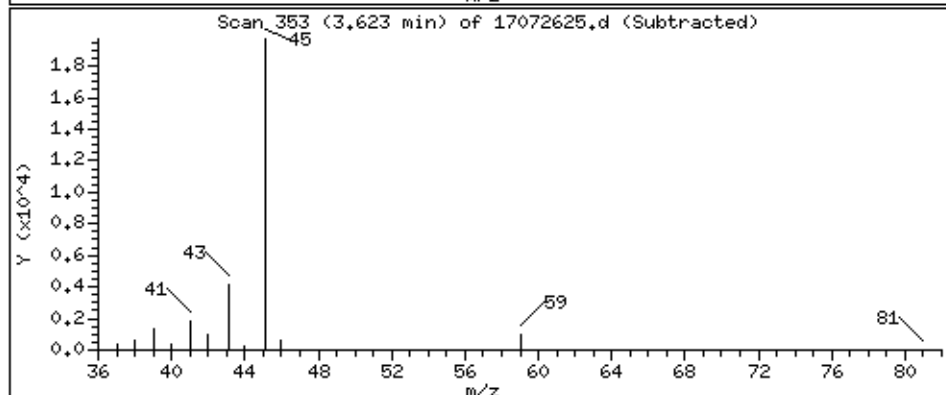
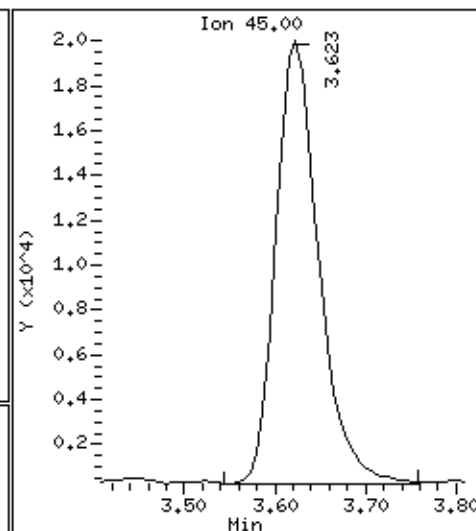
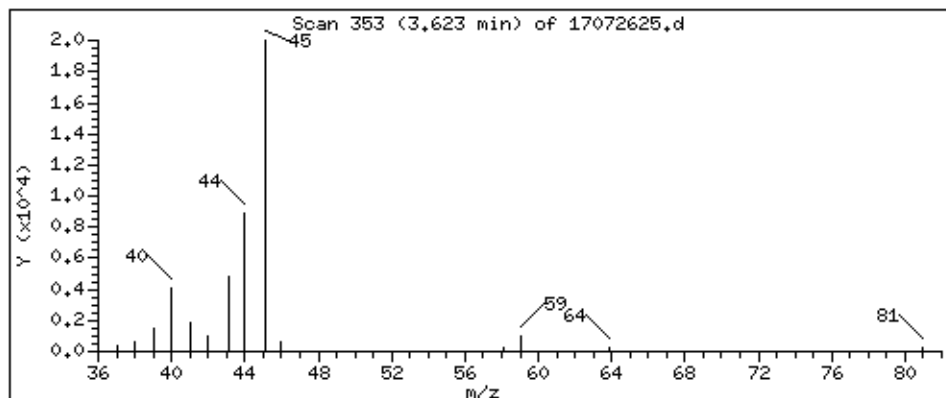
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

57 2-Propanol

Concentration: 16,304 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

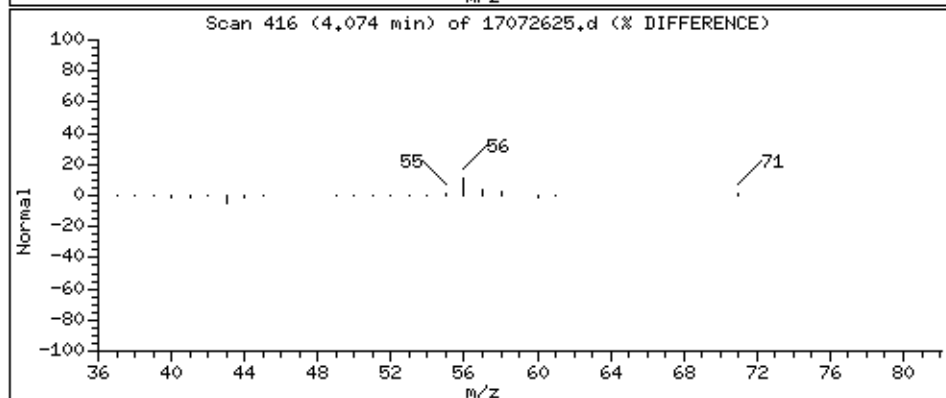
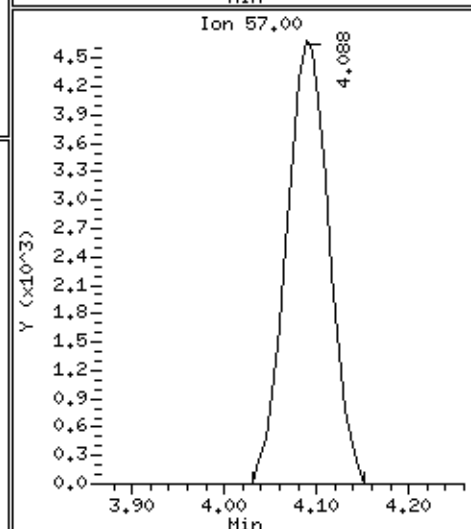
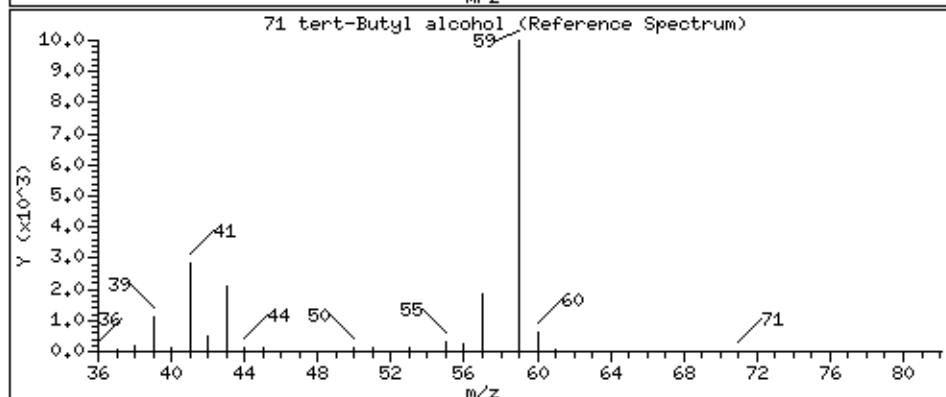
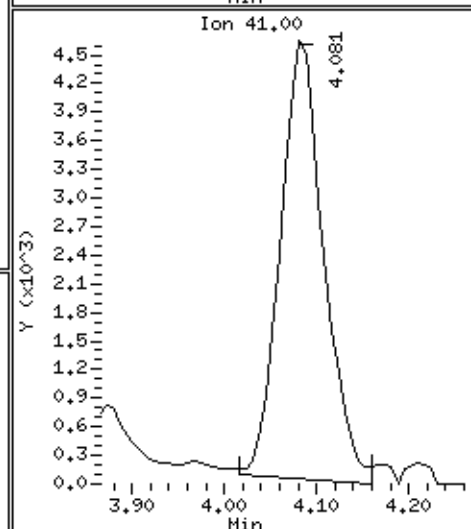
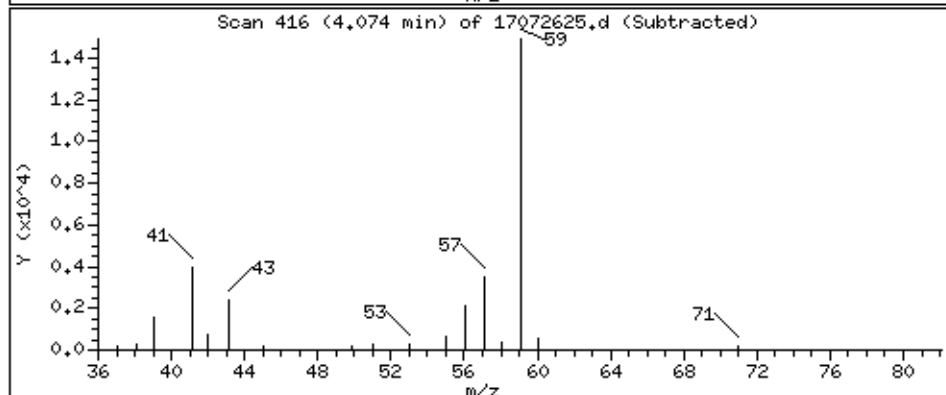
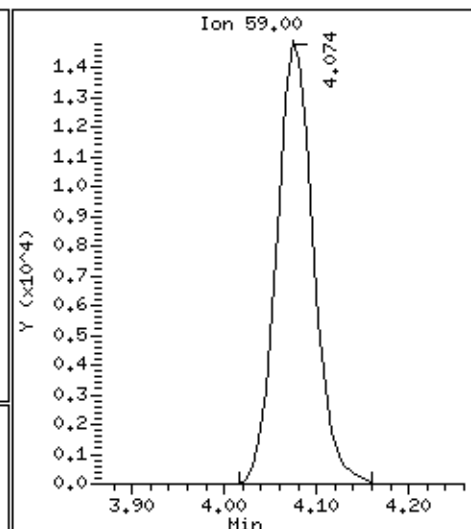
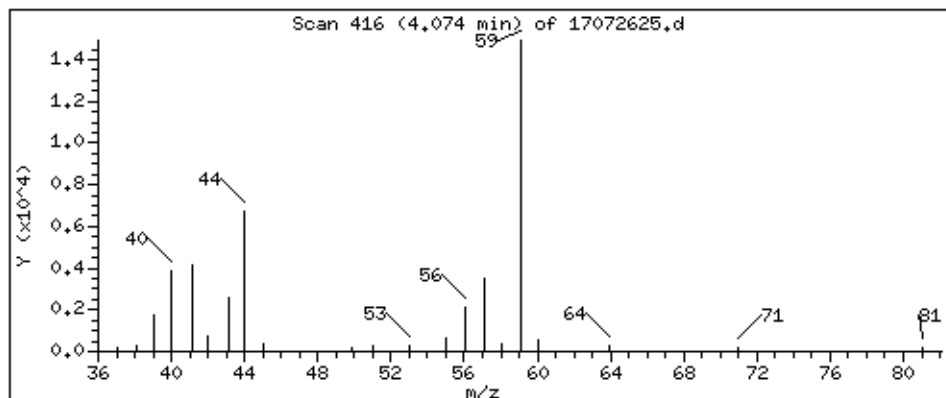
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

71 tert-Butyl alcohol

Concentration: 6.967 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

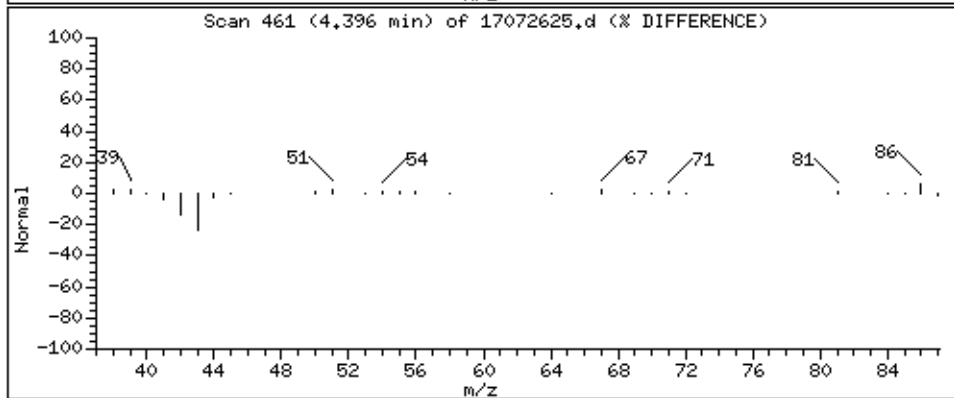
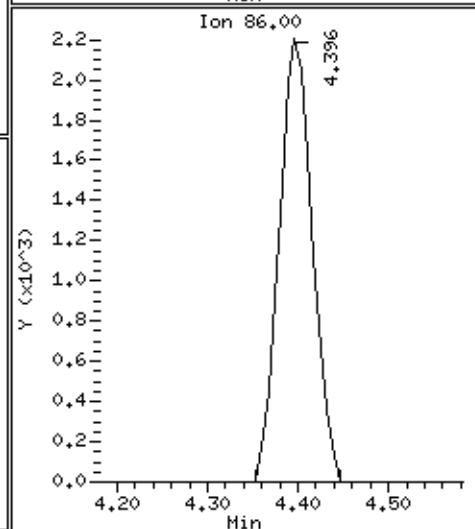
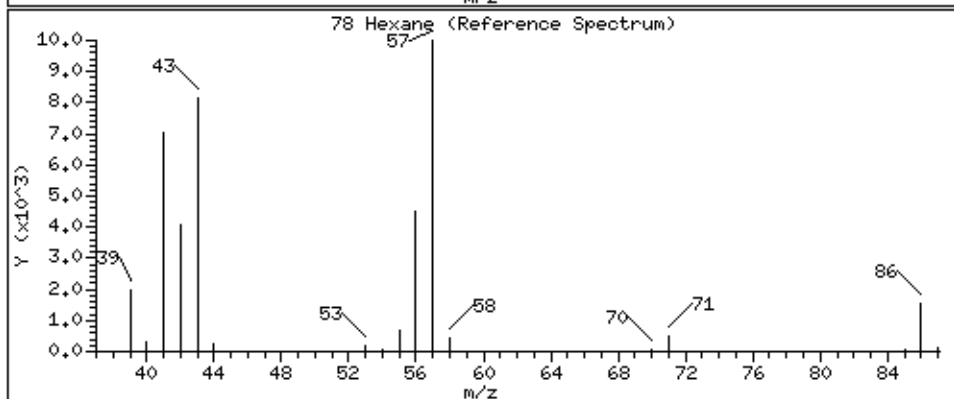
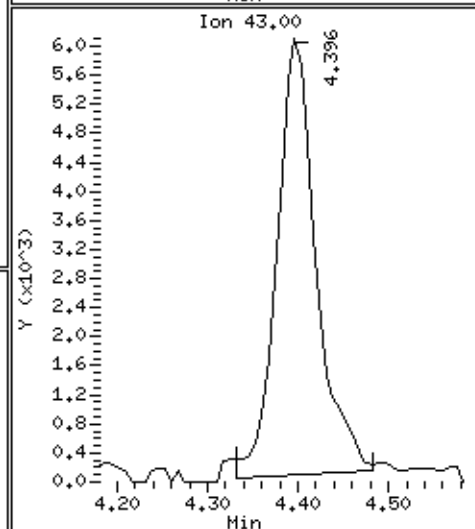
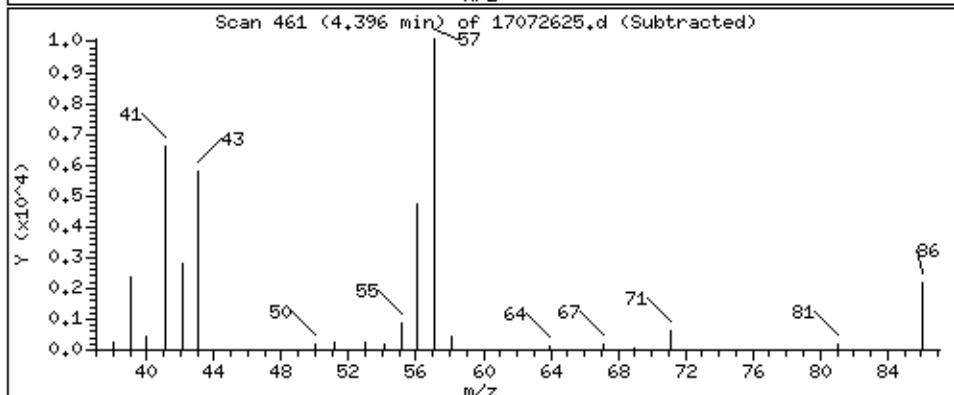
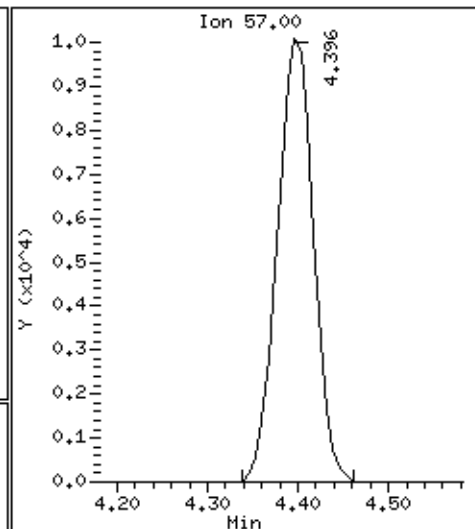
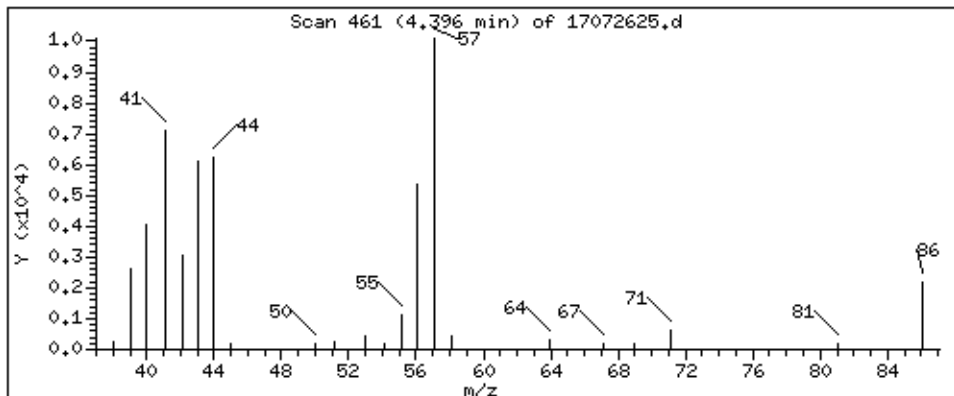
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

78 Hexane

Concentration: 6.921 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

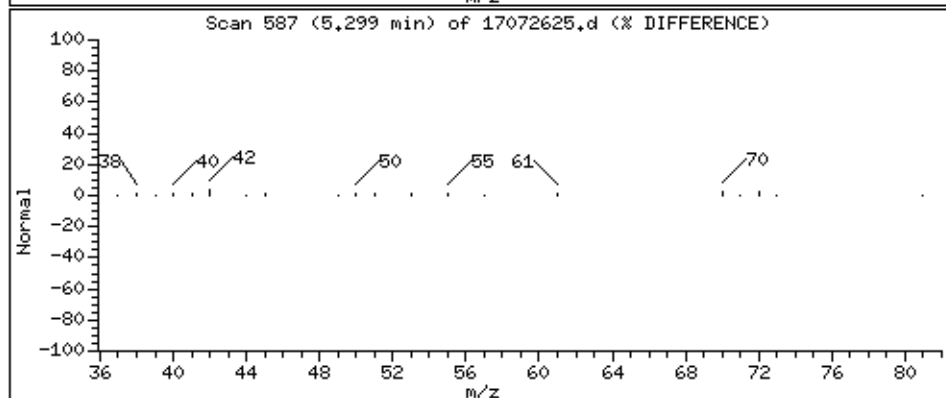
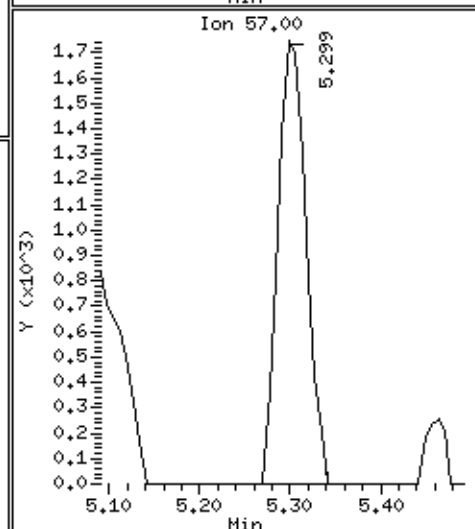
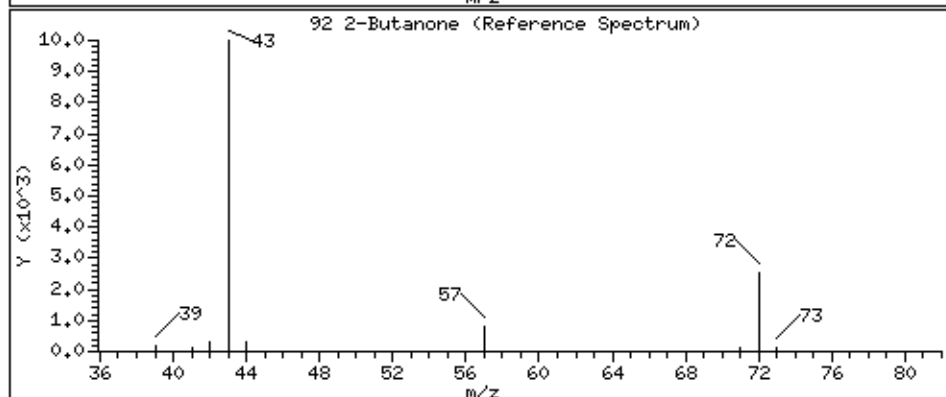
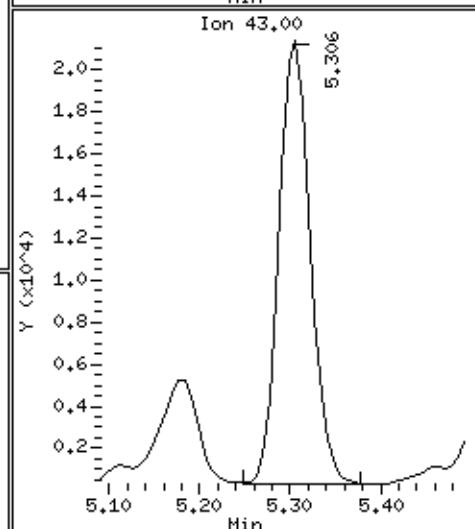
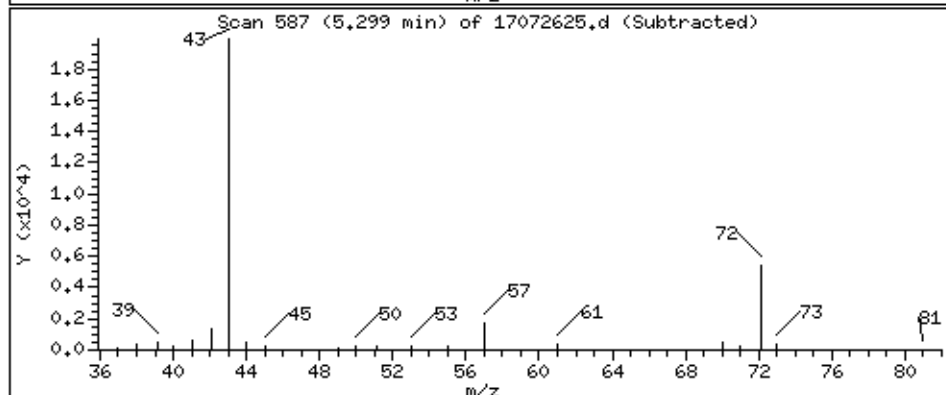
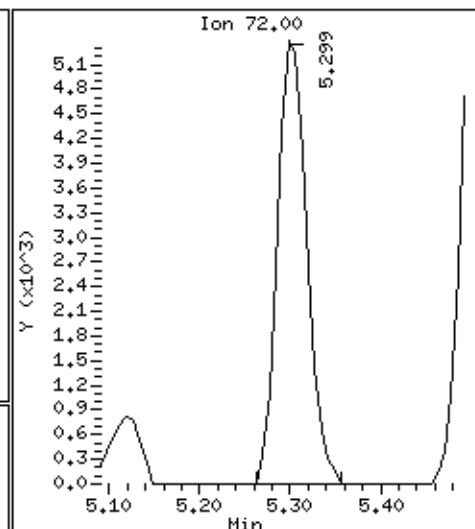
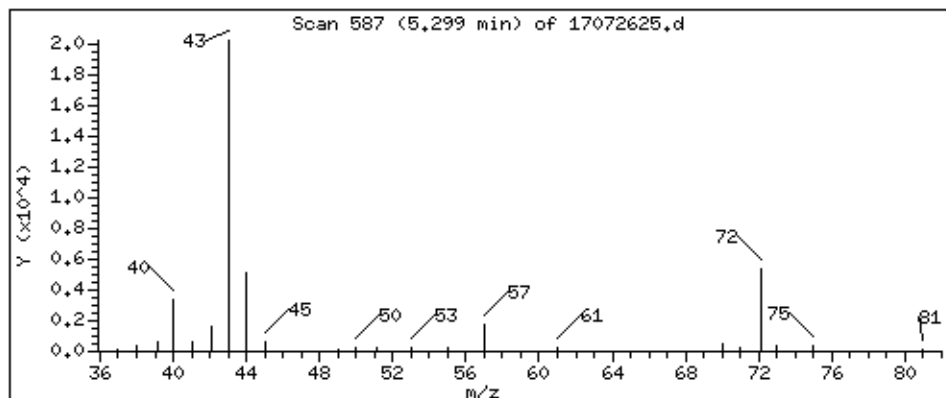
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

92 2-Butanone

Concentration: 8.652 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

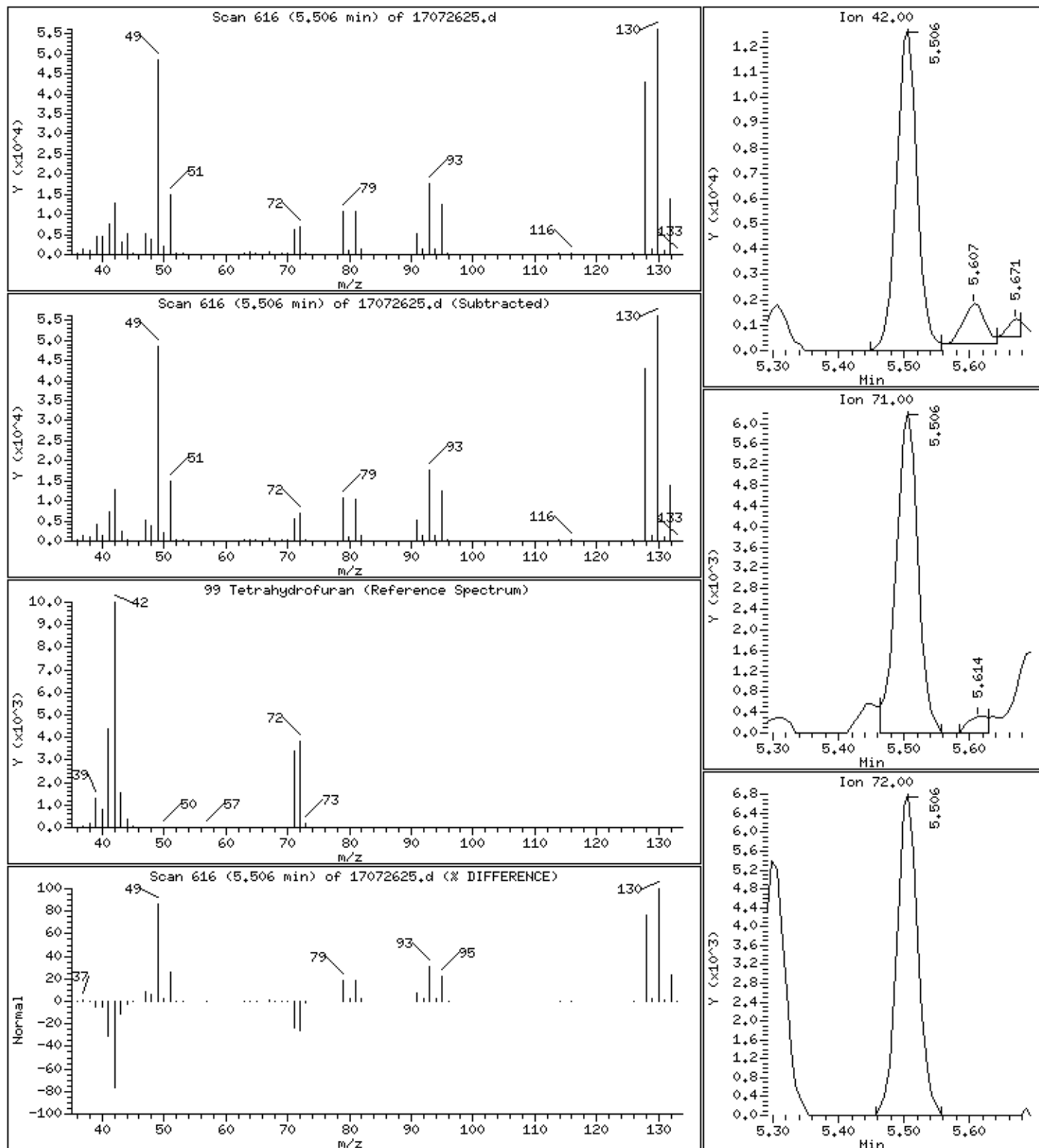
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

99 Tetrahydrofuran

Concentration: 10,545 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

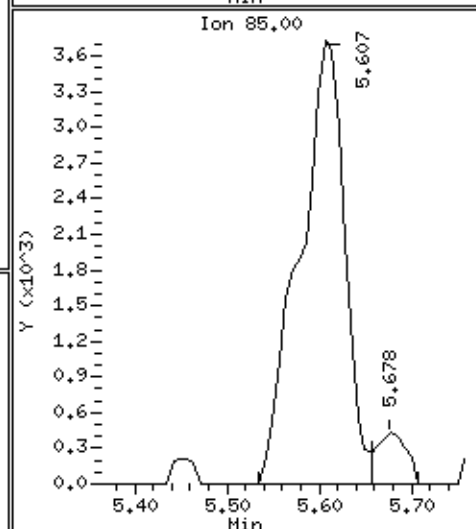
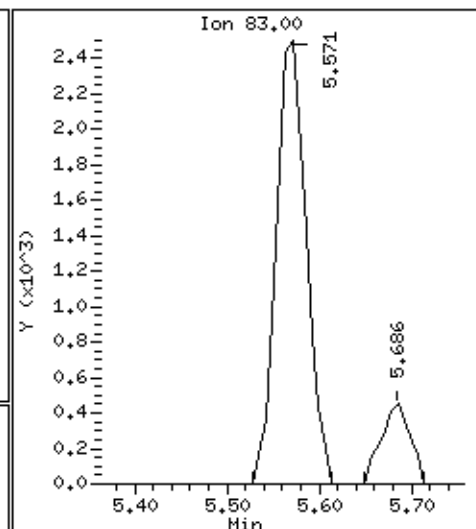
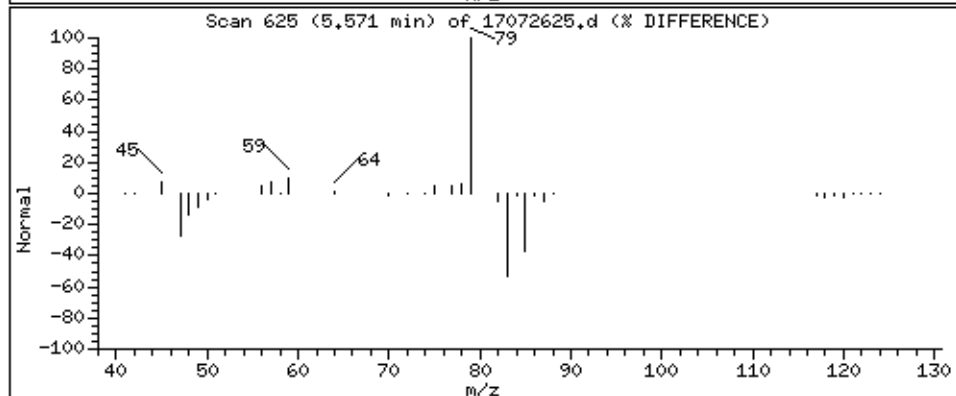
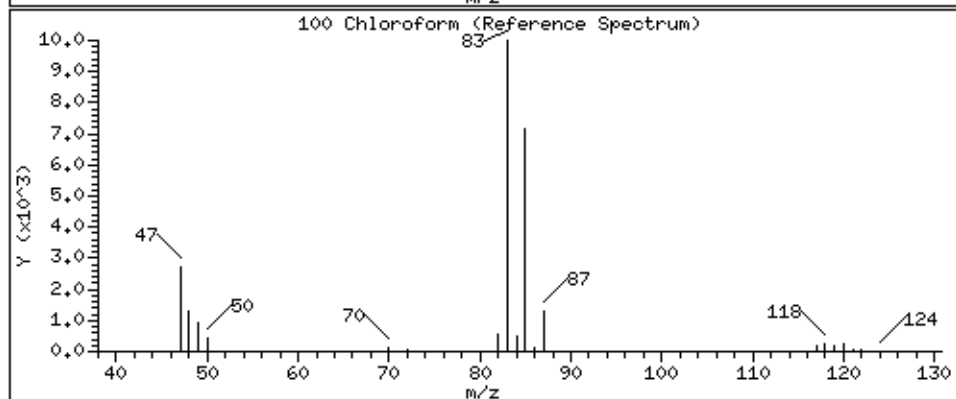
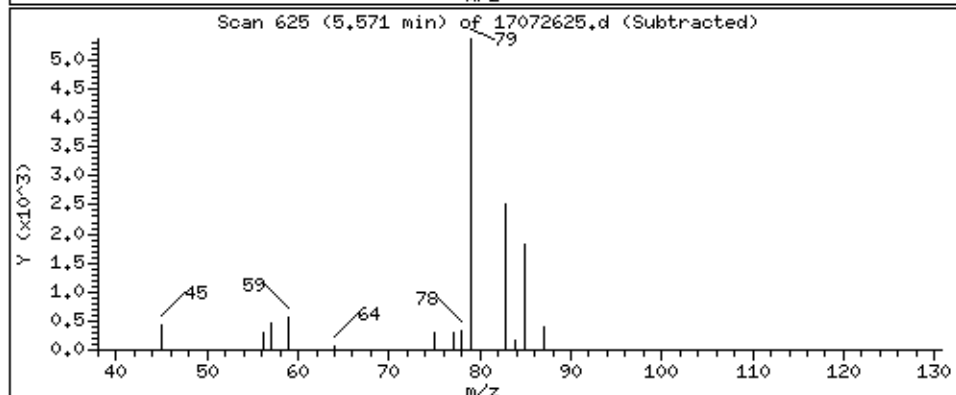
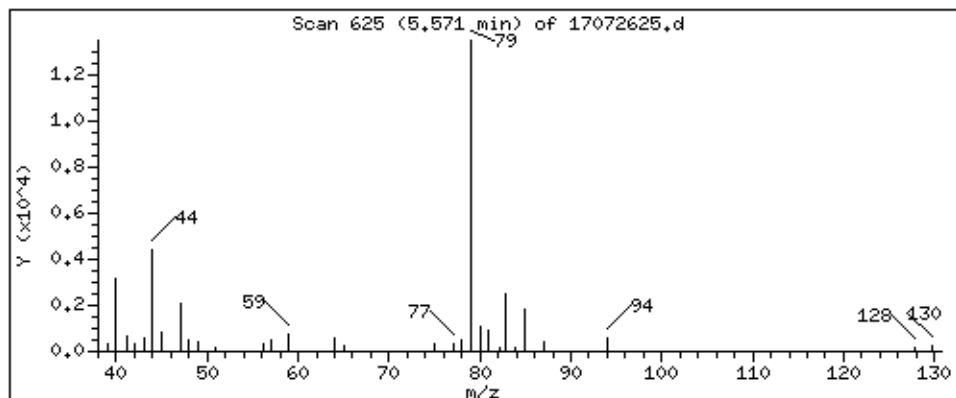
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

100 Chloroform

Concentration: 0.9377 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

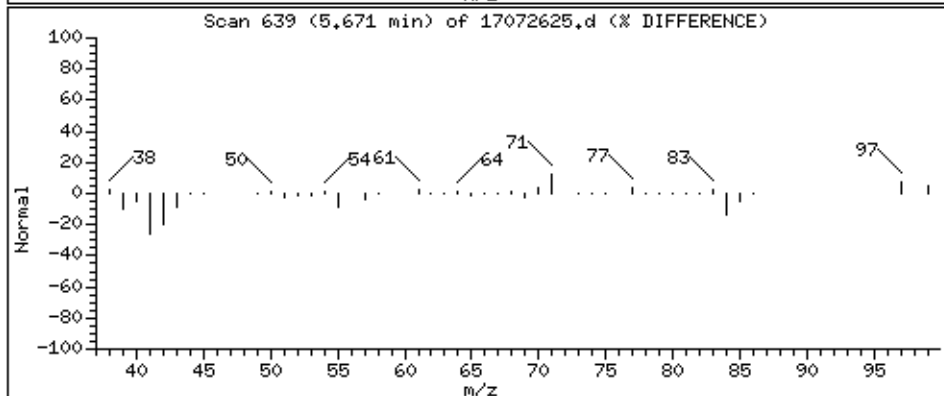
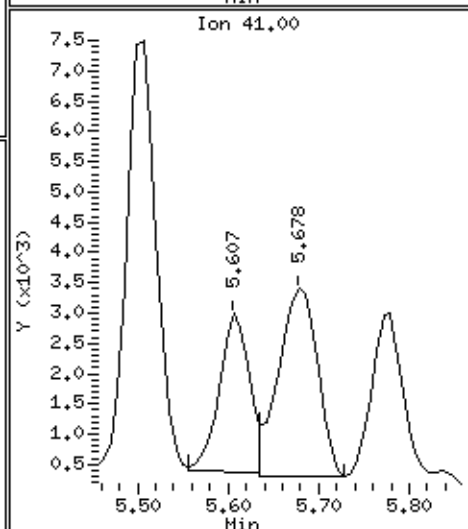
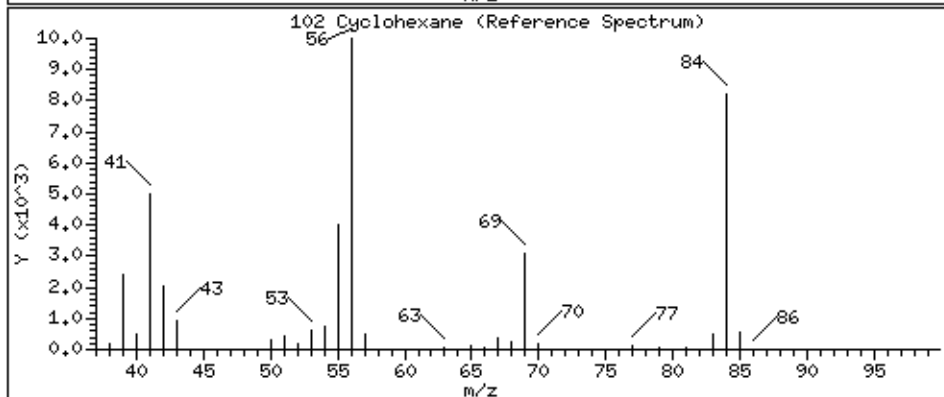
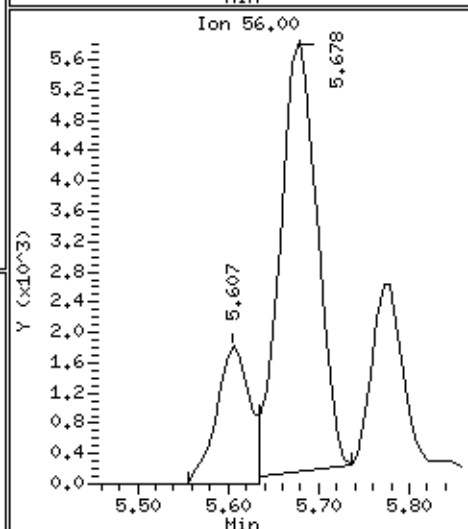
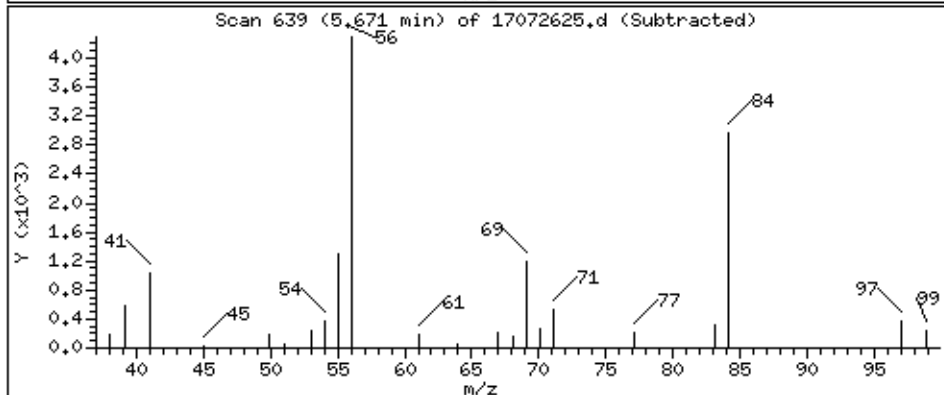
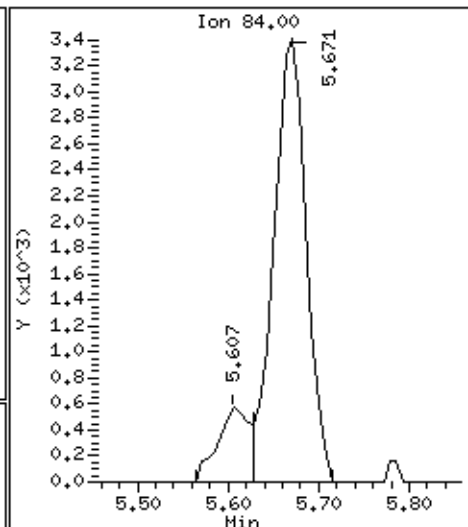
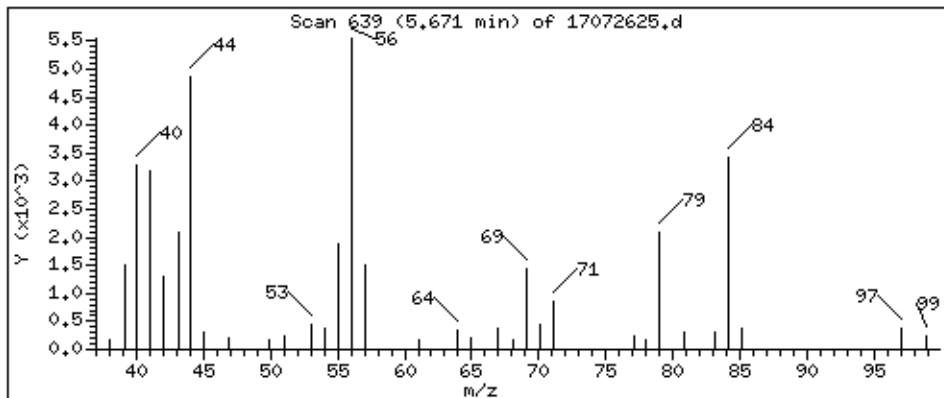
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

102 Cyclohexane

Concentration: 2.122 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663cl

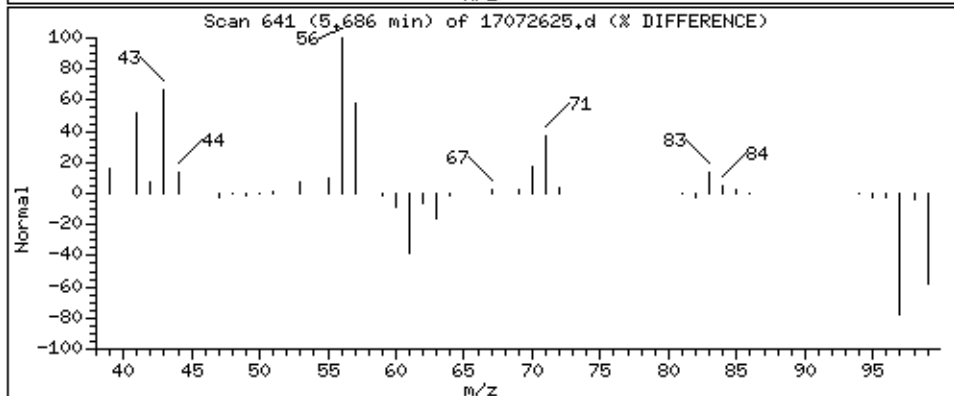
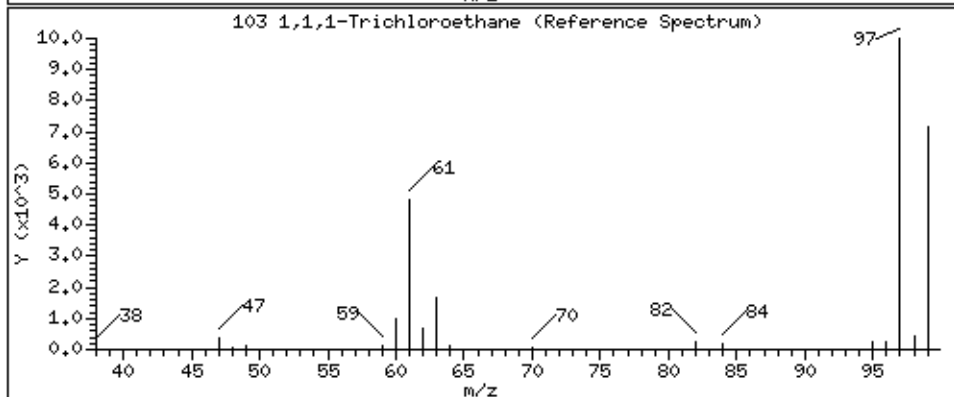
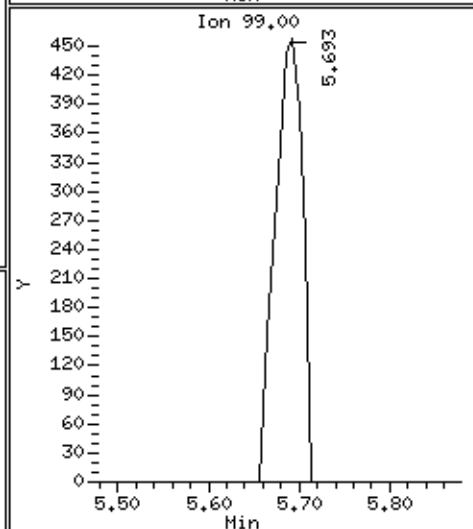
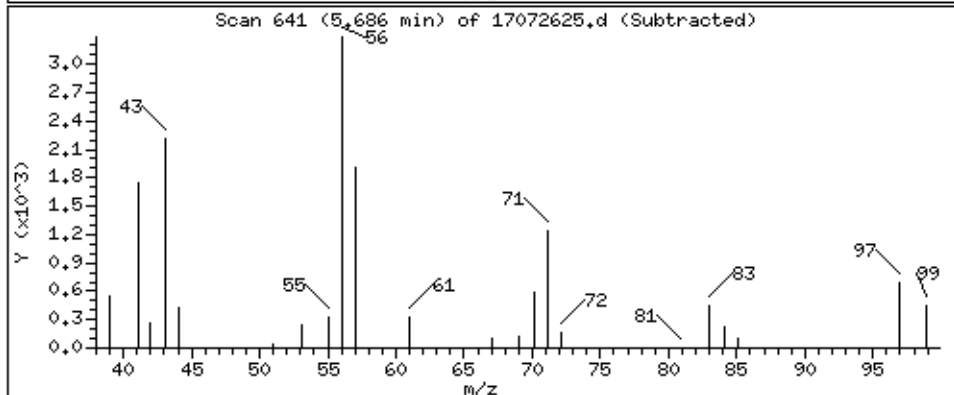
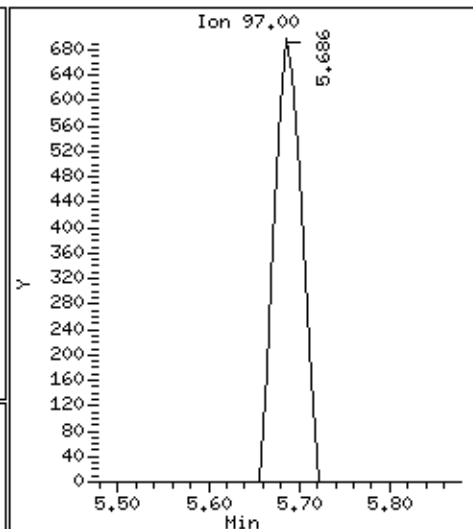
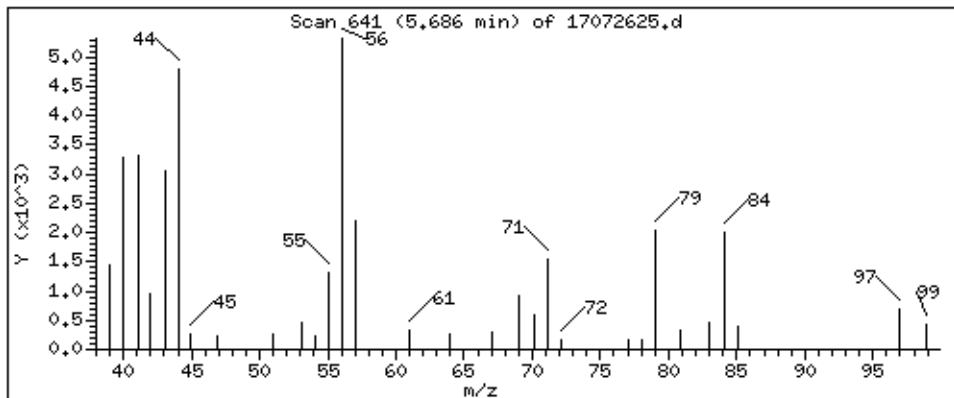
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

103 1,1,1-Trichloroethane

Concentration: 0.2214 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663cl

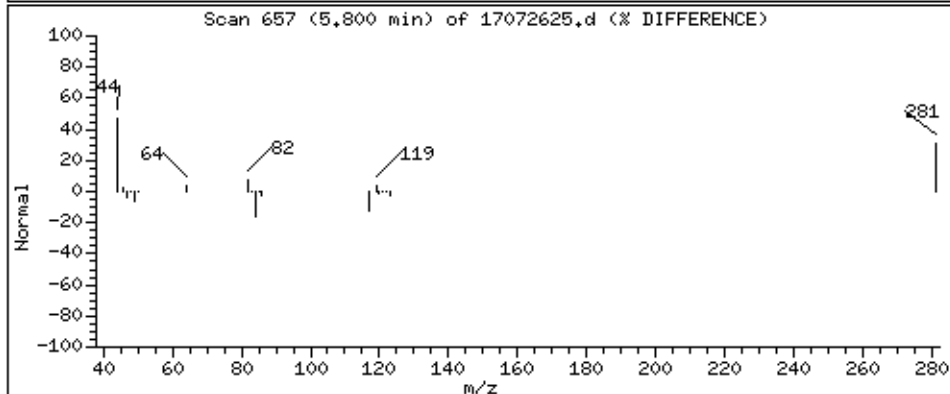
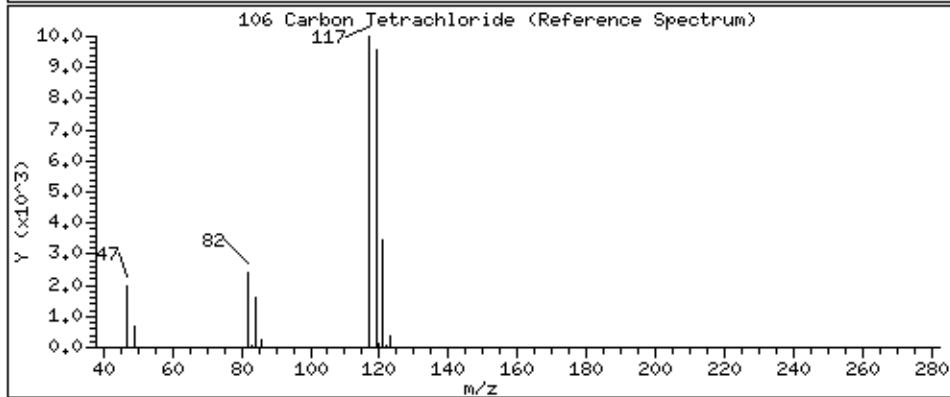
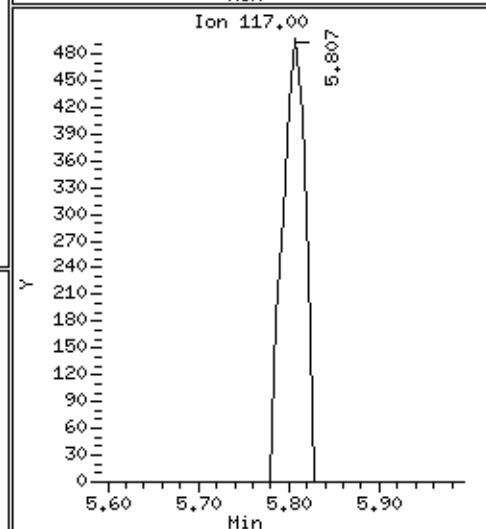
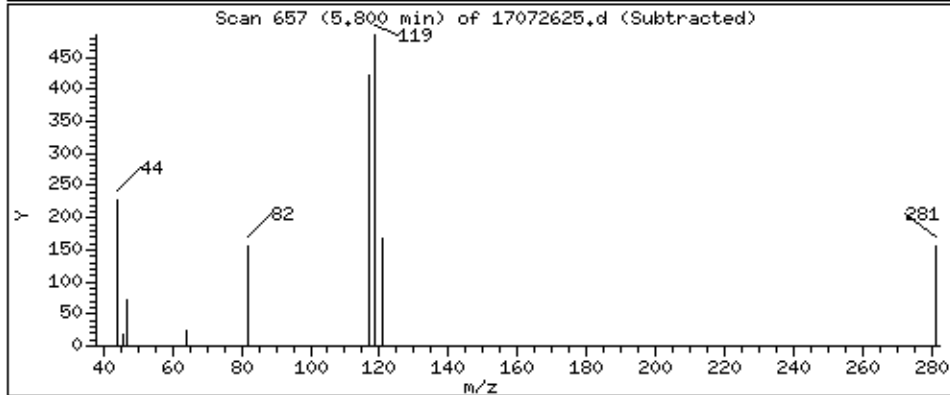
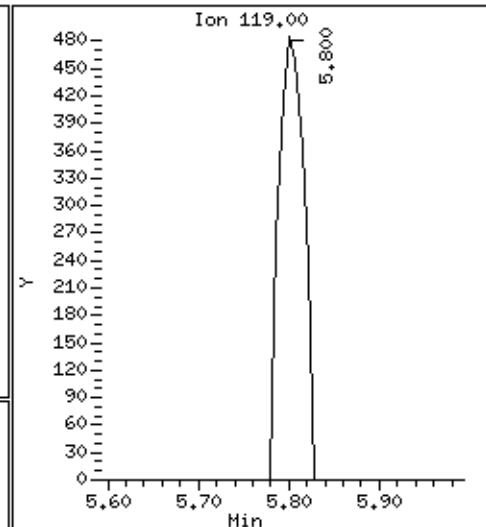
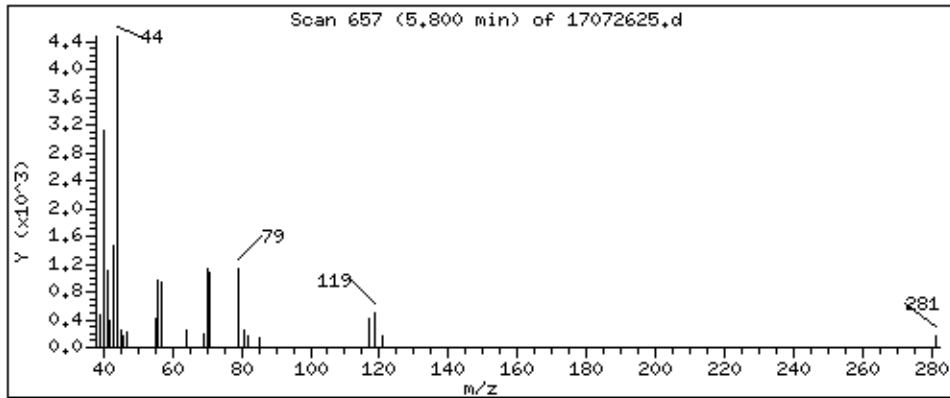
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

106 Carbon Tetrachloride

Concentration: 0.1305 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

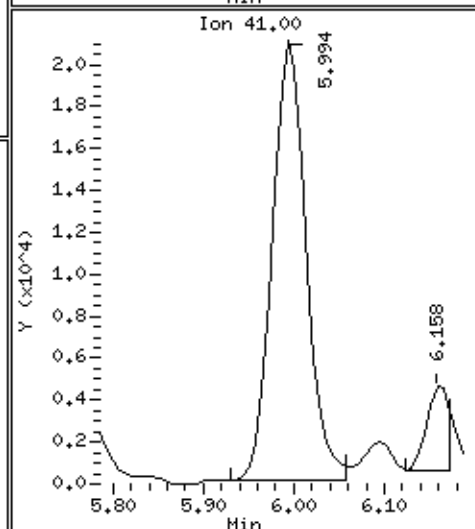
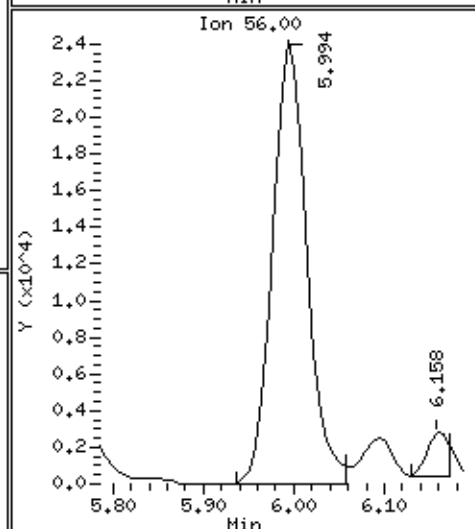
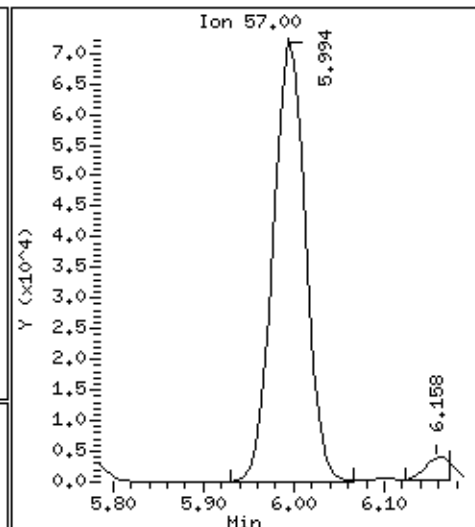
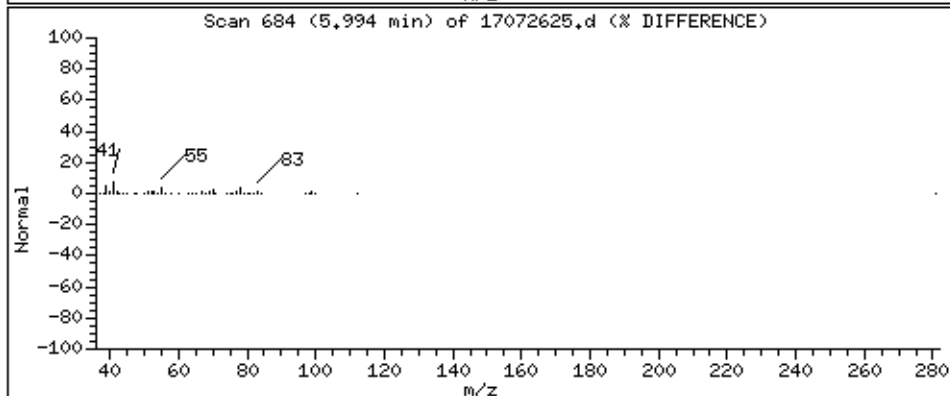
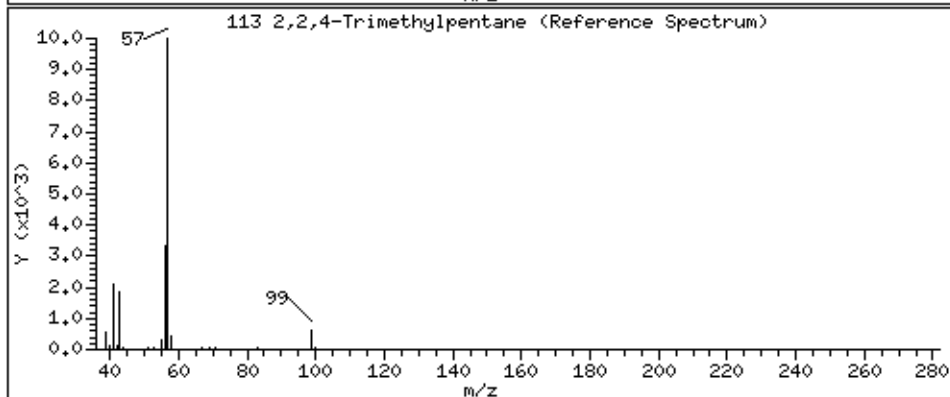
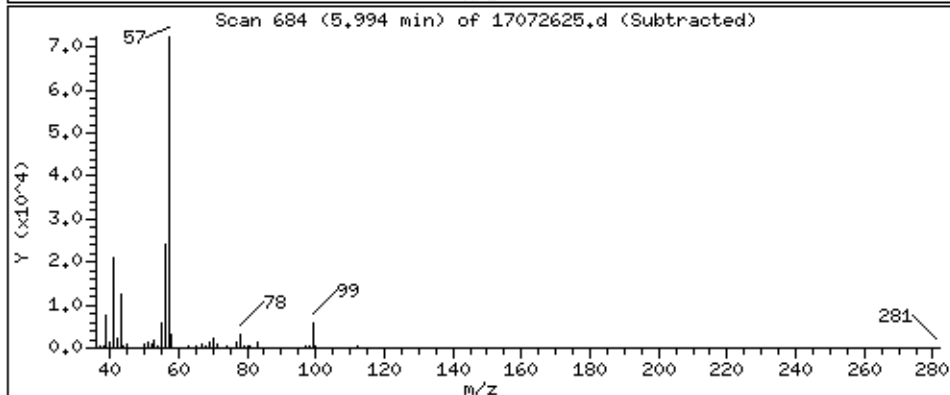
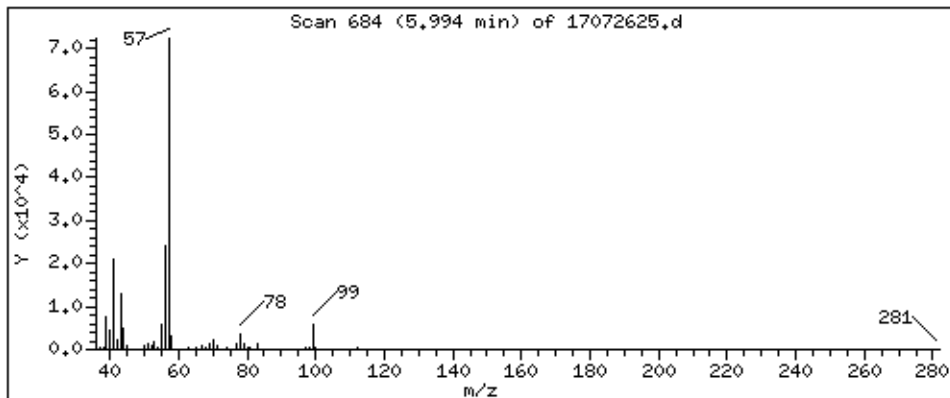
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

113 2,2,4-Trimethylpentane

Concentration: 14,985 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

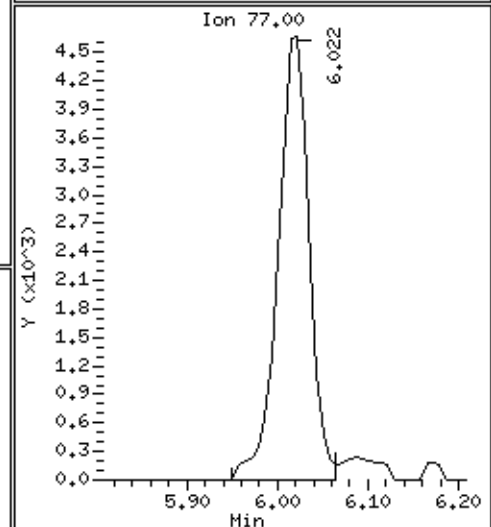
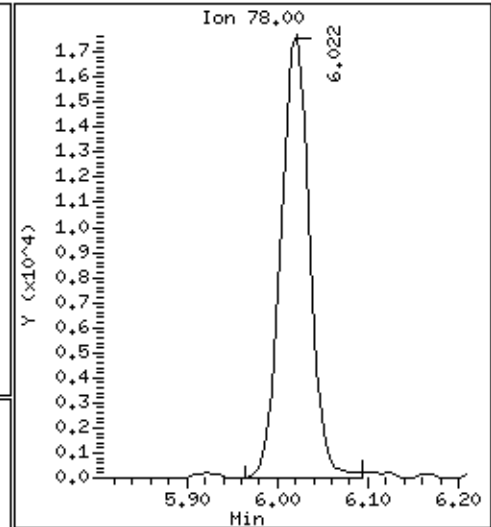
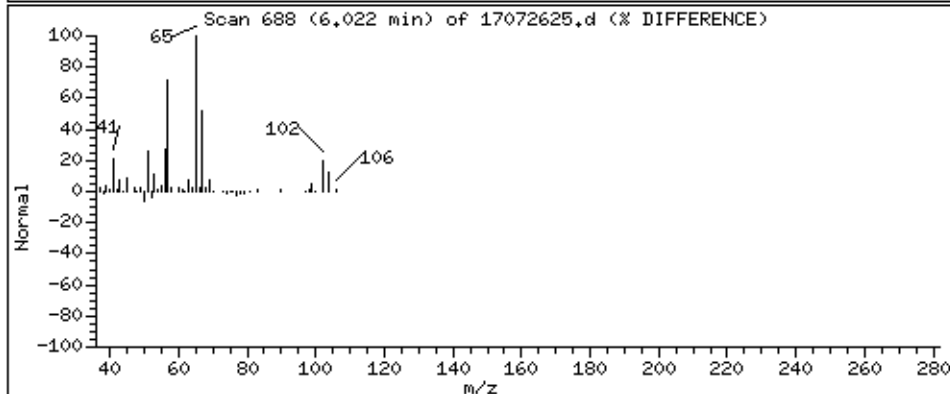
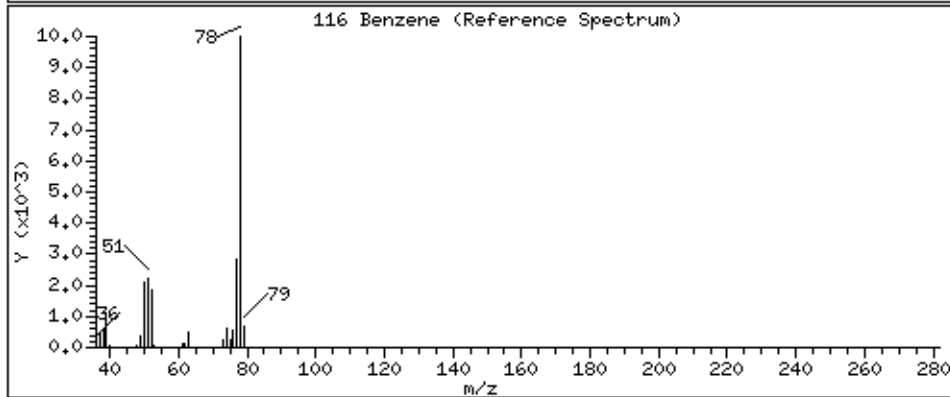
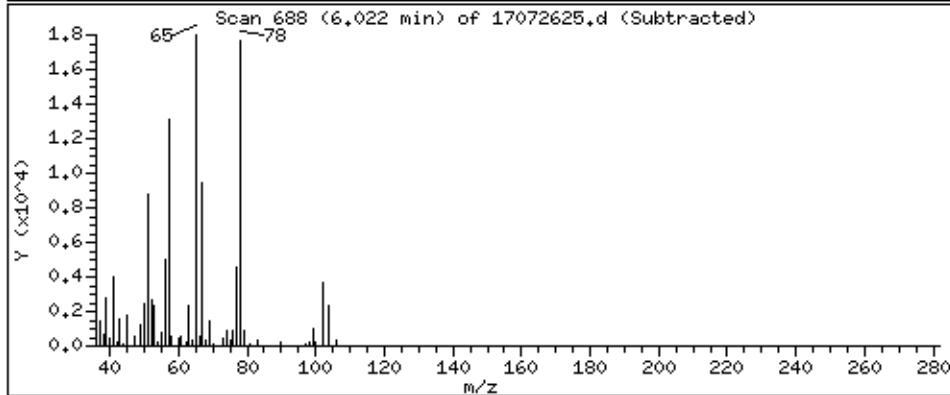
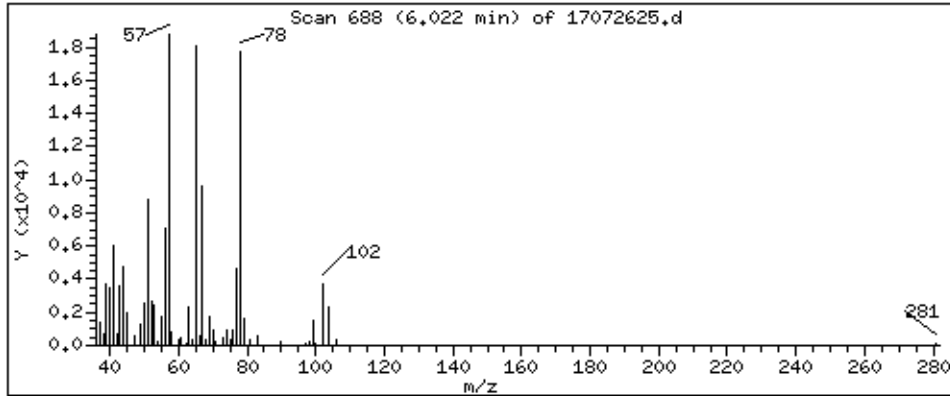
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

116 Benzene

Concentration: 4.806 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

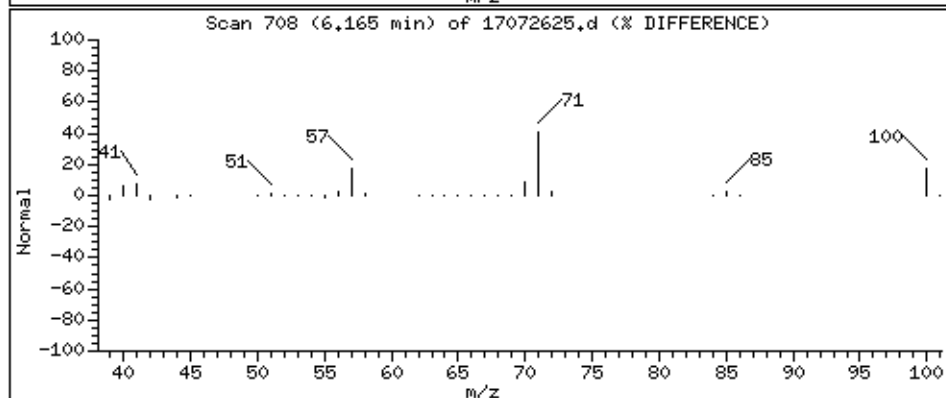
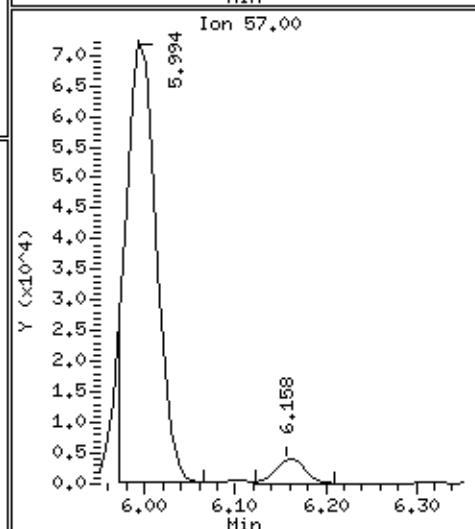
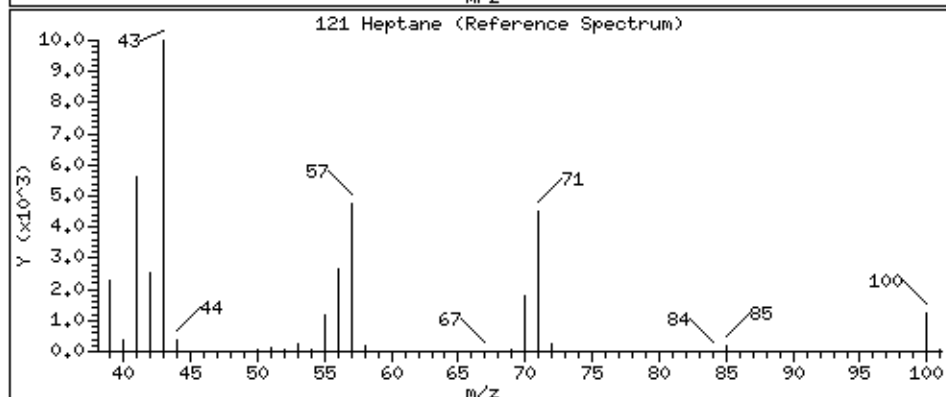
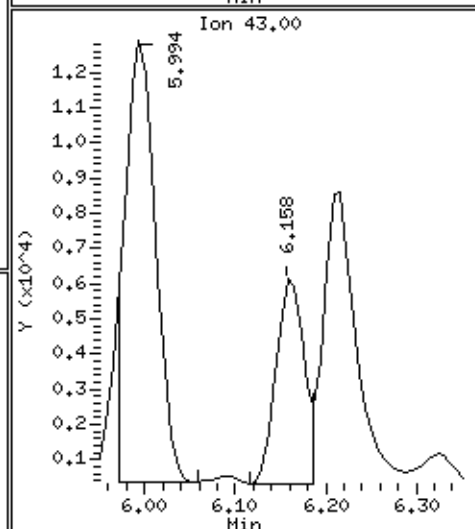
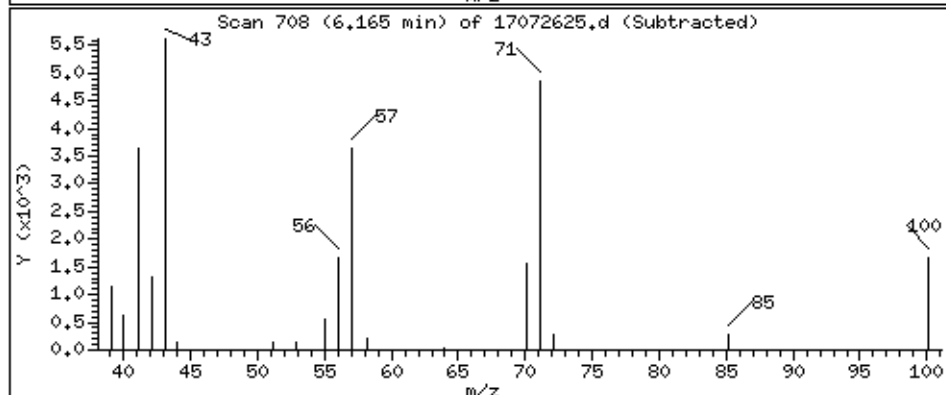
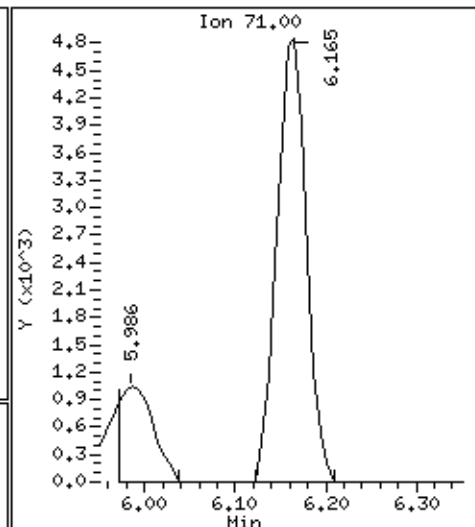
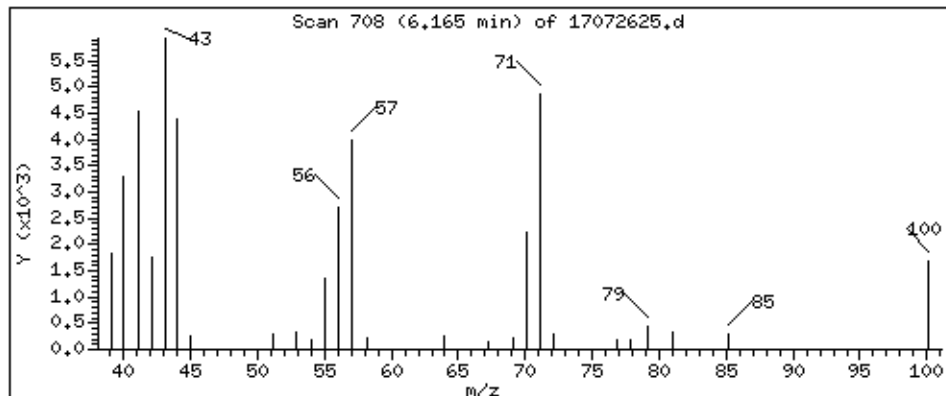
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

121 Heptane

Concentration: 3.843 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

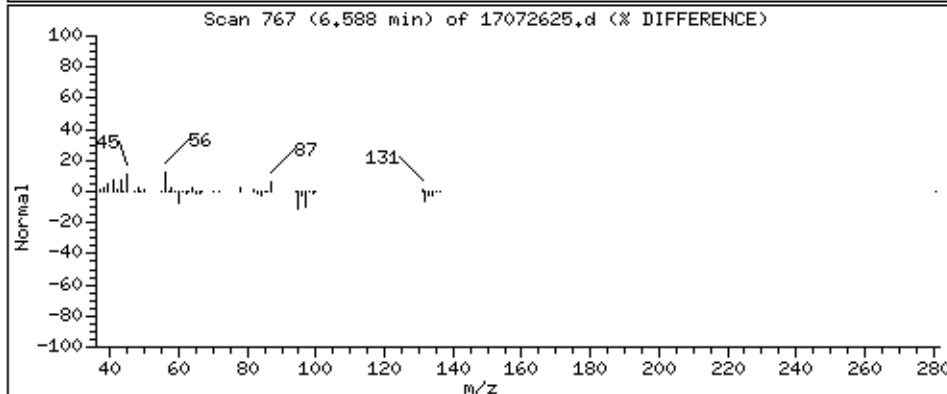
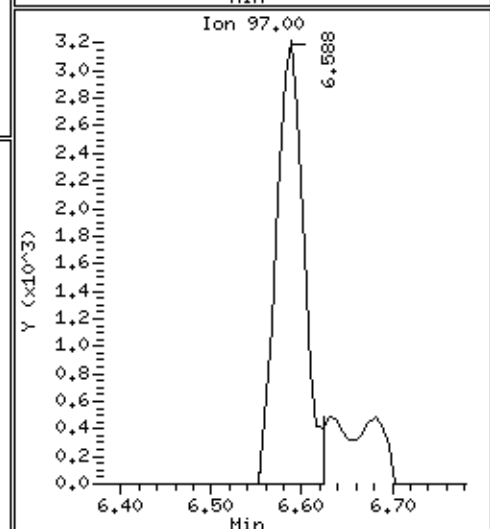
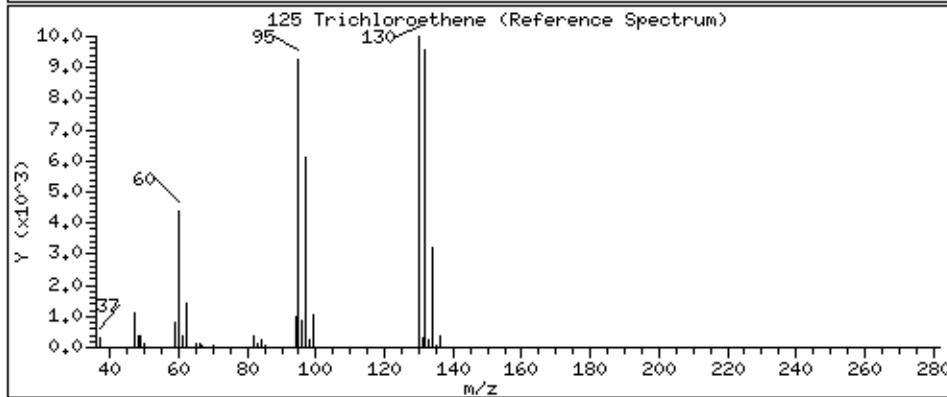
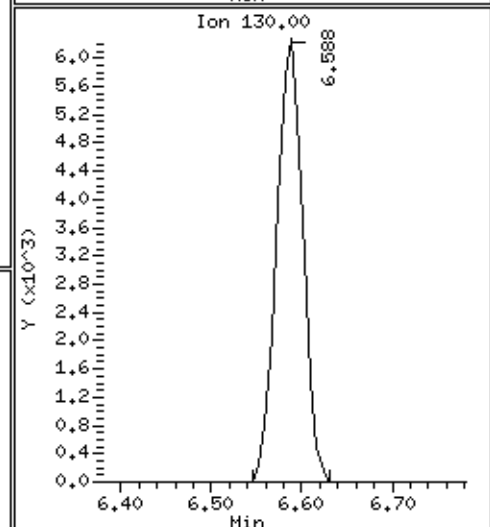
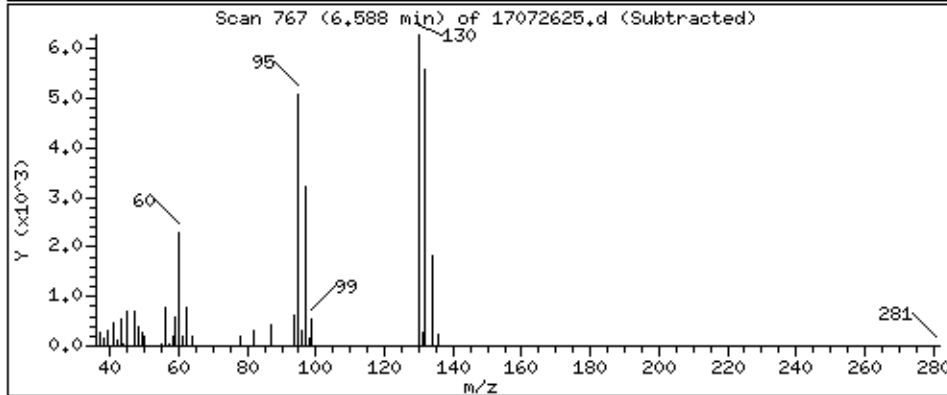
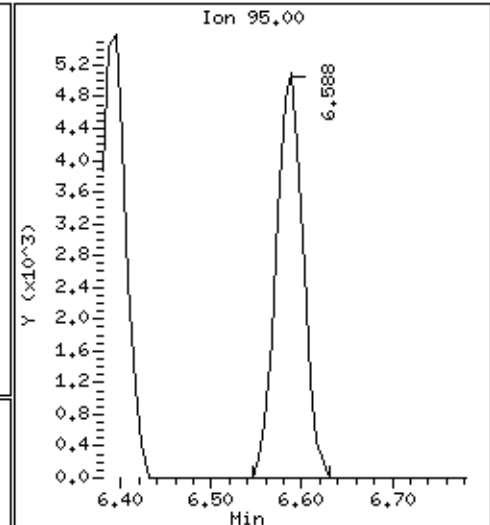
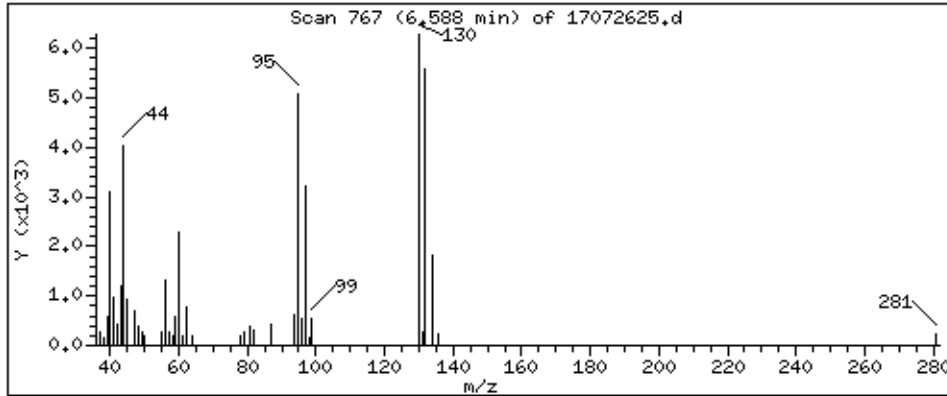
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

125 Trichloroethene

Concentration: 2.678 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663cl

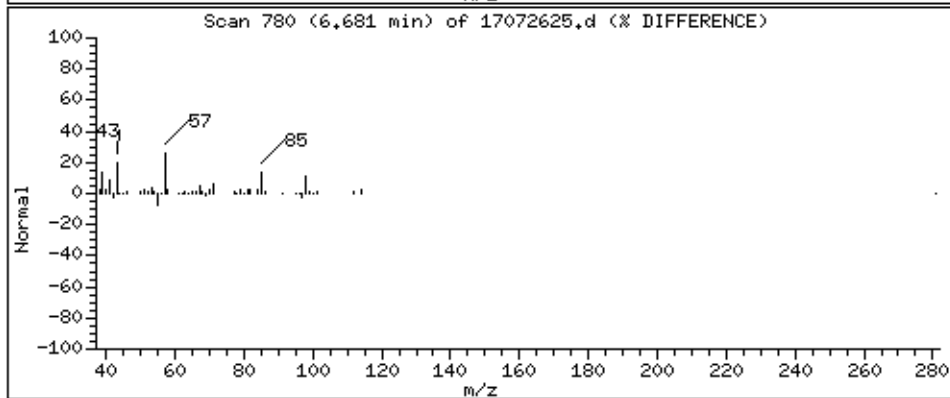
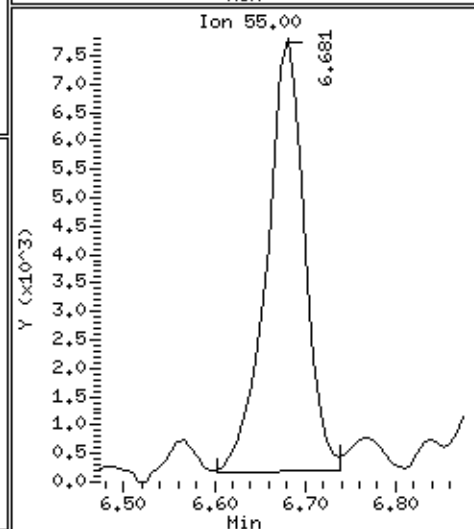
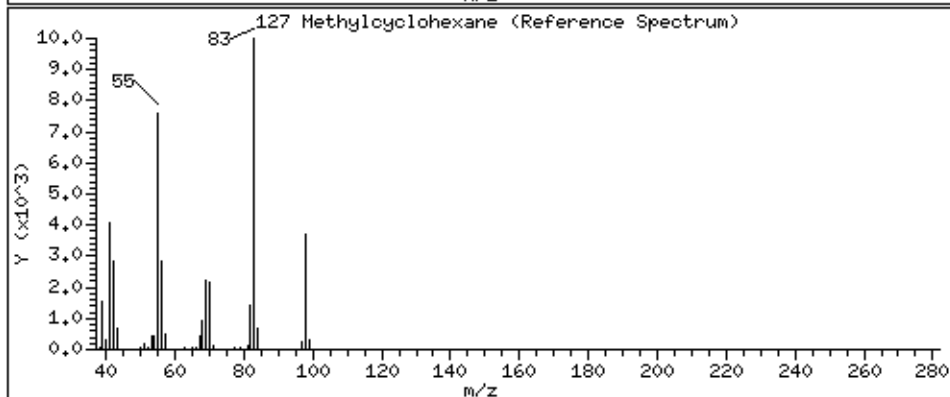
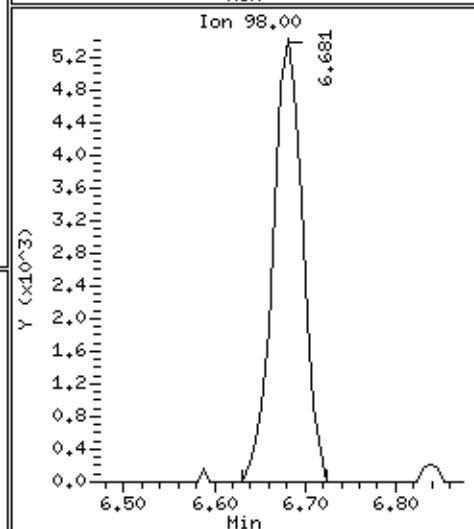
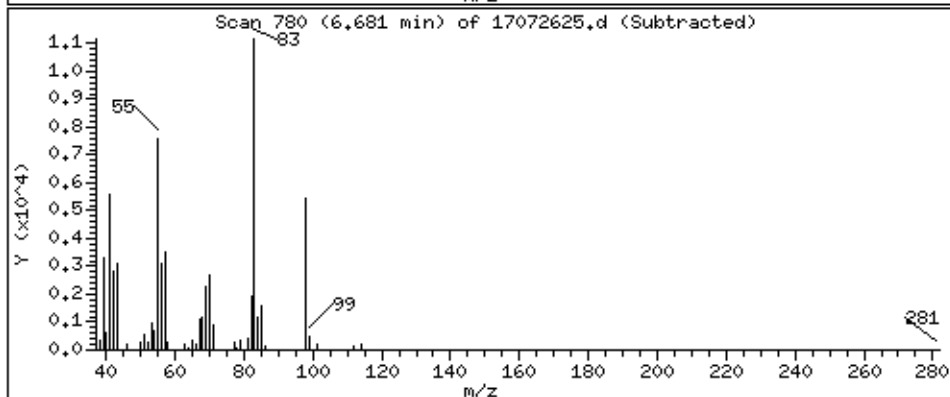
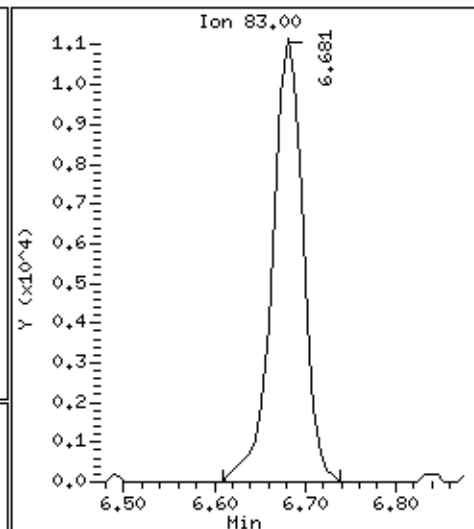
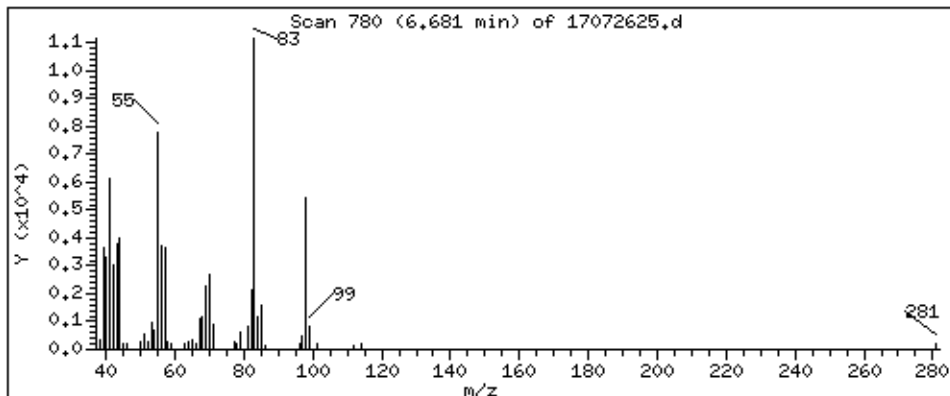
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

127 Methylcyclohexane

Concentration: 4.753 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

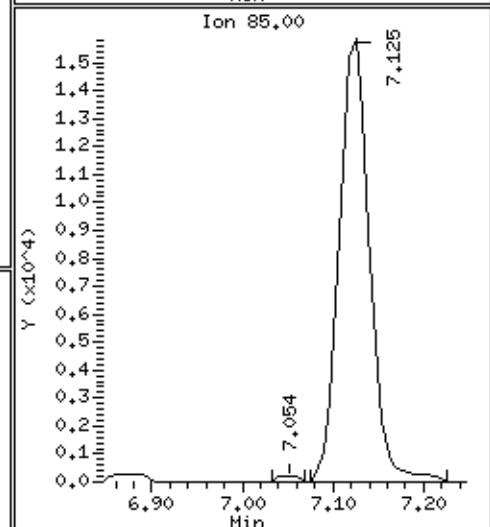
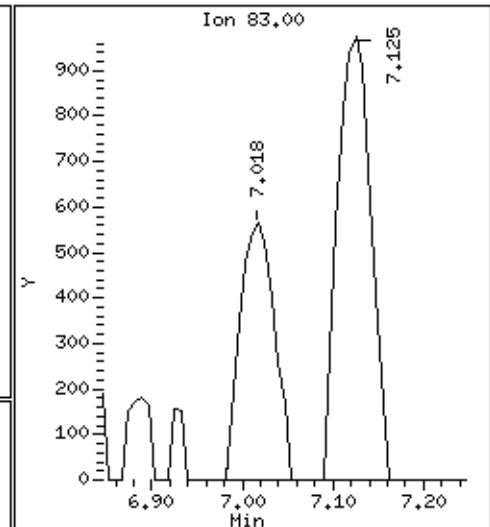
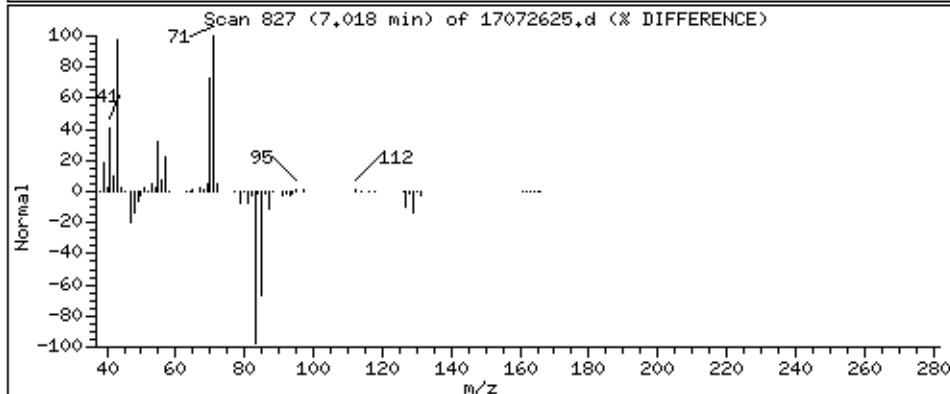
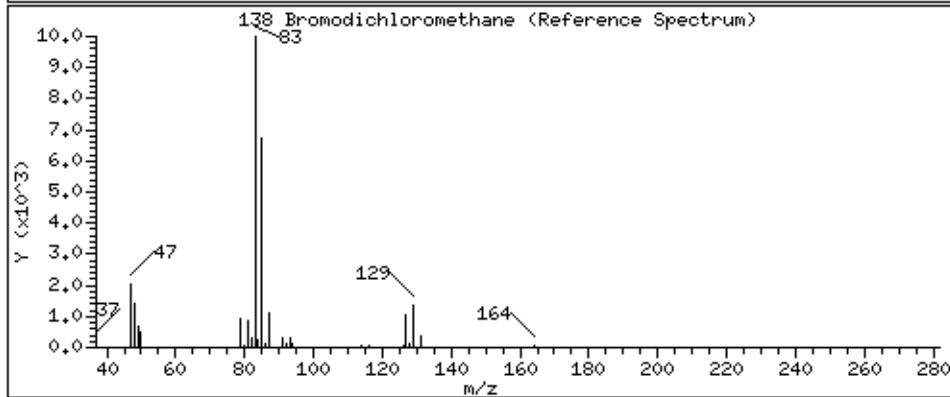
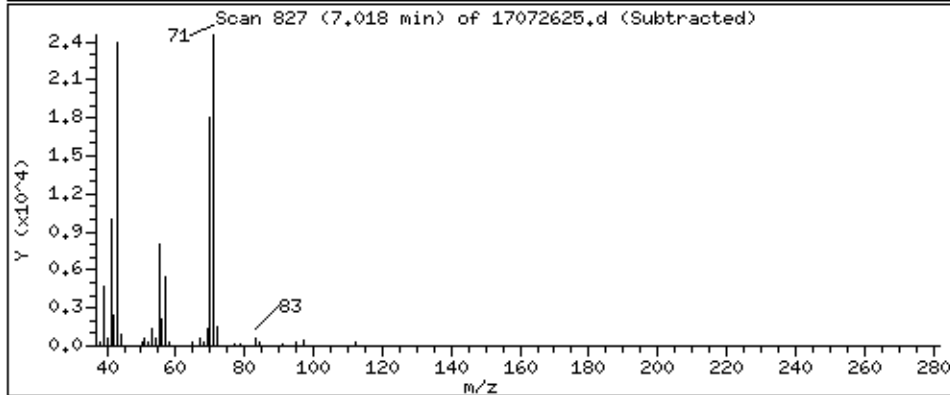
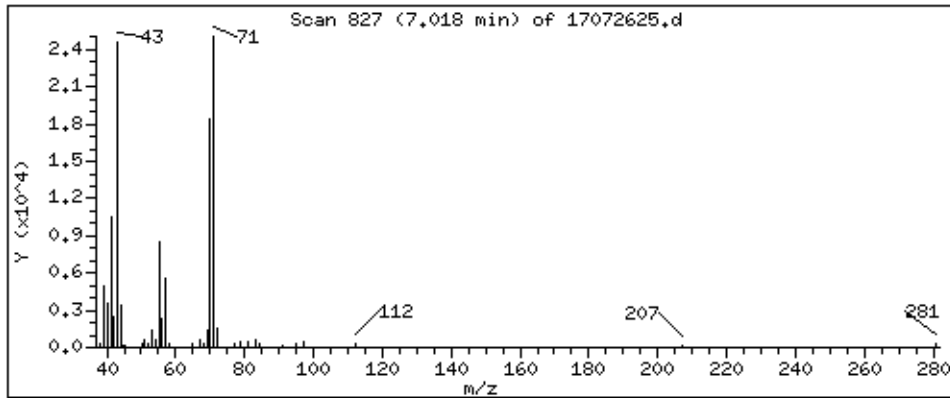
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

138 Bromodichloromethane

Concentration: 0.2437 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

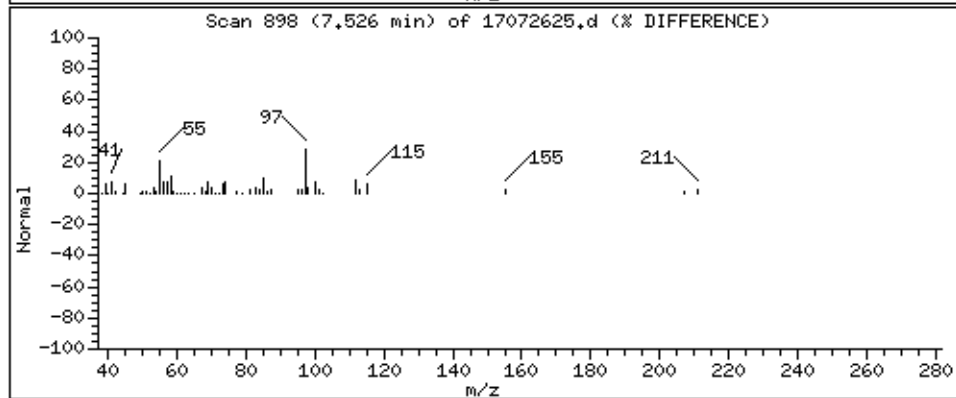
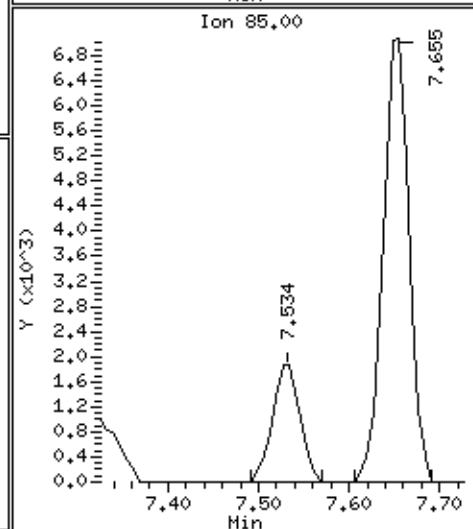
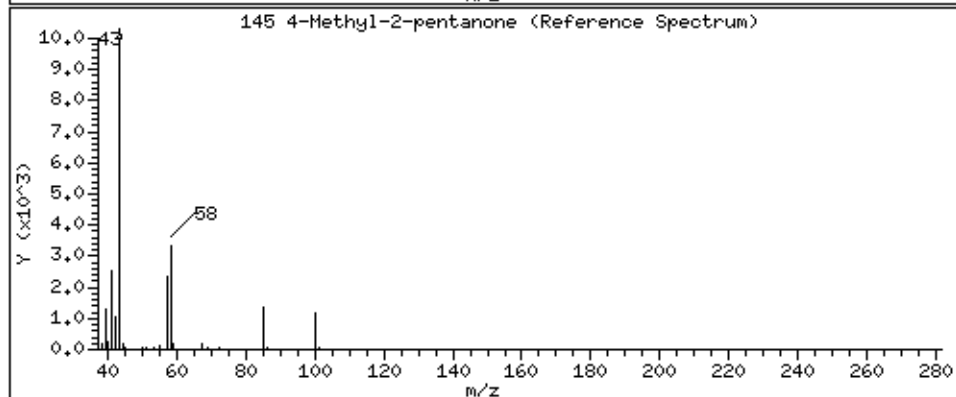
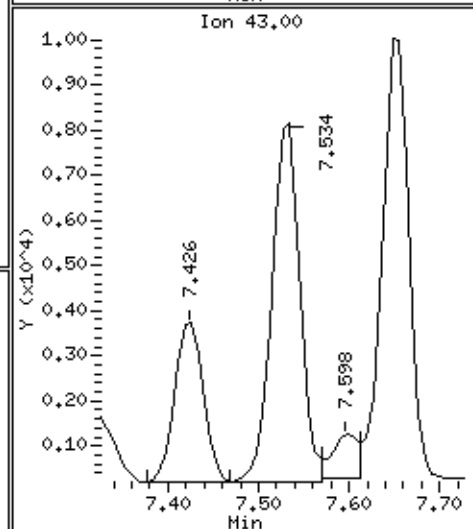
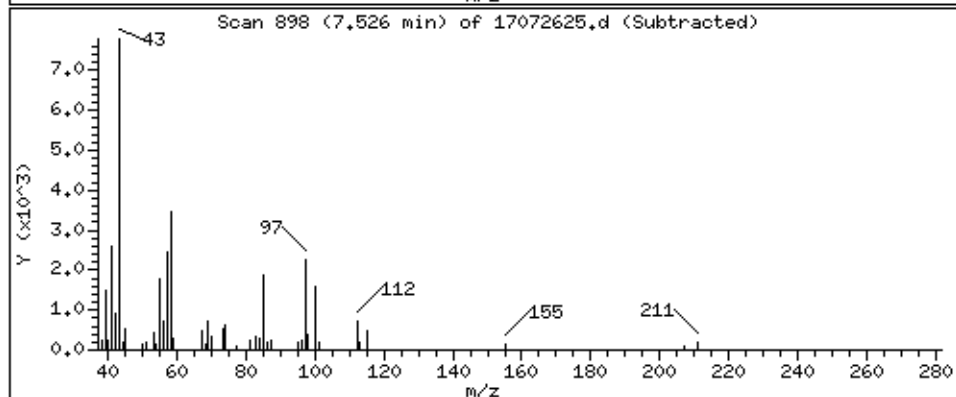
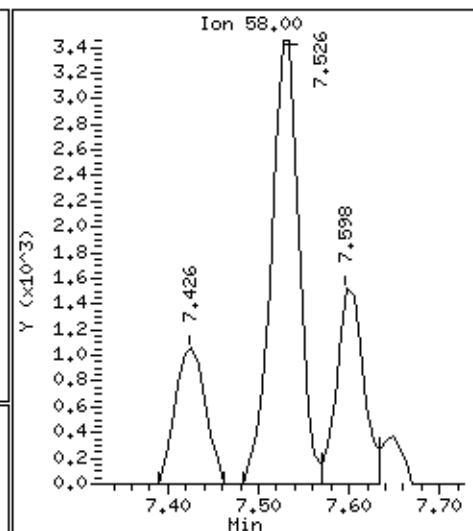
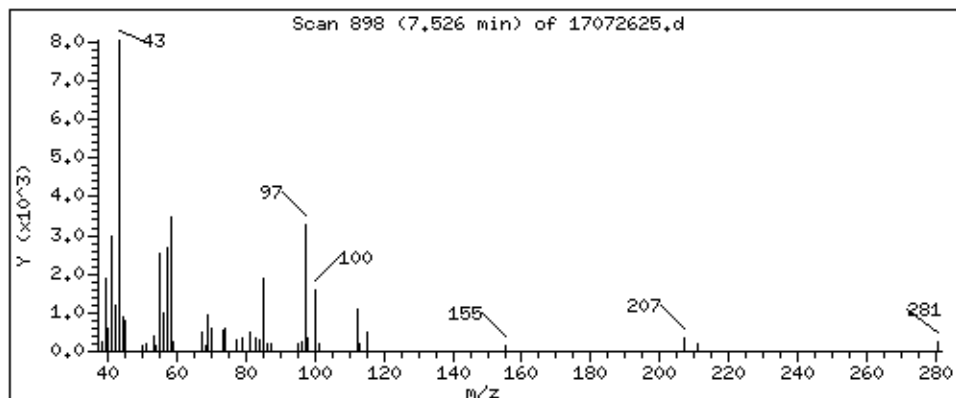
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

145 4-Methyl-2-pentanone

Concentration: 3.136 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

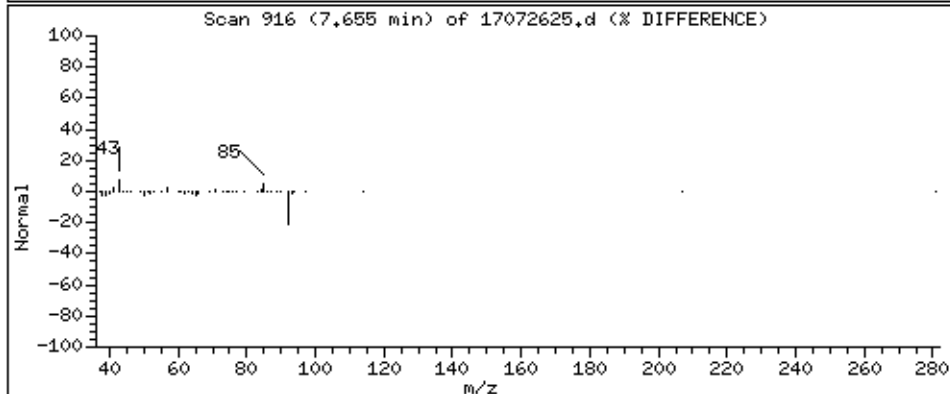
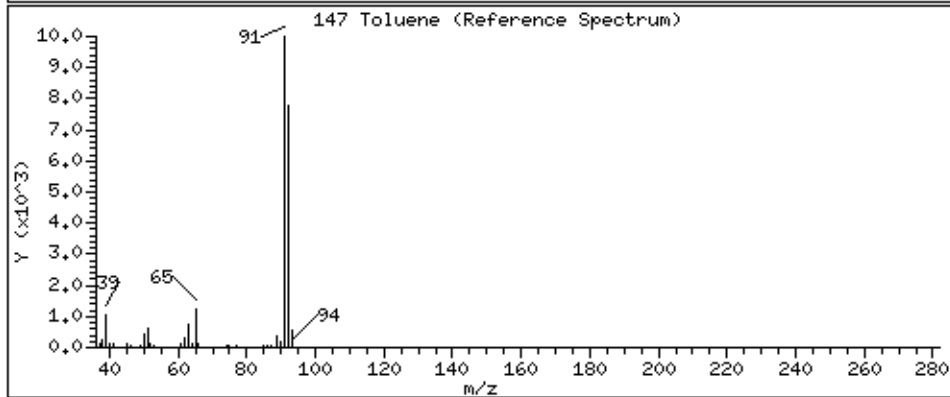
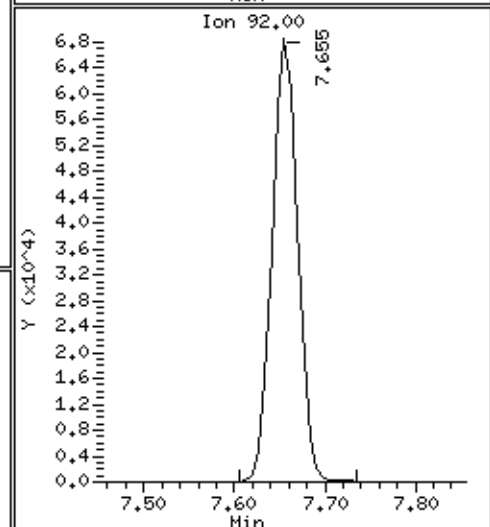
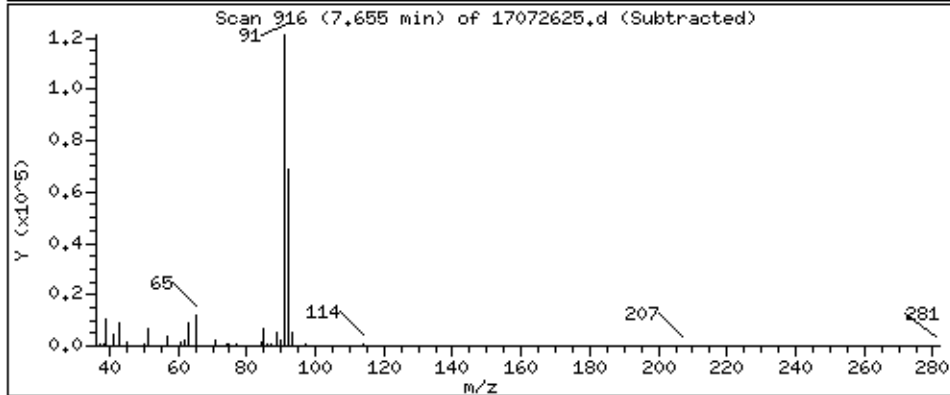
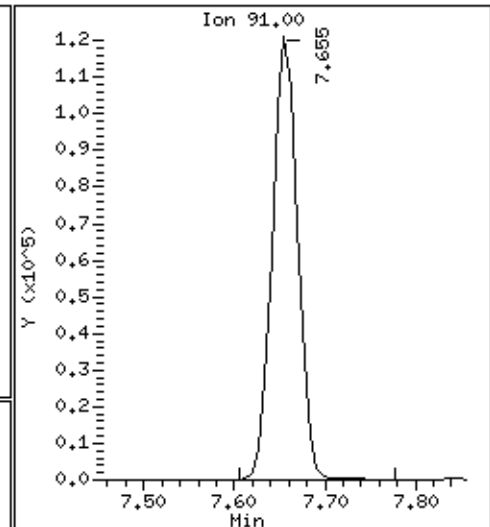
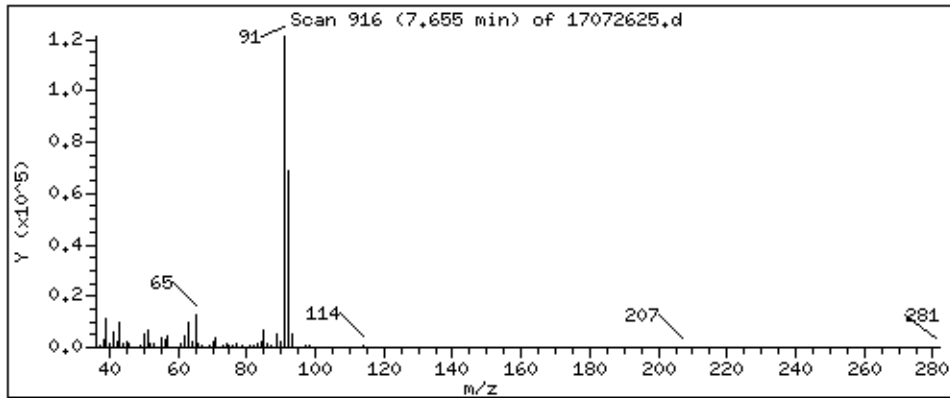
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

147 Toluene

Concentration: 22,165 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

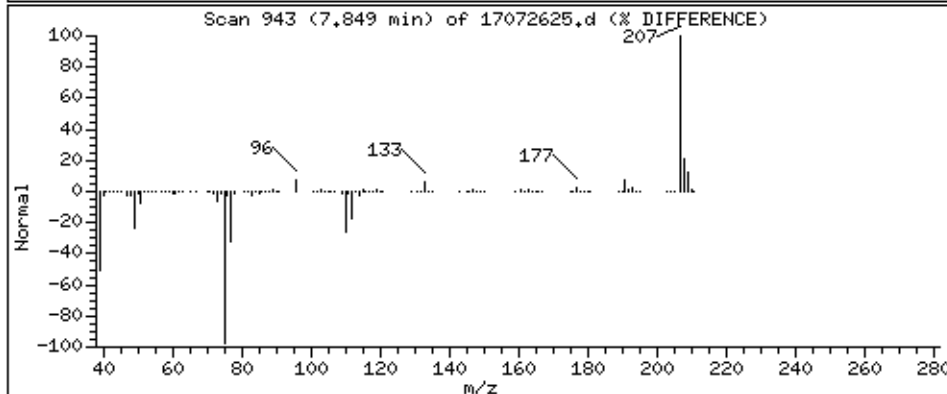
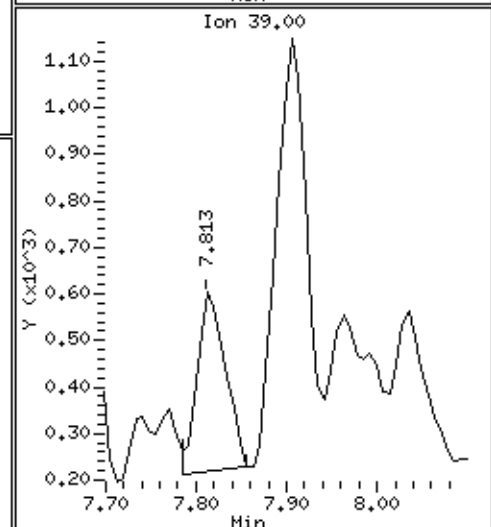
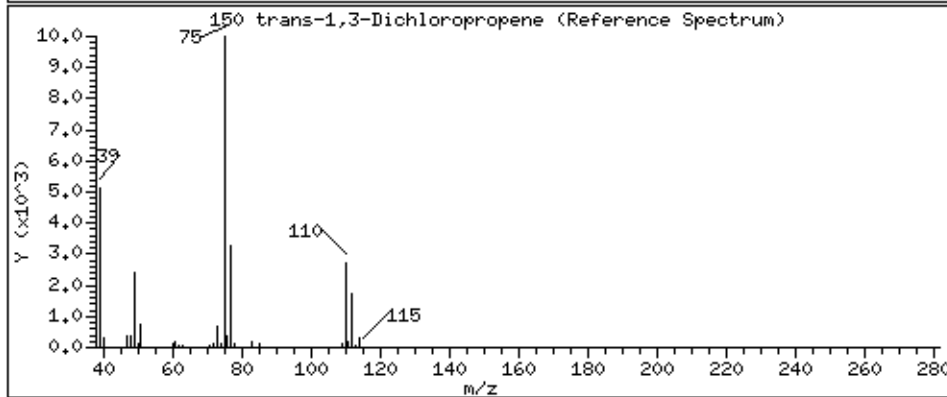
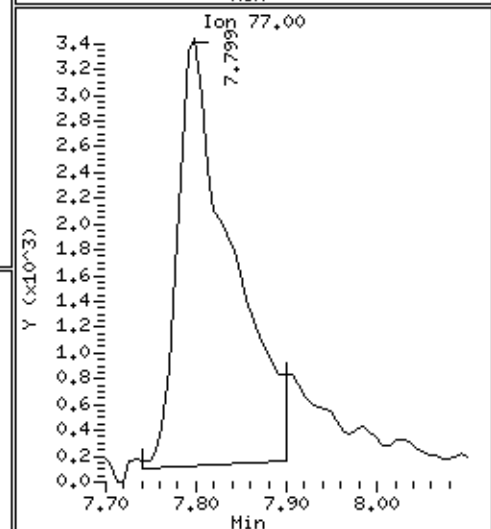
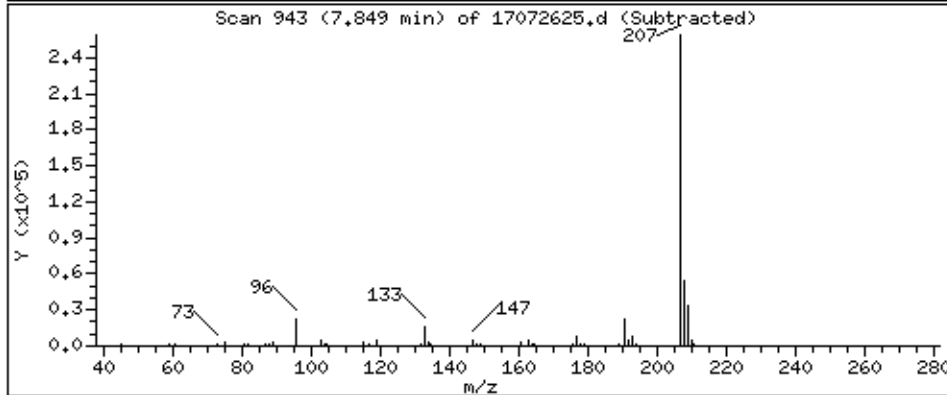
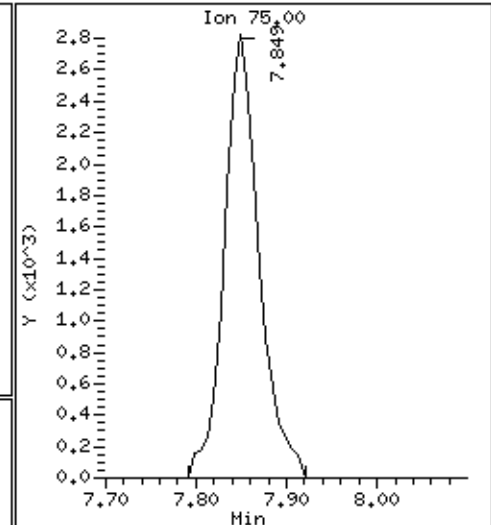
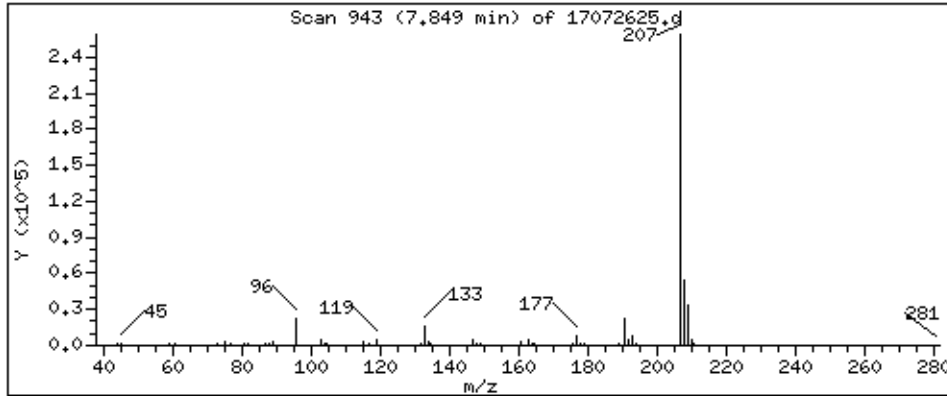
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

150 trans-1,3-Dichloropropene

Concentration: 1.593 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

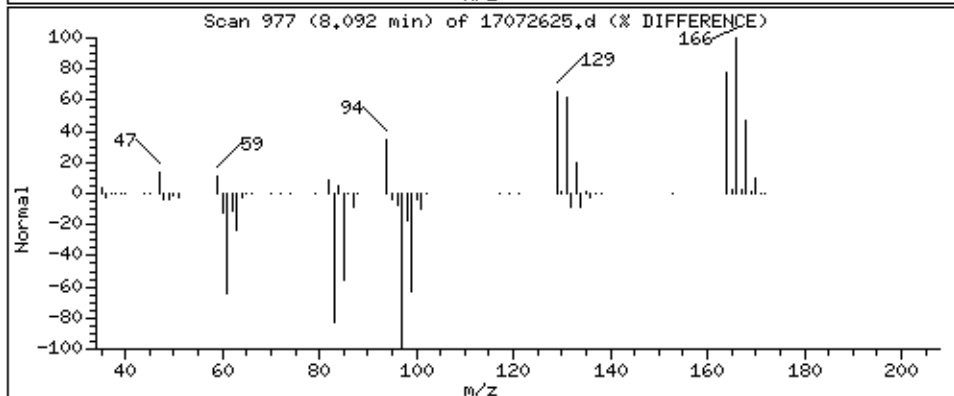
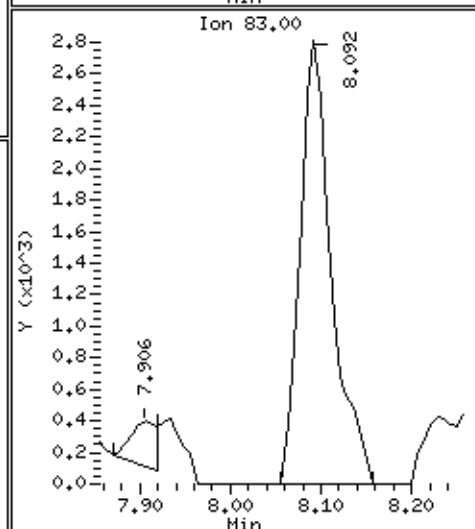
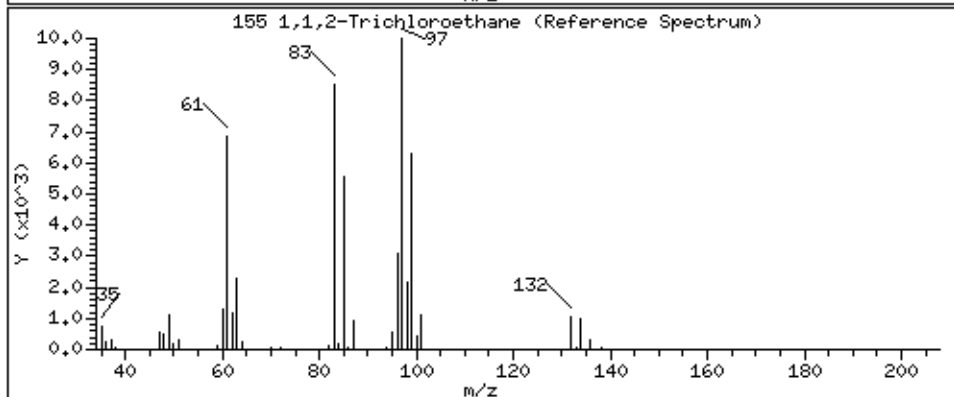
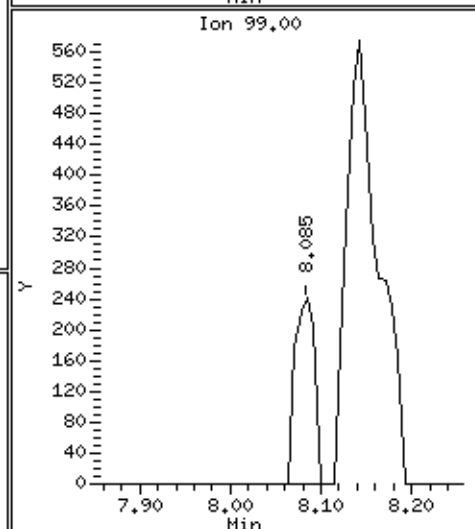
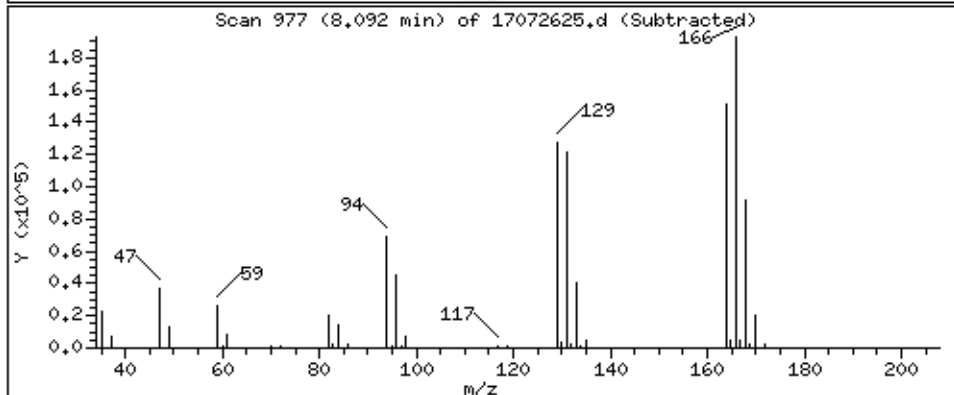
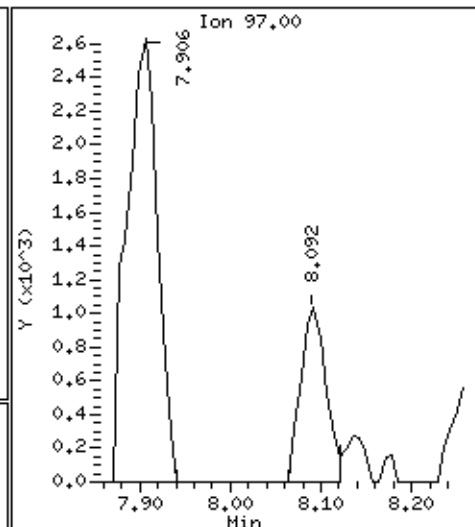
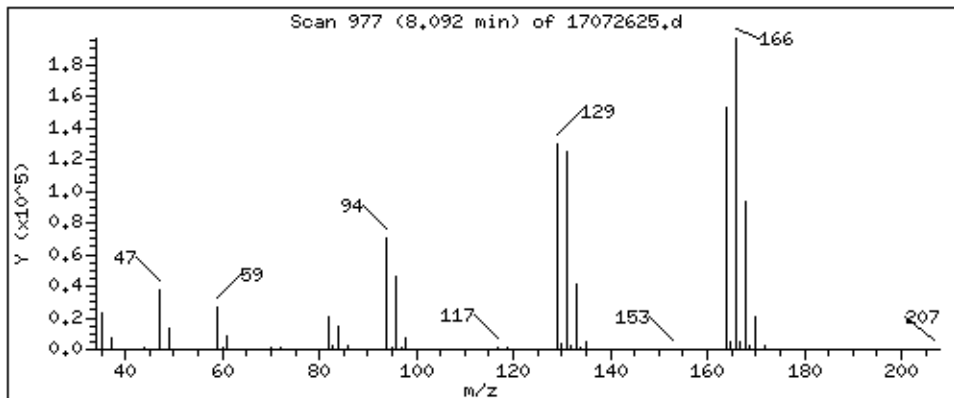
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

155 1,1,2-Trichloroethane

Concentration: 0.5347 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663cl

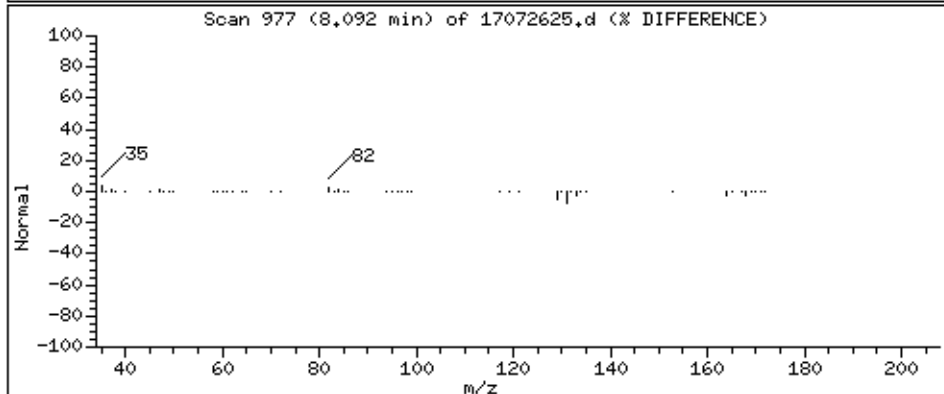
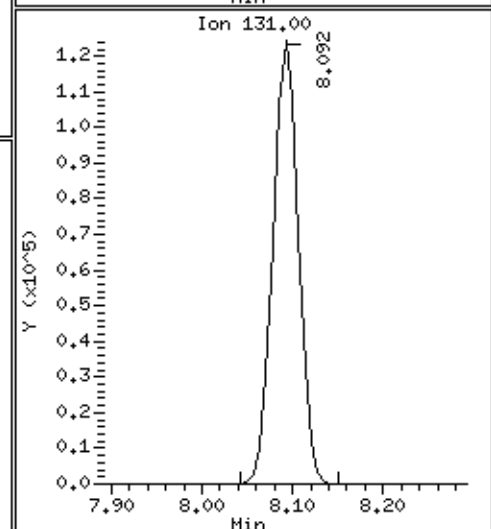
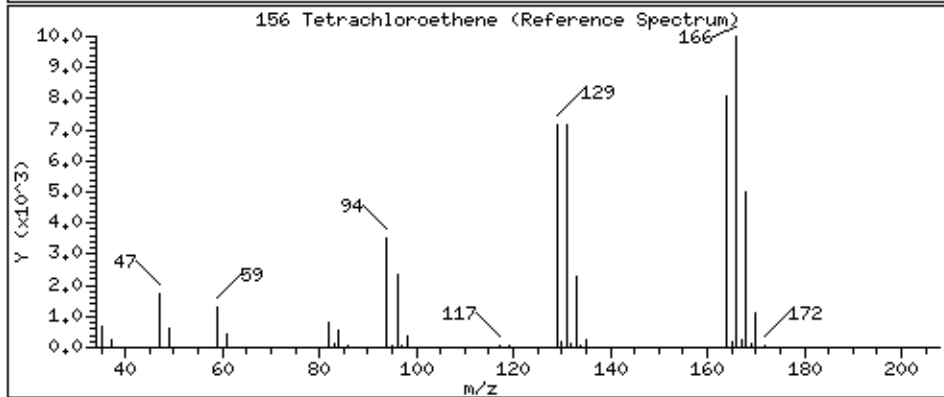
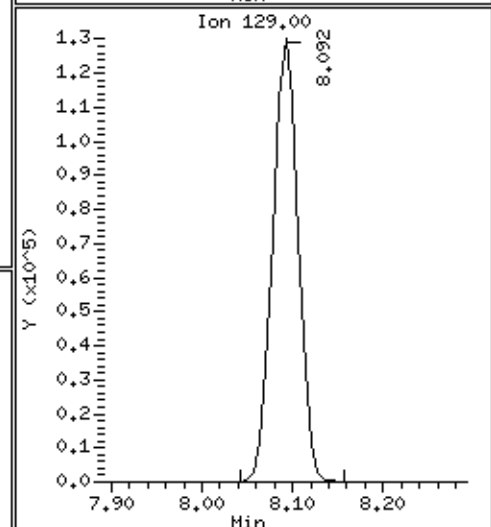
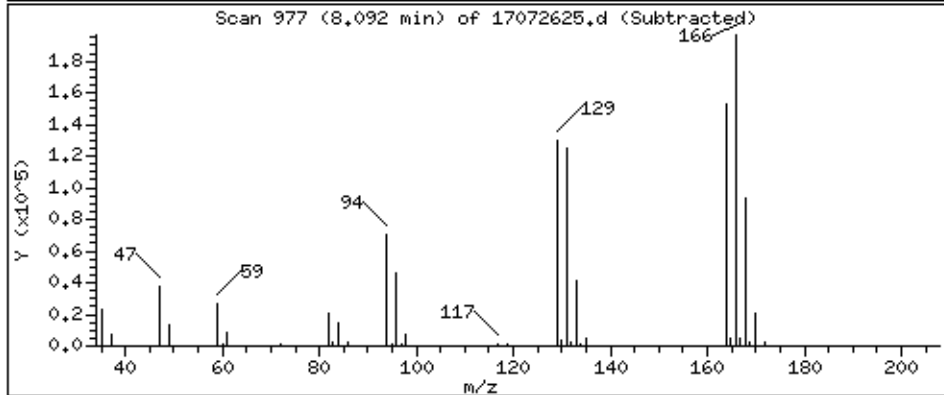
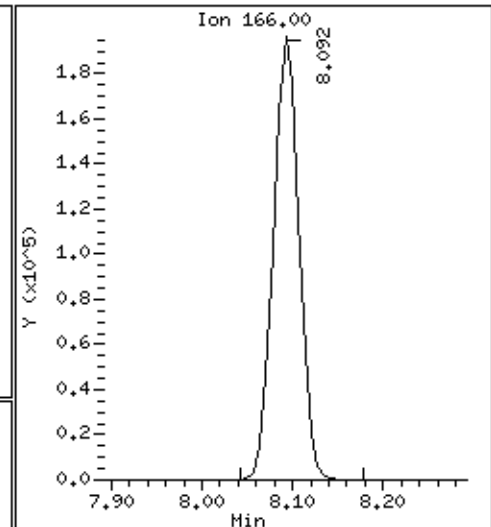
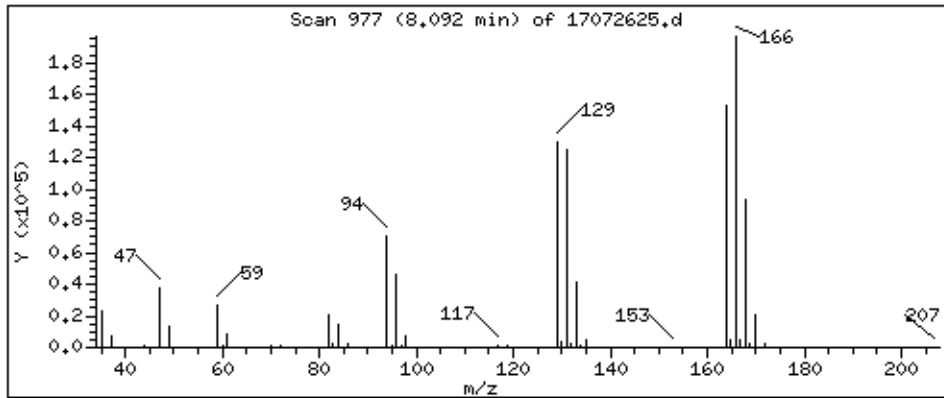
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

156 Tetrachloroethene

Concentration: 56.617 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

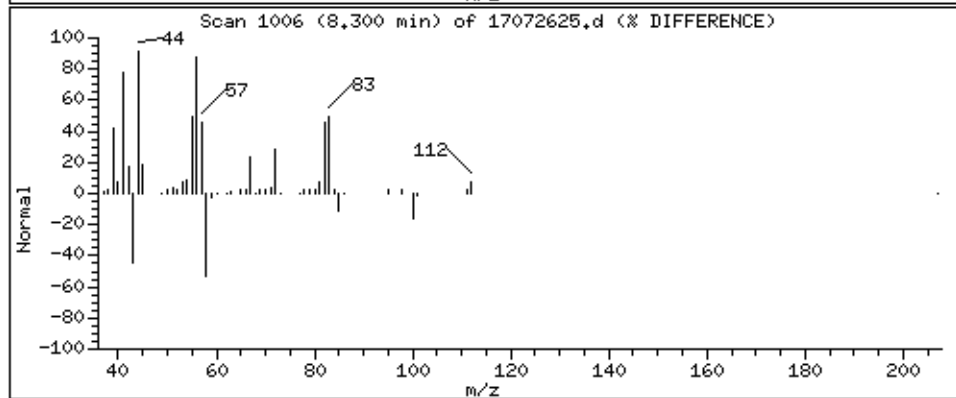
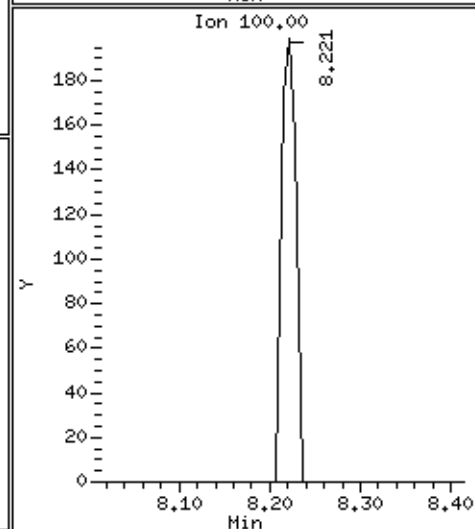
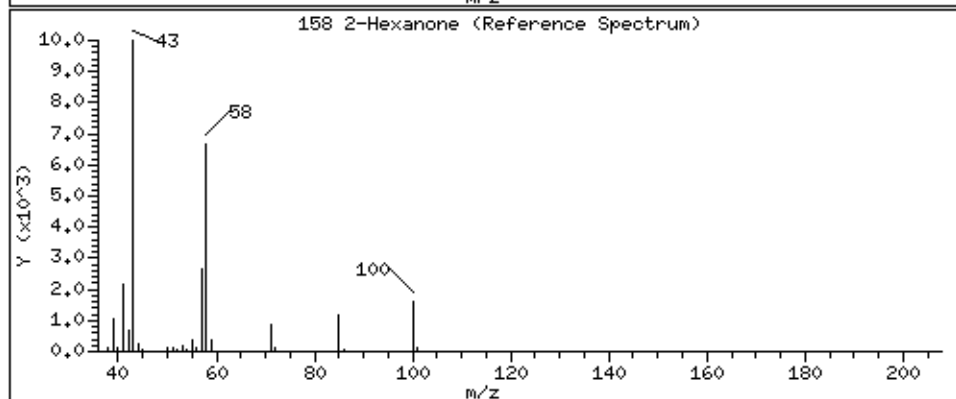
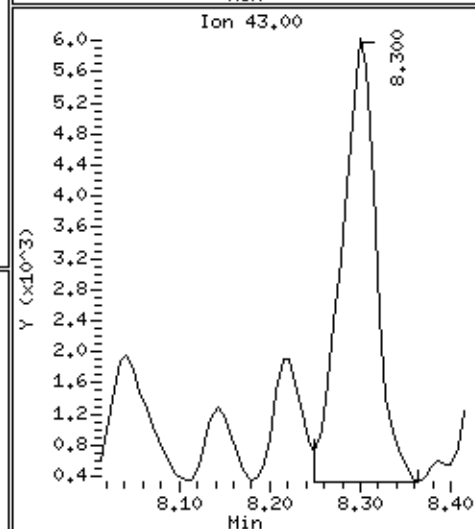
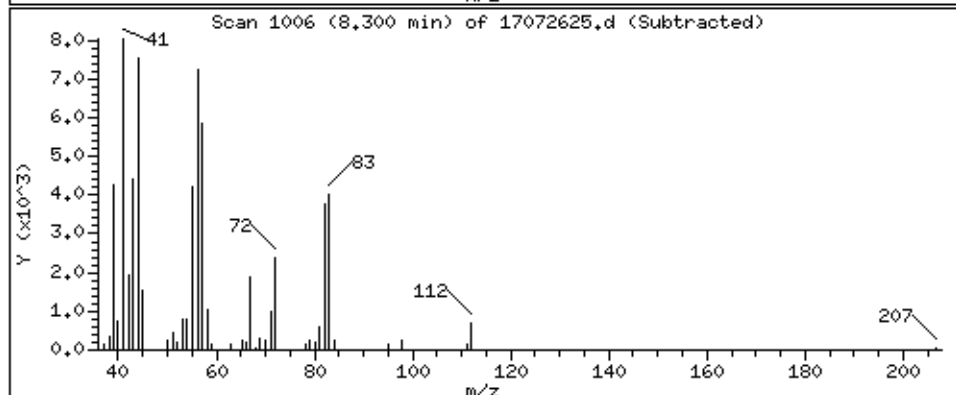
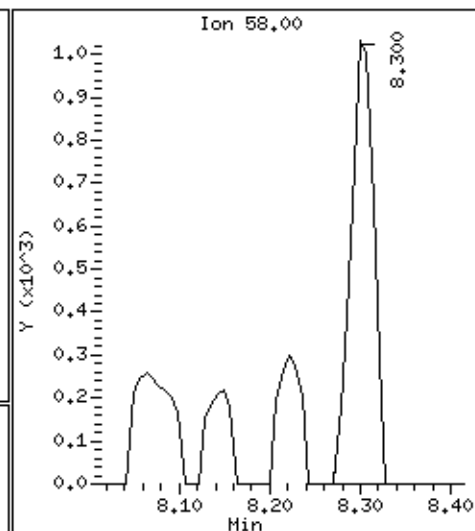
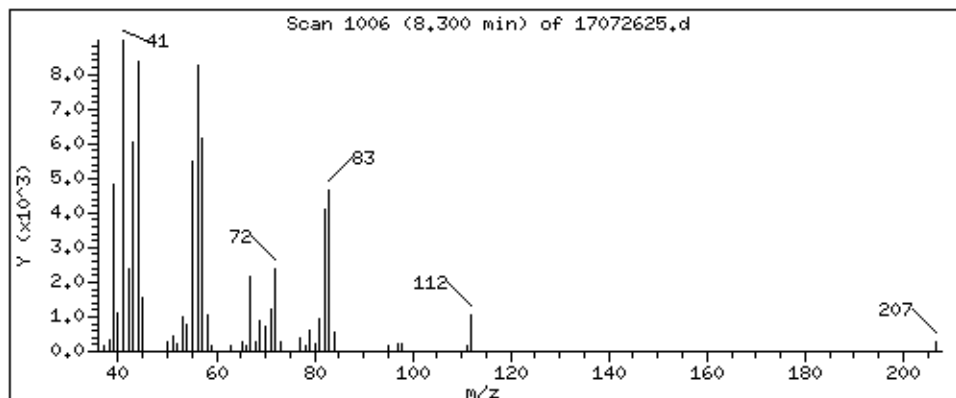
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

158 2-Hexanone

Concentration: 0.5992 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

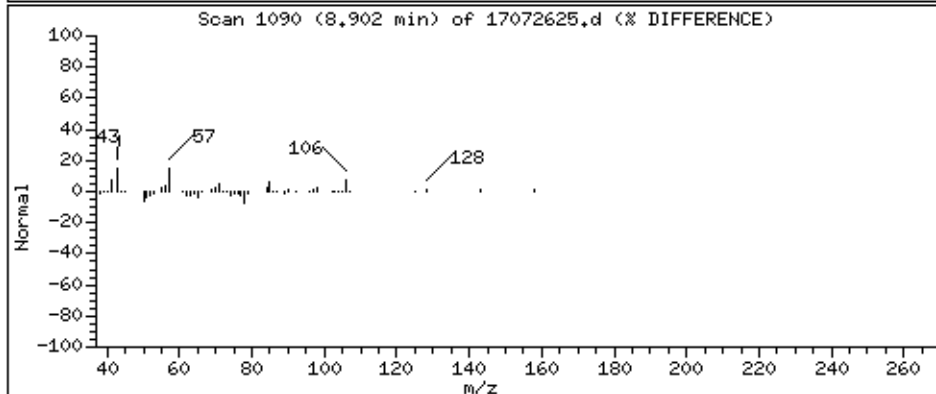
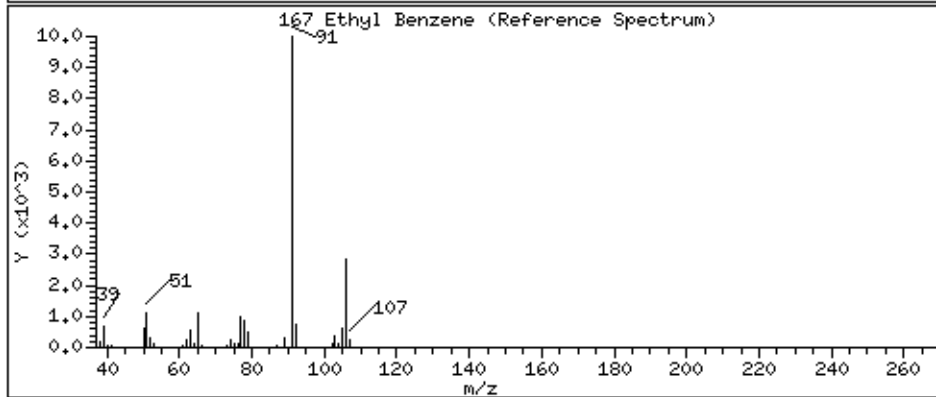
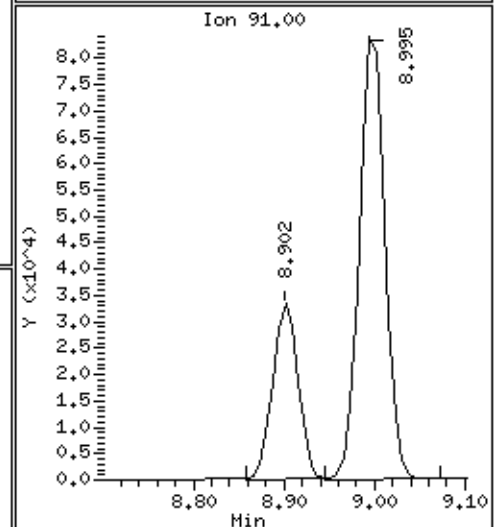
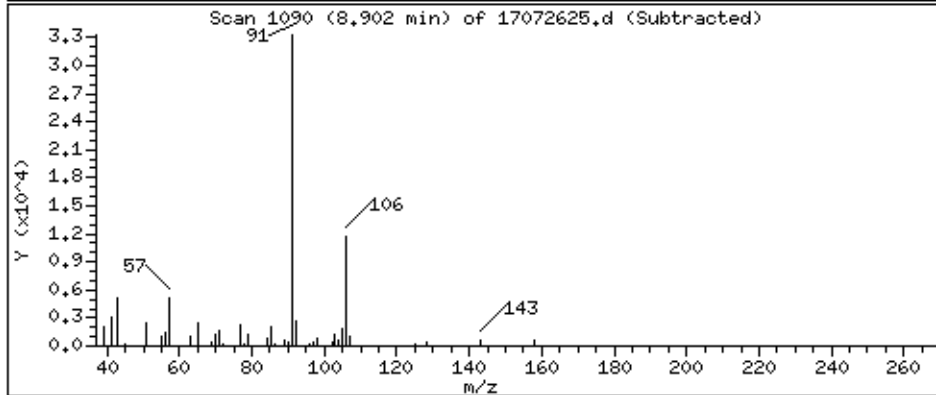
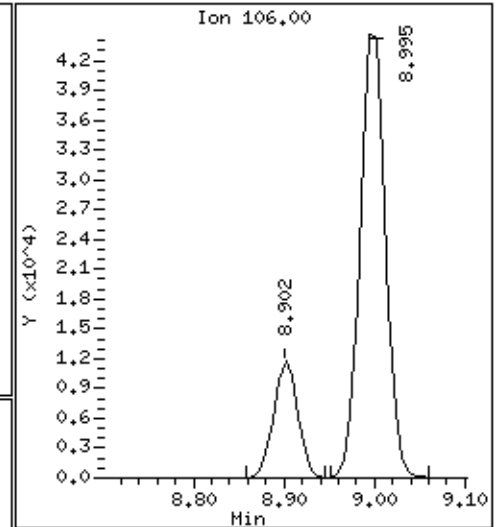
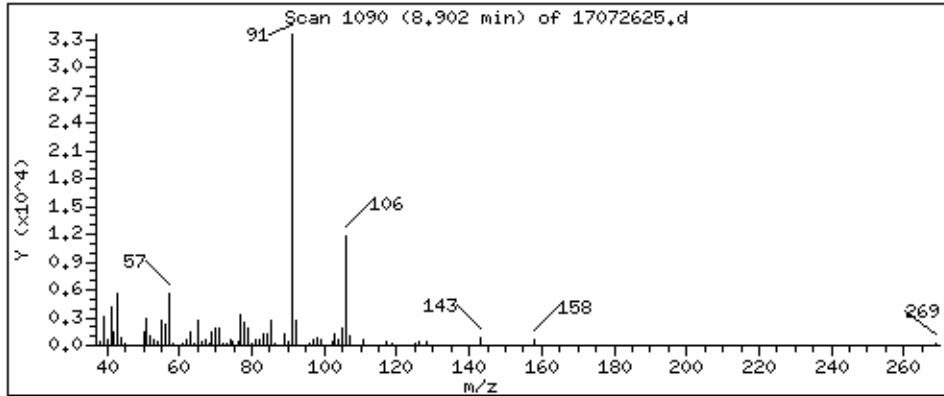
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

167 Ethyl Benzene

Concentration: 4.547 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

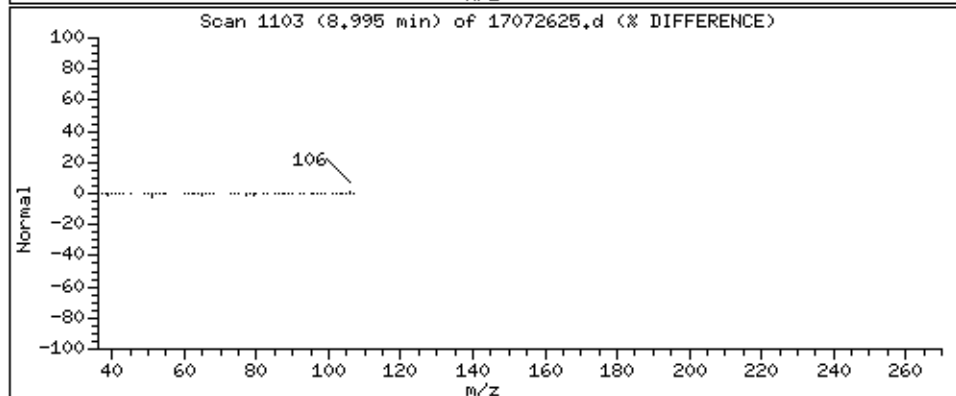
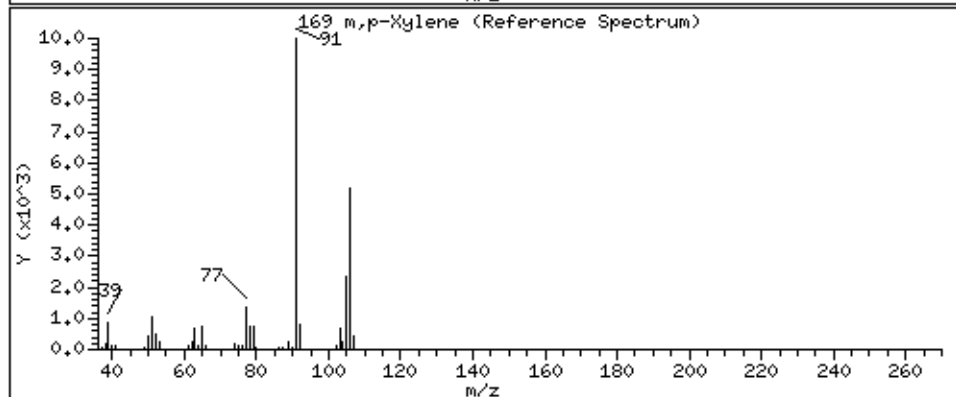
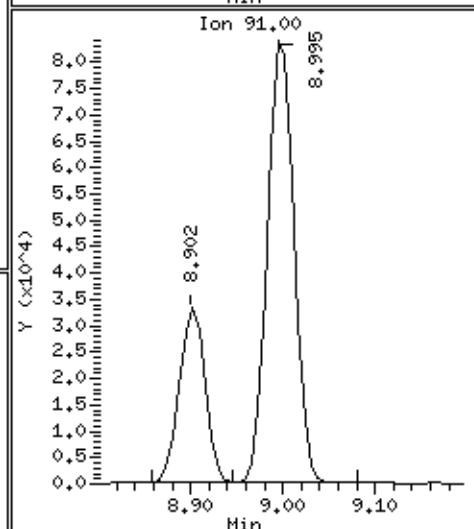
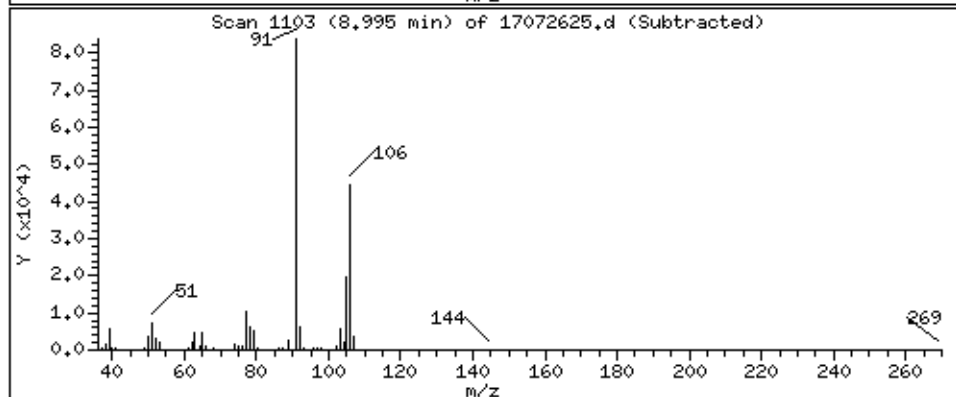
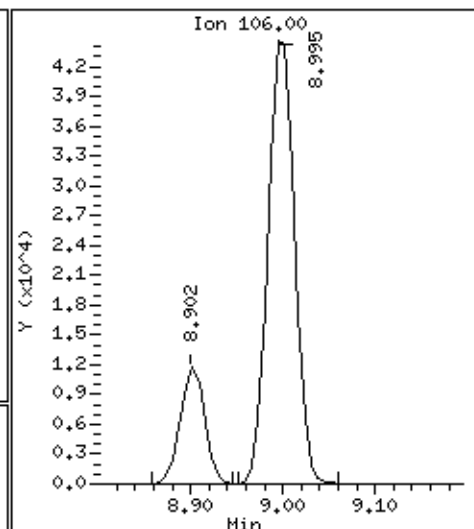
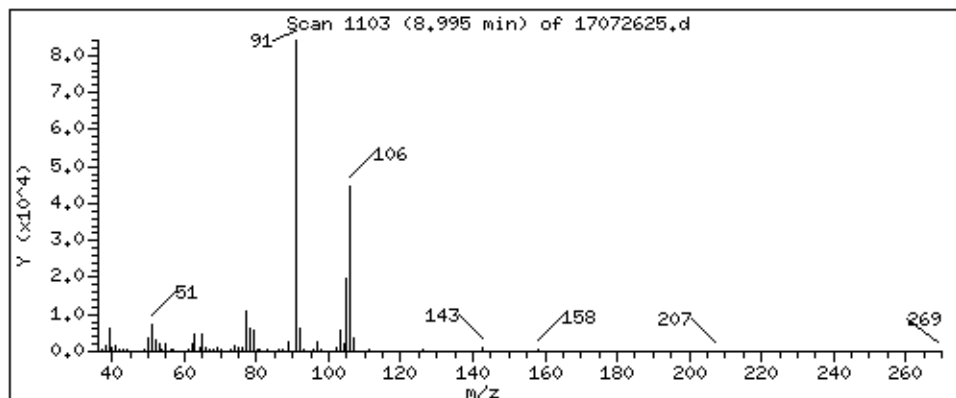
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

169 m,p-Xylene

Concentration: 14,806 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

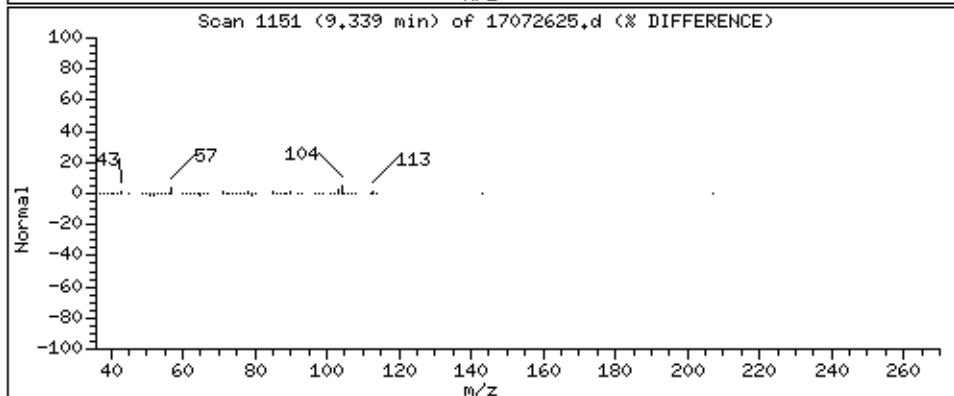
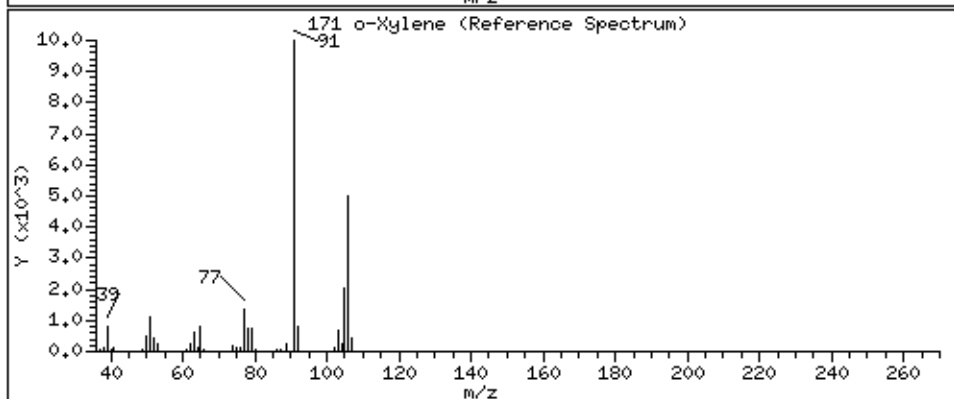
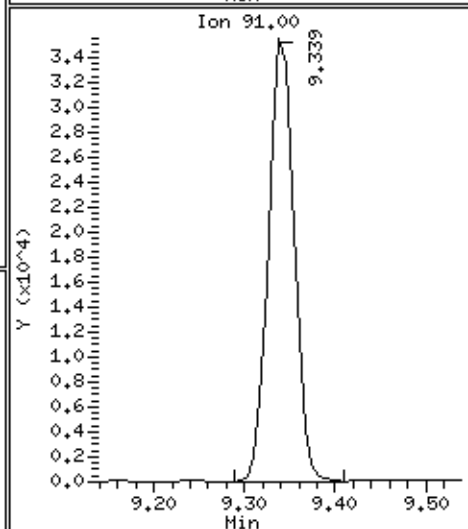
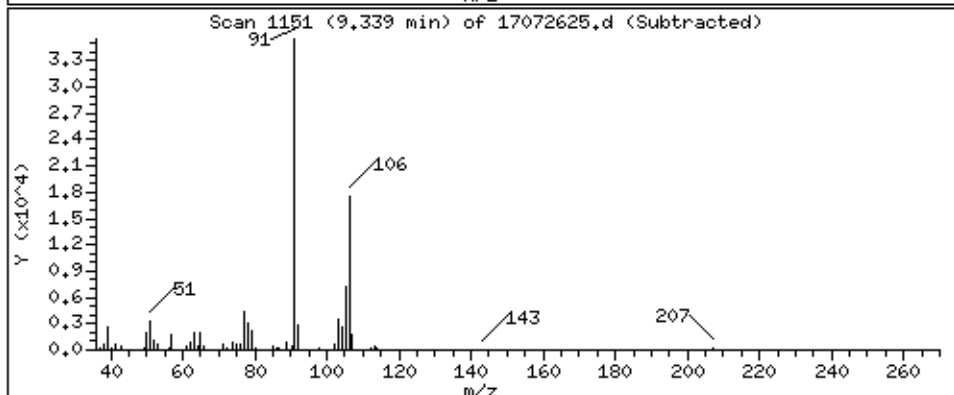
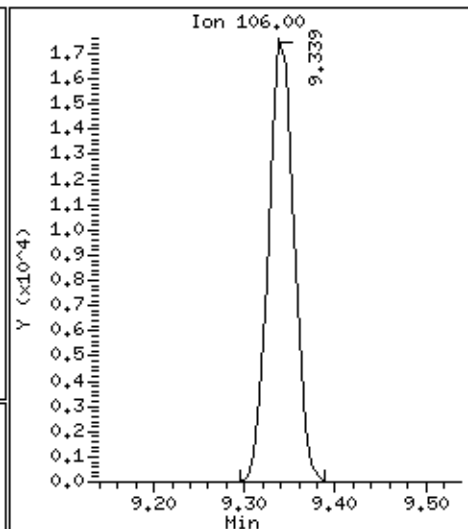
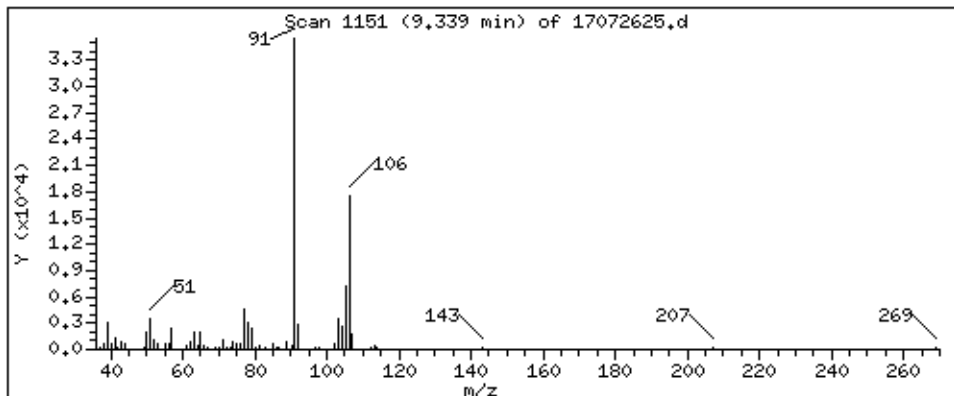
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

171 o-Xylene

Concentration: 6.116 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

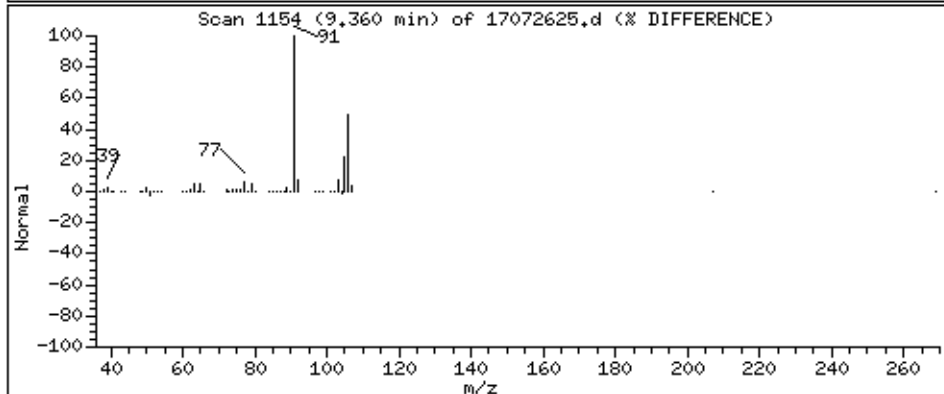
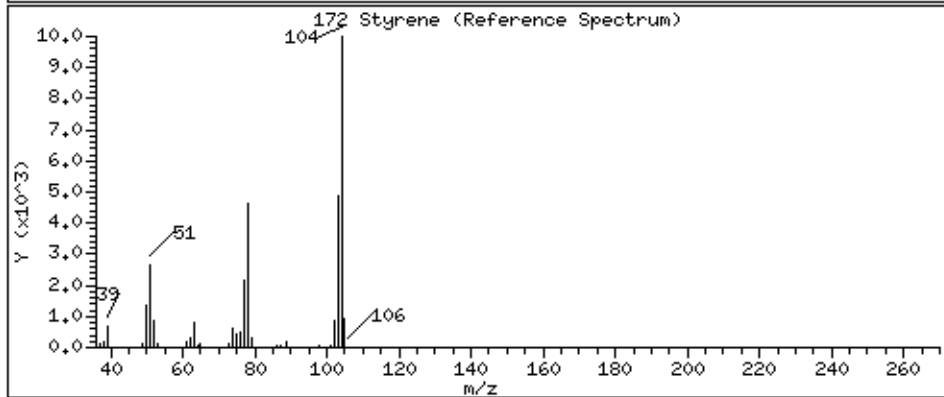
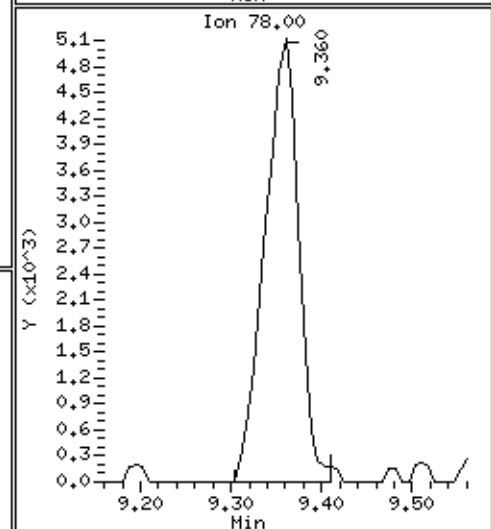
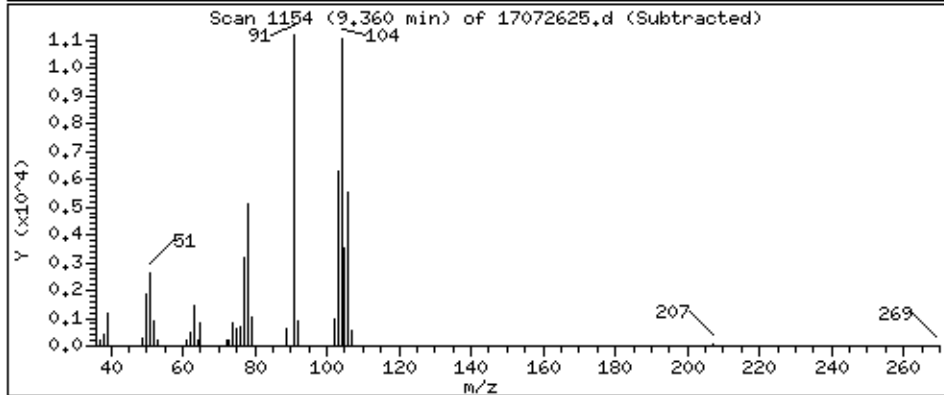
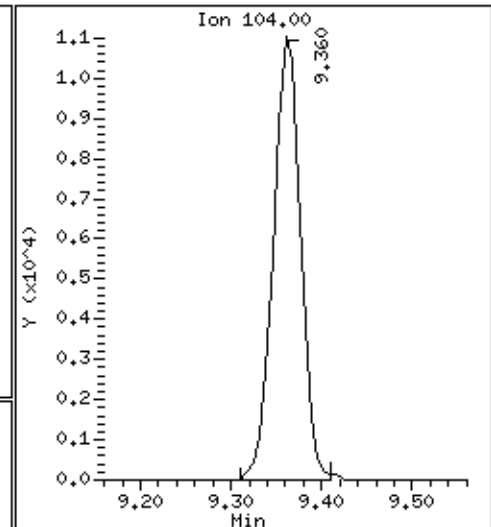
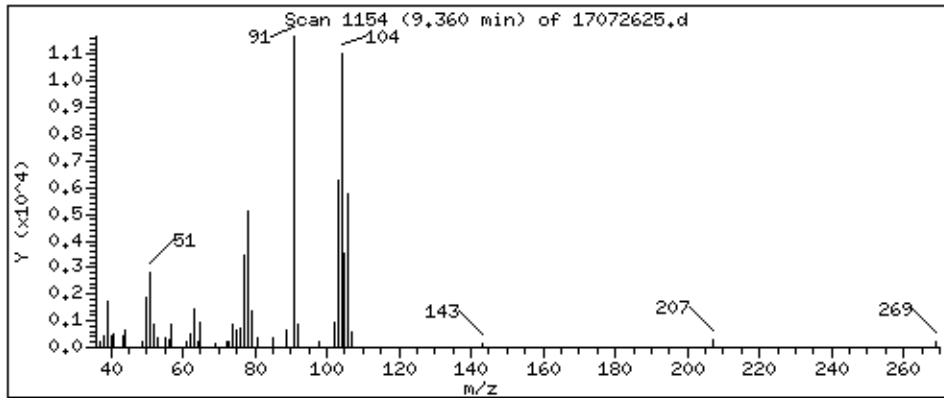
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

172 Styrene

Concentration: 2.578 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

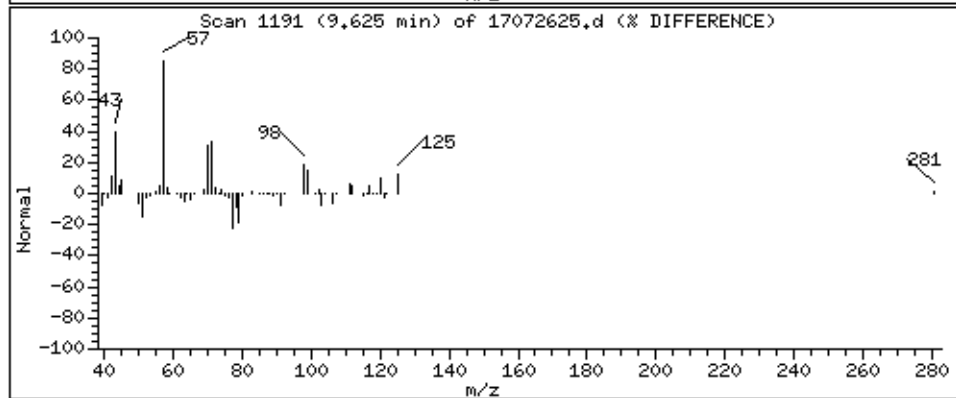
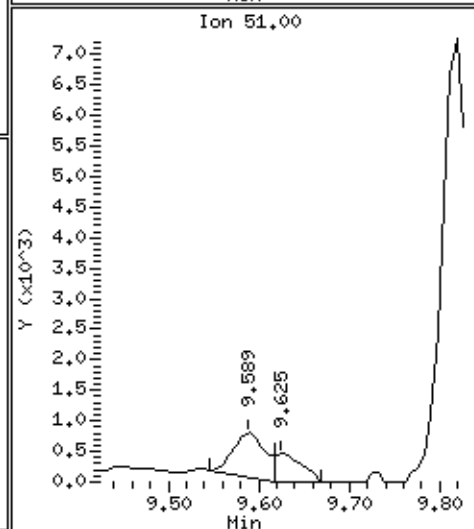
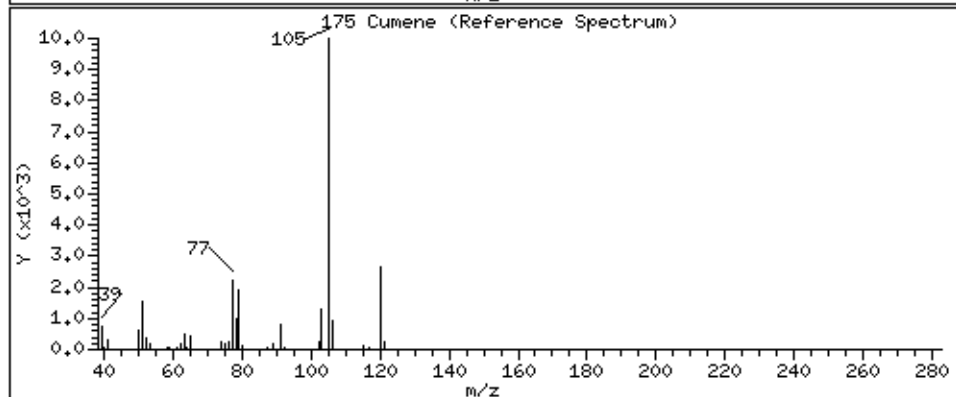
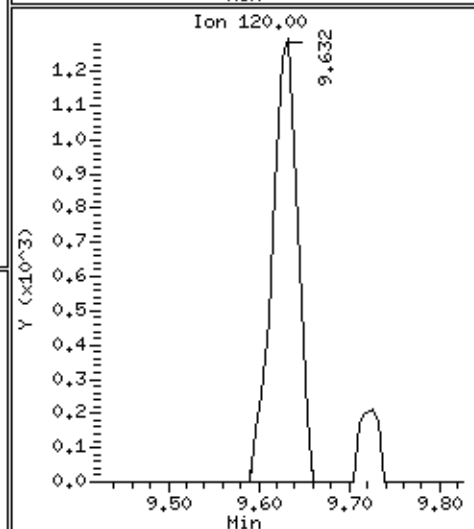
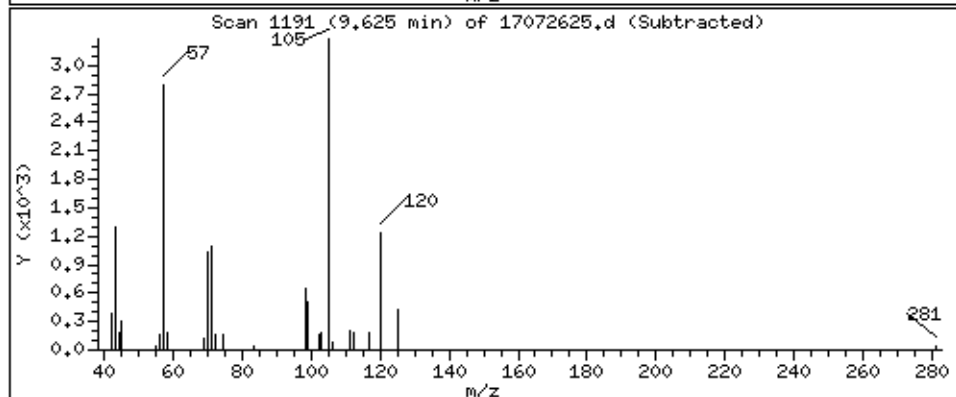
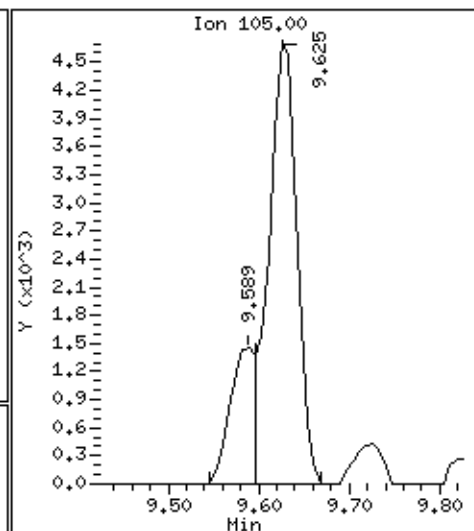
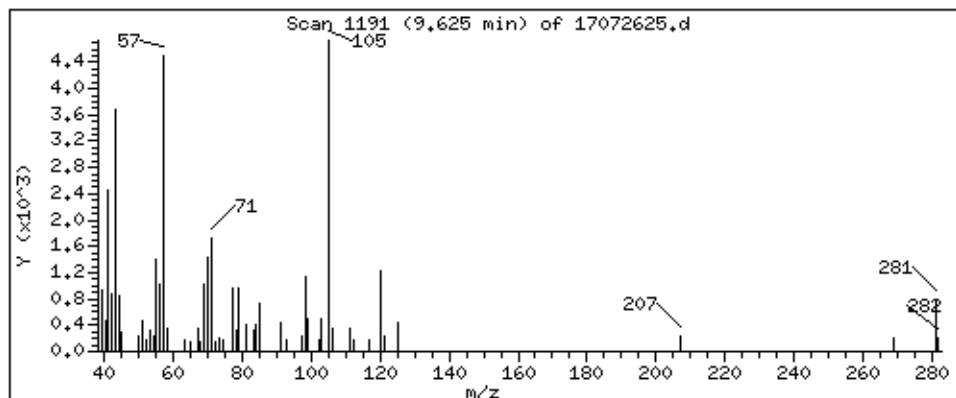
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

175 Cumene

Concentration: 0.6069 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

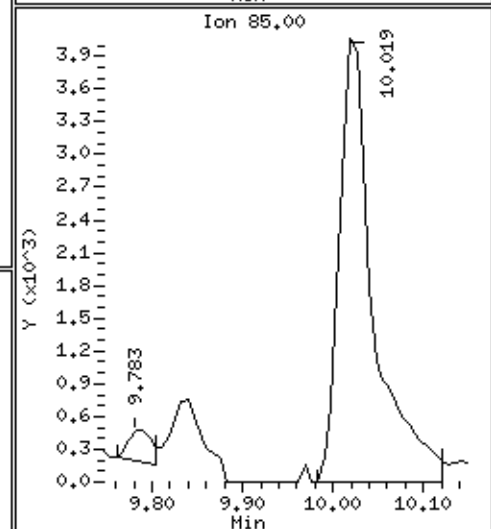
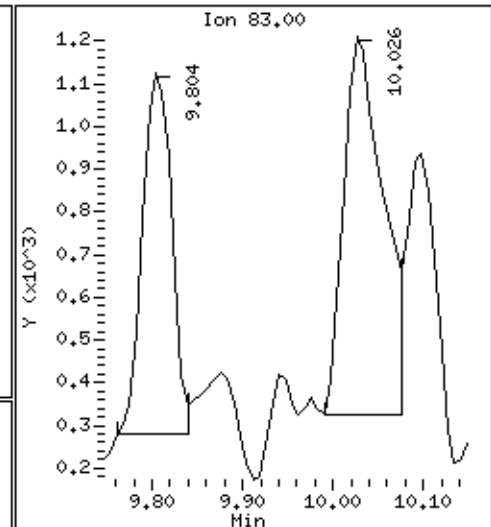
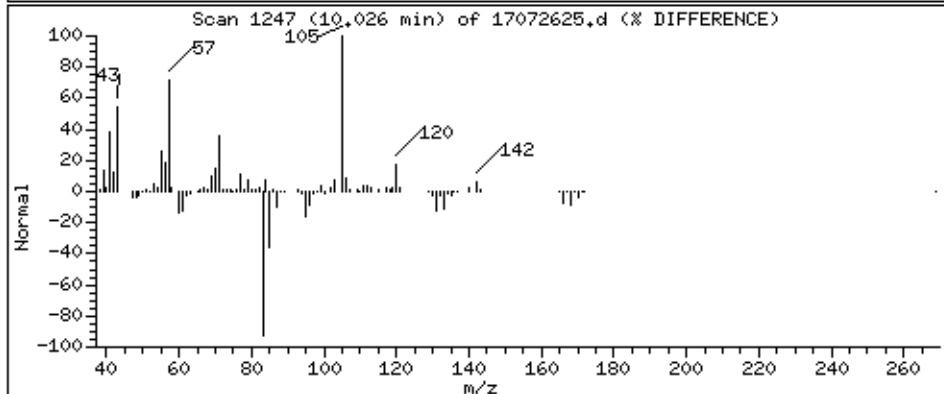
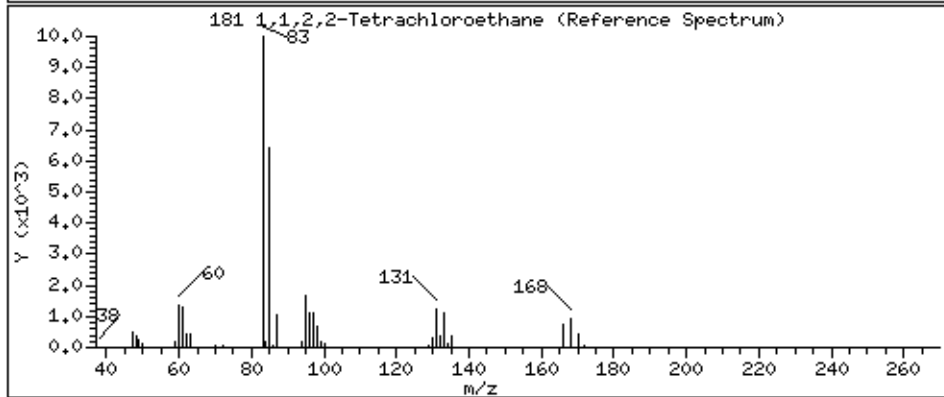
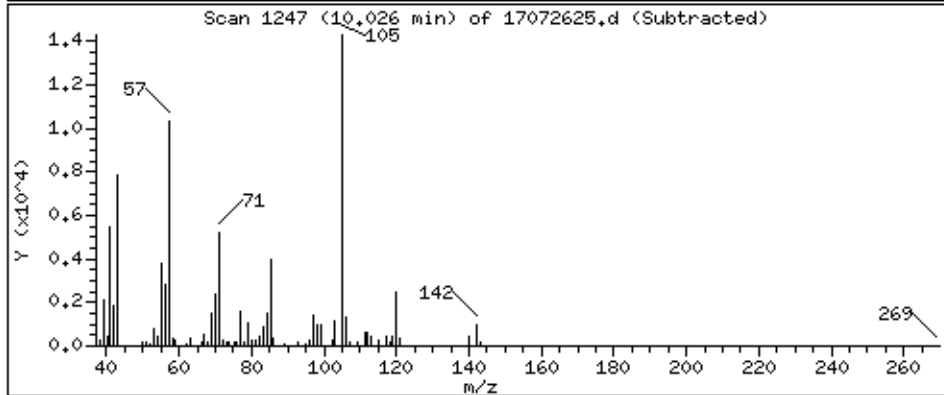
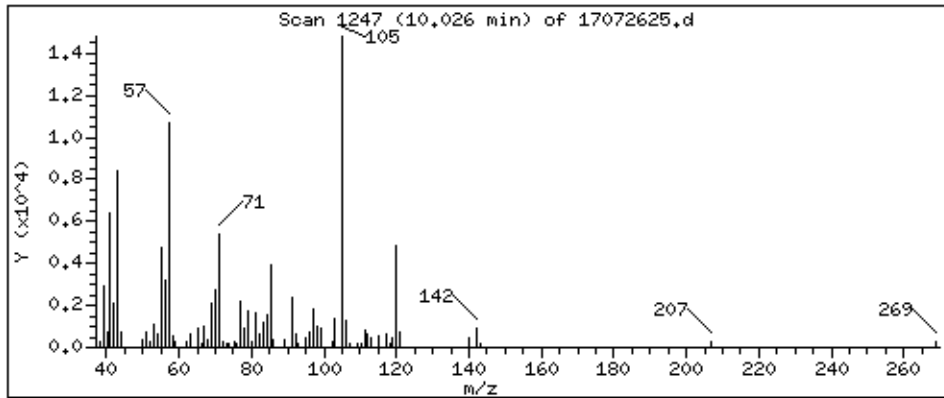
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

181 1,1,2,2-Tetrachloroethane

Concentration: 0.3372 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

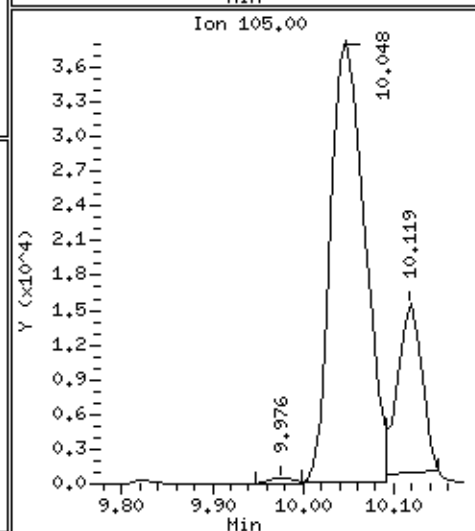
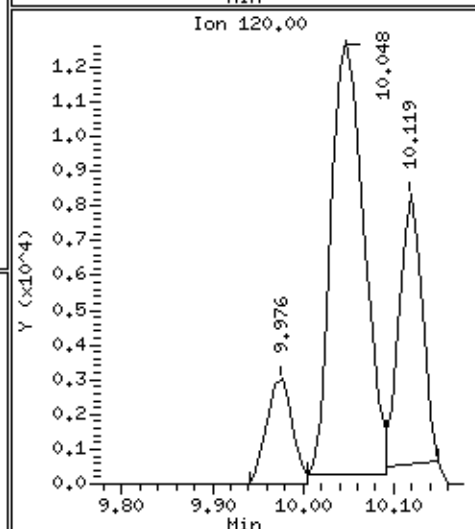
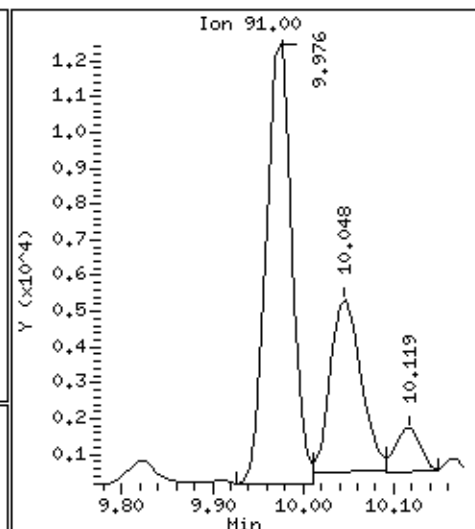
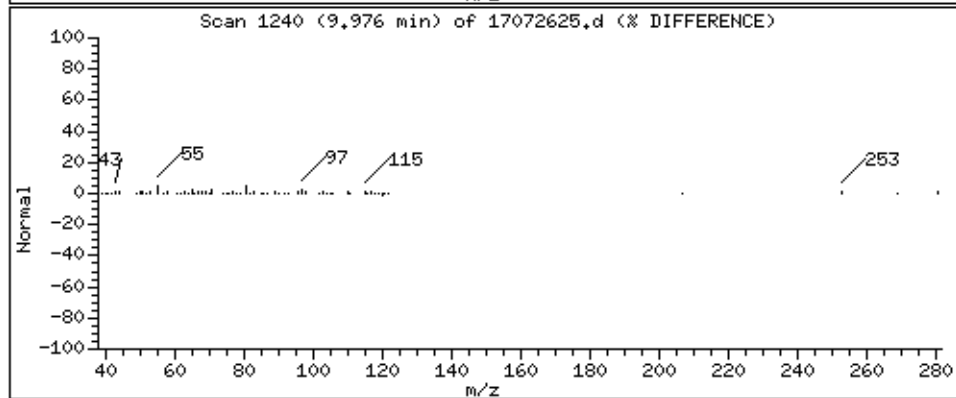
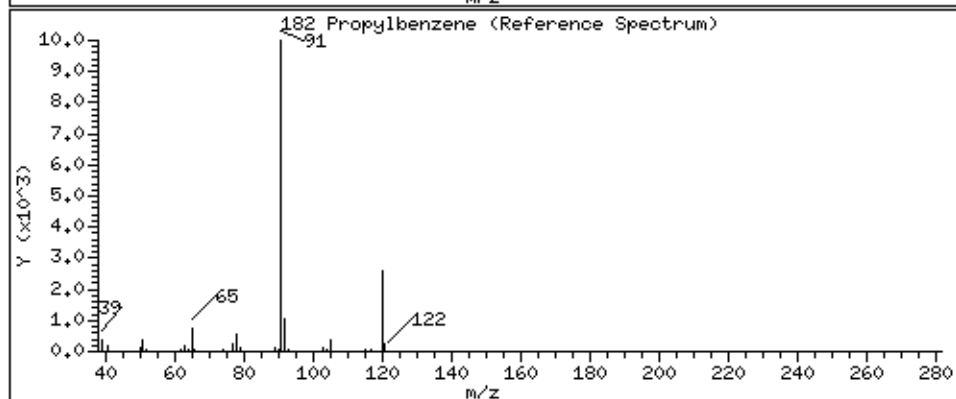
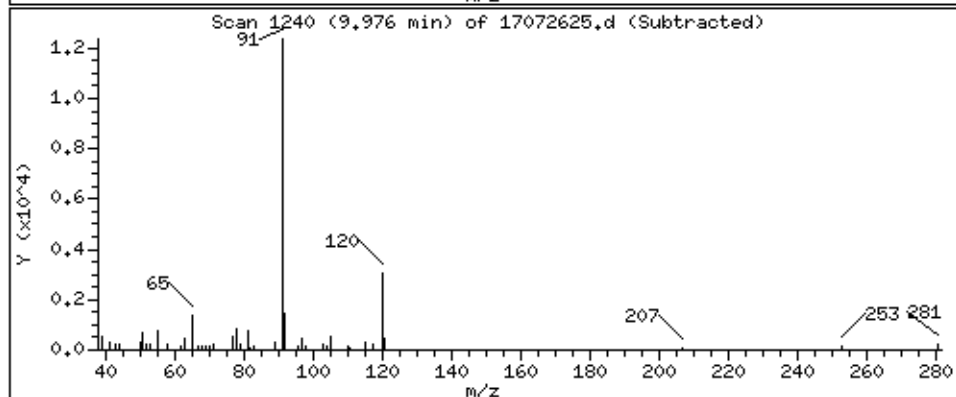
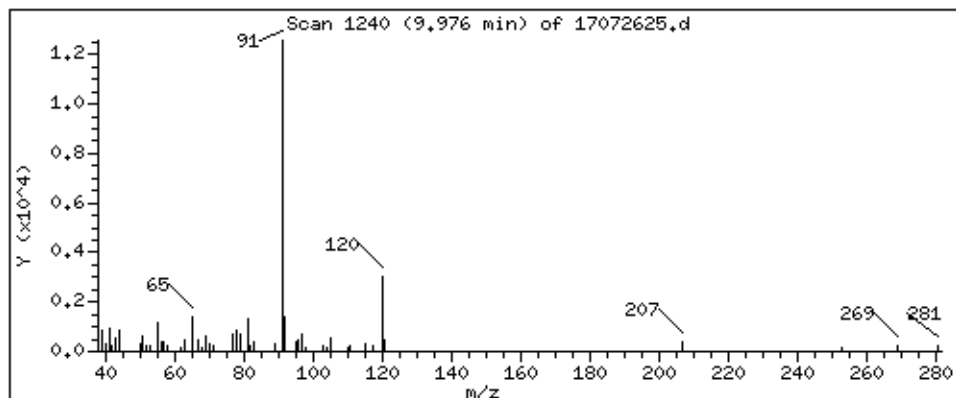
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

182 Propylbenzene

Concentration: 1.257 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

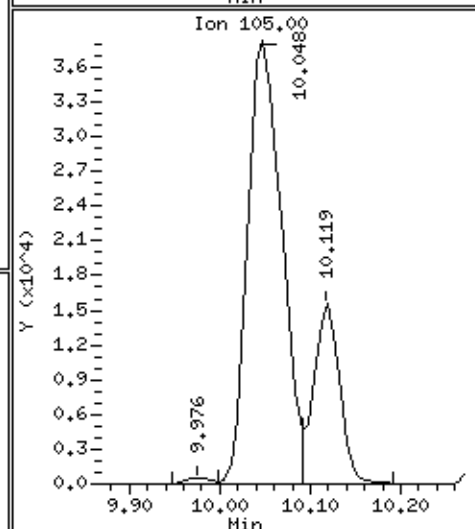
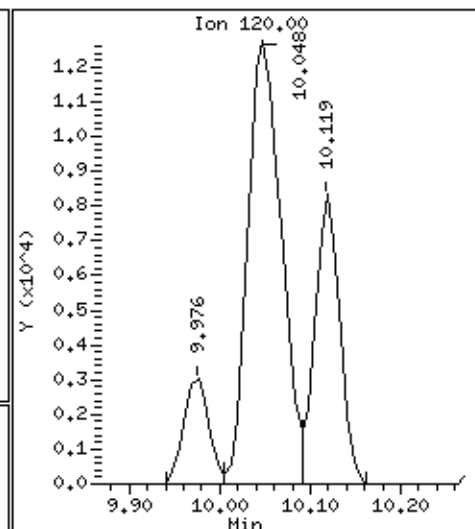
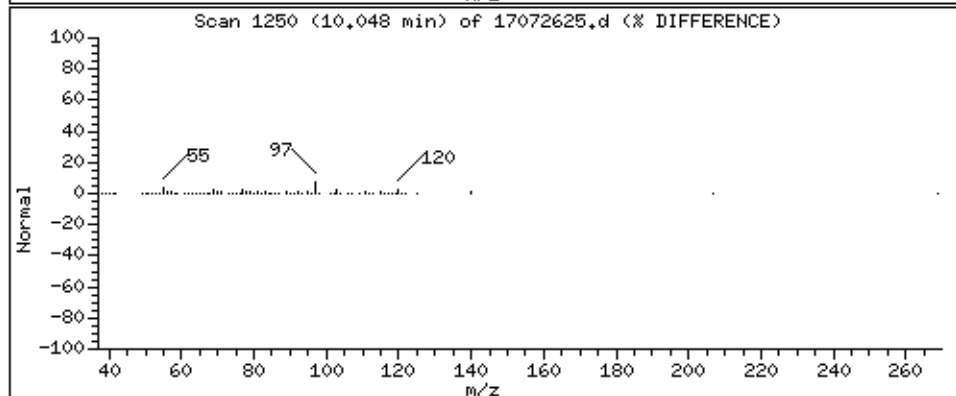
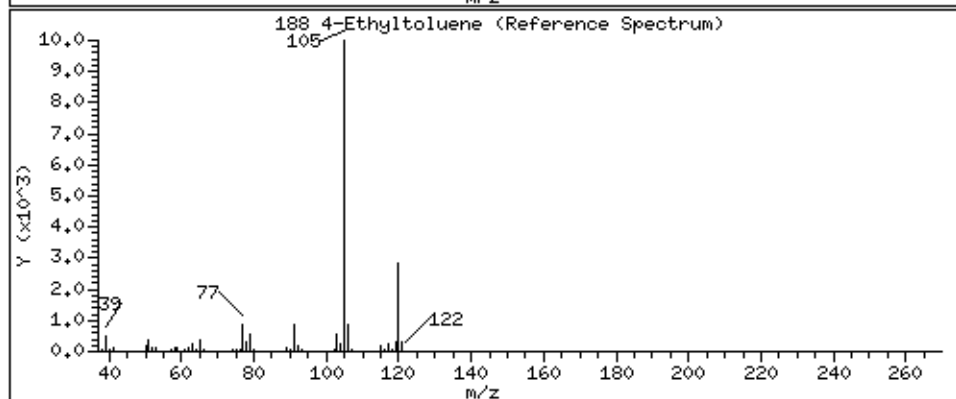
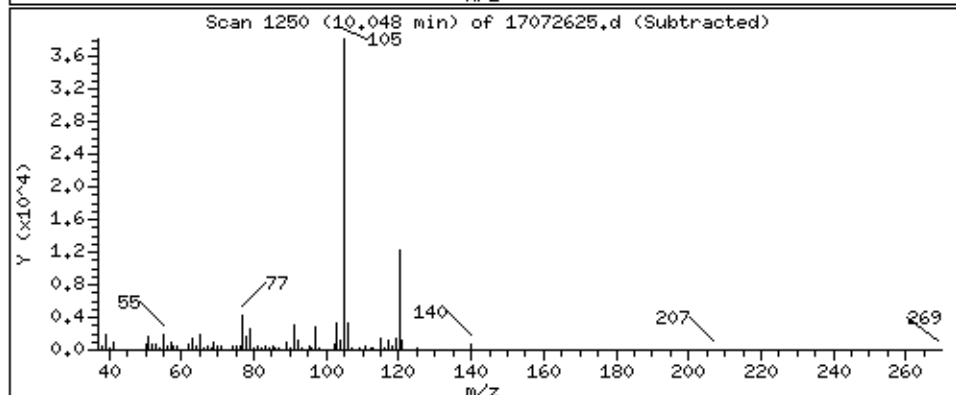
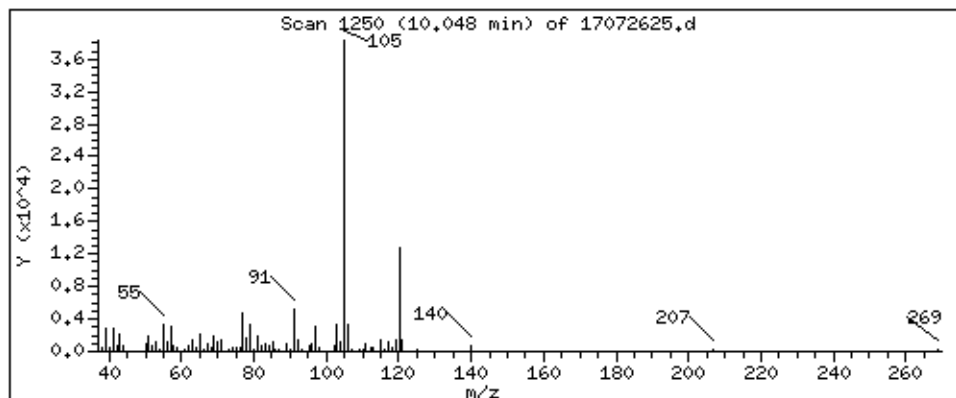
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

188 4-Ethyltoluene

Concentration: 6.058 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

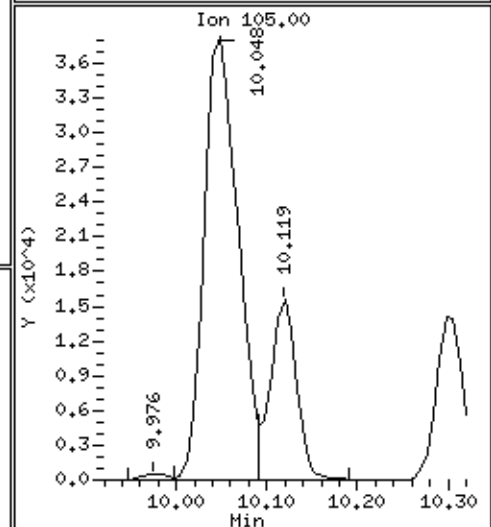
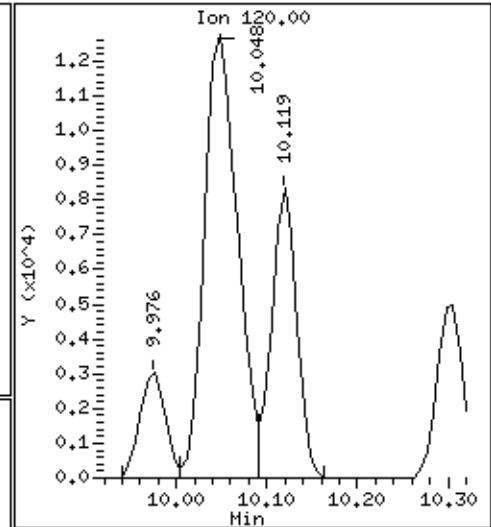
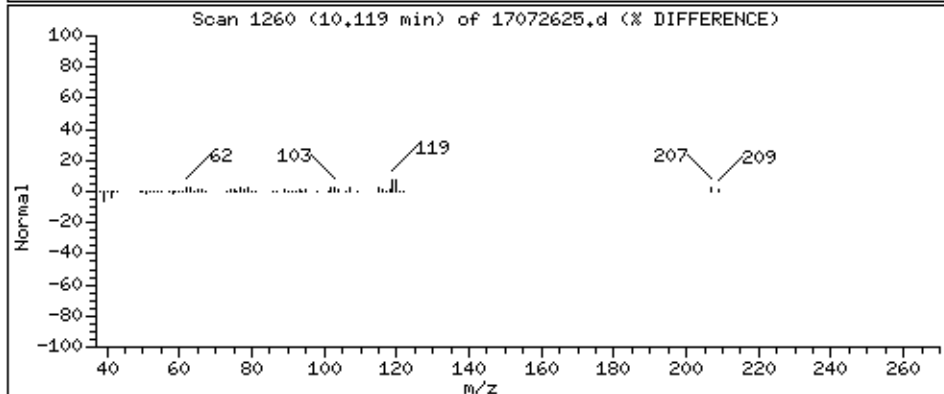
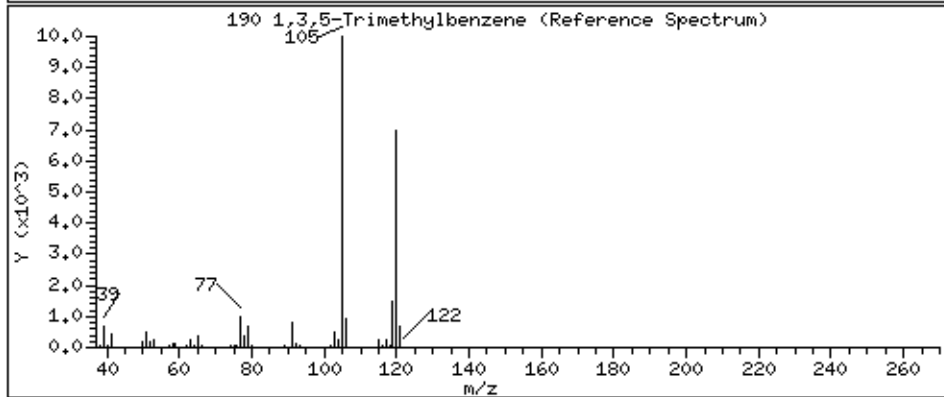
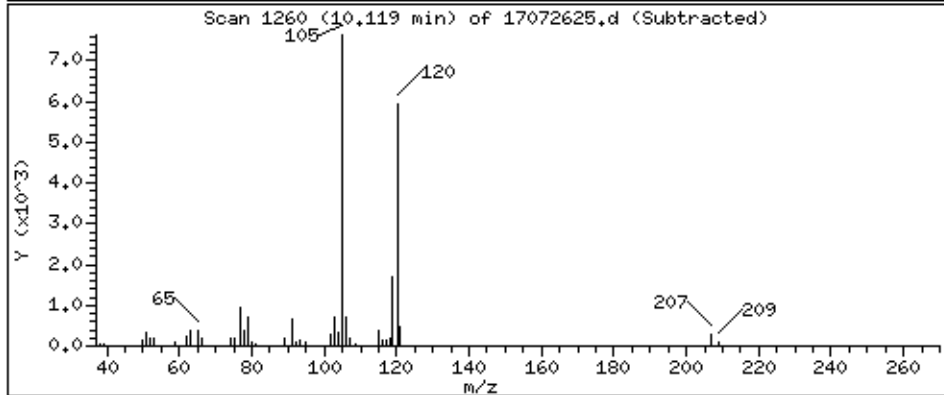
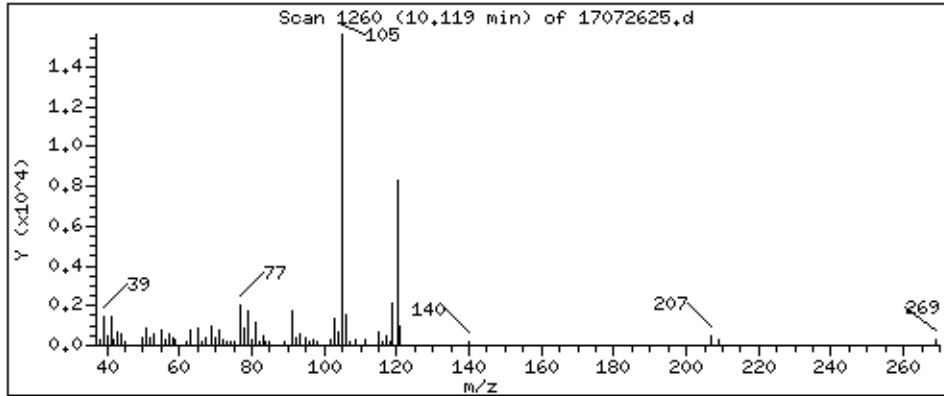
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

190 1,3,5-Trimethylbenzene

Concentration: 2.156 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

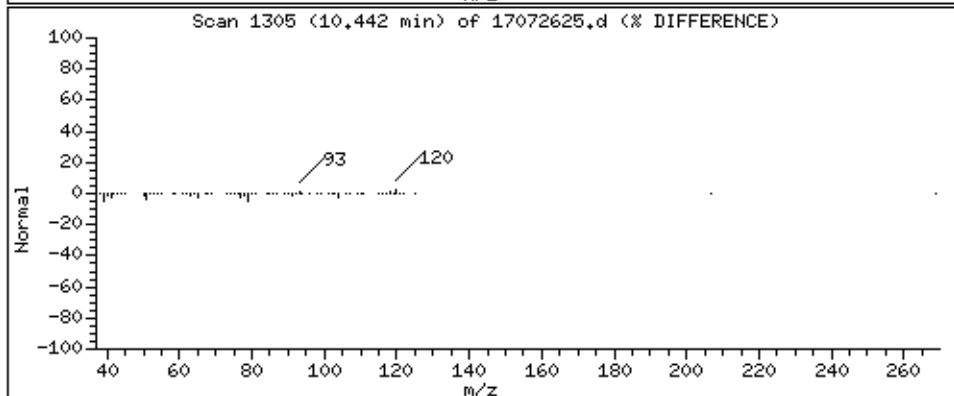
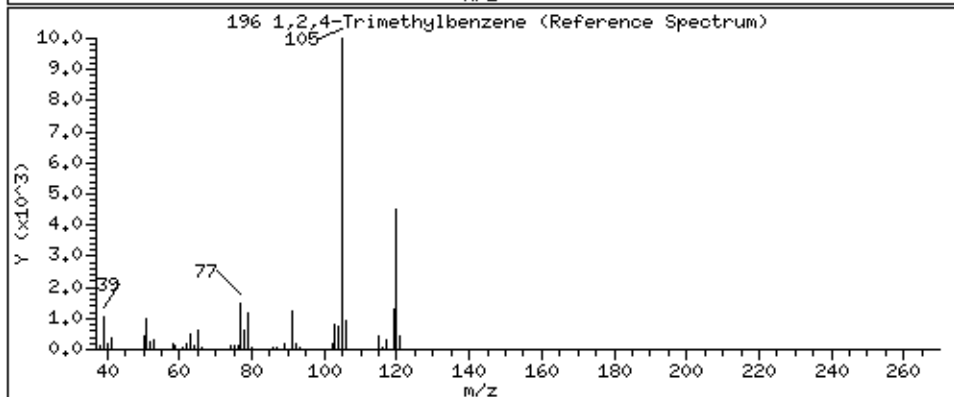
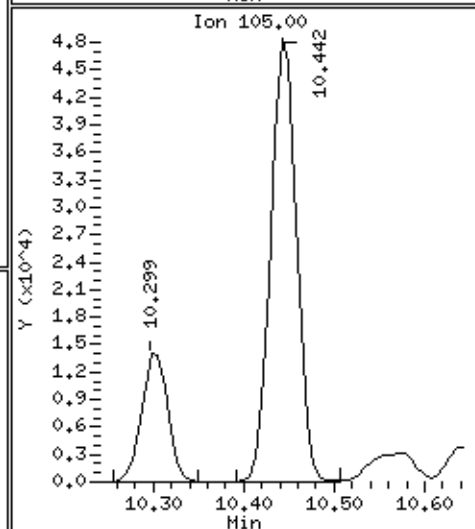
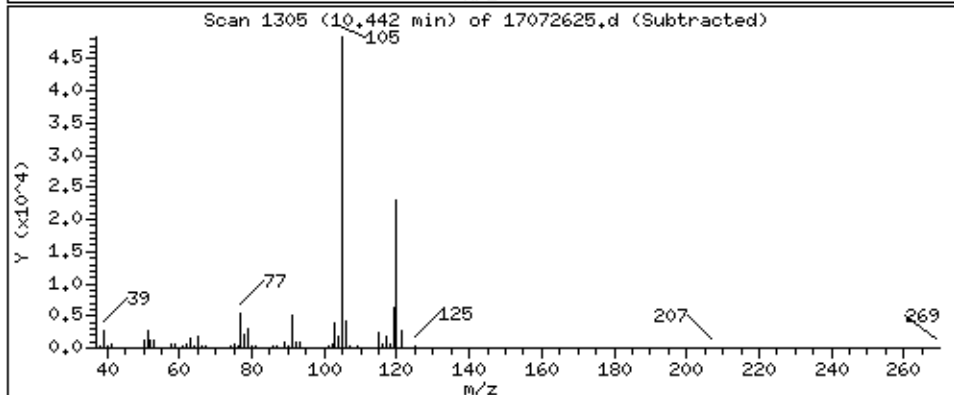
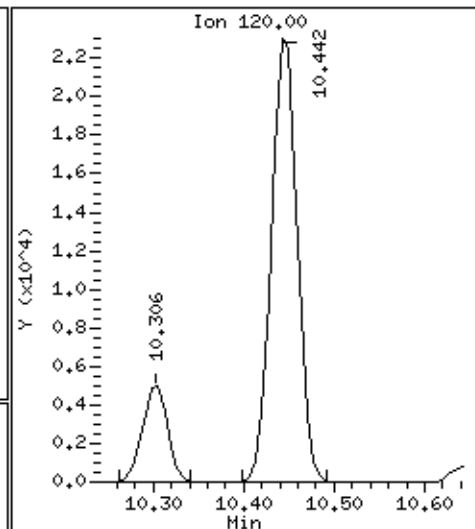
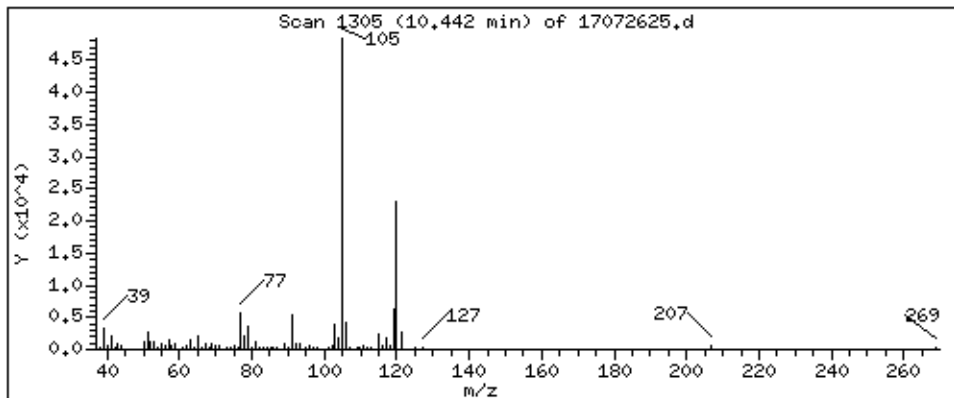
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

196 1,2,4-Trimethylbenzene

Concentration: 6,800 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

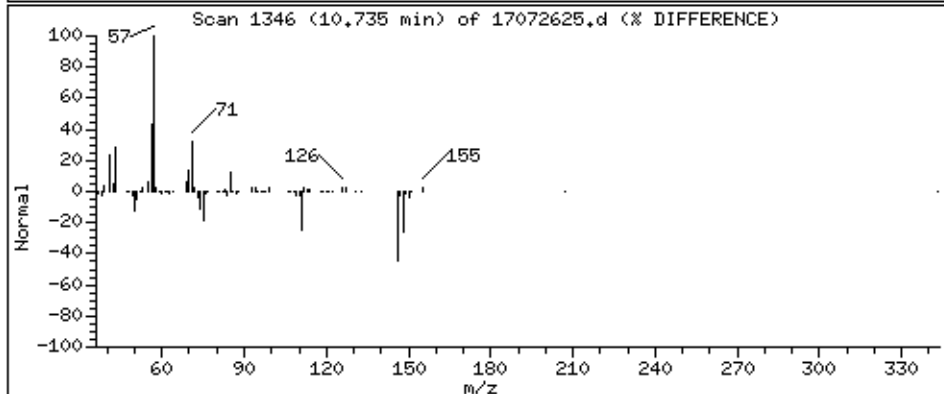
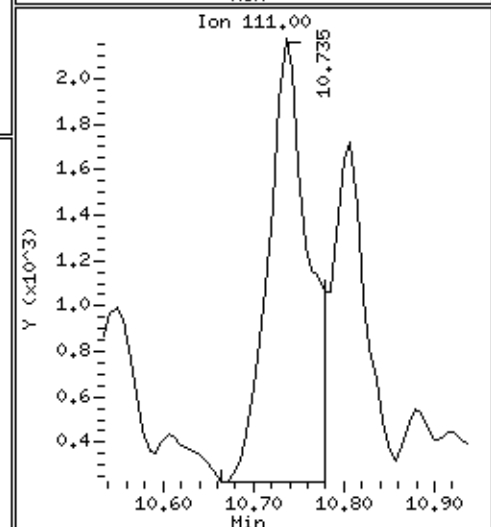
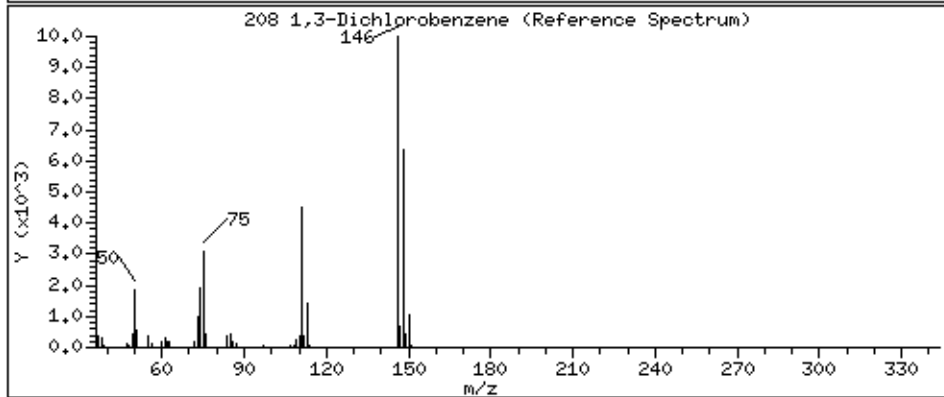
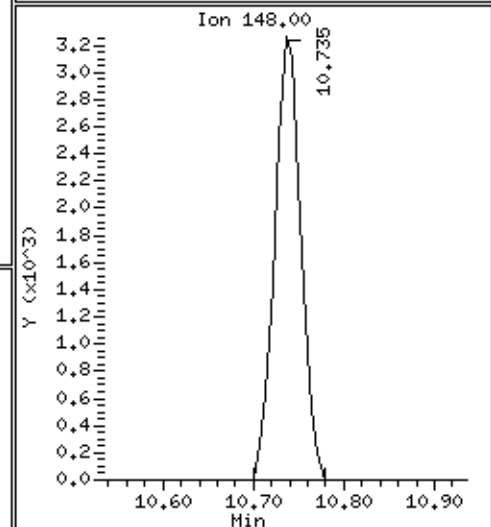
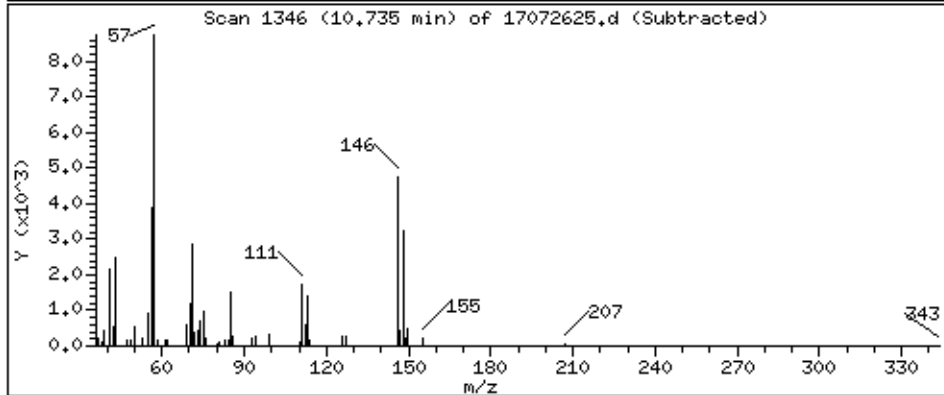
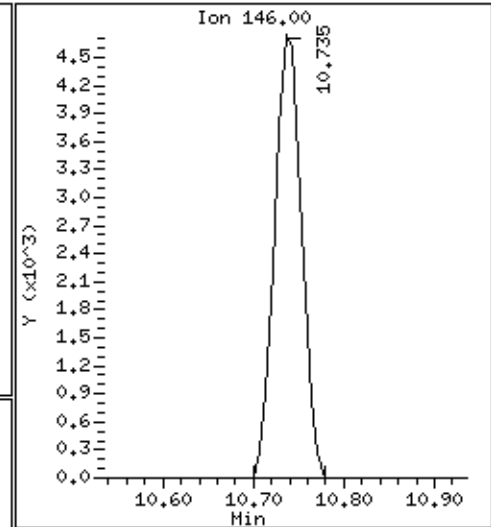
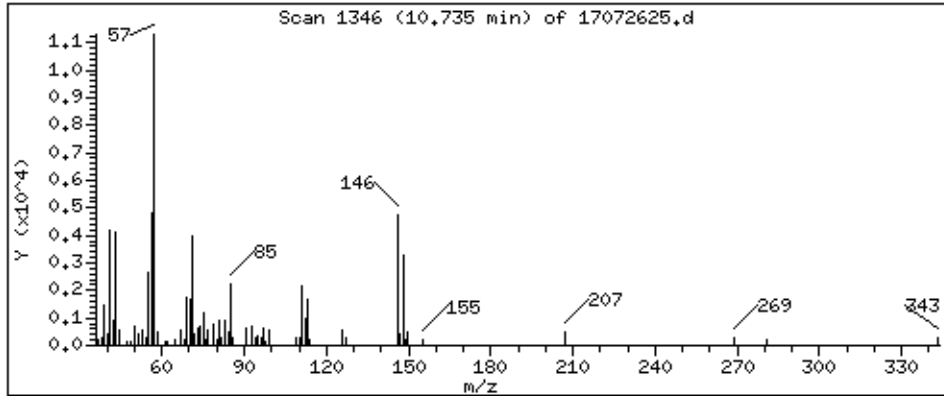
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

208 1,3-Dichlorobenzene

Concentration: 0.8599 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

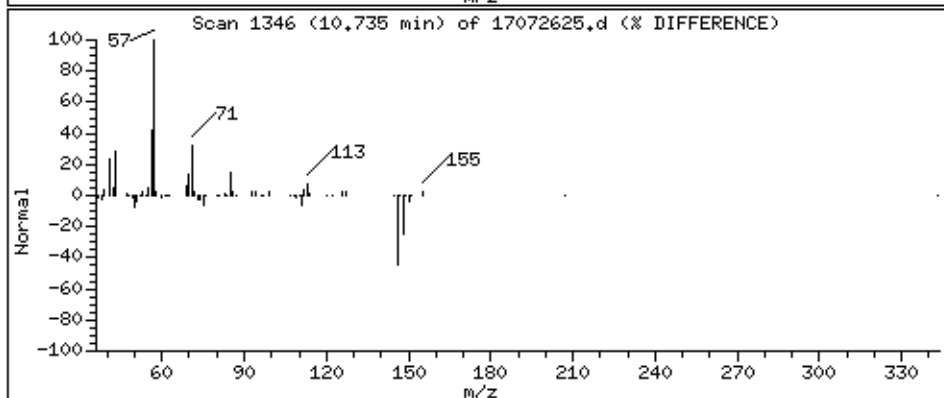
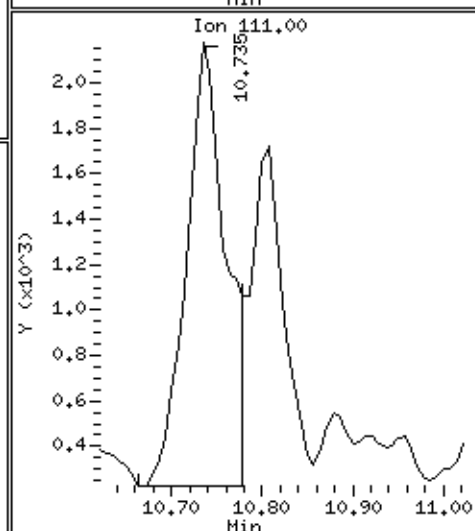
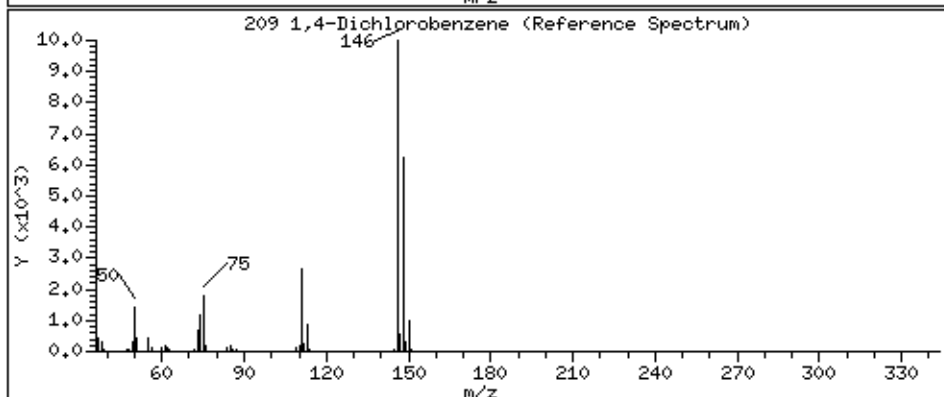
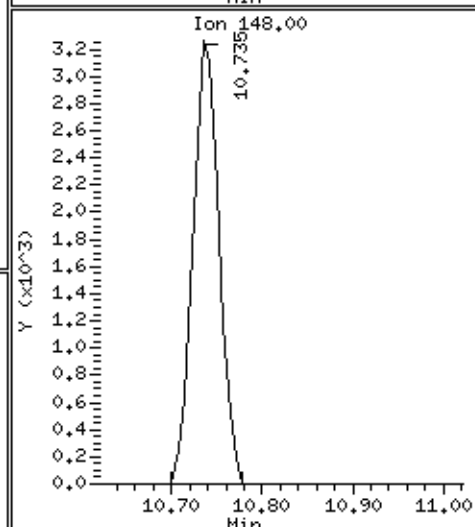
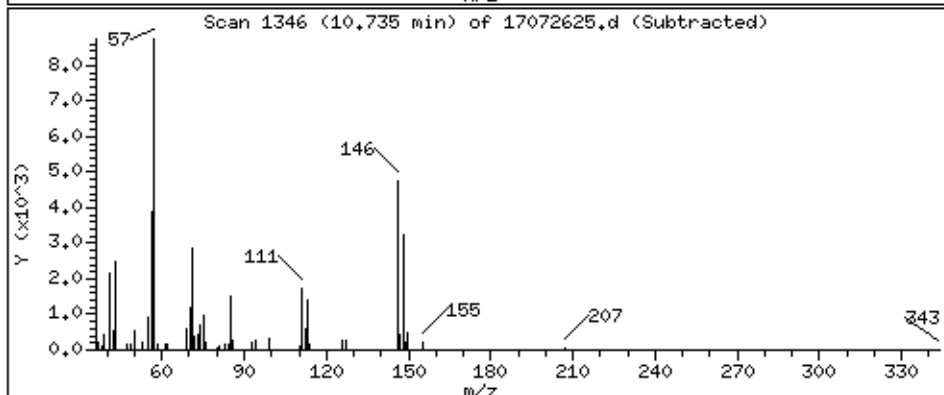
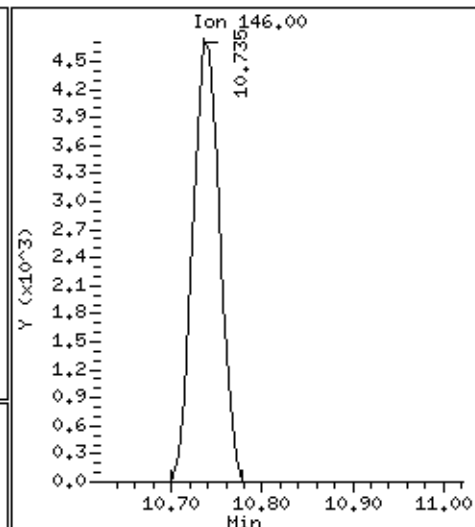
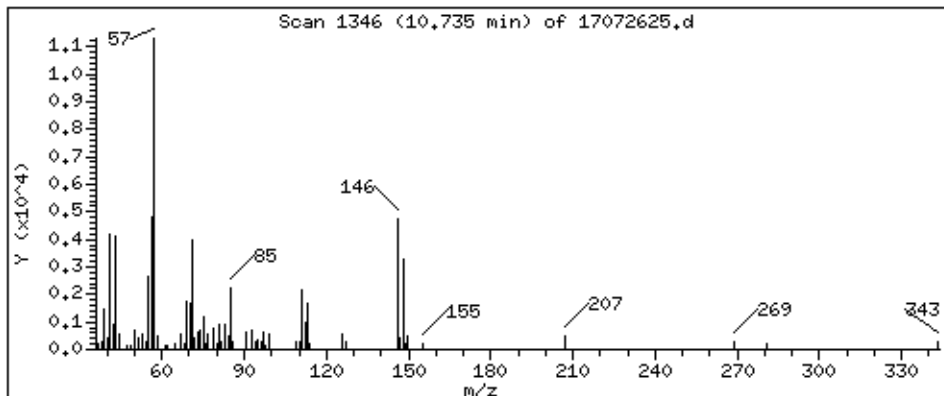
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

209 1,4-Dichlorobenzene

Concentration: 0.8417 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

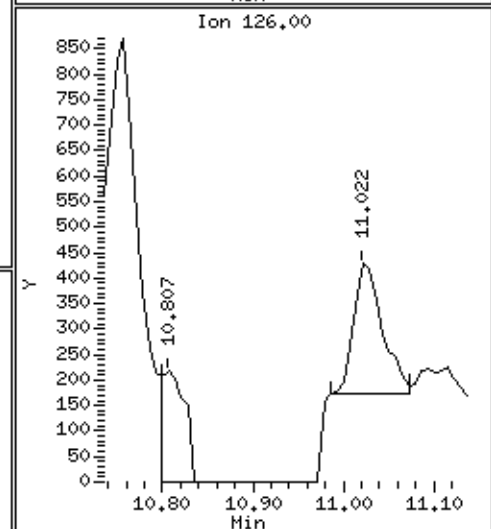
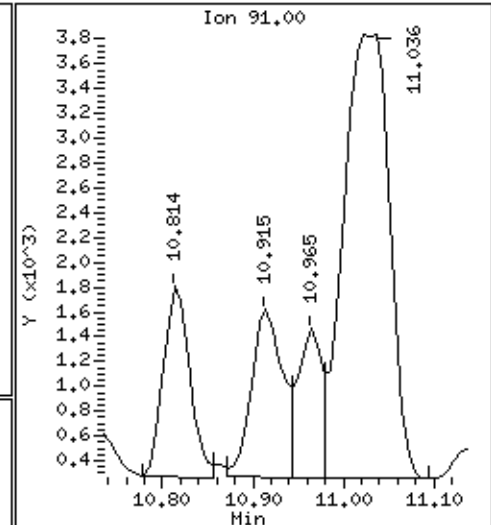
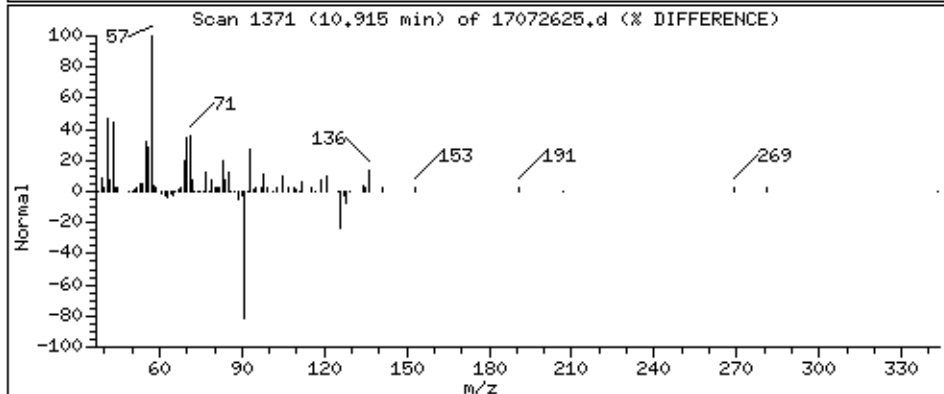
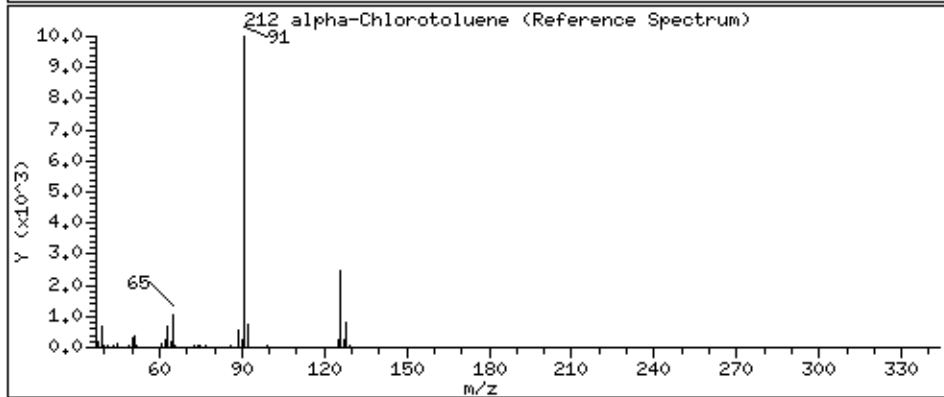
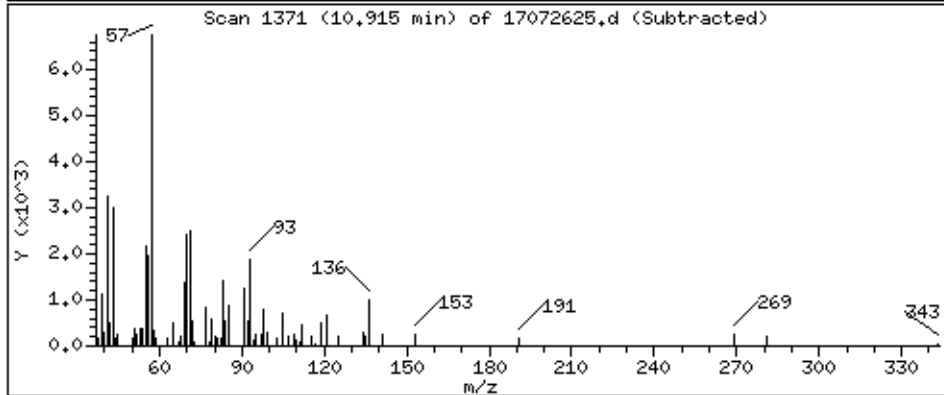
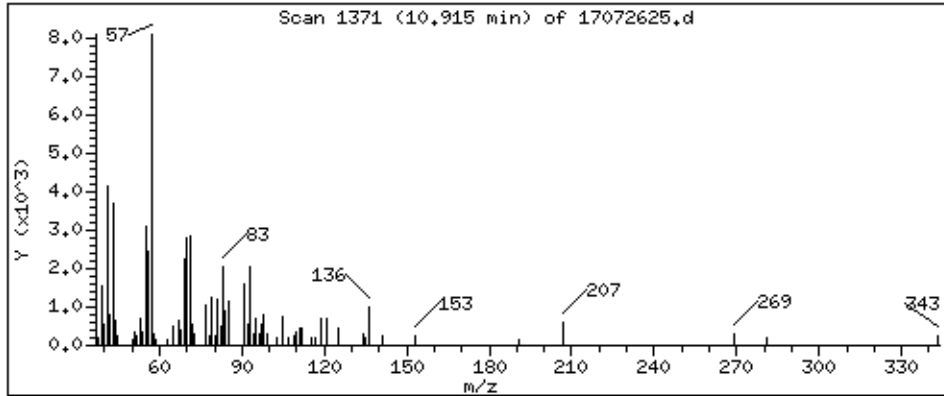
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

212 alpha-Chlorotoluene

Concentration: 0.2792 PPBV



Date : 27-JUL-2018 01:18

Client ID:

Instrument: msd17.i

Sample Info: 200ml 0663c1

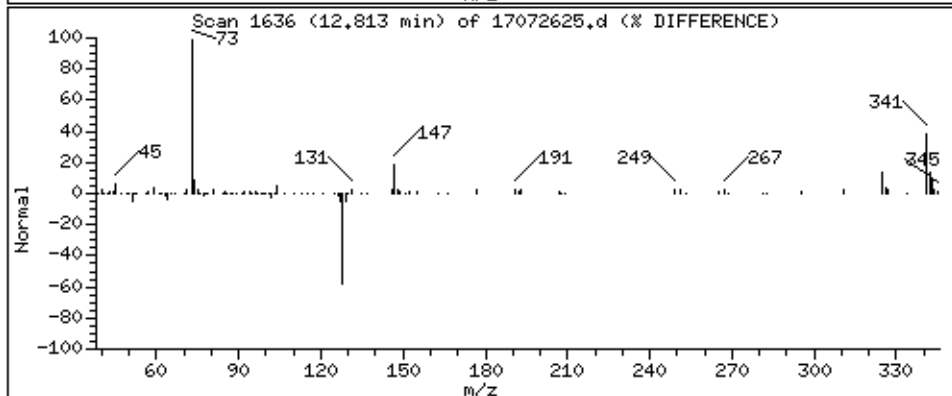
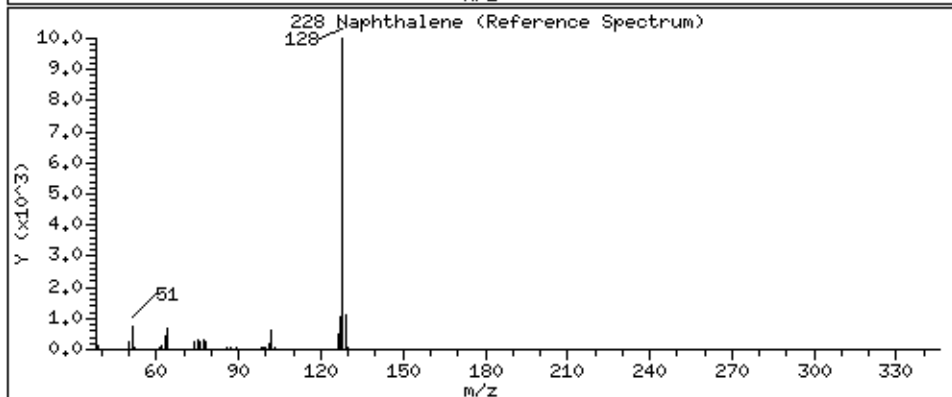
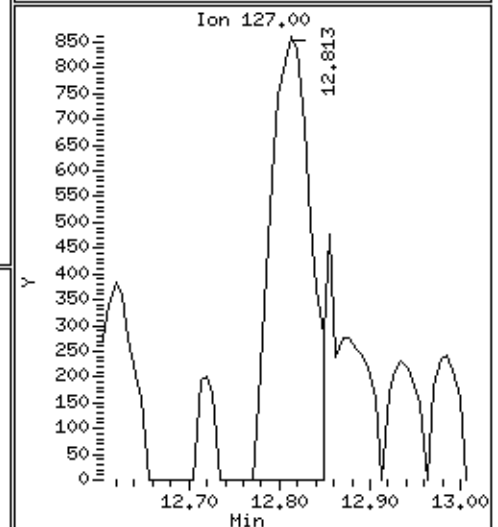
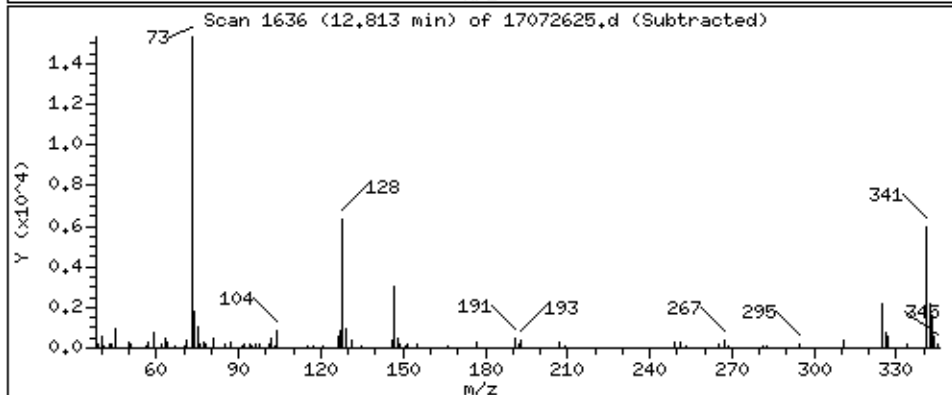
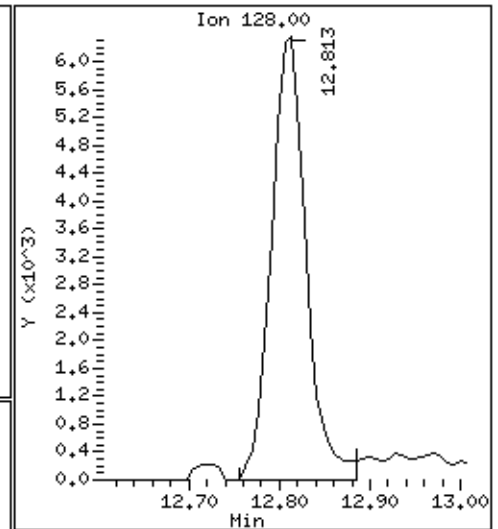
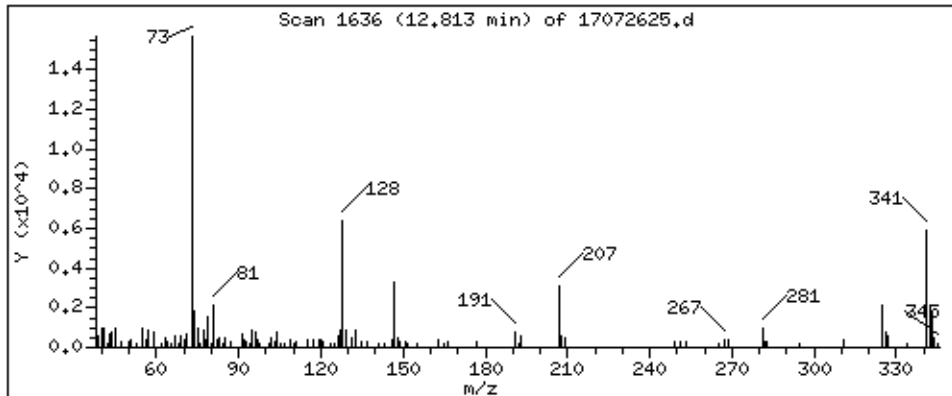
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

228 Naphthalene

Concentration: 0.7899 PPBV



EPA METHOD TO-15 GC/MS FULL SCAN

Client ID:	SV-1	Date/Time Analyzed:	7/27/18 02:13 AM
Lab ID:	1807359A-02A	Dilution Factor:	13.9
Date/Time Collecte	7/11/18 11:00 AM	Instrument/File name:	msd17.i / 17072627
Media:	Client Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	6.8	30	38	11 J
1,1,2,2-Tetrachloroethane	79-34-5	8.6	38	48	Not Detected
1,1,2-Trichloroethane	79-00-5	9.1	30	38	Not Detected
1,1-Dichloroethane	75-34-3	5.1	22	28	Not Detected
1,1-Dichloroethene	75-35-4	12	22	28	Not Detected
1,2,4-Trichlorobenzene	120-82-1	18	150	210	Not Detected
1,2,4-Trimethylbenzene	95-63-6	8.9	27	34	34
1,2-Dibromoethane (EDB)	106-93-4	15	43	53	Not Detected
1,2-Dichlorobenzene	95-50-1	7.5	33	42	Not Detected
1,2-Dichloroethane	107-06-2	4.5	22	28	Not Detected
1,2-Dichloropropane	78-87-5	8.4	26	32	Not Detected
1,3,5-Trimethylbenzene	108-67-8	7.5	27	34	11 J
1,3-Butadiene	106-99-0	3.4	12	15	Not Detected
1,3-Dichlorobenzene	541-73-1	5.8	33	42	Not Detected
1,4-Dichlorobenzene	106-46-7	8.4	33	42	Not Detected
1,4-Dioxane	123-91-1	22	75	100	Not Detected
2,2,4-Trimethylpentane	540-84-1	5.2	26	32	10 J
2-Butanone (Methyl Ethyl Ketone)	78-93-3	13	61	82	Not Detected
2-Hexanone	591-78-6	11	85	110	Not Detected
2-Propanol	67-63-0	11	51	68	Not Detected
3-Chloropropene	107-05-1	20	65	87	Not Detected
4-Ethyltoluene	622-96-8	6.2	27	34	29 J
4-Methyl-2-pentanone	108-10-1	14	23	28	Not Detected
Acetone	67-64-1	24	50	160	36 J

EPA METHOD TO-15 GC/MS FULL SCAN

Client ID:	SV-1	Date/Time Analyzed:	7/27/18 02:13 AM
Lab ID:	1807359A-02A	Dilution Factor:	13.9
Date/Time Collecte	7/11/18 11:00 AM	Instrument/File Name:	msd17.i / 17072627
Media:	Client Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	3.6	29	36	Not Detected
Benzene	71-43-2	12	18	22	Not Detected
Bromodichloromethane	75-27-4	11	37	46	Not Detected
Bromoform	75-25-2	11	57	72	Not Detected
Bromomethane	74-83-9	21	81	270	Not Detected
Carbon Disulfide	75-15-0	20	65	86	Not Detected
Carbon Tetrachloride	56-23-5	7.0	35	44	Not Detected
Chlorobenzene	108-90-7	5.1	26	32	Not Detected
Chloroethane	75-00-3	24	55	73	Not Detected
Chloroform	67-66-3	5.4	27	34	Not Detected
Chloromethane	74-87-3	17	43	140	Not Detected
cis-1,2-Dichloroethene	156-59-2	4.4	22	28	Not Detected
cis-1,3-Dichloropropene	10061-01-5	6.9	25	32	Not Detected
Cumene	98-82-8	4.1	27	34	Not Detected
Cyclohexane	110-82-7	5.7	19	24	Not Detected
Dibromochloromethane	124-48-1	8.3	47	59	Not Detected
Ethanol	64-17-5	21	39	52	64
Ethyl Benzene	100-41-4	5.4	24	30	14 J
Freon 11	75-69-4	7.0	31	39	Not Detected
Freon 113	76-13-1	13	43	53	Not Detected
Freon 114	76-14-2	11	39	48	Not Detected
Freon 12	75-71-8	7.6	27	34	Not Detected
Heptane	142-82-5	10	23	28	Not Detected
Hexachlorobutadiene	87-68-3	37	220	300	Not Detected

Client ID:	SV-1	Date/Time Analyzed:	7/27/18 02:13 AM
Lab ID:	1807359A-02A	Dilution Factor:	13.9
Date/Time Collecte	7/11/18 11:00 AM	Instrument/File name:	msd17.i / 17072627
Media:	Client Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	4.9	20	24	Not Detected
m,p-Xylene	108-38-3	4.8	24	30	52
Methyl tert-butyl ether	1634-04-4	14	75	100	Not Detected
Methylene Chloride	75-09-2	16	72	240	Not Detected
o-Xylene	95-47-6	4.2	24	30	24 J
Propylbenzene	103-65-1	3.4	27	34	6.4 J
Styrene	100-42-5	4.1	24	30	13 J
Tetrachloroethene	127-18-4	6.6	38	47	10000
Tetrahydrofuran	109-99-9	4.5	16	20	11 J
Toluene	108-88-3	4.2	21	26	50
trans-1,2-Dichloroethene	156-60-5	8.3	22	28	Not Detected
trans-1,3-Dichloropropene	10061-02-6	3.8	25	32	Not Detected
Trichloroethene	79-01-6	14	30	37	89
Vinyl Chloride	75-01-4	4.3	14	18	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	92
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	100

US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/26jul18.b/17072627.d
Lab Smp Id: 1807359A-02A
Inj Date : 27-JUL-2018 02:13
Operator : DF
Smp Info : 20ml 0716cl
Misc Info : 1.0 Hg->5 psi
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/26jul18.b/178q0613b.m
Meth Date : 26-Jul-2018 13:48 p5fl
Cal Date : 23-JUL-2018 12:23
Als bottle: 8
Dil Factor: 13.90000
Integrator: HP RTE
Sample Matrix: AIR
Processing Host: us32apptv003

Inst ID: msd17.i
Quant Type: ISTD
Cal File: 17072306.d
Compound Sublist: T015mdl.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

CONCENTRATIONS								
		ON-COL		FINAL				
RT	EXP RT	(REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====

* 98 Bromochloromethane						CAS #:	74-97-5	
5.506	5.499	(1.000)	130	125122	25.0000		80.00- 120.00	100.00
5.506	5.499	(1.000)	128	96993			48.32- 108.32	77.52
5.506	5.499	(1.000)	49	105978			63.40- 123.40	84.70

* 123 1,4-Difluorobenzene						CAS #:	540-36-3	
6.387	6.386	(1.000)	114	415410	25.0000		80.00- 120.00	100.00
6.387	6.386	(1.000)	88	59000			0.00- 44.55	14.20

* 163 Chlorobenzene-d5						CAS #:	3114-55-4	
8.830	8.830	(1.000)	117	394596	25.0000		80.00- 120.00	100.00
8.830	8.830	(1.000)	82	184298			17.97- 77.97	46.71

\$ 117 1,2-Dichloroethane-d4						CAS #:	17060-07-0	
6.044	6.036	(1.098)	65	130441	22.9591	22.959	80.00- 120.00	100.00(a)
6.044	6.036	(1.098)	67	69466			23.66- 83.66	53.26

\$ 146 Toluene-d8						CAS #:	2037-26-5	
7.598	7.598	(1.190)	98	405261	25.0488	25.049	80.00- 120.00	100.00(a)
7.598	7.598	(1.190)	70	38936			0.00- 40.01	9.61

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET	RANGE	RATIO
					ON-COL	FINAL			
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
\$ 146 Toluene-d8 (continued)									
7.598	7.598	(1.190)	100	262275			35.43-	95.43	64.72

\$ 177 4-Bromofluorobenzene					CAS #: 460-00-4				
9.819	9.819	(1.112)	174	299339	24.0229	24.023	80.00-	120.00	100.00(a)
9.819	9.819	(1.112)	95	264860			59.41-	119.41	88.48
9.819	9.819	(1.112)	176	287079			68.33-	128.33	95.90

42 Ethanol					CAS #: 64-17-5				
2.949	2.946	(0.536)	45	3485	2.44178	33.941	80.00-	120.00	100.00
2.949	2.946	(0.536)	46	1594			9.17-	69.17	45.74

52 Acetone					CAS #: 67-64-1				
3.429	3.429	(0.623)	58	2205	1.09336	15.198	80.00-	120.00	100.00(a)
3.436	3.429	(0.624)	43	7567			290.24-	350.24	343.14

99 Tetrahydrofuran					CAS #: 109-99-9				
5.506	5.493	(1.000)	42	1183	0.27732	3.855	80.00-	120.00	100.00(a)
5.499	5.493	(0.999)	71	483			18.99-	78.99	40.82
5.506	5.493	(1.000)	72	349			20.78-	80.78	29.55

103 1,1,1-Trichloroethane					CAS #: 71-55-6				
5.686	5.679	(1.033)	97	1555	0.14365	1.997	80.00-	120.00	100.00(a)
5.686	5.679	(1.033)	99	999			34.84-	94.84	64.22

113 2,2,4-Trimethylpentane					CAS #: 540-84-1				
5.994	5.985	(1.088)	57	3123	0.16047	2.230	80.00-	120.00	100.00(a)
6.001	5.985	(1.090)	56	1169			2.59-	62.59	37.45
5.986	5.985	(1.087)	41	1512			0.00-	55.57	48.43

125 Trichloroethene					CAS #: 79-01-6				
6.581	6.582	(1.030)	95	7482	1.18652	16.492	80.00-	120.00	100.00
6.588	6.582	(1.031)	130	7843			81.76-	141.76	104.83
6.581	6.582	(1.030)	97	4714			34.64-	94.64	63.00

147 Toluene					CAS #: 108-88-3				
7.655	7.655	(1.198)	91	16483	0.96365	13.395	80.00-	120.00	100.00
7.655	7.655	(1.198)	92	9713			27.80-	87.80	58.93

156 Tetrachloroethene					CAS #: 127-18-4				
8.092	8.092	(0.916)	166	1243077	111.925	1555.8	80.00-	120.00	100.00
8.092	8.092	(0.916)	129	818394			36.14-	96.14	65.84
8.092	8.092	(0.916)	131	792496			34.69-	94.69	63.75

167 Ethyl Benzene					CAS #: 100-41-4				
8.902	8.902	(1.008)	106	1870	0.23921	3.325	80.00-	120.00	100.00(a)

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
					ON-COL	FINAL		
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====
167 Ethyl Benzene (continued)								
8.902	8.902	(1.008)	91	6791			268.52- 328.52	363.05

169 m,p-Xylene					CAS #: 108-38-3			
8.995	8.998	(1.019)	106	8348	0.85882	11.938	80.00- 120.00	100.00
8.995	8.998	(1.019)	91	17315			161.75- 221.75	207.40

171 o-Xylene					CAS #: 95-47-6			
9.339	9.339	(1.058)	106	3692	0.40085	5.572	80.00- 120.00	100.00(a)
9.339	9.339	(1.058)	91	7339			170.98- 230.98	198.75

172 Styrene					CAS #: 100-42-5			
9.367	9.360	(1.061)	104	3325	0.22767	3.165	80.00- 120.00	100.00(a)
9.360	9.360	(1.060)	78	2079			16.10- 76.10	62.54

182 Propylbenzene					CAS #: 103-65-1			
9.969	9.975	(1.129)	91	2979	0.09444	1.313	80.00- 120.00	100.00(a)
9.976	9.975	(1.130)	120	526			0.00- 56.23	17.67
10.048	9.975	(1.138)	105	12061			0.00- 33.80	404.84

188 4-Ethyltoluene					CAS #: 622-96-8			
10.048	10.069	(1.138)	120	3712	0.42013	5.840	80.00- 120.00	100.00(a)
10.048	10.069	(1.138)	105	12061			275.42- 335.42	324.90

190 1,3,5-Trimethylbenzene					CAS #: 108-67-8			
10.119	10.119	(1.146)	120	2060	0.16783	2.333	80.00- 120.00	100.00(a)
10.119	10.119	(1.146)	105	4352			165.32- 225.32	211.26

196 1,2,4-Trimethylbenzene					CAS #: 95-63-6			
10.442	10.444	(1.183)	120	5410	0.49325	6.856	80.00- 120.00	100.00(a)
10.442	10.444	(1.183)	105	12018			176.48- 236.48	222.13

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17072627.d
Lab Smp Id: 1807359A-02A
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem/msd17.i/26jul18.b/178q0613b.m
Misc Info: 1.0 Hg->5 psi

Calibration Date: 26-JUL-2018
Calibration Time: 10:10
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	128867	77320	180414	125122	-2.91
123 1,4-Difluorobenze	450283	270170	630396	415410	-7.74
163 Chlorobenzene-d5	413209	247925	578493	394596	-4.50

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.51	5.18	5.84	5.51	0.00
123 1,4-Difluorobenze	6.39	6.06	6.72	6.39	-0.11
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

US32APPTV002

RECOVERY REPORT

Client Name: Client SDG: 26jul18
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1807359A-02A
Level: LOW Operator: DF
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: T015mdl.sub
Method File: /chem/msd17.i/26jul18.b/178q0613b.m
Misc Info: 1.0 Hg->5 psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
\$ 117 1,2-Dichloroethane-d4	25.000	22.959	91.84
\$ 146 Toluene-d8	25.000	25.049	100.20
\$ 177 4-Bromofluorobenzene	25.000	24.023	96.09

Data File: /chem/msd17.1/26jul18.b/17072627.d

Date : 27-JUL-2018 02:13

Client ID:

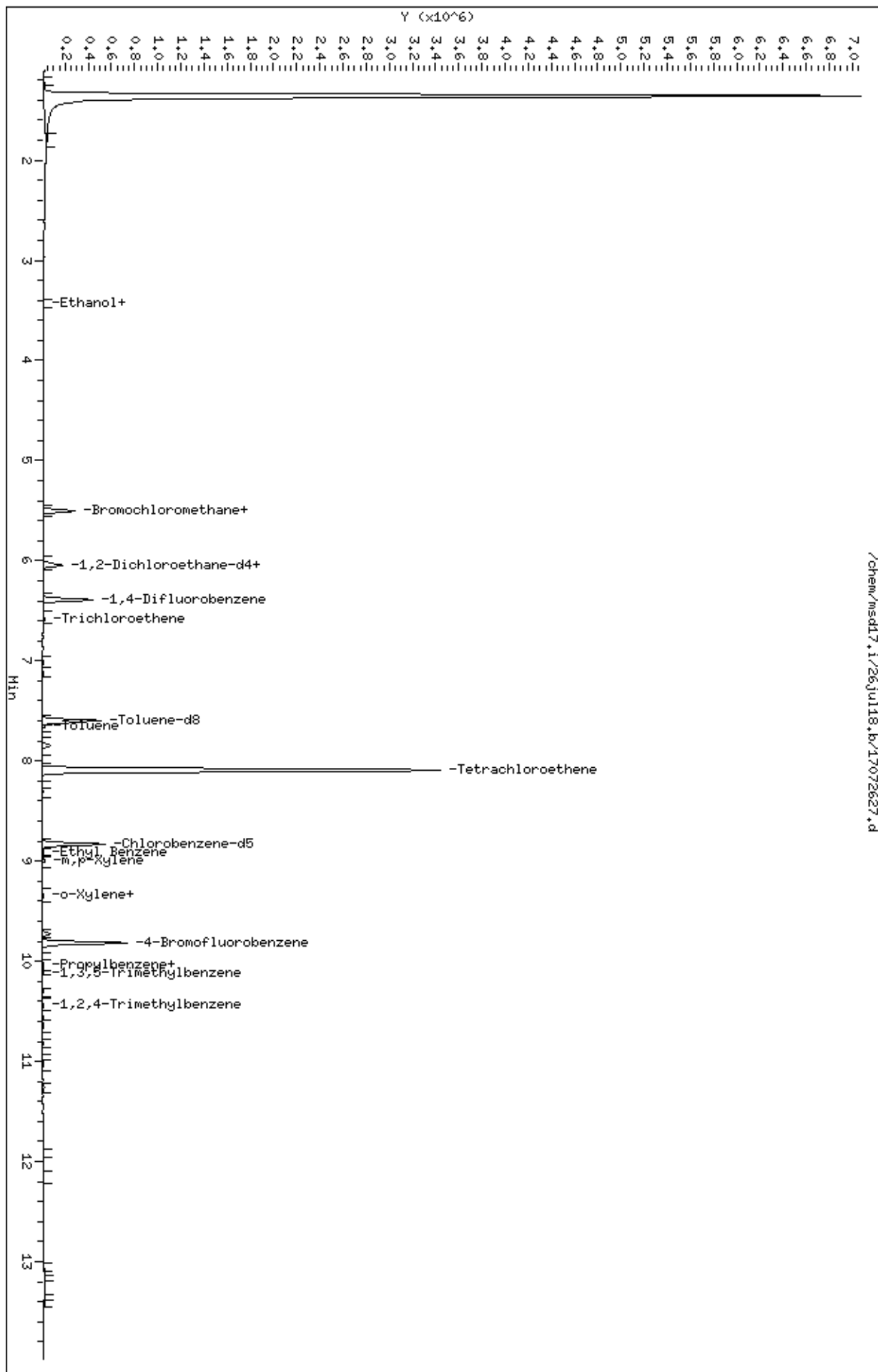
Sample Info: 20ml 0716c1

Column phase: RTX-624

Instrument: msd17.1

Operator: DF

Column diameter: 0.25



Date : 27-JUL-2018 02:13

Client ID:

Instrument: msd17.i

Sample Info: 20ml 0716c1

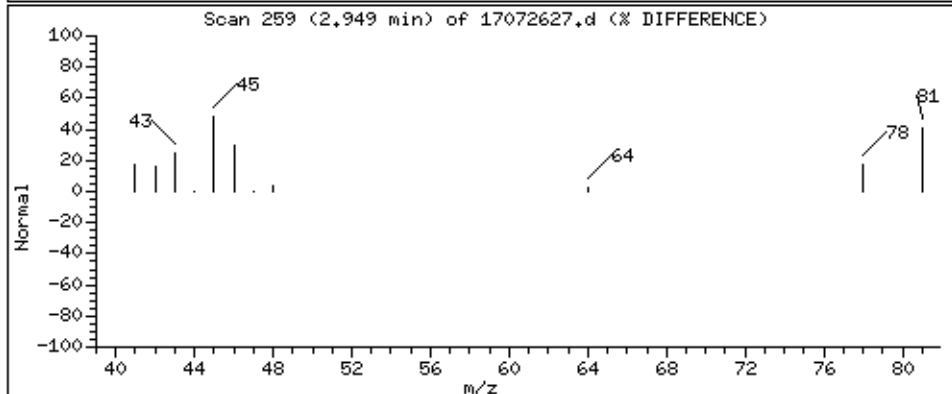
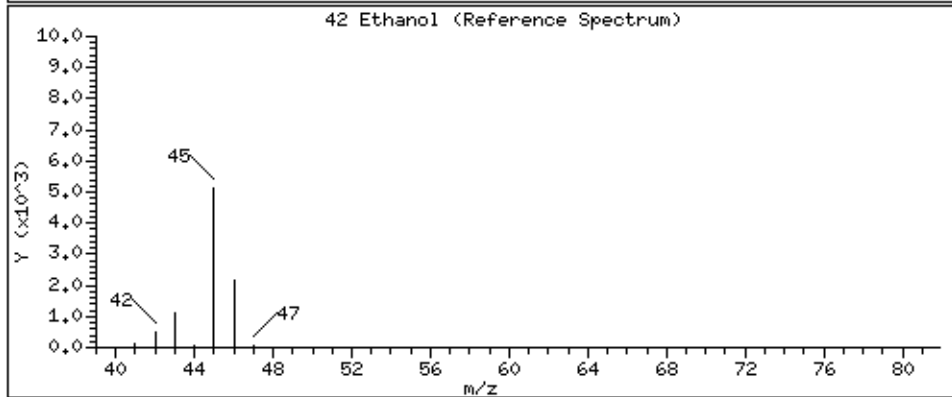
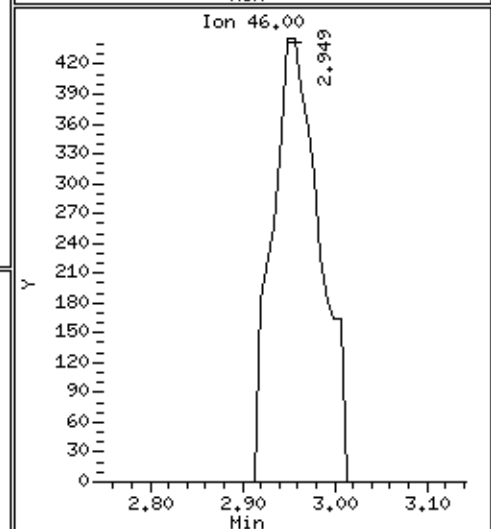
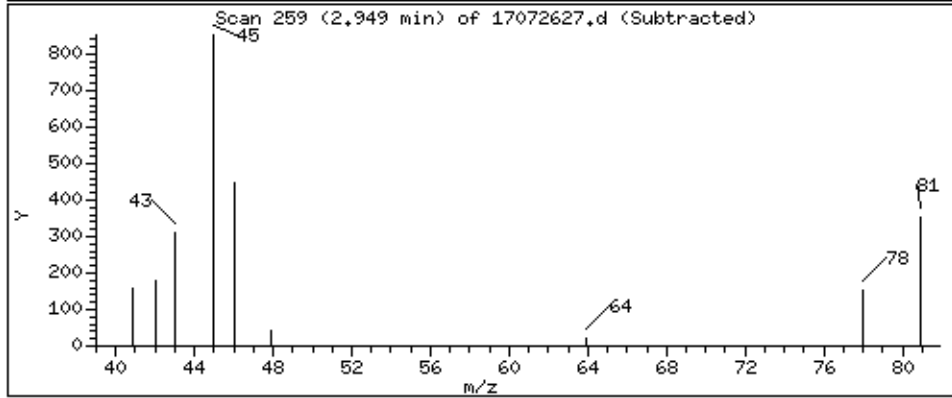
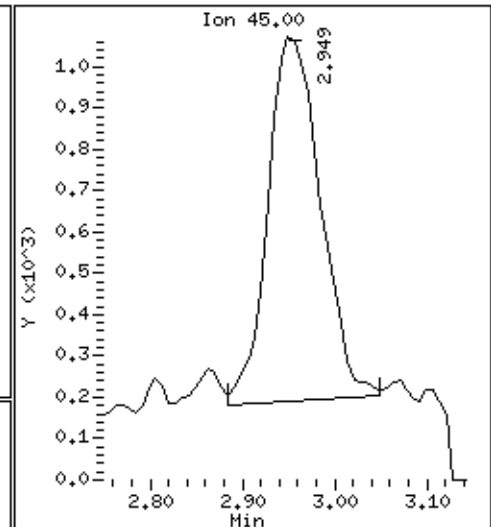
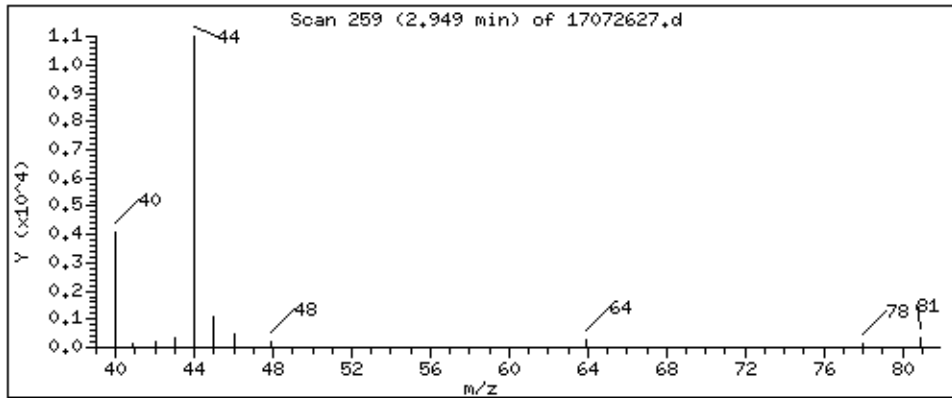
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

42 Ethanol

Concentration: 33,941 PPBV



Date : 27-JUL-2018 02:13

Client ID:

Instrument: msd17.i

Sample Info: 20ml 0716cl

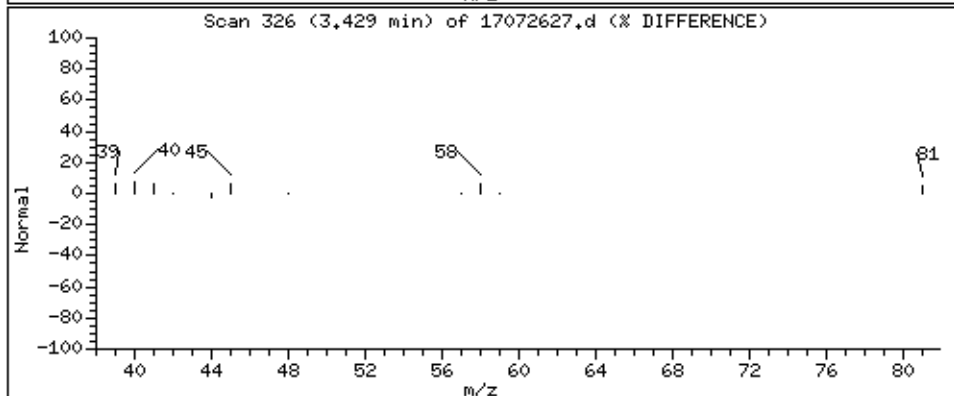
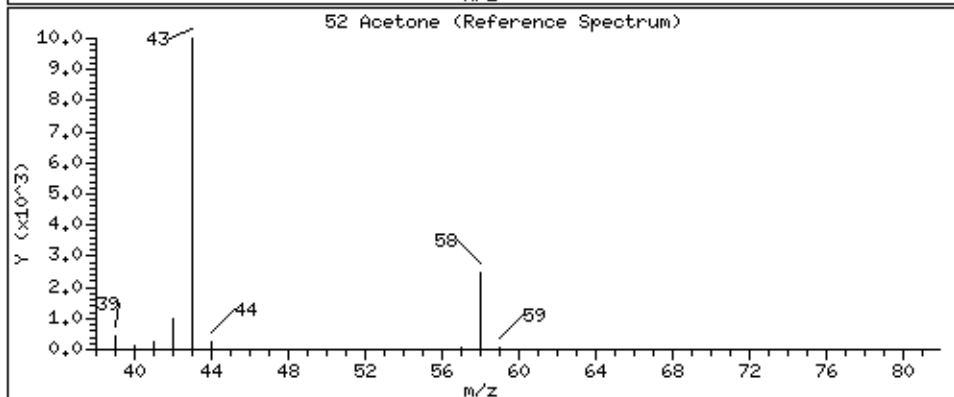
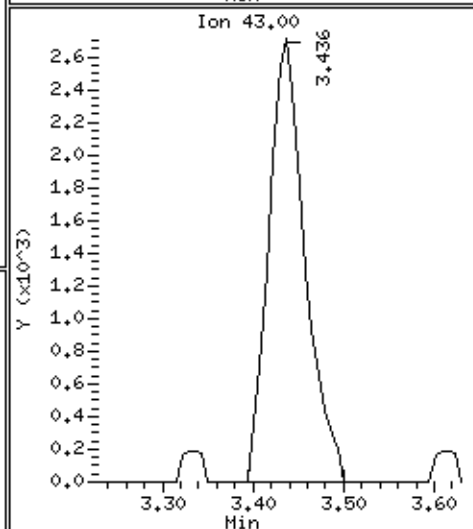
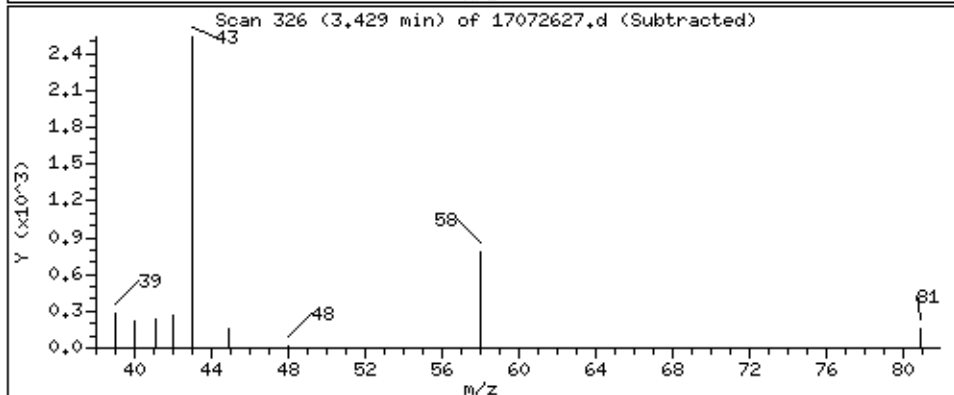
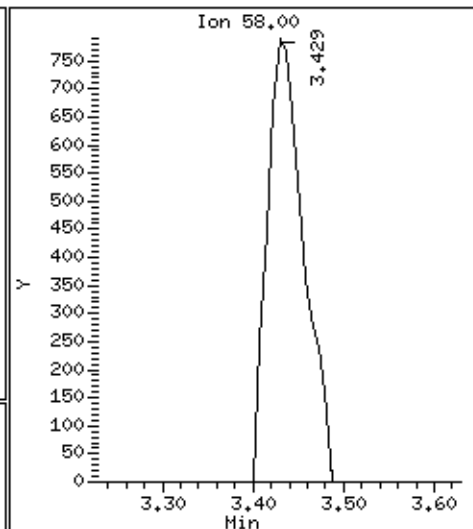
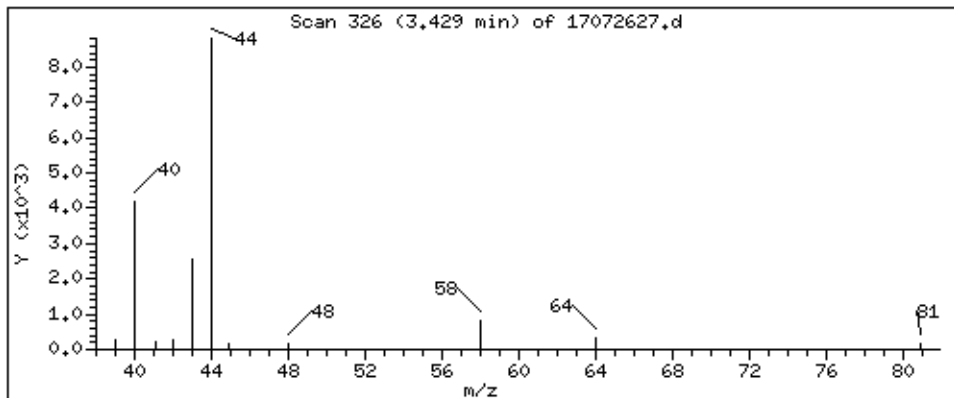
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

52 Acetone

Concentration: 15,198 PPBV



Date : 27-JUL-2018 02:13

Client ID:

Instrument: msd17.i

Sample Info: 20ml 0716c1

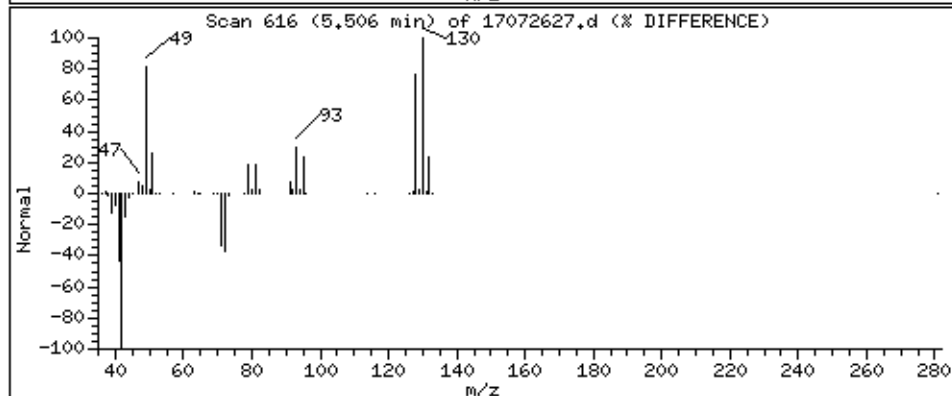
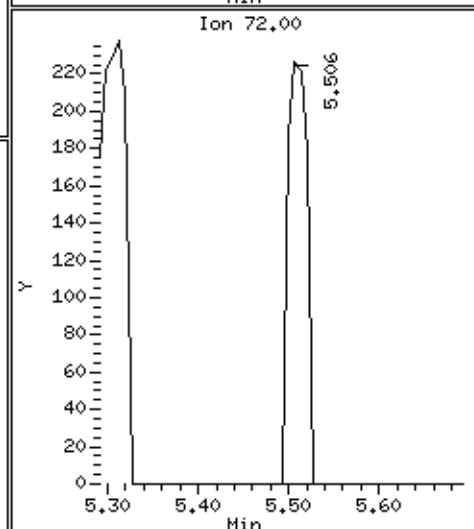
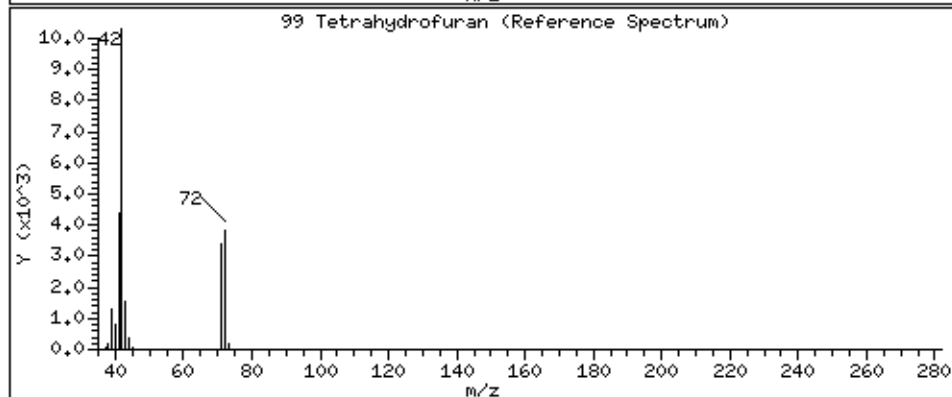
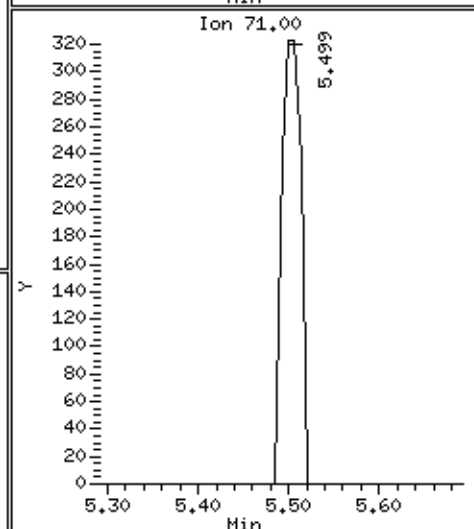
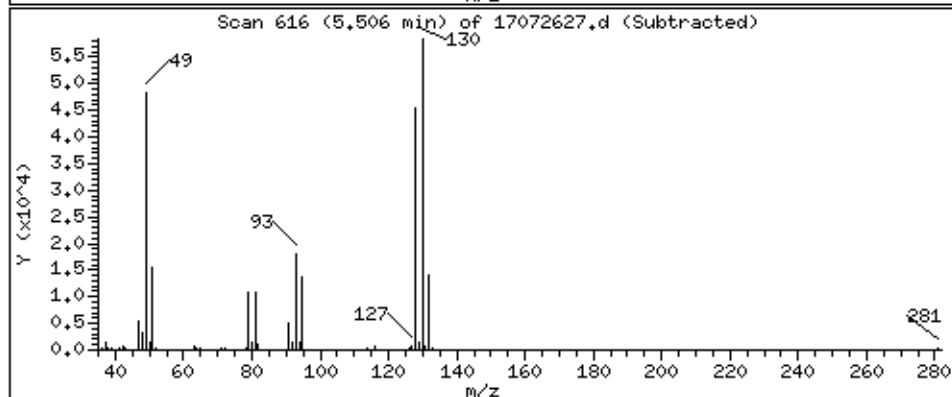
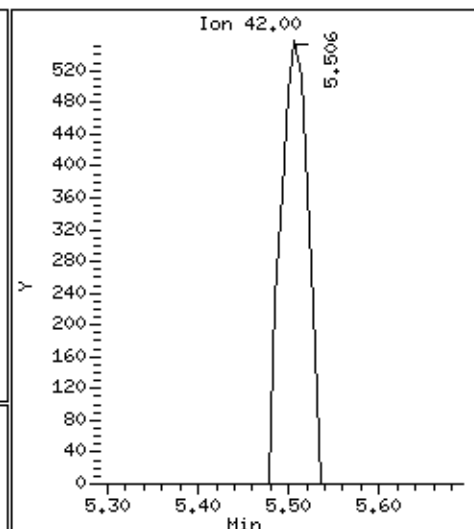
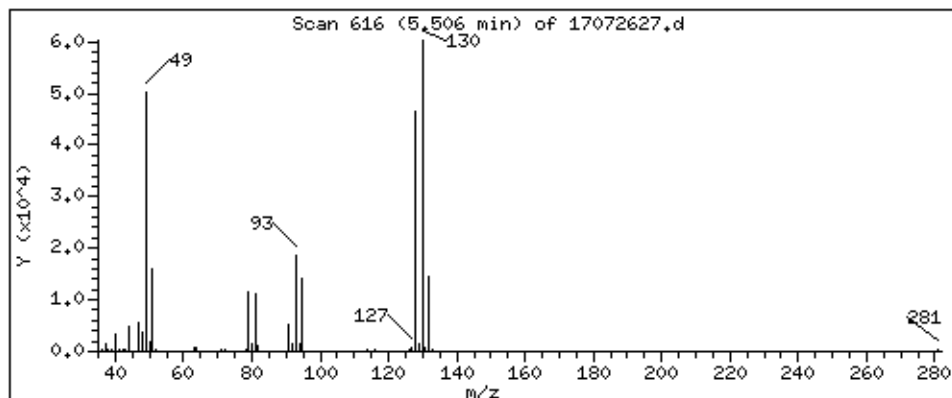
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

99 Tetrahydrofuran

Concentration: 3.855 PPBV



Date : 27-JUL-2018 02:13

Client ID:

Instrument: msd17.i

Sample Info: 20ml 0716cl

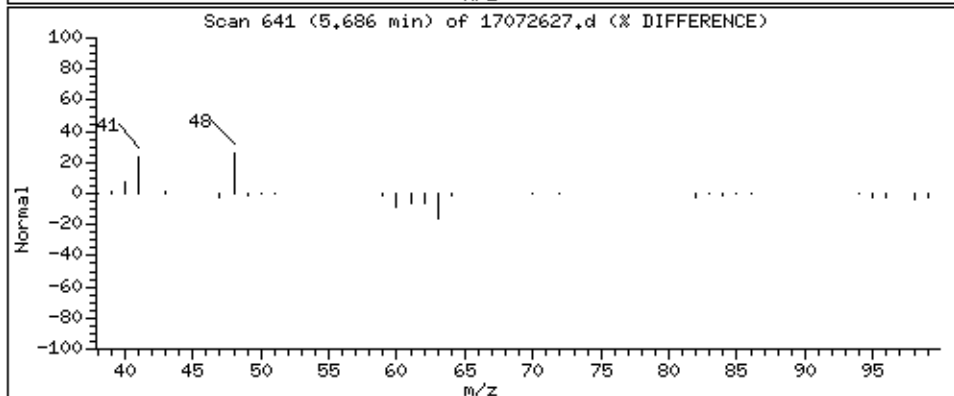
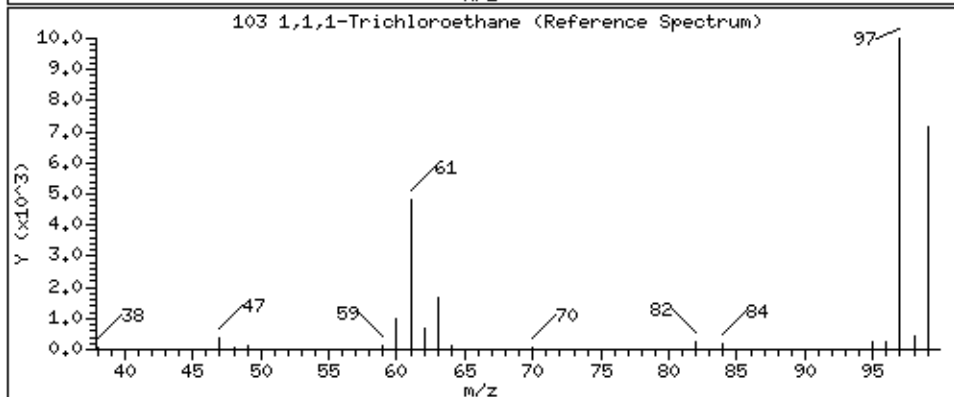
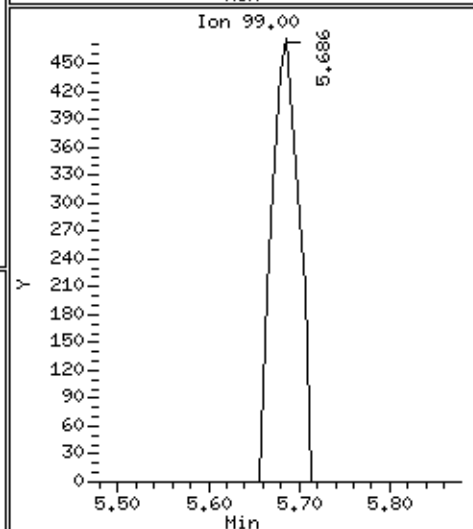
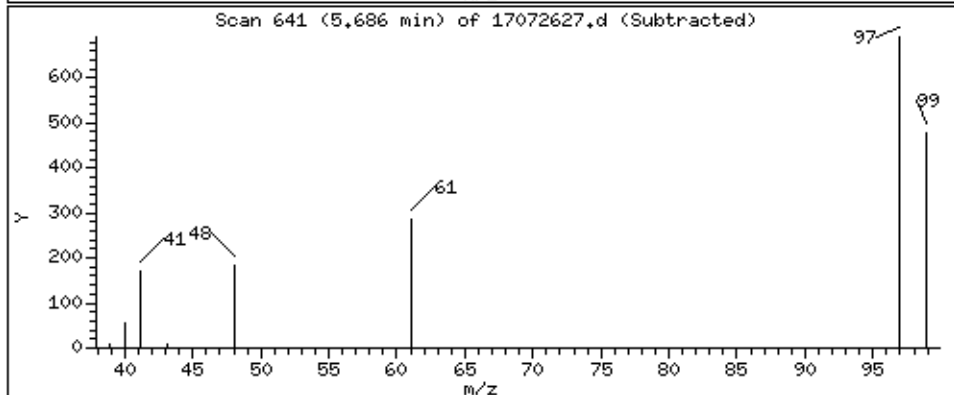
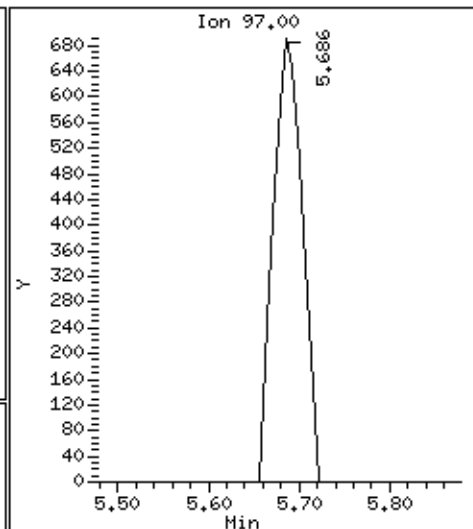
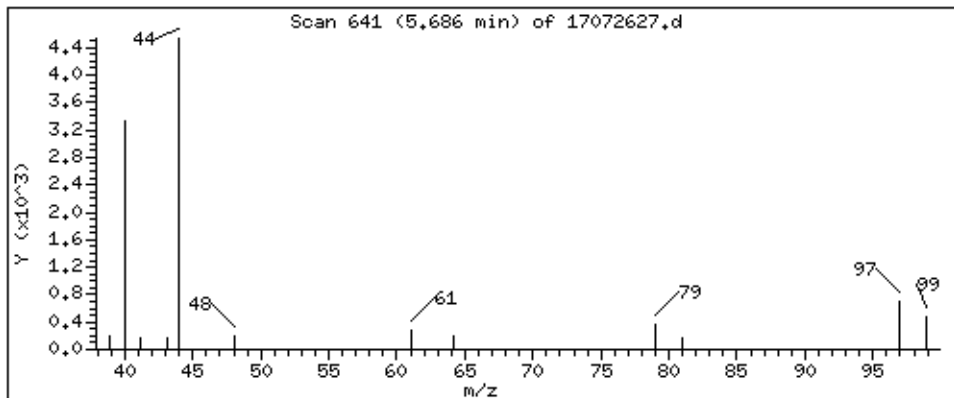
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

103 1,1,1-Trichloroethane

Concentration: 1.997 PPBV



Date : 27-JUL-2018 02:13

Client ID:

Instrument: msd17.i

Sample Info: 20ml 0716cl

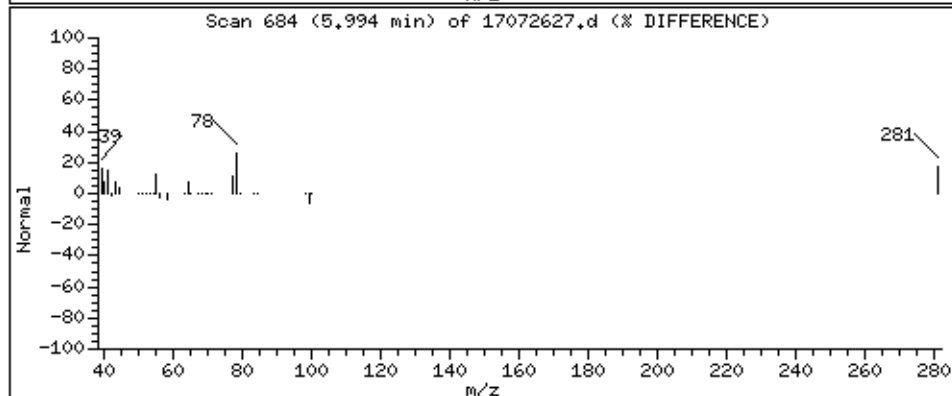
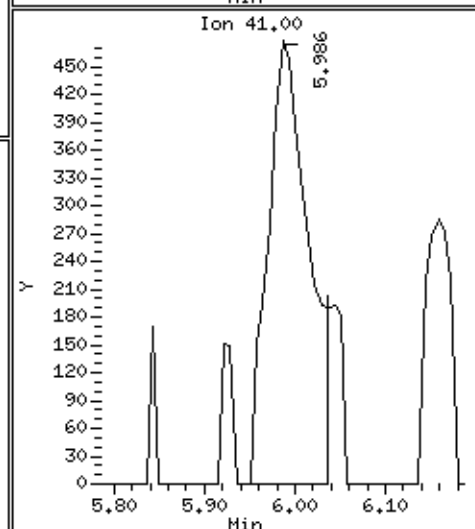
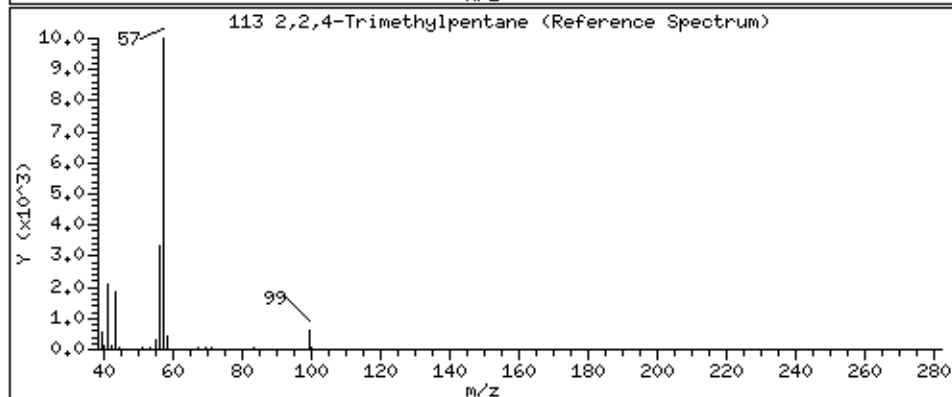
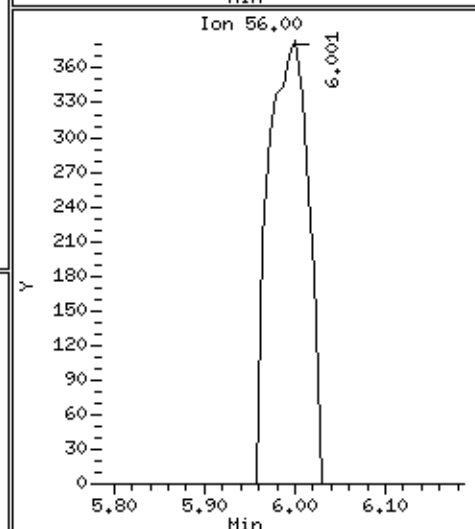
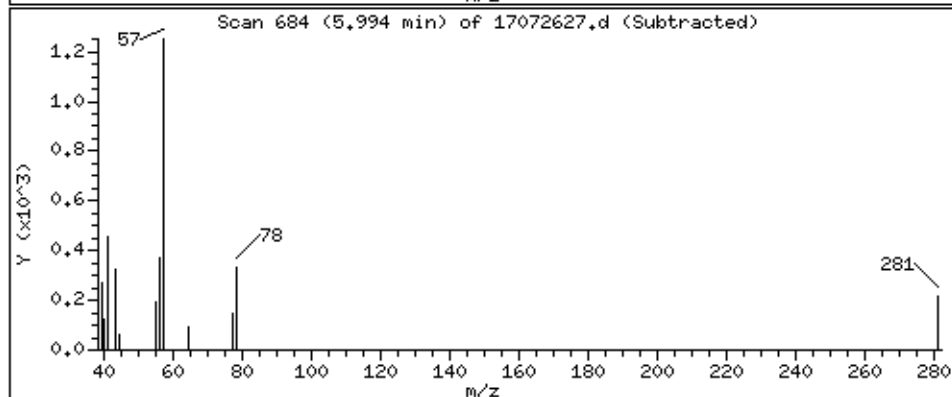
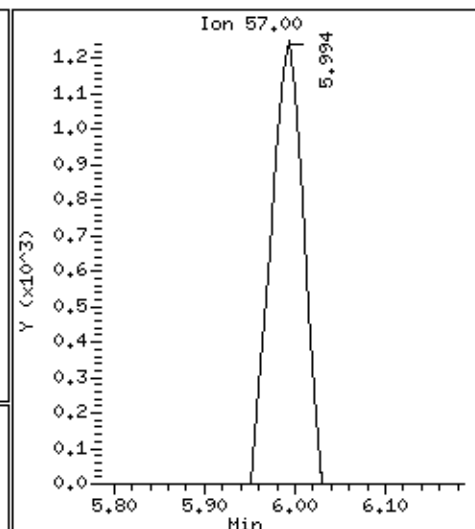
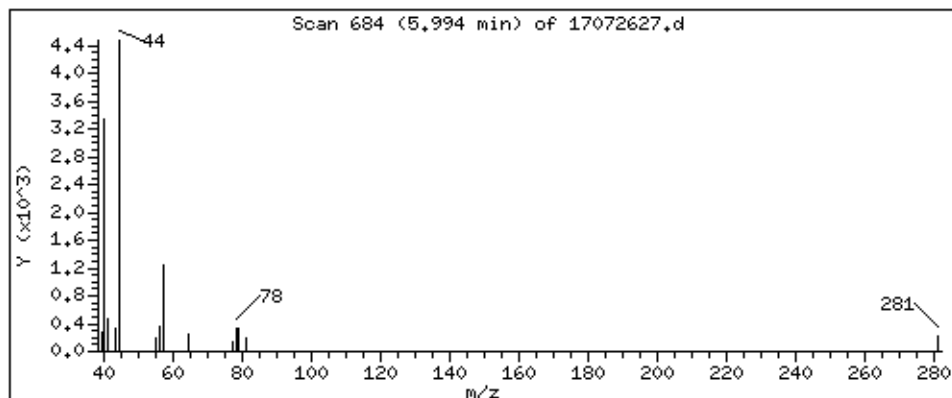
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

113 2,2,4-Trimethylpentane

Concentration: 2.230 PPBV



Date : 27-JUL-2018 02:13

Client ID:

Instrument: msd17.i

Sample Info: 20ml 0716c1

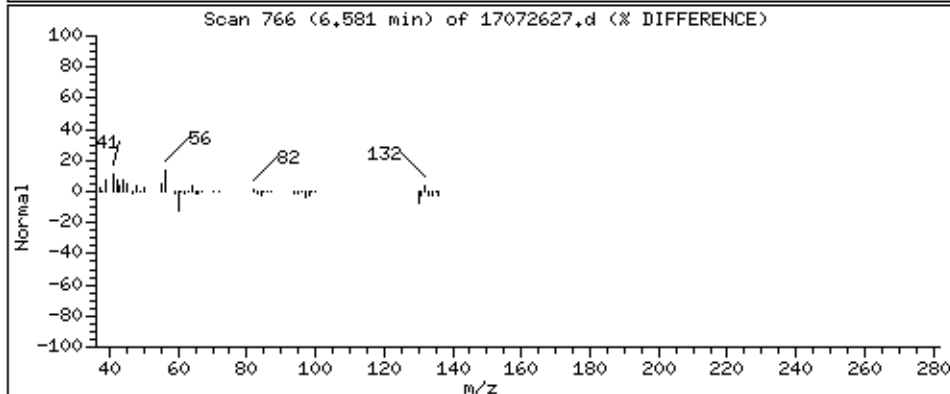
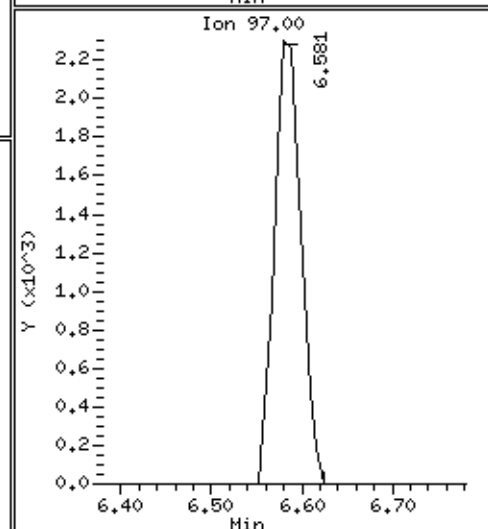
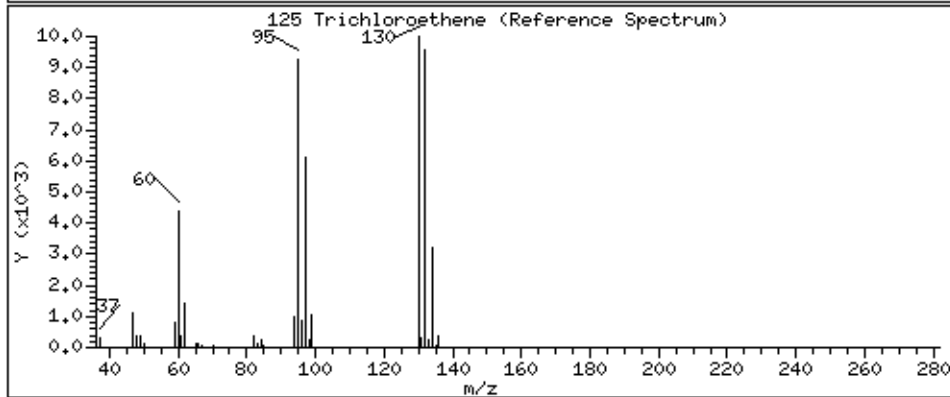
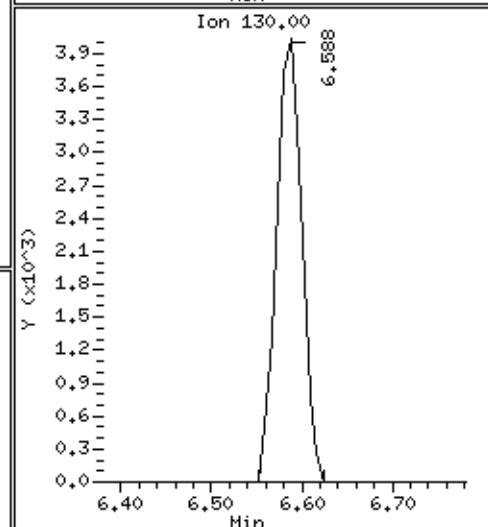
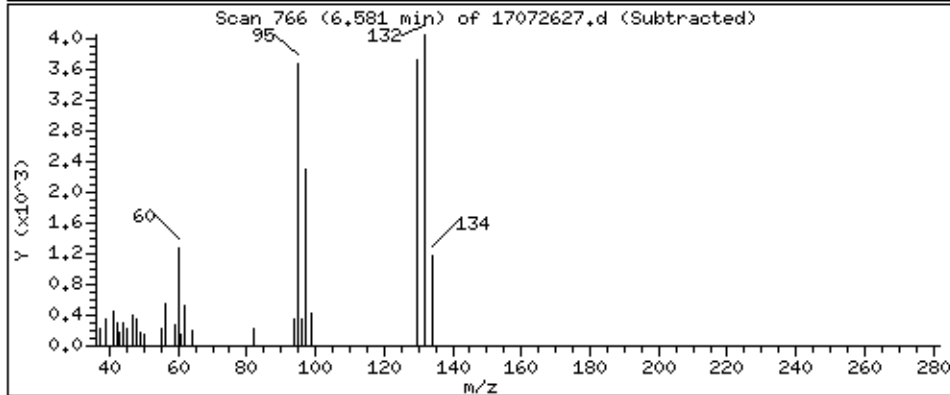
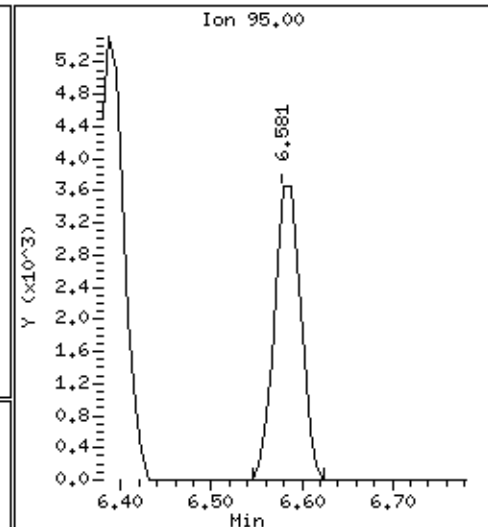
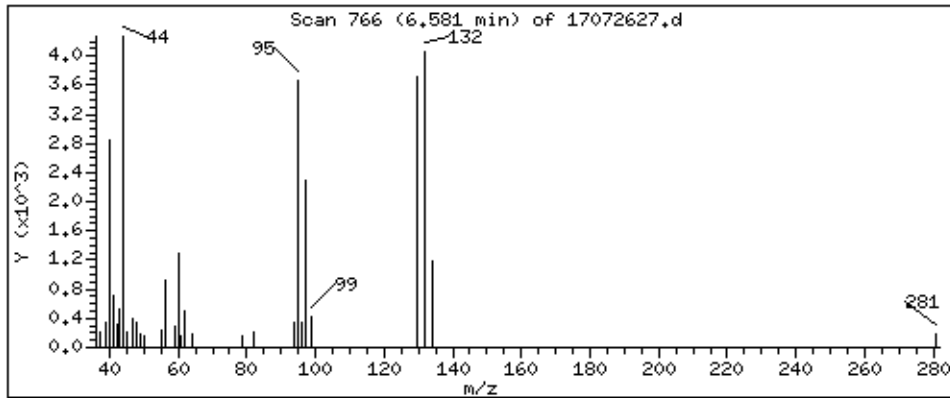
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

125 Trichloroethene

Concentration: 16.492 PPBV



Date : 27-JUL-2018 02:13

Client ID:

Instrument: msd17.i

Sample Info: 20ml 0716cl

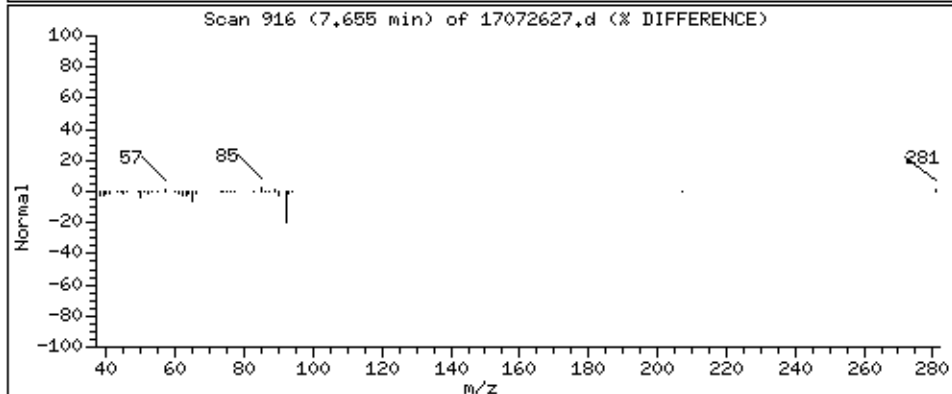
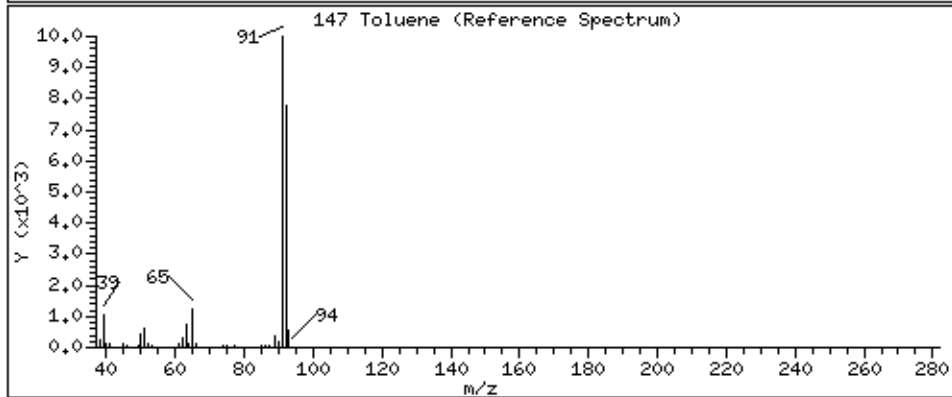
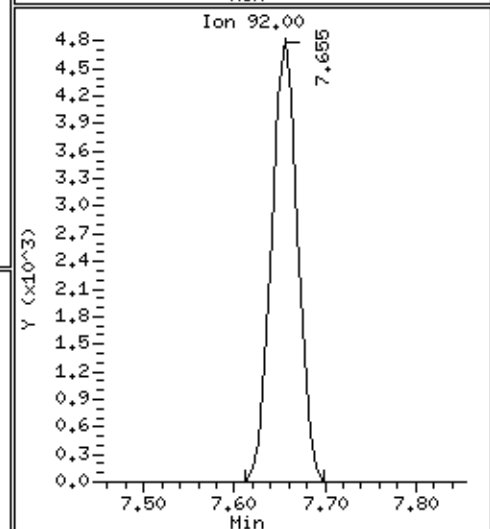
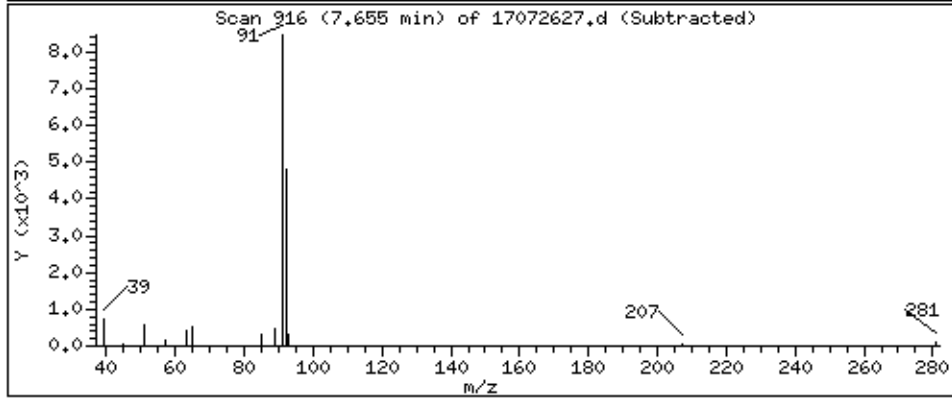
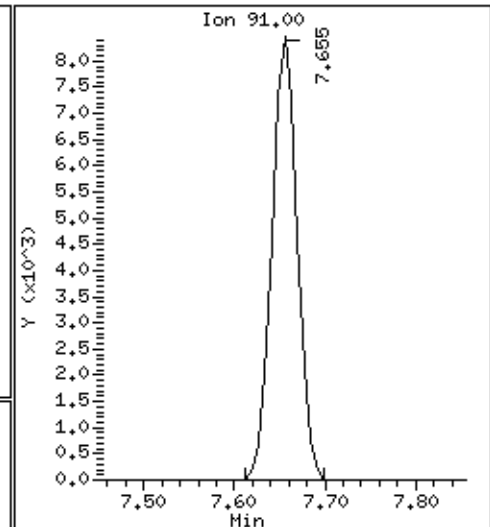
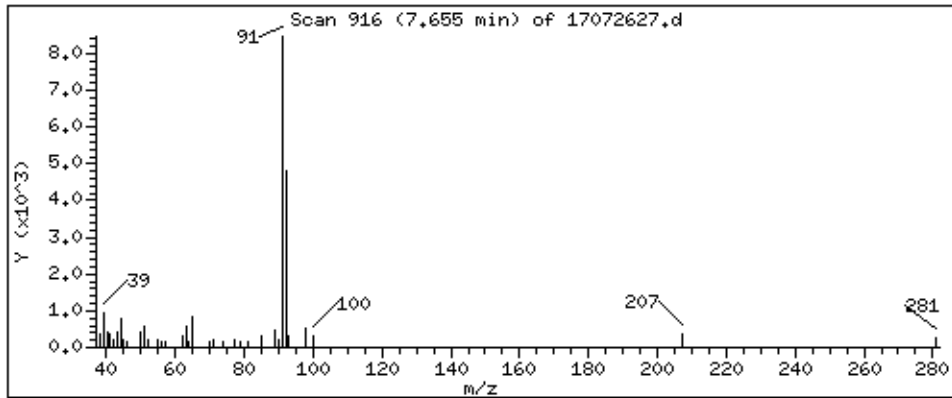
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

147 Toluene

Concentration: 13,395 PPBV



Date : 27-JUL-2018 02:13

Client ID:

Instrument: msd17.i

Sample Info: 20ml 0716c1

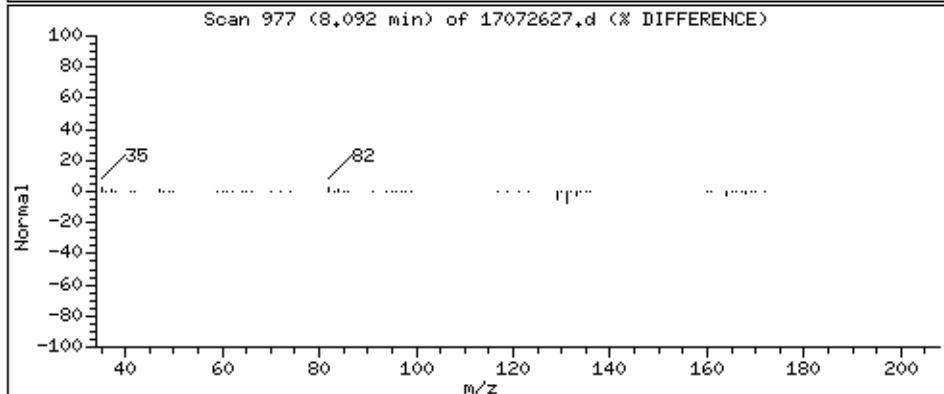
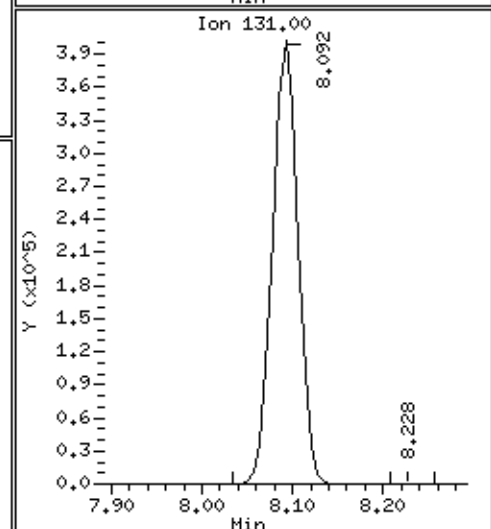
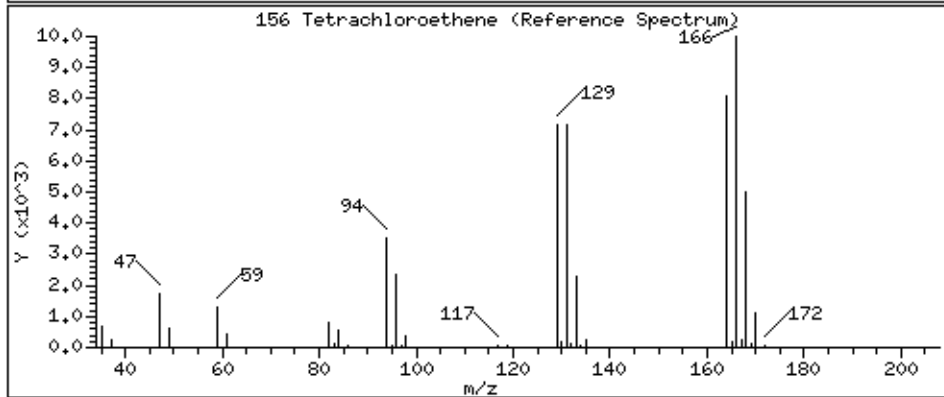
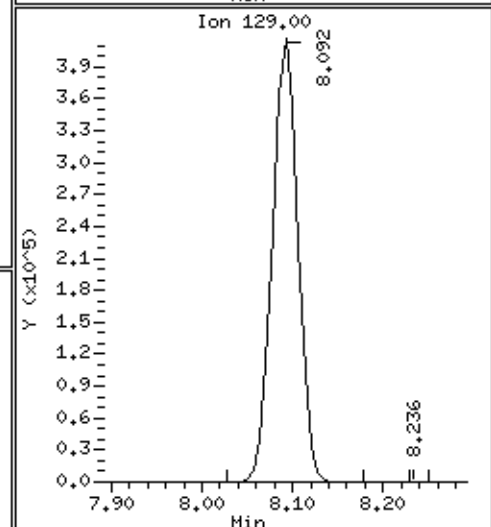
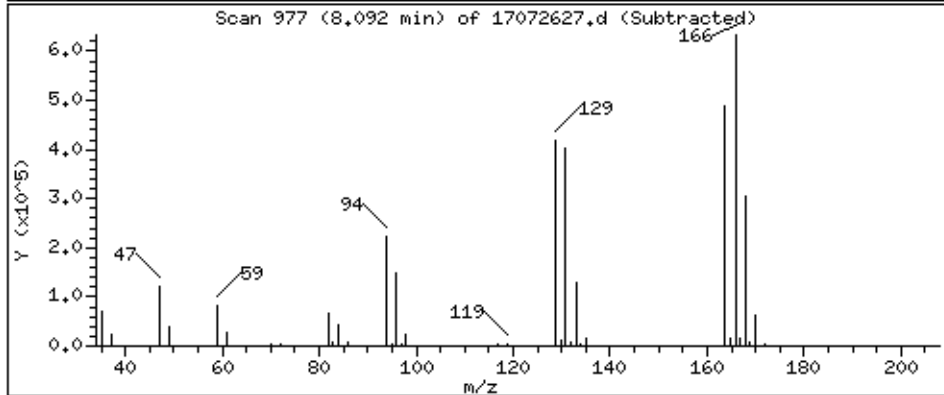
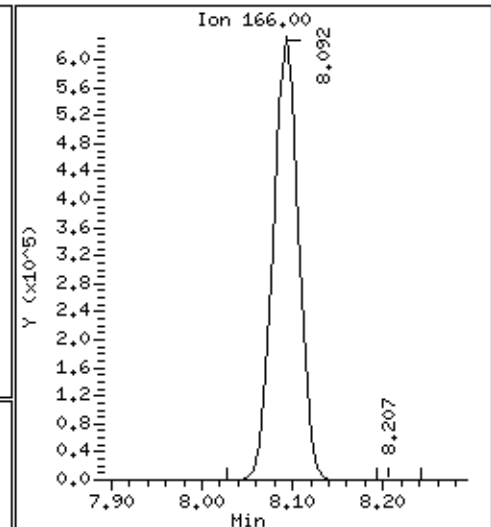
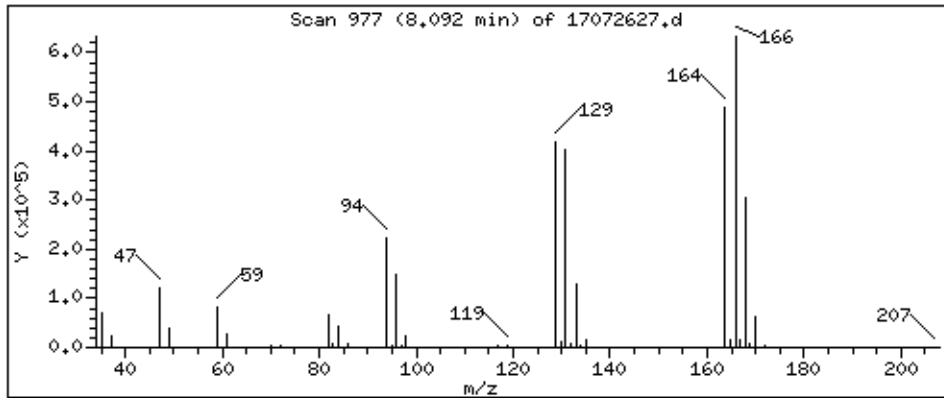
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

156 Tetrachloroethene

Concentration: 1555.8 PPBV



Date : 27-JUL-2018 02:13

Client ID:

Instrument: msd17.i

Sample Info: 20ml 0716c1

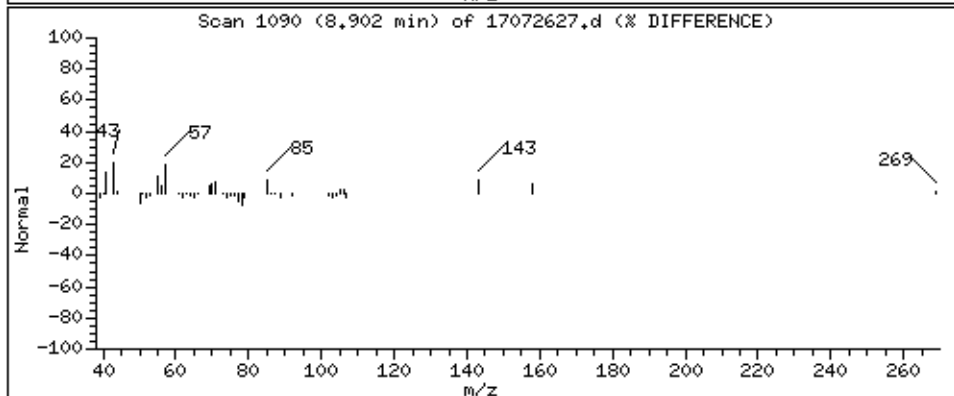
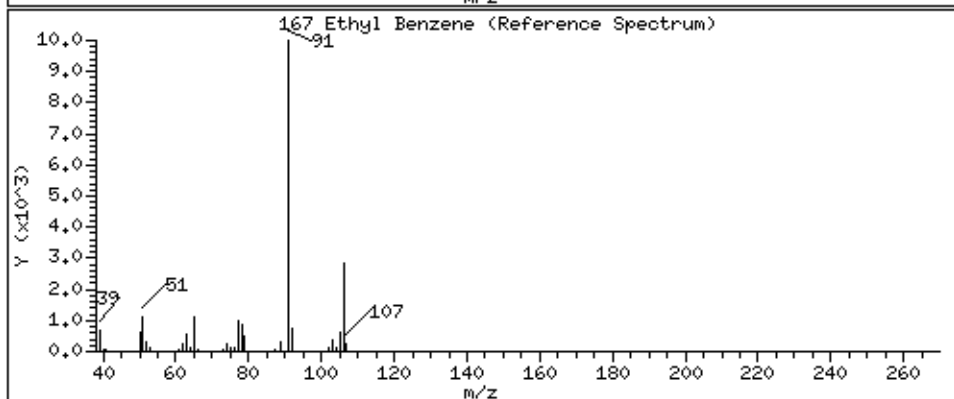
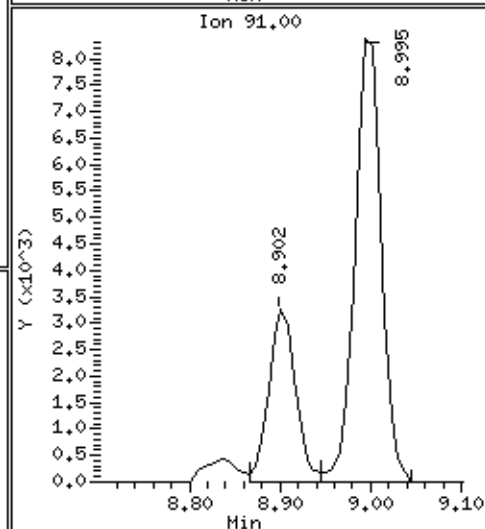
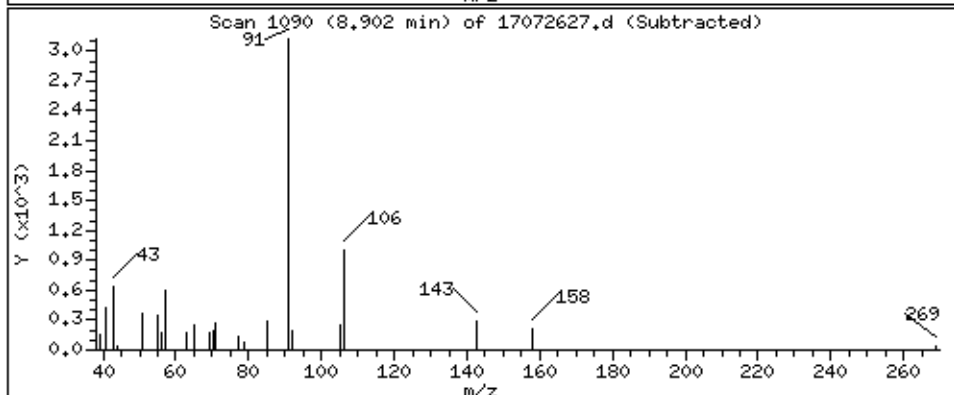
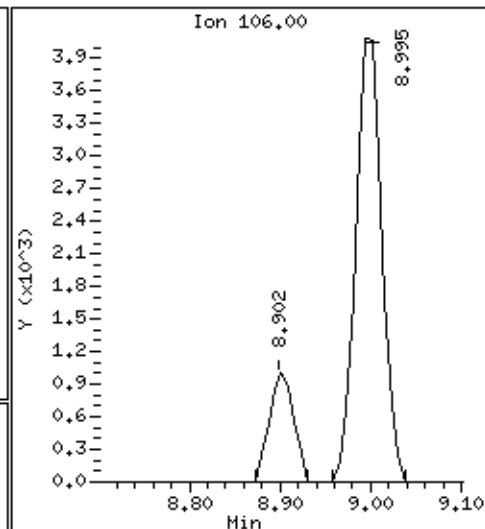
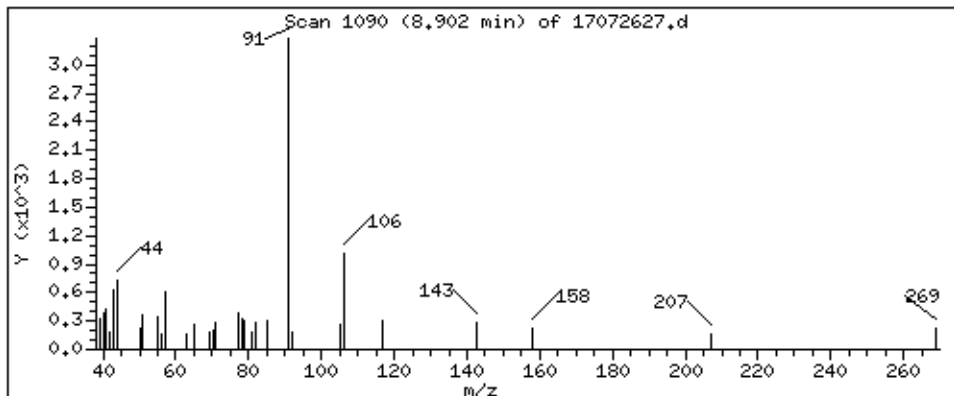
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

167 Ethyl Benzene

Concentration: 3.325 PPBV



Date : 27-JUL-2018 02:13

Client ID:

Instrument: msd17.i

Sample Info: 20ml 0716c1

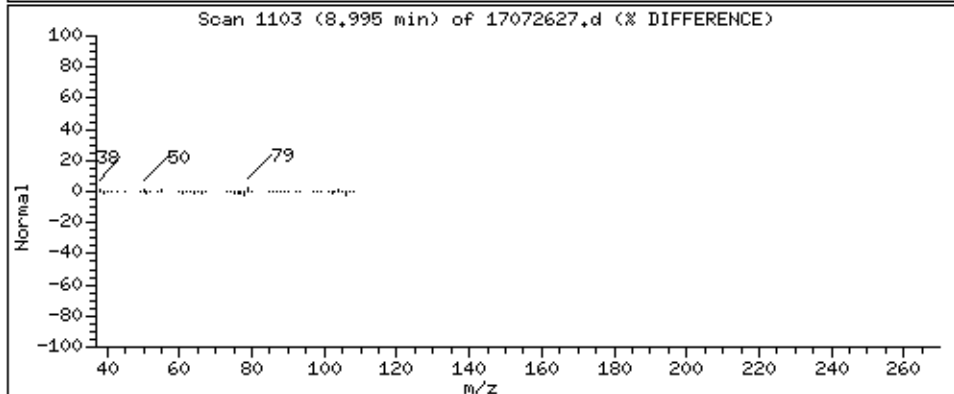
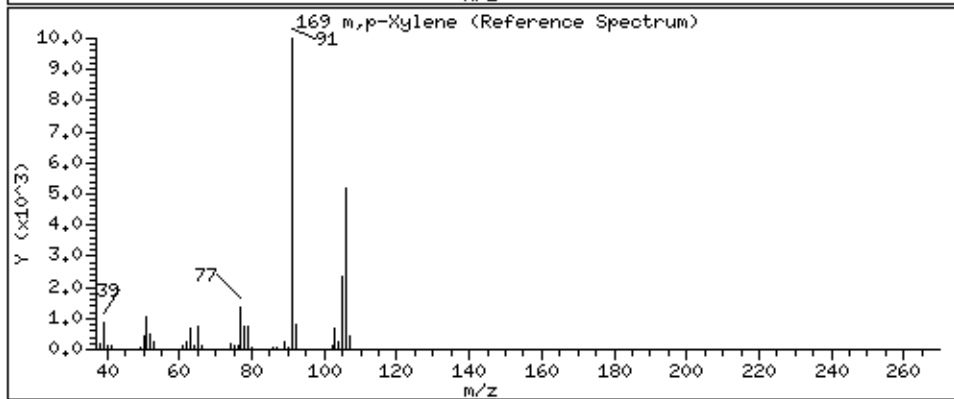
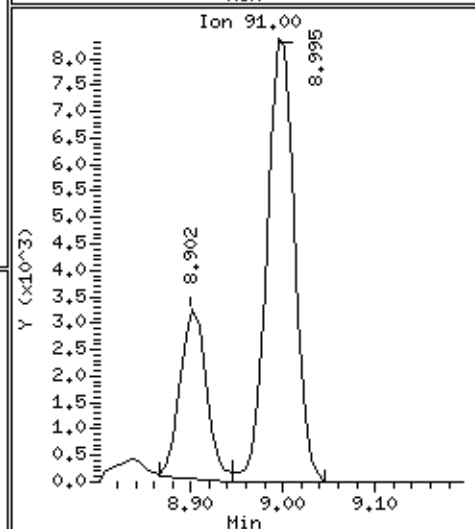
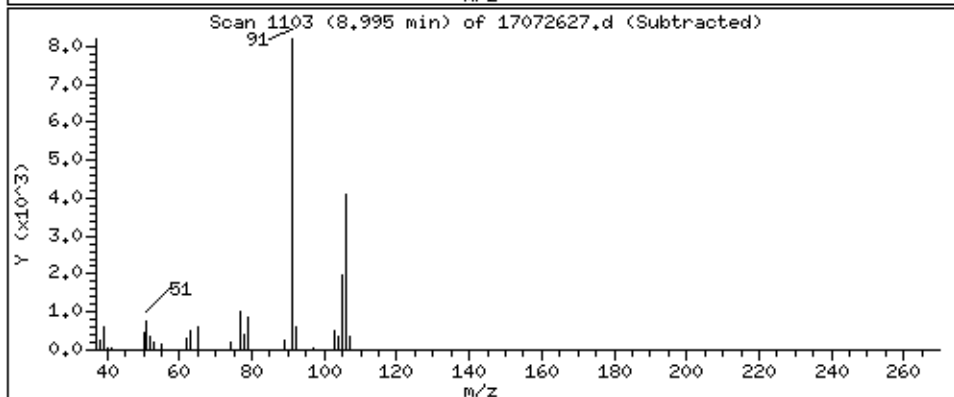
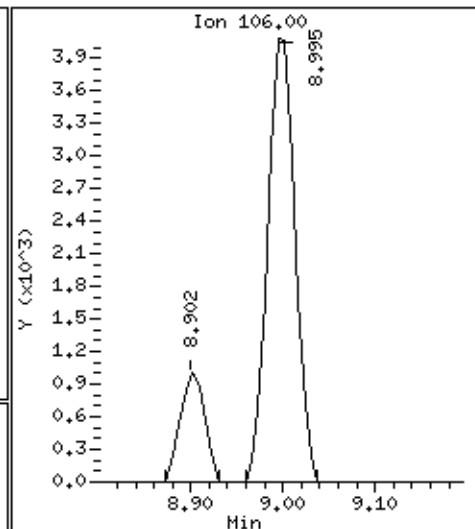
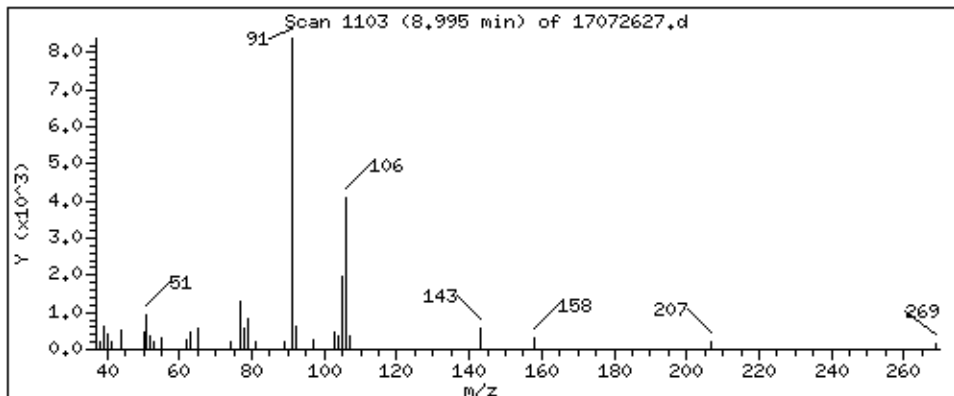
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

169 m,p-Xylene

Concentration: 11.938 PPBV



Date : 27-JUL-2018 02:13

Client ID:

Instrument: msd17.i

Sample Info: 20ml 0716cl

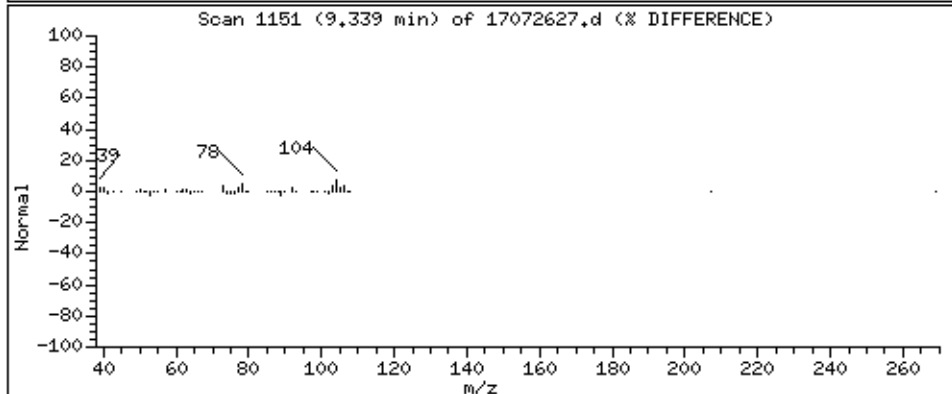
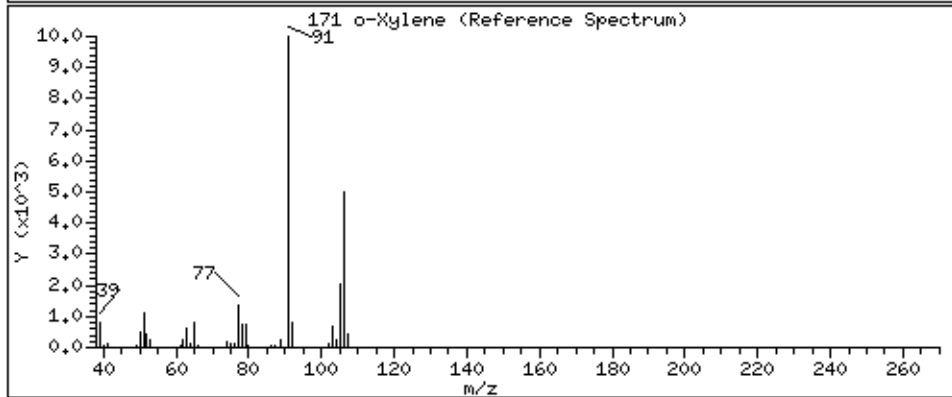
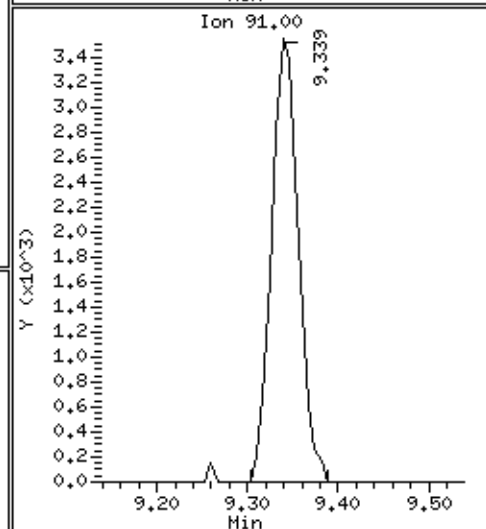
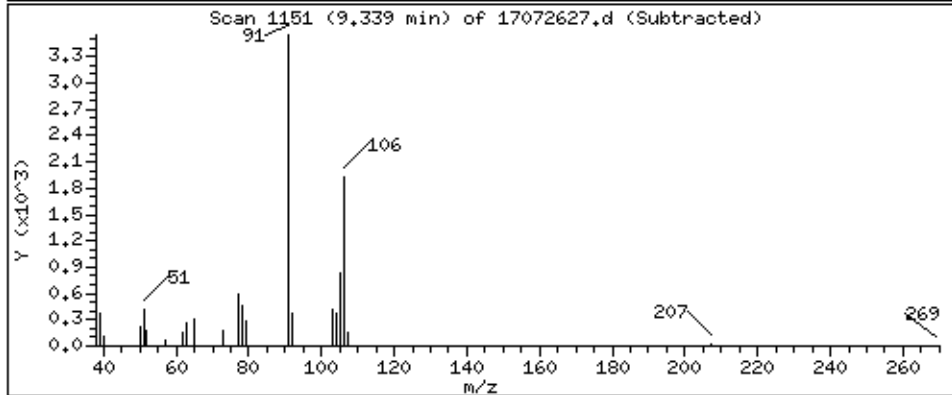
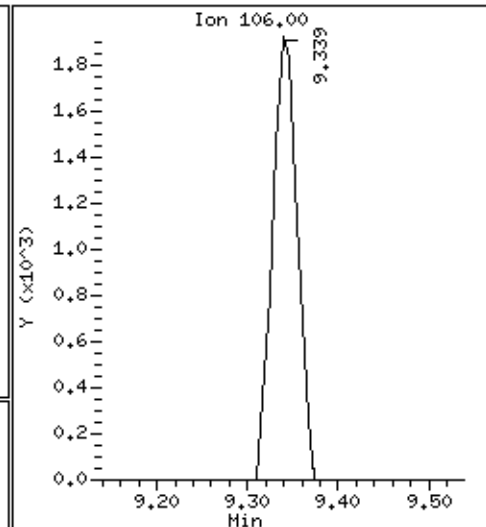
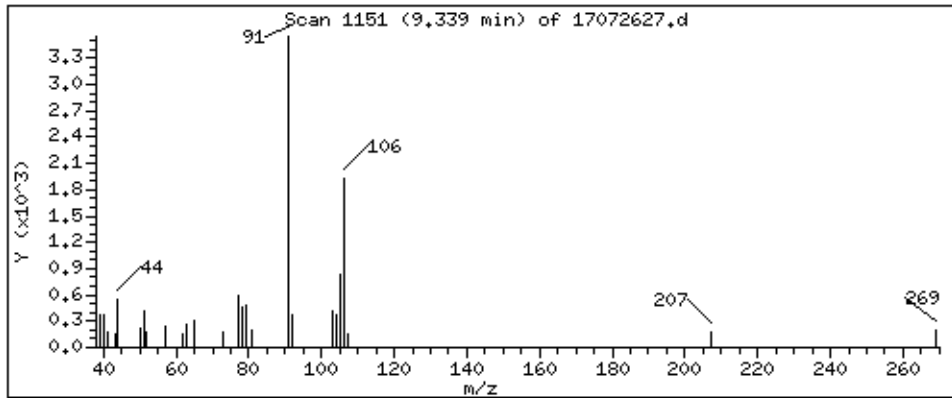
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

171 o-Xylene

Concentration: 5.572 PPBV



Date : 27-JUL-2018 02:13

Client ID:

Instrument: msd17.i

Sample Info: 20ml 0716cl

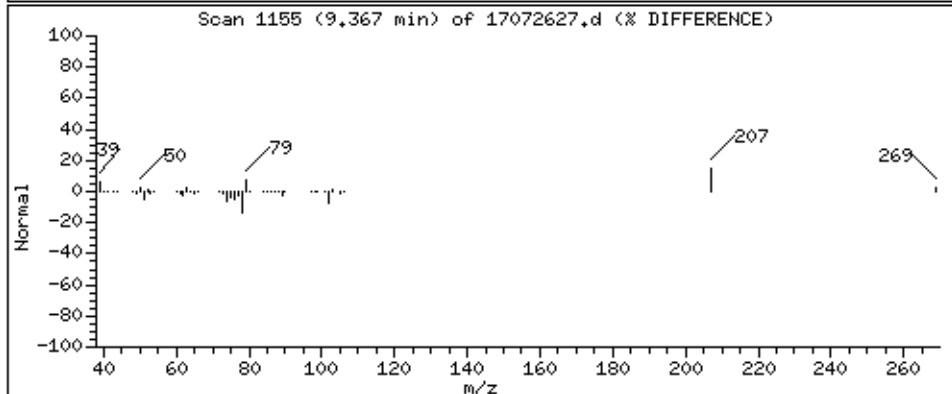
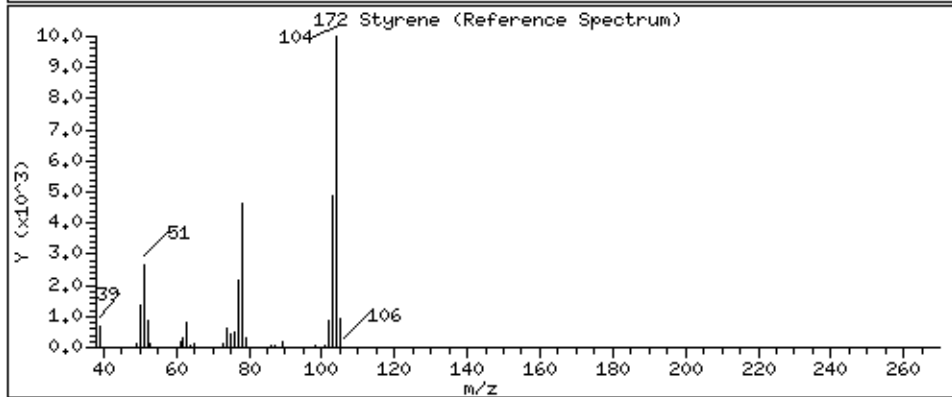
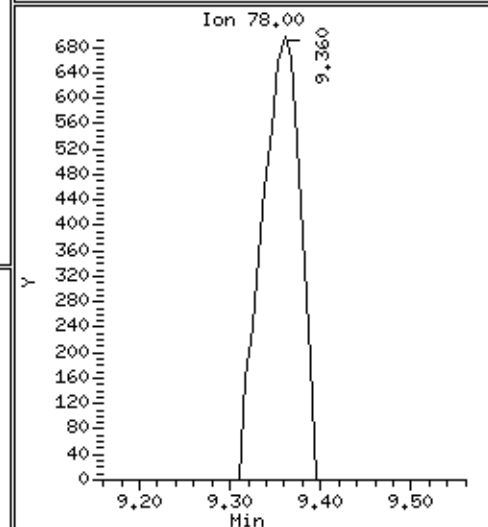
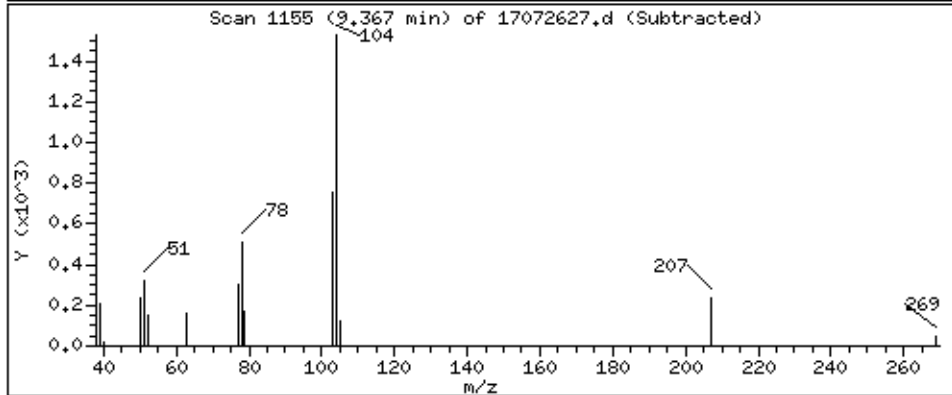
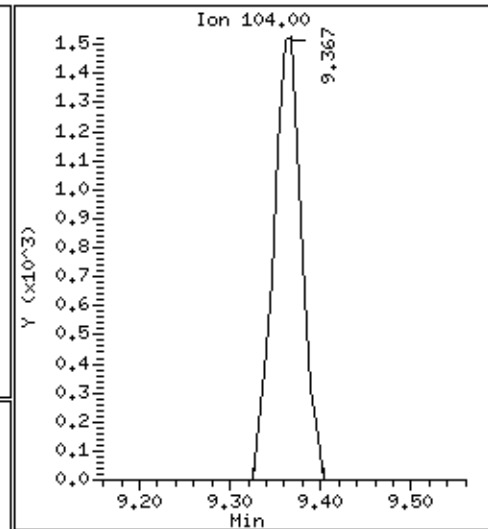
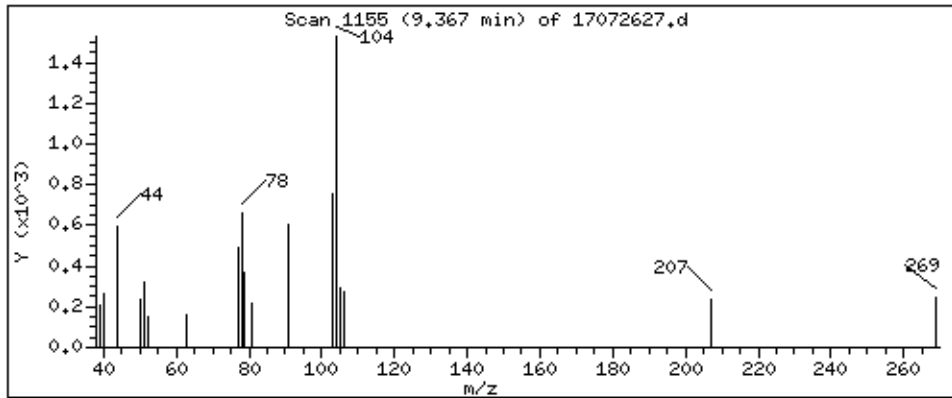
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

172 Styrene

Concentration: 3.165 PPBV



Date : 27-JUL-2018 02:13

Client ID:

Instrument: msd17.i

Sample Info: 20ml 0716c1

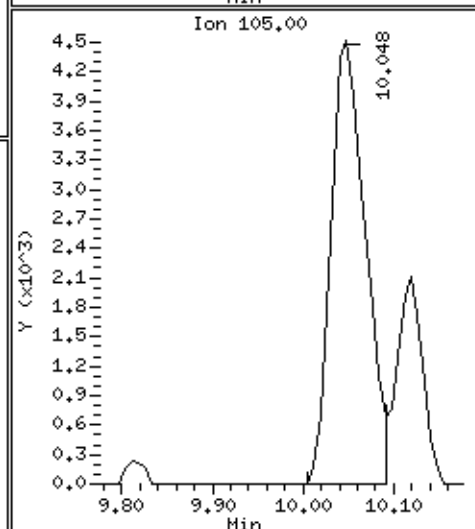
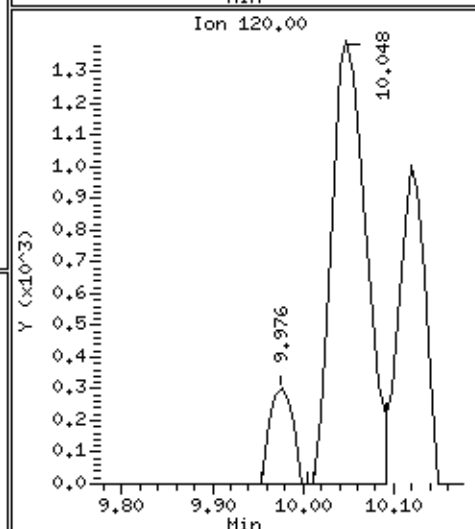
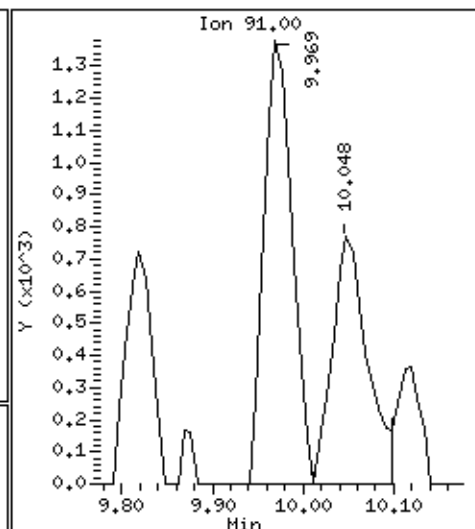
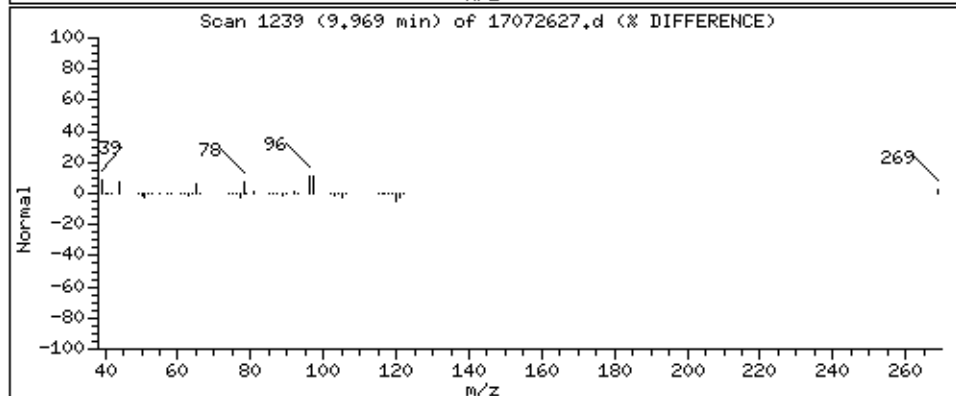
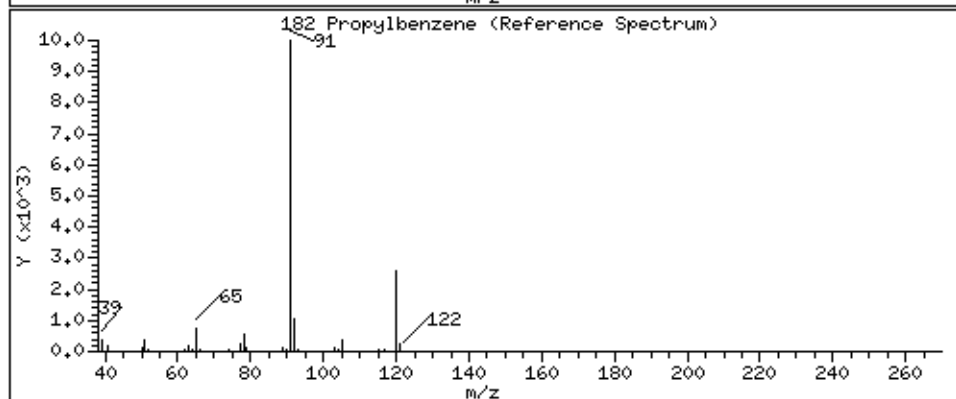
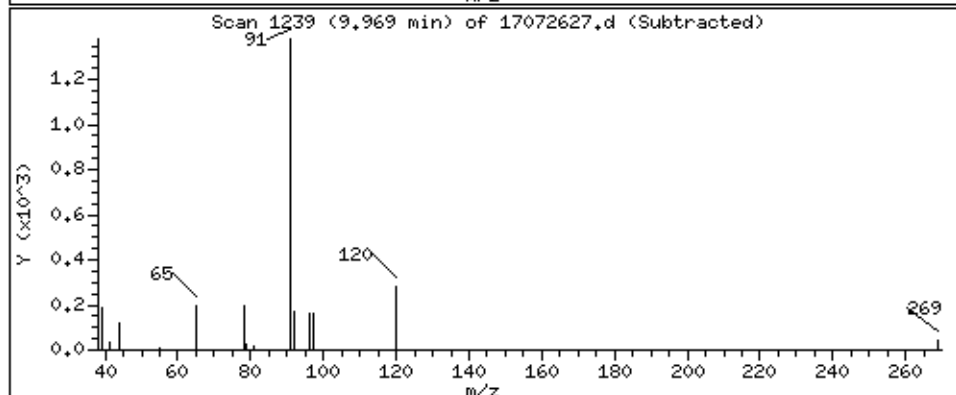
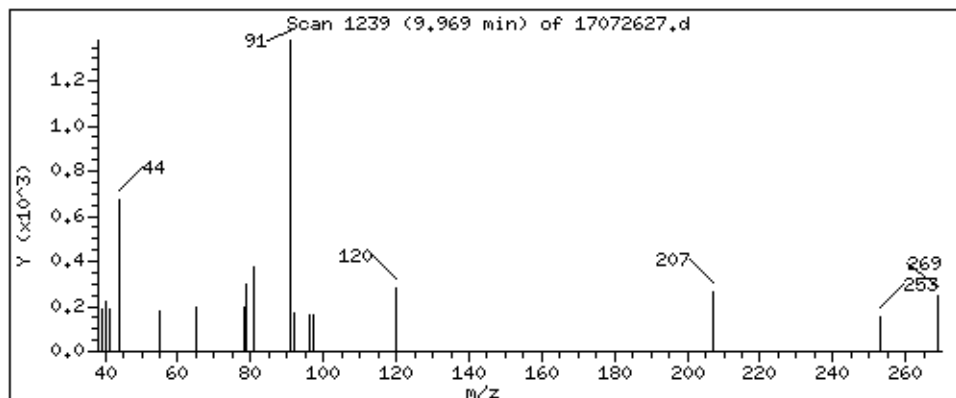
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

182 Propylbenzene

Concentration: 1.313 PPBV



Date : 27-JUL-2018 02:13

Client ID:

Instrument: msd17.i

Sample Info: 20ml 0716cl

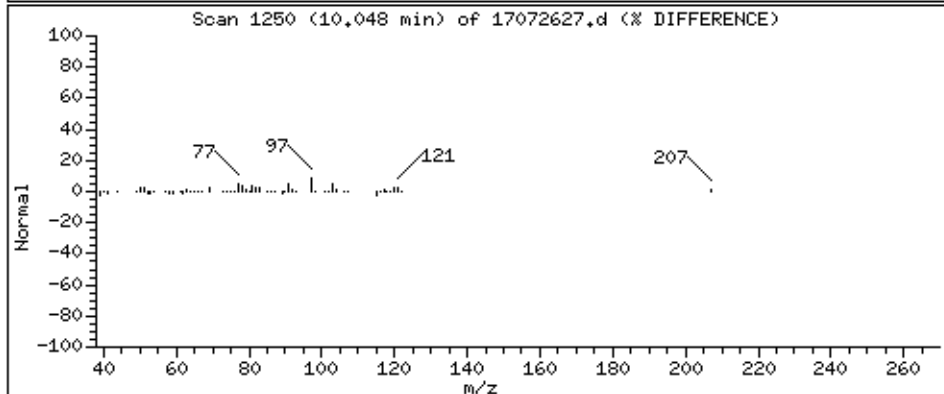
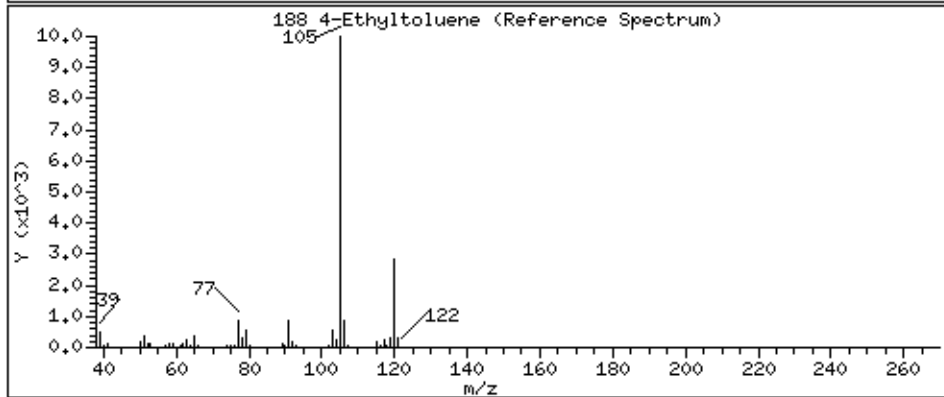
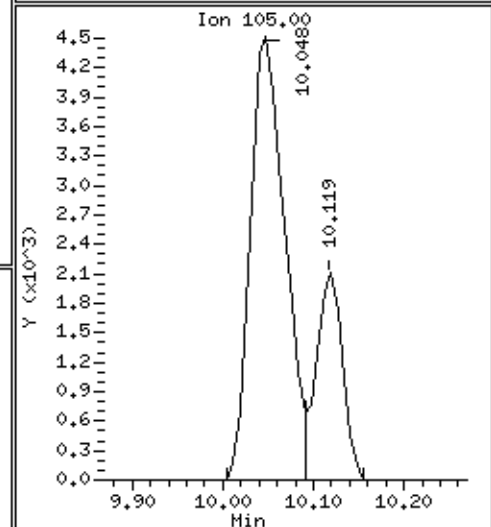
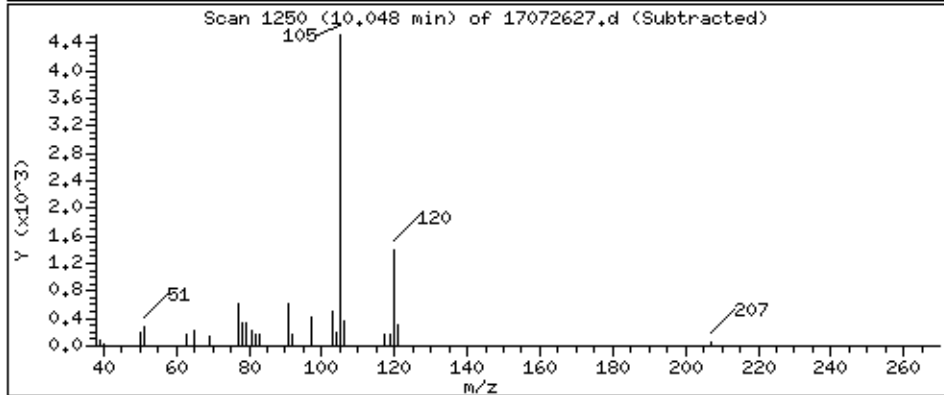
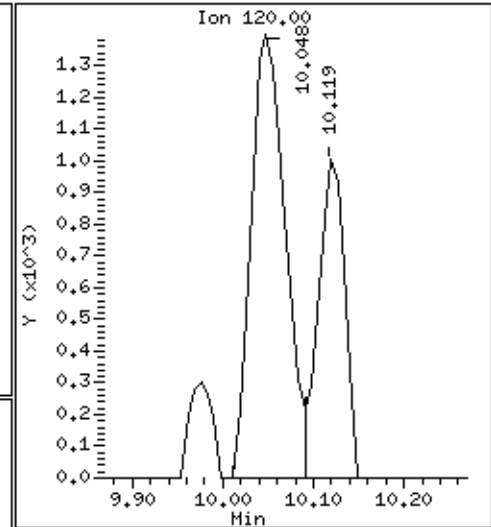
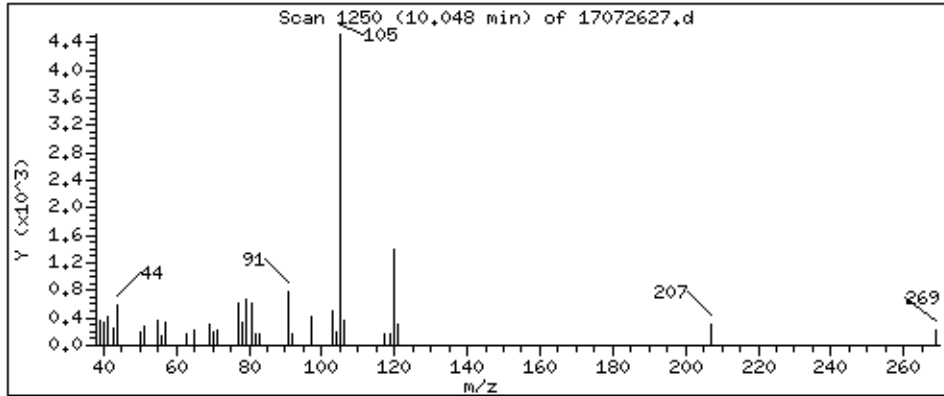
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

188 4-Ethyltoluene

Concentration: 5.840 PPBV



Date : 27-JUL-2018 02:13

Client ID:

Instrument: msd17.i

Sample Info: 20ml 0716cl

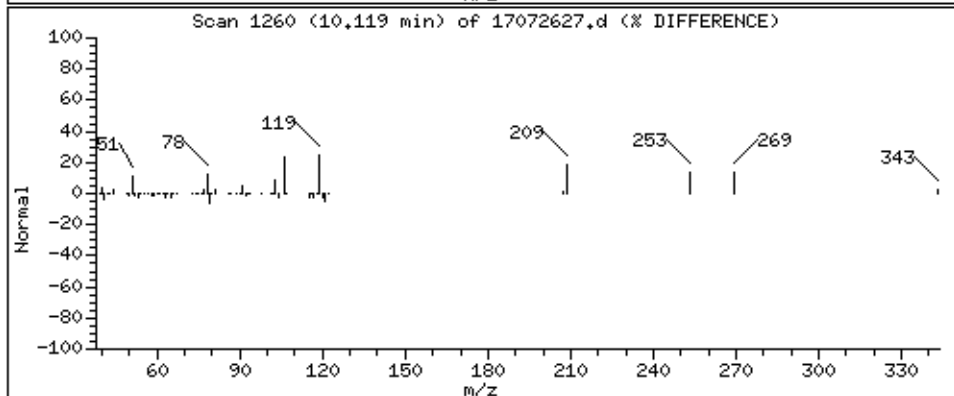
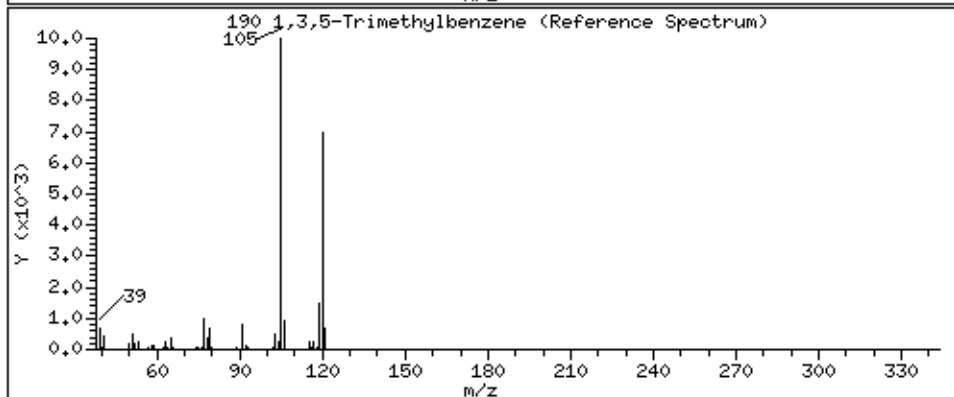
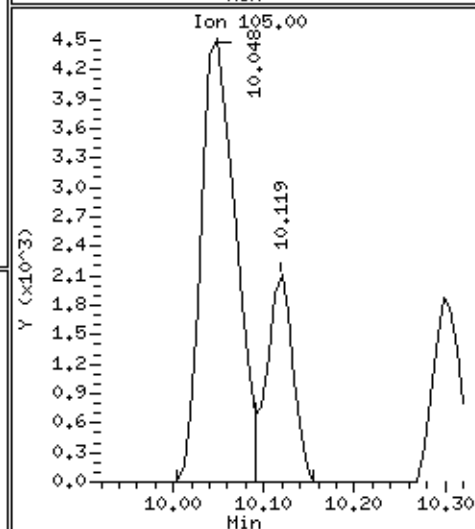
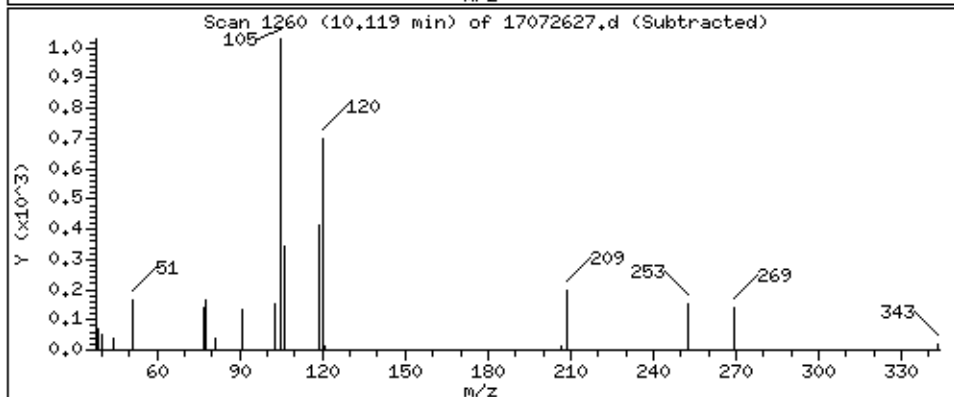
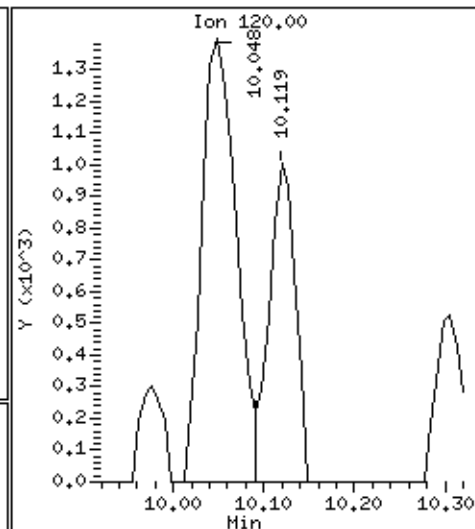
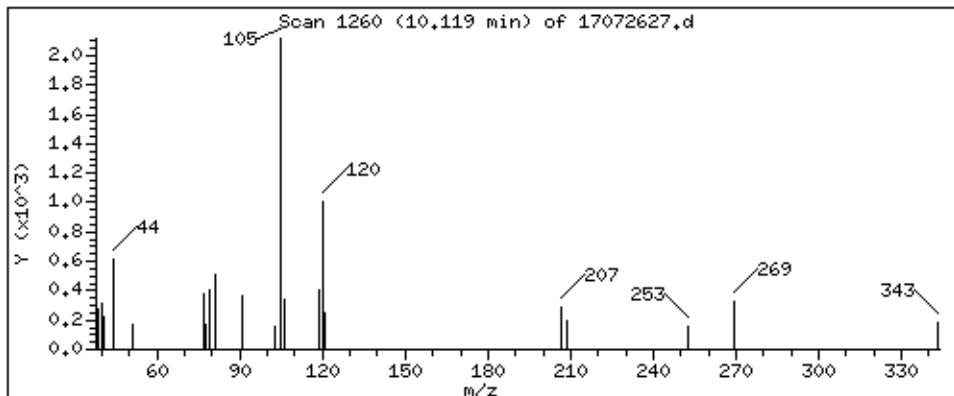
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

190 1,3,5-Trimethylbenzene

Concentration: 2,333 PPBV



Date : 27-JUL-2018 02:13

Client ID:

Instrument: msd17.i

Sample Info: 20ml 0716c1

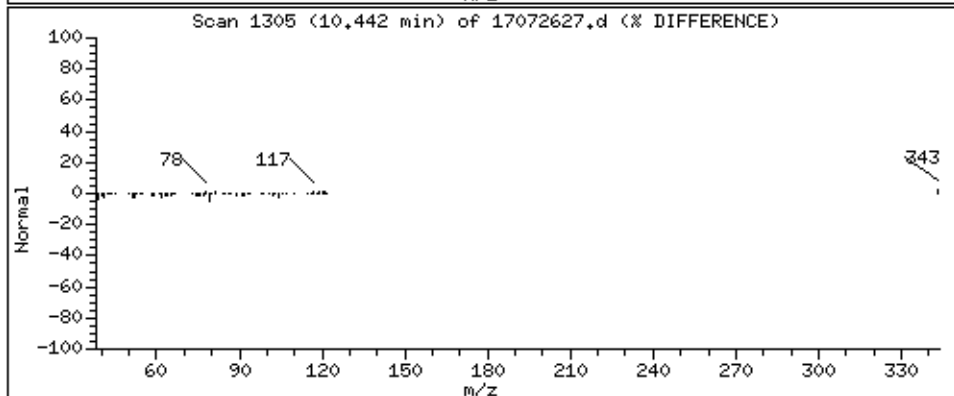
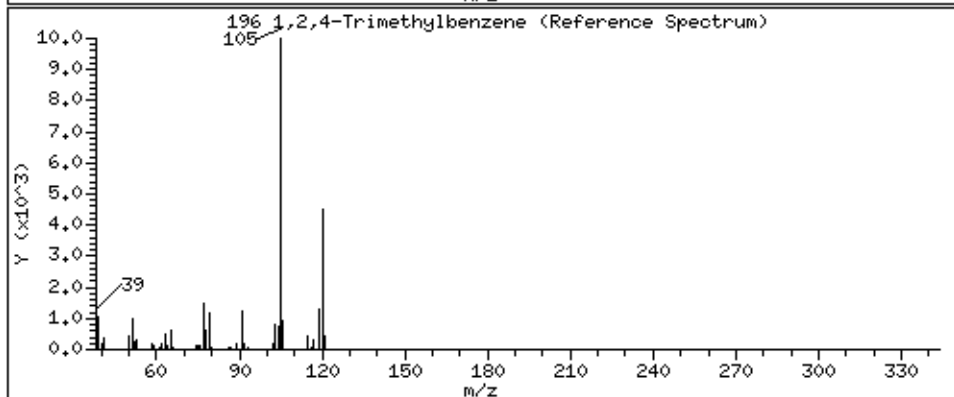
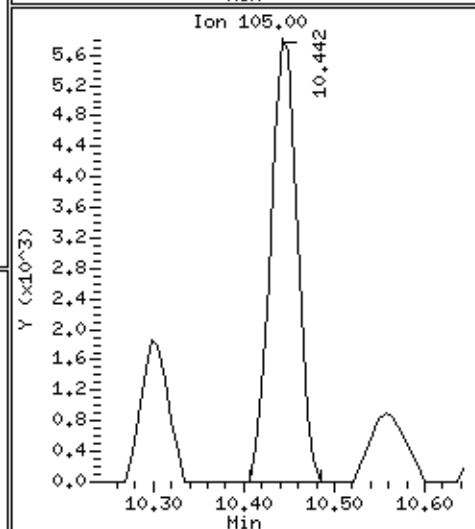
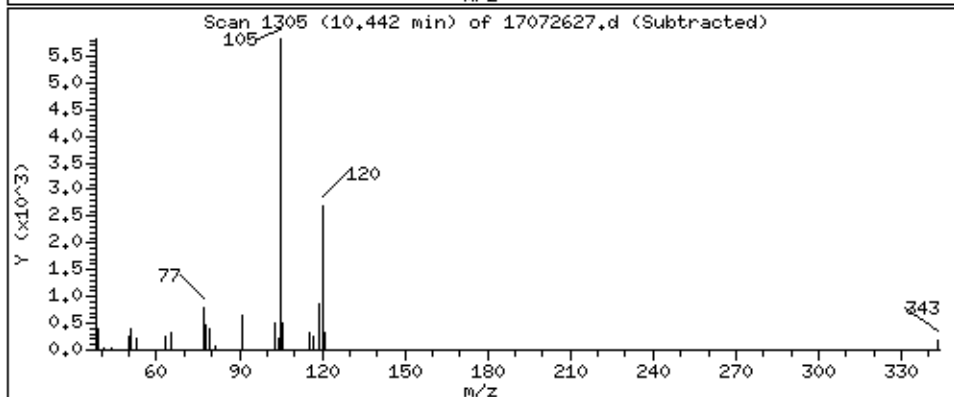
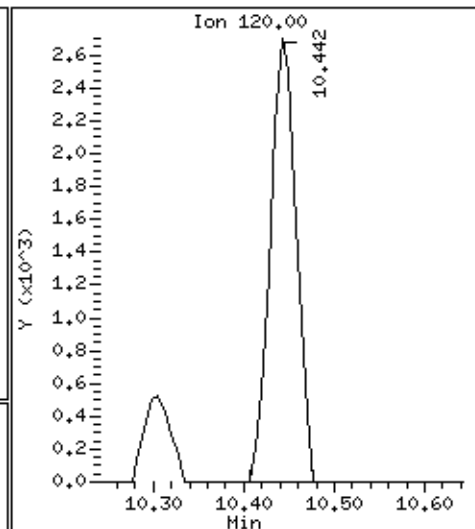
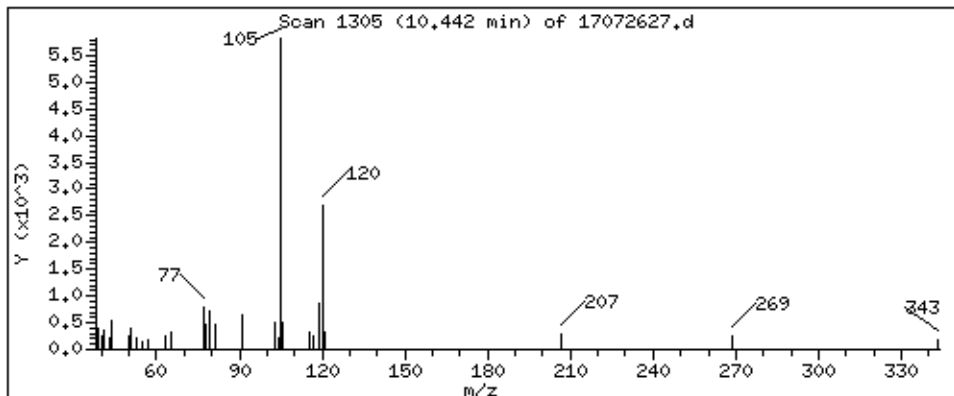
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

196 1,2,4-Trimethylbenzene

Concentration: 6.856 PPBV



EPA METHOD TO-15 GC/MS FULL SCAN

Client ID:	SSDS-1	Date/Time Analyzed:	7/27/18 01:47 AM
Lab ID:	1807359A-03A	Dilution Factor:	1.46
Date/Time Collecte	7/11/18 01:30 PM	Instrument/File name:	msd17.i / 17072626
Media:	Client Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.72	3.2	4.0	0.74 J
1,1,2,2-Tetrachloroethane	79-34-5	0.90	4.0	5.0	Not Detected
1,1,2-Trichloroethane	79-00-5	0.96	3.2	4.0	Not Detected
1,1-Dichloroethane	75-34-3	0.53	2.4	3.0	Not Detected
1,1-Dichloroethene	75-35-4	1.3	2.3	2.9	Not Detected
1,2,4-Trichlorobenzene	120-82-1	2.0	16	22	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.93	2.9	3.6	33
1,2-Dibromoethane (EDB)	106-93-4	1.6	4.5	5.6	Not Detected
1,2-Dichlorobenzene	95-50-1	0.79	3.5	4.4	Not Detected
1,2-Dichloroethane	107-06-2	0.47	2.4	3.0	Not Detected
1,2-Dichloropropane	78-87-5	0.88	2.7	3.4	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.79	2.9	3.6	9.0
1,3-Butadiene	106-99-0	0.36	1.3	1.6	Not Detected
1,3-Dichlorobenzene	541-73-1	0.61	3.5	4.4	6.5
1,4-Dichlorobenzene	106-46-7	0.88	3.5	4.4	Not Detected
1,4-Dioxane	123-91-1	2.3	7.9	10	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.54	2.7	3.4	19
2-Butanone (Methyl Ethyl Ketone)	78-93-3	1.4	6.4	8.6	32
2-Hexanone	591-78-6	1.2	9.0	12	Not Detected
2-Propanol	67-63-0	1.1	5.4	7.2	72
3-Chloropropene	107-05-1	2.1	6.8	9.1	Not Detected
4-Ethyltoluene	622-96-8	0.64	2.9	3.6	25
4-Methyl-2-pentanone	108-10-1	1.5	2.4	3.0	4.6
Acetone	67-64-1	2.5	5.2	17	130

EPA METHOD TO-15 GC/MS FULL SCAN

Client ID:	SSDS-1	Date/Time Analyzed:	7/27/18 01:47 AM
Lab ID:	1807359A-03A	Dilution Factor:	1.46
Date/Time Collecte	7/11/18 01:30 PM	Instrument/File name:	msd17.i / 17072626
Media:	Client Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.38	3.0	3.8	Not Detected
Benzene	71-43-2	1.3	1.9	2.3	6.6
Bromodichloromethane	75-27-4	1.2	3.9	4.9	Not Detected
Bromoform	75-25-2	1.2	6.0	7.5	Not Detected
Bromomethane	74-83-9	2.2	8.5	28	Not Detected
Carbon Disulfide	75-15-0	2.1	6.8	9.1	Not Detected
Carbon Tetrachloride	56-23-5	0.73	3.7	4.6	Not Detected
Chlorobenzene	108-90-7	0.54	2.7	3.4	0.89 J
Chloroethane	75-00-3	2.5	5.8	7.7	Not Detected
Chloroform	67-66-3	0.57	2.8	3.6	3.7
Chloromethane	74-87-3	1.7	4.5	15	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.46	2.3	2.9	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.73	2.6	3.3	Not Detected
Cumene	98-82-8	0.43	2.9	3.6	1.7 J
Cyclohexane	110-82-7	0.60	2.0	2.5	5.2
Dibromochloromethane	124-48-1	0.87	5.0	6.2	Not Detected
Ethanol	64-17-5	2.2	4.1	5.5	660 E
Ethyl Benzene	100-41-4	0.57	2.5	3.2	12
Freon 11	75-69-4	0.74	3.3	4.1	2.1 J
Freon 113	76-13-1	1.3	4.5	5.6	Not Detected
Freon 114	76-14-2	1.1	4.1	5.1	Not Detected
Freon 12	75-71-8	0.79	2.9	3.6	3.0 J
Heptane	142-82-5	1.1	2.4	3.0	6.8
Hexachlorobutadiene	87-68-3	3.9	23	31	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN

Client ID:	SSDS-1	Date/Time Analyzed:	7/27/18 01:47 AM
Lab ID:	1807359A-03A	Dilution Factor:	1.46
Date/Time Collecte	7/11/18 01:30 PM	Instrument/File name:	msd17.i / 17072626
Media:	Client Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.51	2.0	2.6	55
m,p-Xylene	108-38-3	0.51	2.5	3.2	40
Methyl tert-butyl ether	1634-04-4	1.4	7.9	10	Not Detected
Methylene Chloride	75-09-2	1.7	7.6	25	Not Detected
o-Xylene	95-47-6	0.44	2.5	3.2	19
Propylbenzene	103-65-1	0.36	2.9	3.6	5.2
Styrene	100-42-5	0.44	2.5	3.1	10
Tetrachloroethene	127-18-4	0.69	4.0	5.0	280
Tetrahydrofuran	109-99-9	0.47	1.7	2.2	29
Toluene	108-88-3	0.44	2.2	2.8	52
trans-1,2-Dichloroethene	156-60-5	0.87	2.3	2.9	1.2 J
trans-1,3-Dichloropropene	10061-02-6	0.40	2.6	3.3	Not Detected
Trichloroethene	79-01-6	1.5	3.1	3.9	8.1
Vinyl Chloride	75-01-4	0.45	1.5	1.9	Not Detected

J = Estimated value.

E = Exceeds instrument calibration range.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	94
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	102

US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/26jul18.b/17072626.d
Lab Smp Id: 1807359A-03A
Inj Date : 27-JUL-2018 01:47
Operator : DF
Smp Info : 200ml 28594cl
Misc Info : 2.5 Hg->5 psi
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/26jul18.b/178q0613b.m
Meth Date : 26-Jul-2018 13:48 p5fl
Cal Date : 23-JUL-2018 12:23
Als bottle: 6
Dil Factor: 1.46000
Integrator: HP RTE
Sample Matrix: AIR
Processing Host: us32apptv003

Inst ID: msd17.i
Quant Type: ISTD
Cal File: 17072306.d
Compound Sublist: AT12mdl.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

CONCENTRATIONS									
		ON-COL		FINAL					
RT	EXP RT	(REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98	Bromochloromethane					CAS #:	74-97-5		
5.506	5.499	(1.000)	130	125122	25.0000		80.00-	120.00	100.00
5.506	5.499	(1.000)	128	95392			48.32-	108.32	76.24
5.506	5.499	(1.000)	49	104701			63.40-	123.40	83.68

* 123	1,4-Difluorobenzene					CAS #:	540-36-3		
6.395	6.386	(1.000)	114	415583	25.0000		80.00-	120.00	100.00
6.395	6.386	(1.000)	88	60415			0.00-	44.55	14.54

* 163	Chlorobenzene-d5					CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	392304	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	186883			17.97-	77.97	47.64

\$ 117	1,2-Dichloroethane-d4					CAS #:	17060-07-0		
6.044	6.036	(1.098)	65	132842	23.3818	23.382	80.00-	120.00	100.00
6.044	6.036	(1.098)	67	70374			23.66-	83.66	52.98

\$ 146	Toluene-d8					CAS #:	2037-26-5		
7.598	7.598	(1.188)	98	412390	25.4788	25.479	80.00-	120.00	100.00
7.598	7.598	(1.188)	70	49019			0.00-	40.01	11.89

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET	RANGE	RATIO
					ON-COL	FINAL			
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
\$ 146 Toluene-d8 (continued)									
7.598	7.598	(1.188)	100	267641			35.43-	95.43	64.90

\$ 177 4-Bromofluorobenzene CAS #: 460-00-4									
9.818	9.819	(1.112)	174	305505	24.6610	24.661	80.00-	120.00	100.00
9.818	9.819	(1.112)	95	274588			59.41-	119.41	89.88
9.818	9.819	(1.112)	176	297746			68.33-	128.33	97.46

9 Propylene CAS #: 115-07-1									
1.517	1.501	(0.275)	41	14609	5.55466	8.110	80.00-	120.00	100.00
1.517	1.501	(0.275)	42	7950			36.13-	96.13	54.42
1.517	1.501	(0.275)	39	12006			46.53-	106.53	82.18

11 Freon 12 CAS #: 75-71-8									
1.545	1.534	(0.281)	85	4633	0.41703	0.6089	80.00-	120.00	100.00(a)
1.538	1.534	(0.279)	87	1460			2.38-	62.38	31.52

17 Chloromethane CAS #: 74-87-3									
1.803	1.752	(0.327)	50	9359	3.25075	4.746	80.00-	120.00	100.00(a)
1.796	1.752	(0.326)	52	1708			5.22-	65.22	18.25

23 Butane CAS #: 106-97-8									
1.825	1.816	(0.331)	58	841	1.00207	1.463	80.00-	120.00	100.00(a)
1.817	1.816	(0.330)	43	7248			637.12-	697.12	861.70

26 1,3-Butadiene CAS #: 106-99-0									
1.803	1.876	(0.327)	54	1883	0.66738	0.9744	80.00-	120.00	100.00
1.803	1.876	(0.327)	39	37678			72.44-	132.44	2000.50

31 Isopentane CAS #: 78-78-4									
2.369	2.359	(0.430)	43	15618	3.79195	5.536	80.00-	120.00	100.00
2.376	2.359	(0.432)	57	11734			45.20-	105.20	75.13

35 Freon 11 CAS #: 75-69-4									
2.598	2.593	(0.472)	101	3358	0.25770	0.3762	80.00-	120.00	100.00(a)
2.598	2.593	(0.472)	103	1855			34.28-	94.28	55.24

42 Ethanol CAS #: 64-17-5									
2.956	2.946	(0.537)	45	343161	240.436	351.04	80.00-	120.00	100.00(A)
2.956	2.946	(0.537)	46	130653			9.17-	69.17	38.07

52 Acetone CAS #: 67-64-1									
3.436	3.429	(0.624)	58	77939	38.6464	56.424	80.00-	120.00	100.00
3.436	3.429	(0.624)	43	236806			290.24-	350.24	303.83

57 2-Propanol CAS #: 67-63-0									
3.622	3.607	(0.658)	45	130776	20.1432	29.409	80.00-	120.00	100.00

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET	RANGE	RATIO
					ON-COL	FINAL			
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
57 2-Propanol (continued)									
3.622	3.607	(0.658)	43	28788			0.00-	51.65	22.01
3.622	3.607	(0.658)	59	5714			0.00-	34.46	4.37

71 tert-Butyl alcohol					CAS #: 75-65-0				
4.074	4.063	(0.740)	59	48269	5.06268	7.392	80.00-	120.00	100.00
4.081	4.063	(0.741)	41	19173			0.00-	49.54	39.72
4.095	4.063	(0.744)	57	22125			0.00-	40.61	45.84

73 trans-1,2-Dichloroethene					CAS #: 156-60-5				
4.188	4.177	(0.761)	98	653	0.21185	0.3093	80.00-	120.00	100.00(a)
4.188	4.177	(0.761)	61	1205			169.57-	229.57	184.48
4.188	4.177	(0.761)	96	1089			127.00-	187.00	166.72

78 Hexane					CAS #: 110-54-3				
4.396	4.384	(0.798)	57	70980	10.7739	15.730	80.00-	120.00	100.00
4.396	4.384	(0.798)	43	44382			28.25-	88.25	62.53
4.396	4.384	(0.798)	86	13705			0.00-	48.98	19.31

92 2-Butanone					CAS #: 78-93-3				
5.299	5.292	(0.962)	72	16805	7.44688	10.872	80.00-	120.00	100.00
5.306	5.292	(0.964)	43	68643			305.24-	365.24	408.45
5.299	5.292	(0.962)	57	4899			0.00-	59.67	29.15

99 Tetrahydrofuran					CAS #: 109-99-9				
5.506	5.493	(1.000)	42	28902	6.77528	9.892	80.00-	120.00	100.00
5.506	5.493	(1.000)	71	14914			18.99-	78.99	51.60
5.506	5.493	(1.000)	72	15578			20.78-	80.78	53.90

100 Chloroform					CAS #: 67-66-3				
5.571	5.560	(1.012)	83	5002	0.51510	0.7520	80.00-	120.00	100.00
5.607	5.560	(1.018)	85	9007			35.00-	95.00	180.07

102 Cyclohexane					CAS #: 110-82-7				
5.671	5.659	(1.030)	84	6764	1.03451	1.510	80.00-	120.00	100.00
5.671	5.659	(1.030)	56	11094			70.31-	130.31	164.03
5.671	5.659	(1.030)	41	7248			25.25-	85.25	107.17

103 1,1,1-Trichloroethane					CAS #: 71-55-6				
5.685	5.679	(1.033)	97	1012	0.09357	0.1366	80.00-	120.00	100.00(a)
5.685	5.679	(1.033)	99	706			34.84-	94.84	69.74

113 2,2,4-Trimethylpentane					CAS #: 540-84-1				
5.993	5.985	(1.088)	57	53927	2.77091	4.046	80.00-	120.00	100.00
5.993	5.985	(1.088)	56	19971			2.59-	62.59	37.03
5.993	5.985	(1.088)	41	17758			0.00-	55.57	32.93

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET	RANGE	RATIO
					ON-COL	FINAL			
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
116 Benzene					CAS #: 71-43-2				
6.022	6.010	(0.942)	78	18583	1.41019	2.059	80.00-	120.00	100.00
6.015	6.010	(0.941)	77	5133			0.00-	53.90	27.62
119 tert-Amyl methyl ether					CAS #: 994-05-8				
6.087	6.075	(1.105)	87	2406	0.64662	0.9441	80.00-	120.00	100.00(a)
6.058	6.075	(1.100)	73	535			361.82-	421.82	22.25
6.094	6.075	(1.107)	55	4620			58.31-	118.31	191.97
121 Heptane					CAS #: 142-82-5				
6.158	6.153	(0.963)	71	5279	1.14521	1.672	80.00-	120.00	100.00
6.158	6.153	(0.963)	43	4600			110.59-	170.59	87.14
6.158	6.153	(0.963)	57	4645			64.25-	124.25	87.99
125 Trichloroethene					CAS #: 79-01-6				
6.588	6.582	(1.030)	95	6529	1.03500	1.511	80.00-	120.00	100.00
6.588	6.582	(1.030)	130	7107			81.76-	141.76	108.86
6.588	6.582	(1.030)	97	3859			34.64-	94.64	59.12
127 Methylcyclohexane					CAS #: 108-87-2				
6.681	6.675	(1.213)	83	12004	1.34798	1.968	80.00-	120.00	100.00(a)
6.681	6.675	(1.213)	98	6333			18.58-	78.58	52.76
6.681	6.675	(1.213)	55	11538			37.28-	97.28	96.12
145 4-Methyl-2-pentanone					CAS #: 108-10-1				
7.526	7.526	(1.177)	58	2951	0.77790	1.136	80.00-	120.00	100.00
7.533	7.526	(1.178)	43	8661			214.83-	274.83	293.43
7.526	7.526	(1.177)	85	1387			23.05-	83.05	47.00
147 Toluene					CAS #: 108-88-3				
7.655	7.655	(1.197)	91	160309	9.36827	13.678	80.00-	120.00	100.00
7.655	7.655	(1.197)	92	91894			27.80-	87.80	57.32
150 trans-1,3-Dichloropropene					CAS #: 10061-02-6				
7.849	7.899	(0.889)	75	2595	0.33848	0.4942	80.00-	120.00	100.00(a)
7.892	7.899	(0.894)	77	1206			1.77-	61.77	46.47
7.827	7.899	(0.886)	39	741			14.97-	74.97	28.56
155 1,1,2-Trichloroethane					CAS #: 79-00-5				
8.092	8.056	(0.916)	97	1504	0.24621	0.3594	80.00-	120.00	100.00(a)
8.092	8.056	(0.916)	99	209			32.71-	92.71	13.94
8.092	8.056	(0.916)	83	5020			55.53-	115.53	333.72
156 Tetrachloroethene					CAS #: 127-18-4				
8.092	8.092	(0.916)	166	311954	28.2520	41.248	80.00-	120.00	100.00
8.092	8.092	(0.916)	129	207180			36.14-	96.14	66.41

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
				ON-COL	FINAL		
==	=====	=====	=====	(PPBV)	(PPBV)	=====	=====
156 Tetrachloroethene (continued)							
8.092	8.092 (0.916)	131	200315			34.69- 94.69	64.21

158 2-Hexanone				CAS #: 591-78-6			
8.300	8.214 (0.940)	58	2524	0.50901	0.7432	80.00- 120.00	100.00(a)
8.300	8.214 (0.940)	43	17761			146.83- 206.83	703.55
0.000	8.214 (0.000)	100	0			0.00- 55.52	0.00

165 Chlorobenzene				CAS #: 108-90-7			
8.859	8.859 (1.003)	112	2059	0.13314	0.1944	80.00- 120.00	100.00(a)
8.859	8.859 (1.003)	114	469			2.14- 62.14	22.79
8.837	8.859 (1.001)	77	4927			23.42- 83.42	239.30

167 Ethyl Benzene				CAS #: 100-41-4			
8.902	8.902 (1.008)	106	14674	1.88807	2.756	80.00- 120.00	100.00
8.902	8.902 (1.008)	91	44290			268.52- 328.52	301.82

169 m,p-Xylene				CAS #: 108-38-3			
9.002	8.998 (1.019)	106	60355	6.24546	9.118	80.00- 120.00	100.00
8.995	8.998 (1.019)	91	118966			161.75- 221.75	197.11

171 o-Xylene				CAS #: 95-47-6			
9.339	9.339 (1.058)	106	27927	3.04992	4.453	80.00- 120.00	100.00
9.339	9.339 (1.058)	91	55945			170.98- 230.98	200.32

172 Styrene				CAS #: 100-42-5			
9.360	9.360 (1.060)	104	24747	1.70442	2.488	80.00- 120.00	100.00
9.360	9.360 (1.060)	78	12482			16.10- 76.10	50.44

175 Cumene				CAS #: 98-82-8			
9.625	9.625 (1.090)	105	6516	0.23480	0.3428	80.00- 120.00	100.00(a)
9.632	9.625 (1.091)	120	1743			0.00- 58.56	26.75
9.625	9.625 (1.090)	51	391			0.00- 37.61	6.01

181 1,1,2,2-Tetrachloroethane				CAS #: 79-34-5			
10.026	9.947 (1.135)	83	2742	0.20988	0.3064	80.00- 120.00	100.00(a)
10.019	9.947 (1.135)	85	8783			35.03- 95.03	320.21

182 Propylbenzene				CAS #: 103-65-1			
9.976	9.975 (1.130)	91	22838	0.72824	1.063	80.00- 120.00	100.00
9.976	9.975 (1.130)	120	5835			0.00- 56.23	25.55
9.976	9.975 (1.130)	105	997			0.00- 33.80	4.37

188 4-Ethyltoluene				CAS #: 622-96-8			
10.048	10.069 (1.138)	120	31044	3.53417	5.160	80.00- 120.00	100.00
10.048	10.069 (1.138)	105	94850			275.42- 335.42	305.53

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
					ON-COL	FINAL		
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====
190 1,3,5-Trimethylbenzene CAS #: 108-67-8								
10.119	10.119	(1.146)	120	15294	1.25338	1.830	80.00- 120.00	100.00
10.119	10.119	(1.146)	105	31804			165.32- 225.32	207.95

196 1,2,4-Trimethylbenzene CAS #: 95-63-6								
10.442	10.444	(1.183)	120	49804	4.56737	6.668	80.00- 120.00	100.00
10.442	10.444	(1.183)	105	104943			176.48- 236.48	210.71

208 1,3-Dichlorobenzene CAS #: 541-73-1								
10.735	10.735	(1.216)	146	13768	0.74353	1.086	80.00- 120.00	100.00
10.735	10.735	(1.216)	148	8909			34.93- 94.93	64.71
10.735	10.735	(1.216)	111	8433			5.13- 65.13	61.25

209 1,4-Dichlorobenzene CAS #: 106-46-7								
10.735	10.820	(1.216)	146	13768	0.72775	1.062	80.00- 120.00	100.00
10.735	10.820	(1.216)	148	8909			34.11- 94.11	64.71
10.735	10.820	(1.216)	111	8433			4.00- 64.00	61.25

212 alpha-Chlorotoluene CAS #: 100-44-7								
10.914	10.936	(1.236)	91	8006	0.40808	0.5958	80.00- 120.00	100.00(a)
10.900	10.936	(1.234)	126	210			0.00- 55.13	2.62

214 1,2-Dichlorobenzene CAS #: 95-50-1								
11.265	11.149	(1.276)	146	2491	0.13996	0.2043	80.00- 120.00	100.00(a)
11.265	11.149	(1.276)	148	6452			34.17- 94.17	259.01
11.265	11.149	(1.276)	111	11905			6.50- 66.50	477.93

228 Naphthalene CAS #: 91-20-3								
12.805	12.806	(1.450)	128	35139	1.00870	1.473	80.00- 120.00	100.00
12.813	12.806	(1.451)	127	4770			0.00- 43.59	13.58

QC Flag Legend

- a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
- A - Target compound detected but, quantitated amount exceeded maximum amount.

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17072626.d
Lab Smp Id: 1807359A-03A
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem/msd17.i/26jul18.b/178q0613b.m
Misc Info: 2.5 Hg->5 psi

Calibration Date: 26-JUL-2018
Calibration Time: 10:10
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	128867	77320	180414	125122	-2.91
123 1,4-Difluorobenze	450283	270170	630396	415583	-7.71
163 Chlorobenzene-d5	413209	247925	578493	392304	-5.06

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.51	5.18	5.84	5.51	0.00
123 1,4-Difluorobenze	6.39	6.06	6.72	6.39	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

US32APPTV002

RECOVERY REPORT

Client Name: Client SDG: 26jul18
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1807359A-03A
Level: LOW Operator: DF
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AT12mdl.sub
Method File: /chem/msd17.i/26jul18.b/178q0613b.m
Misc Info: 2.5 Hg->5 psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
\$ 117 1,2-Dichloroethane-d4	25.000	23.382	93.53
\$ 146 Toluene-d8	25.000	25.479	101.92
\$ 177 4-Bromofluorobenzene	25.000	24.661	98.64

Data File: /chem/msd17.1/26jul18.b/17072626.d

Date : 27-JUL-2018 01:47

Client ID:

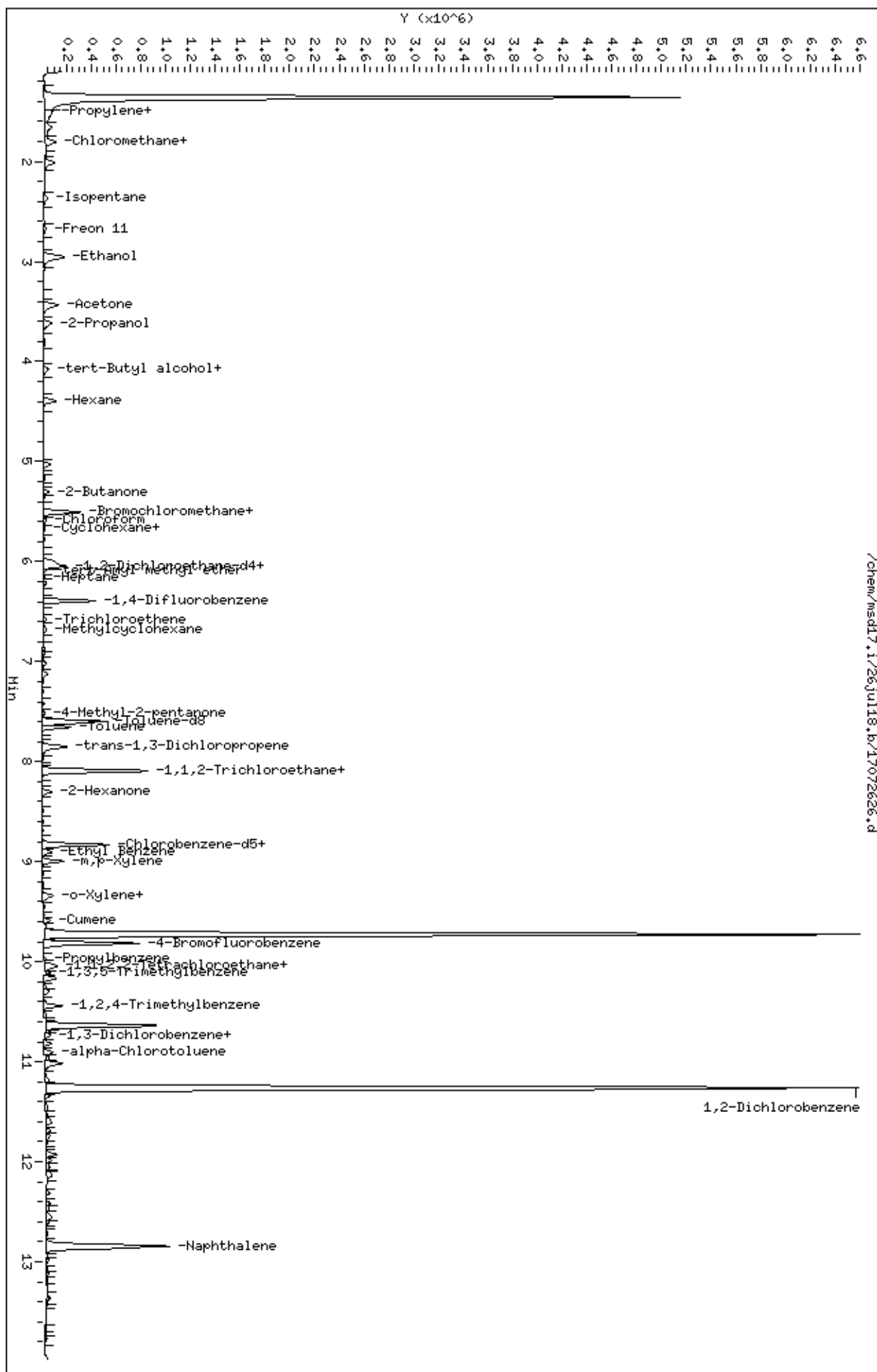
Sample Info: 200ml 28594c1

Column phase: RTX-624

Instrument: msd17.1

Operator: DF

Column diameter: 0.25



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

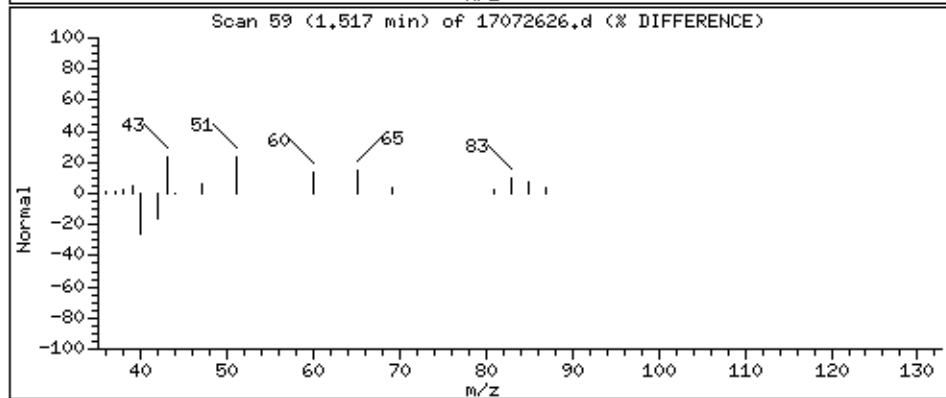
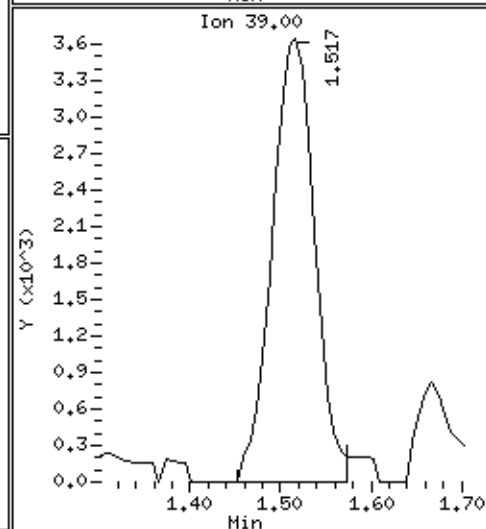
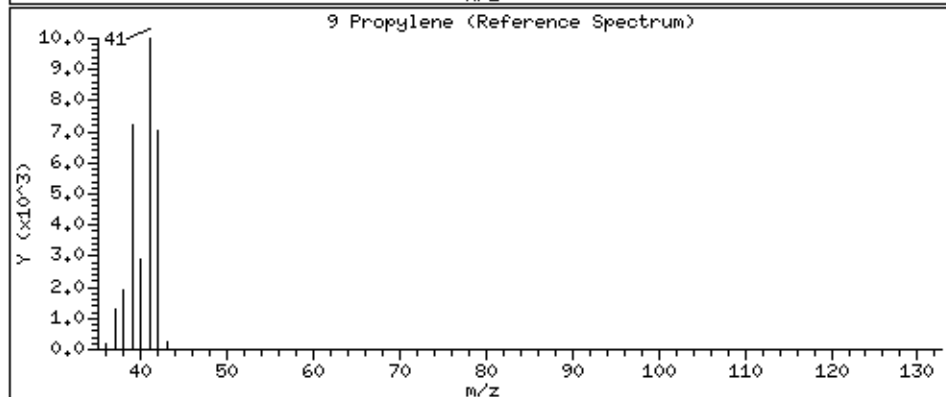
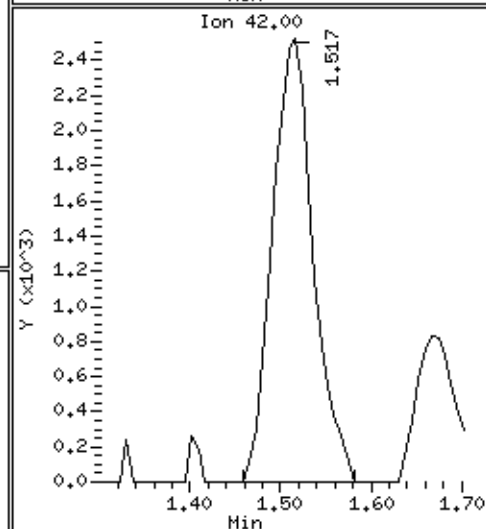
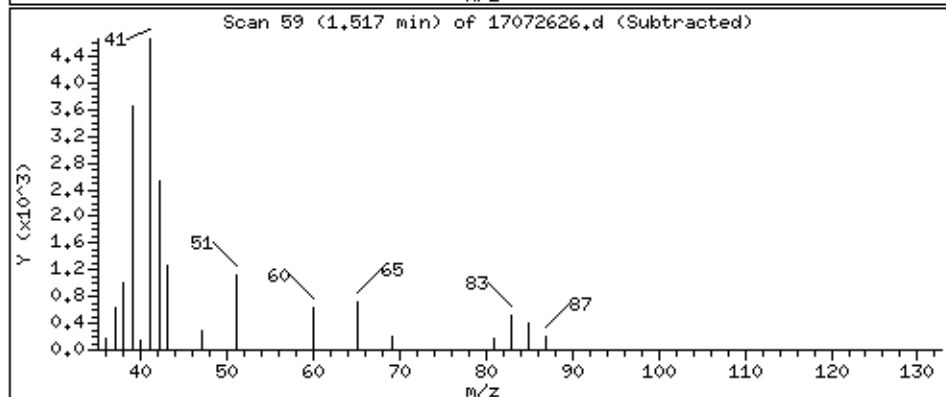
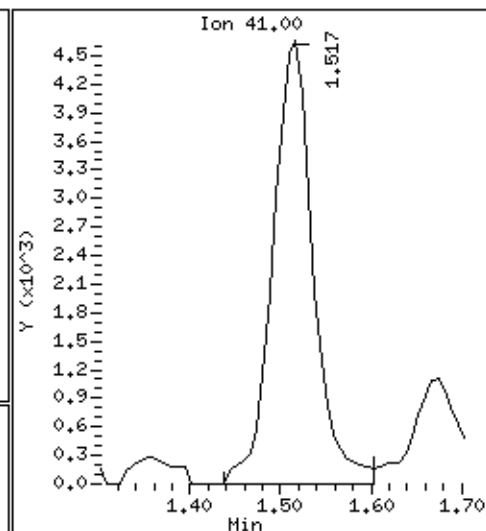
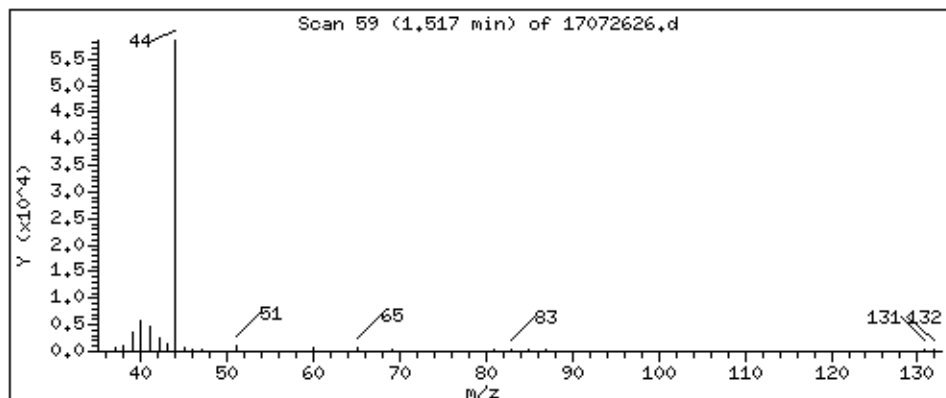
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

9 Propylene

Concentration: 8.110 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

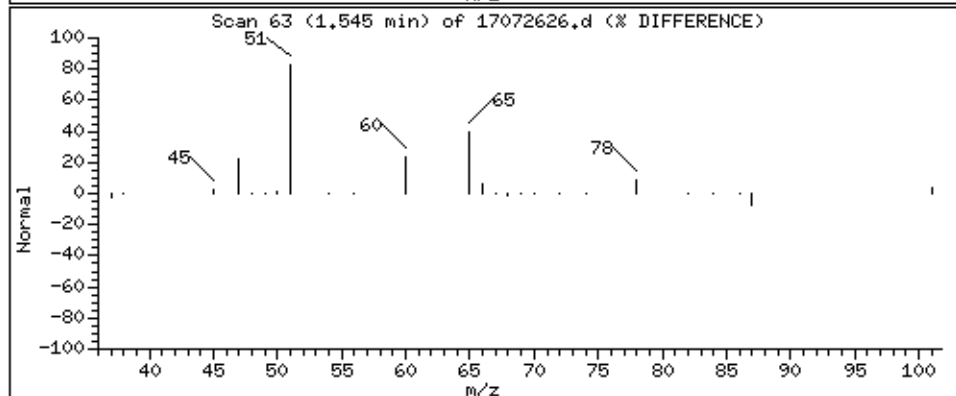
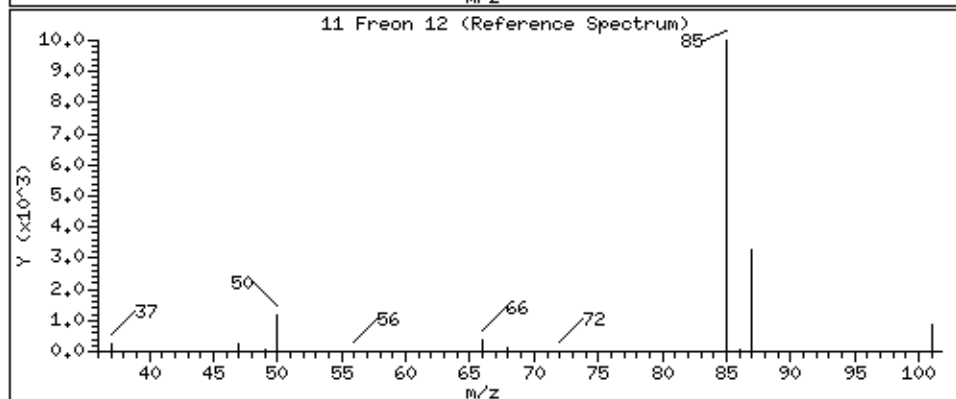
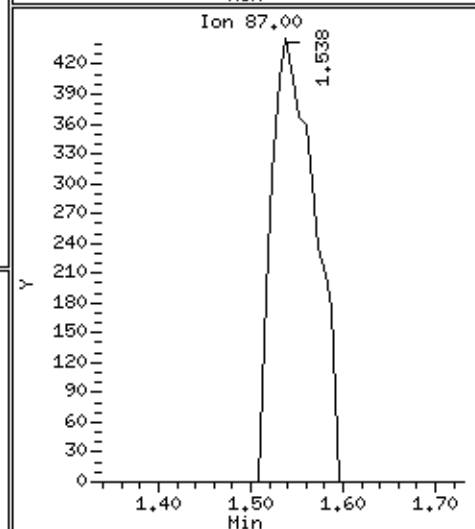
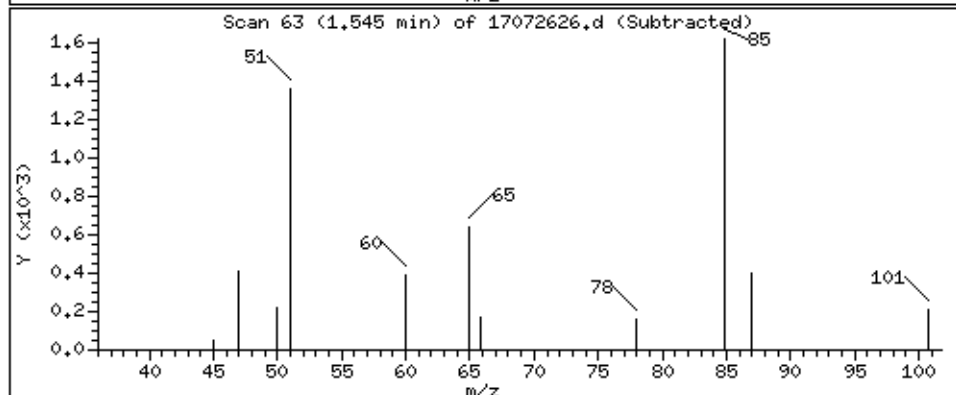
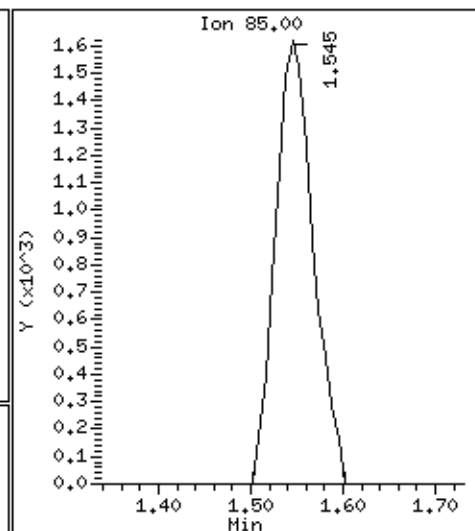
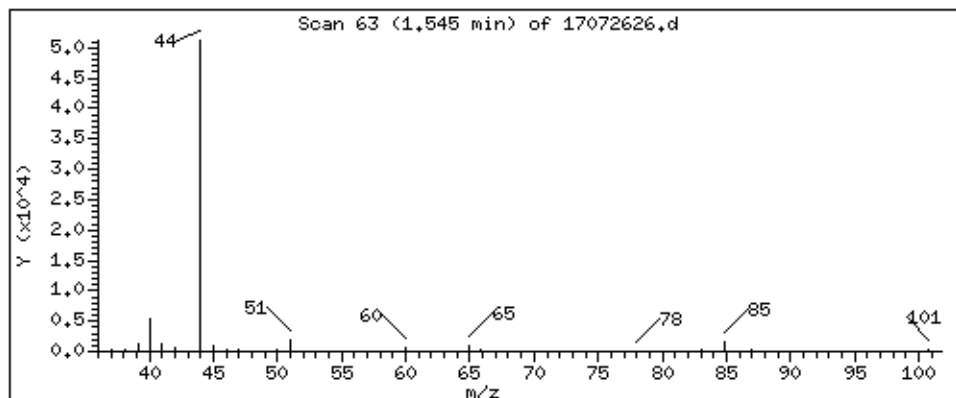
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

11 Freon 12

Concentration: 0.6089 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594cl

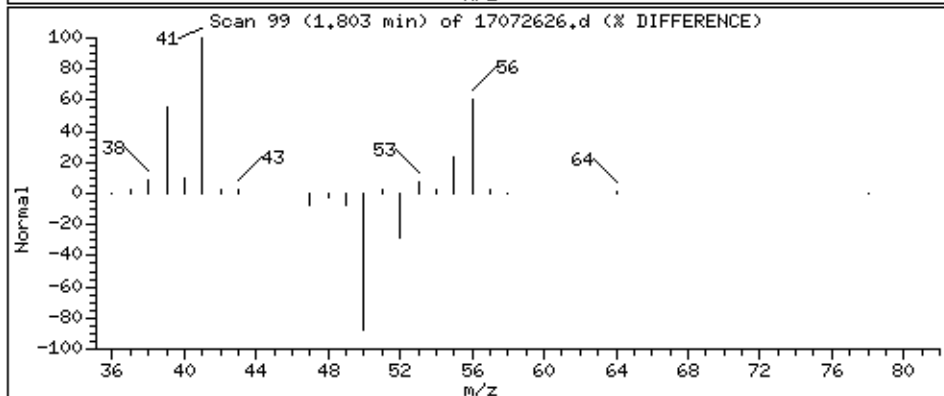
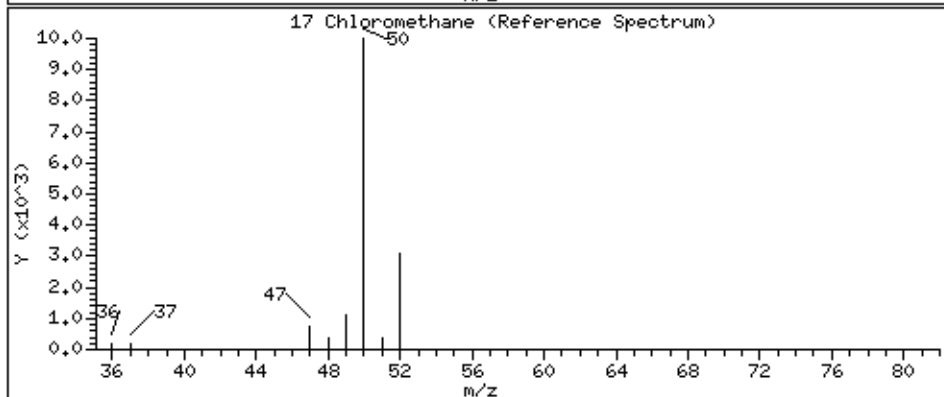
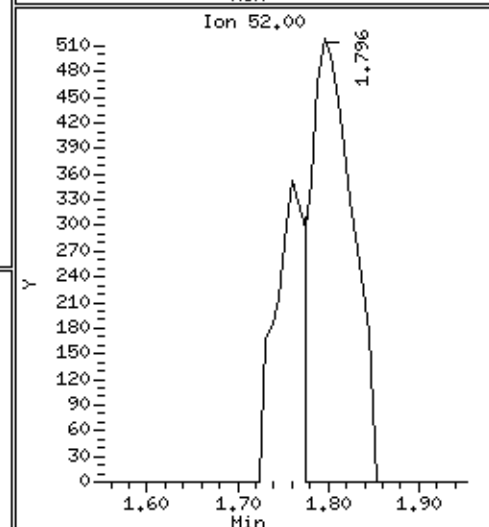
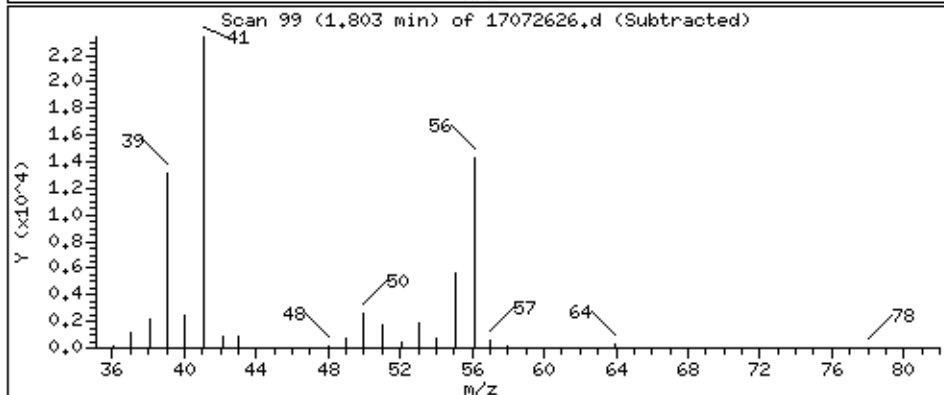
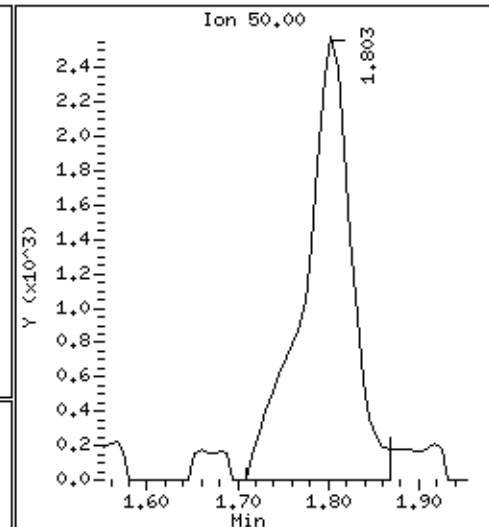
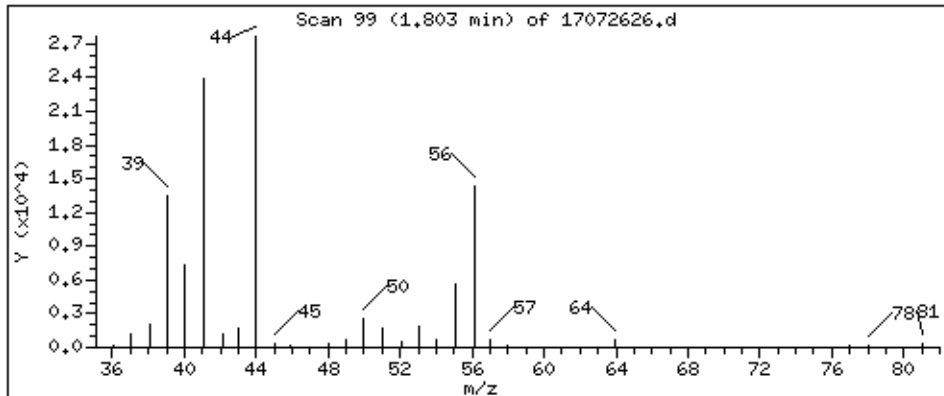
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

17 Chloromethane

Concentration: 4.746 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594cl

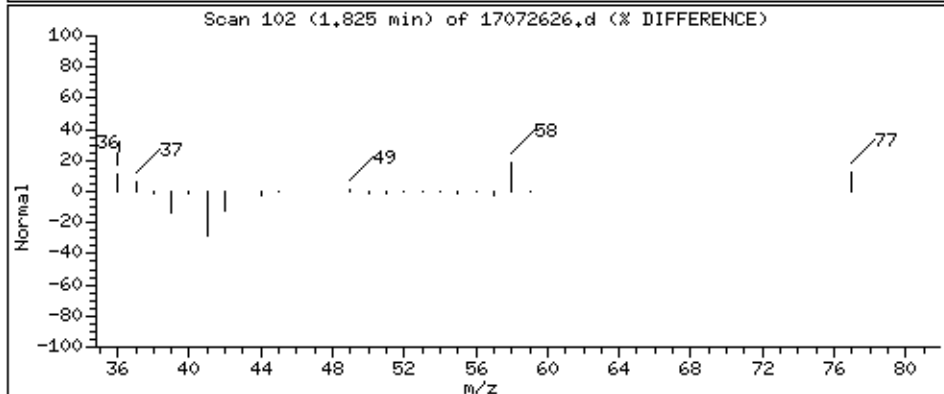
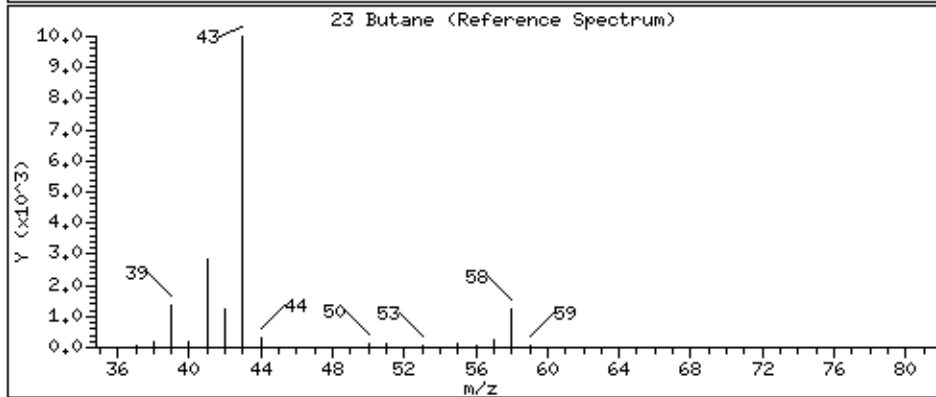
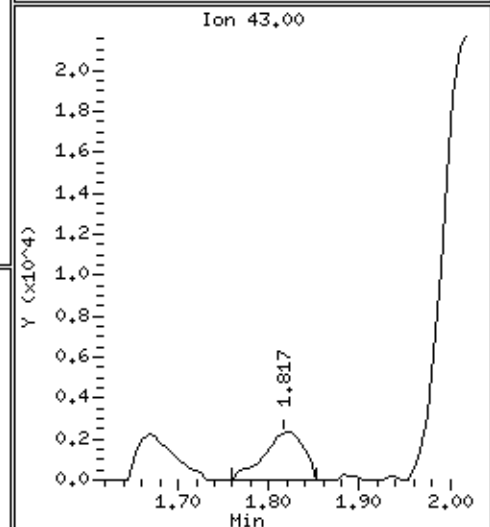
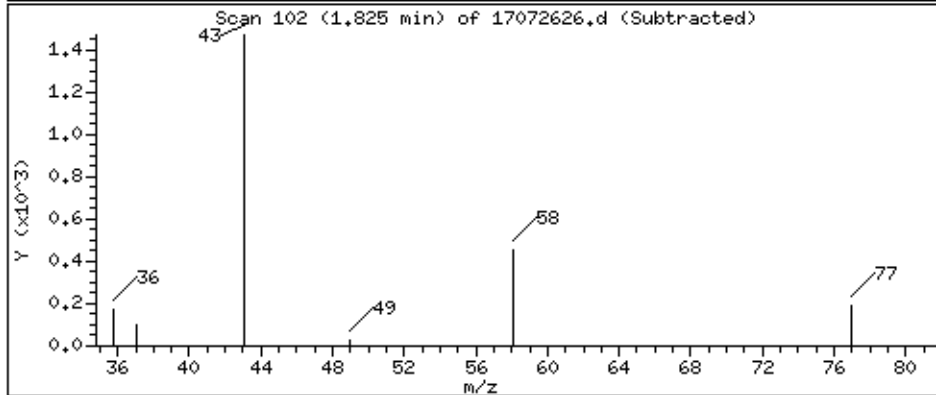
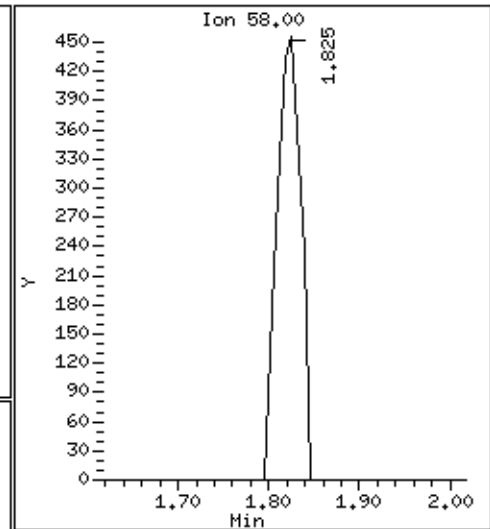
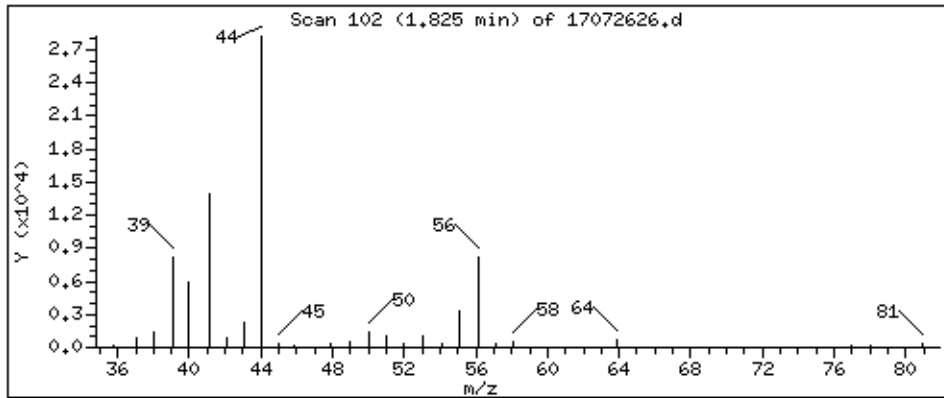
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

23 Butane

Concentration: 1.463 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594cl

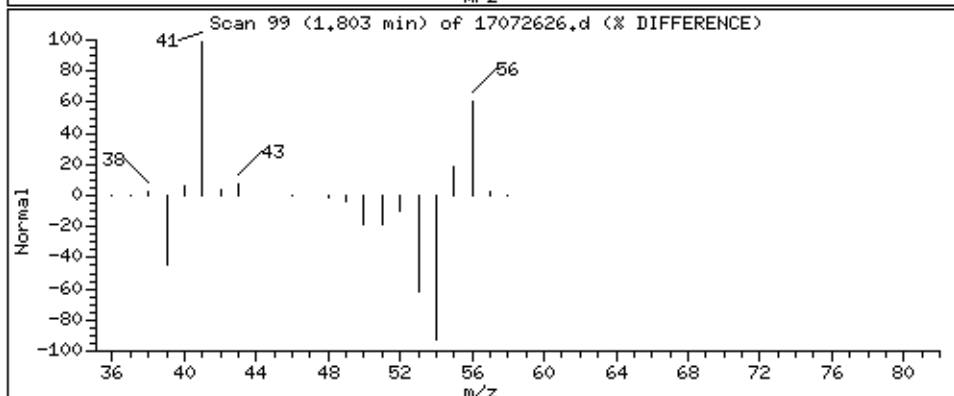
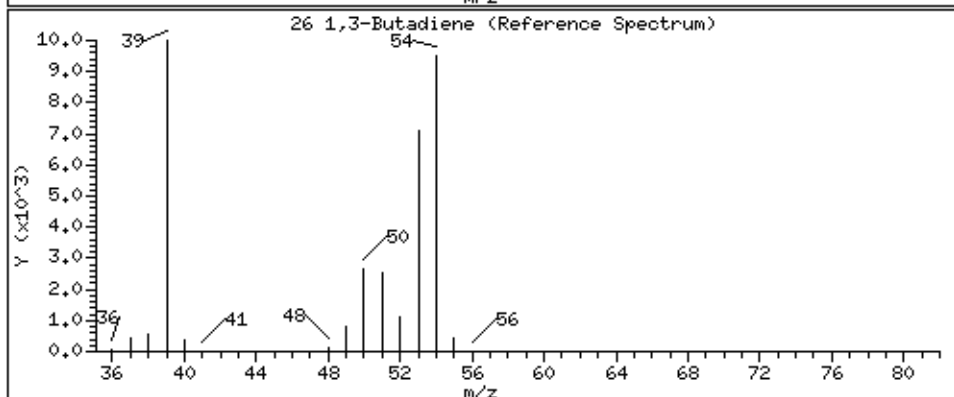
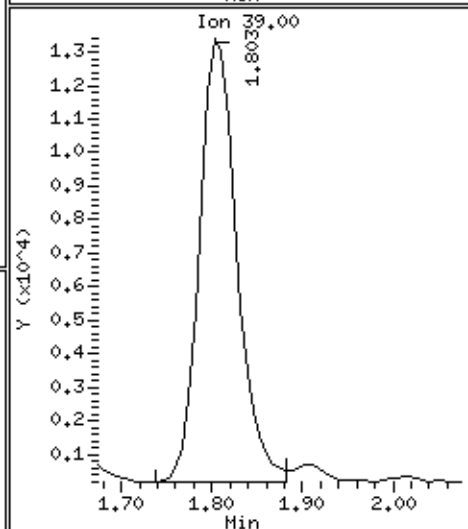
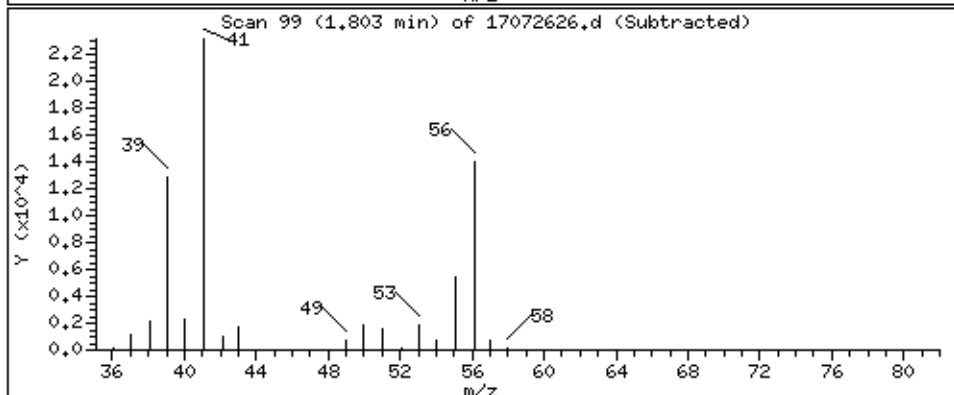
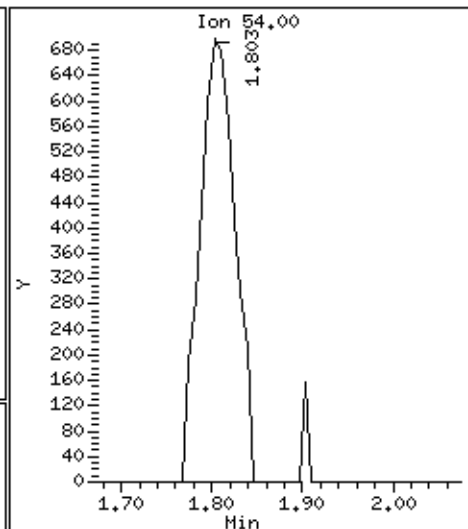
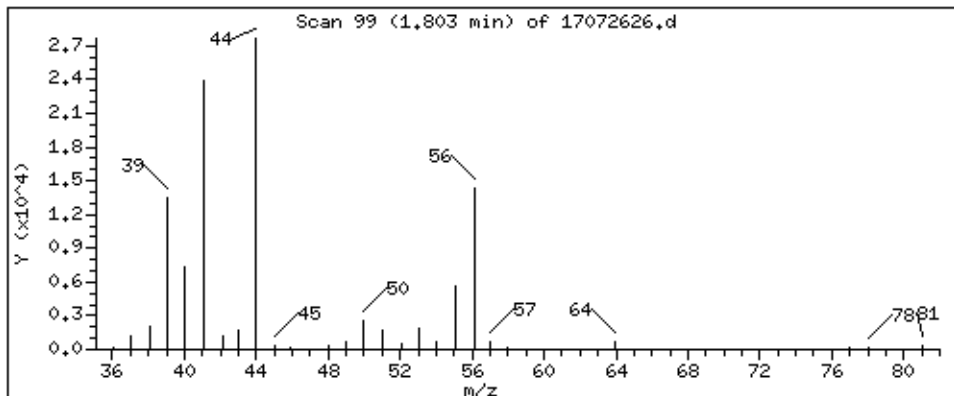
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

26 1,3-Butadiene

Concentration: 0.9744 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

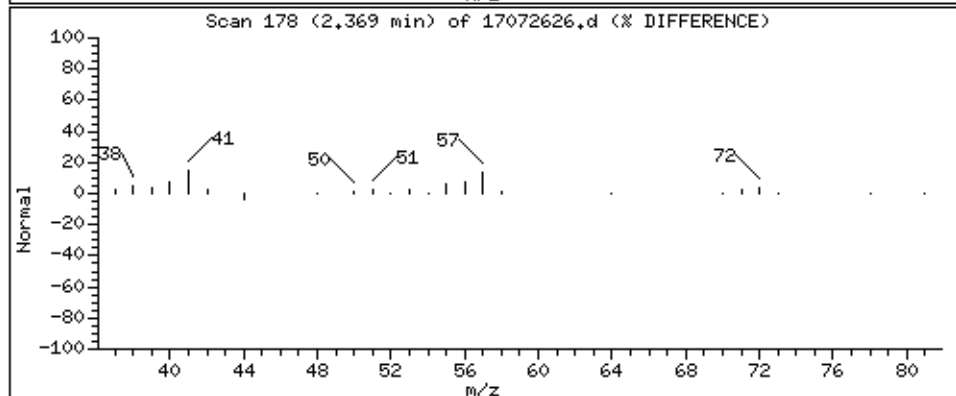
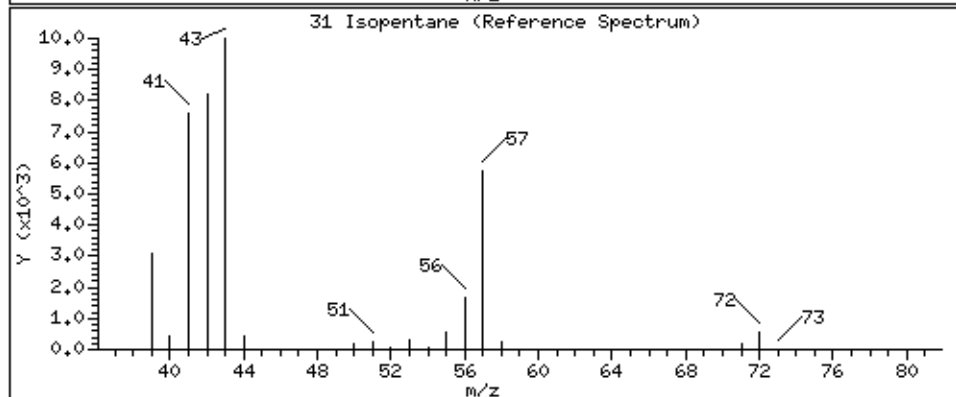
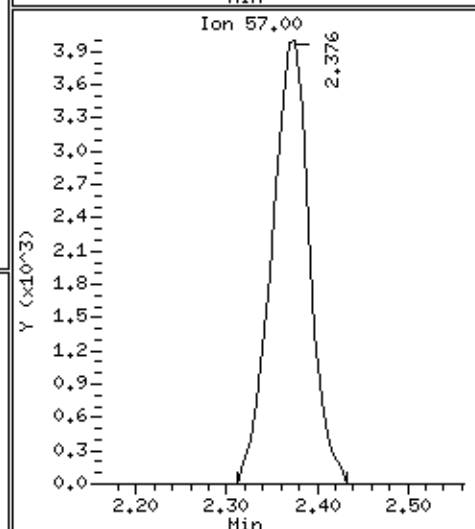
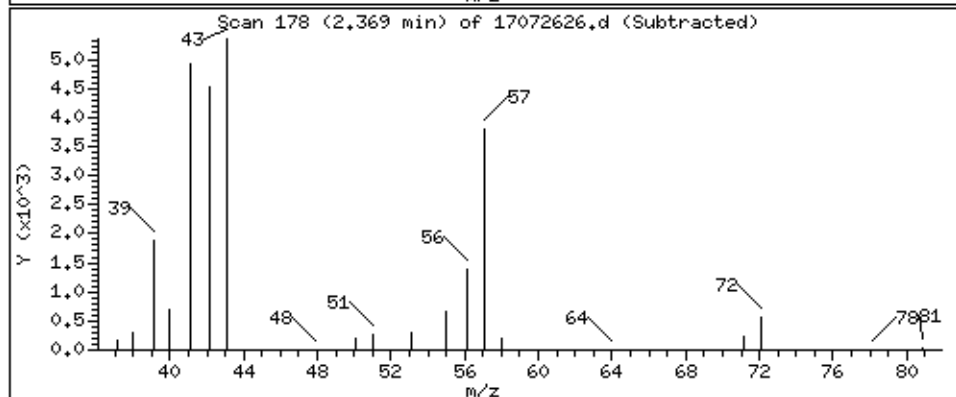
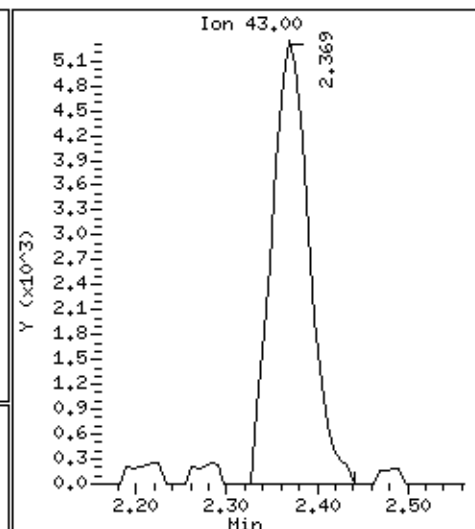
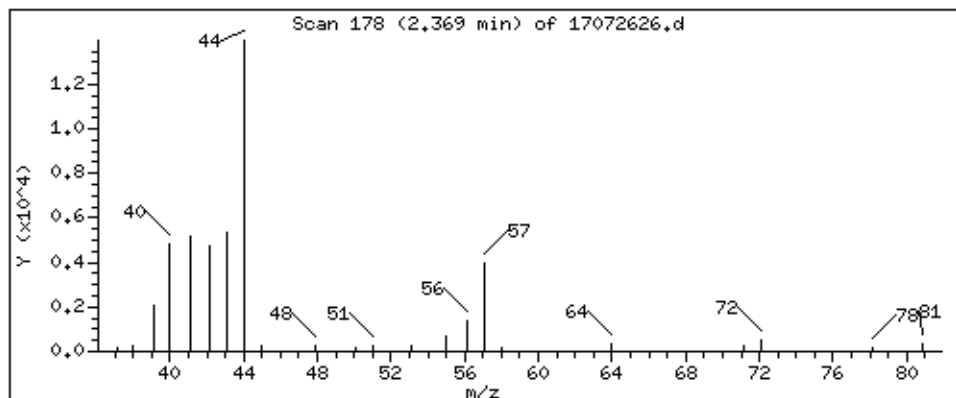
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

31 Isopentane

Concentration: 5.536 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594cl

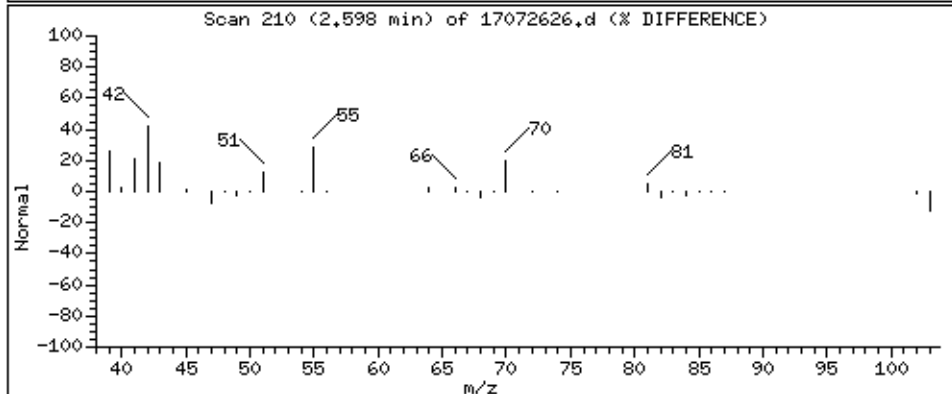
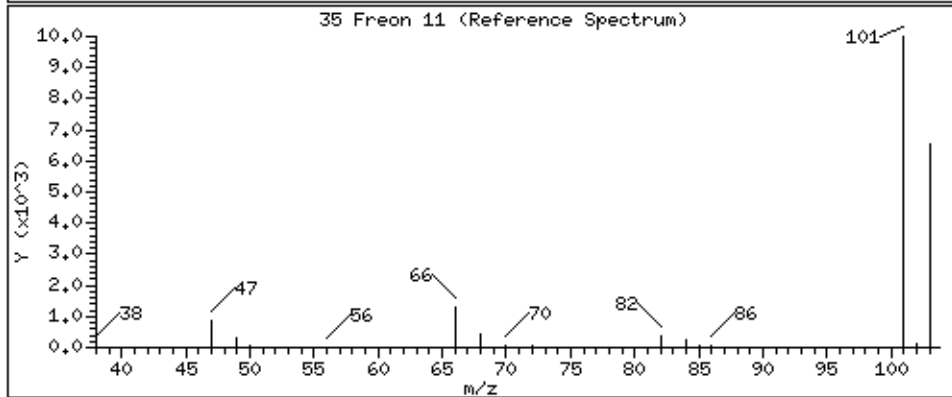
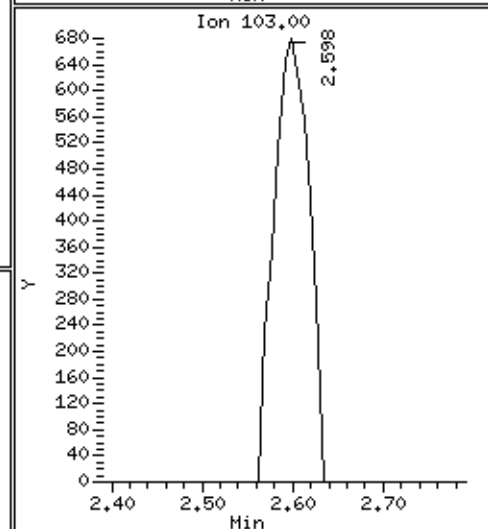
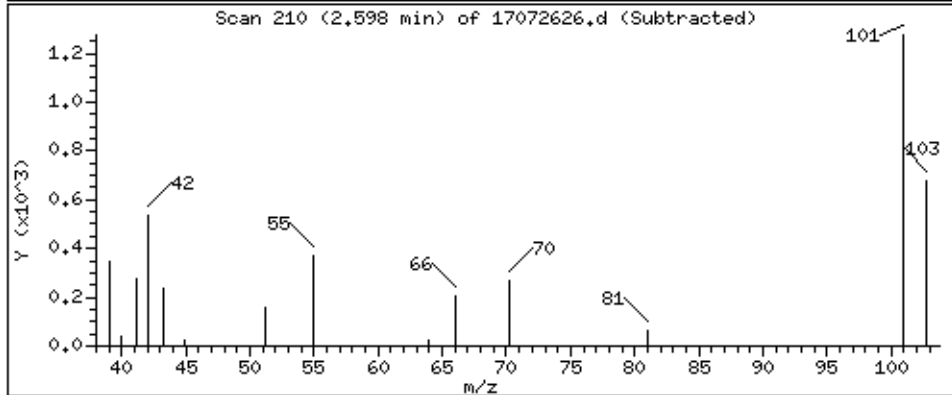
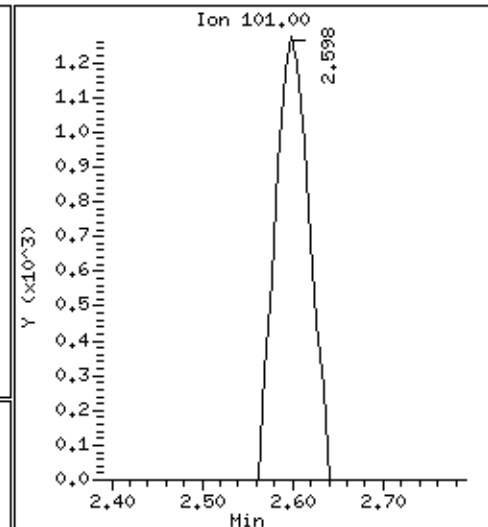
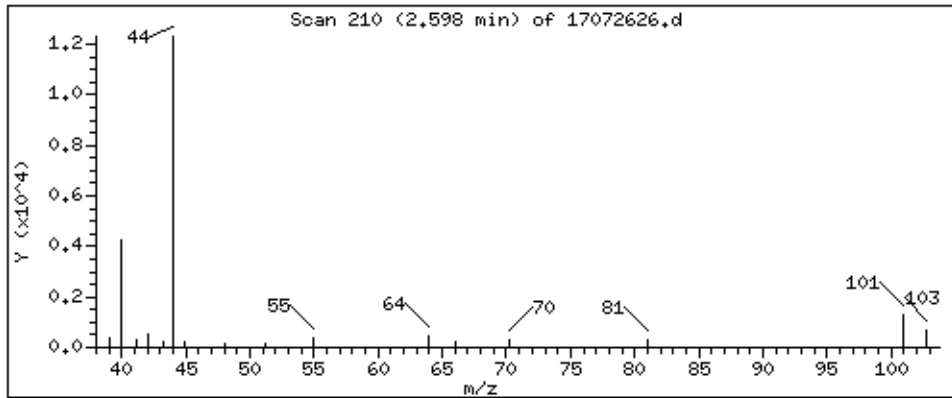
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

35 Freon 11

Concentration: 0.3762 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

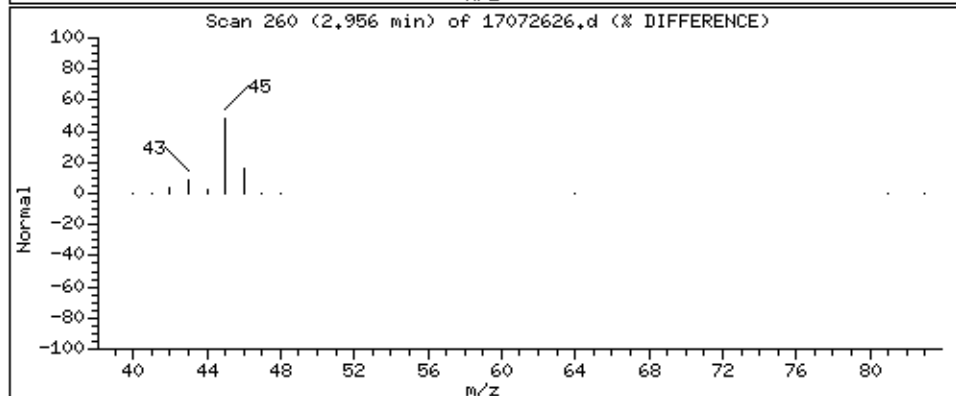
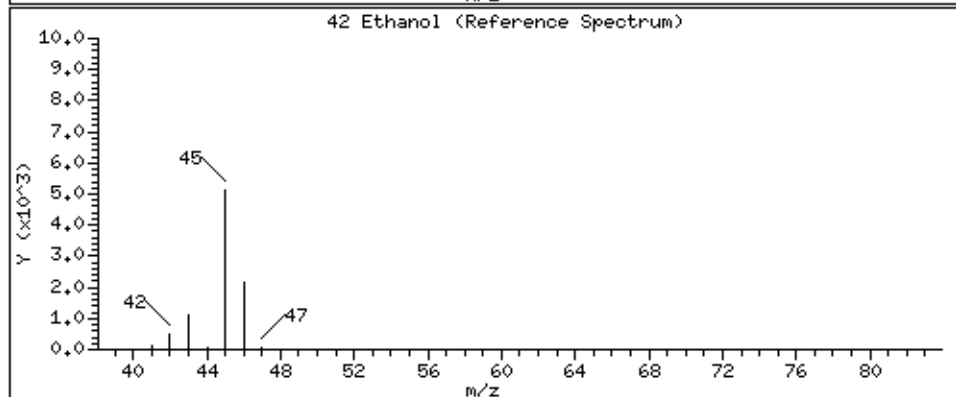
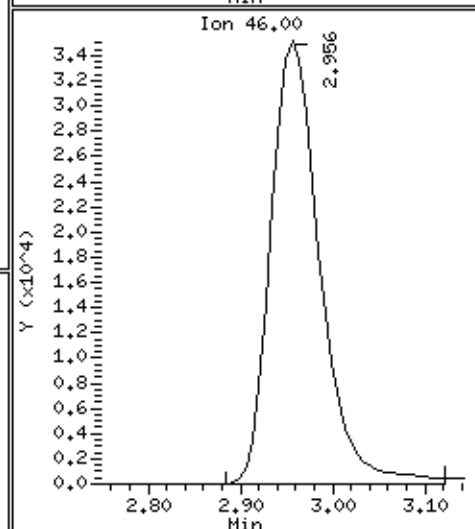
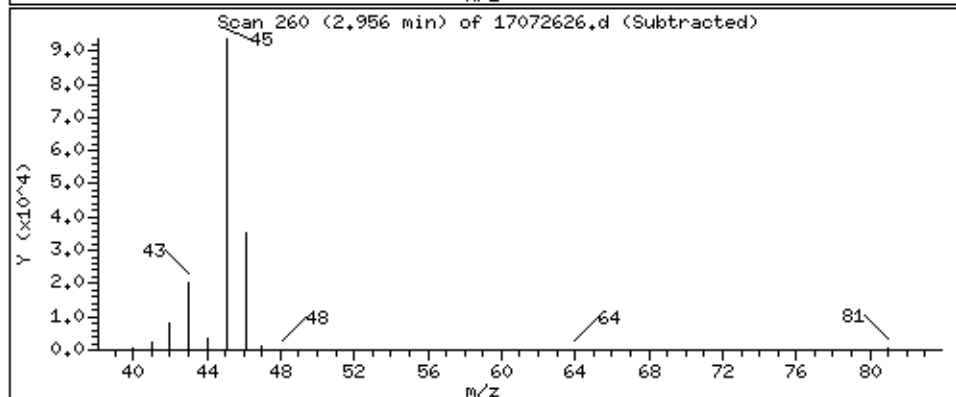
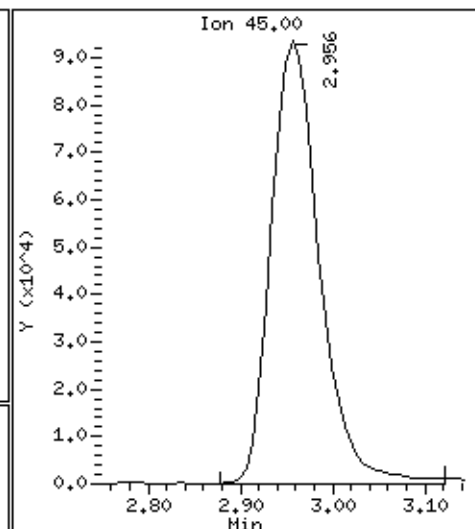
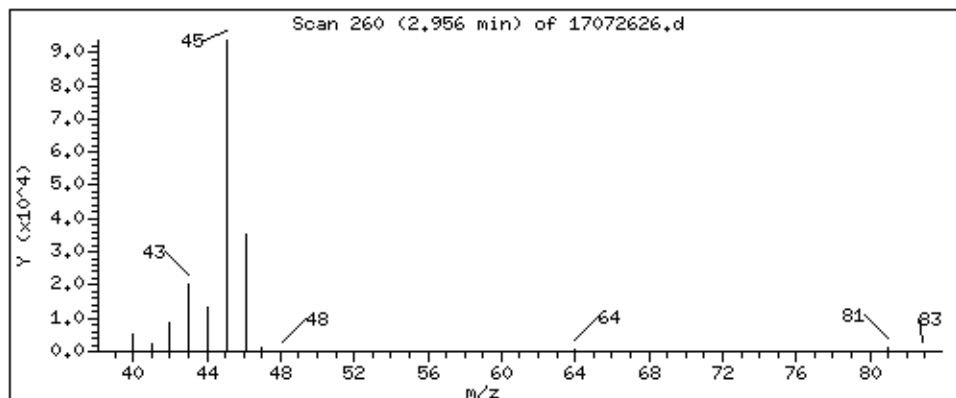
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

42 Ethanol

Concentration: 351.04 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594cl

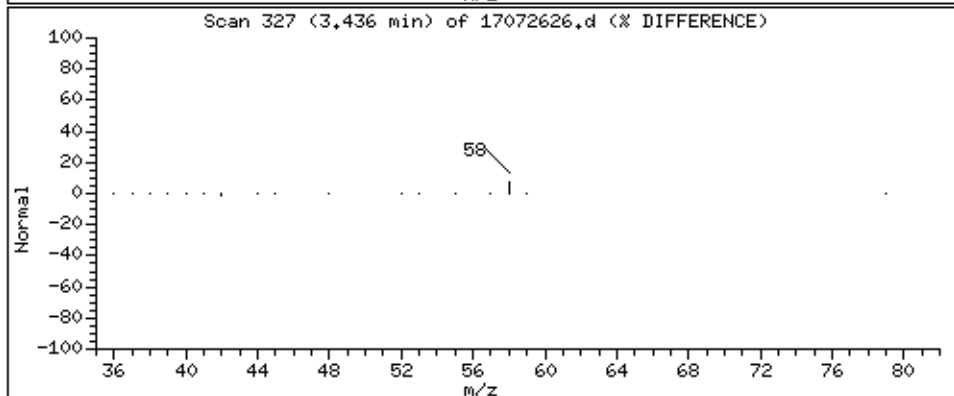
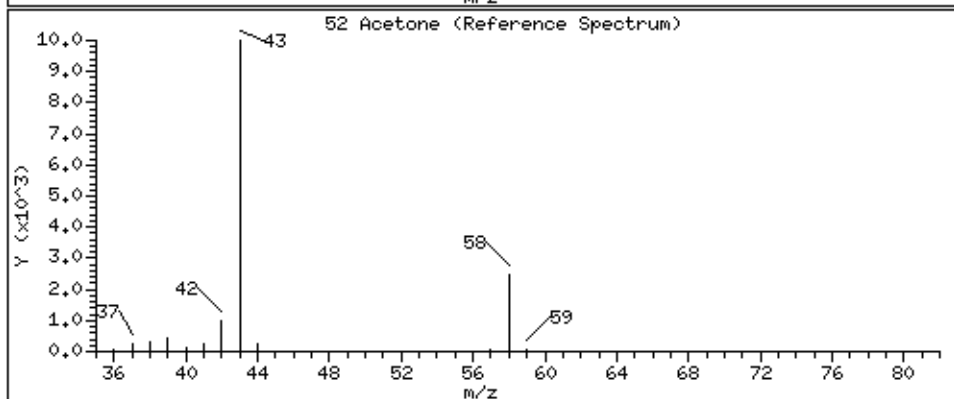
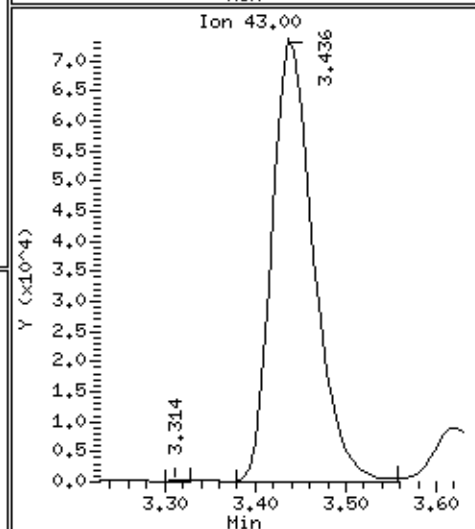
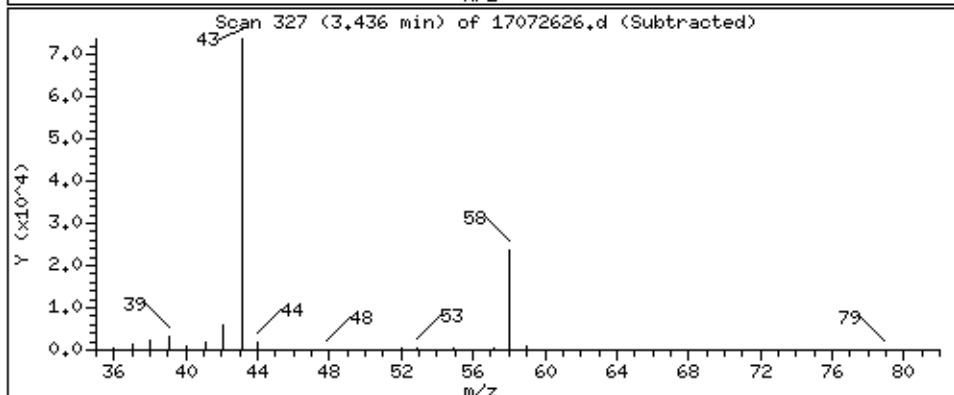
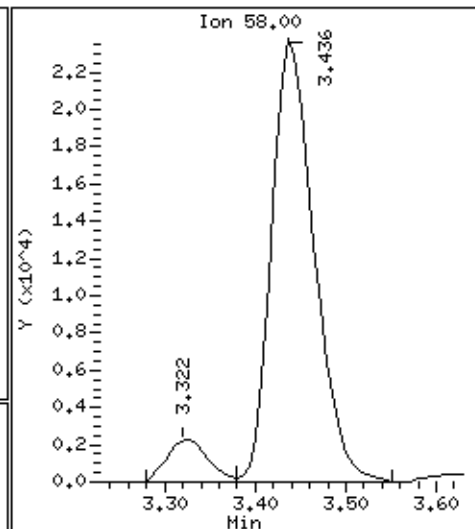
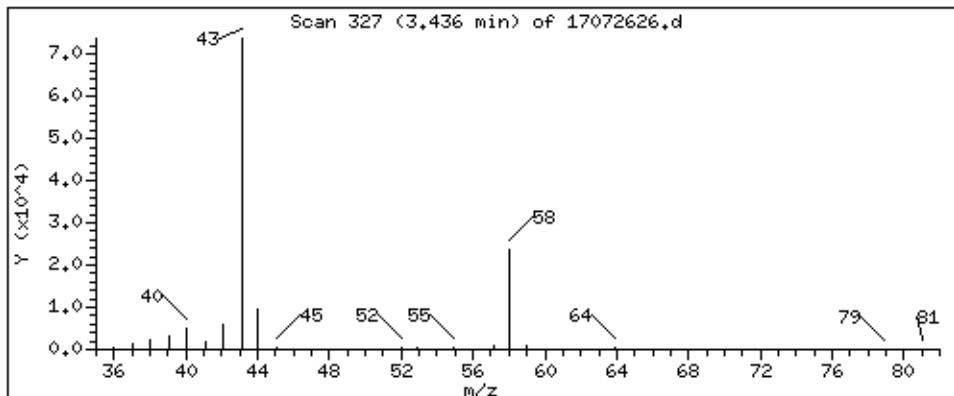
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

52 Acetone

Concentration: 56.424 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594cl

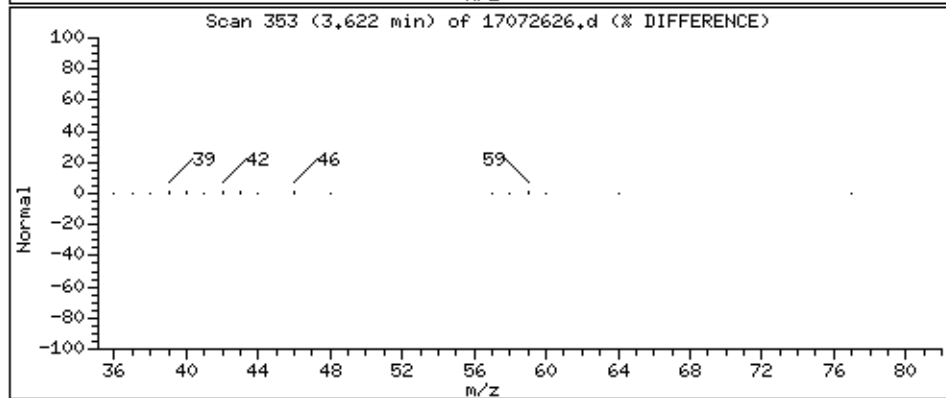
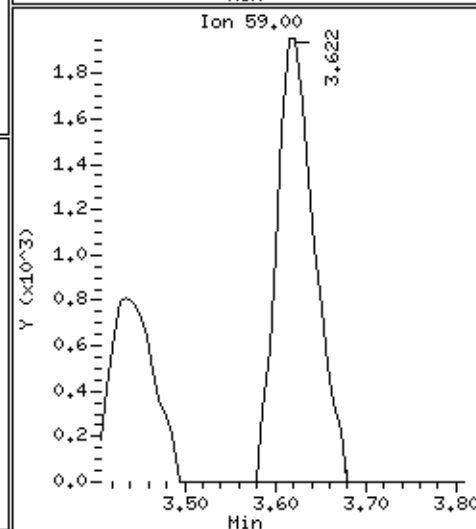
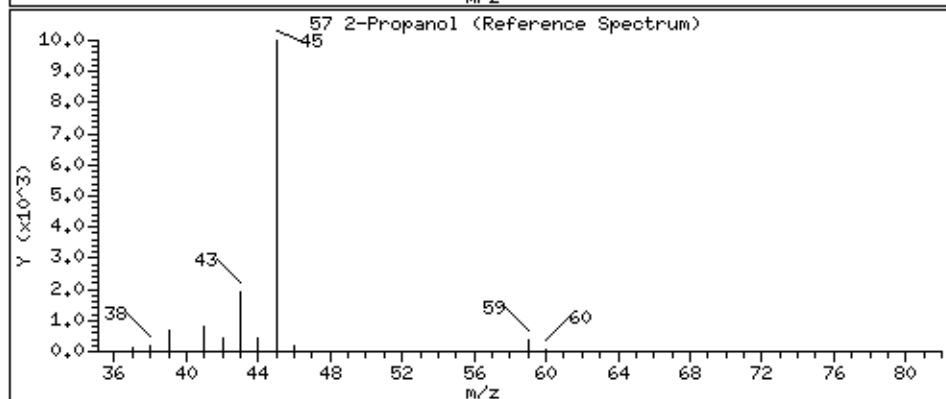
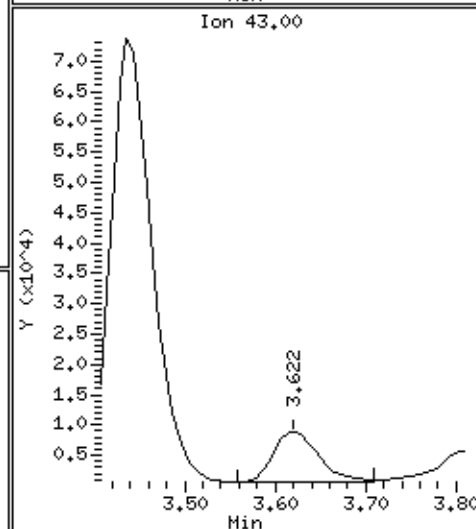
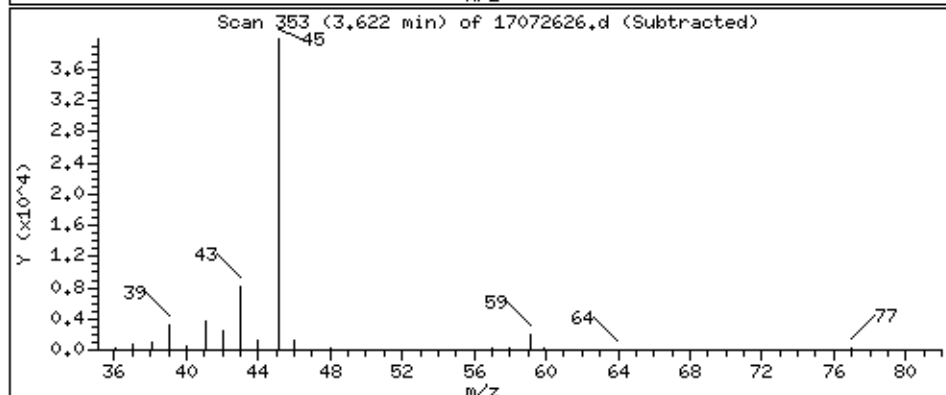
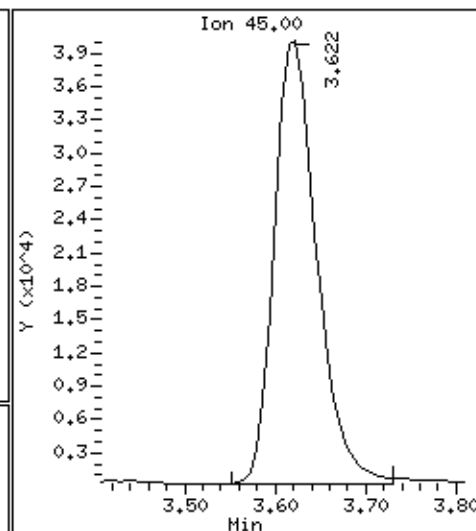
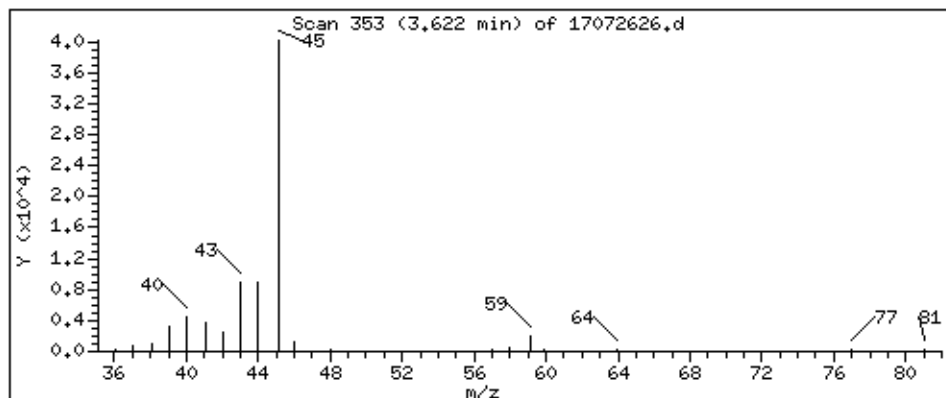
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

57 2-Propanol

Concentration: 29,409 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

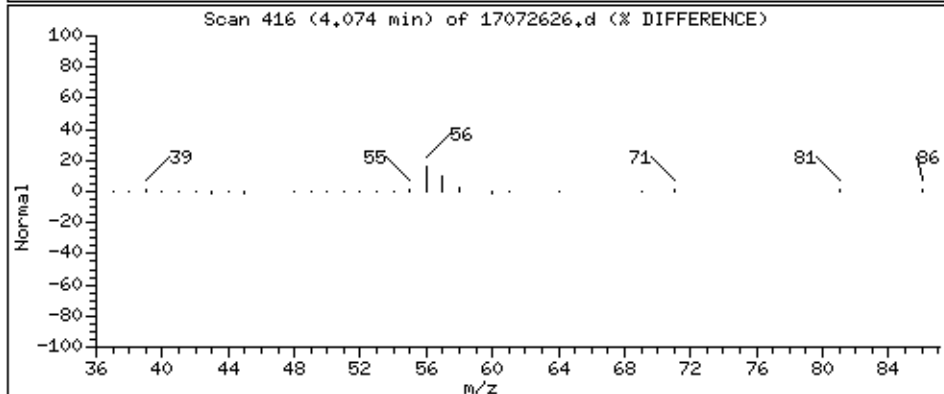
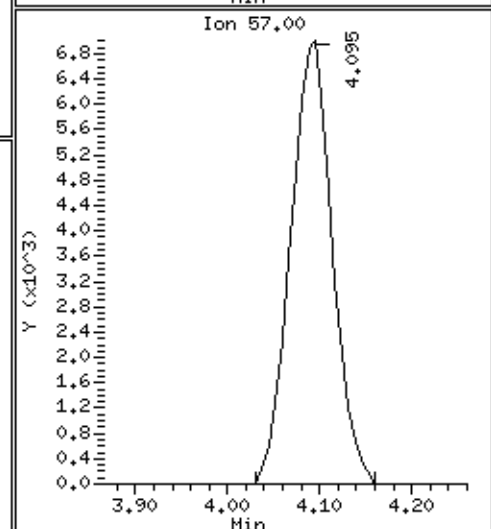
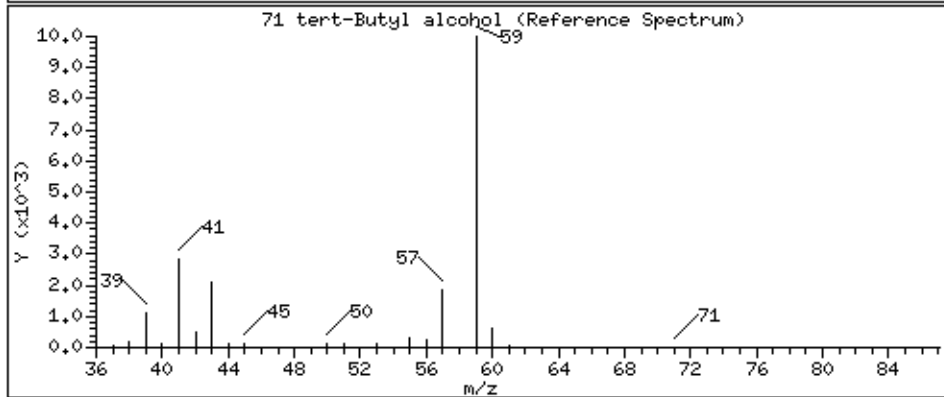
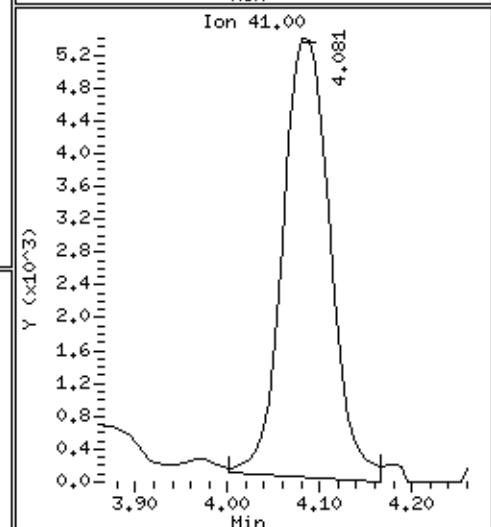
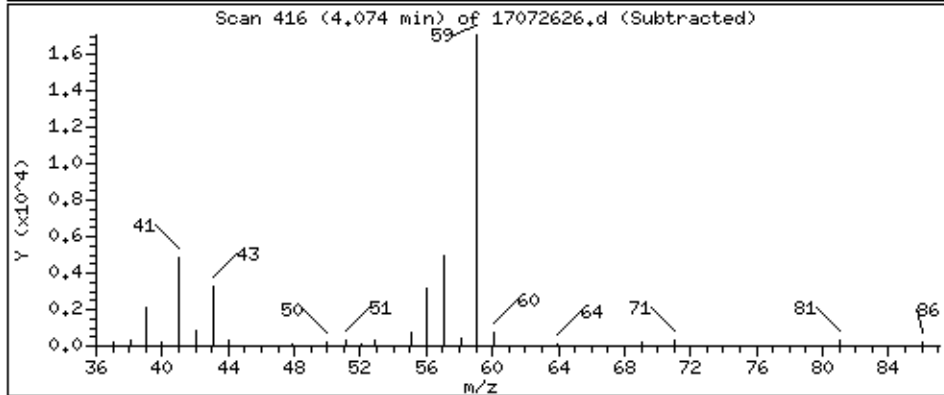
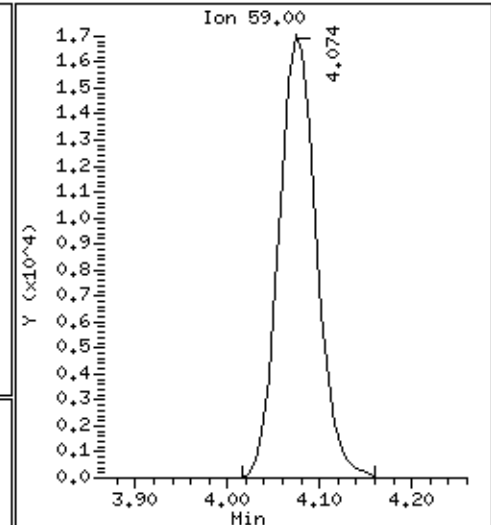
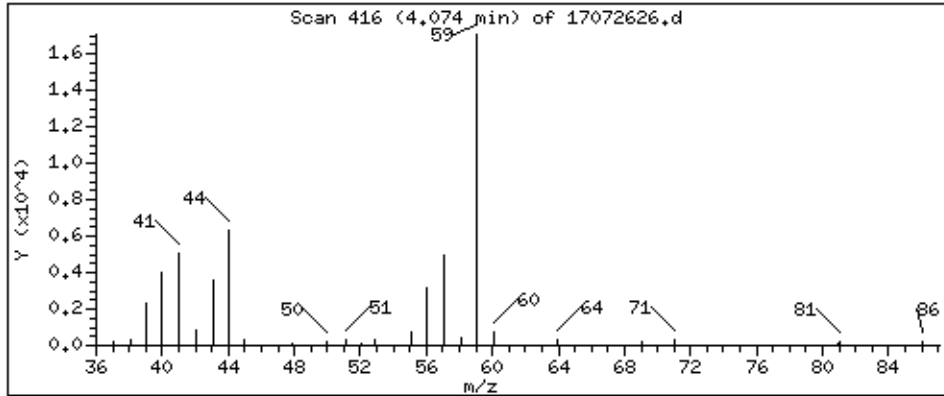
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

71 tert-Butyl alcohol

Concentration: 7.392 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

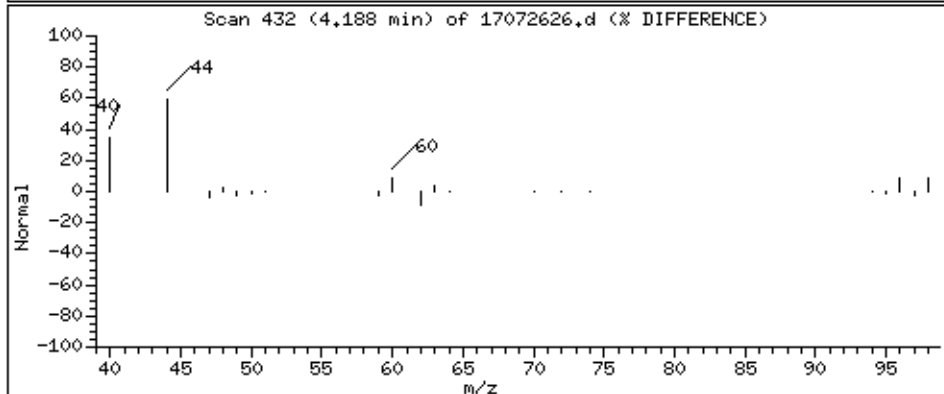
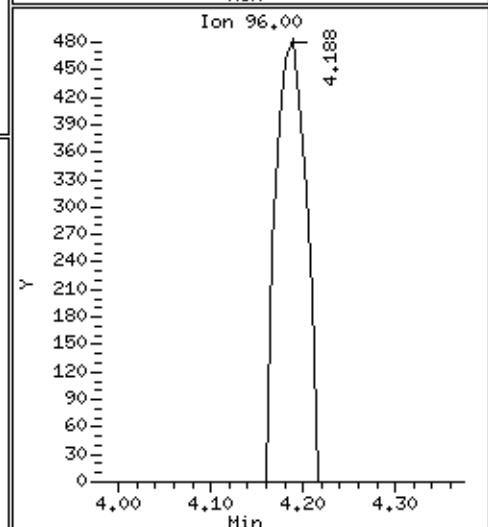
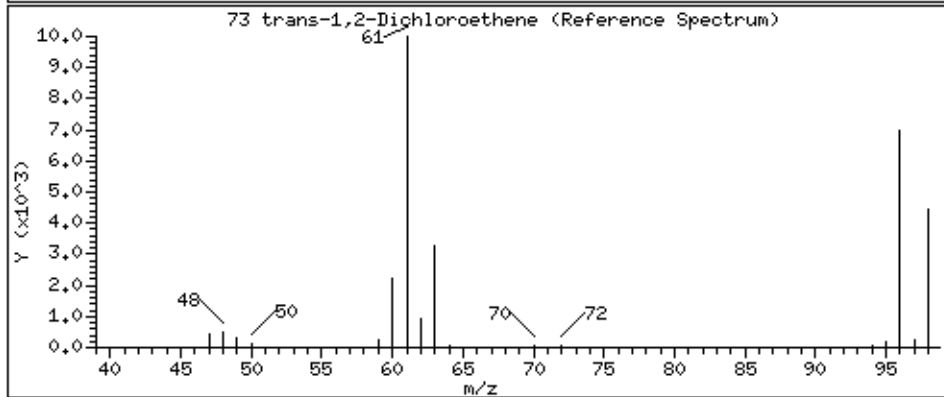
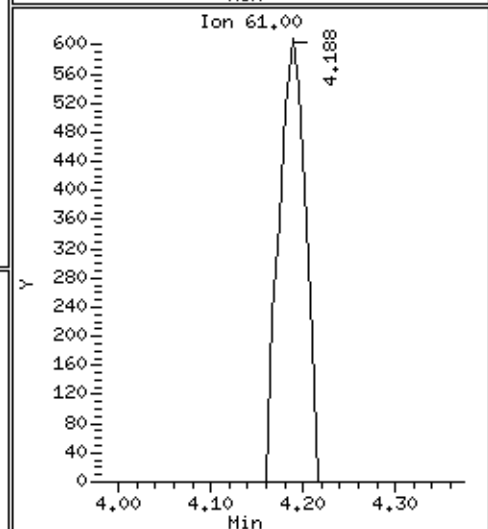
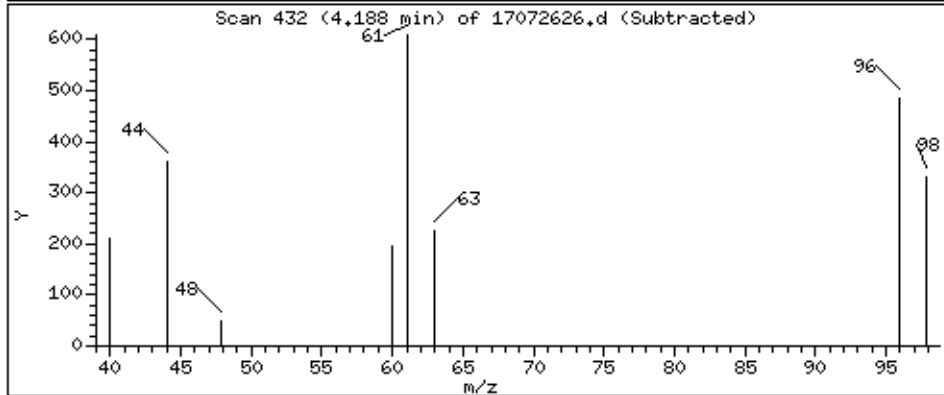
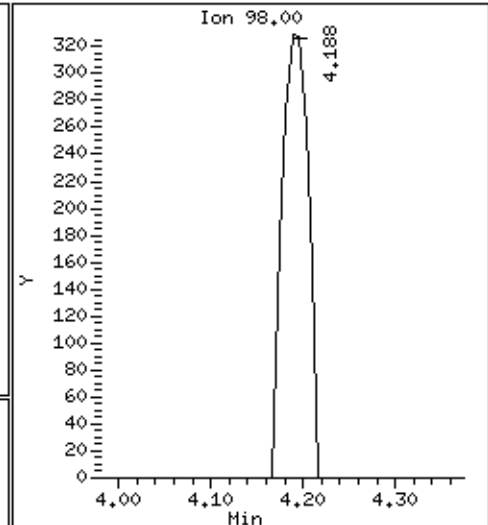
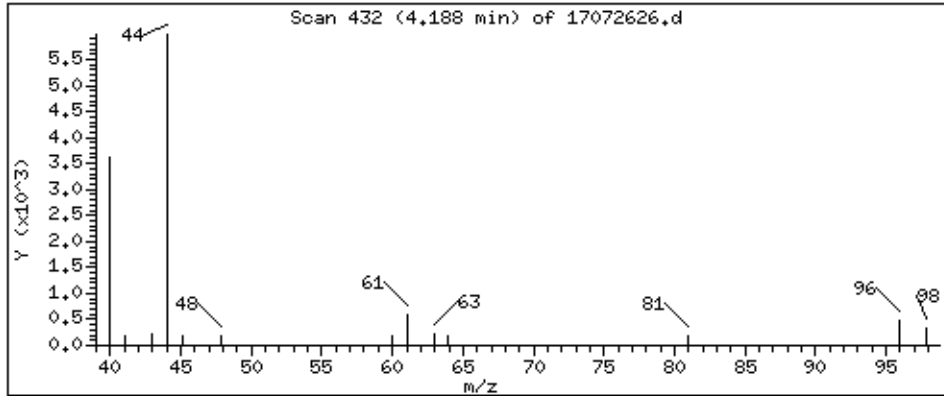
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

73 trans-1,2-Dichloroethene

Concentration: 0.3093 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

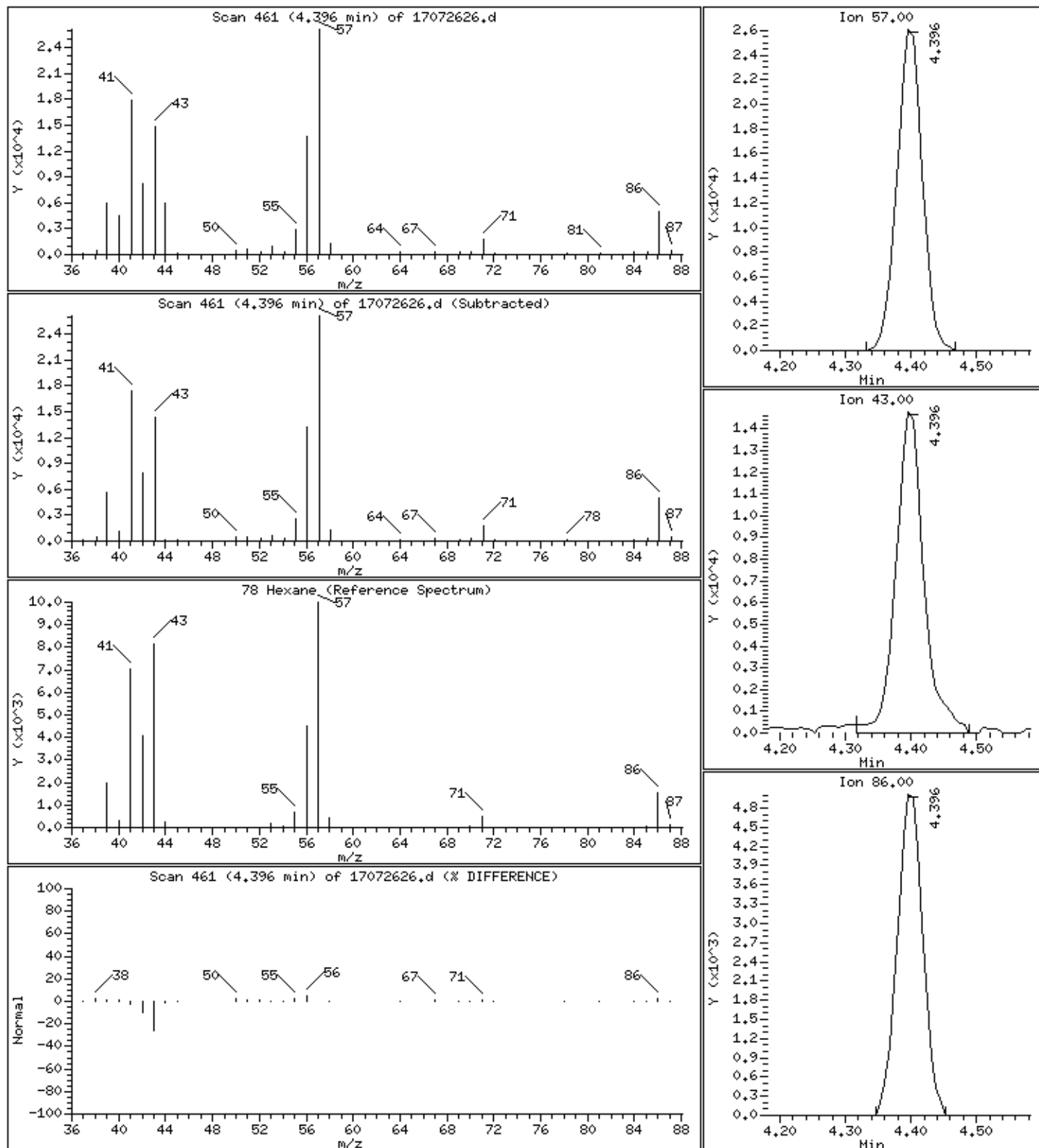
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

78 Hexane

Concentration: 15,730 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

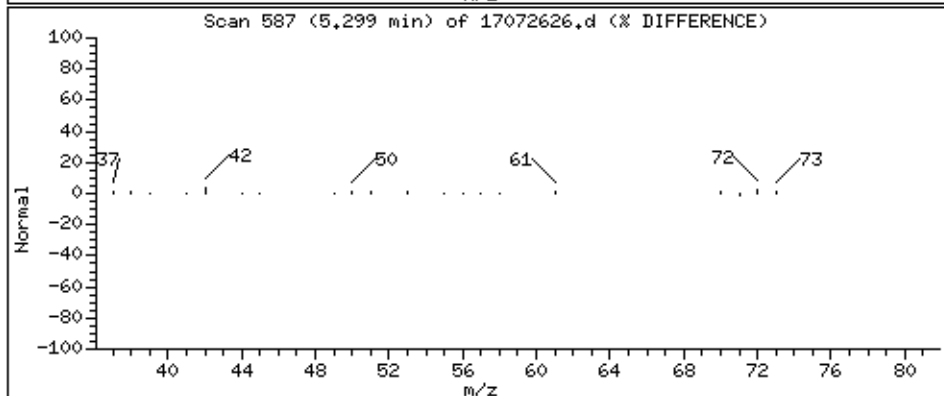
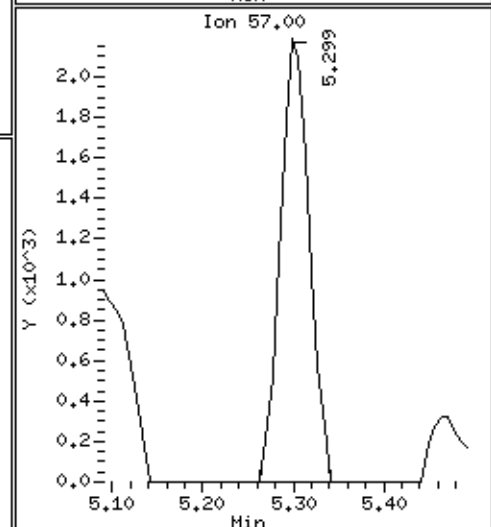
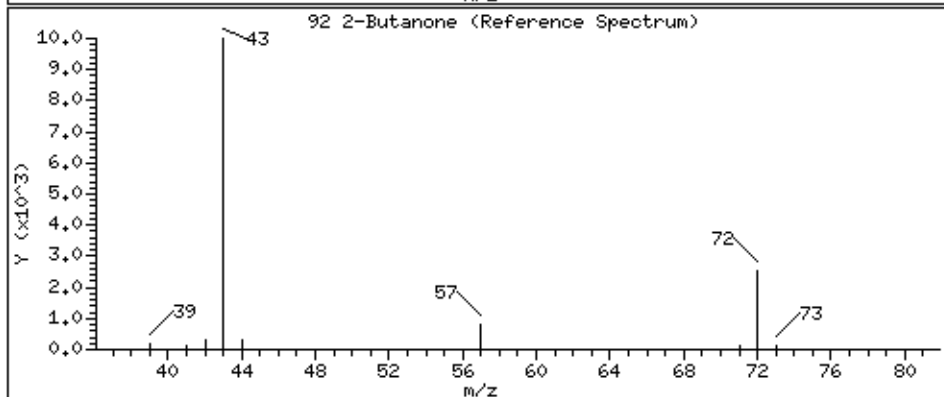
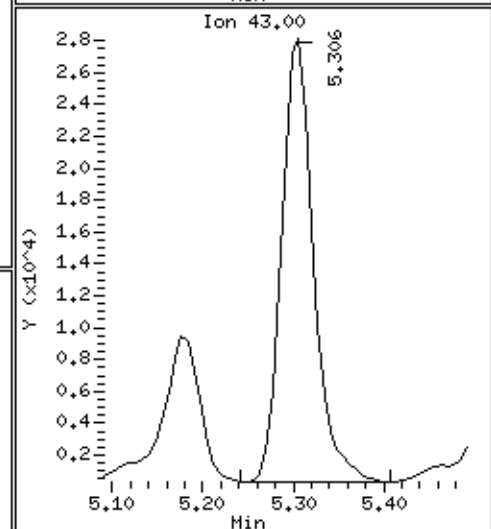
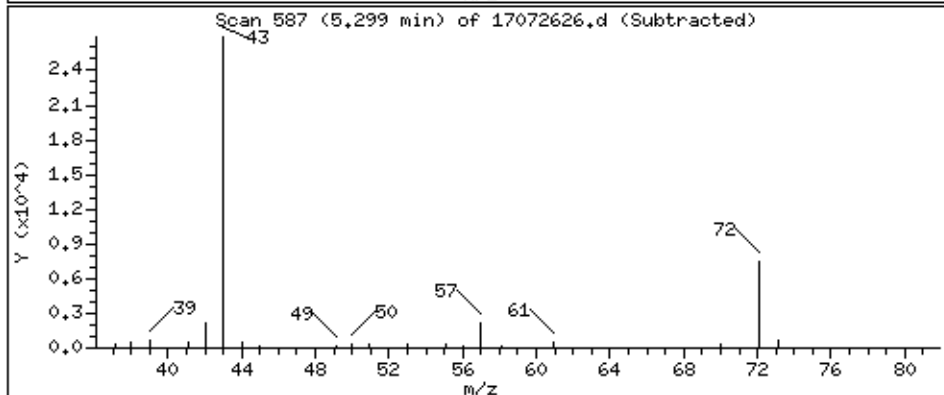
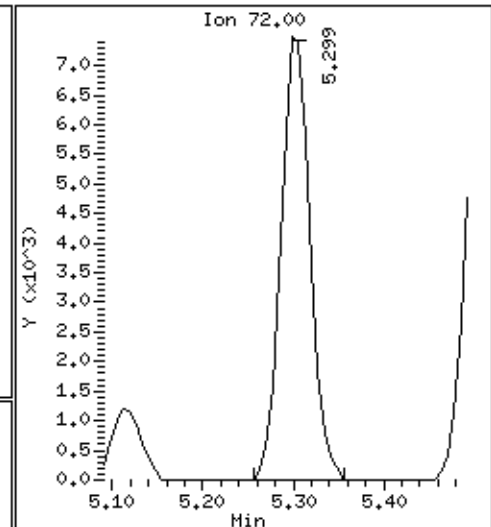
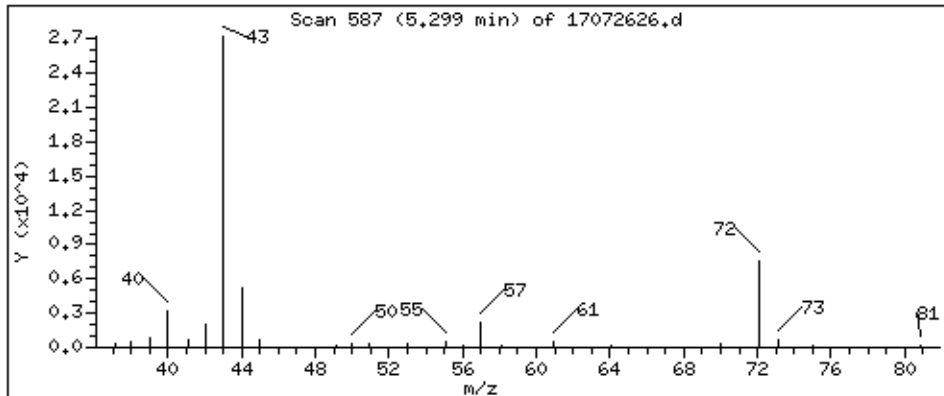
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

92 2-Butanone

Concentration: 10,872 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

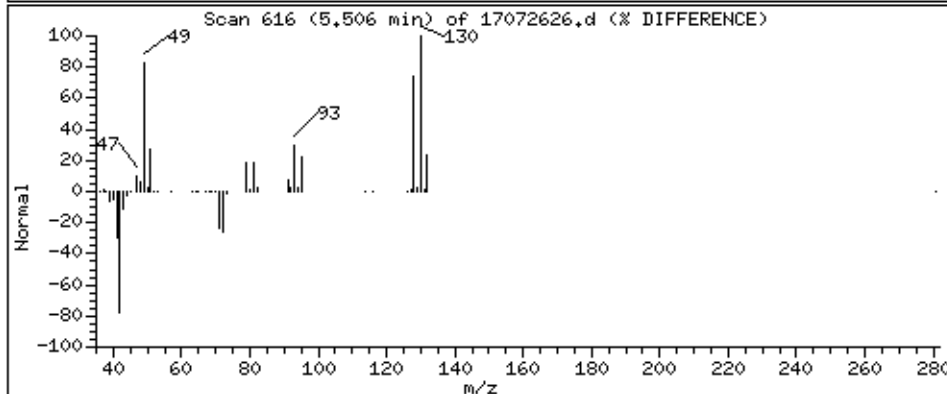
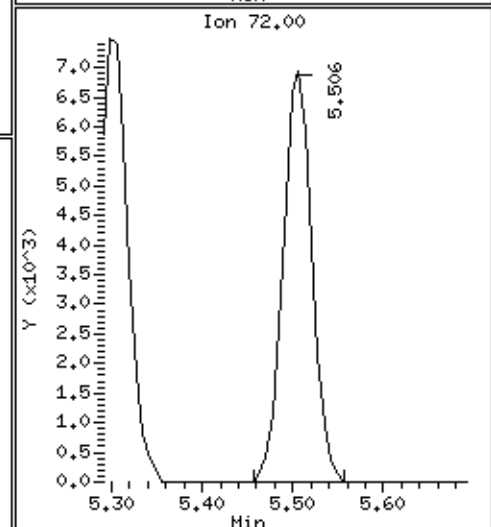
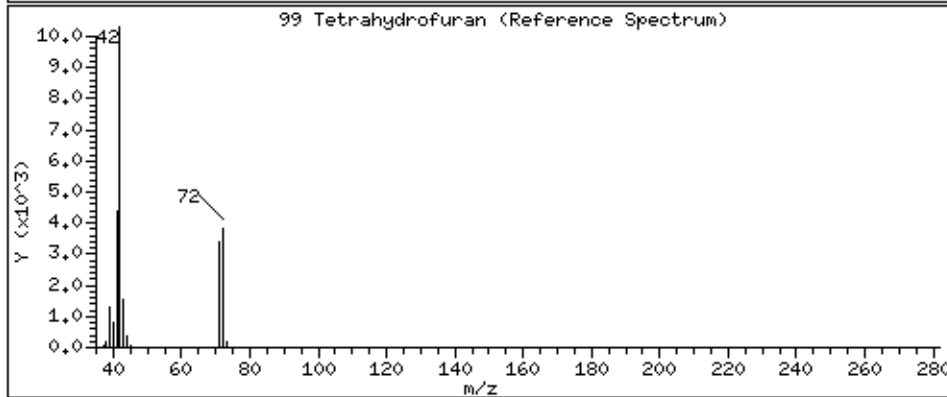
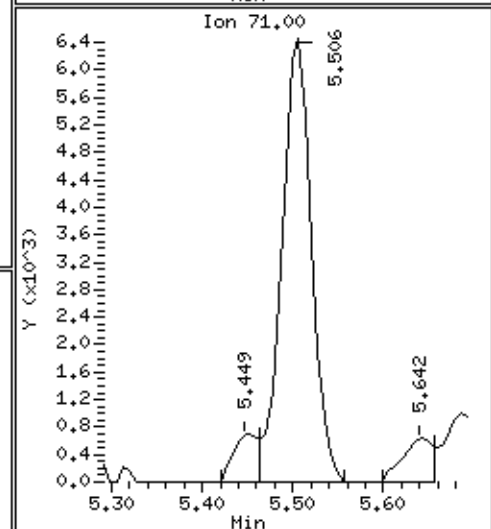
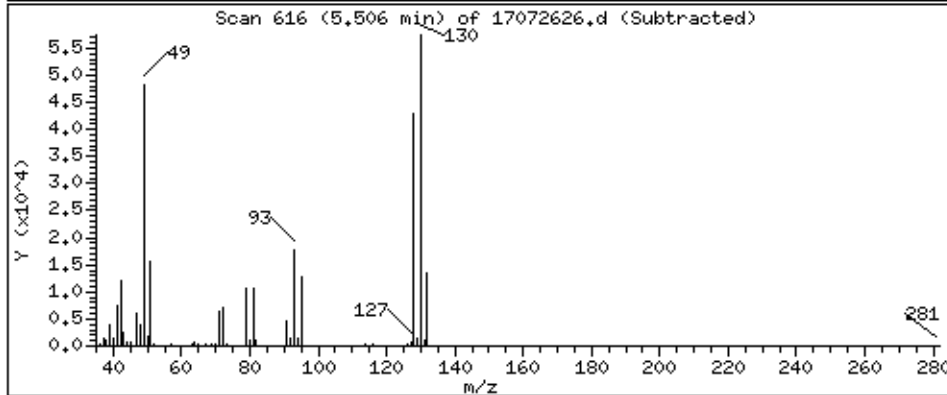
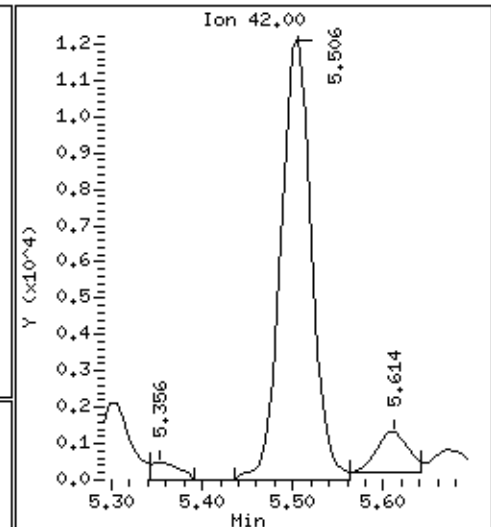
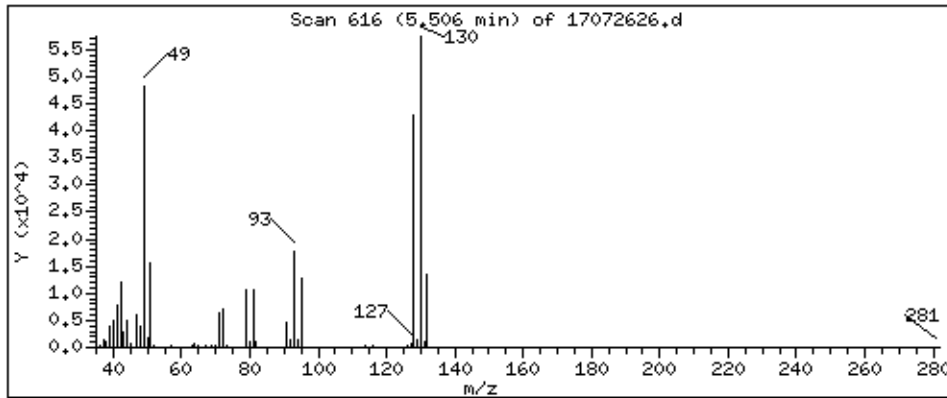
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

99 Tetrahydrofuran

Concentration: 9.892 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594cl

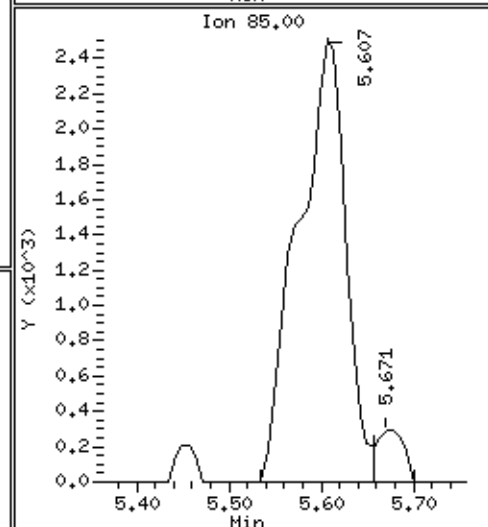
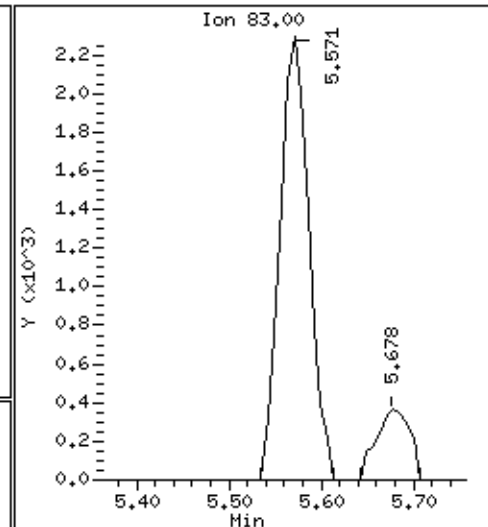
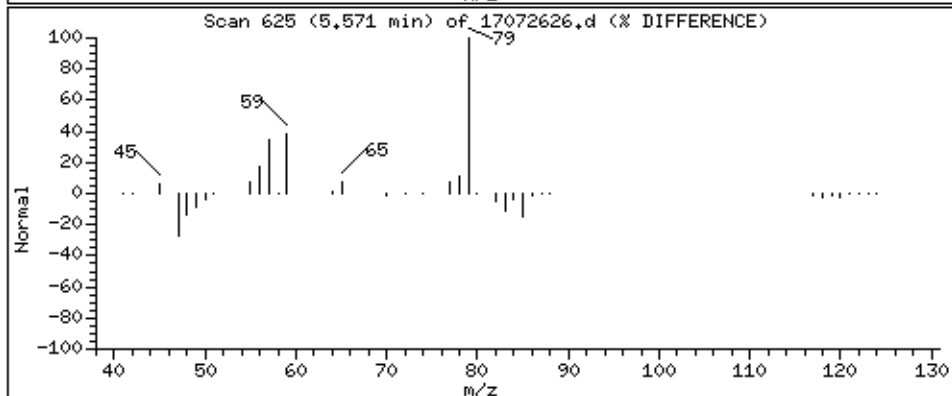
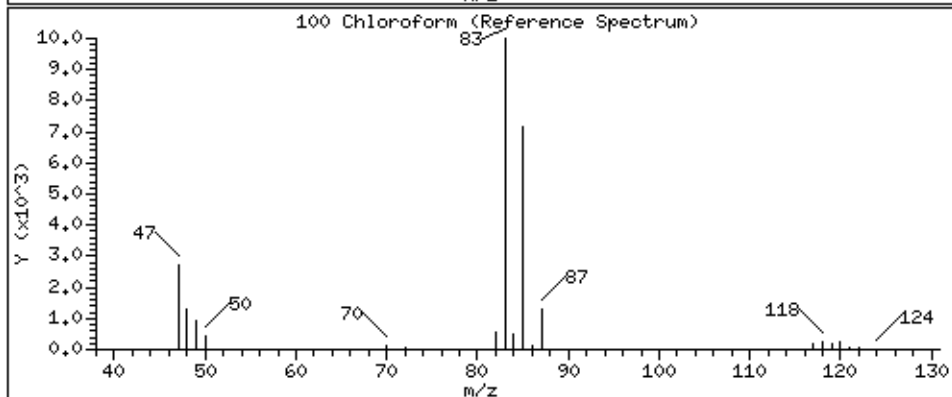
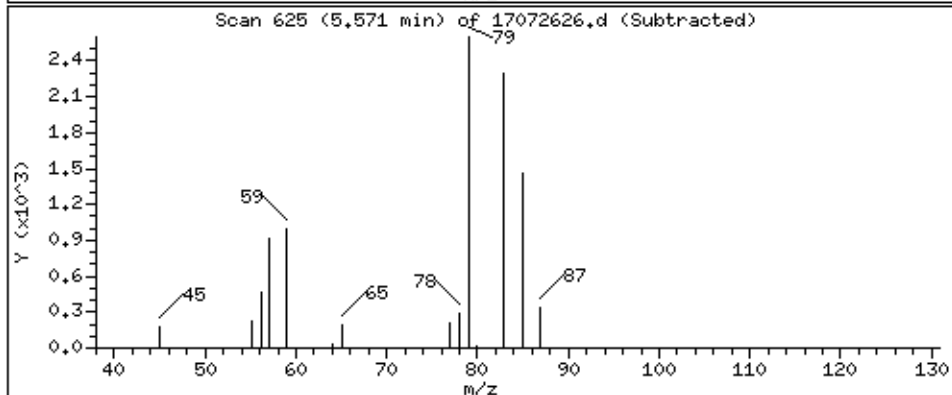
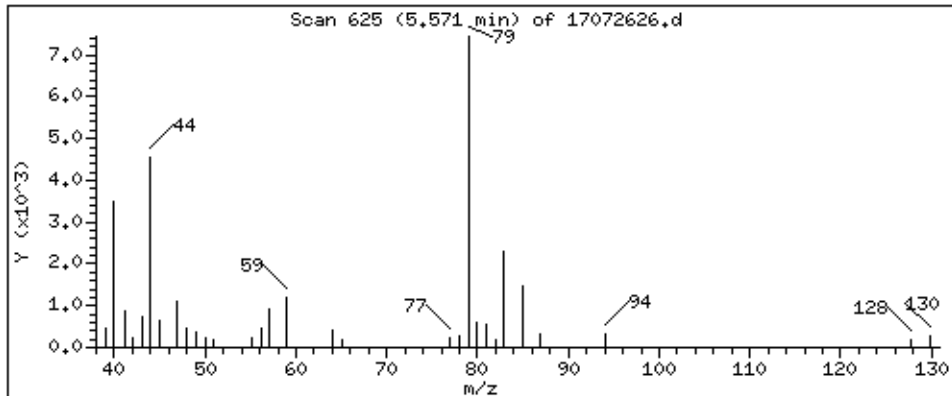
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

100 Chloroform

Concentration: 0.7520 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

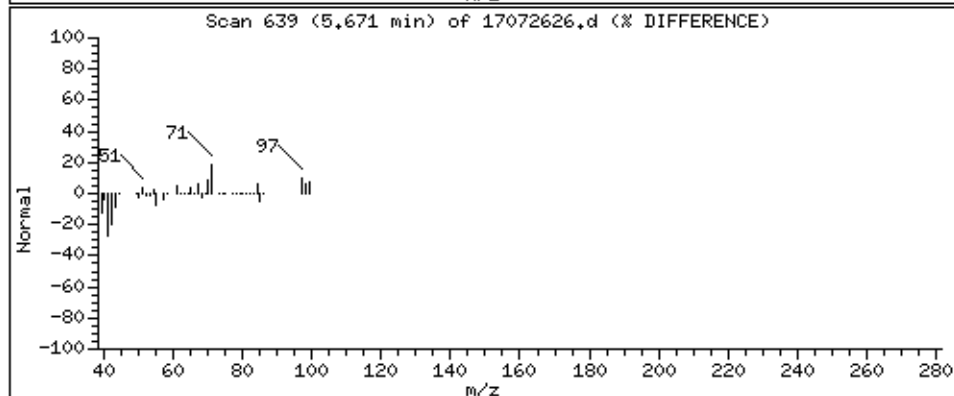
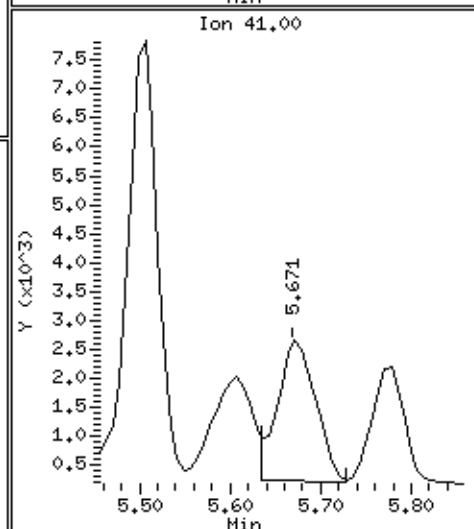
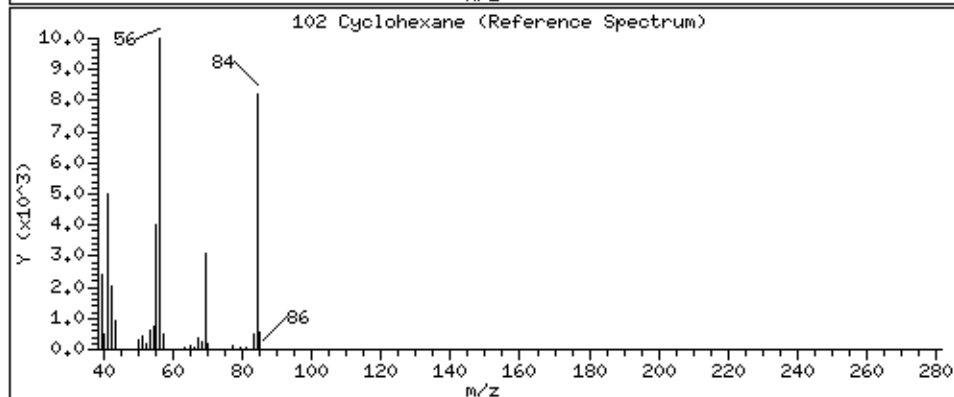
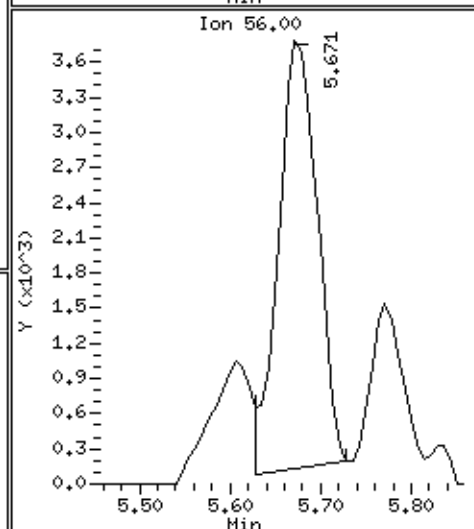
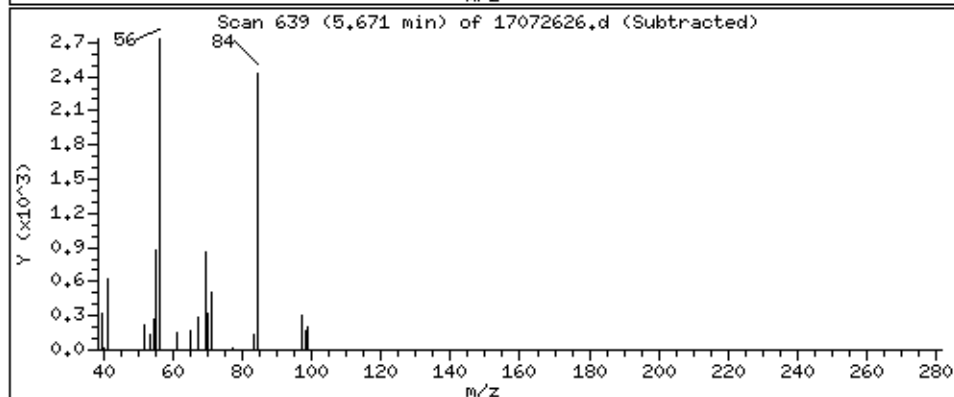
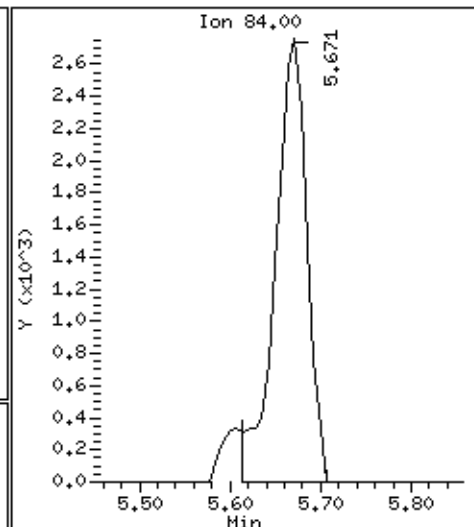
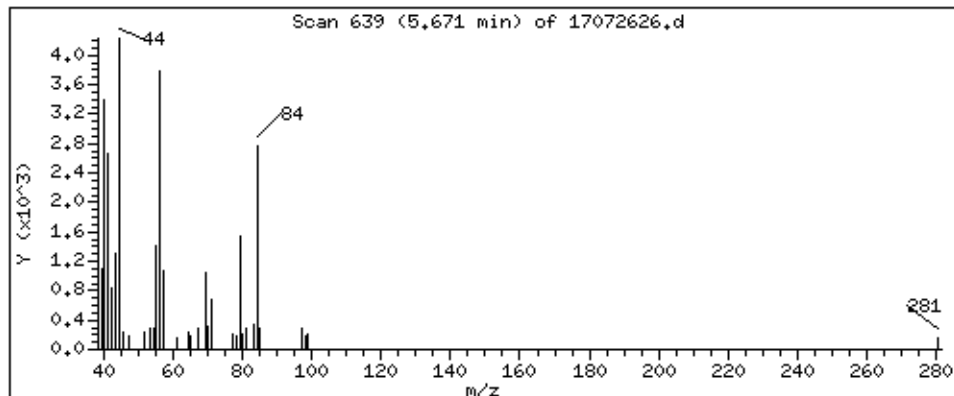
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

102 Cyclohexane

Concentration: 1.510 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

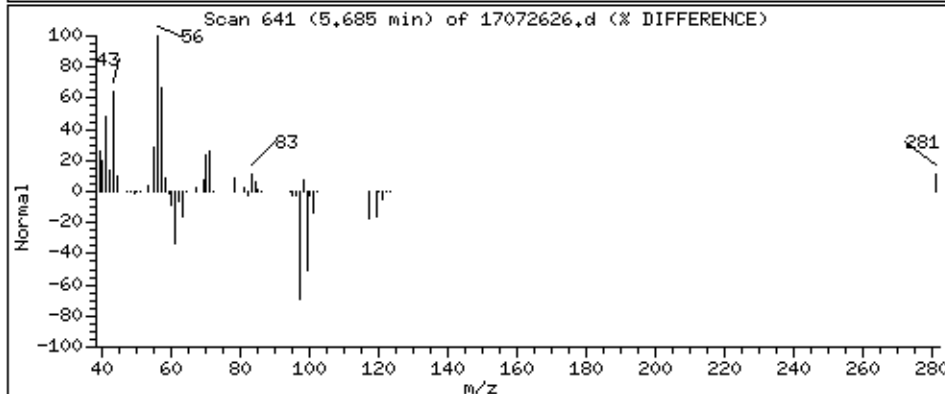
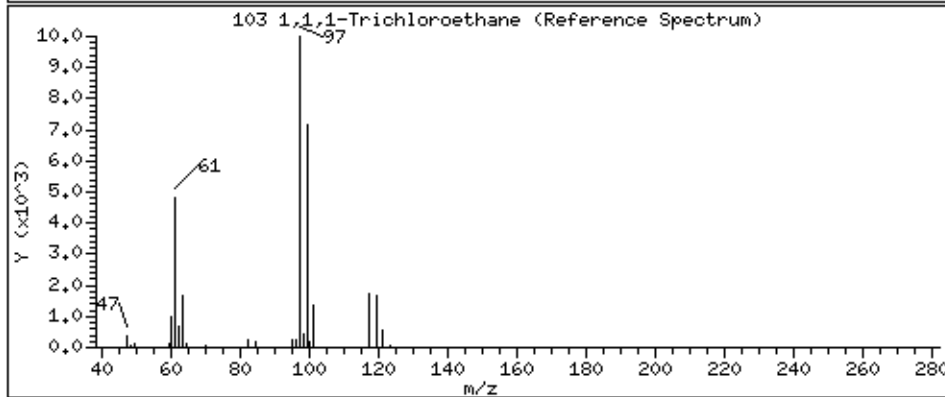
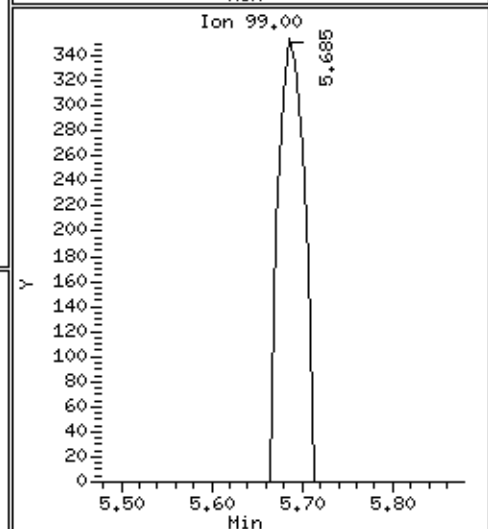
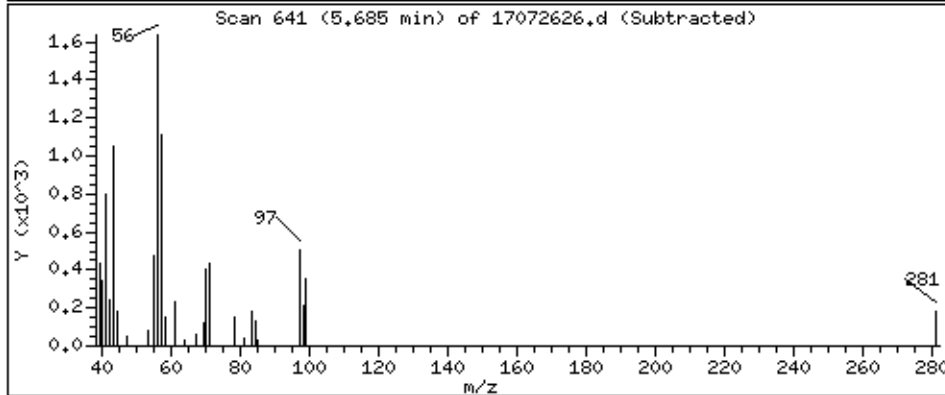
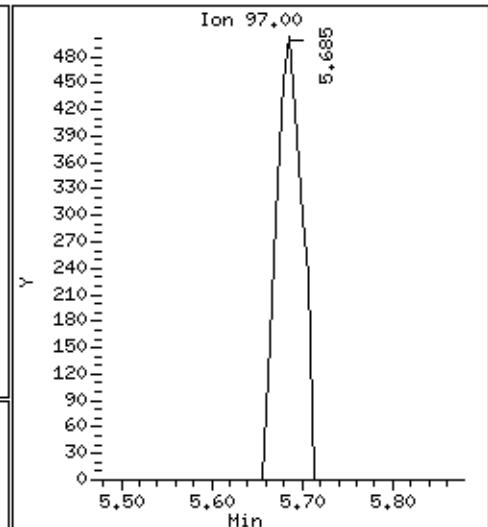
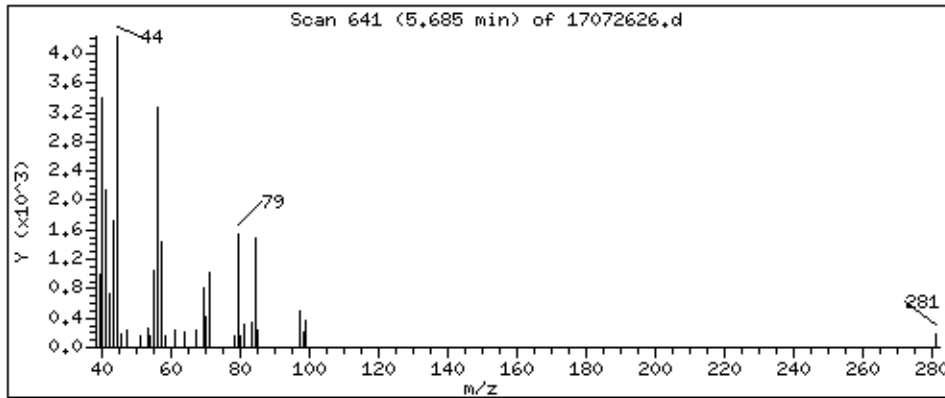
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

103 1,1,1-Trichloroethane

Concentration: 0.1366 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594cl

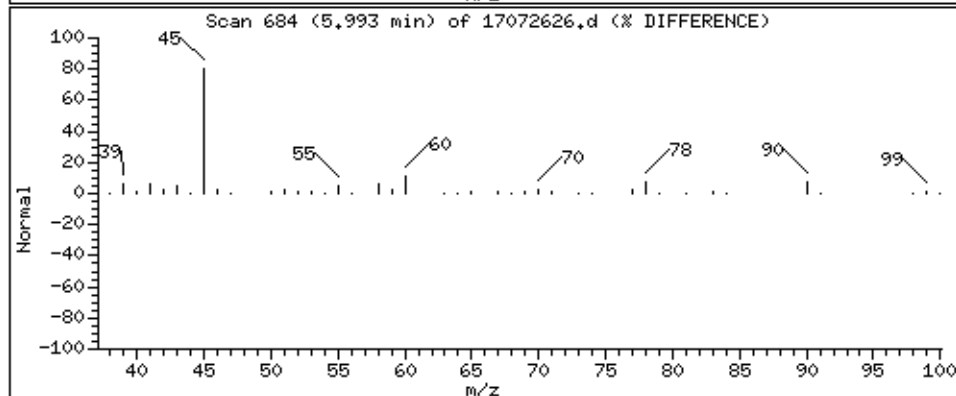
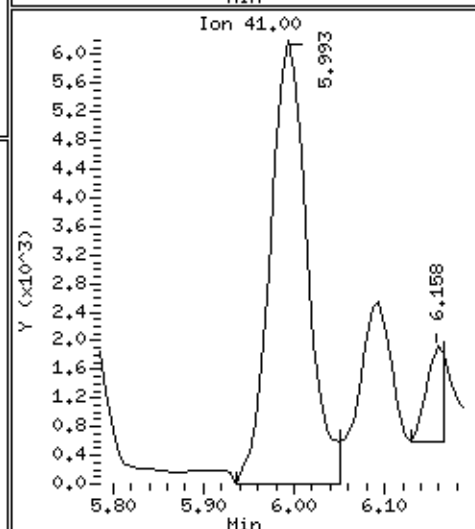
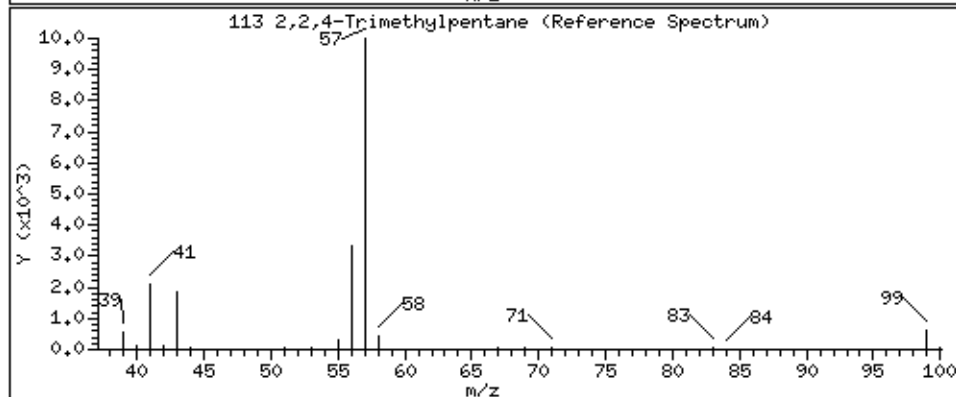
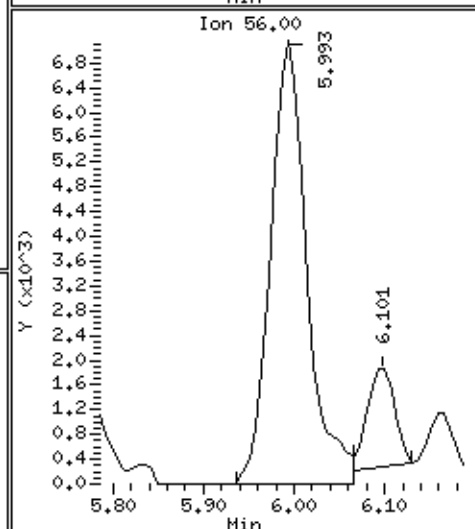
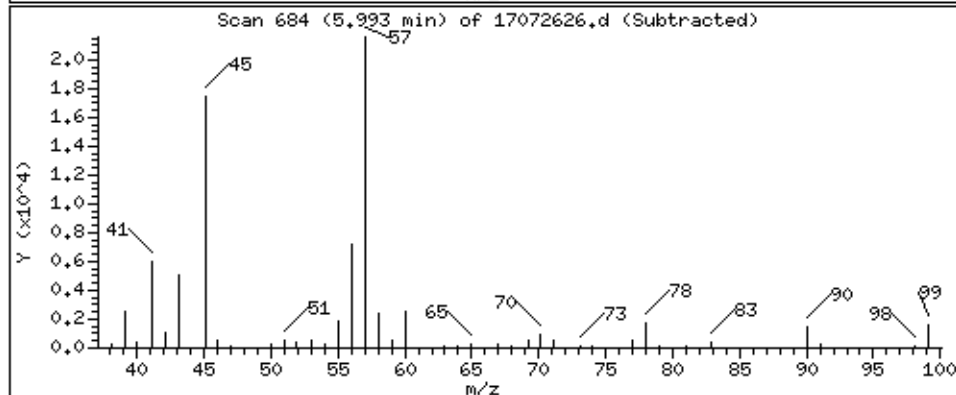
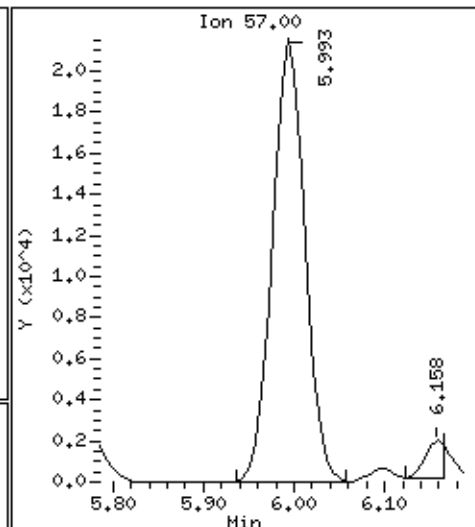
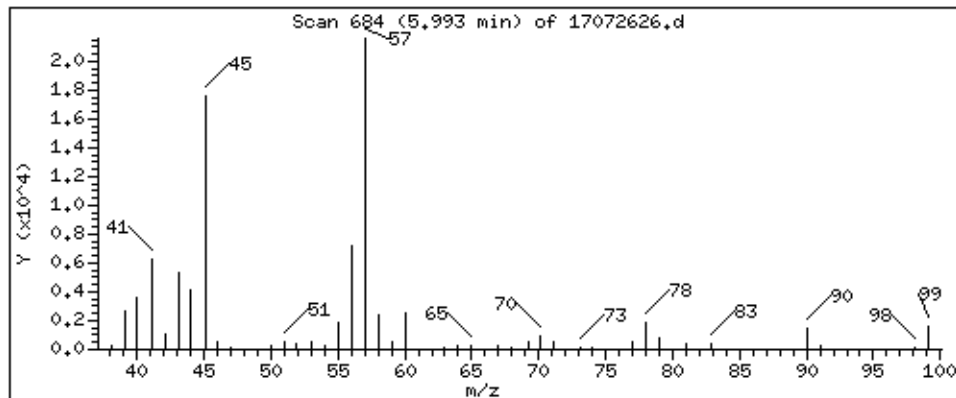
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

113 2,2,4-Trimethylpentane

Concentration: 4.046 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

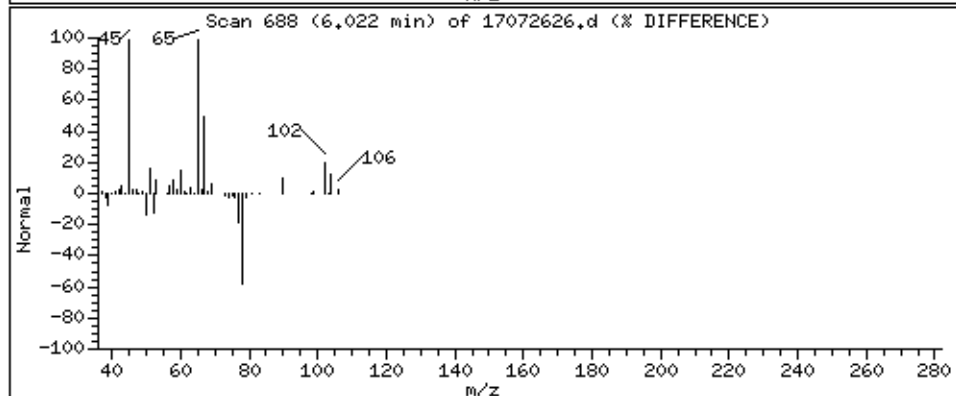
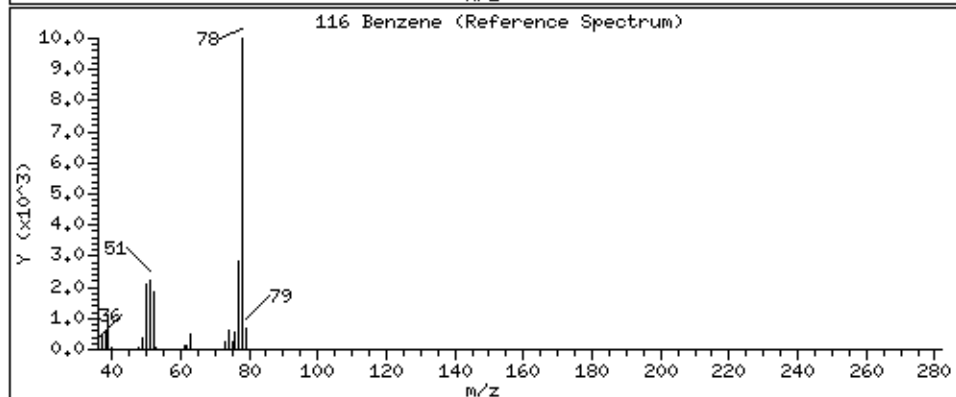
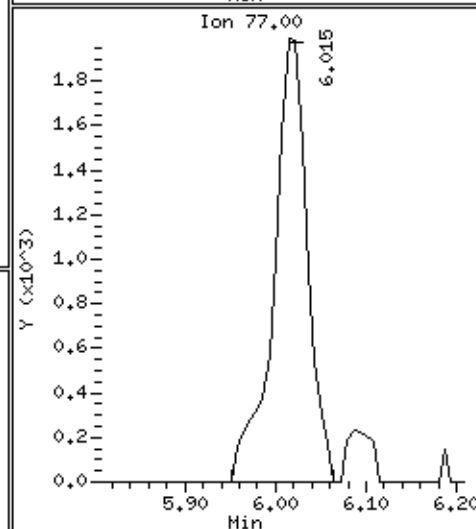
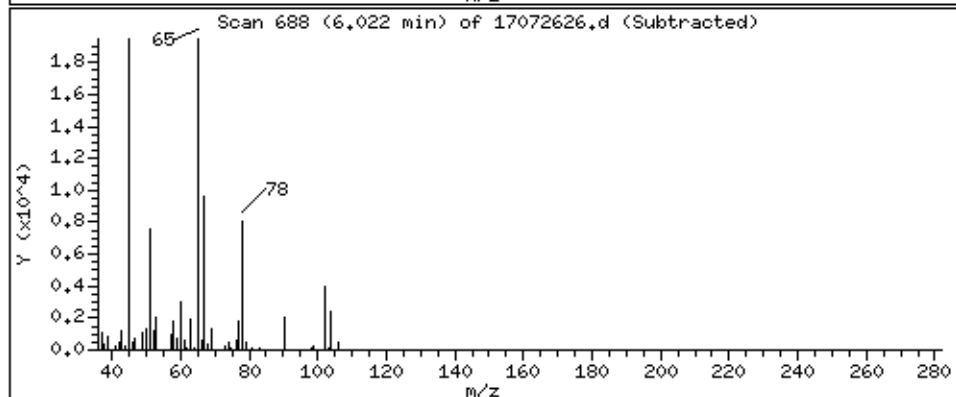
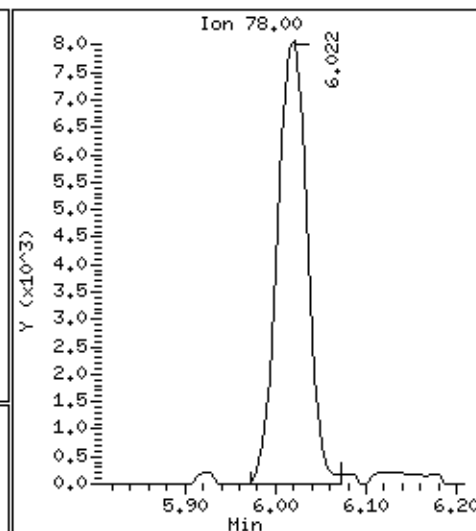
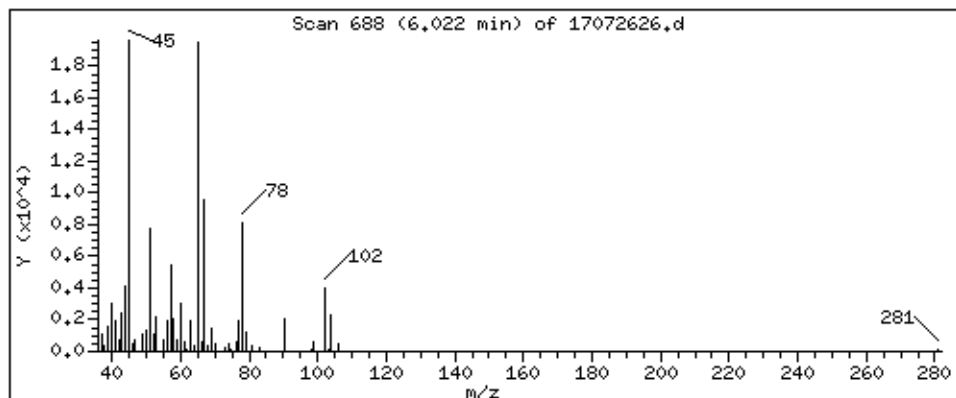
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

116 Benzene

Concentration: 2.059 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594cl

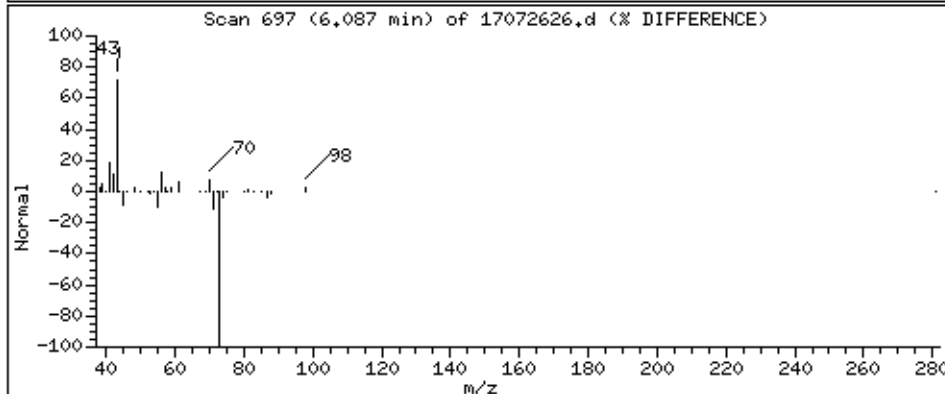
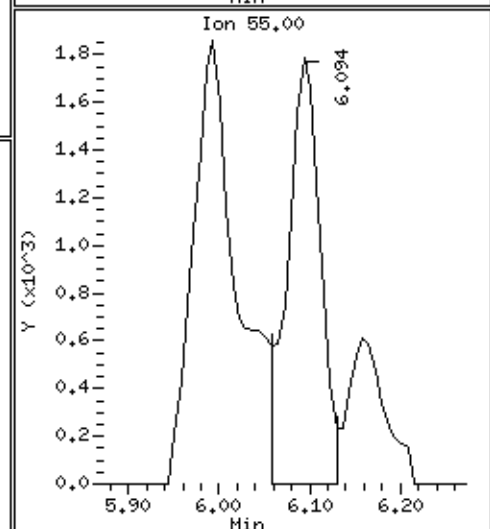
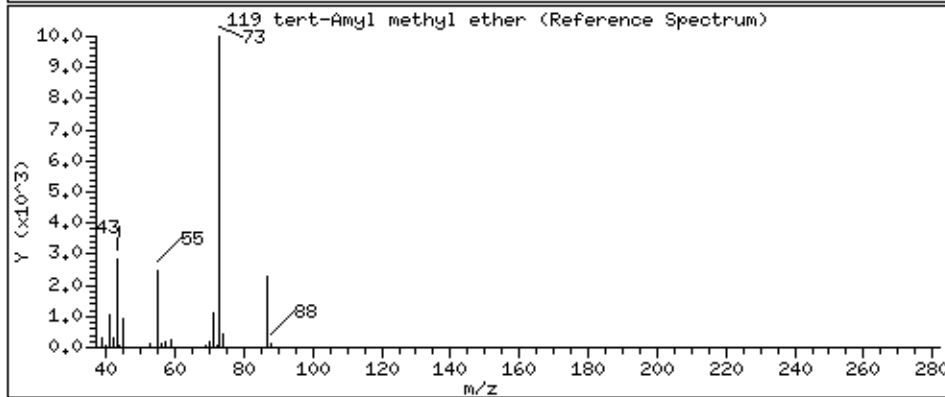
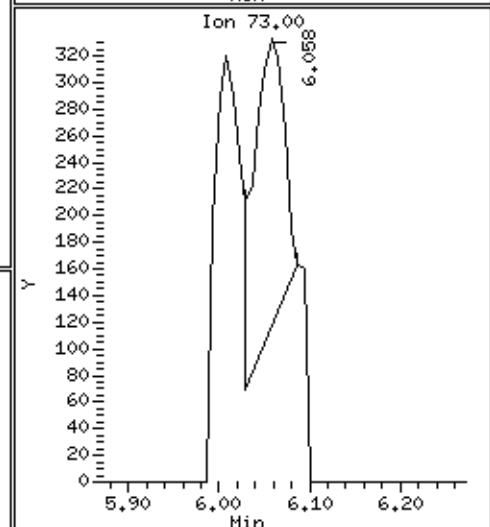
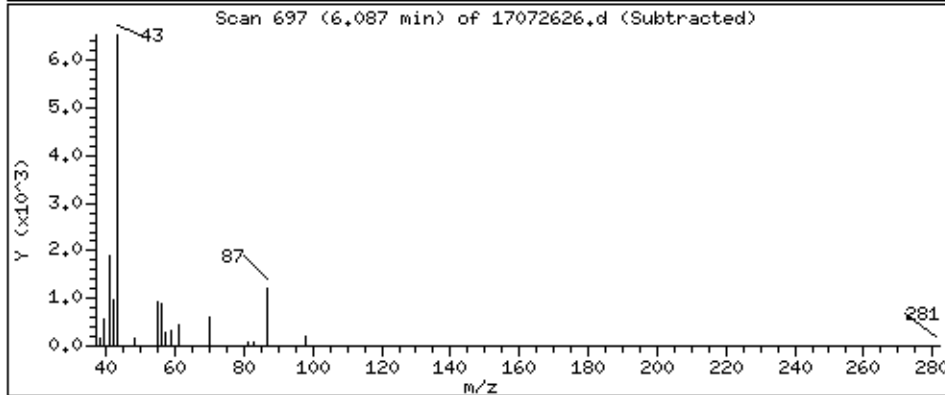
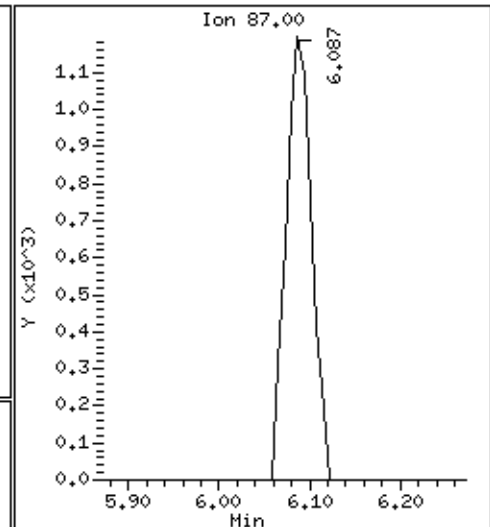
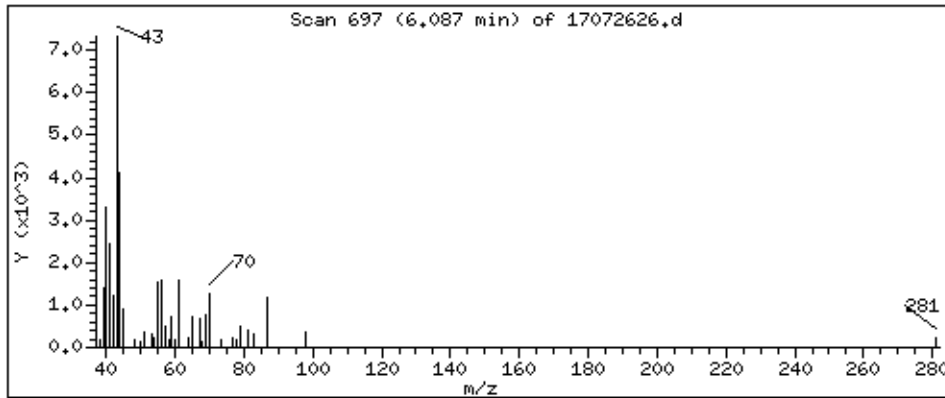
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

119 tert-Amyl methyl ether

Concentration: 0.9441 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

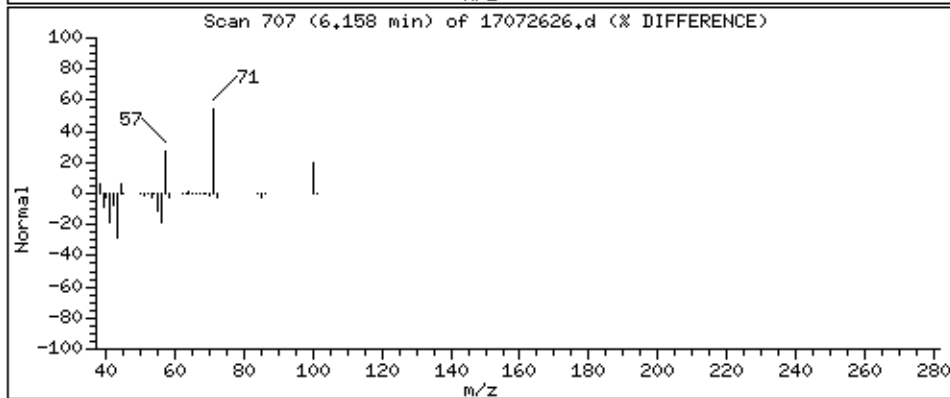
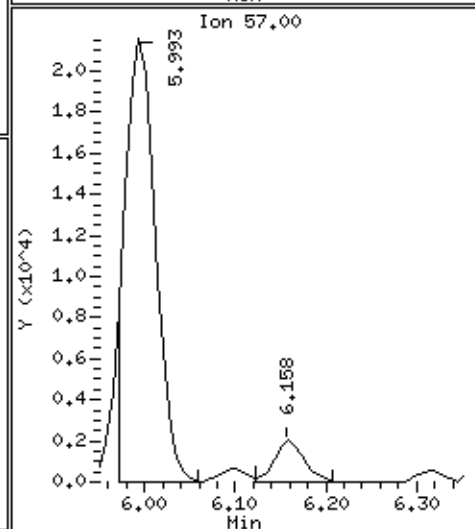
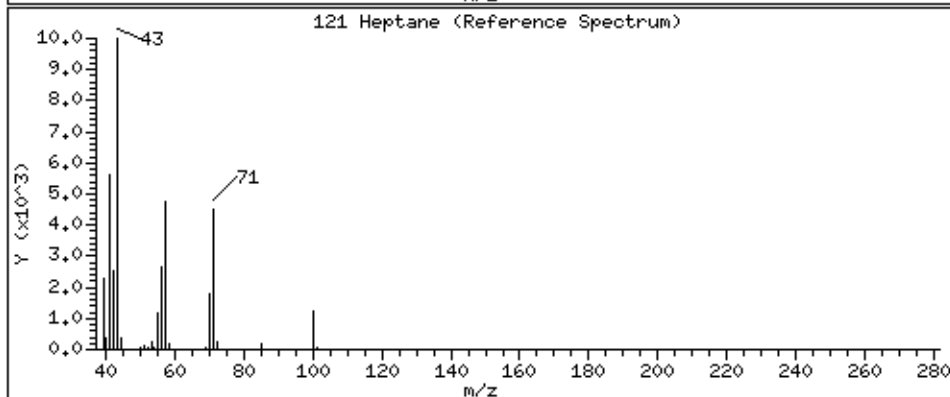
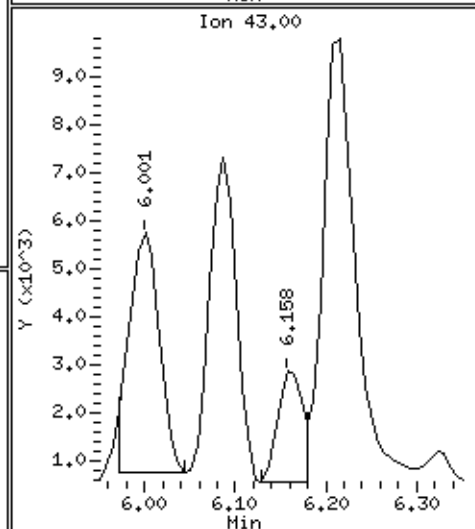
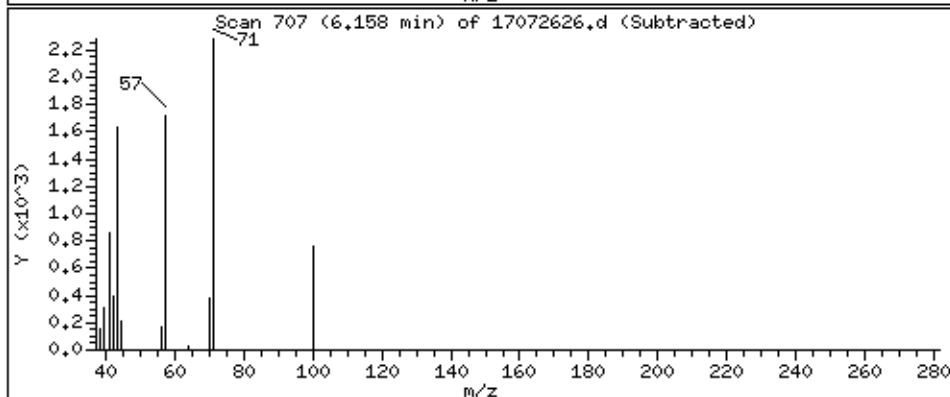
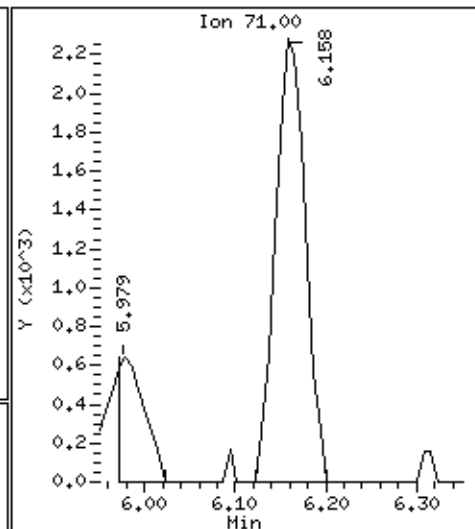
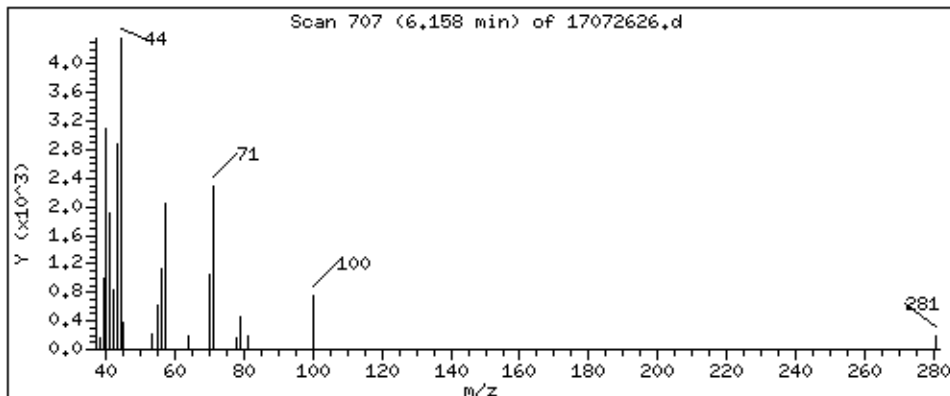
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

121 Heptane

Concentration: 1.672 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

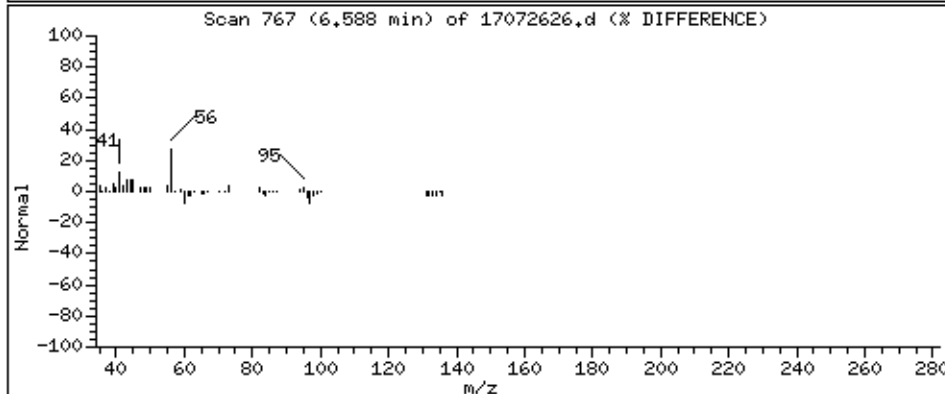
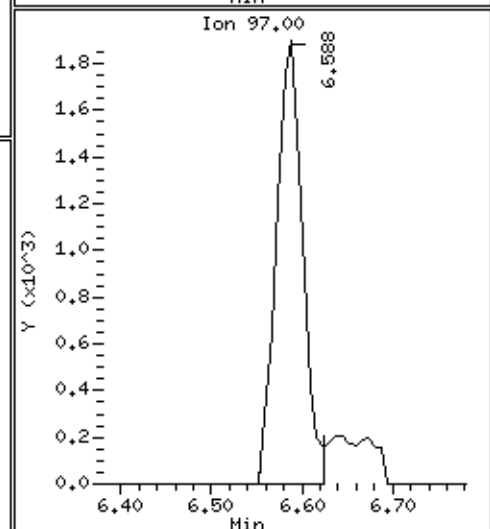
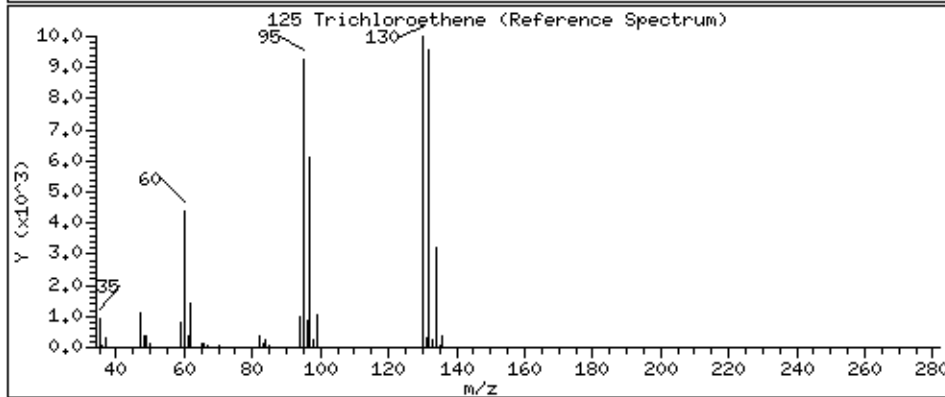
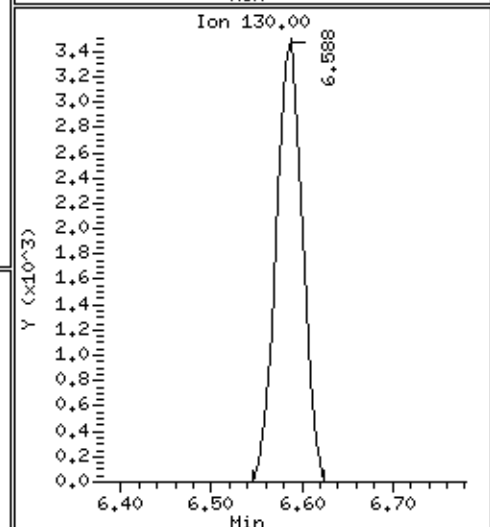
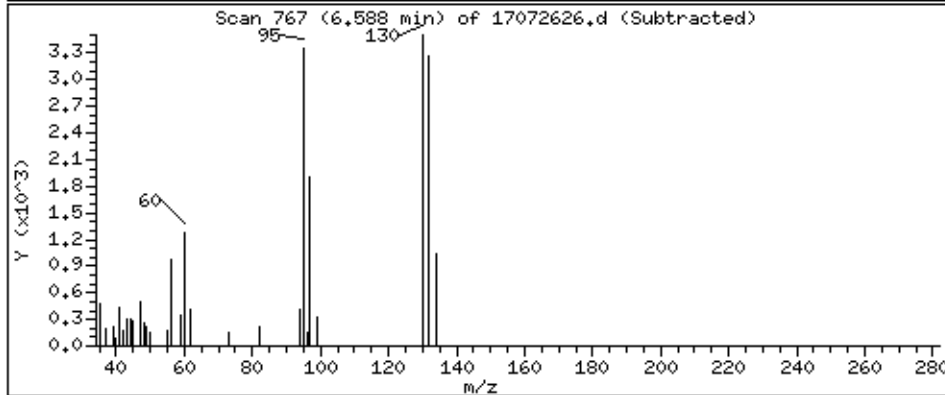
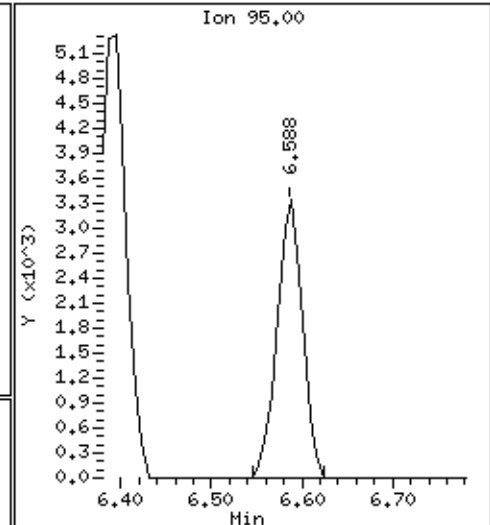
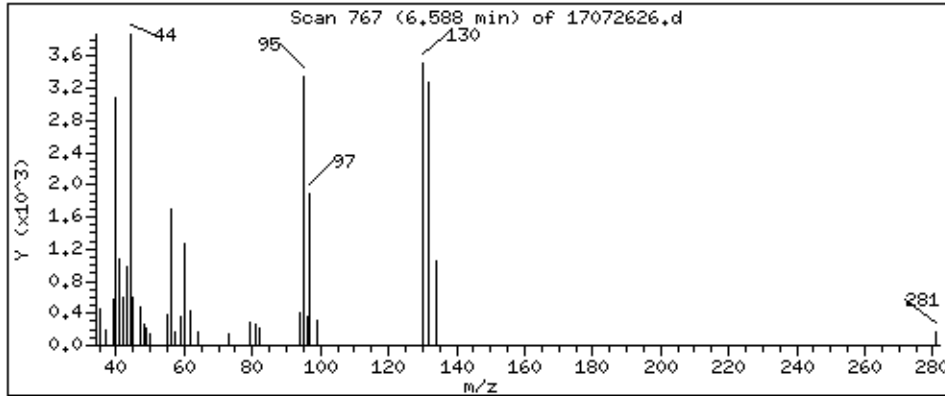
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

125 Trichloroethene

Concentration: 1.511 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

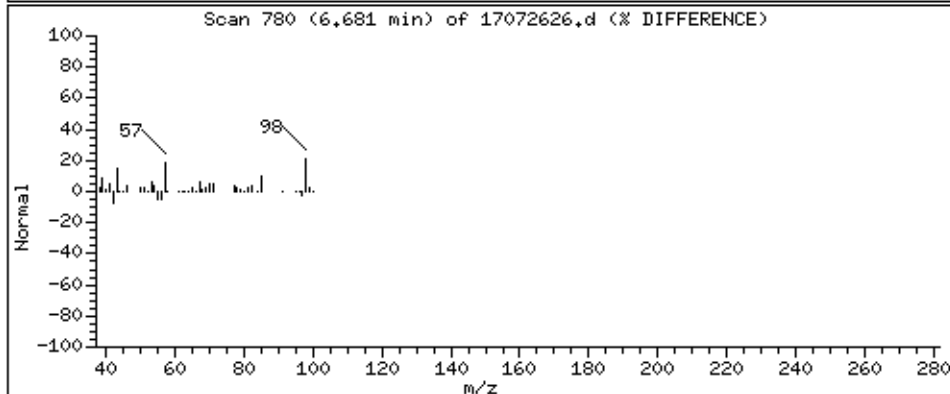
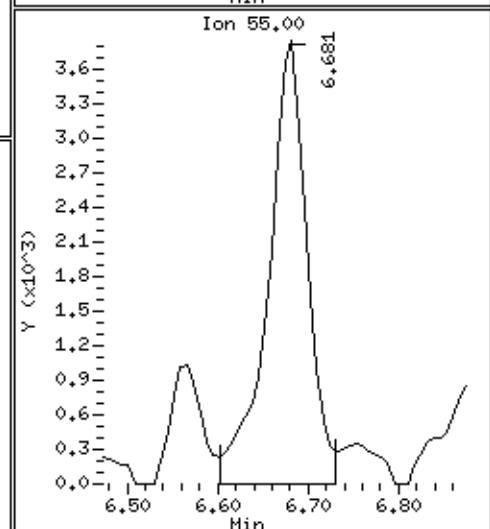
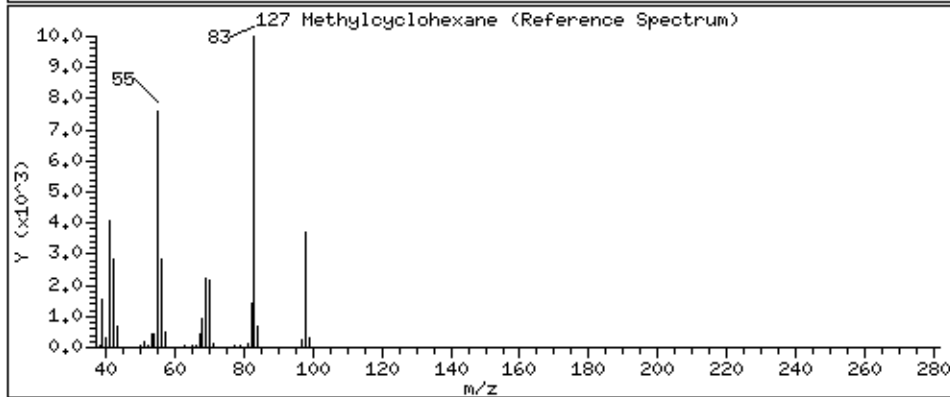
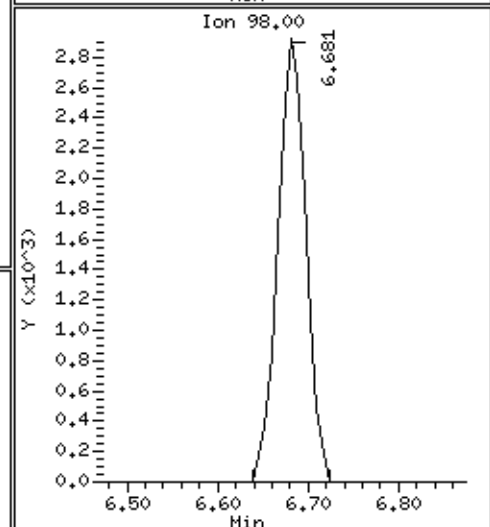
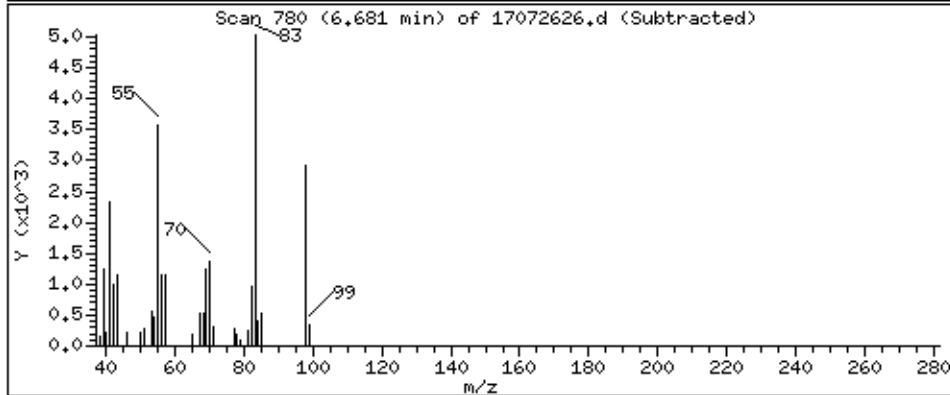
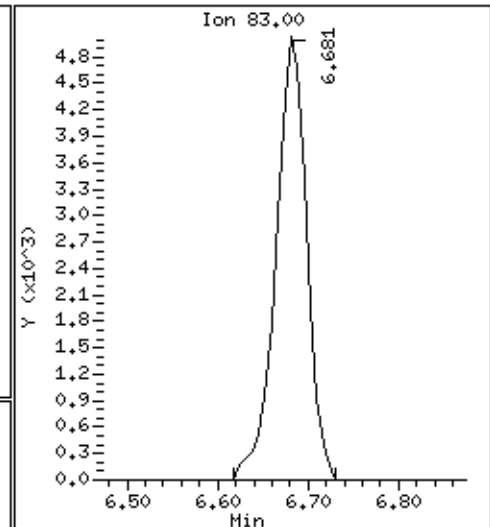
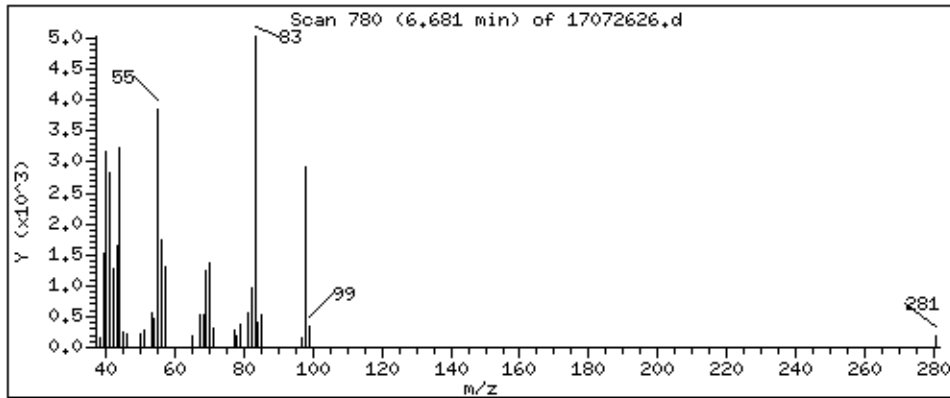
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

127 Methylcyclohexane

Concentration: 1.968 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594cl

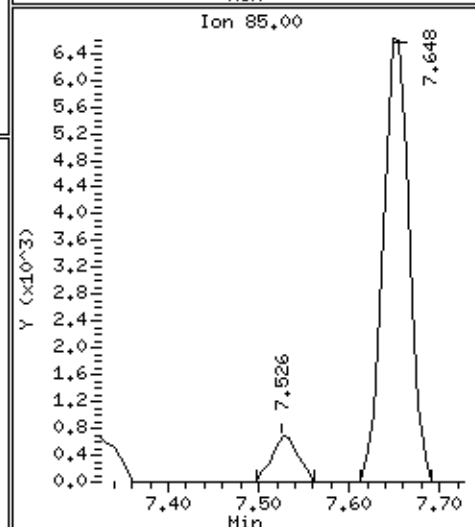
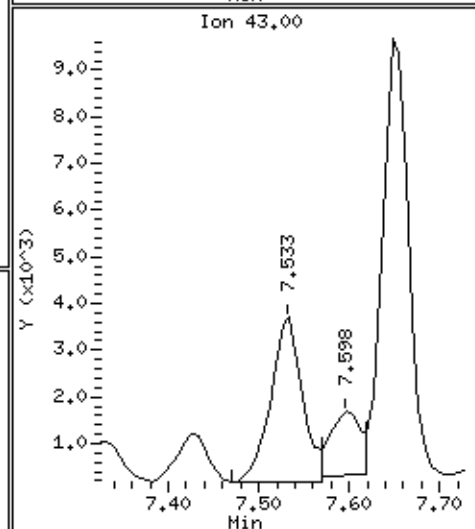
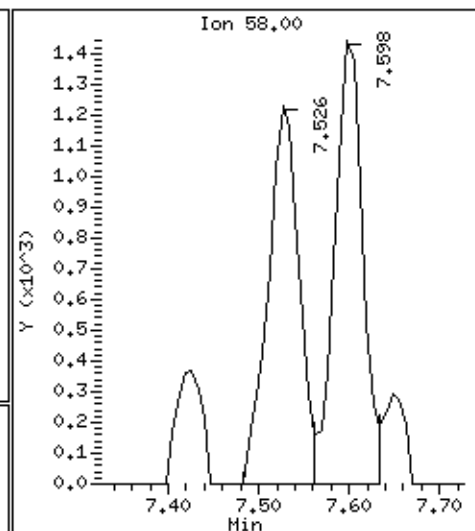
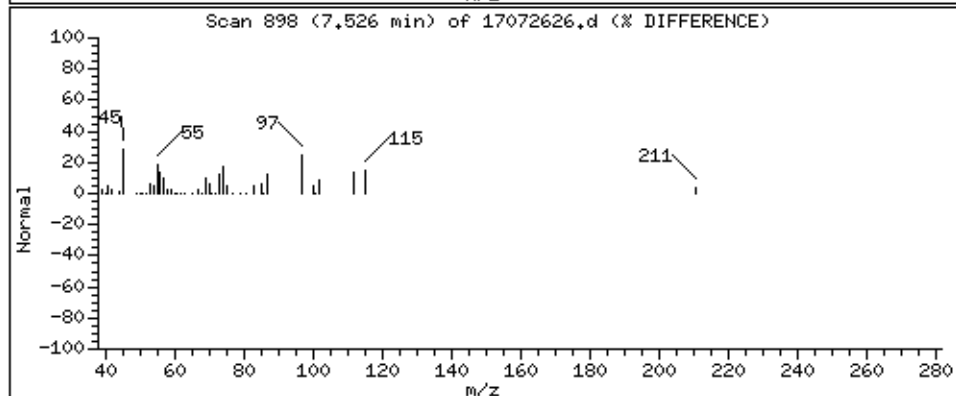
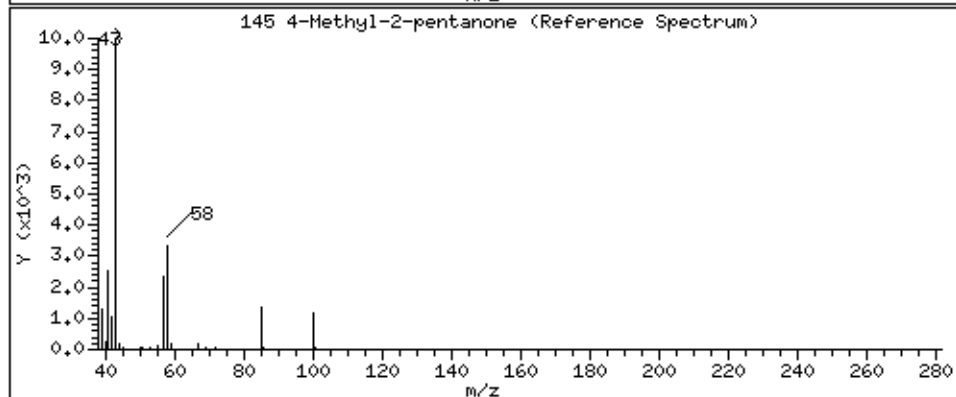
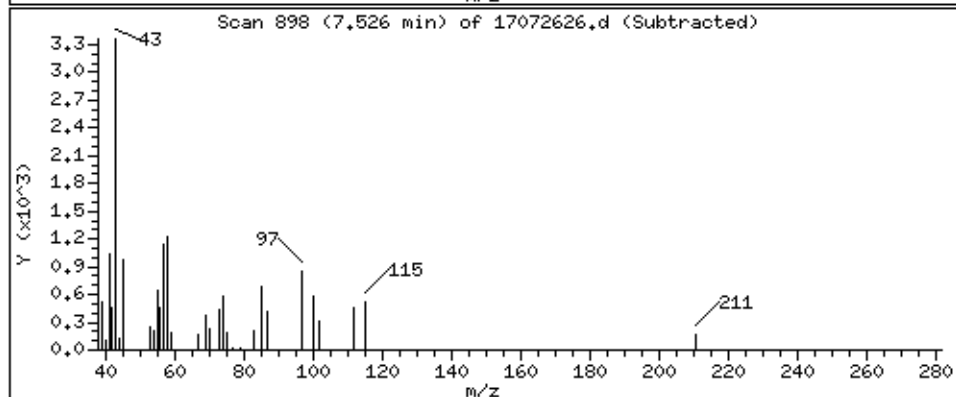
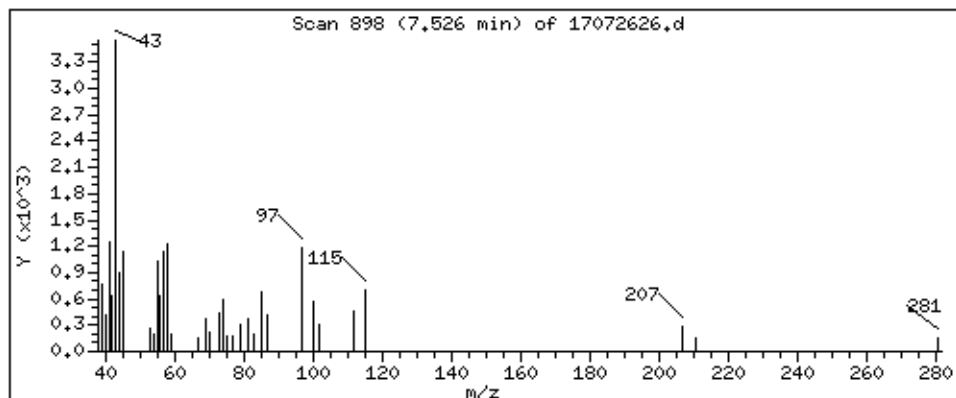
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

145 4-Methyl-2-pentanone

Concentration: 1.136 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

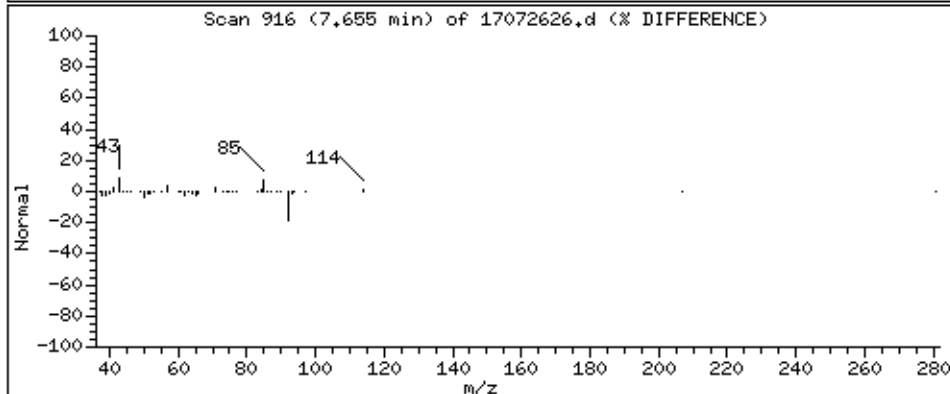
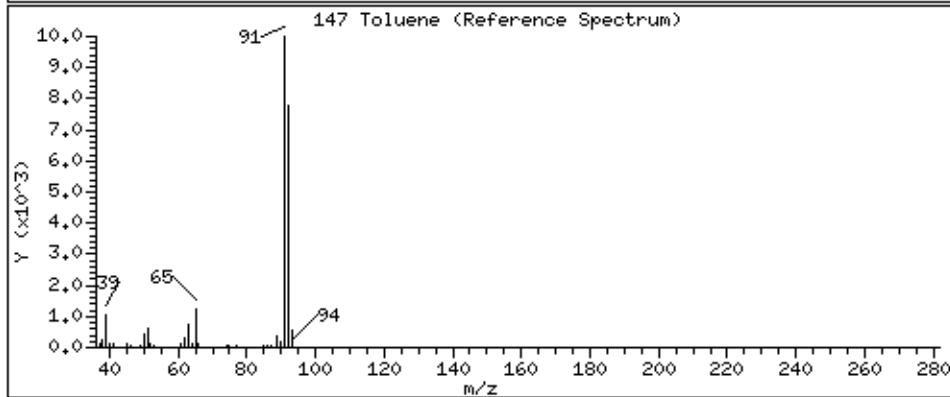
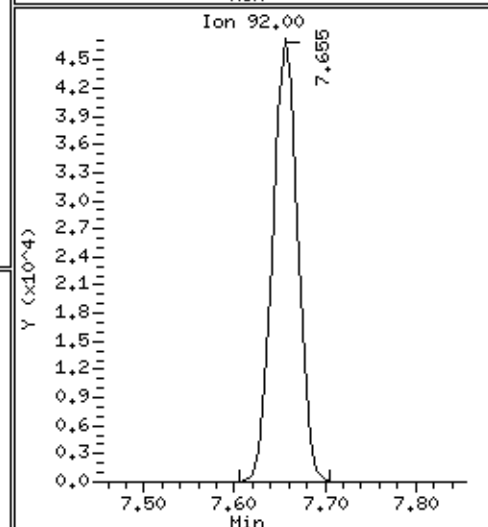
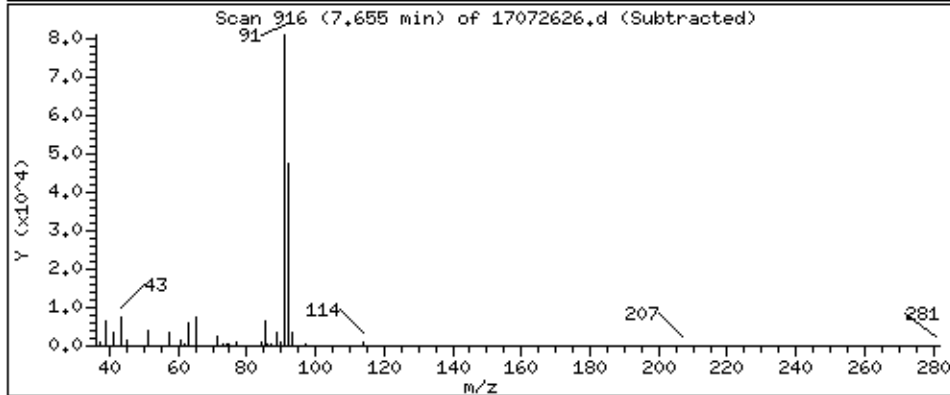
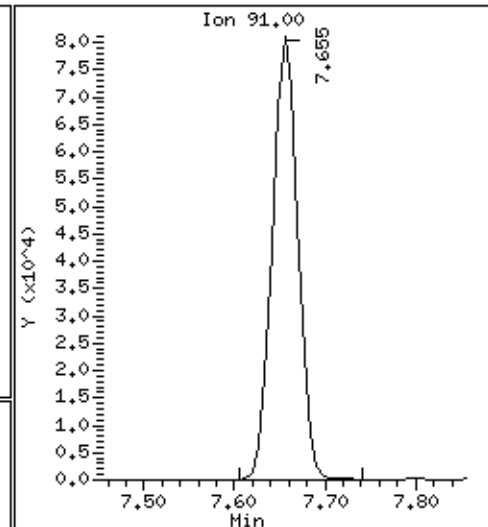
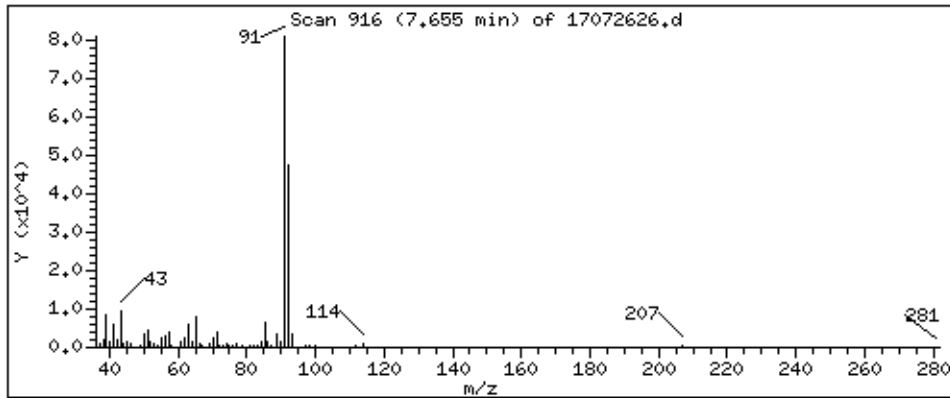
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

147 Toluene

Concentration: 13,678 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

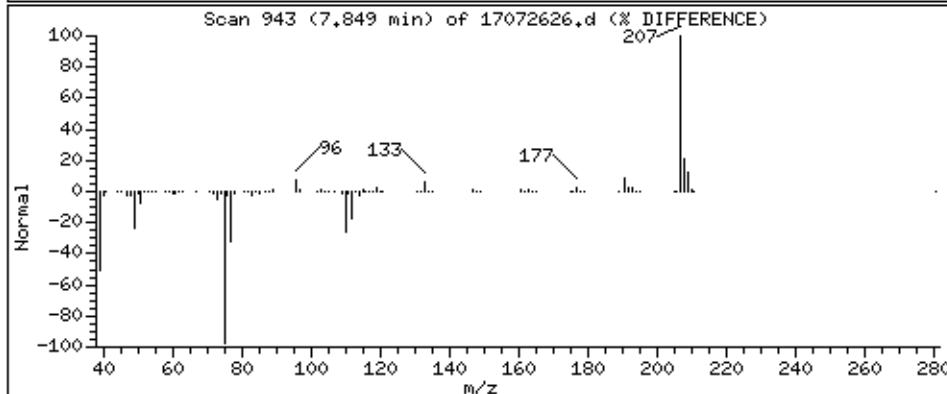
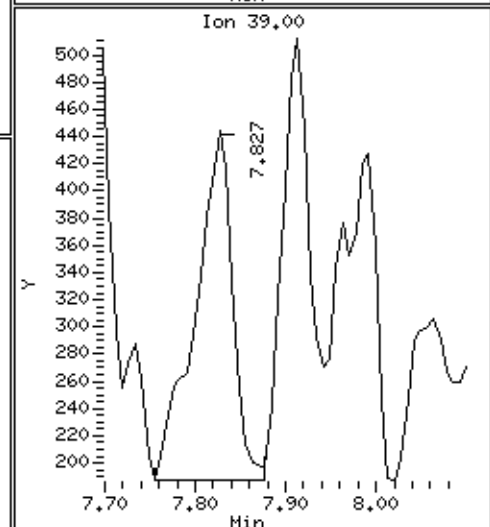
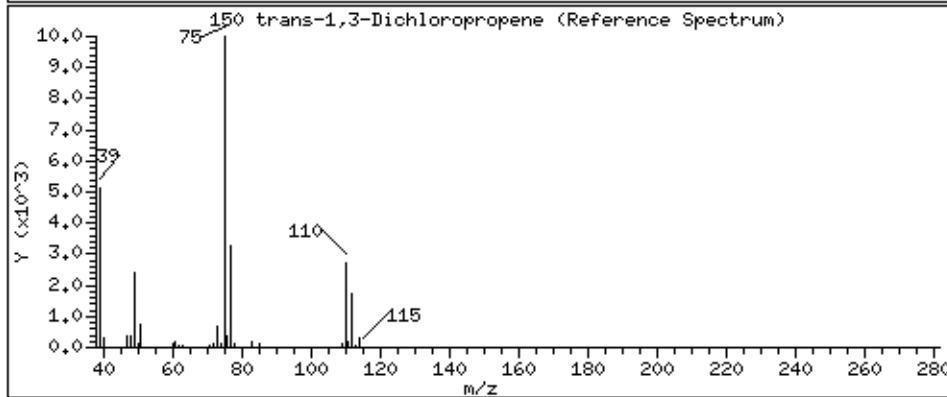
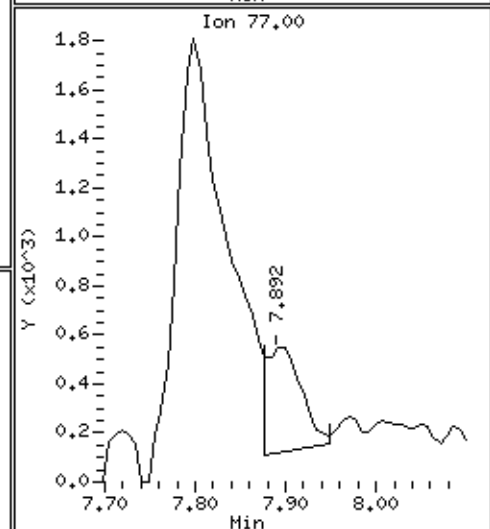
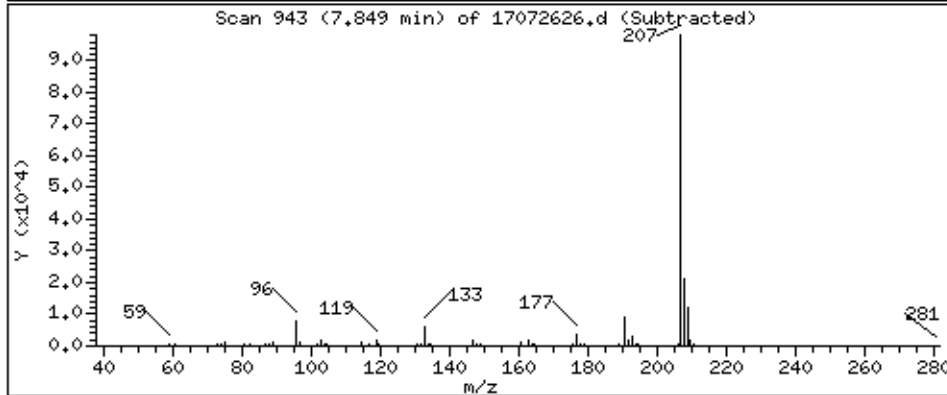
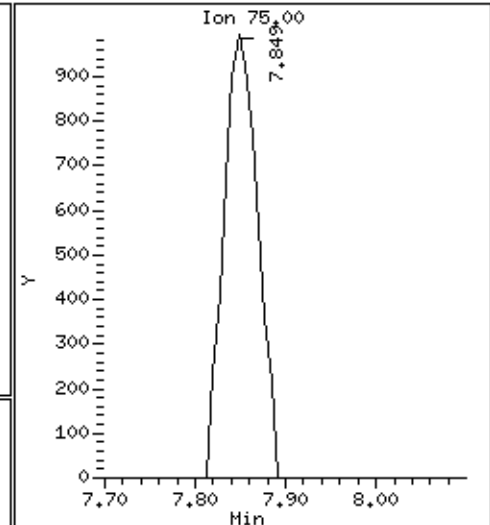
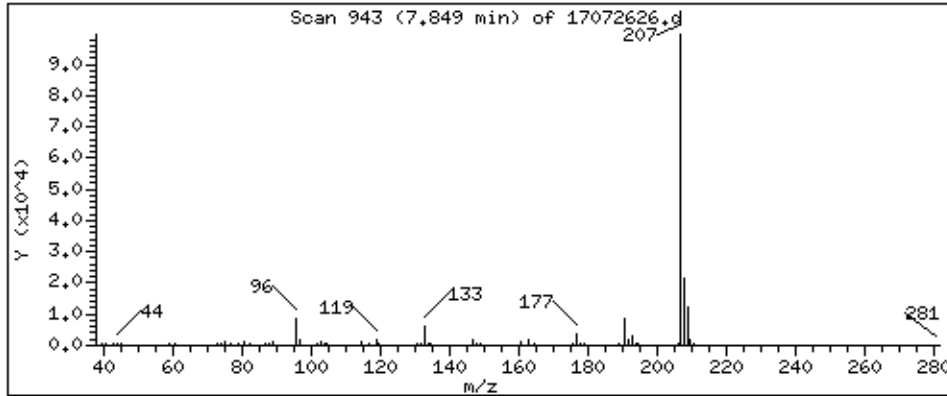
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

150 trans-1,3-Dichloropropene

Concentration: 0.4942 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594cl

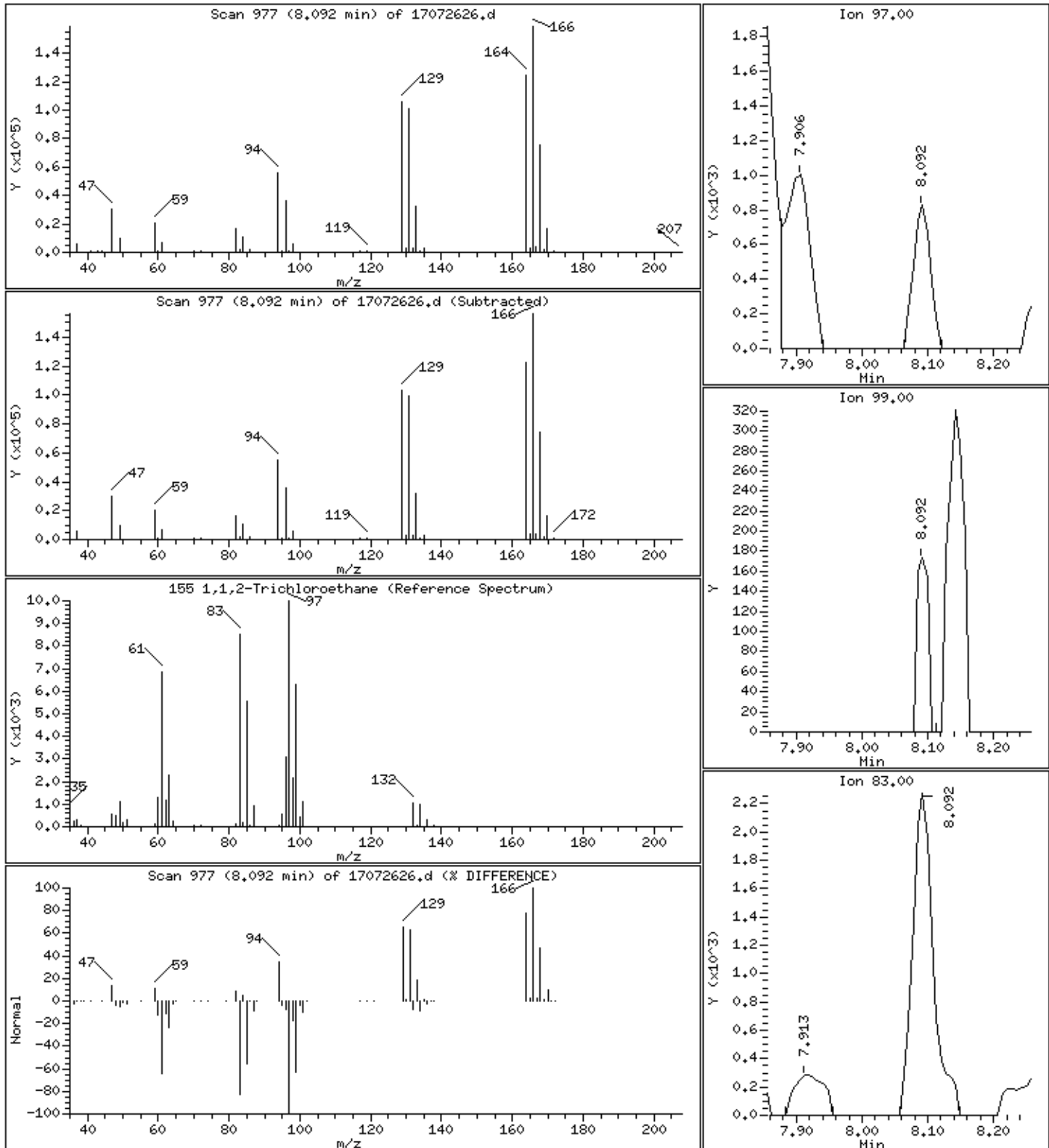
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

155 1,1,2-Trichloroethane

Concentration: 0.3594 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594cl

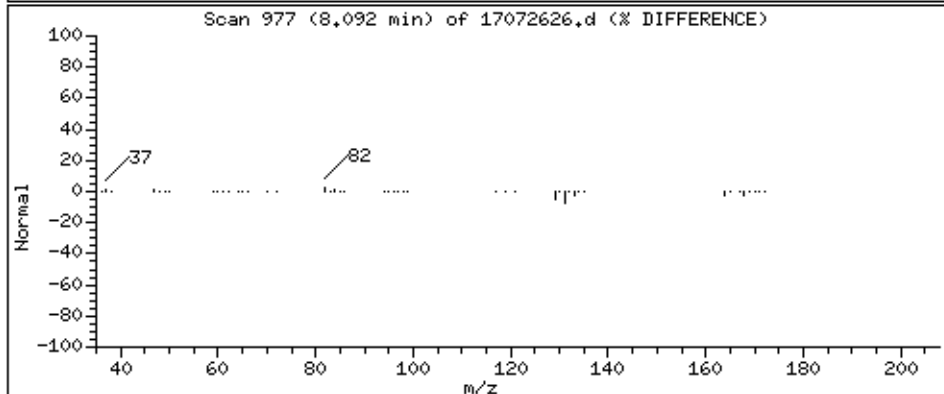
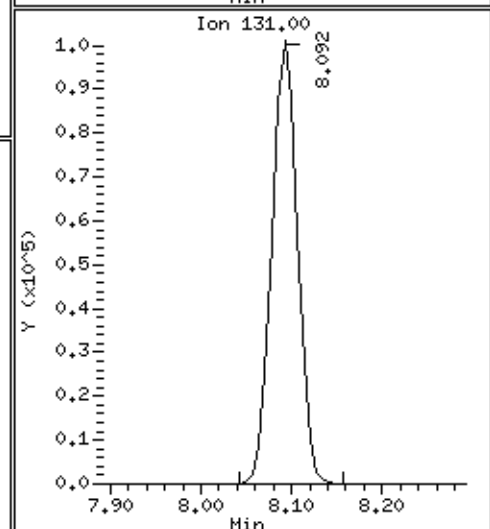
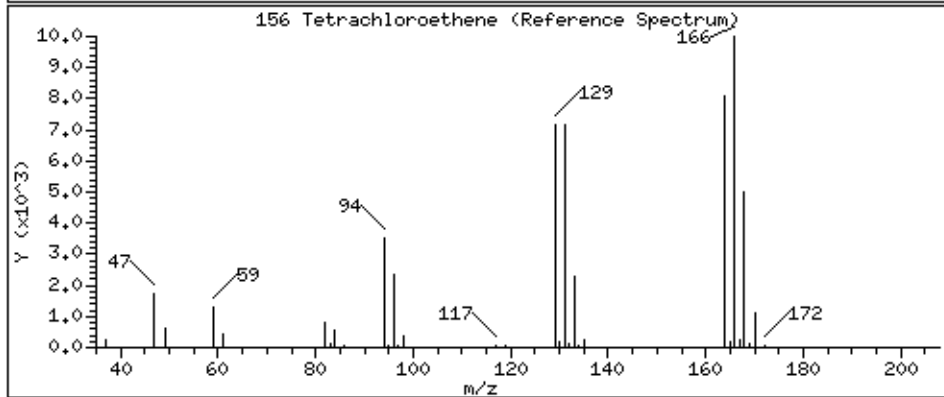
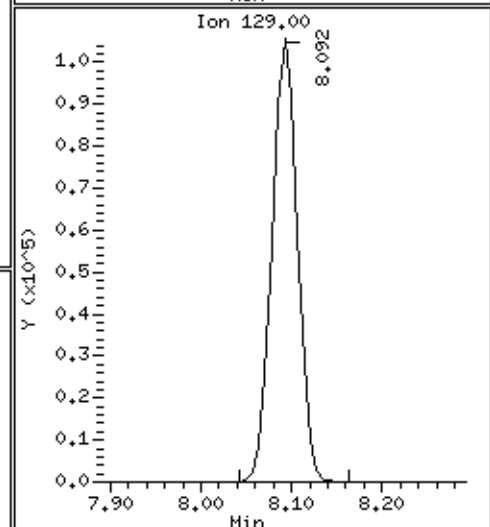
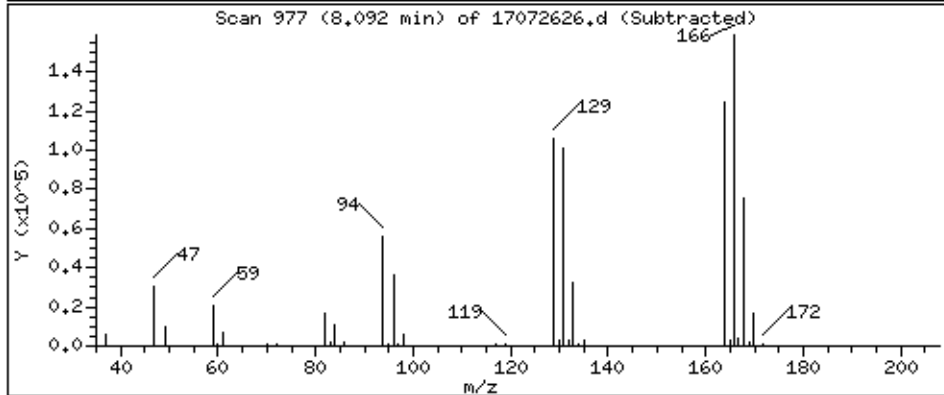
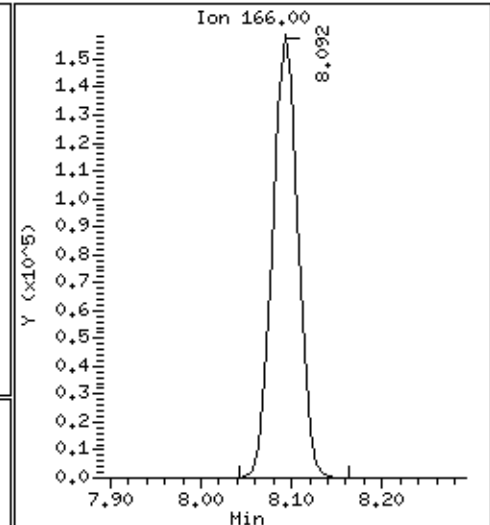
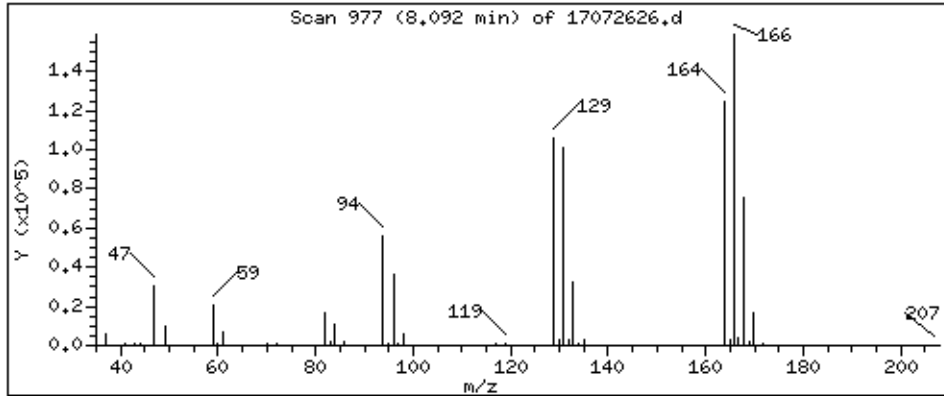
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

156 Tetrachloroethene

Concentration: 41,248 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594cl

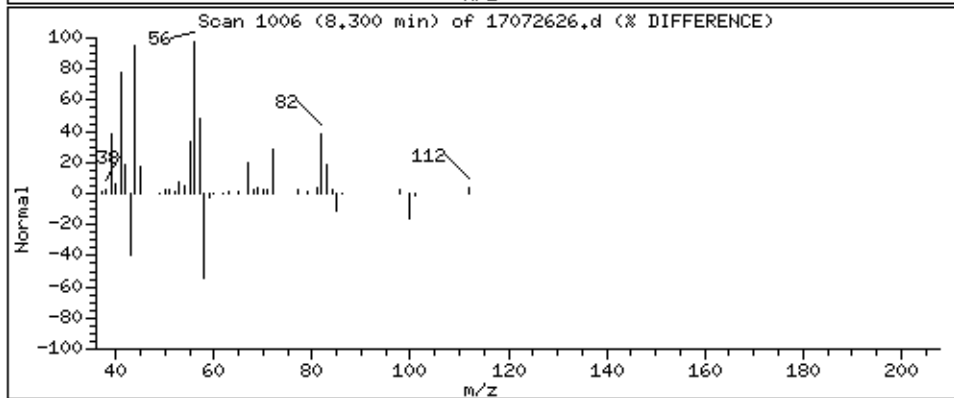
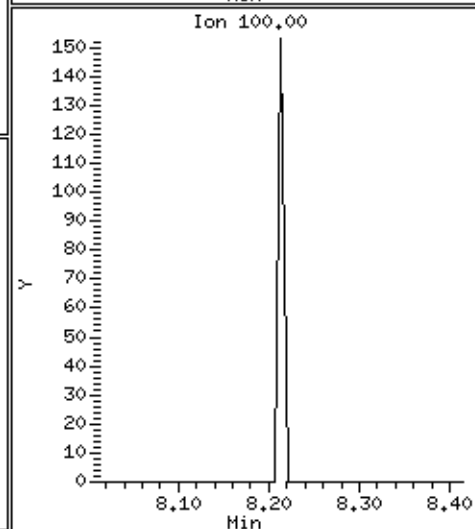
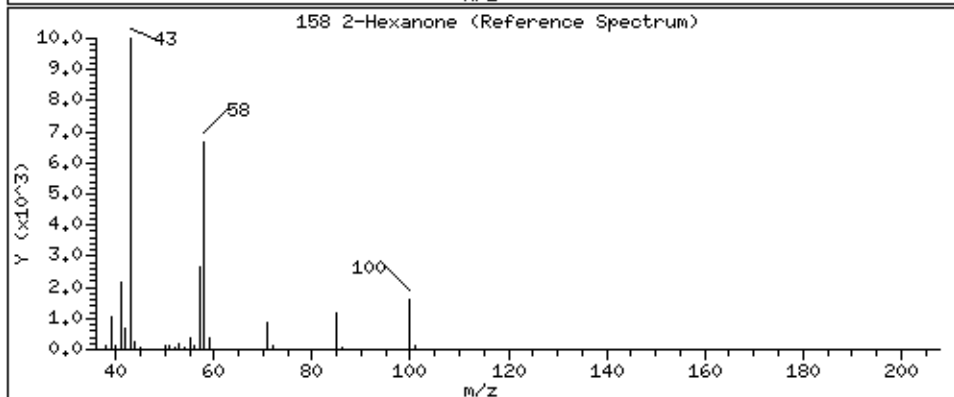
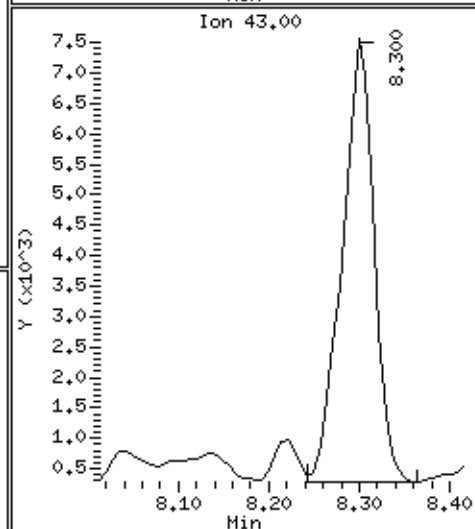
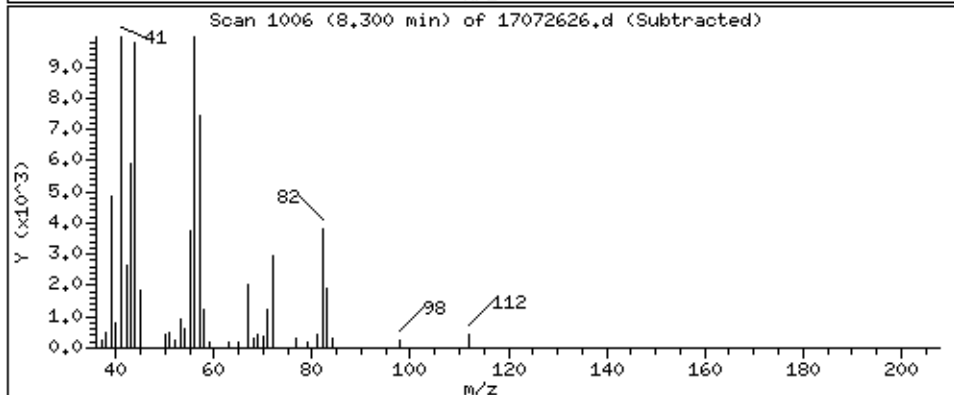
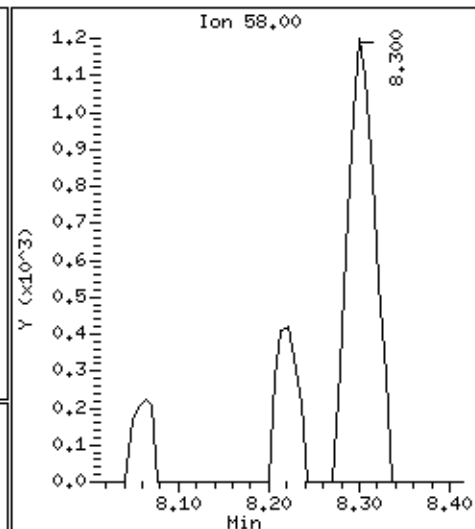
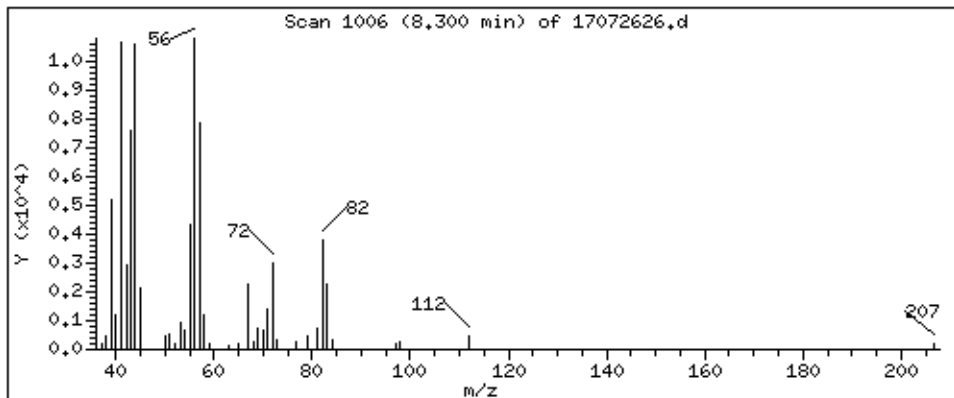
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

158 2-Hexanone

Concentration: 0.7432 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594cl

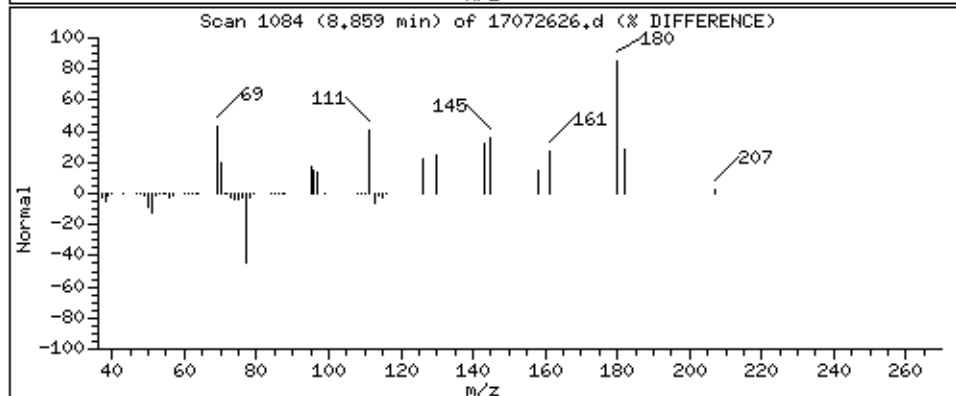
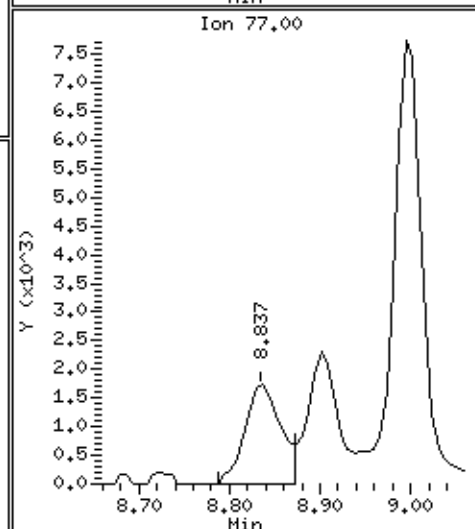
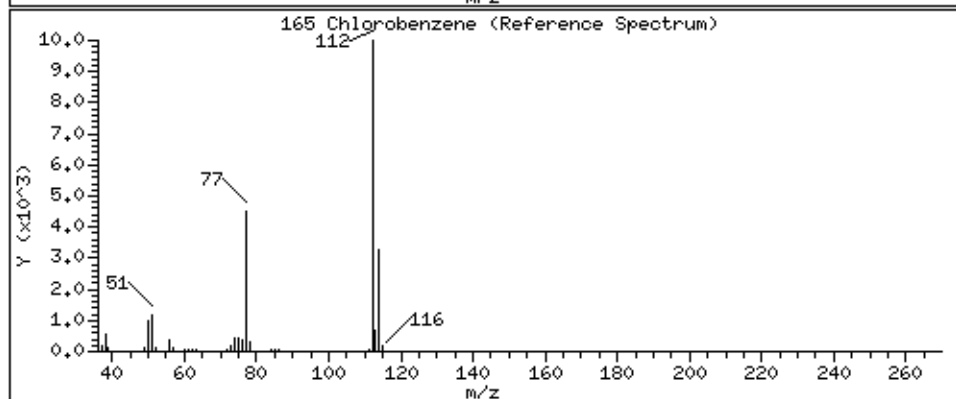
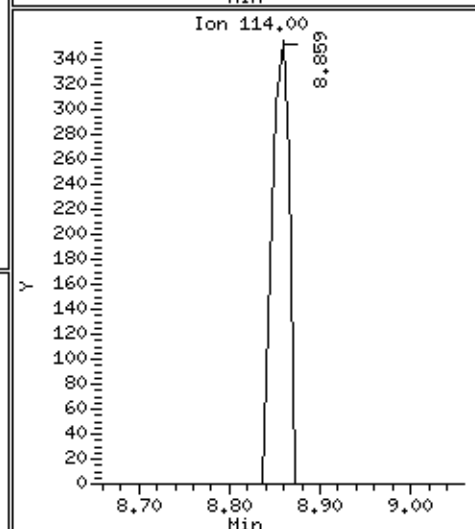
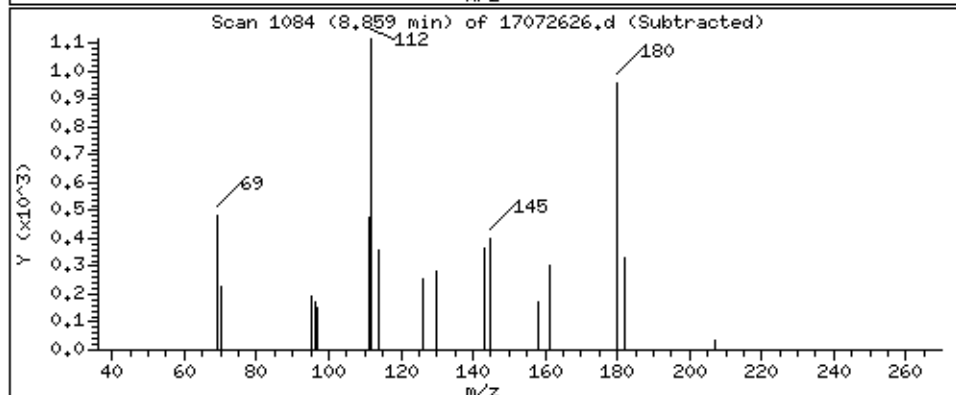
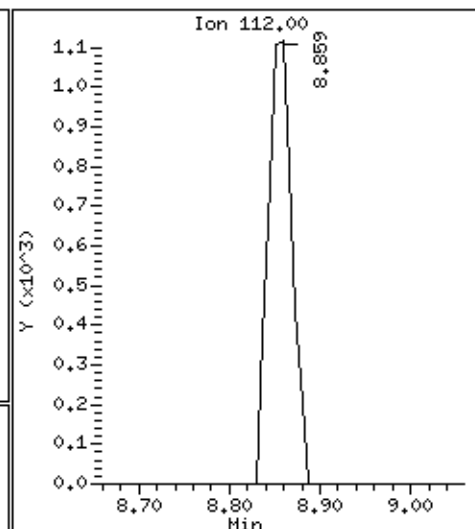
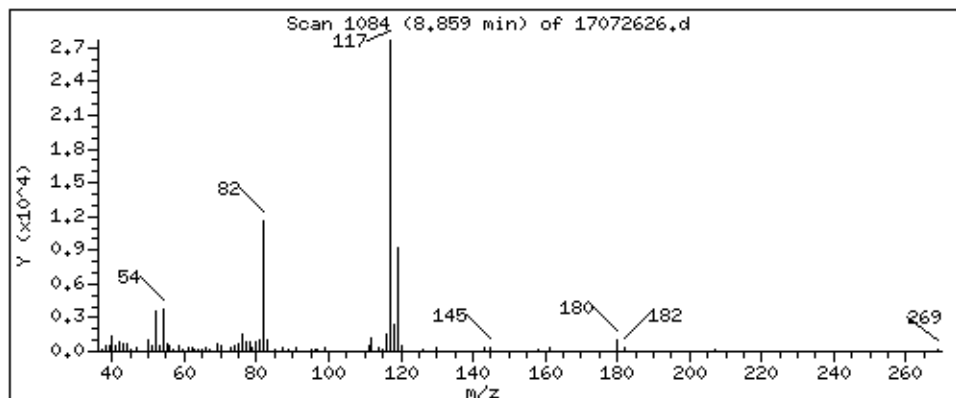
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

165 Chlorobenzene

Concentration: 0.1944 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

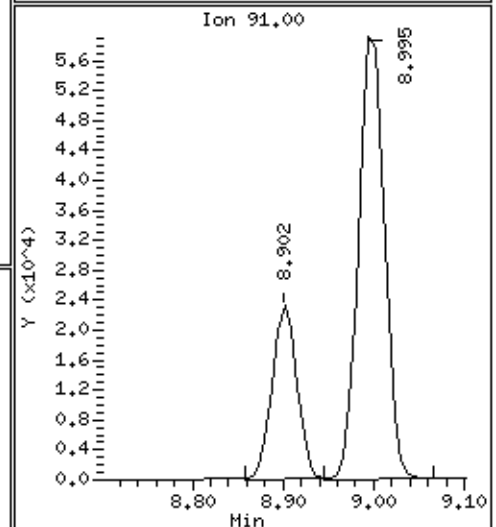
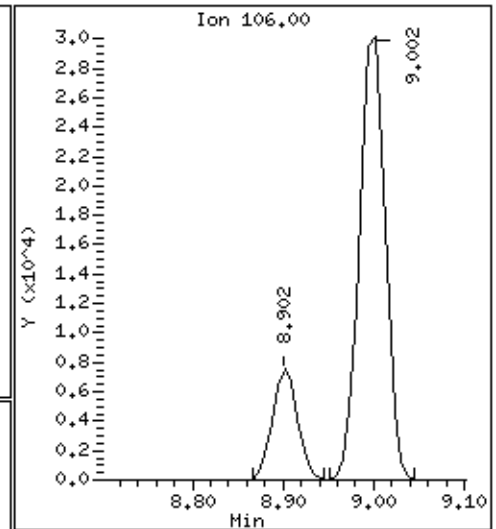
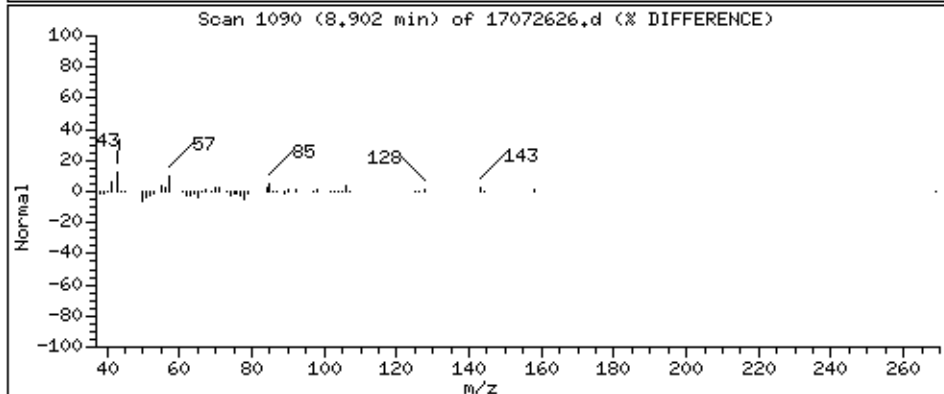
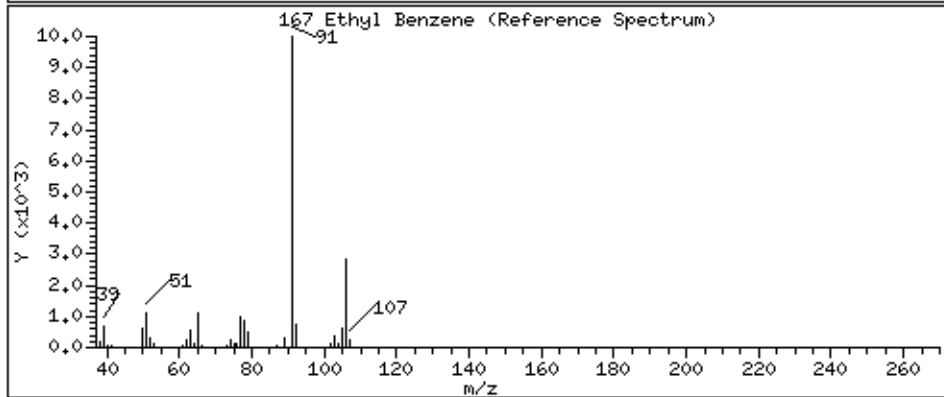
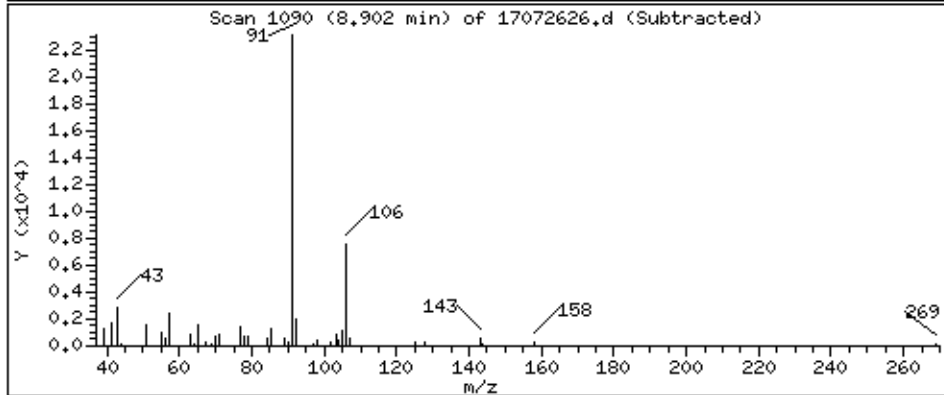
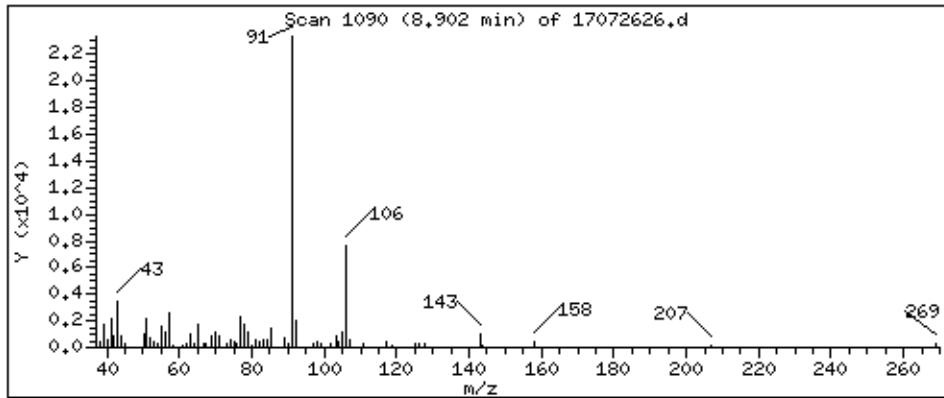
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

167 Ethyl Benzene

Concentration: 2.756 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

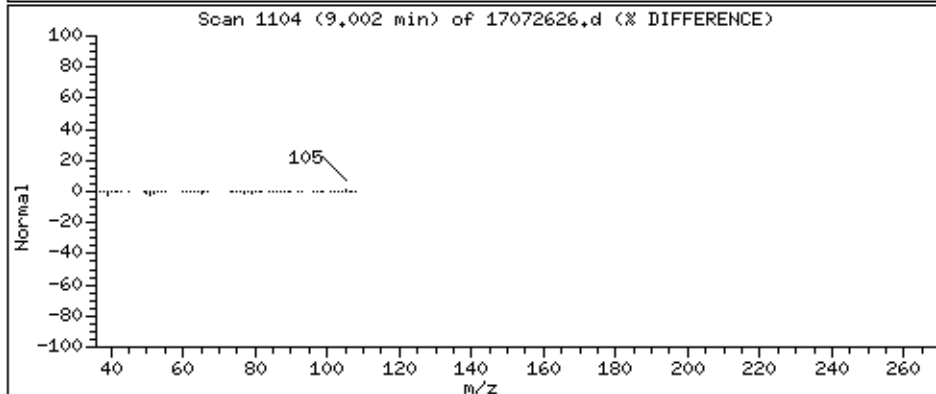
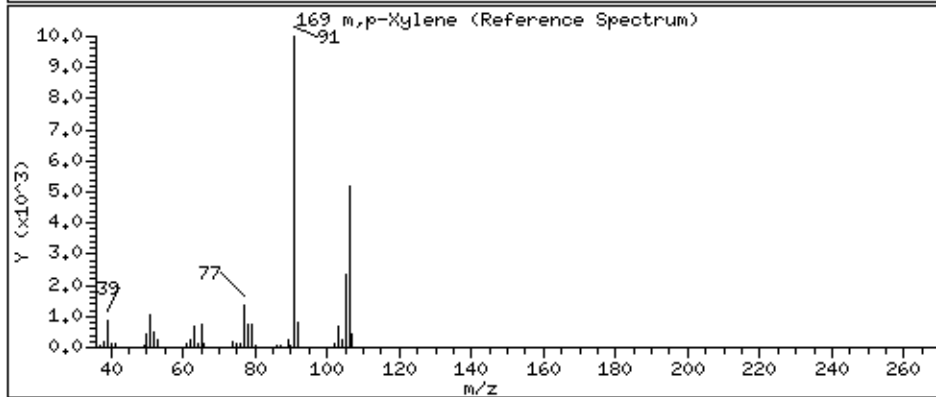
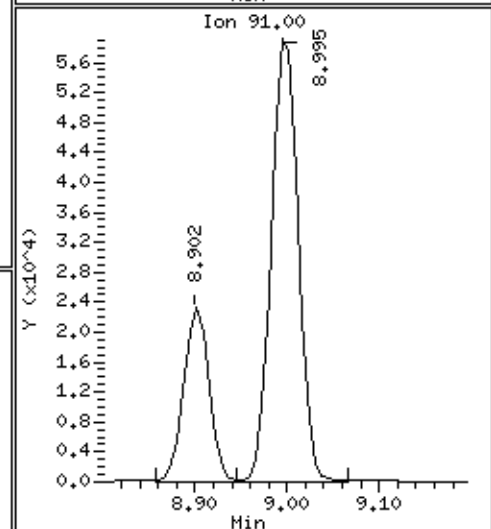
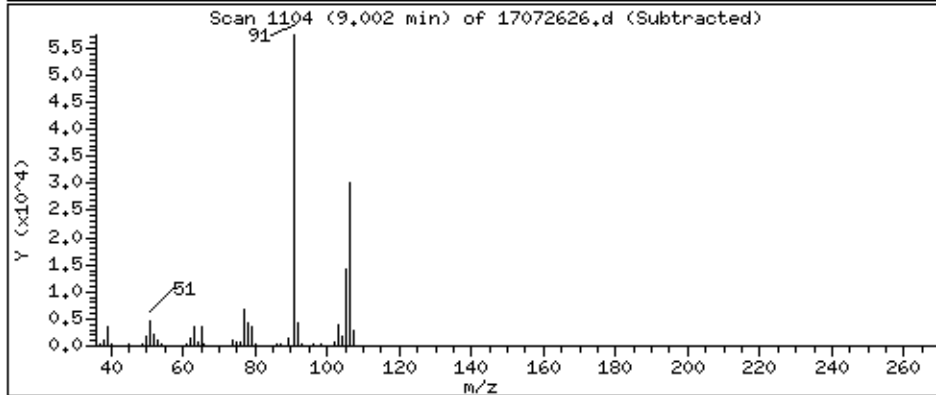
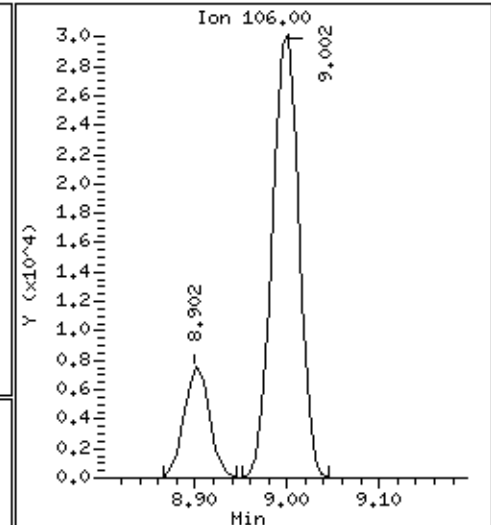
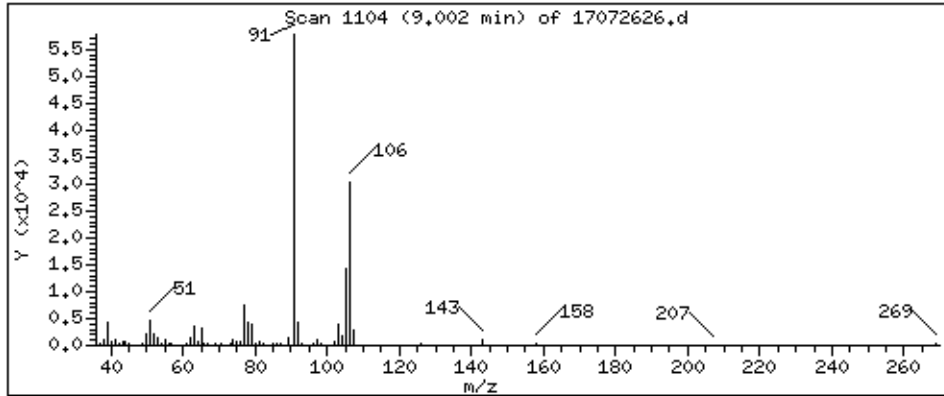
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

169 m,p-Xylene

Concentration: 9.118 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

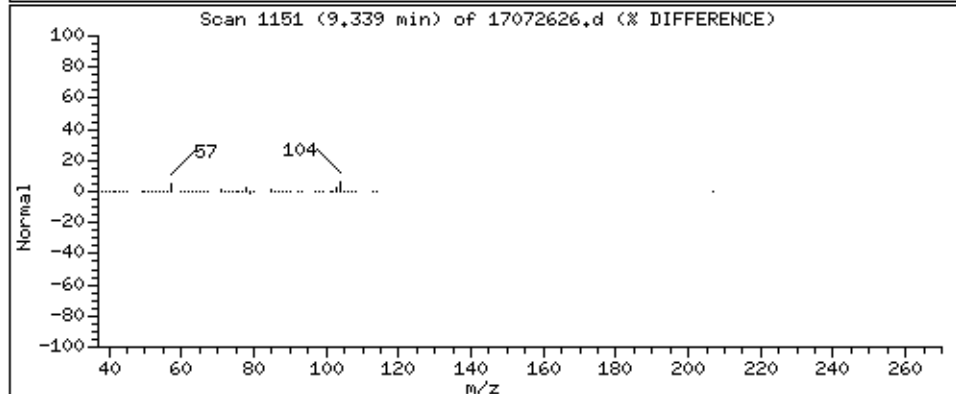
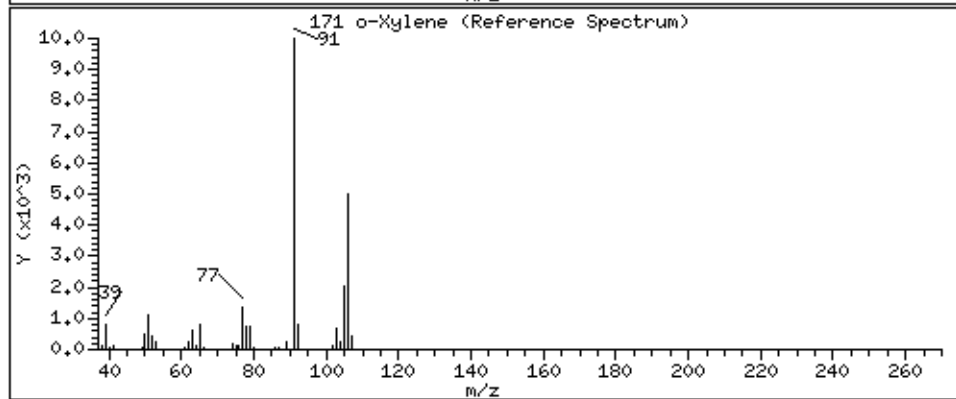
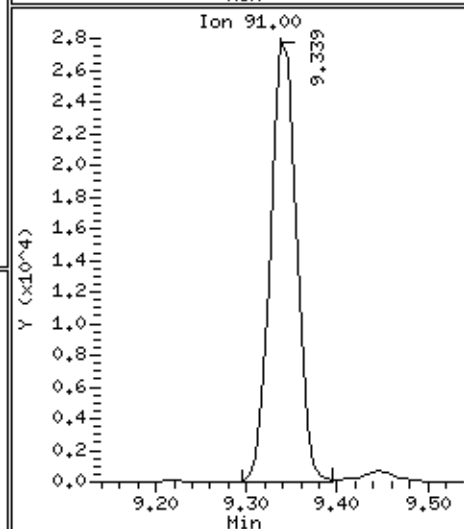
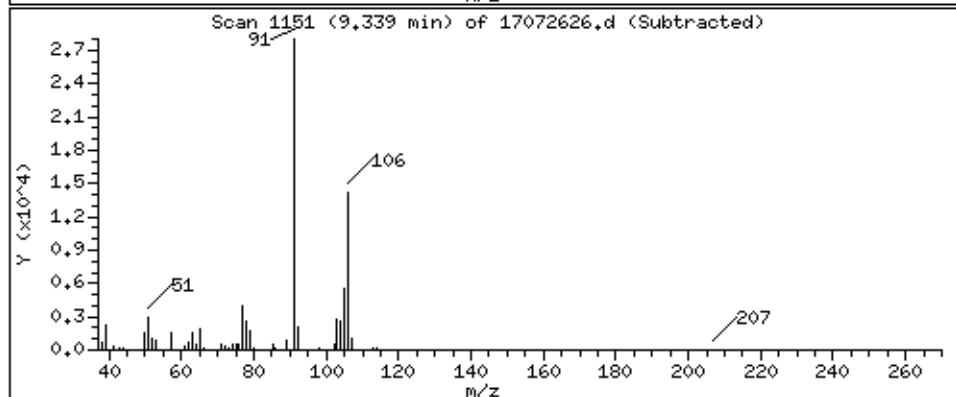
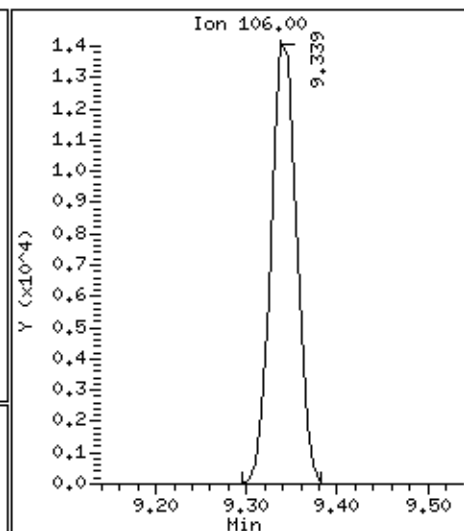
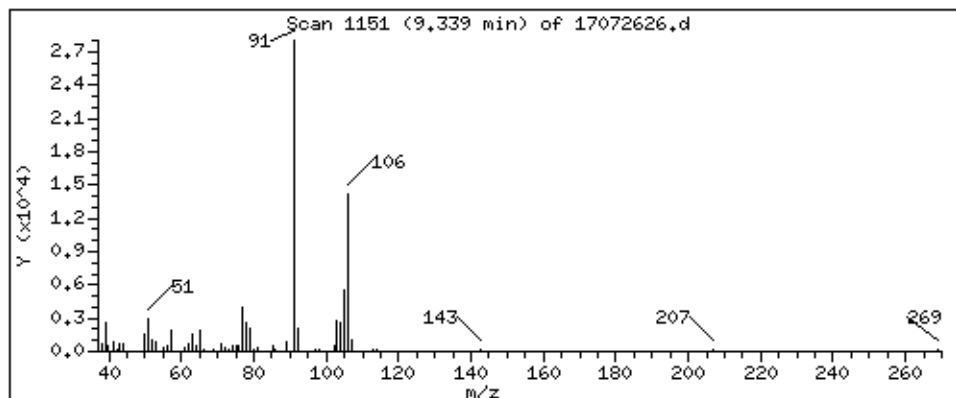
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

171 o-Xylene

Concentration: 4.453 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

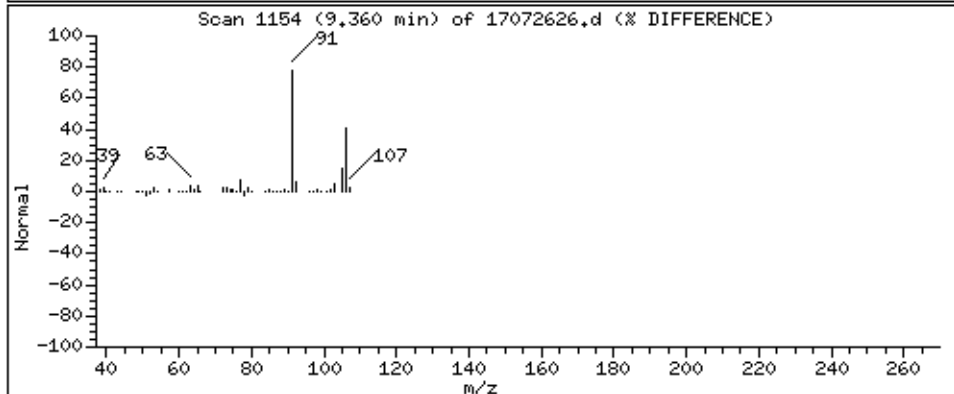
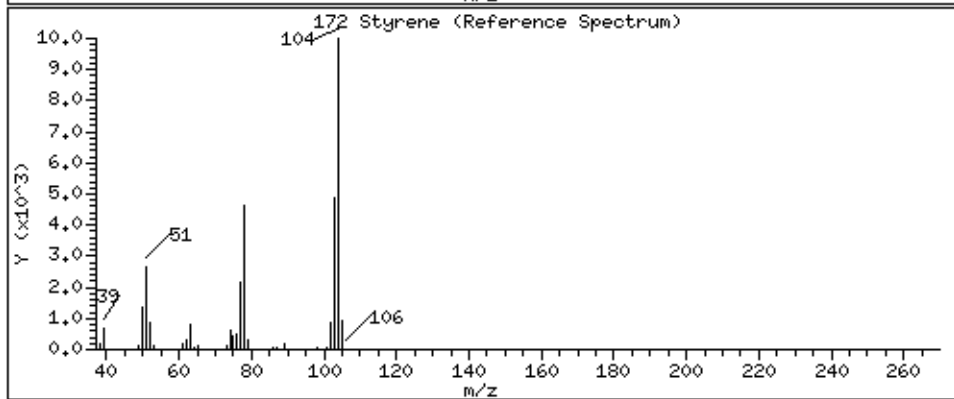
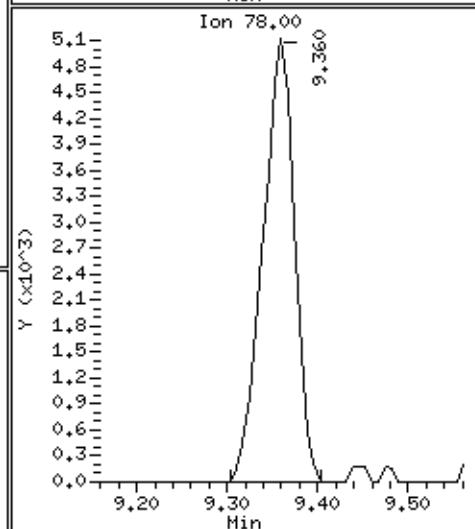
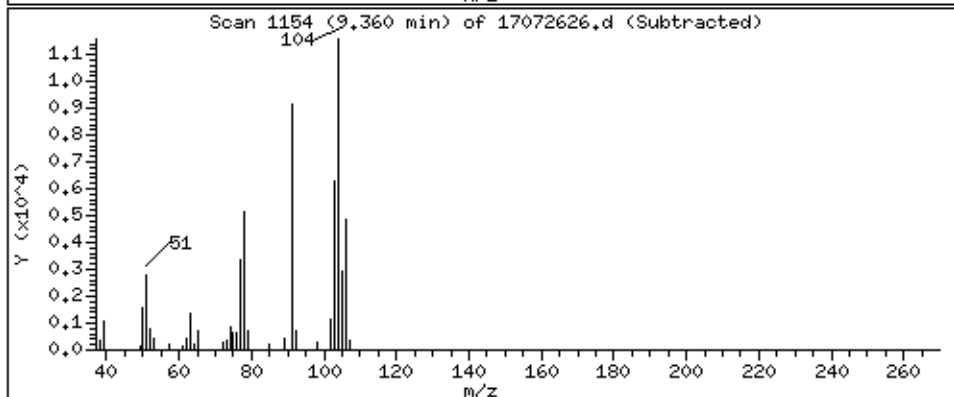
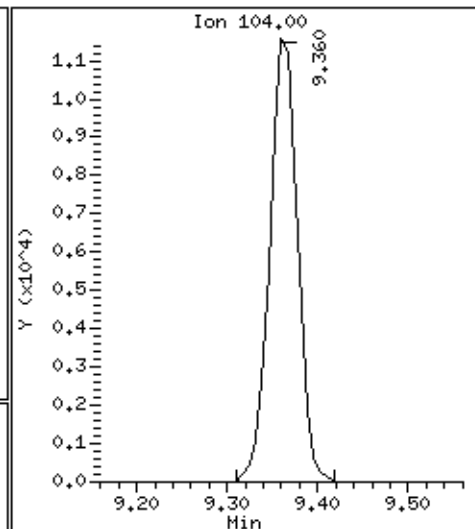
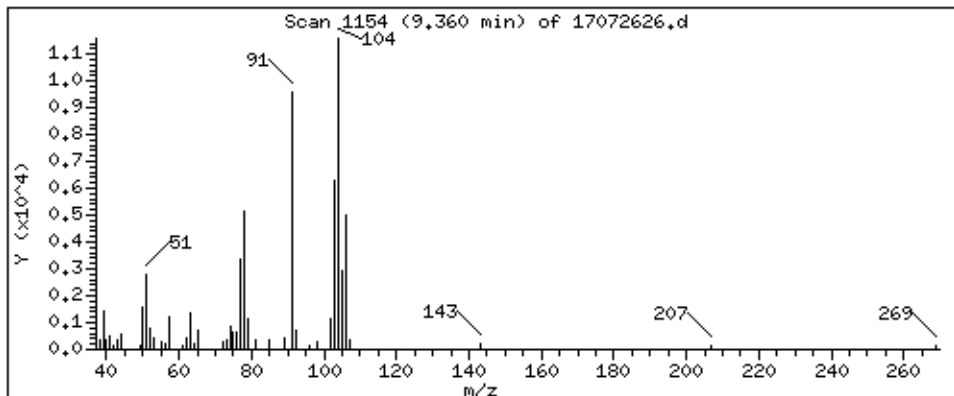
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

172 Styrene

Concentration: 2.488 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

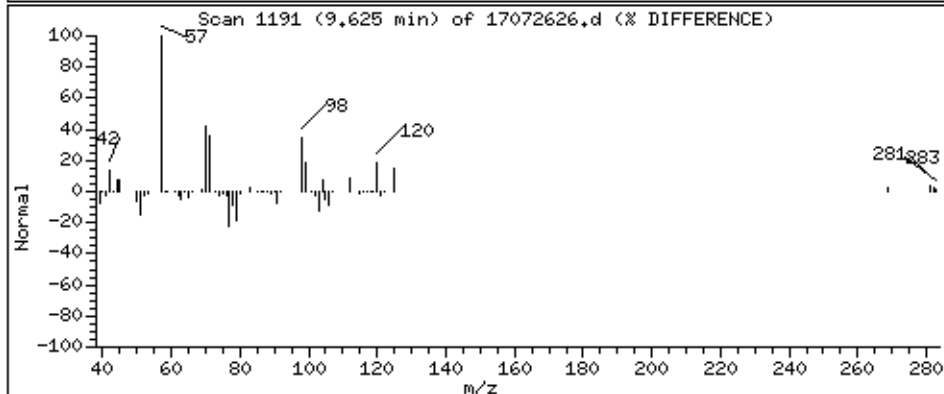
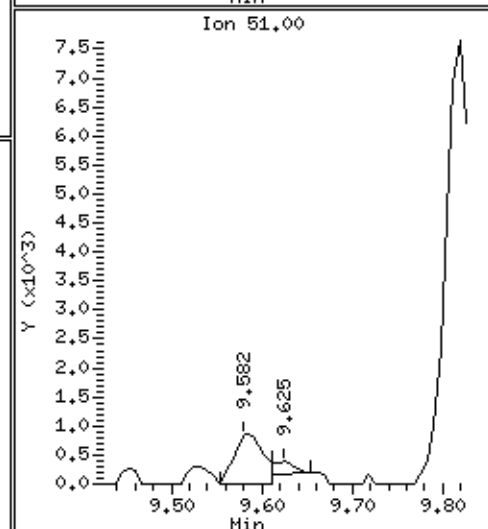
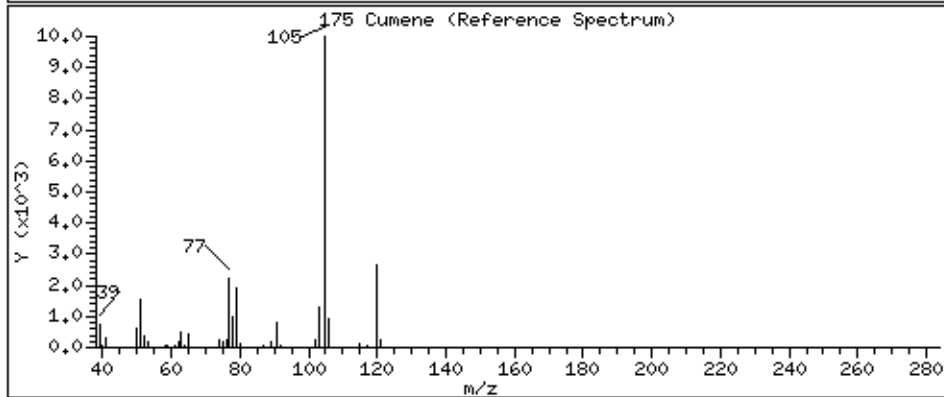
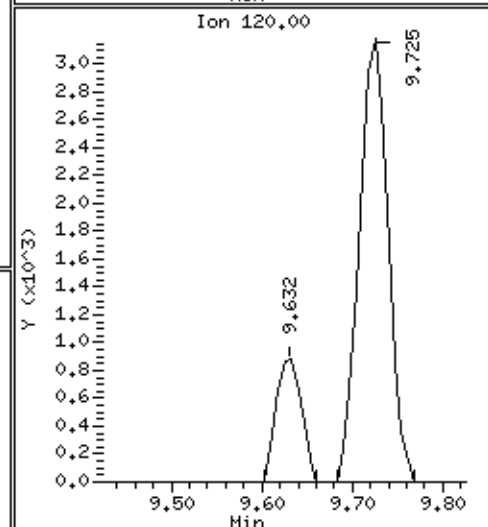
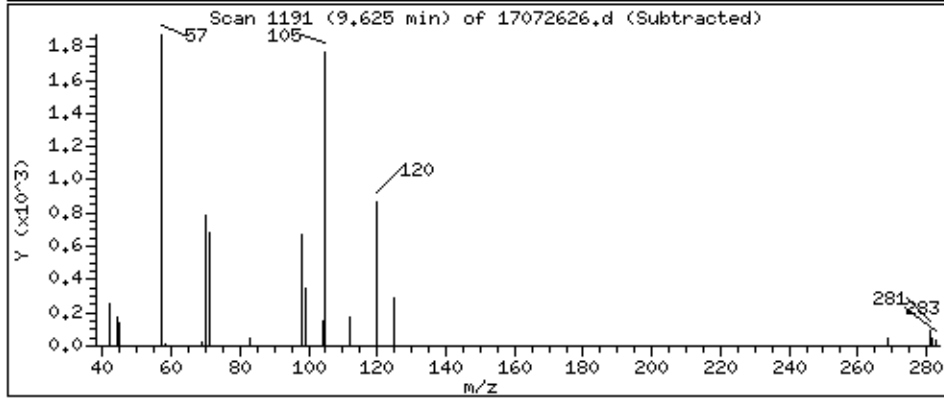
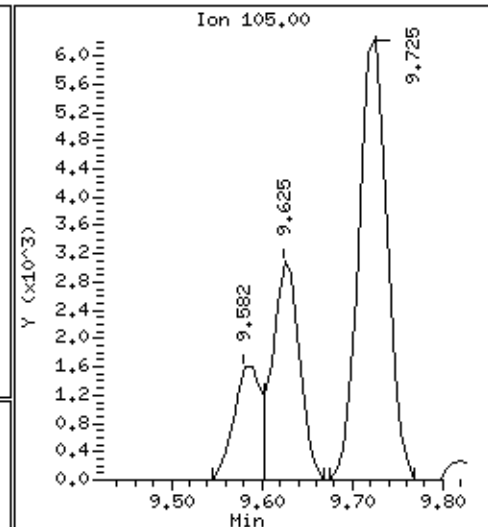
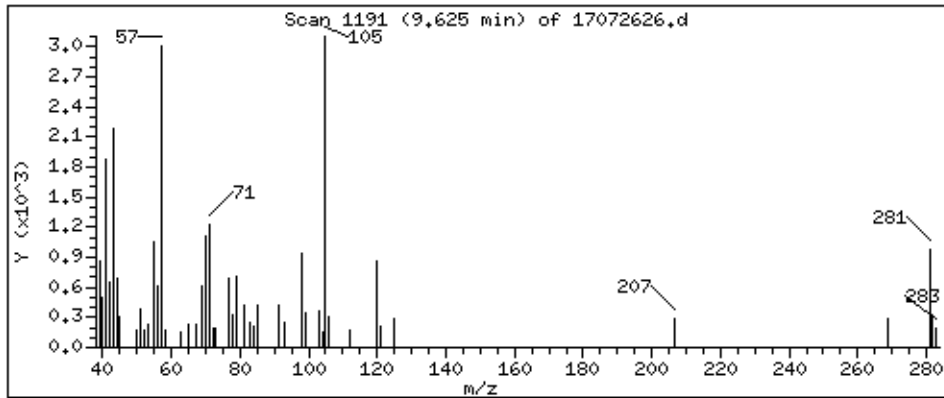
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

175 Cumene

Concentration: 0.3428 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

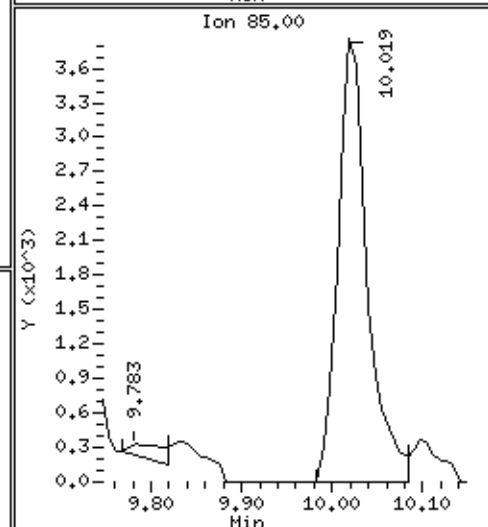
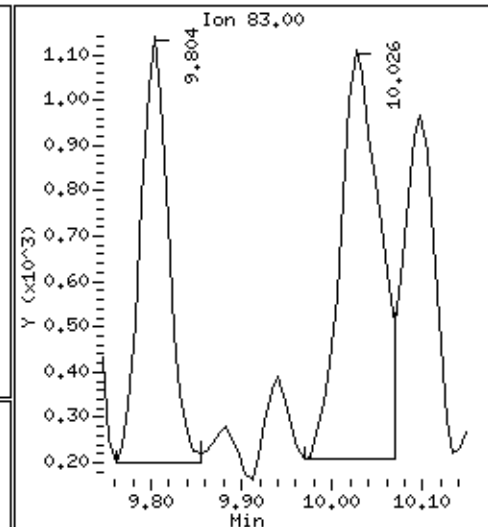
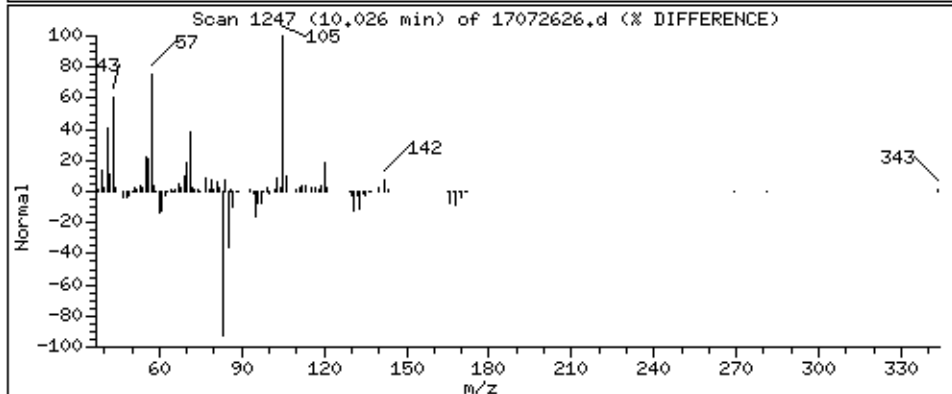
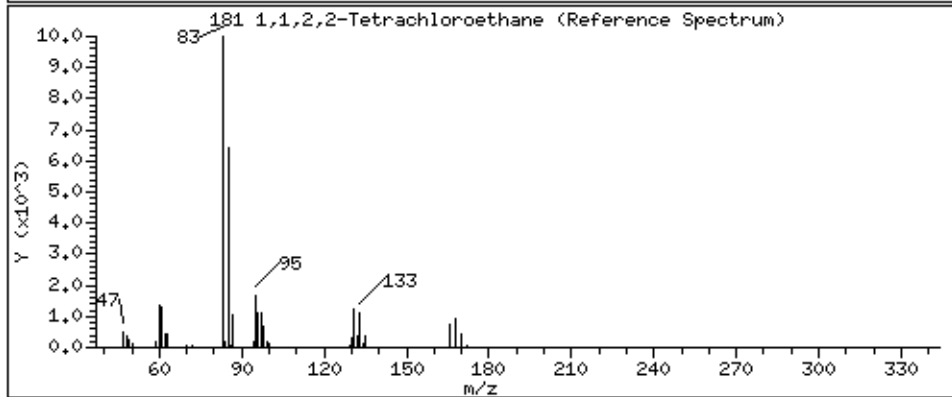
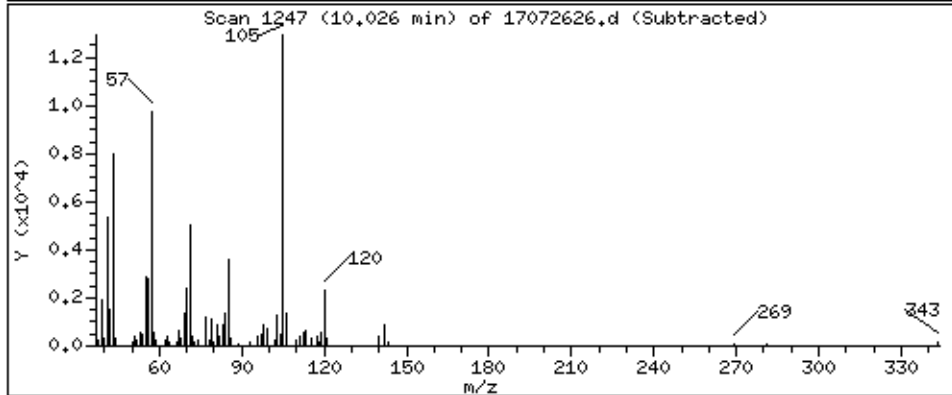
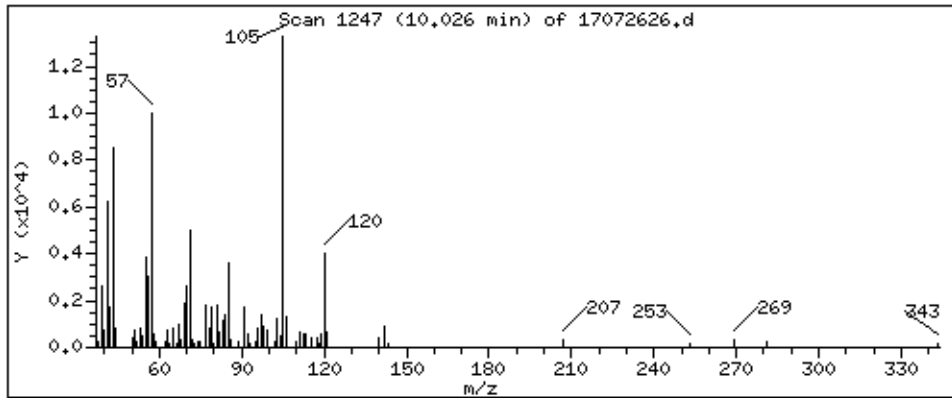
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

181 1,1,2,2-Tetrachloroethane

Concentration: 0.3064 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

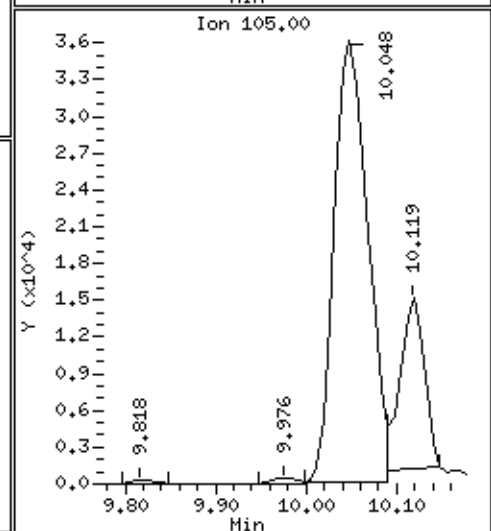
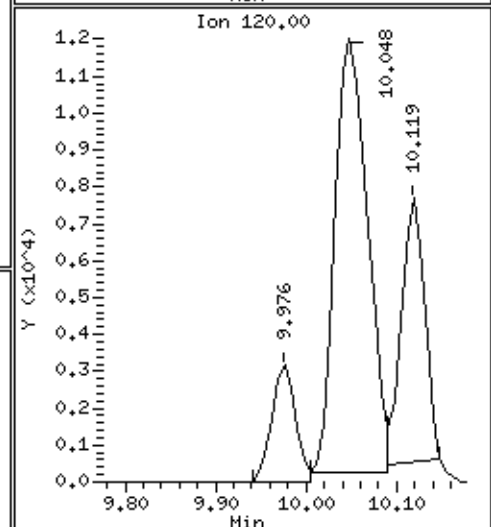
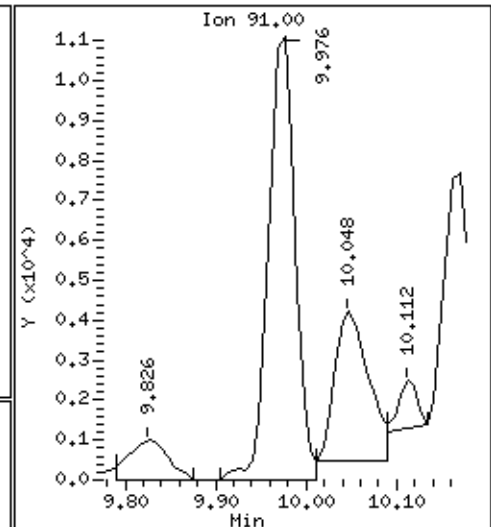
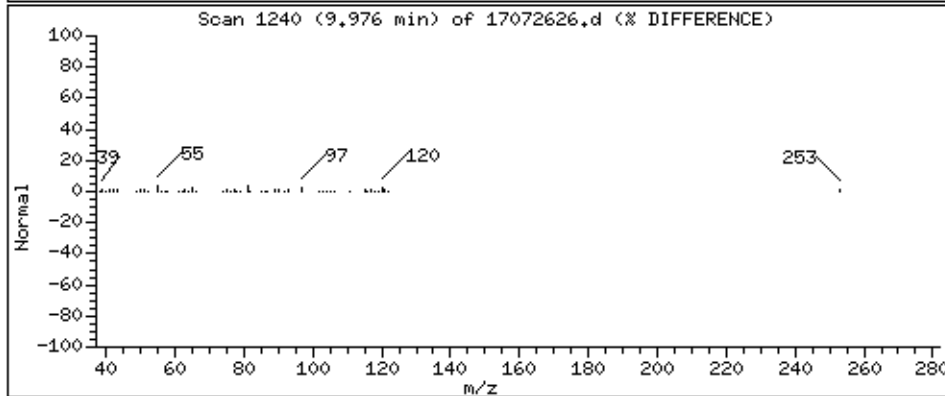
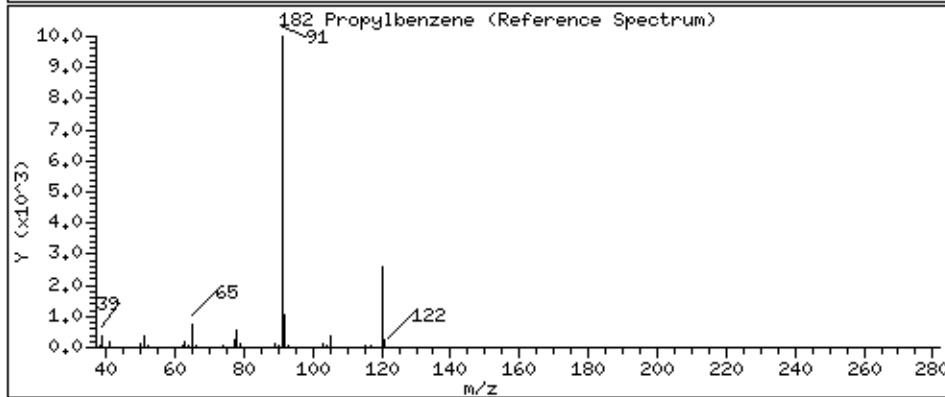
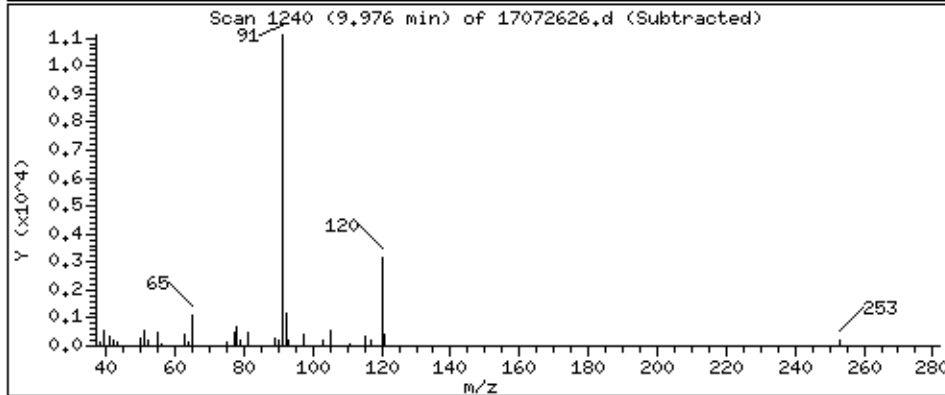
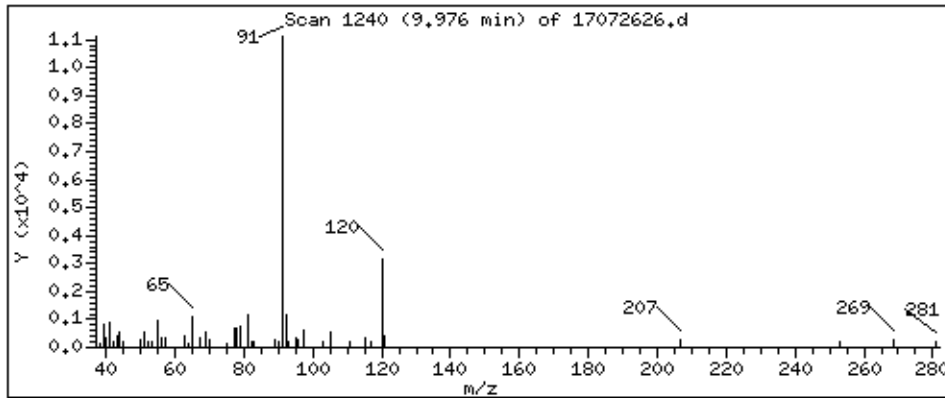
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

182 Propylbenzene

Concentration: 1.063 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594cl

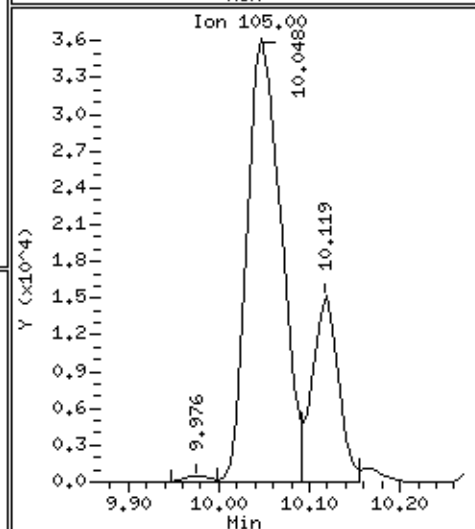
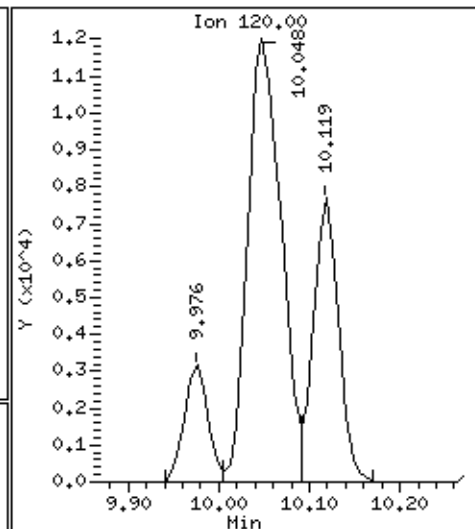
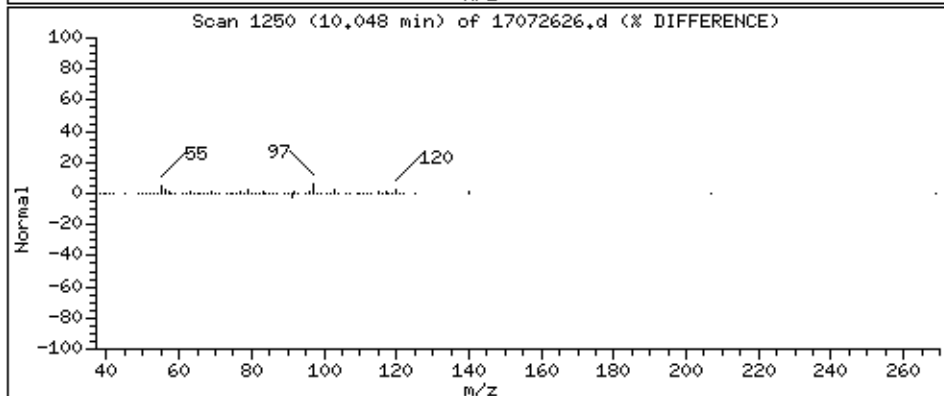
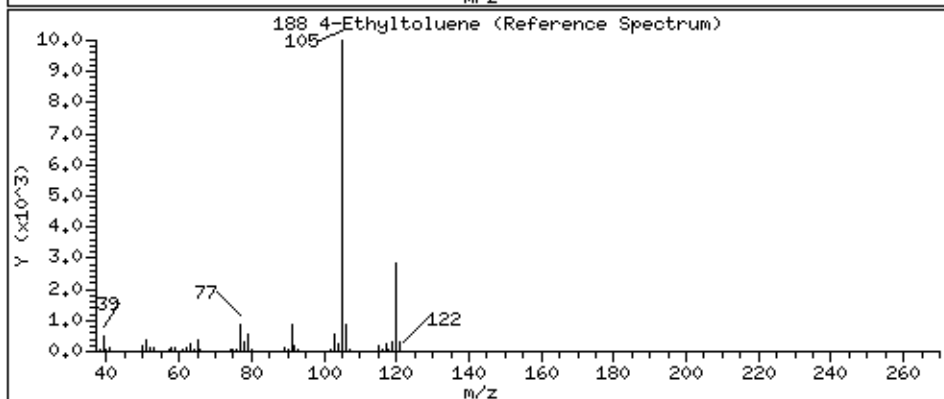
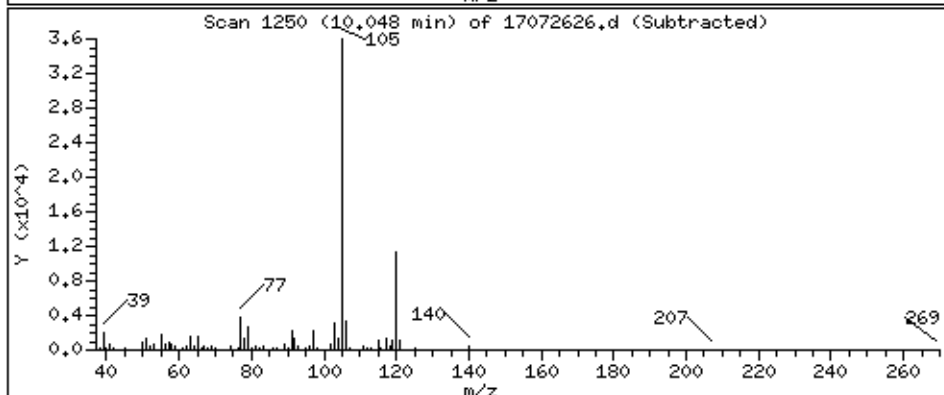
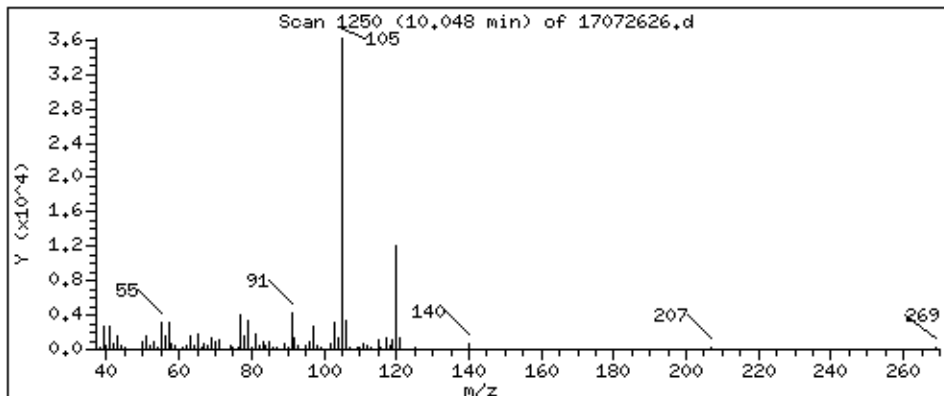
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

188 4-Ethyltoluene

Concentration: 5.160 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594cl

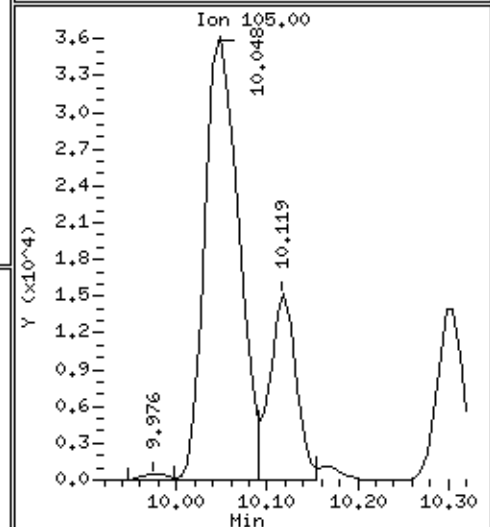
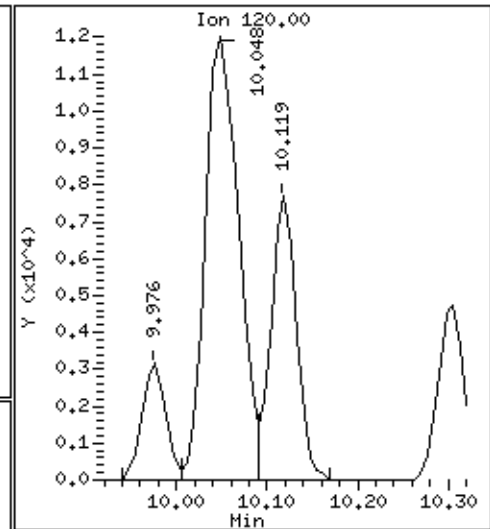
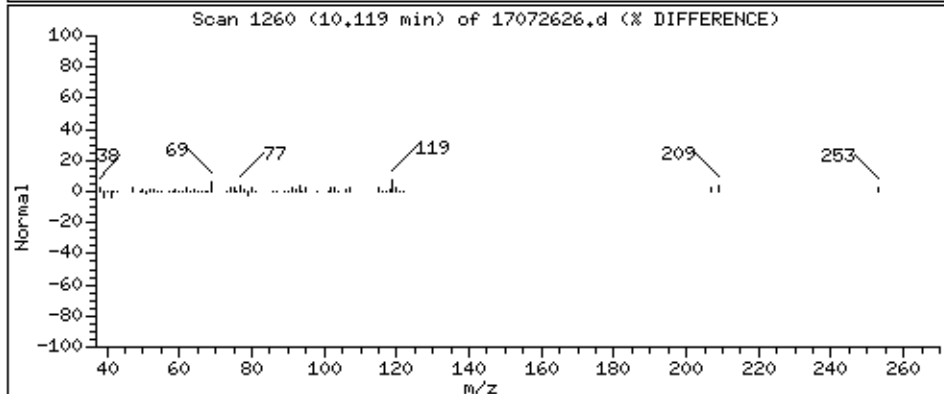
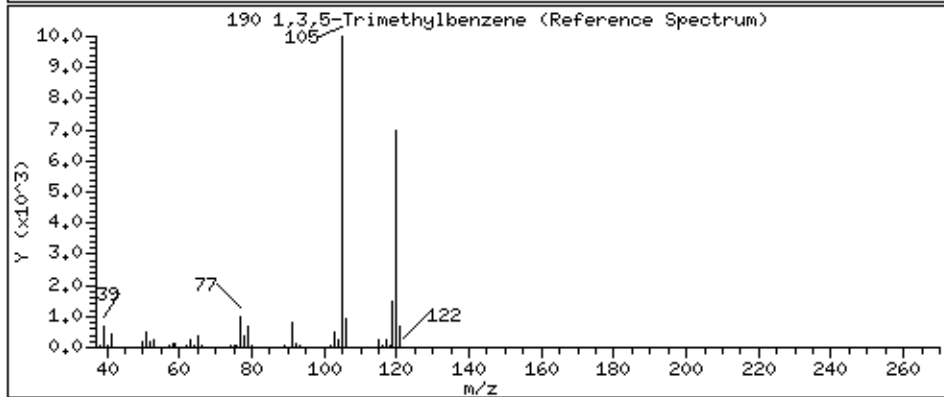
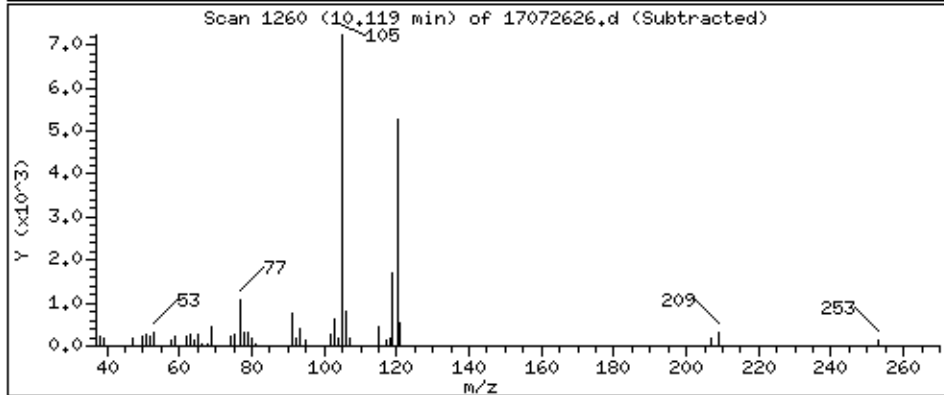
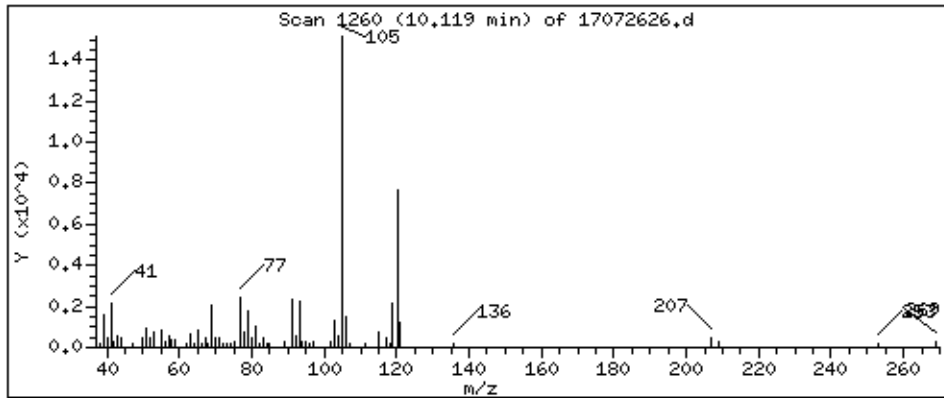
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

190 1,3,5-Trimethylbenzene

Concentration: 1.830 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

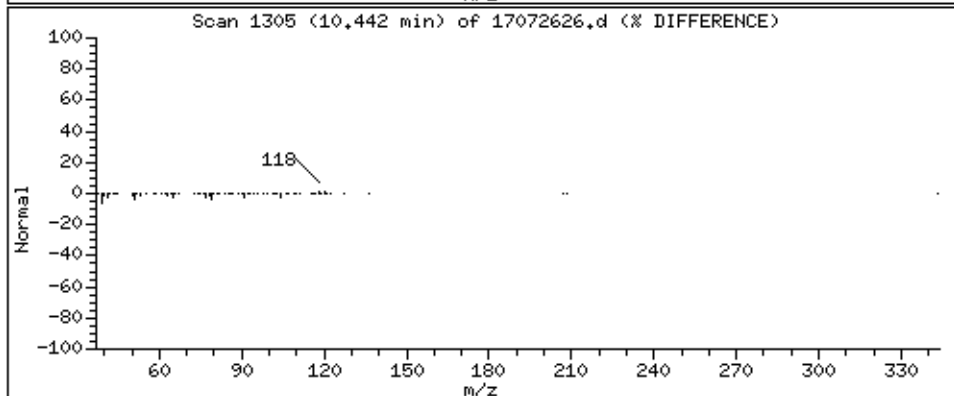
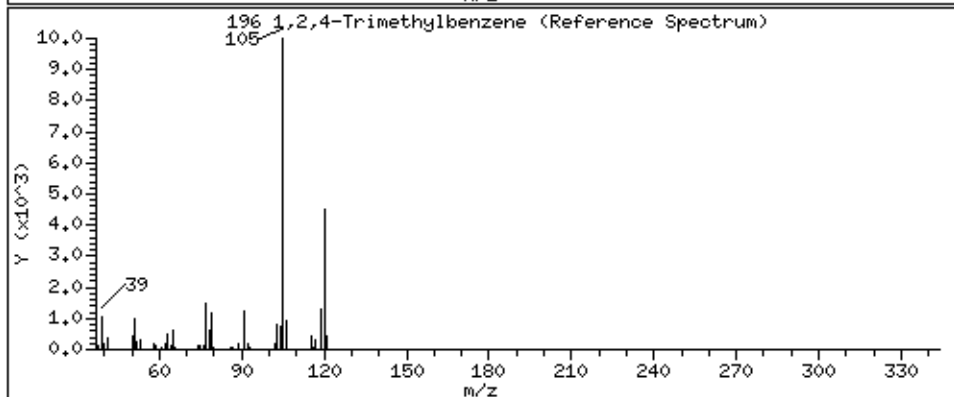
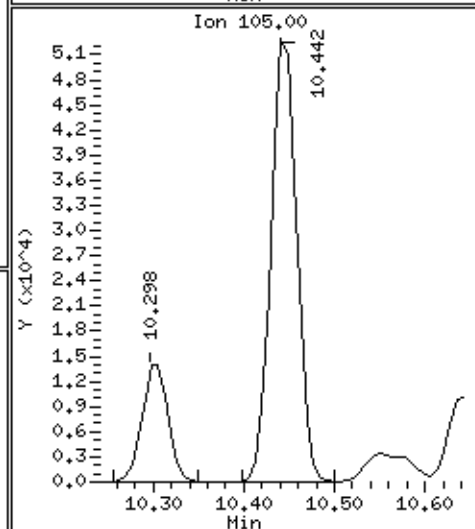
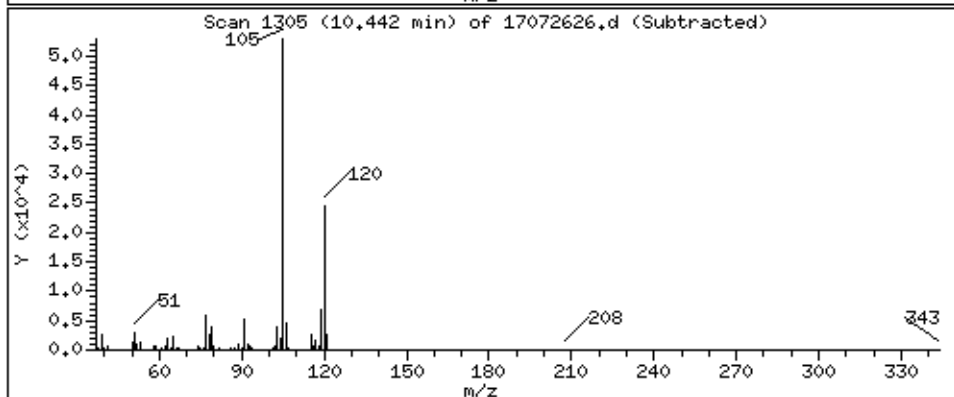
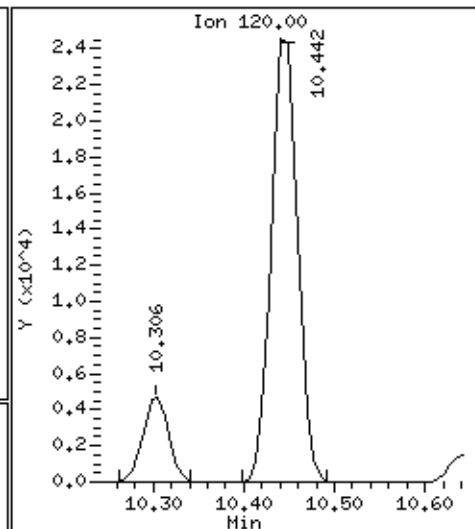
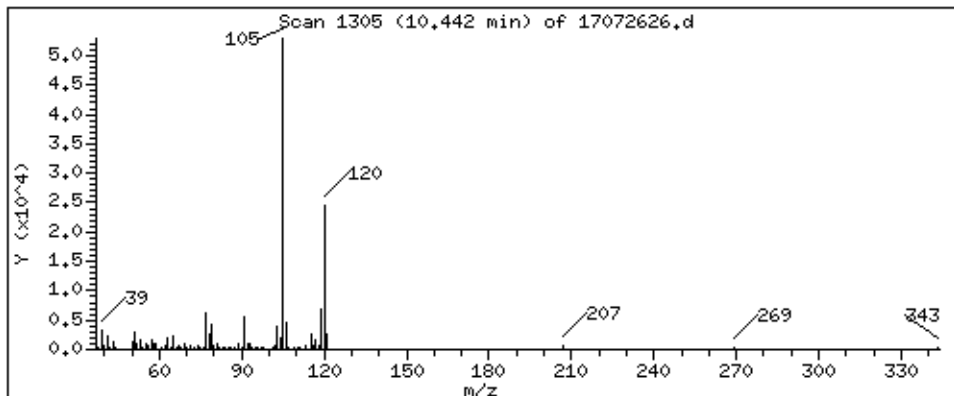
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

196 1,2,4-Trimethylbenzene

Concentration: 6.668 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594cl

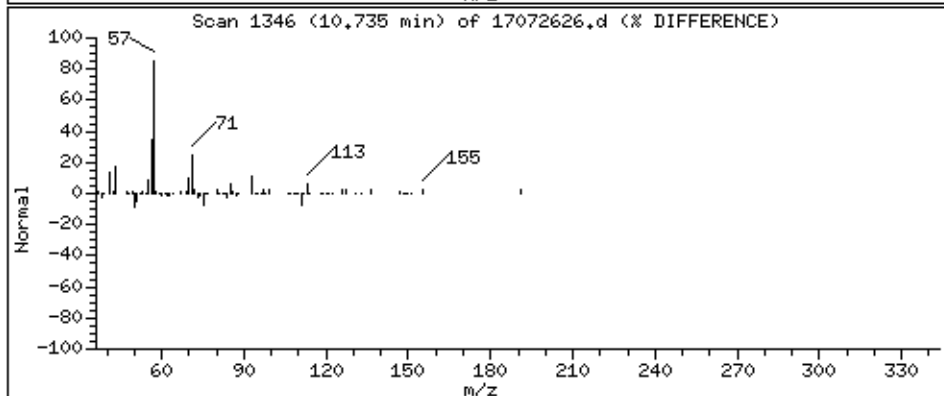
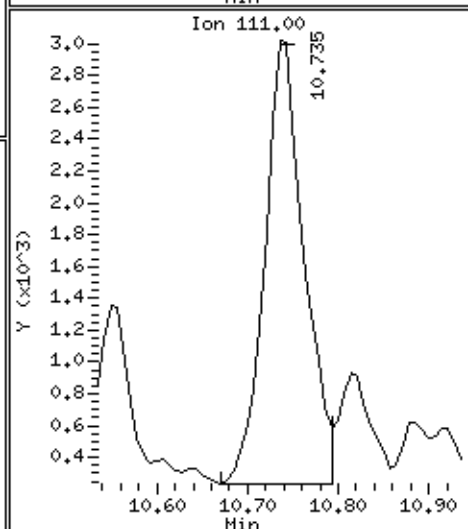
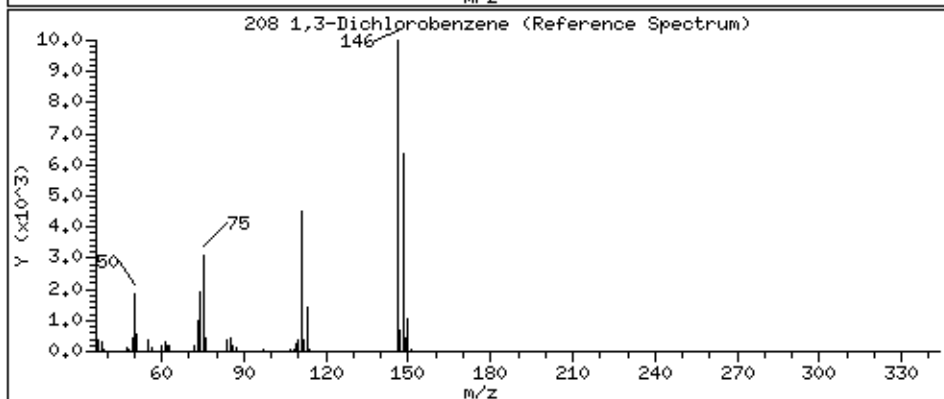
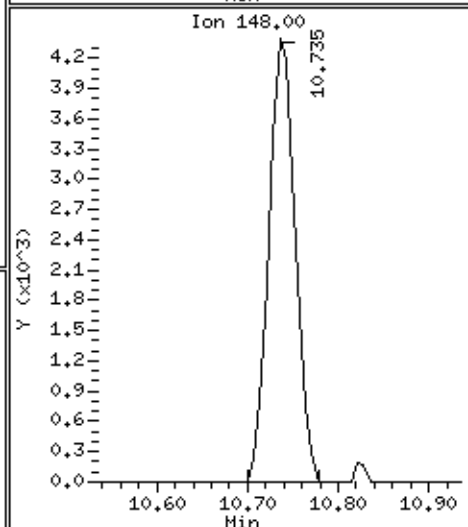
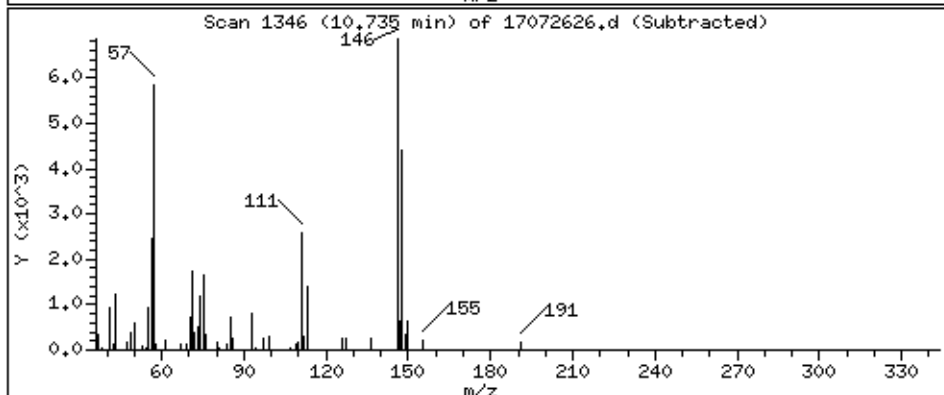
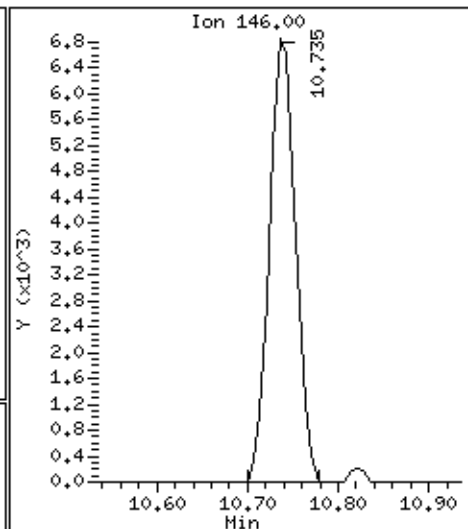
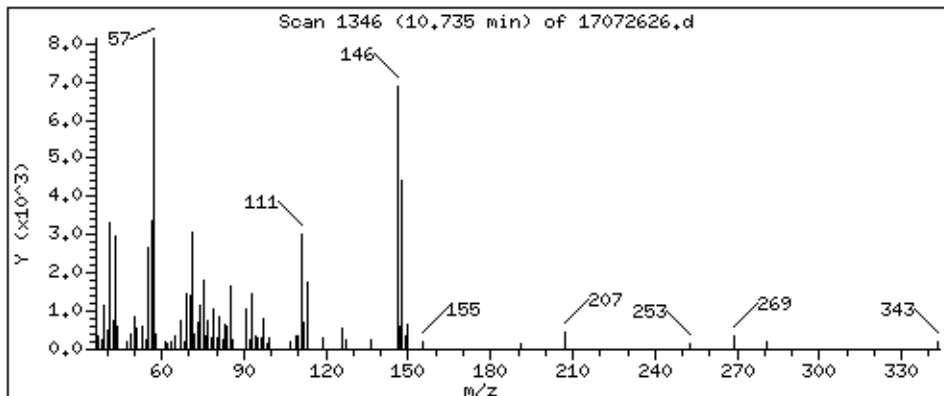
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

208 1,3-Dichlorobenzene

Concentration: 1.086 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

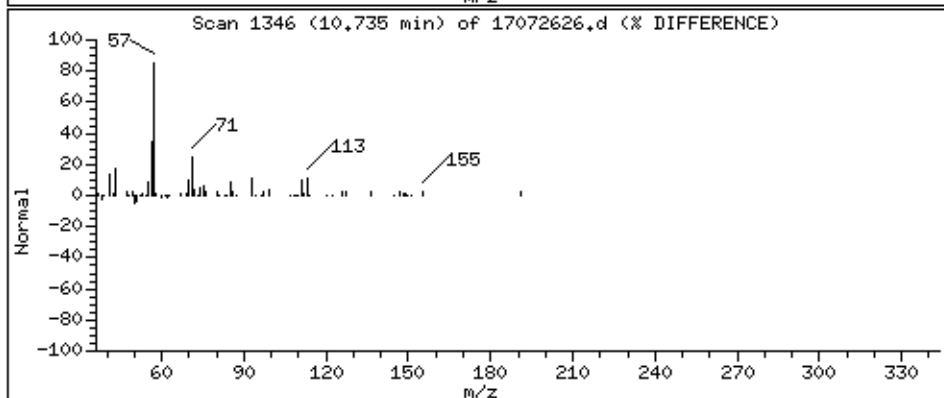
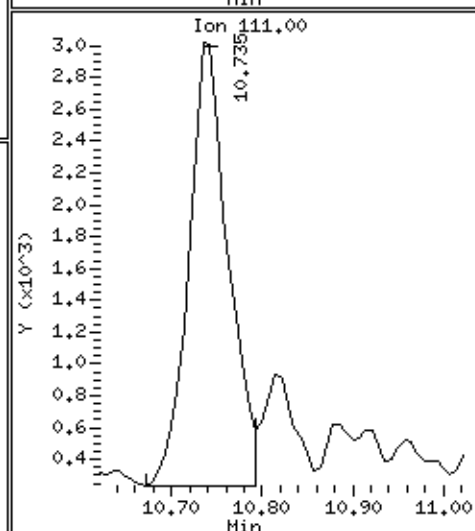
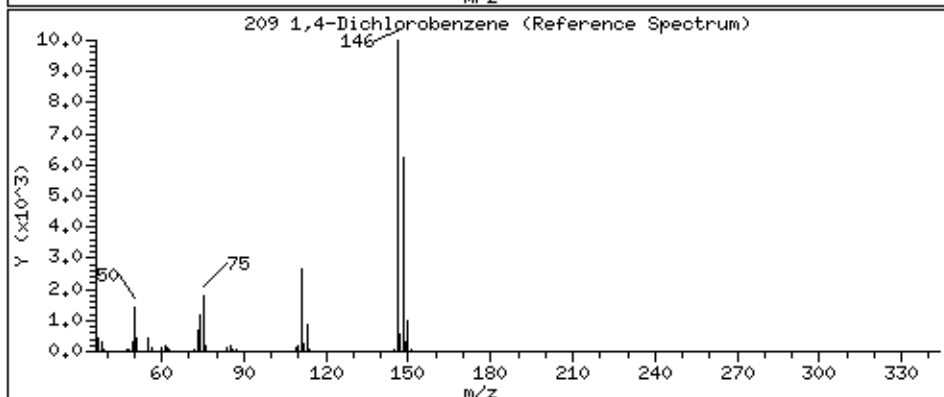
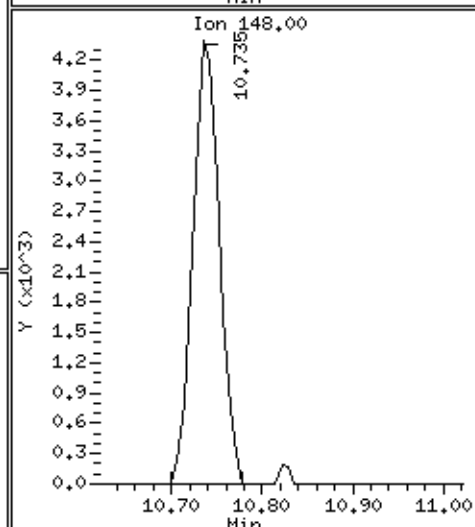
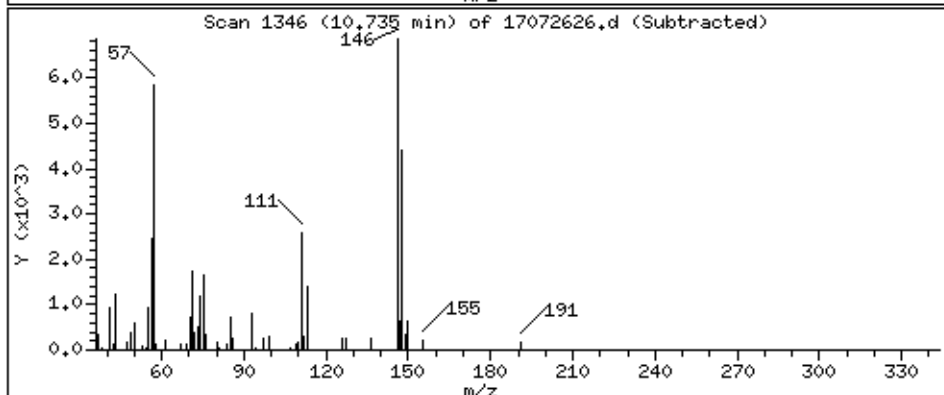
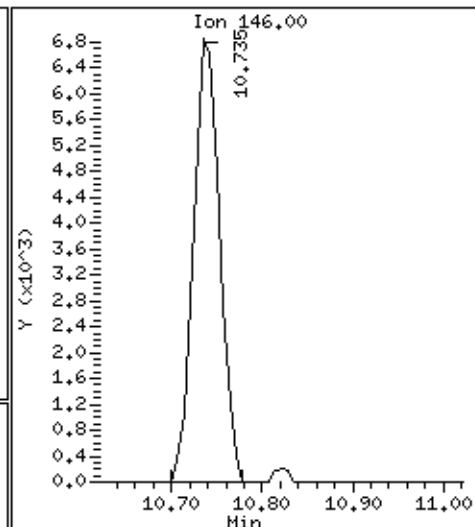
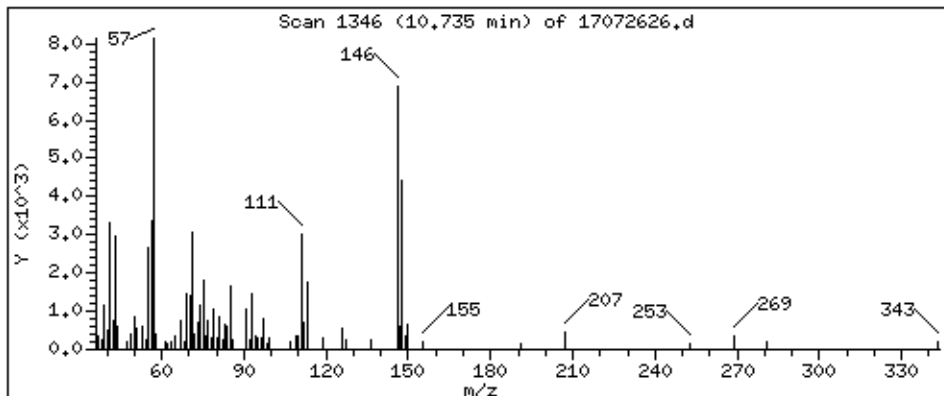
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

209 1,4-Dichlorobenzene

Concentration: 1.062 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594cl

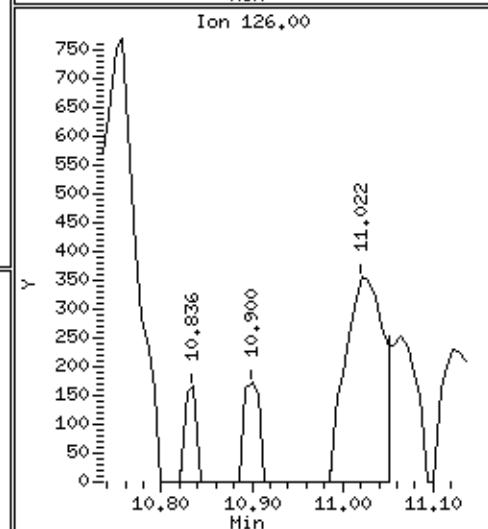
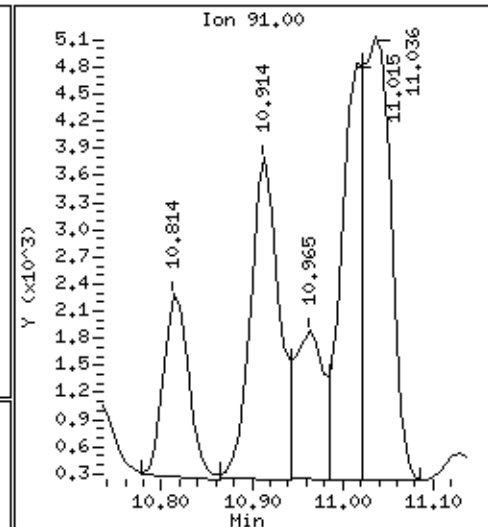
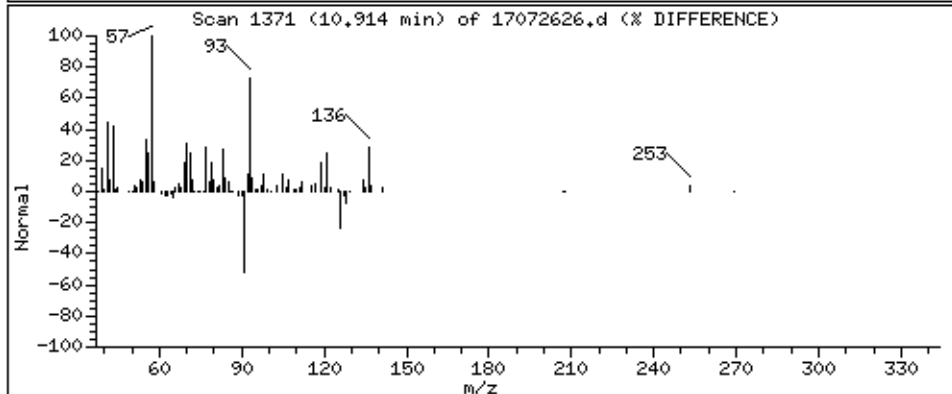
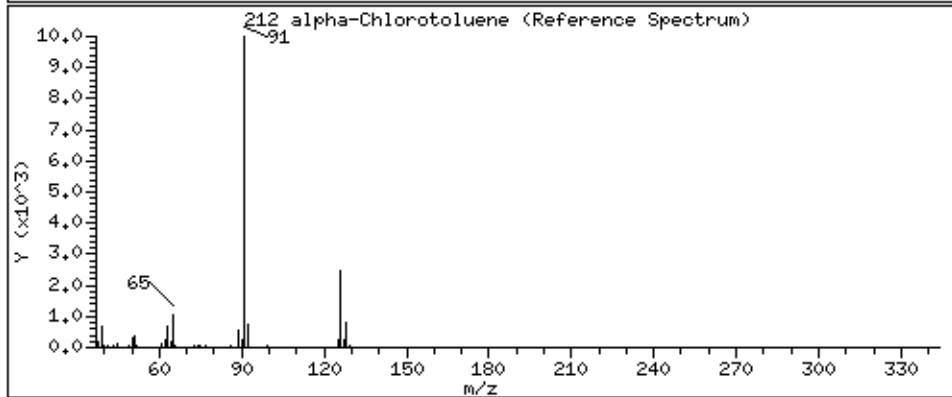
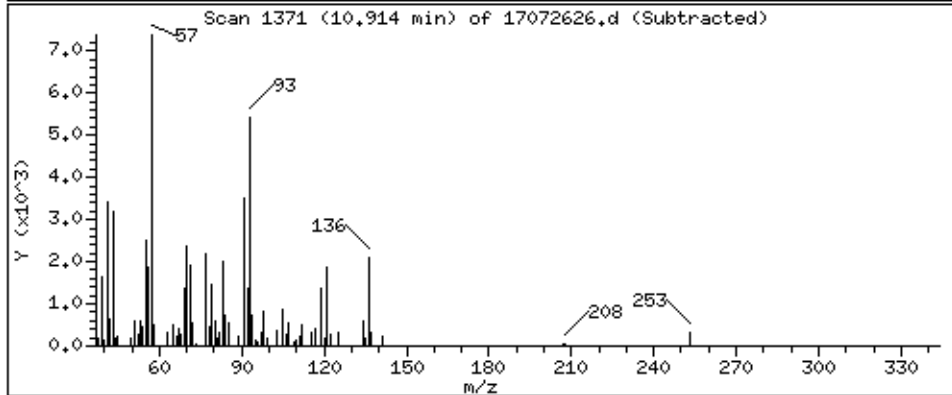
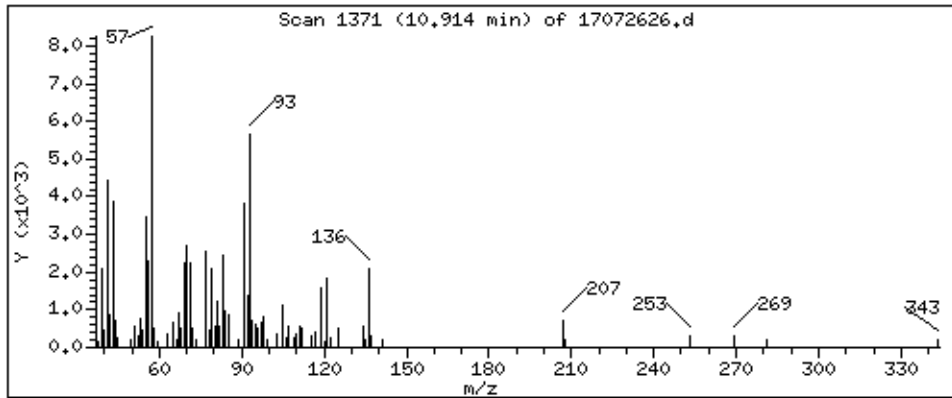
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

212 alpha-Chlorotoluene

Concentration: 0.5958 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594cl

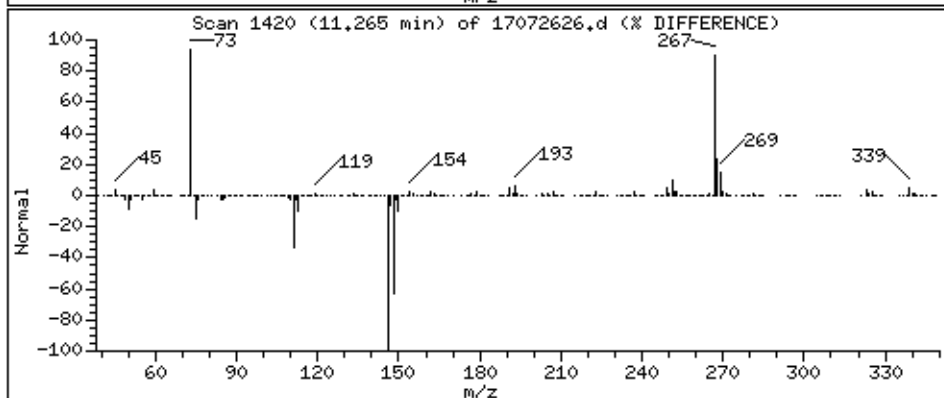
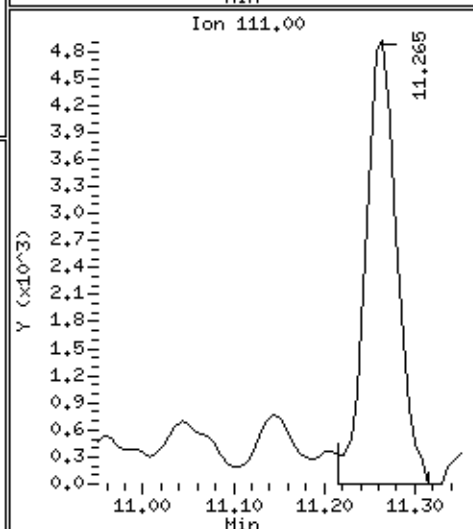
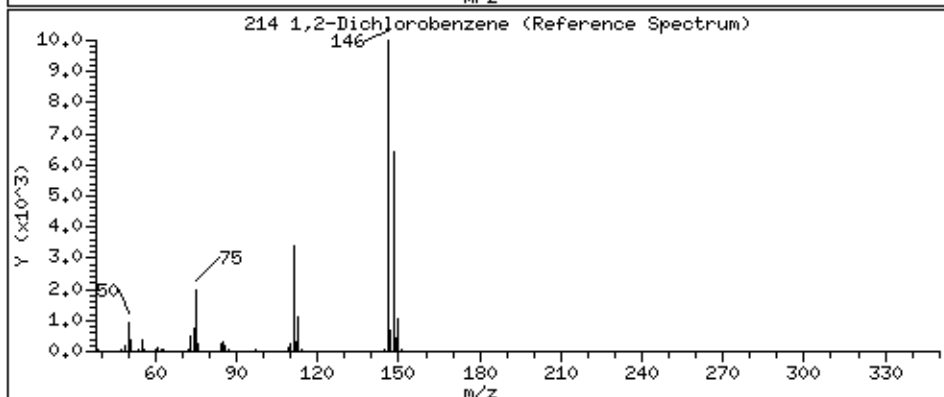
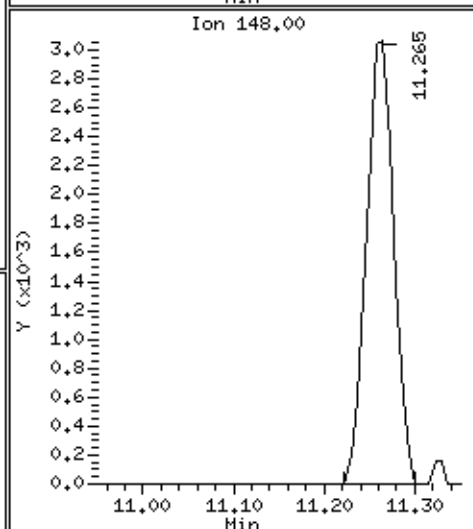
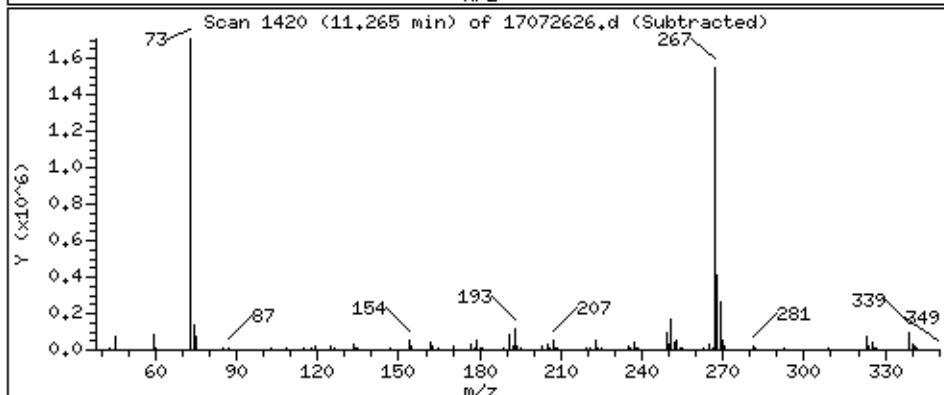
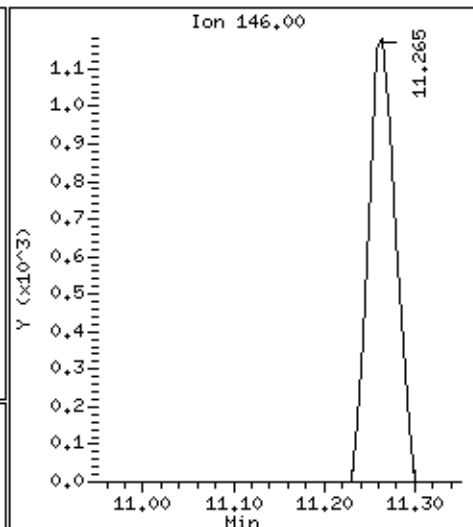
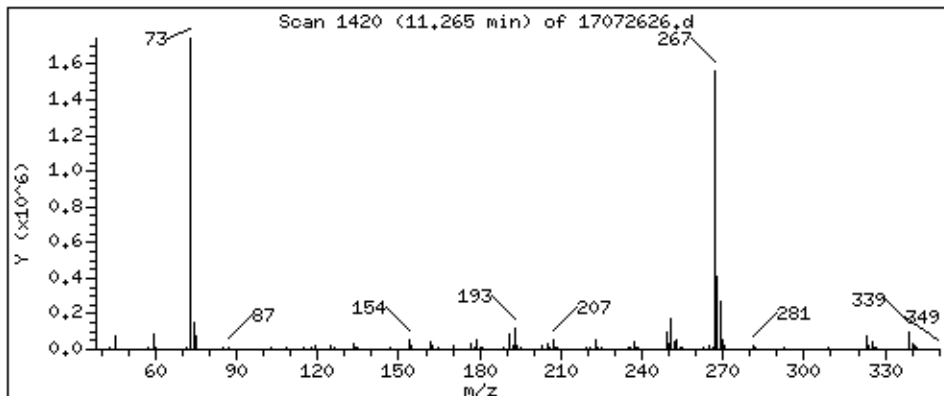
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

214 1,2-Dichlorobenzene

Concentration: 0.2043 PPBV



Date : 27-JUL-2018 01:47

Client ID:

Instrument: msd17.i

Sample Info: 200ml 28594c1

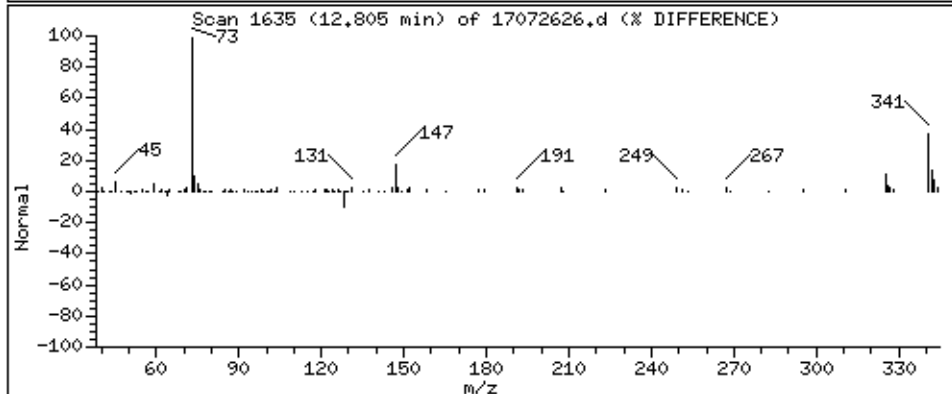
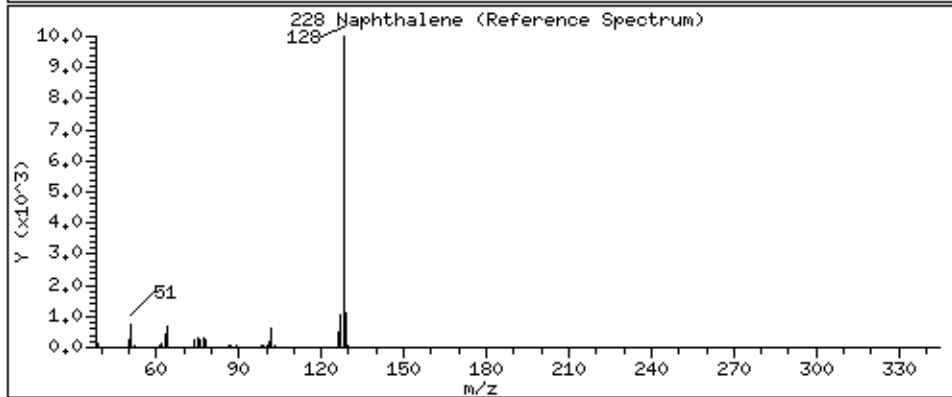
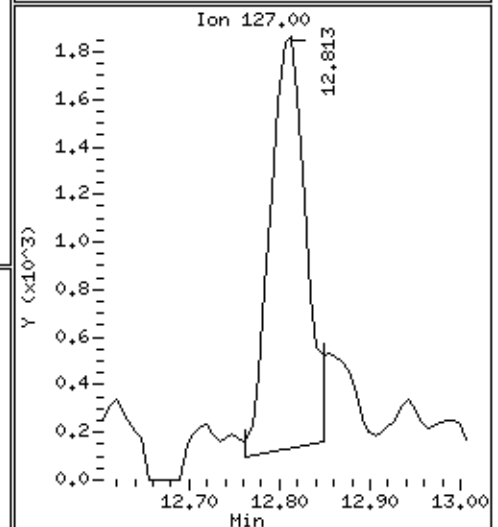
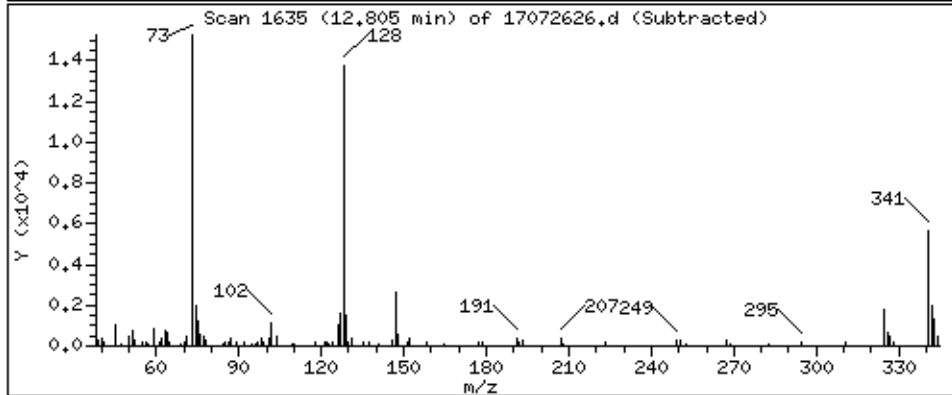
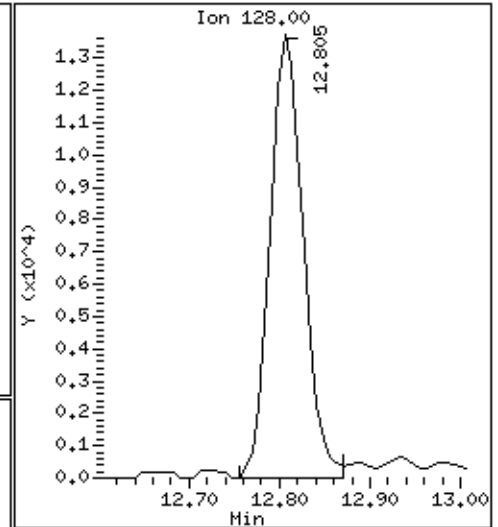
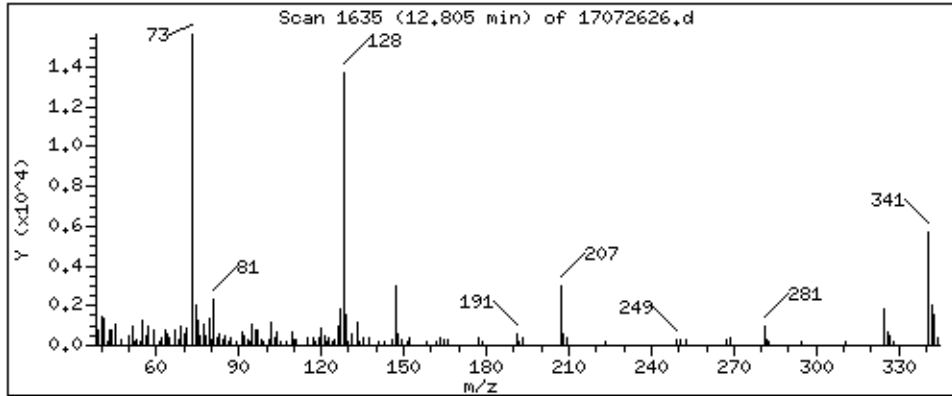
Operator: DF

Column phase: RTX-624

Column diameter: 0.25

228 Naphthalene

Concentration: 1.473 PPBV



QC Results and Raw Data

EPA METHOD TO-15 GC/MS FULL SCAN

Client ID:	Lab Blank	Date/Time Analyzed:	7/26/18 12:11 PM
Lab ID:	1807359A-04A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/File Name:	msd17.i / 17072606a
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.49	2.2	2.7	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.62	2.7	3.4	Not Detected
1,1,2-Trichloroethane	79-00-5	0.65	2.2	2.7	Not Detected
1,1-Dichloroethane	75-34-3	0.36	1.6	2.0	Not Detected
1,1-Dichloroethene	75-35-4	0.87	1.6	2.0	Not Detected
1,2,4-Trichlorobenzene	120-82-1	1.3	11	15	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.64	2.0	2.4	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.1	3.1	3.8	Not Detected
1,2-Dichlorobenzene	95-50-1	0.54	2.4	3.0	Not Detected
1,2-Dichloroethane	107-06-2	0.32	1.6	2.0	Not Detected
1,2-Dichloropropane	78-87-5	0.60	1.8	2.3	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.54	2.0	2.4	Not Detected
1,3-Butadiene	106-99-0	0.24	0.88	1.1	Not Detected
1,3-Dichlorobenzene	541-73-1	0.42	2.4	3.0	Not Detected
1,4-Dichlorobenzene	106-46-7	0.60	2.4	3.0	Not Detected
1,4-Dioxane	123-91-1	1.6	5.4	7.2	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.37	1.9	2.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	0.94	4.4	5.9	Not Detected
2-Hexanone	591-78-6	0.82	6.1	8.2	Not Detected
2-Propanol	67-63-0	0.79	3.7	4.9	Not Detected
3-Chloropropene	107-05-1	1.5	4.7	6.3	Not Detected
4-Ethyltoluene	622-96-8	0.44	2.0	2.4	Not Detected
4-Methyl-2-pentanone	108-10-1	1.0	1.6	2.0	Not Detected
Acetone	67-64-1	1.7	3.6	12	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN

Client ID:	Lab Blank	Date/Time Analyzed:	7/26/18 12:11 PM
Lab ID:	1807359A-04A	Dilution Factor:	1.00
Date/Time Collecte	NA - Not Applicable	Instrument/File Name:	msd17.i / 17072606a
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.26	2.1	2.6	Not Detected
Benzene	71-43-2	0.89	1.3	1.6	Not Detected
Bromodichloromethane	75-27-4	0.80	2.7	3.4	Not Detected
Bromoform	75-25-2	0.83	4.1	5.2	Not Detected
Bromomethane	74-83-9	1.5	5.8	19	Not Detected
Carbon Disulfide	75-15-0	1.4	4.7	6.2	Not Detected
Carbon Tetrachloride	56-23-5	0.50	2.5	3.1	Not Detected
Chlorobenzene	108-90-7	0.37	1.8	2.3	Not Detected
Chloroethane	75-00-3	1.7	4.0	5.3	Not Detected
Chloroform	67-66-3	0.39	2.0	2.4	Not Detected
Chloromethane	74-87-3	1.2	3.1	10	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.32	1.6	2.0	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.50	1.8	2.3	Not Detected
Cumene	98-82-8	0.29	2.0	2.4	Not Detected
Cyclohexane	110-82-7	0.41	1.4	1.7	Not Detected
Dibromochloromethane	124-48-1	0.60	3.4	4.2	Not Detected
Ethanol	64-17-5	1.5	2.8	3.8	Not Detected
Ethyl Benzene	100-41-4	0.39	1.7	2.2	Not Detected
Freon 11	75-69-4	0.50	2.2	2.8	Not Detected
Freon 113	76-13-1	0.92	3.1	3.8	Not Detected
Freon 114	76-14-2	0.77	2.8	3.5	Not Detected
Freon 12	75-71-8	0.54	2.0	2.5	Not Detected
Heptane	142-82-5	0.74	1.6	2.0	Not Detected
Hexachlorobutadiene	87-68-3	2.7	16	21	Not Detected

Client ID:	Lab Blank	Date/Time Analyzed:	7/26/18 12:11 PM
Lab ID:	1807359A-04A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/File Name:	msd17.i / 17072606a
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.35	1.4	1.8	Not Detected
m,p-Xylene	108-38-3	0.35	1.7	2.2	Not Detected
Methyl tert-butyl ether	1634-04-4	0.97	5.4	7.2	Not Detected
Methylene Chloride	75-09-2	1.1	5.2	17	Not Detected
o-Xylene	95-47-6	0.30	1.7	2.2	Not Detected
Propylbenzene	103-65-1	0.24	2.0	2.4	Not Detected
Styrene	100-42-5	0.30	1.7	2.1	Not Detected
Tetrachloroethene	127-18-4	0.47	2.7	3.4	Not Detected
Tetrahydrofuran	109-99-9	0.32	1.2	1.5	Not Detected
Toluene	108-88-3	0.30	1.5	1.9	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.59	1.6	2.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.27	1.8	2.3	Not Detected
Trichloroethene	79-01-6	1.0	2.1	2.7	Not Detected
Vinyl Chloride	75-01-4	0.31	1.0	1.3	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	93
4-Bromofluorobenzene	460-00-4	70-130	97
Toluene-d8	2037-26-5	70-130	100

US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/26jul18.b/17072606a.d
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Inj Date : 26-JUL-2018 12:11
Operator : mjb Inst ID: msd17.i
Smp Info : 200ml 23888
Misc Info : humid
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/26jul18.b/178q0613b.m
Meth Date : 26-Jul-2018 10:32 p5fl Quant Type: ISTD
Cal Date : 23-JUL-2018 12:23 Cal File: 17072306.d
Als bottle: 10 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12mdl.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

CONCENTRATIONS								
			ON-COL		FINAL		TARGET RANGE	RATIO
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)			
==	=====	=====	=====	=====	=====	=====	=====	=====

* 98 Bromochloromethane						CAS #: 74-97-5		
5.507	5.499 (1.000)	130	127327	25.0000		80.00- 120.00	100.00	
5.507	5.499 (1.000)	128	99927			48.32- 108.32	78.48	
5.507	5.498 (1.000)	49	105747			63.40- 123.40	83.05	

* 123 1,4-Difluorobenzene						CAS #: 540-36-3		
6.395	6.386 (1.000)	114	438147	25.0000		80.00- 120.00	100.00	
6.395	6.385 (1.000)	88	63239			0.00- 44.55	14.43	

* 163 Chlorobenzene-d5						CAS #: 3114-55-4		
8.830	8.830 (1.000)	117	409684	25.0000		80.00- 120.00	100.00	
8.830	8.830 (1.000)	82	191415			17.97- 77.97	46.72	

\$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0		
6.044	6.036 (1.098)	65	134396	23.2456	23.246	80.00- 120.00	100.00	
6.044	6.036 (1.098)	67	69865			23.66- 83.66	51.98	

\$ 146 Toluene-d8						CAS #: 2037-26-5		
7.598	7.598 (1.188)	98	429008	25.1405	25.140	80.00- 120.00	100.00	
7.598	7.598 (1.188)	70	41487			0.00- 40.01	9.67	

CONCENTRATIONS									
RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET	RANGE	RATIO
					ON-COL	FINAL			
					(PPBV)	(PPBV)			
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
\$ 146 Toluene-d8 (continued)									
7.598	7.598	(1.188)	100	277520			35.43-	95.43	64.69

\$ 177 4-Bromofluorobenzene									
					CAS #: 460-00-4				
9.819	9.819	(1.112)	174	315308	24.3725	24.372	80.00-	120.00	100.00
9.819	9.819	(1.112)	95	276632			59.41-	119.41	87.73
9.819	9.819	(1.112)	176	304198			68.33-	128.33	96.48

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i	Calibration Date: 26-JUL-2018
Lab File ID: 17072606a.d	Calibration Time: 10:10
Lab Smp Id: Lab Blank	Client Smp ID: Lab Blank
Analysis Type: VOA	Level: LOW
Quant Type: ISTD	Sample Type: AIR
Operator: mjb	
Method File: /chem/msd17.i/26jul18.b/178q0613b.m	
Misc Info: humid	

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	128867	77320	180414	127327	-1.20
123 1,4-Difluorobenze	450283	270170	630396	438147	-2.70
163 Chlorobenzene-d5	413209	247925	578493	409684	-0.85

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.51	5.18	5.84	5.51	0.00
123 1,4-Difluorobenze	6.39	6.06	6.72	6.39	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

US32APPTV002

RECOVERY REPORT

Client Name: Client SDG: 26jul18
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Level: LOW Operator: mjb
Data Type: MS DATA SampleType: BLANK
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AT12mdl.sub
Method File: /chem/msd17.i/26jul18.b/178q0613b.m
Misc Info: humid

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
\$ 117 1,2-Dichloroethane-d4	25.000	23.246	92.98
\$ 146 Toluene-d8	25.000	25.140	100.56
\$ 177 4-Bromofluorobenzene	25.000	24.372	97.49

Data File: /chem/msd17.1/26jul18.b/17072606a.d

Date : 26-JUL-2018 12:11

Client ID: Lab Blank

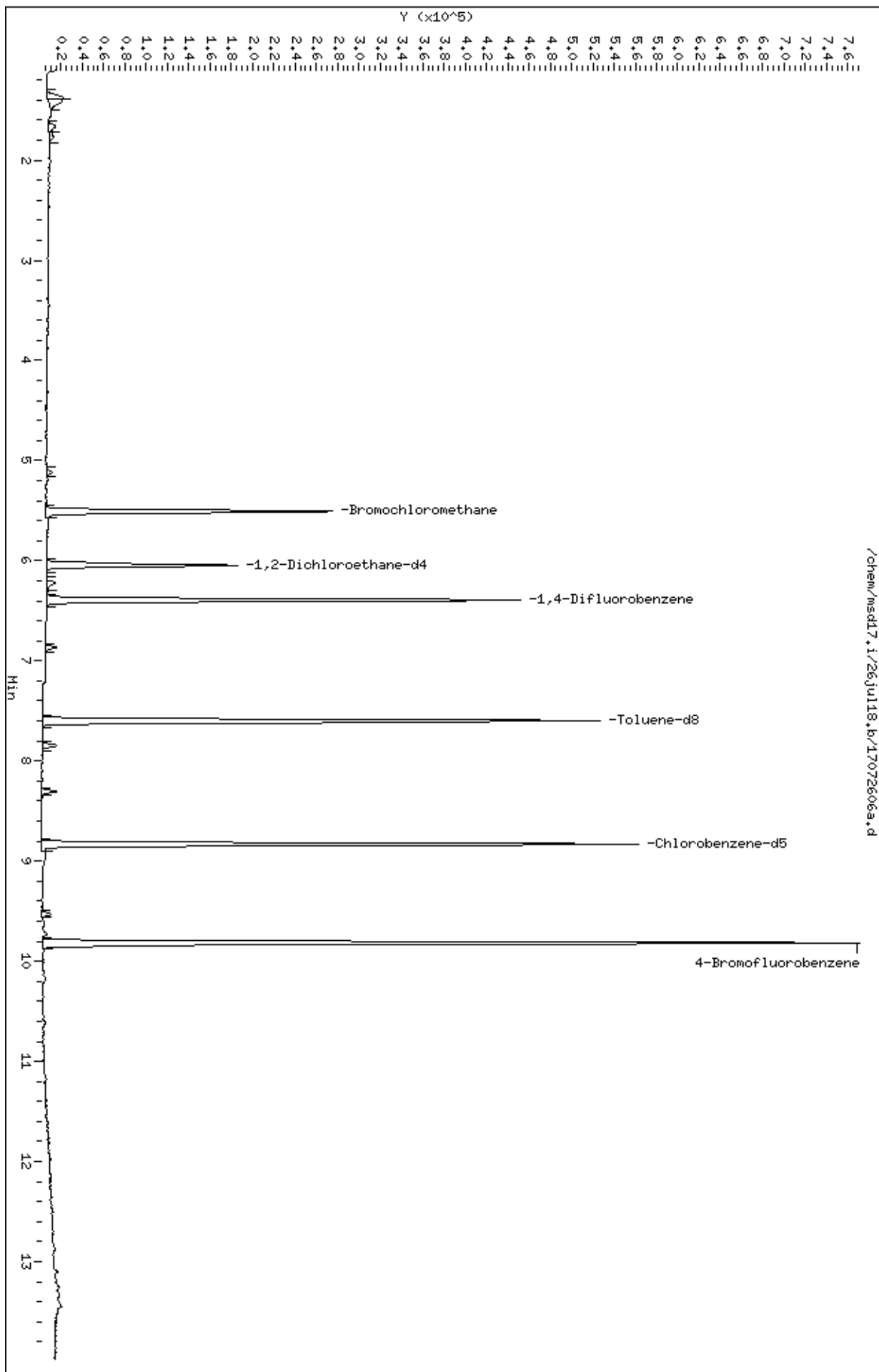
Sample Info: 200ml 23888

Column phase: RTX-624

Instrument: msd17.1

Operator: mjb

Column diameter: 0.25



LEVEL-IV VALIDATABLE

EPA METHOD TO-15 GC/MS FULL SCAN

SURROGATE RECOVERY FORM

Lab Name: AIR TOXICS LIMITED.

SDG No.: 1807359A

CLIENT SAMPLE NO.	SURROGATE % RECOVERY							
	1,2-Dichloroethane-d4	#	Toluene-d8	#	4-Bromofluorobenzene	#		TOTAL OUT
01 SSDS-2	92		102		97			0
02 SV-1	92		100		96			0
03 SSDS-1	94		102		99			0
04 Lab Blank	93		100		97			0
05 CCV	98		100		99			0
06 LCS	96		100		97			0
07 LCSD	98		100		99			0
08								0
09								0
10								0
11								0
12								0
13								0
14								0
15								0
16								0
17								0
18								0
19								0
20								0
21								0
22								0
23								0
24								0

Surrogate Recovery Limits

1,2-Dichloroethane-d4 70 - 130

Toluene-d8 70 - 130

4-Bromofluorobenzene 70 - 130

* Designates values outside of QC limits

LEVEL-IV VALIDATABLE

EPA Method TO-15 GC/MS Full Scan

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: AIR TOXICS, LTD

SDG No: 1807359A

Lab File ID: 17072602.d

Date Analyzed: 07/26/2018

Instrument ID: msd17.i

Time Analyzed: 10:10 AM

	Chlorobenzene-d5		RT		1,4-Difluorobenzene		RT		Bromochloromethane		RT	
	Area	#		#	Area	#		#	Area	#		#
24-HOUR STD	413209		8.83		450283		6.39		128867		5.51	
UPPER LIMIT	578493		09.16		630396		06.72		180414		05.84	
LOWER LIMIT	247925		08.50		270170		06.06		77320		05.18	
CLIENT SAMPLE NO												
01 SSDS-2	391666		8.83		417595		6.39		125050		5.51	
02 SV-1	394596		8.83		415410		6.39		125122		5.51	
03 SSDS-1	392304		8.83		415583		6.39		125122		5.51	
04 Lab Blank	409684		8.83		438147		6.39		127327		5.51	
05 CCV	413209		8.83		450283		6.39		128867		5.51	
06 LCS	419459		8.83		453954		6.39		131301		5.51	
07 LCSD	417526		8.83		455560		6.39		131685		5.51	
08												
09												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												

'Area Upper Limit=+40% of internal standard area'

RT Upper Limit=+0.33 minutes of internal standard RT

'Area Lower Limit=-40% of internal standard area'

RT Lower Limit=-0.33 minutes of internal standard RT

* Designates values outside of QC limits

SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab Name: Air Toxics Ltd.

Lab File ID: 17072604.d & 17072603.d

Lab Sample ID: &

Dilution: 1.00 & 1.00

Client Sample ID: LCS & LCSD

Date Analyzed: 7/26/18 & 7/26/18

CAS Number	Compound	Original		Duplicate		RPD	Result Less Than 5X RL
		Amount	Flags	Amount	Flags		
71-55-6	1,1,1-Trichloroethane	100		99		1.0	
79-34-5	1,1,2,2-Tetrachloroethane	96		96		0	
79-00-5	1,1,2-Trichloroethane	101		101		0	
75-34-3	1,1-Dichloroethane	93		92		1.1	
75-35-4	1,1-Dichloroethene	98		99		1.0	
120-82-1	1,2,4-Trichlorobenzene	92		95		3.2	
95-63-6	1,2,4-Trimethylbenzene	98		98		0	
106-93-4	1,2-Dibromoethane (EDB)	100		100		0	
95-50-1	1,2-Dichlorobenzene	98		99		1.0	
107-06-2	1,2-Dichloroethane	98		96		2.1	
78-87-5	1,2-Dichloropropane	91		92		1.1	
108-67-8	1,3,5-Trimethylbenzene	99		98		1.0	
106-99-0	1,3-Butadiene	92		91		1.1	
541-73-1	1,3-Dichlorobenzene	99		101		2.0	
106-46-7	1,4-Dichlorobenzene	100		101		1.0	
123-91-1	1,4-Dioxane	97		97		0	
540-84-1	2,2,4-Trimethylpentane	92		92		0	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	96		94		2.1	
591-78-6	2-Hexanone	89		91		2.2	
67-63-0	2-Propanol	90		89		1.1	
107-05-1	3-Chloropropene	99		101		2.0	
622-96-8	4-Ethyltoluene	100		102		2.0	
108-10-1	4-Methyl-2-pentanone	87		87		0	
67-64-1	Acetone	89		90		1.1	
100-44-7	alpha-Chlorotoluene	106		108		1.9	
71-43-2	Benzene	97		97		0	
75-27-4	Bromodichloromethane	104		104		0	
75-25-2	Bromoform	104		105		0.96	
74-83-9	Bromomethane	105		106		0.95	
75-15-0	Carbon Disulfide	100		100		0	
56-23-5	Carbon Tetrachloride	97		98		1.0	
108-90-7	Chlorobenzene	97		98		1.0	
75-00-3	Chloroethane	97		97		0	
67-66-3	Chloroform	100		100		0	
74-87-3	Chloromethane	99		100		1.0	
156-59-2	cis-1,2-Dichloroethene	88		87		1.1	
10061-01-5	cis-1,3-Dichloropropene	105		105		0	
98-82-8	Cumene	97		98		1.0	
110-82-7	Cyclohexane	94		94		0	
124-48-1	Dibromochloromethane	103		104		0.97	
64-17-5	Ethanol	90		90		0	
100-41-4	Ethyl Benzene	98		98		0	
75-69-4	Freon 11	102		101		0.98	
76-13-1	Freon 113	100		101		1.0	
76-14-2	Freon 114	106		107		0.94	

Note: The results appearing in the Amount columns are the raw, unrounded numbers acquired from the instrument.

SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab Name: Air Toxics Ltd.

Lab File ID: 17072604.d & 17072603.d

Lab Sample ID: &

Dilution: 1.00 & 1.00

Client Sample ID: LCS & LCSD

Date Analyzed: 7/26/18 & 7/26/18

CAS Number	Compound	Original		Duplicate		RPD	Result Less Than 5X RL
		Amount	Flags	Amount	Flags		
75-71-8	Freon 12	108		108		0	
142-82-5	Heptane	96		95		1.0	
87-68-3	Hexachlorobutadiene	91		95		4.3	
110-54-3	Hexane	88		88		0	
108-38-3	m,p-Xylene	95		95		0	
1634-04-4	Methyl tert-butyl ether	94		93		1.1	
75-09-2	Methylene Chloride	91		90		1.1	
95-47-6	o-Xylene	96		96		0	
103-65-1	Propylbenzene	98		99		1.0	
100-42-5	Styrene	94		96		2.1	
127-18-4	Tetrachloroethene	99		99		0	
109-99-9	Tetrahydrofuran	84		84		0	
108-88-3	Toluene	98		98		0	
156-60-5	trans-1,2-Dichloroethene	106		105		0.95	
10061-02-6	trans-1,3-Dichloropropene	98		98		0	
79-01-6	Trichloroethene	106		106		0	
75-01-4	Vinyl Chloride	95		94		1.0	

Note: The results appearing in the Amount columns are the raw, unrounded numbers acquired from the instrument.

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
 End Cal Date : 23-JUL-2018 12:52
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/23jul18.b/178q0613b.m
 Cal Date : 25-Jul-2018 10:44 uexa
 Curve Type : Average

Calibration File Names:

Level 2: /chem/msd17.i/13jun18.b/17061302.d
 Level 3: /chem/msd17.i/23jul18.b/17072305.d
 Level 4: /chem/msd17.i/13jun18.b/17061304.d
 Level 5: /chem/msd17.i/13jun18.b/17061305.d
 Level 6: /chem/msd17.i/23jul18.b/17072306.d
 Level 7: /chem/msd17.i/13jun18.b/17061307.d
 Level 8: /chem/msd17.i/23jul18.b/17072307.d

Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	----- 200.000 Level 8	-----	-----	-----	-----	-----		
1 Dimethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
2 Freon 14	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
3 Acetaldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
4 Hexafluoropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
5 Freon 13	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
6 Freon 143a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/23jul18.b/178q0613b.m
 Cal Date : 25-Jul-2018 10:44 uexa
 Curve Type : Average

Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
7 Freon 134a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
8 Propane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
9 Propylene	+++++ 0.51861	0.53283	0.56890	0.48143	0.52484	0.52638	0.52550	5.334
10 1,1-Difluoroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
11 Freon 12	2.08786 2.24562	2.27350	2.22377	2.13721	2.28983	2.28341	2.22017	3.525
12 Vinyl Fluoride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
13 Chlorodifluoromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
14 Ethylene Oxide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
15 Freon 114	1.86768 1.89316	1.81501	1.86925	1.84100	1.90764	1.92381	1.87393	2.022

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Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
16 Freon 142b	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
17 Chloromethane	+++++	0.64098	0.50442	0.61079	0.61437	0.58393	0.57525	10.524
18 Isobutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
19 Isobutylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
20 2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
21 trans-2-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
22 1-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
23 Butane	+++++	0.21856	0.18957	0.15149	0.15274	0.14901	0.16773	17.715
24 cis-2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
25 Vinyl Chloride	0.88252 0.81136	0.83475	0.86864	0.75804	0.80905	0.81683	0.82588	5.015
26 1,3-Butadiene	0.56806 0.56549	0.58126	0.55314	0.54123	0.56756	0.57045	0.56388	2.298
27 3-Methyl-1-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
28 Methanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
29 Bromomethane	+++++ 0.85516	0.80209	0.83001	0.83073	0.85423	0.86687	0.83985	2.806
30 Chloroethane	+++++ 0.42254	0.44962	0.40077	0.39719	0.42945	0.42705	0.42110	4.636
31 Isopentane	+++++ 0.81357	0.81497	0.83263	0.82255	0.82564	0.82856	0.82299	0.916
32 Vinyl Bromide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
33 2-Chloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
34 Pentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
35 Freon 11	2.42022 2.64932	2.66181	2.66076	2.51785	2.64967	2.66902	2.60409	3.714
36 1-Pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
37 Dichlorofluoromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
38 2,3-Dimethylbutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
39 Isoprene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
40 2-Methyl-2-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
41 trans-2-Pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
42 Ethanol	+++++ 0.28358	0.26524	0.32337	0.26352	0.28642	0.28889	0.28517	7.590

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Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
43 1,2-Dichloro-1-fluoroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
44 Ethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
45 cis-2-Pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
46 Acrolein	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
47 Freon 123a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
48 Freon 123	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
49 Freon 113	2.06876 2.01769	1.92717	2.06508	2.00091	2.03121	2.04346	2.02204	2.393
50 1,1-Dichloroethene	0.59968 0.63498	0.65075	0.66342	0.56224	0.62991	0.64634	0.62676	5.556
51 2,2-Dimethylbutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	-----	-----	-----	-----	-----	-----		
	200.000 Level 8							
=====	=====	=====	=====	=====	=====	=====	=====	=====
52 Acetone	+++++	0.54609	0.41308	0.34386	0.36978	0.37220		
	0.37269						0.40295	18.252
-----	-----	-----	-----	-----	-----	-----	-----	-----
53 Iodomethane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
-----	-----	-----	-----	-----	-----	-----	-----	-----
54 Bromoethane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
-----	-----	-----	-----	-----	-----	-----	-----	-----
55 4-Methyl-1-pentene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
-----	-----	-----	-----	-----	-----	-----	-----	-----
56 Carbon Disulfide	+++++	2.83263	2.72866	2.34166	2.58492	2.59740		
	2.56389						2.60819	6.382
-----	-----	-----	-----	-----	-----	-----	-----	-----
57 2-Propanol	+++++	1.46353	1.28381	1.15257	1.28974	1.29921		
	1.29433						1.29720	7.618
-----	-----	-----	-----	-----	-----	-----	-----	-----
58 3-Chloropropene	+++++	0.43992	0.41669	0.35853	0.42583	0.44751		
	0.45409						0.42376	8.212
-----	-----	-----	-----	-----	-----	-----	-----	-----
59 Cyclopentene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
-----	-----	-----	-----	-----	-----	-----	-----	-----
60 2-Methylpentane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
-----	-----	-----	-----	-----	-----	-----	-----	-----

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Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
61 Methyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
62 3-Methylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
63 Acetonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
64 Cyclopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
65 1-Chloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
66 Methylene Chloride	0.93019	0.93213	0.95153	0.84370	0.92249	0.94560	0.92094	4.267
67 2-Methyl-1-pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
68 2,4-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
69 2,3-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
70 tert-Butyl chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
71 tert-Butyl alcohol	1.90309	1.89898	1.97892	1.83267	1.90360	1.91269	1.90499	2.439
72 Methyl tert-butyl ether	2.69203	2.72873	2.73325	2.64332	2.69807	2.70976	2.70086	1.206
73 trans-1,2-Dichloroethene	0.61097	0.71911	0.65022	0.52991	0.59163	0.60264	0.61624	9.382
74 Acrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
75 trans-2-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
76 1-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
77 cis-2-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
78 Hexane	1.29463	1.27968	1.30729	1.19169	1.27472	1.28511	1.31634	9.321

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Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
79 Methylcyclopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
80 sec-Butyl chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
81 2,3,4-Trimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
82 1,1-Dichloroethane	1.72954 1.61162	1.57076	1.61532	1.39564	1.56724	1.60516	1.58504	6.272
83 Isopropyl ether	+++++ 2.73604	2.69910	2.75519	2.66645	2.76453	2.75125	2.72876	1.400
84 1-Propanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
85 Chloroprene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
86 Vinyl Acetate	+++++ 0.26952	0.27077	0.26559	0.22213	0.25830	0.26657	0.25881	7.145
87 Butanal	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
88 Ethyl-tert-butyl ether	+++++	2.90477	2.97934	2.86266	2.96520	2.99698		
	2.98419						2.94886	1.803
89 Isobutyl chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
90 2,2-Dichloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
91 cis-1,2-Dichloroethene	0.93861	0.72464	0.74690	0.61766	0.71632	0.72342		
	0.72675						0.74204	12.982
92 2-Butanone	+++++	0.46175	0.47959	0.38814	0.45172	0.46084		
	0.46343						0.45091	7.108
93 Methyl Acrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
94 Ethyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
95 Methacrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
96 2-Chloropentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
97 2-Butanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
99 Tetrahydrofuran	1.04095 0.82973	0.87067	0.83834	0.73443	0.82106	0.83120	0.85234	10.916
100 Chloroform	1.80771 2.03004	1.96157	2.04790	1.72578	1.98789	2.02198	1.94041	6.403
101 1-Bromopropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
102 Cyclohexane	1.33035 1.29407	1.32310	1.31938	1.26079	1.30769	1.30954	1.30642	1.785
103 1,1,1-Trichloroethane	2.24270 2.18756	2.11337	2.11564	2.12474	2.16649	2.18979	2.16290	2.222
104 Chloroacetonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
105 n-Butylchloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
106 Carbon Tetrachloride	2.62608 2.31174	2.28896	2.34239	2.25925	2.32450	2.33883	2.35596	5.205

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Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
107 1,1-Dichloropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
108 Thiophene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
109 2-Methylhexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
110 3-Methylhexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
111 Cyclohexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
113 2,2,4-Trimethylpentane	3.65569 3.98843	3.92876	3.94475	3.75545	3.95080	3.99638	3.88861	3.356
114 1-Methoxy-2-propanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
115 Isobutanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
116 Benzene	0.81833 0.81535	0.80023	0.79328	0.72015	0.80365	0.79820	0.79274	4.197

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Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
118 1-Heptene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
119 tert-Amyl methyl ether	0.76722	0.71509	0.74743	0.71247	0.75359	0.76626	0.74368	3.276
120 1,2-Dichloroethane	0.37554	0.36801	0.35212	0.31593	0.35956	0.36594	0.35483	5.559
121 Heptane	0.27720	0.26316	0.26715	0.26923	0.27757	0.27633	0.27733	5.672
122 2,3-Dichloro-1-propene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
124 n-Butanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
125 Trichloroethene	0.39613	0.37560	0.38647	0.34797	0.38835	0.38736	0.37950	4.164
126 Bromodichloroethene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
127 Methylcyclohexane	1.78093	1.81668	1.82242	1.70323	1.77861	1.77409	1.77933	2.394

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Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
128 Ethyl acrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
129 2-Methylheptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
130 3-Methylheptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
131 2-Pentanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
132 1,2-Dichloropropane	0.32573 0.27887	0.29634	0.27064	0.24813	0.27212	0.27255	0.28063	8.702
133 1-Bromo-2-Chloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
134 Methyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
135 Diethyl Ketone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
136 1,4-Dioxane	+++++ 0.20340	0.20157	0.20798	0.18793	0.20216	0.19932	0.20039	3.367

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 Cal Date : 25-Jul-2018 10:44 uexa
 Curve Type : Average

Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	----- 200.000 Level 8							
137 Dibromomethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
138 Bromodichloromethane	0.59837 0.61850	0.58859	0.58637	0.54238	0.60117	0.60504	0.59149	4.084
139 2-Nitropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
140 bis(chloromethyl) Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
141 1-Octene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
142 Epichlorohydrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
143 2-Chloroethyl Vinyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
144 cis-1,3-Dichloropropene	0.44374 0.48597	0.46891	0.46873	0.43144	0.47284	0.47626	0.46398	4.153
145 4-Methyl-2-pentanone	0.30033 0.21667	0.21540	0.22154	0.21096	0.21772	0.21536	0.22828	13.985

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 Method file : /chem/msd17.i/23jul18.b/178q0613b.m
 Cal Date : 25-Jul-2018 10:44 uexa
 Curve Type : Average

Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
147 Toluene	1.09011 1.05880	1.01228	1.00975	0.97289	1.03189	1.03004	1.02939	3.641
148 Octane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
149 Vinyl Cyclohexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
150 trans-1,3-Dichloropropene	0.48276 0.52029	0.47669	0.47805	0.46615	0.49323	0.50360	0.48868	3.775
151 Ethyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
152 1-Chloro-2-Bromopropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
153 1-Nitropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
154 Bromodichloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
155 1,1,2-Trichloroethane	0.40022 0.40099	0.38518	0.38608	0.37863	0.38534	0.38955	0.38943	2.130

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	-----	-----	-----	-----	-----	-----		
	200.000 Level 8							
=====	=====	=====	=====	=====	=====	=====	=====	=====
156 Tetrachloroethene	0.73731	0.66209	0.70249	0.68973	0.70683	0.70402		
	0.72312						0.70365	3.405
-----	-----	-----	-----	-----	-----	-----	-----	-----
157 1,3-Dichloropropane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
-----	-----	-----	-----	-----	-----	-----	-----	-----
158 2-Hexanone	+++++	0.30367	0.30060	0.32075	0.32187	0.31978		
	0.32967						0.31606	3.600
-----	-----	-----	-----	-----	-----	-----	-----	-----
159 Butyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
-----	-----	-----	-----	-----	-----	-----	-----	-----
160 Dibromochloromethane	0.79655	0.79602	0.78436	0.78398	0.81626	0.82066		
	0.85593						0.80768	3.171
-----	-----	-----	-----	-----	-----	-----	-----	-----
161 1,2-Dibromoethane (EDB)	0.69908	0.66121	0.66872	0.64123	0.65560	0.65726		
	0.67921						0.66605	2.807
-----	-----	-----	-----	-----	-----	-----	-----	-----
162 1-Nonene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
-----	-----	-----	-----	-----	-----	-----	-----	-----
164 1-Chlorohexane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
-----	-----	-----	-----	-----	-----	-----	-----	-----
165 Chlorobenzene	1.05205	0.97878	0.98187	0.96448	0.97062	0.95875		
	0.99262						0.98560	3.186
-----	-----	-----	-----	-----	-----	-----	-----	-----

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Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
166 Butyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
167 Ethyl Benzene	0.49465 0.49997	0.50966	0.47658	0.50019	0.49712	0.48885	0.49529	2.097
168 1,1,1,2-Tetrachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
169 m,p-Xylene	0.66124 0.62357	0.60069	0.59234	0.62097	0.60680	0.60527	0.61584	3.704
170 Nonane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
171 o-Xylene	0.60209 0.58925	0.59042	0.55546	0.59926	0.57379	0.57448	0.58354	2.831
172 Styrene	0.94384 0.99158	0.84843	0.82473	0.95922	0.95182	0.95721	0.92526	6.783
173 2-Heptanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
174 Bromoform	0.90932 0.99162	0.88044	0.88254	0.93159	0.94269	0.95775	0.92799	4.364

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	200.000 Level 8							
175 Cumene	1.80685 1.79628	1.72603	1.70788	1.82648	1.76219	1.75421	1.76856	2.457
176 Cyclohexanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
178 1-Decene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
179 alpha-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
180 Bromobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
181 1,1,2,2-Tetrachloroethane	0.87309 0.84595	0.81932	0.80016	0.84779	0.82231	0.82118	0.83283	2.906
182 Propylbenzene	2.04277 2.01613	1.97787	1.93424	2.05869	1.97790	1.98212	1.99853	2.156
183 1,4-Dichloro-2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
184 trans-1,4-Dichloro-2-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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	200.000 Level 8							
185 1,2,3-Trichloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
186 3-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
187 Decane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
188 4-Ethyltoluene	0.54799 0.56276	0.53609	0.54752	0.59356	0.57058	0.55990	0.55977	3.356
189 2-Chlorotoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
190 1,3,5-Trimethylbenzene	0.80539 0.80232	0.72607	0.72700	0.81193	0.78670	0.78400	0.77763	4.666
191 4-Chlorotoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
192 beta-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
193 Diisobutyl Ketone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
194 alpha Methyl Styrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
195 tert-Butylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
196 1,2,4-Trimethylbenzene	0.70298 0.71293	0.65624	0.65298	0.73139	0.70413	0.70358	0.69489	4.210
197 Pentachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
198 Limonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
199 D-Limonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
200 Benzaldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
201 Indan	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
202 Indene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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	200.000 Level 8							
203 sec-Butylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
204 Isobutylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
205 2-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
206 bis(2-Chloroethyl) Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
207 p-Cymene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
208 1,3-Dichlorobenzene	1.20172 1.18223	1.16397	1.14222	1.21560	1.18027	1.17465	1.18010	2.034
209 1,4-Dichlorobenzene	1.22701 1.20837	1.22871	1.15104	1.23310	1.20185	1.18969	1.20568	2.394
210 1,2,3-Trimethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
211 1-Undecene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
212 alpha-Chlorotoluene	1.14514 1.36114	1.16862	1.16750	1.29252	1.30023	1.31707	1.25032	6.973
213 Butylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
214 1,2-Dichlorobenzene	1.13991 1.13026	1.11639	1.12150	1.18045	1.13048	1.12076	1.13425	1.925
215 Undecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
216 4-Ethyl-1,2-dimethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
217 Hexachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
218 1,3-Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
219 1,4-Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
220 1,2,4,5-tetramethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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	200.000 Level 8							
221 1,2-Dibromo-3-chloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
222 1-Dodecene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
223 Nitrobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
224 1,3,5-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
225 Dodecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
226 1,2,4-Trichlorobenzene	+++++	1.28634	1.25164	1.33184	1.29941	1.27908	1.29000	2.035
227 Hexachlorobutadiene	+++++	1.15224	1.12896	1.16863	1.15237	1.15309	1.15312	1.184
228 Naphthalene	+++++	1.97914	1.91890	2.40451	2.36668	2.31964	2.21998	9.587
229 1,2,3-Trichlorobenzene	+++++	1.28477	+++++	+++++	1.20277	+++++	1.27040	4.858

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	----- 200.000 Level 8							
230 Tridecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
231 Quinoline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
232 2-Methylnaphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
233 1,3,5-Triethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
234 Acenaphthylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
235 Phenanthrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
236 Anthracene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
M 237 1,2-Dichloroethene (Total)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
M 238 Chlorobutane (Total)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++

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	-----	-----	-----	-----	-----	-----		
	200.000 Level 8							
=====	=====	=====	=====	=====	=====	=====	=====	=====
M 239 Total Xylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
-----	-----	-----	-----	-----	-----	-----	-----	-----
M 240 3 and 4-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
-----	-----	-----	-----	-----	-----	-----	-----	-----
241 Total Volatile Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
-----	-----	-----	-----	-----	-----	-----	-----	-----
242 TPH reference to Hexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
-----	-----	-----	-----	-----	-----	-----	-----	-----
243 TPH reference to Heptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
-----	-----	-----	-----	-----	-----	-----	-----	-----
244 TPH reference to Gasoline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
-----	-----	-----	-----	-----	-----	-----	-----	-----
245 TPH reference MineralSpirits	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
-----	-----	-----	-----	-----	-----	-----	-----	-----
246 TPH reference to Stoddard	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
-----	-----	-----	-----	-----	-----	-----	-----	-----
247 TVOC reference to Hexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++						+++++	+++++
-----	-----	-----	-----	-----	-----	-----	-----	-----

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	200.000 Level 8							
248 TVOC reference to Heptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
249 TVOC reference to Toluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
250 TVOC reference to Toluene-d8	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
251 NMOC reference to Hexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
252 NMOC reference to Heptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
253 NMOC reference to Toluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
254 C3 - C4 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
255 C4 - C5 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
256 C5 - C6 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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	200.000 Level 8							
257 C6 - C7 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
258 C7 - C8 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
259 C8 - C9 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
260 C9 - C10 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
261 C10+ Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
262 C5 - C6 Aliphatic ref C5 + C6	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
263 C6-C8 Aliphatic ref Heptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
264 C8-C10 Aliphatic ref Decane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
265 C10-C12 Aliphatic ref Dodecan	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/23jul18.b/178q0613b.m
 Cal Date : 25-Jul-2018 10:44 uexa
 Curve Type : Average

Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	----- 200.000 Level 8							
266 C8-C10 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
267 C8-C10 Aromatic ref 1,2,3-TMB	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
268 C10-C12 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
269 C10-C12 Aromatic 1,2,4,5-TMB	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
270 C10-C12 Aromatic Naphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
\$ 112 Benzene-d6	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
\$ 117 1,2-Dichloroethane-d4	1.08418 1.17692	1.09916	1.10957	1.10875	1.16048	1.20720	1.13518	4.072
\$ 146 Toluene-d8	0.96653 0.97300	0.97150	0.98000	0.96626	0.97888	0.97952	0.97367	0.611
\$ 177 4-Bromofluorobenzene	0.79526 0.79089	0.78258	0.79457	0.80265	0.77421	0.78599	0.78945	1.188

Calibration History

Method : /chem/msd17.i/23jul18.b/178q0613b.m
Start Cal Date: 13-JUN-2018 22:14
End Cal Date : 23-JUL-2018 12:52

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 2 , Cal Amount: 0.50000		
13-JUN-2018 22:14	AT12low	/chem/msd17.i/13jun18.b/17061302.d
Cal Level: 3 , Cal Amount: 2.00000		
23-JUL-2018 11:01	123TCB	/chem/msd17.i/23jul18.b/17072305.d
13-JUN-2018 22:40	AT12curve	/chem/msd17.i/13jun18.b/17061303.d
Cal Level: 4 , Cal Amount: 5.00000		
13-JUN-2018 23:08	AT12curve	/chem/msd17.i/13jun18.b/17061304.d
Cal Level: 5 , Cal Amount: 20.00000		
13-JUN-2018 23:35	AT12curve	/chem/msd17.i/13jun18.b/17061305.d
Cal Level: 6 , Cal Amount: 50.00000		
23-JUL-2018 12:23	123TCB	/chem/msd17.i/23jul18.b/17072306.d
14-JUN-2018 00:02	AT12curve	/chem/msd17.i/13jun18.b/17061306.d
Cal Level: 7 , Cal Amount: 100.00000		
14-JUN-2018 00:28	AT12curve	/chem/msd17.i/13jun18.b/17061307.d
Cal Level: 8 , Cal Amount: 200.00000		
23-JUL-2018 12:52	123TCB	/chem/msd17.i/23jul18.b/17072307.d
14-JUN-2018 00:56	AT12curve	/chem/msd17.i/13jun18.b/17061308.d

Continuing Calibration

Ccal Level Mode: GLOBAL LEVEL 6

```
+-----+-----+-----+
| Ccal Level: 6 , Ccal Amount: 50.000 |
+=====+
|23-JUL-2018 12:23 |123TCB          |/chem/msd17.i/23jul18.b/17072306.d |
+-----+-----+-----+
| Ccal Level: 6 , Ccal Amount: 50.000 |
+=====+
|23-JUL-2018 09:15 |AT12           |/chem/msd17.i/23jul18.b/17072302.d |
+-----+-----+-----+
| Ccal Level: 6 , Ccal Amount: 50.000 |
+=====+
|23-JUL-2018 12:23 |123TCBCCV       |/chem/msd17.i/23jul18.b/17072306a.d |
+-----+-----+-----+
```

Initial Calibration Narrative

178q0613B.m

A multi-point initial calibration was analyzed on MSD-17 on 06/13/18 for AT-12.

ICAL: 0 out; Naph @ 9.6 %RSD

Naphthalene is calibrated at 0.2ppbv, 0.5ppbv, 2.0ppbv, 5.0ppbv, 10ppbv, and 20ppbv.

ICV: 0 out – Naph within 70-130 @ 95%

File: 17061311, 50ml: 3018-297 50ppbv(200ppbv)

DoD 4.2: 0 out (File 17061311a)

DoD 5.0: 0 out (File 17061311c)

BFB TUNE FILE:

- 17061301
- 17072301

A three point calibration for 123-Trichlorobenzene was analyzed 7/23/18.

MDL: The TO-15 MDL was analyzed on February 23, 2018.

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
End Cal Date : 23-JUL-2018 12:52
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd17.i/23jul18.b/178q0613b.m
Cal Date : 23-Jul-2018 15:52 ghehir
Curve Type : Average

Calibration File Names:

Level 2: /chem/msd17.i/13jun18.b/17061302.d
Level 3: /chem/msd17.i/23jul18.b/17072305.d
Level 4: /chem/msd17.i/13jun18.b/17061304.d
Level 5: /chem/msd17.i/13jun18.b/17061305.d
Level 6: /chem/msd17.i/23jul18.b/17072306.d
Level 7: /chem/msd17.i/13jun18.b/17061307.d
Level 8: /chem/msd17.i/23jul18.b/17072307.d

GH 7/23/18

Compound	0.50000	2.000	5.000	20.000	50.000	100.000	RRF	% RSD
	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7		
	-----	-----	-----	-----	-----	-----		
	200.000							
	Level 8							
=====	=====	=====	=====	=====	=====	=====	=====	=====
229 1,2,3-Trichlorobenzene	+++++	1.28477	+++++	+++++	1.20277	+++++		
	1.32367						1.27040	4.858
-----	-----	-----	-----	-----	-----	-----	-----	-----
=====	=====	=====	=====	=====	=====	=====	=====	=====

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
 End Cal Date : 14-JUN-2018 00:56
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP RTE
 Method file : /chem/msd17.i/13jun18.b/178q0613a.m
 Cal Date : 15-Jun-2018 09:13 gdelacru
 Curve Type : Average

Calibration File Names:

Level 2: /chem/msd17.i/13jun18.b/17061302.d
 Level 3: /chem/msd17.i/13jun18.b/17061303.d
 Level 4: /chem/msd17.i/13jun18.b/17061304.d
 Level 5: /chem/msd17.i/13jun18.b/17061305.d
 Level 6: /chem/msd17.i/13jun18.b/17061306.d
 Level 7: /chem/msd17.i/13jun18.b/17061307.d
 Level 8: /chem/msd17.i/13jun18.b/17061308.d

gdl 6/15/18

KK
6/15/18

Compound	0.50000	2.000	5.000	20.000	50.000	100.000	RRF	% RSD
	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7		
	200.000							
	Level 8							
9 Propylene	++++	0.53283	0.56890	0.48143	0.52484	0.52638	0.52550	5.334
	0.51861							
11 Freon 12	2.08786	2.27350	2.22377	2.13721	2.28983	2.28341	2.22017	3.525
	2.24562							
15 Freon 114	1.86768	1.81501	1.86925	1.84100	1.90764	1.92381	1.87393	2.022
	1.89316							
17 Chloromethane	++++	0.64098	0.50442	0.61079	0.61437	0.58393	0.57525	10.524
	0.49701							
23 Butane	++++	0.21856	0.18957	0.15149	0.15274	0.14901	0.16773	17.715
	0.14504							
25 Vinyl Chloride	0.88252	0.83475	0.86864	0.75804	0.80905	0.81683	0.82588	5.015
	0.81136							
26 1,3-Butadiene	0.56806	0.58126	0.55314	0.54123	0.56756	0.57045	0.56388	2.298
	0.56549							

MSD17

BFB verification of 176/174 ratio: (186624/190016)*100=98.21%				Method TO-15/TO-14			
				SOP# 6			
				Vacuum NA			
				Please check all standards			
IS/5 Std #:	3045-23	Exp. Date:	8/24/2018				
BCM	162,788						
1,4-DFB	570.167			Surrogate# : 3045-23	ip. Date: 8/24/2018	Surrogate#	Exp. Date: NA
CB-D5	520.088			CCV# 3018-273	ip. Date: 9/1/2018	ICS# 3018-263	Exp. Date: 8/21/2018
				CCV sp#	Exp. Date:	ICS sp# NA	Exp. Date: NA
				CCV sp# NA	Exp. Date: NA	ICS sp# NA	Exp. Date: NA
				CCL sp # NA	Exp. Date: NA	ICS sp# NA	Exp. Date: NA

Verified CCV vs ICAL mid-point (40%):

Verified CCV vs ICAL mid-point (-40%):

Method: 17800613a.m

Use	File #	Sample IDs	Canister#	Cat. pos	Pressures	Amount	DF	Verify load	loaded int	Date Analyzed	Time Analyzed	Review int	
V	17061301	BFB Tune Check	3045-23	12	36mg	50ml	1.00	gh	gh	06/13/18	2132	gh	Exp: 8/24/18.
V	17061302	ICAL Level #2	2018-279	11	0.5ppbv(5.0ppbv)	20ml	1.00	kk	gh	06/13/18	2214	kk/gd	
V	17061303	ICAL Level #3	2018-279	11	2.0ppbv(5.0ppbv)	80ml	1.00	kk	gh	06/13/18	2240	kk/gd	
V	17061304	ICAL Level #4	2018-279	11	5.0ppbv(5.0ppbv)	200ml	1.00	kk	gh	06/13/18	2308	kk/gd	
V	17061305	ICAL Level #5	3018-273	13	20ppbv(200ppbv)	20ml	1.00	kk	gh	06/13/18	2335	kk/gd	exp: 9/1/18
V	17061306	ICAL Level #6	3018-273	13	50ppbv(200ppbv)	50ml	1.00	kk	gh	06/14/18	0002	kk/gd	
V	17061307	ICAL Level #7	3018-273	13	100ppbv(200ppbv)	100ml	1.00	kk	gh	06/14/18	0028	kk/gd	
V	17061308	ICAL Level #8	3018-273	13	200ppbv(200ppbv)	200ml	1.00	kk	gh	06/14/18	0056	kk/gd	
V	17061309	System Blank	32888	12	humid	200ml	1.00	kk	gh	06/14/18	0125	kk/gd	
V	17061310	System Blank	32888	12	humid	200ml	1.00	kk	gh	06/14/18	0153	kk/gd	
V	17061311	ICV	3018-297	14	50ppbv(200ppbv)	50ml	1.00	kk	kk	06/14/18	1204	kk/gd	exp: 9/11/18

6/14/18

MSD17

BFB verification of 176/174 ratio: (148885/152725)*100 =97.49%				Method TO-15/TO-14			
S/S Std #:	3045-66	Exp. Date:	10/18/2018	SOP# 6			
BCM	137.931			Vacuum NA			
1,4-DFB	478.828			Please check all standards			
CB-45	433.117			Surrogate#:	3045-66	p. Date:	10/18/2018
				CCV#	3018-273A	p. Date:	9/11/2018
				CCV sp#	NA	p. Date:	NA
				CCV sp#	NA	Exp. Date:	NA
				CCV sp#	NA	Exp. Date:	NA
				CCV sp#	NA	Exp. Date:	NA
				CCV sp#	NA	Exp. Date:	NA

Verified CCV vs ICAI mid-point (-40%): gh

Method: 178Q06138 m

Use	File #	Sample IDs	Container	Cart pos	Pressures	Amount	DF	Verify Load	Loaded Init	Date Analyzed	Time Analyzed	Review Init	
V	17072301	BFB Tune Check	3045-66	8	36ng	50ml	1.00	gh	gh	07/23/18	0839	gh	Exp: 10/18/18.
V	17072302	CCV	3018-273A	13	50ppbv(100ppbv)	100ml	1.00	gh	gh	07/23/18	0915	gh	Exp: 9/01/18; 0 out
V	17072303	ICS	3018-297A	14	50ppbv(100ppbv)	100ml	1.00	gh	gh	07/23/18	0942	gh	Exp: 9/11/18; 0 out
V	17072304	LCSD	3018-297A	14	50ppbv(100ppbv)	100ml	1.00	gh	gh	07/23/18	1008	gh	Exp: 9/11/18; 0 out. RPO ok
V	17072305	I Cal Level #3	3018-341	2	2.0ppbv(5.0ppbv)	80ml	1.00	gh	gh	07/23/18	1101	gh	exp: 10/11/18
V	17072306	I Cal level #6	3045-59	2	50ppbv(200ppbv)	50ml	1.00	gh	gh	07/23/18	1223	gh	exp: 10/11/18 CCV 1231C5
V	17072307	I Cal level #8	3045-59	2	200ppbv(200ppbv)	200ml	1.00	gh	gh	07/23/18	1252	gh	exp: 10/11/18
X	17072308	Lab Blank	23888	10	humid	200ml	1.00	gh	gh	07/23/18	1341	gh	can not opened
V	17072309	Lab Blank	23888	10	humid	200ml	1.00	gh	gh	07/23/18	1242	gh	
V	17072310	1807313A-03A	N2694	1	5.9 Hg>14.5 psi	15ml	33.0		gh		1332	gh	dhc
V	17072311	System Blank	23888	10	humid	200ml	1.00		gh				

64712318

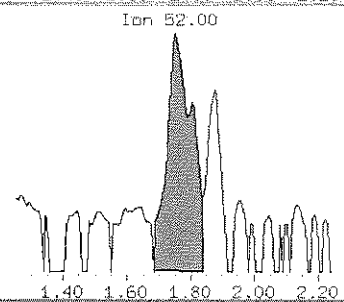
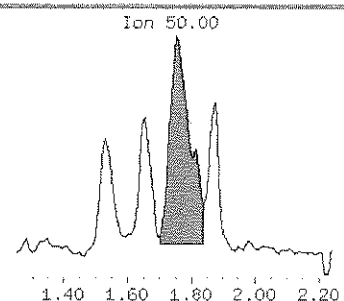
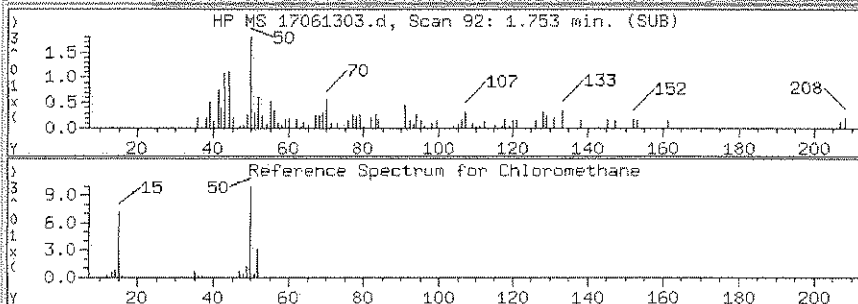
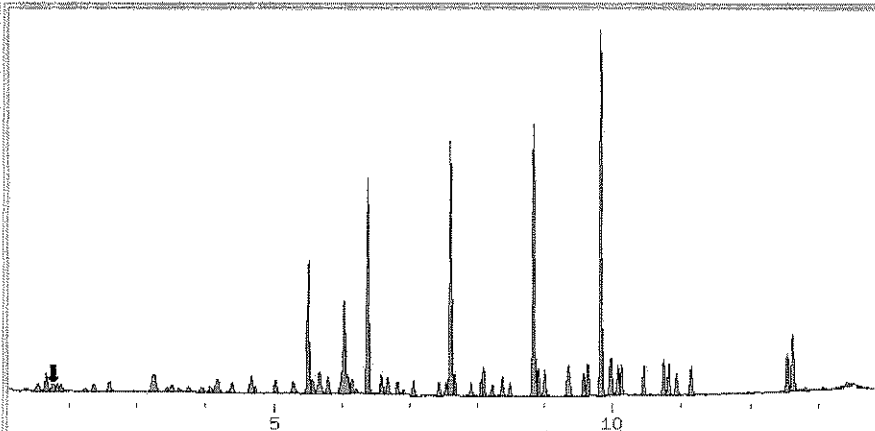
7/23/18

File Security Edit Display Process Spectra Help

Sample: ICAL Level #3 Type: CALIB_3 Inj.Date: 13-JUN-2018 22:40

** 98 Bromochlorometl
 ** 123 1,4-Difluorobe
 ** 163 Chlorobenzene-
 ** 117 1,2-Dichloroetl
 ** 146 Toluene-d8
 ** 177 4-BromoFluorob
 + 9 Propylene
 + 11 Freon 12
 + 15 Freon 114
 * 17 Chloromethane
 + 23 Butane
 + 25 Vinyl Chloride
 + 26 1,3-Butadiene
 + 29 Bromomethane
 + 30 Chloroethane
 + 31 Isopentane
 + 35 Freon 11
 + 42 Ethanol
 + 49 Freon 113
 + 50 1,1-Dichloroetl
 + 52 Acetone
 + 56 Carbon Disulfid
 + 57 2-Propanol
 + 58 3-Chloropropene
 + 66 Methylene Chlor

17061301.d
 17061302.d
 17061303.d
 17061304.d
 17061305.d
 17061306.d
 17061306a.d
 17061307.d
 17061308.d
 17061309.d
 17061310.d
 17061311.d
 17061311a.d
 17061311c.d



Hit# RT(min) Response Amount Conc Ratio Flags Report:

1 1.753 8458 2.228 2.228 100 AM

1.753 4442 53

- Mark Chloromethane Undetected.

After

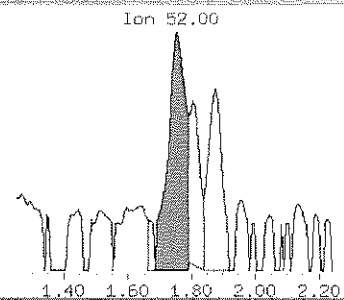
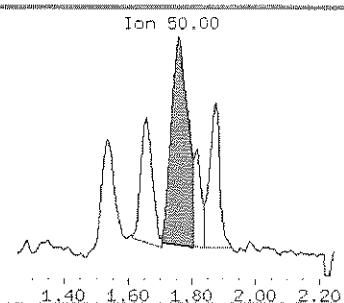
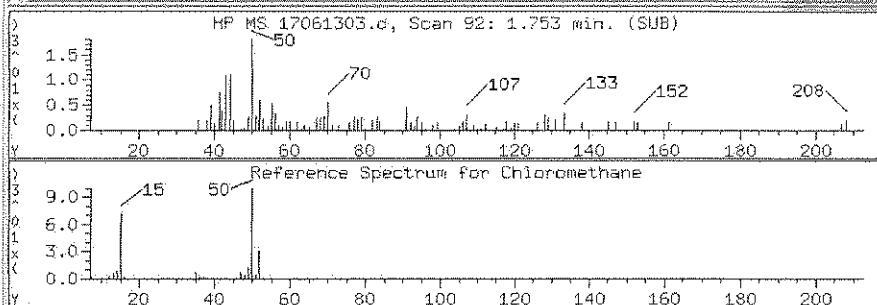
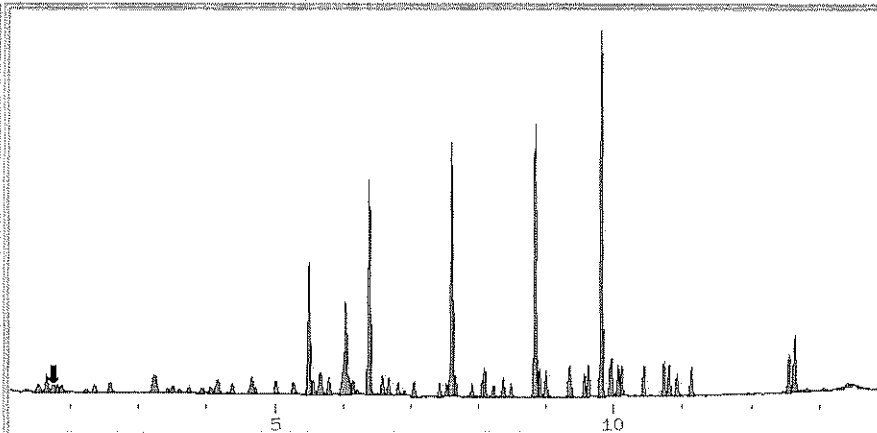
Correct Baseline	
Split Peak	
Merge Peak	
Zoom In	
Change Parameter	
System Peak Subtraction	
Peak Misidentified	
Corrected Peak Integration	/

File Security Edit Display Process Spectra Help

Sample: ICAI Level #3 Type: CALIB_3 Inj.Date: 13-JUN-2018 22:40

** 98 Bromochloromet
 ** 123 1,4-Difluorobe
 ** 163 Chlorobenzene-
 ** 117 1,2-Dichloroet
 ** 146 Toluene-d8
 ** 177 4-Bromofluorob
 + 9 Propylene
 + 11 Freon 12
 + 15 Freon 114
 + 17 Chloromethane
 + 23 Butane
 + 25 Vinyl Chloride
 + 26 1,3-Butadiene
 + 29 Bromomethane
 + 30 Chloroethane
 + 31 Isopentane
 + 35 Freon 11
 + 42 Ethanol
 + 49 Freon 113
 + 50 1,1-Dichloroet
 + 52 Acetone
 + 56 Carbon Disulfid
 + 57 2-Propanol
 + 58 3-Chloropropan
 + 66 Methylene Chlor

17061301.d
 17061302.d
 17061303.d
 17061304.d
 17061305.d
 17061306.d
 17061306a.d
 17061307.d
 17061309.d
 17061309.d
 17061310.d
 17061311.d
 17061311a.d
 17061311c.d



Hit#	RT(min)	Response	Amount	Conc	Ratio	Flags	Report:
1	1.653	2699	0.7328	0.7328	100	Ta	
	1.667	205				B	
2	1.753	7100	1.928	1.928	100	a	
	1.753	3177			45		
3	1.817	1730	0.4698	0.4698	100	Ta	
	1.803	1445			84		

Before

IS and Associated Target Compounds and Surr. Instruction #: I1.20

Modified EPA Methods TO-14A/TO-15
Internal Standard and Associated Target Compounds and Surrogates

Bromochloromethane*
Target Compounds:
Freon 12
Freon 114
Chloromethane
Vinyl Chloride
1,3-Butadiene
Bromomethane
Chloroethane
Freon 11
Ethanol
Freon 113
1,1-Dichloroethene
Acetone
2-Propanol
Carbon Disulfide
3-Chloropropene
Methylene Chloride
Methyl tert-butyl ether
trans-1,2-Dichloroethene
Hexane
1,1-Dichloroethane
2-Butanone (Methyl Ethyl Ketone)
cis-1,2-Dichloroethene
Tetrahydrofuran
Chloroform
1,1,1-Trichloroethane
Cyclohexane
Carbon Tetrachloride
2,2,4-Trimethylpentane
Surrogates:
1,2-Dichloroethane-d4

1,4-Difluorobenzene
Target Compounds:
Benzene
1,2-Dichloroethane
Heptane
Trichloroethene
1,2-Dichloropropane
1,4-Dioxane
Bromodichloromethane
cis-1,3-Dichloropropene
4-Methyl-2-pentanone
Toluene
Surrogates:
Toluene-d8

Chlorobenzene-d5
Target Compounds:
trans-1,3-Dichloropropene
1,1,2-Trichloroethane
Tetrachloroethene
2-Hexanone
Dibromochloromethane
1,2-Dibromoethane (EDB)
Chlorobenzene
Ethyl Benzene
m,p-Xylene
o-Xylene
Styrene
Bromoform
Cumene
1,1,2,2-Tetrachloroethane
Propylbenzene
4-Ethyltoluene
1,3,5-Trimethylbenzene
1,2,4-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
alpha-Chlorotoluene
1,2-Dichlorobenzene
1,2,4-Trichlorobenzene
Hexachlorobutadiene
Surrogates:
Bromofluorobenzene

*Note: If Bromochloromethane (BCM) is required as a target compound, the internal standard mix is blended without BCM. Compounds and surrogates assigned to BCM are re-assigned to 1,4-Difluorobenzene for calibration and subsequent quantitation.

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/13jun18.b/17061311.d
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 14-JUN-2018 12:04
Operator : kk Inst ID: msd17.i
Smp Info : 50mL #3018-297
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/13jun18.b/178q0613a.m
Meth Date : 15-Jun-2018 09:18 gdelacru Quant Type: ISTD
Cal Date : 14-JUN-2018 00:02 Cal File: 17061306.d
Als bottle: 14 QC Sample: ICV
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

CONCENTRATIONS									
		ON-COL		FINAL					
RT	EXP RT	(REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98	Bromochloromethane					CAS #:	74-97-5		
5.499	5.498	(1.000)	130	161877	25.0000		80.00-	120.00	100.00
5.499	5.498	(1.000)	128	129256			48.32-	108.32	79.85
5.492	5.496	(1.000)	49	152307			63.40-	123.40	94.09

* 123	1,4-Difluorobenzene					CAS #:	540-36-3		
6.380	6.384	(1.000)	114	584845	25.0000		80.00-	120.00	100.00
6.380	6.382	(1.000)	88	87807			0.00-	44.55	15.01

* 163	Chlorobenzene-d5					CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	509281	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	244737			17.97-	77.97	48.06

\$ 117	1,2-Dichloroethane-d4					CAS #:	17060-07-0		
6.029	6.035	(1.096)	65	192607	26.2036	26.204	80.00-	120.00	100.00
6.037	6.035	(1.098)	67	101369			23.66-	83.66	52.63

\$ 146	Toluene-d8					CAS #:	2037-26-5		
7.598	7.598	(1.191)	98	567955	24.9346	24.934	80.00-	120.00	100.00
7.598	7.598	(1.191)	70	57175			0.00-	40.01	10.07

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
					ON-COL	FINAL		
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====
\$ 146 Toluene-d8 (continued)								
7.598	7.598	(1.191)	100	363873			35.43- 95.43	64.07

\$ 177 4-Bromofluorobenzene								
						CAS #: 460-00-4		
9.819	9.819	(1.112)	174	407713	25.3520	25.352	80.00- 120.00	100.00
9.819	9.819	(1.112)	95	366068			59.41- 119.41	89.79
9.819	9.819	(1.112)	176	397430			68.33- 128.33	97.48

9 Propylene								
						CAS #: 115-07-1		
1.502	1.500	(0.273)	41	166011	48.7887	48.789	80.00- 120.00	100.00
1.502	1.501	(0.273)	42	112262			36.13- 96.13	67.62
1.502	1.501	(0.273)	39	129490			46.53- 106.53	78.00

11 Freon 12								
						CAS #: 75-71-8		
1.531	1.532	(0.278)	85	771510	53.6673	53.667	80.00- 120.00	100.00
1.531	1.534	(0.278)	87	248818			2.38- 62.38	32.25

15 Freon 114								
						CAS #: 76-14-2		
1.653	1.653	(0.301)	135	643377	53.0232	53.023	80.00- 120.00	100.00
1.653	1.652	(0.301)	137	208608			2.28- 62.28	32.42

17 Chloromethane								
						CAS #: 74-87-3		
1.753	1.751	(0.319)	50	207502	55.7082	55.708	80.00- 120.00	100.00
1.753	1.749	(0.319)	52	69406			5.22- 65.22	33.45

23 Butane								
						CAS #: 106-97-8		
1.810	1.814	(0.329)	58	48347	44.5145	44.514	80.00- 120.00	100.00
1.810	1.813	(0.329)	43	331004			637.12- 697.12	684.64

25 Vinyl Chloride								
						CAS #: 75-01-4		
1.846	1.849	(0.336)	62	269671	50.4278	50.428	80.00- 120.00	100.00
1.846	1.849	(0.336)	64	89185			1.91- 61.91	33.07

26 1,3-Butadiene								
						CAS #: 106-99-0		
1.875	1.875	(0.341)	54	181043	49.5848	49.585	80.00- 120.00	100.00
1.875	1.873	(0.341)	39	182307			72.44- 132.44	100.70

29 Bromomethane								
						CAS #: 74-83-9		
2.226	2.229	(0.405)	94	284332	52.2853	52.285	80.00- 120.00	100.00
2.226	2.231	(0.405)	96	269554			65.39- 125.39	94.80

30 Chloroethane								
						CAS #: 75-00-3		
2.340	2.343	(0.426)	64	143387	52.5868	52.587	80.00- 120.00	100.00
2.340	2.345	(0.426)	66	45716			3.25- 63.25	31.88
2.340	2.343	(0.426)	49	39476			0.00- 57.17	27.53

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET	RANGE	RATIO
					ON-COL	FINAL			
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
31 Isopentane					CAS #: 78-78-4				
2.362	2.358	(0.429)	43	268017	50.2948	50.295	80.00-	120.00	100.00
2.362	2.361	(0.429)	57	202557			45.20-	105.20	75.58

35 Freon 11					CAS #: 75-69-4				
2.591	2.591	(0.471)	101	870979	51.6542	51.654	80.00-	120.00	100.00
2.591	2.591	(0.471)	103	564076			34.28-	94.28	64.76

42 Ethanol					CAS #: 64-17-5				
2.935	2.942	(0.534)	45	95550	51.7466	51.747	80.00-	120.00	100.00
2.935	2.942	(0.534)	46	36982			9.17-	69.17	38.70

49 Freon 113					CAS #: 76-13-1				
3.229	3.231	(0.587)	151	666692	50.9202	50.920	80.00-	120.00	100.00
3.229	3.233	(0.587)	153	432195			34.01-	94.01	64.83
3.229	3.229	(0.587)	101	734453			81.38-	141.38	110.16

50 1,1-Dichloroethene					CAS #: 75-35-4				
3.264	3.265	(0.594)	98	203106	50.0467	50.047	80.00-	120.00	100.00
3.264	3.263	(0.594)	96	318951			124.64-	184.64	157.04
3.264	3.264	(0.594)	61	465371			200.94-	260.94	229.13

52 Acetone					CAS #: 67-64-1				
3.429	3.427	(0.624)	58	122852	47.0853	47.085	80.00-	120.00	100.00
3.422	3.427	(0.622)	43	380907			290.24-	350.24	310.05

56 Carbon Disulfide					CAS #: 75-15-0				
3.501	3.501	(0.637)	76	853196	50.5201	50.520	80.00-	120.00	100.00

57 2-Propanol					CAS #: 67-63-0				
3.601	3.605	(0.655)	45	427238	50.8650	50.865	80.00-	120.00	100.00
3.601	3.603	(0.655)	43	91794			0.00-	51.65	21.49
3.601	3.605	(0.655)	59	18822			0.00-	34.46	4.41

58 3-Chloropropene					CAS #: 107-05-1				
3.744	3.745	(0.681)	76	143942	52.4591	52.459	80.00-	120.00	100.00
3.744	3.744	(0.681)	41	307164			187.06-	247.06	213.39

66 Methylene Chloride					CAS #: 75-09-2				
3.938	3.938	(0.716)	49	297838	49.9462	49.946	80.00-	120.00	100.00
3.938	3.938	(0.716)	84	268612			60.06-	120.06	90.19
3.931	3.938	(0.715)	51	90253			0.22-	60.22	30.30

72 Methyl tert-butyl ether					CAS #: 1634-04-4				
4.146	4.147	(0.754)	73	899957	51.4605	51.460	80.00-	120.00	100.00
4.146	4.145	(0.754)	57	181440			0.00-	50.61	20.16

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
				ON-COL	FINAL		
==	=====	=====	=====	(PPBV)	(PPBV)	=====	=====
72 Methyl tert-butyl ether (continued)							
4.146	4.145 (0.754)	41	163039			0.00- 49.00	18.12

73 trans-1,2-Dichloroethene				CAS #: 156-60-5			
4.174	4.175 (0.759)	98	208444	52.2387	52.239	80.00- 120.00	100.00
4.174	4.174 (0.759)	61	420328			169.57- 229.57	201.65
4.174	4.174 (0.759)	96	326352			127.00- 187.00	156.57

78 Hexane				CAS #: 110-54-3			
4.382	4.382 (0.797)	57	421894	49.4983	49.498	80.00- 120.00	100.00
4.382	4.382 (0.797)	43	244464			28.25- 88.25	57.94
4.382	4.382 (0.797)	86	81167			0.00- 48.98	19.24

82 1,1-Dichloroethane				CAS #: 75-34-3			
4.676	4.676 (0.850)	63	499244	48.6438	48.644	80.00- 120.00	100.00
4.676	4.676 (0.850)	65	160925			2.30- 62.30	32.23

86 Vinyl Acetate				CAS #: 108-05-4			
4.719	4.718 (0.858)	86	84535	50.4433	50.443	80.00- 120.00	100.00
4.711	4.715 (0.857)	43	683910			863.69- 923.69	809.03

91 cis-1,2-Dichloroethene				CAS #: 156-59-2			
5.263	5.263 (0.957)	98	209630	43.6294	43.629	80.00- 120.00	100.00
5.263	5.263 (0.957)	96	327109			122.96- 182.96	156.04
5.263	5.263 (0.957)	61	375406			147.21- 207.21	179.08

92 2-Butanone				CAS #: 78-93-3			
5.284	5.289 (0.961)	72	147977	50.6824	50.682	80.00- 120.00	100.00
5.284	5.287 (0.961)	43	489750			305.24- 365.24	330.96
5.284	5.287 (0.961)	57	42258			0.00- 59.67	28.56

99 Tetrahydrofuran				CAS #: 109-99-9			
5.492	5.492 (0.999)	42	266692	48.3227	48.323	80.00- 120.00	100.00
5.492	5.494 (0.999)	71	130227			18.99- 78.99	48.83
5.492	5.493 (0.999)	72	135955			20.78- 80.78	50.98

100 Chloroform				CAS #: 67-66-3			
5.557	5.558 (1.010)	83	628337	50.0097	50.010	80.00- 120.00	100.00
5.557	5.559 (1.010)	85	411839			35.00- 95.00	65.54

102 Cyclohexane				CAS #: 110-82-7			
5.657	5.657 (1.029)	84	431351	50.9922	50.992	80.00- 120.00	100.00
5.657	5.656 (1.029)	56	432376			70.31- 130.31	100.24
5.657	5.656 (1.029)	41	240124			25.25- 85.25	55.67

103 1,1,1-Trichloroethane				CAS #: 71-55-6			
5.678	5.677 (1.033)	97	716023	51.1265	51.126	80.00- 120.00	100.00

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET	RANGE	RATIO
					ON-COL	FINAL			
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
103 1,1,1-Trichloroethane (continued)									
5.678	5.677	(1.033)	99	464047			34.84-	94.84	64.81

106 Carbon Tetrachloride					CAS #: 56-23-5				
5.793	5.793	(1.053)	119	760364	49.8434	49.843	80.00-	120.00	100.00
5.793	5.793	(1.053)	117	783404			73.53-	133.53	103.03

113 2,2,4-Trimethylpentane					CAS #: 540-84-1				
5.986	5.984	(1.089)	57	1280419	50.8525	50.852	80.00-	120.00	100.00
5.986	5.984	(1.089)	56	407204			2.59-	62.59	31.80
5.986	5.982	(1.089)	41	357616			0.00-	55.57	27.93

116 Benzene					CAS #: 71-43-2				
6.008	6.008	(0.942)	78	892827	48.1431	48.143	80.00-	120.00	100.00
6.008	6.008	(0.942)	77	215531			0.00-	53.90	24.14

120 1,2-Dichloroethane					CAS #: 107-06-2				
6.101	6.101	(0.956)	62	392562	47.2920	47.292	80.00-	120.00	100.00
6.101	6.101	(0.956)	64	128640			3.07-	63.07	32.77

121 Heptane					CAS #: 142-82-5				
6.151	6.151	(0.964)	71	323927	49.9281	49.928	80.00-	120.00	100.00
6.151	6.151	(0.964)	43	428045			110.59-	170.59	132.14
6.151	6.150	(0.964)	57	300444			64.25-	124.25	92.75

125 Trichloroethene					CAS #: 79-01-6				
6.581	6.581	(1.031)	95	443076	49.9081	49.908	80.00-	120.00	100.00
6.581	6.581	(1.031)	130	497212			81.76-	141.76	112.22
6.581	6.581	(1.031)	97	289357			34.64-	94.64	65.31

127 Methylcyclohexane					CAS #: 108-87-2				
6.674	6.674	(1.214)	83	589375	51.1554	51.155	80.00-	120.00	100.00
6.674	6.674	(1.214)	98	287971			18.58-	78.58	48.86
6.674	6.674	(1.214)	55	397465			37.28-	97.28	67.44

132 1,2-Dichloropropane					CAS #: 78-87-5				
6.817	6.817	(1.068)	63	309667	47.1701	47.170	80.00-	120.00	100.00
6.817	6.817	(1.068)	62	212273			38.79-	98.79	68.55
6.817	6.817	(1.068)	41	165883			23.87-	83.87	53.57

136 1,4-Dioxane					CAS #: 123-91-1				
6.903	6.906	(1.082)	88	237589	50.6810	50.681	80.00-	120.00	100.00
6.903	6.904	(1.082)	58	137360			28.36-	88.36	57.81
6.903	6.903	(1.082)	57	46847			0.00-	49.37	19.72

138 Bromodichloromethane					CAS #: 75-27-4				
7.047	7.046	(1.104)	83	689292	49.8147	49.815	80.00-	120.00	100.00

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
					ON-COL	FINAL		
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====
138 Bromodichloromethane (continued)								
7.047	7.046	(1.104)	85	446147			34.11- 94.11	64.73

144 cis-1,3-Dichloropropene					CAS #: 10061-01-5			
7.419	7.419	(1.163)	75	570985	52.6043	52.604	80.00- 120.00	100.00
7.419	7.419	(1.163)	77	180332			2.33- 62.33	31.58
7.419	7.419	(1.163)	39	266367			16.60- 76.60	46.65

145 4-Methyl-2-pentanone					CAS #: 108-10-1			
7.526	7.526	(1.180)	58	261002	48.8730	48.873	80.00- 120.00	100.00
7.526	7.526	(1.180)	43	627175			214.83- 274.83	240.30
7.526	7.526	(1.180)	85	137176			23.05- 83.05	52.56

147 Toluene					CAS #: 108-88-3			
7.655	7.655	(1.200)	91	1181669	49.0697	49.070	80.00- 120.00	100.00
7.655	7.655	(1.200)	92	681737			27.80- 87.80	57.69

150 trans-1,3-Dichloropropene					CAS #: 10061-02-6			
7.899	7.899	(0.895)	75	513497	51.5813	51.581	80.00- 120.00	100.00
7.899	7.899	(0.895)	77	161033			1.77- 61.77	31.36
7.899	7.899	(0.895)	39	226526			14.97- 74.97	44.11

155 1,1,2-Trichloroethane					CAS #: 79-00-5			
8.057	8.056	(0.912)	97	403274	50.8341	50.834	80.00- 120.00	100.00
8.057	8.056	(0.912)	99	254479			32.71- 92.71	63.10
8.057	8.056	(0.912)	83	341532			55.53- 115.53	84.69

156 Tetrachloroethene					CAS #: 127-18-4			
8.092	8.092	(0.916)	166	727636	50.7618	50.762	80.00- 120.00	100.00
8.092	8.092	(0.916)	129	482217			36.14- 96.14	66.27
8.092	8.092	(0.916)	131	465134			34.69- 94.69	63.92

158 2-Hexanone					CAS #: 591-78-6			
8.214	8.214	(0.930)	58	344221	53.4633	53.463	80.00- 120.00	100.00
8.214	8.214	(0.930)	43	606612			146.83- 206.83	176.23
8.214	8.215	(0.930)	100	91998			0.00- 55.52	26.73

160 Dibromochloromethane					CAS #: 124-48-1			
8.365	8.367	(0.947)	129	855479	51.9940	51.994	80.00- 120.00	100.00
8.365	8.367	(0.947)	127	655376			47.05- 107.05	76.61

161 1,2-Dibromoethane (EDB)					CAS #: 106-93-4			
8.479	8.479	(0.960)	107	678855	50.0328	50.033	80.00- 120.00	100.00
8.479	8.479	(0.960)	109	643772			65.51- 125.51	94.83

165 Chlorobenzene					CAS #: 108-90-7			
8.859	8.859	(1.003)	112	998983	49.7555	49.756	80.00- 120.00	100.00

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET	RANGE	RATIO
					ON-COL	FINAL			
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
165 Chlorobenzene (continued)									
8.859	8.859	(1.003)	114	321349			2.14-	62.14	32.17
8.852	8.852	(1.002)	77	530480			23.42-	83.42	53.10

167 Ethyl Benzene					CAS #: 100-41-4				
8.902	8.902	(1.008)	106	512553	50.7999	50.800	80.00-	120.00	100.00
8.902	8.902	(1.008)	91	1535903			268.52-	328.52	299.66

169 m,p-Xylene					CAS #: 108-38-3				
8.995	8.997	(1.019)	106	625551	49.8627	49.863	80.00-	120.00	100.00
8.995	8.996	(1.019)	91	1220995			161.75-	221.75	195.19

171 o-Xylene					CAS #: 95-47-6				
9.339	9.339	(1.058)	106	603596	50.7762	50.776	80.00-	120.00	100.00
9.339	9.339	(1.058)	91	1201940			170.98-	230.98	199.13

172 Styrene					CAS #: 100-42-5				
9.360	9.360	(1.060)	104	1004384	53.2866	53.287	80.00-	120.00	100.00
9.360	9.360	(1.060)	78	458814			16.10-	76.10	45.68

174 Bromoform					CAS #: 75-25-2				
9.568	9.568	(1.084)	173	1029898	54.4793	54.479	80.00-	120.00	100.00
9.568	9.568	(1.084)	171	524916			21.32-	81.32	50.97

175 Cumene					CAS #: 98-82-8				
9.625	9.625	(1.090)	105	1830184	50.7993	50.799	80.00-	120.00	100.00
9.625	9.626	(1.090)	120	521446			0.00-	58.56	28.49
9.625	9.625	(1.090)	51	138985			0.00-	37.61	7.59

181 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5				
9.948	9.948	(1.127)	83	857417	50.5380	50.538	80.00-	120.00	100.00
9.948	9.948	(1.127)	85	558993			35.03-	95.03	65.19

182 Propylbenzene					CAS #: 103-65-1				
9.976	9.974	(1.130)	91	2082430	51.1496	51.150	80.00-	120.00	100.00
9.976	9.976	(1.130)	120	549061			0.00-	56.23	26.37
9.976	9.976	(1.130)	105	78242			0.00-	33.80	3.76

188 4-Ethyltoluene					CAS #: 622-96-8				
10.069	10.069	(1.140)	120	608527	53.3644	53.364	80.00-	120.00	100.00
10.069	10.069	(1.140)	105	1853867			275.42-	335.42	304.65

190 1,3,5-Trimethylbenzene					CAS #: 108-67-8				
10.120	10.119	(1.146)	120	834173	52.6580	52.658	80.00-	120.00	100.00
10.120	10.119	(1.146)	105	1640106			165.32-	225.32	196.61

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
					ON-COL	FINAL		
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====
196 1,2,4-Trimethylbenzene CAS #: 95-63-6								
10.442	10.444	(1.183)	120	755006	53.3355	53.336	80.00- 120.00	100.00
10.442	10.443	(1.183)	105	1529317			176.48- 236.48	202.56

208 1,3-Dichlorobenzene CAS #: 541-73-1								
10.736	10.735	(1.216)	146	1231301	51.2188	51.219	80.00- 120.00	100.00
10.736	10.735	(1.216)	148	795210			34.93- 94.93	64.58
10.736	10.735	(1.216)	111	433462			5.13- 65.13	35.20

209 1,4-Dichlorobenzene CAS #: 106-46-7								
10.821	10.820	(1.226)	146	1263517	51.4435	51.444	80.00- 120.00	100.00
10.821	10.821	(1.226)	148	814330			34.11- 94.11	64.45
10.821	10.817	(1.226)	111	430578			4.00- 64.00	34.08

212 alpha-Chlorotoluene CAS #: 100-44-7								
10.936	10.936	(1.238)	91	1427331	56.0385	56.038	80.00- 120.00	100.00
10.936	10.936	(1.238)	126	353681			0.00- 55.13	24.78

214 1,2-Dichlorobenzene CAS #: 95-50-1								
11.151	11.148	(1.263)	146	1160293	50.2160	50.216	80.00- 120.00	100.00
11.151	11.149	(1.263)	148	746354			34.17- 94.17	64.32
11.151	11.146	(1.263)	111	419795			6.50- 66.50	36.18

226 1,2,4-Trichlorobenzene CAS #: 120-82-1								
12.562	12.541	(1.423)	180	1115868	42.4625	42.462	80.00- 120.00	100.00
12.562	12.541	(1.423)	182	1062811			65.44- 125.44	95.25

227 Hexachlorobutadiene CAS #: 87-68-3								
12.648	12.620	(1.432)	225	971495	41.3568	41.357	80.00- 120.00	100.00
12.648	12.620	(1.432)	223	604967			32.93- 92.93	62.27

228 Naphthalene CAS #: 91-20-3								
12.834	12.806	(1.453)	128	214977	4.75364	4.754	80.00- 120.00	100.00
12.834	12.806	(1.453)	127	27977			0.00- 43.59	13.01

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17061311.d
Lab Smp Id: ICV
Analysis Type: VOA
Quant Type: ISTD
Operator: kk
Method File: /chem/msd17.i/13jun18.b/178q0613a.m
Misc Info: 50ppbv (200ppbv)

Calibration Date: 14-JUN-2018
Calibration Time: 00:02
Client Smp ID: ICV
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	162788	97673	227903	161877	-0.56
123 1,4-Difluorobenze	570167	342100	798234	584845	2.57
163 Chlorobenzene-d5	520088	312053	728123	509281	-2.08

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.50	5.17	5.83	5.50	0.00
123 1,4-Difluorobenze	6.38	6.05	6.71	6.38	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name: Client SDG: 13jun18
 Sample Matrix: GAS Fraction: VOA
 Lab Smp Id: ICV Client Smp ID: ICV
 Level: LOW Operator: kk
 Data Type: MS DATA SampleType: ICV
 SpikeList File: AT12.spk Quant Type: ISTD
 Sublist File: AT12.sub
 Method File: /chem/msd17.i/13jun18.b/178q0613a.m
 Misc Info: 50ppbv (200ppbv)

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
9 Propylene	50.000	48.789	97.58	60-140
11 Freon 12	50.000	53.667	107.33	70-130
15 Freon 114	50.000	53.023	106.05	70-130
17 Chloromethane	50.000	55.708	111.42	70-130
23 Butane	50.000	44.514	89.03	60-140
25 Vinyl Chloride	50.000	50.428	100.86	70-130
26 1,3-Butadiene	50.000	49.585	99.17	70-130
29 Bromomethane	50.000	52.285	104.57	70-130
30 Chloroethane	50.000	52.587	105.17	70-130
31 Isopentane	50.000	50.295	100.59	60-140
35 Freon 11	50.000	51.654	103.31	70-130
42 Ethanol	50.000	51.747	103.49	70-130
49 Freon 113	50.000	50.920	101.84	70-130
50 1,1-Dichloroethene	50.000	50.047	100.09	70-130
52 Acetone	50.000	47.085	94.17	70-130
56 Carbon Disulfide	50.000	50.520	101.04	70-130
57 2-Propanol	50.000	50.865	101.73	70-130
58 3-Chloropropene	50.000	52.459	104.92	70-130
66 Methylene Chloride	50.000	49.946	99.89	70-130
72 Methyl tert-butyl	50.000	51.460	102.92	70-130
73 trans-1,2-Dichloro	50.000	52.239	104.48	70-130
78 Hexane	50.000	49.498	99.00	70-130
82 1,1-Dichloroethane	50.000	48.644	97.29	70-130
86 Vinyl Acetate	50.000	50.443	100.89	60-140
91 cis-1,2-Dichloroet	50.000	43.629	87.26	70-130
92 2-Butanone	50.000	50.682	101.36	70-130
99 Tetrahydrofuran	50.000	48.323	96.65	70-130
100 Chloroform	50.000	50.010	100.02	70-130
103 1,1,1-Trichloroeth	50.000	51.126	102.25	70-130
106 Carbon Tetrachlori	50.000	49.843	99.69	70-130
102 Cyclohexane	50.000	50.992	101.98	70-130
113 2,2,4-Trimethylpen	50.000	50.852	101.71	70-130
116 Benzene	50.000	48.143	96.29	70-130

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
120 1,2-Dichloroethane	50.000	47.292	94.58	70-130
121 Heptane	50.000	49.928	99.86	70-130
125 Trichloroethene	50.000	49.908	99.82	70-130
127 Methylcyclohexane	50.000	51.155	102.31	60-140
132 1,2-Dichloropropan	50.000	47.170	94.34	70-130
136 1,4-Dioxane	50.000	50.681	101.36	70-130
138 Bromodichlorometha	50.000	49.815	99.63	70-130
144 cis-1,3-Dichloropr	50.000	52.604	105.21	70-130
145 4-Methyl-2-pentano	50.000	48.873	97.75	70-130
147 Toluene	50.000	49.070	98.14	70-130
150 trans-1,3-Dichloro	50.000	51.581	103.16	70-130
155 1,1,2-Trichloroeth	50.000	50.834	101.67	70-130
156 Tetrachloroethene	50.000	50.762	101.52	70-130
158 2-Hexanone	50.000	53.463	106.93	70-130
160 Dibromochlorometha	50.000	51.994	103.99	70-130
161 1,2-Dibromoethane	50.000	50.033	100.07	70-130
165 Chlorobenzene	50.000	49.756	99.51	70-130
167 Ethyl Benzene	50.000	50.800	101.60	70-130
169 m,p-Xylene	50.000	49.863	99.73	70-130
171 o-Xylene	50.000	50.776	101.55	70-130
172 Styrene	50.000	53.287	106.57	70-130
174 Bromoform	50.000	54.479	108.96	70-130
175 Cumene	50.000	50.799	101.60	70-130
181 1,1,2,2-Tetrachlor	50.000	50.538	101.08	70-130
182 Propylbenzene	50.000	51.150	102.30	70-130
188 4-Ethyltoluene	50.000	53.364	106.73	70-130
190 1,3,5-Trimethylben	50.000	52.658	105.32	70-130
196 1,2,4-Trimethylben	50.000	53.336	106.67	70-130
208 1,3-Dichlorobenzen	50.000	51.219	102.44	70-130
209 1,4-Dichlorobenzen	50.000	51.444	102.89	70-130
212 alpha-Chlorotoluen	50.000	56.038	112.08	70-130
214 1,2-Dichlorobenzen	50.000	50.216	100.43	70-130
226 1,2,4-Trichloroben	50.000	42.462	84.92	70-130
227 Hexachlorobutadien	50.000	41.357	82.71	70-130
228 Naphthalene	5.000	4.754	95.07	60-140

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
\$ 117 1,2-Dichloroethane	25.000	26.204	104.81	70-130
\$ 146 Toluene-d8	25.000	24.934	99.74	70-130
\$ 177 4-Bromofluorobenze	25.000	25.352	101.41	70-130

Data File: /chem/msd17.i/13jun18.b/17061311.d

Date : 14-JUN-2018 12:04

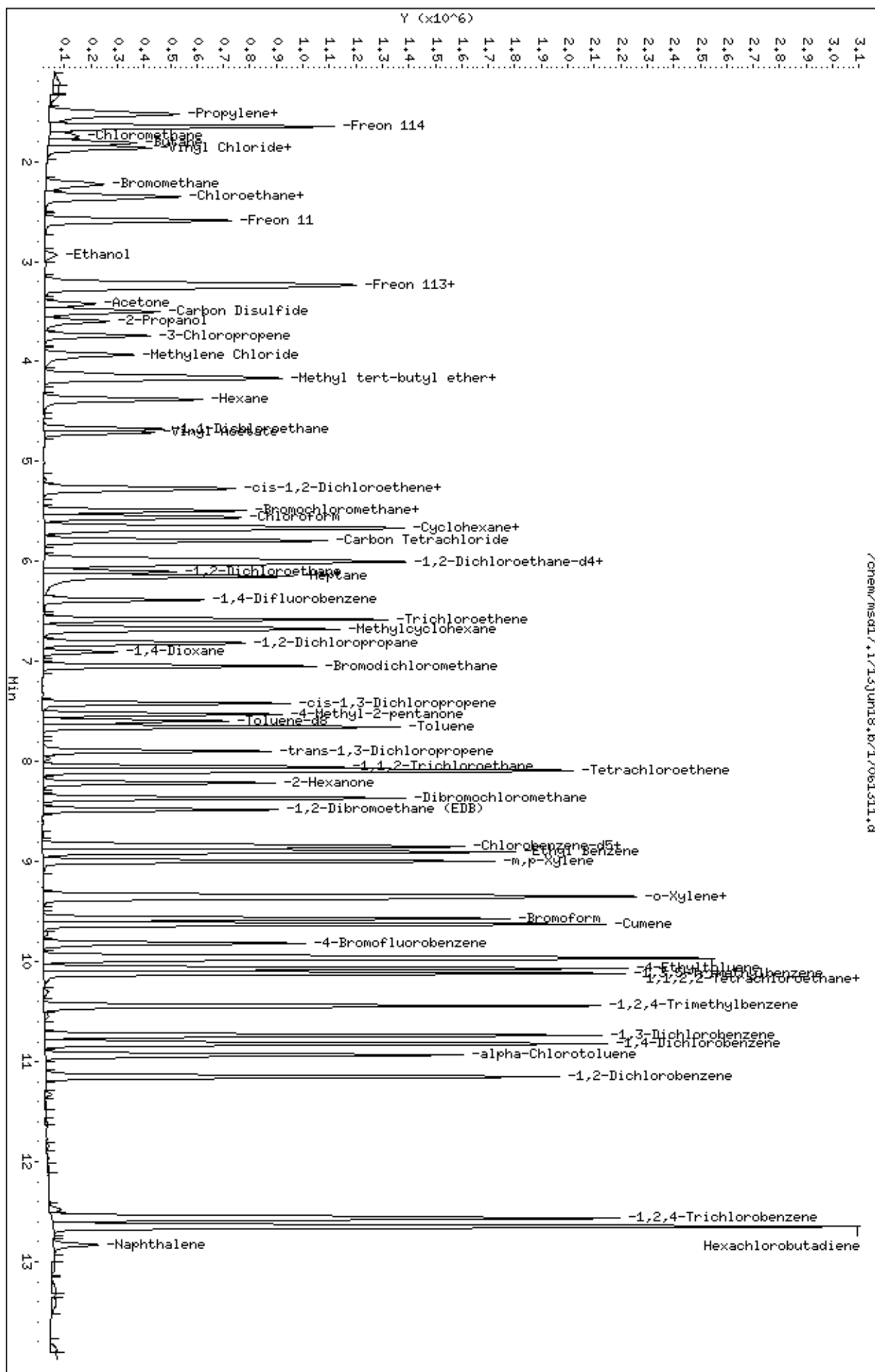
Client ID: ICV

Sample Info: 50mL #3018-297

Page 1

Column phase: RTX-624

Instrument: msd17.i
Operator: KK
Column diameter: 0.25



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

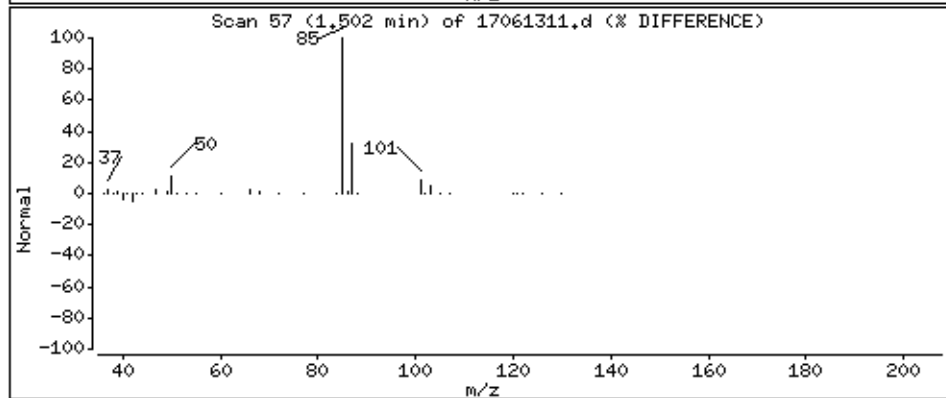
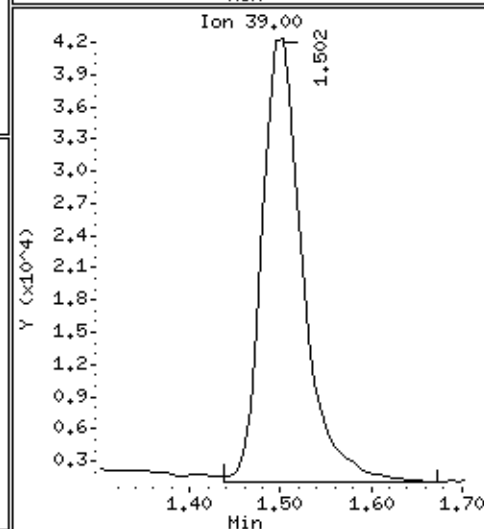
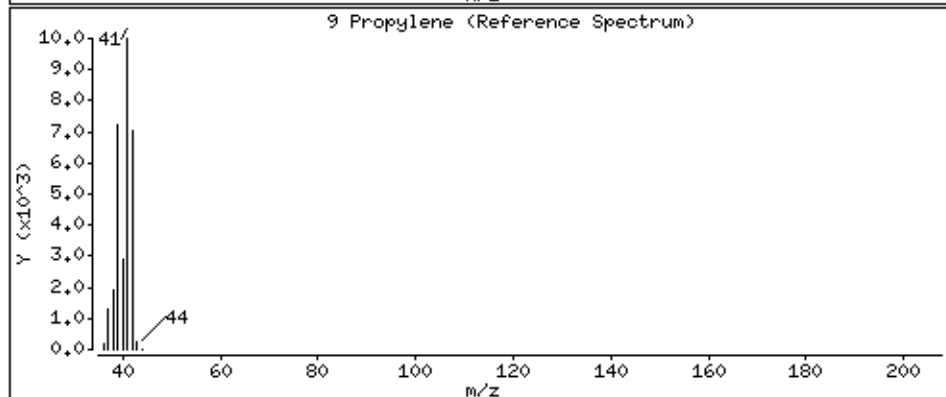
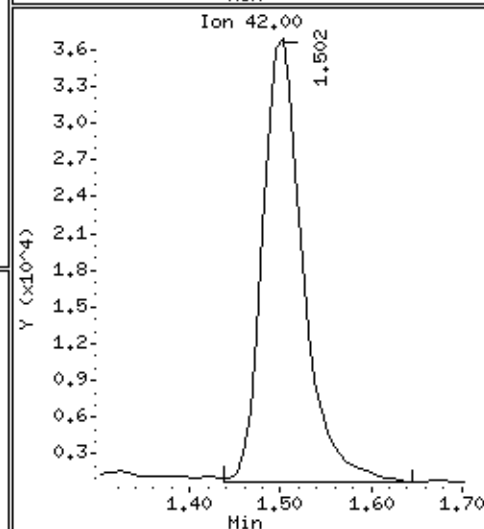
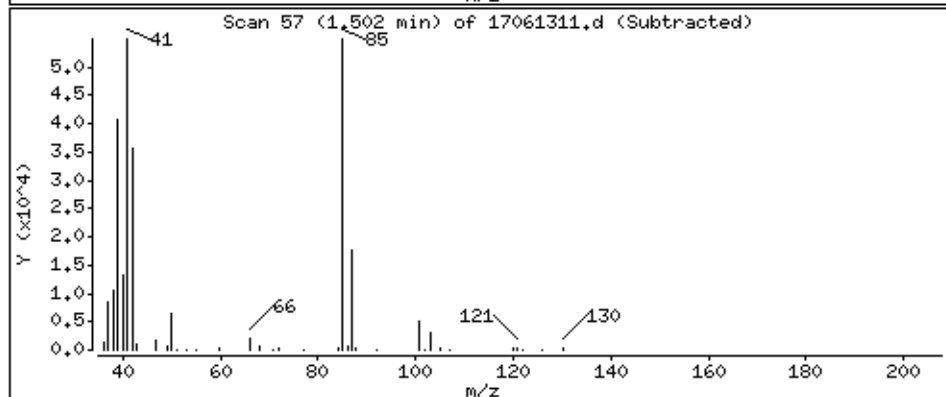
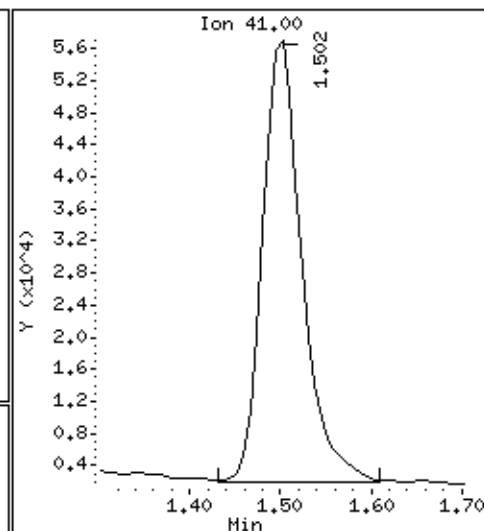
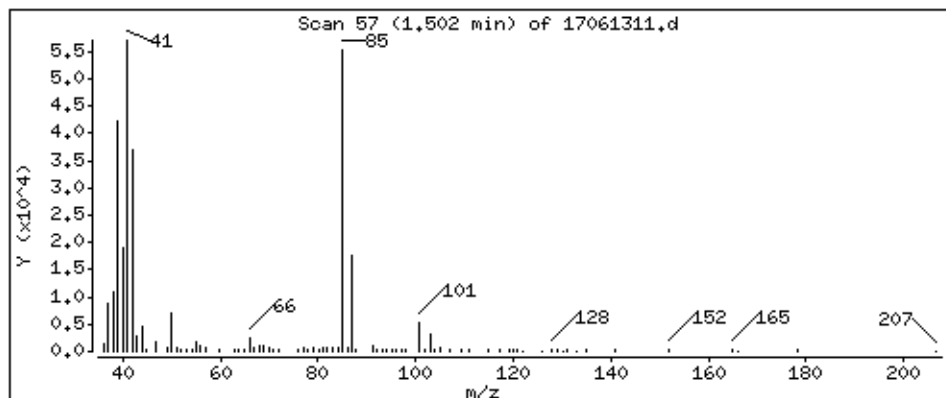
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

9 Propylene

Concentration: 48,789 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

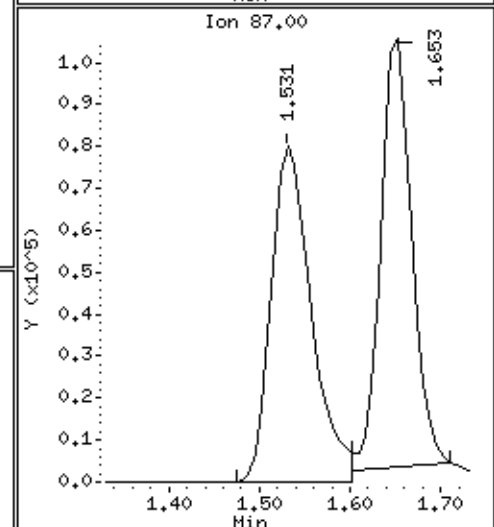
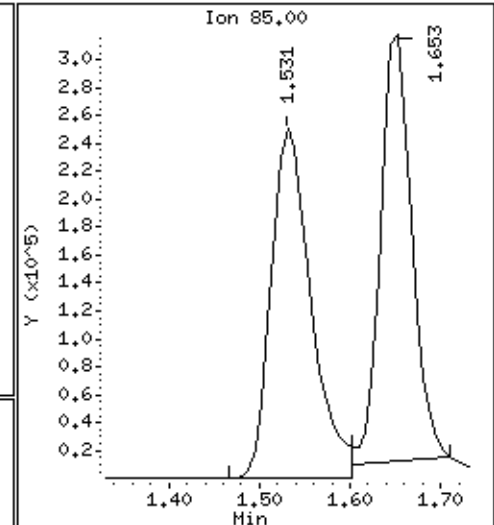
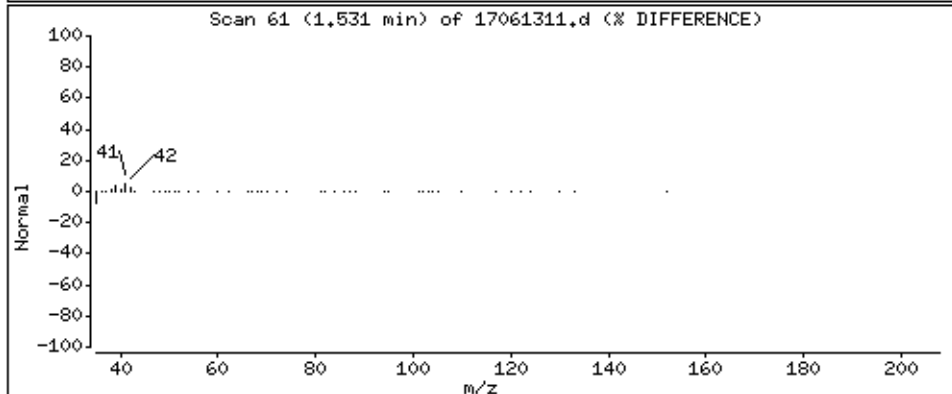
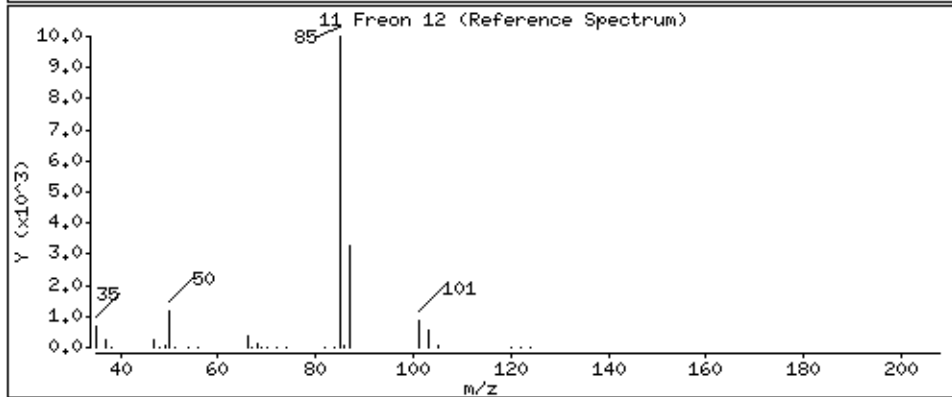
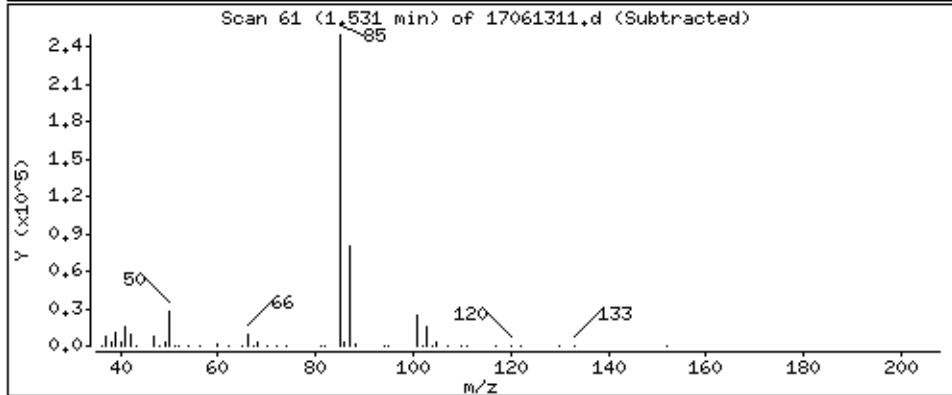
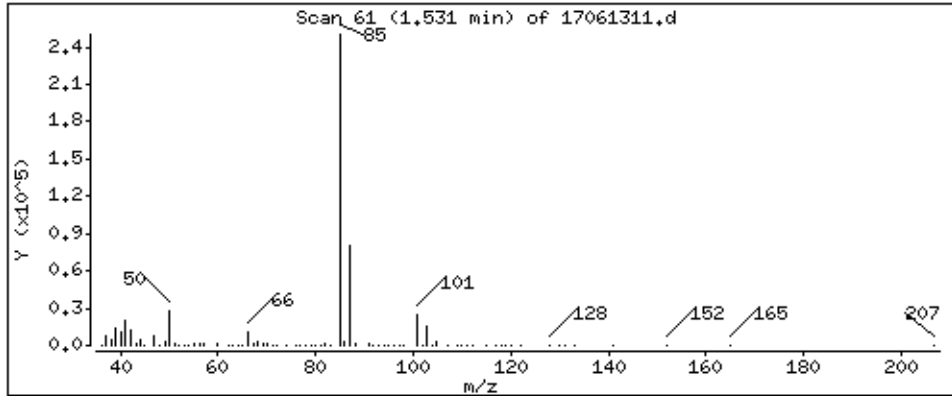
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

11 Freon 12

Concentration: 53,667 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

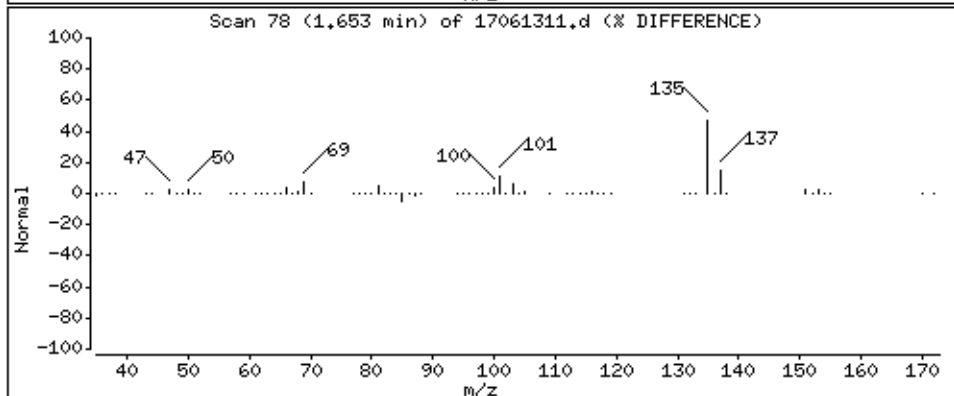
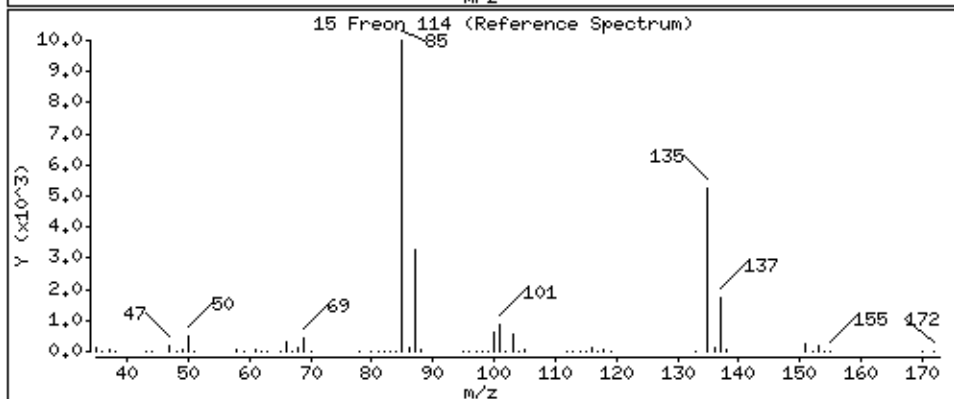
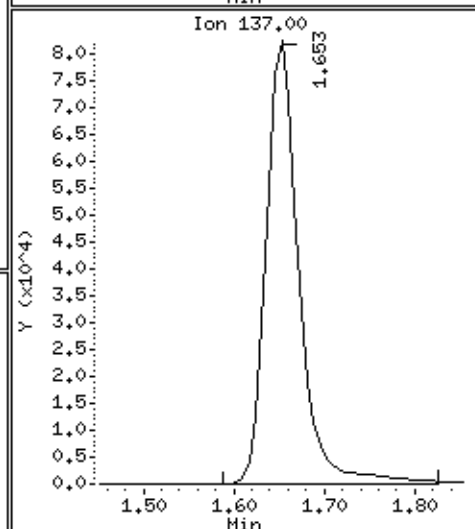
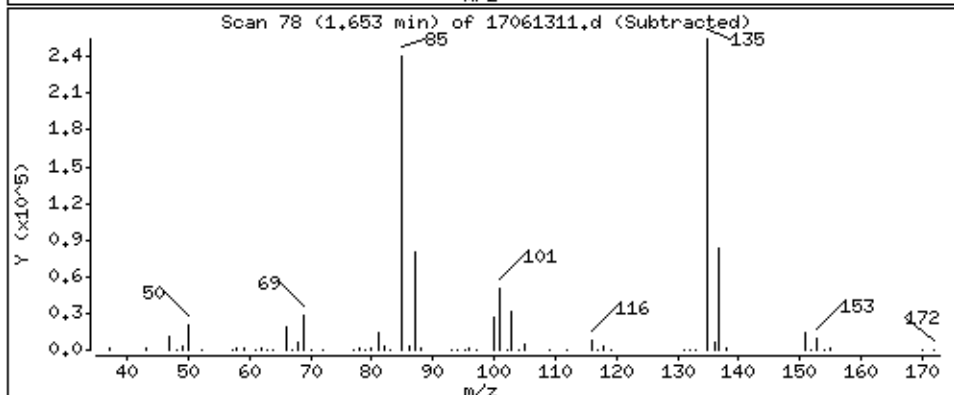
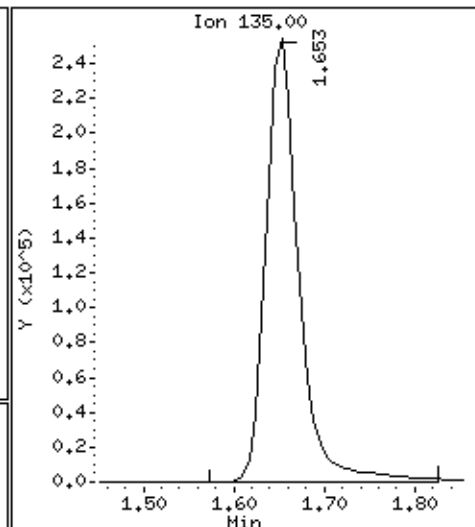
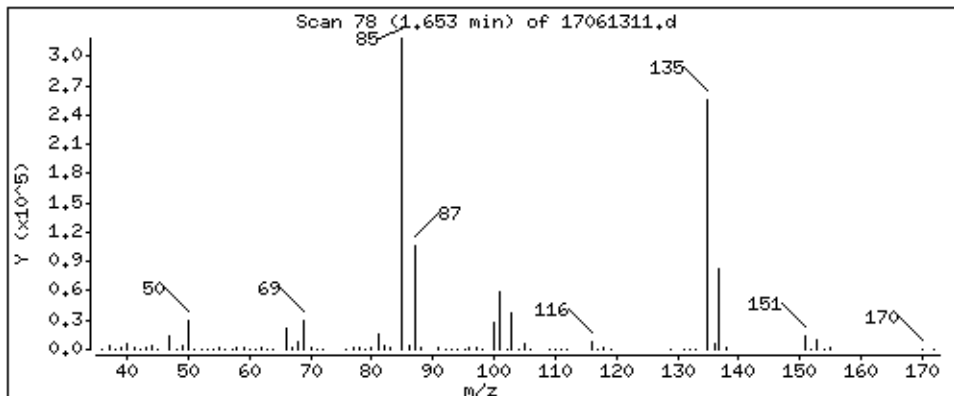
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

15 Freon 114

Concentration: 53.023 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

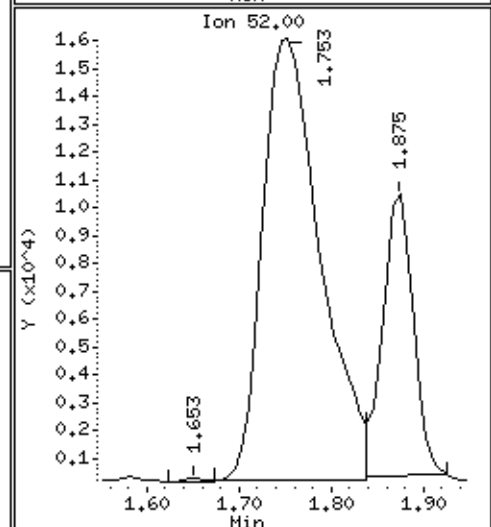
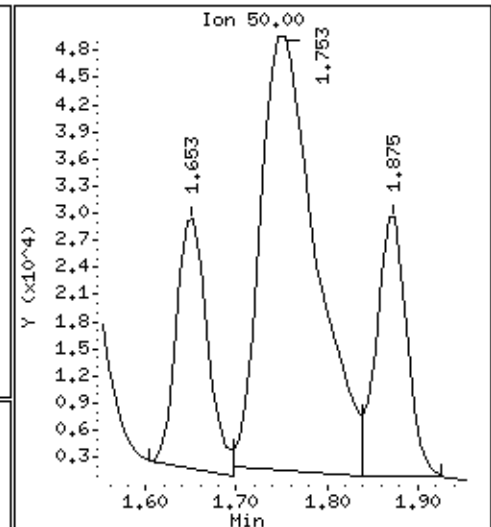
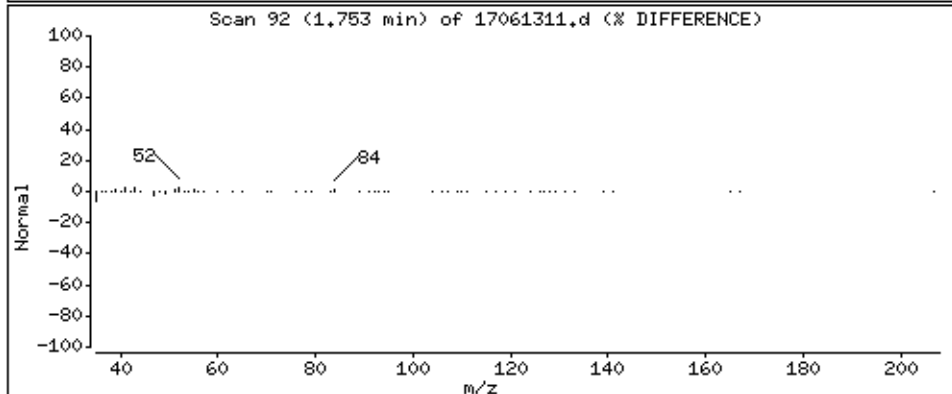
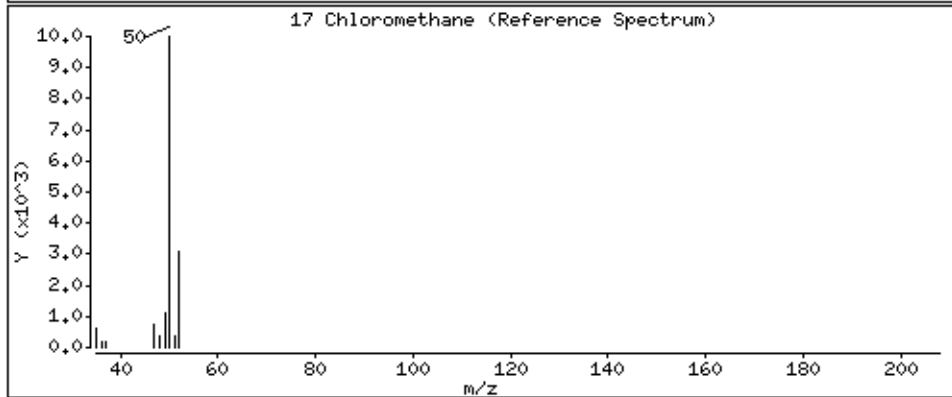
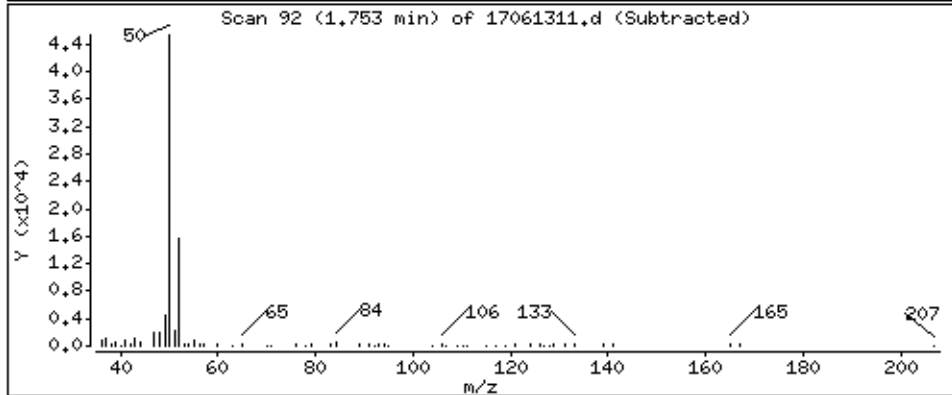
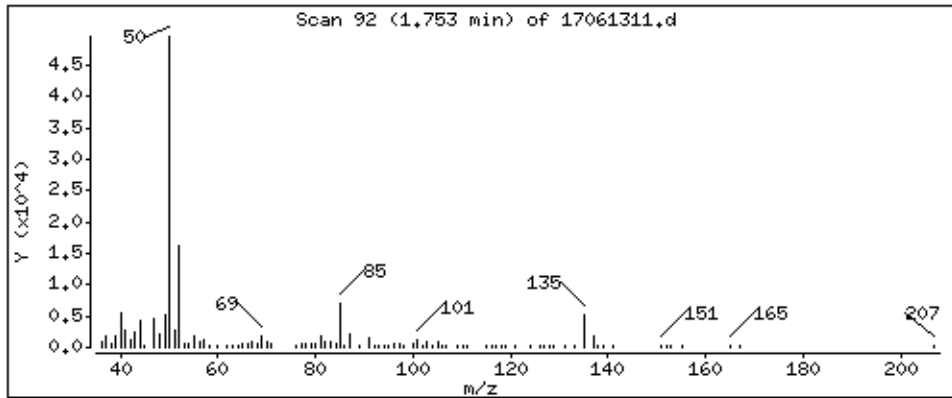
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

17 Chloromethane

Concentration: 55,708 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

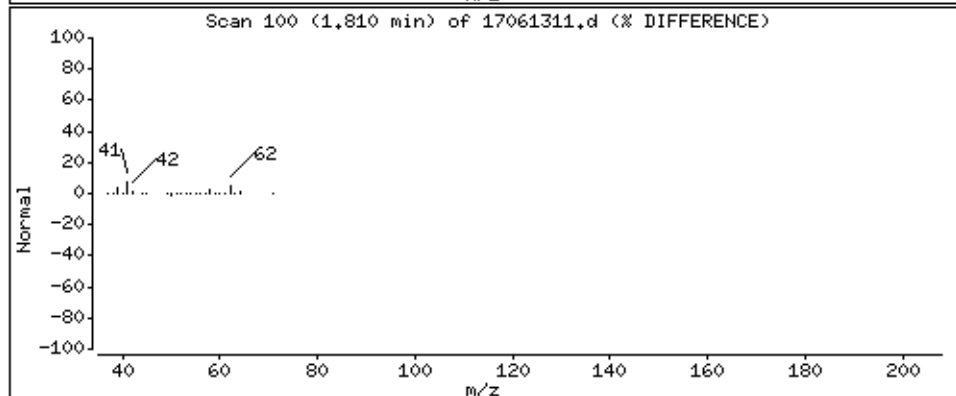
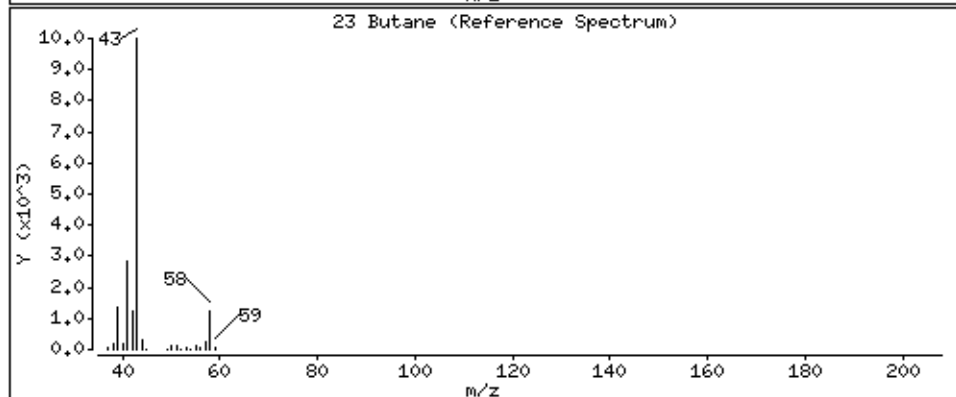
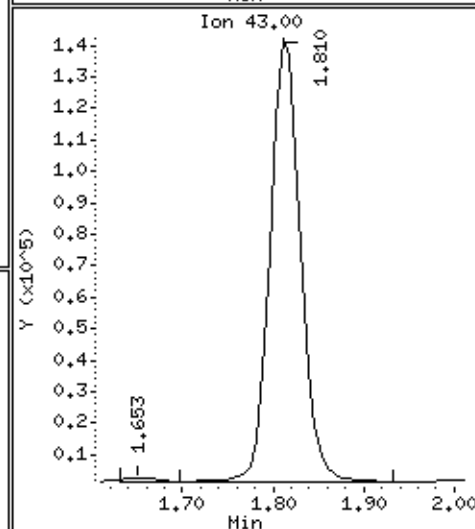
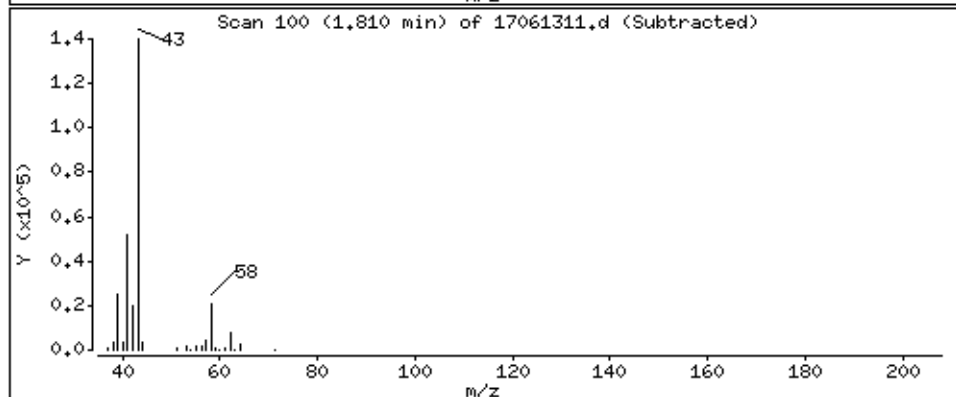
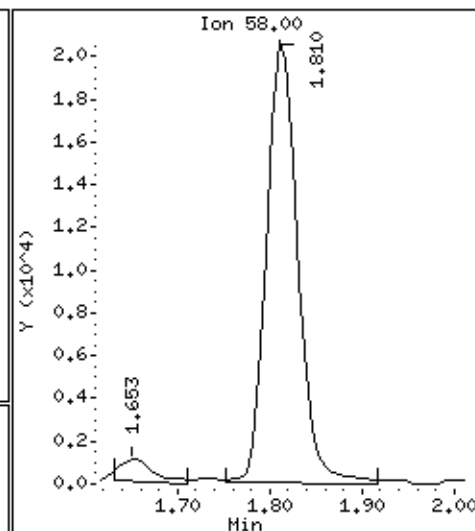
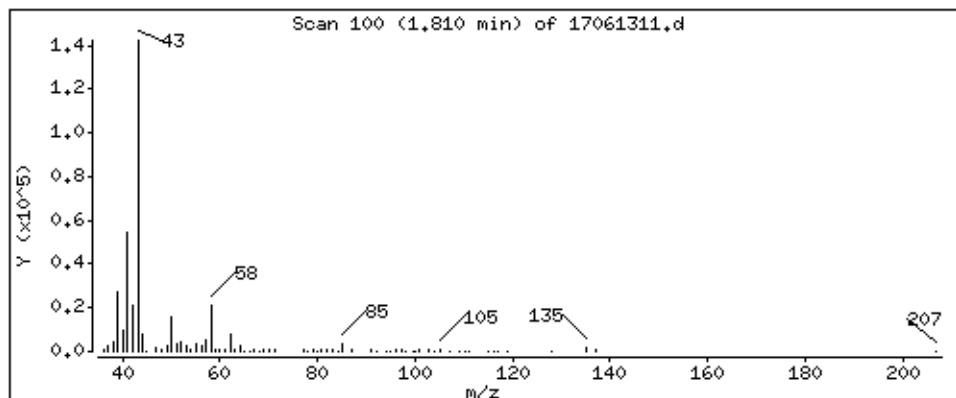
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

23 Butane

Concentration: 44,514 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

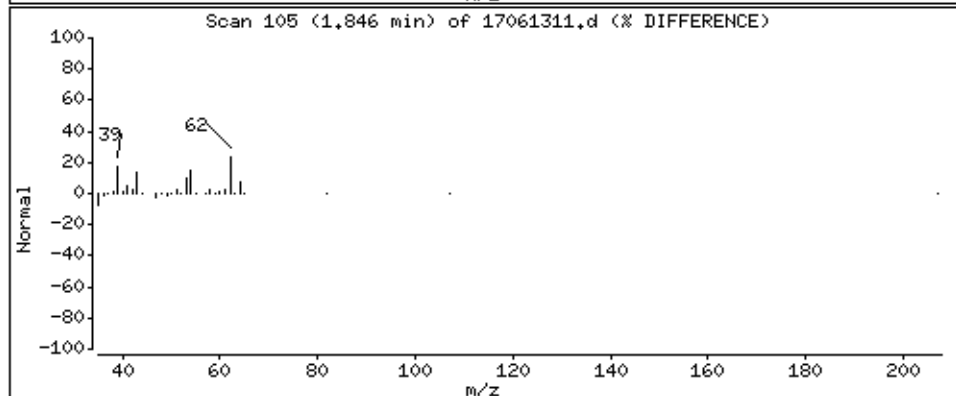
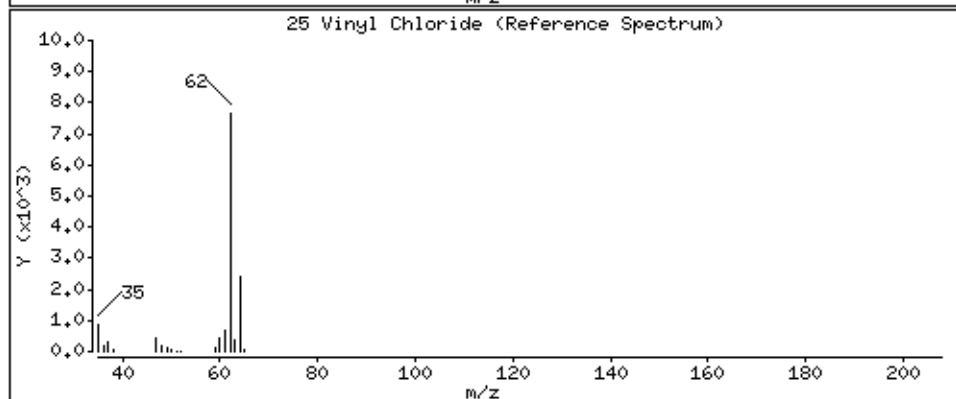
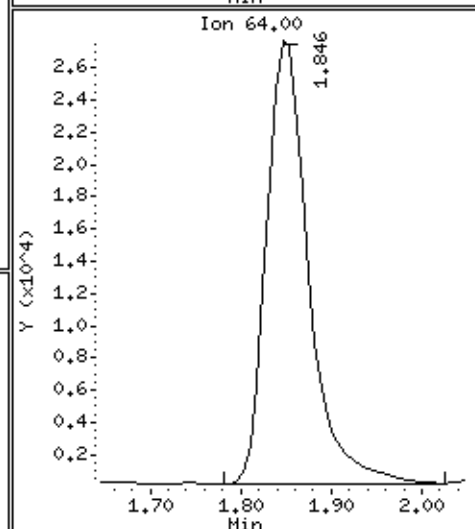
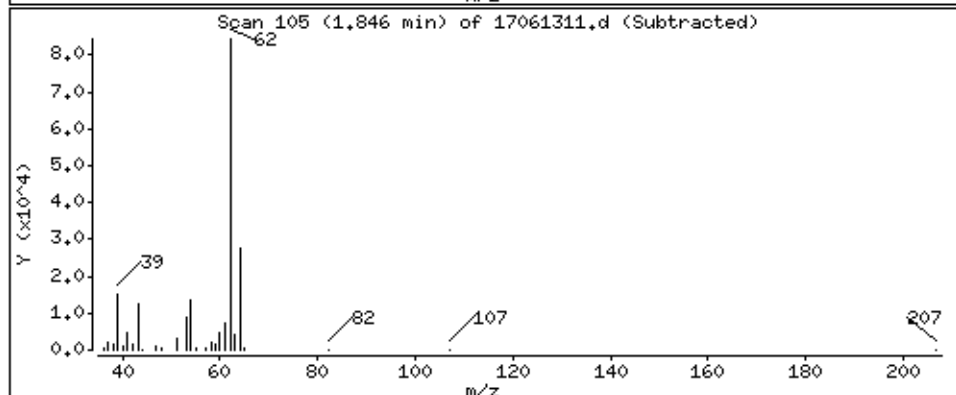
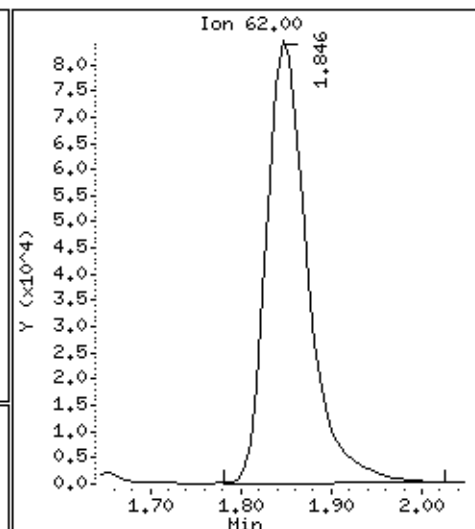
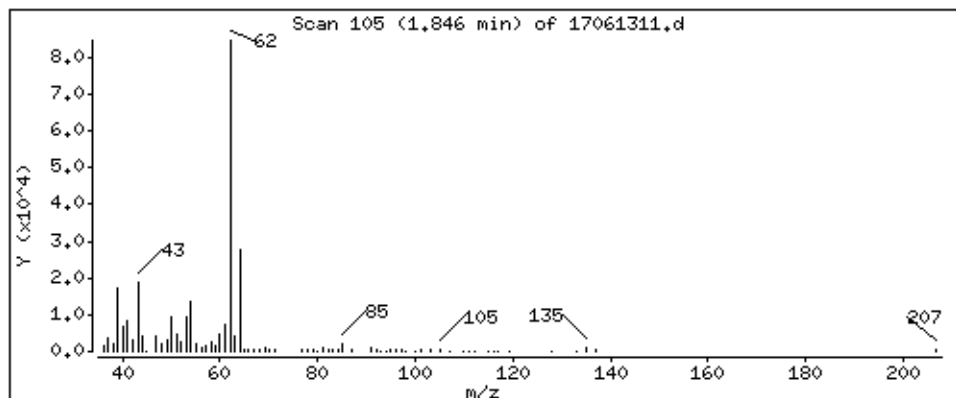
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

25 Vinyl Chloride

Concentration: 50.428 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

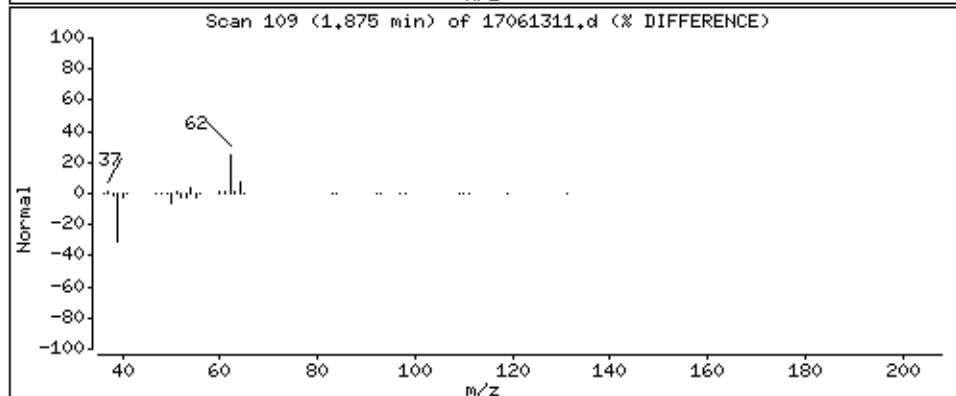
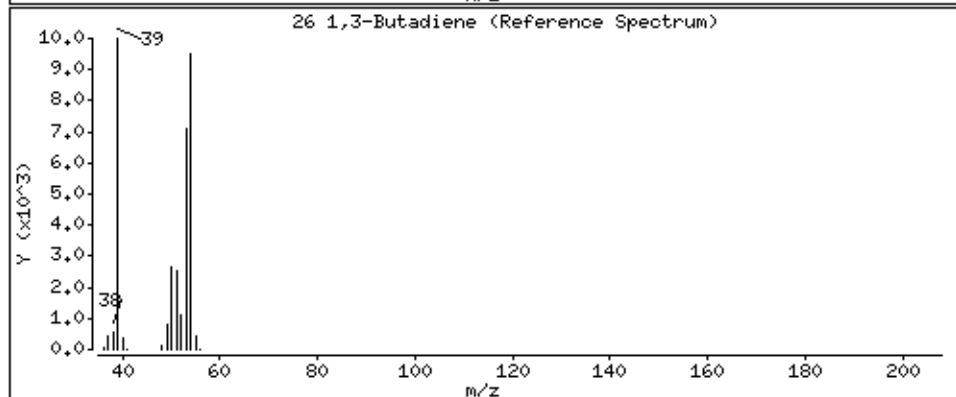
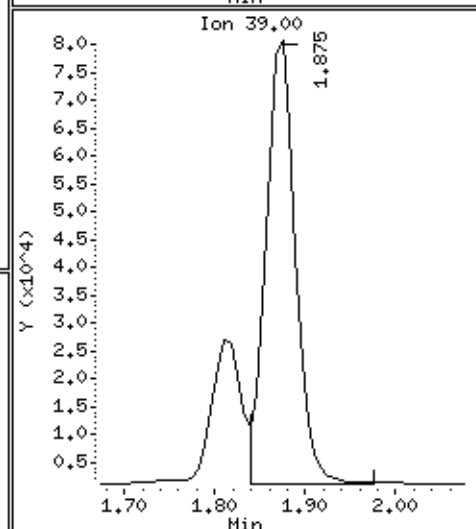
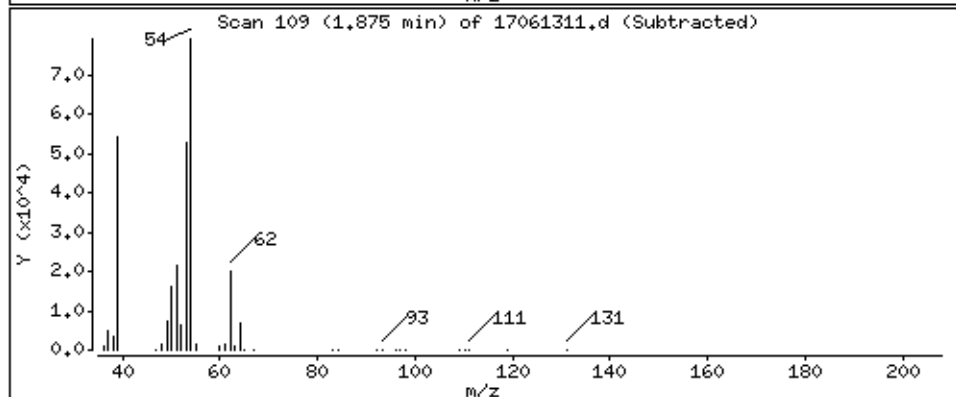
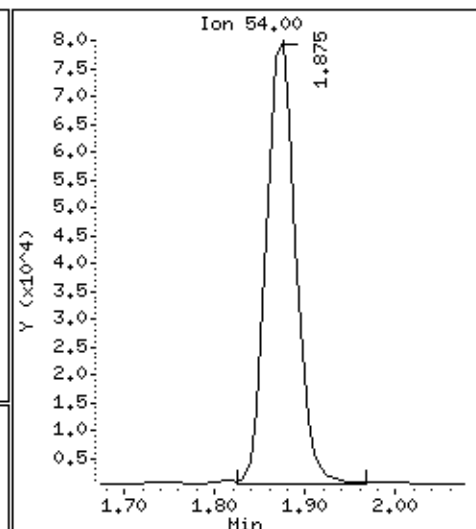
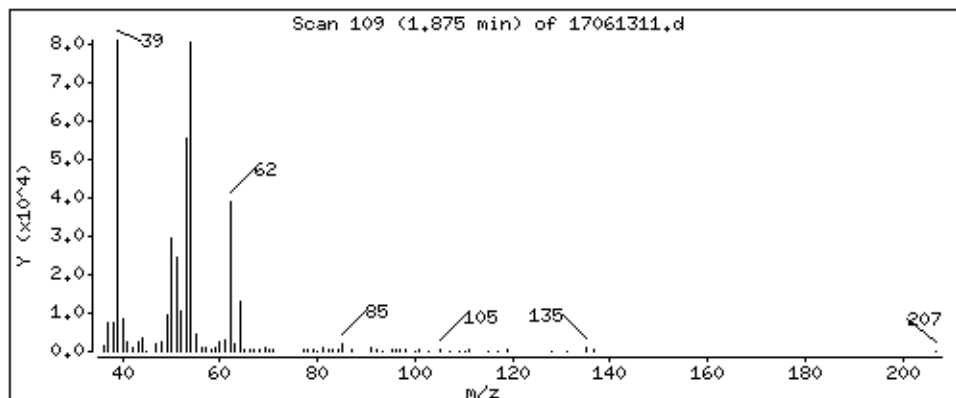
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

26 1,3-Butadiene

Concentration: 49,585 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

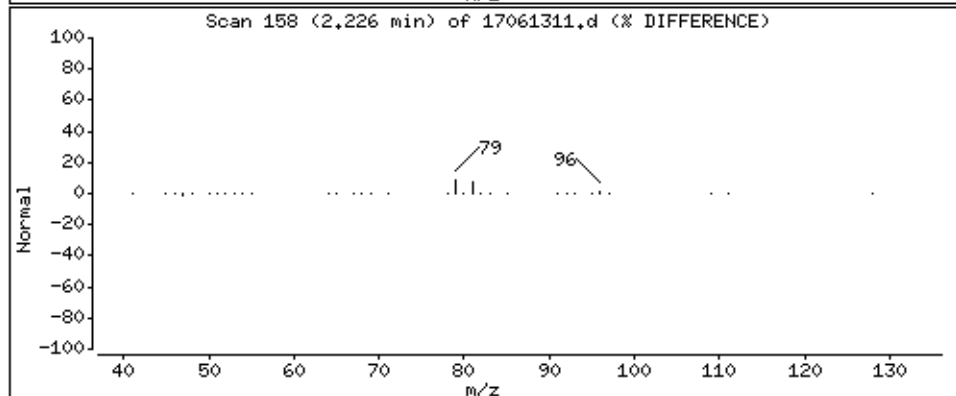
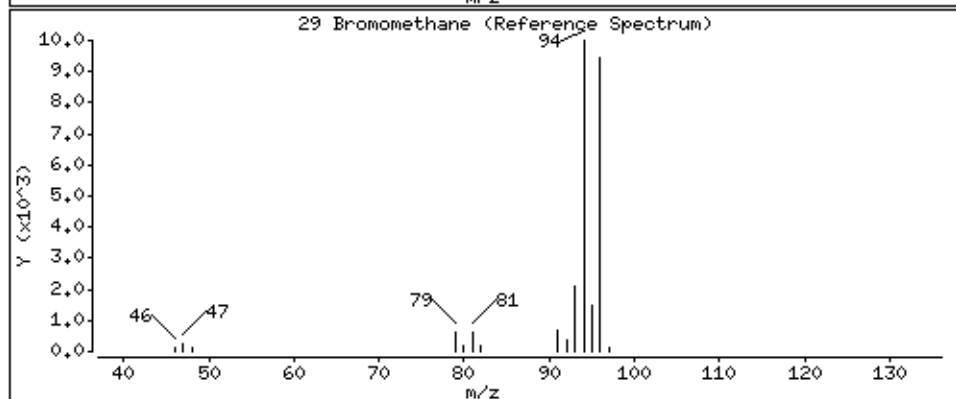
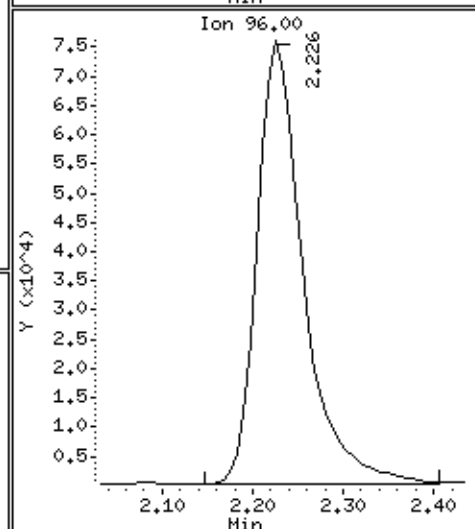
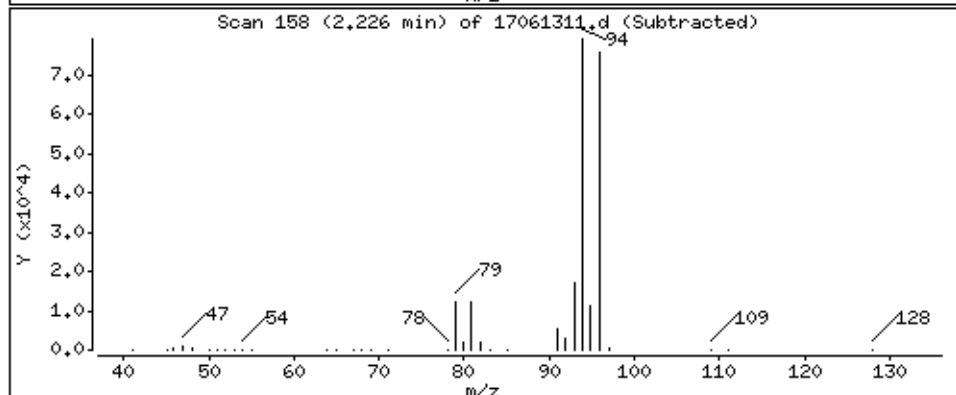
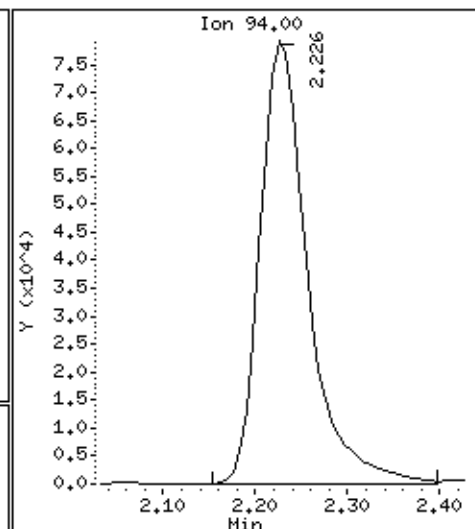
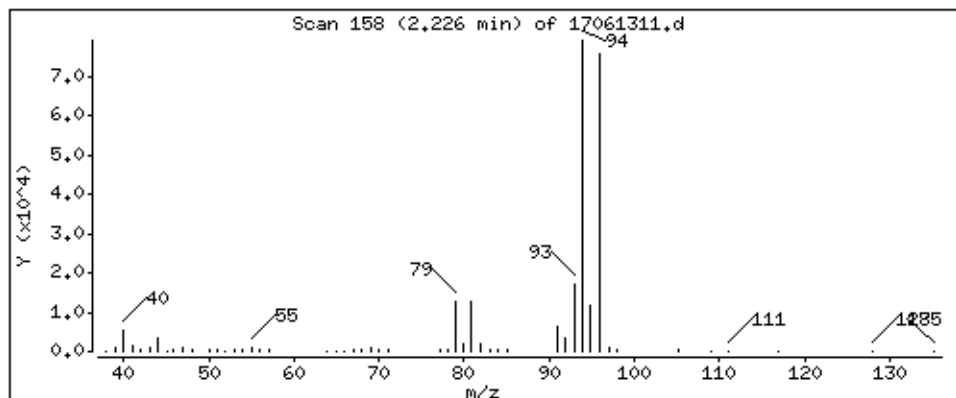
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

29 Bromomethane

Concentration: 52,285 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

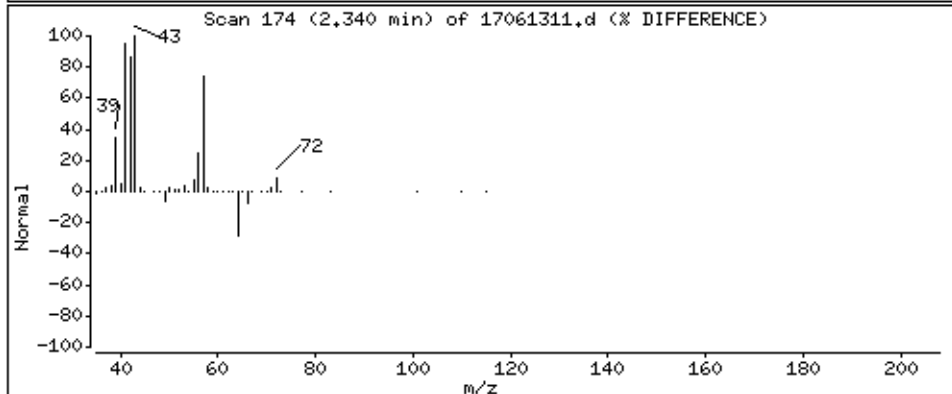
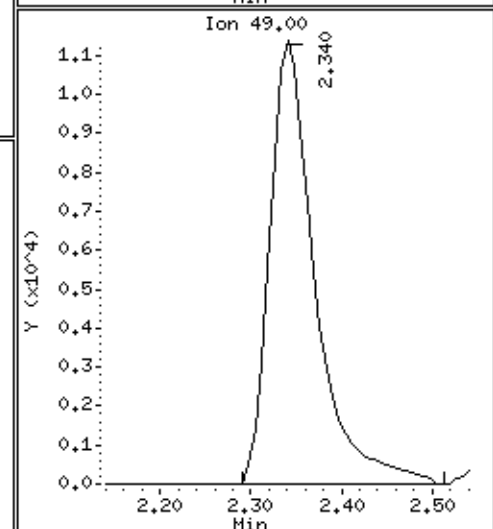
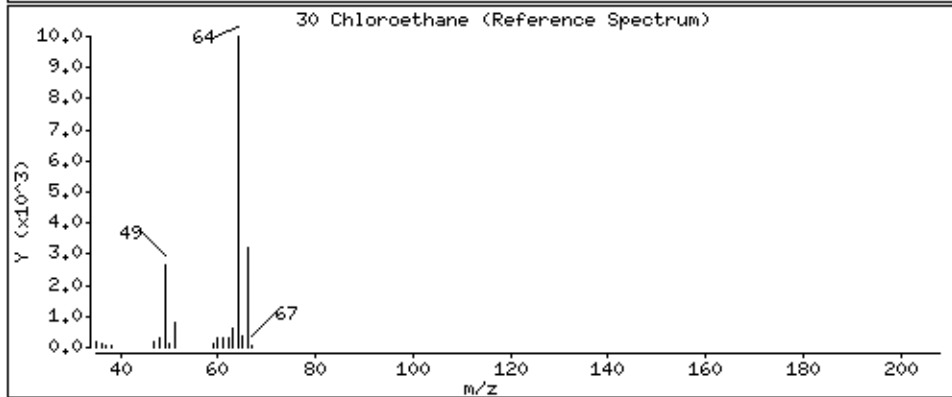
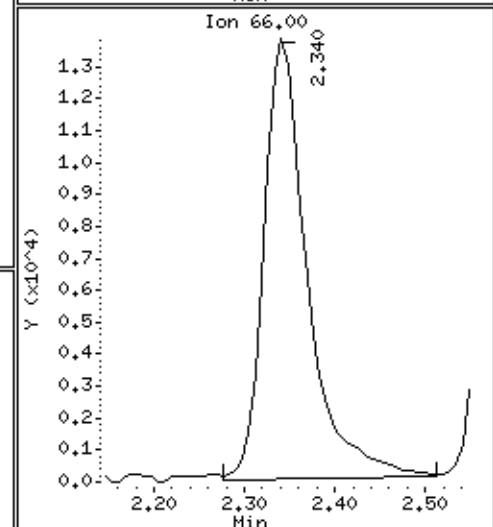
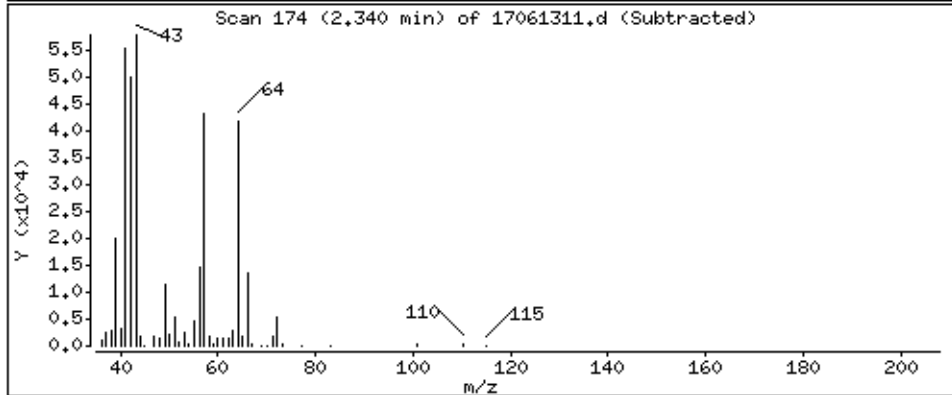
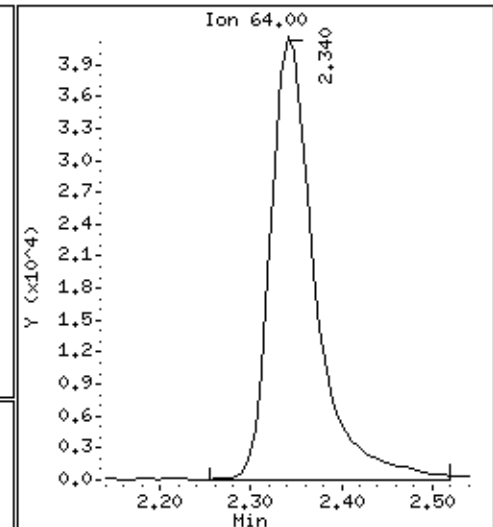
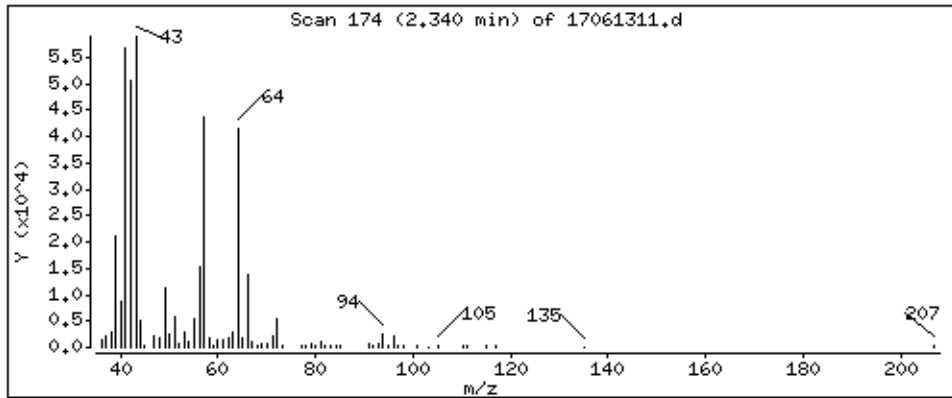
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

30 Chloroethane

Concentration: 52,587 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

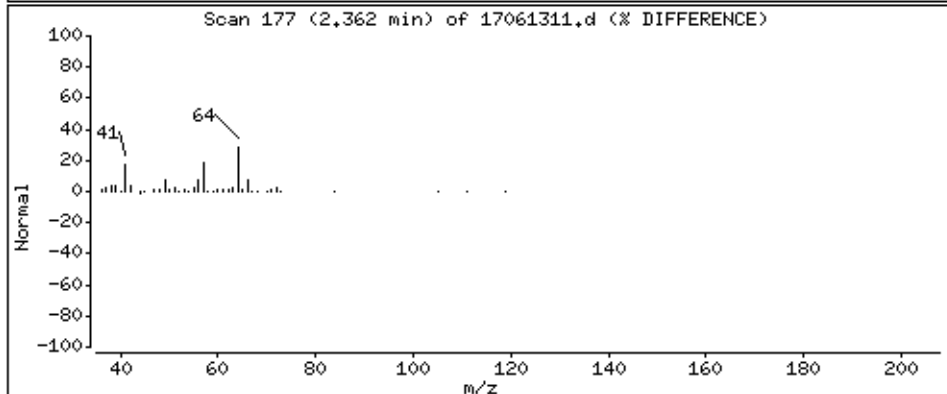
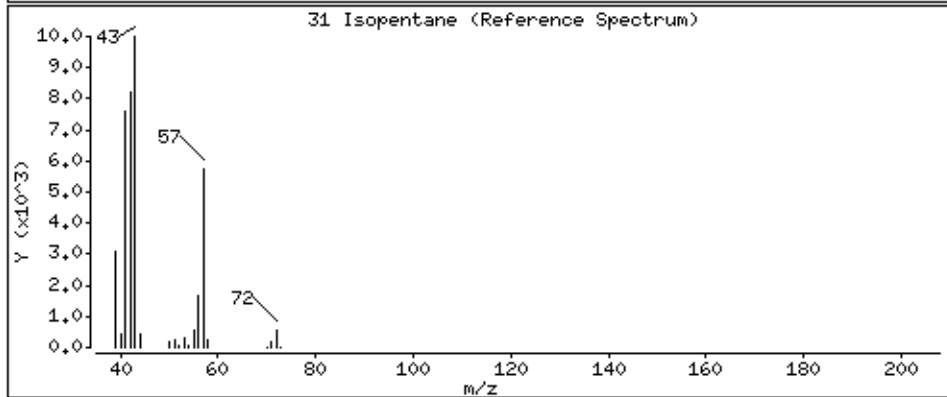
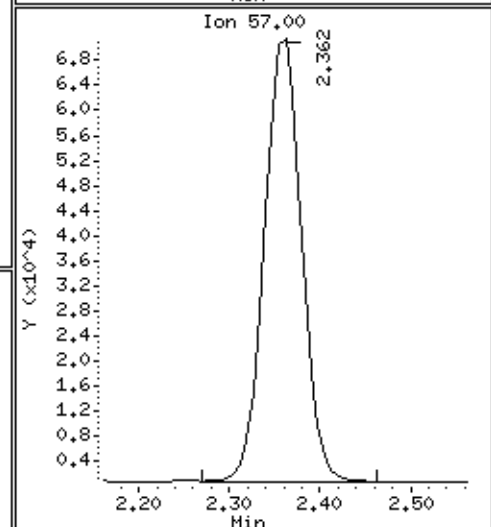
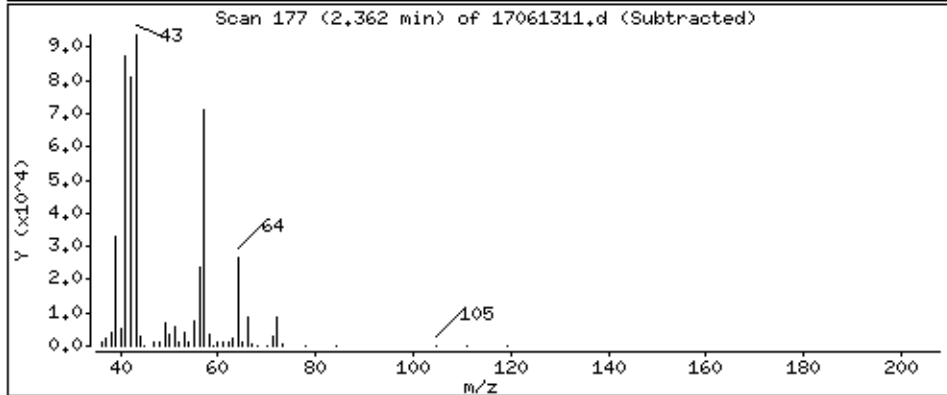
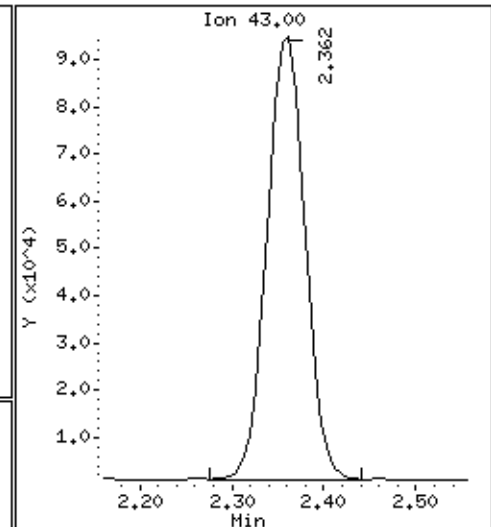
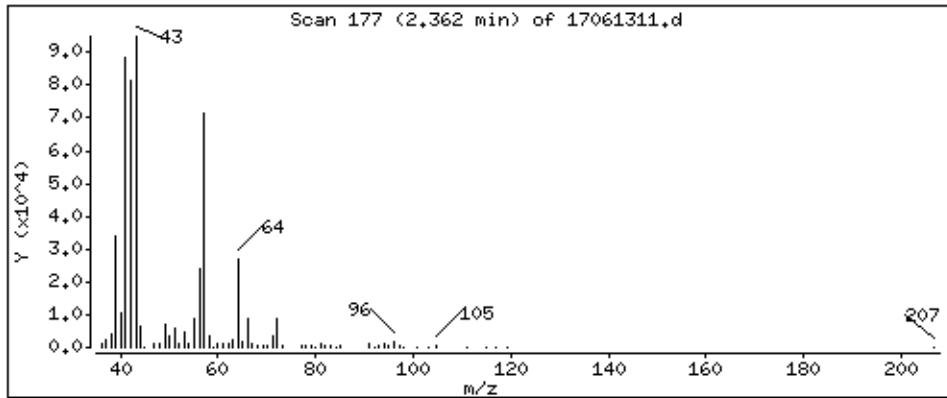
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

31 Isopentane

Concentration: 50,295 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

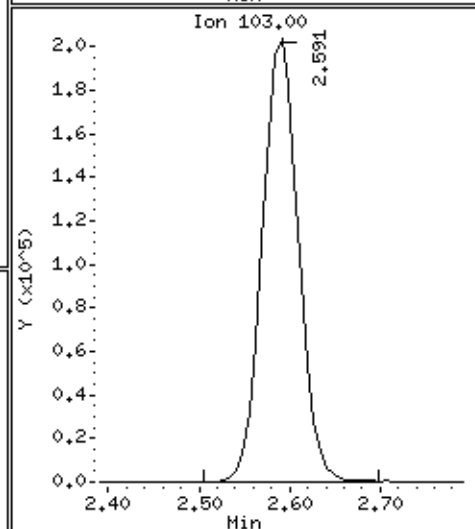
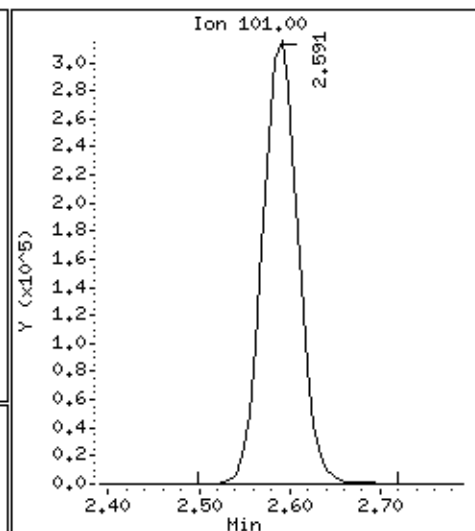
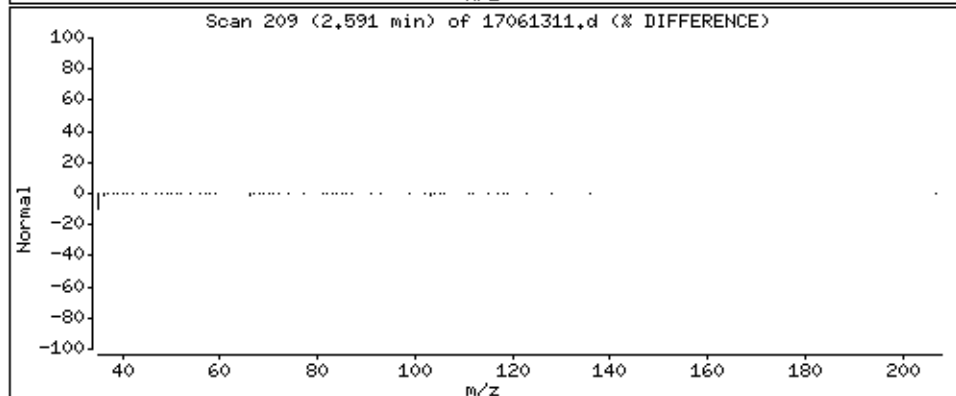
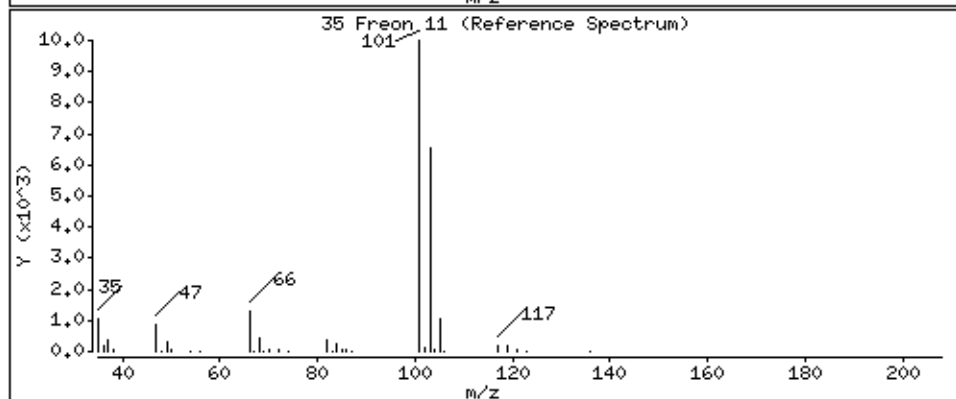
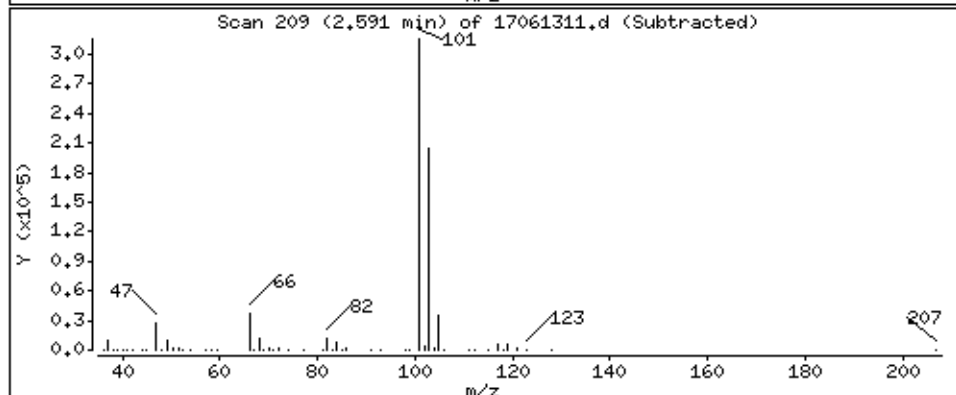
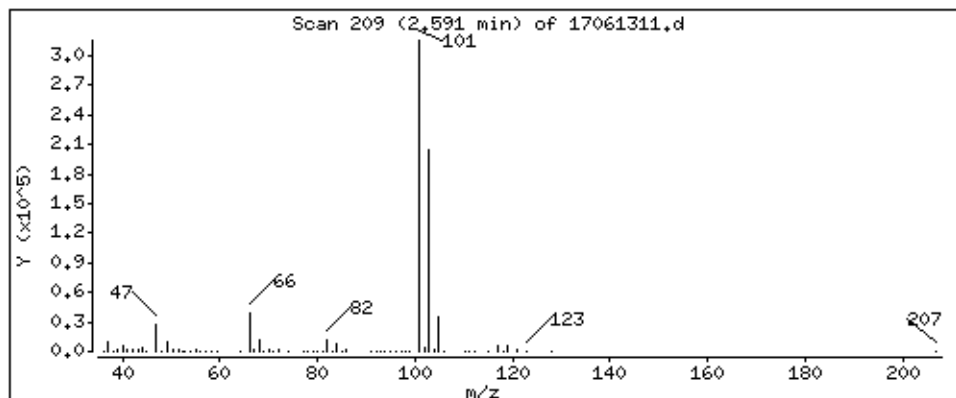
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

35 Freon 11

Concentration: 51.654 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

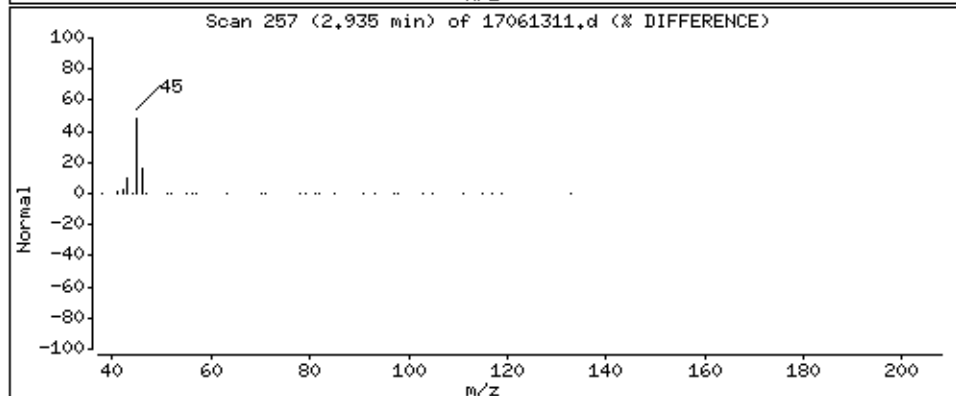
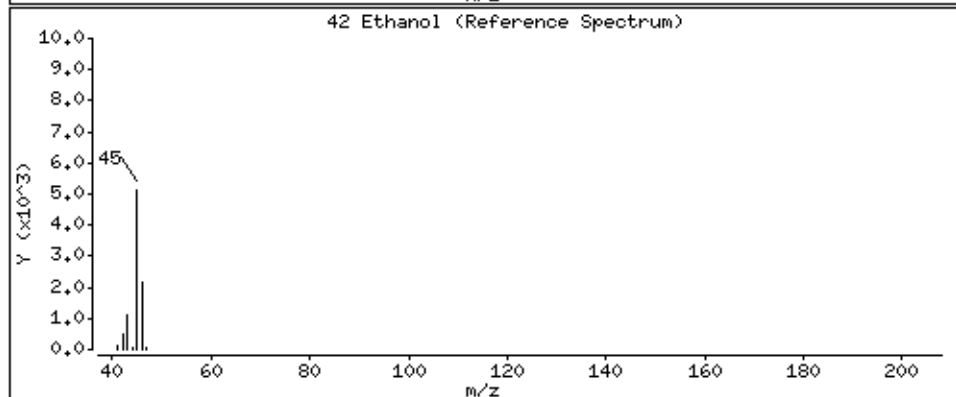
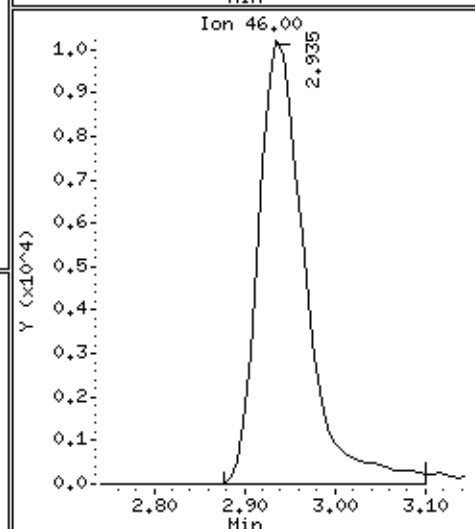
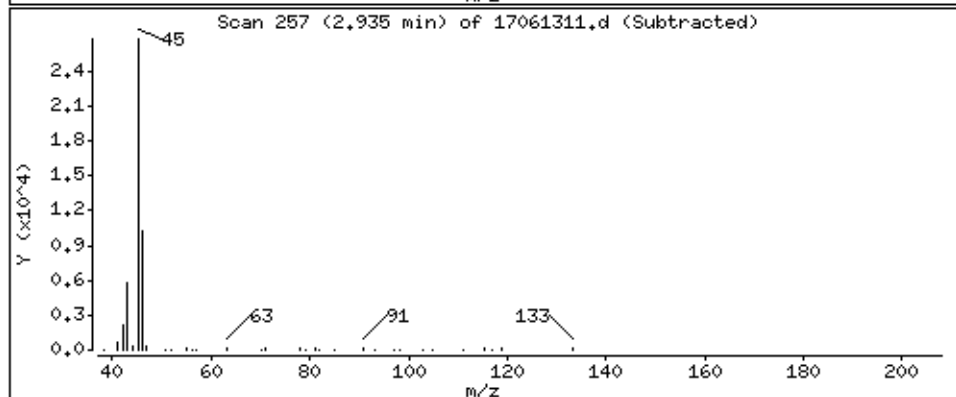
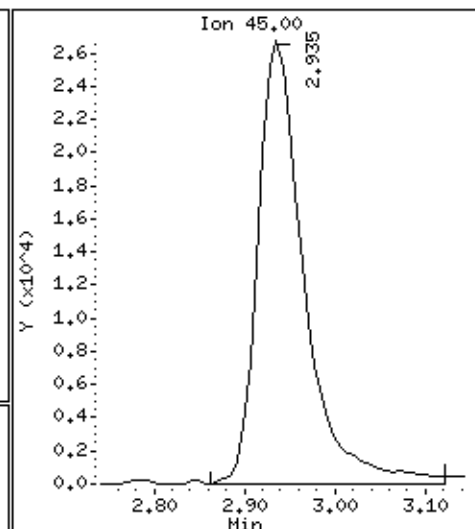
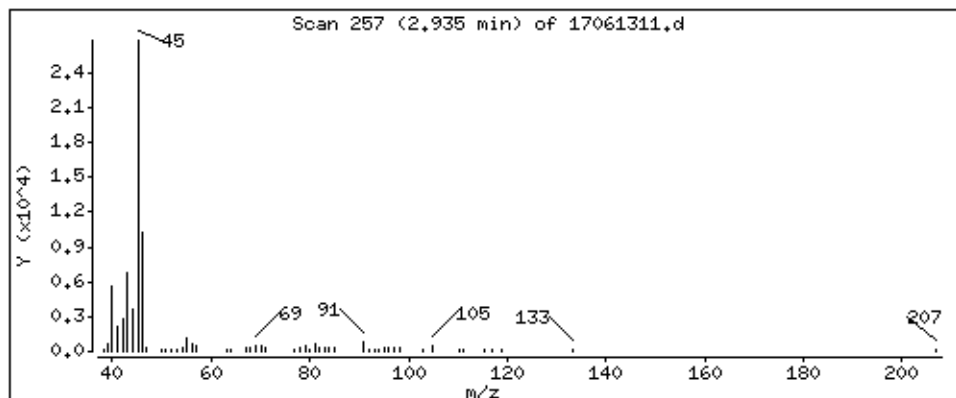
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

42 Ethanol

Concentration: 51.747 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

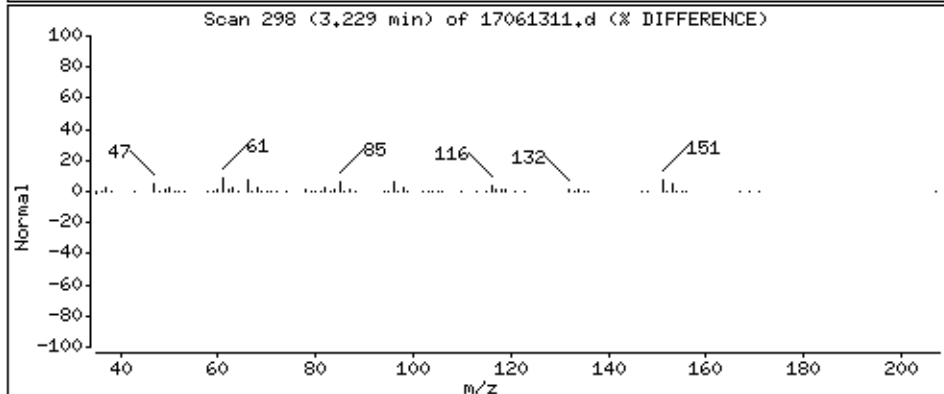
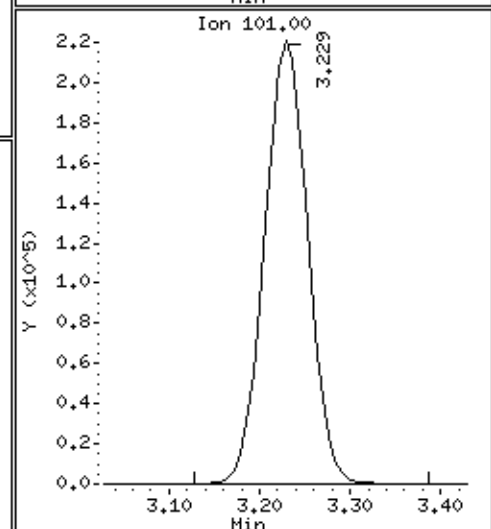
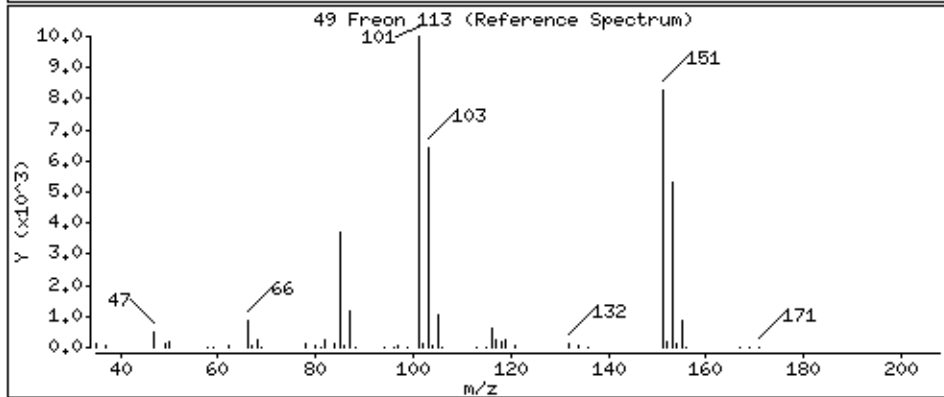
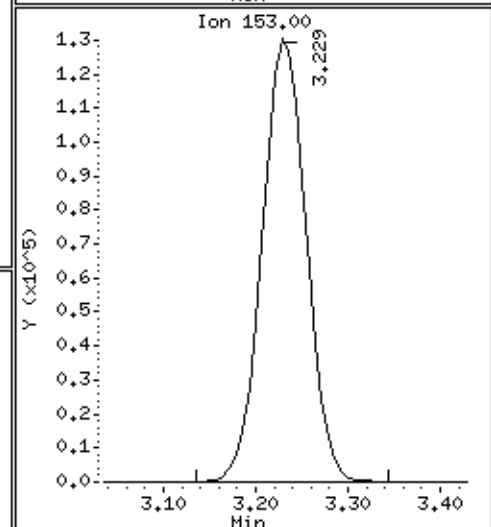
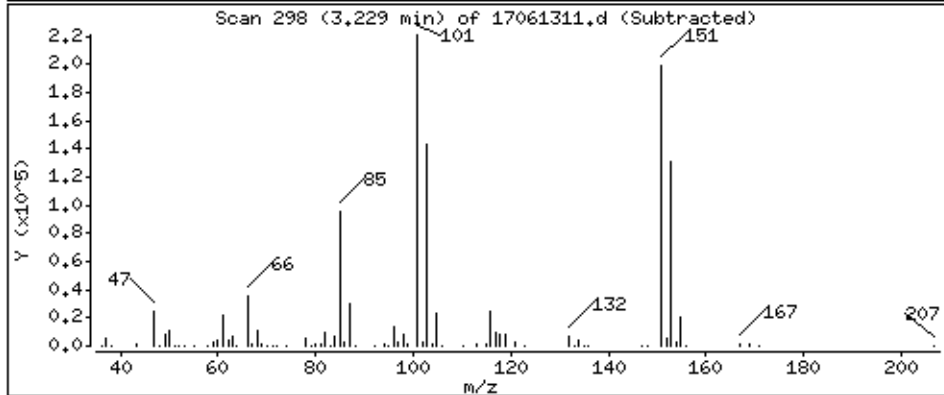
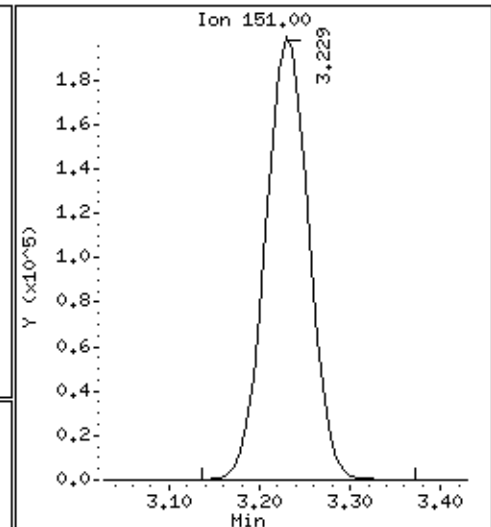
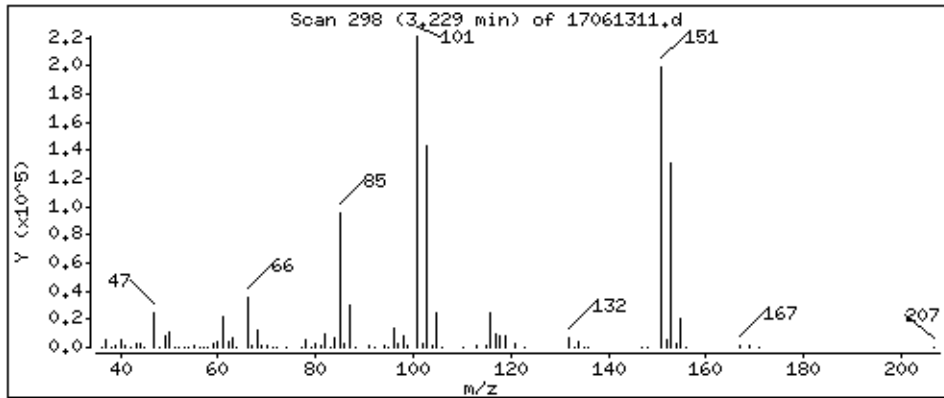
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

49 Freon 113

Concentration: 50.920 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

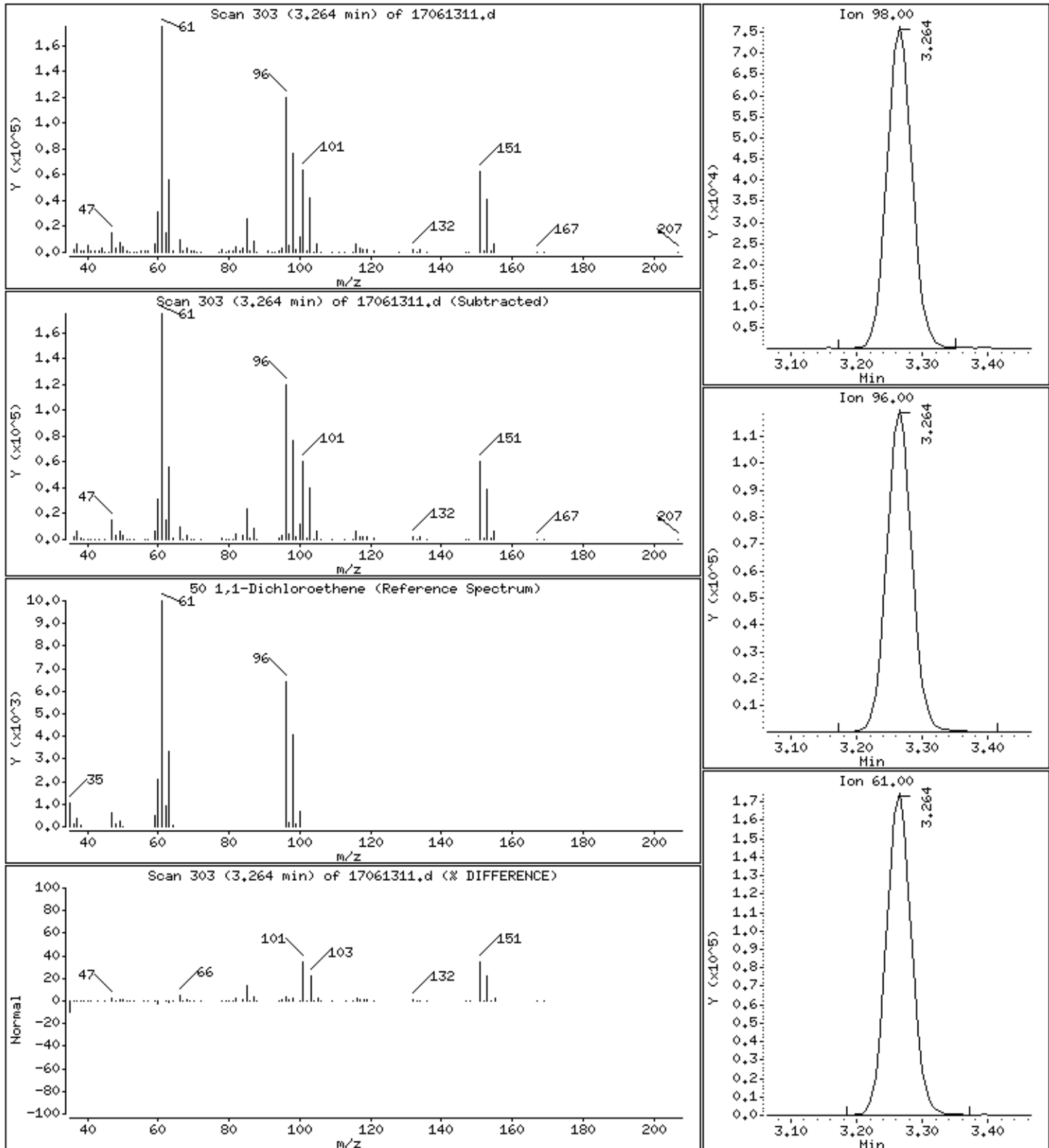
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

50 1,1-Dichloroethene

Concentration: 50.047 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

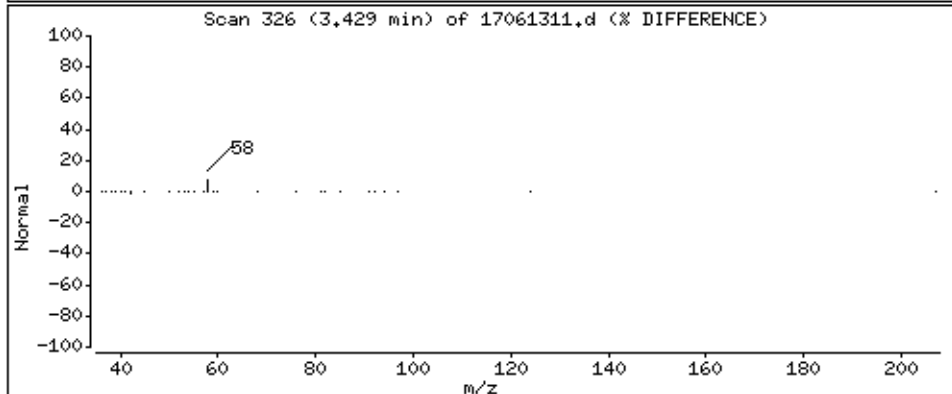
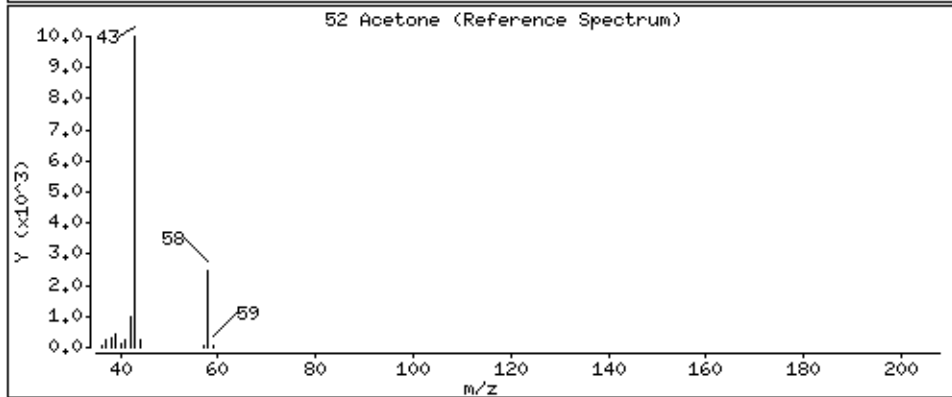
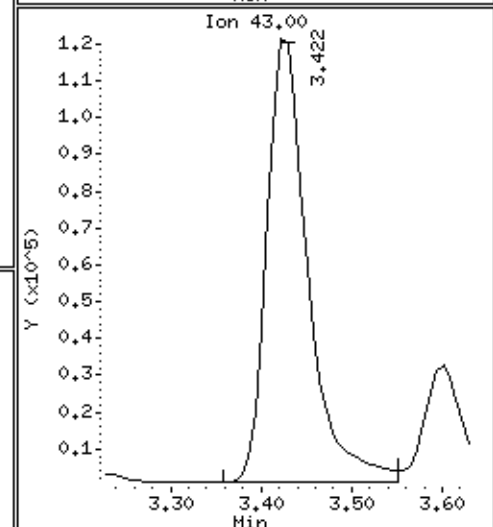
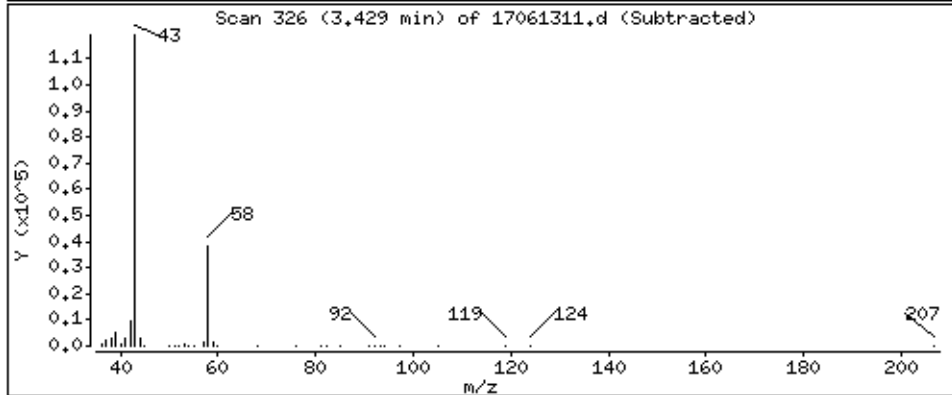
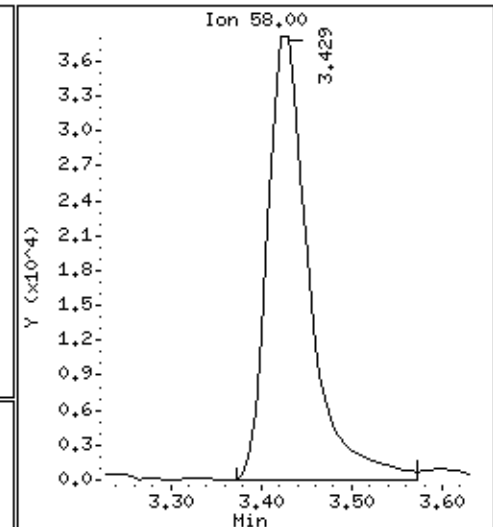
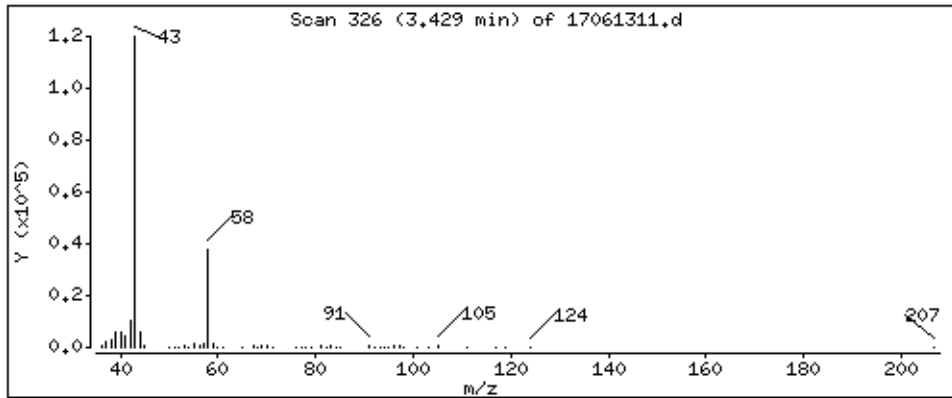
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

52 Acetone

Concentration: 47,085 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

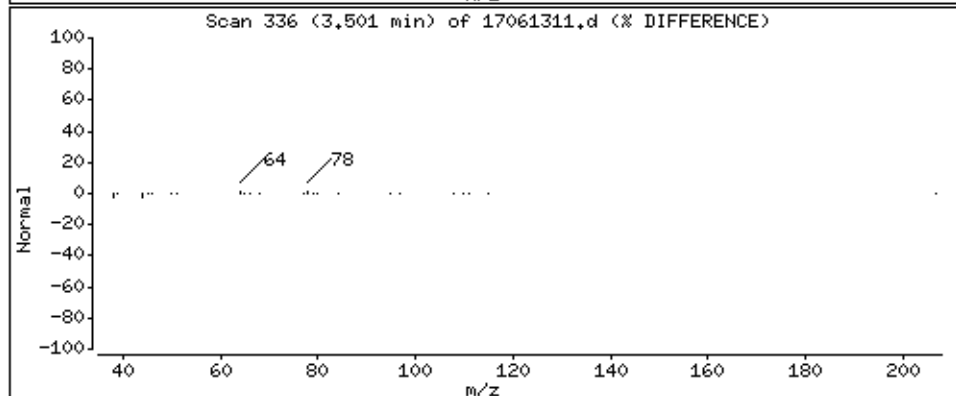
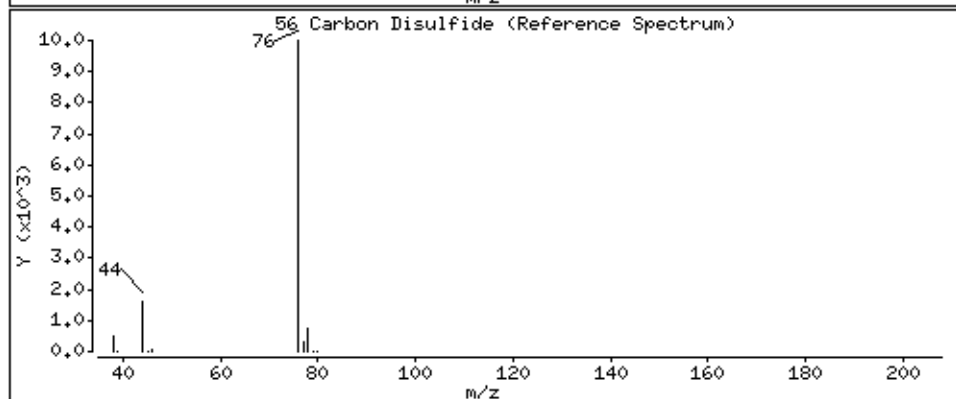
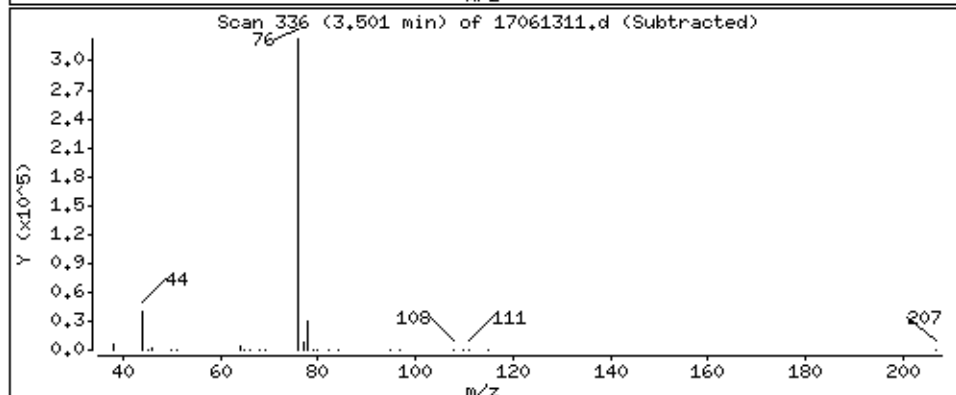
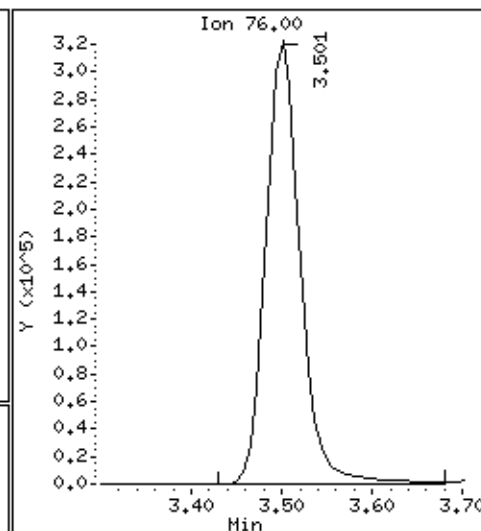
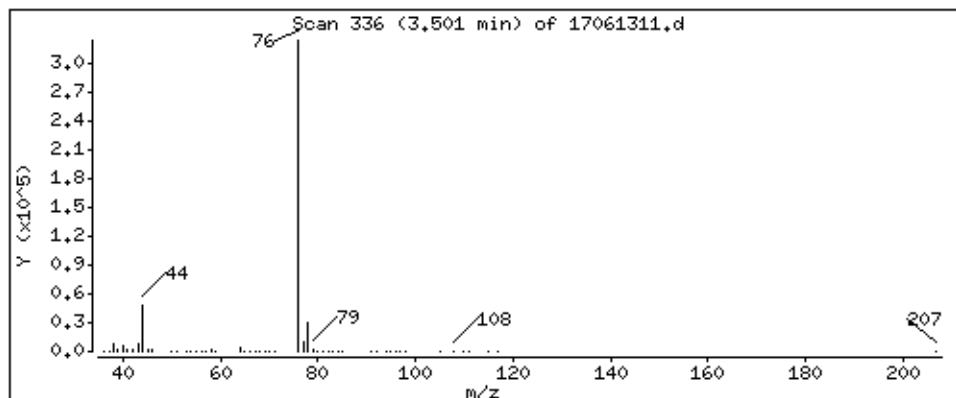
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

56 Carbon Disulfide

Concentration: 50,520 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

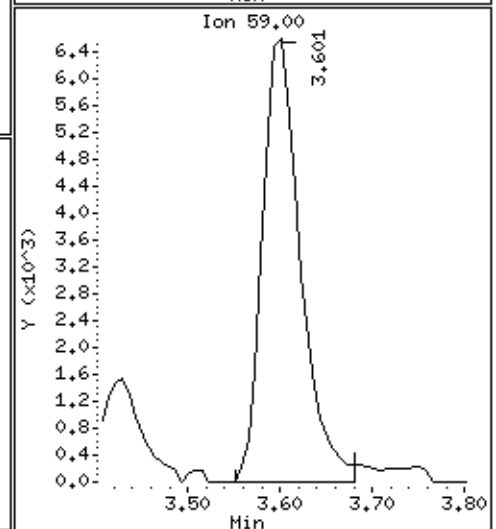
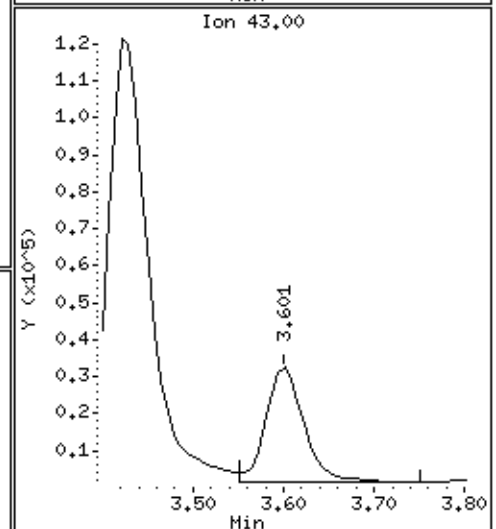
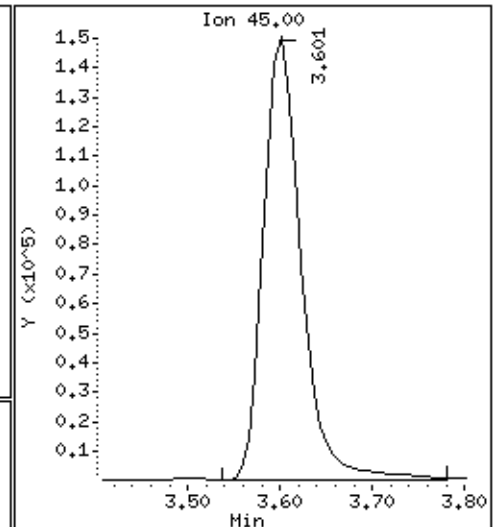
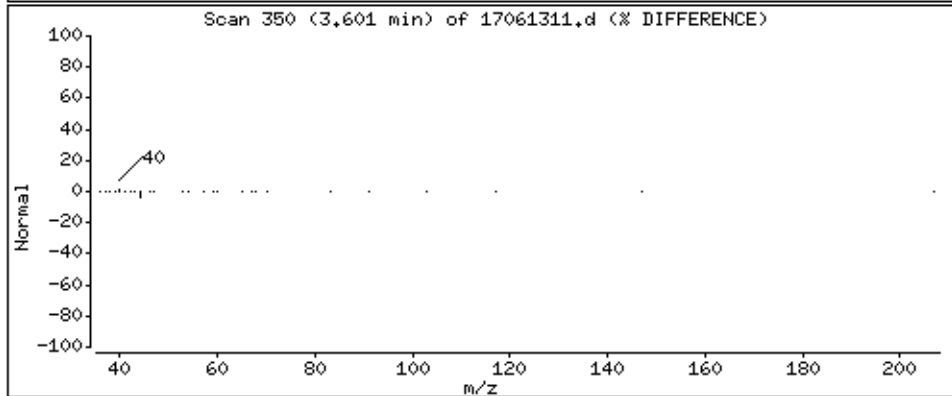
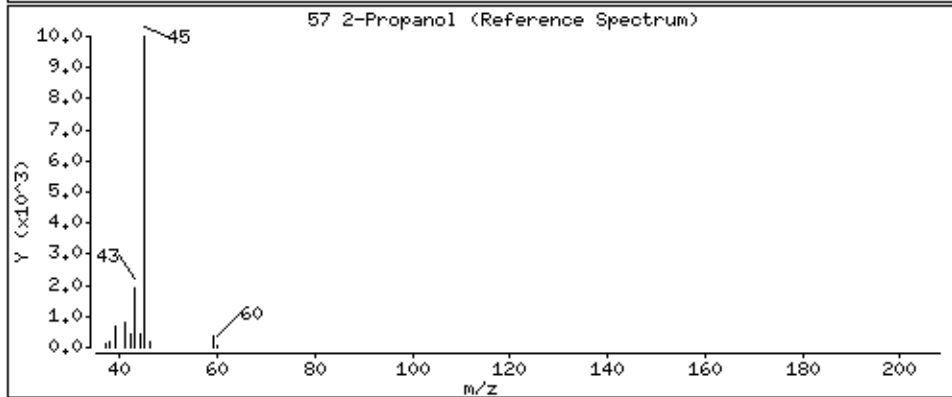
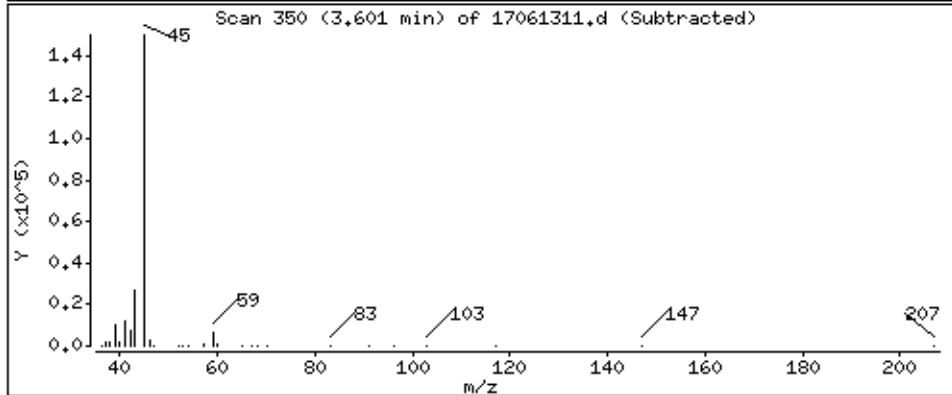
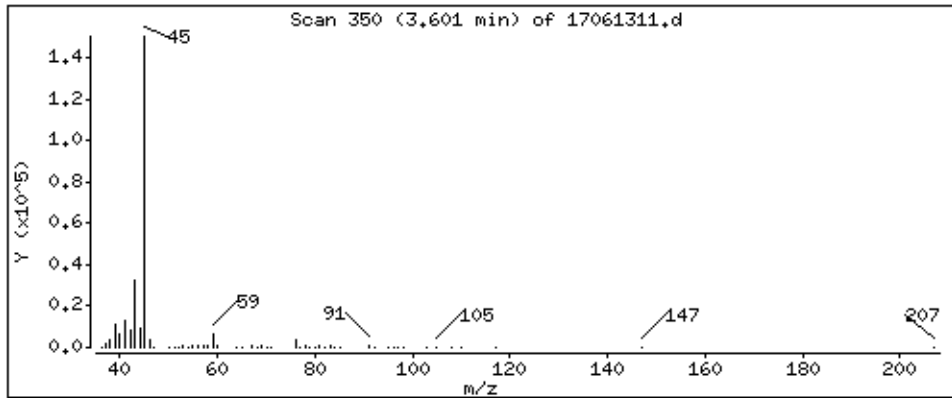
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

57 2-Propanol

Concentration: 50,865 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

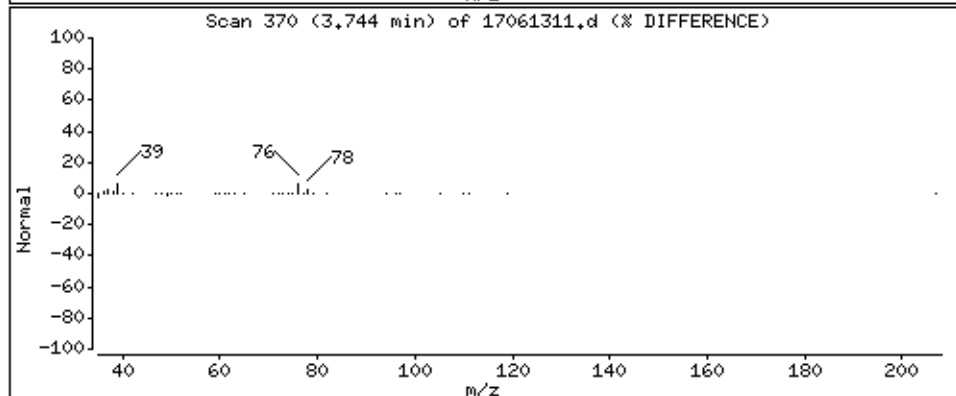
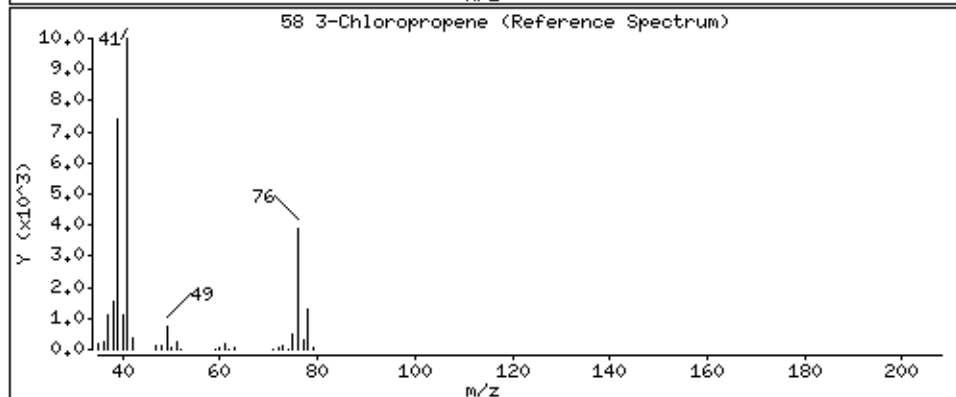
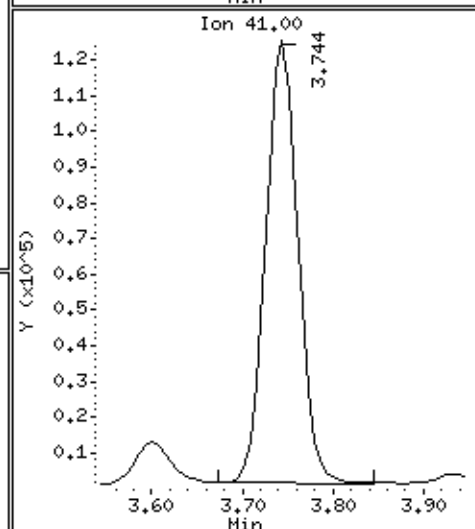
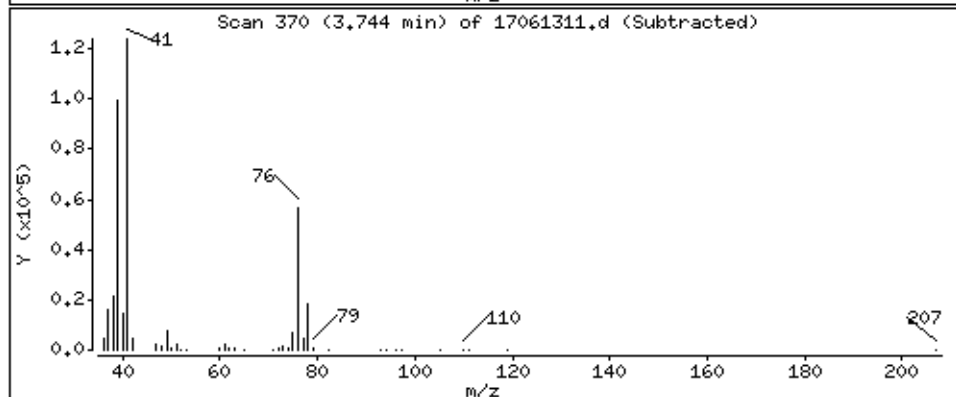
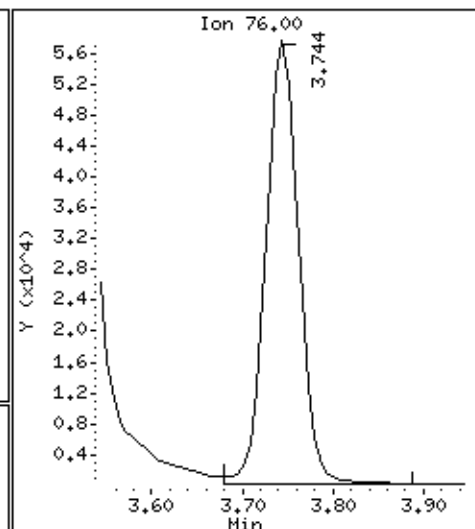
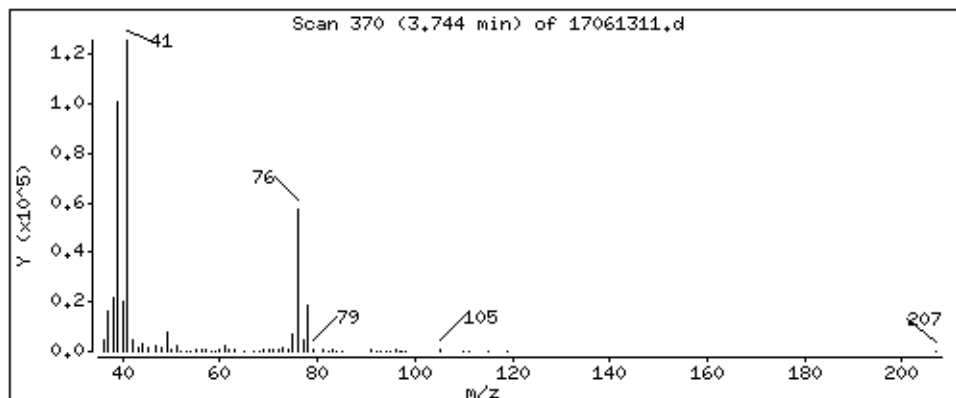
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

58 3-Chloropropene

Concentration: 52,459 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

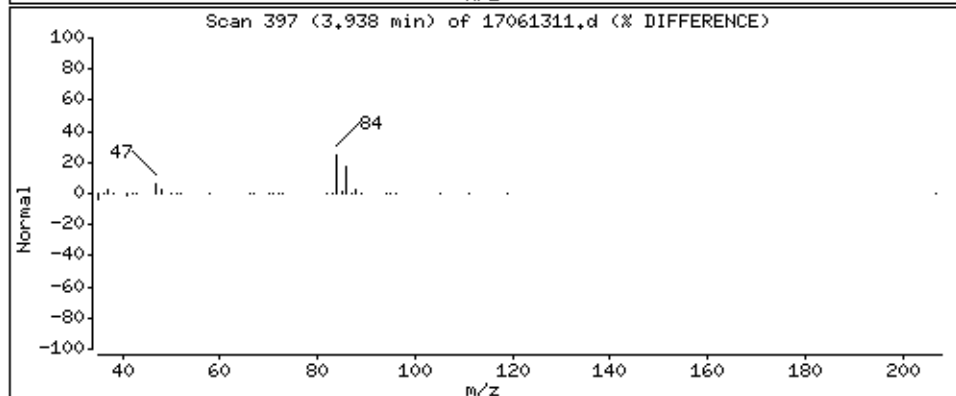
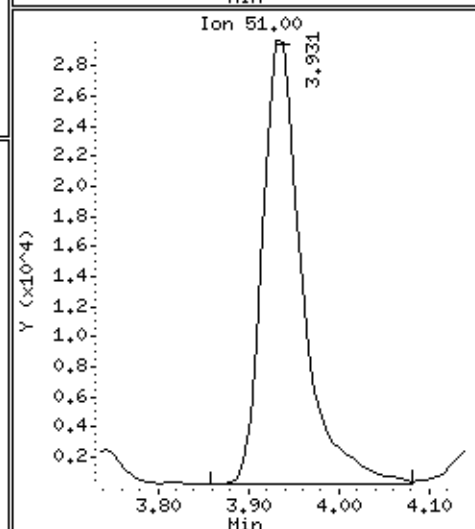
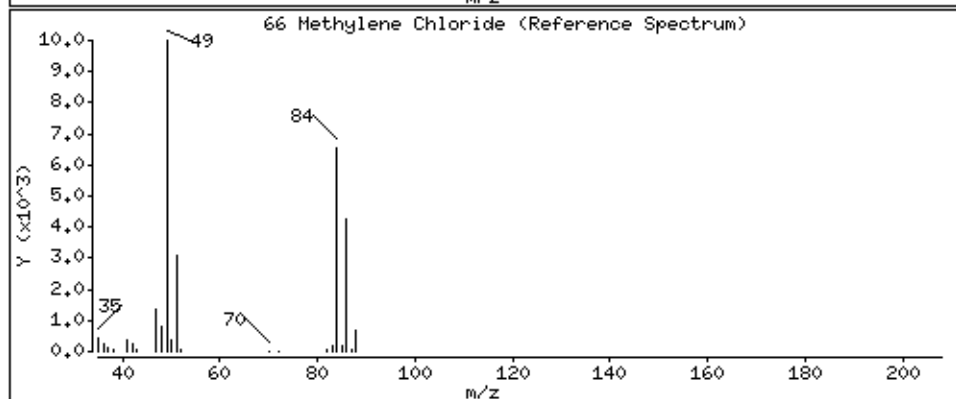
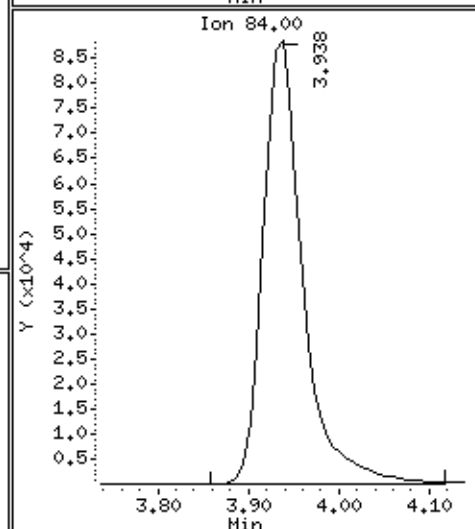
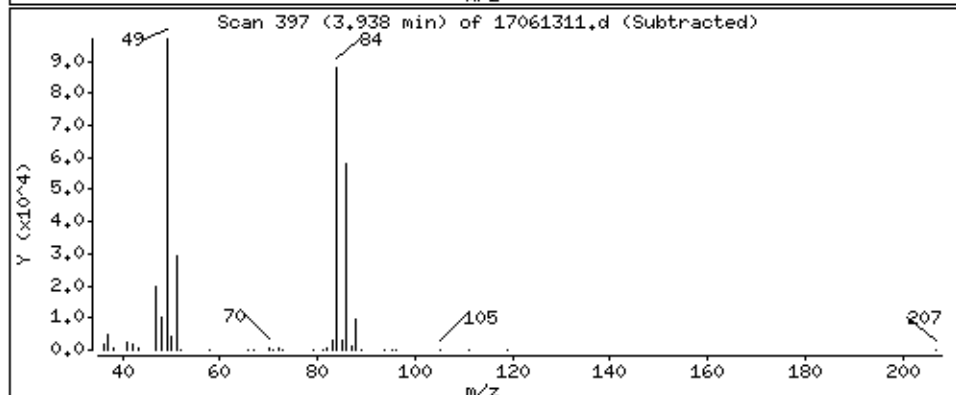
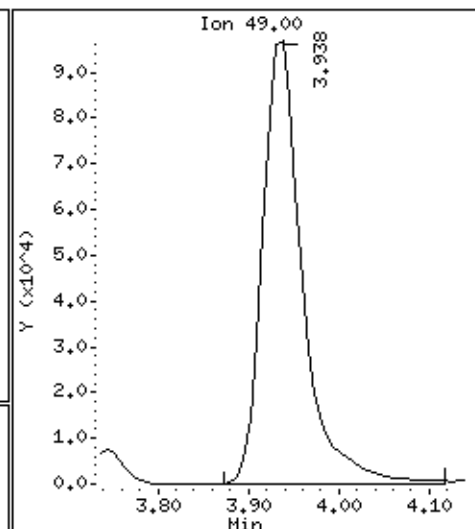
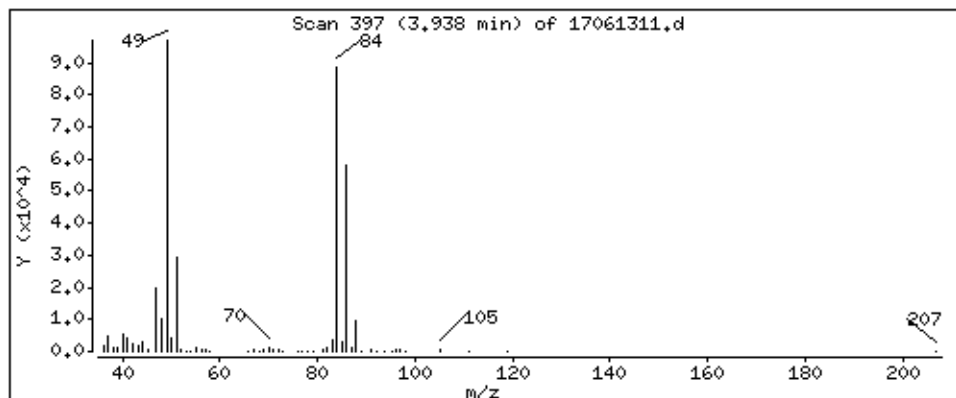
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

66 Methylene Chloride

Concentration: 49,946 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

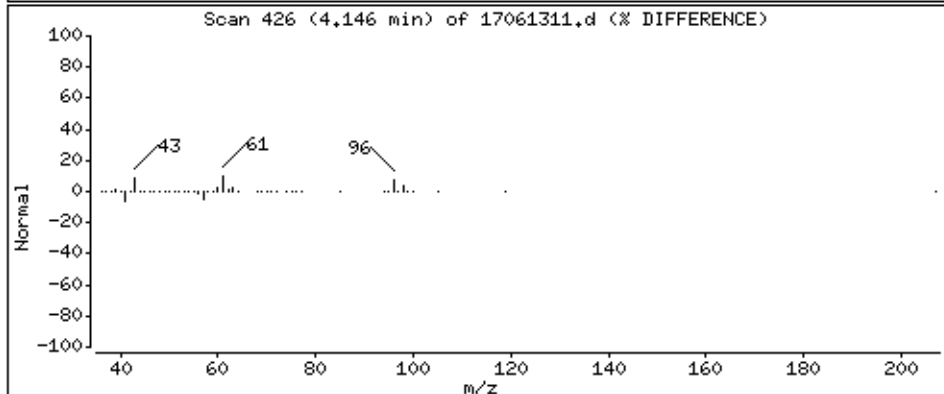
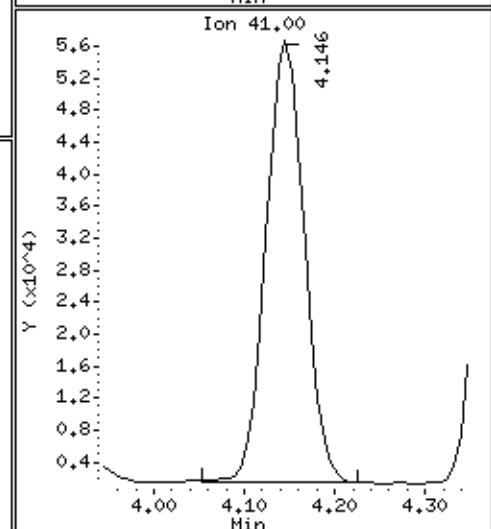
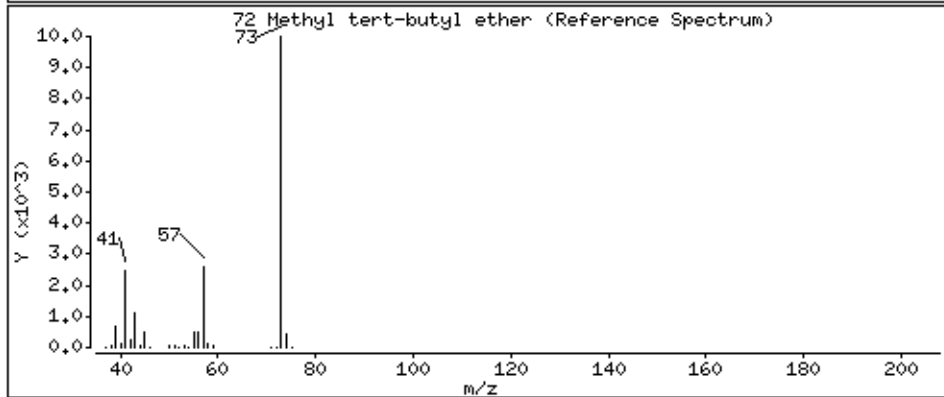
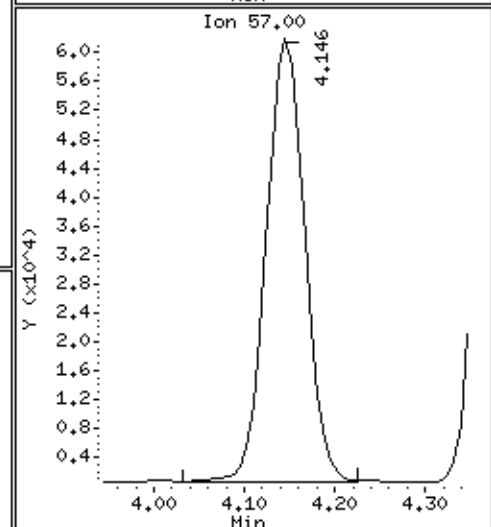
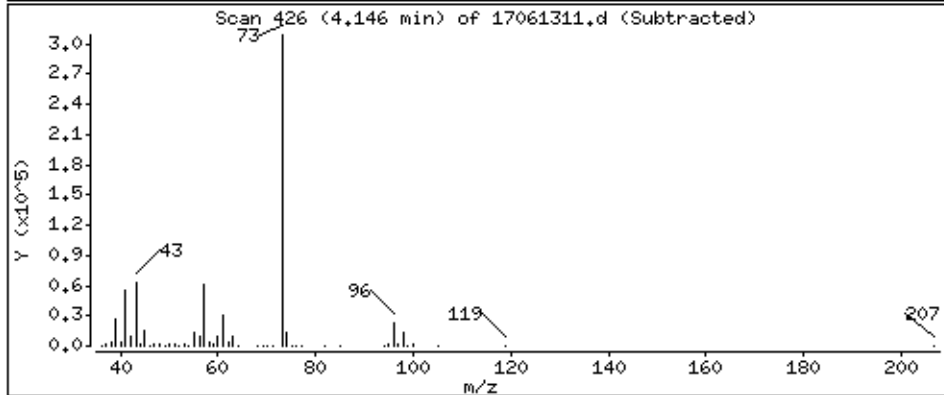
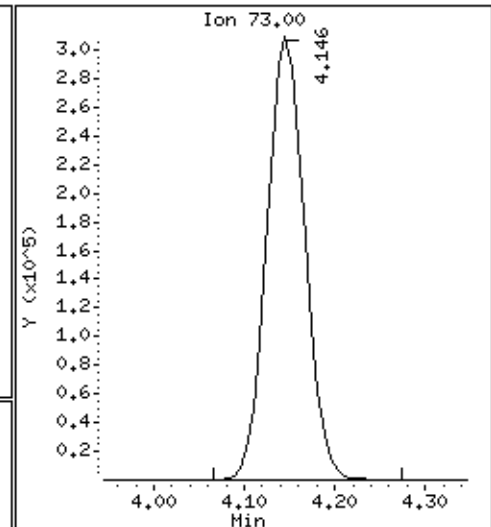
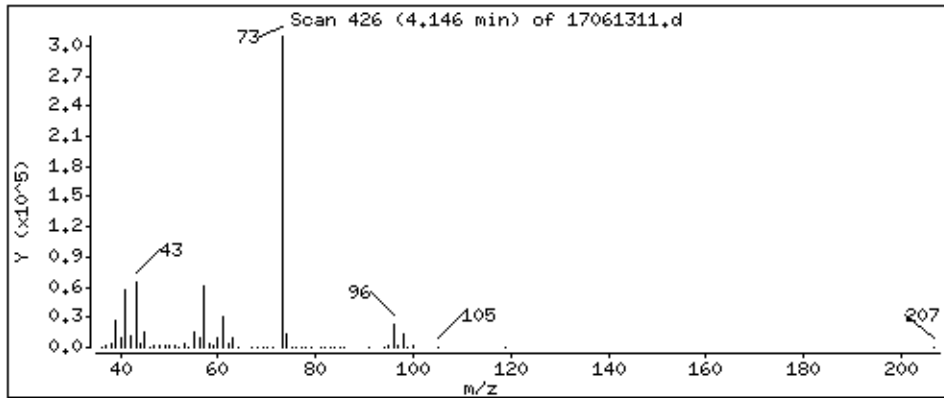
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

72 Methyl tert-butyl ether

Concentration: 51.460 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

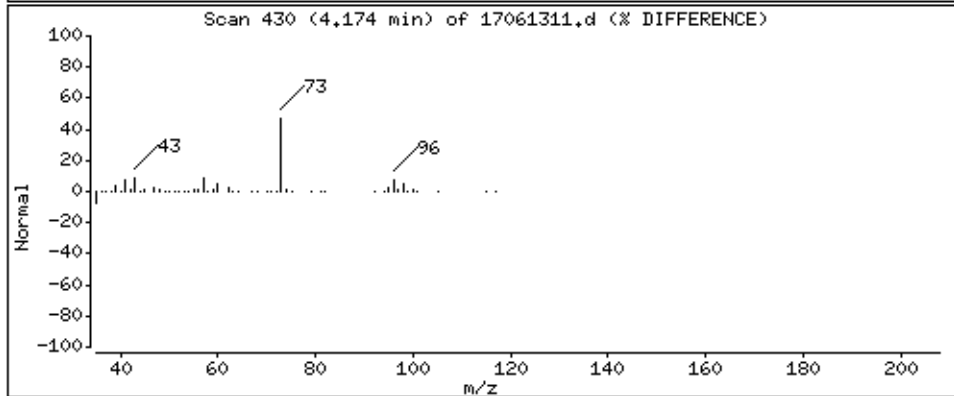
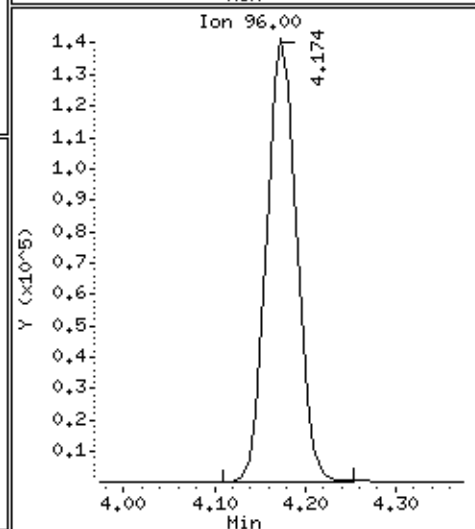
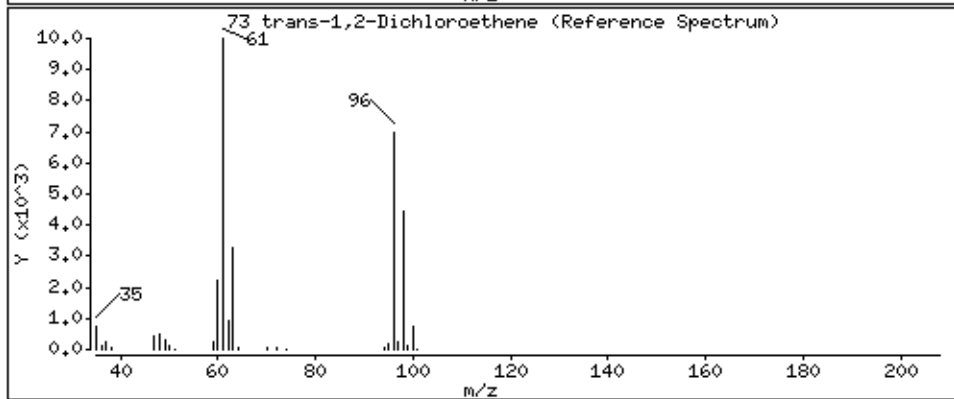
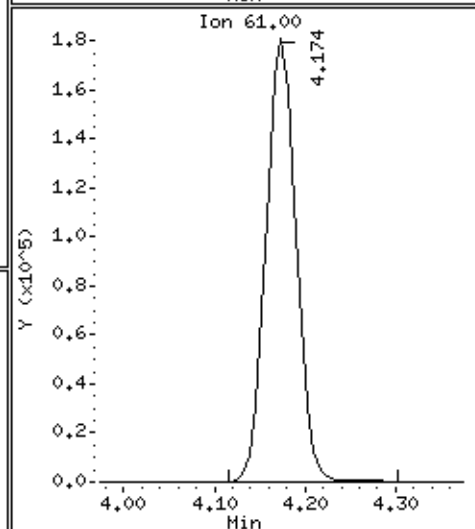
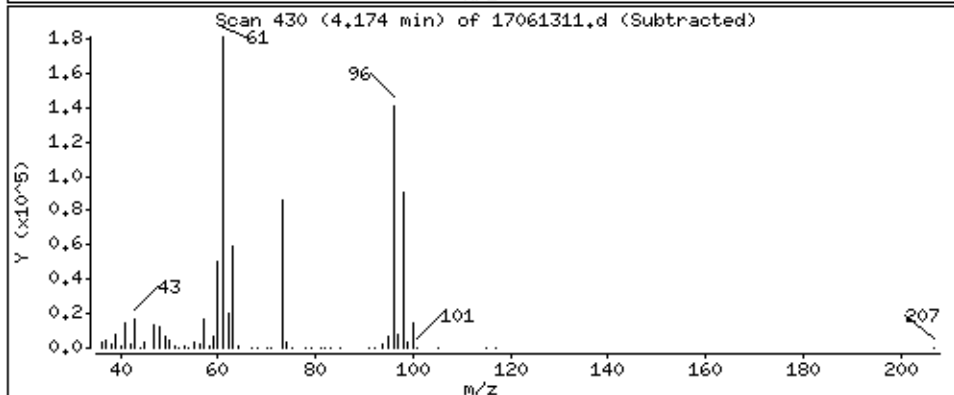
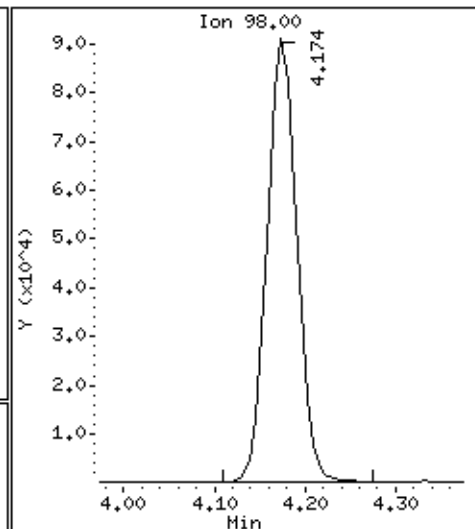
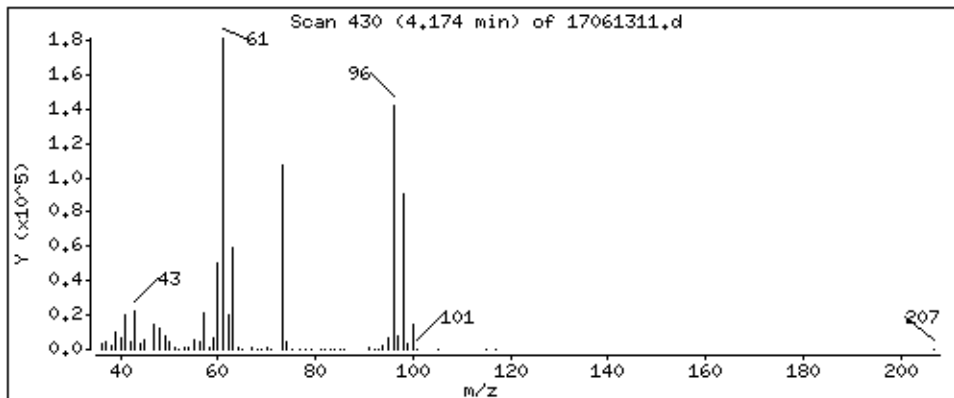
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

73 trans-1,2-Dichloroethene

Concentration: 52,239 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

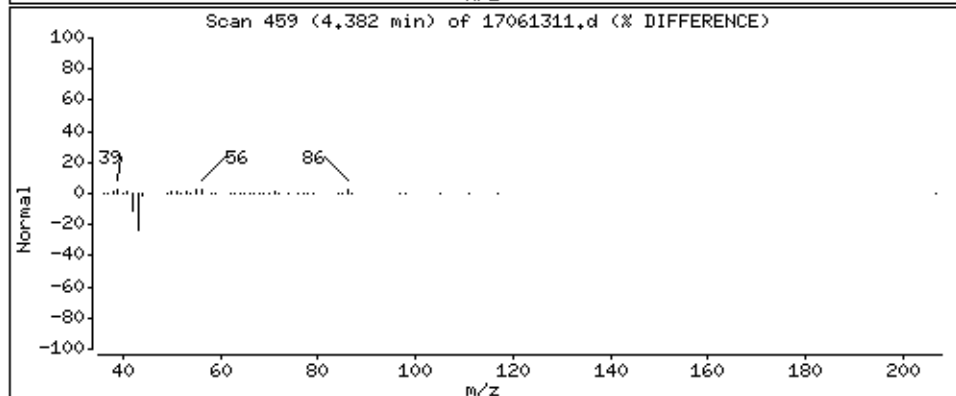
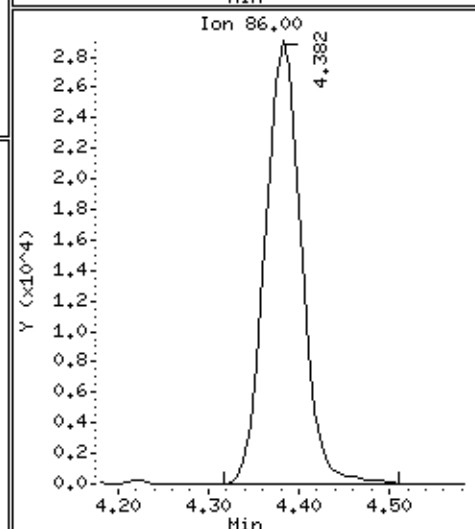
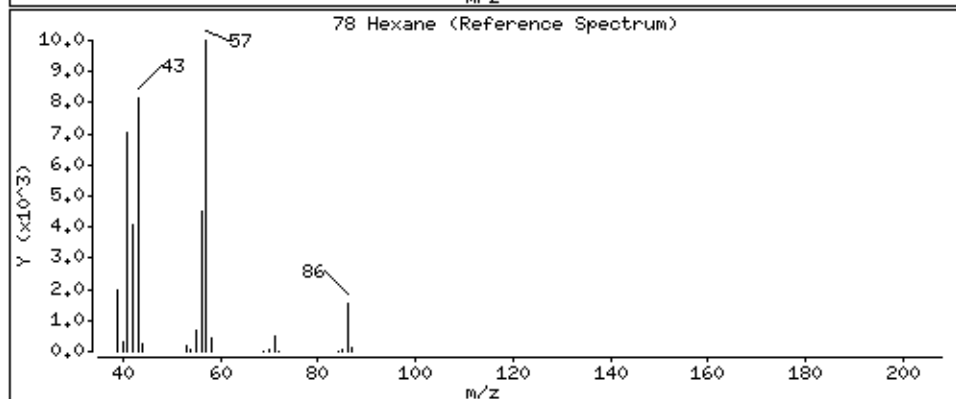
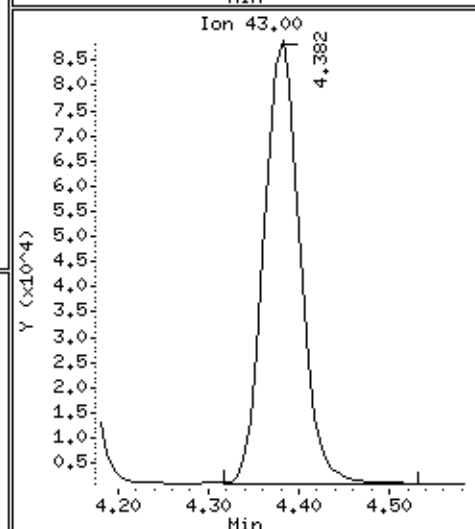
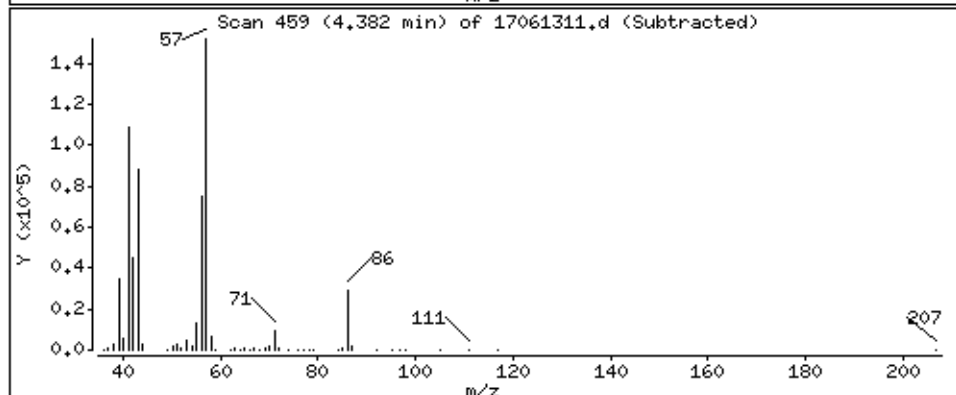
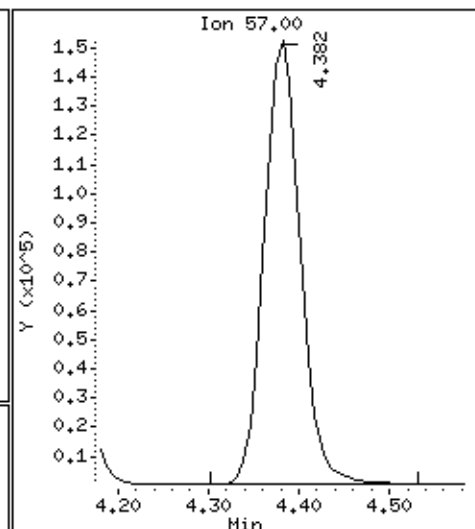
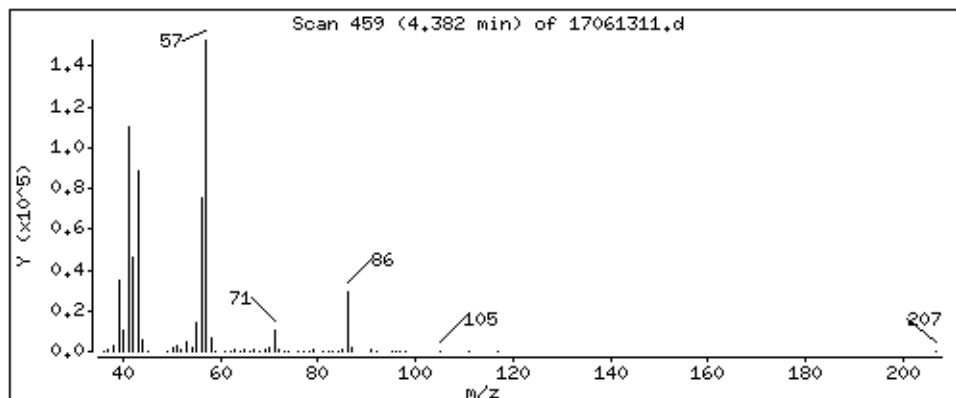
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

78 Hexane

Concentration: 49,498 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

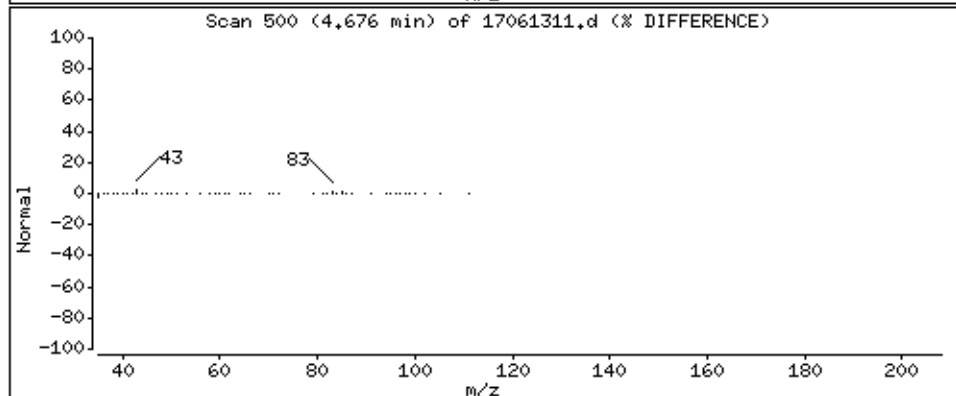
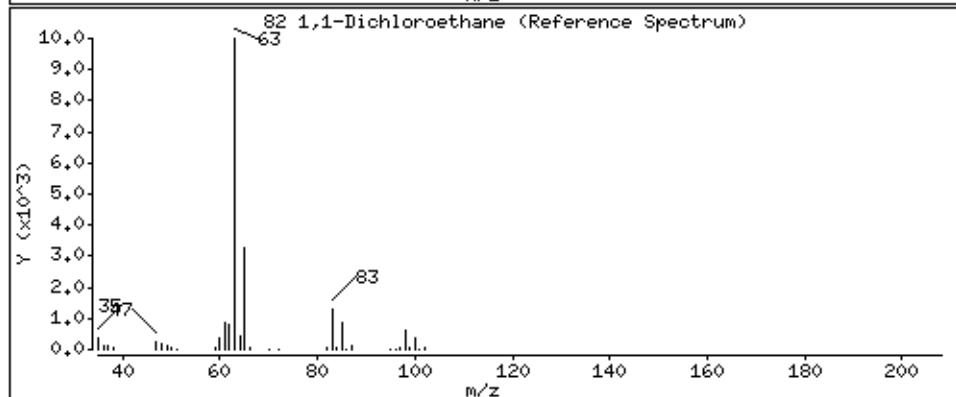
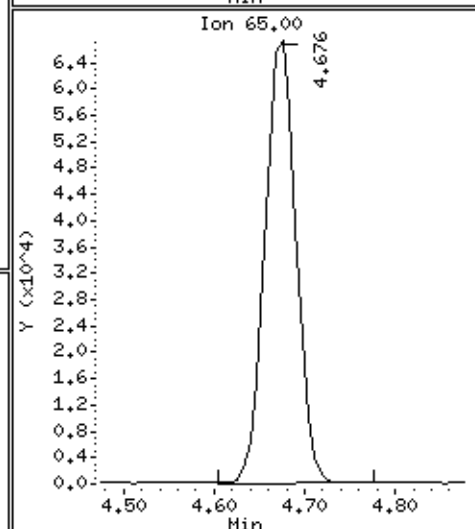
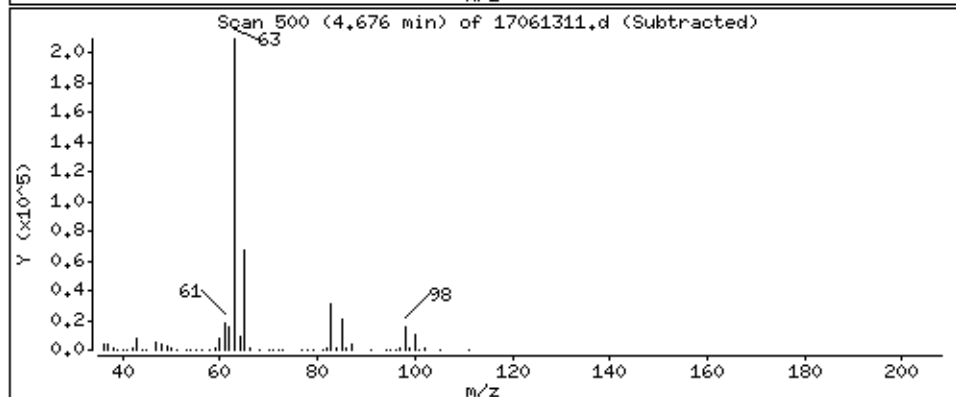
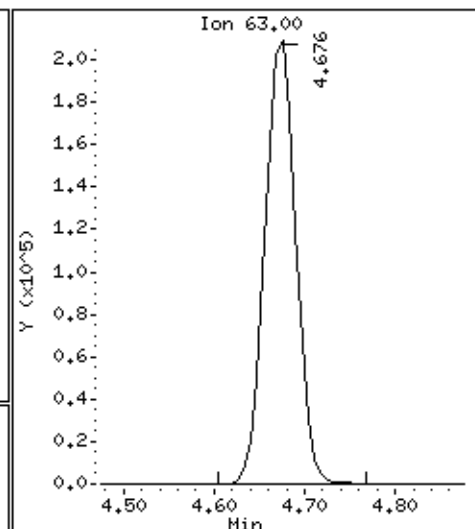
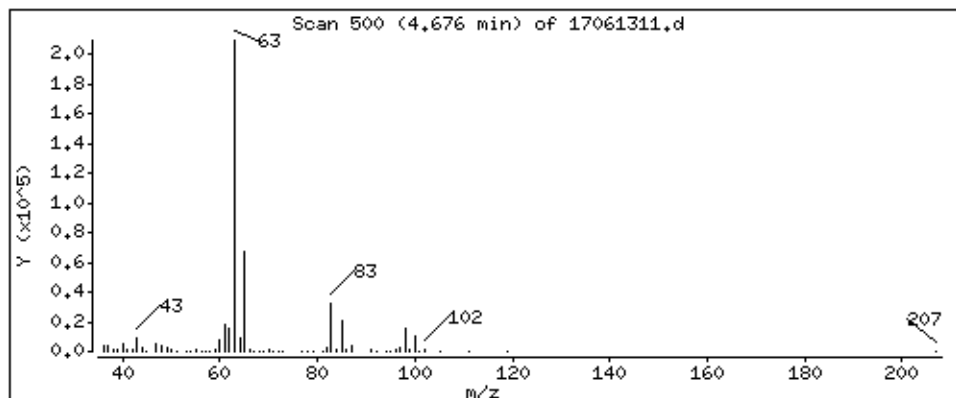
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

82 1,1-Dichloroethane

Concentration: 48,644 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

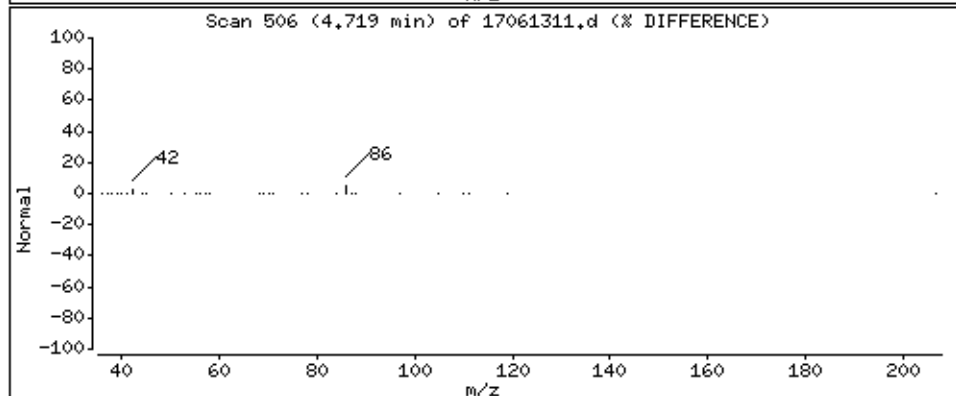
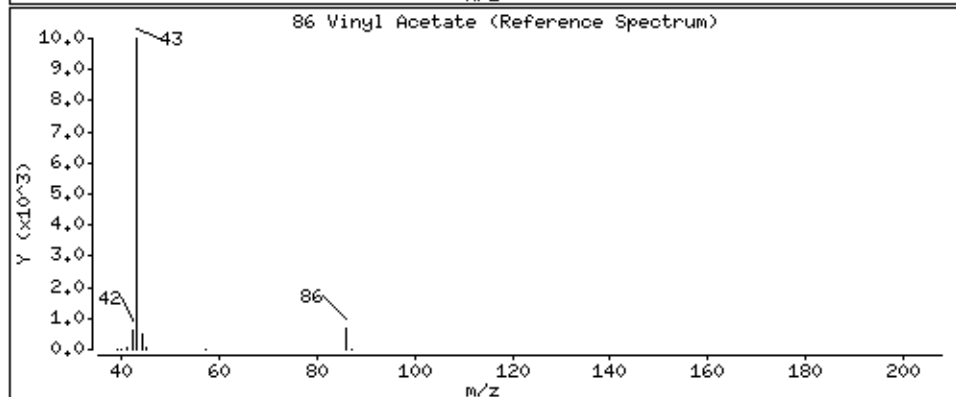
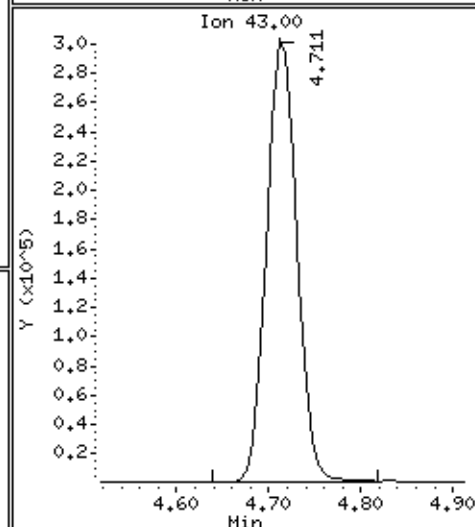
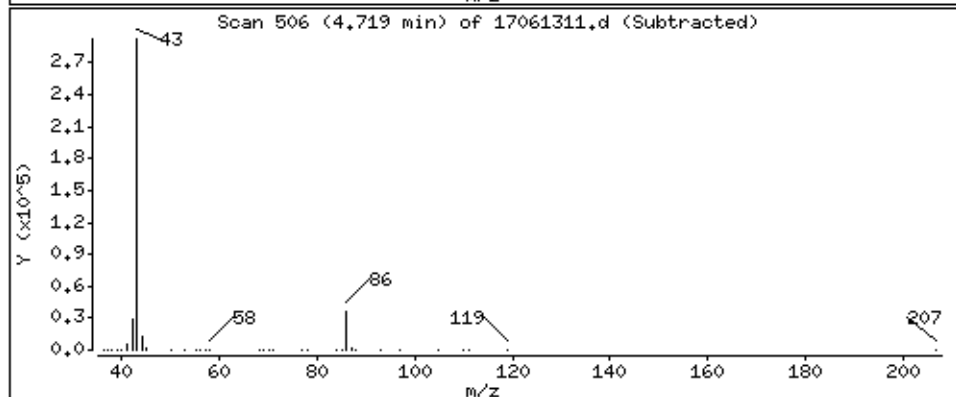
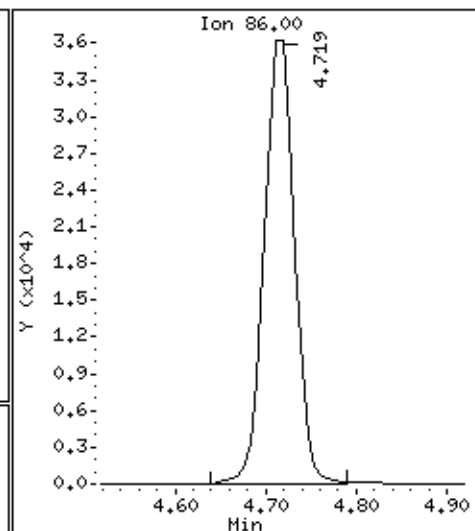
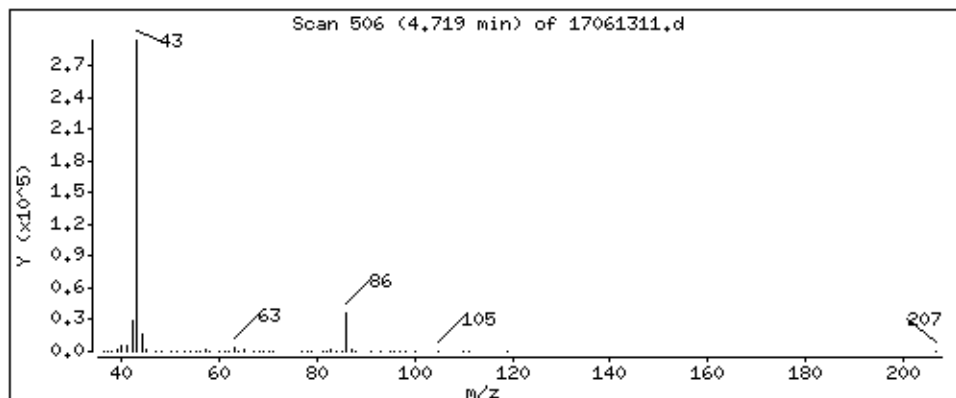
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

86 Vinyl Acetate

Concentration: 50.443 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

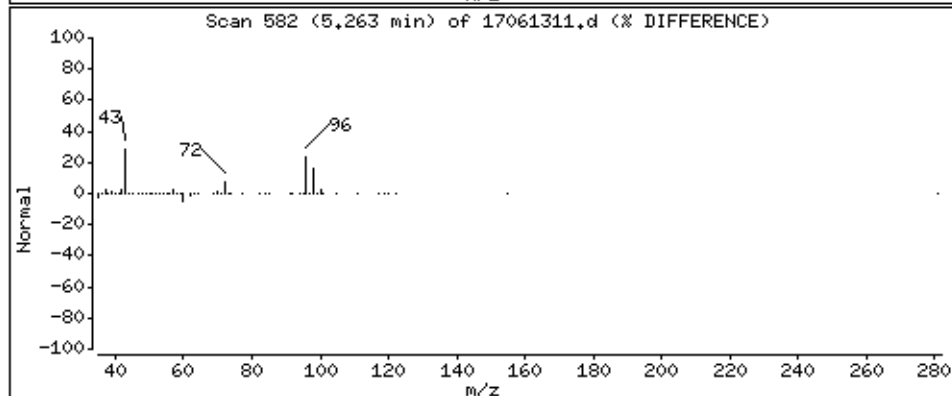
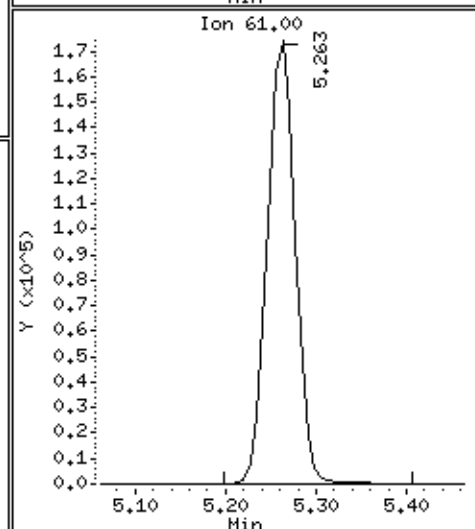
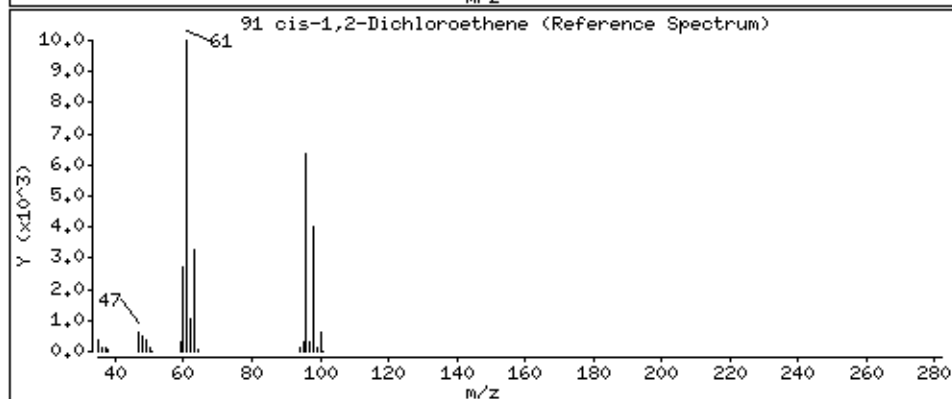
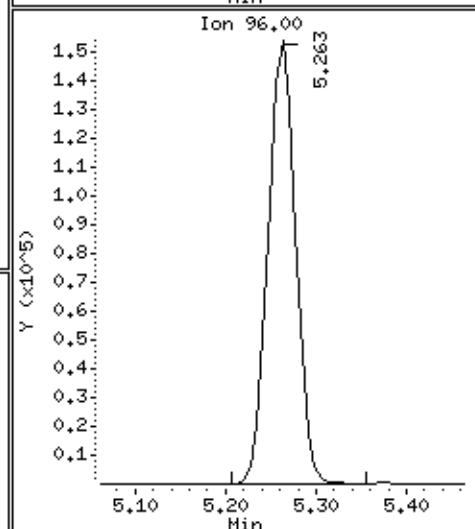
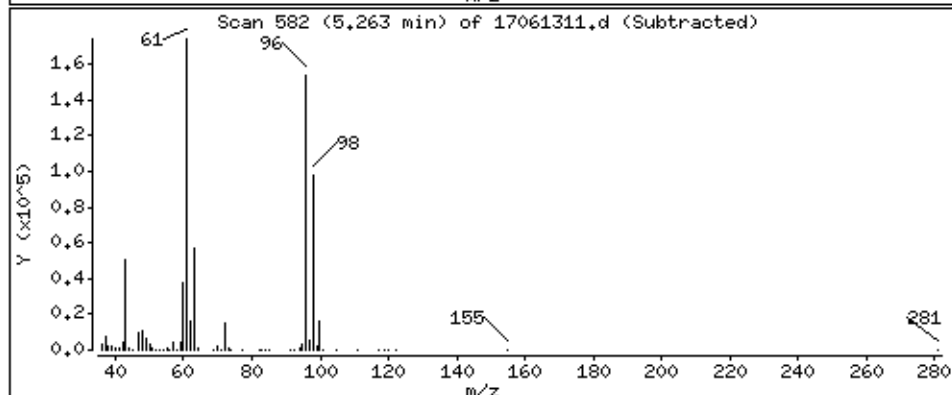
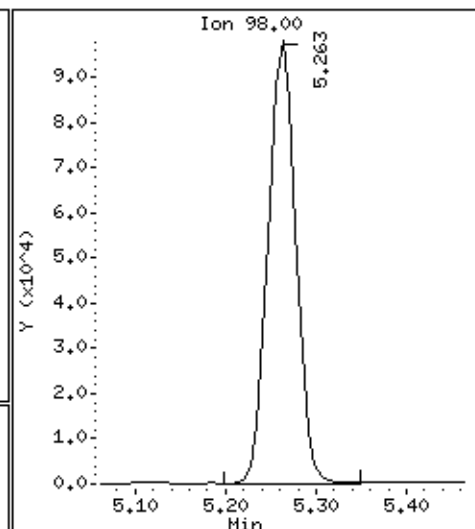
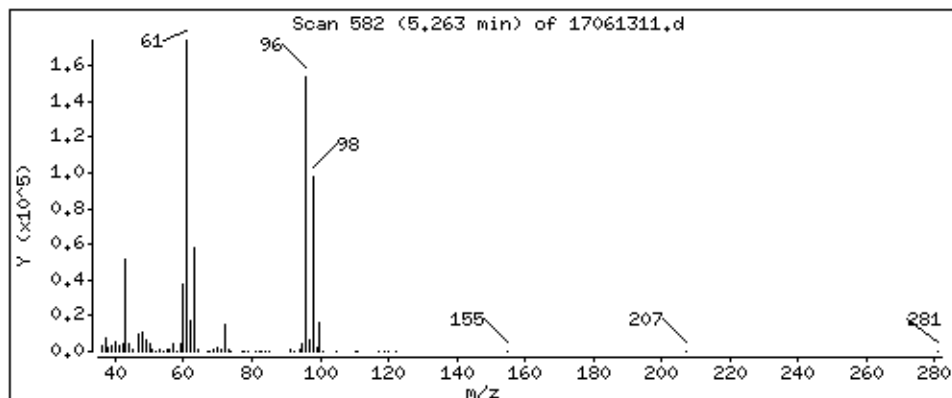
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

91 cis-1,2-Dichloroethene

Concentration: 43,629 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

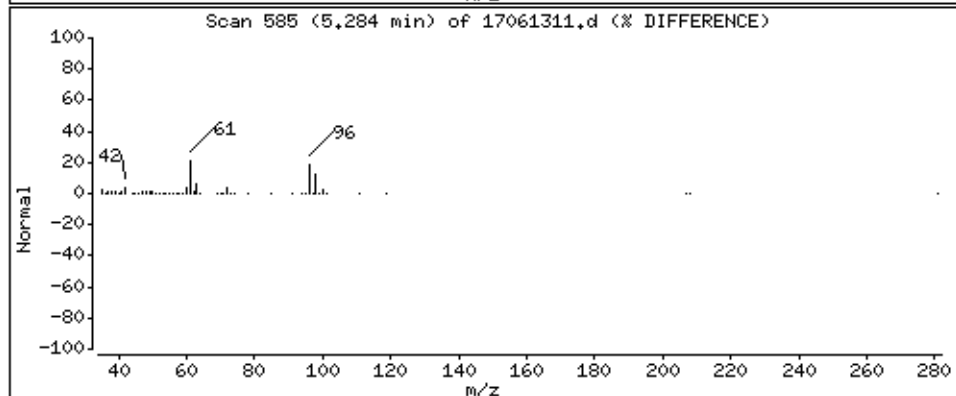
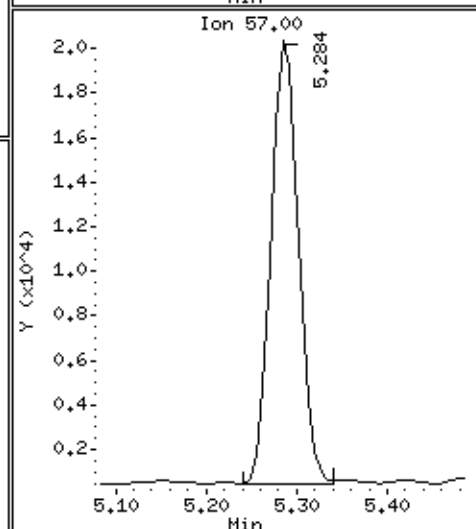
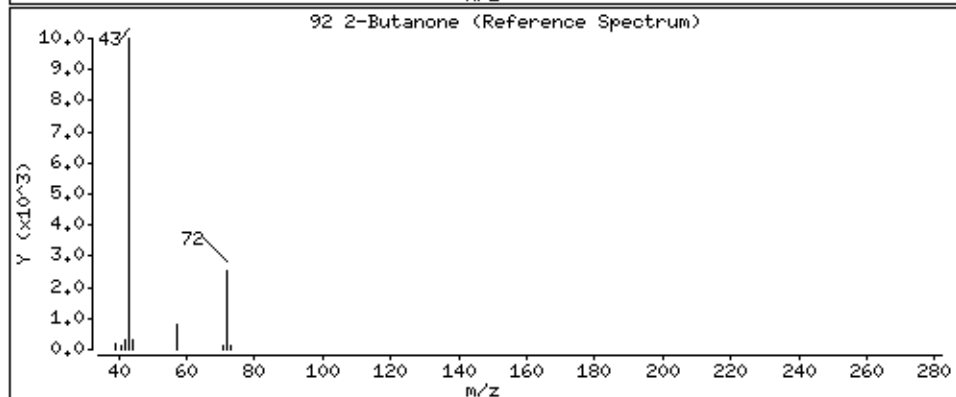
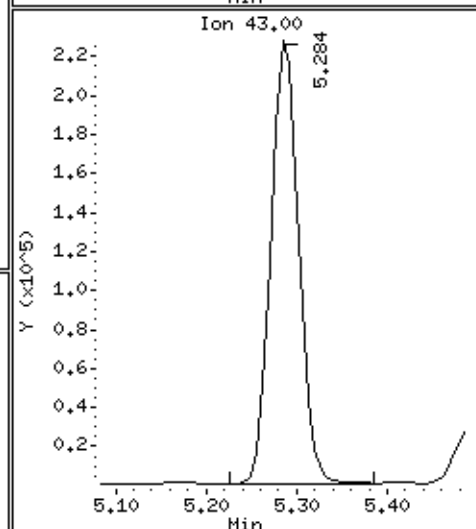
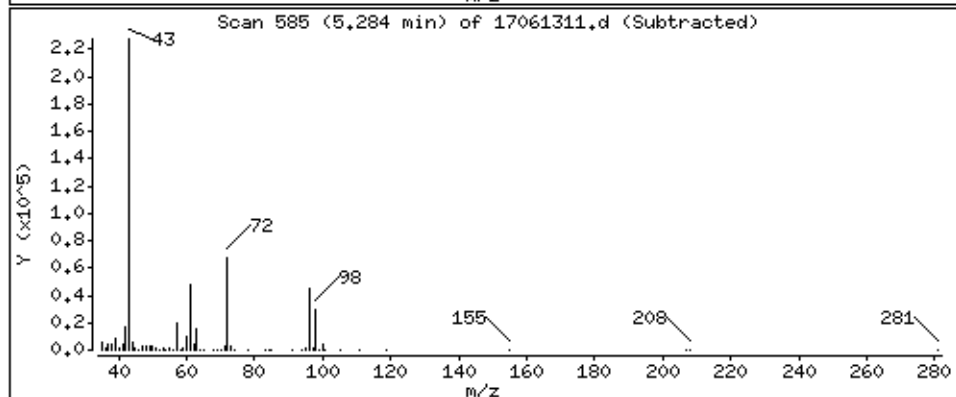
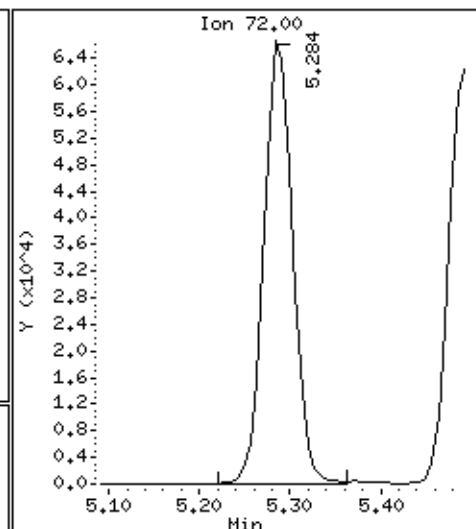
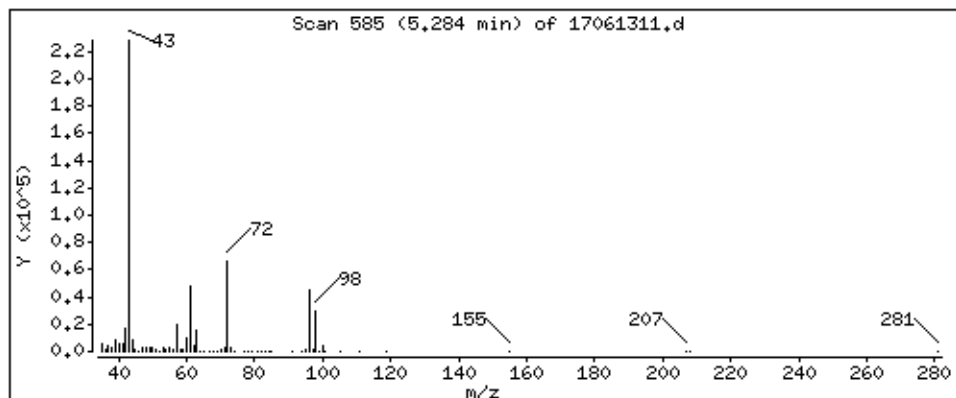
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

92 2-Butanone

Concentration: 50,682 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

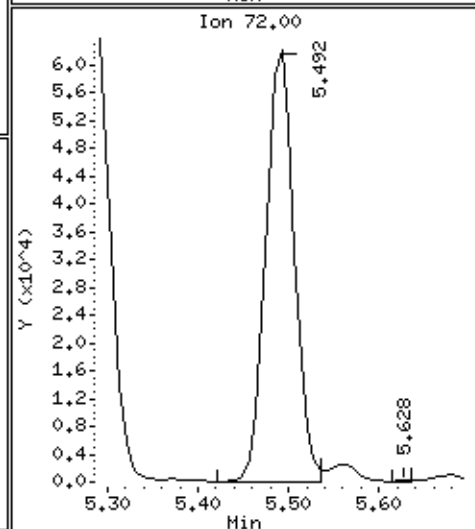
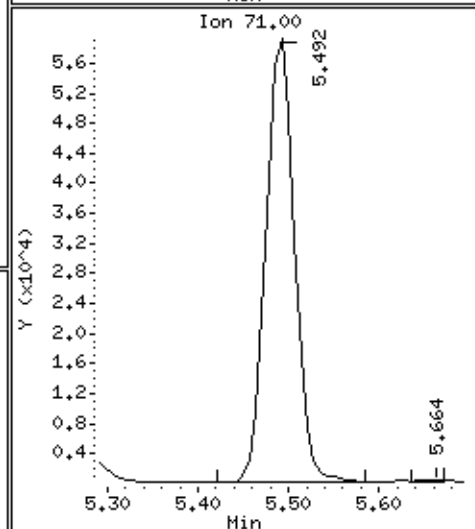
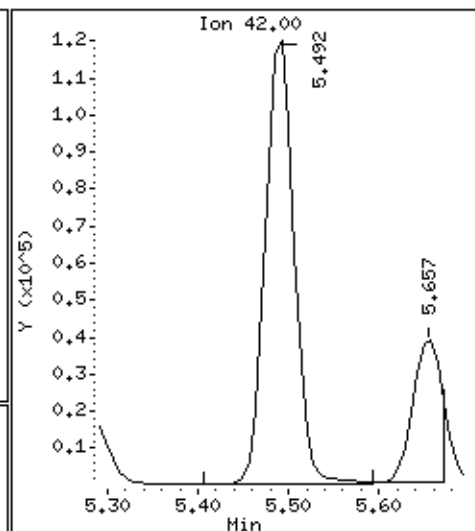
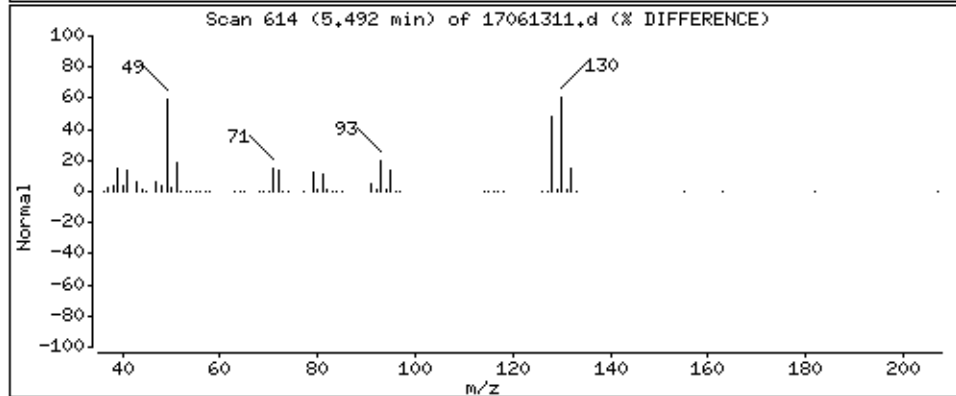
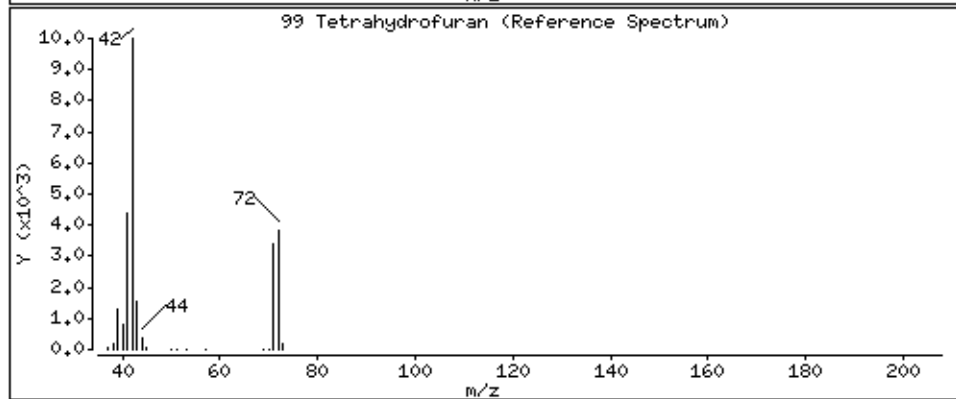
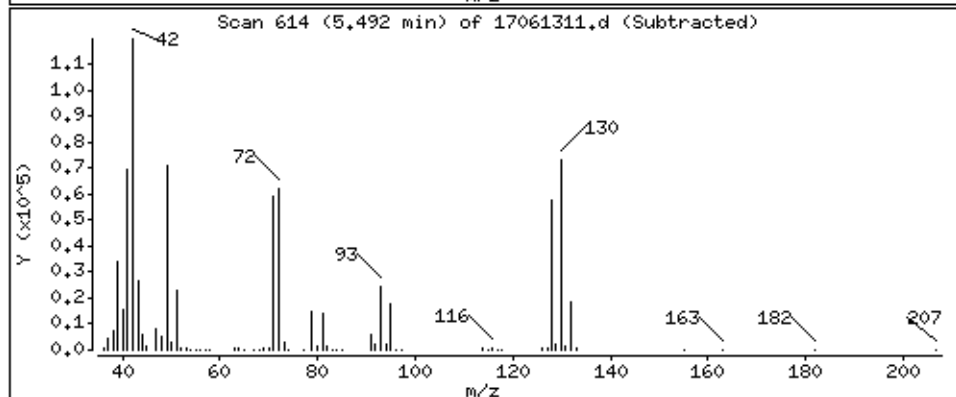
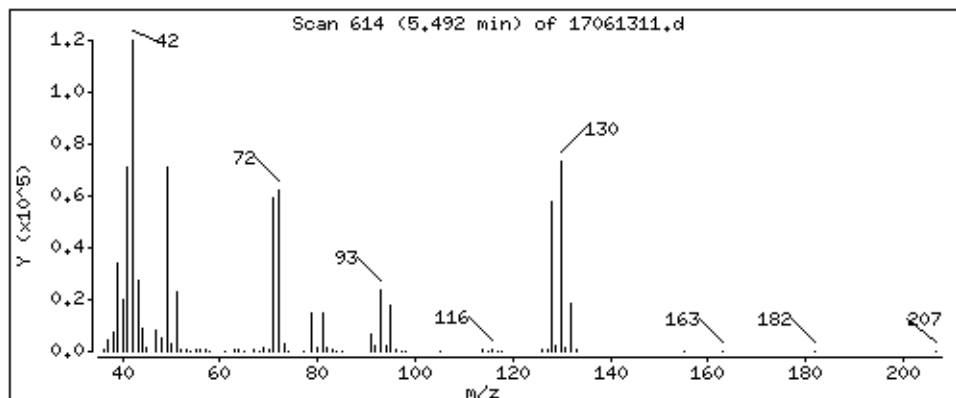
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

99 Tetrahydrofuran

Concentration: 48,323 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

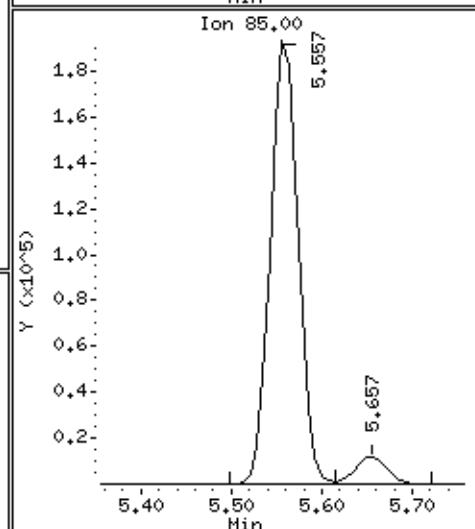
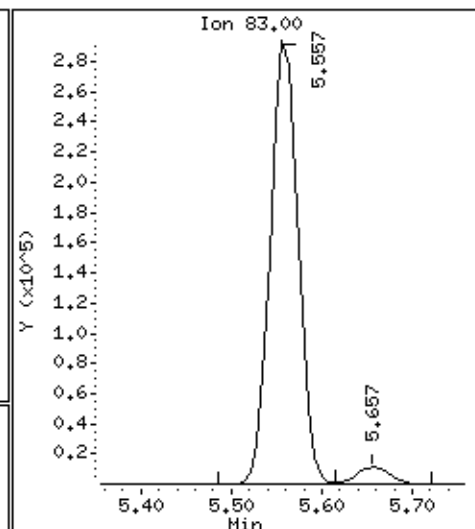
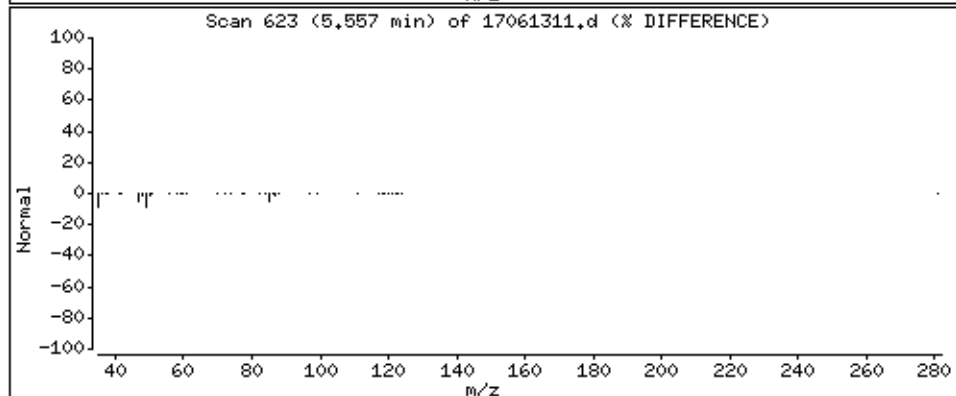
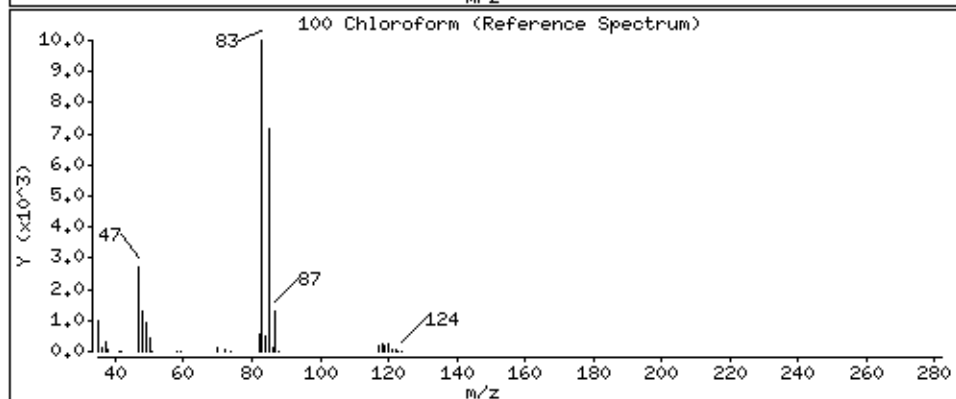
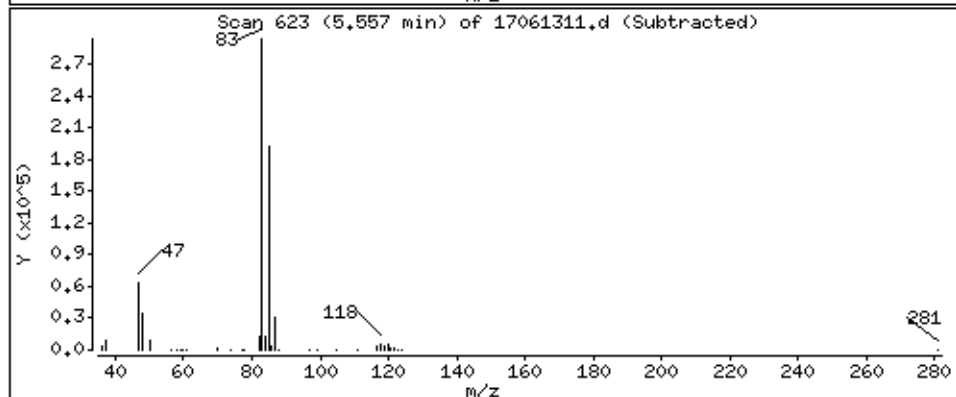
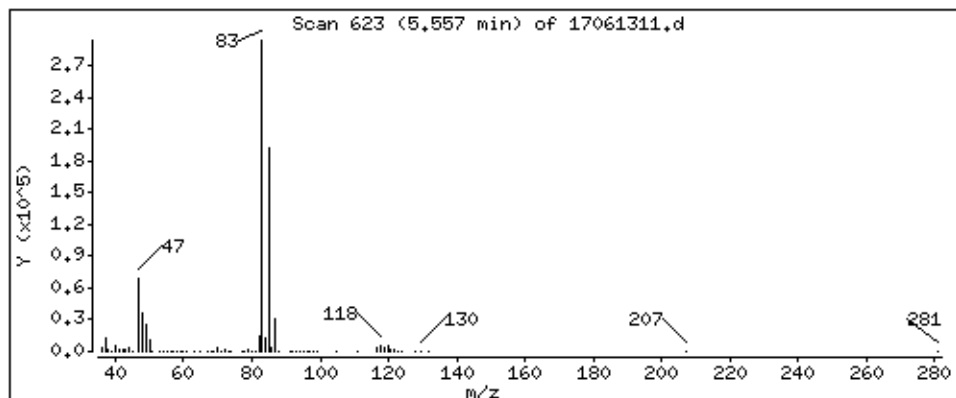
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

100 Chloroform

Concentration: 50.010 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

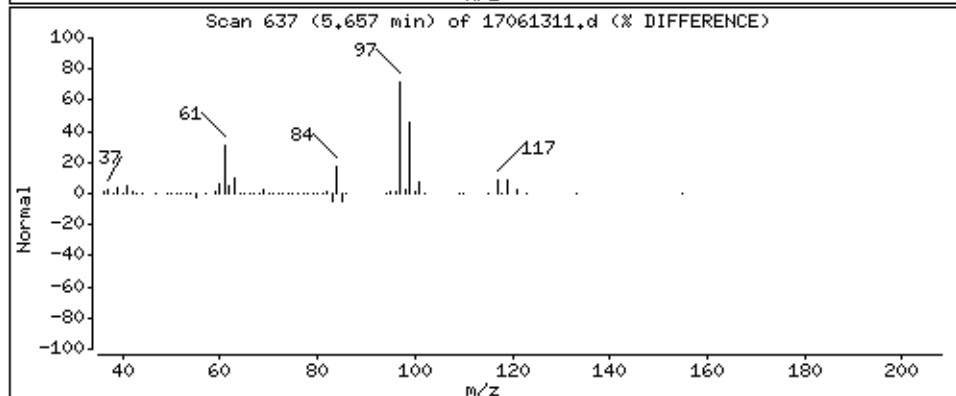
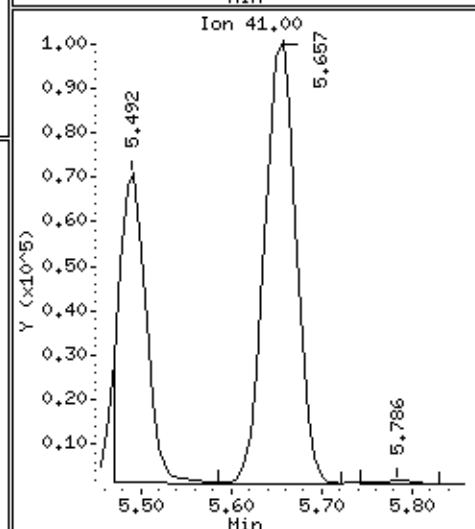
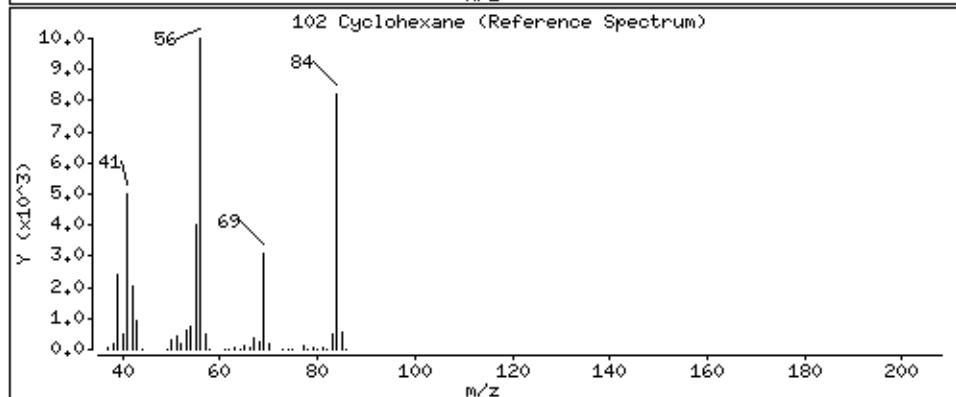
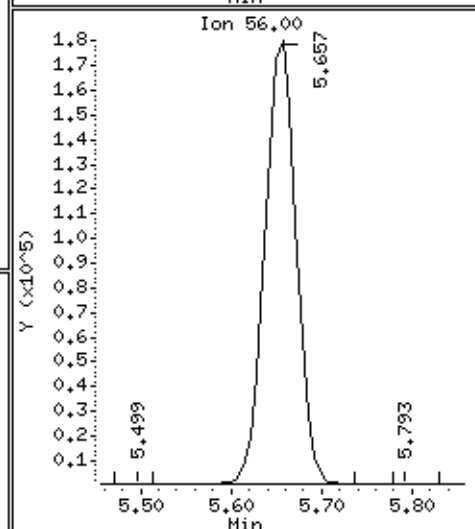
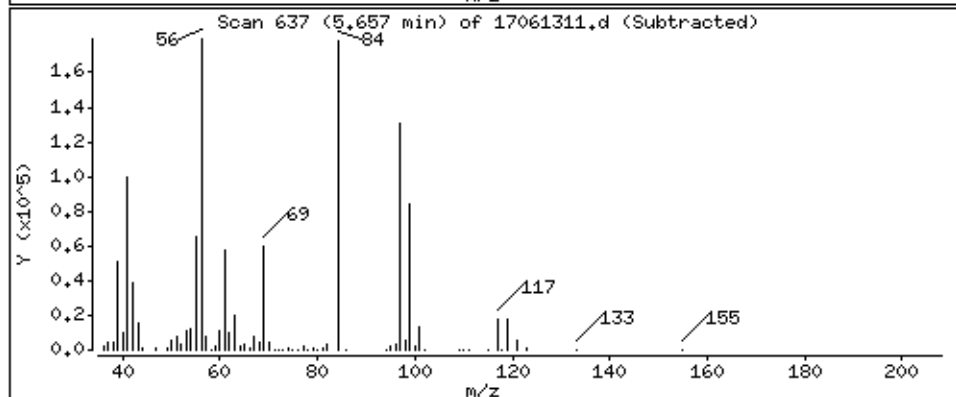
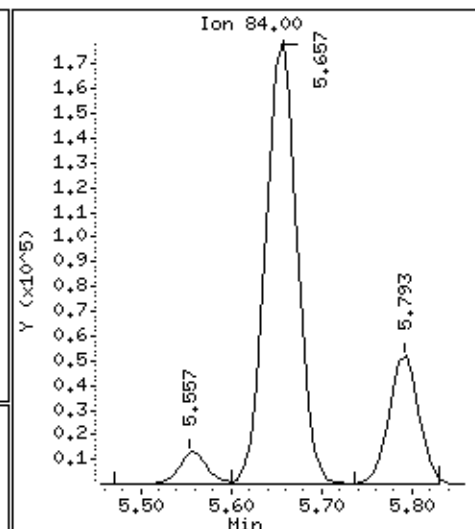
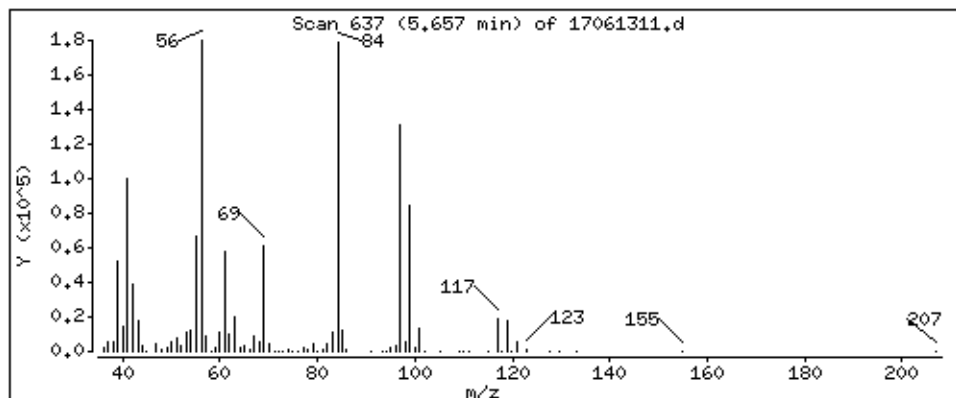
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

102 Cyclohexane

Concentration: 50.992 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

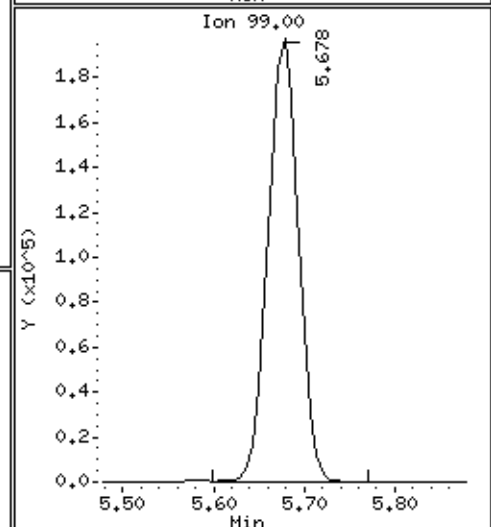
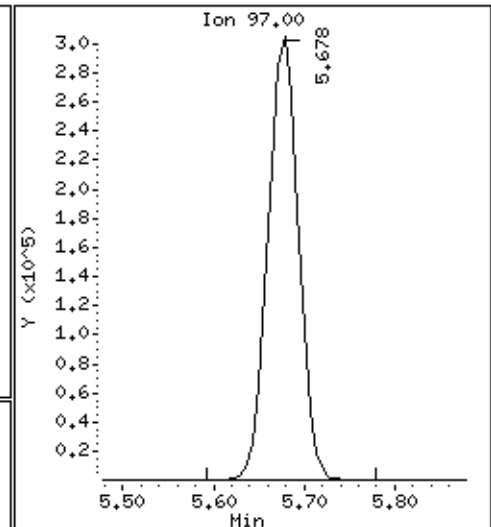
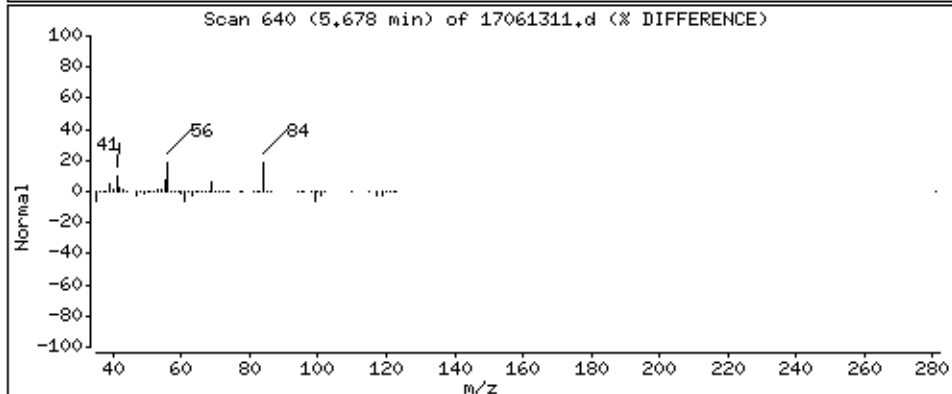
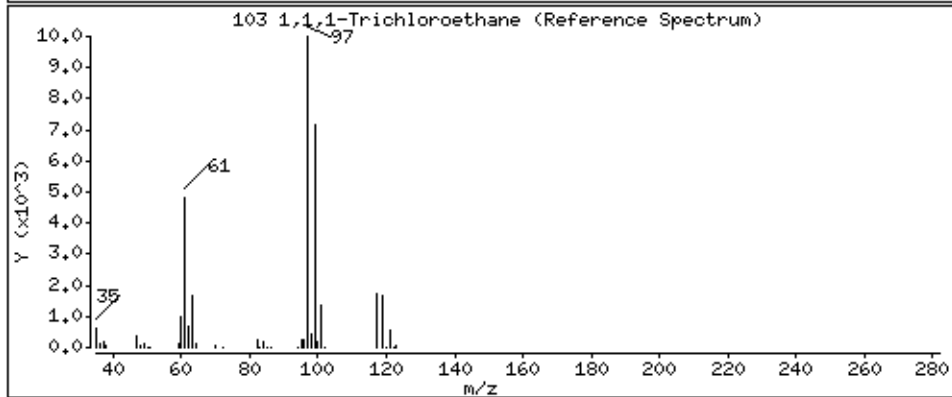
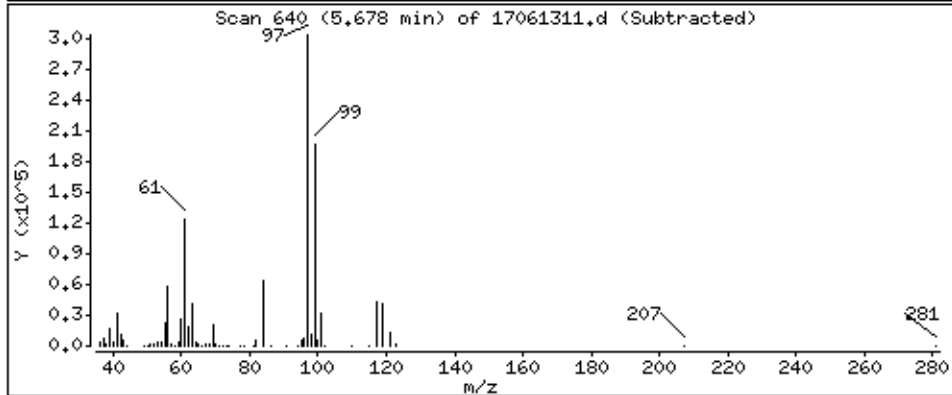
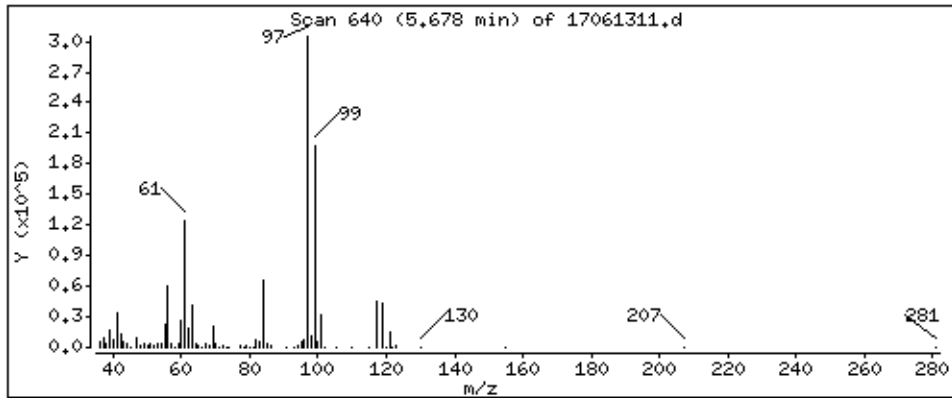
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

103 1,1,1-Trichloroethane

Concentration: 51,126 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

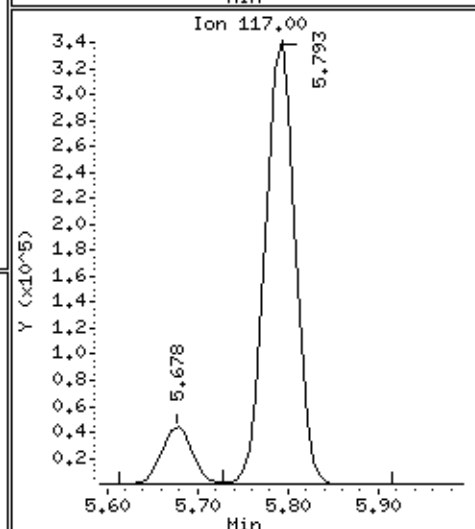
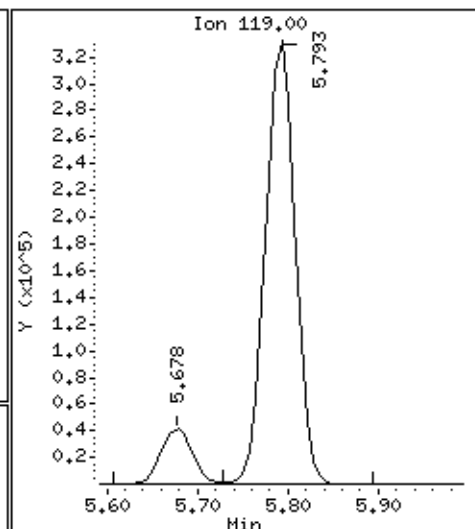
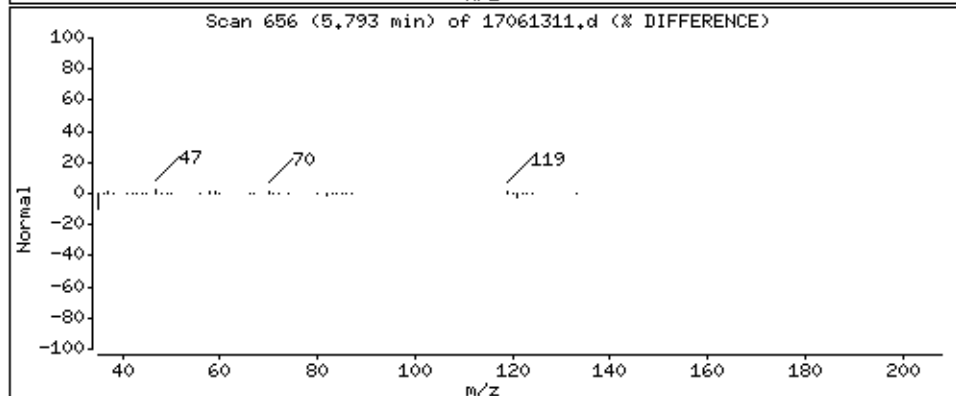
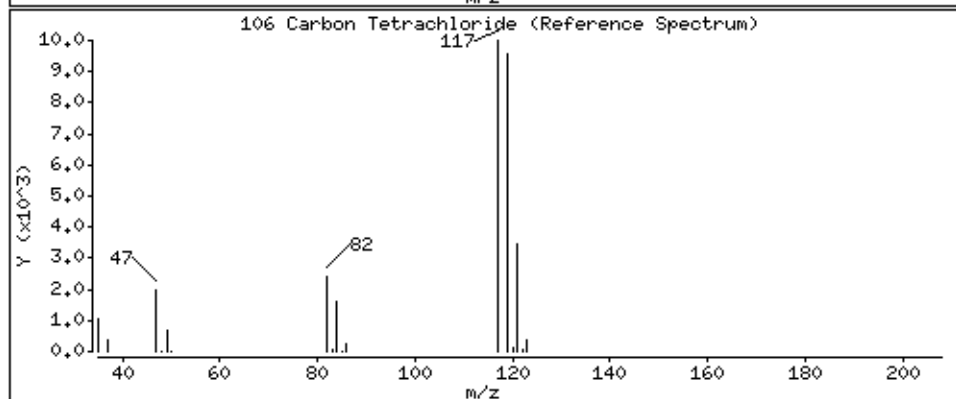
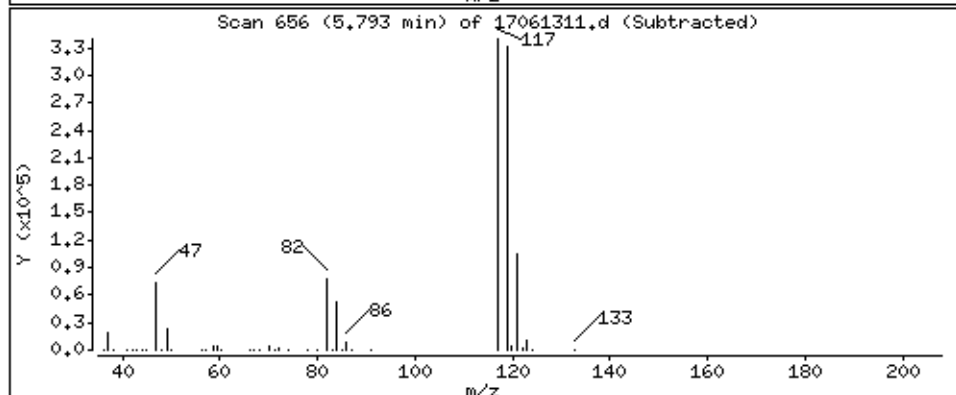
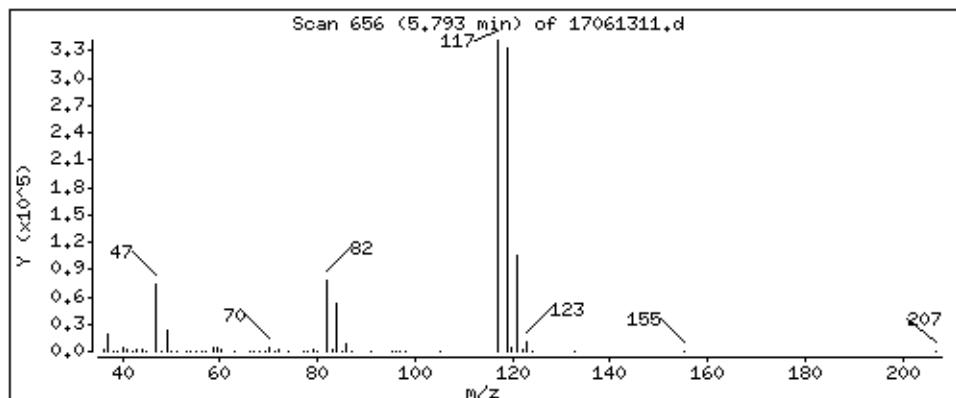
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

106 Carbon Tetrachloride

Concentration: 49,843 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

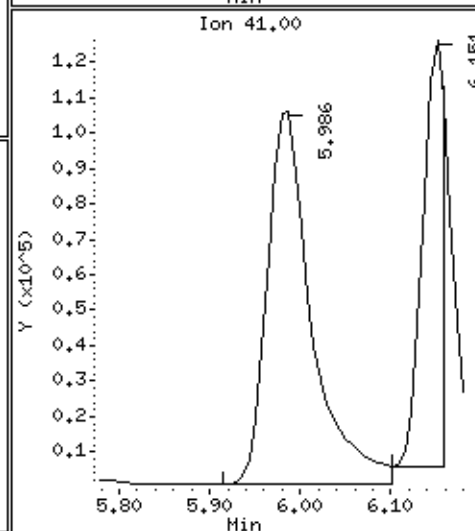
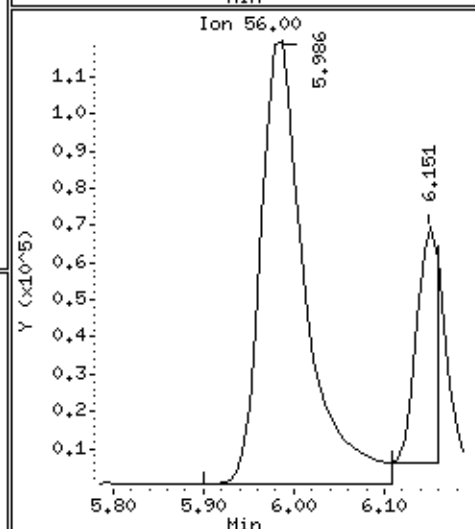
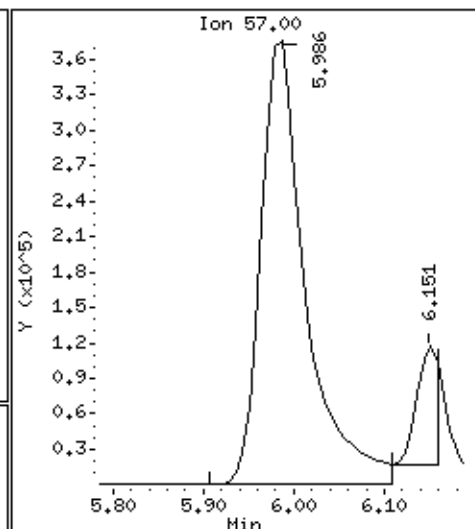
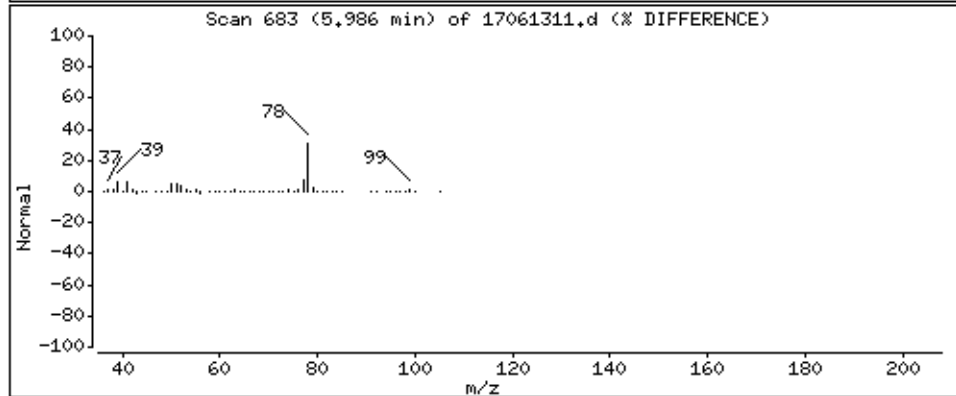
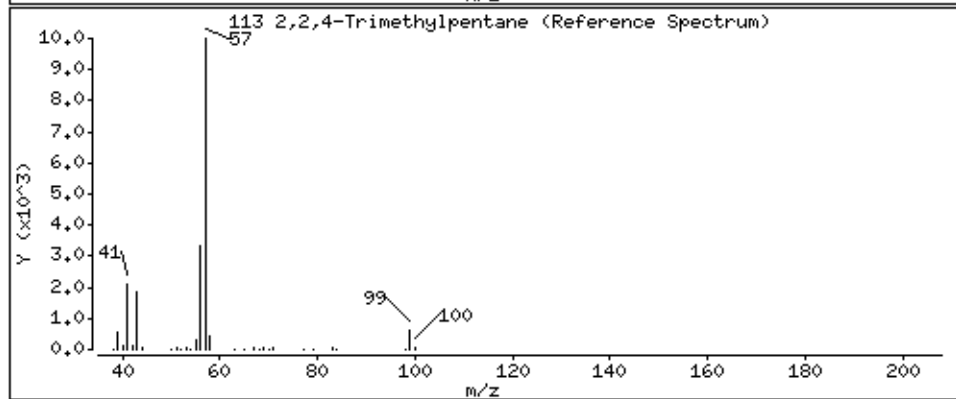
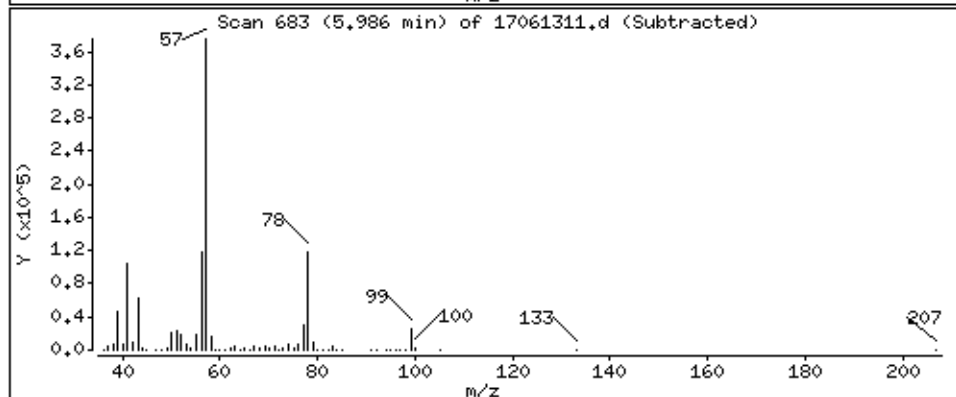
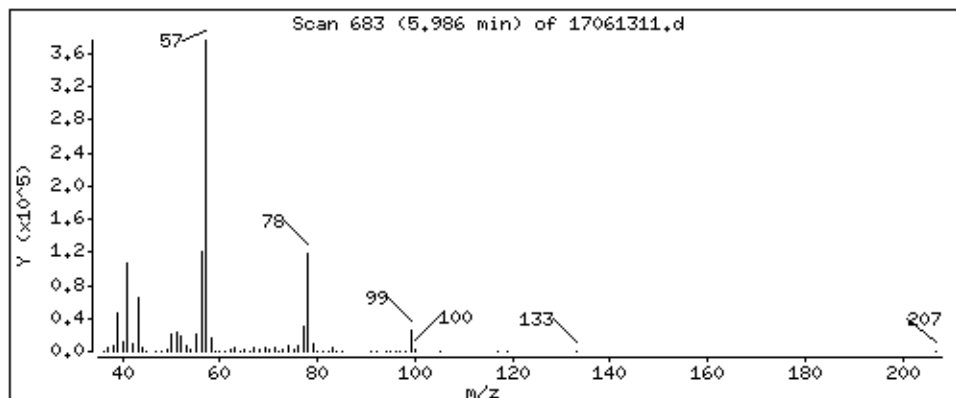
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

113 2,2,4-Trimethylpentane

Concentration: 50.852 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

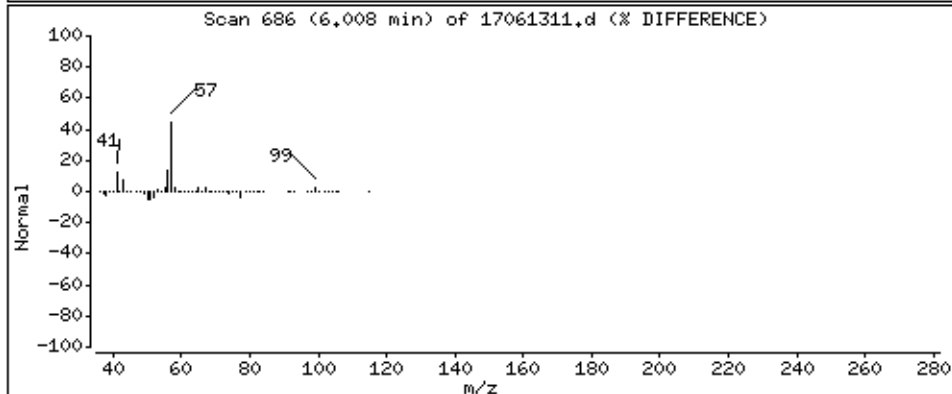
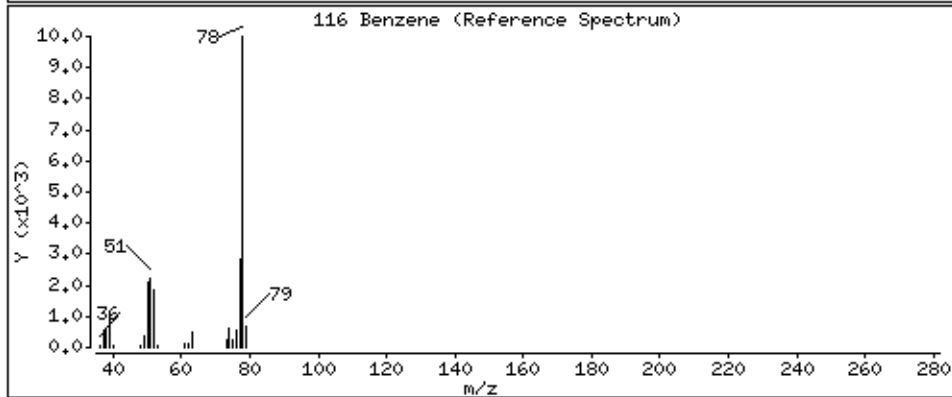
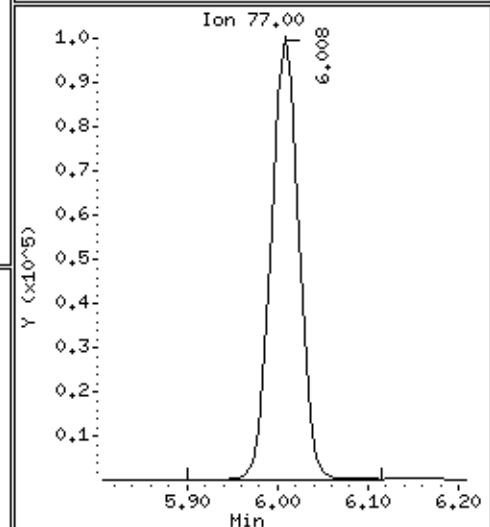
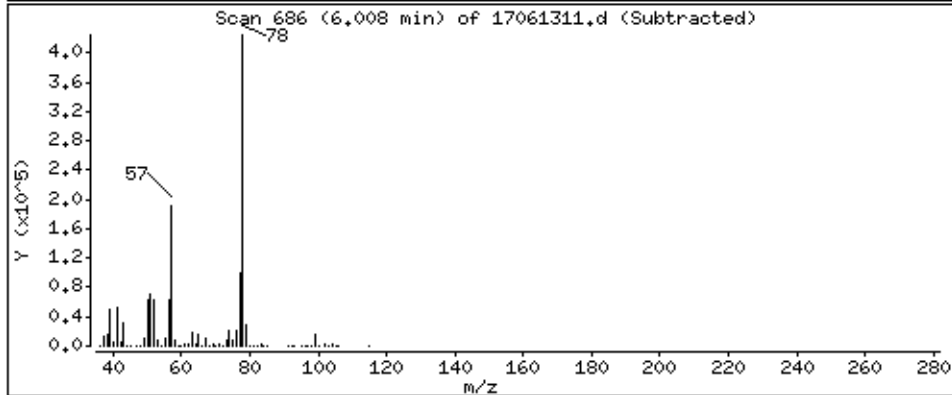
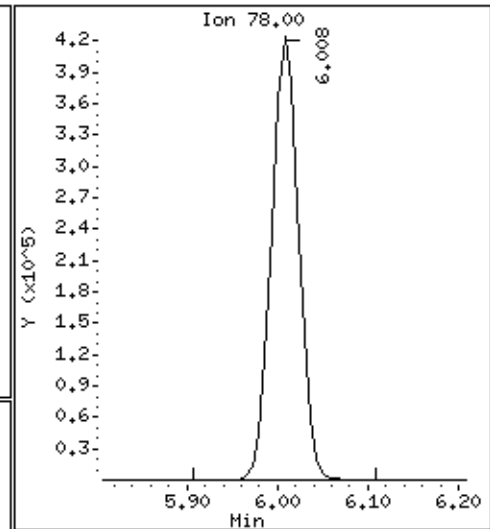
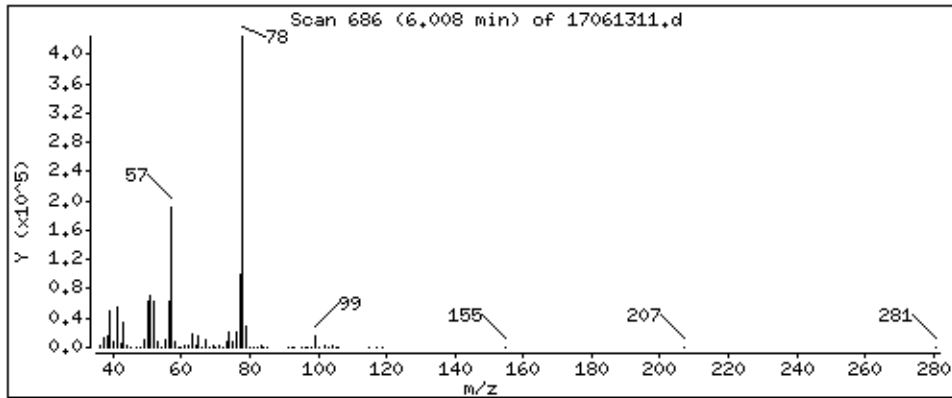
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

116 Benzene

Concentration: 48,143 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

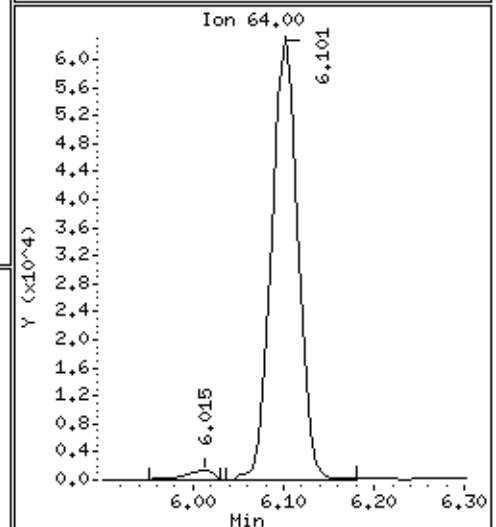
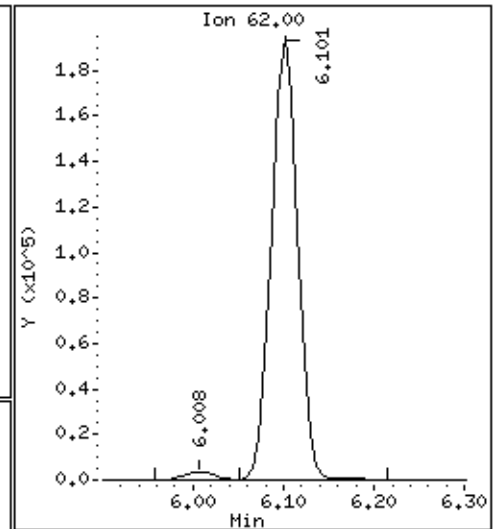
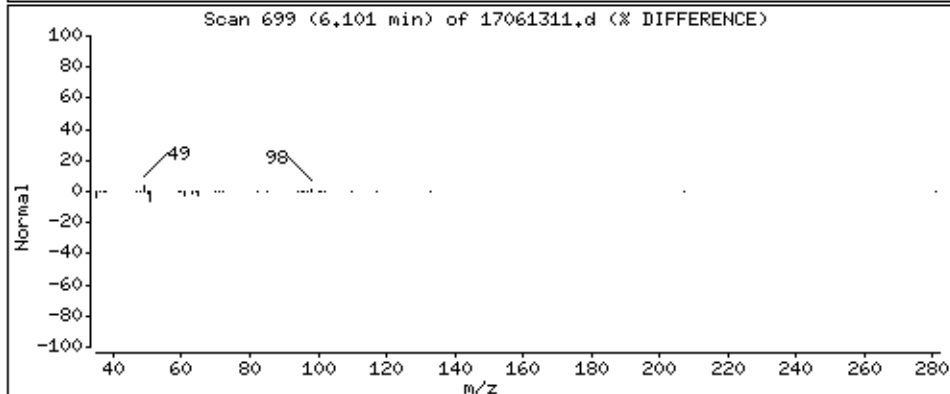
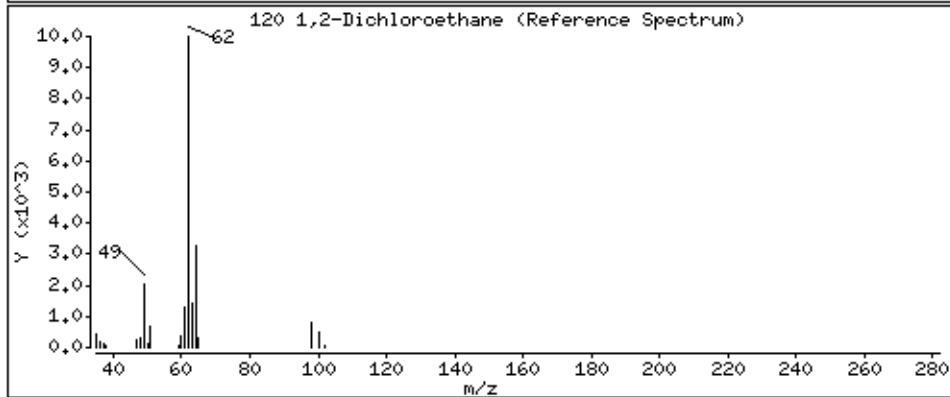
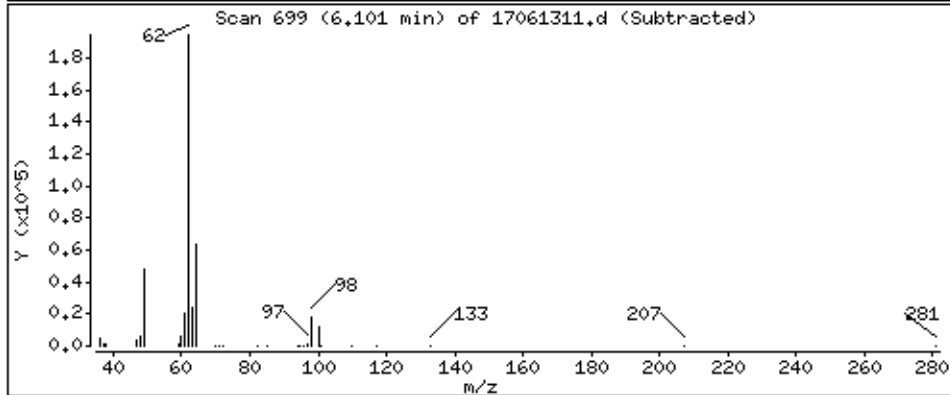
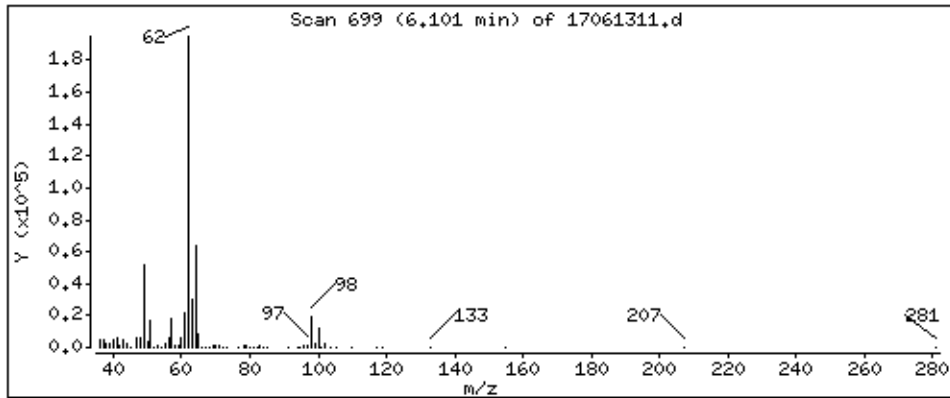
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

120 1,2-Dichloroethane

Concentration: 47,292 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

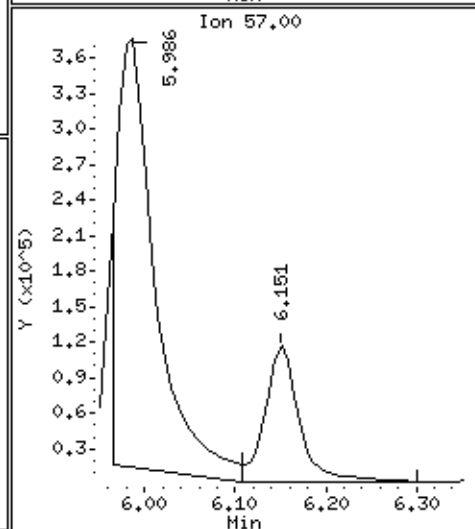
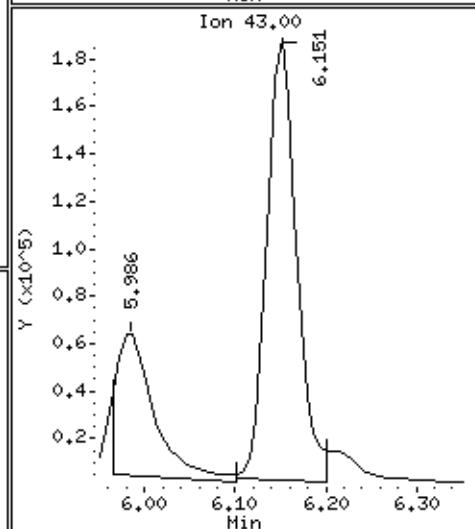
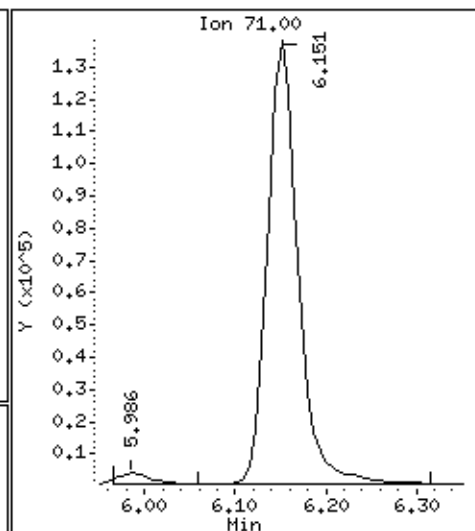
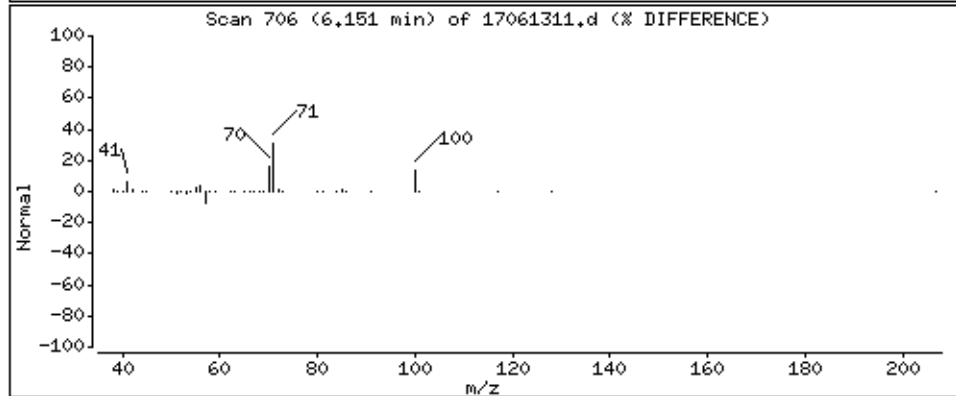
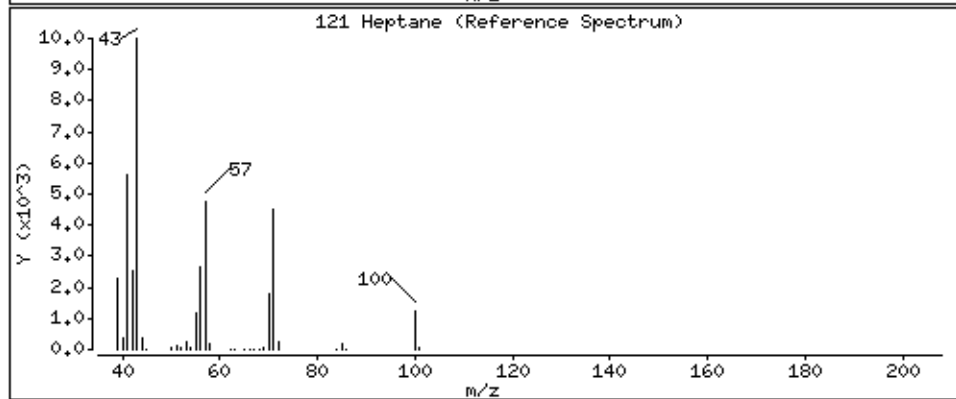
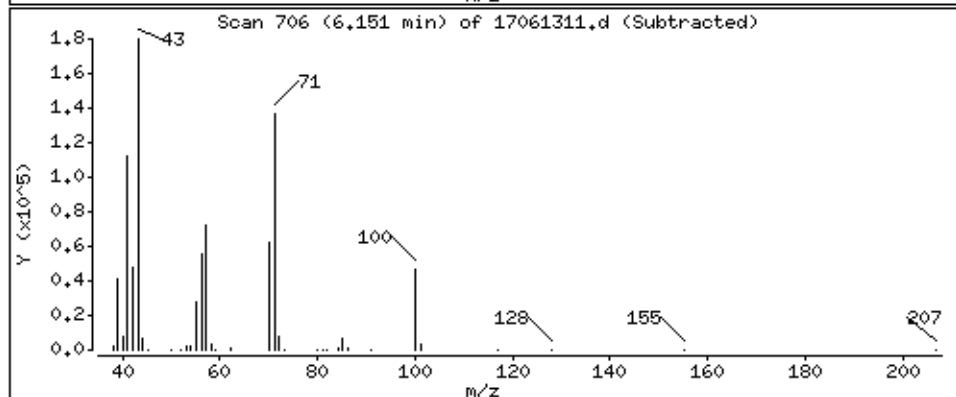
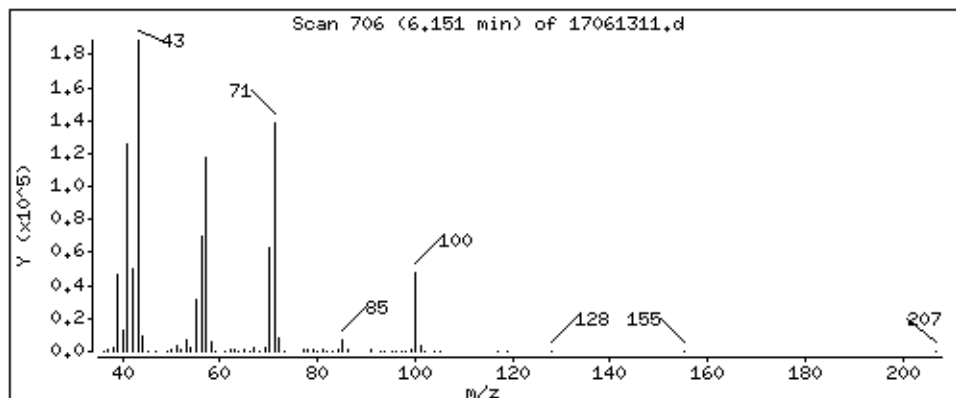
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

121 Heptane

Concentration: 49,928 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

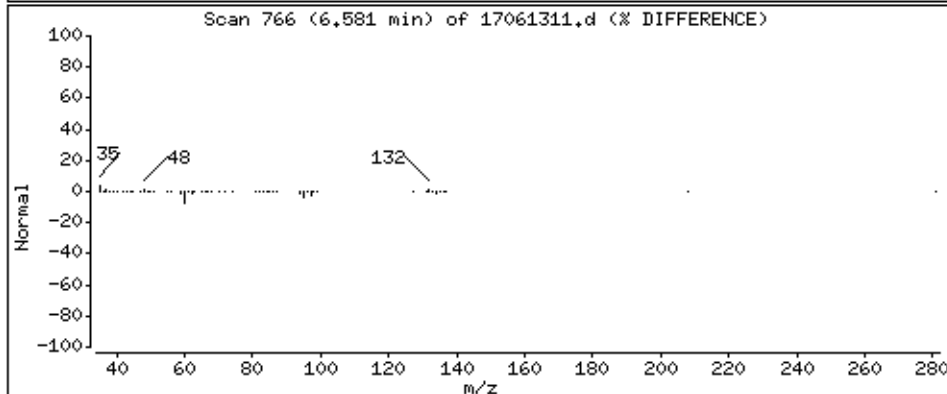
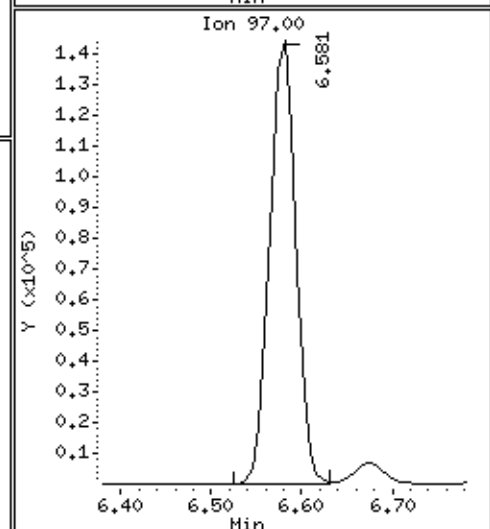
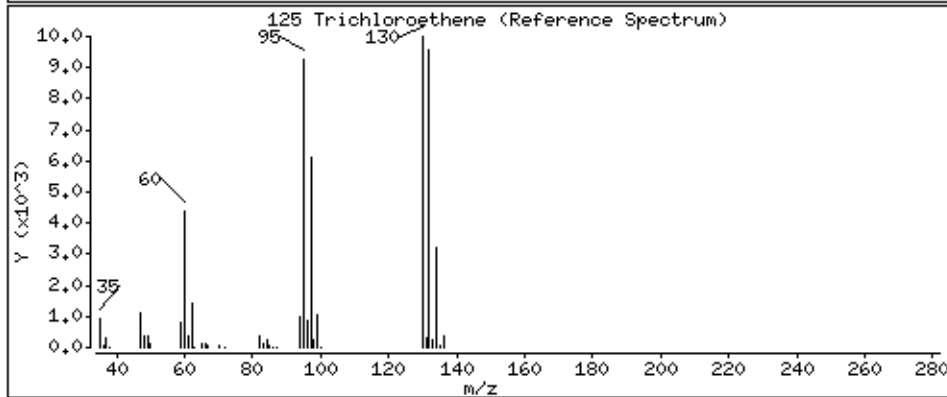
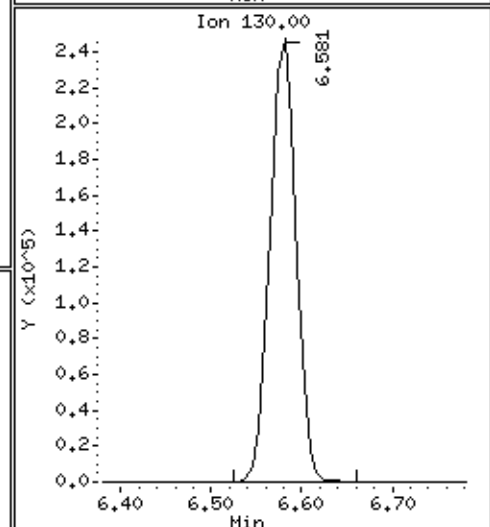
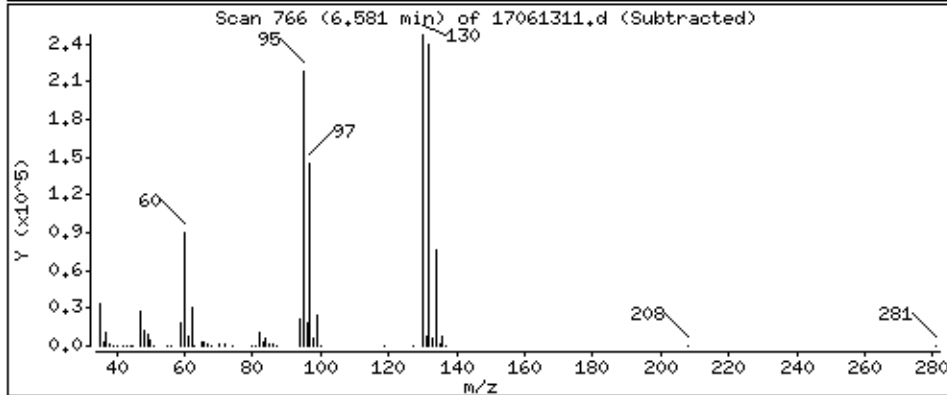
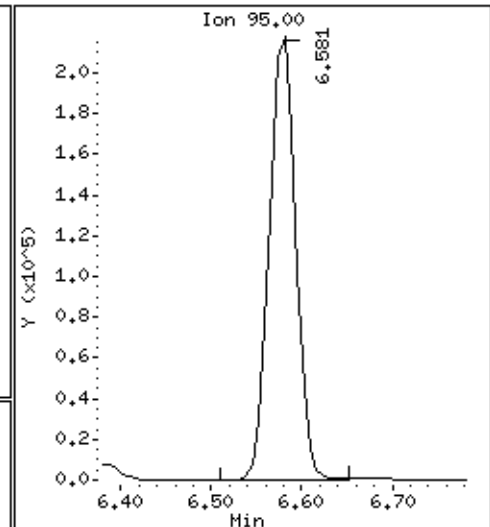
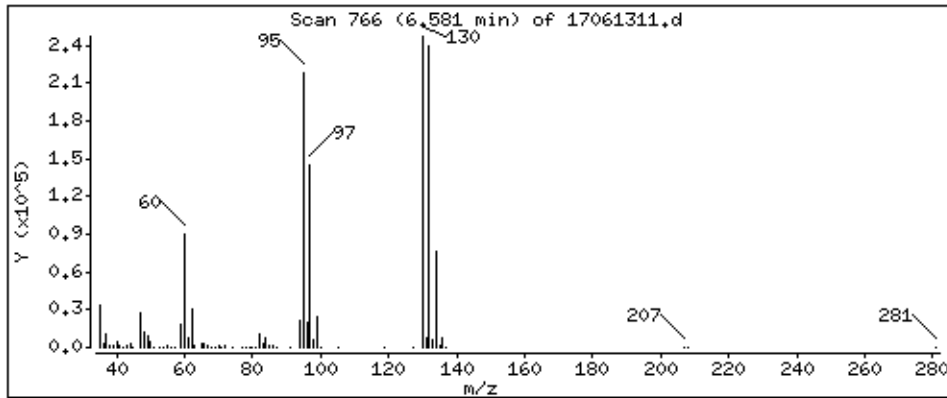
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

125 Trichloroethene

Concentration: 49,908 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

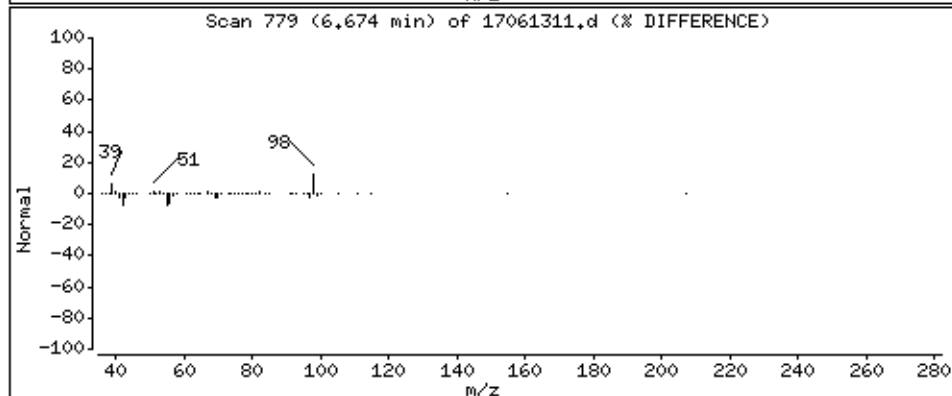
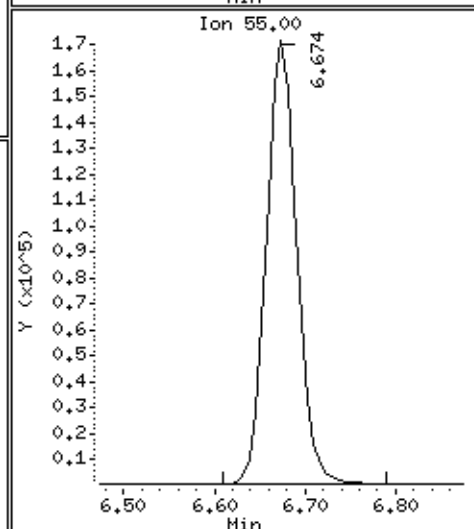
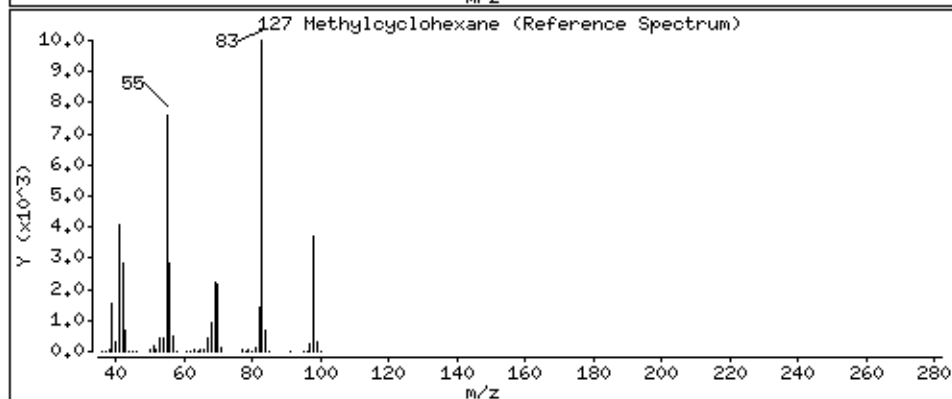
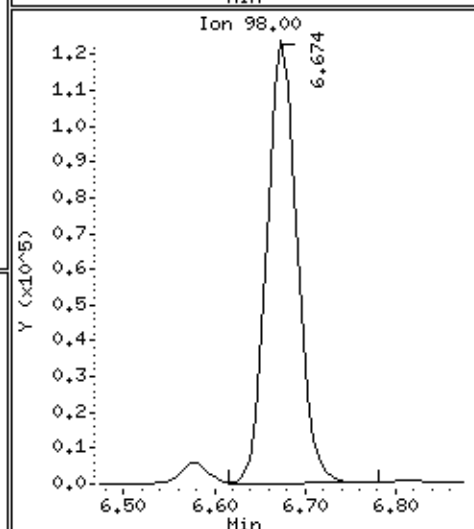
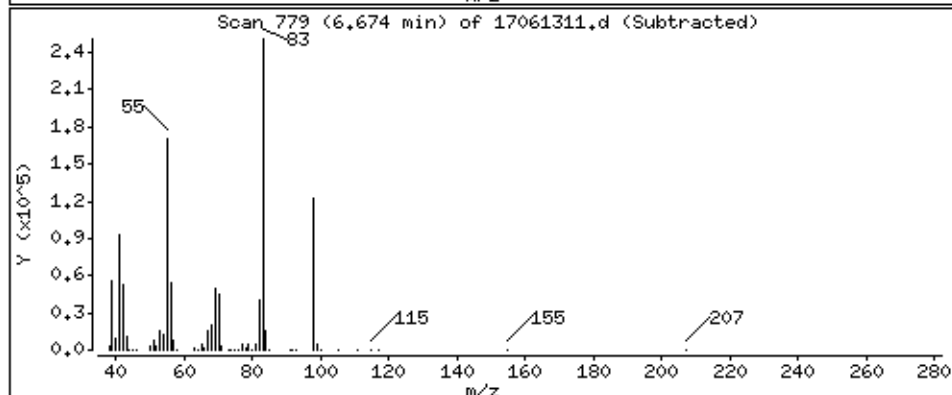
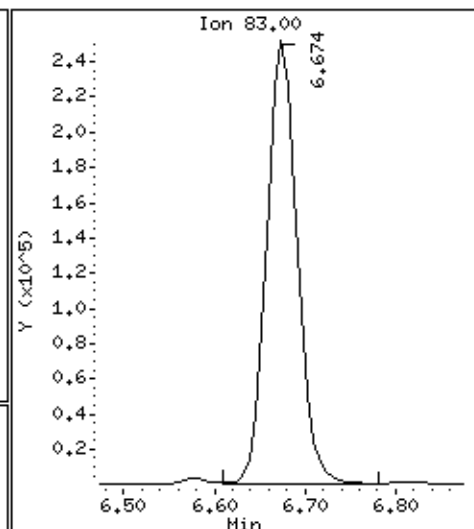
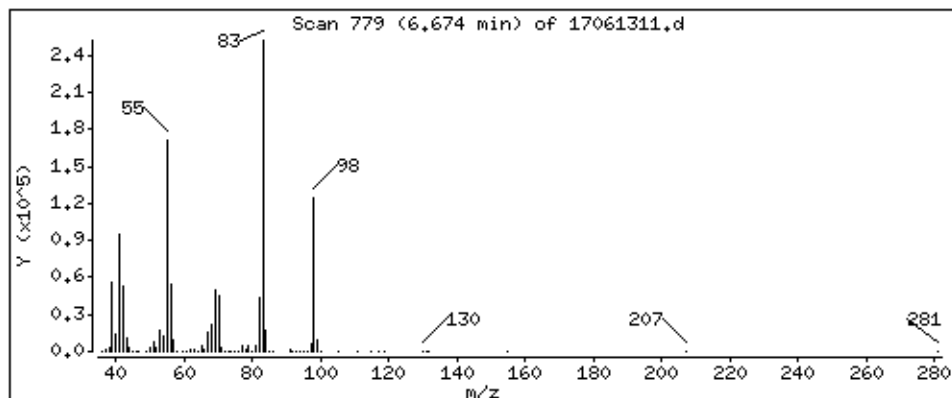
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

127 Methylcyclohexane

Concentration: 51.155 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

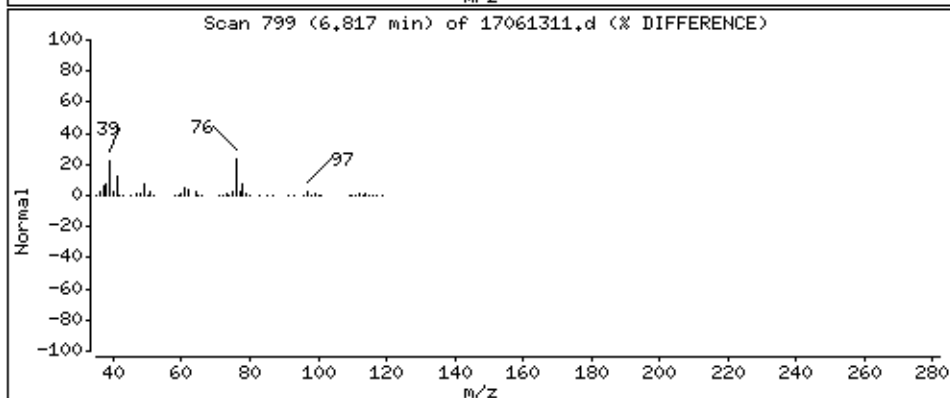
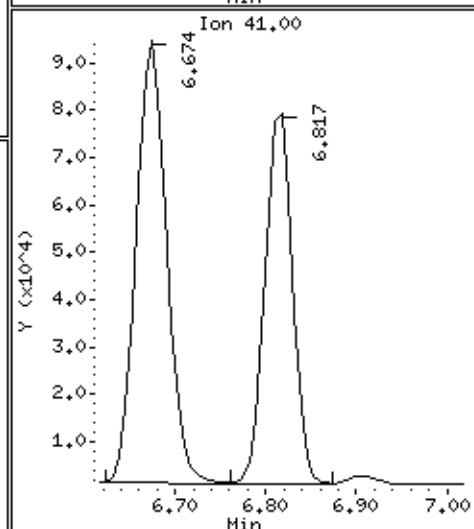
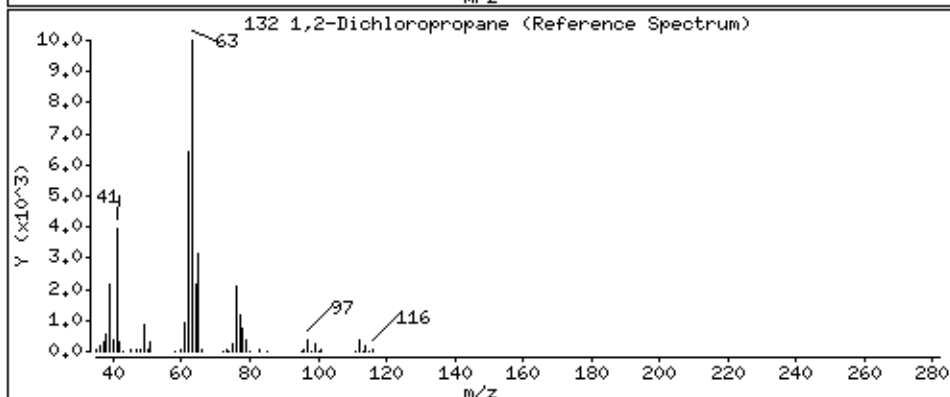
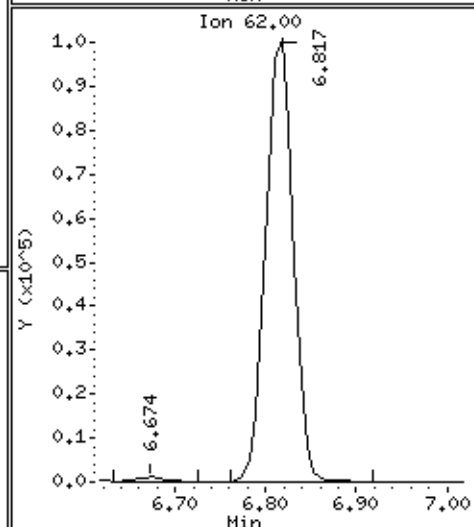
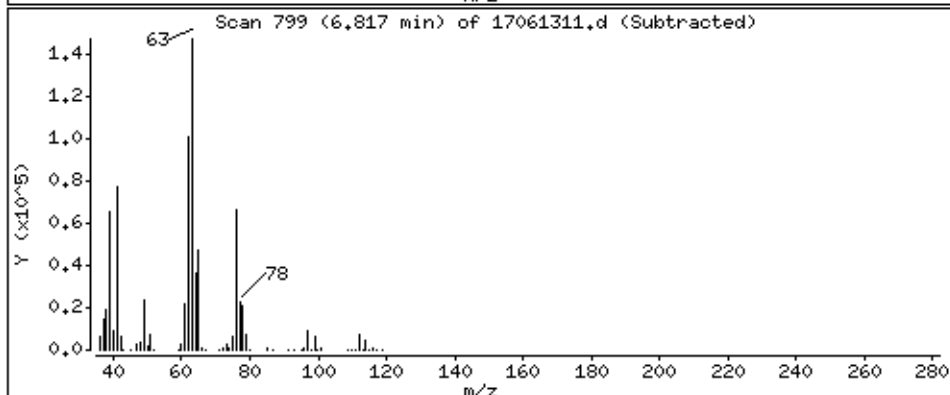
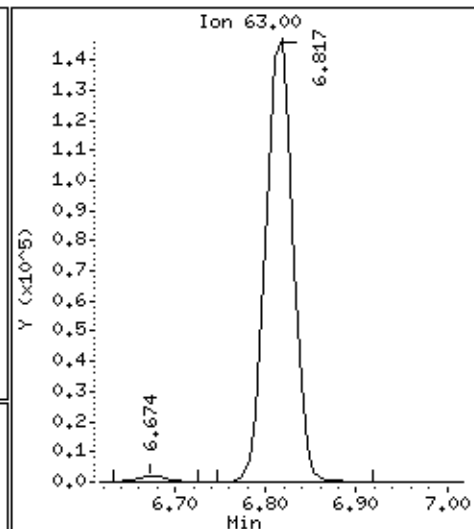
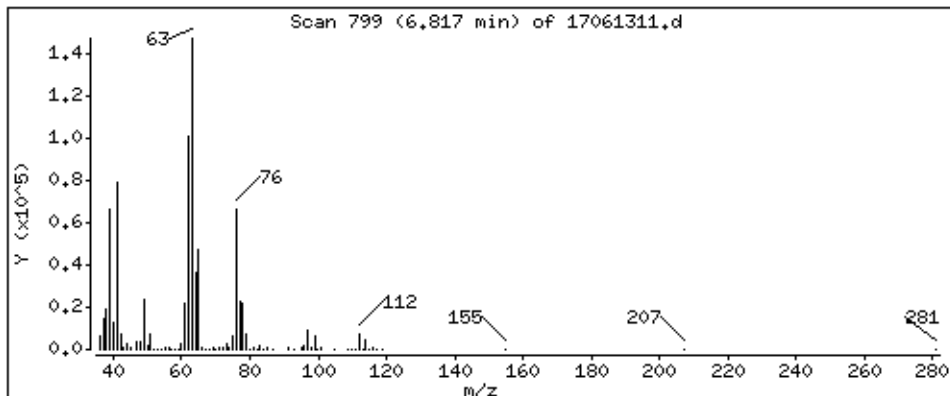
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

132 1,2-Dichloropropane

Concentration: 47,170 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

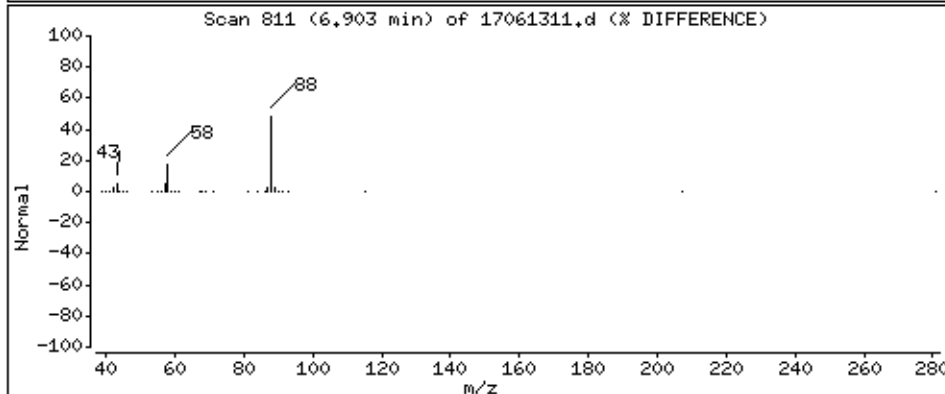
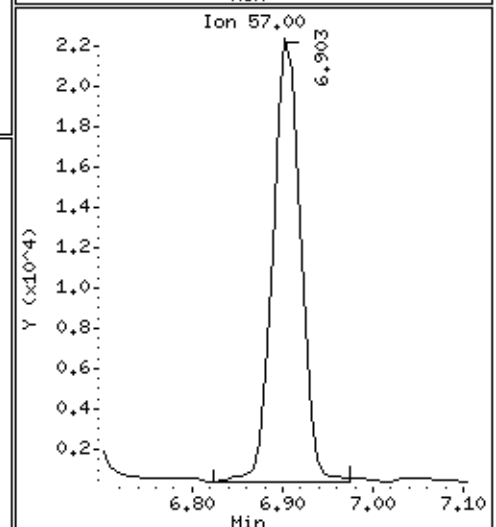
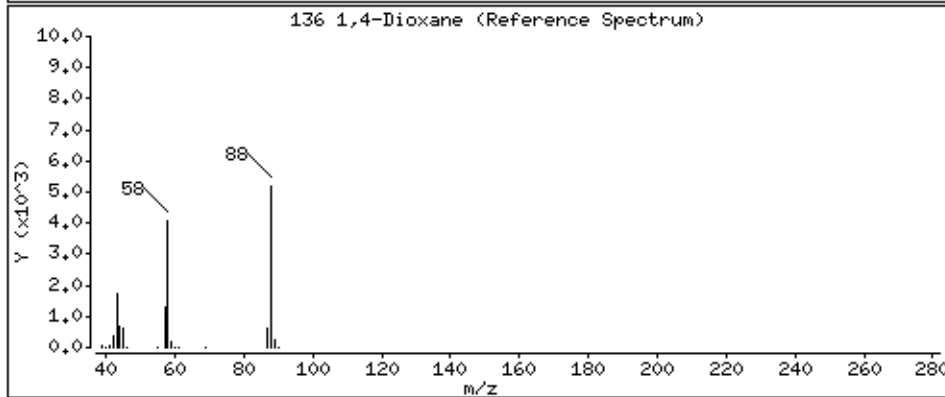
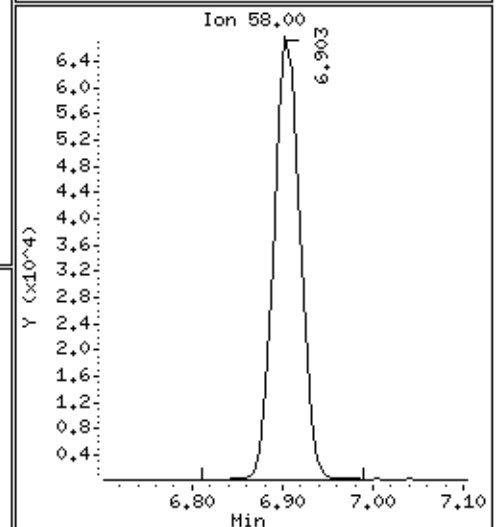
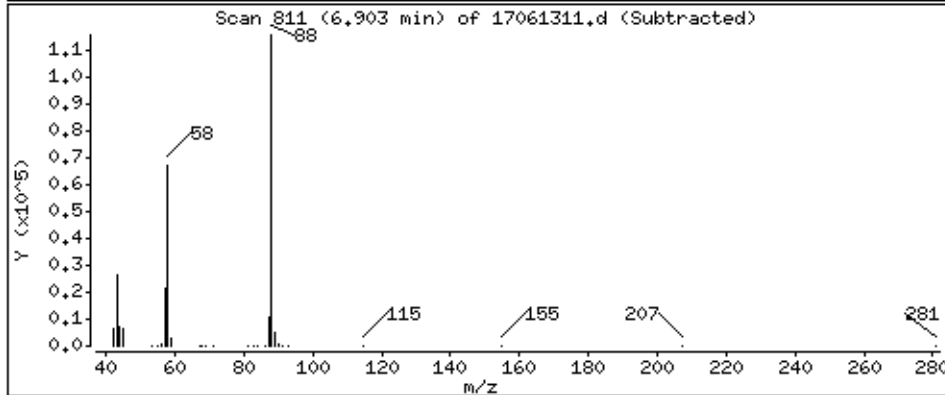
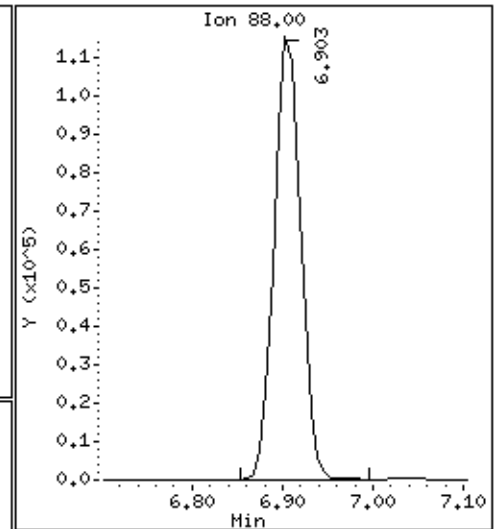
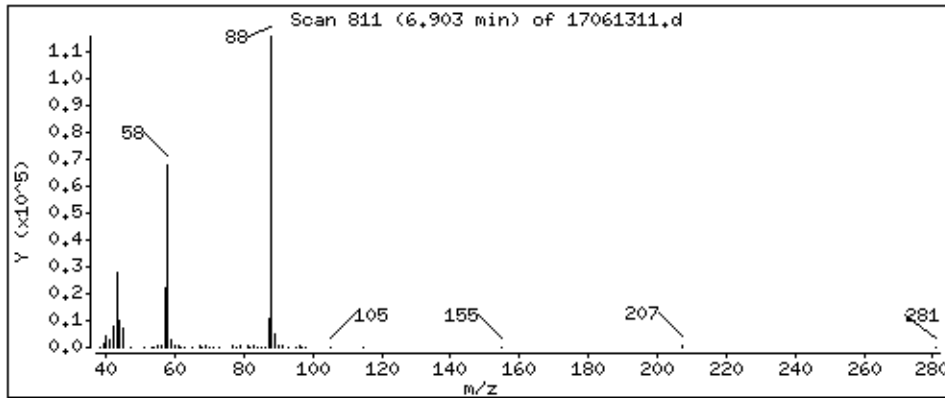
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

136 1,4-Dioxane

Concentration: 50,681 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

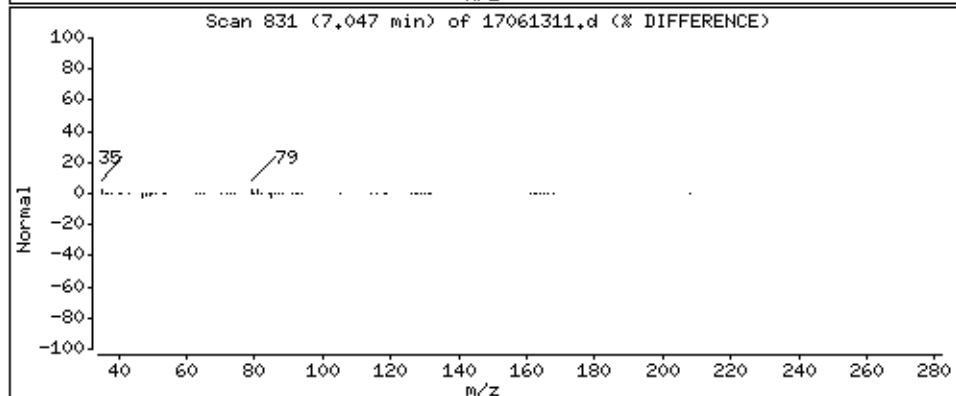
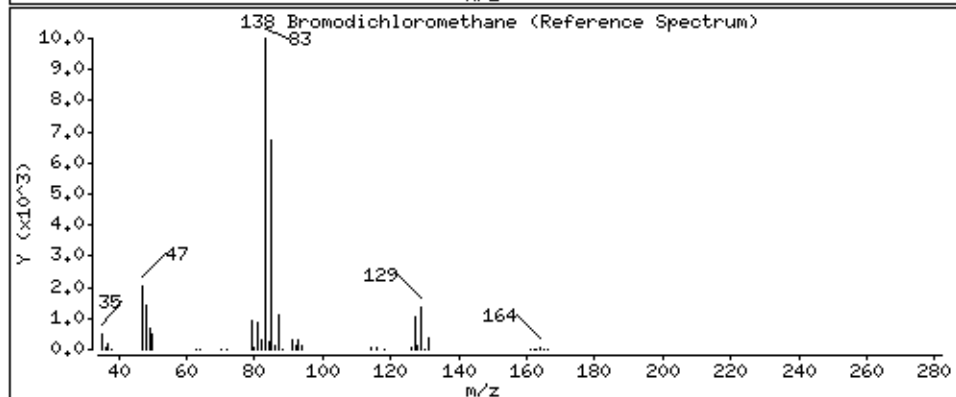
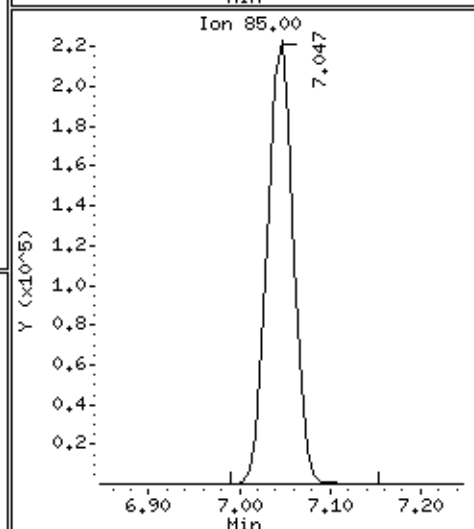
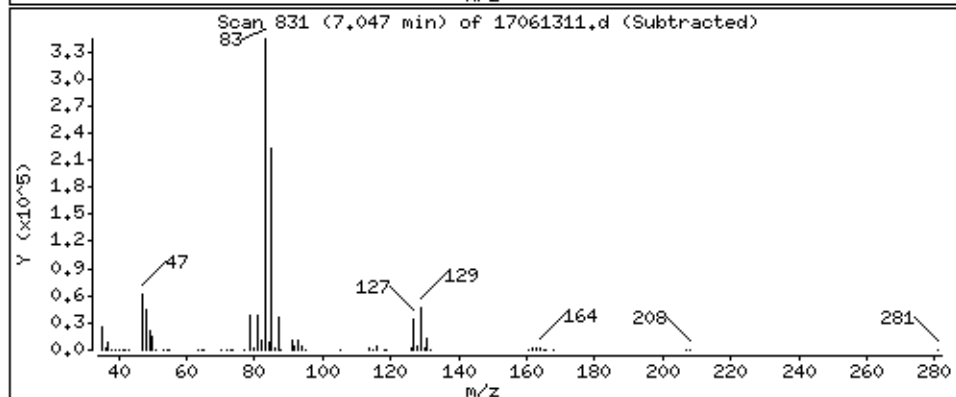
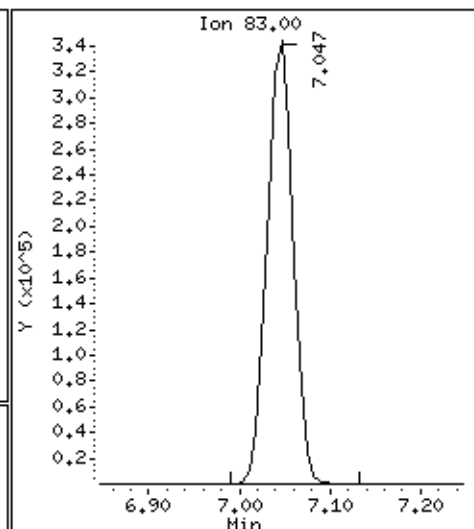
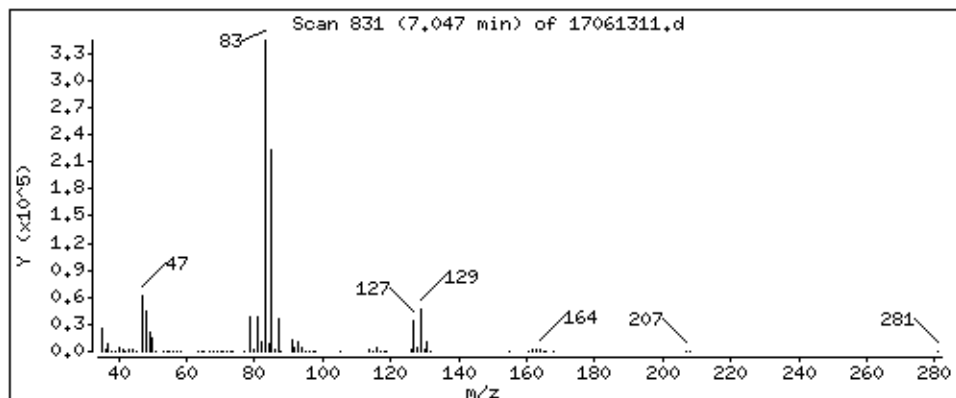
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

138 Bromodichloromethane

Concentration: 49,815 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

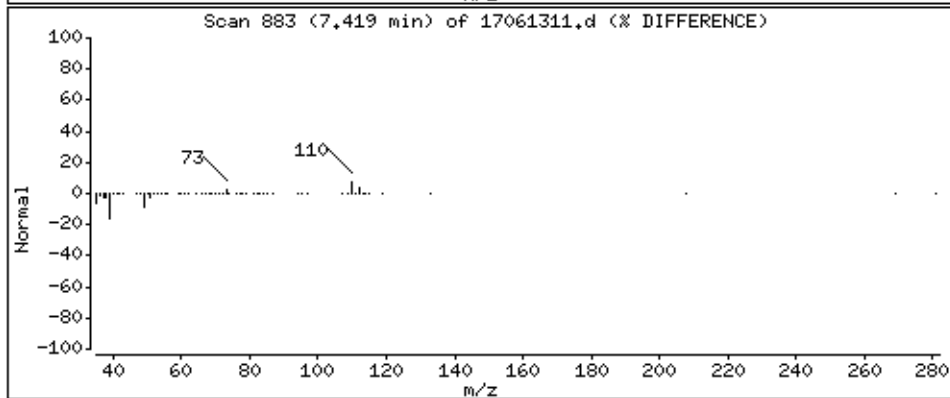
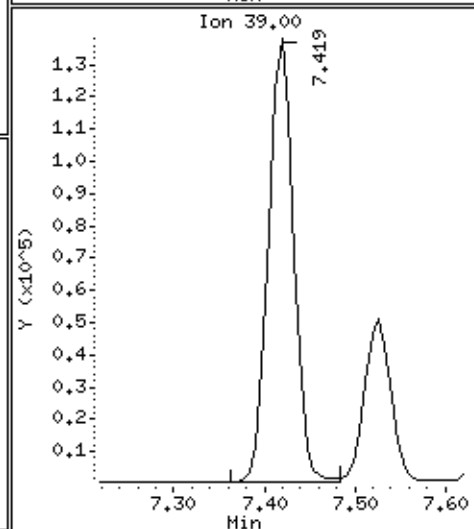
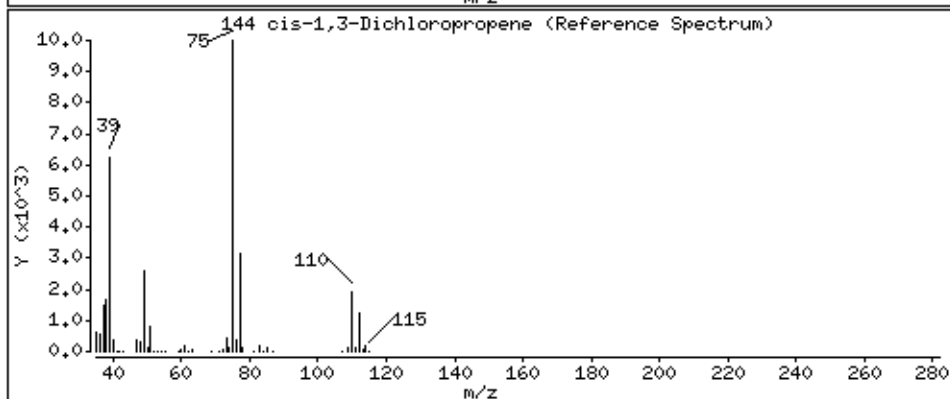
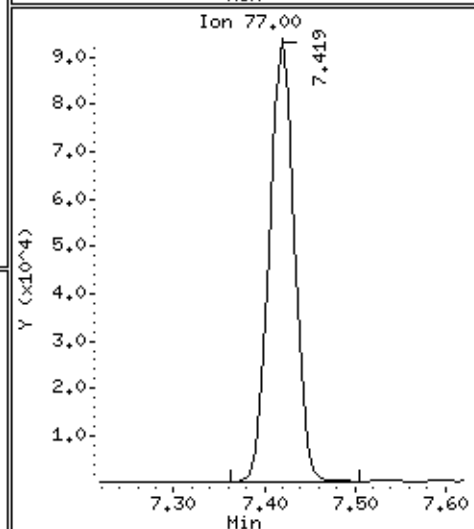
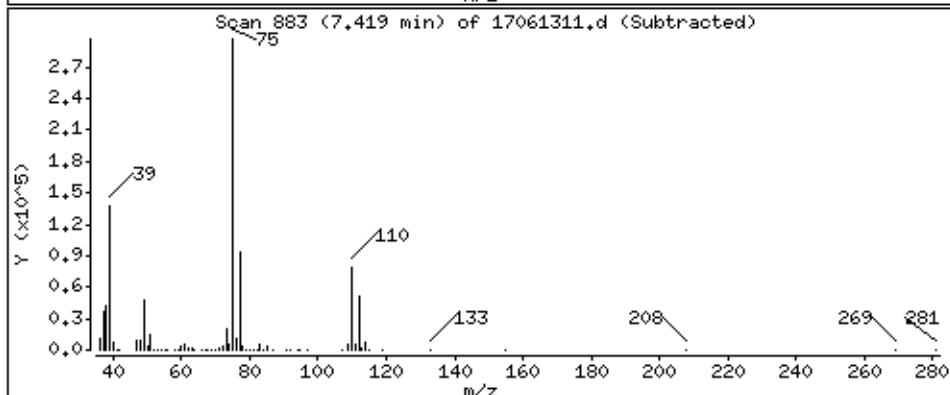
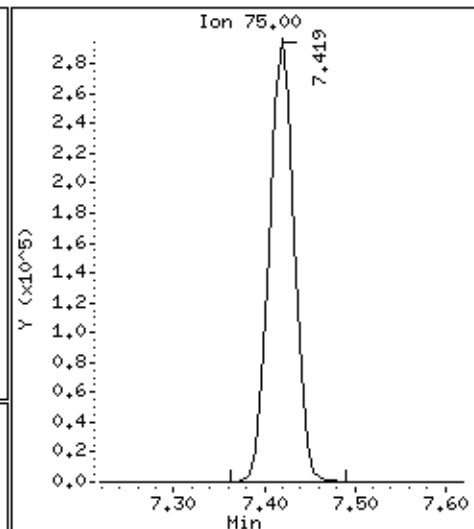
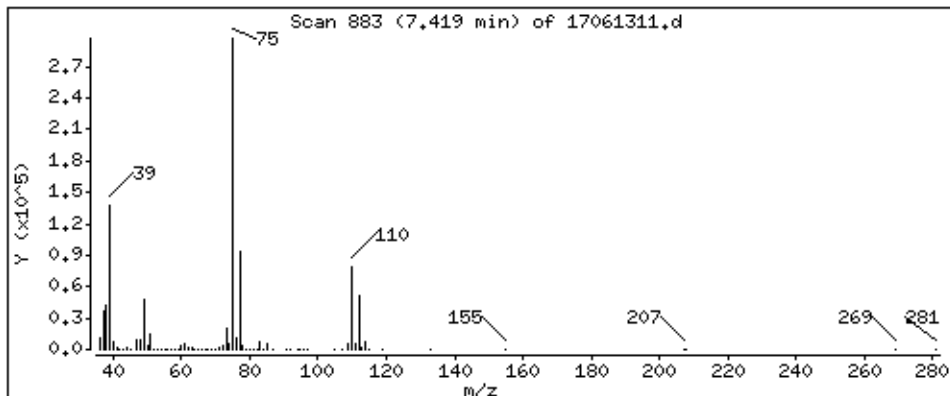
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

144 cis-1,3-Dichloropropene

Concentration: 52,604 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

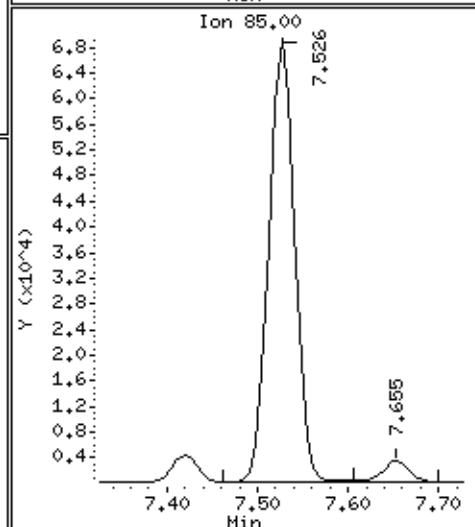
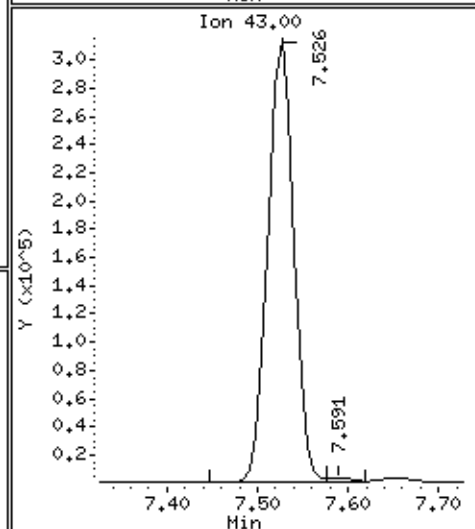
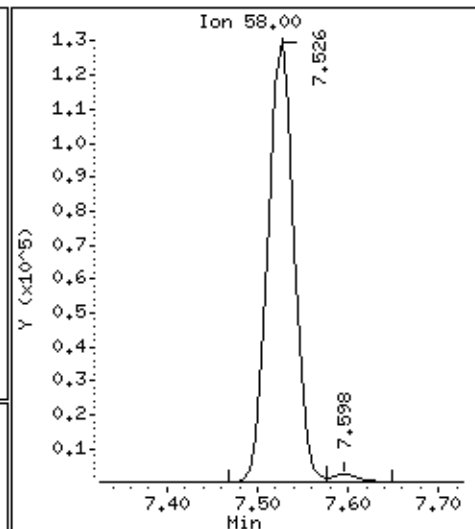
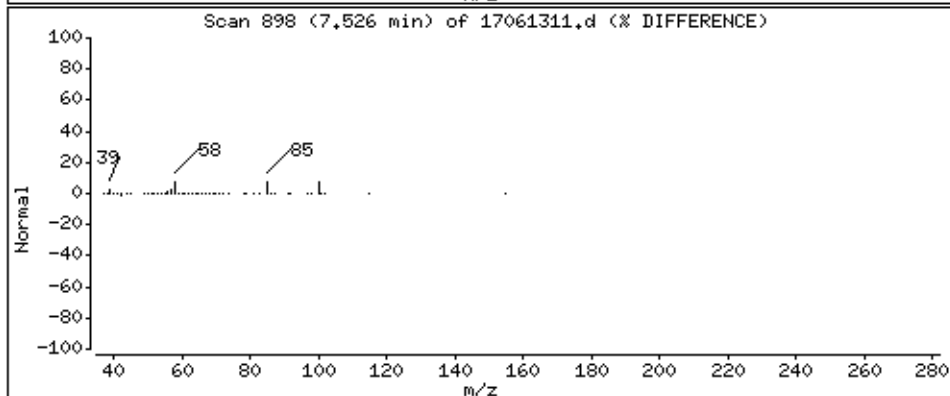
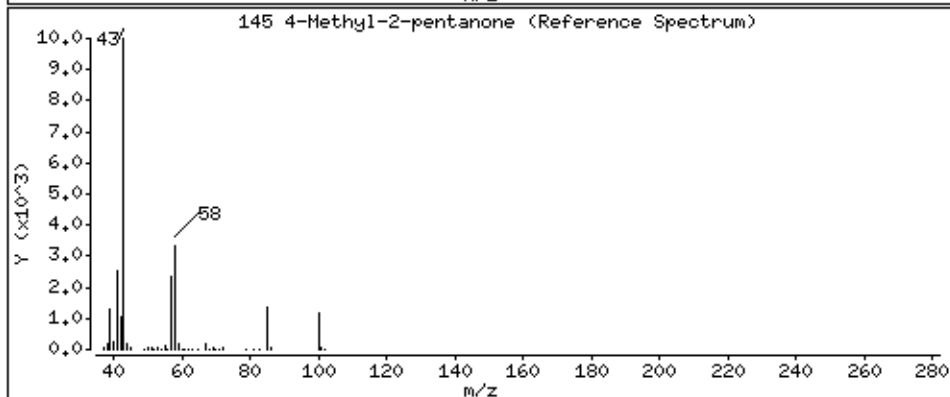
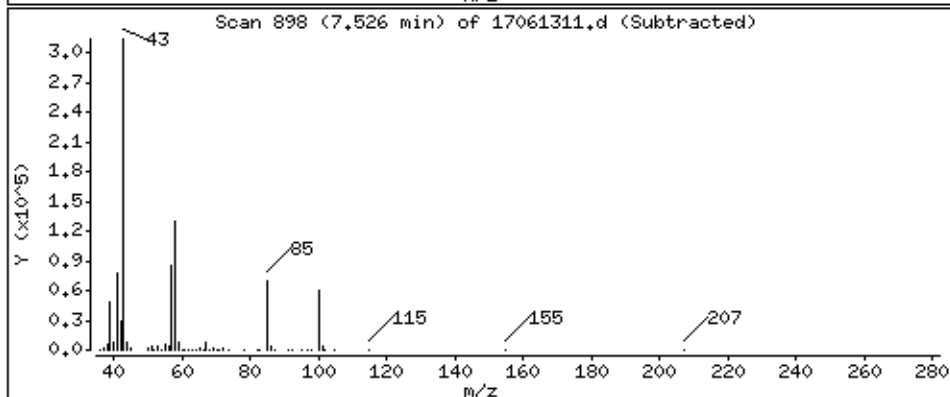
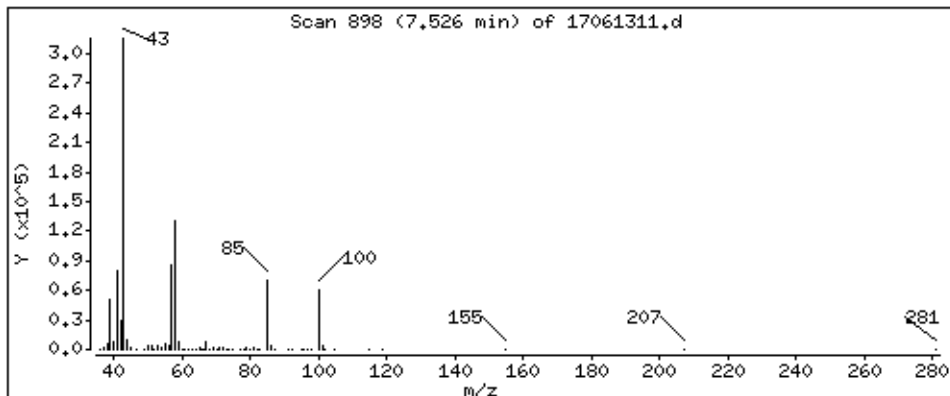
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

145 4-Methyl-2-pentanone

Concentration: 48,873 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

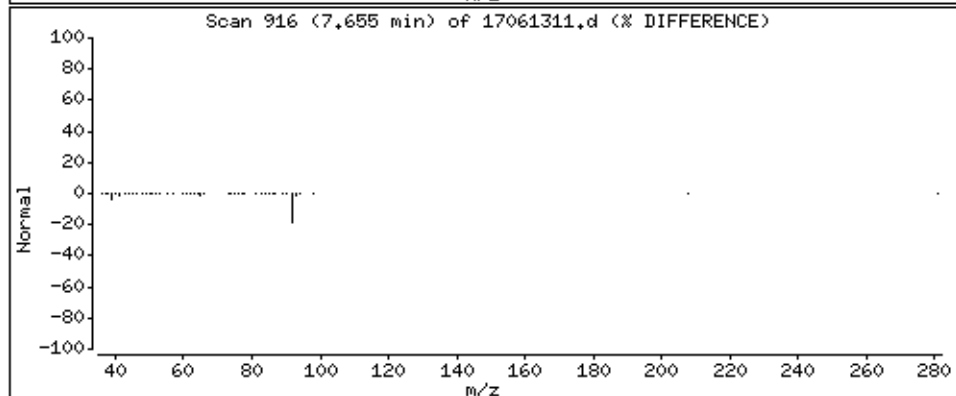
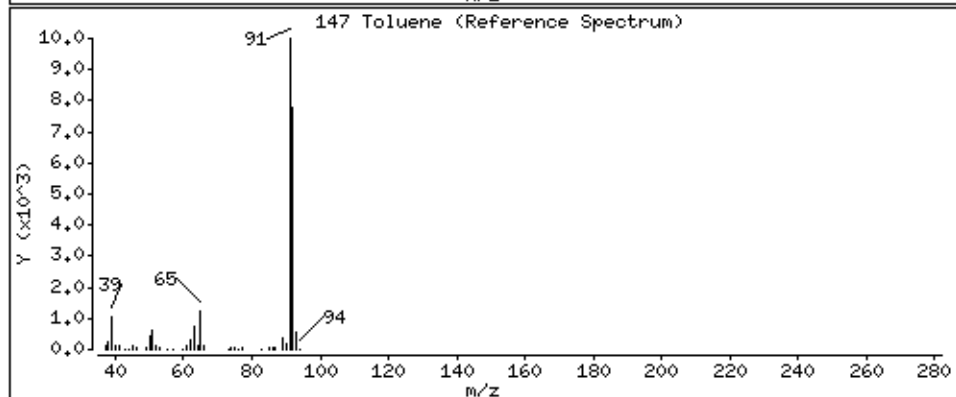
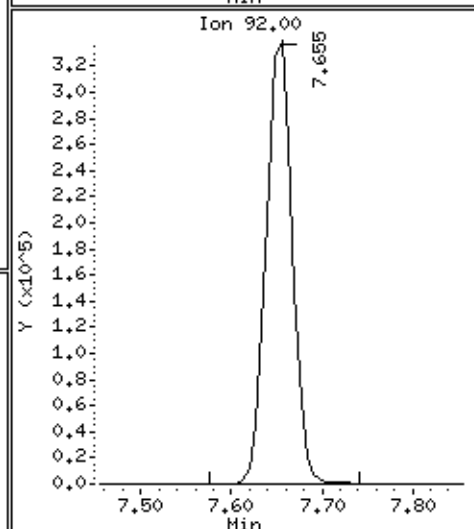
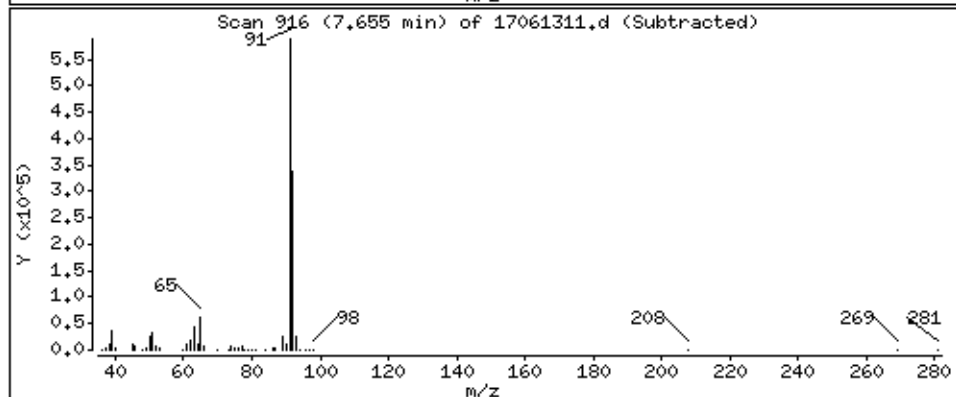
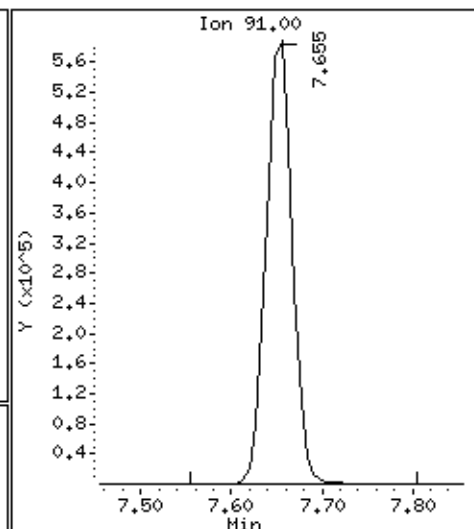
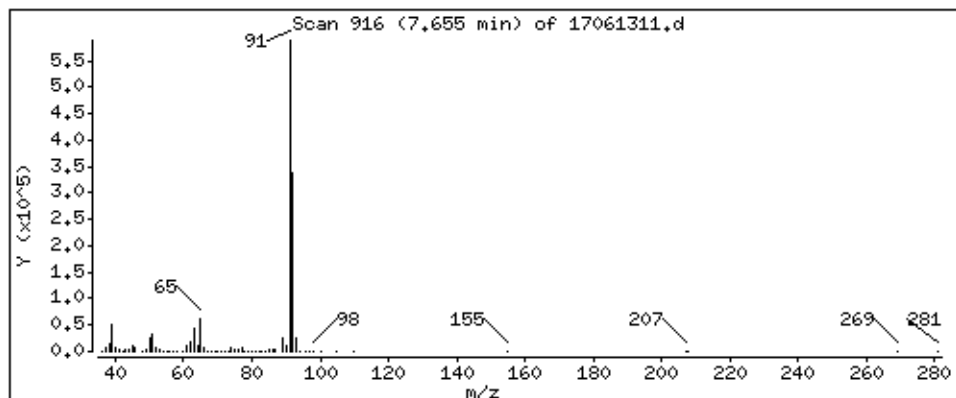
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

147 Toluene

Concentration: 49,070 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

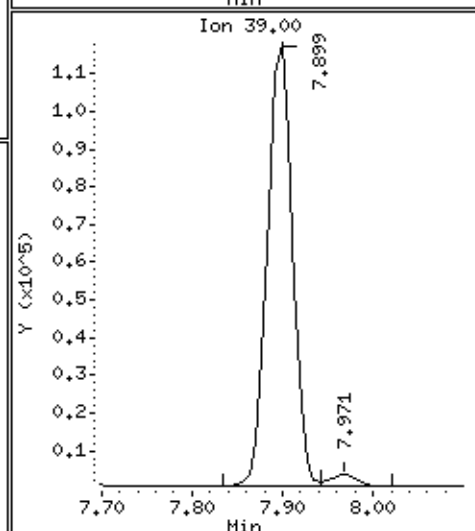
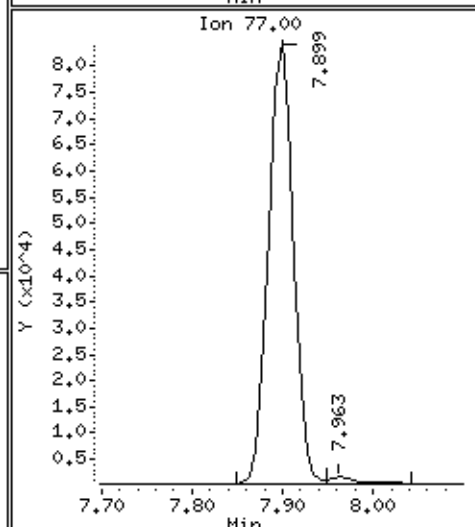
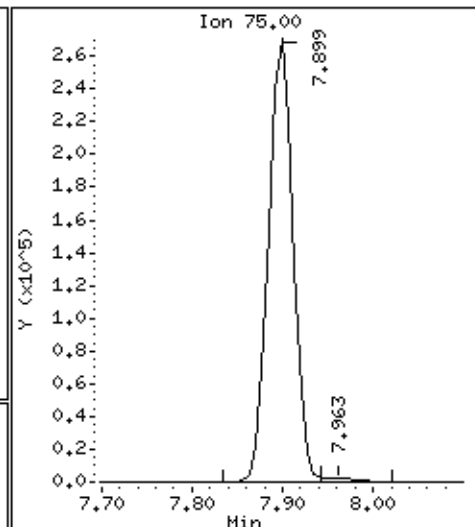
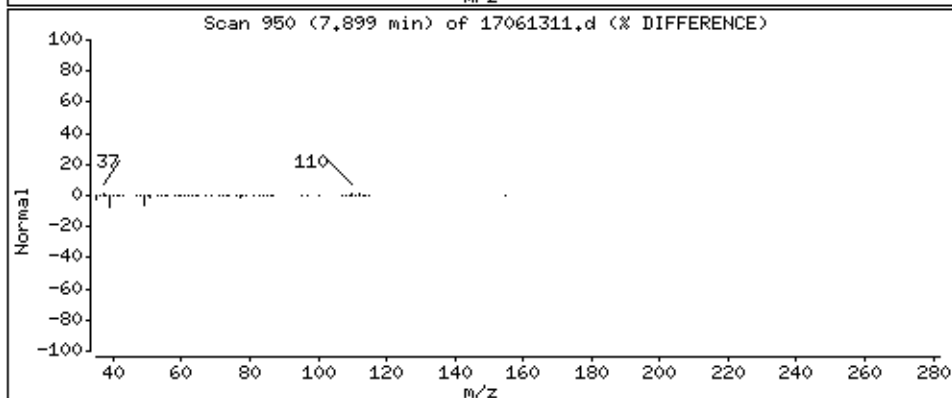
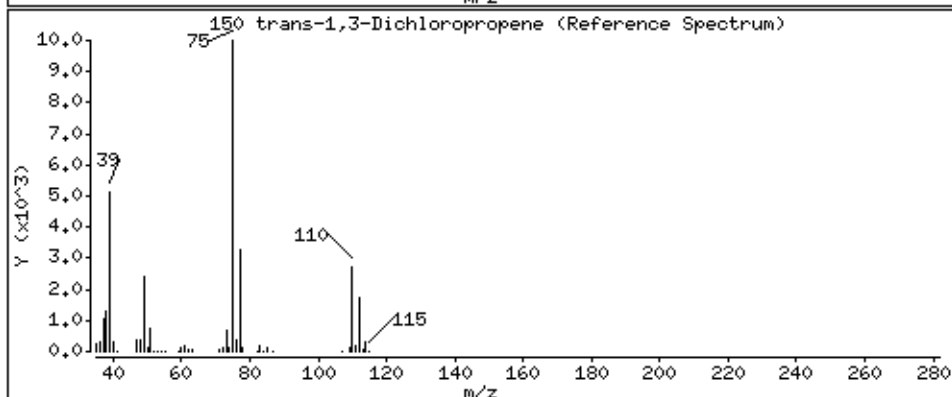
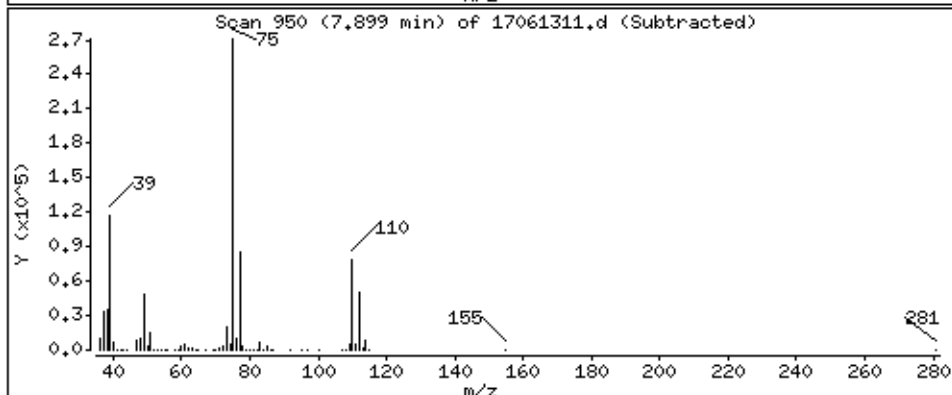
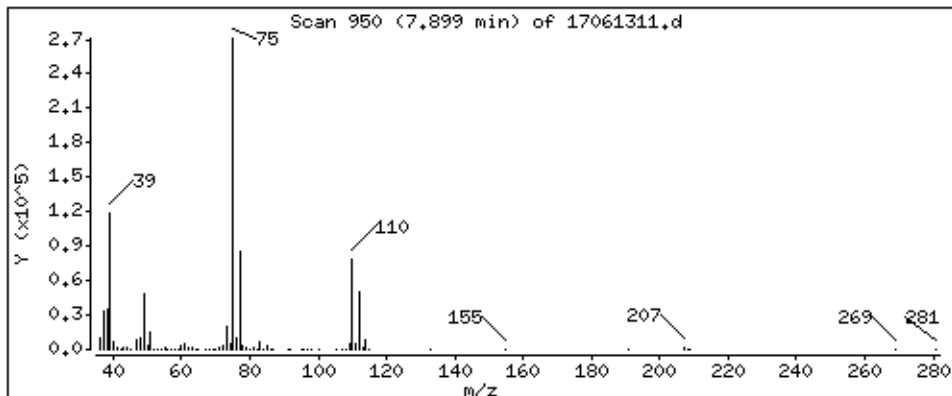
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

150 trans-1,3-Dichloropropene

Concentration: 51,581 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

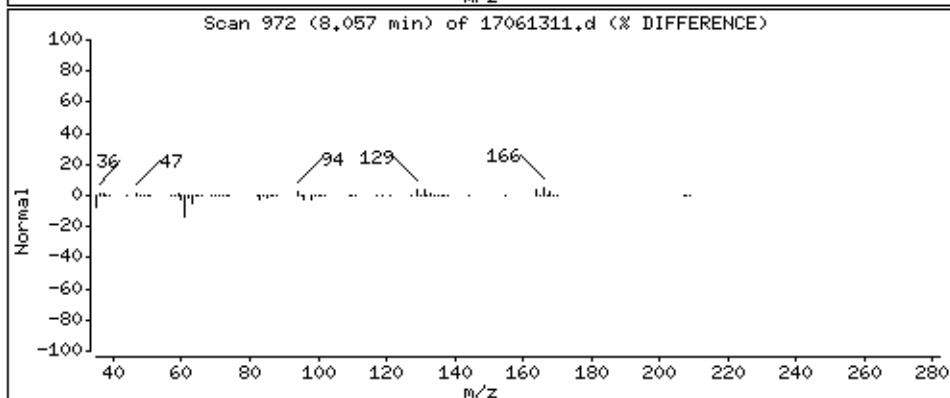
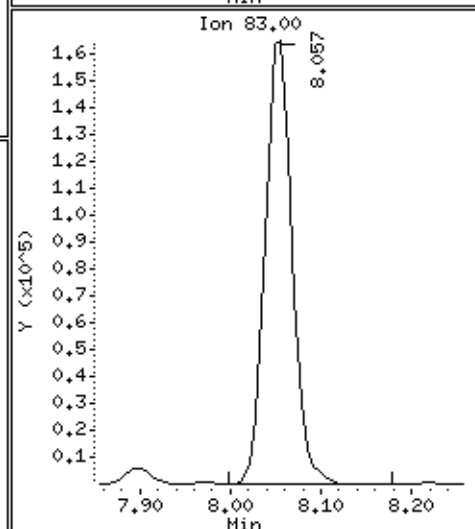
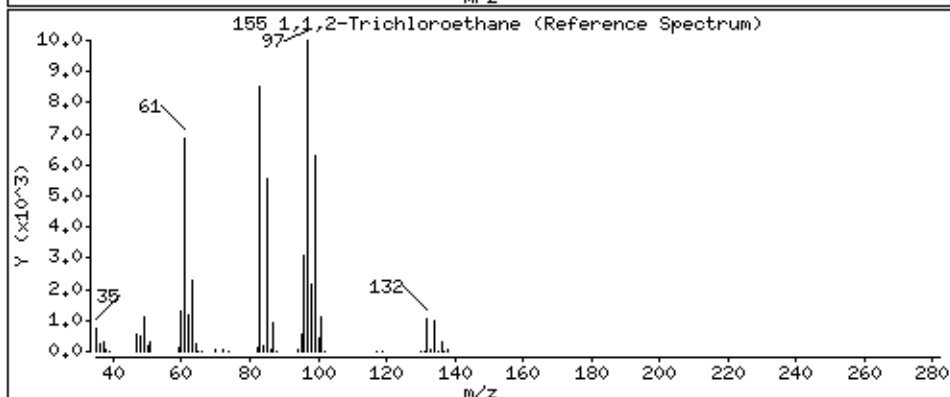
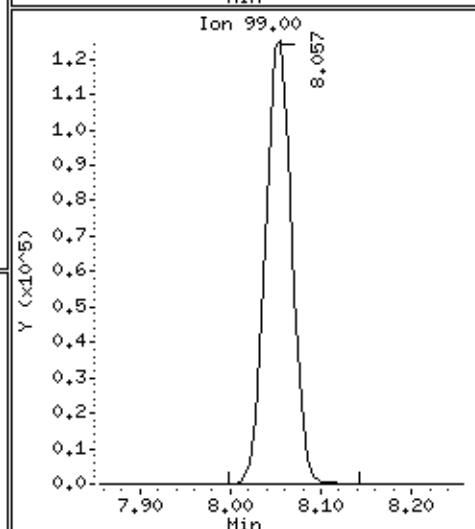
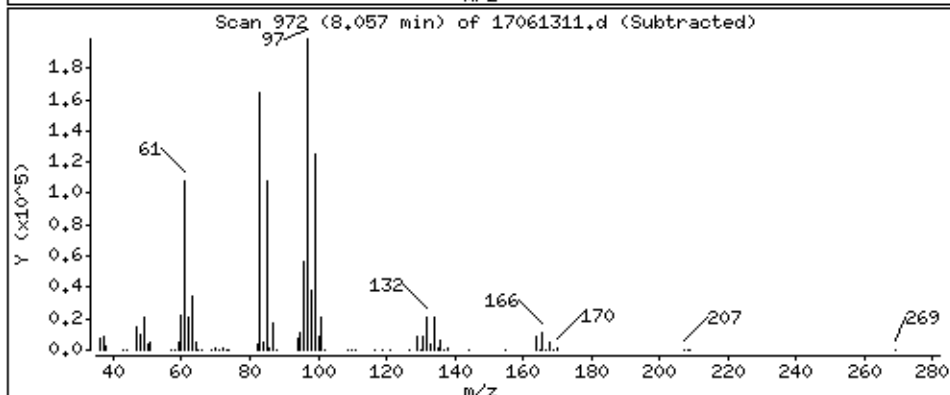
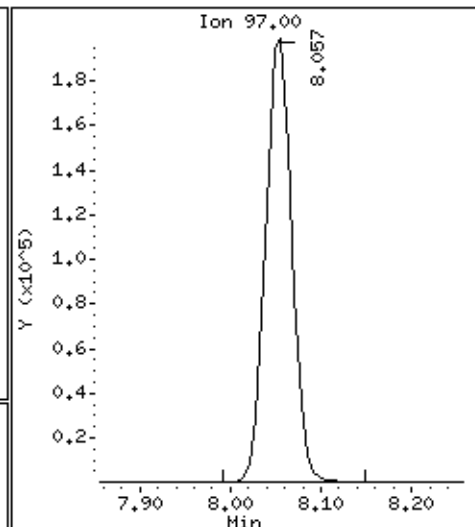
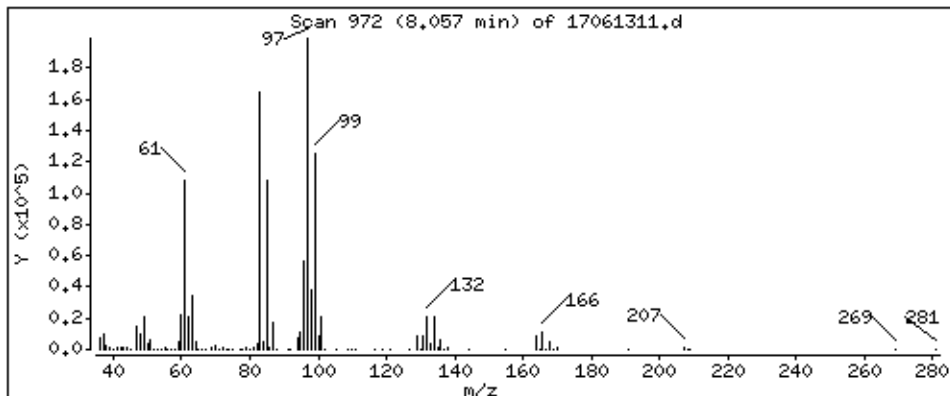
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

155 1,1,2-Trichloroethane

Concentration: 50,834 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

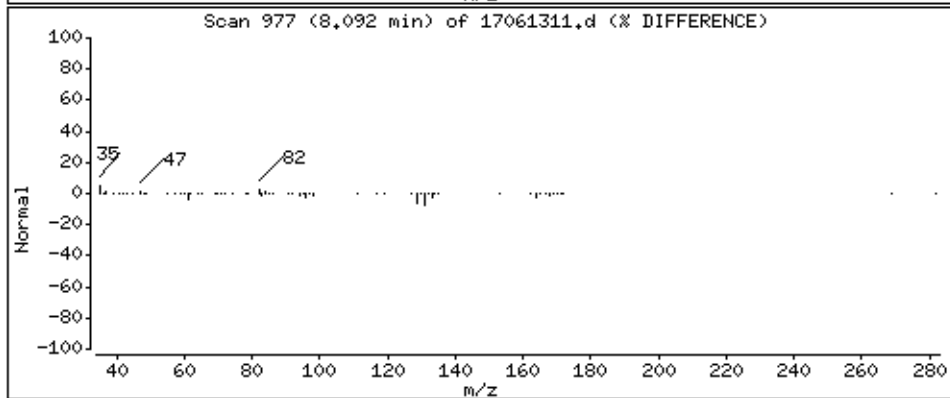
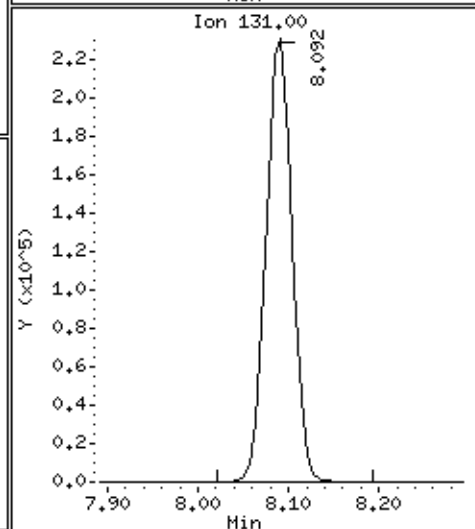
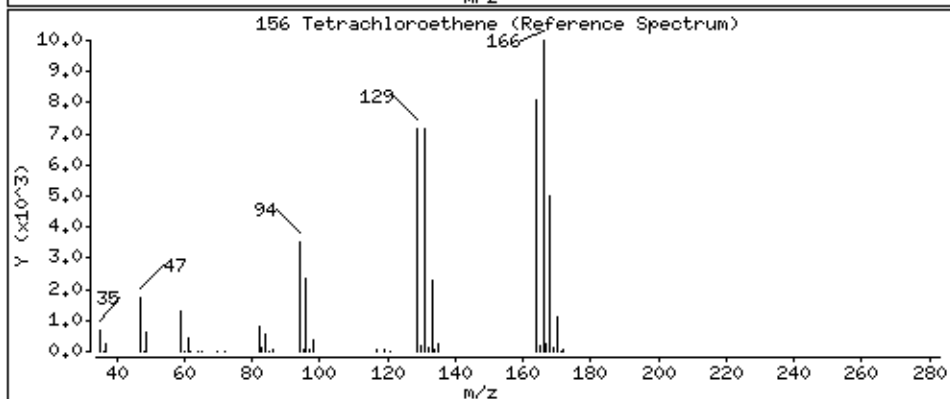
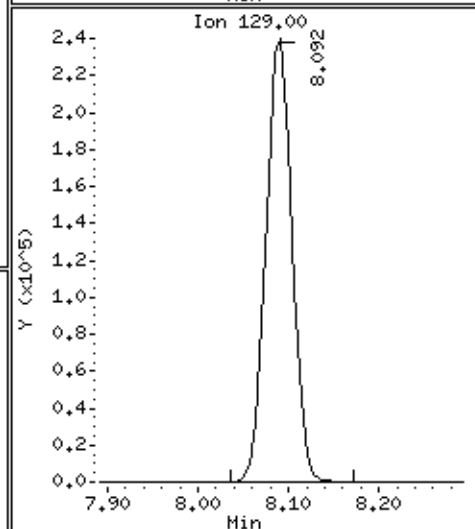
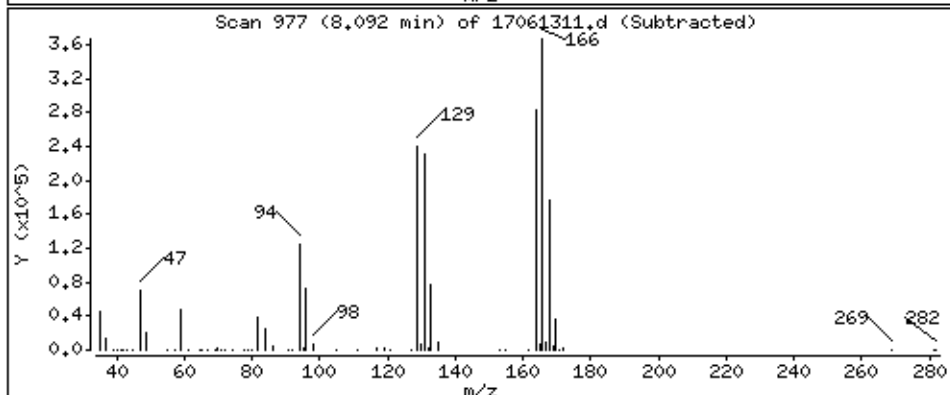
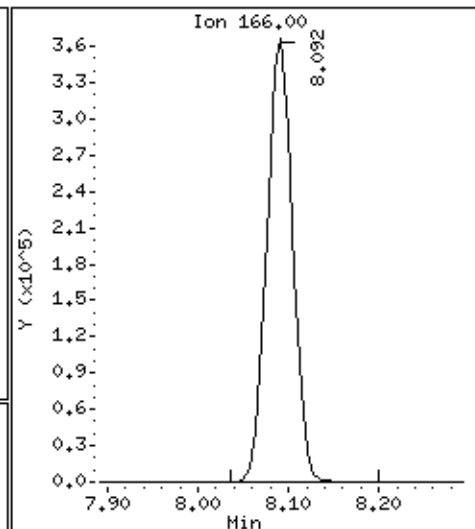
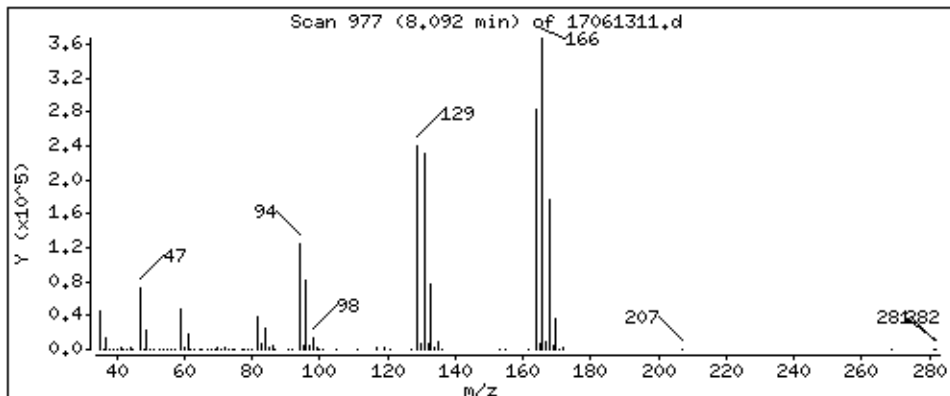
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

156 Tetrachloroethene

Concentration: 50,762 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

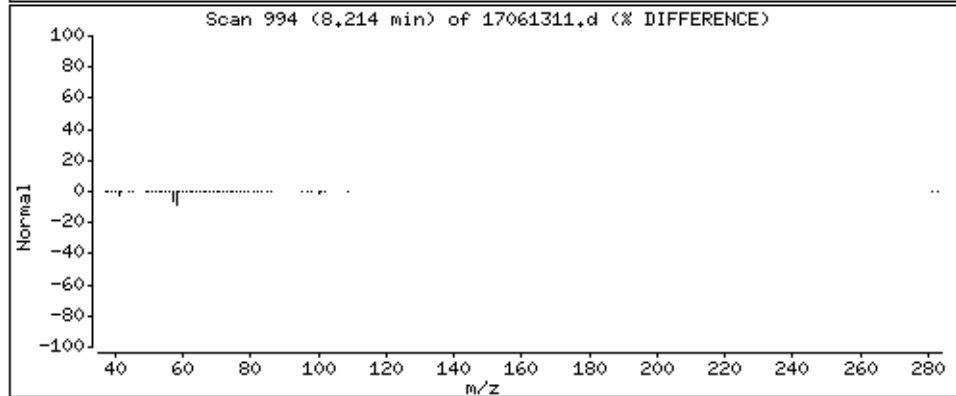
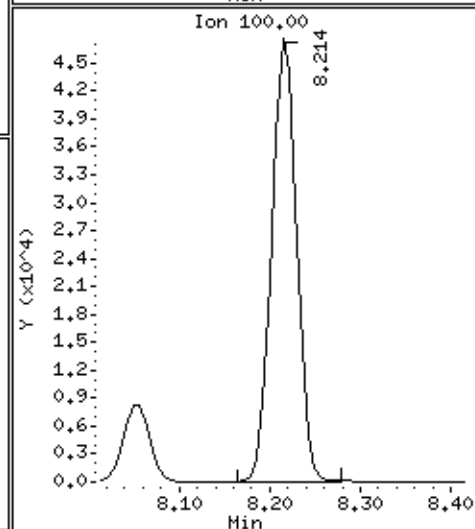
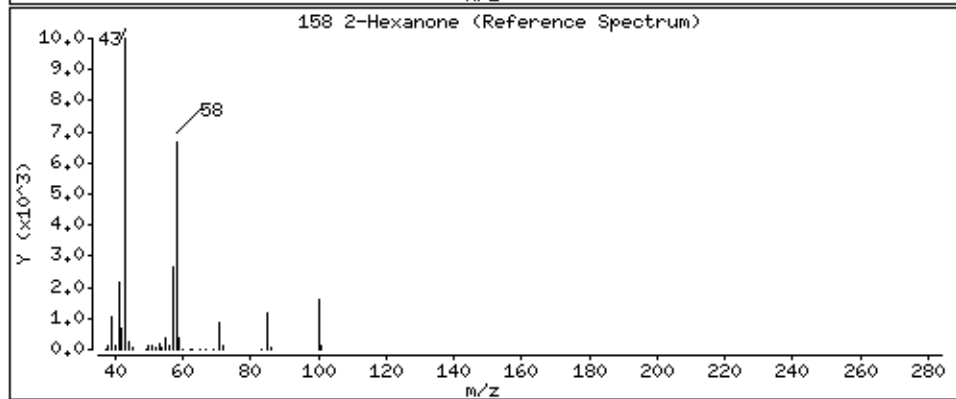
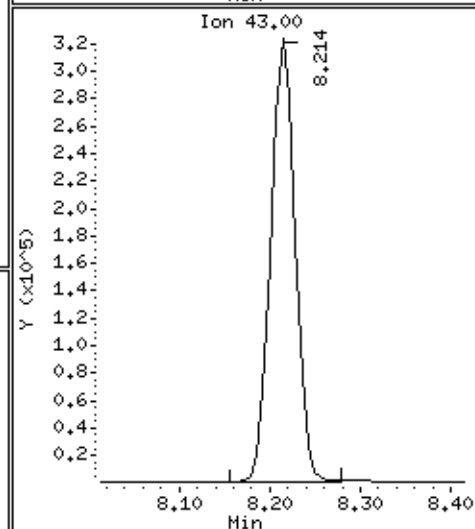
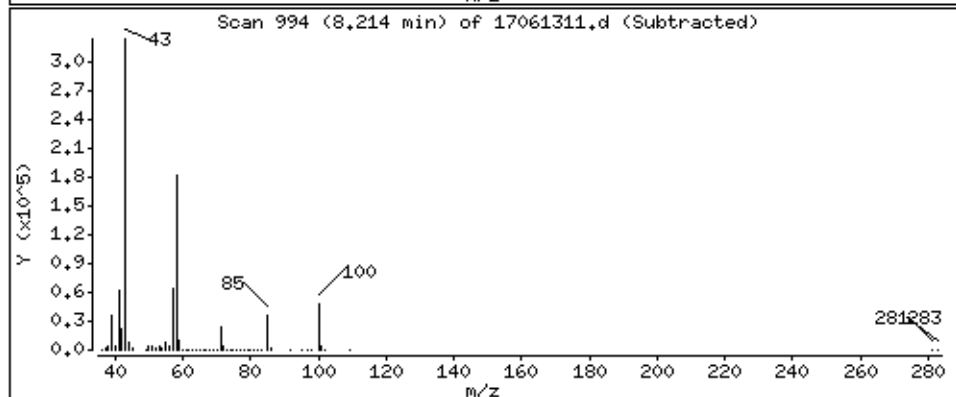
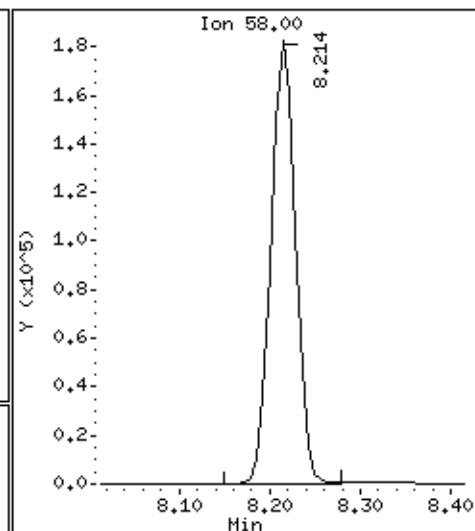
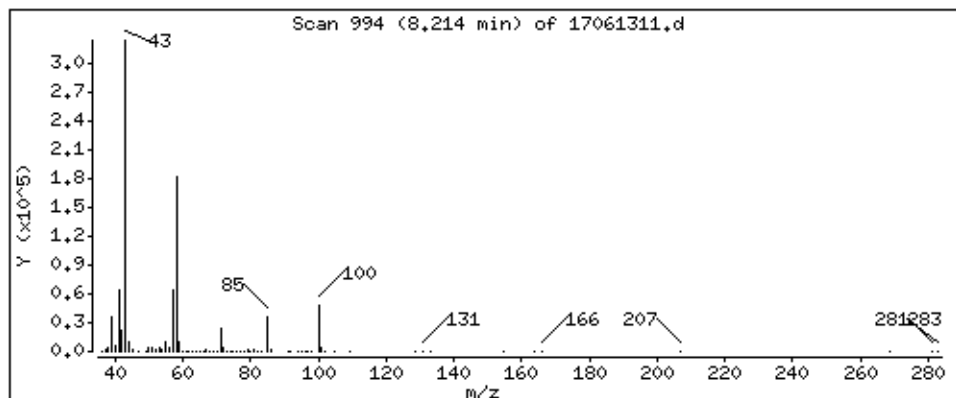
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

158 2-Hexanone

Concentration: 53.463 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

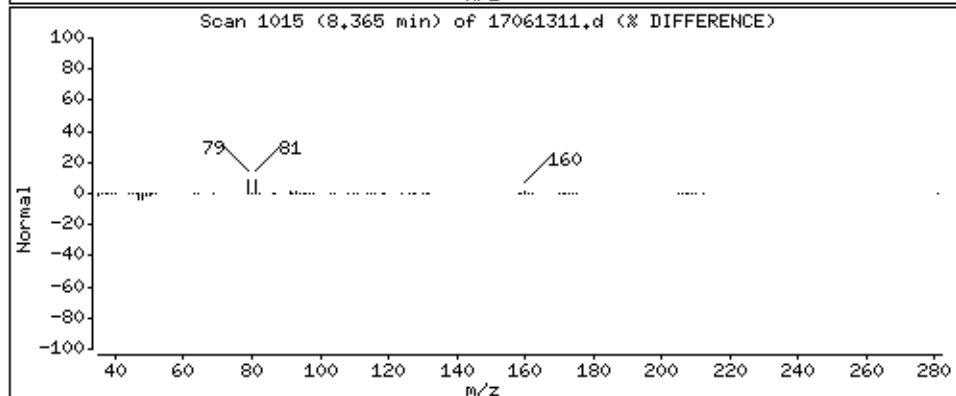
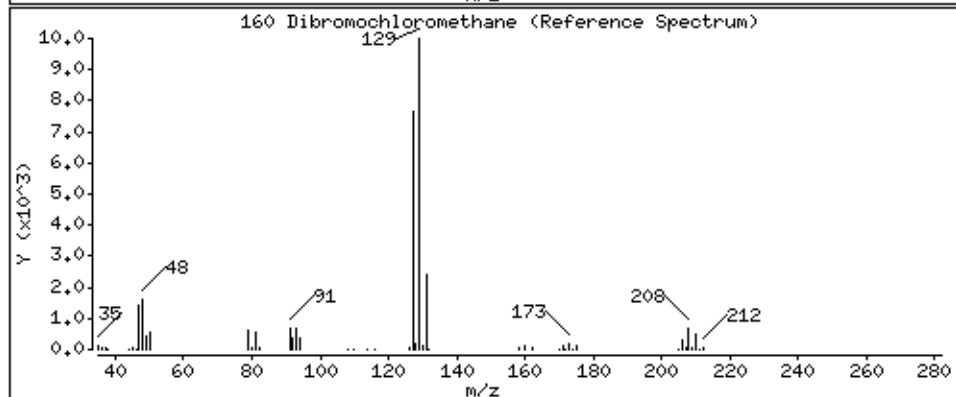
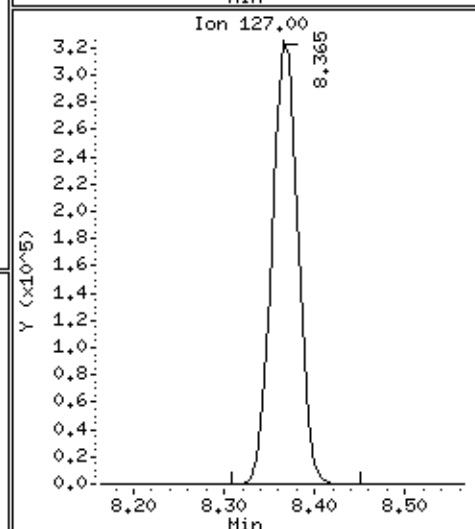
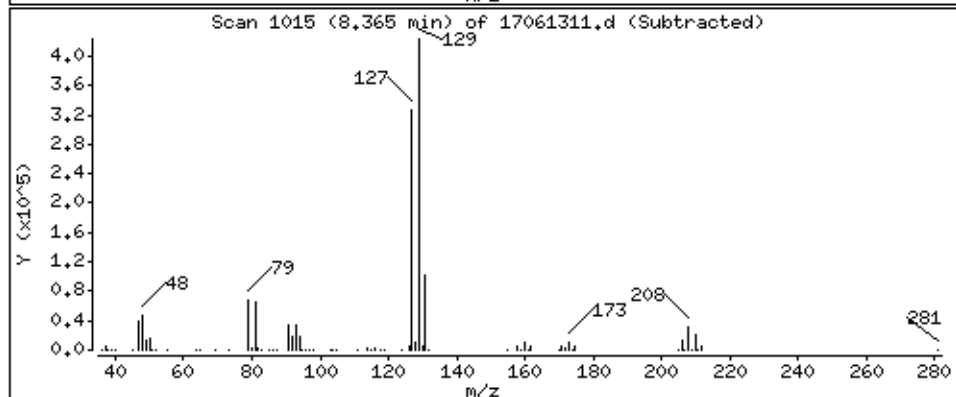
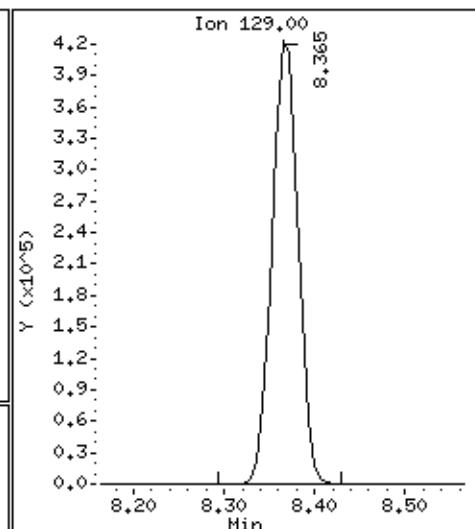
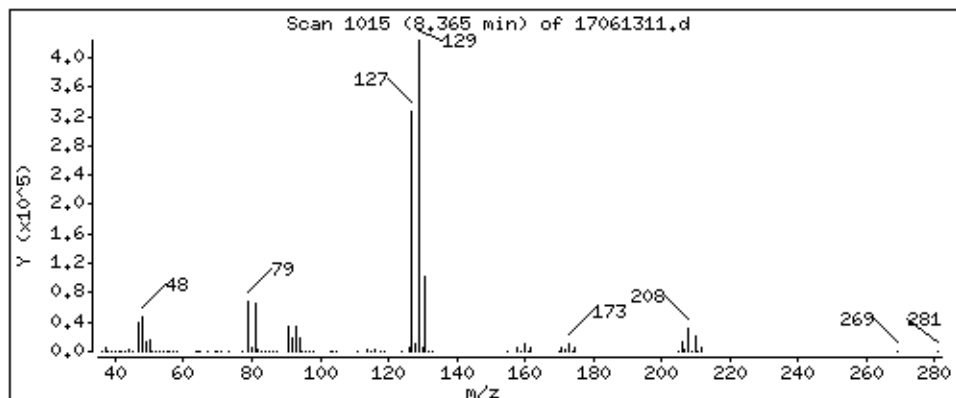
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

160 Dibromochloromethane

Concentration: 51.994 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

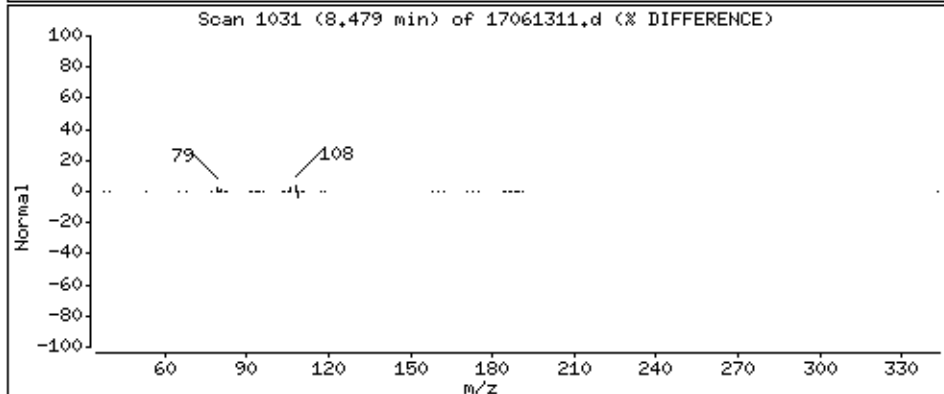
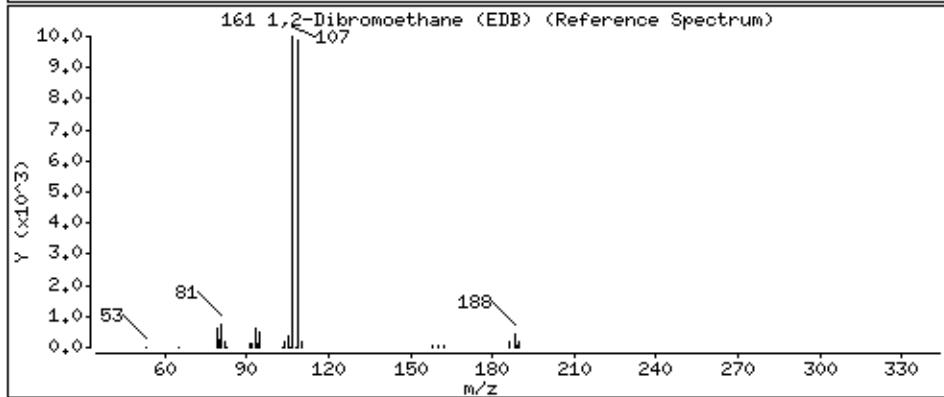
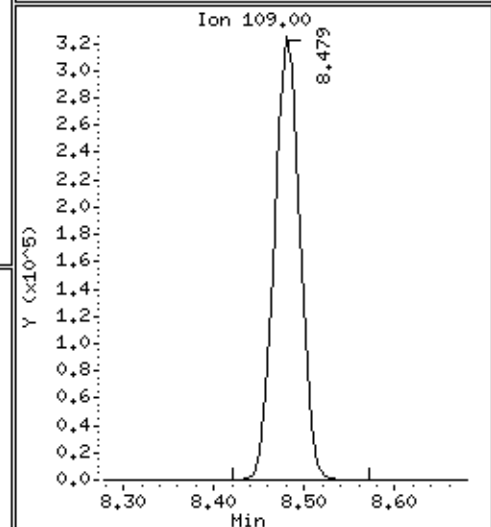
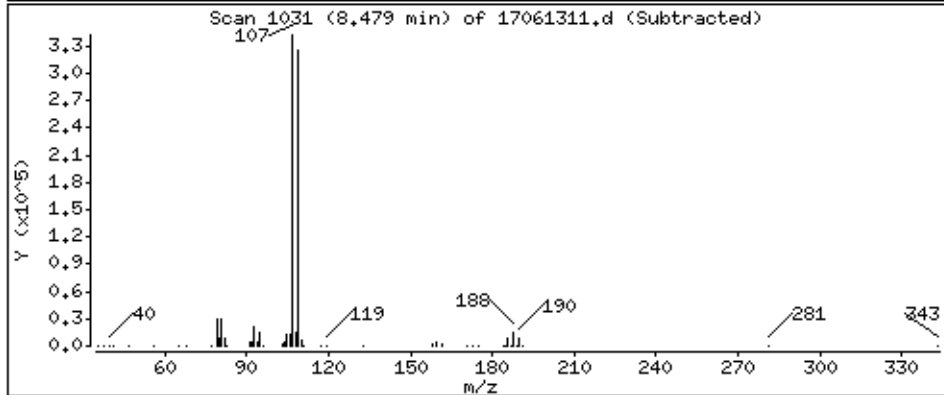
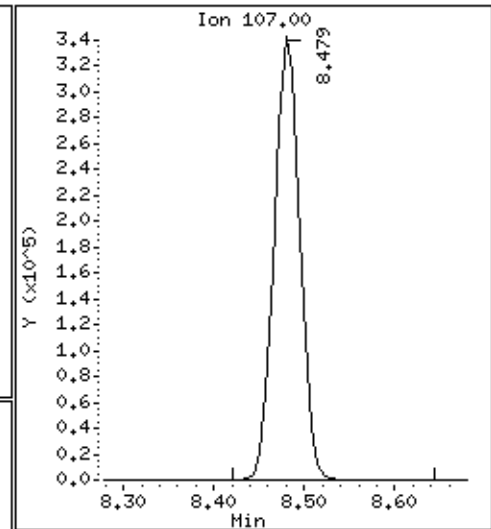
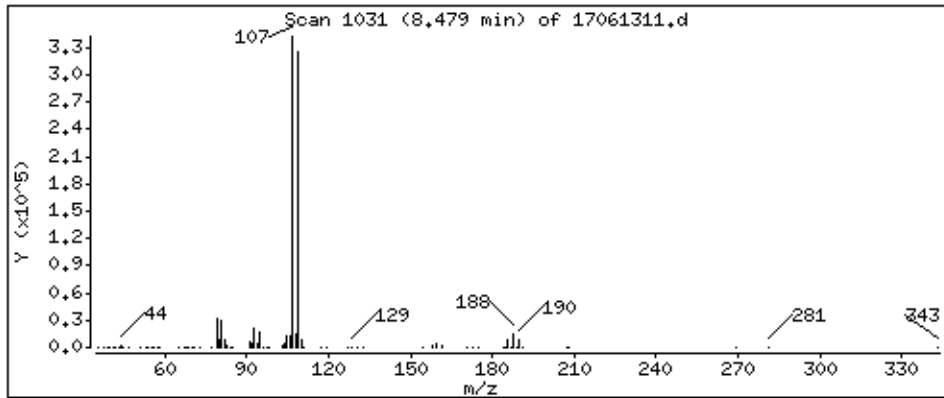
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

161 1,2-Dibromoethane (EDB)

Concentration: 50.033 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

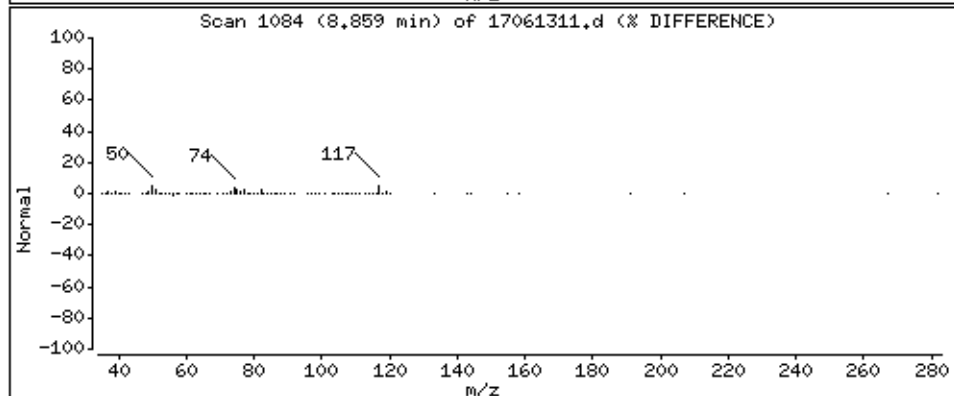
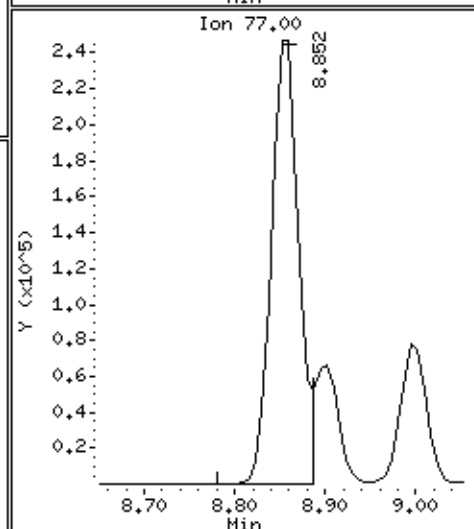
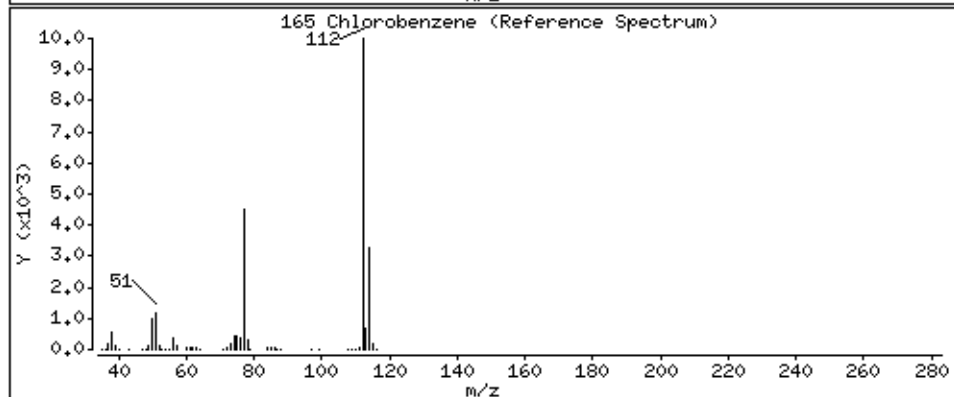
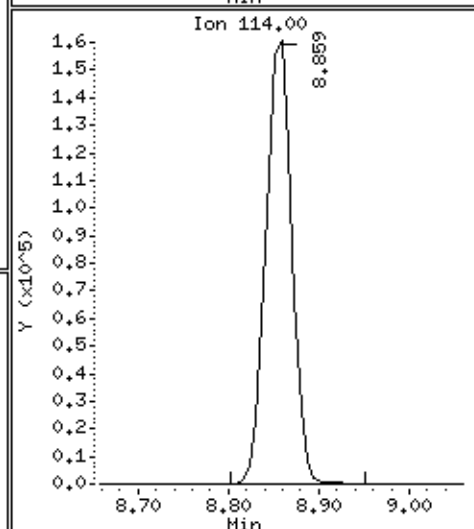
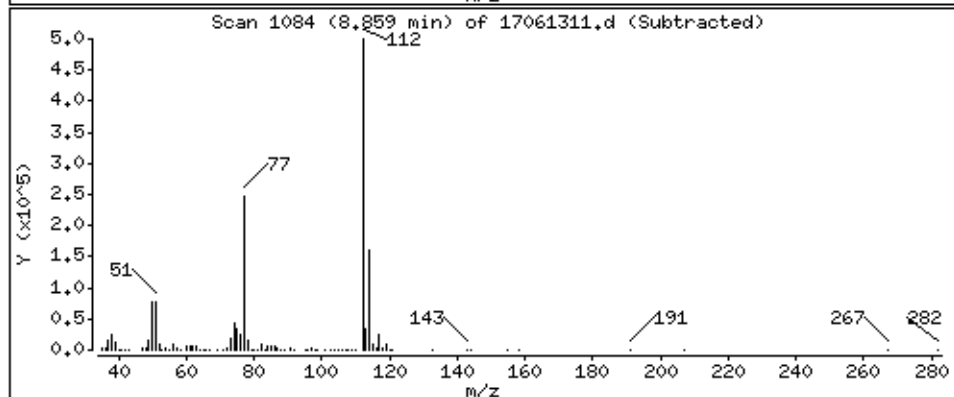
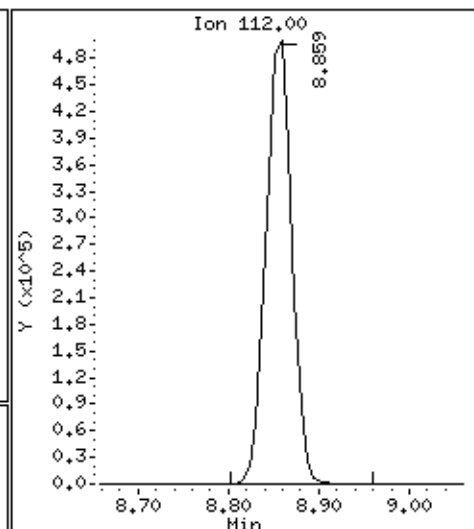
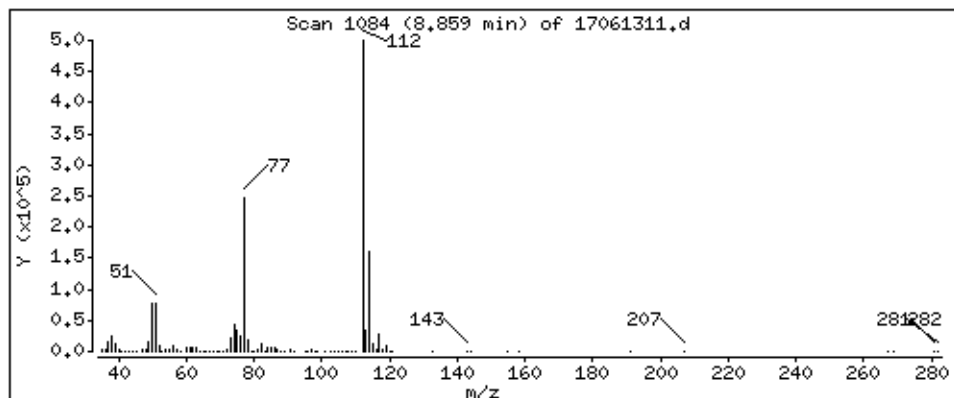
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

165 Chlorobenzene

Concentration: 49,756 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

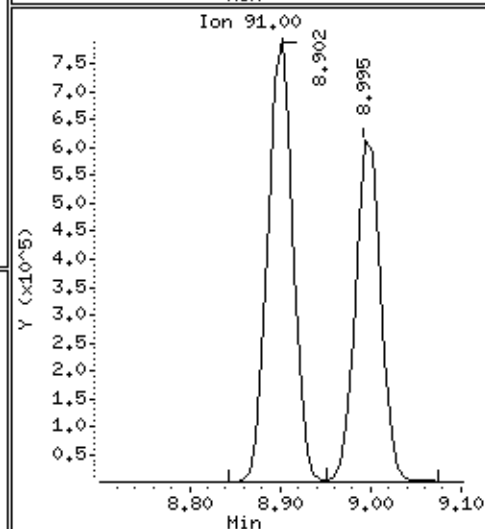
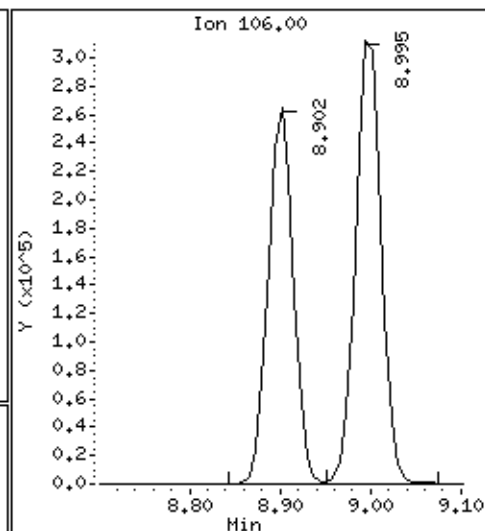
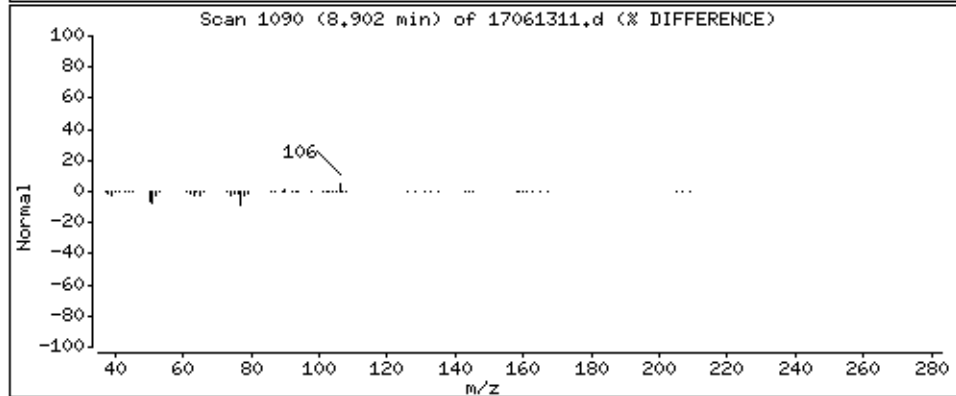
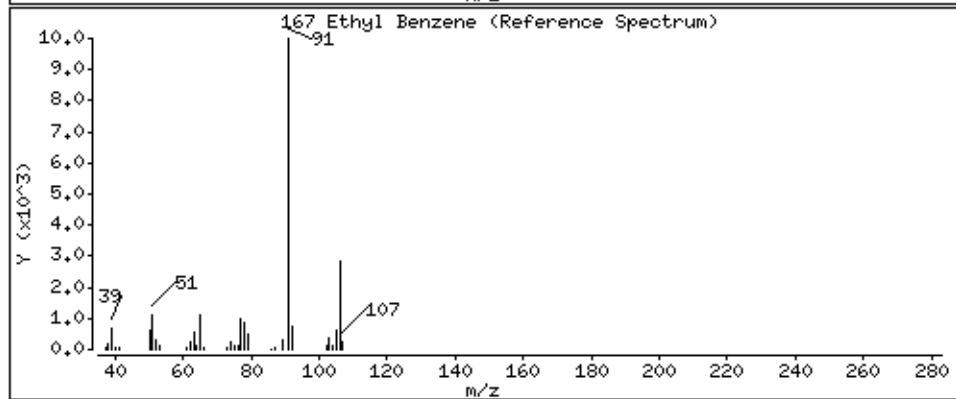
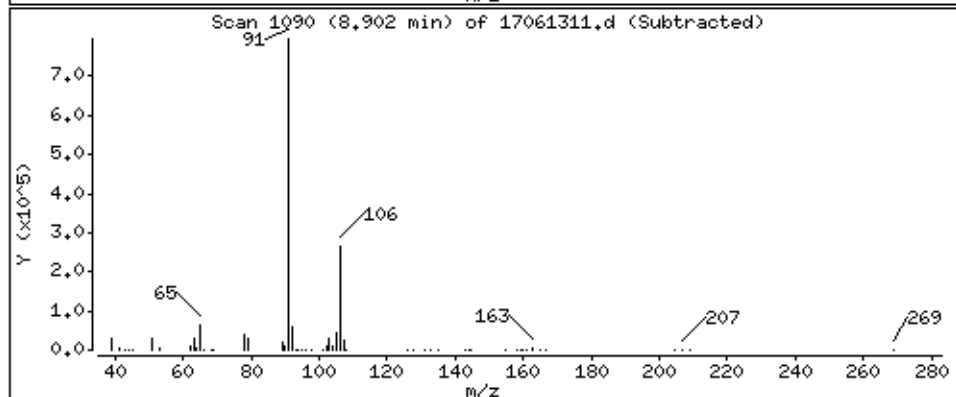
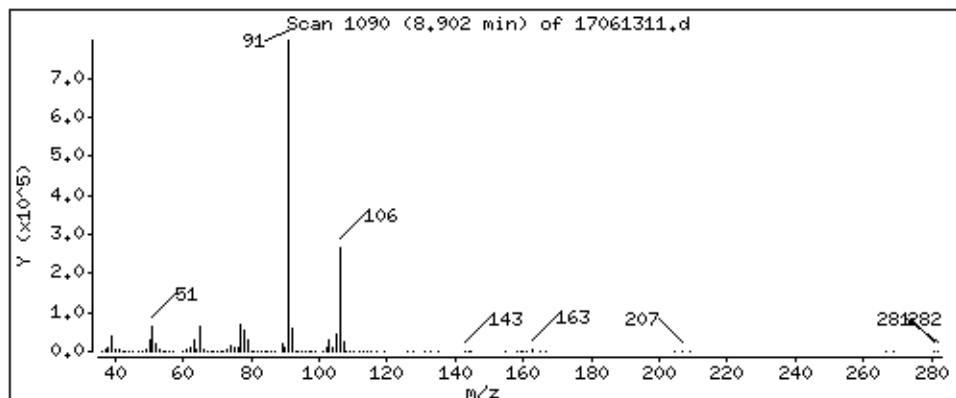
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

167 Ethyl Benzene

Concentration: 50,800 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

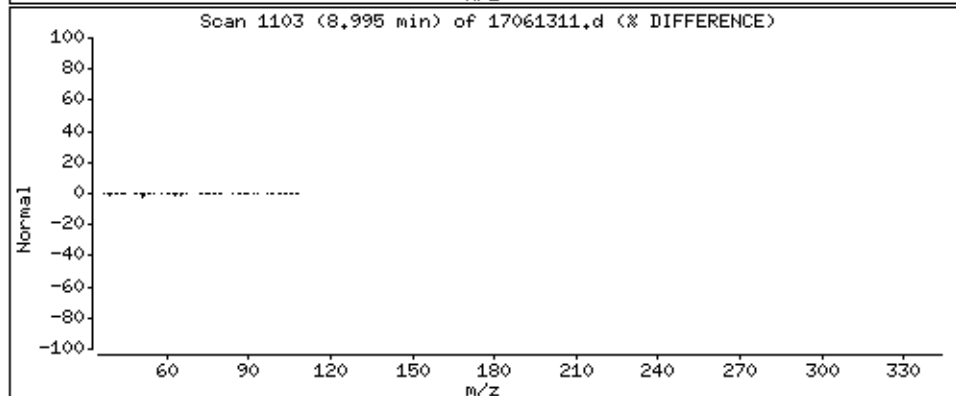
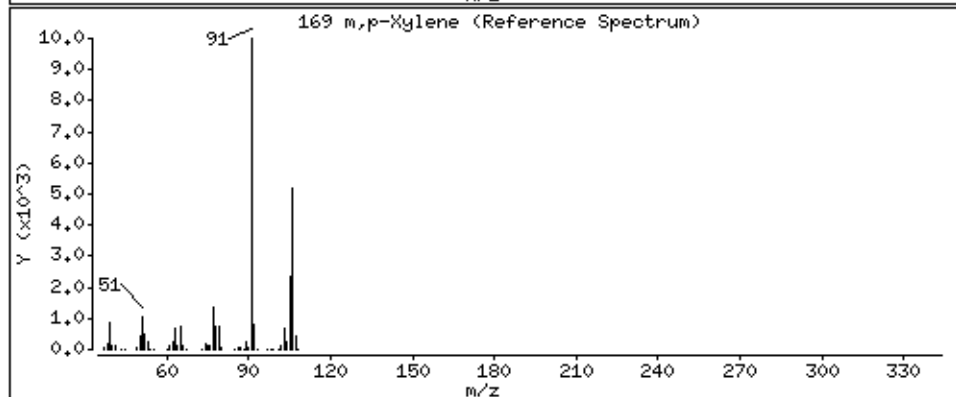
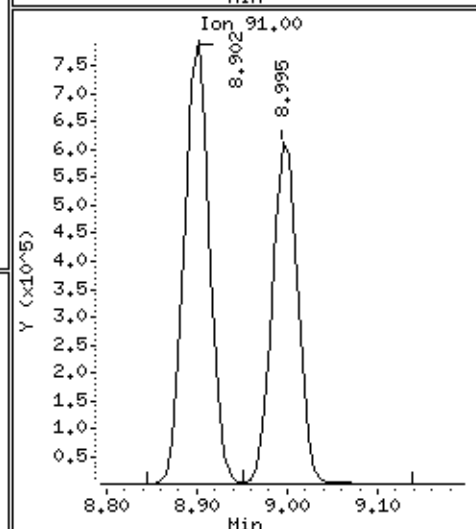
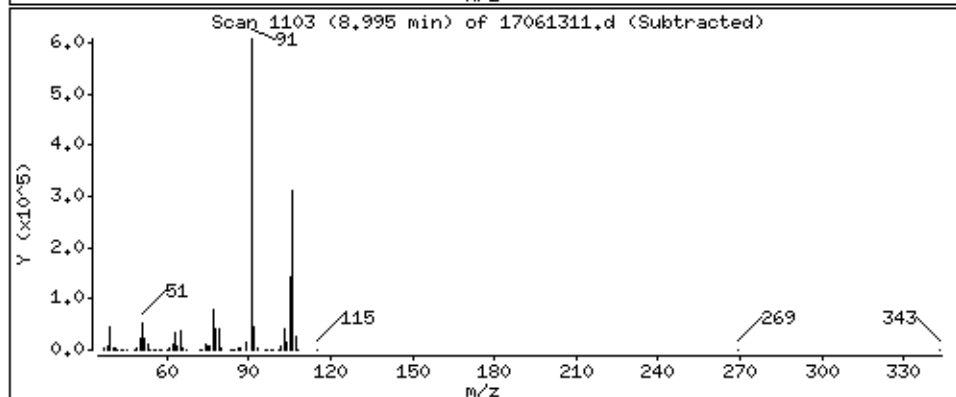
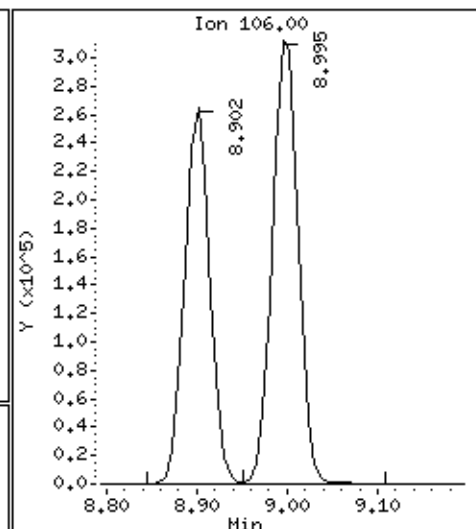
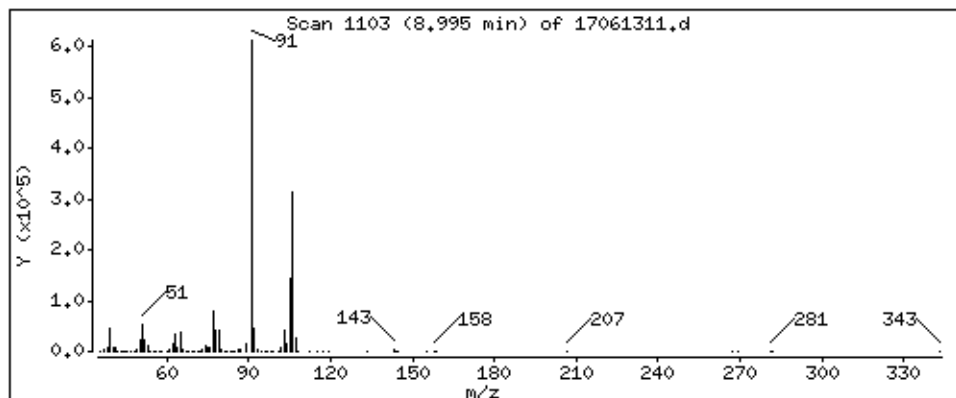
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

169 m,p-Xylene

Concentration: 49,863 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

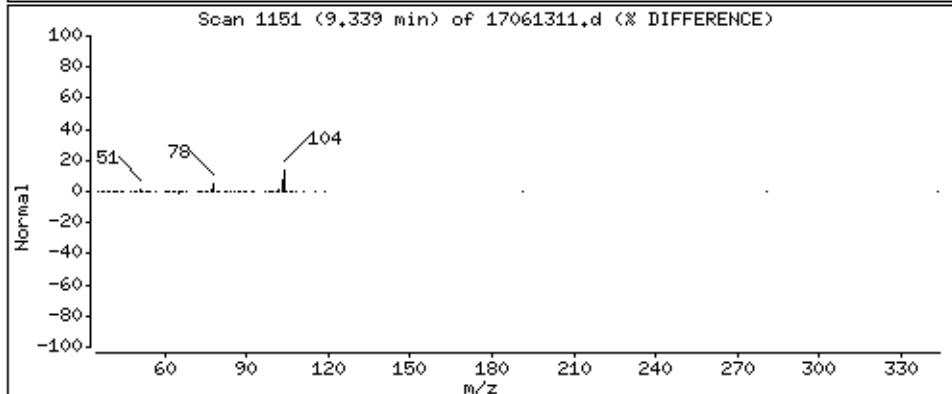
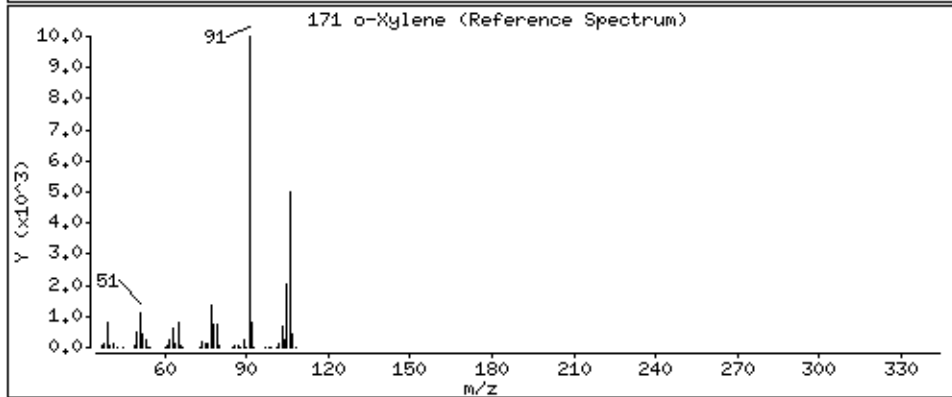
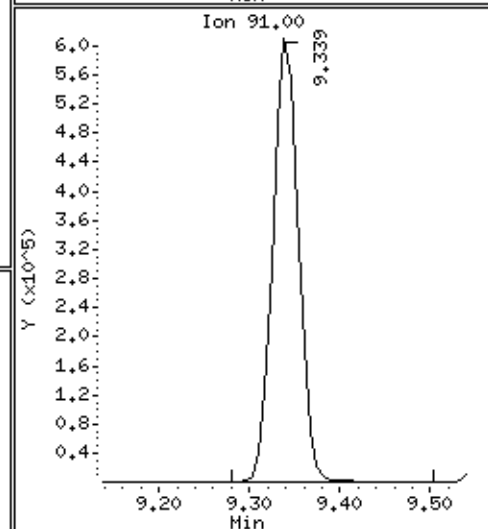
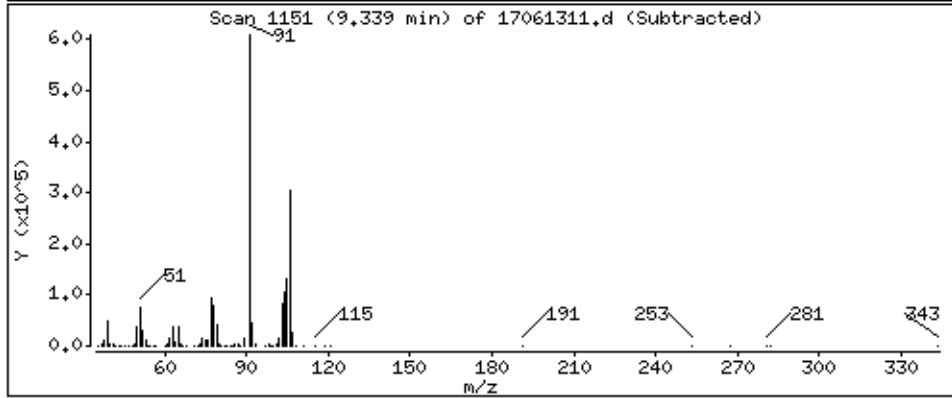
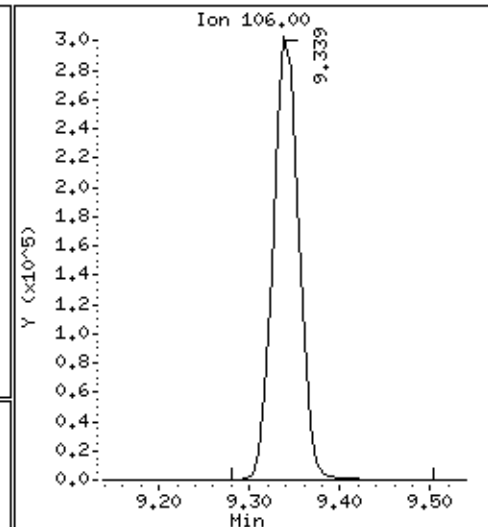
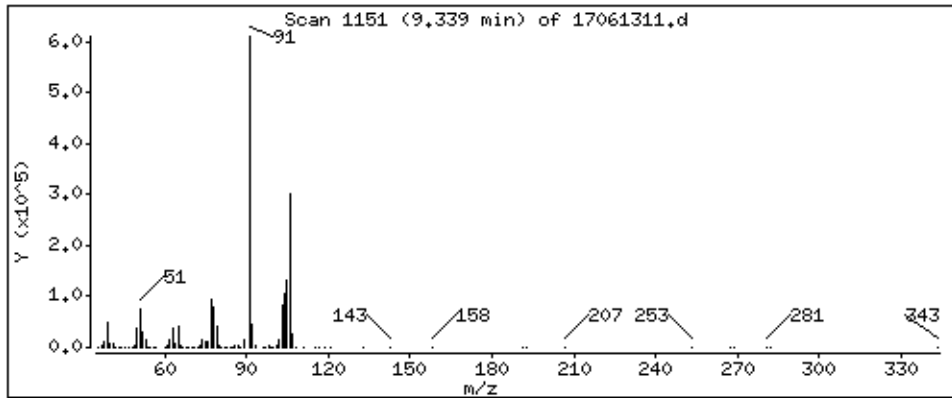
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

171 o-Xylene

Concentration: 50,776 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

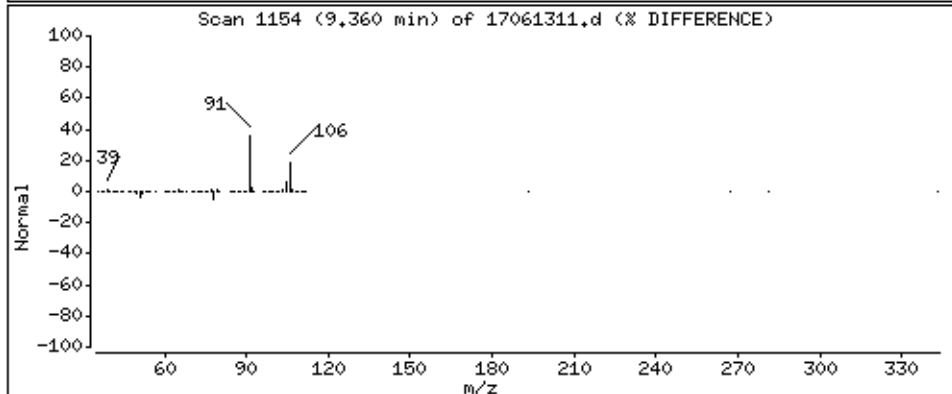
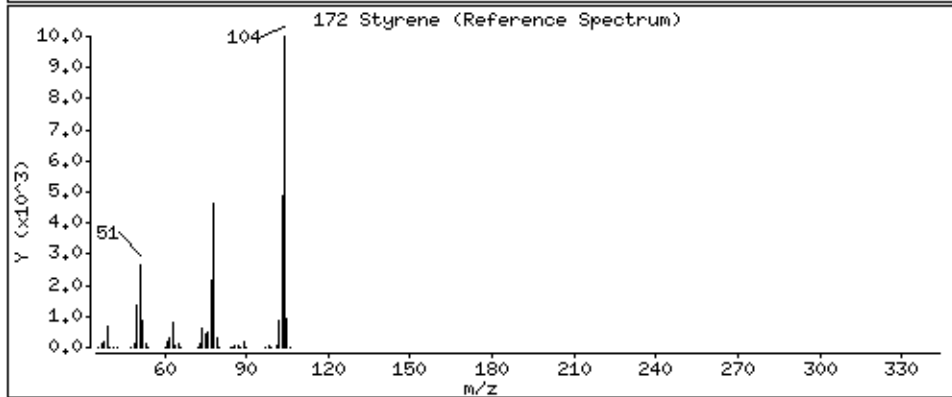
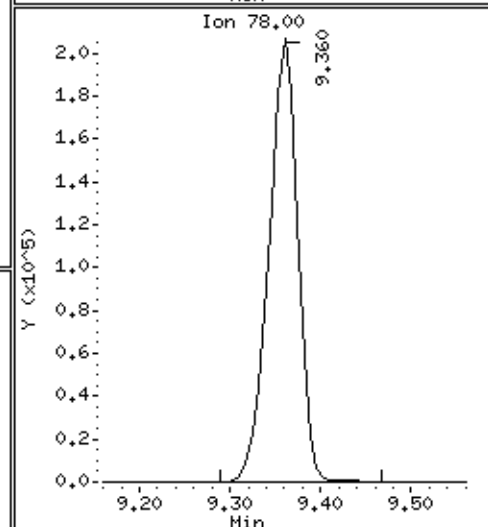
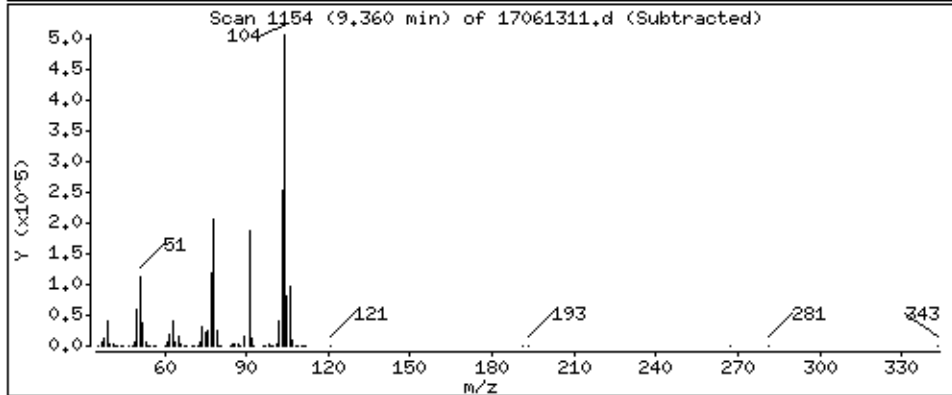
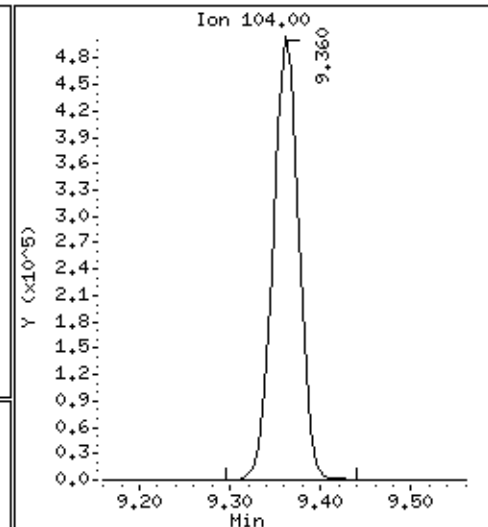
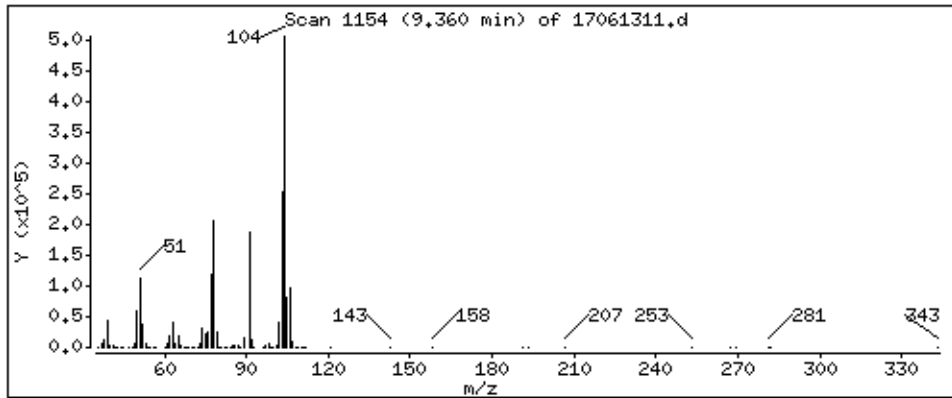
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

172 Styrene

Concentration: 53,287 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

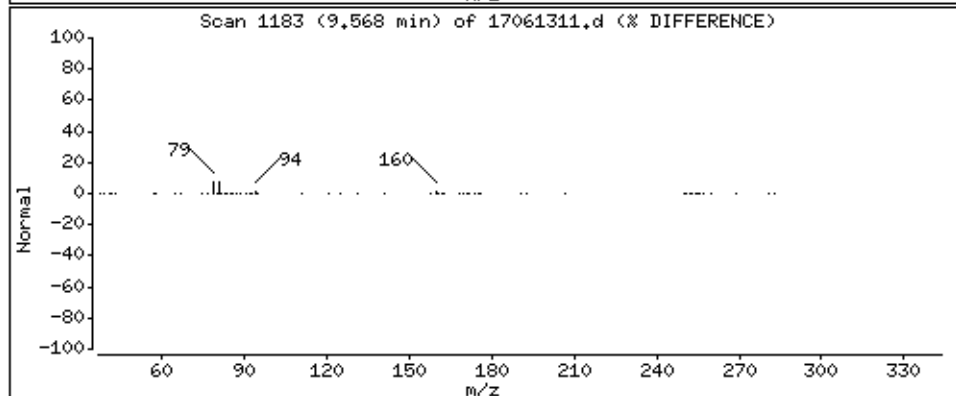
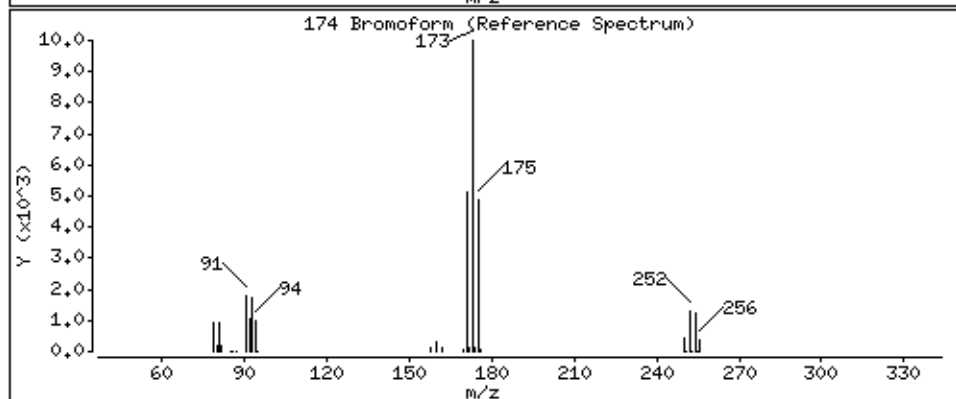
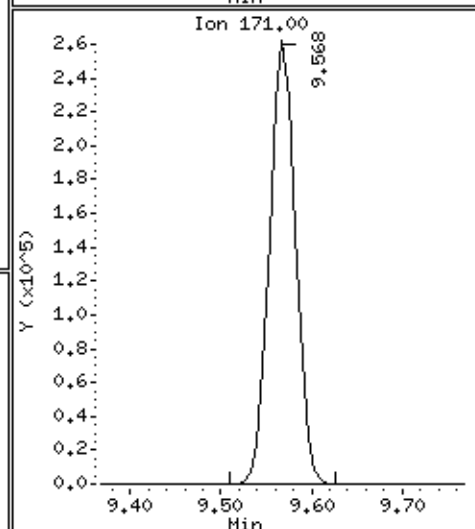
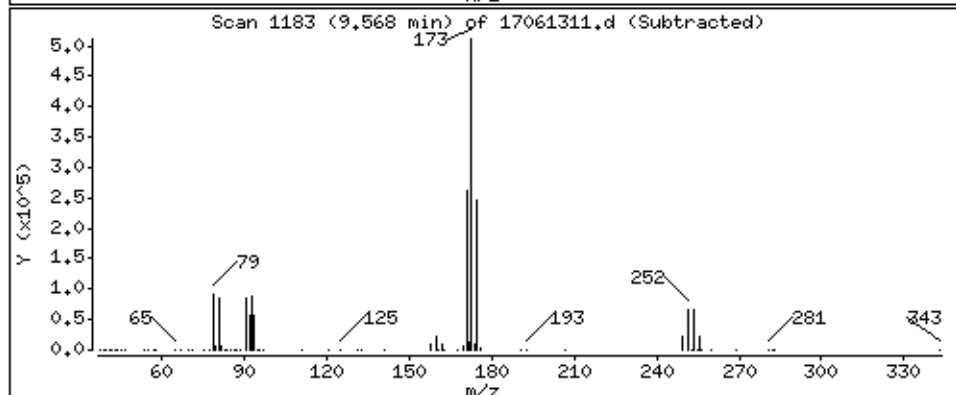
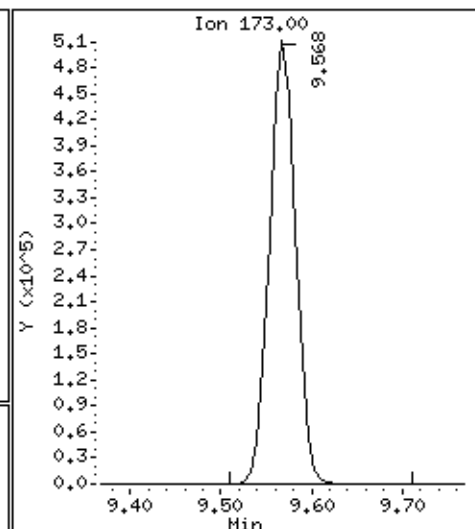
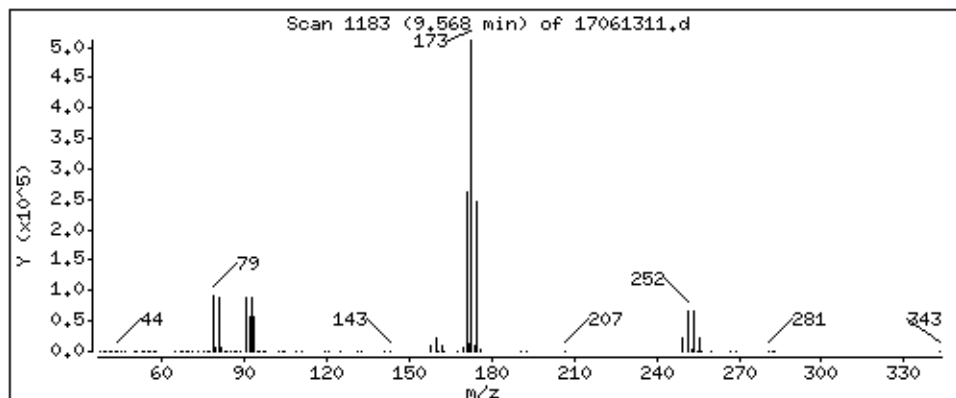
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

174 Bromoform

Concentration: 54.479 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

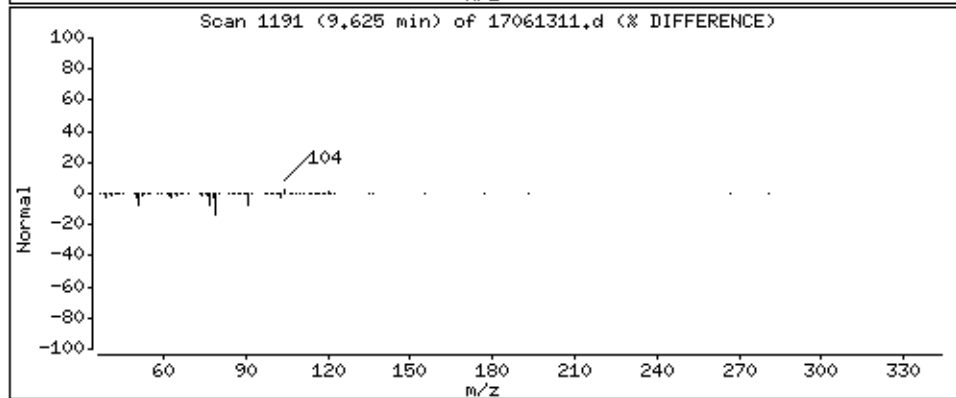
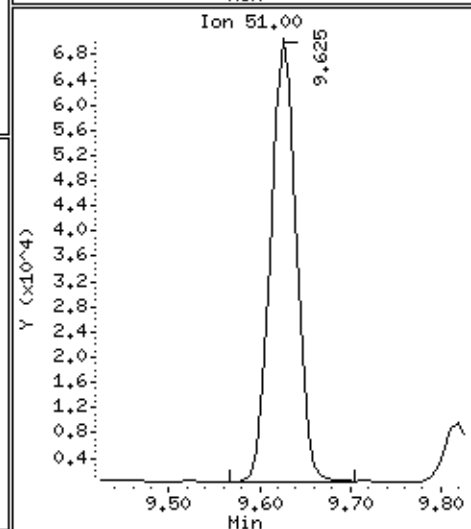
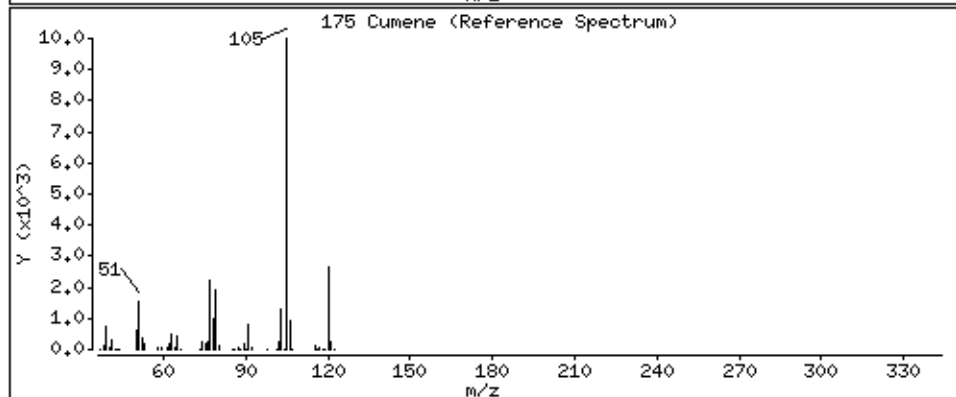
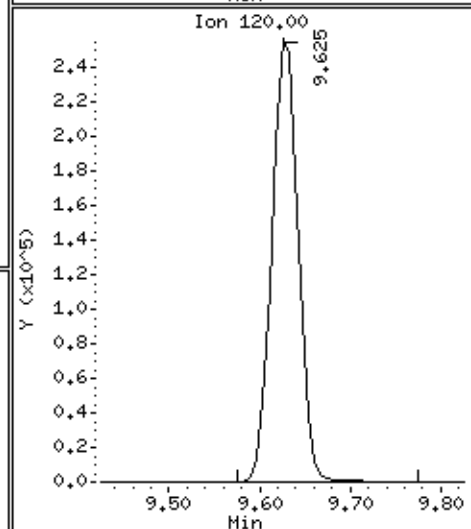
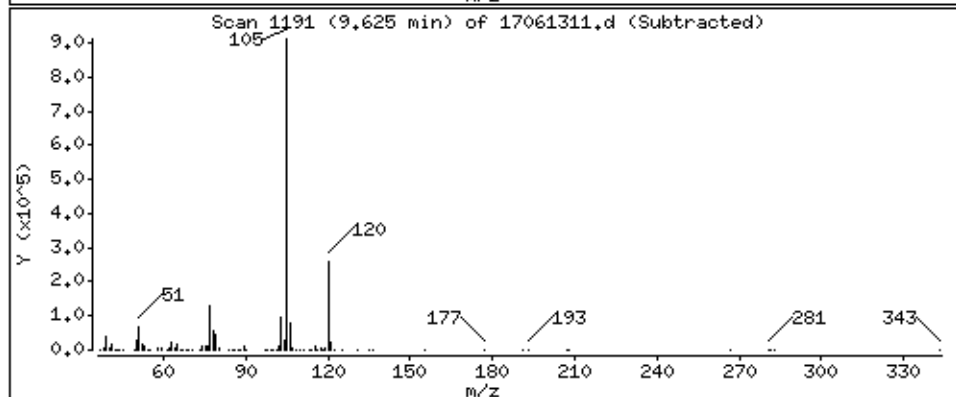
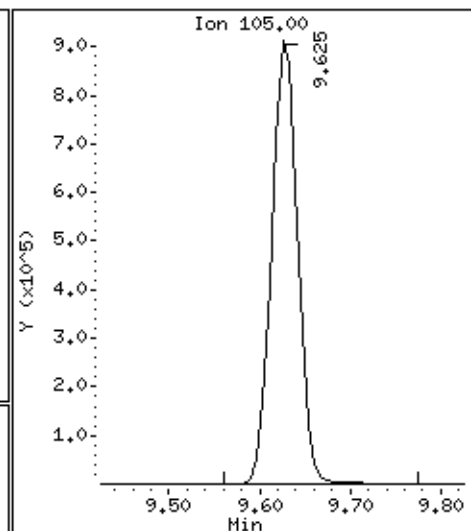
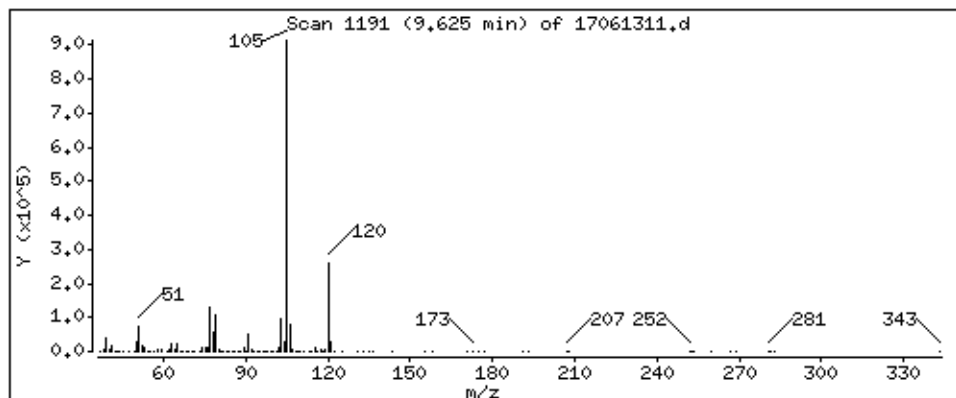
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

175 Cumene

Concentration: 50,799 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

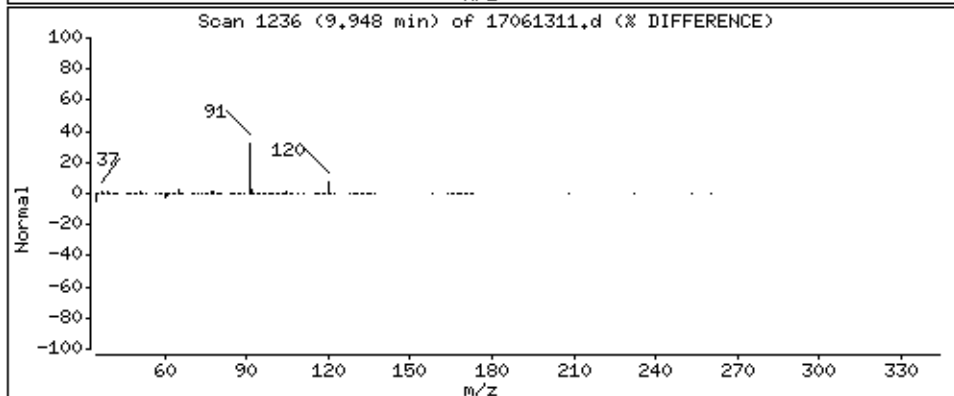
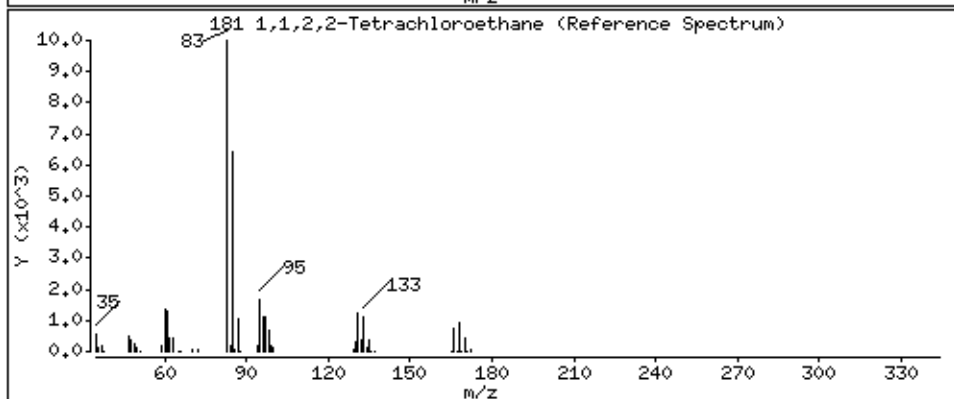
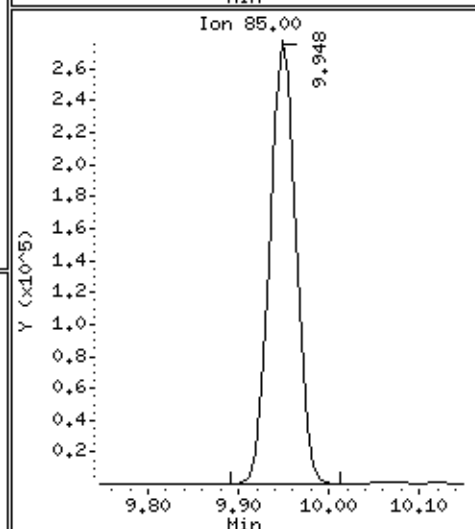
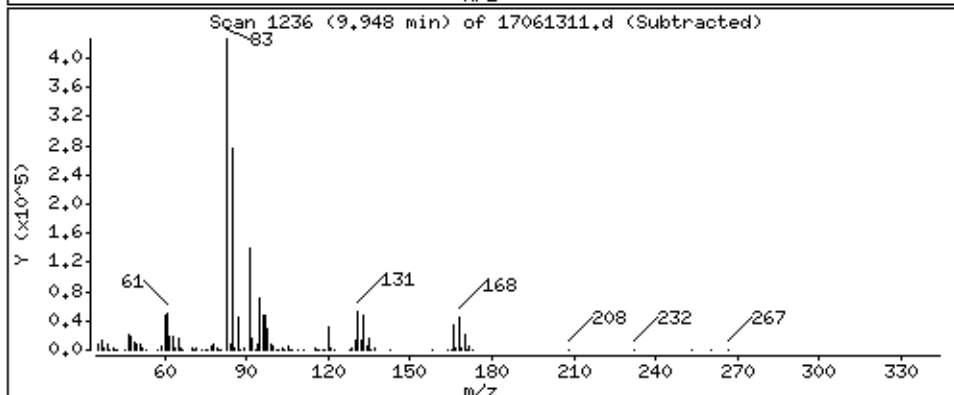
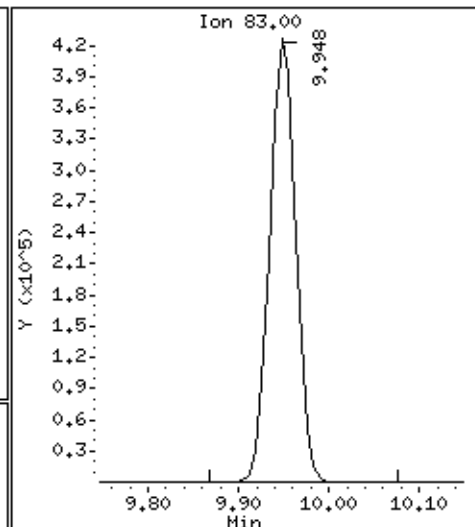
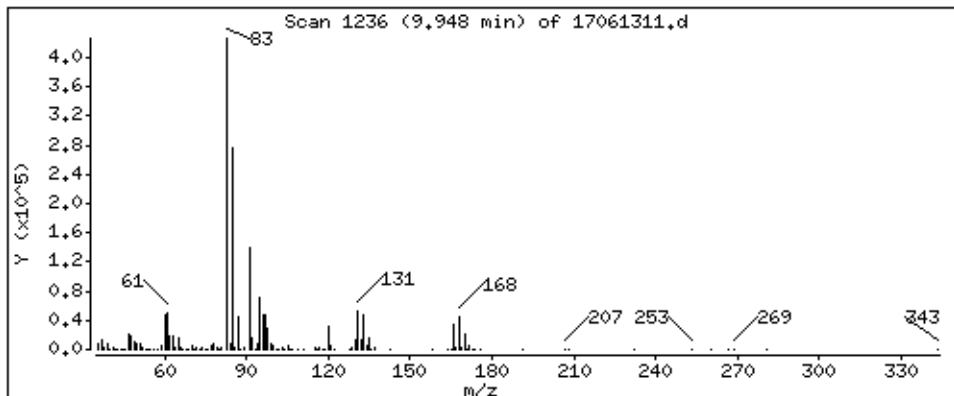
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

181 1,1,2,2-Tetrachloroethane

Concentration: 50,538 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

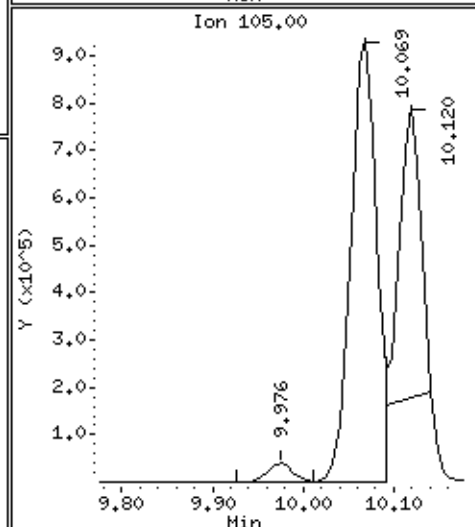
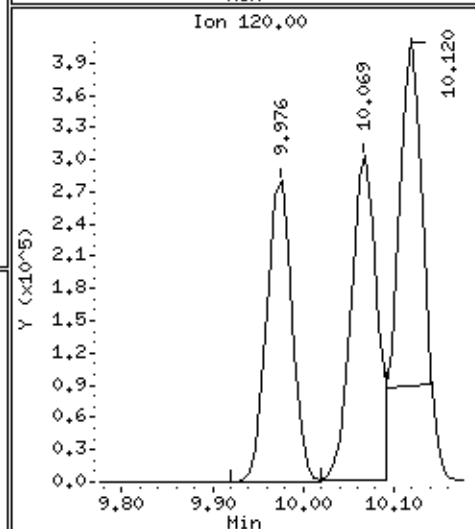
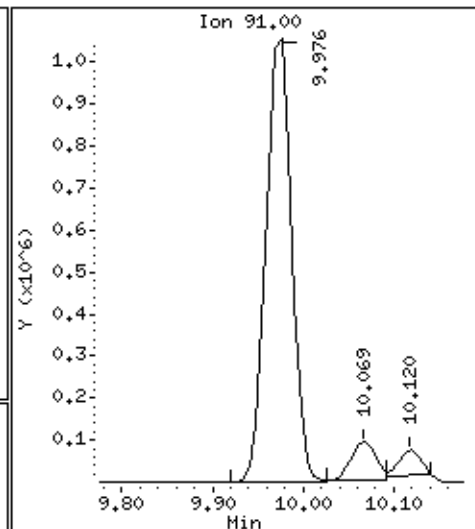
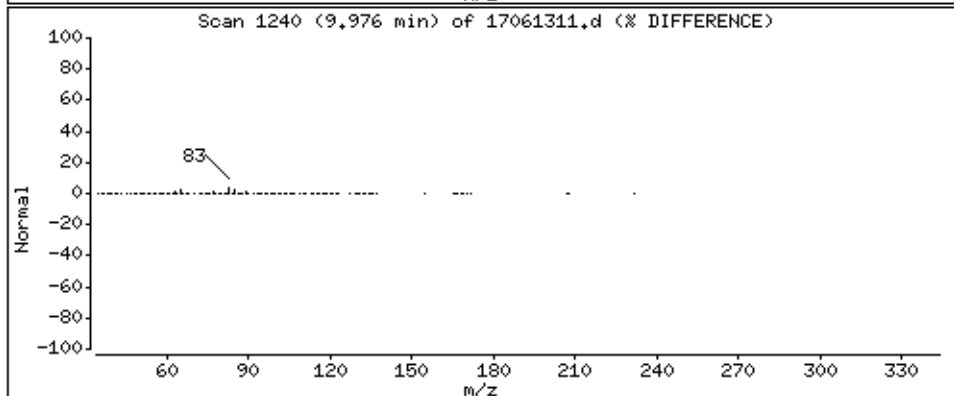
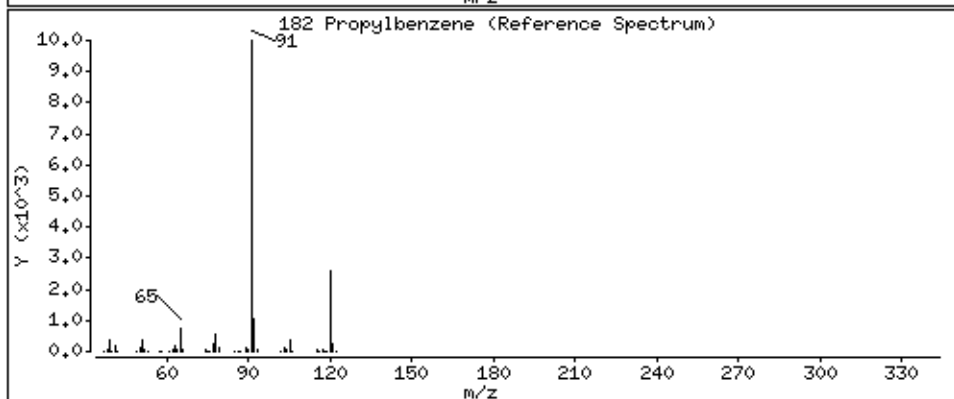
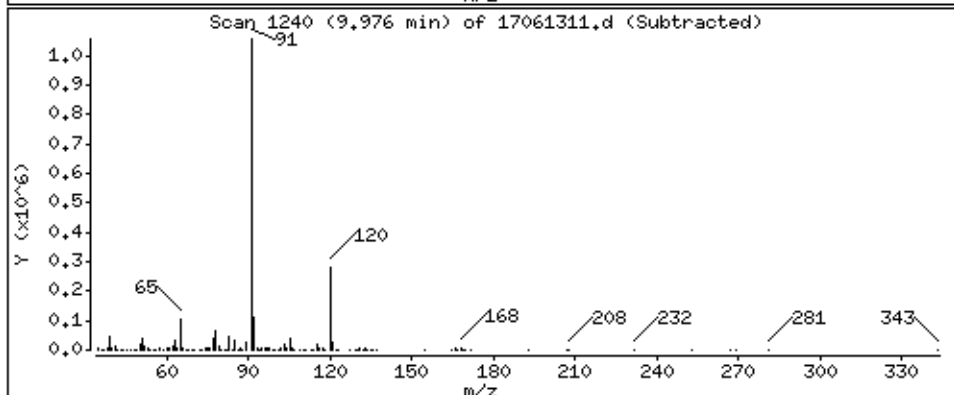
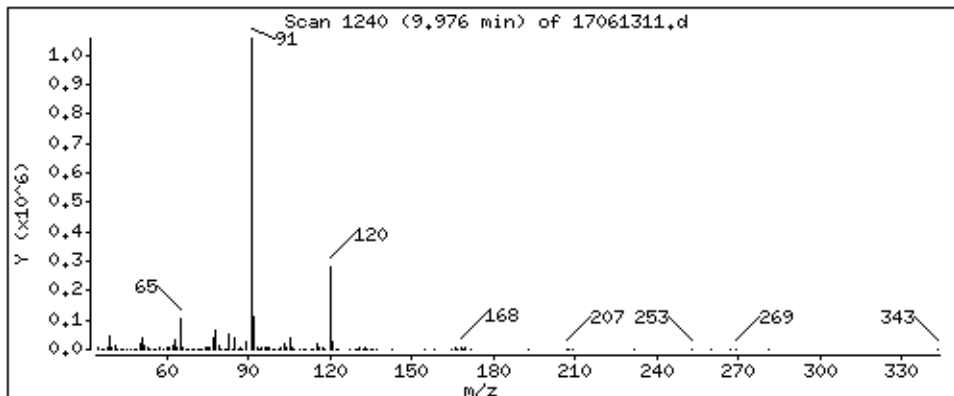
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

182 Propylbenzene

Concentration: 51,150 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

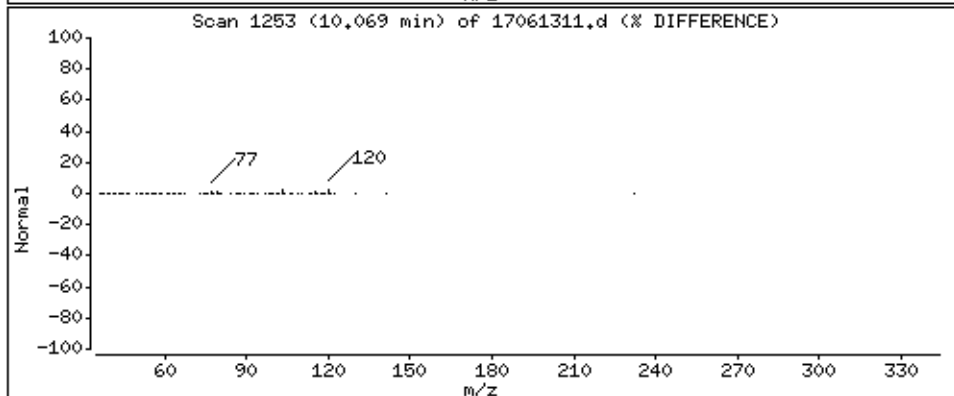
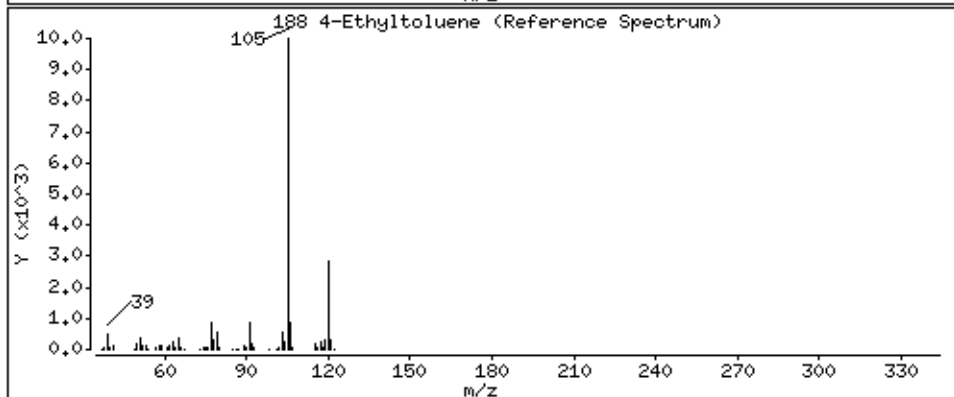
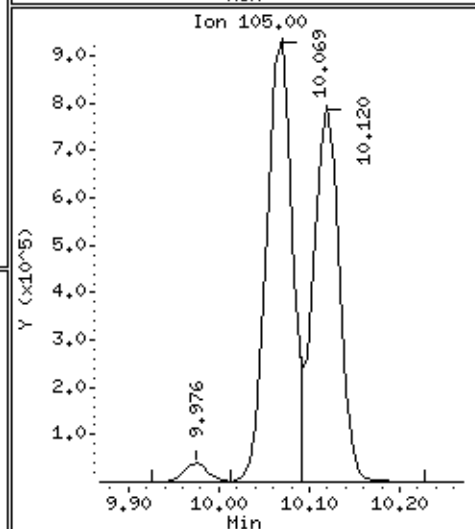
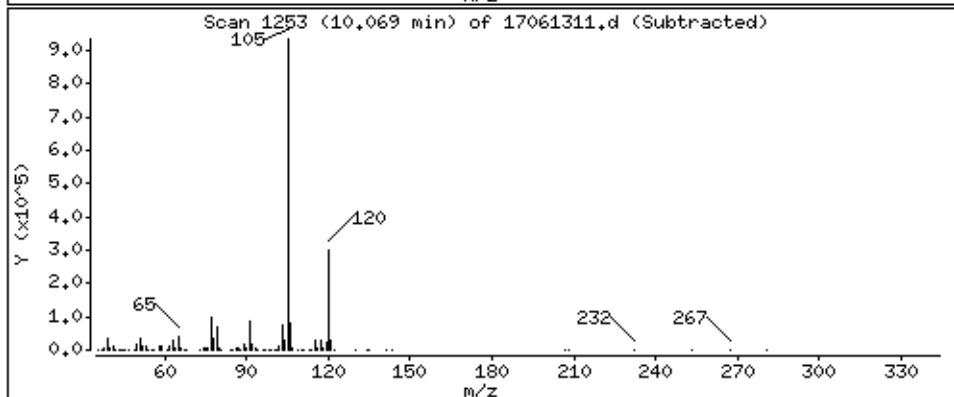
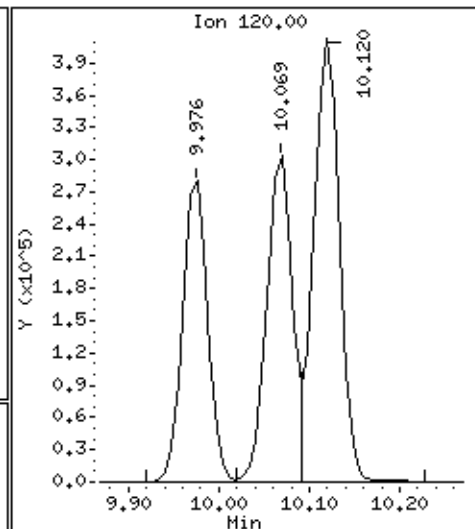
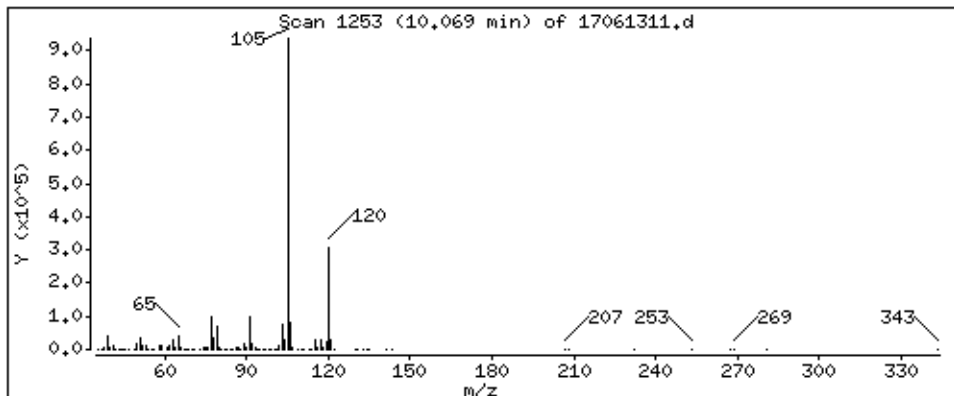
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

188 4-Ethyltoluene

Concentration: 53,364 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

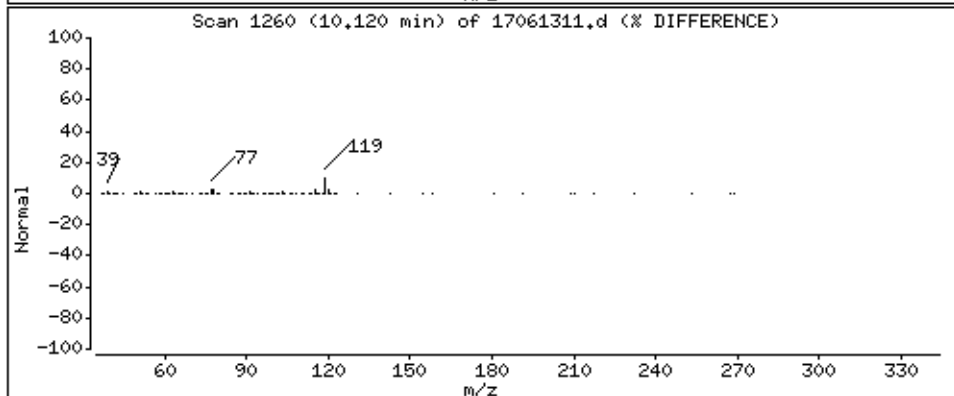
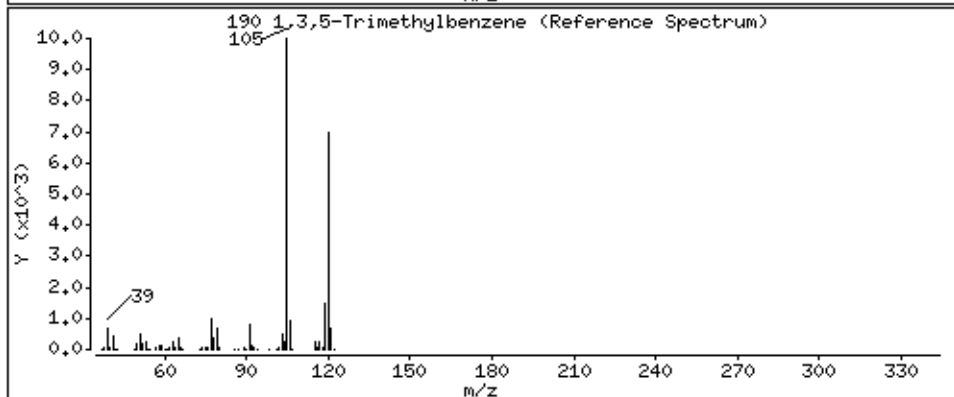
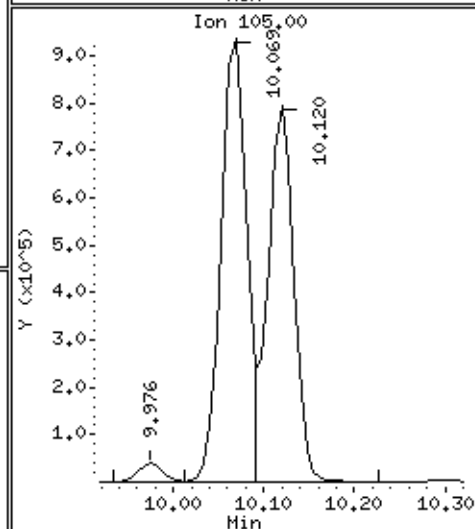
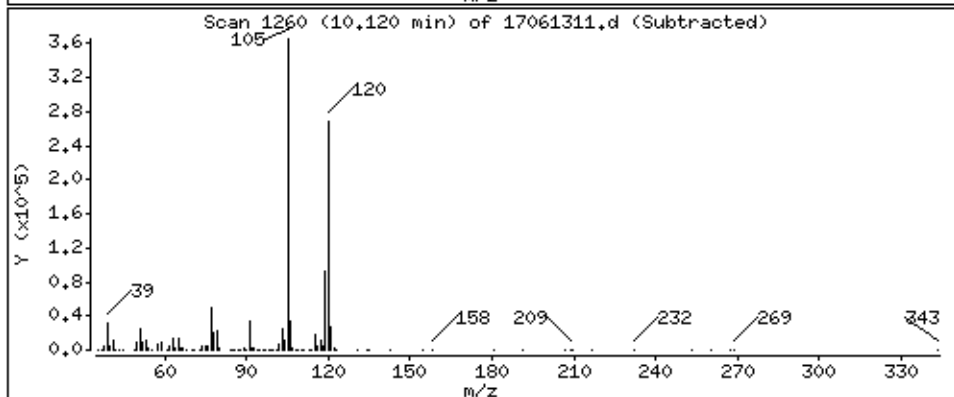
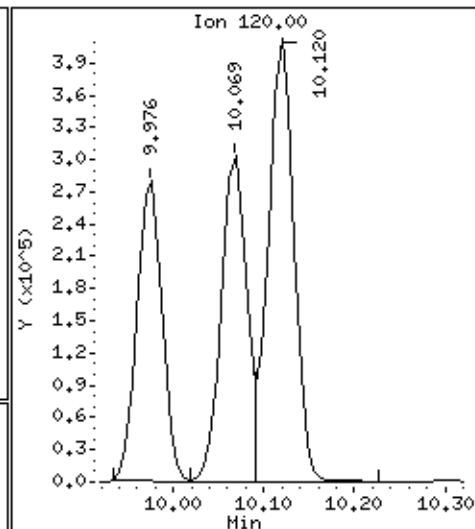
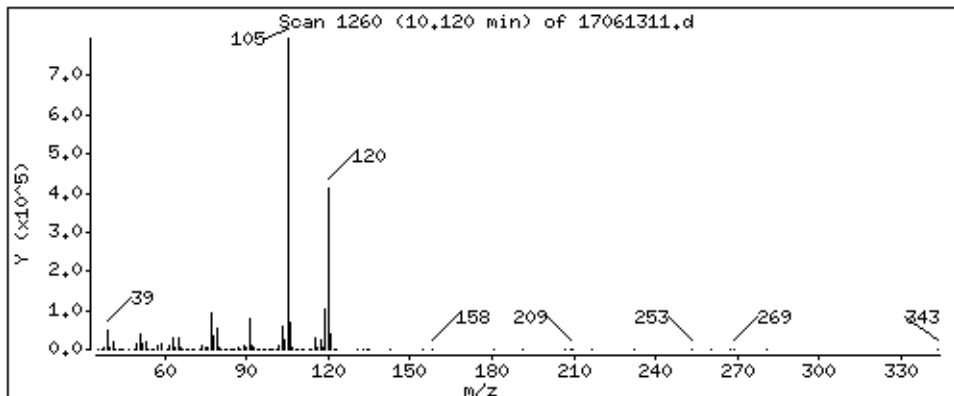
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

190 1,3,5-Trimethylbenzene

Concentration: 52,658 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

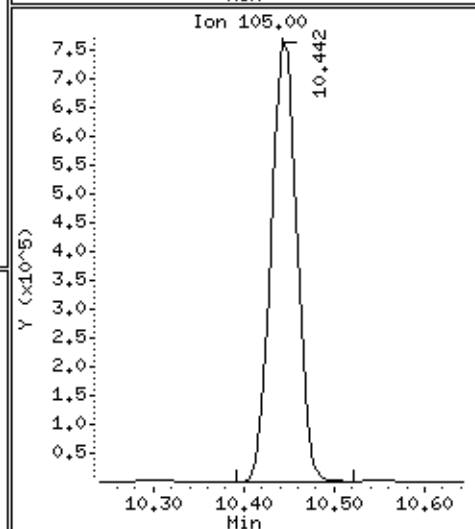
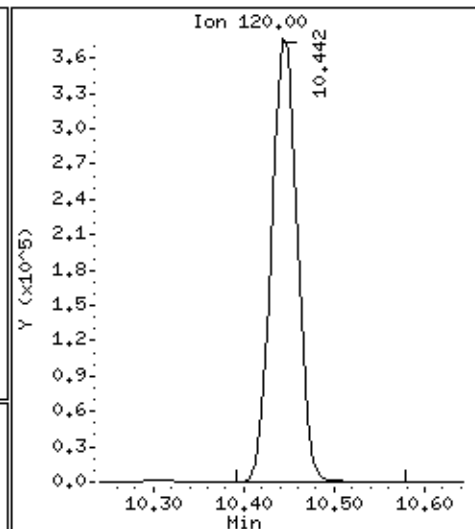
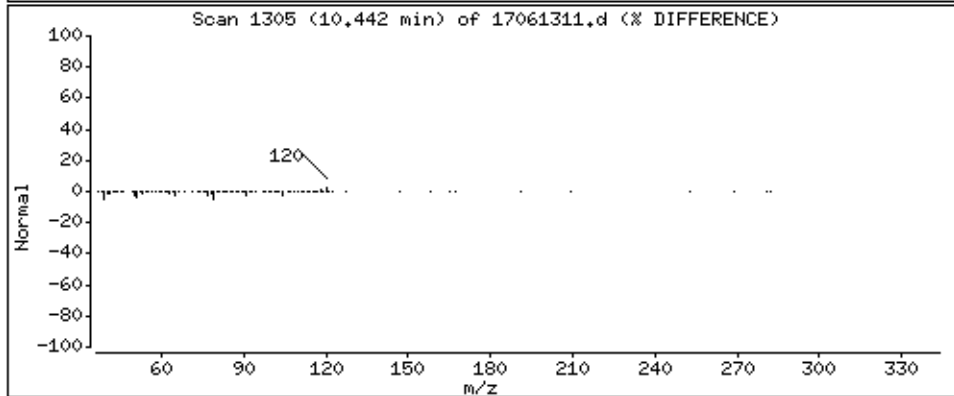
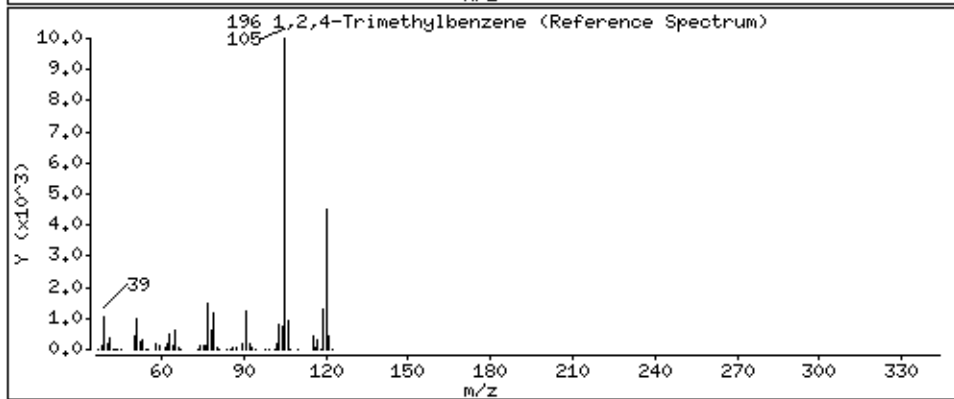
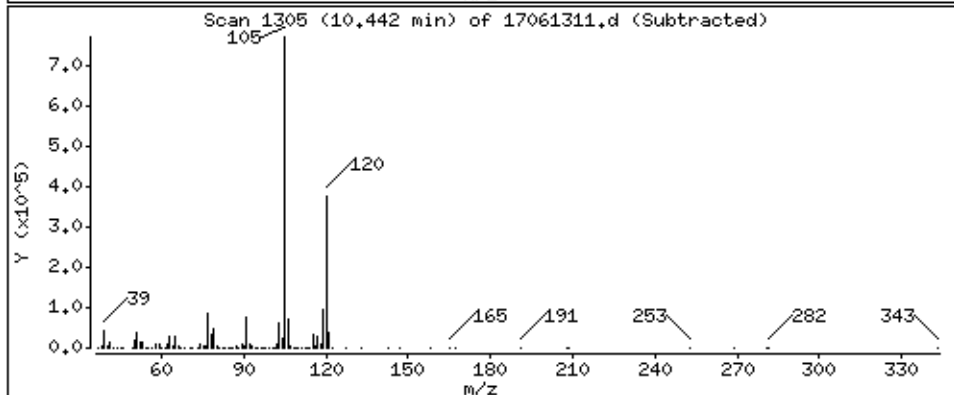
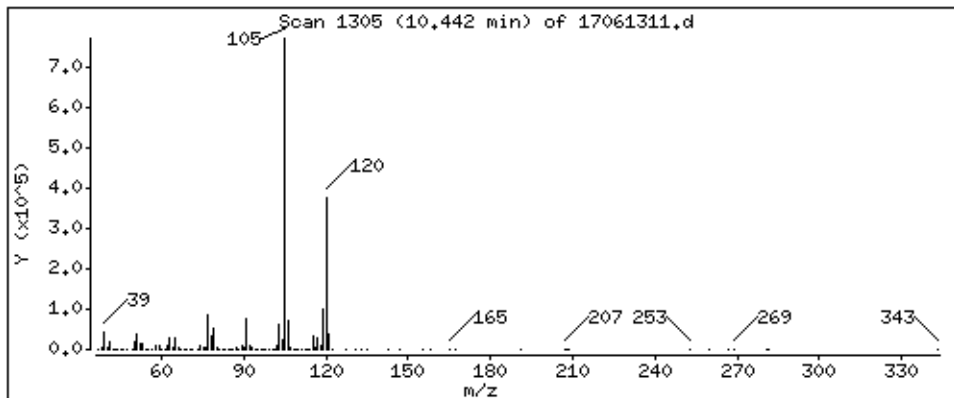
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

196 1,2,4-Trimethylbenzene

Concentration: 53,336 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

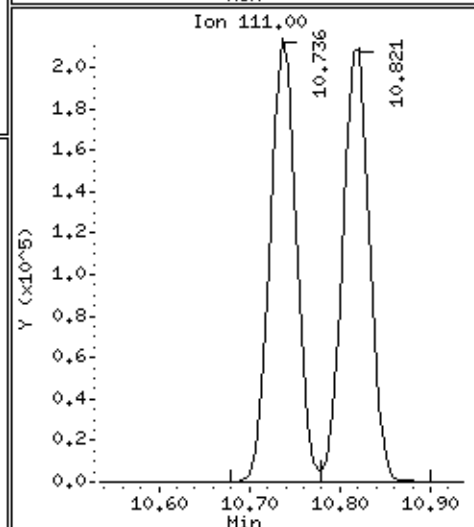
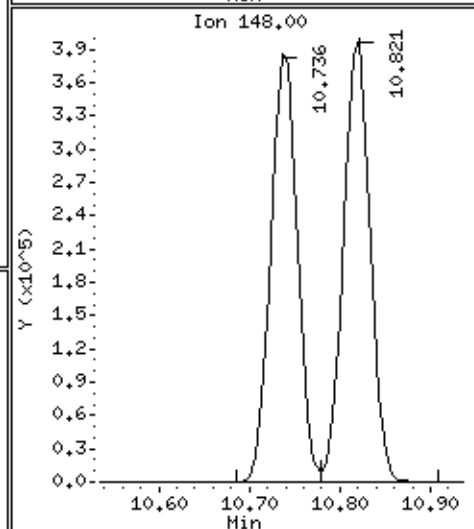
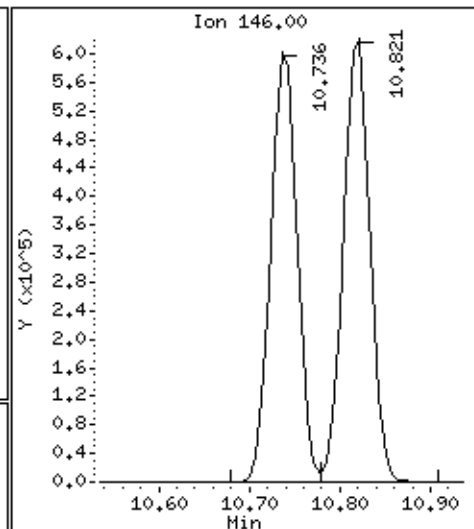
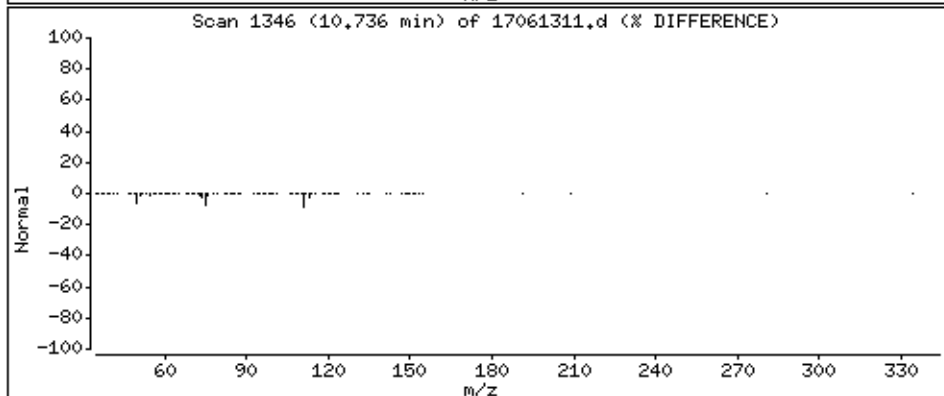
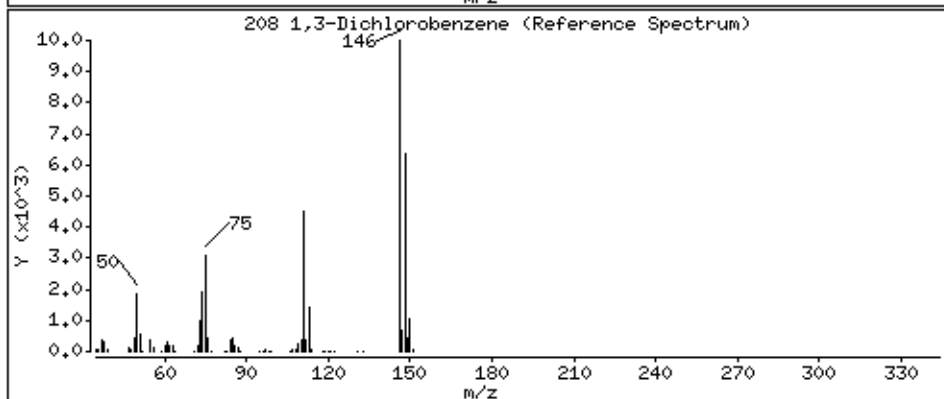
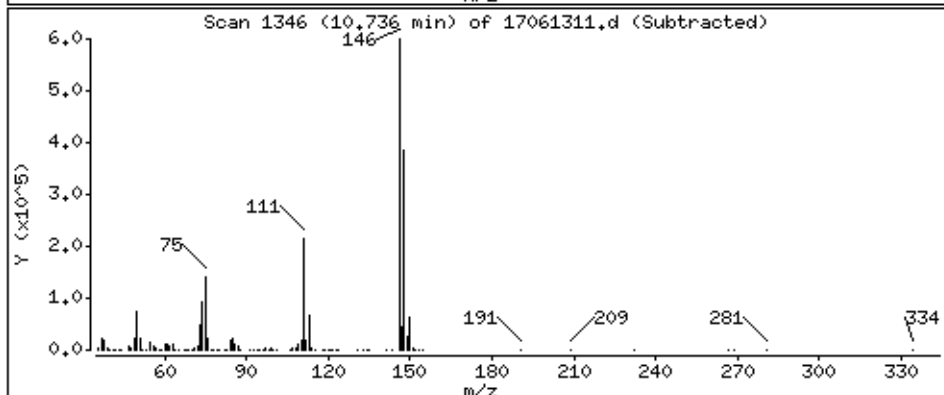
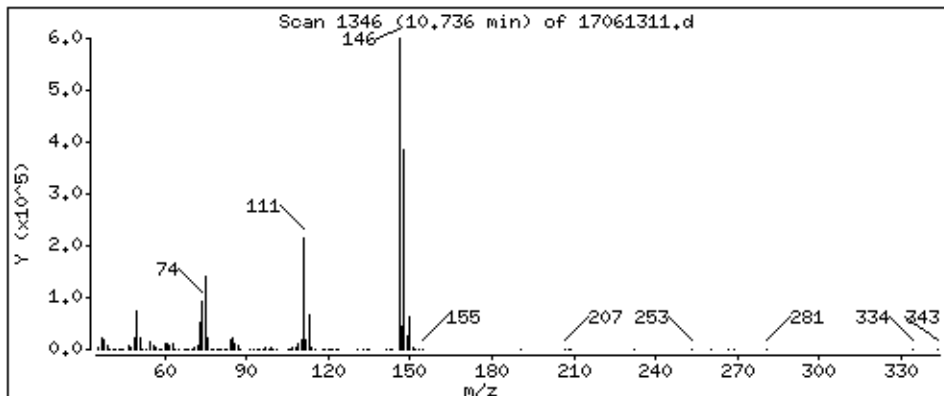
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

208 1,3-Dichlorobenzene

Concentration: 51,219 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

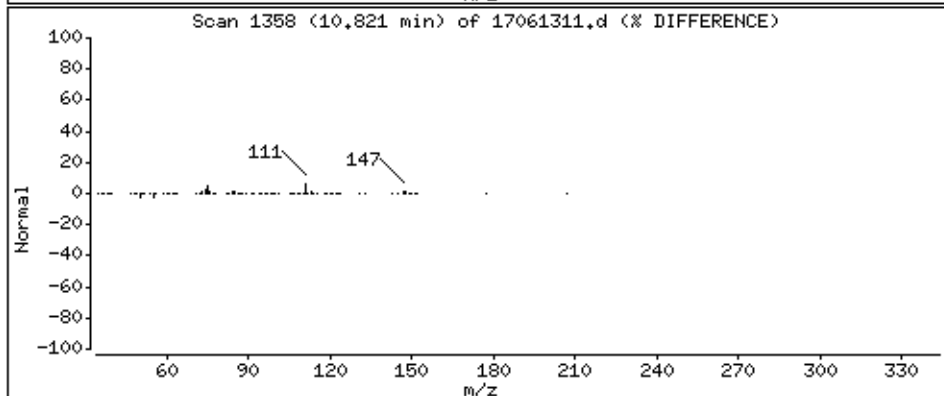
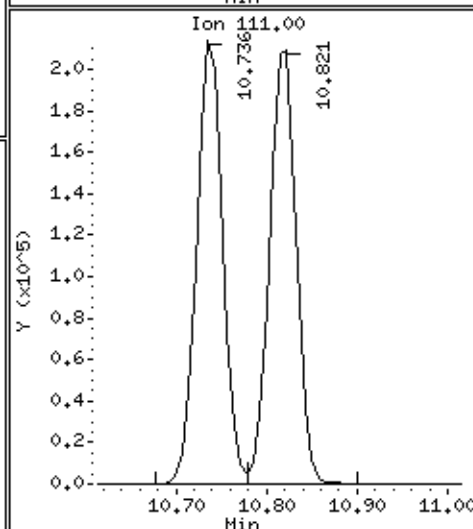
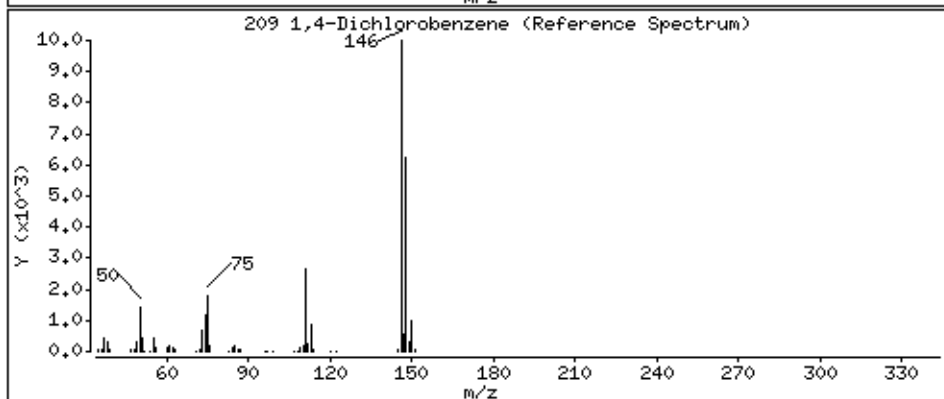
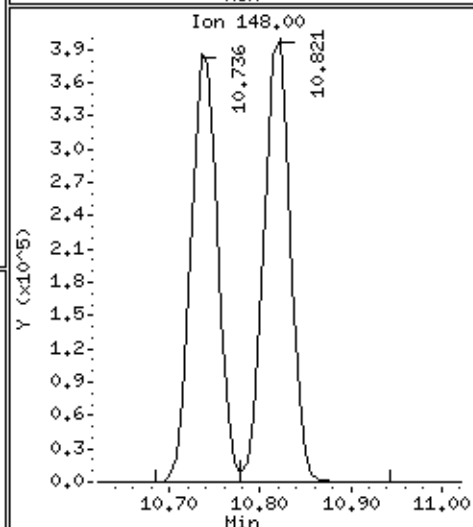
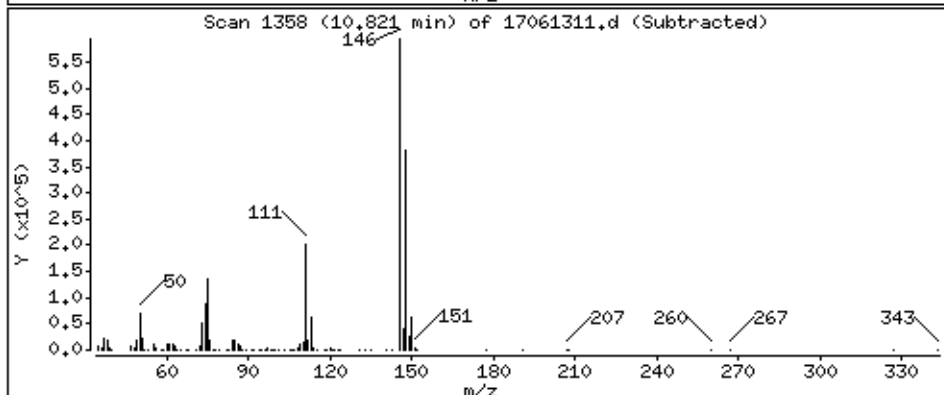
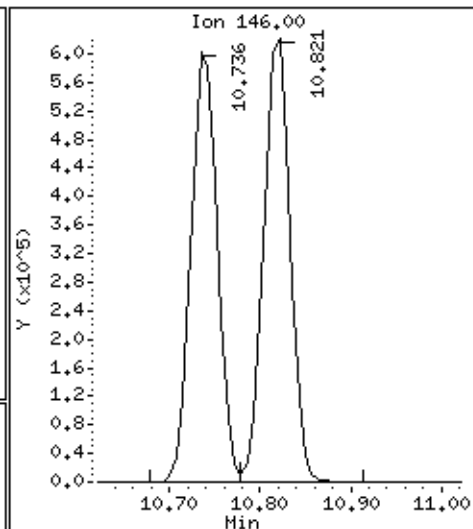
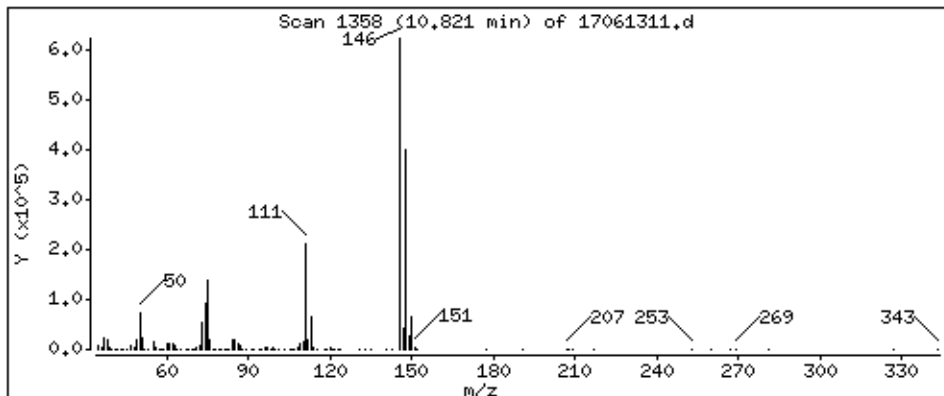
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

209 1,4-Dichlorobenzene

Concentration: 51.444 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

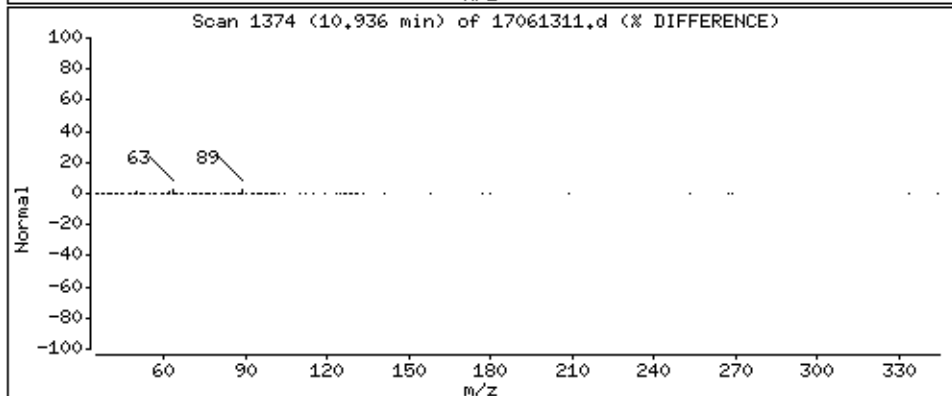
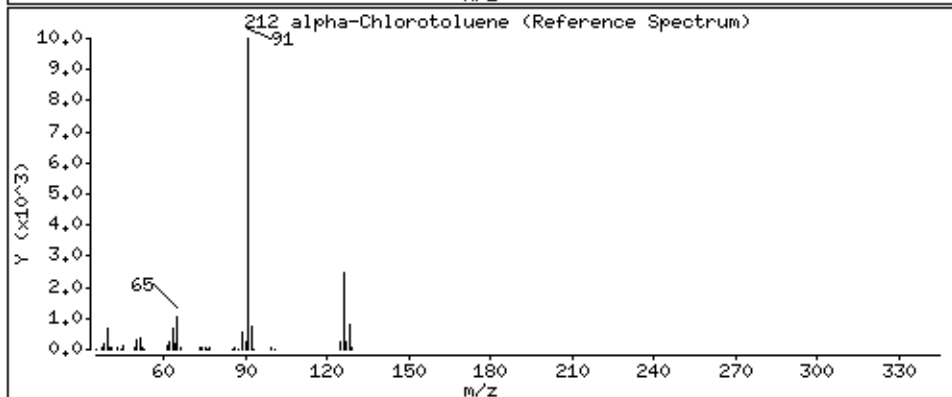
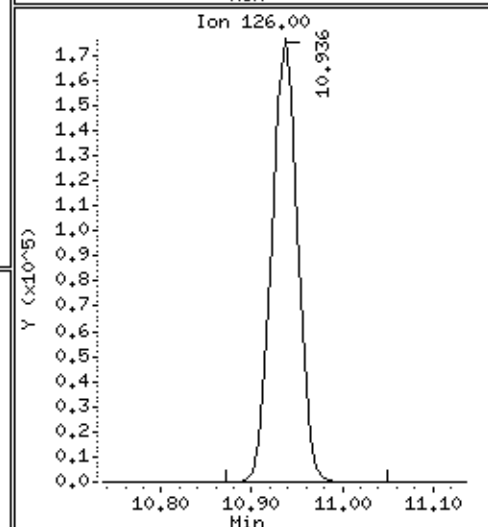
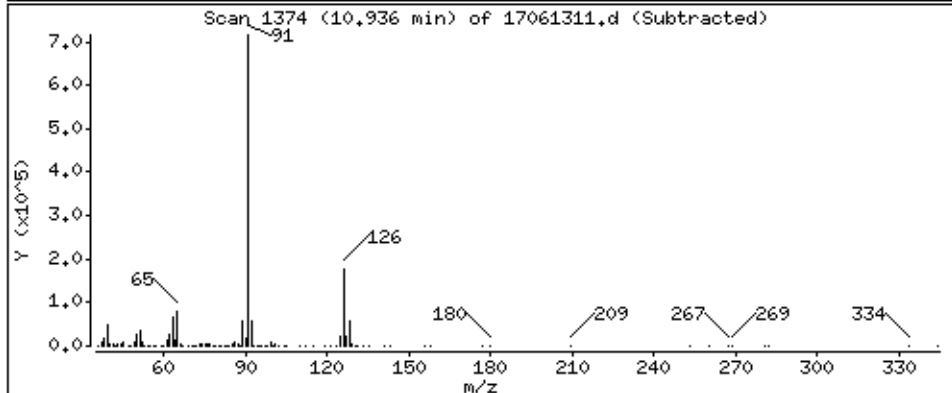
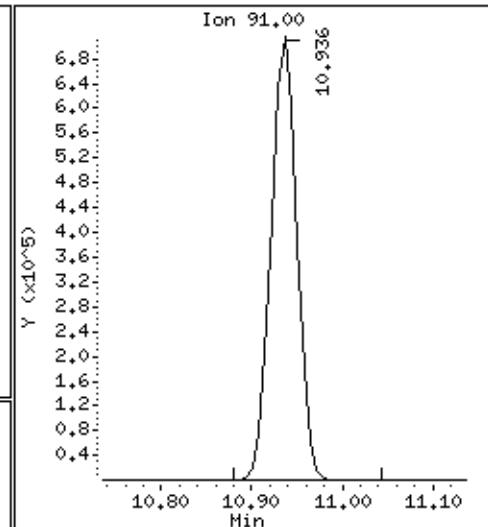
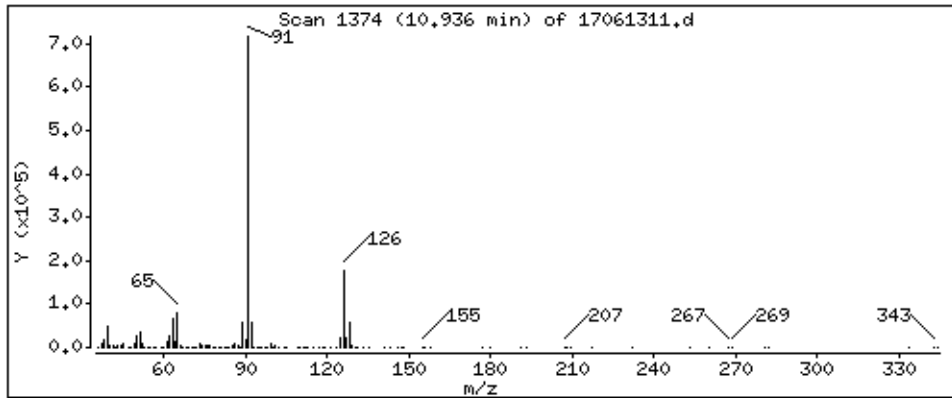
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

212 alpha-Chlorotoluene

Concentration: 56.038 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

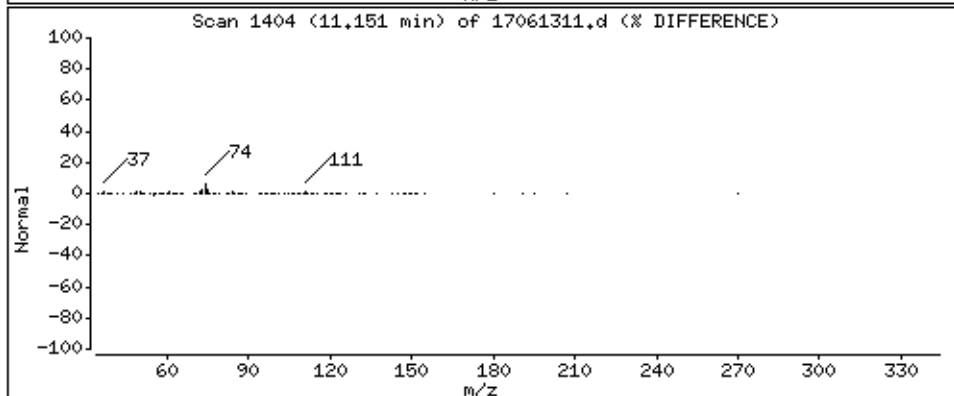
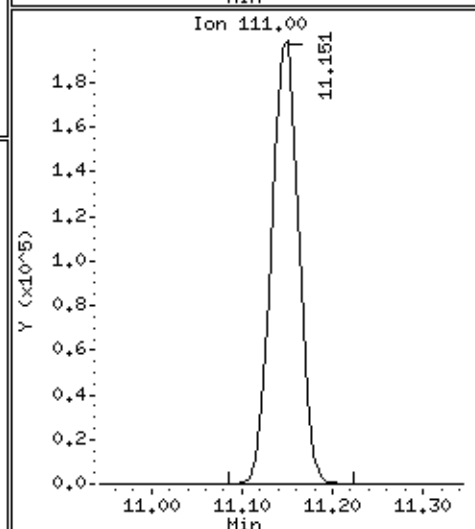
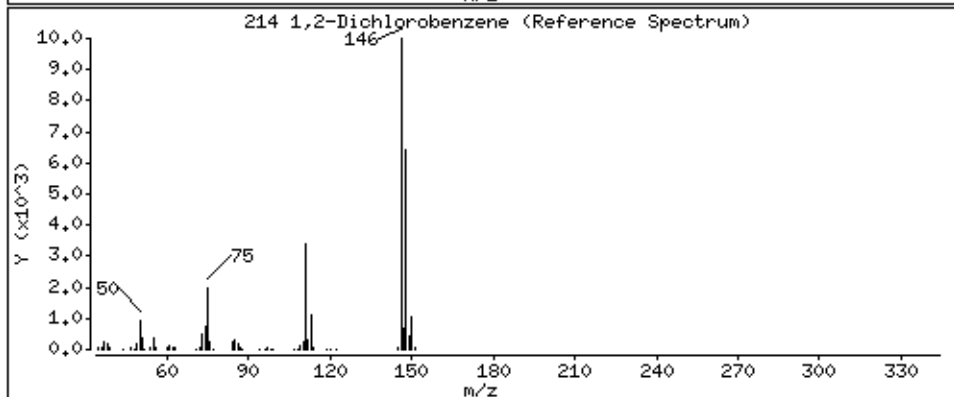
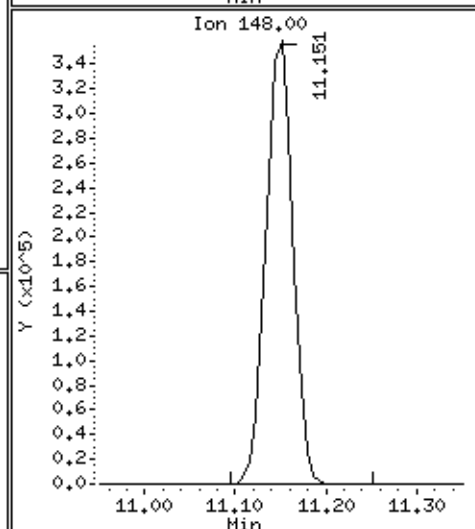
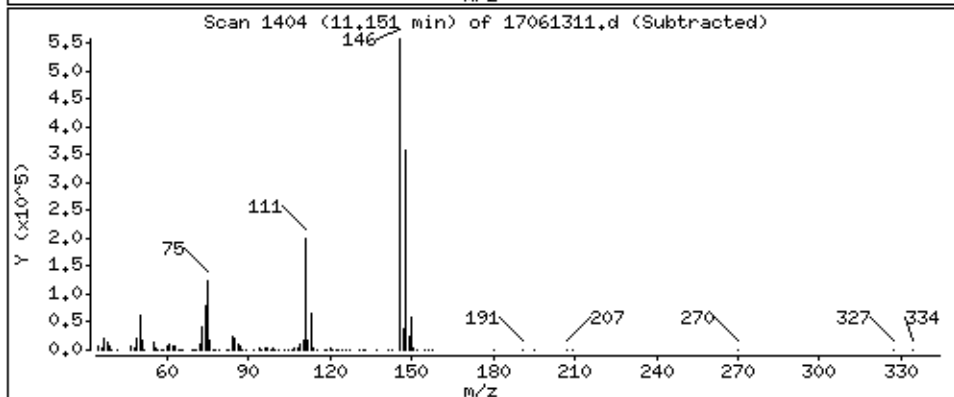
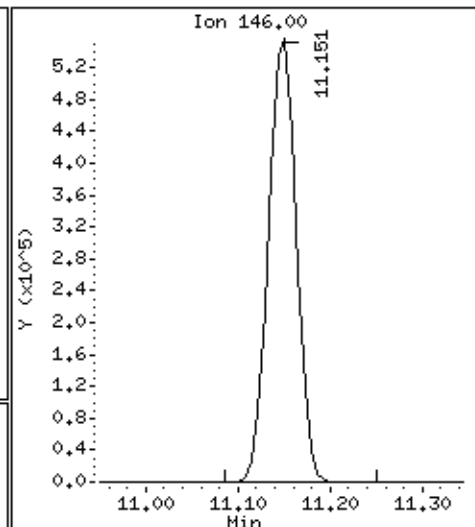
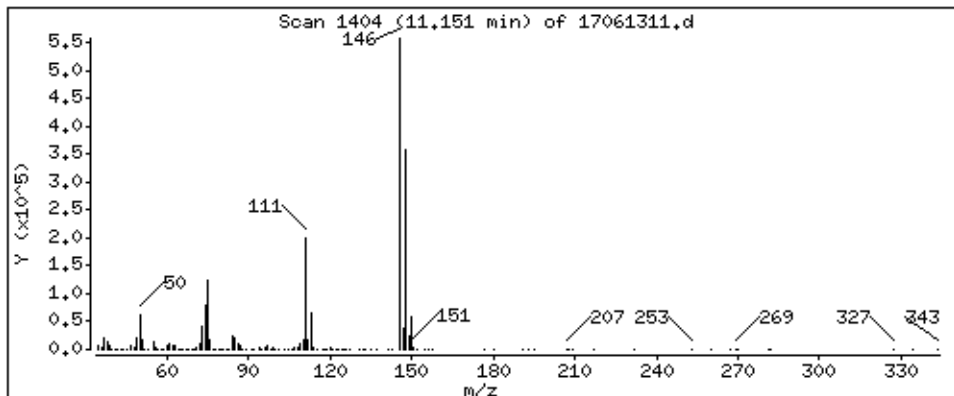
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

214 1,2-Dichlorobenzene

Concentration: 50,216 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

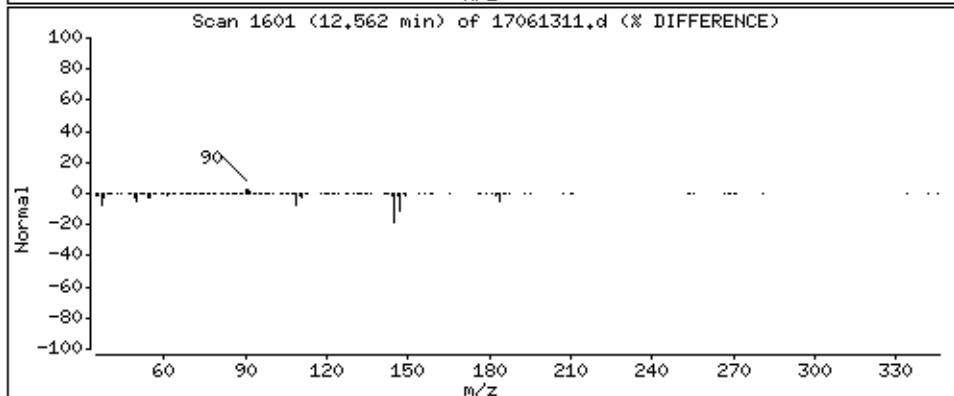
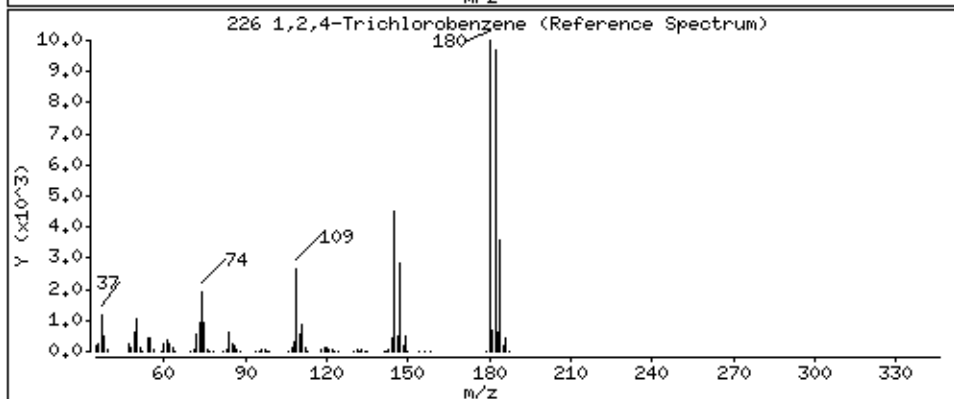
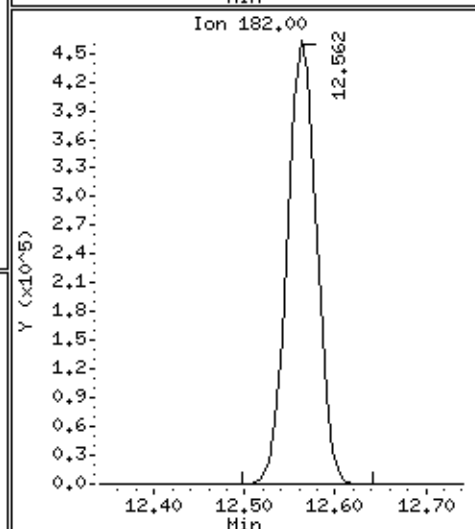
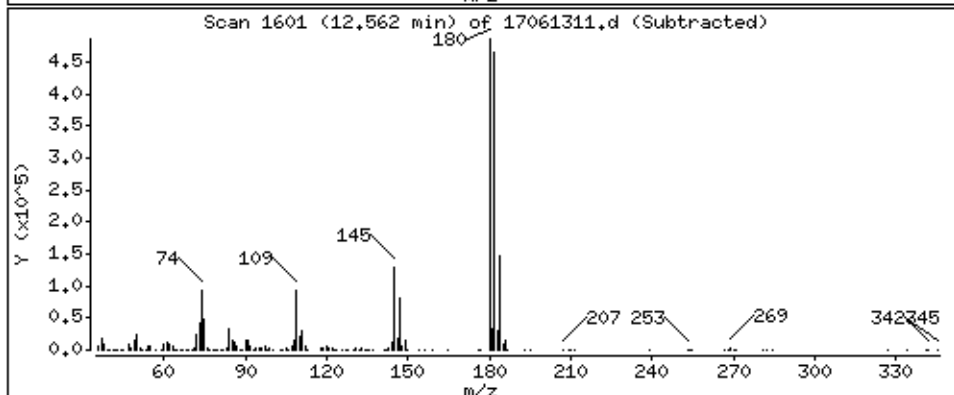
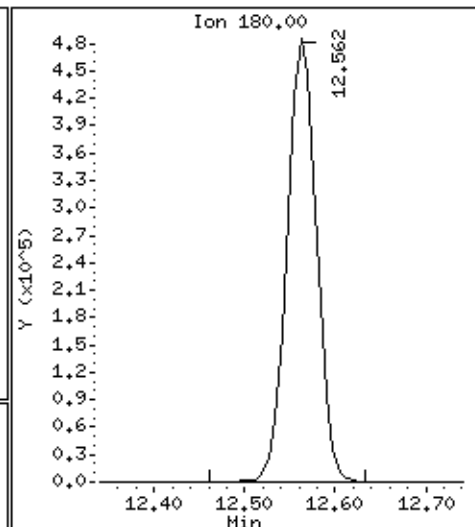
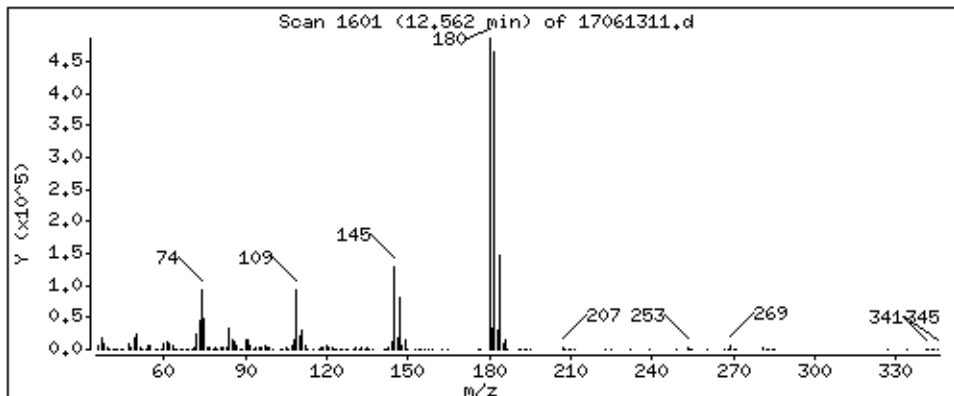
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

226 1,2,4-Trichlorobenzene

Concentration: 42,462 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

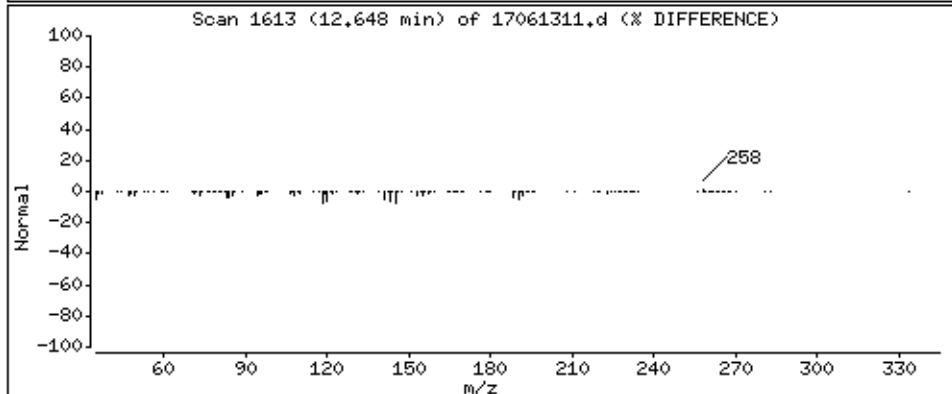
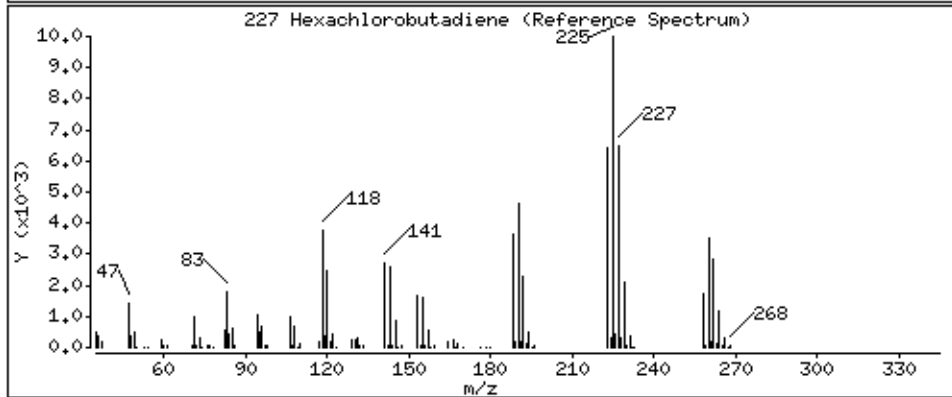
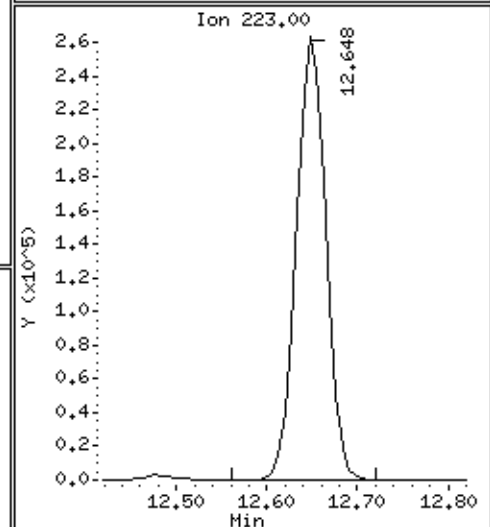
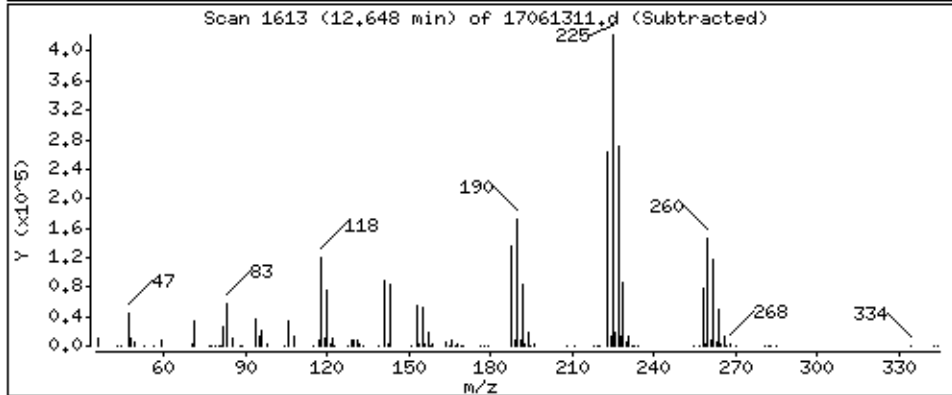
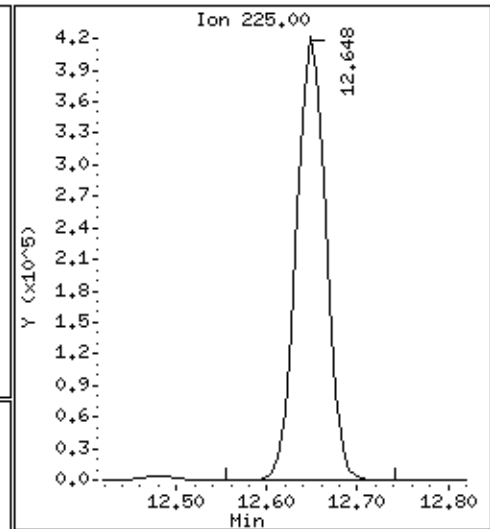
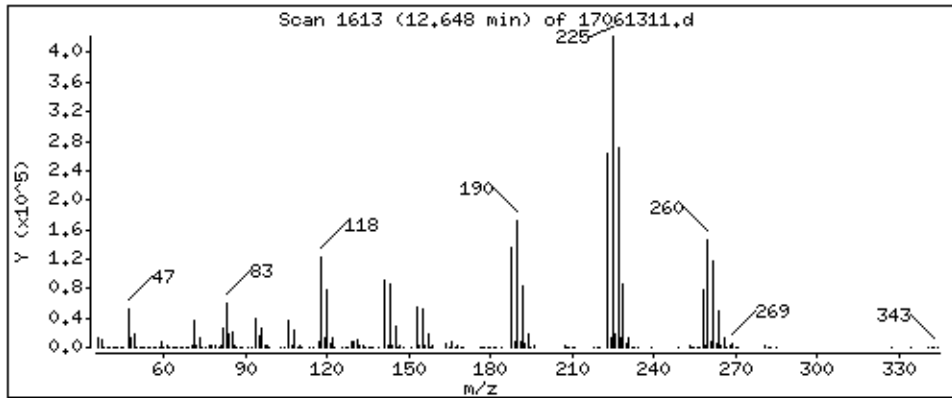
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

227 Hexachlorobutadiene

Concentration: 41,357 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

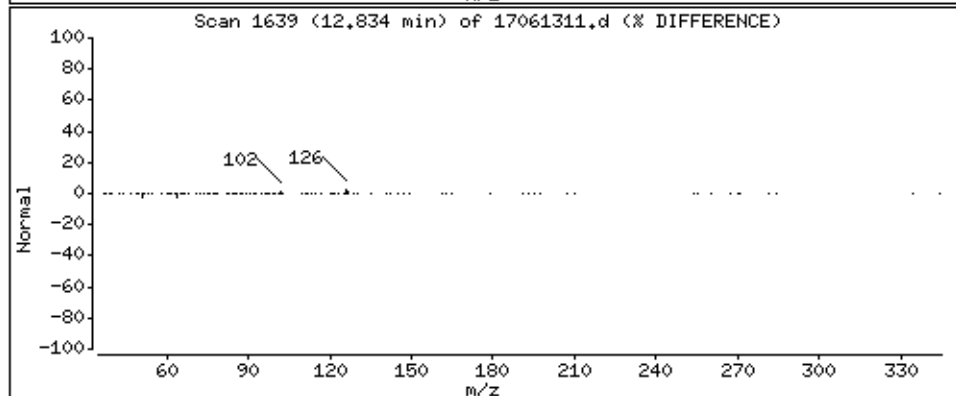
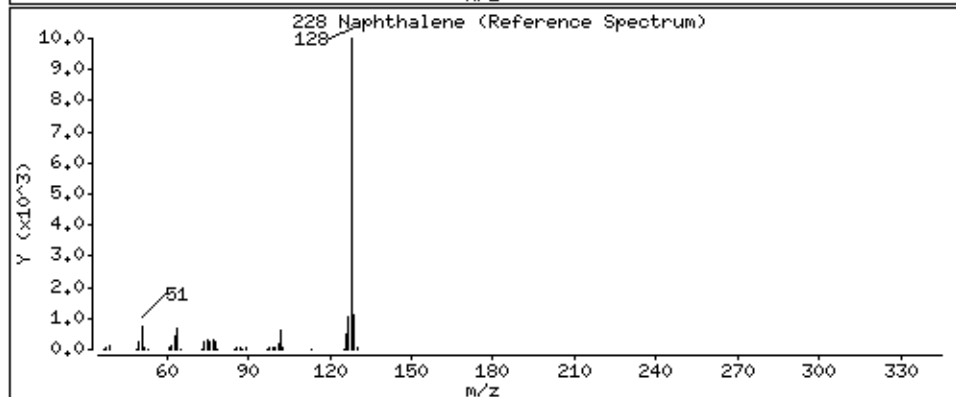
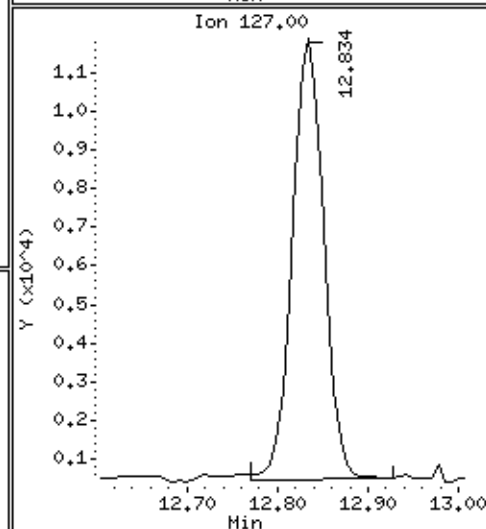
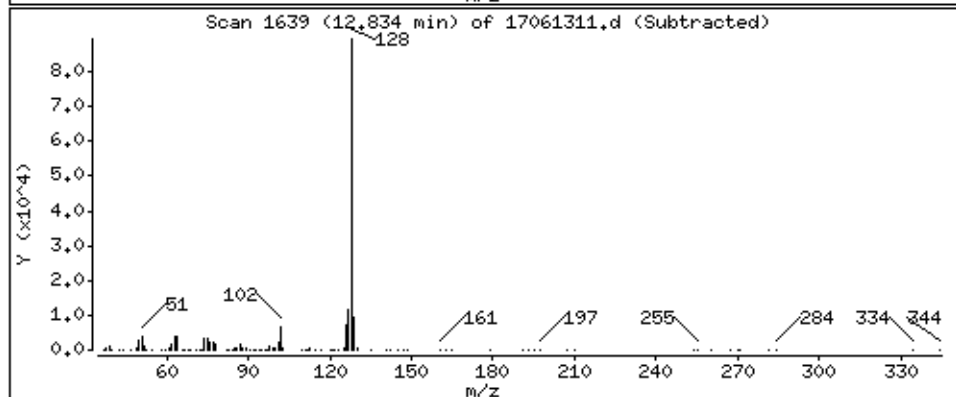
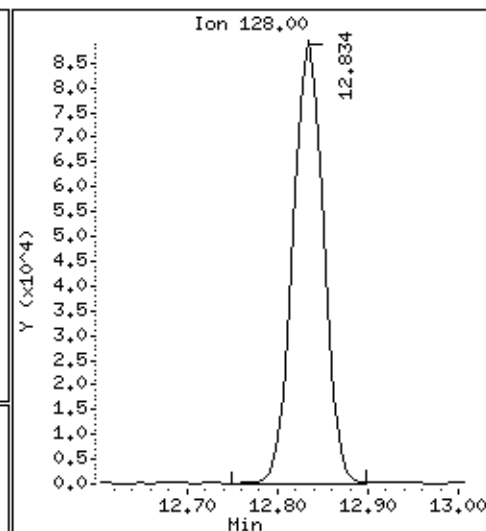
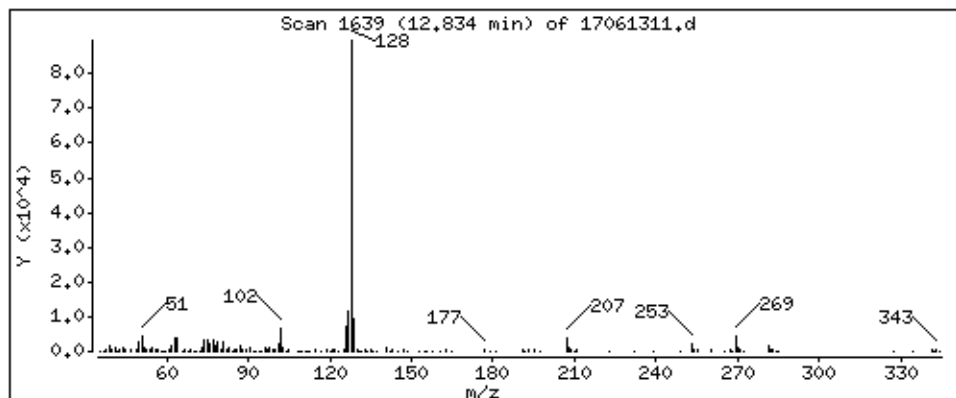
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

228 Naphthalene

Concentration: 4.754 PPBV



US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/23jul18.b/17072305.d
Lab Smp Id: I Cal Level #3
Inj Date : 23-JUL-2018 11:01
Operator : gh Inst ID: msd17.i
Smp Info : 80ml 3018-341
Misc Info : 2.0ppbv(5.0ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/23jul18.b/178q0613b.m
Meth Date : 25-Jul-2018 10:54 uexa Quant Type: ISTD
Cal Date : 23-JUL-2018 11:01 Cal File: 17072305.d
Als bottle: 2 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 123TCB.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

AMOUNTS									
		CAL-AMT		ON-COL					
RT	EXP RT	(REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane						CAS #:	74-97-5		
5.499	5.498	(1.000)	130	139091	25.0000		80.00-	120.00	100.00
5.499	5.498	(1.000)	128	108177			48.32-	108.32	77.77
5.499	5.497	(1.000)	49	114849			63.40-	123.40	82.57

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.387	6.385	(1.000)	114	485433	25.0000		80.00-	120.00	100.00
6.387	6.383	(1.000)	88	68528			0.00-	44.55	14.12

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	436459	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	203599			17.97-	77.97	46.65

229 1,2,3-Trichlorobenzene						CAS #:	87-61-6		
13.092	13.071	(1.483)	180	44860	2.00000	2.023	0.00-	0.00	100.00
13.092	13.071	(1.483)	182	41987			0.00-	0.00	93.60
13.092	13.071	(1.483)	145	12863			0.00-	0.00	28.67

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17072305.d
Lab Smp Id: I Cal Level #3
Analysis Type: VOA
Quant Type: ISTD
Operator: gh

Calibration Date: 23-JUL-2018
Calibration Time: 09:15

Level: LOW
Sample Type: AIR

Method File: /chem/msd17.i/23jul18.b/178q0613b.m
Misc Info: 2.0ppbv(5.0ppbv)

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	137931	82759	193103	139091	0.84
123 1,4-Difluorobenze	478828	287297	670359	485433	1.38
163 Chlorobenzene-d5	433117	259870	606364	436459	0.77

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.50	5.17	5.83	5.50	-0.00
123 1,4-Difluorobenze	6.39	6.06	6.72	6.39	-0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.i/23jul18.b/17072305.d

Date : 23-JUL-2018 11:01

Client ID:

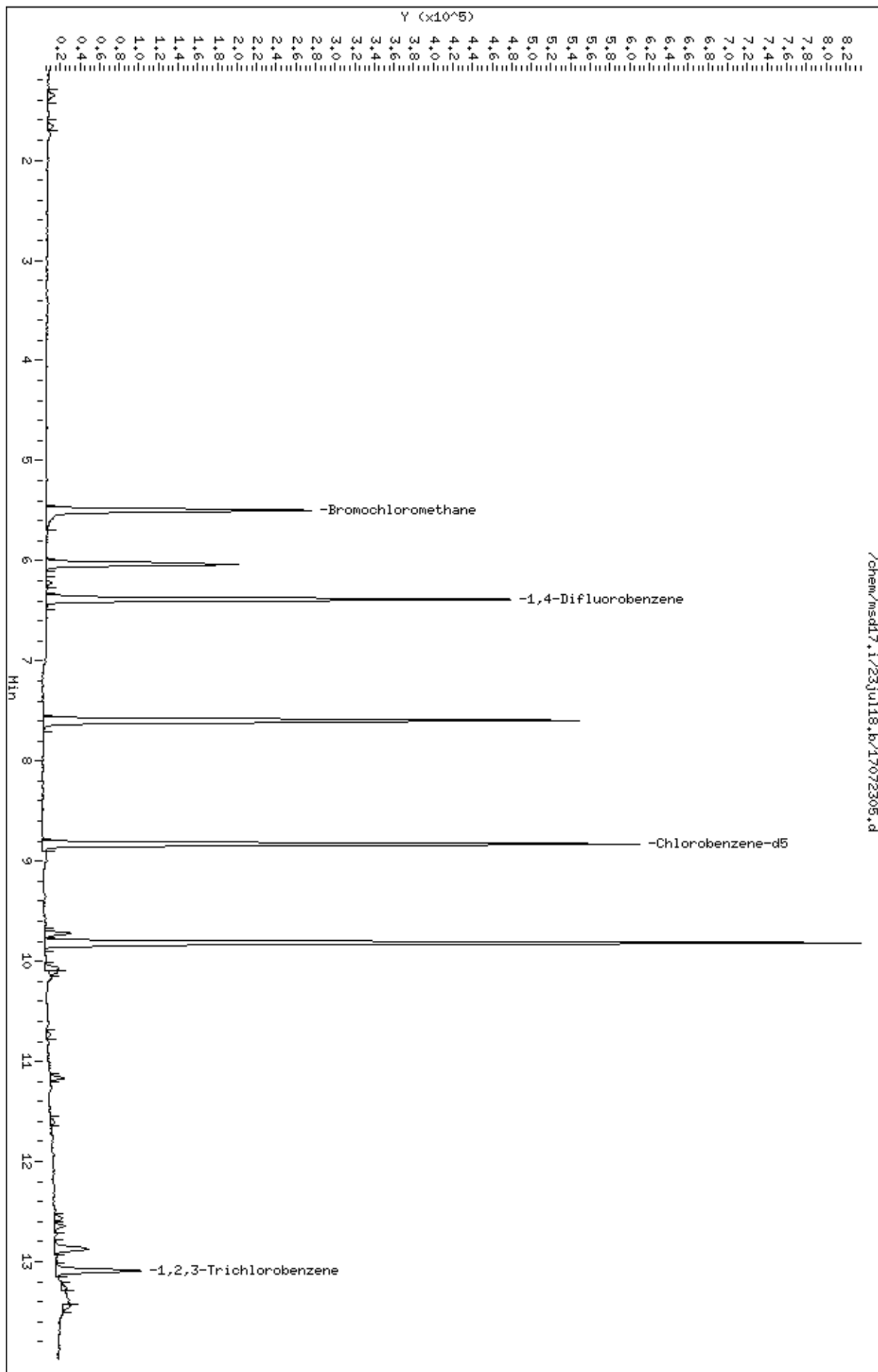
Sample Info: 80ml 3018-341

Column phase: RTX-624

Instrument: msd17.i

Operator: gh

Column diameter: 0.25



US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/23jul18.b/17072306.d
Lab Smp Id: I Cal level #6
Inj Date : 23-JUL-2018 12:23
Operator : gh Inst ID: msd17.i
Smp Info : 50ml 3045-59
Misc Info : 50ppbv(200ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/23jul18.b/178q0613b.m
Meth Date : 25-Jul-2018 10:55 uexa Quant Type: ISTD
Cal Date : 23-JUL-2018 12:23 Cal File: 17072306.d
Als bottle: 2 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 123TCB.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

AMOUNTS									
		CAL-AMT		ON-COL					
RT	EXP RT	(REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane						CAS #:	74-97-5		
5.499	5.498	(1.000)	130	139912	25.0000		80.00-	120.00	100.00
5.499	5.498	(1.000)	128	107900			48.32-	108.32	77.12
5.492	5.496	(1.000)	49	114500			63.40-	123.40	81.84

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.387	6.385	(1.000)	114	476704	25.0000		80.00-	120.00	100.00
6.380	6.383	(1.000)	88	68542			0.00-	44.55	14.38

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	440151	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	204825			17.97-	77.97	46.54

229 1,2,3-Trichlorobenzene						CAS #:	87-61-6		
13.063	13.071	(1.479)	180	1058802	50.0000	47.338	0.00-	0.00	100.00
13.063	13.071	(1.479)	182	1007575			0.00-	0.00	95.16
13.063	13.071	(1.479)	145	292464			0.00-	0.00	27.62

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17072306.d
Lab Smp Id: I Cal level #6
Analysis Type: VOA
Quant Type: ISTD
Operator: gh

Calibration Date: 23-JUL-2018
Calibration Time: 12:23

Level: LOW
Sample Type: AIR

Method File: /chem/msd17.i/23jul18.b/178q0613b.m
Misc Info: 50ppbv(200ppbv)

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	139912	83947	195877	139912	0.00
123 1,4-Difluorobenze	476704	286022	667386	476704	0.00
163 Chlorobenzene-d5	440151	264091	616211	440151	0.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.50	5.17	5.83	5.50	0.00
123 1,4-Difluorobenze	6.39	6.06	6.72	6.39	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.1/23jul18.b/17072306.d

Date : 23-JUL-2018 12:23

Client ID:

Sample Info: 50ml 3045-59

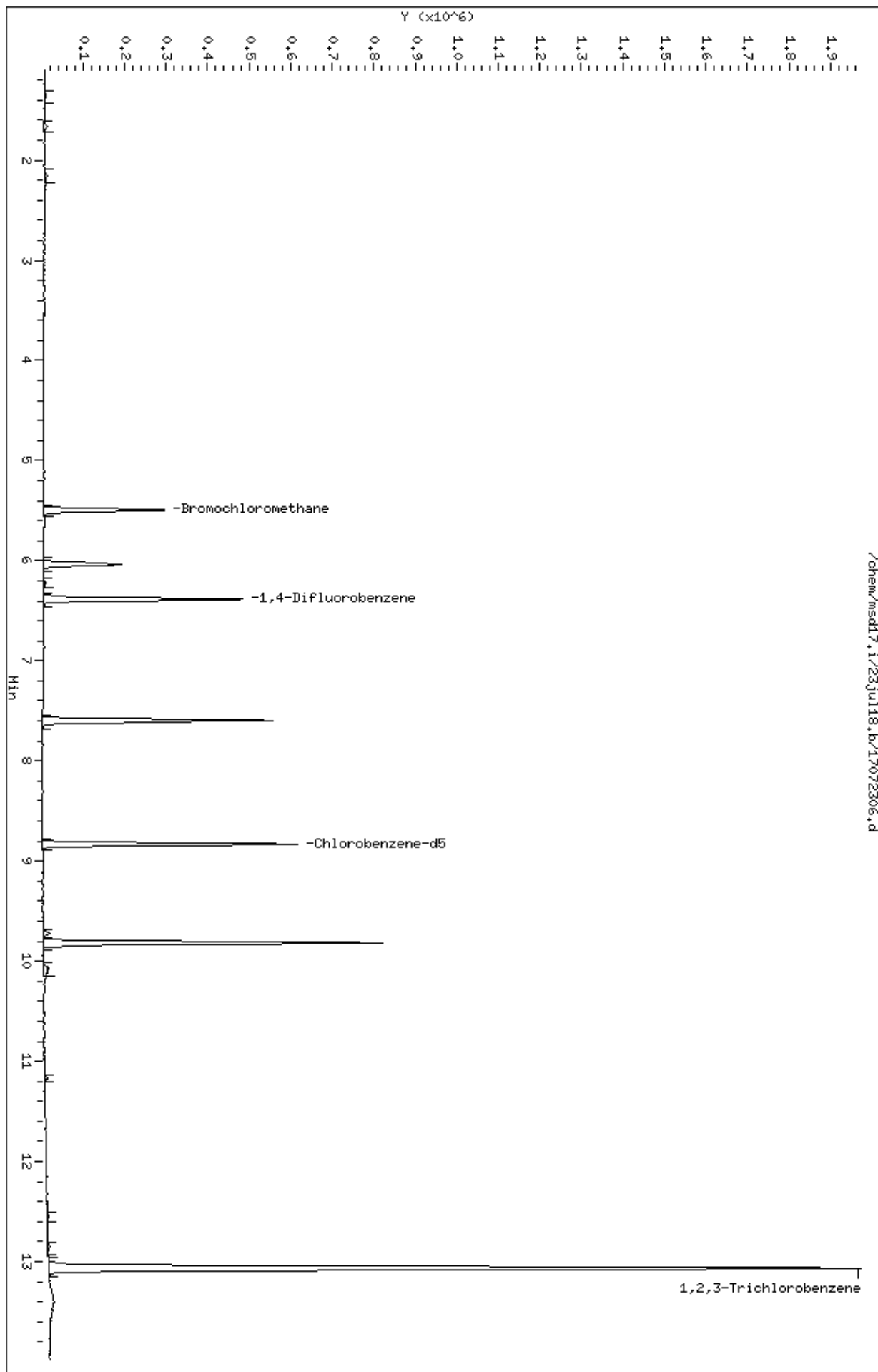
Column phase: RTX-624

Instrument: msd17.1

Operator: gfh

Column diameter: 0.25

/chem/msd17.1/23jul18.b/17072306.d



US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/23jul18.b/17072307.d
Lab Smp Id: I Cal level #8
Inj Date : 23-JUL-2018 12:52
Operator : gh Inst ID: msd17.i
Smp Info : 200ml 3045-59
Misc Info : 200ppbv(200ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/23jul18.b/178q0613b.m
Meth Date : 25-Jul-2018 10:54 uexa Quant Type: ISTD
Cal Date : 23-JUL-2018 12:52 Cal File: 17072307.d
Als bottle: 2 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 123TCB.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

AMOUNTS									
		CAL-AMT		ON-COL					
RT	EXP RT	(REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane						CAS #:	74-97-5		
5.499	5.498	(1.000)	130	143318	25.0000		80.00-	120.00	100.00
5.499	5.498	(1.000)	128	110565			48.32-	108.32	77.15
5.499	5.497	(1.000)	49	117347			63.40-	123.40	81.88

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.387	6.385	(1.000)	114	485764	25.0000		80.00-	120.00	100.00
6.387	6.383	(1.000)	88	69455			0.00-	44.55	14.30

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	439849	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	206868			17.97-	77.97	47.03

229 1,2,3-Trichlorobenzene						CAS #:	87-61-6		
13.056	13.071	(1.479)	180	4657712	200.000	208.38	0.00-	0.00	100.00(A)
13.056	13.071	(1.479)	182	4481634			0.00-	0.00	96.22
13.056	13.071	(1.479)	145	1302618			0.00-	0.00	27.97

QC Flag Legend

A - Target compound detected but, quantitated amount
exceeded maximum amount.

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17072307.d
Lab Smp Id: I Cal level #8
Analysis Type: VOA
Quant Type: ISTD
Operator: gh

Calibration Date: 23-JUL-2018
Calibration Time: 09:15

Level: LOW
Sample Type: AIR

Method File: /chem/msd17.i/23jul18.b/178q0613b.m
Misc Info: 200ppbv(200ppbv)

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	137931	82759	193103	143318	3.91
123 1,4-Difluorobenze	478828	287297	670359	485764	1.45
163 Chlorobenzene-d5	433117	259870	606364	439849	1.55

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.50	5.17	5.83	5.50	-0.00
123 1,4-Difluorobenze	6.39	6.06	6.72	6.39	-0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.i/23jul18.b/17072307.d

Date : 23-JUL-2018 12:52

Client ID:

Sample Info: 200ml 3045-59

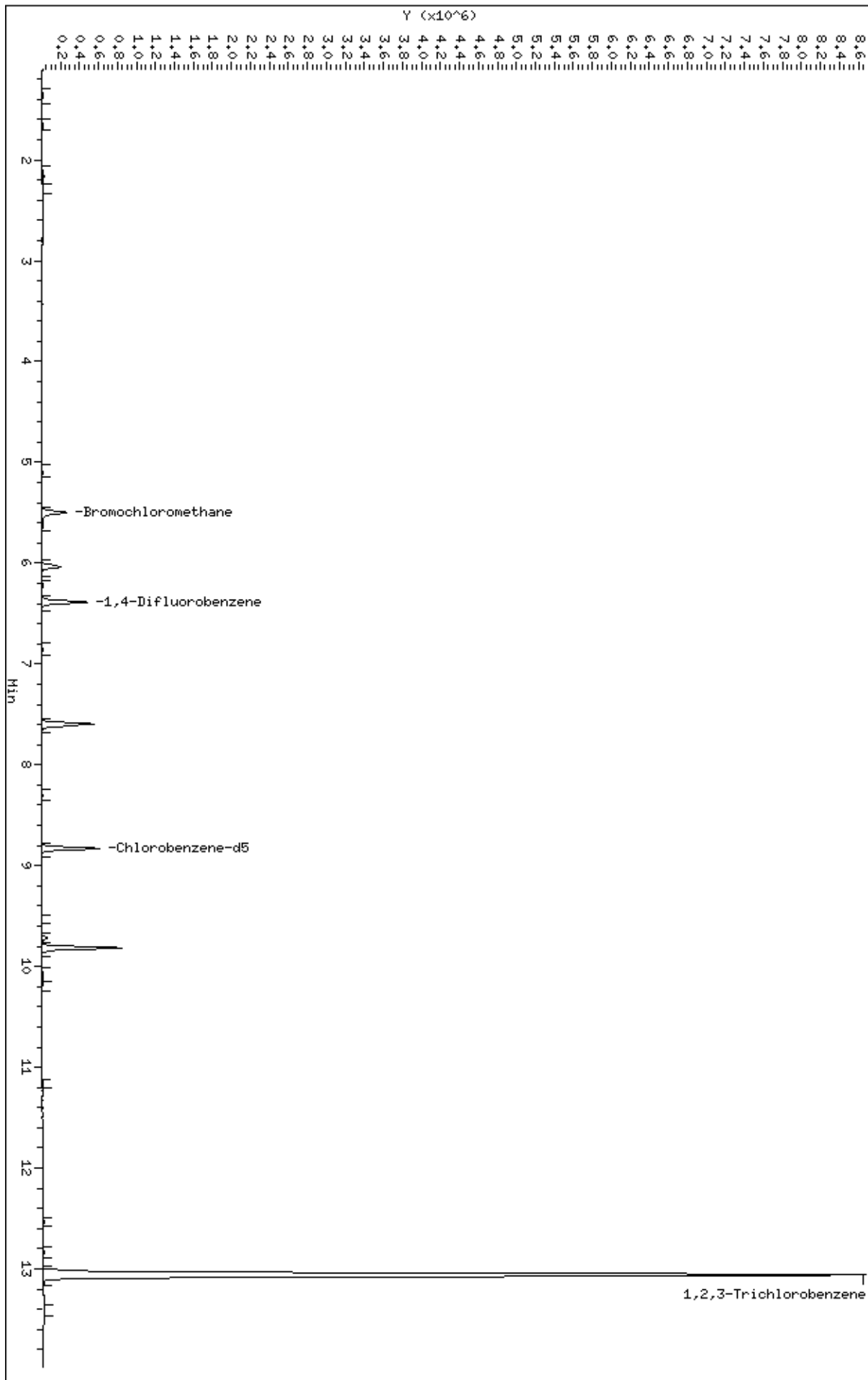
Column phase: RTX-624

Instrument: msd17.i

Operator: gh

Column diameter: 0.25

/chem/msd17.i/23jul18.b/17072307.d



Eurofins Air Toxics, LLC 2Q 2018 TO-14A/TO-15 QUAD Limit of Detections (LODs) Effective 07-01-18						
CAS #	Analyte	Molecular Weight (MW)	LOD (ppbv)	LOQ (ppbv)	LOD (ug/m3)	LOQ (ug/m3)
71-55-6	1,1,1-Trichloroethane	133.42	0.4	0.5	2.18274	2.72843
79-34-5	1,1,2,2-Tetrachloroethane	167.86	0.4	0.5	2.74618	3.43272
79-00-5	1,1,2-Trichloroethane	133.42	0.4	0.5	2.18274	2.72843
75-34-3	1,1-Dichloroethane	98.97	0.4	0.5	1.61914	2.02393
75-35-4	1,1-Dichloroethene	96.95	0.4	0.5	1.58609	1.98262
120-82-1	1,2,4-Trichlorobenzene	181.46	1.5	2	11.13252	14.84335
95-63-6	1,2,4-Trimethylbenzene	120.19	0.4	0.5	1.9663	2.45787
106-93-4	1,2-Dibromoethane (EDB)	187.88	0.4	0.5	3.0737	3.84213
95-50-1	1,2-Dichlorobenzene	147.01	0.4	0.5	2.40507	3.00634
107-06-2	1,2-Dichloroethane	98.96	0.4	0.5	1.61898	2.02372
78-87-5	1,2-Dichloropropane	112.99	0.4	0.5	1.84851	2.31063
108-67-8	1,3,5-Trimethylbenzene	120.19	0.4	0.5	1.9663	2.45787
106-99-0	1,3-Butadiene	54.09	0.4	0.5	0.88491	1.10613
541-73-1	1,3-Dichlorobenzene	147.01	0.4	0.5	2.40507	3.00634
106-46-7	1,4-Dichlorobenzene	147.01	0.4	0.5	2.40507	3.00634
123-91-1	1,4-Dioxane	88.11	1.5	2	5.40552	7.20736
540-84-1	2,2,4-Trimethylpentane	114.22	0.4	0.5	1.86863	2.33579
78-93-3	2-Butanone	72.11	1.5	2	4.42393	5.89857
591-78-6	2-Hexanone	100.16	1.5	2	6.14479	8.19305
67-63-0	2-Propanol	60.09	1.5	2	3.6865	4.91534
107-05-1	3-Chloropropene	76.53	1.5	2	4.69509	6.26012
622-96-8	4-Ethyltoluene	120.19	0.4	0.5	1.9663	2.45787
108-10-1	4-Methyl-2-pentanone	100.16	0.4	0.5	1.63861	2.04826
67-64-1	Acetone	58.08	1.5	5	3.56319	11.8773
100-44-7	alpha-Chlorotoluene	126.58	0.4	0.5	2.07084	2.58855
71-43-2	Benzene	78.11	0.4	0.5	1.27787	1.59734
75-27-4	Bromodichloromethane	163.83	0.4	0.5	2.68025	3.35031
75-25-2	Bromoform	252.77	0.4	0.5	4.1353	5.16912
74-83-9	Bromomethane	94.95	1.5	5	5.82515	19.41718
75-15-0	Carbon Disulfide	76.14	1.5	2	4.67117	6.22822
56-23-5	Carbon Tetrachloride	153.84	0.4	0.5	2.51681	3.14601
108-90-7	Chlorobenzene	112.56	0.4	0.5	1.84147	2.30184
75-00-3	Chloroethane	64.52	1.5	2	3.95828	5.27771
67-66-3	Chloroform	119.39	0.4	0.5	1.95321	2.44151
74-87-3	Chloromethane	50.49	1.5	5	3.09755	10.32515
156-59-2	cis-1,2-Dichloroethene	96.94	0.4	0.5	1.58593	1.98241
10061-01-5	cis-1,3-Dichloropropene	110.97	0.4	0.5	1.81546	2.26933
98-82-8	Cumene	120.19	0.4	0.5	1.9663	2.45787
110-82-7	Cyclohexane	84.16	0.4	0.5	1.37685	1.72106
124-48-1	Dibromochloromethane	208.28	0.4	0.5	3.40744	4.2593
64-17-5	Ethanol	46.07	1.5	2	2.82638	3.76851

2Q2018 MSD-17 QUAD LODs

100-41-4	Ethyl Benzene	106.16	0.4	0.5	1.73677	2.17096
75-69-4	Freon 11	137.38	0.4	0.5	2.24753	2.80941
76-13-1	Freon 113	187.39	0.4	0.5	3.06569	3.83211
76-14-2	Freon 114	170.93	0.4	0.5	2.7964	3.4955
75-71-8	Freon 12	120.92	0.4	0.5	1.97824	2.4728
142-82-5	Heptane	100.2	0.4	0.5	1.63926	2.04908
87-68-3	Hexachlorobutadiene	260.76	1.5	2	15.99755	21.33006
110-54-3	Hexane	86.17	0.4	0.5	1.40973	1.76217
108-38-3	m,p-Xylene	106.17	0.4	0.5	1.73693	2.17117
1634-04-4	Methyl tert-butyl ether	88.15	1.5	2	5.40798	7.2106
75-09-2	Methylene Chloride	84.94	1.5	5	5.21104	17.37014
91-20-3	Naphthalene	128.17	0.15	1	0.78632	5.24213
95-47-6	o-Xylene	106.17	0.4	0.5	1.73693	2.17117
103-65-1	Propylbenzene	120.19	0.4	0.5	1.9663	2.45787
115-07-1	Propylene	42.08	1.5	2	2.5816	3.44213
100-42-5	Styrene	104.14	0.4	0.5	1.70372	2.12965
127-18-4	Tetrachloroethene	165.85	0.4	0.5	2.71329	3.39162
109-99-9	Tetrahydrofuran	72.1	0.4	0.5	1.17955	1.47444
108-88-3	Toluene	92.13	0.4	0.5	1.50724	1.88405
156-60-5	trans-1,2-Dichloroethene	96.94	0.4	0.5	1.58593	1.98241
10061-02-6	trans-1,3-Dichloropropene	110.97	0.4	0.5	1.81546	2.26933
79-01-6	Trichloroethene	131.39	0.4	0.5	2.14953	2.68691
108-05-4	Vinyl Acetate	86.09	1.5	2	5.2816	7.04213
75-01-4	Vinyl Chloride	62.5	0.4	0.5	1.02249	1.27812

ppbv - part per billion by volume

Concentration (ug/m3) = Concentration (ppbv)*MW/24.45

Instrument ID - msd17.i file msd17.i/01may18.b/17050106.d msd17.i/01may18.b/17050108.d

msd17.i/01may18.b/17050108a.d

Report Date : 23-Feb-2018 15:48

Page 1

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

MDL verification:
0.4 ppbv (2.5 ppbv); 3018-100A; 32 mL

Method File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

ID: MDL01 MDL02 MDL03 MDL04 MDL05 MDL06 MDL07 MDL08 MDL09
FILENAME: 17021208 17021209 17021210 17021308 17021309 17021310 17021409 17021410 17021411
INT. DATE: 12-FEB-2018 12-FEB-2018 12-FEB-2018 13-FEB-2018 13-FEB-2018 13-FEB-2018 14-FEB-2018 14-FEB-2018 14-FEB-2018
INT. TIME: 14:13 14:38 15:04 13:12 13:38 14:03 15:51 16:16 16:41

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
1 Dimethyl Ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
2 Freon 14	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
3 Acetaldehyde	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
4 Hexafluoropropene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
5 Freon 13	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
6 Freon 132a	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
7 Freon 134a	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
8 Propane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
9 Propylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
10 1,1-Difluoroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
11 Freon 12	0.73	0.75	0.80	0.70	0.68	0.72	0.76	0.71	0.74	0.73	0.04	0.11
12 Vinyl Fluoride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
13 Chlorodifluoromethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
14 Ethylene Oxide	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
15 Freon 114	0.60	0.66	0.76	0.67	0.64	0.68	0.65	0.68	0.62	0.67	0.04	0.11
16 Freon 142b	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
17 Chloromethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Reviewer 1
Reviewer 2

Allyl
Allyl

Date: 2/26/18
Date: 3/10/18

$\bar{x} = 0.107 \text{ ppbv}$
 $2\bar{x} = 0.215 \text{ ppbv}$
 $4\bar{x} = 0.4 \text{ ppbv}$
All ratios of the mean recovered concentration and the MDL value are between 1 and 2.0.

MSD17 TO15 0.5 ppbv PL
0.4 ppbv (5.0 ppbv); 3018-100; 30 mL

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
18 Isobutane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
19 Isobutylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
20 2-Butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
21 trans-2-butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
22 1-Butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
23 Butane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
24 cis-2-Butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
25 Vinyl Chloride	0.64	0.73	0.70	0.64	0.67	0.61	0.64	0.72	0.70	0.67	0.04	0.12
26 1,3-Butadiene	0.68	0.79	0.74	0.69	0.71	0.70	0.75	0.75	0.68	0.72	0.04	0.11
27 3-Methyl-1-butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
28 Methanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
29 Bromomethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
30 Chloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
31 Isopentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
32 Vinyl Bromide	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
33 2-Chloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
34 Pentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
35 Freon 11	0.71	0.70	0.66	0.70	0.63	0.69	0.69	0.62	0.66	0.67	0.03	0.05
36 1-Pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
37 Dichlorofluoromethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
38 2,3-Dimethylbutane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
39 Isoprene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

P. (ppbv)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
40 2-Methyl-2-butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
41 trans-2-Pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
42 Ethanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
43 1,2-Dichloro-1-fluoro	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
44 Ethyl Ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
45 cis-2-Pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
46 Acrolein	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
47 Freon 123a	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
48 Freon 123	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
49 Freon 113	0.69	0.77	0.73	0.69	0.62	0.68	0.65	0.67	0.69	0.69	0.04	0.12
50 1,1-Dichloroethene	0.54	0.51	0.51	0.53	0.59	0.71	0.55	0.51	0.66	0.57	0.07	0.22
51 2,2-Dimethylbutane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
52 Acetone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
53 Iodomethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
54 Bromomethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
55 4-Methyl-1-pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
56 Carbon Disulfide	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
57 2-Propanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
58 3-Chloropropene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
59 Cyclopentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
60 2-Methylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
61 Methyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
62 3-Methylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
63 Acetonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

PL (ppbv)

0.5

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
64 Cyclopentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
65 1-Chloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
66 Methylene Chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
67 2-Methyl-1-pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
68 2,4-Dimethylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
69 2,3-Dimethylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
70 tert-Butyl chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
71 tert-Butyl alcohol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
72 Methyl tert-butyl ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
73 trans-1,2-Dichloroethane	0.62	0.61	0.68	0.53	0.57	0.57	0.65	0.68	0.67	0.62	0.05	0.15
74 Acrylonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
75 trans-2-Hexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
76 1-Hexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
77 cis-2-Hexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
78 Hexane	0.55	0.62	0.56	0.60	0.58	0.52	0.53	0.53	0.58	0.56	0.03	0.10
79 Methylcyclopentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
80 sec-Butyl chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
81 2,3,4-Trimethylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
82 1,1-Dichloroethane	0.67	0.74	0.65	0.63	0.68	0.72	0.68	0.67	0.66	0.68	0.03	0.09
83 Isopropyl ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
84 1-Propanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
85 Chloroprene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
86 Vinyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

PL (ppbv)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
87 Butanal	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
88 Ethyl-tert-butyl ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
89 Isobutyl chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
90 2,2-Dichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
91 cis-1,2-Dichloroethene	0.54	0.59	0.58	0.62	0.57	0.62	0.61	0.61	0.57	0.59	0.03	0.08
92 2-Butanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
93 Methyl Acrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
94 Ethyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
95 Methacrylonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
96 2-Chloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
97 2-Butanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 98 Bromochloromethane	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
99 Tetrahydrofuran	0.65	0.64	0.57	0.62	0.62	0.65	0.63	0.70	0.68	0.64	0.04	0.11
100 Chloroform	0.67	0.66	0.74	0.70	0.67	0.69	0.66	0.66	0.67	0.68	0.03	0.08
101 1-Bromopropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
102 Cyclohexane	0.52	0.53	0.57	0.63	0.59	0.56	0.65	0.56	0.58	0.58	0.04	0.12
103 1,1,1-Trichloroethane	0.72	0.69	0.75	0.66	0.72	0.73	0.73	0.68	0.74	0.71	0.03	0.09
104 Chloroacetonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
105 n-Butylchloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
106 Carbon Tetrachloride	0.67	0.72	0.71	0.71	0.67	0.74	0.66	0.67	0.66	0.69	0.03	0.08
107 1,1-Dichloropropene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
108 Thiophene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
109 2-Methylhexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
110 3-Methylhexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

PL(ppbv)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
111 Cyclohexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
112 Benzene-d6	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
113 2,2,4-Trimethylpentane	0.56	0.61	0.60	0.57	0.58	0.61	0.60	0.64	0.60	0.60	0.03	0.08
114 1-Methoxy-2-propanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
115 Isobutanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
116 Benzene	0.94	0.87	0.83	0.87	0.86	0.86	0.82	0.85	0.80	0.86	0.04	0.12
117 1,2-Dichloroethane-d4	24.96	24.67	25.60	24.41	24.06	24.58	24.30	24.49	24.03	24.56	0.48	1.39
118 1-Heptene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
119 tert-Amyl methyl ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
120 1,2-Dichloroethane	0.82	0.87	0.82	0.84	0.78	0.85	0.85	0.80	0.80	0.83	0.03	0.08
121 Heptane	0.56	0.63	0.55	0.59	0.62	0.67	0.68	0.72	0.63	0.63	0.06	0.18
122 2,3-Dichloro-1-propane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 123 1,4-Difluorobenzene	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
124 n-Butanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
125 Trichloroethene	0.85	0.85	0.75	0.73	0.71	0.89	0.79	0.77	0.87	0.80	0.07	0.19
126 Bromodichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
127 Methylcyclohexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
128 Ethyl acrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
129 2-Methylheptane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
130 3-Methylheptane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
131 2-Pentanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
132 1,2-Dichloropropane	0.86	0.88	0.76	0.76	0.83	0.79	0.80	0.79	0.86	0.82	0.04	0.13
133 1-Bromo-2-chloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
134 Methyl Methacrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Reference

MDL

0.28

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.1/12feb18.b/177q1026c.m
Batch File: /chem/msd17.1/12feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
135 Diethyl ketone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
136 1,4-Dioxane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
137 Dibromomethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
138 Bromodichloromethane	0.81	0.85	0.83	0.74	0.75	0.82	0.85	0.85	0.83	0.82	0.04	0.12
139 2-Nitropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
140 bis(chloromethyl) EtHe	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
241 1-Octene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
142 Epichlorohydrin	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
143 2-Chloroethyl Vinyl Et	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
144 cis-1,3-Dichloropropen	0.74	0.84	0.72	0.79	0.81	0.77	0.77	0.74	0.79	0.78	0.04	0.11
145 4-Methyl-2-pentanone	0.93	0.85	0.90	0.97	0.73	0.73	0.79	0.80	0.88	0.85	0.08	0.25
146 Toluene-d8	25.69	26.14	25.84	25.26	25.57	25.52	25.69	25.69	25.68	25.68	0.24	0.68
147 Toluene	0.80	0.75	0.79	0.77	0.80	0.79	0.78	0.82	0.73	0.78	0.03	0.08
148 Octane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
149 Vinyl Cyclohexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
150 trans-1,3-Dichloroprop	0.71	0.71	0.69	0.66	0.71	0.71	0.70	0.74	0.70	0.70	0.02	0.06
151 Ethyl Methacrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
152 1-Chloro-2-Bromopropan	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
153 1-Nitropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
154 Bromodichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
155 1,1,2-Trichloroethane	0.79	0.81	0.82	0.85	0.73	0.75	0.81	0.79	0.73	0.79	0.04	0.12
156 Tetrachloroethene	0.75	0.72	0.71	0.76	0.74	0.74	0.73	0.79	0.75	0.74	0.02	0.07
157 1,3-Dichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
158 2-Hexanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

24(ppbv)

MDE/L/1

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
159 Butyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
160 Dibromochloromethane	0.71	0.75	0.78	0.71	0.71	0.71	0.73	0.73	0.72	0.73	0.03	0.07
161 1,2-Dibromochloroethane (ED8)	0.80	0.79	0.69	0.73	0.75	0.71	0.65	0.78	0.72	0.73	0.05	0.14
162 1-Nonene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 163 Chlorobenzene-d5	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
164 1-Chlorohexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
165 Chlorobenzene	0.75	0.77	0.77	0.77	0.80	0.77	0.74	0.81	0.72	0.77	0.03	0.08
166 Butyl Ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
167 Ethyl Benzene	0.68	0.68	0.67	0.72	0.62	0.71	0.64	0.67	0.66	0.67	0.03	0.09
168 1,1,1,2-Tetrachloroeth	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
169 m,p-Xylene	0.61	0.69	0.68	0.68	0.67	0.63	0.63	0.64	0.62	0.65	0.03	0.08
170 Nonane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
171 o-Xylene	0.59	0.63	0.65	0.64	0.65	0.62	0.66	0.61	0.60	0.63	0.02	0.07
172 Styrene	0.60	0.59	0.57	0.56	0.64	0.59	0.59	0.59	0.57	0.59	0.02	0.07
173 2-Heptanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
174 Bromoform	0.69	0.73	0.73	0.73	0.72	0.68	0.70	0.72	0.77	0.72	0.03	0.08
175 Cumene	0.61	0.60	0.59	0.62	0.60	0.65	0.61	0.65	0.61	0.62	0.02	0.06
176 Cyclohexanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 177 4-Bromofluorobenzene	23.78	23.49	24.02	24.15	24.62	24.49	23.28	23.50	24.02	23.93	0.46	1.32
178 1-Decene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
179 alpha-Pinene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
180 Bromobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
181 1,1,2,2-Tetrachloroeth	0.85	0.86	0.88	0.79	0.83	0.81	0.81	0.83	0.81	0.83	0.03	0.09
182 Propylbenzene	0.70	0.72	0.70	0.72	0.74	0.72	0.72	0.70	0.75	0.72	0.02	0.05

RL (ppbv)

MDL 6149

0.02

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
183 1,4-Dichloro-2-Butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
184 trans-1,4-Dichloro-2-b	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
185 1,2,3-Trichloropropene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
186 3-Ethyltoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
187 Decane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
188 4-Ethyltoluene	0.60	0.62	0.59	0.63	0.63	0.64	0.58	0.66	0.67	0.62	0.03	0.09
189 2-Chlorotoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
190 1,3,5-Trimethylbenzene	0.52	0.66	0.60	0.66	0.67	0.68	0.64	0.65	0.62	0.65	0.03	0.08
191 4-Chlorotoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
192 beta-Pinene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
193 Diisobutyl Ketone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
194 alpha Methyl Styrene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
195 tert-Butylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
196 1,2,4-Trimethylbenzene	0.55	0.62	0.55	0.61	0.65	0.67	0.67	0.63	0.64	0.62	0.05	0.13
197 Pentachloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
198 Limonene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
199 D-Limonene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
200 Benzaldehyde	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
201 Indan	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
202 Indene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
203 sec-Butylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
204 Isobutylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
205 2-Ethyltoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

PL (ppbv)

MDL 61K/101

D.11

0.03

0.05

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
206 bis(2-Chloroethyl) Eth	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
207 p-Cymene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
208 1,3-Dichlorobenzene	0.77	0.77	0.81	0.77	0.82	0.77	0.78	0.74	0.77	0.78	0.02	0.07
209 1,4-Dichlorobenzene	0.71	0.78	0.76	0.78	0.81	0.80	0.74	0.81	0.73	0.77	0.04	0.10
210 1,2,3-Triethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
211 1-Undecene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
212 alpha-chlorotoluene	0.63	0.57	0.60	0.61	0.59	0.60	0.63	0.59	0.59	0.60	0.02	0.05
213 Butylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
214 1,2-Dichlorobenzene	0.76	0.74	0.83	0.78	0.79	0.82	0.75	0.82	0.79	0.79	0.03	0.09
215 Undecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
216 4-Ethyl-1,2-dimethylhe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
217 Hexachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
218 1,3-Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
219 1,4-Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
220 1,2,4,5-tetramethylben	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
221 1,2-Dibromo-3-chloropr	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
222 1-Dodecene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
223 Nitrobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
224 1,3,5-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
225 Dodecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
226 1,2,4-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
227 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
228 Naphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
229 1,2,3-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

AL (ppbv)

MDL (ppbv)

0.05

0.03

0.04

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
230 Tridecane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
231 Quinoline	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
232 2-Methylnaphthalene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
233 1,3,5-Triethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
234 Acenaphthylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
235 Phenanthrene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
236 Anthracene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 237 1,8-Dichloronaphthalene (90)	1.15	1.21	1.26	1.25	1.14	1.19	1.28	1.29	1.24	1.21	0.06	0.16
M 238 Chlorobutane (Total)	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 239 Total Xylene	1.20	1.32	1.33	1.32	1.32	1.25	1.29	1.25	1.22	1.28	0.05	0.14
M 240 1,2,4,5-Tetrahydronaphthalene	0.60	0.62	0.59	0.63	0.63	0.64	0.58	0.66	0.62	0.62	0.03	0.09
241 Total Volatile Hydrocar	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
242 TPH reference to Hexan	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
243 TPH reference to Hepta	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
244 TPH reference to Gasol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
245 TPH reference Minerals	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
246 TPH reference to Stodd	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
247 TVOC reference to Hexa	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
248 TVOC reference to Hept	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
249 TVOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
250 TVOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
251 NMOC reference to Hexa	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
252 NMOC reference to Hept	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
253 NMOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Report Date : 23-Feb-2018 15:48

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Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
254 C3 - C4 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
255 C4 - C5 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
256 C5 - C6 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
257 C6 - C7 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
258 C7 - C8 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
259 C8 - C9 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
260 C9 - C10 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
261 C10+ Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
262 C5 - C6 Aliphatic ref	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
263 C6-C8 Aliphatic ref He	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
264 C8-C10 Aliphatic ref D	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
265 C10-C12 Aliphatic ref	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
266 C8-C10 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
267 C8-C10 Aromatic ref 1,	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
268 C10-C12 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
269 C10-C12 Aromatic 1,2,	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
270 C10-C12 Aromatic Naph	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Report Date : 26-Feb-2018 09:46

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

MDL verification:

1.50ppbv (2.50ppbv); 308-100A, 125ml

Method File: /var/chem/msd17.i/21feb18.b/177q1026c.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

ID:	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09
FILENAME:	17022107	17022108	17022109	17022207	17022208	17022209	17022306	17022307	17022308
INT. DATE:	21-FEB-2018	21-FEB-2018	21-FEB-2018	22-FEB-2018	22-FEB-2018	22-FEB-2018	23-FEB-2018	23-FEB-2018	23-FEB-2018
INT. TIME:	13:06	13:33	14:00	10:47	11:14	11:40	13:28	13:54	14:21

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
1 Dimethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
2 Freon 14	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
3 Acetaldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
4 Hexafluoropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
5 Freon 13	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
6 Freon 143a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
7 Freon 134a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
8 Propane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
9 Propylene	3.23	3.23	3.52	3.53	3.03	3.52	3.79	3.75	3.65	3.47	0.26	2.0
10 1,1-Difluoroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
11 Freon 12	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
12 Vinyl Fluoride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
13 Chlorodifluoromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
14 Ethylene Oxide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
15 Freon 114	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
16 Freon 142b	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
17 Chloromethane	3.20	3.44	3.55	3.73	3.40	3.23	3.36	3.83	3.43	3.47	0.20	0.58

Reviewer 1
Reviewer 2

W. Collins
W. Collins

Date: 2/26/18
Date: 2/26/18

MDL01-15

$$\bar{x} = 0.3908 \text{ ppbv}$$
$$s_x = 0.7816 \text{ ppbv}$$

All ratios of the mean recovered concentration and the MDL value are between 1 and 20.

$$4x = 1.56 \text{ ppbv}$$

MDL17 TO15 2.00ppbv PL
3.00ppbv (5.00ppbv); 308-100, 125ml

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /var/chem/msd17.i/21feb18.b/177q1026c.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
18 Isobutane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
19 Isobutylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
20 2-Butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
21 trans-2-butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
22 1-Butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
23 Butane	3.13	3.16	3.58	3.17	3.29	3.60	3.19	3.18	3.14	3.27	0.19	0.55
24 cis-2-Butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
25 Vinyl Chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
26 1,3-Butadiene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
27 3-Methyl-1-butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
28 Methanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
29 Bromomethane	2.80	2.96	2.71	2.69	2.72	2.65	2.68	3.05	2.75	2.78	0.14	0.39
30 Chloroethane	3.38	3.11	3.54	3.18	3.11	2.92	3.09	3.57	3.08	3.22	0.23	0.66
31 Isopentane	2.98	3.27	3.16	2.98	3.03	3.07	3.07	3.50	3.36	3.16	0.18	0.53
32 Vinyl Bromide	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
33 2-Chloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
34 Pentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
35 Freon 11	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
36 1-Pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
37 Dichlorofluoromethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
38 2,3-Dimethylbutane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
39 Isoprene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

P.L. (ppm)

MDL 5/15/18

Report Date : 26-Feb-2018 09:46

Page 3

Eurolins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /var/chem/msd17.i/21feb18.b/177q1026c.m
Batch File: /chem/msd17.1/21feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
40 2-Methyl-2-butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
41 trans-2-Pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
42 Ethanol	3.72	3.37	3.05	3.68	3.13	3.53	3.14	3.77	3.51	3.43	0.28	0.80
43 1,2-Dichloro-1-fluoro	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
44 Ethyl Ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
45 cis-2-Pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
46 Acrolein	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
47 Freon 123a	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
48 Freon 123	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
49 Freon 113	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
50 1,1-Dichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
51 2,2-Dimethylbutane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
52 Acetone	3.64	3.67	3.79	4.29	3.85	4.09	3.56	4.14	3.78	3.87	0.25	0.72
53 Iodomethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
54 Bromomethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
55 4-Methyl-1-pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
56 Carbon Disulfide	3.05	3.00	2.99	3.12	3.15	3.11	2.78	3.38	3.03	3.07	0.16	0.46
57 2-Propanol	3.19	3.08	3.14	3.30	3.26	3.35	3.11	3.40	3.30	3.24	0.11	0.32
58 3-Chloropropene	2.43	2.56	2.37	2.50	2.31	2.41	2.51	2.78	2.74	2.51	0.16	0.47
59 Cyclopentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
60 2-Methylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
61 Methyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
62 3-Methylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
63 Acetonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

PC (ppm)

MDL (ppm)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /var/chem/msd17.i/21feb18.b/177q1026c.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
64 Cyclopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
65 1-Chloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
66 Methylene Chloride	3.10	3.00	3.18	3.11	3.05	3.14	2.86	3.26	3.06	3.08	0.13	0.33
67 2-Methyl-1-pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
68 2,4-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
69 2,3-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
70 tert-Butyl chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
71 tert-Butyl alcohol	2.29	2.29	2.39	2.39	2.39	2.26	2.13	2.54	2.42	2.34	0.12	0.34
72 Methyl tert-butyl ethe	2.48	2.40	2.34	2.47	2.43	2.36	2.30	2.61	2.42	2.43	0.09	0.27
73 trans-1,2-Dichloroeth	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
74 Acrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
75 trans-2-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
76 1-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
77 cis-2-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
78 Hexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
79 Methylcyclopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
80 sec-Butyl chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
81 2,3,4-Trimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
82 1,1-Dichloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
83 Isopropyl ether	2.66	2.57	2.53	2.63	2.67	2.69	2.66	2.80	2.60	2.65	0.08	0.22
84 1-Propanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
85 Chloroprene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
86 Vinyl Acetate	1.88	1.85	1.96	1.86	1.74	1.71	1.81	1.85	1.94	1.84	0.08	0.24

PL(ppbv)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /var/chem/msd17.i/21feb18.b/177q1026c.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
87 Butanal	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
88 Ethyl-tert-butyl ether	2.36	2.39	2.37	2.47	2.46	2.37	2.46	2.50	2.48	2.43	0.05	0.16
89 Isobutyl chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
90 2,2-Dichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
91 cis-1,2-Dichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
92 2-Butanone	2.74	2.86	2.74	2.72	2.92	2.83	2.66	3.01	2.73	2.61	0.11	0.32
93 Methyl Acrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
94 Ethyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
95 Methacrylonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
96 2-Chloropentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
97 2-Butanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 98 Bromochloromethane	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
99 Tetrahydrofuran	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
100 Chloroform	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
101 1-Bromopropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
102 Cyclohexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
103 1,1,1-Trichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
104 Chloroacetonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
105 n-Butylchloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
106 Carbon Tetrachloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
107 1,1-Dichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
108 Thiophene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
109 2-Methylhexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
110 3-Methylhexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

PL (ppbw)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /var/chem/msd17.i/21feb18.b/177q1026c.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
111 Cyclohexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
112 Benzene-d6	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
113 2,2,4-Trimethylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
114 1-Methoxy-2-propanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
115 Isobutanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
116 Benzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
117 1,2-Dichloroethane-d4	24.90	24.91	24.66	25.44	25.07	25.25	24.39	25.38	24.69	24.96	0.35	1.02
118 1-Heptene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
119 tert-Amyl methyl ether	2.27	2.06	2.15	2.25	2.06	2.23	2.15	2.23	2.19	2.18	0.08	0.23
120 1,2-Dichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
121 Heptane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
122 2,3-Dichloro-1-propene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 123 1,4-Difluorobenzene	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
124 n-Butanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
125 Trichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
126 Bromodichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
127 Methylcyclohexane	2.29	2.28	2.34	2.43	2.37	2.34	2.33	2.64	2.37	2.38	0.11	0.32
128 Ethyl acrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
129 2-Methylheptane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
130 3-Methylheptane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
131 2-Pentanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
132 1,2-Dichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
133 1-Bromo-2-chloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
134 Methyl Methacrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

PL (ppbv)

MDL (ppbv)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /var/chem/msd17.i/21feb18.b/177q1026c.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
135 Diethyl Ketone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
136 1,4-Dioxane	3.14	3.47	3.48	3.24	3.43	3.47	3.29	3.65	3.39	3.40	0.15	0.44
137 Dibromomethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
138 Bromodichloromethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
139 2-Nitropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
140 bis(chloromethyl) Etbe	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
141 1-Octene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
142 Bipchlorohydrin	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
143 2-Chloroethyl Vinyl Et	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
144 cis-1,3-Dichloropropan	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
145 4-Methyl-2-pentanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
146 Toluene-d8	25.99	26.45	26.09	25.66	26.10	25.79	25.85	26.27	26.24	26.27	0.79	2.28
147 Toluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
148 Octane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
149 Vinyl Cyclohexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
150 trans-1,3-Dichloroprop	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
151 Ethyl Methacrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
152 1-Chloro-2-Bromopropan	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
153 1-Nitropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
154 Bromodichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
155 1,1,2-Trichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
156 Tetrachloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
157 1,3-Dichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
158 2-Hexanone	3.15	3.24	3.19	3.37	3.19	3.26	3.19	3.16	3.18	3.22	0.07	0.20

EL(pphv)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /var/chem/msd17.i/21feb18.b/177q1026c.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
159 Butyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
160 Dibromochloromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
161 1,2-Dibromoethane (EDB)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
162 1-Nonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
* 163 Chlorobenzene-d5	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
164 1-Chlorohexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
165 Chlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
166 Butyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
167 Ethyl Benzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
168 1,1,1,2-Tetrachloroeth	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
169 m,p-Xylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
170 Nonane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
171 o-Xylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
172 Styrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
173 2-Heptanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
174 Bromoform	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
175 Cumene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
176 Cyclohexanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
\$ 177 4-Bromofluorobenzene	23.41	23.58	23.73	23.36	23.48	24.08	23.39	24.00	23.51	23.62	0.27	0.77
178 1-Decene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
179 alpha-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
180 Bromobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
181 1,1,2,2-Tetrachloroeth	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
182 Propylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Report Date : 26-Feb-2018 09:46

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /var/chem/msd17.i/21feb18.b/177q1026c.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
183 1,4-Dichloro-2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
184 trans-1,4-dichloro-2-b	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
185 1,2,3-Trichloropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
186 3-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
187 Decane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
188 4-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
189 2-Chlorotoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
190 1,3,5-Trimethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
191 4-Chlorotoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
192 beta-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
193 Diisobutyl Ketone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
194 alpha Methyl Styrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
195 tert-Butylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
196 1,2,4-Trimethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
197 Pentachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
198 Limonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
199 D-Limonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
200 Benzaldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
201 Indan	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
202 Indane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
203 sec-Butylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
204 Isobutylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
205 2-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Eurolims Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /var/chem/msd17.i/21feb18.b/177q1026c.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
206 bis(2-Chloroethyl) Eth	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
207 p-Cymene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
208 1,3-Dichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
209 1,4-Dichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
210 1,2,3-Trimethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
211 1-Undecene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
212 alpha-Chlorotoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
213 Butylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
214 1,2-Dichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
215 Undecane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
216 4-Ethyl-1,2-dimethylbe	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
217 Hexachloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
218 1,3-Diethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
219 1,4-Diethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
220 1,2,4,5-tetramethylben	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
221 1,2-Dibromo-3-chloropr	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
222 1-Dodecene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
223 Nitrobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
224 1,3,5-Trichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
225 Dodecane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
226 1,2,4-Trichlorobenzene	2.84	2.86	2.99	2.91	2.92	2.86	2.78	2.86	2.82	2.87	0.06	0.18
227 Hexachlorobutadiene	3.67	3.72	3.77	3.72	3.93	3.94	3.65	3.80	3.75	3.76	0.09	0.25
228-Methyldiene	0.27	0.29	0.29	0.27	0.28	0.27	0.25	0.25	0.27	0.27	0.01	0.04
229 1,2,3-Trichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

PL(ppbv)

WML LK/PP

See Connection Summary Pages
Corrected - mcl.m
23 Feb 18
2013/18
0.11
0.13
0.02
CMT # 1320684395
2013/18

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /var/chem/msd17.i/21feb18.b/177q1026c.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
230 Tridecane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
231 Quinoline	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
232 2-Methylnaphthalene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
233 1,3,5-Triethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
234 Acenaphthylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
235 Phenanthrene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
236 Anthracene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 237 1,2-Dichloroethene (To	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 238 Chlorobutane (Total)	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 239 Total Xylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 240 3 and 4-Ethyltoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
241 Total Volatile Hydroca	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
242 TPH reference to Hexan	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
243 TPH reference to Hepta	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
244 TPH reference to Gasol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
245 TPH reference Minerals	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
246 TPH reference to Stodd	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
247 TWOC reference to Hexa	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
248 TWOC reference to Hept	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
249 TWOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
250 TWOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
251 NMOC reference to Hexa	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
252 NMOC reference to Hept	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
253 NMOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /var/chem/msd17.1/21feb18.b/177q1025c.m
Batch File: /chem/msd17.1/21feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
254 C3 - C4 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
255 C4 - C5 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
256 C5 - C6 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
257 C6 - C7 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
258 C7 - C8 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
259 C8 - C9 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
260 C9 - C10 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
261 C10 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
262 C5 - C6 Aliphatic ref	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
263 C6-C8 Aliphatic ref He	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
264 C8-C10 Aliphatic ref D	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
265 C10-C12 Aliphatic ref	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
266 C8-C10 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
267 C8-C10 Aromatic ref 1,	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
268 C10-C12 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
269 C10-C12 Aromatic 1,2,	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
270 C10-C12 Aromatic Naph	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Report Date : 23-Feb-2018 15:40

Page 1

Eurolins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd17.1/12feb18.b/177q1026c.m
Batch File: /chem/msd17.1/12feb18.b
Inst ID: msd17.1

ID:	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10
FILENAME:	17021205EPALB	17021206EPALB	17021207EPALB	17021305EPALB	17021306EPALB	17021307EPALB	17021405EPALB	17021406EPALB	17021407EPALB	17021408EPALB
INJ. DATE:	12-FEB-2018	12-FEB-2018	12-FEB-2018	13-FEB-2018	13-FEB-2018	13-FEB-2018	14-FEB-2018	14-FEB-2018	14-FEB-2018	14-FEB-2018
INJ. TIME:	11:20	12:23	13:07	09:54	10:23	10:51	10:59	13:34	14:57	15:25

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
1 Dimethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
2 Freon 14	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
3 Acetaldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
4 Hexafluoropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
5 Freon 13	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
6 Freon 143a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
7 Freon 134a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
8 Propane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
9 Propylene	0.00	0.00	0.00	0.00	+++++	0.09	0.00	0.00	0.00	+++++	0.01	0.04	0.11
10 1,1-Difluoroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
11 Freon 12	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
12 Vinyl Fluoride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
13 Chlorodifluoromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
14 Ethylene Oxide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
15 Freon 114	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
16 Freon 142b	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
17 Chloromethane	0.00	+++++	+++++	0.00	+++++	0.08	0.00	0.00	0.00	+++++	0.02	0.04	0.13

Reviewer 1
Reviewer 2

Handwritten signature

Date: 3/7/18
Date: 03/07/18

MDL BK (P24)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
16 Isobutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
19 Isobutylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
20 2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
21 trans-2-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
22 1-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
23 Butane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
24 cis-2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
25 Vinyl Chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
26 1,3-Butadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
27 3-Methyl-1-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
28 Methanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
29 Bromomethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
30 Chloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
31 Isopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
32 Vinyl Bromide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
33 2-Chloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
34 Pentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
35 Freon 11	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
36 1-Pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
37 Dichlorofluoromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
38 2,3-Dimethylbutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
39 Isoprene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
40 2-Methyl-2-butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
41 trans-2-Pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
42 Ethanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
43 1,2-Dichloro-1-fluoro	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
44 Ethyl Ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
45 cis-2-Pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
46 Acrolein	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
47 Freon 123a	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
48 Freon 123	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
49 Freon 113	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
50 1,1-Dichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
51 2,2-Dimethylbutane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
52 Acetone	0.39	0.53	0.38	0.37	0.37	0.38	0.46	0.36	0.17	0.14	0.36	0.12	0.34
53 Iodomethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
54 Bromoethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
55 4-Methyl-1-pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
56 Carbon Disulfide	0.09	0.05	0.03	0.08	0.05	0.04	0.06	0.06	0.04	0.04	0.05	0.02	0.05
57 2-Propanol	0.00	++++	++++	0.00	++++	++++	0.05	++++	++++	++++	0.02	0.03	0.19
58 3-Chloropropene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
59 Cyclopentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
60 2-Methylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
61 Methyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
62 3-Methylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
63 Acetonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

MDL blk (ppbv)

0.70

0.10

0.05

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.1/12feb18.b/177q1026c.m
Batch File: /chem/msd17.1/12feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
64 Cyclopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
65 1-Chloropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
66 Methylene Chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
67 2-Methyl-1-pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
68 2,4-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
69 2,3-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
70 tert-Butyl chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
71 tert-Butyl alcohol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
72 Methyl tert-butyl ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
73 trans-1,2-dichloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
74 Acrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
75 trans-2-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
76 1-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
77 cis-2-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
78 Hexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
79 Methylcyclopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
80 sec-Butyl chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
81 2,3,4-Trimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
82 1,1-Dichloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
83 Isopropyl ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
84 1-Propanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
85 Chloroprene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
86 Vinyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
87 Butanal	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
88 Ethyl-tert-butyl ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
89 Isobutyl chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
90 2,2-Dichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
91 cis-1,2-Dichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
92 2-Butanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
93 Methyl Acrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
94 Ethyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
95 Methacrylonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
96 2-Chloropentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
97 2-Butanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 98 Bromochloromethane	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.001
99 Tetrahydrofuran	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
100 Chloroform	0.00	++++	++++	++++	++++	++++	0.00	++++	++++	++++	0.00	0.00	N/A
101 1-Bromopropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
102 Cyclohexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
103 1,1,1-Trichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
104 Chloroacetonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
105 n-Butylchloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
106 Carbon Tetrachloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
107 1,1-Dichloropropene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
108 Thiophene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
109 2-Methylhexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
110 3-Methylhexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
111 Cyclohexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
112 Benzene-d6	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
113 2,2,4-Trimethylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
114 1-Methoxy-2-Propanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
115 Isobutanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
116 Benzene	0.20	0.20	0.17	0.14	0.12	0.11	0.16	0.22	0.19	0.13	0.17	0.04	0.11
117 1,2-Dichloroethane-d4	24.38	24.32	25.27	24.79	23.95	24.53	24.19	24.17	24.60	24.87	24.51	0.39	1.10
118 1-Heptene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
119 tert-Amyl methyl ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
120 1,2-Dichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
121 Heptane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
122 2,3-Dichloro-1-propene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 123 1,4-Difluorobenzene	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
124 n-Butanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
125 Trichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
126 Bromodichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
127 Methylcyclohexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
128 Ethyl acrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
129 2-Methylheptane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
130 3-Methylheptane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
131 2-Pentanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
132 1,2-Dichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
133 1-Bromo-2-Chloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
134 Methyl methacrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

MOL 116 (upper)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
135 Diethyl Ketone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
136 1,4-Dioxane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
137 Dibromomethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
138 Bromodichloromethane	+++++	+++++	+++++	0.00	+++++	+++++	+++++	+++++	+++++	+++++	0.00	0.00	N/A
139 2-Nitropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
140 bis(chloromethyl) Ethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
141 1-Octene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
142 Epichlorohydrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
143 2-Chloroethyl Vinyl Et	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
144 cis-1,3-Dichloropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
145 4-Methyl-2-pentanone	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
146 Toluene-d8	25.75	25.88	26.37	25.87	26.34	26.33	26.04	25.91	25.80	25.45	25.97	0.30	0.84
147 Toluene	0.04	+++++	+++++	0.04	0.00	0.00	0.06	+++++	+++++	+++++	0.03	0.03	0.10
148 Octane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
149 Vinyl Cyclohexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
150 trans-1,3-Dichloroprop	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
151 Ethyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
152 1-Chloro-2-Bromopropan	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
153 1-Nitropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
154 Bromodichloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
155 1,1,2-Trichloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
156 Tetrachloroethane	0.04	+++++	+++++	0.02	+++++	+++++	0.02	+++++	+++++	+++++	0.03	0.01	0.06
157 1,3-Dichloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
158 2-Hexanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

MSD-LIK (ppbv)

0.06

0.04

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177ql026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
159 Butyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	0.00	0.00	++++
160 Dibromochloromethane	++++	++++	++++	++++	++++	++++	0.00	++++	++++	++++	0.00	0.00	N/A
161 1,2-Dibromomethane (EDS)	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
162 1-Nonene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 163 Chlorobenzene-d5	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
164 1-Chlorohexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	0.00	0.00	++++
165 Chlorobenzene	0.00	++++	++++	0.00	++++	++++	0.00	++++	++++	++++	0.00	0.00	++++
166 Butyl Ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
167 Ethyl Benzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
168 1,1,1,2-Tetrachloroeth	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
169 m,p-Xylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
170 Nonane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
171 o-Xylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
172 Styrene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
173 2-Heptanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	0.00	0.00	N/A
174 Bromoform	0.00	++++	++++	0.00	++++	++++	++++	++++	++++	++++	0.00	0.00	0.00
175 Cumene	0.00	++++	++++	0.00	++++	++++	0.00	++++	++++	++++	0.00	0.00	0.00
176 Cyclohexanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 177 4-Bromofluorobenzene	23.73	23.47	23.23	24.25	24.41	24.04	23.43	23.63	23.69	23.53	23.74	0.38	1.07
178 1-Decene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
179 alpha-Pinene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
180 Bromobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
181 1,1,2,2-Tetrachloroeth	0.02	++++	++++	0.00	0.00	0.00	0.02	++++	++++	++++	0.01	0.01	0.04
182 Propylbenzene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

MDL bit (ppbv)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
163 1,4-Dichloro-2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
184 trans-1,4-Dichloro-2-b	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
185 1,2,3-Trichloropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
186 3-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
187 Decane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
188 4-Ethyltoluene	0.00	+++++	+++++	0.03	+++++	+++++	0.00	+++++	+++++	+++++	0.01	0.02	0.11
189 2-Chlorotoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
190 1,3,5-Trimethylbenzene	0.05	+++++	+++++	0.05	+++++	+++++	0.05	+++++	+++++	+++++	0.09	0.03	0.21
191 4-Chlorotoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
192 beta-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
193 Diisobutyl Ketone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
194 alpha Methyl Styrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
195 tert-Butylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
196 1,2,4-Trimethylbenzene	0.04	+++++	+++++	0.04	+++++	+++++	0.05	+++++	+++++	+++++	0.04	0.01	0.04
197 Pentachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
198 Limonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
199 D-Limonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
200 Benzaldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
201 Indan	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
202 Indene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
203 sec-Butylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
204 Isobutylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
205 2-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

MUL HK (pdx)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
206 bis(2-Chloroethyl) Eth	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
207 p-Cymene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
208 1,3-Dichlorobenzene	0.05	++++	++++	0.04	++++	++++	0.04	++++	++++	++++	0.04	0.00	0.02
209 1,4-Dichlorobenzene	0.05	++++	++++	0.05	++++	++++	0.04	++++	++++	++++	0.05	0.01	0.07
210 1,2,3-Trimethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
211 1-Undecene	++++	++++	++++	0.03	++++	++++	0.00	++++	++++	++++	0.01	0.02	0.07
212 alpha-Chlorotoluene	0.00	++++	++++	0.03	0.00	++++	0.00	++++	++++	++++	0.01	0.02	0.07
213 Butylbenzene	++++	++++	++++	++++	++++	++++	0.04	++++	++++	++++	0.03	0.02	0.09
214 1,2-Dichlorobenzene	0.04	++++	++++	0.03	0.00	++++	0.04	++++	++++	++++	0.03	0.02	0.09
215 Undecane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
216 4-Ethyl-1,2-dimethylbe	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
217 Hexachloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
218 1,3-Diethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
219 1,4-Diethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
220 1,2,4,5-tetramethylben	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
221 1,2-Dibromo-3-chloropr	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
222 1-Dodecene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
223 Nitrobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
224 1,3,5-Trichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
225 Dodecane	++++	++++	++++	++++	++++	++++	0.08	++++	++++	++++	0.03	0.05	0.13
226 1,2,4-Trichlorobenzene	0.11	0.00	0.00	0.10	0.03	0.00	0.08	0.00	0.00	0.00	0.03	0.05	0.13
227 Hexachlorobutadiene	0.05	0.05	0.00	0.10	0.04	++++	0.13	0.00	++++	++++	0.06	0.06	0.18
228 Naphthalene	0.01	++++	++++	0.01	++++	++++	0.02	++++	++++	++++	0.01	0.01	0.04
229 1,2,3-Trichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

MDL LK (ppbw)

0.05

0.03

0.04

0.11

0.13

0.02

8M

3/10/18

CASE# I3P0184

SEE CASE# I3P0184
MOL Summary
PAGES 31A1E111

14Feb18

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
230 Tridecane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
231 Quinoline	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
232 2-Methylnaphthalene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
233 1,3,5-Trichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
234 Acenaphthylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
235 Phenanthrene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
236 Anthracene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 237 1,2-Dichloroethene (To	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 238 Chlorobutane (Total)	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 239 Total Xylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 240 3 and 4-Ethyltoluene	++++	++++	++++	0.03	++++	++++	++++	++++	++++	++++	0.03	0.03	N/A
241 Total Volatile Hydroca	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
242 TPH reference to Hexan	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
243 TPH reference to Hepta	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
244 TPH reference to Gasol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
245 TPH reference Minerals	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
246 TPH reference to Stodd	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
247 TVOC reference to Hexa	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
248 TVOC reference to Hept	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
249 TVOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
250 TVOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
251 NMOC reference to Hexa	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
252 NMOC reference to Hept	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
253 NMOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Report Date : 23-Feb-2018 15:40

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Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
254 C3 - C4 Hydrocarbons	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
255 C4 - C5 Hydrocarbons	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
256 C5 - C6 Hydrocarbons	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
257 C6 - C7 Hydrocarbons	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
258 C7 - C8 Hydrocarbons	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
259 C8 - C9 Hydrocarbons	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
260 C9 - C10 Hydrocarbons	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
261 C10+ Hydrocarbons	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
262 C5 - C6 Aliphatic ref	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
263 C6-C8 Aliphatic ref He	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
264 C8-C10 Aliphatic ref D	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
265 C10-C12 Aliphatic ref	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
266 C8-C10 Aromatic	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
267 C8-C10 Aromatic ref 1,	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
268 C10-C12 Aromatic	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
269 C10-C12 Aromatic 1,2,	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
270 C10-C12 Aromatic Naph	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Client ID:	CCV	Date/Time Analyzed:	7/26/18 10:10 AM
Lab ID:	1807359A-05A	Dilution Factor:	1.00
Date/Time Collecte	NA - Not Applicable	Instrument/File name:	msd17.i / 17072602
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	102
1,1,2,2-Tetrachloroethane	79-34-5	103
1,1,2-Trichloroethane	79-00-5	102
1,1-Dichloroethane	75-34-3	98
1,1-Dichloroethene	75-35-4	104
1,2,4-Trichlorobenzene	120-82-1	96
1,2,4-Trimethylbenzene	95-63-6	99
1,2-Dibromoethane (EDB)	106-93-4	102
1,2-Dichlorobenzene	95-50-1	101
1,2-Dichloroethane	107-06-2	102
1,2-Dichloropropane	78-87-5	94
1,3,5-Trimethylbenzene	108-67-8	101
1,3-Butadiene	106-99-0	98
1,3-Dichlorobenzene	541-73-1	101
1,4-Dichlorobenzene	106-46-7	101
1,4-Dioxane	123-91-1	95
2,2,4-Trimethylpentane	540-84-1	94
2-Butanone (Methyl Ethyl Ketone)	78-93-3	96
2-Hexanone	591-78-6	87
2-Propanol	67-63-0	91
3-Chloropropene	107-05-1	101
4-Ethyltoluene	622-96-8	101
4-Methyl-2-pentanone	108-10-1	85
Acetone	67-64-1	96

EPA METHOD TO-15 GC/MS FULL SCAN

Client ID:	CCV	Date/Time Analyzed:	7/26/18 10:10 AM
Lab ID:	1807359A-05A	Dilution Factor:	1.00
Date/Time Collecte	NA - Not Applicable	Instrument/File name:	msd17.i / 17072602
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	103
Benzene	71-43-2	100
Bromodichloromethane	75-27-4	105
Bromoform	75-25-2	102
Bromomethane	74-83-9	107
Carbon Disulfide	75-15-0	102
Carbon Tetrachloride	56-23-5	101
Chlorobenzene	108-90-7	100
Chloroethane	75-00-3	99
Chloroform	67-66-3	105
Chloromethane	74-87-3	102
cis-1,2-Dichloroethene	156-59-2	98
cis-1,3-Dichloropropene	10061-01-5	101
Cumene	98-82-8	99
Cyclohexane	110-82-7	96
Dibromochloromethane	124-48-1	104
Ethanol	64-17-5	93
Ethyl Benzene	100-41-4	99
Freon 11	75-69-4	105
Freon 113	76-13-1	105
Freon 114	76-14-2	111
Freon 12	75-71-8	112
Heptane	142-82-5	95
Hexachlorobutadiene	87-68-3	97

Client ID:	CCV	Date/Time Analyzed:	7/26/18 10:10 AM
Lab ID:	1807359A-05A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/File Name:	msd17.i / 17072602
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	89
m,p-Xylene	108-38-3	97
Methyl tert-butyl ether	1634-04-4	97
Methylene Chloride	75-09-2	95
o-Xylene	95-47-6	97
Propylbenzene	103-65-1	100
Styrene	100-42-5	95
Tetrachloroethene	127-18-4	103
Tetrahydrofuran	109-99-9	85
Toluene	108-88-3	100
trans-1,2-Dichloroethene	156-60-5	100
trans-1,3-Dichloropropene	10061-02-6	99
Trichloroethene	79-01-6	105
Vinyl Chloride	75-01-4	96

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	98
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	100

US32APPTV002

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd17.i Injection Date: 26-JUL-2018 10:10
Lab File ID: 17072602.d Init. Cal. Date(s): 13-JUN-2018 23-JUL-2018
Analysis Type: AIR Init. Cal. Times: 22:14 12:52
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd17.i/26jul18.b/178q0613b.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
\$ 117 1,2-Dichloroethane-d4	1.13518	1.11533	0.010	1.74906	30.00000	Averaged
\$ 146 Toluene-d8	0.97367	0.97337	0.010	0.03055	30.00000	Averaged
\$ 177 4-Bromofluorobenzene	0.78945	0.77903	0.010	1.32053	30.00000	Averaged
9 Propylene	0.52550	0.49270	0.010	6.24231	40.00000	Averaged
11 Freon 12	2.22017	2.49150	0.010	-12.22132	30.00000	Averaged
15 Freon 114	1.87393	2.08079	0.010	-11.03861	30.00000	Averaged
17 Chloromethane	0.57525	0.58606	0.010	-1.87956	30.00000	Averaged
23 Butane	0.16773	0.14269	0.010	14.93221	40.00000	Averaged
25 Vinyl Chloride	0.82588	0.79071	0.010	4.25893	30.00000	Averaged
26 1,3-Butadiene	0.56388	0.55075	0.010	2.32965	30.00000	Averaged
29 Bromomethane	0.83985	0.90166	0.010	-7.35937	30.00000	Averaged
30 Chloroethane	0.42110	0.41644	0.010	1.10672	30.00000	Averaged
31 Isopentane	0.82299	0.78208	0.010	4.97099	40.00000	Averaged
35 Freon 11	2.60409	2.73256	0.010	-4.93306	30.00000	Averaged
42 Ethanol	0.28517	0.26491	0.010	7.10330	30.00000	Averaged
49 Freon 113	2.02204	2.12776	0.010	-5.22821	30.00000	Averaged
50 1,1-Dichloroethene	0.62676	0.65295	0.010	-4.17866	30.00000	Averaged
52 Acetone	0.40295	0.38830	0.010	3.63581	30.00000	Averaged
56 Carbon Disulfide	2.60819	2.66869	0.010	-2.31972	30.00000	Averaged
57 2-Propanol	1.29720	1.18124	0.010	8.93936	30.00000	Averaged
58 3-Chloropropene	0.42376	0.42712	0.010	-0.79202	30.00000	Averaged
66 Methylene Chloride	0.92094	0.87621	0.010	4.85709	30.00000	Averaged
71 tert-Butyl alcohol	1.90499	1.79527	0.010	5.75952	40.00000	Averaged
72 Methyl tert-butyl ether	2.70086	2.60960	0.010	3.37884	30.00000	Averaged
73 trans-1,2-Dichloroethene	0.61624	0.61919	0.010	-0.47792	30.00000	Averaged
78 Hexane	1.31634	1.17789	0.010	10.51753	30.00000	Averaged
82 1,1-Dichloroethane	1.58504	1.54914	0.010	2.26476	30.00000	Averaged
83 Isopropyl ether	2.72876	2.43586	0.010	10.73387	40.00000	Averaged
86 Vinyl Acetate	0.25881	0.25430	0.010	1.74314	30.00000	Averaged
88 Ethyl-tert-butyl ether	2.94886	2.70115	0.010	8.40000	40.00000	Averaged
91 cis-1,2-Dichloroethene	0.74204	0.72577	0.010	2.19244	30.00000	Averaged
92 2-Butanone	0.45091	0.43498	0.010	3.53371	30.00000	Averaged
99 Tetrahydrofuran	0.85234	0.72171	0.010	15.32663	30.00000	Averaged
100 Chloroform	1.94041	2.03218	0.010	-4.72959	30.00000	Averaged
102 Cyclohexane	1.30642	1.25214	0.010	4.15498	30.00000	Averaged
103 1,1,1-Trichloroethane	2.16290	2.20355	0.010	-1.87949	30.00000	Averaged

US32APPTV002

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd17.i Injection Date: 26-JUL-2018 10:10
Lab File ID: 17072602.d Init. Cal. Date(s): 13-JUN-2018 23-JUL-2018
Analysis Type: AIR Init. Cal. Times: 22:14 12:52
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd17.i/26jul18.b/178q0613b.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
106 Carbon Tetrachloride	2.35596	2.37805	0.010	-0.93739	30.00000	Averaged
113 2,2,4-Trimethylpentane	3.88861	3.65571	0.010	5.98916	30.00000	Averaged
116 Benzene	0.79274	0.79042	0.010	0.29335	30.00000	Averaged
119 tert-Amyl methyl ether	0.74368	0.72324	0.010	2.74747	40.00000	Averaged
120 1,2-Dichloroethane	0.35483	0.36160	0.010	-1.90783	30.00000	Averaged
121 Heptane	0.27733	0.26437	0.010	4.67272	30.00000	Averaged
125 Trichloroethene	0.37950	0.39952	0.010	-5.27609	30.00000	Averaged
127 Methylcyclohexane	1.77933	1.69568	0.010	4.70090	30.00000	Averaged
132 1,2-Dichloropropane	0.28063	0.26379	0.010	5.99943	30.00000	Averaged
136 1,4-Dioxane	0.20039	0.19022	0.010	5.07393	30.00000	Averaged
138 Bromodichloromethane	0.59149	0.61916	0.010	-4.67901	30.00000	Averaged
144 cis-1,3-Dichloropropene	0.46398	0.46748	0.010	-0.75439	30.00000	Averaged
145 4-Methyl-2-pentanone	0.22828	0.19517	0.010	14.50362	30.00000	Averaged
147 Toluene	1.02939	1.03066	0.010	-0.12306	30.00000	Averaged
150 trans-1,3-Dichloropropene	0.48868	0.48565	0.010	0.62076	30.00000	Averaged
155 1,1,2-Trichloroethane	0.38943	0.39854	0.010	-2.34083	30.00000	Averaged
156 Tetrachloroethene	0.70365	0.72736	0.010	-3.36826	30.00000	Averaged
158 2-Hexanone	0.31606	0.27438	0.010	13.18682	30.00000	Averaged
160 Dibromochloromethane	0.80768	0.84420	0.010	-4.52144	30.00000	Averaged
161 1,2-Dibromoethane (EDB)	0.66605	0.67631	0.010	-1.54068	30.00000	Averaged
165 Chlorobenzene	0.98560	0.98391	0.010	0.17081	30.00000	Averaged
167 Ethyl Benzene	0.49529	0.48838	0.010	1.39572	30.00000	Averaged
169 m,p-Xylene	0.61584	0.59675	0.010	3.10055	30.00000	Averaged
171 o-Xylene	0.58354	0.56500	0.010	3.17722	30.00000	Averaged
172 Styrene	0.92526	0.88069	0.010	4.81675	30.00000	Averaged
174 Bromoform	0.92799	0.95060	0.010	-2.43553	30.00000	Averaged
175 Cumene	1.76856	1.75482	0.010	0.77701	30.00000	Averaged
181 1,1,2,2-Tetrachloroethane	0.83283	0.85948	0.010	-3.20000	30.00000	Averaged
182 Propylbenzene	1.99853	2.00129	0.010	-0.13783	30.00000	Averaged
188 4-Ethyltoluene	0.55977	0.56431	0.010	-0.81022	30.00000	Averaged
190 1,3,5-Trimethylbenzene	0.77763	0.78336	0.010	-0.73608	30.00000	Averaged
196 1,2,4-Trimethylbenzene	0.69489	0.69047	0.010	0.63670	30.00000	Averaged
208 1,3-Dichlorobenzene	1.18010	1.19776	0.010	-1.49716	30.00000	Averaged
209 1,4-Dichlorobenzene	1.20568	1.22373	0.010	-1.49657	30.00000	Averaged
212 alpha-Chlorotoluene	1.25032	1.28508	0.010	-2.78034	30.00000	Averaged

US32APPTV002

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd17.i Injection Date: 26-JUL-2018 10:10
Lab File ID: 17072602.d Init. Cal. Date(s): 13-JUN-2018 23-JUL-2018
Analysis Type: AIR Init. Cal. Times: 22:14 12:52
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd17.i/26jul18.b/178q0613b.m

			MIN		MAX	
COMPOUND	RRF / AMOUNT	RF50	RRF	%D / %DRIFT	%D / %DRIFT	CURVE TYPE
214 1,2-Dichlorobenzene	1.13425	1.14486	0.010	-0.93523	30.00000	Averaged
226 1,2,4-Trichlorobenzene	1.29000	1.24058	0.010	3.83146	30.00000	Averaged
227 Hexachlorobutadiene	1.15312	1.11663	0.010	3.16469	30.00000	Averaged
228 Naphthalene	2.21998	2.08242	0.010	6.19620	40.00000	Averaged

US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/26jul18.b/17072602.d
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 26-JUL-2018 10:10
Operator : mjb Inst ID: msd17.i
Smp Info : 100ml 3018-273A
Misc Info : 50ppbv(100ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/26jul18.b/178q0613b.m
Meth Date : 26-Jul-2018 10:32 p5fl Quant Type: ISTD
Cal Date : 23-JUL-2018 12:23 Cal File: 17072306.d
Als bottle: 13 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

AMOUNTS									
		CAL-AMT		ON-COL					
RT	EXP RT	(REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane						CAS #:	74-97-5		
5.506	5.499	(1.000)	130	128867	25.0000		80.00-	120.00	100.00
5.506	5.499	(1.000)	128	99548			48.32-	108.32	77.25
5.506	5.498	(1.000)	49	109994			63.40-	123.40	85.35

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.395	6.386	(1.000)	114	450283	25.0000		80.00-	120.00	100.00
6.395	6.385	(1.000)	88	62518			0.00-	44.55	13.88

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	413209	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	193076			17.97-	77.97	46.73

\$ 117 1,2-Dichloroethane-d4						CAS #:	17060-07-0		
6.044	6.036	(1.098)	65	143728	25.0000	24.563	80.00-	120.00	100.00
6.044	6.036	(1.098)	67	78879			23.66-	83.66	54.88

\$ 146 Toluene-d8						CAS #:	2037-26-5		
7.598	7.598	(1.188)	98	438293	25.0000	24.992	80.00-	120.00	100.00
7.598	7.598	(1.188)	70	43651			0.00-	40.01	9.96

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET	RANGE	RATIO
					CAL-AMT	ON-COL			
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
\$ 146 Toluene-d8 (continued)									
7.598	7.598	(1.188)	100	285578			35.43-	95.43	65.16

\$ 177 4-Bromofluorobenzene									
						CAS #: 460-00-4			
9.818	9.819	(1.112)	174	321901	25.0000	24.670	80.00-	120.00	100.00
9.818	9.819	(1.112)	95	286331			59.41-	119.41	88.95
9.818	9.819	(1.112)	176	313248			68.33-	128.33	97.31

9 Propylene									
						CAS #: 115-07-1			
1.509	1.501	(0.274)	41	126984	50.0000	46.879	80.00-	120.00	100.00
1.516	1.503	(0.275)	42	83255			36.13-	96.13	65.56
1.509	1.502	(0.274)	39	96067			46.53-	106.53	75.65

11 Freon 12									
						CAS #: 75-71-8			
1.545	1.534	(0.281)	85	642146	50.0000	56.111	80.00-	120.00	100.00
1.545	1.536	(0.281)	87	210631			2.38-	62.38	32.80

15 Freon 114									
						CAS #: 76-14-2			
1.660	1.654	(0.301)	135	536291	50.0000	55.519	80.00-	120.00	100.00
1.660	1.653	(0.301)	137	171343			2.28-	62.28	31.95

17 Chloromethane									
						CAS #: 74-87-3			
1.760	1.752	(0.320)	50	151048	50.0000	50.940	80.00-	120.00	100.00
1.760	1.751	(0.320)	52	53117			5.22-	65.22	35.17

23 Butane									
						CAS #: 106-97-8			
1.825	1.816	(0.331)	58	36775	50.0000	42.534	80.00-	120.00	100.00
1.825	1.815	(0.331)	43	248476			637.12-	697.12	675.66

25 Vinyl Chloride									
						CAS #: 75-01-4			
1.860	1.851	(0.338)	62	203793	50.0000	47.870	80.00-	120.00	100.00
1.860	1.851	(0.338)	64	67627			1.91-	61.91	33.18

26 1,3-Butadiene									
						CAS #: 106-99-0			
1.882	1.876	(0.342)	54	141945	50.0000	48.835	80.00-	120.00	100.00
1.882	1.874	(0.342)	39	137548			72.44-	132.44	96.90

29 Bromomethane									
						CAS #: 74-83-9			
2.240	2.232	(0.407)	94	232387	50.0000	53.680	80.00-	120.00	100.00
2.240	2.233	(0.407)	96	218650			65.39-	125.39	94.09

30 Chloroethane									
						CAS #: 75-00-3			
2.355	2.345	(0.428)	64	107331	50.0000	49.447	80.00-	120.00	100.00
2.362	2.349	(0.429)	66	35232			3.25-	63.25	32.83
2.355	2.345	(0.428)	49	27096			0.00-	57.17	25.25

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET	RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)			
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
31 Isopentane					CAS #: 78-78-4				
2.369	2.359	(0.430)	43	201568	50.0000	47.514	80.00-	120.00	100.00
2.369	2.362	(0.430)	57	155397			45.20-	105.20	77.09
35 Freon 11					CAS #: 75-69-4				
2.605	2.593	(0.473)	101	704273	50.0000	52.466	80.00-	120.00	100.00
2.605	2.593	(0.473)	103	465144			34.28-	94.28	66.05
42 Ethanol					CAS #: 64-17-5				
2.956	2.946	(0.537)	45	68277	50.0000	46.448	80.00-	120.00	100.00
2.956	2.946	(0.537)	46	26092			9.17-	69.17	38.22
49 Freon 113					CAS #: 76-13-1				
3.243	3.233	(0.589)	151	548395	50.0000	52.614	80.00-	120.00	100.00
3.243	3.235	(0.589)	153	354743			34.01-	94.01	64.69
3.243	3.231	(0.589)	101	605438			81.38-	141.38	110.40
50 1,1-Dichloroethene					CAS #: 75-35-4				
3.279	3.267	(0.595)	98	168288	50.0000	52.089	80.00-	120.00	100.00
3.279	3.265	(0.595)	96	262482			124.64-	184.64	155.97
3.279	3.266	(0.595)	61	370085			200.94-	260.94	219.91
52 Acetone					CAS #: 67-64-1				
3.436	3.429	(0.624)	58	100078	50.0000	48.182	80.00-	120.00	100.00
3.436	3.429	(0.624)	43	304039			290.24-	350.24	303.80
56 Carbon Disulfide					CAS #: 75-15-0				
3.515	3.503	(0.638)	76	687813	50.0000	51.160	80.00-	120.00	100.00
57 2-Propanol					CAS #: 67-63-0				
3.615	3.607	(0.657)	45	304445	50.0000	45.530	80.00-	120.00	100.00
3.615	3.606	(0.657)	43	63355			0.00-	51.65	20.81
3.615	3.607	(0.657)	59	14149			0.00-	34.46	4.65
58 3-Chloropropene					CAS #: 107-05-1				
3.759	3.748	(0.683)	76	110082	50.0000	50.396	80.00-	120.00	100.00
3.759	3.747	(0.683)	41	218549			187.06-	247.06	198.53
66 Methylene Chloride					CAS #: 75-09-2				
3.952	3.940	(0.718)	49	225829	50.0000	47.571	80.00-	120.00	100.00
3.952	3.940	(0.718)	84	218854			60.06-	120.06	96.91
3.952	3.940	(0.718)	51	71454			0.22-	60.22	31.64
71 tert-Butyl alcohol					CAS #: 75-65-0				
4.074	4.063	(0.740)	59	462703	50.0000	47.120	80.00-	120.00	100.00
4.074	4.062	(0.740)	41	85714			0.00-	49.54	18.52

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET	RANGE	RATIO
					CAL-AMT	ON-COL			
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
71 tert-Butyl alcohol (continued)									
4.074	4.063	(0.740)	57	47967			0.00-	40.61	10.37

72 Methyl tert-butyl ether					CAS #: 1634-04-4				
4.160	4.149	(0.755)	73	672584	50.0000	48.310	80.00-	120.00	100.00
4.160	4.148	(0.755)	57	135289			0.00-	50.61	20.11
4.160	4.148	(0.755)	41	117957			0.00-	49.00	17.54

73 trans-1,2-Dichloroethene					CAS #: 156-60-5				
4.188	4.177	(0.761)	98	159586	50.0000	50.239	80.00-	120.00	100.00
4.188	4.176	(0.761)	61	295852			169.57-	229.57	185.39
4.188	4.176	(0.761)	96	250497			127.00-	187.00	156.97

78 Hexane					CAS #: 110-54-3				
4.396	4.384	(0.798)	57	303583	50.0000	44.741	80.00-	120.00	100.00
4.396	4.384	(0.798)	43	174543			28.25-	88.25	57.49
4.396	4.384	(0.798)	86	60350			0.00-	48.98	19.88

82 1,1-Dichloroethane					CAS #: 75-34-3				
4.690	4.678	(0.852)	63	399266	50.0000	48.868	80.00-	120.00	100.00
4.690	4.678	(0.852)	65	128068			2.30-	62.30	32.08

83 Isopropyl ether					CAS #: 108-20-3				
4.668	4.659	(0.848)	45	627803	50.0000	44.633	80.00-	120.00	100.00
4.668	4.660	(0.848)	87	235563			4.15-	64.15	37.52
4.668	4.660	(0.848)	59	81321			0.00-	42.61	12.95

86 Vinyl Acetate					CAS #: 108-05-4				
4.726	4.720	(0.858)	86	65542	50.0000	49.128	80.00-	120.00	100.00
4.726	4.717	(0.858)	43	524851			863.69-	923.69	800.78

88 Ethyl-tert-butyl ether					CAS #: 637-92-3				
5.034	5.022	(0.914)	59	696179	50.0000	45.800	80.00-	120.00	100.00
5.034	5.022	(0.914)	87	334711			16.34-	76.34	48.08
5.034	5.022	(0.914)	41	118368			0.00-	47.31	17.00

91 cis-1,2-Dichloroethene					CAS #: 156-59-2				
5.277	5.265	(0.958)	98	187056	50.0000	48.904	80.00-	120.00	100.00
5.277	5.265	(0.958)	96	289371			122.96-	182.96	154.70
5.277	5.265	(0.958)	61	311501			147.21-	207.21	166.53

92 2-Butanone					CAS #: 78-93-3				
5.299	5.292	(0.962)	72	112108	50.0000	48.233	80.00-	120.00	100.00
5.299	5.289	(0.962)	43	346614			305.24-	365.24	309.18
5.299	5.289	(0.962)	57	32082			0.00-	59.67	28.62

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET	RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)			
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
99 Tetrahydrofuran					CAS #: 109-99-9				
5.499	5.493	(0.999)	42	186008	50.0000	42.337	80.00-	120.00	100.00
5.499	5.495	(0.999)	71	96301			18.99-	78.99	51.77
5.506	5.495	(1.000)	72	100172			20.78-	80.78	53.85
100 Chloroform					CAS #: 67-66-3				
5.571	5.560	(1.012)	83	523762	50.0000	52.365	80.00-	120.00	100.00
5.571	5.561	(1.012)	85	344380			35.00-	95.00	65.75
102 Cyclohexane					CAS #: 110-82-7				
5.671	5.659	(1.030)	84	322718	50.0000	47.922	80.00-	120.00	100.00
5.671	5.658	(1.030)	56	301761			70.31-	130.31	93.51
5.664	5.657	(1.029)	41	162331			25.25-	85.25	50.30
103 1,1,1-Trichloroethane					CAS #: 71-55-6				
5.693	5.679	(1.034)	97	567930	50.0000	50.940	80.00-	120.00	100.00
5.693	5.679	(1.034)	99	369186			34.84-	94.84	65.01
106 Carbon Tetrachloride					CAS #: 56-23-5				
5.807	5.795	(1.055)	119	612904	50.0000	50.469	80.00-	120.00	100.00
5.807	5.795	(1.055)	117	636018			73.53-	133.53	103.77
113 2,2,4-Trimethylpentane					CAS #: 540-84-1				
5.993	5.985	(1.088)	57	942202	50.0000	47.005	80.00-	120.00	100.00
5.993	5.985	(1.088)	56	300173			2.59-	62.59	31.86
5.993	5.984	(1.088)	41	258461			0.00-	55.57	27.43
116 Benzene					CAS #: 71-43-2				
6.022	6.010	(0.942)	78	711824	50.0000	49.853	80.00-	120.00	100.00
6.022	6.010	(0.942)	77	172317			0.00-	53.90	24.21
119 tert-Amyl methyl ether					CAS #: 994-05-8				
6.087	6.075	(1.105)	87	186404	50.0000	48.626	80.00-	120.00	100.00
6.087	6.077	(1.105)	73	720758			361.82-	421.82	386.66
6.087	6.075	(1.105)	55	156822			58.31-	118.31	84.13
120 1,2-Dichloroethane					CAS #: 107-06-2				
6.108	6.102	(0.955)	62	325644	50.0000	50.954	80.00-	120.00	100.00
6.108	6.102	(0.955)	64	107154			3.07-	63.07	32.91
121 Heptane					CAS #: 142-82-5				
6.165	6.153	(0.964)	71	238086	50.0000	47.664	80.00-	120.00	100.00
6.158	6.152	(0.963)	43	304072			110.59-	170.59	127.72
6.158	6.151	(0.963)	57	189465			64.25-	124.25	79.58
125 Trichloroethene					CAS #: 79-01-6				
6.588	6.582	(1.030)	95	359792	50.0000	52.638	80.00-	120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
				CAL-AMT (PPBV)	ON-COL (PPBV)		
==	=====	=====	=====	=====	=====	=====	=====
125 Trichloroethene (continued)							
6.588	6.582 (1.030)	130	410917			81.76- 141.76	114.21
6.588	6.582 (1.030)	97	235177			34.64- 94.64	65.36

127 Methylcyclohexane				CAS #: 108-87-2			
6.681	6.675 (1.213)	83	437035	50.0000	47.650	80.00- 120.00	100.00
6.681	6.675 (1.213)	98	214176			18.58- 78.58	49.01
6.681	6.675 (1.213)	55	276960			37.28- 97.28	63.37

132 1,2-Dichloropropane				CAS #: 78-87-5			
6.824	6.818 (1.067)	63	237560	50.0000	47.000	80.00- 120.00	100.00
6.824	6.818 (1.067)	62	163467			38.79- 98.79	68.81
6.824	6.818 (1.067)	41	125258			23.87- 83.87	52.73

136 1,4-Dioxane				CAS #: 123-91-1			
6.910	6.907 (1.081)	88	171309	50.0000	47.463	80.00- 120.00	100.00
6.910	6.906 (1.081)	58	94569			28.36- 88.36	55.20
6.910	6.904 (1.081)	57	32049			0.00- 49.37	18.71

138 Bromodichloromethane				CAS #: 75-27-4			
7.054	7.048 (1.103)	83	557597	50.0000	52.340	80.00- 120.00	100.00
7.054	7.048 (1.103)	85	363610			34.11- 94.11	65.21

144 cis-1,3-Dichloropropene				CAS #: 10061-01-5			
7.426	7.420 (1.161)	75	421001	50.0000	50.377	80.00- 120.00	100.00
7.426	7.420 (1.161)	77	134530			2.33- 62.33	31.95
7.426	7.420 (1.161)	39	189766			16.60- 76.60	45.08

145 4-Methyl-2-pentanone				CAS #: 108-10-1			
7.526	7.526 (1.177)	58	175767	50.0000	42.748	80.00- 120.00	100.00
7.526	7.526 (1.177)	43	412797			214.83- 274.83	234.85
7.533	7.527 (1.178)	85	98407			23.05- 83.05	55.99

147 Toluene				CAS #: 108-88-3			
7.655	7.655 (1.197)	91	928179	50.0000	50.062	80.00- 120.00	100.00
7.655	7.655 (1.197)	92	536759			27.80- 87.80	57.83

150 trans-1,3-Dichloropropene				CAS #: 10061-02-6			
7.899	7.899 (0.895)	75	401350	50.0000	49.690	80.00- 120.00	100.00
7.899	7.899 (0.895)	77	131234			1.77- 61.77	32.70
7.899	7.899 (0.895)	39	173138			14.97- 74.97	43.14

155 1,1,2-Trichloroethane				CAS #: 79-00-5			
8.056	8.056 (0.912)	97	329364	50.0000	51.170	80.00- 120.00	100.00
8.056	8.056 (0.912)	99	208429			32.71- 92.71	63.28
8.056	8.056 (0.912)	83	272691			55.53- 115.53	82.79

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET	RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)			
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
156 Tetrachloroethene					CAS #: 127-18-4				
8.092	8.092	(0.916)	166	601100	50.0000	51.684	80.00-	120.00	100.00
8.092	8.092	(0.916)	129	387105			36.14-	96.14	64.40
8.092	8.092	(0.916)	131	385300			34.69-	94.69	64.10

158 2-Hexanone					CAS #: 591-78-6				
8.214	8.214	(0.930)	58	226751	50.0000	43.406	80.00-	120.00	100.00
8.214	8.214	(0.930)	43	391925			146.83-	206.83	172.84
8.214	8.215	(0.930)	100	64015			0.00-	55.52	28.23

160 Dibromochloromethane					CAS #: 124-48-1				
8.372	8.368	(0.948)	129	697661	50.0000	52.261	80.00-	120.00	100.00
8.372	8.368	(0.948)	127	536520			47.05-	107.05	76.90

161 1,2-Dibromoethane (EDB)					CAS #: 106-93-4				
8.479	8.479	(0.960)	107	558913	50.0000	50.770	80.00-	120.00	100.00
8.486	8.480	(0.961)	109	531652			65.51-	125.51	95.12

165 Chlorobenzene					CAS #: 108-90-7				
8.859	8.859	(1.003)	112	813125	50.0000	49.914	80.00-	120.00	100.00
8.859	8.859	(1.003)	114	262631			2.14-	62.14	32.30
8.859	8.853	(1.003)	77	420378			23.42-	83.42	51.70

167 Ethyl Benzene					CAS #: 100-41-4				
8.902	8.902	(1.008)	106	403603	50.0000	49.302	80.00-	120.00	100.00
8.902	8.902	(1.008)	91	1204728			268.52-	328.52	298.49

169 m,p-Xylene					CAS #: 108-38-3				
9.002	8.998	(1.019)	106	493163	50.0000	48.450	80.00-	120.00	100.00
9.002	8.997	(1.019)	91	945845			161.75-	221.75	191.79

171 o-Xylene					CAS #: 95-47-6				
9.339	9.339	(1.058)	106	466924	50.0000	48.411	80.00-	120.00	100.00
9.339	9.339	(1.058)	91	943446			170.98-	230.98	202.06

172 Styrene					CAS #: 100-42-5				
9.360	9.360	(1.060)	104	727821	50.0000	47.592	80.00-	120.00	100.00
9.360	9.360	(1.060)	78	334272			16.10-	76.10	45.93

174 Bromoform					CAS #: 75-25-2				
9.568	9.568	(1.084)	173	785590	50.0000	51.218	80.00-	120.00	100.00
9.568	9.568	(1.084)	171	404377			21.32-	81.32	51.47

175 Cumene					CAS #: 98-82-8				
9.625	9.625	(1.090)	105	1450215	50.0000	49.611	80.00-	120.00	100.00
9.625	9.626	(1.090)	120	416263			0.00-	58.56	28.70

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
				CAL-AMT (PPBV)	ON-COL (PPBV)		
==	=====	=====	=====	=====	=====	=====	=====
175 Cumene (continued)							
9.625	9.625 (1.090)	51	109161			0.00- 37.61	7.53

181 1,1,2,2-Tetrachloroethane				CAS #: 79-34-5			
9.947	9.947 (1.127)	83	710291	50.0000	51.600	80.00- 120.00	100.00
9.947	9.947 (1.127)	85	460072			35.03- 95.03	64.77

182 Propylbenzene				CAS #: 103-65-1			
9.976	9.975 (1.130)	91	1653901	50.0000	50.069	80.00- 120.00	100.00
9.976	9.976 (1.130)	120	431463			0.00- 56.23	26.09
9.976	9.976 (1.130)	105	63935			0.00- 33.80	3.87

188 4-Ethyltoluene				CAS #: 622-96-8			
10.069	10.069 (1.140)	120	466354	50.0000	50.405	80.00- 120.00	100.00
10.069	10.069 (1.140)	105	1432840			275.42- 335.42	307.24

190 1,3,5-Trimethylbenzene				CAS #: 108-67-8			
10.119	10.119 (1.146)	120	647380	50.0000	50.368	80.00- 120.00	100.00
10.119	10.119 (1.146)	105	1268045			165.32- 225.32	195.87

196 1,2,4-Trimethylbenzene				CAS #: 95-63-6			
10.442	10.444 (1.183)	120	570614	50.0000	49.682	80.00- 120.00	100.00
10.442	10.443 (1.183)	105	1182962			176.48- 236.48	207.31

208 1,3-Dichlorobenzene				CAS #: 541-73-1			
10.735	10.735 (1.216)	146	989854	50.0000	50.748	80.00- 120.00	100.00
10.735	10.735 (1.216)	148	639146			34.93- 94.93	64.57
10.735	10.735 (1.216)	111	346185			5.13- 65.13	34.97

209 1,4-Dichlorobenzene				CAS #: 106-46-7			
10.821	10.820 (1.226)	146	1011310	50.0000	50.748	80.00- 120.00	100.00
10.821	10.821 (1.226)	148	648379			34.11- 94.11	64.11
10.814	10.817 (1.225)	111	342460			4.00- 64.00	33.86

212 alpha-Chlorotoluene				CAS #: 100-44-7			
10.936	10.936 (1.238)	91	1062017	50.0000	51.390	80.00- 120.00	100.00
10.936	10.936 (1.238)	126	262300			0.00- 55.13	24.70

214 1,2-Dichlorobenzene				CAS #: 95-50-1			
11.151	11.149 (1.263)	146	946131	50.0000	50.468	80.00- 120.00	100.00
11.151	11.150 (1.263)	148	609610			34.17- 94.17	64.43
11.144	11.146 (1.262)	111	339478			6.50- 66.50	35.88

226 1,2,4-Trichlorobenzene				CAS #: 120-82-1			
12.540	12.541 (1.420)	180	1025235	50.0000	48.084	80.00- 120.00	100.00
12.540	12.541 (1.420)	182	988560			65.44- 125.44	96.42

AMOUNTS									
		CAL-AMT		ON-COL					
RT	EXP RT	(REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
227 Hexachlorobutadiene						CAS #:	87-68-3		
12.626	12.622	(1.430)	225	922805	50.00000	48.418	80.00-	120.00	100.00
12.626	12.622	(1.430)	223	577107			32.93-	92.93	62.54

228 Naphthalene						CAS #:	91-20-3		
12.805	12.806	(1.450)	128	172095	5.00000	4.690	80.00-	120.00	100.00
12.805	12.806	(1.450)	127	23152			0.00-	43.59	13.45

US32APPTV002

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: msd17.i	Calibration Date: 26-JUL-2018
Lab File ID: 17072602.d	Calibration Time: 10:10
Lab Smp Id: CCV	Client Smp ID: CCV
Analysis Type: VOA	Level: LOW
Quant Type: ISTD	Sample Type: AIR
Operator: mjb	
Method File: /chem/msd17.i/26jul18.b/178q0613b.m	
Misc Info: 50ppbv(100ppbv)	

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	128867	77320	180414	128867	0.00
123 1,4-Difluorobenze	450283	270170	630396	450283	0.00
163 Chlorobenzene-d5	413209	247925	578493	413209	0.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.51	5.18	5.84	5.51	0.00
123 1,4-Difluorobenze	6.39	6.06	6.72	6.39	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
 AREA LOWER LIMIT = - 40% of internal standard area.
 RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.1/26jul18.b/17072602.d

Date : 26-JUL-2018 10:10

Client ID: CCV

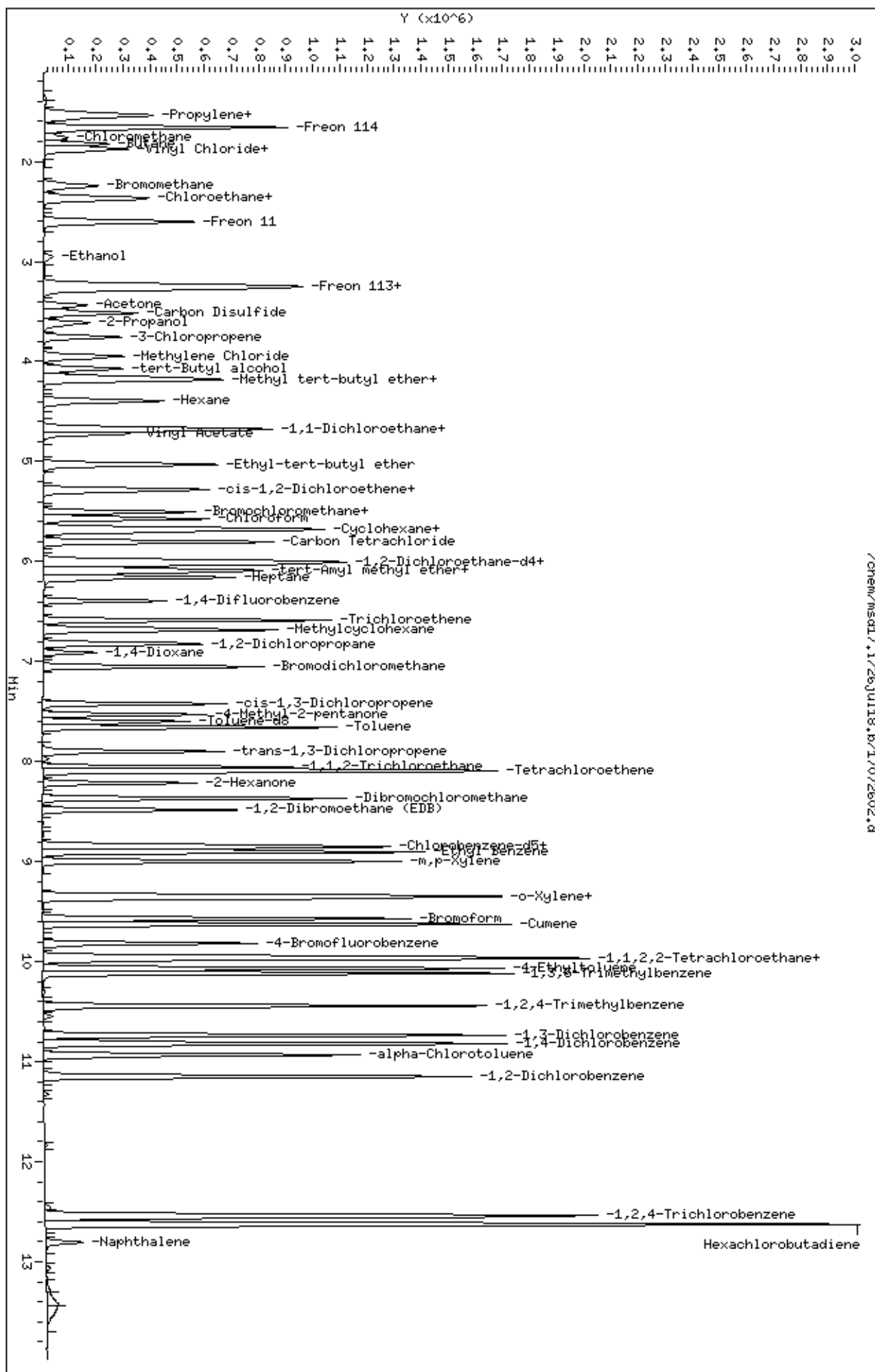
Sample Info: 100ml 3018-273A

Column phase: RTX-624

Instrument: msd17.1

Operator: mjb

Column diameter: 0.25



Client ID:	LCS	Date/Time Analyzed:	7/26/18 10:37 AM
Lab ID:	1807359A-06A	Dilution Factor:	1.00
Date/Time Collecte	NA - Not Applicable	Instrument/File name:	msd17.i / 17072603
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	100
1,1,2,2-Tetrachloroethane	79-34-5	96
1,1,2-Trichloroethane	79-00-5	101
1,1-Dichloroethane	75-34-3	93
1,1-Dichloroethene	75-35-4	98
1,2,4-Trichlorobenzene	120-82-1	92
1,2,4-Trimethylbenzene	95-63-6	98
1,2-Dibromoethane (EDB)	106-93-4	100
1,2-Dichlorobenzene	95-50-1	98
1,2-Dichloroethane	107-06-2	98
1,2-Dichloropropane	78-87-5	91
1,3,5-Trimethylbenzene	108-67-8	99
1,3-Butadiene	106-99-0	92
1,3-Dichlorobenzene	541-73-1	99
1,4-Dichlorobenzene	106-46-7	100
1,4-Dioxane	123-91-1	97
2,2,4-Trimethylpentane	540-84-1	92
2-Butanone (Methyl Ethyl Ketone)	78-93-3	96
2-Hexanone	591-78-6	89
2-Propanol	67-63-0	90
3-Chloropropene	107-05-1	99
4-Ethyltoluene	622-96-8	100
4-Methyl-2-pentanone	108-10-1	87
Acetone	67-64-1	89

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN

Client ID:	LCS	Date/Time Analyzed:	7/26/18 10:37 AM
Lab ID:	1807359A-06A	Dilution Factor:	1.00
Date/Time Collecte	NA - Not Applicable	Instrument/File name:	msd17.i / 17072603
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	106
Benzene	71-43-2	97
Bromodichloromethane	75-27-4	104
Bromoform	75-25-2	104
Bromomethane	74-83-9	105
Carbon Disulfide	75-15-0	100
Carbon Tetrachloride	56-23-5	97
Chlorobenzene	108-90-7	97
Chloroethane	75-00-3	97
Chloroform	67-66-3	100
Chloromethane	74-87-3	99
cis-1,2-Dichloroethene	156-59-2	88
cis-1,3-Dichloropropene	10061-01-5	105
Cumene	98-82-8	97
Cyclohexane	110-82-7	94
Dibromochloromethane	124-48-1	103
Ethanol	64-17-5	90
Ethyl Benzene	100-41-4	98
Freon 11	75-69-4	102
Freon 113	76-13-1	100
Freon 114	76-14-2	106
Freon 12	75-71-8	108
Heptane	142-82-5	96
Hexachlorobutadiene	87-68-3	91

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN

Client ID:	LCS	Date/Time Analyzed:	7/26/18 10:37 AM
Lab ID:	1807359A-06A	Dilution Factor:	1.00
Date/Time Collecte	NA - Not Applicable	Instrument/File name:	msd17.i / 17072603
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	88
m,p-Xylene	108-38-3	95
Methyl tert-butyl ether	1634-04-4	94
Methylene Chloride	75-09-2	91
o-Xylene	95-47-6	96
Propylbenzene	103-65-1	98
Styrene	100-42-5	94
Tetrachloroethene	127-18-4	99
Tetrahydrofuran	109-99-9	84
Toluene	108-88-3	98
trans-1,2-Dichloroethene	156-60-5	106
trans-1,3-Dichloropropene	10061-02-6	98
Trichloroethene	79-01-6	106
Vinyl Chloride	75-01-4	95

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	96
4-Bromofluorobenzene	460-00-4	70-130	97
Toluene-d8	2037-26-5	70-130	100

* % Recovery is calculated using unrounded analytical results.

US32APPTV002

RECOVERY REPORT

Client Name:	Client SDG: 26jul18
Sample Matrix: GAS	Fraction: VOA
Lab Smp Id: LCS	Client Smp ID: LCS
Level: LOW	Operator: mjb
Data Type: MS DATA	SampleType: LCS
SpikeList File: AT12.spk	Quant Type: ISTD
Sublist File: AT12.sub	
Method File: /chem/msd17.i/26jul18.b/178q0613b.m	
Misc Info: 50ppbv(100ppbv)	

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
9 Propylene	50.000	44.415	88.83
11 Freon 12	50.000	54.234	108.47
15 Freon 114	50.000	53.038	106.08
17 Chloromethane	50.000	49.584	99.17
23 Butane	50.000	40.919	81.84
25 Vinyl Chloride	50.000	47.344	94.69
26 1,3-Butadiene	50.000	46.188	92.38
29 Bromomethane	50.000	52.738	105.48
30 Chloroethane	50.000	48.657	97.31
31 Isopentane	50.000	44.144	88.29
35 Freon 11	50.000	50.892	101.78
42 Ethanol	50.000	44.994	89.99
49 Freon 113	50.000	50.106	100.21
50 1,1-Dichloroethene	50.000	49.134	98.27
52 Acetone	50.000	44.734	89.47
56 Carbon Disulfide	50.000	50.174	100.35
57 2-Propanol	50.000	44.769	89.54
58 3-Chloropropene	50.000	49.566	99.13
66 Methylene Chloride	50.000	45.300	90.60
72 Methyl tert-butyl ether	50.000	47.182	94.36
73 trans-1,2-Dichloroethene	50.000	52.901	105.80
78 Hexane	50.000	43.934	87.87
82 1,1-Dichloroethane	50.000	46.651	93.30
86 Vinyl Acetate	50.000	46.106	92.21
91 cis-1,2-Dichloroethene	50.000	43.936	87.87
92 2-Butanone	50.000	48.194	96.39
99 Tetrahydrofuran	50.000	42.132	84.26
100 Chloroform	50.000	50.156	100.31
103 1,1,1-Trichloroethane	50.000	49.812	99.62
106 Carbon Tetrachloride	50.000	48.708	97.42
102 Cyclohexane	50.000	47.271	94.54
113 2,2,4-Trimethylpentane	50.000	45.942	91.88
116 Benzene	50.000	48.491	96.98

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
120 1,2-Dichloroethane	50.000	48.978	97.96
121 Heptane	50.000	47.770	95.54
125 Trichloroethene	50.000	53.025	106.05
127 Methylcyclohexane	50.000	46.712	93.42
132 1,2-Dichloropropane	50.000	45.649	91.30
136 1,4-Dioxane	50.000	48.629	97.26
138 Bromodichloromethane	50.000	51.891	103.78
144 cis-1,3-Dichloropropene	50.000	52.734	105.47
145 4-Methyl-2-pentanone	50.000	43.365	86.73
147 Toluene	50.000	48.906	97.81
150 trans-1,3-Dichloropropene	50.000	49.059	98.12
155 1,1,2-Trichloroethane	50.000	50.749	101.50
156 Tetrachloroethene	50.000	49.630	99.26
158 2-Hexanone	50.000	44.608	89.22
160 Dibromochloromethane	50.000	51.494	102.99
161 1,2-Dibromoethane (EDB)	50.000	49.881	99.76
165 Chlorobenzene	50.000	48.745	97.49
167 Ethyl Benzene	50.000	48.874	97.75
169 m,p-Xylene	50.000	47.617	95.23
171 o-Xylene	50.000	47.886	95.77
172 Styrene	50.000	47.262	94.53
174 Bromoform	50.000	51.878	103.76
175 Cumene	50.000	48.489	96.98
181 1,1,2,2-Tetrachloroethane	50.000	47.753	95.51
182 Propylbenzene	50.000	49.149	98.30
188 4-Ethyltoluene	50.000	50.228	100.46
190 1,3,5-Trimethylbenzene	50.000	49.350	98.70
196 1,2,4-Trimethylbenzene	50.000	48.888	97.78
208 1,3-Dichlorobenzene	50.000	49.729	99.46
209 1,4-Dichlorobenzene	50.000	50.231	100.46
212 alpha-Chlorotoluene	50.000	53.136	106.27
214 1,2-Dichlorobenzene	50.000	49.110	98.22
226 1,2,4-Trichlorobenzene	50.000	46.080	92.16
227 Hexachlorobutadiene	50.000	45.690	91.38
228 Naphthalene	5.000	4.697	93.95

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
\$ 117 1,2-Dichloroethane-d4	25.000	24.107	96.43
\$ 146 Toluene-d8	25.000	24.919	99.67
\$ 177 4-Bromofluorobenzene	25.000	24.318	97.27

US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/26jul18.b/17072603.d
Lab Smp Id: LCS Client Smp ID: LCS
Inj Date : 26-JUL-2018 10:37
Operator : mjb Inst ID: msd17.i
Smp Info : 100ml 3018-297A
Misc Info : 50ppbv(100ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/26jul18.b/178q0613b.m
Meth Date : 26-Jul-2018 10:32 p5fl Quant Type: ISTD
Cal Date : 23-JUL-2018 12:23 Cal File: 17072306.d
Als bottle: 14 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS				
					ON-COL	FINAL			
RT	EXP RT	(REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====

* 98	Bromochloromethane					CAS #:	74-97-5		
5.507	5.499	(1.000)	130	131301	25.0000		80.00-	120.00	100.00
5.507	5.499	(1.000)	128	101935			48.32-	108.32	77.63
5.507	5.498	(1.000)	49	110567			63.40-	123.40	84.21

* 123	1,4-Difluorobenzene					CAS #:	540-36-3		
6.388	6.386	(1.000)	114	453954	25.0000		80.00-	120.00	100.00
6.388	6.385	(1.000)	88	63631			0.00-	44.55	14.02

* 163	Chlorobenzene-d5					CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	419459	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	196223			17.97-	77.97	46.78

\$ 117	1,2-Dichloroethane-d4					CAS #:	17060-07-0		
6.044	6.036	(1.098)	65	143729	24.1074	24.107	80.00-	120.00	100.00
6.044	6.036	(1.098)	67	77460			23.66-	83.66	53.89

\$ 146	Toluene-d8					CAS #:	2037-26-5		
7.598	7.598	(1.190)	98	440563	24.9187	24.919	80.00-	120.00	100.00
7.598	7.598	(1.190)	70	44643			0.00-	40.01	10.13

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET	RANGE	RATIO
					ON-COL	FINAL			
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
\$ 146 Toluene-d8 (continued)									
7.598	7.598	(1.190)	100	288559			35.43-	95.43	65.50

\$ 177 4-Bromofluorobenzene									
						CAS #: 460-00-4			
9.819	9.819	(1.112)	174	322108	24.3179	24.318	80.00-	120.00	100.00
9.819	9.819	(1.112)	95	286762			59.41-	119.41	89.03
9.819	9.819	(1.112)	176	317059			68.33-	128.33	98.43

9 Propylene									
						CAS #: 115-07-1			
1.510	1.501	(0.274)	41	122583	44.4149	44.415	80.00-	120.00	100.00
1.510	1.503	(0.274)	42	84806			36.13-	96.13	69.18
1.510	1.502	(0.274)	39	94157			46.53-	106.53	76.81

11 Freon 12									
						CAS #: 75-71-8			
1.545	1.534	(0.281)	85	632394	54.2340	54.234	80.00-	120.00	100.00
1.545	1.536	(0.281)	87	205163			2.38-	62.38	32.44

15 Freon 114									
						CAS #: 76-14-2			
1.660	1.654	(0.301)	135	522000	53.0379	53.038	80.00-	120.00	100.00
1.660	1.653	(0.301)	137	168519			2.28-	62.28	32.28

17 Chloromethane									
						CAS #: 74-87-3			
1.760	1.752	(0.320)	50	149806	49.5840	49.584	80.00-	120.00	100.00
1.760	1.751	(0.320)	52	52764			5.22-	65.22	35.22

23 Butane									
						CAS #: 106-97-8			
1.825	1.816	(0.331)	58	36048	40.9195	40.919	80.00-	120.00	100.00
1.818	1.815	(0.330)	43	245311			637.12-	697.12	680.51

25 Vinyl Chloride									
						CAS #: 75-01-4			
1.861	1.851	(0.338)	62	205359	47.3440	47.344	80.00-	120.00	100.00
1.861	1.851	(0.338)	64	68299			1.91-	61.91	33.26

26 1,3-Butadiene									
						CAS #: 106-99-0			
1.882	1.876	(0.342)	54	136787	46.1880	46.188	80.00-	120.00	100.00
1.882	1.874	(0.342)	39	131001			72.44-	132.44	95.77

29 Bromomethane									
						CAS #: 74-83-9			
2.240	2.232	(0.407)	94	232625	52.7382	52.738	80.00-	120.00	100.00
2.240	2.233	(0.407)	96	223270			65.39-	125.39	95.98

30 Chloroethane									
						CAS #: 75-00-3			
2.355	2.345	(0.428)	64	107612	48.6569	48.657	80.00-	120.00	100.00
2.355	2.349	(0.428)	66	35287			3.25-	63.25	32.79
2.355	2.345	(0.428)	49	28468			0.00-	57.17	26.46

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET	RANGE	RATIO
					ON-COL	FINAL			
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
31 Isopentane									
						CAS #:	78-78-4		
2.369	2.359	(0.430)	43	190809	44.1444	44.144	80.00-	120.00	100.00
2.369	2.362	(0.430)	57	152296			45.20-	105.20	79.82

35 Freon 11									
						CAS #:	75-69-4		
2.598	2.593	(0.472)	101	696042	50.8919	50.892	80.00-	120.00	100.00
2.598	2.593	(0.472)	103	453438			34.28-	94.28	65.15

42 Ethanol									
						CAS #:	64-17-5		
2.956	2.946	(0.537)	45	67389	44.9944	44.994	80.00-	120.00	100.00
2.956	2.946	(0.537)	46	25857			9.17-	69.17	38.37

49 Freon 113									
						CAS #:	76-13-1		
3.243	3.233	(0.589)	151	532125	50.1065	50.106	80.00-	120.00	100.00
3.243	3.235	(0.589)	153	341990			34.01-	94.01	64.27
3.243	3.231	(0.589)	101	584567			81.38-	141.38	109.86

50 1,1-Dichloroethene									
						CAS #:	75-35-4		
3.279	3.267	(0.595)	98	161739	49.1343	49.134	80.00-	120.00	100.00
3.279	3.265	(0.595)	96	255590			124.64-	184.64	158.03
3.279	3.266	(0.595)	61	361022			200.94-	260.94	223.21

52 Acetone									
						CAS #:	67-64-1		
3.436	3.429	(0.624)	58	94672	44.7344	44.734	80.00-	120.00	100.00
3.436	3.429	(0.624)	43	294009			290.24-	350.24	310.55

56 Carbon Disulfide									
						CAS #:	75-15-0		
3.515	3.503	(0.638)	76	687301	50.1739	50.174	80.00-	120.00	100.00

57 2-Propanol									
						CAS #:	67-63-0		
3.615	3.607	(0.657)	45	305007	44.7687	44.769	80.00-	120.00	100.00
3.615	3.606	(0.657)	43	60684			0.00-	51.65	19.90
3.615	3.607	(0.657)	59	13677			0.00-	34.46	4.48

58 3-Chloropropene									
						CAS #:	107-05-1		
3.759	3.748	(0.683)	76	110315	49.5662	49.566	80.00-	120.00	100.00
3.759	3.747	(0.683)	41	219388			187.06-	247.06	198.87

66 Methylene Chloride									
						CAS #:	75-09-2		
3.952	3.940	(0.718)	49	219111	45.3005	45.300	80.00-	120.00	100.00
3.952	3.940	(0.718)	84	215839			60.06-	120.06	98.51
3.952	3.940	(0.718)	51	68261			0.22-	60.22	31.15

72 Methyl tert-butyl ether									
						CAS #:	1634-04-4		
4.160	4.149	(0.755)	73	669280	47.1819	47.182	80.00-	120.00	100.00
4.160	4.148	(0.755)	57	131948			0.00-	50.61	19.71

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
				ON-COL	FINAL		
==	=====	=====	=====	(PPBV)	(PPBV)	=====	=====
72 Methyl tert-butyl ether (continued)							
4.160	4.148 (0.755)	41	115978			0.00- 49.00	17.33

73 trans-1,2-Dichloroethene				CAS #: 156-60-5			
4.189	4.177 (0.761)	98	171216	52.9010	52.901	80.00- 120.00	100.00
4.189	4.176 (0.761)	61	321214			169.57- 229.57	187.61
4.189	4.176 (0.761)	96	264926			127.00- 187.00	154.73

78 Hexane				CAS #: 110-54-3			
4.396	4.384 (0.798)	57	303738	43.9342	43.934	80.00- 120.00	100.00
4.396	4.384 (0.798)	43	174911			28.25- 88.25	57.59
4.396	4.384 (0.798)	86	61125			0.00- 48.98	20.12

82 1,1-Dichloroethane				CAS #: 75-34-3			
4.683	4.678 (0.850)	63	388354	46.6506	46.651	80.00- 120.00	100.00
4.683	4.678 (0.850)	65	124058			2.30- 62.30	31.94

86 Vinyl Acetate				CAS #: 108-05-4			
4.726	4.720 (0.858)	86	62672	46.1063	46.106	80.00- 120.00	100.00
4.726	4.717 (0.858)	43	482514			863.69- 923.69	769.90

91 cis-1,2-Dichloroethene				CAS #: 156-59-2			
5.277	5.265 (0.958)	98	171231	43.9365	43.936	80.00- 120.00	100.00
5.277	5.265 (0.958)	96	261745			122.96- 182.96	152.86
5.277	5.265 (0.958)	61	282735			147.21- 207.21	165.12

92 2-Butanone				CAS #: 78-93-3			
5.299	5.292 (0.962)	72	114133	48.1935	48.194	80.00- 120.00	100.00
5.299	5.289 (0.962)	43	353473			305.24- 365.24	309.70
5.299	5.289 (0.962)	57	31097			0.00- 59.67	27.25

99 Tetrahydrofuran				CAS #: 109-99-9			
5.499	5.493 (0.999)	42	188603	42.1315	42.132	80.00- 120.00	100.00
5.499	5.495 (0.999)	71	97913			18.99- 78.99	51.91
5.499	5.495 (0.999)	72	102507			20.78- 80.78	54.35

100 Chloroform				CAS #: 67-66-3			
5.571	5.560 (1.012)	83	511147	50.1560	50.156	80.00- 120.00	100.00
5.571	5.561 (1.012)	85	334697			35.00- 95.00	65.48

102 Cyclohexane				CAS #: 110-82-7			
5.671	5.659 (1.030)	84	324343	47.2709	47.271	80.00- 120.00	100.00
5.664	5.658 (1.029)	56	304637			70.31- 130.31	93.92
5.664	5.657 (1.029)	41	163976			25.25- 85.25	50.56

103 1,1,1-Trichloroethane				CAS #: 71-55-6			
5.686	5.679 (1.033)	97	565844	49.8116	49.812	80.00- 120.00	100.00

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET	RANGE	RATIO
					ON-COL	FINAL			
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
103 1,1,1-Trichloroethane (continued)									
5.686	5.679	(1.033)	99	362264			34.84-	94.84	64.02

106 Carbon Tetrachloride					CAS #: 56-23-5				
5.800	5.795	(1.053)	119	602699	48.7082	48.708	80.00-	120.00	100.00
5.800	5.795	(1.053)	117	627598			73.53-	133.53	104.13

113 2,2,4-Trimethylpentane					CAS #: 540-84-1				
5.994	5.985	(1.088)	57	938292	45.9424	45.942	80.00-	120.00	100.00
5.994	5.985	(1.088)	56	301866			2.59-	62.59	32.17
5.994	5.984	(1.088)	41	262499			0.00-	55.57	27.98

116 Benzene					CAS #: 71-43-2				
6.015	6.010	(0.942)	78	698020	48.4913	48.491	80.00-	120.00	100.00
6.015	6.010	(0.942)	77	165234			0.00-	53.90	23.67

120 1,2-Dichloroethane					CAS #: 107-06-2				
6.108	6.102	(0.956)	62	315569	48.9782	48.978	80.00-	120.00	100.00
6.108	6.102	(0.956)	64	101455			3.07-	63.07	32.15

121 Heptane					CAS #: 142-82-5				
6.158	6.153	(0.964)	71	240563	47.7702	47.770	80.00-	120.00	100.00
6.158	6.152	(0.964)	43	306738			110.59-	170.59	127.51
6.158	6.151	(0.964)	57	189915			64.25-	124.25	78.95

125 Trichloroethene					CAS #: 79-01-6				
6.588	6.582	(1.031)	95	365392	53.0250	53.025	80.00-	120.00	100.00
6.588	6.582	(1.031)	130	419204			81.76-	141.76	114.73
6.588	6.582	(1.031)	97	237941			34.64-	94.64	65.12

127 Methylcyclohexane					CAS #: 108-87-2				
6.681	6.675	(1.213)	83	436525	46.7116	46.712	80.00-	120.00	100.00
6.681	6.675	(1.213)	98	215514			18.58-	78.58	49.37
6.681	6.675	(1.213)	55	282992			37.28-	97.28	64.83

132 1,2-Dichloropropane					CAS #: 78-87-5				
6.817	6.818	(1.067)	63	232613	45.6493	45.649	80.00-	120.00	100.00
6.817	6.818	(1.067)	62	162818			38.79-	98.79	70.00
6.817	6.818	(1.067)	41	125962			23.87-	83.87	54.15

136 1,4-Dioxane					CAS #: 123-91-1				
6.910	6.907	(1.082)	88	176948	48.6289	48.629	80.00-	120.00	100.00
6.910	6.906	(1.082)	58	98586			28.36-	88.36	55.71
6.910	6.904	(1.082)	57	33053			0.00-	49.37	18.68

138 Bromodichloromethane					CAS #: 75-27-4				
7.047	7.048	(1.103)	83	557325	51.8909	51.891	80.00-	120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
				ON-COL	FINAL		
==	=====	=====	=====	(PPBV)	(PPBV)	=====	=====
138 Bromodichloromethane (continued)							
7.047	7.048 (1.103)	85	362508			34.11- 94.11	65.04

144 cis-1,3-Dichloropropene				CAS #: 10061-01-5			
7.426	7.420 (1.163)	75	444287	52.7337	52.734	80.00- 120.00	100.00
7.426	7.420 (1.163)	77	142000			2.33- 62.33	31.96
7.419	7.420 (1.161)	39	198743			16.60- 76.60	44.73

145 4-Methyl-2-pentanone				CAS #: 108-10-1			
7.526	7.526 (1.178)	58	179755	43.3647	43.365	80.00- 120.00	100.00
7.526	7.526 (1.178)	43	424831			214.83- 274.83	236.34
7.526	7.527 (1.178)	85	101558			23.05- 83.05	56.50

147 Toluene				CAS #: 108-88-3			
7.655	7.655 (1.198)	91	914142	48.9058	48.906	80.00- 120.00	100.00
7.655	7.655 (1.198)	92	526826			27.80- 87.80	57.63

150 trans-1,3-Dichloropropene				CAS #: 10061-02-6			
7.899	7.899 (0.895)	75	402251	49.0591	49.059	80.00- 120.00	100.00
7.899	7.899 (0.895)	77	130531			1.77- 61.77	32.45
7.899	7.899 (0.895)	39	169101			14.97- 74.97	42.04

155 1,1,2-Trichloroethane				CAS #: 79-00-5			
8.057	8.056 (0.912)	97	331593	50.7492	50.749	80.00- 120.00	100.00
8.057	8.056 (0.912)	99	206860			32.71- 92.71	62.38
8.057	8.056 (0.912)	83	277426			55.53- 115.53	83.66

156 Tetrachloroethene				CAS #: 127-18-4			
8.092	8.092 (0.916)	166	585947	49.6305	49.630	80.00- 120.00	100.00
8.092	8.092 (0.916)	129	386743			36.14- 96.14	66.00
8.092	8.092 (0.916)	131	372554			34.69- 94.69	63.58

158 2-Hexanone				CAS #: 591-78-6			
8.214	8.214 (0.930)	58	236550	44.6077	44.608	80.00- 120.00	100.00
8.214	8.214 (0.930)	43	406366			146.83- 206.83	171.79
8.214	8.215 (0.930)	100	66342			0.00- 55.52	28.05

160 Dibromochloromethane				CAS #: 124-48-1			
8.372	8.368 (0.948)	129	697825	51.4941	51.494	80.00- 120.00	100.00
8.372	8.368 (0.948)	127	538084			47.05- 107.05	77.11

161 1,2-Dibromoethane (EDB)				CAS #: 106-93-4			
8.479	8.479 (0.960)	107	557426	49.8807	49.881	80.00- 120.00	100.00
8.479	8.480 (0.960)	109	525946			65.51- 125.51	94.35

165 Chlorobenzene				CAS #: 108-90-7			
8.859	8.859 (1.003)	112	806084	48.7451	48.745	80.00- 120.00	100.00

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET	RANGE	RATIO
					ON-COL	FINAL			
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
165 Chlorobenzene (continued)									
8.859	8.859	(1.003)	114	262176			2.14-	62.14	32.52
8.859	8.853	(1.003)	77	422220			23.42-	83.42	52.38

167 Ethyl Benzene					CAS #: 100-41-4				
8.902	8.902	(1.008)	106	406150	48.8741	48.874	80.00-	120.00	100.00
8.902	8.902	(1.008)	91	1200504			268.52-	328.52	295.58

169 m,p-Xylene					CAS #: 108-38-3				
9.002	8.998	(1.019)	106	492018	47.6170	47.617	80.00-	120.00	100.00
8.995	8.997	(1.019)	91	950490			161.75-	221.75	193.18

171 o-Xylene					CAS #: 95-47-6				
9.339	9.339	(1.058)	106	468845	47.8863	47.886	80.00-	120.00	100.00
9.339	9.339	(1.058)	91	944174			170.98-	230.98	201.38

172 Styrene					CAS #: 100-42-5				
9.360	9.360	(1.060)	104	733721	47.2625	47.262	80.00-	120.00	100.00
9.360	9.360	(1.060)	78	337808			16.10-	76.10	46.04

174 Bromoform					CAS #: 75-25-2				
9.568	9.568	(1.084)	173	807753	51.8780	51.878	80.00-	120.00	100.00
9.568	9.568	(1.084)	171	414762			21.32-	81.32	51.35

175 Cumene					CAS #: 98-82-8				
9.625	9.625	(1.090)	105	1438844	48.4890	48.489	80.00-	120.00	100.00
9.625	9.626	(1.090)	120	410331			0.00-	58.56	28.52
9.625	9.625	(1.090)	51	107934			0.00-	37.61	7.50

181 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5				
9.948	9.947	(1.127)	83	667281	47.7532	47.753	80.00-	120.00	100.00
9.948	9.947	(1.127)	85	443805			35.03-	95.03	66.51

182 Propylbenzene					CAS #: 103-65-1				
9.976	9.975	(1.130)	91	1648061	49.1487	49.149	80.00-	120.00	100.00
9.976	9.976	(1.130)	120	428024			0.00-	56.23	25.97
9.976	9.976	(1.130)	105	63551			0.00-	33.80	3.86

188 4-Ethyltoluene					CAS #: 622-96-8				
10.069	10.069	(1.140)	120	471749	50.2285	50.228	80.00-	120.00	100.00
10.069	10.069	(1.140)	105	1467861			275.42-	335.42	311.15

190 1,3,5-Trimethylbenzene					CAS #: 108-67-8				
10.120	10.119	(1.146)	120	643896	49.3505	49.350	80.00-	120.00	100.00
10.120	10.119	(1.146)	105	1271904			165.32-	225.32	197.53

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET	RANGE	RATIO
					ON-COL	FINAL			
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
196 1,2,4-Trimethylbenzene CAS #: 95-63-6									
10.442	10.444	(1.183)	120	569990	48.8879	48.888	80.00-	120.00	100.00
10.442	10.443	(1.183)	105	1184173			176.48-	236.48	207.75

208 1,3-Dichlorobenzene CAS #: 541-73-1									
10.736	10.735	(1.216)	146	984642	49.7292	49.729	80.00-	120.00	100.00
10.736	10.735	(1.216)	148	635272			34.93-	94.93	64.52
10.736	10.735	(1.216)	111	341253			5.13-	65.13	34.66

209 1,4-Dichlorobenzene CAS #: 106-46-7									
10.821	10.820	(1.226)	146	1016148	50.2312	50.231	80.00-	120.00	100.00
10.821	10.821	(1.226)	148	656203			34.11-	94.11	64.58
10.814	10.817	(1.225)	111	339613			4.00-	64.00	33.42

212 alpha-Chlorotoluene CAS #: 100-44-7									
10.936	10.936	(1.238)	91	1114714	53.1364	53.136	80.00-	120.00	100.00
10.936	10.936	(1.238)	126	276082			0.00-	55.13	24.77

214 1,2-Dichlorobenzene CAS #: 95-50-1									
11.151	11.149	(1.263)	146	934613	49.1104	49.110	80.00-	120.00	100.00
11.151	11.150	(1.263)	148	601225			34.17-	94.17	64.33
11.144	11.146	(1.262)	111	337174			6.50-	66.50	36.08

226 1,2,4-Trichlorobenzene CAS #: 120-82-1									
12.541	12.541	(1.420)	180	997369	46.0803	46.080	80.00-	120.00	100.00
12.541	12.541	(1.420)	182	952560			65.44-	125.44	95.51

227 Hexachlorobutadiene CAS #: 87-68-3									
12.627	12.622	(1.430)	225	883993	45.6902	45.690	80.00-	120.00	100.00
12.627	12.622	(1.430)	223	553507			32.93-	92.93	62.61

228 Naphthalene CAS #: 91-20-3									
12.806	12.806	(1.450)	128	174966	4.69739	4.697	80.00-	120.00	100.00
12.806	12.806	(1.450)	127	22007			0.00-	43.59	12.58

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17072603.d
Lab Smp Id: LCS
Analysis Type: VOA
Quant Type: ISTD
Operator: mjb
Method File: /chem/msd17.i/26jul18.b/178q0613b.m
Misc Info: 50ppbv(100ppbv)

Calibration Date: 26-JUL-2018
Calibration Time: 10:10
Client Smp ID: LCS
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	128867	77320	180414	131301	1.89
123 1,4-Difluorobenze	450283	270170	630396	453954	0.82
163 Chlorobenzene-d5	413209	247925	578493	419459	1.51

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.51	5.18	5.84	5.51	0.00
123 1,4-Difluorobenze	6.39	6.06	6.72	6.39	-0.11
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.1/26jul18.b/17072603.d

Date : 26-JUL-2018 10:37

Client ID: LCS

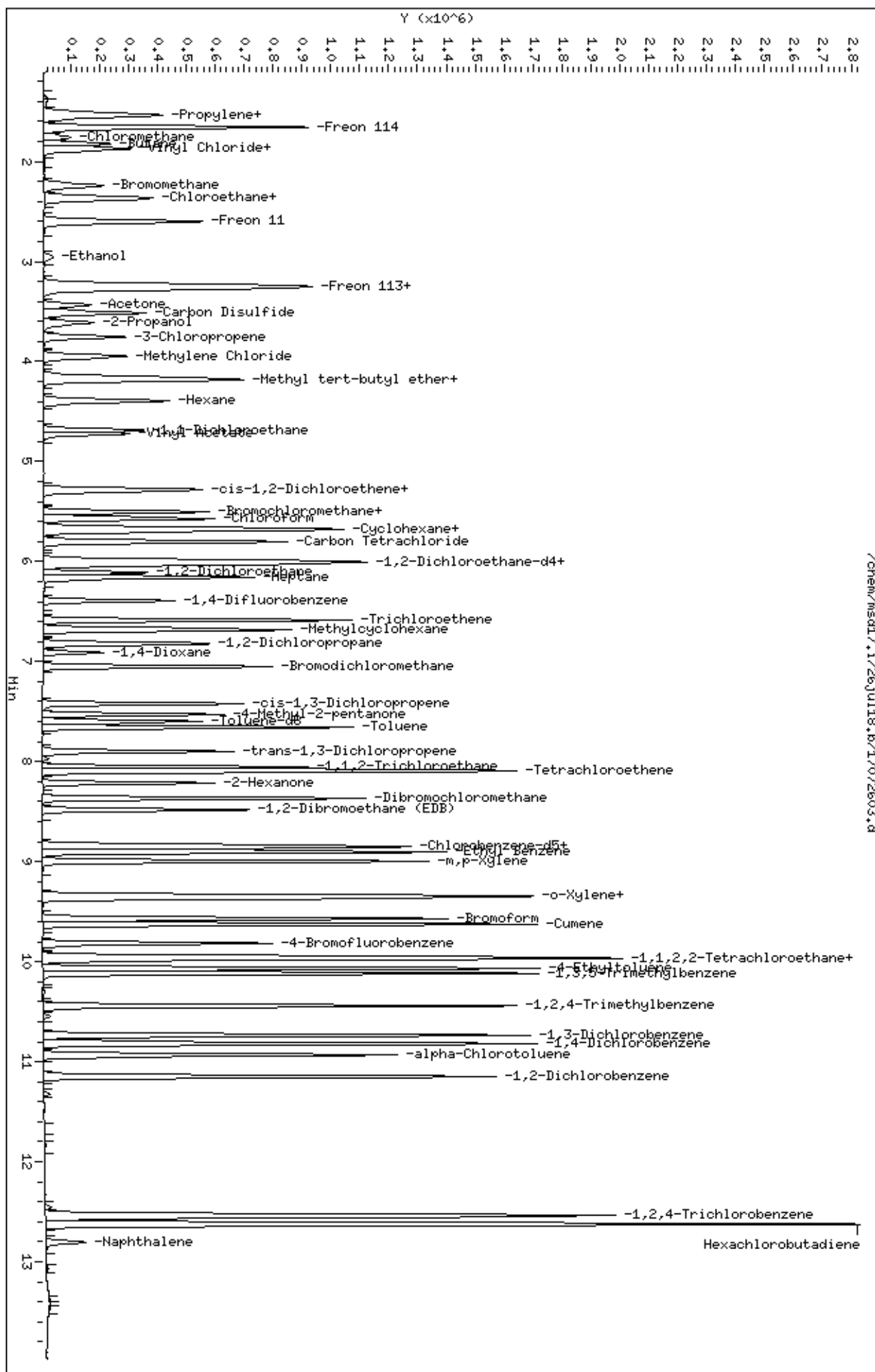
Sample Info: 100ml 3018-297A

Column phase: RTX-624

Instrument: msd17.1

Operator: mjb

Column diameter: 0.25



Client ID:	LCSD	Date/Time Analyzed:	7/26/18 11:03 AM
Lab ID:	1807359A-06AA	Dilution Factor:	1.00
Date/Time Collecte	NA - Not Applicable	Instrument/File name:	msd17.i / 17072604
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	99
1,1,2,2-Tetrachloroethane	79-34-5	96
1,1,2-Trichloroethane	79-00-5	101
1,1-Dichloroethane	75-34-3	92
1,1-Dichloroethene	75-35-4	99
1,2,4-Trichlorobenzene	120-82-1	95
1,2,4-Trimethylbenzene	95-63-6	98
1,2-Dibromoethane (EDB)	106-93-4	100
1,2-Dichlorobenzene	95-50-1	99
1,2-Dichloroethane	107-06-2	96
1,2-Dichloropropane	78-87-5	92
1,3,5-Trimethylbenzene	108-67-8	98
1,3-Butadiene	106-99-0	91
1,3-Dichlorobenzene	541-73-1	101
1,4-Dichlorobenzene	106-46-7	101
1,4-Dioxane	123-91-1	97
2,2,4-Trimethylpentane	540-84-1	92
2-Butanone (Methyl Ethyl Ketone)	78-93-3	94
2-Hexanone	591-78-6	91
2-Propanol	67-63-0	89
3-Chloropropene	107-05-1	101
4-Ethyltoluene	622-96-8	102
4-Methyl-2-pentanone	108-10-1	87
Acetone	67-64-1	90

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN

Client ID:	LCSD	Date/Time Analyzed:	7/26/18 11:03 AM
Lab ID:	1807359A-06AA	Dilution Factor:	1.00
Date/Time Collecte	NA - Not Applicable	Instrument/File name:	msd17.i / 17072604
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	108
Benzene	71-43-2	97
Bromodichloromethane	75-27-4	104
Bromoform	75-25-2	105
Bromomethane	74-83-9	106
Carbon Disulfide	75-15-0	100
Carbon Tetrachloride	56-23-5	98
Chlorobenzene	108-90-7	98
Chloroethane	75-00-3	97
Chloroform	67-66-3	100
Chloromethane	74-87-3	100
cis-1,2-Dichloroethene	156-59-2	87
cis-1,3-Dichloropropene	10061-01-5	105
Cumene	98-82-8	98
Cyclohexane	110-82-7	94
Dibromochloromethane	124-48-1	104
Ethanol	64-17-5	90
Ethyl Benzene	100-41-4	98
Freon 11	75-69-4	101
Freon 113	76-13-1	101
Freon 114	76-14-2	107
Freon 12	75-71-8	108
Heptane	142-82-5	95
Hexachlorobutadiene	87-68-3	95

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN

Client ID:	LCSD	Date/Time Analyzed:	7/26/18 11:03 AM
Lab ID:	1807359A-06AA	Dilution Factor:	1.00
Date/Time Collecte	NA - Not Applicable	Instrument/File name:	msd17.i / 17072604
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	88
m,p-Xylene	108-38-3	95
Methyl tert-butyl ether	1634-04-4	93
Methylene Chloride	75-09-2	90
o-Xylene	95-47-6	96
Propylbenzene	103-65-1	99
Styrene	100-42-5	96
Tetrachloroethene	127-18-4	99
Tetrahydrofuran	109-99-9	84
Toluene	108-88-3	98
trans-1,2-Dichloroethene	156-60-5	105
trans-1,3-Dichloropropene	10061-02-6	98
Trichloroethene	79-01-6	106
Vinyl Chloride	75-01-4	94

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	98
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	100

* % Recovery is calculated using unrounded analytical results.

US32APPTV002

RECOVERY REPORT

Client Name: Client SDG: 26jul18
 Sample Matrix: GAS Fraction: VOA
 Lab Smp Id: LCSD Client Smp ID: LCSD
 Level: LOW Operator: mjb
 Data Type: MS DATA SampleType: LCSD
 SpikeList File: AT12.spk Quant Type: ISTD
 Sublist File: AT12.sub
 Method File: /chem/msd17.i/26jul18.b/178q0613b.m
 Misc Info: 50ppbv(100ppbv)

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
9 Propylene	50.000	44.134	88.27
11 Freon 12	50.000	54.150	108.30
15 Freon 114	50.000	53.438	106.88
17 Chloromethane	50.000	50.154	100.31
23 Butane	50.000	40.805	81.61
25 Vinyl Chloride	50.000	47.230	94.46
26 1,3-Butadiene	50.000	45.740	91.48
29 Bromomethane	50.000	52.854	105.71
30 Chloroethane	50.000	48.628	97.26
31 Isopentane	50.000	44.841	89.68
35 Freon 11	50.000	50.546	101.09
42 Ethanol	50.000	44.957	89.91
49 Freon 113	50.000	50.586	101.17
50 1,1-Dichloroethene	50.000	49.487	98.97
52 Acetone	50.000	44.977	89.95
56 Carbon Disulfide	50.000	49.927	99.85
57 2-Propanol	50.000	44.542	89.09
58 3-Chloropropene	50.000	50.418	100.84
66 Methylene Chloride	50.000	45.248	90.50
72 Methyl tert-butyl ether	50.000	46.681	93.36
73 trans-1,2-Dichloroethene	50.000	52.396	104.79
78 Hexane	50.000	44.058	88.12
82 1,1-Dichloroethane	50.000	46.021	92.04
86 Vinyl Acetate	50.000	46.793	93.59
91 cis-1,2-Dichloroethene	50.000	43.580	87.16
92 2-Butanone	50.000	47.022	94.04
99 Tetrahydrofuran	50.000	41.906	83.81
100 Chloroform	50.000	50.047	100.09
103 1,1,1-Trichloroethane	50.000	49.678	99.36
106 Carbon Tetrachloride	50.000	48.804	97.61
102 Cyclohexane	50.000	46.798	93.60
113 2,2,4-Trimethylpentane	50.000	46.158	92.32
116 Benzene	50.000	48.574	97.15

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
120 1,2-Dichloroethane	50.000	48.185	96.37
121 Heptane	50.000	47.470	94.94
125 Trichloroethene	50.000	52.937	105.87
127 Methylcyclohexane	50.000	46.448	92.90
132 1,2-Dichloropropane	50.000	46.227	92.45
136 1,4-Dioxane	50.000	48.543	97.09
138 Bromodichloromethane	50.000	51.804	103.61
144 cis-1,3-Dichloropropene	50.000	52.384	104.77
145 4-Methyl-2-pentanone	50.000	43.534	87.07
147 Toluene	50.000	48.837	97.67
150 trans-1,3-Dichloropropene	50.000	48.889	97.78
155 1,1,2-Trichloroethane	50.000	50.376	100.75
156 Tetrachloroethene	50.000	49.532	99.06
158 2-Hexanone	50.000	45.574	91.15
160 Dibromochloromethane	50.000	51.777	103.55
161 1,2-Dibromoethane (EDB)	50.000	49.856	99.71
165 Chlorobenzene	50.000	49.050	98.10
167 Ethyl Benzene	50.000	48.872	97.74
169 m,p-Xylene	50.000	47.392	94.78
171 o-Xylene	50.000	48.037	96.07
172 Styrene	50.000	47.784	95.57
174 Bromoform	50.000	52.476	104.95
175 Cumene	50.000	48.898	97.80
181 1,1,2,2-Tetrachloroethane	50.000	48.192	96.38
182 Propylbenzene	50.000	49.446	98.89
188 4-Ethyltoluene	50.000	50.955	101.91
190 1,3,5-Trimethylbenzene	50.000	49.272	98.54
196 1,2,4-Trimethylbenzene	50.000	49.269	98.54
208 1,3-Dichlorobenzene	50.000	50.420	100.84
209 1,4-Dichlorobenzene	50.000	50.389	100.78
212 alpha-Chlorotoluene	50.000	53.825	107.65
214 1,2-Dichlorobenzene	50.000	49.728	99.46
226 1,2,4-Trichlorobenzene	50.000	47.417	94.83
227 Hexachlorobutadiene	50.000	47.730	95.46
228 Naphthalene	5.000	4.912	98.25

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
\$ 117 1,2-Dichloroethane-d4	25.000	24.589	98.35
\$ 146 Toluene-d8	25.000	24.931	99.72
\$ 177 4-Bromofluorobenzene	25.000	24.726	98.90

US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/26jul18.b/17072604.d
Lab Smp Id: LCSD Client Smp ID: LCSD
Inj Date : 26-JUL-2018 11:03
Operator : mjb Inst ID: msd17.i
Smp Info : 100ml 3018-297A
Misc Info : 50ppbv(100ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/26jul18.b/178q0613b.m
Meth Date : 26-Jul-2018 10:32 p5fl Quant Type: ISTD
Cal Date : 23-JUL-2018 12:23 Cal File: 17072306.d
Als bottle: 14 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

CONCENTRATIONS								
			ON-COL		FINAL			
RT	EXP RT	(REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====

* 98	Bromochloromethane					CAS #:	74-97-5	
5.506	5.499	(1.000)	130	131685	25.0000		80.00- 120.00	100.00
5.506	5.499	(1.000)	128	102596			48.32- 108.32	77.91
5.506	5.498	(1.000)	49	111411			63.40- 123.40	84.60

* 123	1,4-Difluorobenzene					CAS #:	540-36-3	
6.395	6.386	(1.000)	114	455560	25.0000		80.00- 120.00	100.00
6.395	6.385	(1.000)	88	65837			0.00- 44.55	14.45

* 163	Chlorobenzene-d5					CAS #:	3114-55-4	
8.830	8.830	(1.000)	117	417526	25.0000		80.00- 120.00	100.00
8.830	8.830	(1.000)	82	194571			17.97- 77.97	46.60

\$ 117	1,2-Dichloroethane-d4					CAS #:	17060-07-0	
6.044	6.036	(1.098)	65	147027	24.5887	24.589	80.00- 120.00	100.00
6.044	6.036	(1.098)	67	75313			23.66- 83.66	51.22

\$ 146	Toluene-d8					CAS #:	2037-26-5	
7.598	7.598	(1.188)	98	442342	24.9311	24.931	80.00- 120.00	100.00
7.598	7.598	(1.188)	70	42712			0.00- 40.01	9.66

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET	RANGE	RATIO
					ON-COL	FINAL			
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
\$ 146 Toluene-d8 (continued)									
7.598	7.598	(1.188)	100	285453			35.43-	95.43	64.53

\$ 177 4-Bromofluorobenzene									
						CAS #: 460-00-4			
9.819	9.819	(1.112)	174	326006	24.7262	24.726	80.00-	120.00	100.00
9.819	9.819	(1.112)	95	288842			59.41-	119.41	88.60
9.819	9.819	(1.112)	176	317260			68.33-	128.33	97.32

9 Propylene									
						CAS #: 115-07-1			
1.510	1.501	(0.274)	41	122164	44.1344	44.134	80.00-	120.00	100.00
1.510	1.503	(0.274)	42	82577			36.13-	96.13	67.60
1.510	1.502	(0.274)	39	92783			46.53-	106.53	75.95

11 Freon 12									
						CAS #: 75-71-8			
1.545	1.534	(0.281)	85	633262	54.1503	54.150	80.00-	120.00	100.00
1.545	1.536	(0.281)	87	204945			2.38-	62.38	32.36

15 Freon 114									
						CAS #: 76-14-2			
1.660	1.654	(0.301)	135	527471	53.4377	53.438	80.00-	120.00	100.00
1.660	1.653	(0.301)	137	168785			2.28-	62.28	32.00

17 Chloromethane									
						CAS #: 74-87-3			
1.760	1.752	(0.320)	50	151971	50.1543	50.154	80.00-	120.00	100.00
1.760	1.751	(0.320)	52	53755			5.22-	65.22	35.37

23 Butane									
						CAS #: 106-97-8			
1.818	1.816	(0.330)	58	36052	40.8049	40.805	80.00-	120.00	100.00
1.818	1.815	(0.330)	43	242824			637.12-	697.12	673.54

25 Vinyl Chloride									
						CAS #: 75-01-4			
1.861	1.851	(0.338)	62	205461	47.2296	47.230	80.00-	120.00	100.00
1.861	1.851	(0.338)	64	69875			1.91-	61.91	34.01

26 1,3-Butadiene									
						CAS #: 106-99-0			
1.882	1.876	(0.342)	54	135858	45.7406	45.740	80.00-	120.00	100.00
1.882	1.874	(0.342)	39	134525			72.44-	132.44	99.02

29 Bromomethane									
						CAS #: 74-83-9			
2.240	2.232	(0.407)	94	233815	52.8537	52.854	80.00-	120.00	100.00
2.240	2.233	(0.407)	96	220195			65.39-	125.39	94.17

30 Chloroethane									
						CAS #: 75-00-3			
2.355	2.345	(0.428)	64	107861	48.6275	48.628	80.00-	120.00	100.00
2.355	2.349	(0.428)	66	35256			3.25-	63.25	32.69
2.355	2.345	(0.428)	49	28018			0.00-	57.17	25.98

CONCENTRATIONS									
				ON-COL		FINAL			
RT	EXP RT	(REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
31 Isopentane						CAS #:	78-78-4		
2.369	2.359	(0.430)	43	194386	44.8409	44.841	80.00-	120.00	100.00
2.369	2.362	(0.430)	57	149151			45.20-	105.20	76.73
35 Freon 11						CAS #:	75-69-4		
2.598	2.593	(0.472)	101	693334	50.5463	50.546	80.00-	120.00	100.00
2.598	2.593	(0.472)	103	454541			34.28-	94.28	65.56
42 Ethanol						CAS #:	64-17-5		
2.956	2.946	(0.537)	45	67529	44.9566	44.957	80.00-	120.00	100.00
2.956	2.946	(0.537)	46	26278			9.17-	69.17	38.91
49 Freon 113						CAS #:	76-13-1		
3.243	3.233	(0.589)	151	538791	50.5864	50.586	80.00-	120.00	100.00
3.243	3.235	(0.589)	153	344876			34.01-	94.01	64.01
3.243	3.231	(0.589)	101	584791			81.38-	141.38	108.54
50 1,1-Dichloroethene						CAS #:	75-35-4		
3.279	3.267	(0.595)	98	163378	49.4874	49.487	80.00-	120.00	100.00
3.279	3.265	(0.595)	96	256408			124.64-	184.64	156.94
3.279	3.266	(0.595)	61	357321			200.94-	260.94	218.71
52 Acetone						CAS #:	67-64-1		
3.436	3.429	(0.624)	58	95464	44.9772	44.977	80.00-	120.00	100.00
3.436	3.429	(0.624)	43	293198			290.24-	350.24	307.13
56 Carbon Disulfide						CAS #:	75-15-0		
3.515	3.503	(0.638)	76	685912	49.9266	49.927	80.00-	120.00	100.00
57 2-Propanol						CAS #:	67-63-0		
3.615	3.607	(0.657)	45	304353	44.5425	44.542	80.00-	120.00	100.00
3.615	3.606	(0.657)	43	63310			0.00-	51.65	20.80
3.615	3.607	(0.657)	59	13606			0.00-	34.46	4.47
58 3-Chloropropene						CAS #:	107-05-1		
3.759	3.748	(0.683)	76	112540	50.4185	50.418	80.00-	120.00	100.00
3.759	3.747	(0.683)	41	218533			187.06-	247.06	194.18
66 Methylene Chloride						CAS #:	75-09-2		
3.952	3.940	(0.718)	49	219495	45.2478	45.248	80.00-	120.00	100.00
3.952	3.940	(0.718)	84	213870			60.06-	120.06	97.44
3.952	3.940	(0.718)	51	68055			0.22-	60.22	31.01
72 Methyl tert-butyl ether						CAS #:	1634-04-4		
4.160	4.149	(0.755)	73	664115	46.6815	46.681	80.00-	120.00	100.00
4.160	4.148	(0.755)	57	133202			0.00-	50.61	20.00

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET	RANGE	RATIO
					ON-COL	FINAL			
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
72 Methyl tert-butyl ether (continued)									
4.160	4.148	(0.755)	41	115564			0.00-	49.00	17.40

73 trans-1,2-Dichloroethene					CAS #: 156-60-5				
4.189	4.177	(0.761)	98	170078	52.3964	52.396	80.00-	120.00	100.00
4.189	4.176	(0.761)	61	319192			169.57-	229.57	187.67
4.189	4.176	(0.761)	96	266416			127.00-	187.00	156.64

78 Hexane					CAS #: 110-54-3				
4.396	4.384	(0.798)	57	305483	44.0579	44.058	80.00-	120.00	100.00
4.396	4.384	(0.798)	43	172703			28.25-	88.25	56.53
4.396	4.384	(0.798)	86	60624			0.00-	48.98	19.85

82 1,1-Dichloroethane					CAS #: 75-34-3				
4.683	4.678	(0.850)	63	384233	46.0213	46.021	80.00-	120.00	100.00
4.683	4.678	(0.850)	65	122644			2.30-	62.30	31.92

86 Vinyl Acetate					CAS #: 108-05-4				
4.726	4.720	(0.858)	86	63792	46.7932	46.793	80.00-	120.00	100.00
4.726	4.717	(0.858)	43	483386			863.69-	923.69	757.75

91 cis-1,2-Dichloroethene					CAS #: 156-59-2				
5.277	5.265	(0.958)	98	170336	43.5795	43.580	80.00-	120.00	100.00
5.277	5.265	(0.958)	96	259841			122.96-	182.96	152.55
5.277	5.265	(0.958)	61	285500			147.21-	207.21	167.61

92 2-Butanone					CAS #: 78-93-3				
5.299	5.292	(0.962)	72	111684	47.0224	47.022	80.00-	120.00	100.00
5.299	5.289	(0.962)	43	356797			305.24-	365.24	319.47
5.299	5.289	(0.962)	57	30987			0.00-	59.67	27.75

99 Tetrahydrofuran					CAS #: 109-99-9				
5.499	5.493	(0.999)	42	188142	41.9061	41.906	80.00-	120.00	100.00
5.499	5.495	(0.999)	71	99600			18.99-	78.99	52.94
5.506	5.495	(1.000)	72	102573			20.78-	80.78	54.52

100 Chloroform					CAS #: 67-66-3				
5.571	5.560	(1.012)	83	511530	50.0473	50.047	80.00-	120.00	100.00
5.571	5.561	(1.012)	85	335146			35.00-	95.00	65.52

102 Cyclohexane					CAS #: 110-82-7				
5.671	5.659	(1.030)	84	322038	46.7983	46.798	80.00-	120.00	100.00
5.671	5.658	(1.030)	56	303742			70.31-	130.31	94.32
5.664	5.657	(1.029)	41	162138			25.25-	85.25	50.35

103 1,1,1-Trichloroethane					CAS #: 71-55-6				
5.693	5.679	(1.034)	97	565978	49.6783	49.678	80.00-	120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
				ON-COL	FINAL		
==	=====	=====	=====	(PPBV)	(PPBV)	=====	=====
103 1,1,1-Trichloroethane (continued)							
5.693	5.679 (1.034)	99	364903			34.84- 94.84	64.47

106 Carbon Tetrachloride					CAS #: 56-23-5		
5.807	5.795 (1.055)	119	605653	48.8044	48.804	80.00- 120.00	100.00
5.807	5.795 (1.055)	117	626145			73.53- 133.53	103.38

113 2,2,4-Trimethylpentane					CAS #: 540-84-1		
5.994	5.985 (1.088)	57	945460	46.1586	46.158	80.00- 120.00	100.00
5.994	5.985 (1.088)	56	300362			2.59- 62.59	31.77
5.994	5.984 (1.088)	41	257458			0.00- 55.57	27.23

116 Benzene					CAS #: 71-43-2		
6.022	6.010 (0.942)	78	701687	48.5741	48.574	80.00- 120.00	100.00
6.022	6.010 (0.942)	77	167994			0.00- 53.90	23.94

120 1,2-Dichloroethane					CAS #: 107-06-2		
6.108	6.102 (0.955)	62	311556	48.1849	48.185	80.00- 120.00	100.00
6.108	6.102 (0.955)	64	103887			3.07- 63.07	33.34

121 Heptane					CAS #: 142-82-5		
6.158	6.153 (0.963)	71	239898	47.4701	47.470	80.00- 120.00	100.00
6.158	6.152 (0.963)	43	311504			110.59- 170.59	129.85
6.158	6.151 (0.963)	57	188374			64.25- 124.25	78.52

125 Trichloroethene					CAS #: 79-01-6		
6.588	6.582 (1.030)	95	366074	52.9367	52.937	80.00- 120.00	100.00
6.588	6.582 (1.030)	130	422462			81.76- 141.76	115.40
6.588	6.582 (1.030)	97	236400			34.64- 94.64	64.58

127 Methylcyclohexane					CAS #: 108-87-2		
6.681	6.675 (1.213)	83	435333	46.4483	46.448	80.00- 120.00	100.00
6.681	6.675 (1.213)	98	213498			18.58- 78.58	49.04
6.681	6.675 (1.213)	55	282152			37.28- 97.28	64.81

132 1,2-Dichloropropane					CAS #: 78-87-5		
6.824	6.818 (1.067)	63	236392	46.2275	46.227	80.00- 120.00	100.00
6.824	6.818 (1.067)	62	159844			38.79- 98.79	67.62
6.824	6.818 (1.067)	41	126680			23.87- 83.87	53.59

136 1,4-Dioxane					CAS #: 123-91-1		
6.910	6.907 (1.081)	88	177261	48.5432	48.543	80.00- 120.00	100.00
6.910	6.906 (1.081)	58	98857			28.36- 88.36	55.77
6.910	6.904 (1.081)	57	35184			0.00- 49.37	19.85

138 Bromodichloromethane					CAS #: 75-27-4		
7.054	7.048 (1.103)	83	558363	51.8043	51.804	80.00- 120.00	100.00

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
					ON-COL	FINAL		
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====
138 Bromodichloromethane (continued)								
7.054	7.048	(1.103)	85	360593			34.11- 94.11	64.58

144 cis-1,3-Dichloropropene					CAS #: 10061-01-5			
7.426	7.420	(1.161)	75	442903	52.3842	52.384	80.00- 120.00	100.00
7.426	7.420	(1.161)	77	141633			2.33- 62.33	31.98
7.419	7.420	(1.160)	39	199105			16.60- 76.60	44.95

145 4-Methyl-2-pentanone					CAS #: 108-10-1			
7.526	7.526	(1.177)	58	181098	43.5346	43.534	80.00- 120.00	100.00
7.526	7.526	(1.177)	43	426199			214.83- 274.83	235.34
7.526	7.527	(1.177)	85	99799			23.05- 83.05	55.11

147 Toluene					CAS #: 108-88-3			
7.655	7.655	(1.197)	91	916091	48.8372	48.837	80.00- 120.00	100.00
7.655	7.655	(1.197)	92	523585			27.80- 87.80	57.15

150 trans-1,3-Dichloropropene					CAS #: 10061-02-6			
7.899	7.899	(0.895)	75	399010	48.8891	48.889	80.00- 120.00	100.00
7.899	7.899	(0.895)	77	127836			1.77- 61.77	32.04
7.899	7.899	(0.895)	39	167177			14.97- 74.97	41.90

155 1,1,2-Trichloroethane					CAS #: 79-00-5			
8.057	8.056	(0.912)	97	327639	50.3761	50.376	80.00- 120.00	100.00
8.057	8.056	(0.912)	99	206552			32.71- 92.71	63.04
8.057	8.056	(0.912)	83	272794			55.53- 115.53	83.26

156 Tetrachloroethene					CAS #: 127-18-4			
8.092	8.092	(0.916)	166	582090	49.5321	49.532	80.00- 120.00	100.00
8.092	8.092	(0.916)	129	388820			36.14- 96.14	66.80
8.092	8.092	(0.916)	131	375415			34.69- 94.69	64.49

158 2-Hexanone					CAS #: 591-78-6			
8.214	8.214	(0.930)	58	240559	45.5736	45.574	80.00- 120.00	100.00
8.214	8.214	(0.930)	43	409297			146.83- 206.83	170.14
8.214	8.215	(0.930)	100	66998			0.00- 55.52	27.85

160 Dibromochloromethane					CAS #: 124-48-1			
8.372	8.368	(0.948)	129	698420	51.7766	51.777	80.00- 120.00	100.00
8.372	8.368	(0.948)	127	540118			47.05- 107.05	77.33

161 1,2-Dibromoethane (EDB)					CAS #: 106-93-4			
8.479	8.479	(0.960)	107	554587	49.8564	49.856	80.00- 120.00	100.00
8.479	8.480	(0.960)	109	532499			65.51- 125.51	96.02

165 Chlorobenzene					CAS #: 108-90-7			
8.859	8.859	(1.003)	112	807383	49.0497	49.050	80.00- 120.00	100.00

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET	RANGE	RATIO
					ON-COL	FINAL			
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
165 Chlorobenzene (continued)									
8.859	8.859	(1.003)	114	259958			2.14-	62.14	32.20
8.859	8.853	(1.003)	77	416171			23.42-	83.42	51.55

167 Ethyl Benzene					CAS #: 100-41-4				
8.902	8.902	(1.008)	106	404263	48.8722	48.872	80.00-	120.00	100.00
8.902	8.902	(1.008)	91	1211003			268.52-	328.52	299.56

169 m,p-Xylene					CAS #: 108-38-3				
9.002	8.998	(1.019)	106	487438	47.3921	47.392	80.00-	120.00	100.00
9.002	8.997	(1.019)	91	942877			161.75-	221.75	193.44

171 o-Xylene					CAS #: 95-47-6				
9.339	9.339	(1.058)	106	468158	48.0375	48.037	80.00-	120.00	100.00
9.339	9.339	(1.058)	91	941993			170.98-	230.98	201.21

172 Styrene					CAS #: 100-42-5				
9.360	9.360	(1.060)	104	738399	47.7841	47.784	80.00-	120.00	100.00
9.360	9.360	(1.060)	78	337287			16.10-	76.10	45.68

174 Bromoform					CAS #: 75-25-2				
9.568	9.568	(1.084)	173	813304	52.4764	52.476	80.00-	120.00	100.00
9.568	9.568	(1.084)	171	414317			21.32-	81.32	50.94

175 Cumene					CAS #: 98-82-8				
9.625	9.625	(1.090)	105	1444304	48.8984	48.898	80.00-	120.00	100.00
9.625	9.626	(1.090)	120	403551			0.00-	58.56	27.94
9.625	9.625	(1.090)	51	107630			0.00-	37.61	7.45

181 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5				
9.948	9.947	(1.127)	83	670311	48.1922	48.192	80.00-	120.00	100.00
9.948	9.947	(1.127)	85	442937			35.03-	95.03	66.08

182 Propylbenzene					CAS #: 103-65-1				
9.976	9.975	(1.130)	91	1650376	49.4456	49.446	80.00-	120.00	100.00
9.976	9.976	(1.130)	120	424911			0.00-	56.23	25.75
9.976	9.976	(1.130)	105	63441			0.00-	33.80	3.84

188 4-Ethyltoluene					CAS #: 622-96-8				
10.069	10.069	(1.140)	120	476364	50.9547	50.955	80.00-	120.00	100.00
10.069	10.069	(1.140)	105	1474669			275.42-	335.42	309.57

190 1,3,5-Trimethylbenzene					CAS #: 108-67-8				
10.120	10.119	(1.146)	120	639905	49.2717	49.272	80.00-	120.00	100.00
10.120	10.119	(1.146)	105	1263090			165.32-	225.32	197.39

CONCENTRATIONS									
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL		FINAL	TARGET RANGE	RATIO
					(PPBV)	(PPBV)			
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
196 1,2,4-Trimethylbenzene CAS #: 95-63-6									
10.442	10.444	(1.183)	120	571790	49.2693	49.269	80.00-	120.00	100.00
10.442	10.443	(1.183)	105	1189243			176.48-	236.48	207.99

208 1,3-Dichlorobenzene CAS #: 541-73-1									
10.736	10.735	(1.216)	146	993731	50.4206	50.420	80.00-	120.00	100.00
10.736	10.735	(1.216)	148	637531			34.93-	94.93	64.16
10.736	10.735	(1.216)	111	347494			5.13-	65.13	34.97

209 1,4-Dichlorobenzene CAS #: 106-46-7									
10.821	10.820	(1.226)	146	1014637	50.3888	50.389	80.00-	120.00	100.00
10.821	10.821	(1.226)	148	651329			34.11-	94.11	64.19
10.814	10.817	(1.225)	111	337434			4.00-	64.00	33.26

212 alpha-Chlorotoluene CAS #: 100-44-7									
10.936	10.936	(1.238)	91	1123961	53.8252	53.825	80.00-	120.00	100.00
10.936	10.936	(1.238)	126	277393			0.00-	55.13	24.68

214 1,2-Dichlorobenzene CAS #: 95-50-1									
11.151	11.149	(1.263)	146	942007	49.7281	49.728	80.00-	120.00	100.00
11.151	11.150	(1.263)	148	604239			34.17-	94.17	64.14
11.144	11.146	(1.262)	111	335719			6.50-	66.50	35.64

226 1,2,4-Trichlorobenzene CAS #: 120-82-1									
12.562	12.541	(1.423)	180	1021578	47.4173	47.417	80.00-	120.00	100.00
12.562	12.541	(1.423)	182	976302			65.44-	125.44	95.57

227 Hexachlorobutadiene CAS #: 87-68-3									
12.648	12.622	(1.432)	225	919210	47.7304	47.730	80.00-	120.00	100.00
12.648	12.622	(1.432)	223	571492			32.93-	92.93	62.17

228 Naphthalene CAS #: 91-20-3									
12.834	12.806	(1.453)	128	182136	4.91253	4.912	80.00-	120.00	100.00
12.834	12.806	(1.453)	127	24197			0.00-	43.59	13.29

US32APPTV002

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: msd17.i	Calibration Date: 26-JUL-2018
Lab File ID: 17072604.d	Calibration Time: 10:10
Lab Smp Id: LCSD	Client Smp ID: LCSD
Analysis Type: VOA	Level: LOW
Quant Type: ISTD	Sample Type: AIR
Operator: mjb	
Method File: /chem/msd17.i/26jul18.b/178q0613b.m	
Misc Info: 50ppbv(100ppbv)	

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	128867	77320	180414	131685	2.19
123 1,4-Difluorobenze	450283	270170	630396	455560	1.17
163 Chlorobenzene-d5	413209	247925	578493	417526	1.04

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.51	5.18	5.84	5.51	0.00
123 1,4-Difluorobenze	6.39	6.06	6.72	6.39	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
 AREA LOWER LIMIT = - 40% of internal standard area.
 RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.1/26jul18.b/17072604.d

Date : 26-JUL-2018 11:03

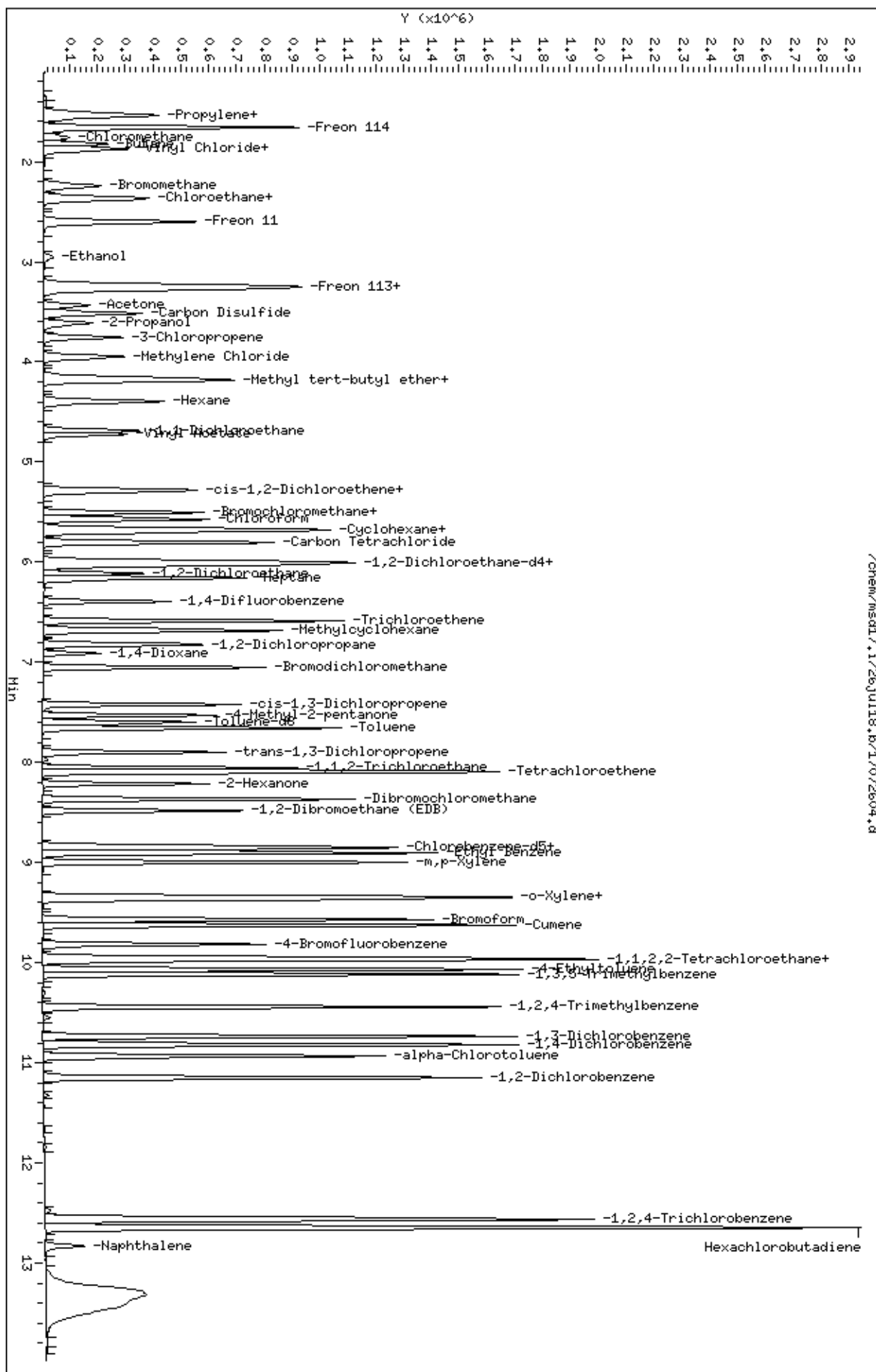
Client ID: LCSD

Sample Info: 100ml 3018-297A

Page 1

Column phase: RTX-624

Instrument: msd17.1
Operator: mjb
Column diameter: 0.25



MSD17

BFB verification of 176/174 ratio: (142080/144384)*100 =98.40%				Method TO-15/TO-14			
IS/Std #:		3045-66	Exp. Date:	SOP # 6		Please check all standards	
BCM		128,867	10/18/2018	Vacuum NA			
1.4-DFB		450,283		Surrogate# : 3045-66		p. Date: 10/18/2018	Exp. Date: NA
CB-DS		413,209		CCV#		3018-273A	p. Date: 9/1/2018
				CCV sp#		3045-54	p. Date: 10/5/2018
				CCV sp#		NA	Exp. Date: NA
				CCL sp#		NA	Exp. Date: NA
				ICS sp#		NA	Exp. Date: NA

Verified CCV vs ICAI mid-point (-40%): mlb

Method: 178Q0613B.m

Use	File #	Sample IDs	Canist.#	Cart. pos	Pressure	Amount	DF	Verify loaded	Loaded Init	Date Analyzed	Time Analyzed	Review Init	
V	17072601	BFB Tune Check	3045-66	10	36Hg	50ml	1.00	mlb	mlb	07/26/18	0932	mlb/gd	Exp: 10/18/18.
V	17072602	CCV	3018-273A	13	50ppbv(100ppbv)	100ml	1.00	mlb	mlb	07/26/18	1010	mlb/gd	Exp: 9/01/18; 0 out
V	17072603	ICS	3018-297A	14	50ppbv(100ppbv)	100ml	1.00	mlb	mlb	07/26/18	1037	mlb/gd	Exp: 9/11/18; 0 out
V	17072604	ICSD	3018-297A	14	50ppbv(100ppbv)	100ml	1.00	mlb	mlb	07/26/18	1103	mlb/gd	Exp: 9/11/18.
V	17072605	TPHg Verify	3045-54	12	50ppbv(200ppbv)	50ml	1.00	mlb	mlb	07/26/18	1142	mlb/gd	Exp: 10/5/18
V	17072606	Lab Blank	23888	10	humid	200ml	1.00	mlb	mlb	07/26/18	1211	mlb/gd	
V	17072607	1807302-01A	111816	1	5.5 Hg>14.9 psi	200ml	2.46	mlb	mlb	07/26/18	1322	mlb/gd	
C	17072608	1807302-04A	01040	2	12 Hg>15.1 psi	200ml	3.38	mlb	mlb	07/26/18	1351	mlb/gd	
V	17072609	1807366-01A	00881	1	4.9 Hg>14.7 psi	200ml	2.39	DF	mlb	07/26/18	1539	DF/gd	
V	17072610	1807366-02A	N3067	2	3.7 Hg>15.1 psi	200ml	2.31	DF	mlb	07/26/18	1607	DF/gd	
V	17072611	1807366-03A	N3111	3	3.5 Hg>15.2 psi	200ml	2.30	DF	mlb	07/26/18	1636	DF/gd	
V	17072612	1807366-04A	00799	4	4.7 Hg>15 psi	200ml	2.40	DF	mlb	07/26/18	1704	DF/gd	
V	17072613	1807366-06A	N3401	5	4.3 Hg>15.1 psi	200ml	2.37	DF	mlb	07/26/18	1733	DF/gd	
V	17072614	1807366-07A	N3099	6	9.8 Hg>15.2 psi	200ml	3.02	DF	mlb	07/26/18	1801	DF/gd	
X	17072615	1807366-08A	111526	7	2.4 Hg>15.2 psi	30ml	14.70	DF	mlb	07/26/18	1827	DF/gd	overdilate
V	17072616	system Blank	23888	10	humid	200ml	1.00	DF	mlb	07/26/18	1855	DF/gd	
V	17072617	1807366-09A	111624	8	4.9 Hg>15.4 psi	30ml	16.30	DF	mlb	07/26/18	1921	DF/gd	dil TC
V	17072618	1807366-10A	3024	9	2.8 Hg>15.4 psi	25ml	18.10	DF	mlb	07/26/18	1947	DF/gd	dil TC
V	17072619	system Blank	32888	10	humid	200ml	1.00	mlb	DF	07/26/18	2227	mlb/gd	Isopentane > RI
V	17072620	1807385-01A	00313	1	6.3 Hg>4.9 psi	200ml	1.69	mlb	DF	07/26/18	2255	mlb/gd	Isopentane NTC
V	17072621	1807385-02A	00161	2	6.9 Hg>5.1 psi	200ml	1.75	mlb	DF	07/26/18	2324	mlb/gd	
V	17072622	1807385-03A	N1772	3	6.3 Hg>5.1 psi	200ml	1.70	mlb	DF	07/26/18	2352	mlb/gd	
V	17072623	1807385-04A	1576	4	29.8 Hg>5 psi	200ml	1.00	mlb	DF	07/27/18	0021	mlb/gd	TB DF=1.00
V	17072624	1807366-08A	111526	7	2.4 Hg>15.2 psi	200ml	2.21	mlb	DF	07/27/18	0049	mlb/gd	
V	17072625	1807359-01A	0663d	5	5.0 Hg>5 psi	200ml	1.61	mlb	DF	07/27/18	0118	mlb/gd	"E" Ethanol
V	17072626	1807359-03A	28594d	6	2.5 Hg>5 psi	200ml	1.46	mlb	DF	07/27/18	0147	mlb/gd	

Qm 2/27/18

Use	File #	Sample ID	Content	Cart pos	Pressure	Amount	Df	Verify Load	Loaded Int	Date Analyzed	Time Analyzed	Review Int	
V	17072627	1807359-02A	0716cl	8	1.0 Hg > 5 psi	200ml	13.90	mjb	DF	07/27/18	0213	mjb/gd	dil TC
V	17072628	system Blank	32888	10	humid	200ml	1.00	mjb	DF	07/27/18	0241	mjb/gd	Isopentane > RL
V	17072629	1807366-05A	N2724	9	4.1 Hg > 14.8 psi	100ml	46.50	mjb	DF	07/27/18	0309	mjb/gd	dil NTC
V	17072630	system Blank	32888	10	humid	200ml	1.00	mjb	DF	07/27/18	0338	mjb/gd	

07/27/18

Eurofins Air Toxics Inc.

Data file : /var/chem/msd17.i/13jun18.b/17061301.d
 Lab Smp Id: BFB Client Smp ID: BFB
 Inj Date : 13-JUN-2018 21:32
 Operator : gh Inst ID: msd17.i
 Smp Info : 1ml 3045-23; BFB30; BFB30
 Misc Info : 36ng
 Comment :
 Method : /var/chem/msd17.i/13jun18.b/bfb30.m
 Meth Date : 13-Jun-2018 21:47 Quant Type: ESTD
 Cal Date : Cal File:
 Als bottle: 12 QC Sample: BFB
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: all.sub
 Target Version: 3.50 Sample Matrix: WATER
 Processing Host: eeyore

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	1.00000	Injection Volume

Cpnd Variable Local Compound Variable

CONCENTRATIONS									
				ON-COL		FINAL			
RT	EXP RT	DLT RT	MASS	RESPONSE	(ug/L)	(ug/L)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
1 bfb					CAS #: 460-00-4				
9.819	9.826	-0.007	95	175434			100.00-	100.00	92.32
9.819	9.826	-0.007	50	28082			8.00-	40.00	16.01
9.819	9.826	-0.007	75	82280			30.00-	66.00	46.90
9.819	9.826	-0.007	96	11476			5.00-	9.00	6.54
9.819	9.826	-0.007	173	0			0.00-	1.99	0.00
9.819	9.826	-0.007	174	190037			50.00-	120.00	108.32
9.819	9.826	-0.007	175	14236			4.00-	9.00	7.49
9.819	9.826	-0.007	176	186624			93.00-	101.00	98.20
9.819	9.826	-0.007	177	12579			5.00-	9.00	6.74

Date : 13-JUN-2018 21:32

Client ID: BFB

Instrument: msd17.i

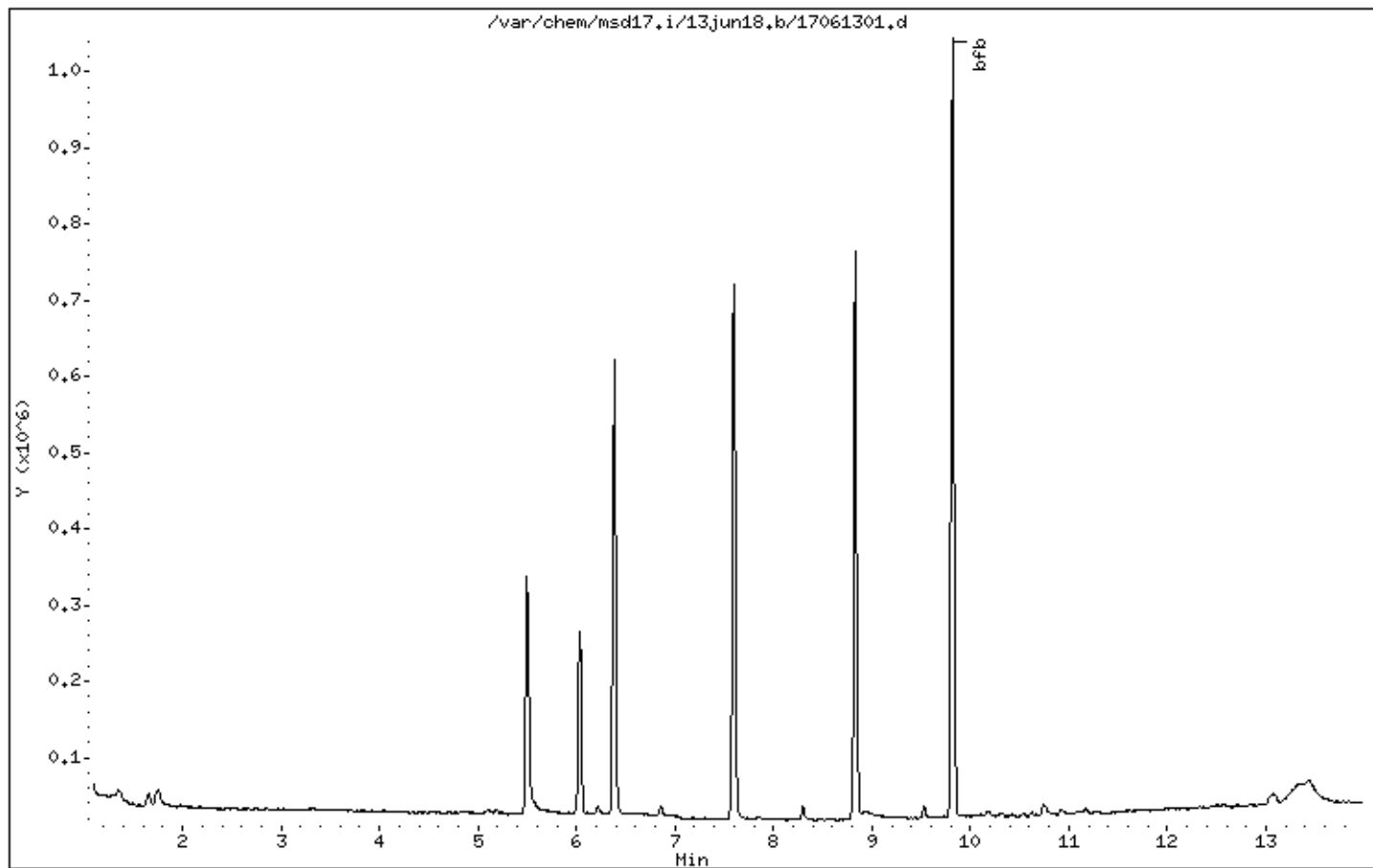
Sample Info: 1ml 3045-23; BFB30; BFB30

Volume Injected (uL): 1.0

Operator: gh

Column phase:

Column diameter: 2.00



Date : 13-JUN-2018 21:32

Client ID: BFB

Instrument: msd17.i

Sample Info: 1ml 3045-23; BFB30; BFB30

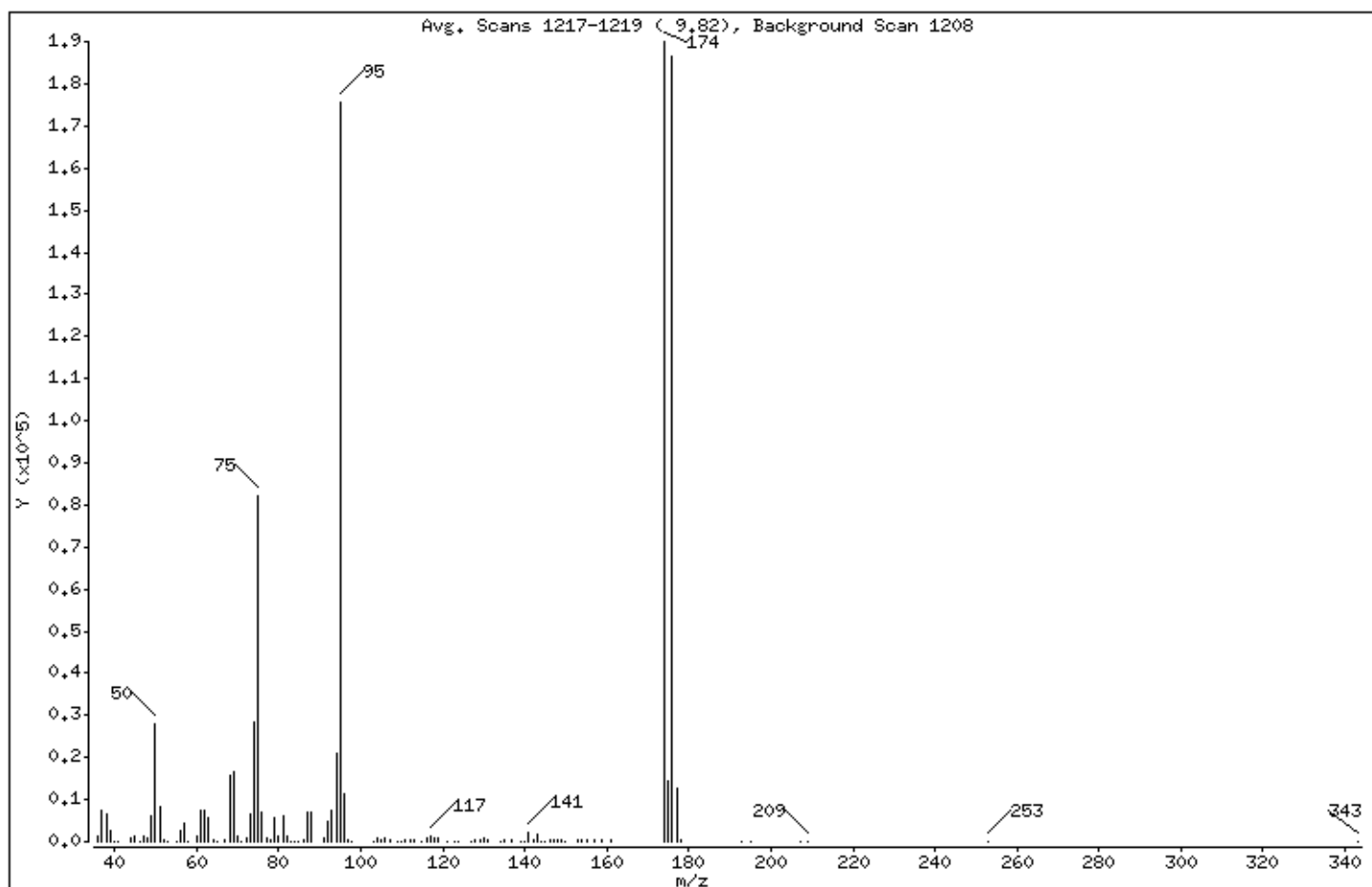
Volume Injected (uL): 1.0

Operator: gh

Column phase:

Column diameter: 2.00

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	16.01
75	30.00 - 66.00% of mass 95	46.90
96	5.00 - 9.00% of mass 95	6.54
173	Less than 1.99% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	108.32
175	4.00 - 9.00% of mass 174	8.11 (7.49)
176	93.00 - 101.00% of mass 174	106.38 (98.20)
177	5.00 - 9.00% of mass 176	7.17 (6.74)

Date : 13-JUN-2018 21:32

Client ID: BFB

Instrument: msd17.i

Sample Info: 1ml 3045-23; BFB30; BFB30

Volume Injected (uL): 1.0

Operator: gh

Column phase:

Column diameter: 2.00

Data File: 17061301.d

Spectrum: Avg. Scans 1217-1219 (9.82), Background Scan 1208

Location of Maximum: 174.00

Number of points: 111

m/z	Y	m/z	Y	m/z	Y	m/z	Y

36.00	1214	69.00	16408	103.00	100	141.00	2054
37.00	7405	70.00	1148	104.00	977	142.00	281
38.00	6567	71.00	69	105.00	274	143.00	1827
39.00	2643	72.00	834	106.00	934	144.00	178
40.00	81	73.00	6688	107.00	409	145.00	189

41.00	5	74.00	28240	109.00	43	146.00	278
44.00	756	75.00	82280	110.00	1	147.00	221
45.00	1205	76.00	7071	111.00	280	148.00	495
46.00	120	77.00	819	112.00	229	149.00	282
47.00	1464	78.00	516	113.00	246	150.00	199

48.00	825	79.00	5677	115.00	92	153.00	275
49.00	6117	80.00	1502	116.00	730	154.00	239
50.00	28080	81.00	6108	117.00	1319	155.00	600
51.00	8509	82.00	1254	118.00	725	157.00	395
52.00	452	83.00	163	119.00	898	159.00	274

53.00	78	84.00	44	121.00	217	161.00	297
55.00	182	85.00	3	123.00	156	174.00	190016
56.00	2733	86.00	270	124.00	119	175.00	14236
57.00	4553	87.00	6913	127.00	66	176.00	186624
58.00	78	88.00	6890	128.00	613	177.00	12579

60.00	1418	91.00	820	129.00	422	178.00	350
61.00	7384	92.00	4656	130.00	735	193.00	104
62.00	7214	93.00	7340	131.00	242	195.00	59
63.00	5670	94.00	21120	134.00	123	207.00	75
64.00	626	95.00	175424	135.00	387	209.00	115

65.00	177	96.00	11476	137.00	419	253.00	85
67.00	524	97.00	296	139.00	104	343.00	7
68.00	15892	98.00	171	140.00	173		

US32APPTV002

Data file : /chem/msd17.i/23jul18.b/17072301.d
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 23-JUL-2018 08:39
Operator : gh Inst ID: msd17.i
Smp Info : 1ml 3045-66
Misc Info : 36ng
Comment :
Method : /chem/msd17.i/23jul18.b/bfb30.m
Meth Date : 25-Jul-2018 19:46 ugvh Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 8 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * Uf * Vf * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor

Cpnd Variable Local Compound Variable

CONCENTRATIONS									
				ON-COL		FINAL			
RT	EXP RT	DLT RT	MASS	RESPONSE	(ug/L)	(ug/L)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	=====	=====	
1 bfb				CAS #: 460-00-4					
9.819	9.826	-0.007	95	135170			100.00- 100.00	88.51	
9.819	9.826	-0.007	50	21768			8.00- 40.00	16.10	
9.819	9.826	-0.007	75	64059			30.00- 66.00	47.39	
9.819	9.826	-0.007	96	9292			5.00- 9.00	6.87	
9.819	9.826	-0.007	173	0			0.00- 1.99	0.00	
9.819	9.826	-0.007	174	152725			50.00- 120.00	112.99	
9.819	9.826	-0.007	175	11533			4.00- 9.00	7.55	
9.819	9.826	-0.007	176	148885			93.00- 101.00	97.49	
9.819	9.826	-0.007	177	9533			5.00- 9.00	6.40	

Date : 23-JUL-2018 08:39

Client ID: BFB

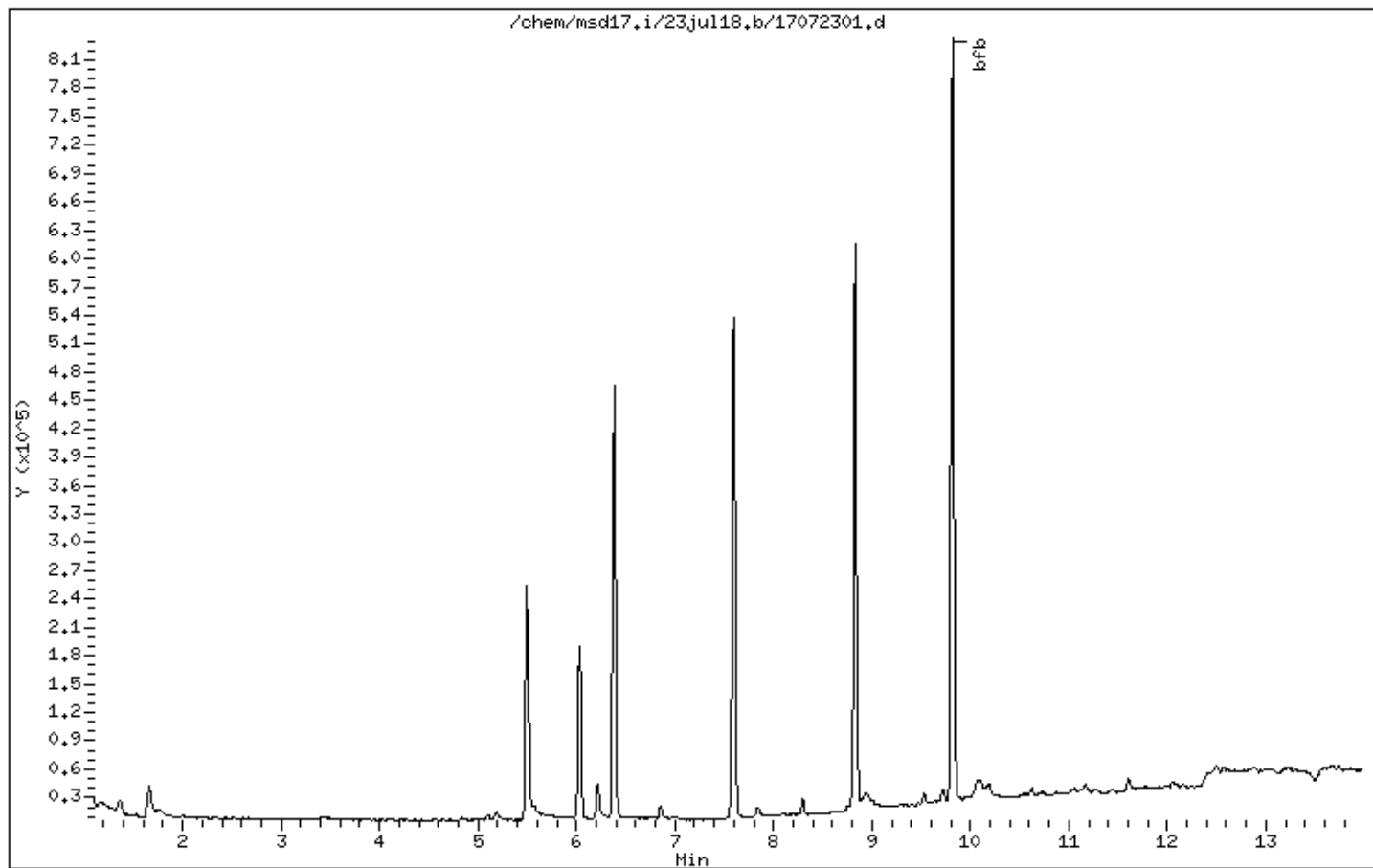
Instrument: msd17.i

Sample Info: 1ml 3045-66

Operator: gh

Column phase:

Column diameter: 2.00



Date : 23-JUL-2018 08:39

Client ID: BFB

Instrument: msd17.i

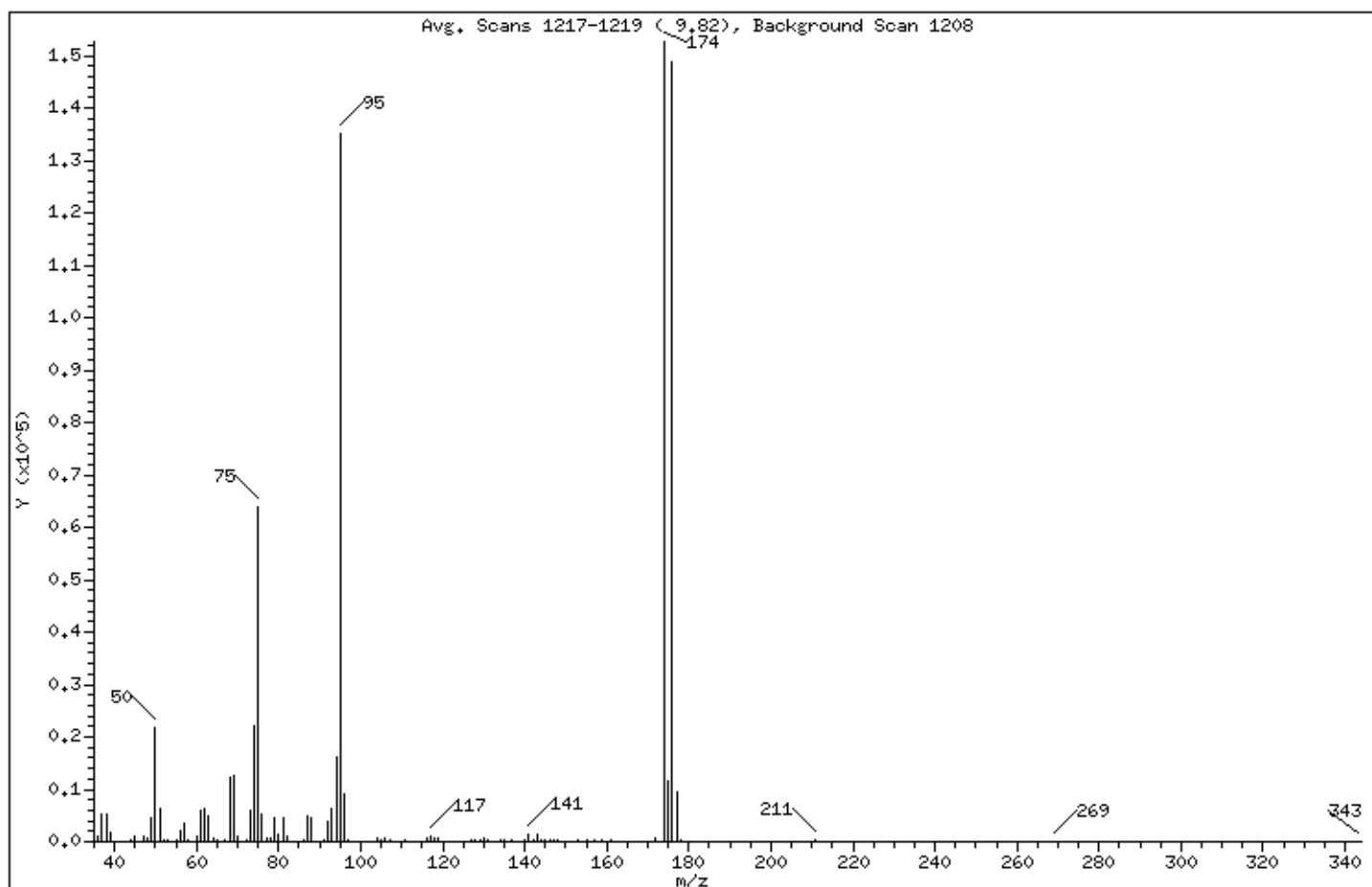
Sample Info: 1ml 3045-66

Operator: gh

Column phase:

Column diameter: 2.00

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	16.10
75	30.00 - 66.00% of mass 95	47.39
96	5.00 - 9.00% of mass 95	6.87
173	Less than 1.99% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	112.99
175	4.00 - 9.00% of mass 174	8.53 (7.55)
176	93.00 - 101.00% of mass 174	110.15 (97.49)
177	5.00 - 9.00% of mass 176	7.05 (6.40)

Date : 23-JUL-2018 08:39

Client ID: BFB

Instrument: msd17.i

Sample Info: 1ml 3045-66

Operator: gh

Column phase:

Column diameter: 2.00

Data File: 17072301.d

Spectrum: Avg. Scans 1217-1219 (9.82), Background Scan 1208

Location of Maximum: 174.00

Number of points: 109

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	896	66.00	167	97.00	425	141.00	1415
37.00	5299	67.00	319	98.00	167	142.00	255
38.00	5120	68.00	12441	99.00	15	143.00	1293
39.00	1884	69.00	12702	104.00	635	144.00	221
40.00	20	70.00	987	105.00	280	145.00	190
41.00	54	71.00	121	106.00	748	146.00	253
43.00	29	72.00	525	107.00	189	147.00	190
44.00	344	73.00	5901	109.00	100	148.00	404
45.00	893	74.00	21944	111.00	319	150.00	115
46.00	103	75.00	64056	112.00	136	153.00	204
47.00	995	76.00	5348	113.00	116	155.00	333
48.00	707	77.00	692	115.00	112	156.00	105
49.00	4674	78.00	606	116.00	558	157.00	304
50.00	21768	79.00	4518	117.00	937	159.00	308
51.00	6342	80.00	1248	118.00	575	161.00	209
52.00	396	81.00	4668	119.00	850	172.00	561
53.00	203	82.00	1204	124.00	51	174.00	152704
54.00	132	83.00	131	125.00	50	175.00	11533
55.00	372	85.00	66	127.00	202	176.00	148864
56.00	1940	86.00	238	128.00	521	177.00	9533
57.00	3608	87.00	5044	129.00	233	178.00	266
58.00	273	88.00	4730	130.00	539	211.00	196
60.00	1225	91.00	506	131.00	247	269.00	131
61.00	5878	92.00	3949	134.00	226	270.00	80
62.00	6165	93.00	6205	135.00	226	343.00	52
63.00	4777	94.00	16140	137.00	293		
64.00	604	95.00	135168	139.00	112		
65.00	280	96.00	9292	140.00	190		

US32APPTV002

Data file : /chem/msd17.i/26jul18.b/17072601.d
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 26-JUL-2018 09:32
Operator : mjb Inst ID: msd17.i
Smp Info : 50ml 3045-66;BFB Tune Check
Misc Info : 36ng
Comment :
Method : /chem/msd17.i/26jul18.b/bfb30.m
Meth Date : 25-Jul-2018 19:27 ugvh Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 10 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: WATER
Processing Host: us32apptv003

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	1.00000	Injection Volume

Cpnd Variable Local Compound Variable

CONCENTRATIONS									
				ON-COL		FINAL			
RT	EXP RT	DLT RT	MASS	RESPONSE	(ug/L)	(ug/L)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
1 bfb				CAS #: 460-00-4					
9.819	9.826	-0.007	95	127626			100.00-	100.00	88.38
9.819	9.826	-0.007	50	21034			8.00-	40.00	16.48
9.819	9.826	-0.007	75	62040			30.00-	66.00	48.61
9.819	9.826	-0.007	96	8291			5.00-	9.00	6.50
9.819	9.826	-0.007	173	0			0.00-	1.99	0.00
9.819	9.826	-0.007	174	144405			50.00-	120.00	113.15
9.819	9.826	-0.007	175	10135			4.00-	9.00	7.02
9.819	9.826	-0.007	176	142101			93.00-	101.00	98.40
9.819	9.826	-0.007	177	9488			5.00-	9.00	6.68

Date : 26-JUL-2018 09:32

Client ID: BFB

Instrument: msd17.i

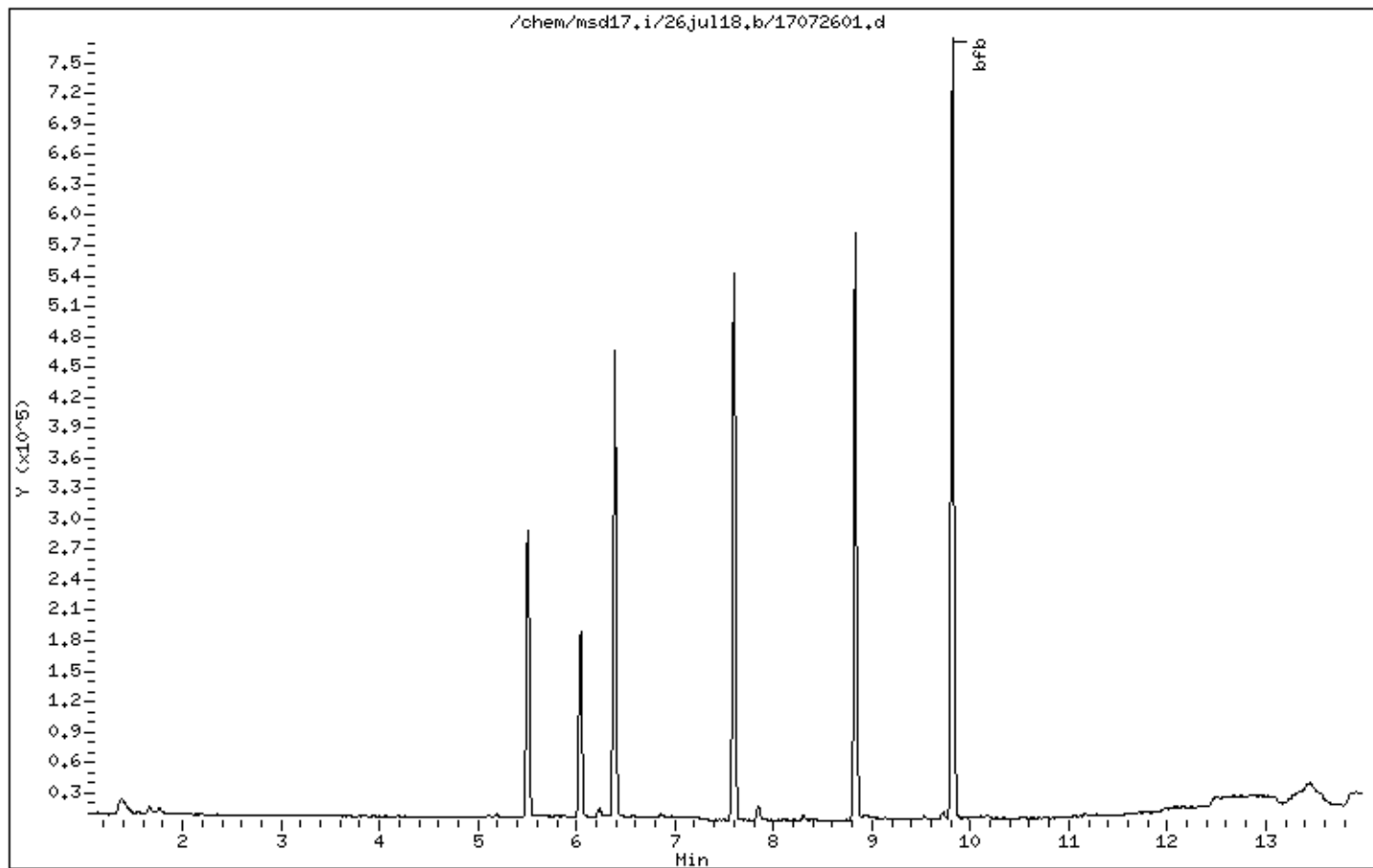
Sample Info: 50ml 3045-66;BFB Tune Check

Volume Injected (uL): 1.0

Operator: mjb

Column phase:

Column diameter: 2.00



Date : 26-JUL-2018 09:32

Client ID: BFB

Instrument: msd17.i

Sample Info: 50ml 3045-66;BFB Tune Check

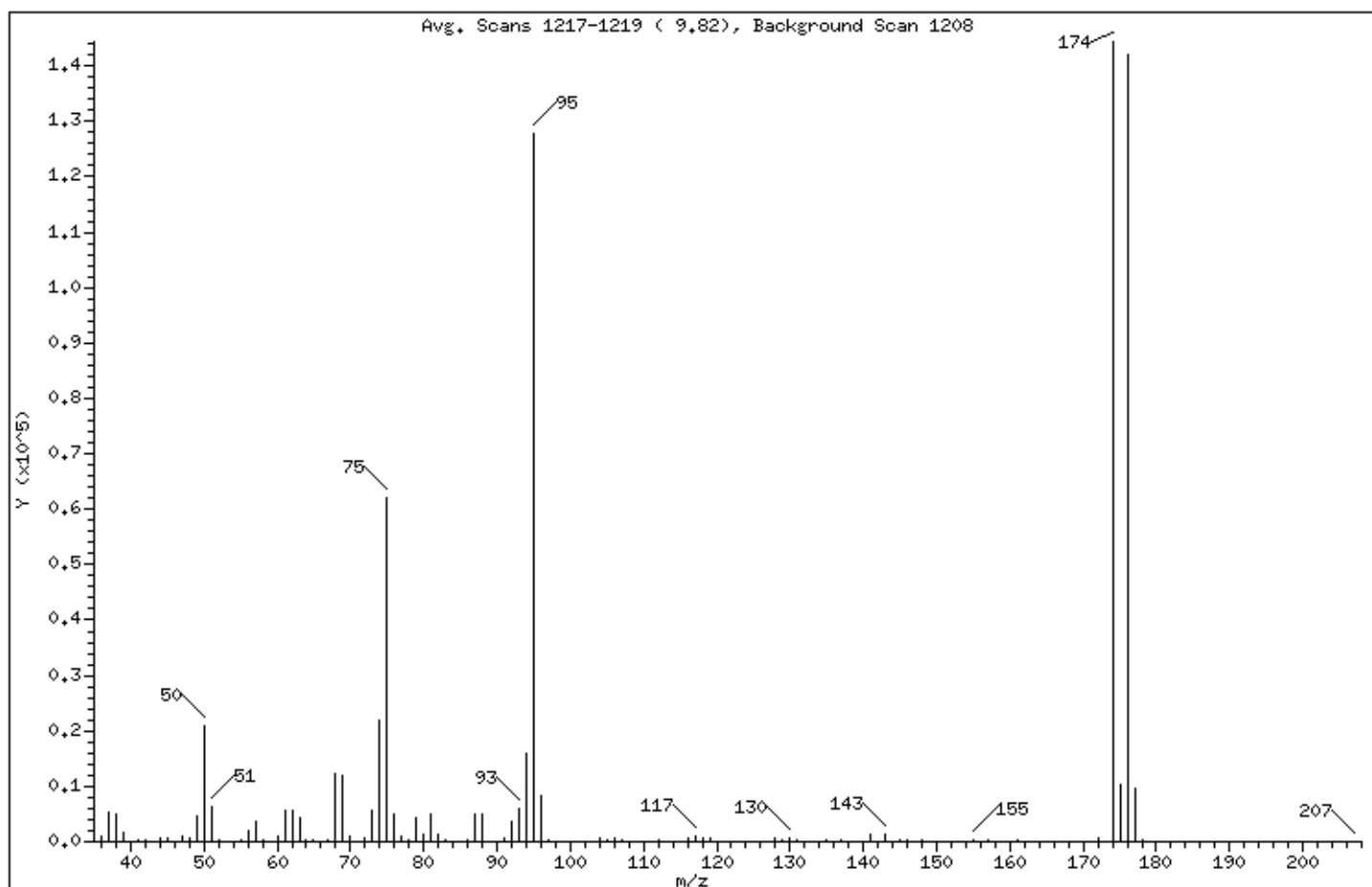
Volume Injected (uL): 1.0

Operator: mjb

Column phase:

Column diameter: 2.00

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	16.48
75	30.00 - 66.00% of mass 95	48.61
96	5.00 - 9.00% of mass 95	6.50
173	Less than 1.99% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	113.15
175	4.00 - 9.00% of mass 174	7.94 (7.02)
176	93.00 - 101.00% of mass 174	111.34 (98.40)
177	5.00 - 9.00% of mass 176	7.43 (6.68)

Date : 26-JUL-2018 09:32

Client ID: BFB

Instrument: msd17.i

Sample Info: 50ml 3045-66;BFB Tune Check

Volume Injected (uL): 1.0

Operator: mjb

Column phase:

Column diameter: 2.00

Data File: 17072601.d

Spectrum: Avg. Scans 1217-1219 (9.82), Background Scan 1208

Location of Maximum: 174.00

Number of points: 91

m/z	Y	m/z	Y	m/z	Y	m/z	Y

36.00	855	63.00	4422	92.00	3718	137.00	244
37.00	5259	64.00	390	93.00	5918	141.00	1208
38.00	4963	65.00	398	94.00	15830	142.00	54
39.00	1563	67.00	358	95.00	127624	143.00	1357
40.00	162	68.00	12401	96.00	8291	145.00	245

41.00	185	69.00	11950	97.00	339	146.00	229
42.00	187	70.00	1089	104.00	640	148.00	313
43.00	28	72.00	751	105.00	228	150.00	126
44.00	639	73.00	5490	106.00	607	153.00	131
45.00	818	74.00	21776	107.00	245	155.00	443

47.00	1147	75.00	62040	111.00	119	156.00	56
48.00	674	76.00	5044	112.00	205	157.00	306
49.00	4551	77.00	949	115.00	157	158.00	111
50.00	21032	78.00	460	116.00	535	159.00	114
51.00	6141	79.00	4395	117.00	882	161.00	176

52.00	294	80.00	1443	118.00	537	172.00	818
55.00	457	81.00	4916	119.00	821	174.00	144384
56.00	1953	82.00	1338	121.00	52	175.00	10135
57.00	3756	83.00	250	128.00	524	176.00	142080
58.00	181	86.00	214	129.00	258	177.00	9488

60.00	1079	87.00	5053	130.00	553	178.00	276
61.00	5523	88.00	5124	131.00	252	207.00	4
62.00	5612	91.00	669	135.00	236		

Shipping/ Receiving Documents

Eurofins Air Toxics, Inc. Sample Receipt Confirmation Cover Page

Thank you for choosing Eurofins Air Toxics, Inc. (EATL). We have received your samples and have listed any Sample Receipt Discrepancies below.

In order to expedite analysis and reporting, please review the attached information for accuracy.

For corrections call: **Air Toxics, Ltd. at 916-985-1000**

EATL will proceed with the analysis as specified on the Chain of Custody (COC) and Sample Receipt Summary page.

Please note : The Sample Receipt Confirmation, including the total workorder charge, is subject to change upon secondary review. Our aim is to provide a confirmation to you in a timely manner. Sample Receipt Discrepancies, if any, may not include discrepancies regarding sample receipt pressure(s). Additionally, the COC will be provided with the final report.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

**(916) 985-1000 .FAX (916) 985-1020
Hours 6:30 A.M to 5:30 P.M. PST**



Special Handling:
☐ Standard TAT - 7 to 10 business days
☐ Rush TAT - Date Needed: _____

- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.

Revised Jan 2016

SAMPLE RECEIPT SUMMARY

WORKORDER 1807359A

Client

Ms. Kathy Willy
GHD
2055 Niagara Falls Blvd.
Suite Three
Niagara Falls, NY 14304

Phone

716-297-6150

Fax

716-297-6296

Date Promised: 07/30/18 2:00 pm

Date Completed: 7/27/18

Date Received: 7/23/18

PO#: 256-402-D02-3100

Project#:

Total \$: \$ 375.00

Logged By: JCW

Sales Rep: SP

<u>Fraction</u>	<u>Sample #</u>	<u>Analysis</u>	<u>Collected</u>	<u>Receipt Vac./Pres.</u>	<u>Amount\$</u>
01A	SSDS-2	TO-15	7/18/2018	5.0 "Hg	\$125.00
02A	SV-1	TO-15	7/11/2018	1.0 "Hg	\$125.00
03A	SSDS-1	TO-15	7/11/2018	2.5 "Hg	\$125.00
04A	Lab Blank	TO-15	NA	NA	\$0.00
05A	CCV	TO-15	NA	NA	\$0.00
06A	LCS	TO-15	NA	NA	\$0.00
06AA	LCSD	TO-15	NA	NA	\$0.00

Note: Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: Hicksville/22832

BILL TO: Ms. Kathy Willy
GHD
2055 Niagara Falls Blvd.
Suite Three
Niagara Falls, NY 14304

Analysis Code: TO-14A

TERMS: PWP-NTE 120

Reporting Method: TO-15

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

Other Records

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Vacuum}} = \frac{14.7\text{psi} + \text{Final Pressure (psi)}}{14.7\text{psi} - [\text{Init. Pressure ("Hg)} * (14.7\text{psi}/30\text{"Hg})]}$$

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Pressure}} = \frac{14.7\text{psi} + \text{Final Pressure (psi)}}{14.7\text{psi} + \text{Initial Pressure (psi)}}$$

	5 psi	15 psi
Initial Vacuum (" of Hg)	Final Pressure Dilution Factor	Final Pressure Dilution Factor
0.0	1.34	2.02
0.2	1.35	2.03
0.4	1.36	2.05
0.5	1.36	2.05
0.6	1.37	2.06
0.8	1.38	2.08
1.0	1.39	2.09
1.2	1.40	2.10
1.4	1.40	2.12
1.5	1.41	2.13
1.6	1.42	2.13
1.8	1.42	2.15
2.0	1.44	2.16
2.2	1.45	2.18
2.4	1.46	2.20
2.5	1.46	2.20
2.6	1.47	2.21
2.8	1.48	2.23
3.0	1.49	2.24
3.2	1.50	2.26
3.4	1.51	2.28
3.5	1.52	2.29
3.6	1.52	2.30
3.8	1.53	2.31
4.0	1.55	2.33
4.2	1.56	2.35
4.4	1.57	2.37
4.5	1.58	2.38
4.6	1.58	2.39
4.8	1.60	2.40
5.0	1.61	2.42
5.2	1.62	2.44
5.4	1.63	2.46
5.5	1.64	2.47
5.6	1.65	2.48
5.8	1.66	2.50
6.0	1.68	2.52
6.2	1.69	2.55
6.4	1.70	2.57
6.5	1.71	2.58
6.6	1.72	2.59
6.8	1.73	2.61
7.0	1.75	2.64
7.2	1.76	2.66
7.4	1.78	2.68
7.5	1.79	2.69
7.6	1.79	2.70

	5 psi	15 psi
Initial Vacuum (" of Hg)	Final Pressure Dilution Factor	Final Pressure Dilution Factor
7.7	1.80	2.72
7.8	1.81	2.73
8.0	1.83	2.76
8.2	1.84	2.78
8.4	1.86	2.81
8.5	1.87	2.82
8.6	1.88	2.83
8.8	1.90	2.86
9.0	1.91	2.89
9.2	1.93	2.91
9.4	1.95	2.94
9.5	1.96	2.96
9.6	1.97	2.97
9.8	1.99	3.00
10.0	2.01	3.03
10.2	2.03	3.06
10.4	2.05	3.09
10.5	2.06	3.11
10.6	2.07	3.12
10.8	2.09	3.16
11.0	2.12	3.19
11.2	2.14	3.22
11.4	2.16	3.26
11.5	2.17	3.28
11.6	2.18	3.29
11.8	2.21	3.33
12.0	2.23	3.37
12.2	2.26	3.40
12.4	2.28	3.44
12.5	2.30	3.46
12.6	2.31	3.48
12.8	2.34	3.52
13.0	2.36	3.56
13.2	2.39	3.61
13.4	2.42	3.65
13.5	2.44	3.67
13.6	2.45	3.70
13.8	2.48	3.74
14.0	2.51	3.79
14.2	2.54	3.84
14.4	2.58	3.88
14.5	2.59	3.91
14.6	2.61	3.94
14.8	2.64	3.99
15.0	2.68	4.04
15.2	2.72	4.10
15.4	2.75	4.15

Initial Vacuum (" of Hg)	5 psi Final Pressure Dilution Factor	15 psi Final Pressure Dilution Factor
15.5	2.77	4.18
15.6	2.79	4.21
15.8	2.83	4.27
16.0	2.87	4.33
16.2	2.91	4.39
16.4	2.96	4.46
16.5	2.98	4.49
16.6	3.00	4.52
16.8	3.05	4.59
17.0	3.09	4.66
17.2	3.14	4.74
17.4	3.19	4.81
17.5	3.22	4.85
17.6	3.24	4.89
17.8	3.30	4.97
18.0	3.35	5.05
18.2	3.41	5.14
18.4	3.47	5.22
18.5	3.50	5.27
18.6	3.53	5.32
18.8	3.59	5.41
19.0	3.65	5.51
19.2	3.72	5.61
19.4	3.79	5.72
19.5	3.83	5.77
19.6	3.87	5.83
19.8	3.94	5.94
20.0	4.02	6.06
20.2	4.10	6.18
20.4	4.19	6.31
20.5	4.23	6.38
20.6	4.28	6.45
20.8	4.37	6.59
21.0	4.47	6.73
21.2	4.57	6.89
21.4	4.67	7.05
21.5	4.73	7.13
21.6	4.79	7.22
21.8	4.90	7.39
22.0	5.03	7.58
22.4	5.29	7.98

Initial Vacuum (" of Hg)	5 psi Final Pressure Dilution Factor	15 psi Final Pressure Dilution Factor
22.5	5.36	8.08
22.6	5.43	8.19
22.8	5.58	8.42
23.0	5.74	8.66
23.2	5.91	8.91
23.4	6.09	9.18
23.5	6.19	9.32
23.6	6.28	9.47
23.8	6.48	9.78
24.0	6.70	10.10
24.2	6.93	10.45
24.4	7.18	10.82
24.5	7.31	11.02
24.6	7.45	11.22
24.8	7.73	11.66
25.0	8.04	12.12
25.2	8.38	12.63
25.4	8.74	13.18
25.5	8.93	13.47
25.6	9.14	13.78
25.8	9.57	14.43
26.0	10.05	15.15
26.2	10.58	15.95
26.4	11.17	16.84
26.5	11.49	17.32
26.6	11.82	17.83
26.8	12.56	18.94
27.0	13.40	20.20
27.2	14.36	21.65
27.4	15.46	23.31
27.5	16.08	24.24
27.6	16.75	25.26
27.8	18.27	27.55
28.0	20.10	30.31
28.2	22.34	33.67
28.4	25.13	37.88
28.5	26.80	40.41
28.6	28.72	43.29
28.8	33.50	50.51
29.0	40.20	60.61

Compound List

TO-15

CAS Number	Compound	Detection Limit	Type
		ppbv	
75-71-8	Freon 12	0.50	
76-14-2	Freon 114	0.50	
67-64-1	Acetone	5.0	
67-63-0	2-Propanol	2.0	
75-15-0	Carbon Disulfide	2.0	
107-05-1	3-Chloropropene	2.0	
75-09-2	Methylene Chloride	5.0	
1634-04-4	Methyl tert-butyl ether	2.0	
156-60-5	trans-1,2-Dichloroethene	0.50	
110-54-3	Hexane	0.50	
75-34-3	1,1-Dichloroethane	0.50	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	2.0	
156-59-2	cis-1,2-Dichloroethene	0.50	
109-99-9	Tetrahydrofuran	0.50	
67-66-3	Chloroform	0.50	
71-55-6	1,1,1-Trichloroethane	0.50	
110-82-7	Cyclohexane	0.50	
56-23-5	Carbon Tetrachloride	0.50	
540-84-1	2,2,4-Trimethylpentane	0.50	
71-43-2	Benzene	0.50	
107-06-2	1,2-Dichloroethane	0.50	
142-82-5	Heptane	0.50	
79-01-6	Trichloroethene	0.50	
78-87-5	1,2-Dichloropropane	0.50	
123-91-1	1,4-Dioxane	2.0	
75-27-4	Bromodichloromethane	0.50	
10061-01-5	cis-1,3-Dichloropropene	0.50	
108-10-1	4-Methyl-2-pentanone	0.50	
108-88-3	Toluene	0.50	
10061-02-6	trans-1,3-Dichloropropene	0.50	
79-00-5	1,1,2-Trichloroethane	0.50	
127-18-4	Tetrachloroethene	0.50	
591-78-6	2-Hexanone	2.0	
124-48-1	Dibromochloromethane	0.50	
106-93-4	1,2-Dibromoethane (EDB)	0.50	
108-90-7	Chlorobenzene	0.50	
100-41-4	Ethyl Benzene	0.50	
108-38-3	m,p-Xylene	0.50	
95-47-6	o-Xylene	0.50	
100-42-5	Styrene	0.50	
75-25-2	Bromoform	0.50	
98-82-8	Cumene	0.50	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	
103-65-1	Propylbenzene	0.50	
622-96-8	4-Ethyltoluene	0.50	
108-67-8	1,3,5-Trimethylbenzene	0.50	

Compound List

TO-15

CAS Number	Compound	Detection Limit	Type
		ppbv	
95-63-6	1,2,4-Trimethylbenzene	0.50	
541-73-1	1,3-Dichlorobenzene	0.50	
106-46-7	1,4-Dichlorobenzene	0.50	
100-44-7	alpha-Chlorotoluene	0.50	
95-50-1	1,2-Dichlorobenzene	0.50	
120-82-1	1,2,4-Trichlorobenzene	2.0	
87-68-3	Hexachlorobutadiene	2.0	
2037-26-5	Toluene-d8		
17060-07-0	1,2-Dichloroethane-d4		
460-00-4	4-Bromofluorobenzene		
74-87-3	Chloromethane	5.0	
75-01-4	Vinyl Chloride	0.50	
106-99-0	1,3-Butadiene	0.50	
74-83-9	Bromomethane	5.0	
75-00-3	Chloroethane	2.0	
75-69-4	Freon 11	0.50	
64-17-5	Ethanol	2.0	
76-13-1	Freon 113	0.50	
75-35-4	1,1-Dichloroethene	0.50	

Eurofins Air Toxics, Inc.		Data Review Checklist		Release Date: 11/21/17
Workorder # 1807359A		Form F1.27	Revision #15	Revision Date: 11/21/17
				Page 1 of 2

S	S	S	S	D	Section 1 – Spec Out				
1	2	3	4		Initials/Instrument/Date	S1: MJB MSD17 7/27/18	S2:	S3:	S4:
✓					Project Identification (PID), Project Requirements Table (PRT), Daily QC and ICAL met Criteria				
✓					Lumen QC and ICAL evaluation (ref. SOP/Method) report initialed and in folder				
NA	✓				Manual Integrations included and approved				
✓					Chain of Custody verified for special comments (add comments below)				
NA	✓				Non-standard Target sublist verified (MDL, LOD, RL, control limits, etc.)				
✓					Verified standard expiration dates				
Profile, analyses, reporting, special notes and unusual circumstances: S1: Zero Out, J-Flag to MDL									

A	A	A	A	D	Section 2 – Sample Analysis				
1	2	3	4		Initials/Date	A1: MJB 7/27/18	A2:	A3:	A4:
✓					IS/Surr Recoveries, Dilution Factors, Load Volumes, leg(s) of instrument, Initial/Final Pressures, Canister #s Verified and dilution ranges are met per SOP (ex. Over-ranged/overdiluted)				
NA	✓				a) Tedlar Bag IDs verified against COC b) Tedlar Bag ID confirmed with loading sequence/leg(s) of instrument				
NA	✓				Manual Integrations/Bag or Can Dilution Forms/Re-pressurization Forms/Bag-Can Transfer Forms present (circle all that apply)				
✓					12/24 Hr clock time & Hold Time met for all samples				
✓					Re-analysis of sample(s) has been evaluated for comparability and/or sample(s) has/have been checked for trends (Inf/Eff), field dups/trip blanks, samples following bad loads on CIAAs have been verified (system blks, confirmation runs).				
✓					All runs have been evaluated for potential carry-over (TPHg/non-Target/over-range compounds/ etc.)				
Analytical and special notes: A1: 01A, 03A Full load. 02A DITC									

D	D	D	D	T	3	Section 3 – Target Data Reduction		Technical Review Needed?		T:
1	2	3	4			Initials/Instrument/Date		D1: MSD-17 MJB 7/27/18	D2:	D3:
NA	✓					CAR #		(if applicable)		
✓						Spectra Verified (documentation of spectral defense included if applicable)				
✓						TICs resemble reference spectra/ TICs between sample dups. are consistent (if applicable)				
✓						Lab Narrative is correct				
NA	✓					TPH/NMOC calculations complete and included in folder				
Special notes:										

		A	3	Section 4- Atlas Data Entry		Lumen verified and included in folder		Circle one: Yes/No	
			T	Initials/Date: MJB 7/27/18		3 rd Tier: (needed only for DOD or per client request)			
NA	✓	Sample Discrepancy Report (SDR) complete and approved (if applicable)							
NA	✓	Manually entered results are checked							
✓		At least one result per sample is verified against Target quant sheets							
✓		Appropriate data qualifier flags are applied							
✓		Final Invoice is correct/ Final PDF report, COC and EDD reviewed and correct							
Special Notes:									

Note (1) Please check all the appropriate boxes. Indicate "NA" for any statement that doesn't apply
Note (2) 3rd Tier Report Reviewer and Write Up Reviewer must be separate individuals for DaD & Client Specific Projects

Eurofins Air Toxics, Inc. Reissued	Data Review Checklist			Release Date: 11/21/17
	Form F1.27	Revision #15	Revision Date: 11/21/17	Page 2 of 2

Workorder # :				Reason for Reissue:
W	T	3T	Q	
				Reissue Request form Present
				Client or QA or Lab contact present with reason for reissue
				Review all affected data
				Report header has correct R1, R2 etc
				The Lab Narrative clearly explains the reissue (Date, Reason and whether client requested)
				Date for Reissue in Report Header matches date in Lab Narrative
				Check Project Profile for correct reporting instructions (multiple clients, # hardcopies, etc)
				Corrective Action issued - #
				The reissued workorder has been approved by QA Manager or a Technical Director
Additional Comments:				
Write Up (Initials/Date)		Tech Review (Initials/Date)		*3rd Tier Review <i>* 3rd Tier Report Review is for DoD & Client Specific projects only</i> (Initials/Date)
				QA Review (Initials/Date)

Workorder # :				Reason for Reissue:
W	T	3T	Q	
				Reissue Request form Present
				Client or QA or Lab contact present with reason for reissue
				Review all affected data
				Report header has correct R1, R2 etc
				The Lab Narrative clearly explains the reissue (Date, Reason and whether client requested)
				Date for Reissue in Report Header matches date in Lab Narrative
				Check Project Profile for correct reporting instructions (multiple clients, # hardcopies, etc)
				Corrective Action issued - #
				The reissued workorder has been approved by QA Manager or a Technical Director
Additional Comments:				
Write Up (Initials/Date)		Tech Review (Initials/Date)		*3rd Tier Review <i>* 3rd Tier Report Review is for DoD & Client Specific projects only</i> (Initials/Date)
				QA Review (Initials/Date)

Note (1) Please check all the appropriate boxes. Indicate "NA" for any statement that doesn't apply

Note (2) 3rd Tier Report Reviewer and Write Up Reviewer must be separate individuals for DoD & Client Specific Projects

Not Applicable

Electronic Comprehensive Validation Package (eCVP)

COMPREHENSIVE VALIDATION PACKAGE

Modified ASTM D-1946

INVENTORY SHEET

Work Order #: 1807359B

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b. Target Compound Raw Data		
-Internal Standard Area and Retention Time Summary		
-Surrogate Recovery Summary (If Applicable)		
-Chromatogram(s) and Ion Profiles (If Applicable)		
3. QC Results and Raw Data		
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c. Internal Standard Summary Form (If Applicable)	--	--
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Comments:

Completed by:

Vera Belitsky

Vera Belitsky / Document Control

8/7/18

(Signature)

(Print Name & Title)

(Date)

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WORK ORDER #: 1807359B

Work Order Summary

CLIENT:	Ms. Kathy Willy GHD 2055 Niagara Falls Blvd. Suite Three Niagara Falls, NY 14304	BILL TO:	Ms. Kathy Willy GHD 2055 Niagara Falls Blvd. Suite Three Niagara Falls, NY 14304
PHONE:	716-297-6150	P.O. #	256-402-D02-3100
FAX:	716-297-6296	PROJECT #	
DATE RECEIVED:	07/23/2018	CONTACT:	Rachel Selenis
DATE COMPLETED:	07/28/2018		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
02A	SV-1	Modified ASTM D-1946	1.0 "Hg	5 psi
03A	Lab Blank	Modified ASTM D-1946	NA	NA
04A	LCS	Modified ASTM D-1946	NA	NA
04AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY:



Technical Director

DATE: 07/28/18

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

Eurofins Air Toxics Inc., certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified ASTM D-1946
GHD
Workorder# 1807359B

One Client Canister sample was received on July 23, 2018. The laboratory performed analysis via Modified ASTM Method D-1946 for Helium in air using GC/TCD. The method involves direct injection of 1.0 mL of sample.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	ASTM D-1946	ATL Modifications
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A minimum of 5-point calibration curve is performed. Quantitation is based on average Response Factor.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections $> 5 \times$ the RL.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the detection limit.

M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Table 1

Client Sample ID	Lab Sample ID	Date Collected	Date Received	Date Extracted	Sample	Sample Extract		Sample Condition
					Holding Time (Days)	Date Analyzed	Holding Time (Days)	
SV-1	1807359B-02A	7/11/2018	7/23/2018	NA	16	7/27/2018	NA	Good
Lab Blank	1807359B-03A	NA	NA	NA	NA	7/27/2018	NA	Good
LCS	1807359B-04A	NA	NA	NA	NA	7/27/2018	NA	Good
LCSD	1807359B-04AA	NA	NA	NA	NA	7/27/2018	NA	Good

Sample Results and Raw Data

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946



Client ID:	SV-1	Date/Time Analyzed:	7/27/18 07:05 PM
Lab ID:	1807359B-02A	Dilution Factor:	1.39
Date/Time Collecte	7/11/18 11:00 AM	Instrument/File name:	gc10.i / 10072718c
Media:	Client Canister		

Compound	CAS#	MDL (%)	LOD (%)	Rpt. Limit (%)	Amount (%)
Helium	7440-59-7	0.0044	0.010	0.070	Not Detected

US32APPTV002

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/27Jul2018.b/10072718c.d
Lab Smp Id: 1807359B-02A
Inj Date : 27-JUL-2018 19:05
Operator : mjs
Smp Info :
Misc Info : 0716,1.0"Hg>5.0psi
Comment : GC/TCD
Method : /chem/gc10.i/27Jul2018.b/107n1213.m/108C0420.m/108C0222.m
Meth Date : 27-Jul-2018 08:56 ugdc
Cal Date : 22-FEB-2018 19:46
Als bottle: 1
Dil Factor: 1.39000
Integrator: HP Genie

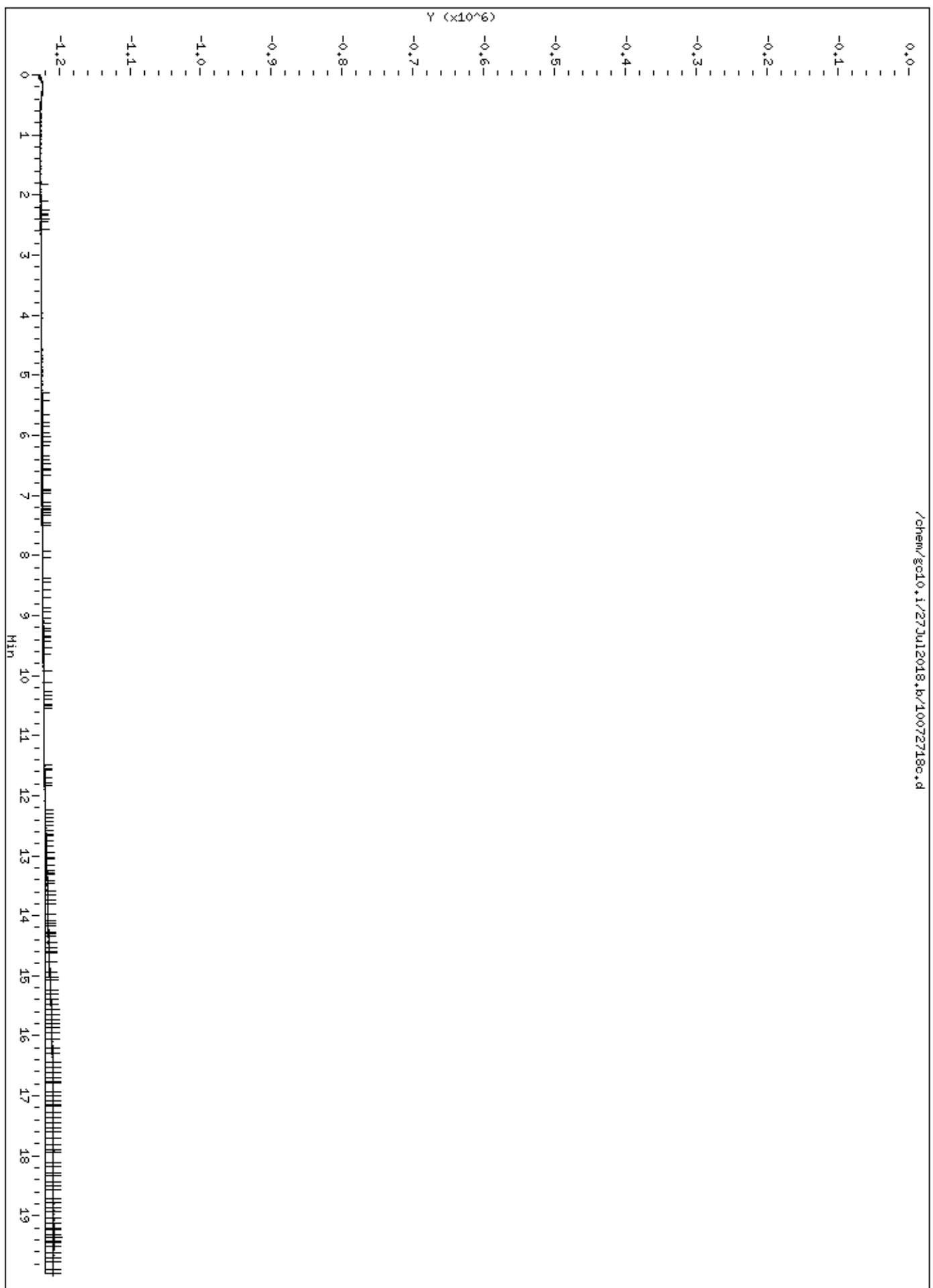
Inst ID: gc10.i
Quant Type: ESTD
Cal File: 10022208c.d
Compound Sublist: ngas.sub

Processing Host: us32apptv003

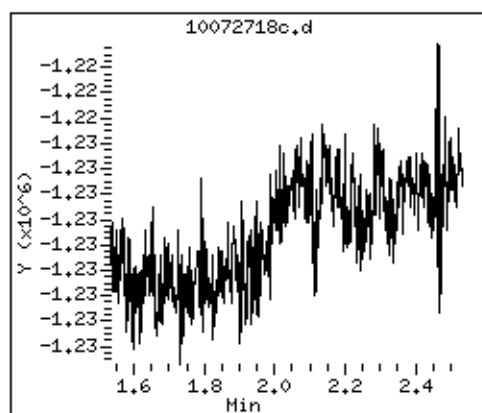
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
							(%)	(%)
=====	==	=====	=====		=====	=====	=====	=====
1 Helium						Compound Not Detected.		



1 Helium (Undetected)



QC Results and Raw Data

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946



Client ID:	Lab Blank	Date/Time Analyzed:	7/27/18 09:53 AM
Lab ID:	1807359B-03A	Dilution Factor:	1.00
Date/Time Collecte	NA - Not Applicable	Instrument/File name:	gc10.i / 10072703c
Media:	NA - Not Applicable		

Compound	CAS#	MDL (%)	LOD (%)	Rpt. Limit (%)	Amount (%)
Helium	7440-59-7	0.0032	0.0072	0.050	Not Detected

US32APPTV002

Modified ASTM D-1945/1946

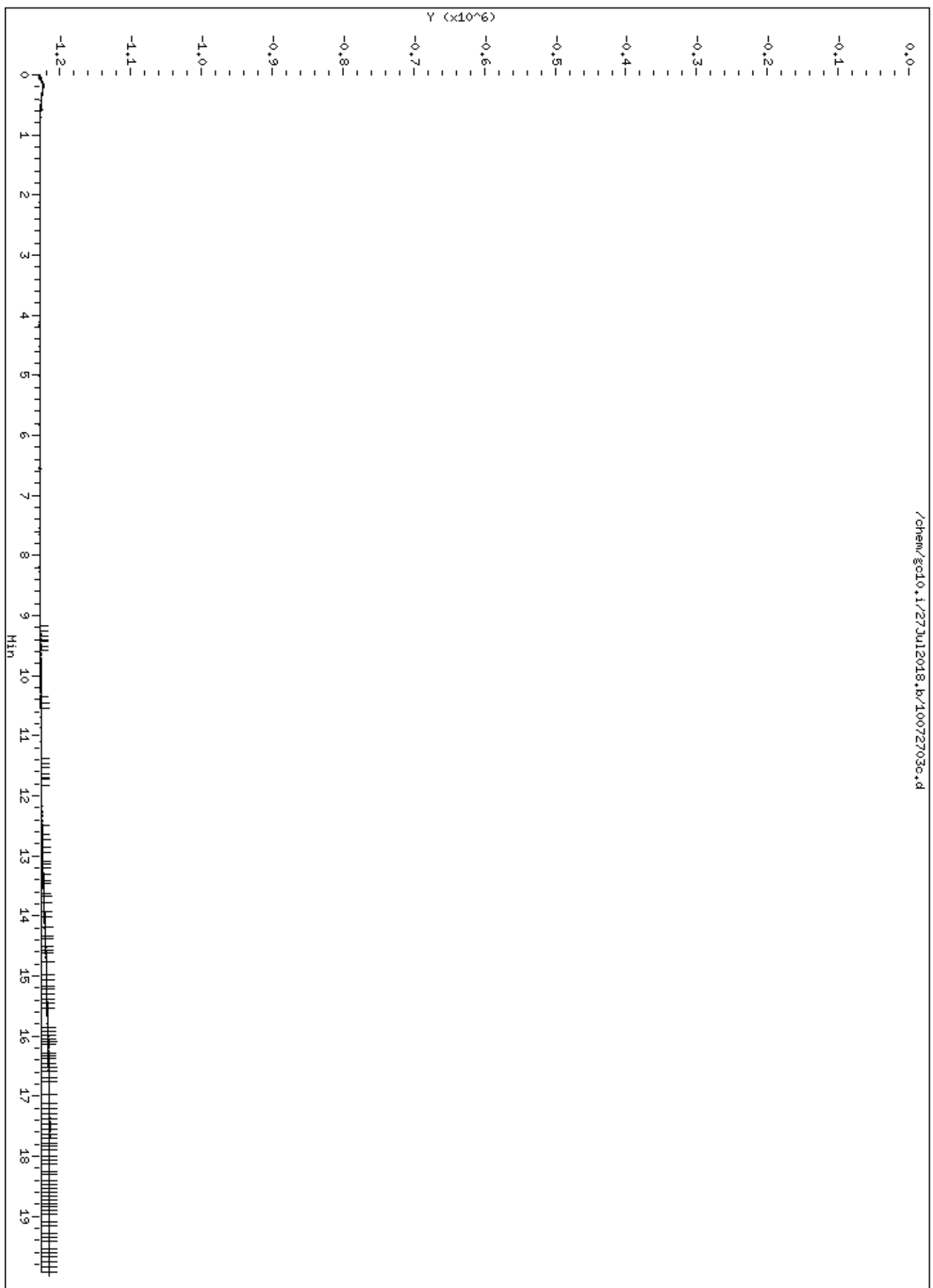
Data file : /chem/gc10.i/27Jul2018.b/10072703c.d
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Inj Date : 27-JUL-2018 09:53
Operator : gd Inst ID: gc10.i
Smp Info :
Misc Info : 1.0m, 34341
Comment : GC/TCD
Method : /chem/gc10.i/27Jul2018.b/107n1213.m/108C0420.m/108C0222.m
Meth Date : 27-Jul-2018 08:56 ugdc Quant Type: ESTD
Cal Date : 22-FEB-2018 19:46 Cal File: 10022208c.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: he.sub

Processing Host: us32apptv003

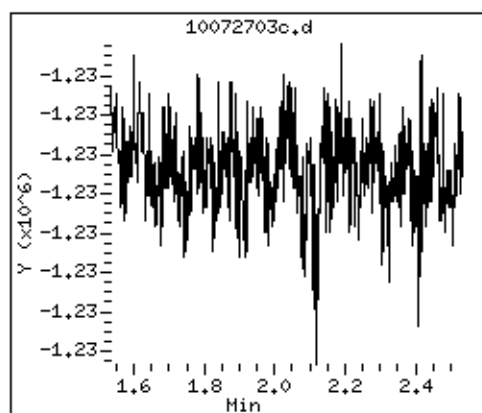
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
							(%)	(%)
=====	==	=====	=====		=====	=====	=====	=====
1 Helium					Compound Not Detected.			



1 Helium (Undetected)



SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab Name: Air Toxics Ltd.

Lab File ID: 10072725c.d & 10072702c.d

Lab Sample ID: &

Dilution: 1.00 & 1.00

Client Sample ID: LCS & LCSD

Date Analyzed: 7/27/18 & 7/27/18

CAS Number	Compound	Original		Duplicate		RPD	Result Less Than 5X RL
		Amount	Flags	Amount	Flags		
7440-59-7	Helium	100		100		0	

Note: The results appearing in the Amount columns are the raw, unrounded numbers acquired from the instrument.

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-FEB-2018 16:44
End Cal Date : 22-FEB-2018 19:46
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem/gc10.i/22Feb2018.b/108C0222.m
Cal Date : 22-Feb-2018 21:52 mskidmor
Curve Type : Average

Calibration File Names:

Level 1: /chem/gc10.i/22Feb2018.b/10022202c.d
Level 2: /chem/gc10.i/22Feb2018.b/10022203c.d
Level 3: /chem/gc10.i/22Feb2018.b/10022208c.d
Level 4: /chem/gc10.i/22Feb2018.b/10022204c.d
Level 5: /chem/gc10.i/22Feb2018.b/10022205c.d
Level 6: /chem/gc10.i/22Feb2018.b/10022206c.d

	0.000e+00	0.000e+00	0.000e+00	0.000e+00	0.000e+00	0.000e+00		
Compound	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	RRF	% RSD
1 Helium	282687152	258830926	243184312	233796282	266799350	265993771	258548632	6.821
2 Hydrogen	441209900	484861980	432170632	421025722	423524891	411206529	435666609	6.006

Calibration History

Method : /chem/gc10.i/22Feb2018.b/108C0222.m
Start Cal Date: 19-FEB-2018 16:44
End Cal Date : 22-FEB-2018 19:46

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 0.00000		
22-FEB-2018 15:58	h2	/chem/gc10.i/22Feb2018.b/10022202c.d
19-FEB-2018 20:04	he	/chem/gc10.i/19Feb2018.b/10021917c.d
Cal Level: 2 , Cal Amount: 0.00000		
22-FEB-2018 16:36	h2	/chem/gc10.i/22Feb2018.b/10022203c.d
19-FEB-2018 16:44	he	/chem/gc10.i/19Feb2018.b/10021911c.d
Cal Level: 3 , Cal Amount: 0.00000		
22-FEB-2018 19:46	h2	/chem/gc10.i/22Feb2018.b/10022208c.d
19-FEB-2018 17:29	he	/chem/gc10.i/19Feb2018.b/10021912c.d
Cal Level: 4 , Cal Amount: 0.00000		
22-FEB-2018 17:07	h2	/chem/gc10.i/22Feb2018.b/10022204c.d
19-FEB-2018 17:53	he	/chem/gc10.i/19Feb2018.b/10021913c.d
Cal Level: 5 , Cal Amount: 0.00000		
22-FEB-2018 18:03	h2	/chem/gc10.i/22Feb2018.b/10022205c.d
19-FEB-2018 18:48	he	/chem/gc10.i/19Feb2018.b/10021914c.d
Cal Level: 6 , Cal Amount: 0.00000		
22-FEB-2018 18:52	h2	/chem/gc10.i/22Feb2018.b/10022206c.d
19-FEB-2018 19:14	ngas	/chem/gc10.i/19Feb2018.b/10021915c.d

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-FEB-2018 16:44
 End Cal Date : 22-FEB-2018 19:46
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP Genie
 Method file : /chem/gc10.i/22Feb2018.b/107n1213.m/107C0414.m/108C0222.m
 Cal Date : 22-Feb-2018 20:22 mskidmor
 Curve Type : Average

Calibration File Names:

Level 1: /chem/gc10.i/22Feb2018.b/10022202c.d
 Level 2: /chem/gc10.i/22Feb2018.b/10022203c.d
 Level 3: /chem/gc10.i/22Feb2018.b/10022208c.d
 Level 4: /chem/gc10.i/22Feb2018.b/10022204c.d
 Level 5: /chem/gc10.i/22Feb2018.b/10022205c.d
 Level 6: /chem/gc10.i/22Feb2018.b/10022206c.d

MS
 2/22/18
 Please see Calibration History page(s)
 for all the calibration files.

Compound	0.000e+00	0.000e+00	0.000e+00	0.000e+00	0.000e+00	0.000e+00	RRF	% RSD
Level 1	Level 2	Level 3	Level 4	Level 5	Level 6			
1 Helium	282687152	258830926	243184312	233796282	266799350	265993771	258548632	6.821
2 Hydrogen	441209900	484861980	432170632	421025722	423524891	411206529	435666609	6.006

Initial Calibration Narrative

A six point calibration curve was analyzed on February 19, 2018 for Helium and a six point calibration was analyzed on February 22, 2018 for Hydrogen on instrument GC-10. The calibration curve features the following:

- 1.) ICAL is named as 108C0222.m.
- 2.) Units: %
- 3.) The ICAL is based on 1.0 mL loop load
- 4.) Helium Level 1 was reanalyzed due to linearity. The standard was remade
- 5.) The second source file numbers are 10021918c and 10022210c
- 6.) Following are the levels for the ICAL:

Compounds	Level-1	Level-2	Level-3	Level-4	Level-5	Level-6
Helium	0.0495	0.500	2.500	10.0	50.0	100
Hydrogen	0.0100	0.100	0.500	2.00	10.0	25.0

GC-10

Logbook #3007
Leak Test ~~MS~~ MS
2/19/18

USE	File #	Sample Name/Client ID	Can #	Verified Pressure >2psi	Pressure	Amt	DF	Date	Time	Review Init.	Comments
✓	10021909	System Blank	33771	NA	NA	1.0mL 1.00	2/19/18	1572	1572	MS	Helium
✓	10	2787-148-148	32116	✓	✓	(25:50) 1.0mL	✓	1616	1616	MS	Level-1 only
✓	11	2810-691	NA	✓	✓	(25:10) 1.0mL	✓	1644	1644	MS	-2
✓	12	2787-149	329	✓	✓	1.0mL	✓	1729	1729	MS	-3
✓	13	✓	✓	✓	✓	(25:50) 1.0mL	✓	1753	1753	MS	-4
✓	14	2810-798	✓	✓	✓	1.0mL	✓	1848	1848	MS	-5
✓	15	✓	✓	✓	✓	1.0mL	✓	1914	1914	MS	-6
✓	16	Na Lab Blank	33771	✓	✓	1.0mL	✓	1940	1940	MS	Helium
✓	17	2787-148A	32116	✓	✓	1.0mL	✓	2004	2004	MS	Level 1 only
✓	18	2810-691	NA	✓	✓	1.0mL	✓	2030	2030	MS	EXP. 11/30/20

Calculation check:

File ID: 10021918

Compound:

Helium

Initials:

MS

Sample Amt=

Area Count Sample x

RF

Dilution Factor =

(062144882) x (258548632)

(1.00) =

1.01

Reported Result=

1.01 MS 2/19/18

Reviewed by/Date MS 2/19/18

1
2
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Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Feb2018.b/10021918c.d
Lab Smp Id: 2810-691 Ngas Client Smp ID: ICV
Inj Date : 19-FEB-2018 20:30
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/19Feb2018.b/108C0219.m
Meth Date : 20-Feb-2018 13:41 mskidmor Quant Type: ESTD
Cal Date : 19-FEB-2018 20:04 Cal File: 10021917c.d
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: he.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

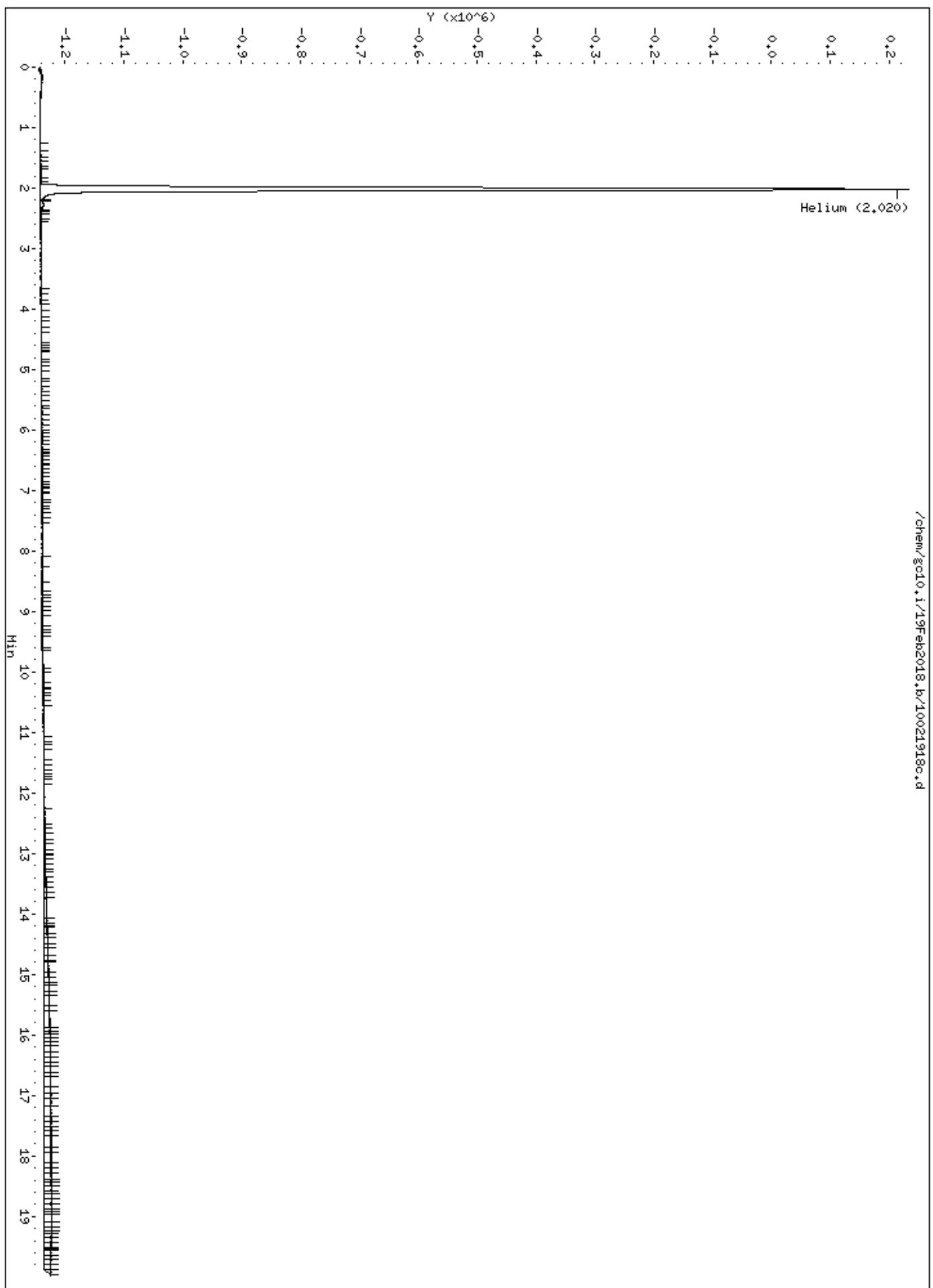
Compounds	RT	EXP	RT	DLT	RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
							(%)	(%)
=====	==	=====	=====		=====	=====	=====	=====
1 Helium	2.020	2.380	-0.360		262144882	1.01391		1.01

Eurofins Air Toxics Inc.

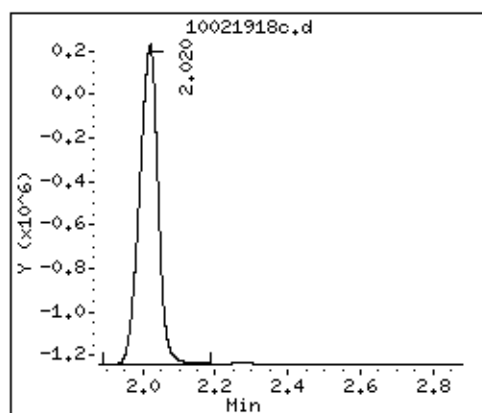
RECOVERY REPORT

Client Name: Client SDG: 19Feb2018
Sample Matrix: GAS Fraction: Atm Gas
Lab Smp Id: 2810-691 Ngas Client Smp ID: ICV
Level: LOW Operator: mjs
Data Type: GC DATA SampleType: LCS
SpikeList File: 2810-691he.spk Quant Type: ESTD
Sublist File: he.sub
Method File: /chem/gc10.i/19Feb2018.b/108C0219.m
Misc Info:

SPIKE COMPOUND	CONC ADDED %	CONC RECOVERED %	% RECOVERED	LIMITS
1 Helium	1.00	1.01	101.39	85-115



1 Helium



Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/22Feb2018.b/10022210c.d
Lab Smp Id: 2299-1522 Client Smp ID: ICV
Inj Date : 22-FEB-2018 20:54
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/22Feb2018.b/107n1213.m/107C0414.m/108C0222.m
Meth Date : 22-Feb-2018 20:22 mskidmor Quant Type: ESTD
Cal Date : 22-FEB-2018 19:46 Cal File: 10022208c.d
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: h2.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

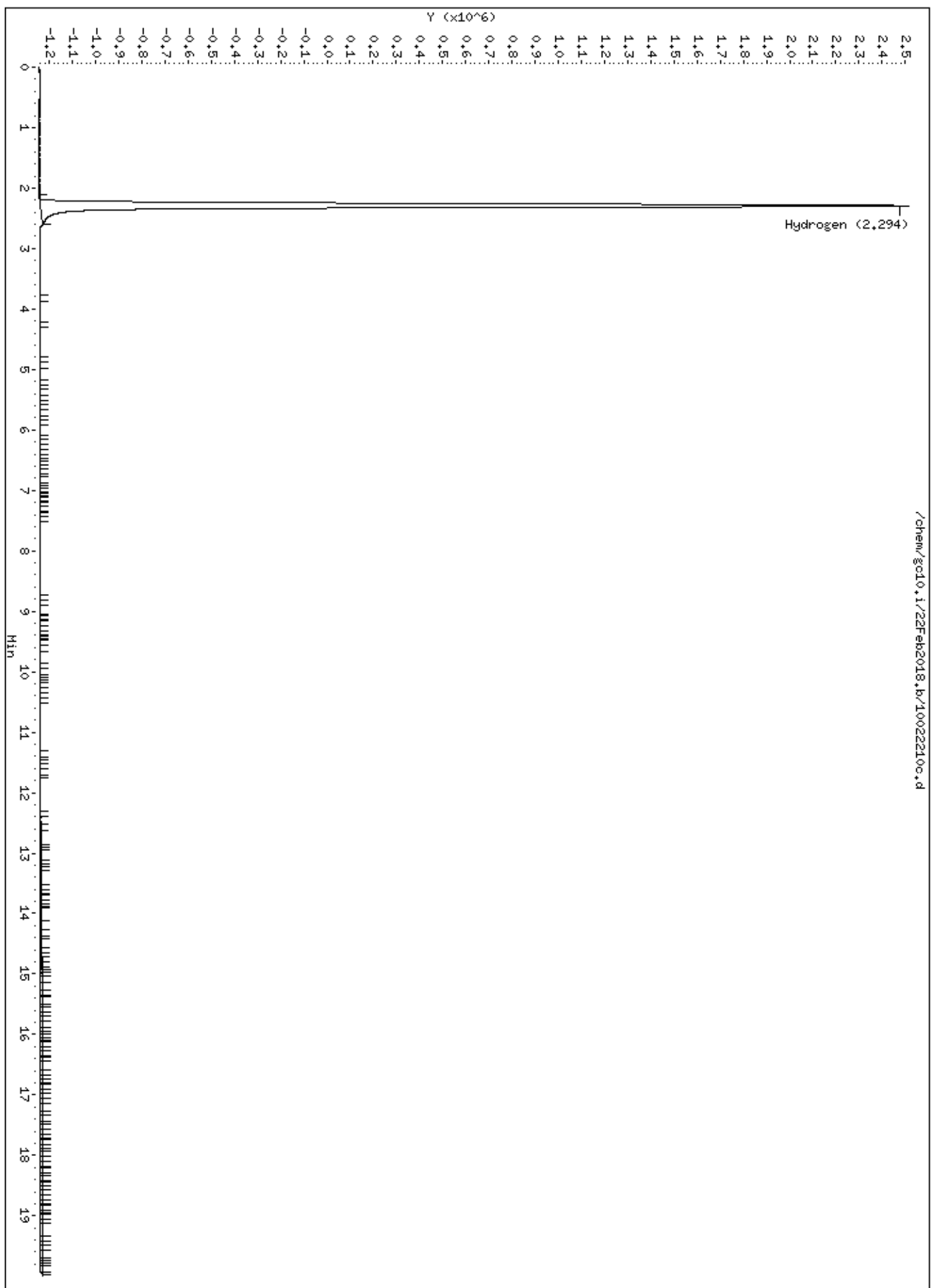
Compounds	RT	EXP	RT	DLT	RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
							(%)	(%)
=====	==	=====	=====			=====	=====	=====
2 Hydrogen	2.294	2.294	0.000		844905956	1.93934	1.94	

Eurofins Air Toxics Inc.

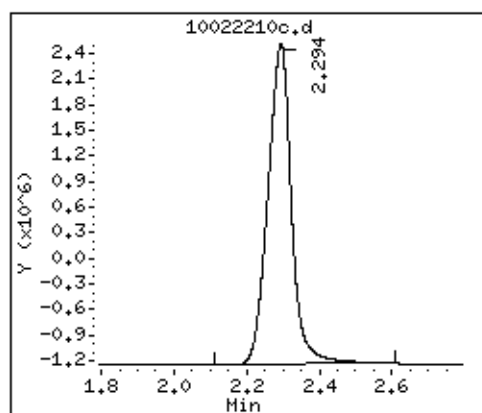
RECOVERY REPORT

Client Name: Client SDG: 22Feb2018
Sample Matrix: GAS Fraction: Atm Gas
Lab Smp Id: 2299-1522 Client Smp ID: ICV
Level: LOW Operator: mjs
Data Type: GC DATA SampleType: LCS
SpikeList File: 2.0%H2.spk Quant Type: ESTD
Sublist File: h2.sub
Method File: /chem/gc10.i/22Feb2018.b/107n1213.m/107C0414.m/108C0222.m
Misc Info:

SPIKE COMPOUND	CONC ADDED %	CONC RECOVERED %	% RECOVERED	LIMITS
2 Hydrogen	2.00	1.94	97.16	85-115



2 Hydrogen



Eurofins Air Toxics Inc.

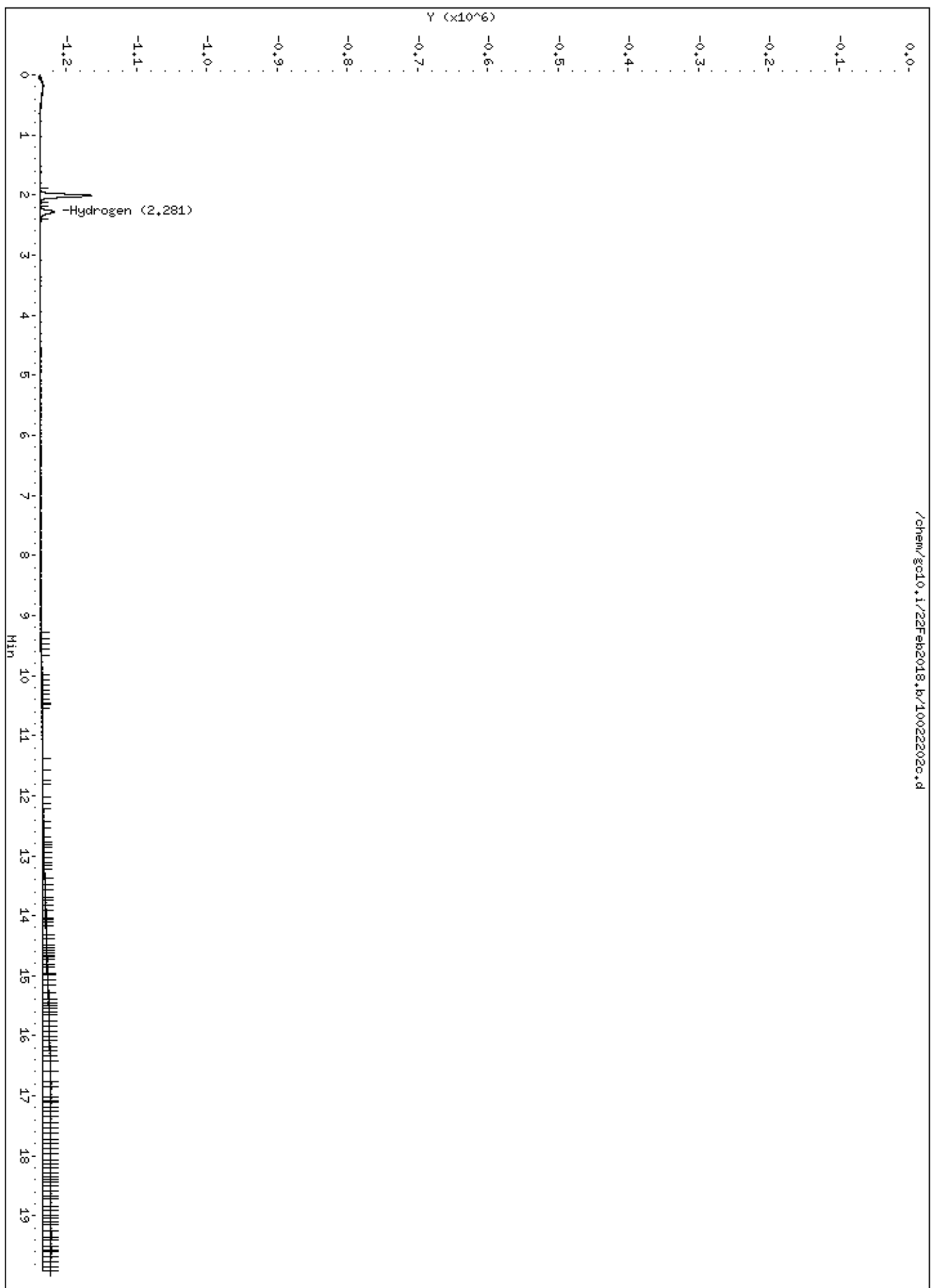
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/22Feb2018.b/10022202c.d
Lab Smp Id: 2787-148A Client Smp ID: Level 1
Inj Date : 22-FEB-2018 15:58
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL, 32116
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/22Feb2018.b/107n1213.m/107C0414.m/108C0222.m
Meth Date : 09-Mar-2018 13:42 lyohanne Quant Type: ESTD
Cal Date : 22-FEB-2018 15:58 Cal File: 10022202c.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: h2.sub
Target Version: 3.50
Processing Host: eeyore

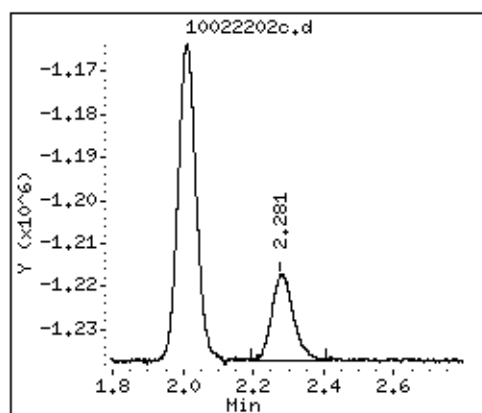
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
							(%)	(%)
=====	==	=====	=====			=====	=====	=====
2 Hydrogen	2.281	2.294	-0.013			4412099	0.01000	0.0101



2 Hydrogen



Eurofins Air Toxics Inc.

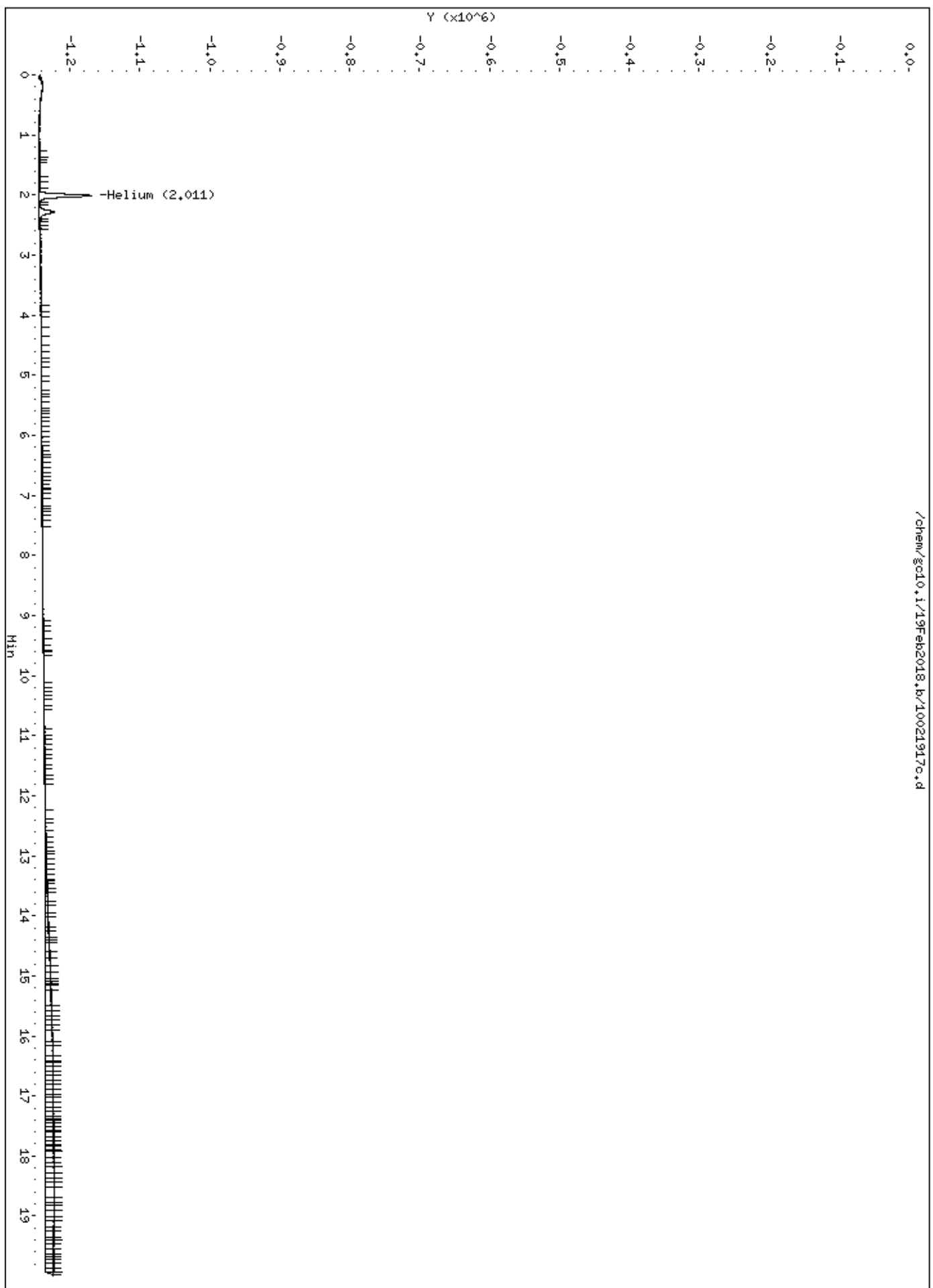
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Feb2018.b/10021917c.d
Lab Smp Id: 2787-148A Client Smp ID: Level 1
Inj Date : 19-FEB-2018 20:04
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL, 32116
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/19Feb2018.b/108C0219.m
Meth Date : 20-Feb-2018 13:40 mskidmor Quant Type: ESTD
Cal Date : 19-FEB-2018 20:04 Cal File: 10021917c.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: he.sub
Target Version: 3.50
Processing Host: eeyore

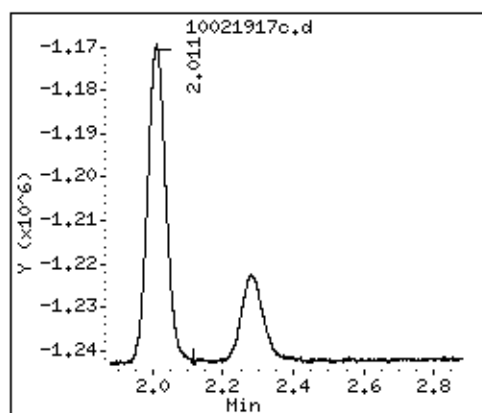
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
							(%)	(%)
=====	==	=====	=====			=====	=====	=====
1 Helium	2.011	2.380	-0.369			13993014	0.04950	0.0541



1 Helium



Eurofins Air Toxics Inc.

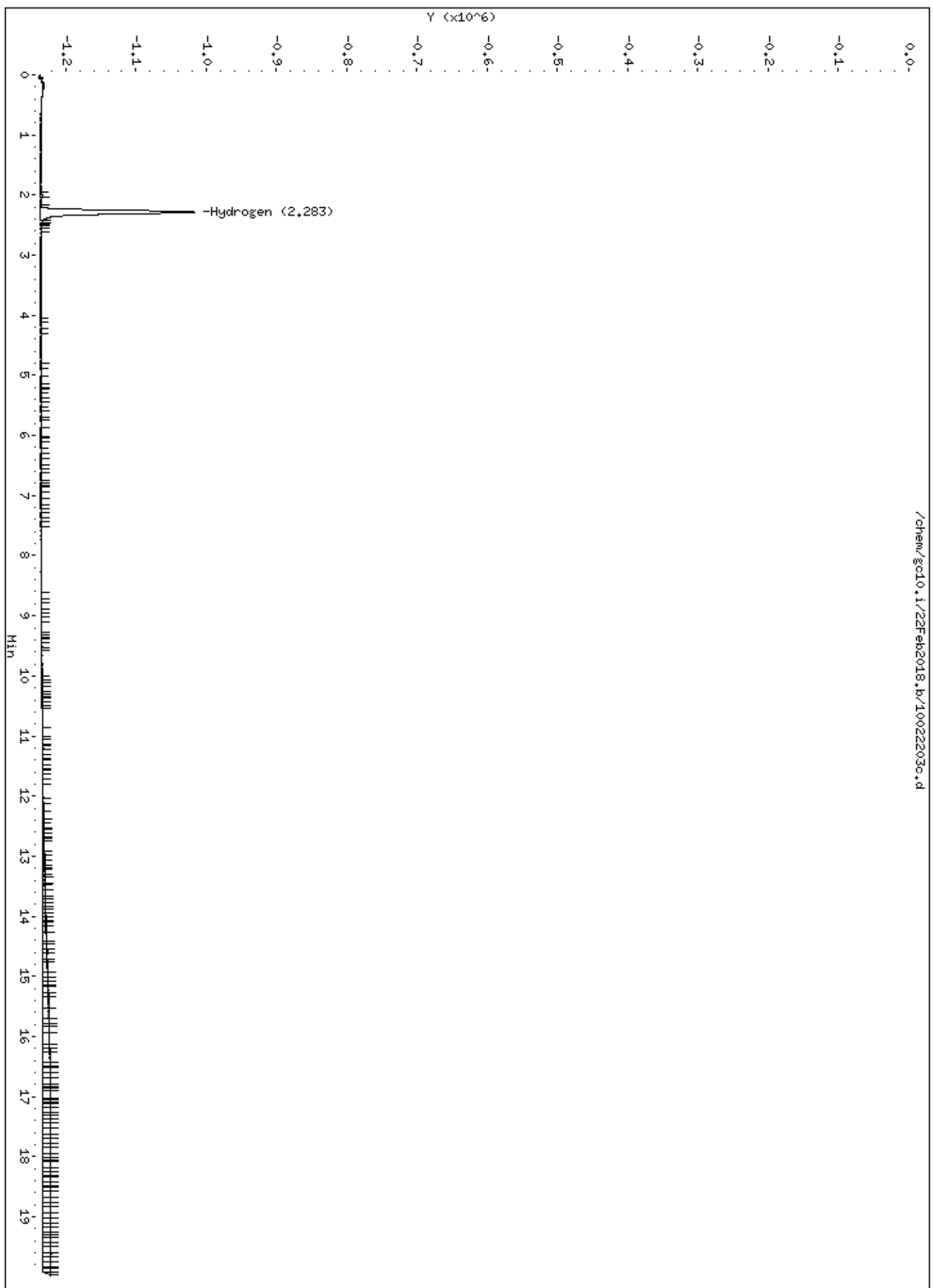
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/22Feb2018.b/10022203c.d
Lab Smp Id: 2299-1684 Client Smp ID: Level 2
Inj Date : 22-FEB-2018 16:36
Operator : mjs Inst ID: gc10.i
Smp Info : (5:100)1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/22Feb2018.b/107n1213.m/107C0414.m/108C0222.m
Meth Date : 09-Mar-2018 13:42 lyohanne Quant Type: ESTD
Cal Date : 22-FEB-2018 16:36 Cal File: 10022203c.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: h2.sub
Target Version: 3.50
Processing Host: eeyore

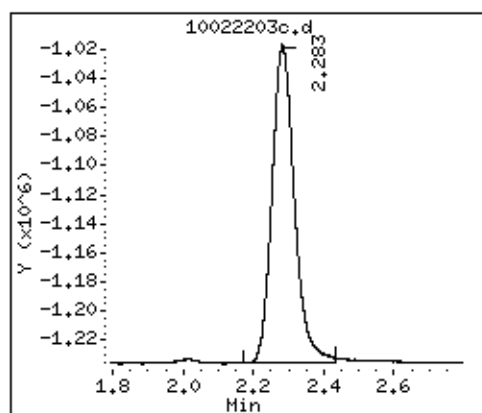
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
							(%)	(%)
=====	==	=====	=====			=====	=====	=====
2 Hydrogen	2.283	2.294	-0.011			48486198	0.10000	0.111



2 Hydrogen



Eurofins Air Toxics Inc.

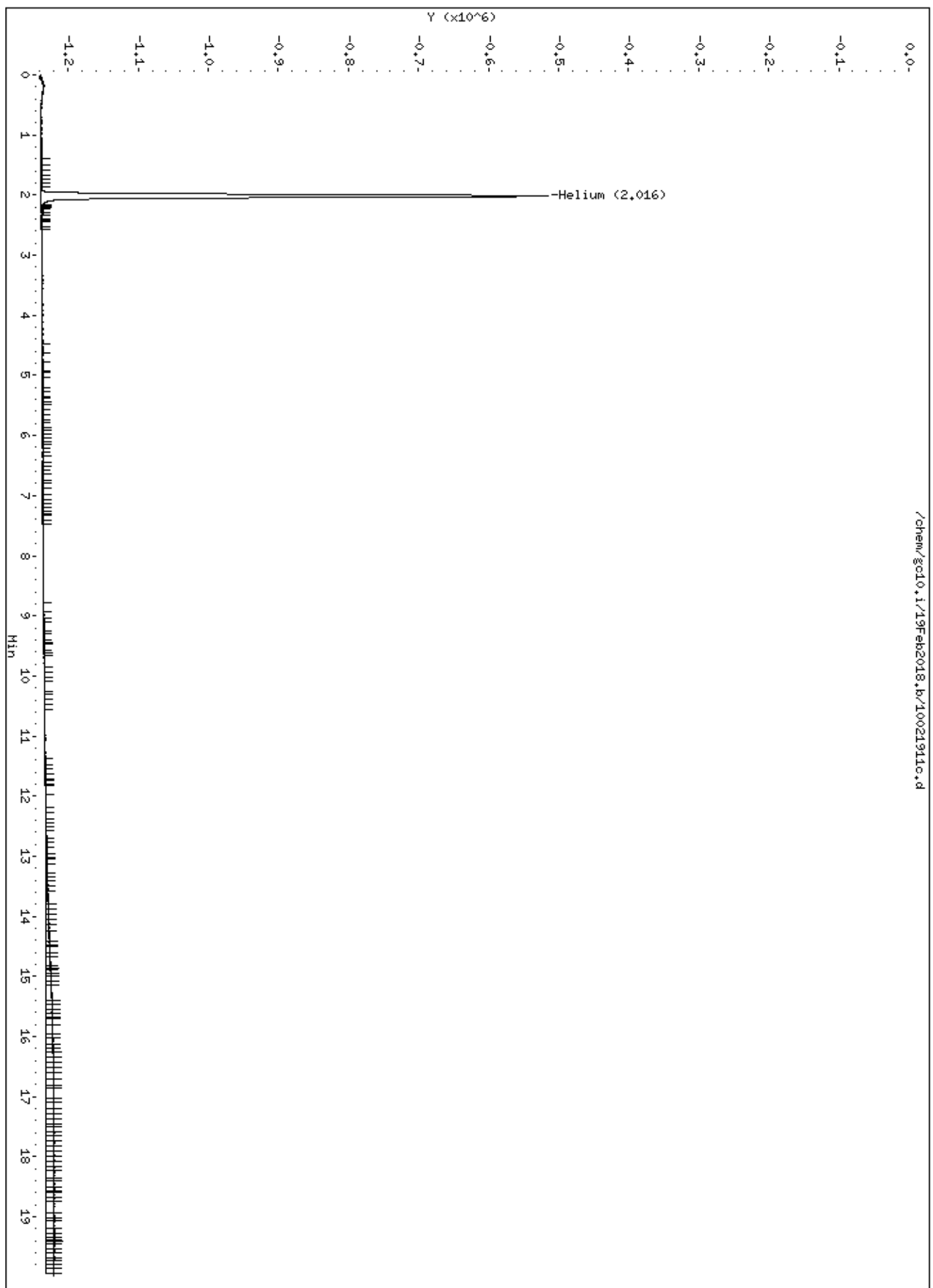
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Feb2018.b/10021911c.d
Lab Smp Id: 2810-691 Client Smp ID: Level 2
Inj Date : 19-FEB-2018 16:44
Operator : mjs Inst ID: gc10.i
Smp Info : (25:50)1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/19Feb2018.b/108C0219.m
Meth Date : 20-Feb-2018 13:40 mskidmor Quant Type: ESTD
Cal Date : 19-FEB-2018 16:44 Cal File: 10021911c.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: he.sub
Target Version: 3.50
Processing Host: eeyore

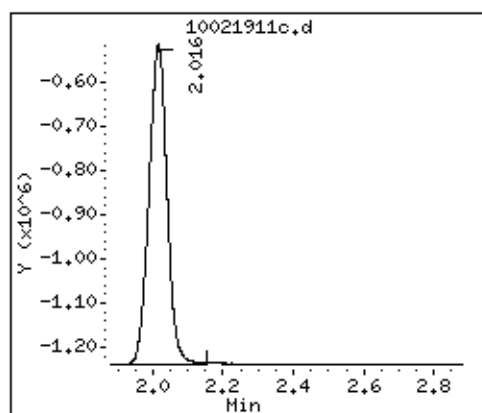
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
							(%)	(%)
=====	==	=====	=====			=====	=====	=====
1 Helium	2.016	2.380	-0.364			129415463	0.50000	0.500



1 Helium



Eurofins Air Toxics Inc.

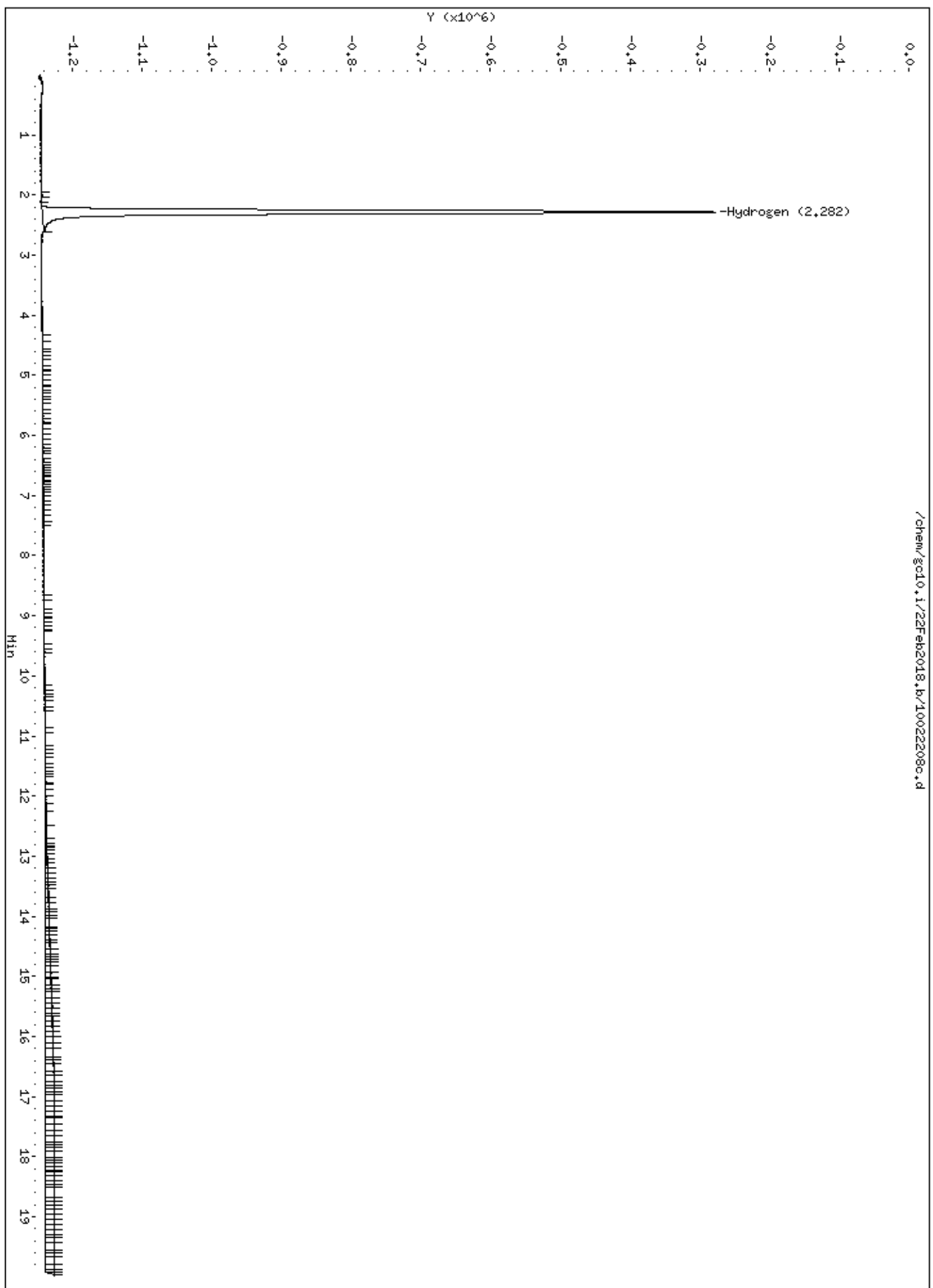
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/22Feb2018.b/10022208c.d
Lab Smp Id: 2299-1684 Client Smp ID: Level 3
Inj Date : 22-FEB-2018 19:46
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/22Feb2018.b/107n1213.m/107C0414.m/108C0222.m
Meth Date : 22-Feb-2018 20:22 mskidmor Quant Type: ESTD
Cal Date : 22-FEB-2018 19:46 Cal File: 10022208c.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: h2.sub
Target Version: 3.50
Processing Host: eeyore

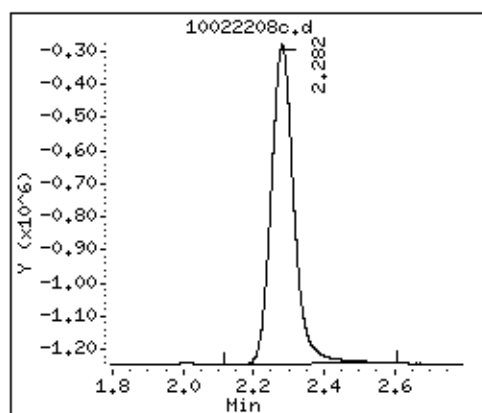
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
							(%)	(%)
=====	==	=====	=====			=====	=====	=====
2 Hydrogen	2.282	2.294	-0.012			216085316	0.50000	0.496



2 Hydrogen



Eurofins Air Toxics Inc.

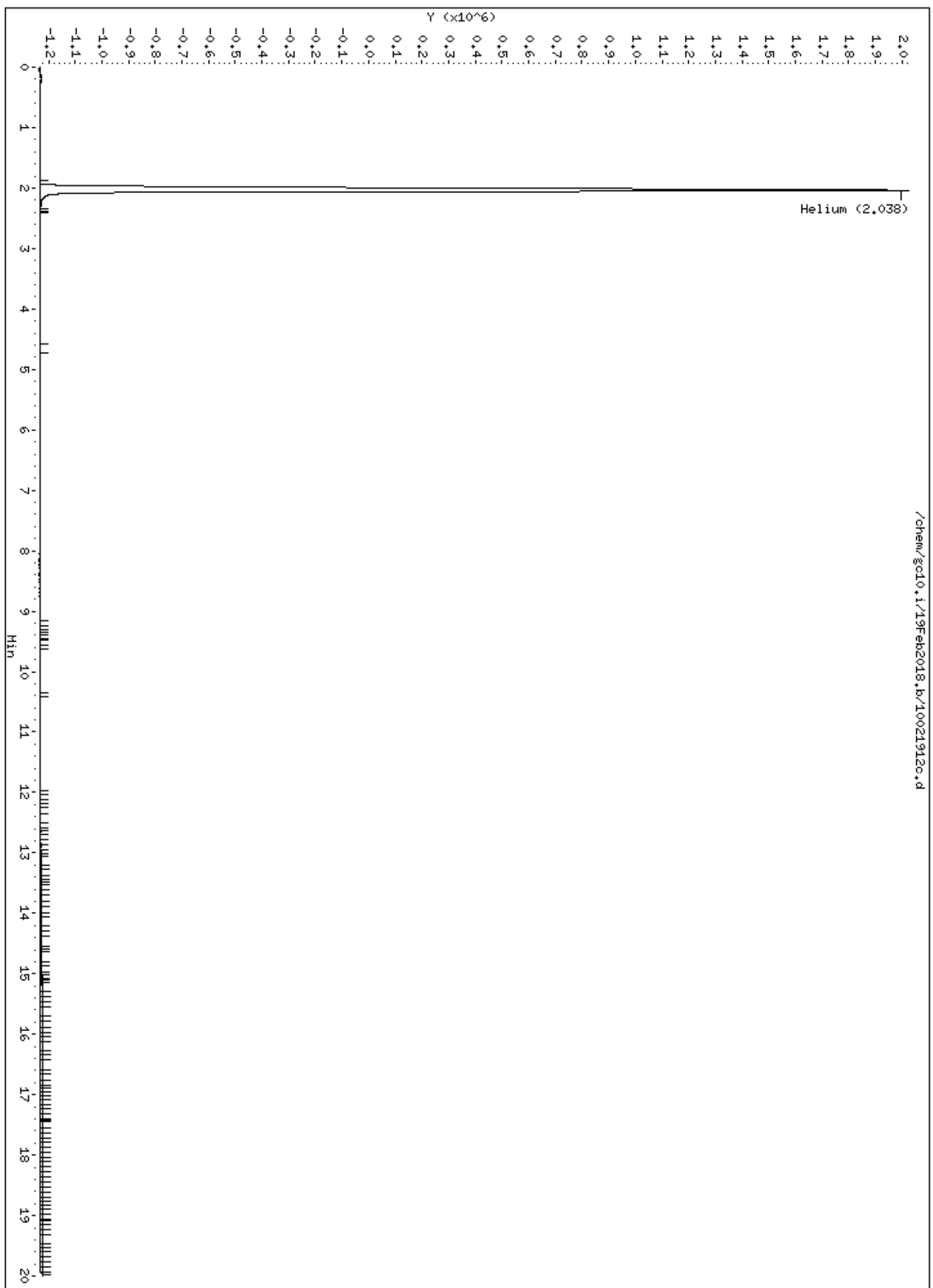
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Feb2018.b/10021912c.d
Lab Smp Id: 2787-149 Client Smp ID: Level 3
Inj Date : 19-FEB-2018 17:29
Operator : mjs Inst ID: gc10.i
Smp Info : (25:100)1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/19Feb2018.b/108C0219.m
Meth Date : 20-Feb-2018 13:40 mskidmor Quant Type: ESTD
Cal Date : 19-FEB-2018 17:29 Cal File: 10021912c.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: he.sub
Target Version: 3.50
Processing Host: eeyore

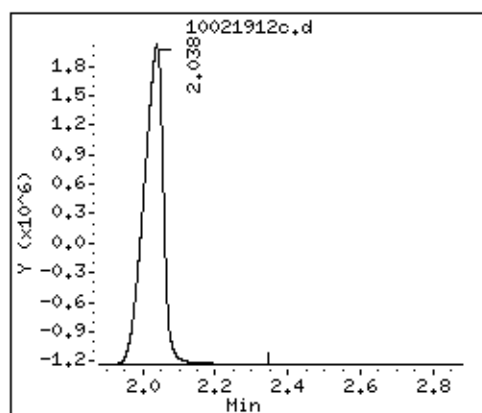
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
							(%)	(%)
=====	==	=====	=====			=====	=====	=====
1 Helium	2.038	2.380	-0.342			607960779	2.50000	2.42



1 Helium



Eurofins Air Toxics Inc.

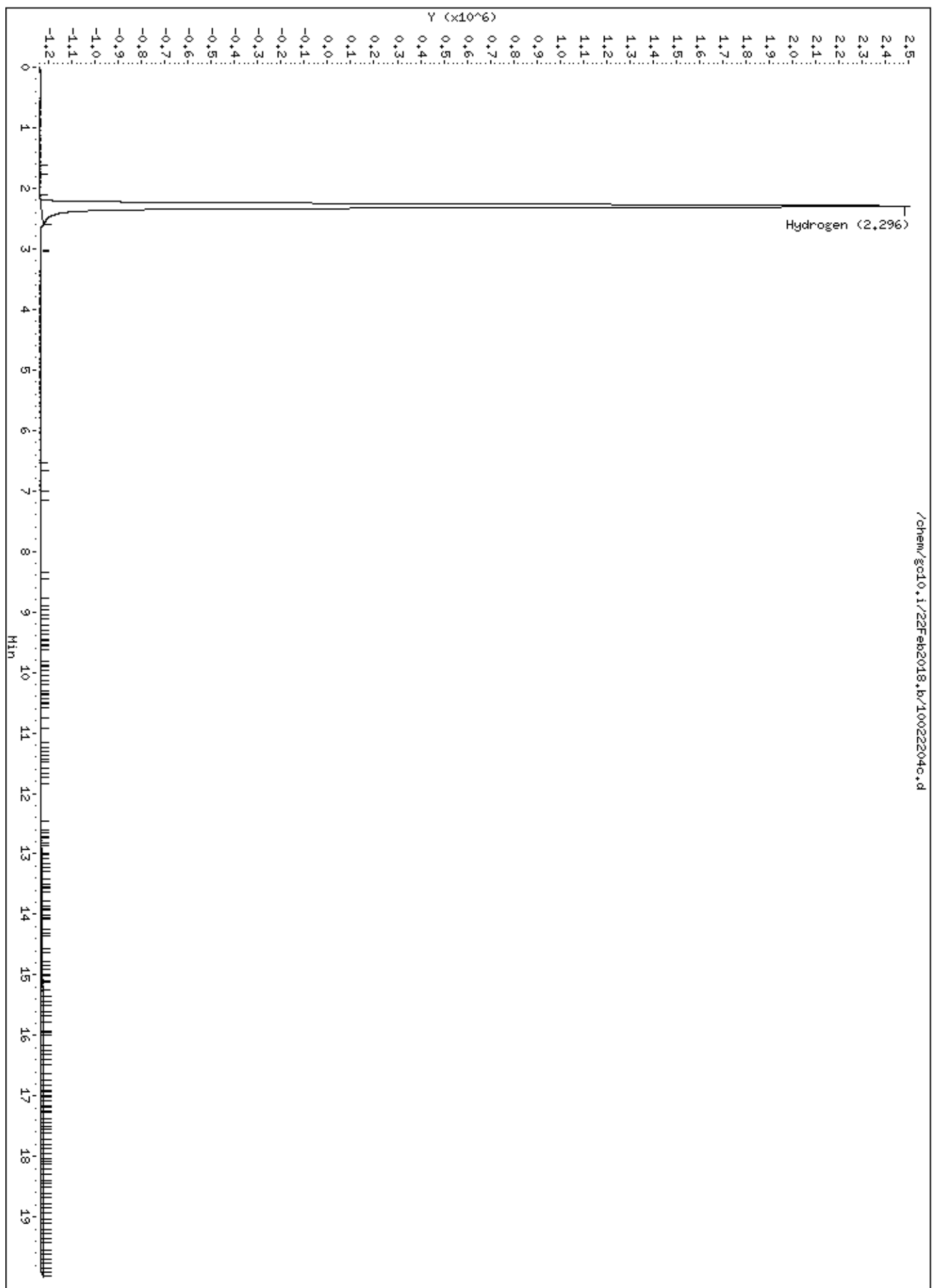
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/22Feb2018.b/10022204c.d
Lab Smp Id: 2299-1684 Client Smp ID: Level 4
Inj Date : 22-FEB-2018 17:07
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/22Feb2018.b/107n1213.m/107C0414.m/108C0222.m
Meth Date : 09-Mar-2018 13:42 lyohanne Quant Type: ESTD
Cal Date : 22-FEB-2018 17:07 Cal File: 10022204c.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: h2.sub
Target Version: 3.50
Processing Host: eeyore

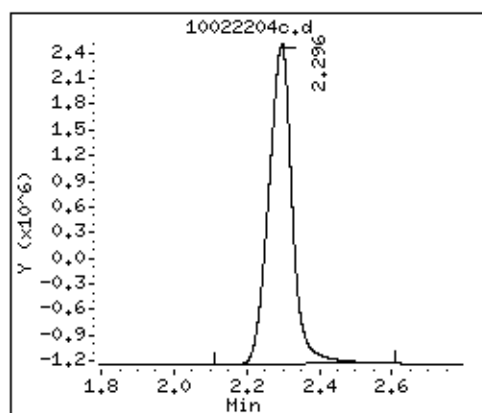
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
							(%)	(%)
=====	==	=====	=====		=====	=====	=====	=====
2 Hydrogen	2.296	2.294	0.002		842051444	2.00000		1.93



2 Hydrogen



Eurofins Air Toxics Inc.

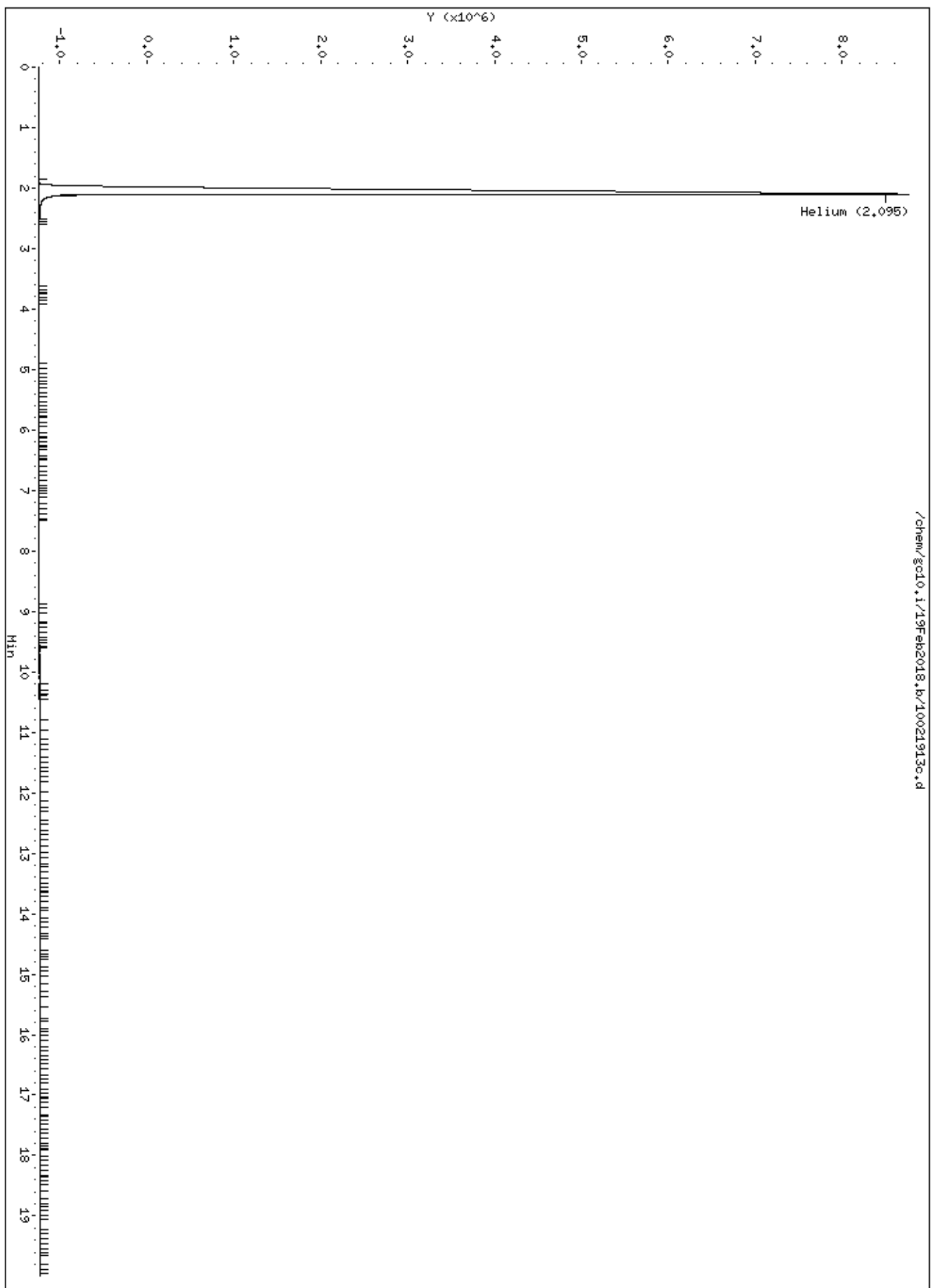
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Feb2018.b/10021913c.d
Lab Smp Id: 2787-149 Client Smp ID: Level 4
Inj Date : 19-FEB-2018 17:53
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/19Feb2018.b/108C0219.m
Meth Date : 20-Feb-2018 13:40 mskidmor Quant Type: ESTD
Cal Date : 19-FEB-2018 17:53 Cal File: 10021913c.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: he.sub
Target Version: 3.50
Processing Host: eeyore

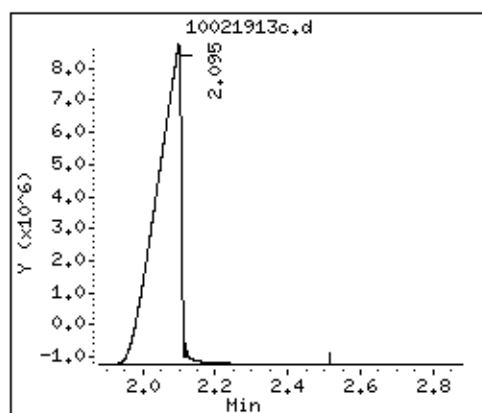
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
							(%)	(%)
=====	==	=====	=====			=====	=====	=====
1 Helium	2.095	2.380	-0.285			2337962821	10.0000	9.53



1 Helium



Eurofins Air Toxics Inc.

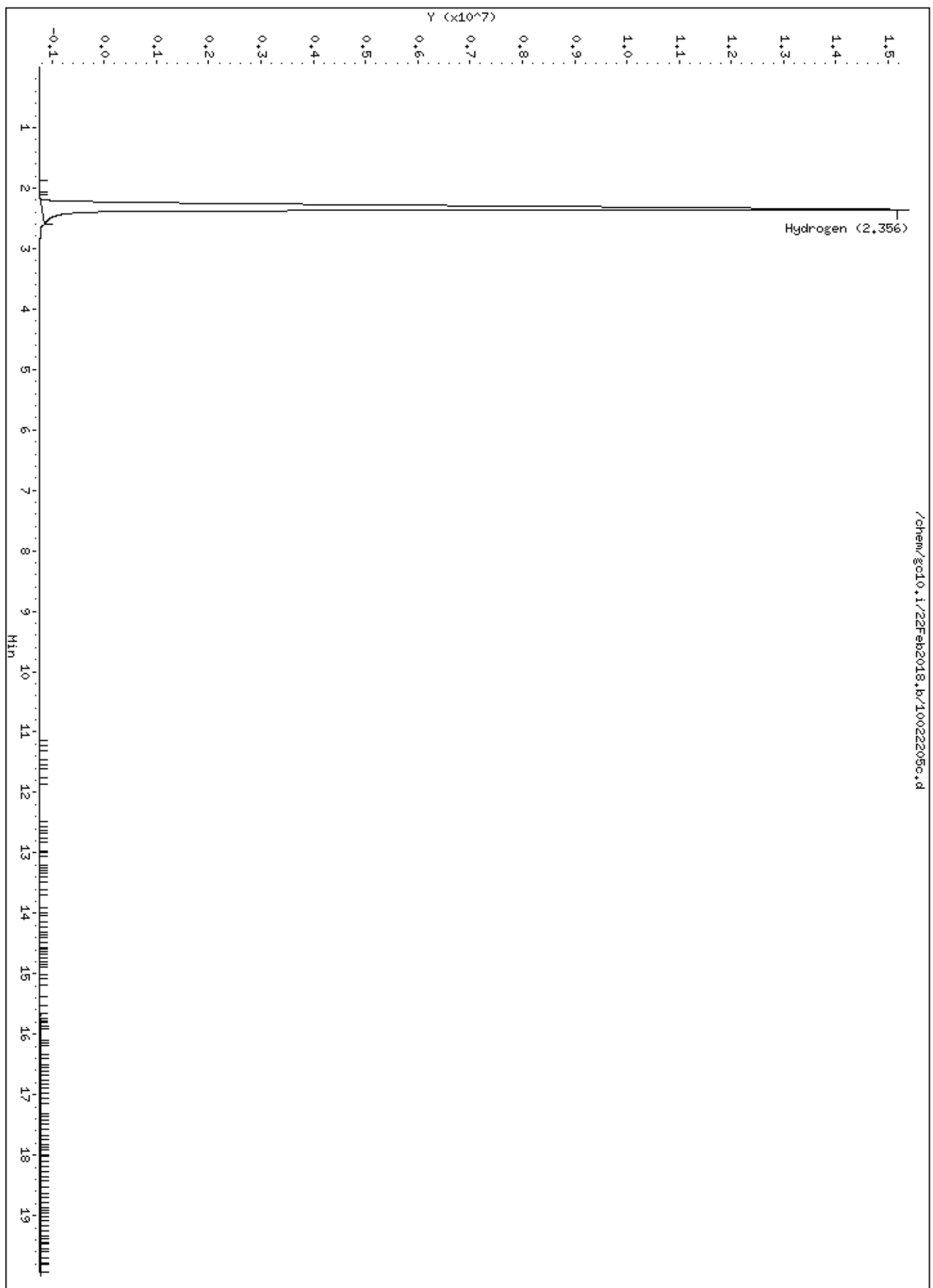
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/22Feb2018.b/10022205c.d
Lab Smp Id: 2810-799 Client Smp ID: Level 5
Inj Date : 22-FEB-2018 18:03
Operator : mjs Inst ID: gc10.i
Smp Info : (10:100)1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/22Feb2018.b/107n1213.m/107C0414.m/108C0222.m
Meth Date : 09-Mar-2018 13:42 lyohanne Quant Type: ESTD
Cal Date : 22-FEB-2018 18:03 Cal File: 10022205c.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: h2.sub
Target Version: 3.50
Processing Host: eeyore

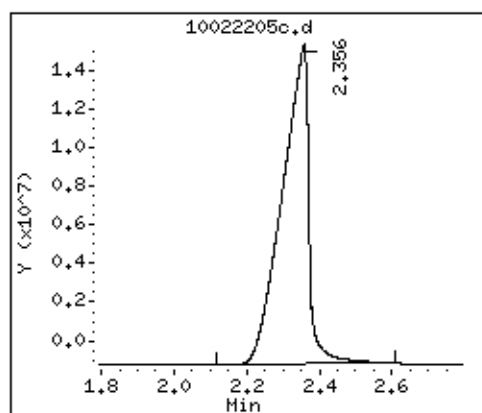
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
							(%)	(%)
=====	==	=====	=====			=====	=====	=====
2 Hydrogen	2.356	2.294	0.062			4235248906	10.0000	9.72



2 Hydrogen



Eurofins Air Toxics Inc.

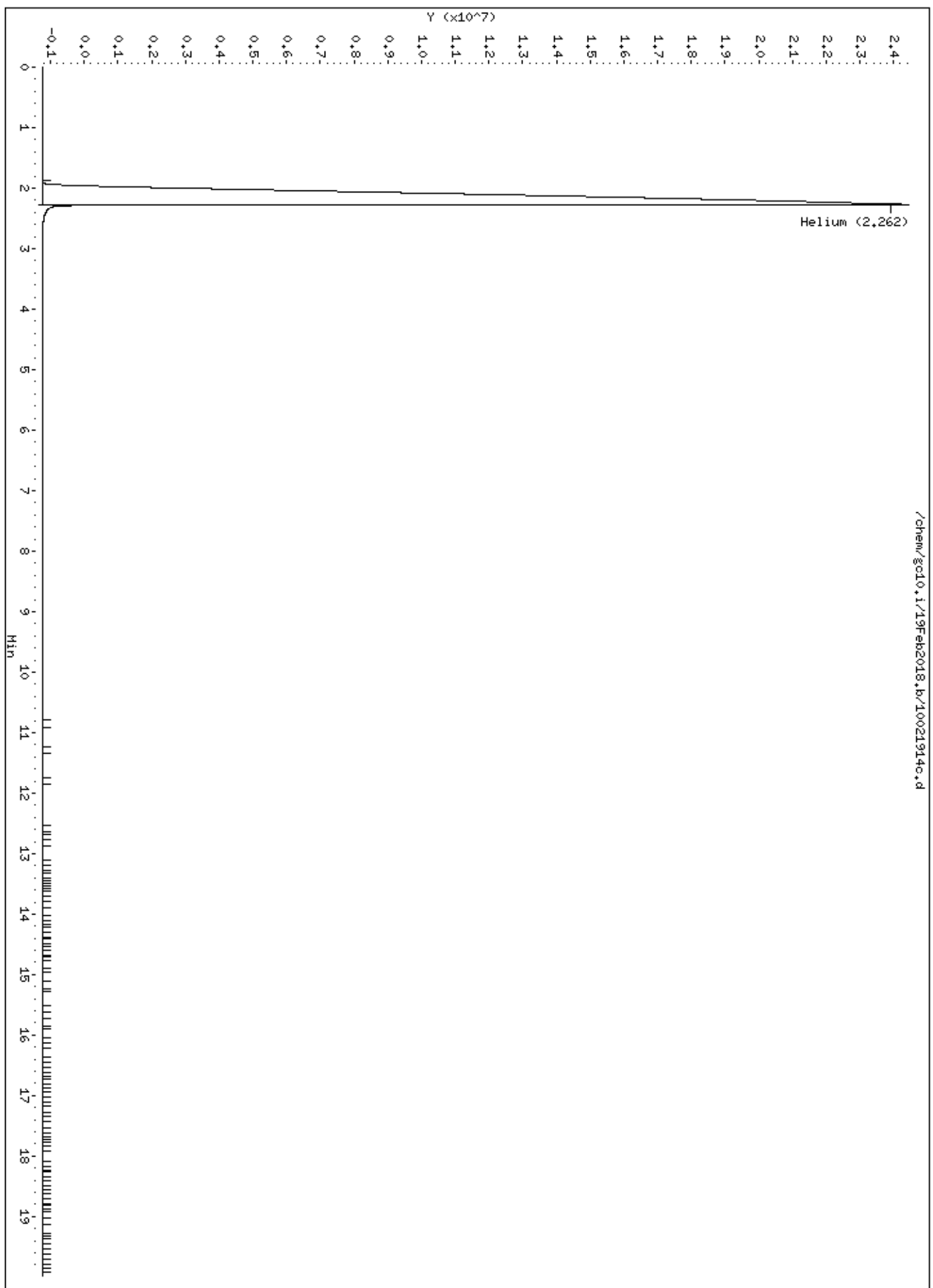
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Feb2018.b/10021914c.d
Lab Smp Id: 2810-798 Client Smp ID: Level 5
Inj Date : 19-FEB-2018 18:48
Operator : mjs Inst ID: gc10.i
Smp Info : (25:50)1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/19Feb2018.b/108C0219.m
Meth Date : 20-Feb-2018 13:40 mskidmor Quant Type: ESTD
Cal Date : 19-FEB-2018 18:48 Cal File: 10021914c.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: he.sub
Target Version: 3.50
Processing Host: eeyore

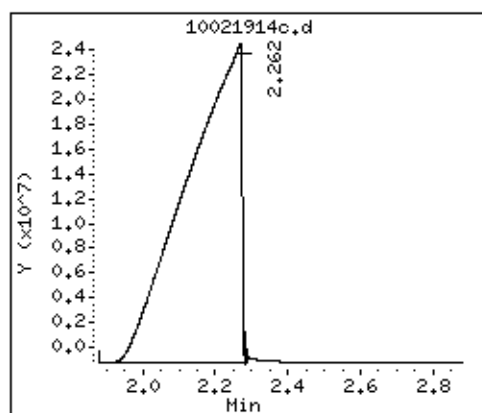
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
							(%)	(%)
=====	==	=====	=====		=====	=====	=====	=====
1 Helium	2.262	2.380	-0.118		13339967502	50.0000		53.2



1 Helium



Eurofins Air Toxics Inc.

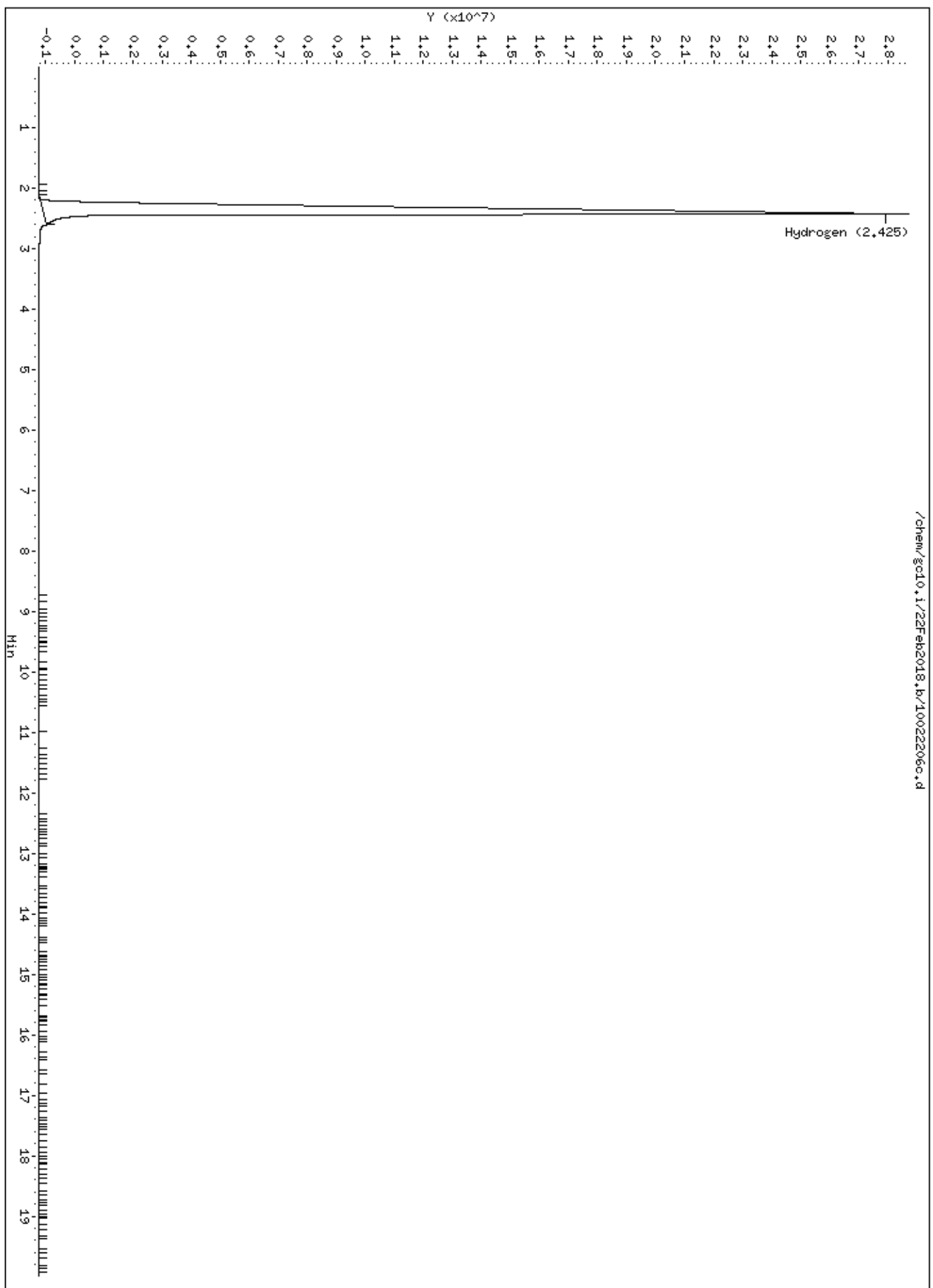
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/22Feb2018.b/10022206c.d
Lab Smp Id: 2810-799 Client Smp ID: Level 6
Inj Date : 22-FEB-2018 18:52
Operator : mjs Inst ID: gc10.i
Smp Info : (25:100)1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/22Feb2018.b/107n1213.m/107C0414.m/108C0222.m
Meth Date : 09-Mar-2018 13:42 lyohanne Quant Type: ESTD
Cal Date : 22-FEB-2018 18:52 Cal File: 10022206c.d
Als bottle: 1 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: h2.sub
Target Version: 3.50
Processing Host: eeyore

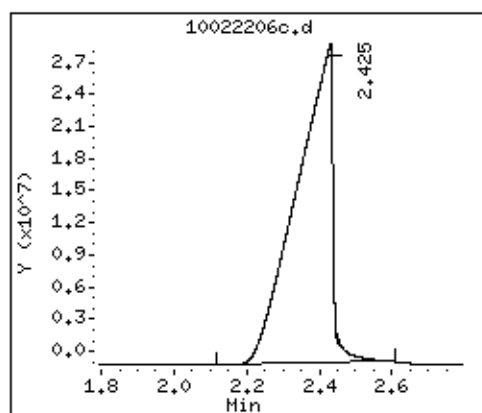
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
							(%)	(%)
=====	==	=====	=====		=====	=====	=====	=====
2 Hydrogen	2.425	2.294	0.131		10280163225	25.0000		23.6



2 Hydrogen



Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Feb2018.b/10021915c.d
Lab Smp Id: 2810-798 Client Smp ID: Level 6
Inj Date : 19-FEB-2018 19:14
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/19Feb2018.b/108C0219.m
Meth Date : 20-Feb-2018 13:40 mskidmor Quant Type: ESTD
Cal Date : 19-FEB-2018 19:14 Cal File: 10021915c.d
Als bottle: 1 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: he.sub
Target Version: 3.50
Processing Host: eeyore

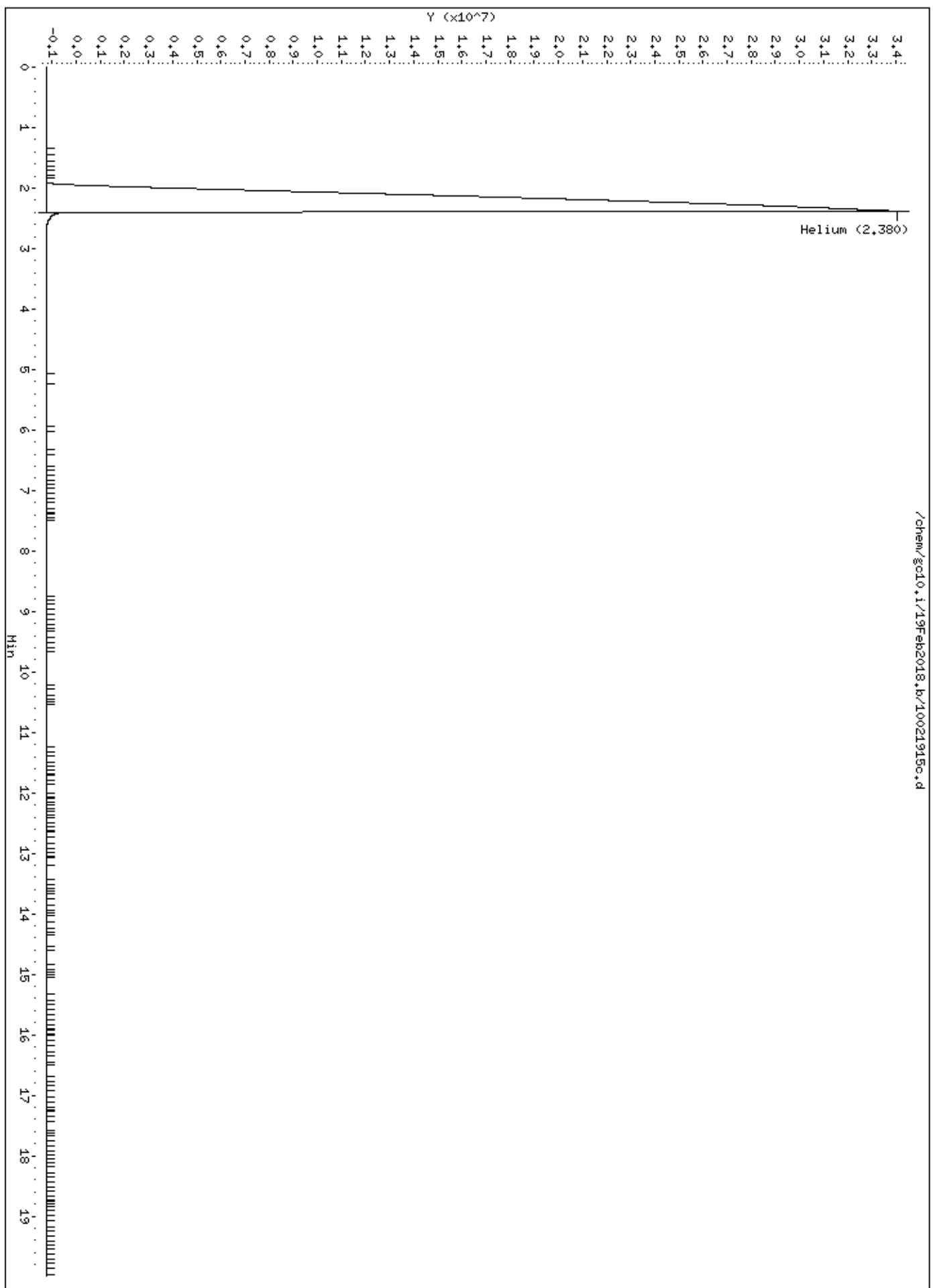
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

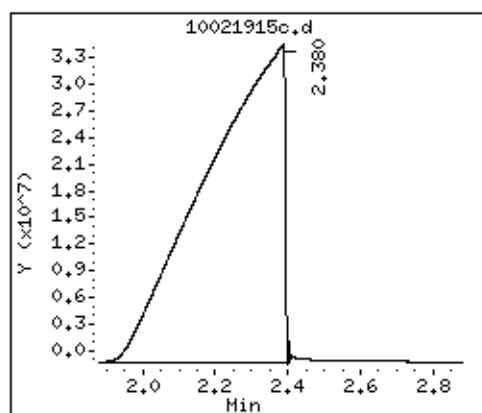
Compounds	RT	EXP	RT	DLT	RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
							(%)	(%)
=====	==	=====	=====			=====	=====	=====
1 Helium	2.380	2.380	0.000			26599377052	100.000	105(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.



1 Helium



GC-10 ASTM D-1945/1946

Report Date : 15-Feb-2018 12:13

He/H₂ MBL

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/gc10.i/13Feb2018.b/107n1213.m/107C0414.m/107C0216.m
Batch File: /chem/gc10.i/13Feb2018.b
Inst ID: gc10.i

ID: MDL01 MDL02 MDL03 MDL04 MDL05 MDL06 MDL07
FILENAME: 10021308c 10021309c 10021310c 10021407c 10021408c 10021507c 10021508c
INJ. DATE: 13-FEB-2018 13-FEB-2018 13-FEB-2018 14-FEB-2018 14-FEB-2018 15-FEB-2018 15-FEB-2018
INJ. TIME: 11:48 12:11 12:35 10:13 10:36 10:56 11:27

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL
1 Helium	367.51	356.11	377.20	382.59	375.91	386.19	371.11	373.80	10.05	31.60
2 Hydrogen	96.17	88.69	103.75	107.02	108.24	109.92	101.48	102.18	7.54	23.70

1.0 ml of Std# 2283-146 was
spiked, resulting in a
concentration of Helium at 0.00316%
and Hydrogen at 0.00233%.

Reviewer 1 [Signature] Date: 2/16/18
Reviewer 2 [Signature] Date: 02/23/18

US32APPTV002

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gc10.i Injection Date: 27-JUL-2018 08:18
Lab File ID: 10072701c.d Init. Cal. Date(s): 19-FEB-2018 22-FEB-2018
Analysis Type: AIR Init. Cal. Times: 16:44 19:46
Lab Sample ID: CCV Quant Type: ESTD
Method: /chem/gc10.i/27Jul2018.b/107n1213.m/108C0420.m/108C0222.m

COMPOUND	_____		MIN		MAX	
	RRF / AMOUNT	RF0.000	RRF	%D / %DRIFT	%D / %DRIFT	CURVE TYPE
=====						
1 Helium	258548632	253058064	0.010	2.12361	15.00000	Averaged

US32APPTV002

Modified ASTM D-1945/1946

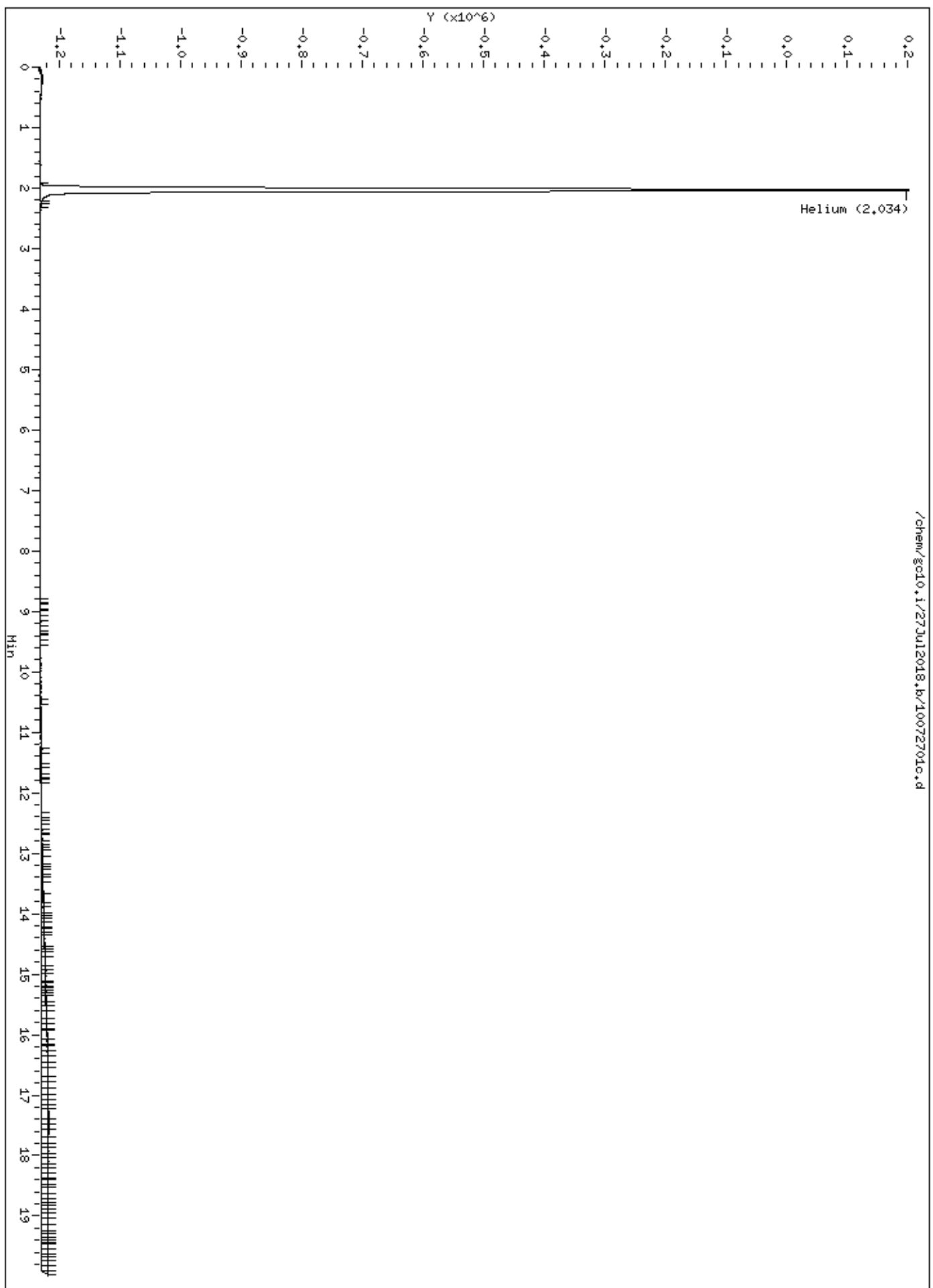
Data file : /chem/gc10.i/27Jul2018.b/10072701c.d
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 27-JUL-2018 08:18
Operator : gd Inst ID: gc10.i
Smp Info :
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/27Jul2018.b/107n1213.m/108C0420.m/108C0222.m
Meth Date : 27-Jul-2018 08:56 ugdc Quant Type: ESTD
Cal Date : 22-FEB-2018 19:46 Cal File: 10022208c.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: he.sub

Processing Host: us32apptv003

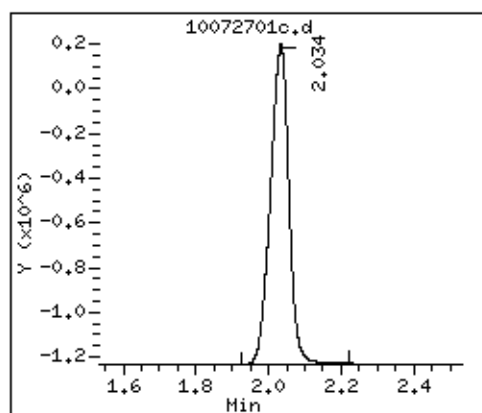
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
							(%)	(%)
=====	==	=====	=====			=====	=====	=====
1 Helium	2.034	2.034	0.000			253058063	1.00000	0.979



1 Helium



NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946



Client ID:	LCS	Date/Time Analyzed:	7/27/18 08:58 AM
Lab ID:	1807359B-04A	Dilution Factor:	1.00
Date/Time Collecte	NA - Not Applicable	Instrument/File name:	gc10.i / 10072702c
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Helium	7440-59-7	100

* % Recovery is calculated using unrounded analytical results.

US32APPTV002

RECOVERY REPORT

Client Name: Client SDG: 27Jul2018
Sample Matrix: GAS Fraction: Atm Gas
Lab Smp Id: LCS Client Smp ID: LCS
Level: LOW Operator: gd
Data Type: GC DATA SampleType: LCS
SpikeList File: 2810-691he.spk Quant Type: ESTD
Sublist File: ngas.sub
Method File: /chem/gc10.i/27Jul2018.b/107n1213.m/108C0420.m/108C0222.m
Misc Info: 1.0ml.,;;;2810-691

SPIKE COMPOUND	CONC ADDED %	CONC RECOVERED %	% RECOVERED
1 Helium	1.00	1.00	100.55

US32APPTV002

Modified ASTM D-1945/1946

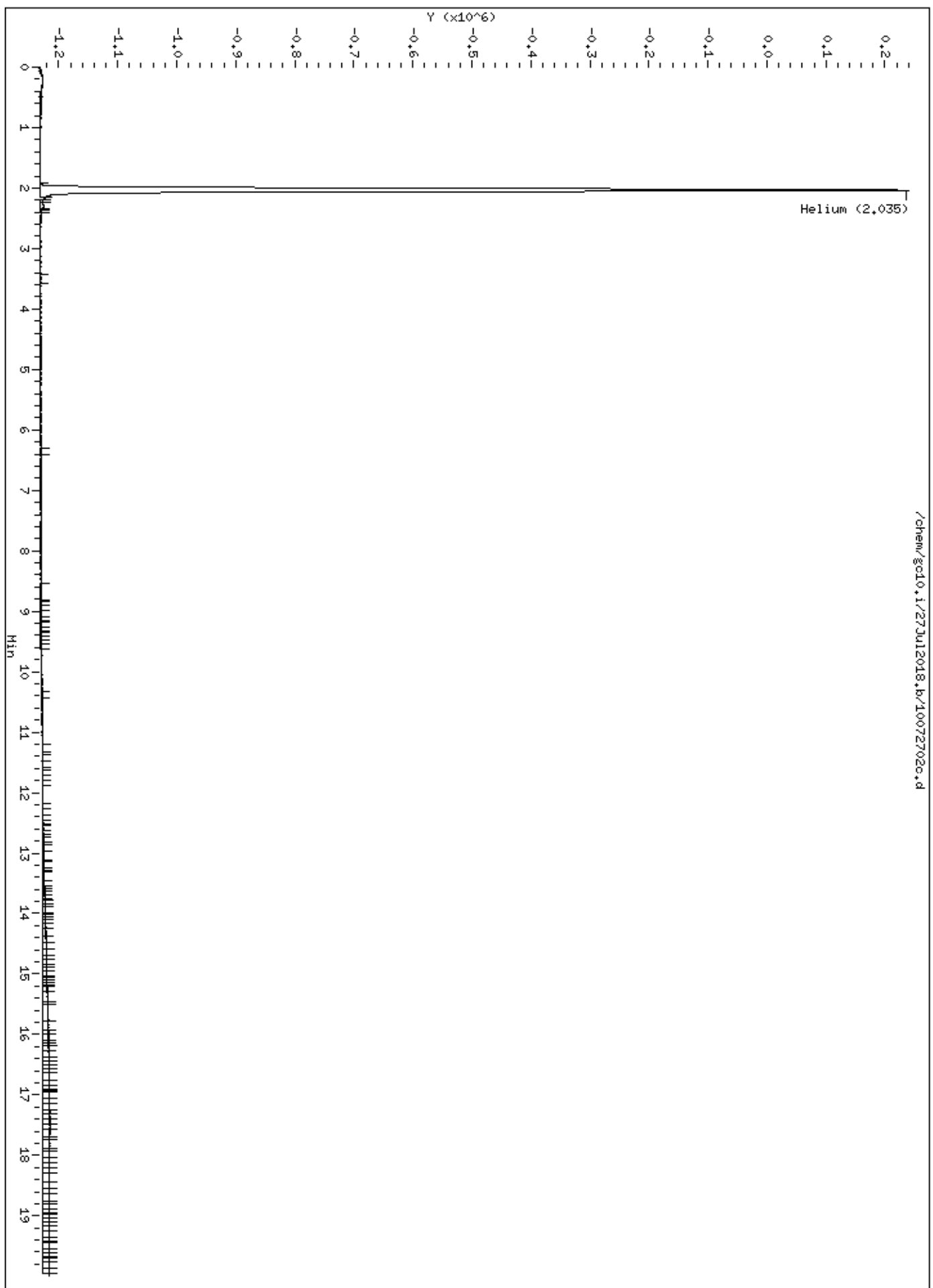
Data file : /chem/gc10.i/27Jul2018.b/10072702c.d
Lab Smp Id: LCS Client Smp ID: LCS
Inj Date : 27-JUL-2018 08:58
Operator : gd Inst ID: gc10.i
Smp Info :
Misc Info : 1.0ml.,;;;2810-691
Comment : GC/TCD
Method : /chem/gc10.i/27Jul2018.b/107n1213.m/108C0420.m/108C0222.m
Meth Date : 27-Jul-2018 08:56 ugdc Quant Type: ESTD
Cal Date : 22-FEB-2018 19:46 Cal File: 10022208c.d
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ngas.sub

Processing Host: us32apptv003

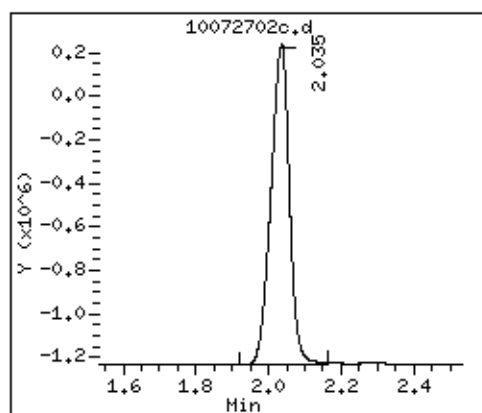
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
							(%)	(%)
=====	==	=====	=====		=====	=====	=====	=====
1 Helium	2.035	2.034	0.001		259962459	1.00547	1.00	



1 Helium



NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946



Client ID:	LCSD	Date/Time Analyzed:	7/27/18 09:57 PM
Lab ID:	1807359B-04AA	Dilution Factor:	1.00
Date/Time Collecte	NA - Not Applicable	Instrument/File name:	gc10.i / 10072725c
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Helium	7440-59-7	100

* % Recovery is calculated using unrounded analytical results.

US32APPTV002

RECOVERY REPORT

Client Name: Client SDG: 27Jul2018
Sample Matrix: GAS Fraction: Atm Gas
Lab Smp Id: 2810-691 Ngas Client Smp ID: LCSD
Level: LOW Operator: mjs
Data Type: GC DATA SampleType: LCSD
SpikeList File: 2810-691he.spk Quant Type: ESTD
Sublist File: ngas.sub
Method File: /chem/gc10.i/27Jul2018.b/107n1213.m/108C0420.m/108C0222.m
Misc Info:

SPIKE COMPOUND	CONC ADDED %	CONC RECOVERED %	% RECOVERED
1 Helium	1.00	1.00	100.59

US32APPTV002

Modified ASTM D-1945/1946

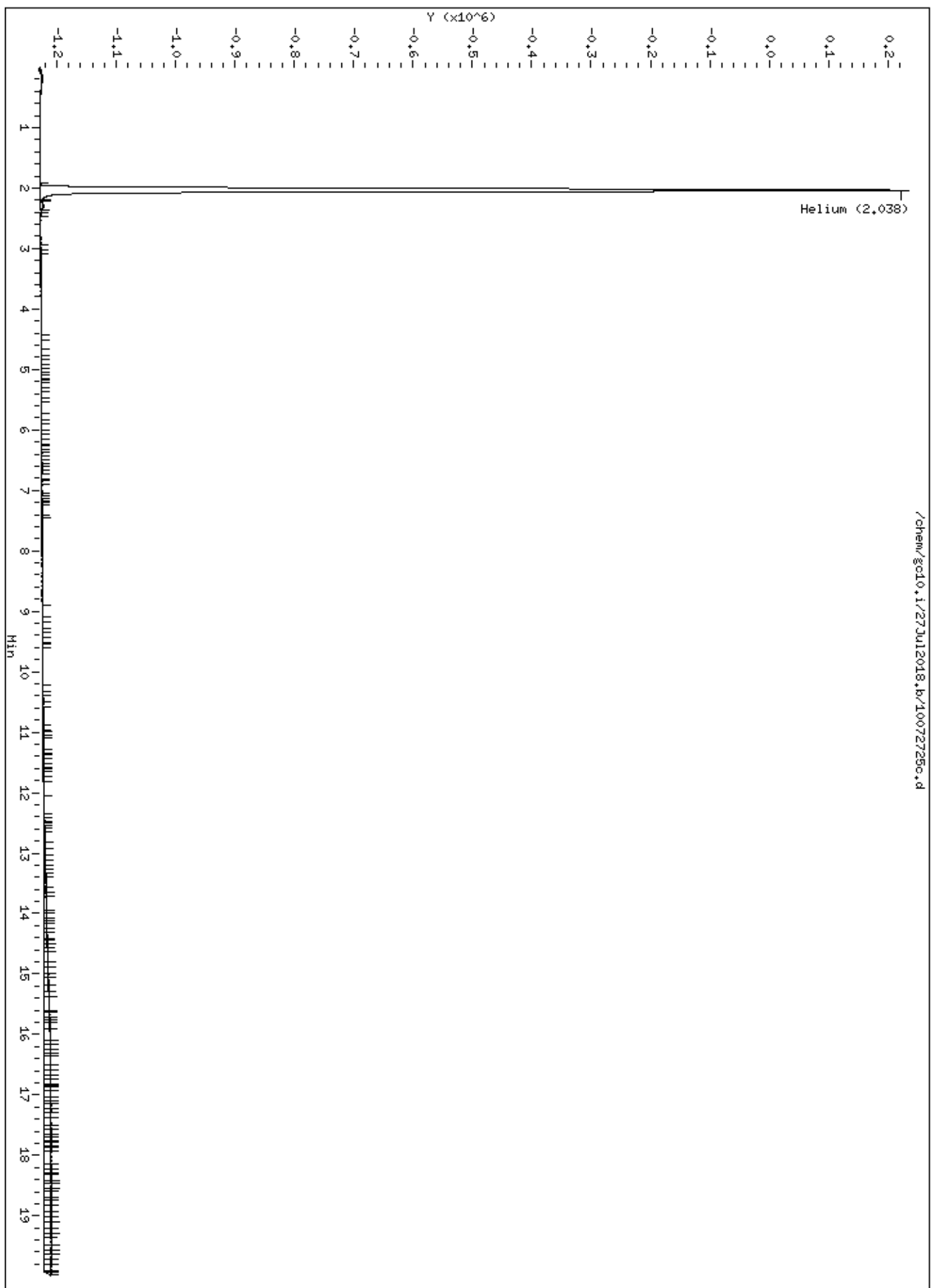
Data file : /chem/gc10.i/27Jul2018.b/10072725c.d
Lab Smp Id: 2810-691 Ngas Client Smp ID: LCSD
Inj Date : 27-JUL-2018 21:57
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/27Jul2018.b/107n1213.m/108C0420.m/108C0222.m
Meth Date : 27-Jul-2018 08:56 ugdc Quant Type: ESTD
Cal Date : 22-FEB-2018 19:46 Cal File: 10022208c.d
Als bottle: 1 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ngas.sub

Processing Host: us32apptv003

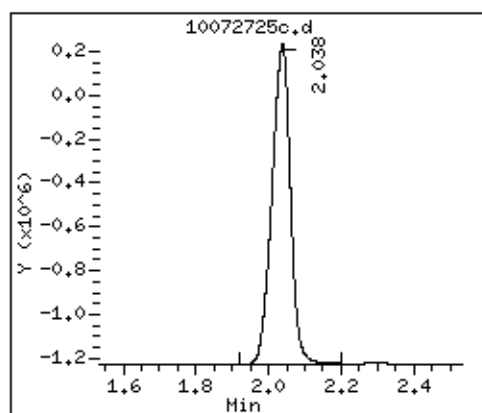
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
							(%)	(%)
=====	==	=====	=====		=====	=====	=====	=====
1 Helium	2.038	2.034	0.004		260072895	1.00590	1.00	



1 Helium



ES	File #	Sample Name/Client ID	Can #	Ver. Pressure >2psi	Pressure	Amt	DF	Date	Time	Review Init.	Comments
✓	16072701	2810-252 Agas	N/A	N/A	N/A	1.0mL	1.00	7/27/18	0818	<i>ga</i>	
✓	162	2810-691 Ngas							0858		
✓	03	N2 Lab Blank	34341						0953		
✓	04	He	620015	N/A	N/A		1.00		1033		
✓	05	1807387B-20A	N/3468	✓	4.5Hg - 15psi	✓	2.38		1146		
✓	06		162316	✓	5Hg - 15psi	1.0mL	2.42		1252	<i>ga</i>	
✓	07		N/3464	✓	5Hg - 15psi	1.0mL	2.42		1339		
✓	08		N/3853	✓	5.5Hg - 15psi		2.42		1402	✓	
✓	09		N/3165	✓	5.0Hg - 15psi		2.42		1434		
✓	10		N/2044	✓	5.5Hg - 15psi		2.42		1502		
✓	11	1807465B-01A	N/1909	✓	13.9Hg - 75.0psi		2.49		1525		
✓	12		N/21715	✓	14.5Hg - 74.9psi		2.58		1554		
✓	13		N/0430	✓	4.1Hg - 24.9psi		1.54		1617		
✓	14		N/2816	✓	15.5Hg - 75.1psi		2.79		1639		
✓	15		N/051A	✓	14.3Hg - 24.8psi		2.53		1702		

Calculation check:

File ID: 16072702

Compound: CH4

Initials: *ga*

Sample Amt=

Area Count Sample x

Dilution Factor =

(2173713825) x

(1.00) =

10.3

RF

(210768786)

Reported Result=

10.3

Reviewed by/Date *PF 7/27/18*

USE	File #	Sample Name/Client ID	Can #	Verified Pressure >2psi	Pressure	Amt	DF	Date	Time	Review Init.	Comments
✓	10072716	1807465B-064	N0651	✓	14.1"Hg → 5.1psi	1.0ml	2.54	7/27/18	1726	MGS	
✓	17	1807465B-064	N0651	✓	13.7"Hg → 24.9psi	1	2.45		1838	MGS	
✓	18	1807359B-024	0716	✓	11.0"Hg → 5.0psi	1	1.39		1905	MGS	Client can
✓	19	1807406B-011	1792	✓	4.7"Hg → 15.1psi	1	2.40		1928	MGS	
✓	20	1807406B-011	1792	✓	5.7"Hg → 15.1psi	1	2.50		1952	MGS	
✓	21	1807406B-011	1792	✓	4.7"Hg → 14.8psi	1	2.38		2015	MGS	
✓	22	1807406B-011	1792	✓	4.3"Hg → 15.2psi	1	2.37		2039	MGS	
✓	23	1807406B-011	1792	✓	5.1"Hg → 14.6psi	1	2.40		2104	MGS	
✓	24	1807406B-011	1792	✓	4.5"Hg → 14.9psi	1	2.37		2132	MGS	
✓	25	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	1500 11/23/20
✓	26	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	27	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	28	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	29	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	30	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	31	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	32	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	33	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	34	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	35	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	36	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	37	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	38	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	39	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	40	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	41	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	42	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	43	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	44	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	45	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	46	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	47	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	48	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	49	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	50	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	51	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	52	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	53	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	54	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	
✓	55	1807406B-011	1792	✓	4.1"Hg → 14.9psi	1	2.37		2157	MGS	

Calculation check:

File ID:

Compound:

Oxygen

Initials:

MGS

Sample Amt=

Area Count Sample x

Dilution Factor =

(3899921626) x

(12.54) =

20.2

RF

(490971302)

Reported Result=

20.2

Reviewed by/Date JF 7/27/18

Shipping/ Receiving Documents

Eurofins Air Toxics, Inc. Sample Receipt Confirmation Cover Page

Thank you for choosing Eurofins Air Toxics, Inc. (EATL). We have received your samples and have listed any Sample Receipt Discrepancies below.

In order to expedite analysis and reporting, please review the attached information for accuracy.

For corrections call: **Air Toxics, Ltd. at 916-985-1000**

EATL will proceed with the analysis as specified on the Chain of Custody (COC) and Sample Receipt Summary page.

Please note : The Sample Receipt Confirmation, including the total workorder charge, is subject to change upon secondary review. Our aim is to provide a confirmation to you in a timely manner. Sample Receipt Discrepancies, if any, may not include discrepancies regarding sample receipt pressure(s). Additionally, the COC will be provided with the final report.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

**(916) 985-1000 .FAX (916) 985-1020
Hours 6:30 A.M to 5:30 P.M. PST**

Chain of Custody Record/Field Test Data Sheets

for Air Analyses

Special Handling:
☐ Standard TAT - 7 to 10 business days
☐ Rush TAT - Date Needed: _____

- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes

Report To: GHD		Invoice To: Some		Project No.:		Analysis		Matrix							
Client: Don Rattmann		Site Name: Enterprise		Location: Huntsville		State: AL									
Tel #: 256-884-0510		Attn:		Sampler(s): Water Anal											
Project Manager: Don Rattmann		P.O. No.:		RQN:											
Can ID	Can Size (L)	Outgoing Canister Pressure (Psi)	Incoming Canister Pressure (Psi)	Flow Controller Reduct (m/min)	Lab Id	Sample Id	Sample Date(s)	Time Start (24 hr clock)	Time Stop (24 hr clock)	Canister Pressure in Field (Psi) (Start)	Canister Pressure in Field (Psi) (Stop)	Interior Temp (F) (Start)	Interior Temp (F) (Stop)	Indoor /Ambient Air	Soil Gas
0436	-30						7/18/18	8:30	4:10	-27	-5				
0716	-30				02A		7/11/18	10:30	12:00	-30	-1				
2854	-30						7/11/18	13:00	13:30	-29	-1				
LABORATORY USE ONLY Date of Request: 6-28-18 Total # Canisters: 3 Special Instructions/QC Requirements & Comments: Requested by: Kathleen Wilk # LL Canisters: - Company: GHD Services Inc # Flow Controllers: 3 Location: Indonwust, NY Flow Rate/Setting: 0.5 L/s Date Needed: 7-2-18 # Filters: - Order #: 44951 Gauge #: 24 Prepared by: THB/SNO Printed: _____ I attest that all media has been received in good working condition, based on visual observation, and agree to the terms and conditions as listed on the back of this document. Signed: _____ Date: _____ * additional charge may apply contact ES&I's Client Service Dept for further info.															
Relinquished by: _____ Received by: _____ Date: _____ Time: _____ ☐ EDD Format ☐ E-mail Results to _____ 1807359															

SAMPLE RECEIPT SUMMARY

WORKORDER 1807359B

Client

Ms. Kathy Willy
GHD
2055 Niagara Falls Blvd.
Suite Three
Niagara Falls, NY 14304

Phone

716-297-6150

Fax

716-297-6296

Date Promised: 07/30/18 2:00 pm

Date Completed: 7/28/18

Date Received: 7/23/18

PO#: 256-402-D02-3100

Project#:

Total \$: \$ 65.00

Logged By: JCW

Sales Rep: SP

<u>Fraction</u>	<u>Sample #</u>	<u>Analysis</u>	<u>Collected</u>	<u>Receipt Vac./Pres.</u>	<u>Amount\$</u>
02A	SV-1	Modified ASTM D-1946	7/11/2018	1.0 "Hg	\$65.00
03A	Lab Blank	Modified ASTM D-1946	NA	NA	\$0.00
04A	LCS	Modified ASTM D-1946	NA	NA	\$0.00
04AA	LCSD	Modified ASTM D-1946	NA	NA	\$0.00

Note: Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: Hicksville/22832

BILL TO: Ms. Kathy Willy
GHD
2055 Niagara Falls Blvd.
Suite Three
Niagara Falls, NY 14304

Analysis Code: ASTM

TERMS: PWP-NTE 120

Reporting Method: Modified ASTM D-1946 (Sh)-He only
180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

Other Records

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Vacuum}} = \frac{14.7\text{psi} + \text{Final Pressure (psi)}}{14.7\text{psi} - [\text{Init. Pressure ("Hg)} * (14.7\text{psi}/30\text{"Hg})]}$$

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Pressure}} = \frac{14.7\text{psi} + \text{Final Pressure (psi)}}{14.7\text{psi} + \text{Initial Pressure (psi)}}$$

	5 psi	15 psi
Initial Vacuum (" of Hg)	Final Pressure Dilution Factor	Final Pressure Dilution Factor
0.0	1.34	2.02
0.2	1.35	2.03
0.4	1.36	2.05
0.5	1.36	2.05
0.6	1.37	2.06
0.8	1.38	2.08
1.0	1.39	2.09
1.2	1.40	2.10
1.4	1.40	2.12
1.5	1.41	2.13
1.6	1.42	2.13
1.8	1.42	2.15
2.0	1.44	2.16
2.2	1.45	2.18
2.4	1.46	2.20
2.5	1.46	2.20
2.6	1.47	2.21
2.8	1.48	2.23
3.0	1.49	2.24
3.2	1.50	2.26
3.4	1.51	2.28
3.5	1.52	2.29
3.6	1.52	2.30
3.8	1.53	2.31
4.0	1.55	2.33
4.2	1.56	2.35
4.4	1.57	2.37
4.5	1.58	2.38
4.6	1.58	2.39
4.8	1.60	2.40
5.0	1.61	2.42
5.2	1.62	2.44
5.4	1.63	2.46
5.5	1.64	2.47
5.6	1.65	2.48
5.8	1.66	2.50
6.0	1.68	2.52
6.2	1.69	2.55
6.4	1.70	2.57
6.5	1.71	2.58
6.6	1.72	2.59
6.8	1.73	2.61
7.0	1.75	2.64
7.2	1.76	2.66
7.4	1.78	2.68
7.5	1.79	2.69
7.6	1.79	2.70

	5 psi	15 psi
Initial Vacuum (" of Hg)	Final Pressure Dilution Factor	Final Pressure Dilution Factor
7.7	1.80	2.72
7.8	1.81	2.73
8.0	1.83	2.76
8.2	1.84	2.78
8.4	1.86	2.81
8.5	1.87	2.82
8.6	1.88	2.83
8.8	1.90	2.86
9.0	1.91	2.89
9.2	1.93	2.91
9.4	1.95	2.94
9.5	1.96	2.96
9.6	1.97	2.97
9.8	1.99	3.00
10.0	2.01	3.03
10.2	2.03	3.06
10.4	2.05	3.09
10.5	2.06	3.11
10.6	2.07	3.12
10.8	2.09	3.16
11.0	2.12	3.19
11.2	2.14	3.22
11.4	2.16	3.26
11.5	2.17	3.28
11.6	2.18	3.29
11.8	2.21	3.33
12.0	2.23	3.37
12.2	2.26	3.40
12.4	2.28	3.44
12.5	2.30	3.46
12.6	2.31	3.48
12.8	2.34	3.52
13.0	2.36	3.56
13.2	2.39	3.61
13.4	2.42	3.65
13.5	2.44	3.67
13.6	2.45	3.70
13.8	2.48	3.74
14.0	2.51	3.79
14.2	2.54	3.84
14.4	2.58	3.88
14.5	2.59	3.91
14.6	2.61	3.94
14.8	2.64	3.99
15.0	2.68	4.04
15.2	2.72	4.10
15.4	2.75	4.15

Initial Vacuum (" of Hg)	5 psi Final Pressure Dilution Factor	15 psi Final Pressure Dilution Factor
15.5	2.77	4.18
15.6	2.79	4.21
15.8	2.83	4.27
16.0	2.87	4.33
16.2	2.91	4.39
16.4	2.96	4.46
16.5	2.98	4.49
16.6	3.00	4.52
16.8	3.05	4.59
17.0	3.09	4.66
17.2	3.14	4.74
17.4	3.19	4.81
17.5	3.22	4.85
17.6	3.24	4.89
17.8	3.30	4.97
18.0	3.35	5.05
18.2	3.41	5.14
18.4	3.47	5.22
18.5	3.50	5.27
18.6	3.53	5.32
18.8	3.59	5.41
19.0	3.65	5.51
19.2	3.72	5.61
19.4	3.79	5.72
19.5	3.83	5.77
19.6	3.87	5.83
19.8	3.94	5.94
20.0	4.02	6.06
20.2	4.10	6.18
20.4	4.19	6.31
20.5	4.23	6.38
20.6	4.28	6.45
20.8	4.37	6.59
21.0	4.47	6.73
21.2	4.57	6.89
21.4	4.67	7.05
21.5	4.73	7.13
21.6	4.79	7.22
21.8	4.90	7.39
22.0	5.03	7.58
22.4	5.29	7.98

Initial Vacuum (" of Hg)	5 psi Final Pressure Dilution Factor	15 psi Final Pressure Dilution Factor
22.5	5.36	8.08
22.6	5.43	8.19
22.8	5.58	8.42
23.0	5.74	8.66
23.2	5.91	8.91
23.4	6.09	9.18
23.5	6.19	9.32
23.6	6.28	9.47
23.8	6.48	9.78
24.0	6.70	10.10
24.2	6.93	10.45
24.4	7.18	10.82
24.5	7.31	11.02
24.6	7.45	11.22
24.8	7.73	11.66
25.0	8.04	12.12
25.2	8.38	12.63
25.4	8.74	13.18
25.5	8.93	13.47
25.6	9.14	13.78
25.8	9.57	14.43
26.0	10.05	15.15
26.2	10.58	15.95
26.4	11.17	16.84
26.5	11.49	17.32
26.6	11.82	17.83
26.8	12.56	18.94
27.0	13.40	20.20
27.2	14.36	21.65
27.4	15.46	23.31
27.5	16.08	24.24
27.6	16.75	25.26
27.8	18.27	27.55
28.0	20.10	30.31
28.2	22.34	33.67
28.4	25.13	37.88
28.5	26.80	40.41
28.6	28.72	43.29
28.8	33.50	50.51
29.0	40.20	60.61

Compound List

Modified ASTM D-1946 (Sh)-He only

CAS Number	Compound	Detection Limit	Type
		%	
7440-59-7	Helium	0.050	

Eurofins Air Toxics, Inc.		Data Review Checklist		Release Date: 11/21/17
Workorder # 180735913		Form F1.27	Revision #15	Revision Date: 11/21/17
				Page 1 of 2

S	S	S	S	D	Section 1 – Spec Out					
1	2	3	4		Initials/Instrument/Date		S1: GC-10 R03 7/27/18	S2:	S3:	S4:
					Project Identification (PID), Project Requirements Table (PRT), Daily QC and ICAL met Criteria					
					Lumen QC and ICAL evaluation (ref. SOP/Method) report initialed and in folder					
					Manual Integrations included and approved					
					Chain of Custody verified for special comments (add comments below)					
					Non-standard Target sublist verified (MDL, LOD, RL, control limits, etc.)					
					Verified standard expiration dates					

Profile, analyses, reporting, special notes and unusual circumstances:

A	A	A	A	D	Section 2 – Sample Analysis					
1	2	3	4		Initials/Date		A1: R03 7/27/18	A2:	A3:	A4:
					IS/Surr Recoveries, Dilution Factors, Load Volumes, leg(s) of instrument, Initial/Final Pressures, Canister #s Verified and dilution ranges are met per SOP (ex. Over-ranged/overdiluted)					
					a) Tedlar Bag IDs verified against COC b) Tedlar Bag ID confirmed with loading sequence/leg(s) of instrument					
					Manual Integrations/Bag or Can Dilution Forms/Re-pressurization Forms/Bag-Can Transfer Forms present (circle all that apply)					
					12/24 Hr clock time & Hold Time met for all samples					
					Re-analysis of sample(s) has been evaluated for comparability and/or sample(s) has/have been checked for trends (Inf/Eff), field dups/trip blanks, samples following bad loads on CIAAs have been verified (system blks, confirmation runs).					
					All runs have been evaluated for potential carry-over (TPHg/non-Target/over-range compounds/ etc.)					

Analytical and special notes:

D	D	D	D	T	3	Section 3 – Target Data Reduction		Technical Review Needed?		T:
1	2	3	4			Initials/Instrument/Date		D1: 7/28/18	D2:	D3:
						CAR # GC-10		(if applicable)		D4:
						Spectra Verified (documentation of spectral defense included if applicable)				
						TICs resemble reference spectra/ TICs between sample dups. are consistent (if applicable)				
						Lab Narrative is correct				
						TPH/NMOC calculations complete and included in folder				

Special notes:

A	3	T	Section 4- Atlas Data Entry		Lumen verified and included in folder		Circle one: Yes/No	
			Initials/Date: 7/28/18		3 rd Tier: (needed only for DOD or per client request)			
			Sample Discrepancy Report (SDR) complete and approved (if applicable)					
			Manually entered results are checked					
			At least one result per sample is verified against Target quant sheets					
			Appropriate data qualifier flags are applied					
			Final Invoice is correct/ Final PDF report, COC and EDD reviewed and correct					

Special Notes:

Note (1) Please check all the appropriate boxes. Indicate "NA" for any statement that doesn't apply
 Note (2) 3rd Tier Report Reviewer and Write Up Reviewer must be separate individuals for DoD & Client Specific Projects

Eurofins Air Toxics, Inc. Reissued	Data Review Checklist			Release Date: 11/21/17
	Form F1.27	Revision #15	Revision Date: 11/21/17	Page 2 of 2

Workorder # :				Reason for Reissue:
W	T	3T	Q	
				Reissue Request form Present
				Client or QA or Lab contact present with reason for reissue
				Review all affected data
				Report header has correct R1, R2 etc
				The Lab Narrative clearly explains the reissue (Date, Reason and whether client requested)
				Date for Reissue in Report Header matches date in Lab Narrative
				Check Project Profile for correct reporting instructions (multiple clients, # hardcopies, etc)
				Corrective Action issued - #
				The reissued workorder has been approved by QA Manager or a Technical Director
Additional Comments:				
Write Up (Initials/Date)		Tech Review (Initials/Date)		*3rd Tier Review <i>* 3rd Tier Report Review is for DoD & Client Specific projects only</i> (Initials/Date)
				QA Review (Initials/Date)

Workorder # :				Reason for Reissue:
W	T	3T	Q	
				Reissue Request form Present
				Client or QA or Lab contact present with reason for reissue
				Review all affected data
				Report header has correct R1, R2 etc
				The Lab Narrative clearly explains the reissue (Date, Reason and whether client requested)
				Date for Reissue in Report Header matches date in Lab Narrative
				Check Project Profile for correct reporting instructions (multiple clients, # hardcopies, etc)
				Corrective Action issued - #
				The reissued workorder has been approved by QA Manager or a Technical Director
Additional Comments:				
Write Up (Initials/Date)		Tech Review (Initials/Date)		*3rd Tier Review <i>* 3rd Tier Report Review is for DoD & Client Specific projects only</i> (Initials/Date)
				QA Review (Initials/Date)

Note (1) Please check all the appropriate boxes. Indicate "NA" for any statement that doesn't apply

Note (2) 3rd Tier Report Reviewer and Write Up Reviewer must be separate individuals for DoD & Client Specific Projects

Not Applicable

Electronic Comprehensive Validation Package (eCVP)

COMPREHENSIVE VALIDATION PACKAGE

TO-15

INVENTORY SHEET

Work Order #: 1811221A

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b. Target Compound Raw Data		
-Internal Standard Area and Retention Time Summary		
-Surrogate Recovery Summary (If Applicable)		
-Chromatogram(s) and Ion Profiles (If Applicable)		
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Comments:

Completed by:

Vera Belitsky

Vera Belitsky / Document Control

11/27/18

(Signature)

(Print Name & Title)

(Date)

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WORK ORDER #: 1811221A

Work Order Summary

CLIENT:	Ms. Kathy Willy GHD 2055 Niagara Falls Blvd. Suite Three Niagara Falls, NY 14304	BILL TO:	Ms. Kathy Willy GHD 2055 Niagara Falls Blvd. Suite Three Niagara Falls, NY 14304
PHONE:	716-297-6150	P.O. #	256-402-D02-3100
FAX:	716-297-6296	PROJECT #	Biosperge
DATE RECEIVED:	11/09/2018	CONTACT:	Rachel Selenis
DATE COMPLETED:	11/16/2018		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SSD-Leg (Enterprice)	TO-15	2.8 "Hg	4.7 psi
02A	VP-41	TO-15	0.6 psi	4.6 psi
03A	VP-46	TO-15	2 "Hg	4.5 psi
04A	Lab Blank	TO-15	NA	NA
05A	CCV	TO-15	NA	NA
06A	LCS	TO-15	NA	NA
06AA	LCSD	TO-15	NA	NA

CERTIFIED BY:



Technical Director

DATE: 11/16/18

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
GHD
Workorder# 1811221A

Three 6 Liter Summa Canister samples were received on November 09, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

The Chain of Custody (COC) was not relinquished properly. A time was not provided by the field sampler.

Despite the use of flow controllers for sample collection, the final canister vacuum for sample VP-41 was measured at ambient pressure at the laboratory.

Analytical Notes

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives.

Dilution was performed on sample SSD-Leg (Enterprise) due to the presence of high level target species.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Table 1

Client Sample ID	Lab Sample ID	Date Collected	Date Received	Date Extracted	Sample	Sample Extract		
					Holding Time (Days)	Date Analyzed	Holding Time (Days)	Sample Condition
SSD-Leg (Enterprice)	1811221A-01A	10/23/2018	11/ 9/2018	NA	23	11/15/2018	NA	Good
VP-41	1811221A-02A	11/ 7/2018	11/ 9/2018	NA	8	11/15/2018	NA	Good
VP-46	1811221A-03A	11/ 7/2018	11/ 9/2018	NA	8	11/15/2018	NA	Good
Lab Blank	1811221A-04A	NA	NA	NA	NA	11/15/2018	NA	Good
CCV	1811221A-05A	NA	NA	NA	NA	11/15/2018	NA	Good
LCS	1811221A-06A	NA	NA	NA	NA	11/15/2018	NA	Good
LCSD	1811221A-06AA	NA	NA	NA	NA	11/15/2018	NA	Good

Sample Results and Raw Data

EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	SSD-Leg (Enterprice)	Date/Time Analyzed:	11/15/18 07:48 PM
Lab ID:	1811221A-01A	Dilution Factor:	7.28
Date/Time Collected:	10/23/18 01:07 PM	Instrument/File Name:	msd17.i / 17111515
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	3.6	16	20	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	4.5	20	25	Not Detected
1,1,2-Trichloroethane	79-00-5	4.8	16	20	Not Detected
1,1-Dichloroethane	75-34-3	2.6	12	15	Not Detected
1,1-Dichloroethene	75-35-4	6.4	12	14	Not Detected
1,2,4-Trichlorobenzene	120-82-1	9.7	81	110	Not Detected
1,2,4-Trimethylbenzene	95-63-6	4.6	14	18	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	7.8	22	28	Not Detected
1,2-Dichlorobenzene	95-50-1	3.9	18	22	Not Detected
1,2-Dichloroethane	107-06-2	2.4	12	15	Not Detected
1,2-Dichloropropane	78-87-5	4.4	13	17	Not Detected
1,3,5-Trimethylbenzene	108-67-8	3.9	14	18	Not Detected
1,3-Butadiene	106-99-0	1.8	6.4	8.0	Not Detected
1,3-Dichlorobenzene	541-73-1	3.1	18	22	Not Detected
1,4-Dichlorobenzene	106-46-7	4.4	18	22	Not Detected
1,4-Dioxane	123-91-1	12	39	52	Not Detected
2,2,4-Trimethylpentane	540-84-1	2.7	14	17	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	6.9	32	43	28 J
2-Hexanone	591-78-6	6.0	45	60	Not Detected
2-Propanol	67-63-0	5.7	27	36	7.2 J
3-Chloropropene	107-05-1	11	34	46	Not Detected
4-Ethyltoluene	622-96-8	3.2	14	18	Not Detected
4-Methyl-2-pentanone	108-10-1	7.4	12	15	Not Detected
Acetone	67-64-1	12	26	86	31 J

EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	SSD-Leg (Enterprice)	Date/Time Analyzed:	11/15/18 07:48 PM
Lab ID:	1811221A-01A	Dilution Factor:	7.28
Date/Time Collected:	10/23/18 01:07 PM	Instrument/File name:	msd17.i / 17111515
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	1.9	15	19	Not Detected
Benzene	71-43-2	6.5	9.3	12	Not Detected
Bromodichloromethane	75-27-4	5.8	20	24	Not Detected
Bromoform	75-25-2	6.0	30	38	Not Detected
Bromomethane	74-83-9	11	42	140	Not Detected
Carbon Disulfide	75-15-0	10	34	45	Not Detected
Carbon Tetrachloride	56-23-5	3.7	18	23	Not Detected
Chlorobenzene	108-90-7	2.7	13	17	Not Detected
Chloroethane	75-00-3	13	29	38	Not Detected
Chloroform	67-66-3	2.8	14	18	4.9 J
Chloromethane	74-87-3	8.7	22	75	Not Detected
cis-1,2-Dichloroethene	156-59-2	2.3	12	14	Not Detected
cis-1,3-Dichloropropene	10061-01-5	3.6	13	16	Not Detected
Cumene	98-82-8	2.1	14	18	Not Detected
Cyclohexane	110-82-7	3.0	10	12	Not Detected
Dibromochloromethane	124-48-1	4.3	25	31	Not Detected
Ethanol	64-17-5	11	20	27	13 J
Ethyl Benzene	100-41-4	2.8	13	16	Not Detected
Freon 11	75-69-4	3.7	16	20	Not Detected
Freon 113	76-13-1	6.7	22	28	Not Detected
Freon 114	76-14-2	5.6	20	25	Not Detected
Freon 12	75-71-8	4.0	14	18	Not Detected
Heptane	142-82-5	5.4	12	15	Not Detected
Hexachlorobutadiene	87-68-3	19	120	160	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	SSD-Leg (Enterprice)	Date/Time Analyzed:	11/15/18 07:48 PM
Lab ID:	1811221A-01A	Dilution Factor:	7.28
Date/Time Collected:	10/23/18 01:07 PM	Instrument/Filename:	msd17.i / 17111515
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	2.6	10	13	5.5 J
m,p-Xylene	108-38-3	2.5	13	16	Not Detected
Methyl tert-butyl ether	1634-04-4	7.1	39	52	Not Detected
Methylene Chloride	75-09-2	8.3	38	130	9.3 J
o-Xylene	95-47-6	2.2	13	16	Not Detected
Propylbenzene	103-65-1	1.8	14	18	Not Detected
Styrene	100-42-5	2.2	12	16	Not Detected
Tetrachloroethene	127-18-4	3.4	20	25	4800
Tetrahydrofuran	109-99-9	2.4	8.6	11	Not Detected
Toluene	108-88-3	2.2	11	14	Not Detected
trans-1,2-Dichloroethene	156-60-5	4.3	12	14	Not Detected
trans-1,3-Dichloropropene	10061-02-6	2.0	13	16	Not Detected
Trichloroethene	79-01-6	7.4	16	20	65
Vinyl Chloride	75-01-4	2.2	7.4	9.3	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	96
4-Bromofluorobenzene	460-00-4	70-130	86
Toluene-d8	2037-26-5	70-130	103

US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/15NOV18.b/17111515.d
Lab Smp Id: 1811221A-01A
Inj Date : 15-NOV-2018 19:48
Operator : mjb
Smp Info : 40ml 00326
Misc Info : 2.8 Hg->4.7 psi
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/15NOV18.b/178q0613e.m
Meth Date : 15-Nov-2018 11:54 p5fl
Cal Date : 09-OCT-2018 15:59
Als bottle: 12
Dil Factor: 7.28000
Integrator: HP RTE
Sample Matrix: AIR
Processing Host: us32apptv003

Inst ID: msd17.i
Quant Type: ISTD
Cal File: 17100911.d
Compound Sublist: GHD22832.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL	FINAL	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====

* 98 Bromochloromethane						CAS #:	74-97-5		
5.499	5.497	(1.000)	130	178173	25.0000		80.00-	120.00	100.00
5.499	5.497	(1.000)	128	134842			48.32-	108.32	75.68
5.499	5.497	(1.000)	49	160791			63.40-	123.40	90.24

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.387	6.381	(1.000)	114	575679	25.0000		80.00-	120.00	100.00
6.387	6.381	(1.000)	88	88738			0.00-	44.55	15.41

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	541262	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	270264			17.97-	77.97	49.93

\$ 117 1,2-Dichloroethane-d4						CAS #:	17060-07-0		
6.036	6.035	(1.098)	65	194345	24.0218	24.022	80.00-	120.00	100.00
6.036	6.035	(1.098)	67	100576			23.66-	83.66	51.75

\$ 146 Toluene-d8						CAS #:	2037-26-5		
7.598	7.598	(1.190)	98	575974	25.6892	25.689	80.00-	120.00	100.00
7.598	7.598	(1.190)	70	60006			0.00-	40.01	10.42

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
					ON-COL (PPBV)	FINAL (PPBV)		
\$ 146	Toluene-d8 (continued)							
7.598	7.598	(1.190)	100	372975			35.43- 95.43	64.76
\$ 177	4-Bromofluorobenzene					CAS #: 460-00-4		
9.819	9.819	(1.112)	174	369445	21.6151	21.615	80.00- 120.00	100.00
9.819	9.819	(1.112)	95	368385			59.41- 119.41	99.71
9.819	9.819	(1.112)	176	355058			68.33- 128.33	96.11
42	Ethanol					CAS #: 64-17-5		
2.971	2.944	(0.540)	45	1918	0.94372	6.870	80.00- 120.00	100.00(a)
2.964	2.944	(0.539)	46	1041			9.17- 69.17	54.29
52	Acetone					CAS #: 67-64-1		
3.436	3.429	(0.625)	58	5164	1.79818	13.091	80.00- 120.00	100.00(a)
3.436	3.429	(0.625)	43	14197			290.24- 350.24	274.92
57	2-Propanol					CAS #: 67-63-0		
3.608	3.606	(0.656)	45	3721	0.40249	2.930	80.00- 120.00	100.00(a)
3.615	3.606	(0.657)	43	861			0.00- 51.65	23.13
0.000	3.606	(0.000)	59	0			0.00- 34.46	0.00
66	Methylene Chloride					CAS #: 75-09-2		
3.938	3.939	(0.716)	49	2420	0.36871	2.684	80.00- 120.00	100.00(a)
3.938	3.939	(0.716)	84	2018			60.06- 120.06	83.39
3.938	3.939	(0.716)	51	973			0.22- 60.22	40.22
78	Hexane					CAS #: 110-54-3		
4.396	4.384	(0.799)	57	2027	0.21606	1.573	80.00- 120.00	100.00(a)
4.389	4.384	(0.798)	43	824			28.25- 88.25	40.64
4.389	4.384	(0.798)	86	152			0.00- 48.98	7.51
92	2-Butanone					CAS #: 78-93-3		
5.299	5.292	(0.964)	72	4173	1.29854	9.453	80.00- 120.00	100.00(a)
5.299	5.292	(0.964)	43	14300			305.24- 365.24	342.62
5.306	5.292	(0.965)	57	1186			0.00- 59.67	28.42
100	Chloroform					CAS #: 67-66-3		
5.564	5.559	(1.012)	83	1912	0.13826	1.006	80.00- 120.00	100.00(a)
5.564	5.559	(1.012)	85	1085			35.00- 95.00	56.72
125	Trichloroethene					CAS #: 79-01-6		
6.581	6.581	(1.030)	95	14489	1.65803	12.070	80.00- 120.00	100.00
6.581	6.581	(1.030)	130	15993			81.76- 141.76	110.38
6.581	6.581	(1.030)	97	9783			34.64- 94.64	67.53
156	Tetrachloroethene					CAS #: 127-18-4		
8.092	8.092	(0.916)	166	1493945	98.0635	713.90	80.00- 120.00	100.00

					CONCENTRATIONS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL (PPBV)	FINAL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	(PPBV)	(PPBV)	=====	=====	=====
156 Tetrachloroethene (continued)									
8.085	8.092	(0.916)	129	1042552			36.14 -	96.14	69.79
8.085	8.092	(0.916)	131	1006148			34.69 -	94.69	67.35

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17111515.d
Lab Smp Id: 1811221A-01A
Analysis Type: VOA
Quant Type: ISTD
Operator: mjb
Method File: /chem/msd17.i/15NOV18.b/178q0613e.m
Misc Info: 2.8 Hg->4.7 psi

Calibration Date: 15-NOV-2018
Calibration Time: 11:28

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	177601	106561	248641	178173	0.32
123 1,4-Difluorobenze	599676	359806	839546	575679	-4.00
163 Chlorobenzene-d5	544209	326525	761893	541262	-0.54

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.51	5.18	5.84	5.50	-0.13
123 1,4-Difluorobenze	6.39	6.06	6.72	6.39	-0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

US32APPTV002

RECOVERY REPORT

Client Name: Client SDG: 15NOV18
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1811221A-01A
Level: LOW Operator: mjb
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: GHD22832.sub
Method File: /chem/msd17.i/15NOV18.b/178q0613e.m
Misc Info: 2.8 Hg->4.7 psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
\$ 117 1,2-Dichloroethane-d4	25.000	24.022	96.09
\$ 146 Toluene-d8	25.000	25.689	102.76
\$ 177 4-Bromofluorobenzene	25.000	21.615	86.46

Data File: /chem/msd17.i/15NOV18.b/17111515.d

Date : 15-NOV-2018 19:48

Client ID:

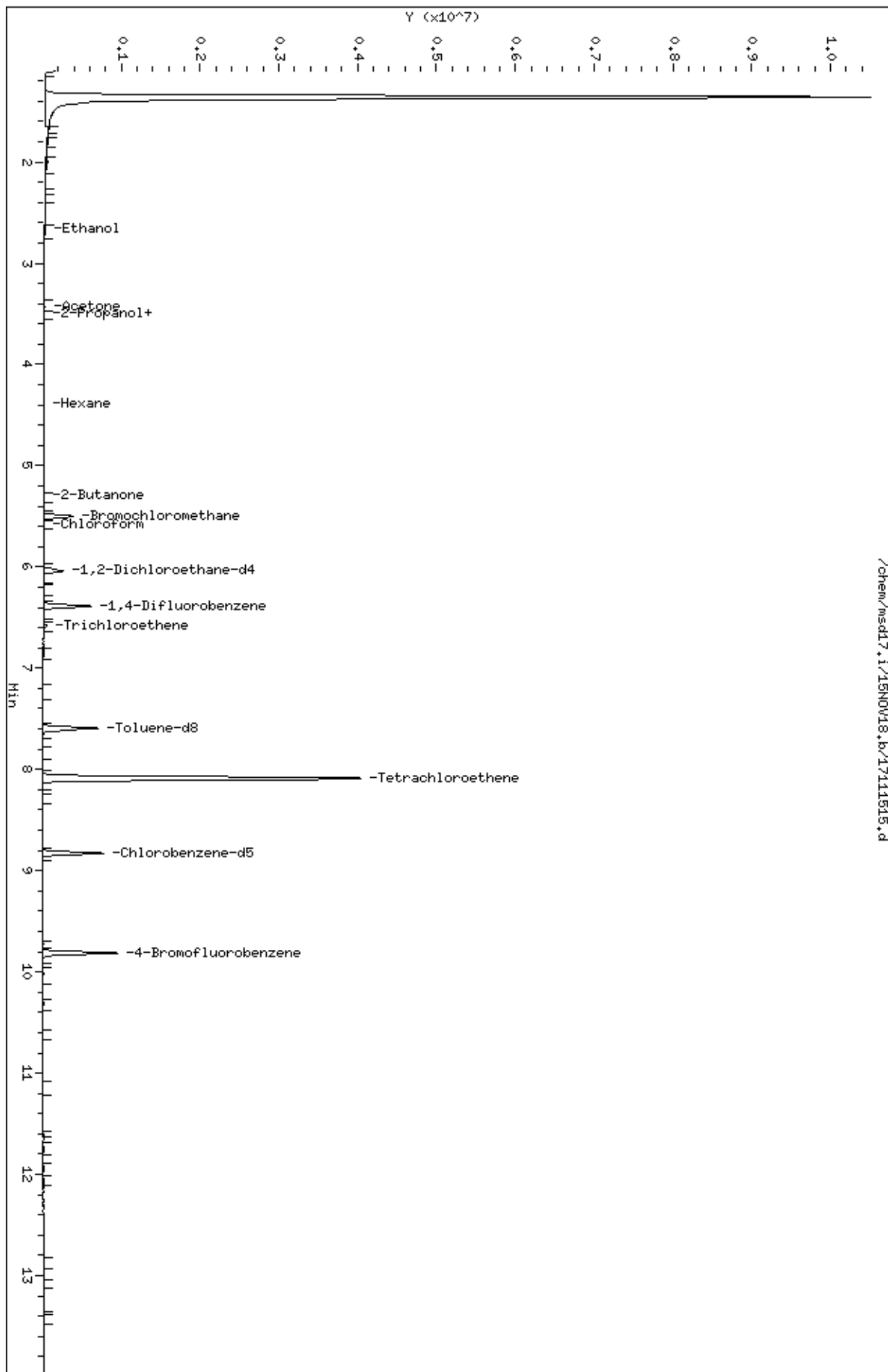
Sample Info: 40ml 00326

Column phase: RTX-624

Instrument: msd17.i

Operator: mjb

Column diameter: 0.25



Date : 15-NOV-2018 19:48

Client ID:

Instrument: msd17.i

Sample Info: 40ml 00326

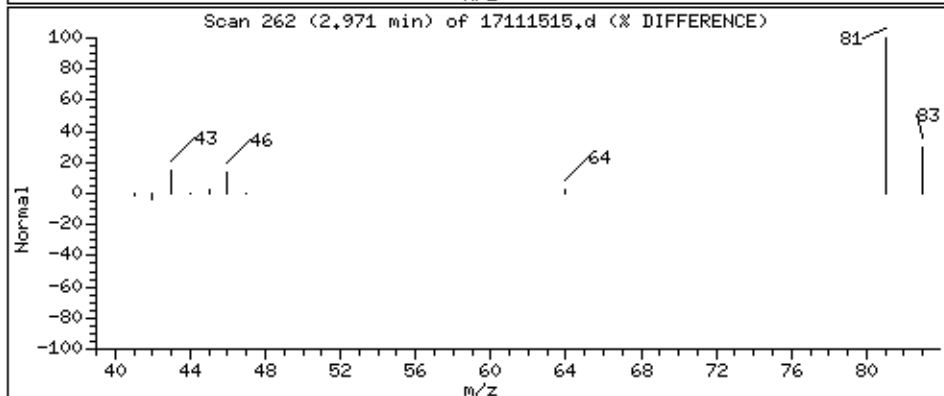
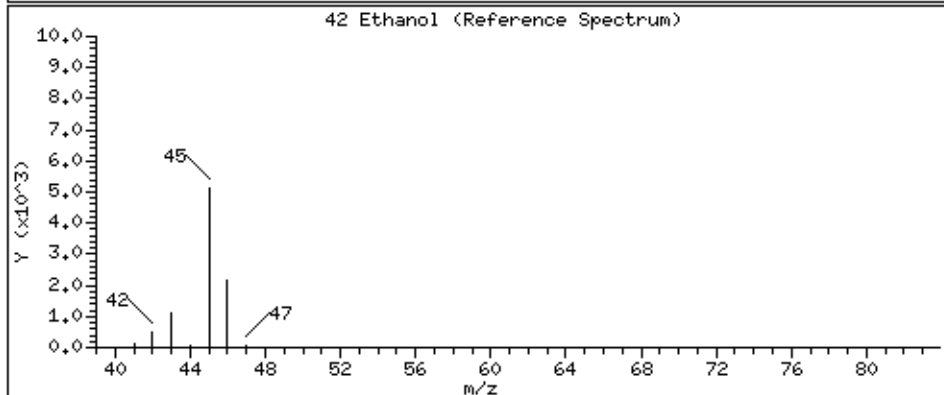
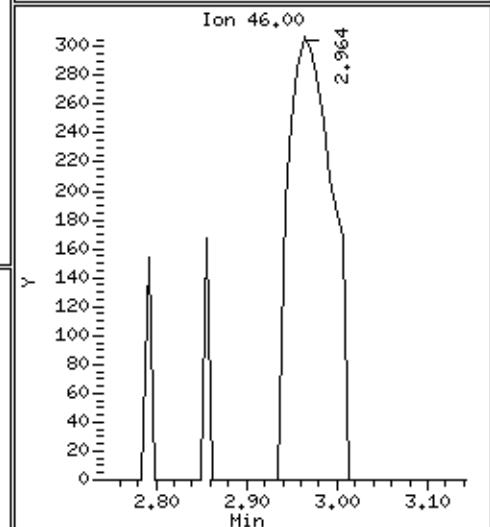
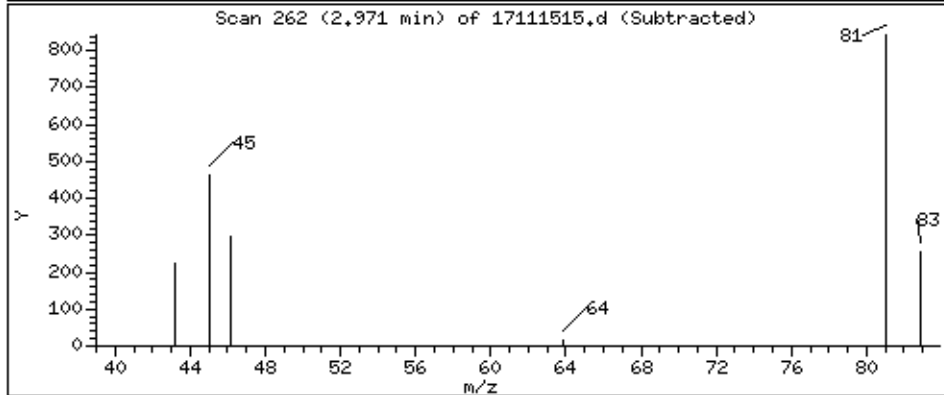
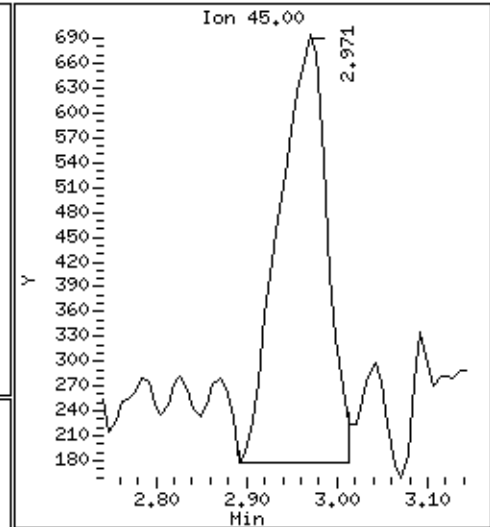
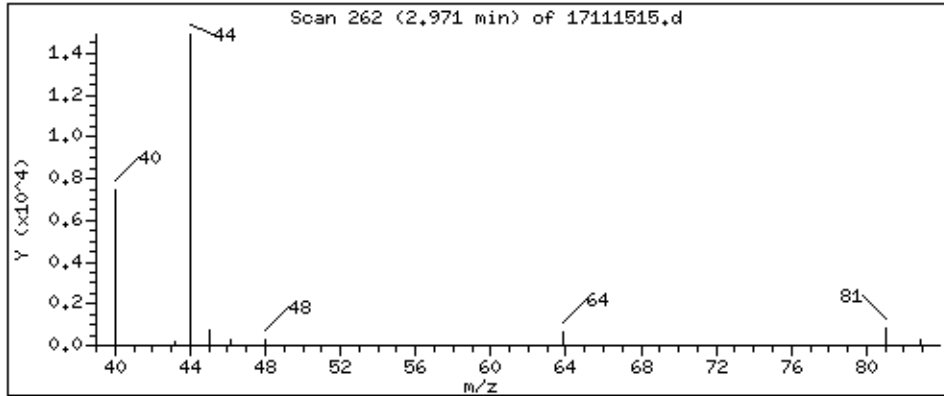
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

42 Ethanol

Concentration: 6.870 PPBV



Date : 15-NOV-2018 19:48

Client ID:

Instrument: msd17.i

Sample Info: 40ml 00326

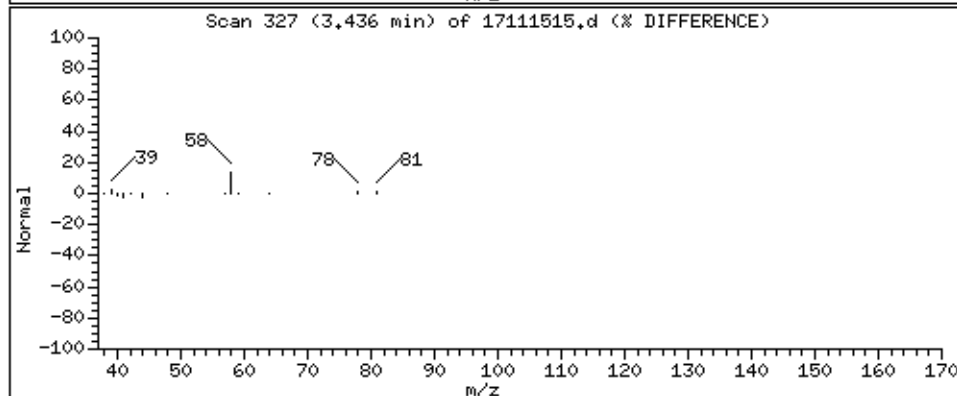
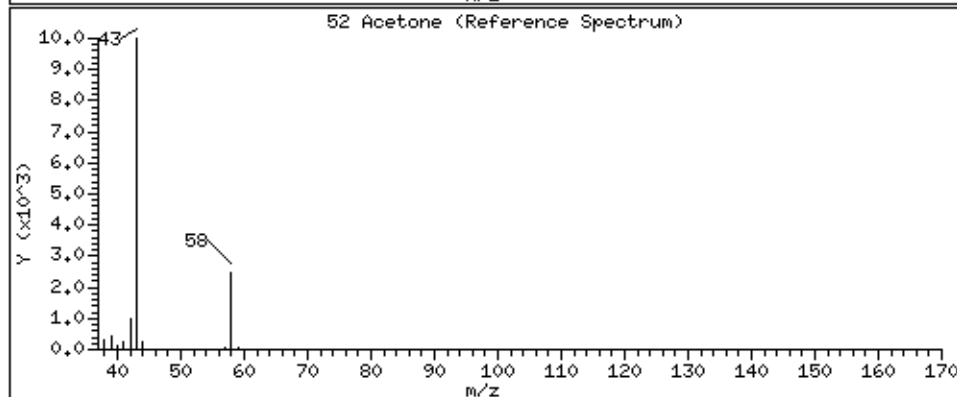
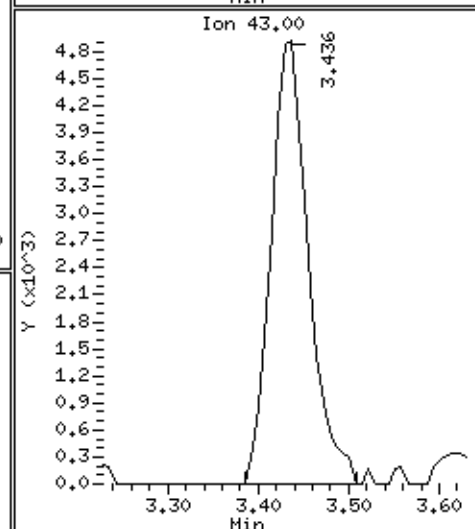
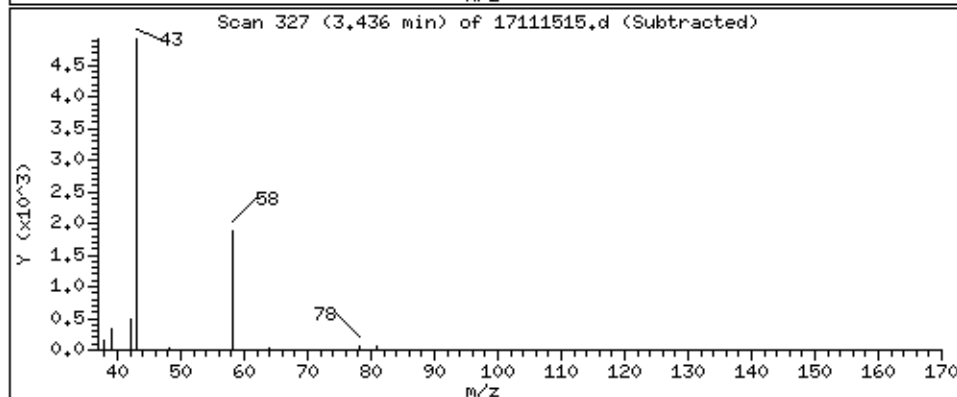
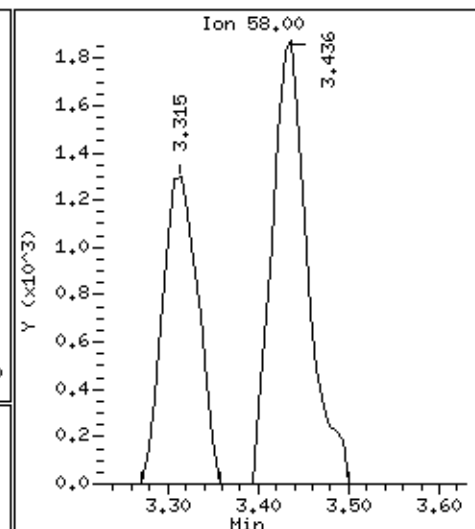
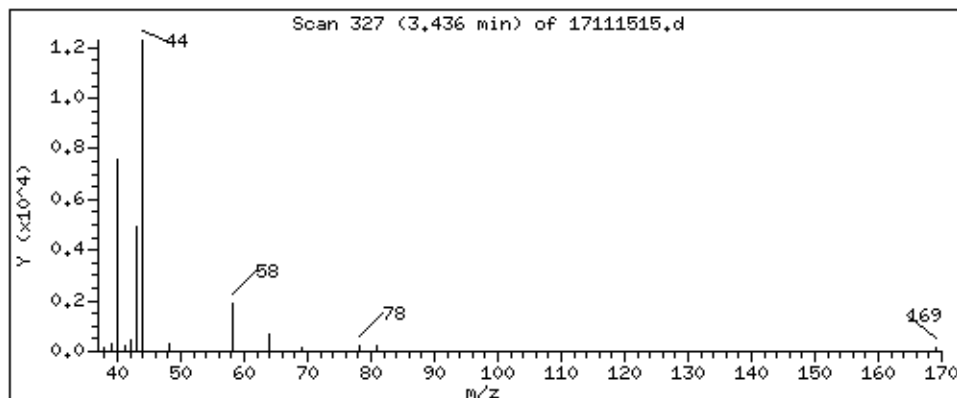
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

52 Acetone

Concentration: 13,091 PPBV



Date : 15-NOV-2018 19:48

Client ID:

Instrument: msd17.i

Sample Info: 40ml 00326

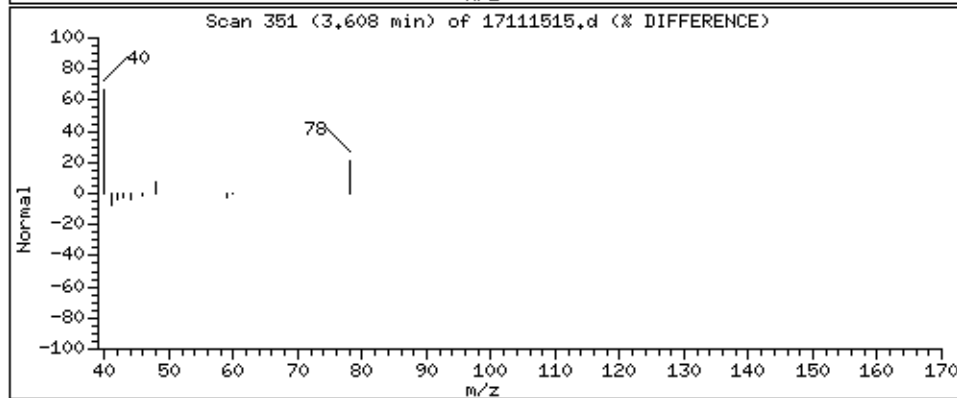
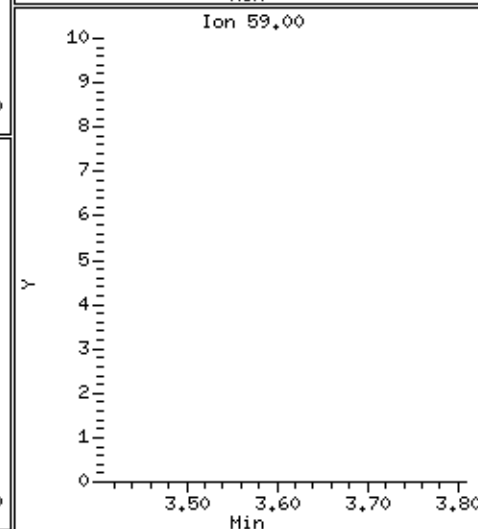
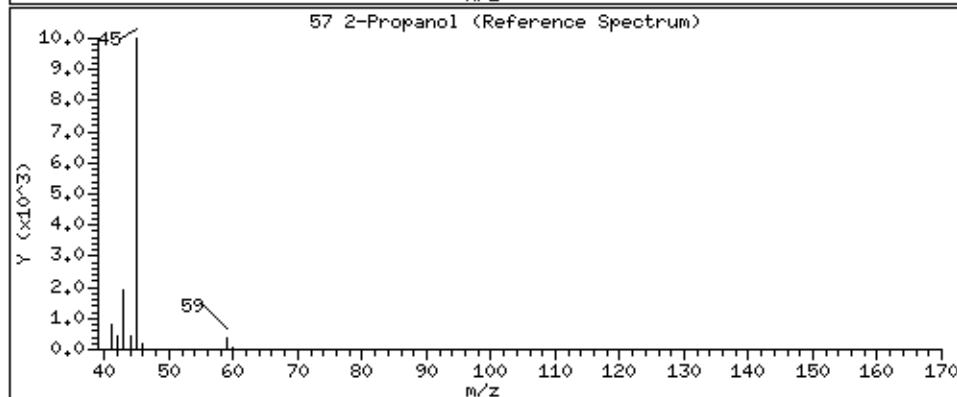
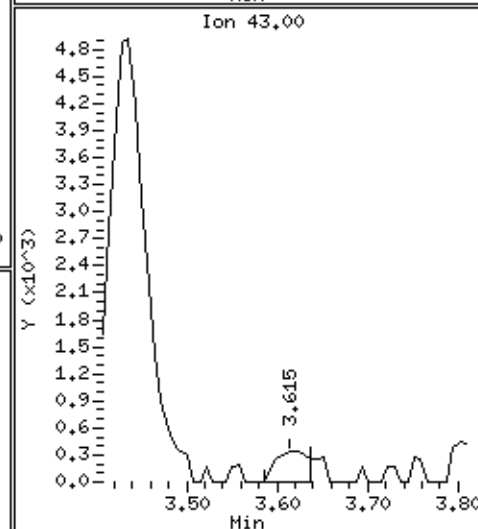
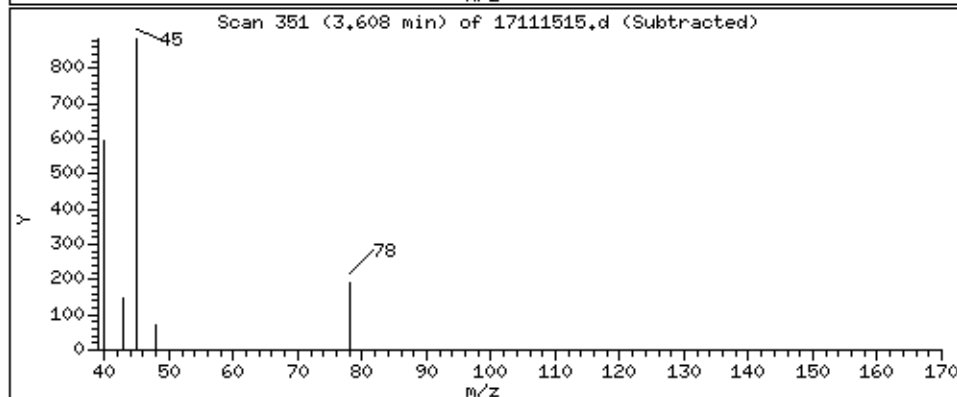
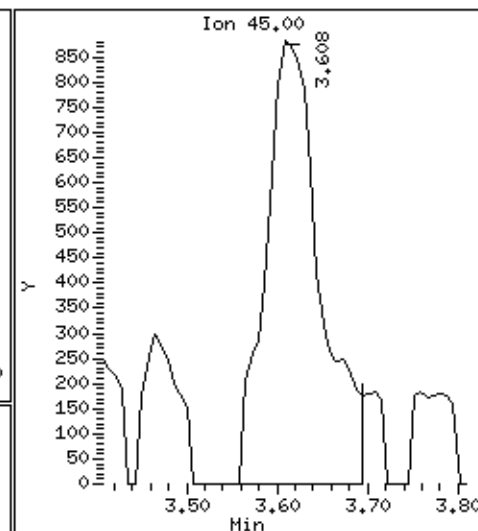
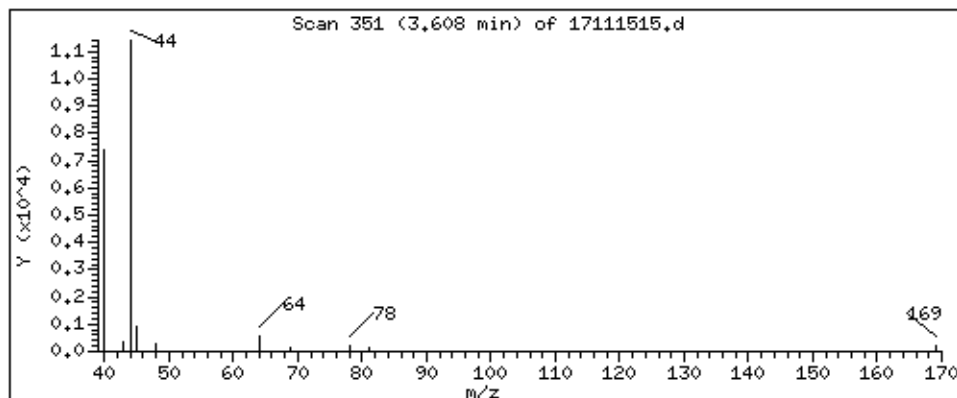
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

57 2-Propanol

Concentration: 2.930 PPBV



Date : 15-NOV-2018 19:48

Client ID:

Instrument: msd17.i

Sample Info: 40ml 00326

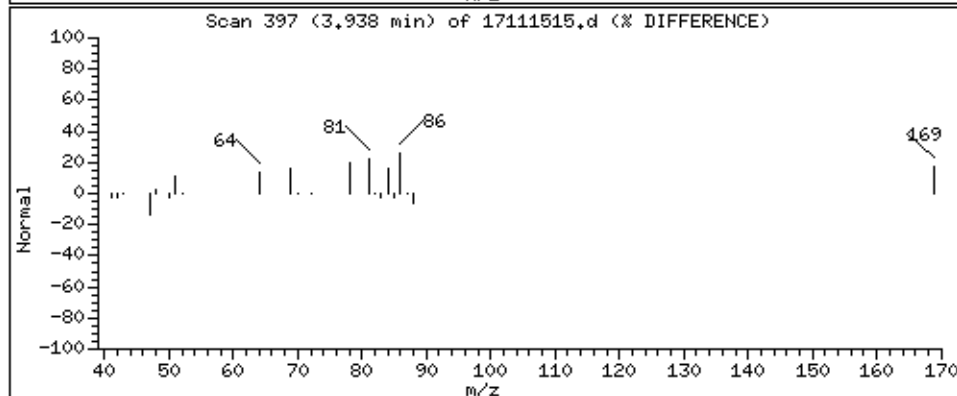
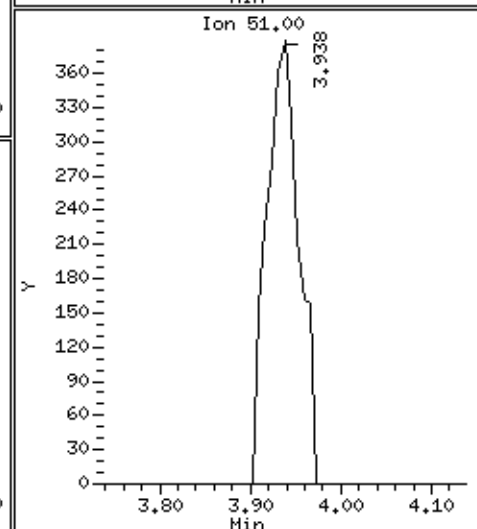
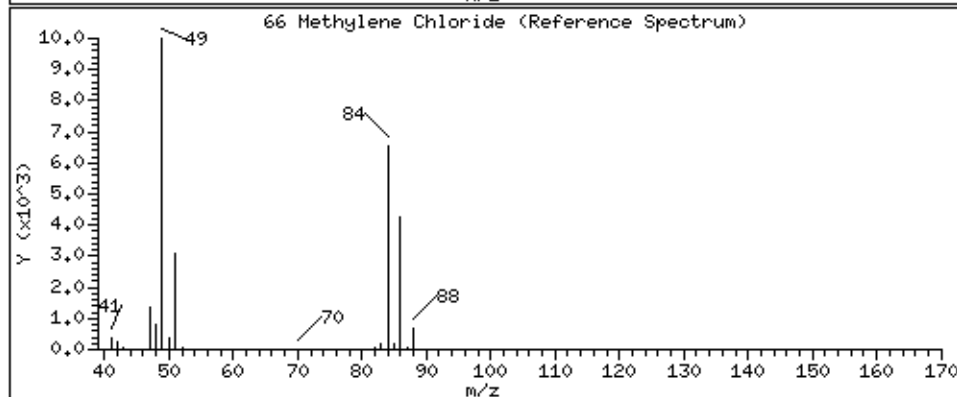
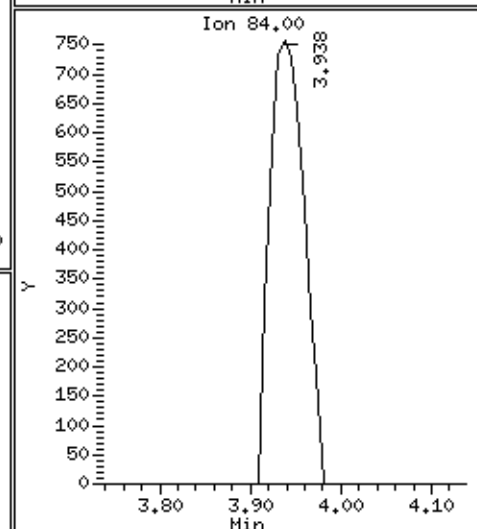
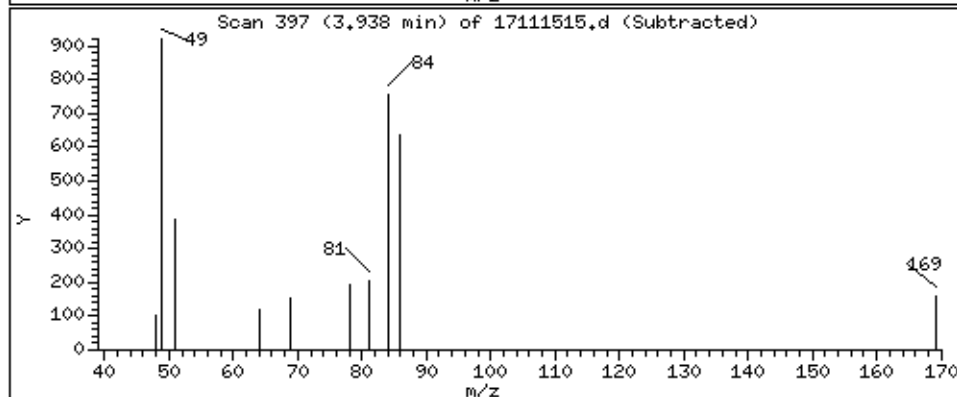
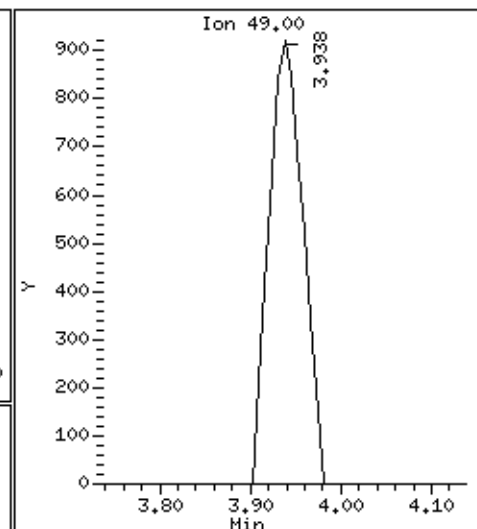
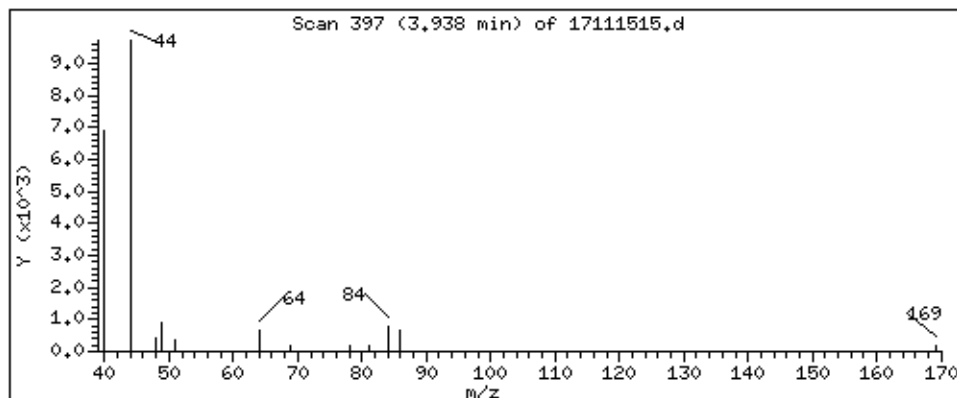
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

66 Methylene Chloride

Concentration: 2.684 PPBV



Date : 15-NOV-2018 19:48

Client ID:

Instrument: msd17.i

Sample Info: 40ml 00326

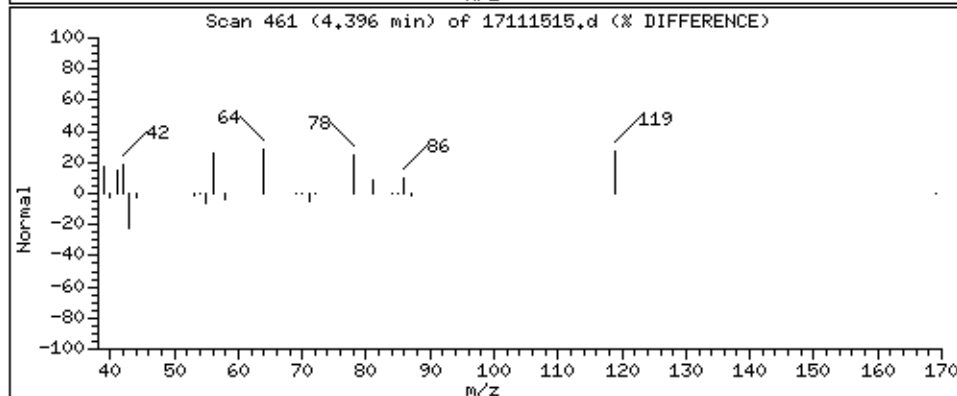
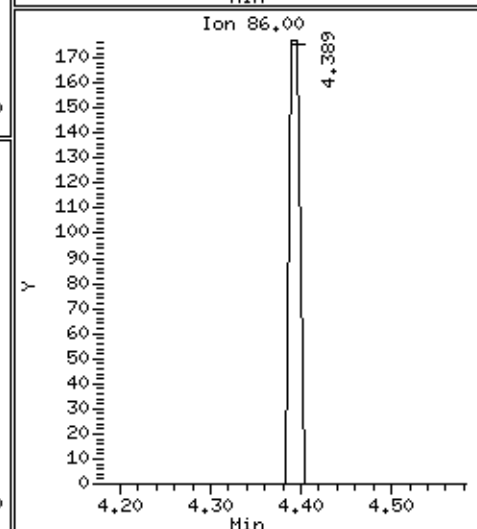
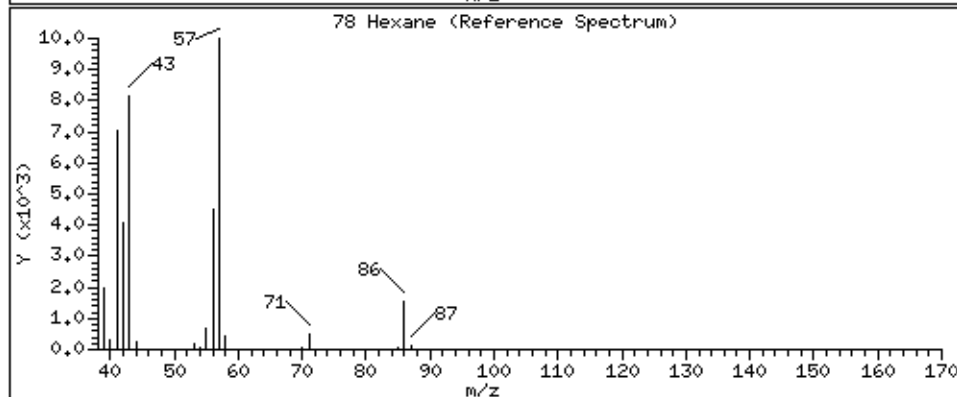
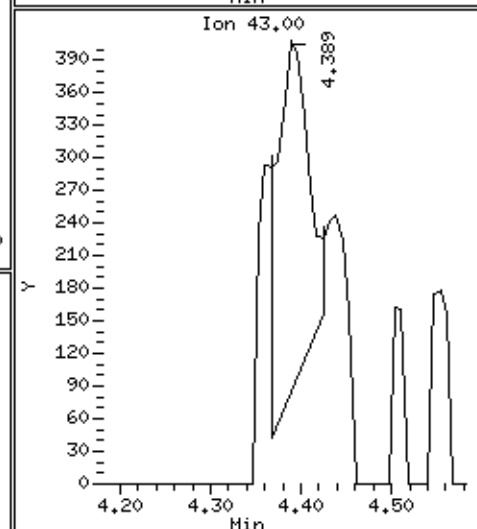
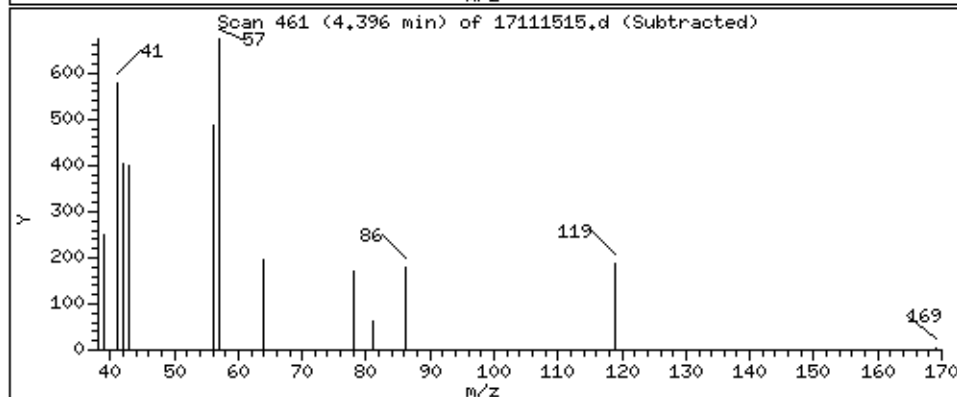
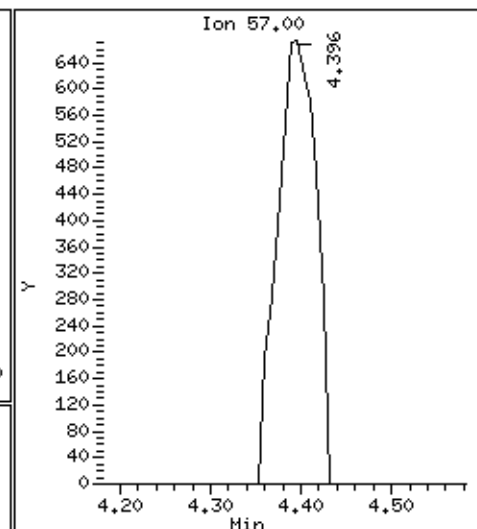
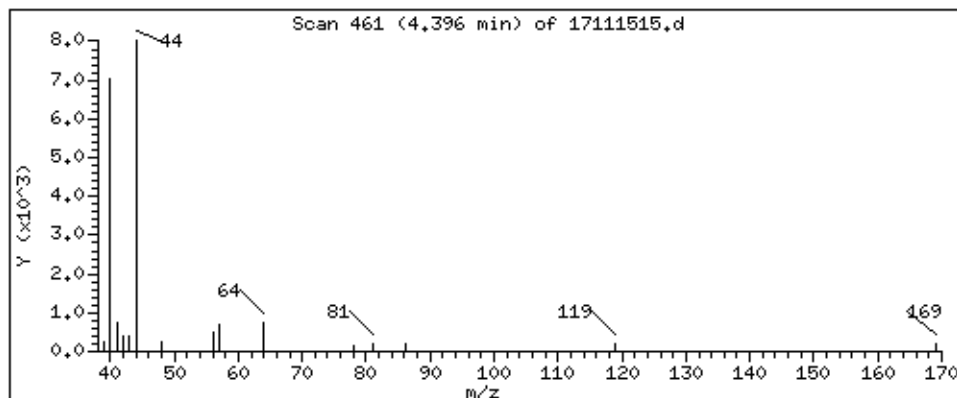
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

78 Hexane

Concentration: 1.573 PPBV



Date : 15-NOV-2018 19:48

Client ID:

Instrument: msd17.i

Sample Info: 40ml 00326

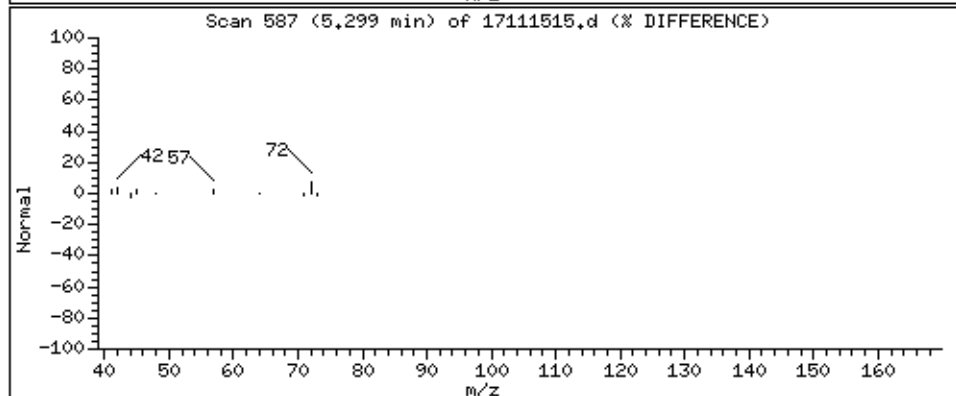
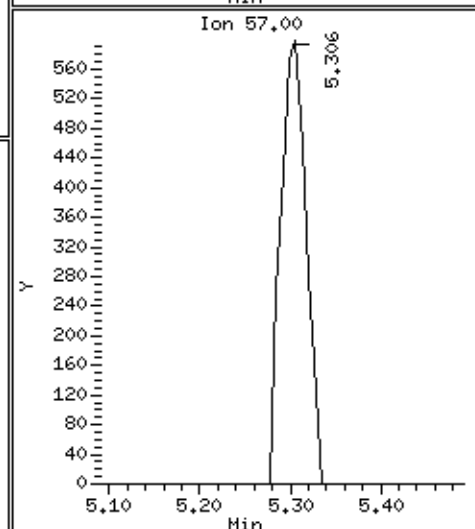
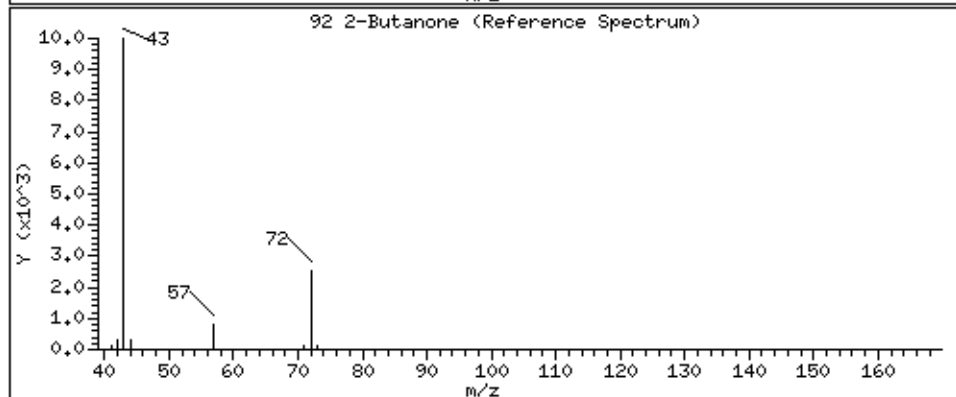
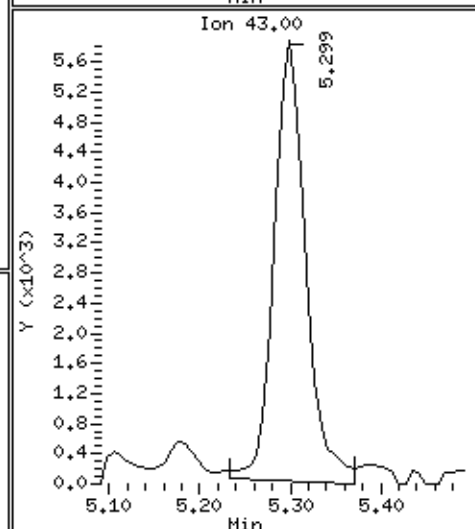
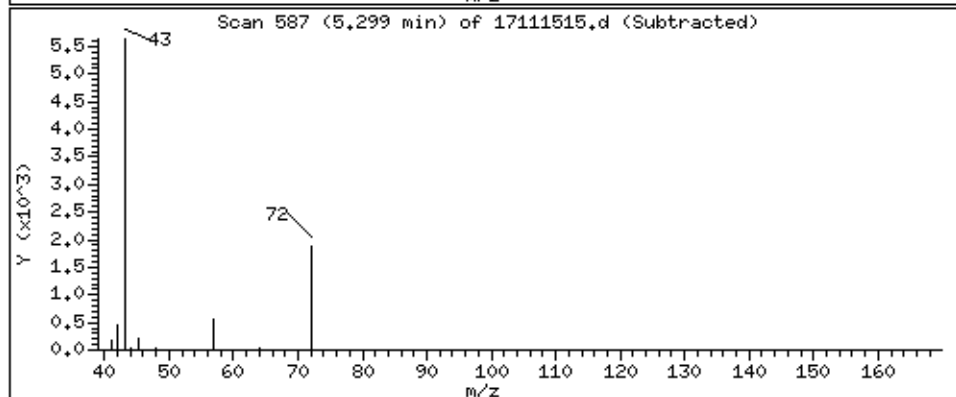
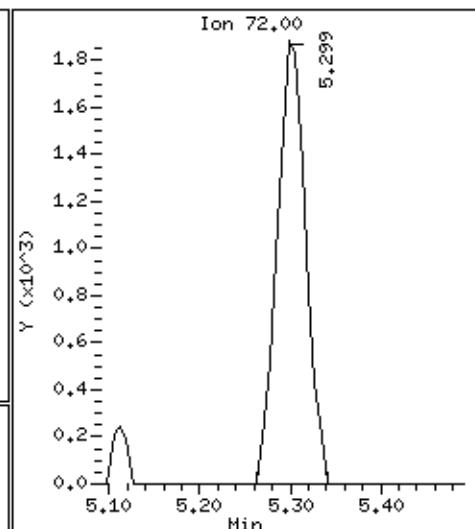
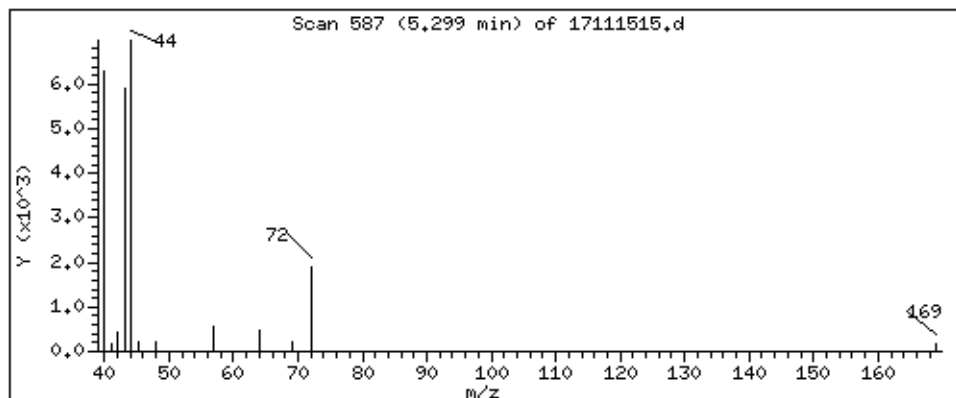
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

92 2-Butanone

Concentration: 9.453 PPBV



Date : 15-NOV-2018 19:48

Client ID:

Instrument: msd17.i

Sample Info: 40ml 00326

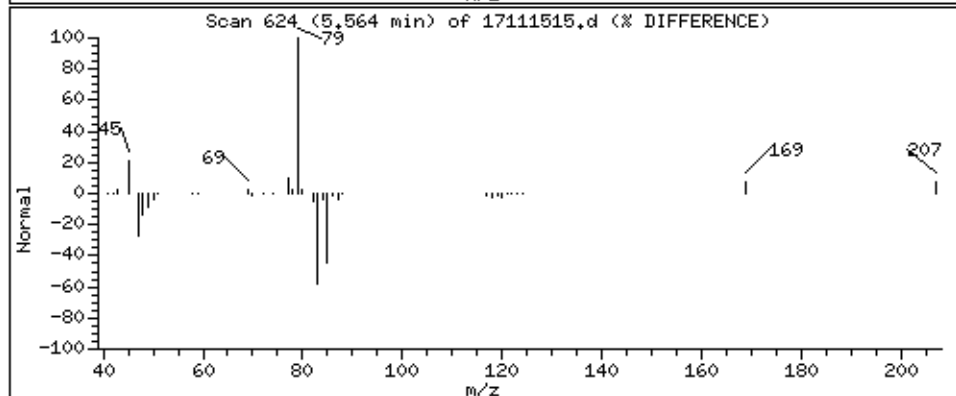
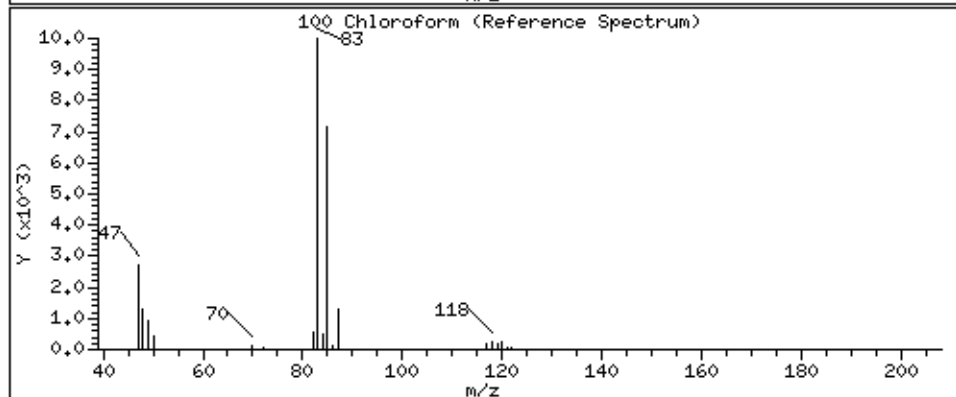
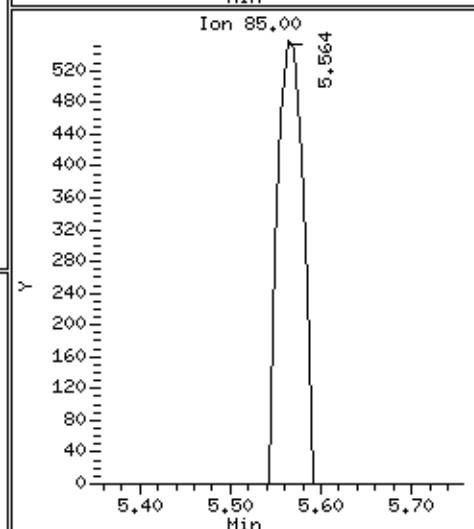
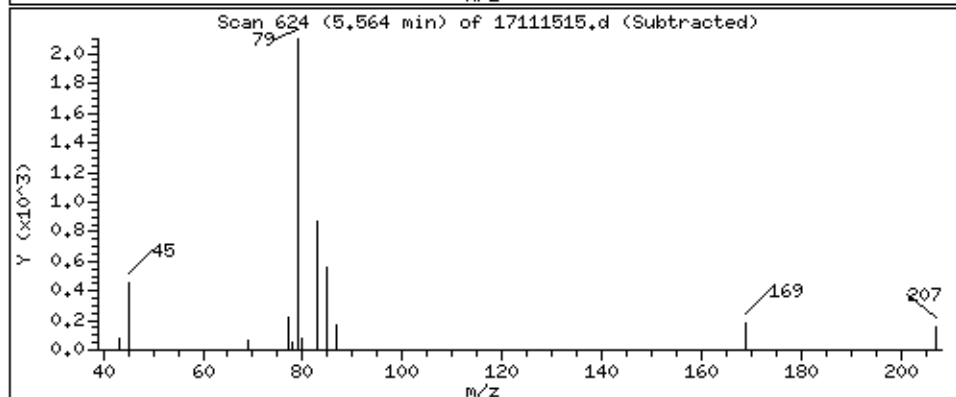
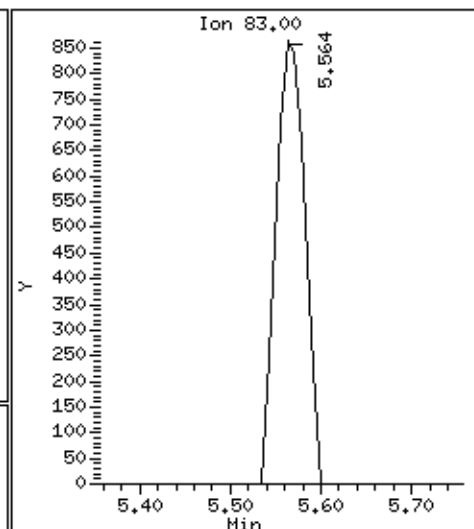
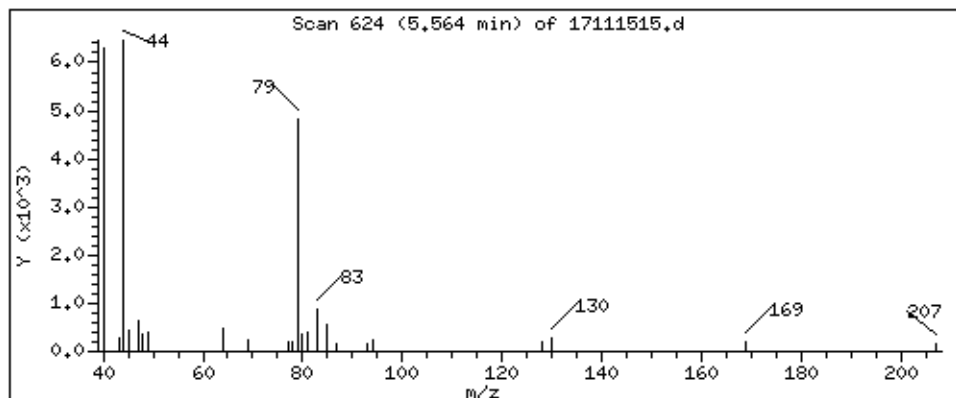
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

100 Chloroform

Concentration: 1.006 PPBV



Date : 15-NOV-2018 19:48

Client ID:

Instrument: msd17.i

Sample Info: 40ml 00326

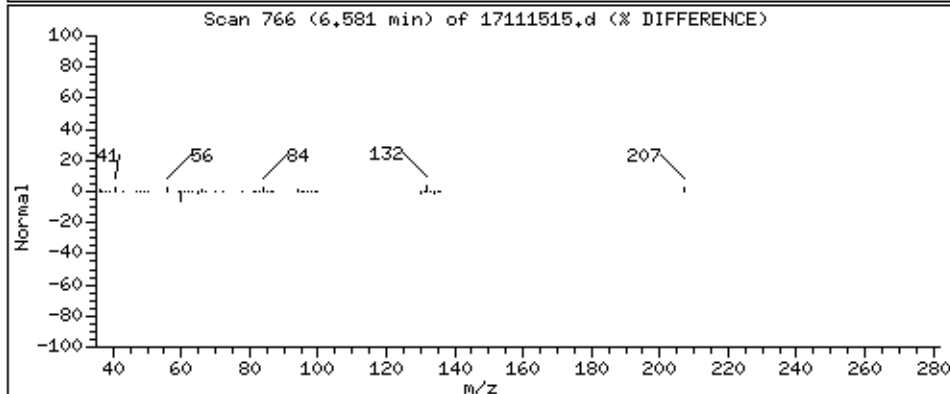
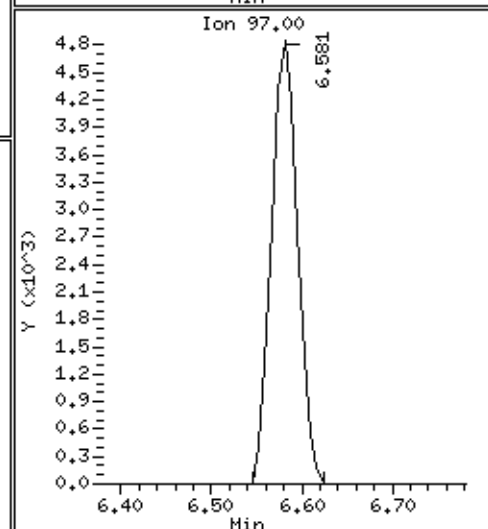
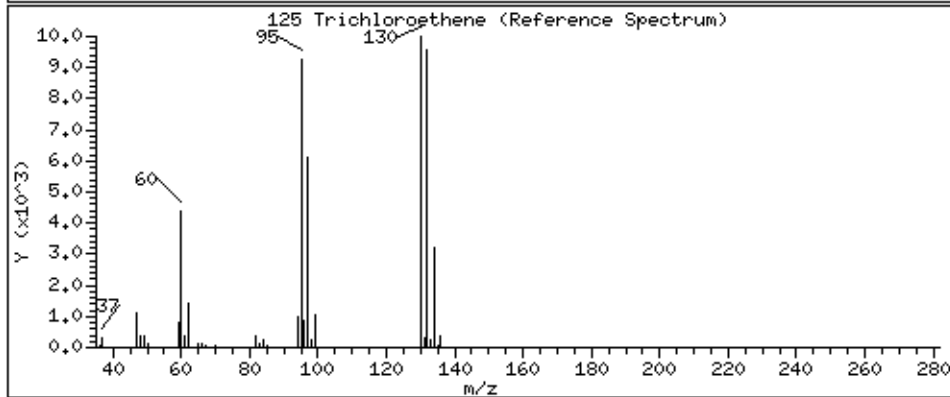
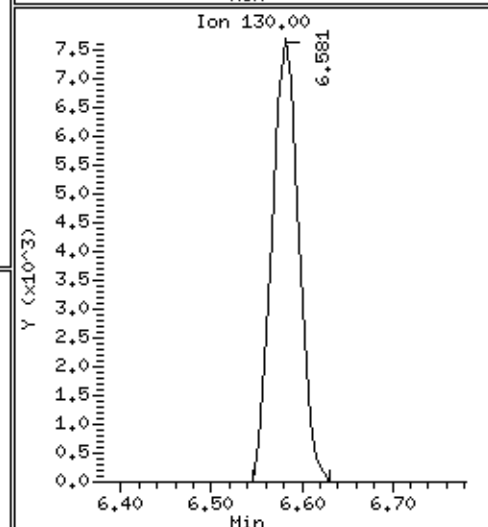
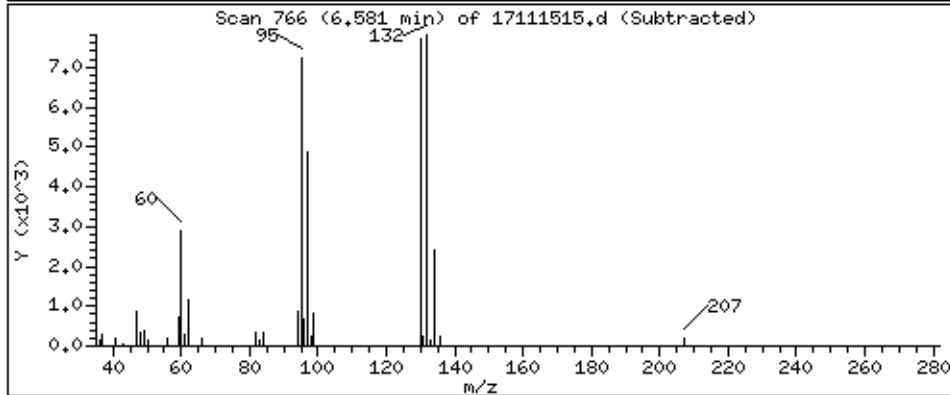
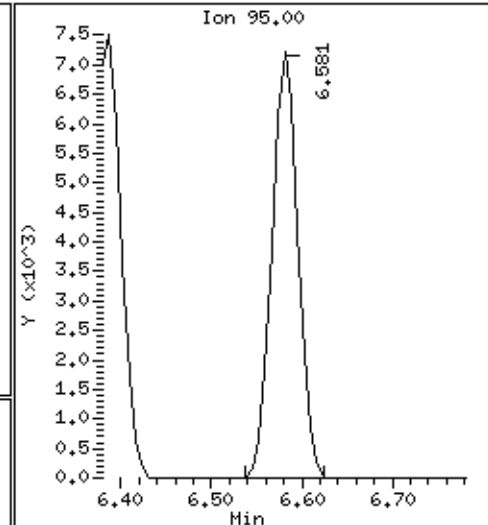
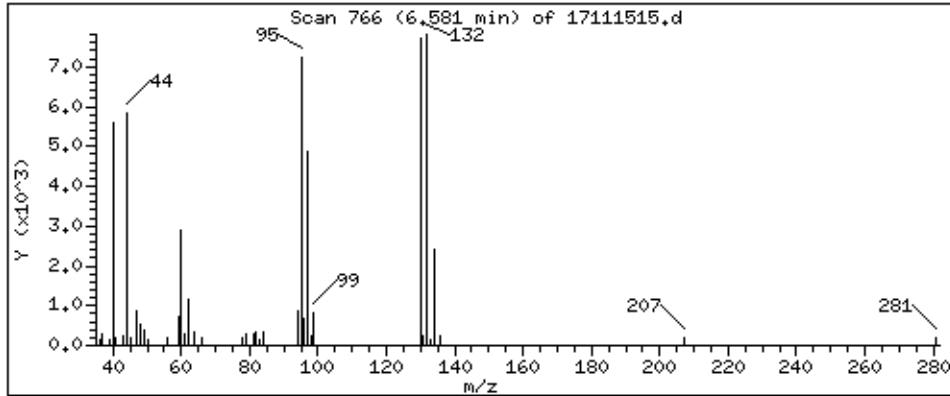
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

125 Trichloroethene

Concentration: 12,070 PPBV



Date : 15-NOV-2018 19:48

Client ID:

Instrument: msd17.i

Sample Info: 40ml 00326

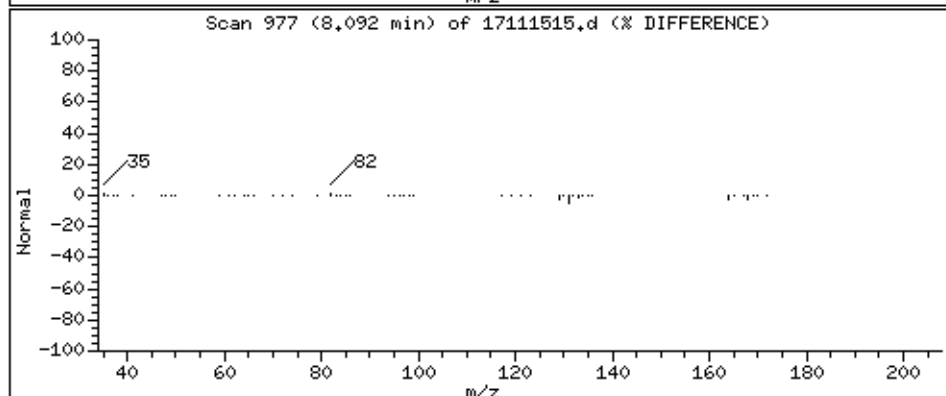
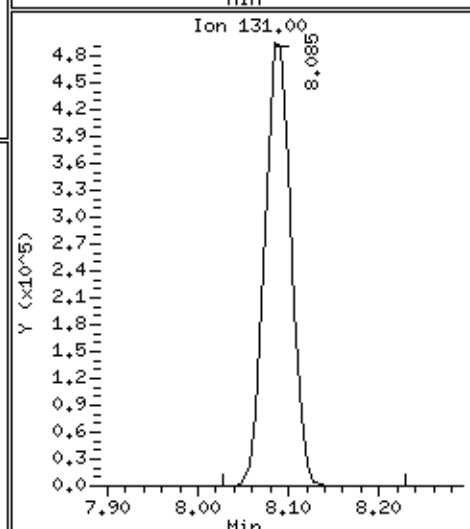
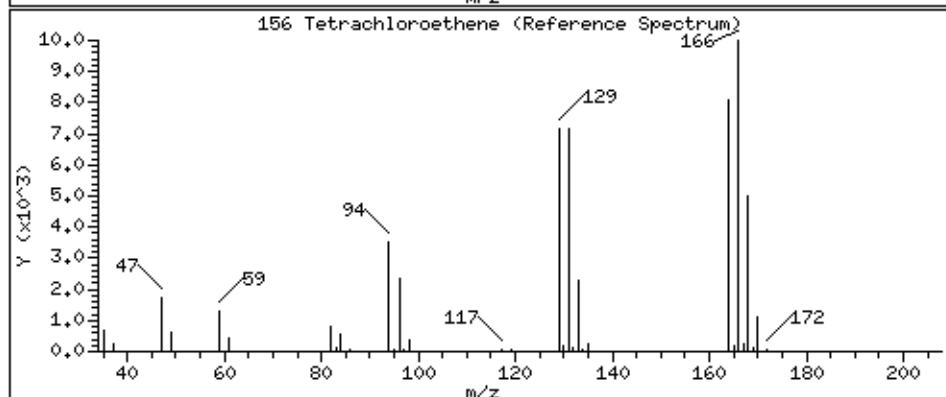
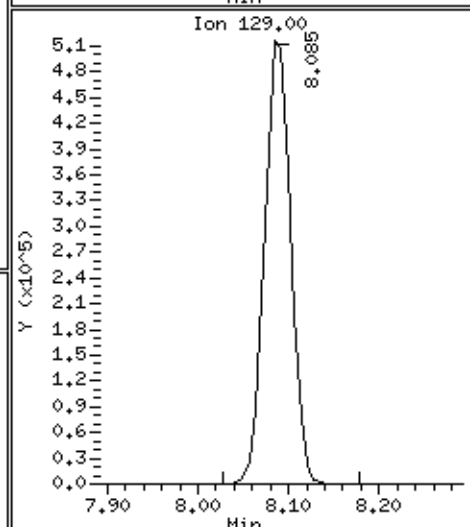
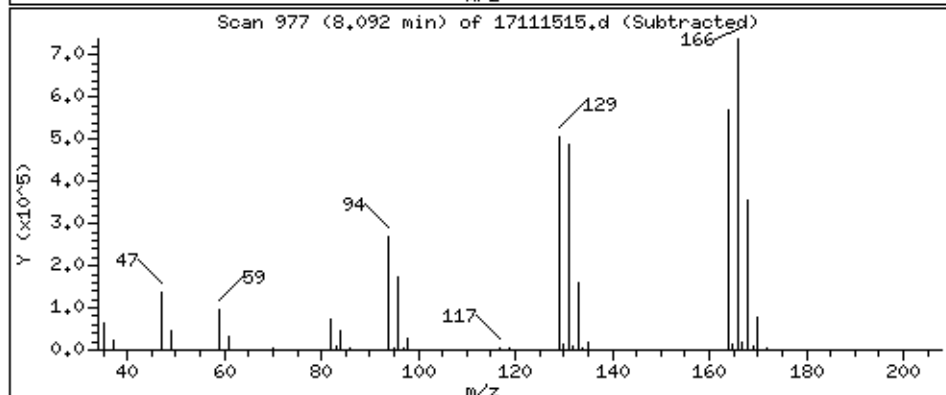
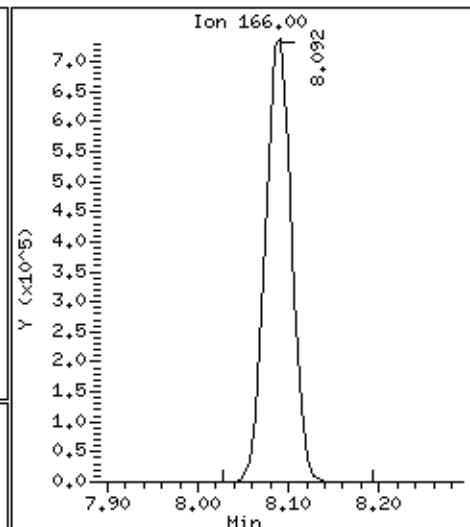
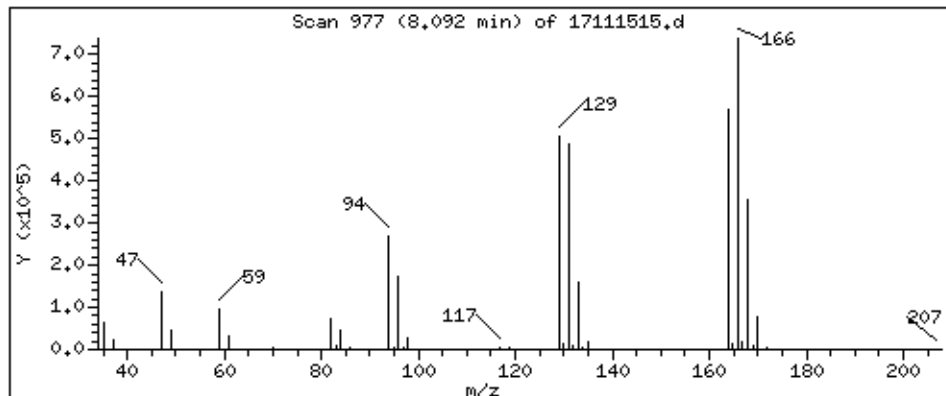
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

156 Tetrachloroethene

Concentration: 713.90 PPBV



EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	VP-41	Date/Time Analyzed:	11/15/18 04:03 PM
Lab ID:	1811221A-02A	Dilution Factor:	1.26
Date/Time Collected:	11/7/18 09:45 AM	Instrument/Filename:	msd17.i / 17111507
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.62	2.8	3.4	0.82 J
1,1,2,2-Tetrachloroethane	79-34-5	0.78	3.5	4.3	Not Detected
1,1,2-Trichloroethane	79-00-5	0.82	2.8	3.4	Not Detected
1,1-Dichloroethane	75-34-3	0.46	2.0	2.6	Not Detected
1,1-Dichloroethene	75-35-4	1.1	2.0	2.5	Not Detected
1,2,4-Trichlorobenzene	120-82-1	1.7	14	19	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.80	2.5	3.1	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.4	3.9	4.8	Not Detected
1,2-Dichlorobenzene	95-50-1	0.68	3.0	3.8	Not Detected
1,2-Dichloroethane	107-06-2	0.41	2.0	2.5	Not Detected
1,2-Dichloropropane	78-87-5	0.76	2.3	2.9	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.68	2.5	3.1	Not Detected
1,3-Butadiene	106-99-0	0.31	1.1	1.4	Not Detected
1,3-Dichlorobenzene	541-73-1	0.53	3.0	3.8	Not Detected
1,4-Dichlorobenzene	106-46-7	0.76	3.0	3.8	Not Detected
1,4-Dioxane	123-91-1	2.0	6.8	9.1	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.47	2.4	2.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	1.2	5.6	7.4	Not Detected
2-Hexanone	591-78-6	1.0	7.7	10	Not Detected
2-Propanol	67-63-0	0.99	4.6	6.2	Not Detected
3-Chloropropene	107-05-1	1.8	5.9	7.9	Not Detected
4-Ethyltoluene	622-96-8	0.56	2.5	3.1	Not Detected
4-Methyl-2-pentanone	108-10-1	1.3	2.1	2.6	Not Detected
Acetone	67-64-1	2.2	4.5	15	3.4 J

EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	VP-41	Date/Time Analyzed:	11/15/18 04:03 PM
Lab ID:	1811221A-02A	Dilution Factor:	1.26
Date/Time Collected:	11/7/18 09:45 AM	Instrument/File Name:	msd17.i / 17111507
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.33	2.6	3.3	Not Detected
Benzene	71-43-2	1.1	1.6	2.0	Not Detected
Bromodichloromethane	75-27-4	1.0	3.4	4.2	Not Detected
Bromoform	75-25-2	1.0	5.2	6.5	Not Detected
Bromomethane	74-83-9	1.9	7.3	24	Not Detected
Carbon Disulfide	75-15-0	1.8	5.9	7.8	Not Detected
Carbon Tetrachloride	56-23-5	0.63	3.2	4.0	Not Detected
Chlorobenzene	108-90-7	0.46	2.3	2.9	Not Detected
Chloroethane	75-00-3	2.2	5.0	6.6	Not Detected
Chloroform	67-66-3	0.49	2.5	3.1	Not Detected
Chloromethane	74-87-3	1.5	3.9	13	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.40	2.0	2.5	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.63	2.3	2.8	Not Detected
Cumene	98-82-8	0.37	2.5	3.1	Not Detected
Cyclohexane	110-82-7	0.52	1.7	2.2	Not Detected
Dibromochloromethane	124-48-1	0.75	4.3	5.4	Not Detected
Ethanol	64-17-5	1.9	3.6	4.7	Not Detected
Ethyl Benzene	100-41-4	0.49	2.2	2.7	1.1 J
Freon 11	75-69-4	0.64	2.8	3.5	1.6 J
Freon 113	76-13-1	1.2	3.9	4.8	Not Detected
Freon 114	76-14-2	0.97	3.5	4.4	Not Detected
Freon 12	75-71-8	0.68	2.5	3.1	3.1 J
Heptane	142-82-5	0.93	2.1	2.6	Not Detected
Hexachlorobutadiene	87-68-3	3.4	20	27	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	VP-41	Date/Time Analyzed:	11/15/18 04:03 PM
Lab ID:	1811221A-02A	Dilution Factor:	1.26
Date/Time Collected:	11/7/18 09:45 AM	Instrument/Filename:	msd17.i / 17111507
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.44	1.8	2.2	Not Detected
m,p-Xylene	108-38-3	0.44	2.2	2.7	5.2
Methyl tert-butyl ether	1634-04-4	1.2	6.8	9.1	Not Detected
Methylene Chloride	75-09-2	1.4	6.6	22	Not Detected
o-Xylene	95-47-6	0.38	2.2	2.7	2.9
Propylbenzene	103-65-1	0.31	2.5	3.1	Not Detected
Styrene	100-42-5	0.38	2.1	2.7	Not Detected
Tetrachloroethene	127-18-4	0.60	3.4	4.3	18
Tetrahydrofuran	109-99-9	0.41	1.5	1.8	Not Detected
Toluene	108-88-3	0.38	1.9	2.4	0.49 J
trans-1,2-Dichloroethene	156-60-5	0.75	2.0	2.5	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.34	2.3	2.8	Not Detected
Trichloroethene	79-01-6	1.3	2.7	3.4	Not Detected
Vinyl Chloride	75-01-4	0.39	1.3	1.6	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	98
4-Bromofluorobenzene	460-00-4	70-130	89
Toluene-d8	2037-26-5	70-130	103

US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/15NOV18.b/17111507.d
Lab Smp Id: 1811221A-02A
Inj Date : 15-NOV-2018 16:03
Operator : mjb
Smp Info : 200ml 33927
Misc Info : 0.6 psi->4.6 psi
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/15NOV18.b/178q0613e.m
Meth Date : 15-Nov-2018 11:54 p5fl
Cal Date : 09-OCT-2018 15:59
Als bottle: 10
Dil Factor: 1.26000
Integrator: HP RTE
Sample Matrix: AIR
Processing Host: us32apptv003

Inst ID: msd17.i
Quant Type: ISTD
Cal File: 17100911.d
Compound Sublist: GHD22832.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS						
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL	FINAL	TARGET	RANGE	RATIO		
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====		
* 98 Bromochloromethane										CAS #:	74-97-5
5.506	5.497	(1.000)	130	172690	25.0000		80.00-	120.00	100.00		
5.506	5.497	(1.000)	128	132444			48.32-	108.32	76.69		
5.506	5.497	(1.000)	49	158472			63.40-	123.40	91.77		

* 123 1,4-Difluorobenzene										CAS #:	540-36-3
6.388	6.381	(1.000)	114	581641	25.0000		80.00-	120.00	100.00		
6.388	6.381	(1.000)	88	88314			0.00-	44.55	15.18		

* 163 Chlorobenzene-d5										CAS #:	3114-55-4
8.830	8.830	(1.000)	117	536467	25.0000		80.00-	120.00	100.00		
8.830	8.830	(1.000)	82	273682			17.97-	77.97	51.02		

\$ 117 1,2-Dichloroethane-d4										CAS #:	17060-07-0
6.037	6.035	(1.096)	65	191970	24.4817	24.482	80.00-	120.00	100.00		
6.037	6.035	(1.096)	67	99475			23.66-	83.66	51.82		

\$ 146 Toluene-d8										CAS #:	2037-26-5
7.598	7.598	(1.190)	98	584634	25.8082	25.808	80.00-	120.00	100.00		
7.598	7.598	(1.190)	70	62024			0.00-	40.01	10.61		

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
					ON-COL (PPBV)	FINAL (PPBV)		
\$ 146	Toluene-d8 (continued)							
7.598	7.598	(1.190)	100	376800			35.43- 95.43	64.45

\$ 177	4-Bromofluorobenzene					CAS #: 460-00-4		
9.819	9.819	(1.112)	174	376154	22.2043	22.204	80.00- 120.00	100.00
9.819	9.819	(1.112)	95	370656			59.41- 119.41	98.54
9.819	9.819	(1.112)	176	363445			68.33- 128.33	96.62

11	Freon 12					CAS #: 75-71-8		
1.552	1.533	(0.282)	85	7566	0.49335	0.6216	80.00- 120.00	100.00(a)
1.545	1.533	(0.281)	87	2635			2.38- 62.38	34.83

35	Freon 11					CAS #: 75-69-4		
2.598	2.592	(0.472)	101	4154	0.23093	0.2910	80.00- 120.00	100.00(a)
2.598	2.592	(0.472)	103	3002			34.28- 94.28	72.27

52	Acetone					CAS #: 67-64-1		
3.443	3.429	(0.625)	58	3154	1.13314	1.428	80.00- 120.00	100.00(a)
3.443	3.429	(0.625)	43	8699			290.24- 350.24	275.77

103	1,1,1-Trichloroethane					CAS #: 71-55-6		
5.678	5.678	(1.031)	97	1771	0.11854	0.1494	80.00- 120.00	100.00(a)
5.686	5.678	(1.033)	99	1060			34.84- 94.84	59.84

147	Toluene					CAS #: 108-88-3		
7.648	7.655	(1.197)	91	2494	0.10414	0.1312	80.00- 120.00	100.00(a)
7.648	7.655	(1.197)	92	1372			27.80- 87.80	55.00

156	Tetrachloroethene					CAS #: 127-18-4		
8.092	8.092	(0.916)	166	31693	2.09894	2.645	80.00- 120.00	100.00
8.092	8.092	(0.916)	129	23113			36.14- 96.14	72.93
8.092	8.092	(0.916)	131	22424			34.69- 94.69	70.76

167	Ethyl Benzene					CAS #: 100-41-4		
8.895	8.902	(1.007)	106	2196	0.20662	0.2603	80.00- 120.00	100.00(a)
8.902	8.902	(1.008)	91	7970			268.52- 328.52	362.87

169	m,p-Xylene					CAS #: 108-38-3		
8.995	8.997	(1.019)	106	12619	0.95489	1.203	80.00- 120.00	100.00
8.995	8.997	(1.019)	91	27592			161.75- 221.75	218.64

171	o-Xylene					CAS #: 95-47-6		
9.339	9.339	(1.058)	106	6696	0.53474	0.6738	80.00- 120.00	100.00
9.339	9.339	(1.058)	91	12950			170.98- 230.98	193.39

QC Flag Legend

- a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17111507.d
Lab Smp Id: 1811221A-02A
Analysis Type: VOA
Quant Type: ISTD
Operator: mjb

Calibration Date: 15-NOV-2018
Calibration Time: 11:28

Level: LOW
Sample Type: AIR

Method File: /chem/msd17.i/15NOV18.b/178q0613e.m
Misc Info: 0.6 psi->4.6 psi

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	177601	106561	248641	172690	-2.77
123 1,4-Difluorobenze	599676	359806	839546	581641	-3.01
163 Chlorobenzene-d5	544209	326525	761893	536467	-1.42

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.51	5.18	5.84	5.51	-0.00
123 1,4-Difluorobenze	6.39	6.06	6.72	6.39	-0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

US32APPTV002

RECOVERY REPORT

Client Name: Client SDG: 15NOV18
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1811221A-02A
Level: LOW Operator: mjb
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: GHD22832.sub
Method File: /chem/msd17.i/15NOV18.b/178q0613e.m
Misc Info: 0.6 psi->4.6 psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
\$ 117 1,2-Dichloroethane-d4	25.000	24.482	97.93
\$ 146 Toluene-d8	25.000	25.808	103.23
\$ 177 4-Bromofluorobenzene	25.000	22.204	88.82

Data File: /chem/msd17.1/15NOV18.b/17111507.d

Date : 15-NOV-2018 16:03

Client ID:

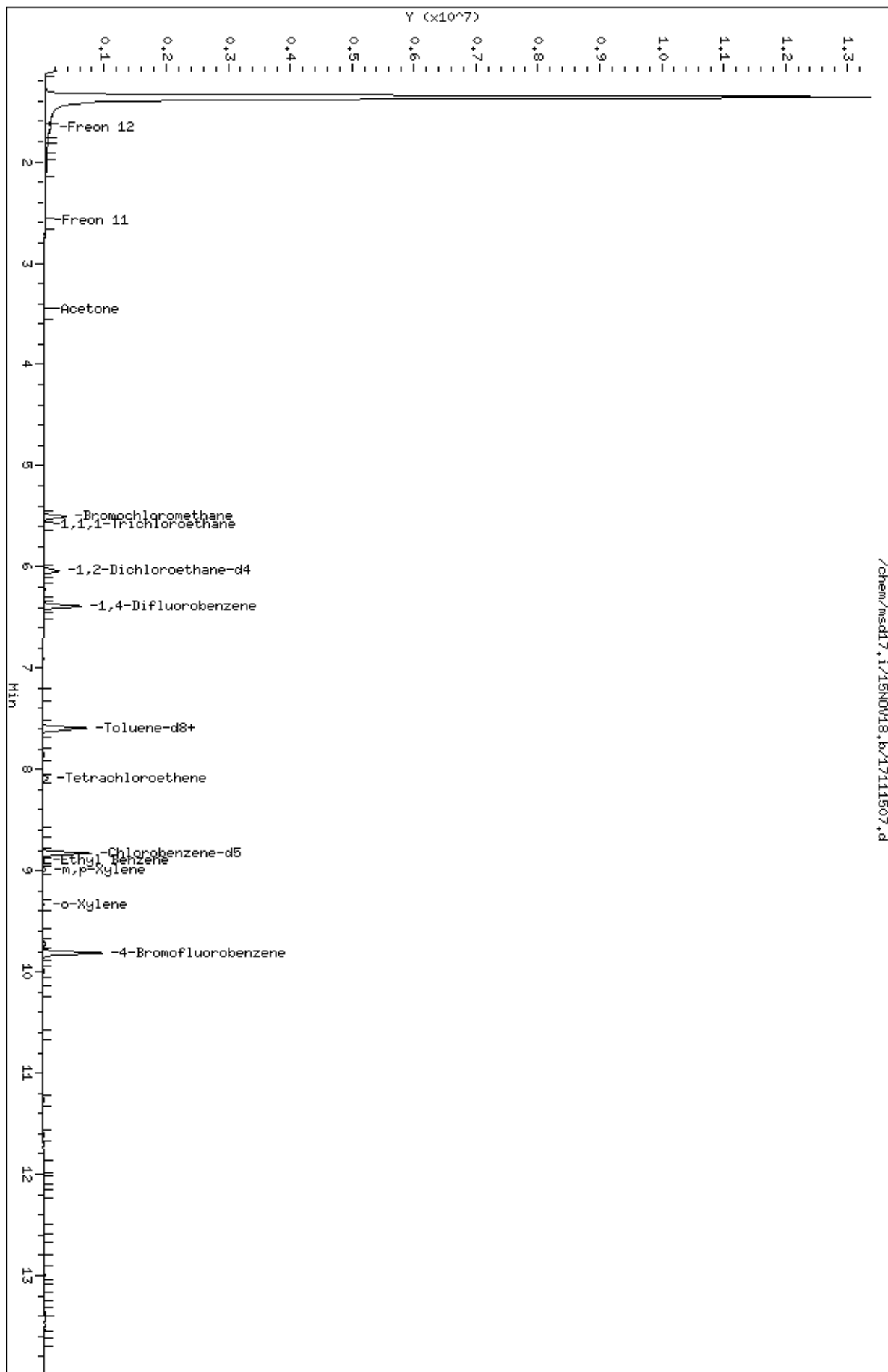
Sample Info: 200ml 33927

Column phase: RTX-624

Instrument: msd17.1

Operator: mjb

Column diameter: 0.25



Date : 15-NOV-2018 16:03

Client ID:

Instrument: msd17.i

Sample Info: 200ml 33927

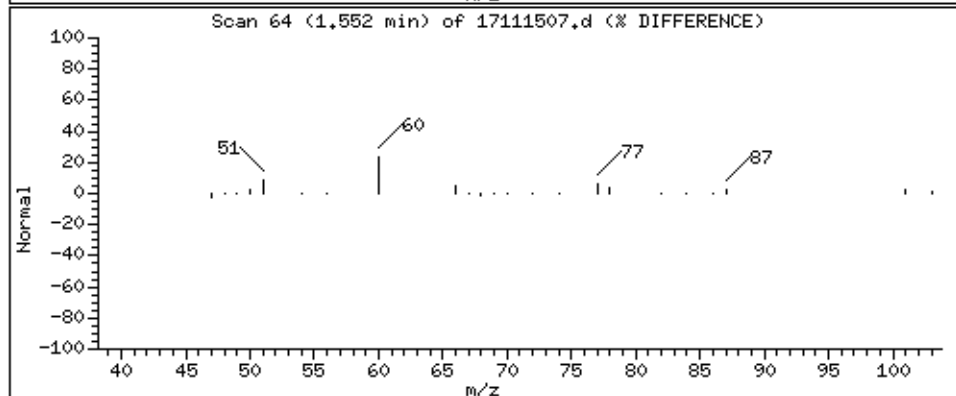
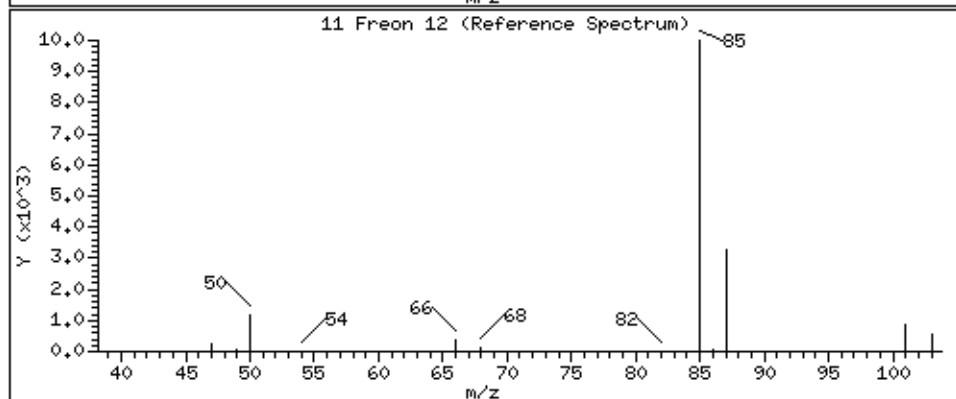
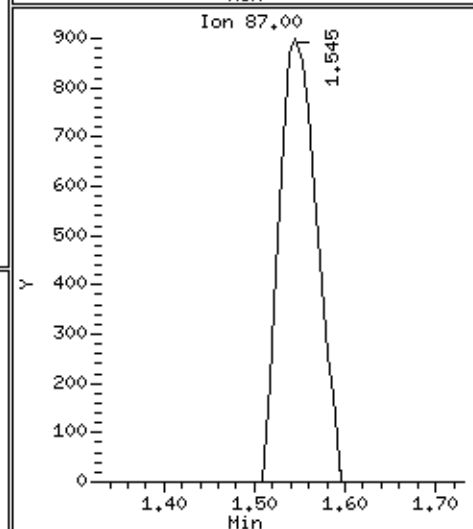
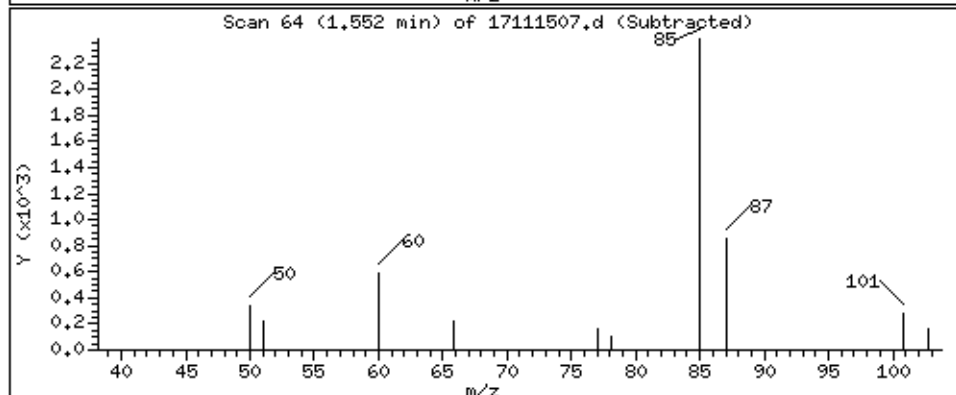
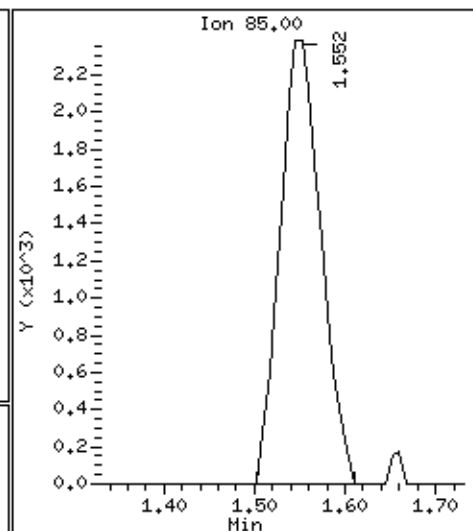
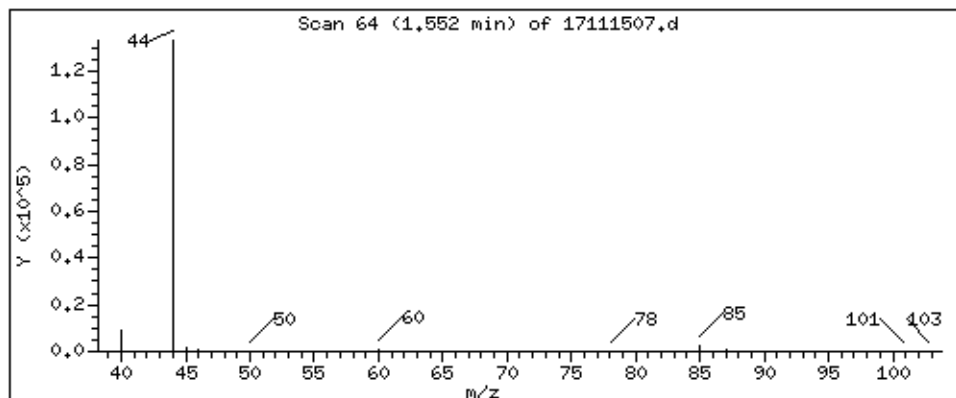
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

11 Freon 12

Concentration: 0.6216 PPBV



Date : 15-NOV-2018 16:03

Client ID:

Instrument: msd17.i

Sample Info: 200ml 33927

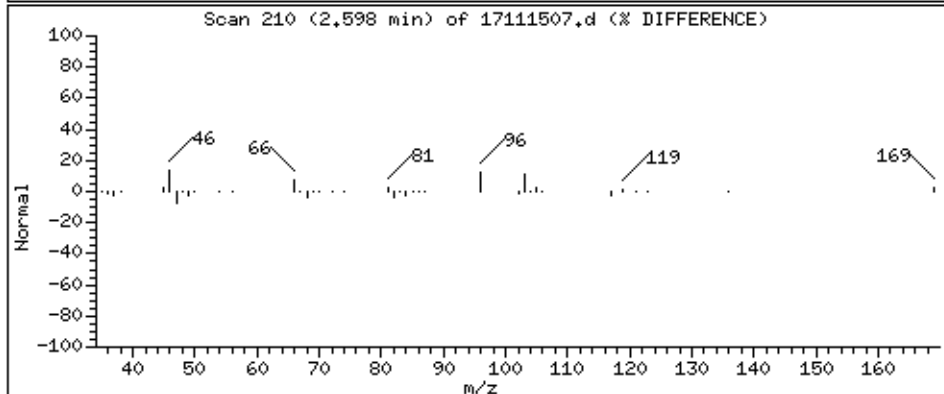
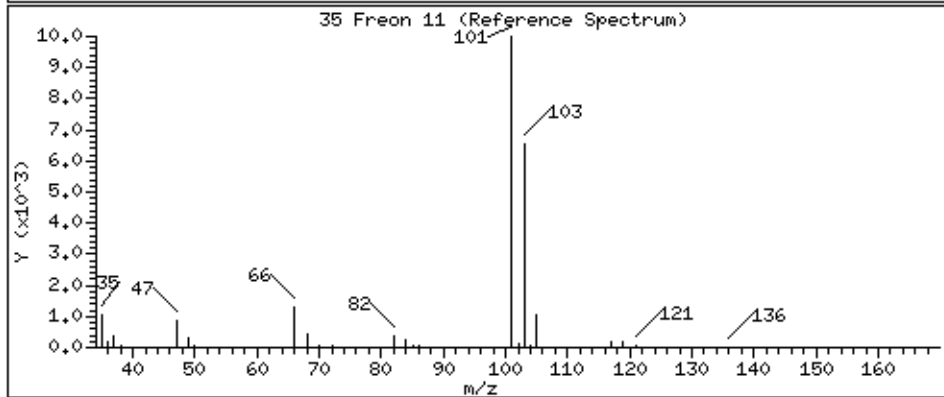
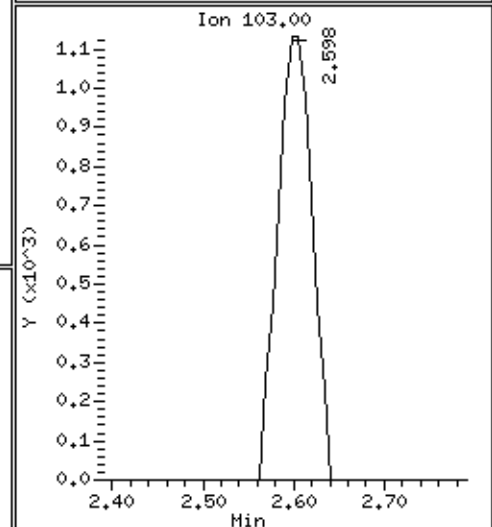
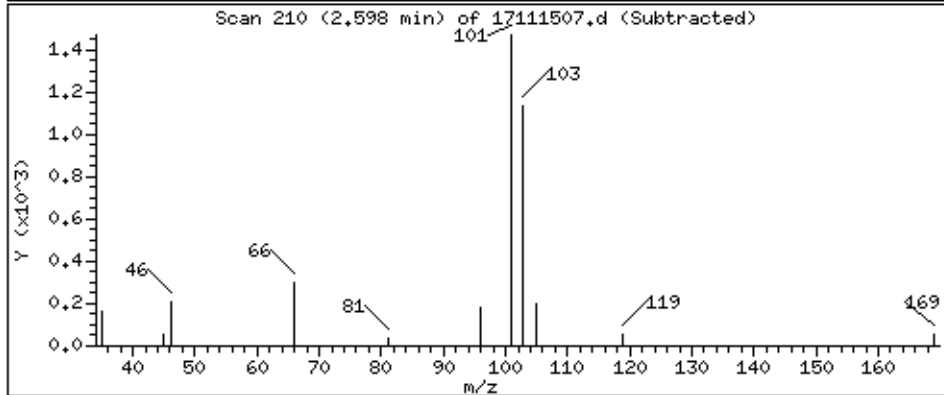
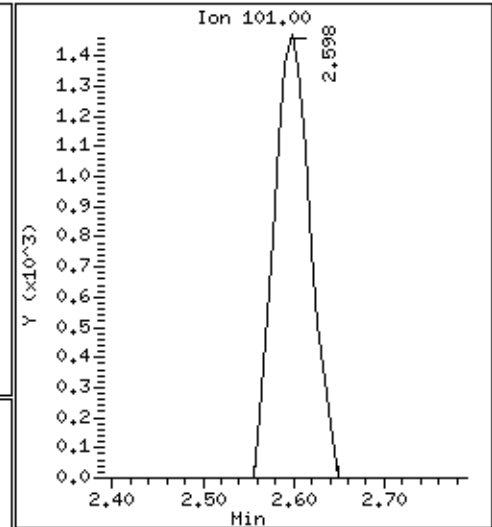
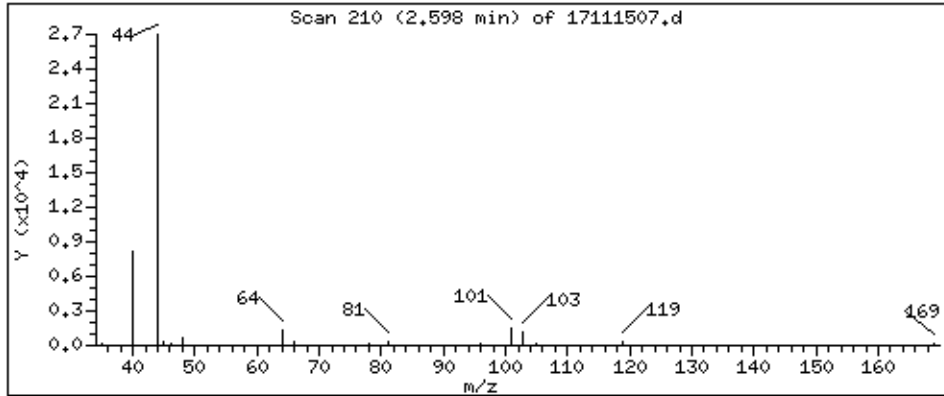
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

35 Freon 11

Concentration: 0.2910 PPBV



Date : 15-NOV-2018 16:03

Client ID:

Instrument: msd17.i

Sample Info: 200ml 33927

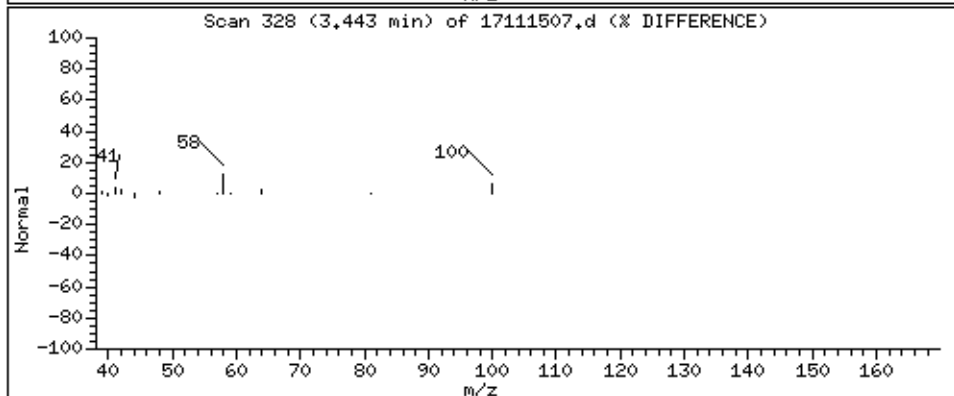
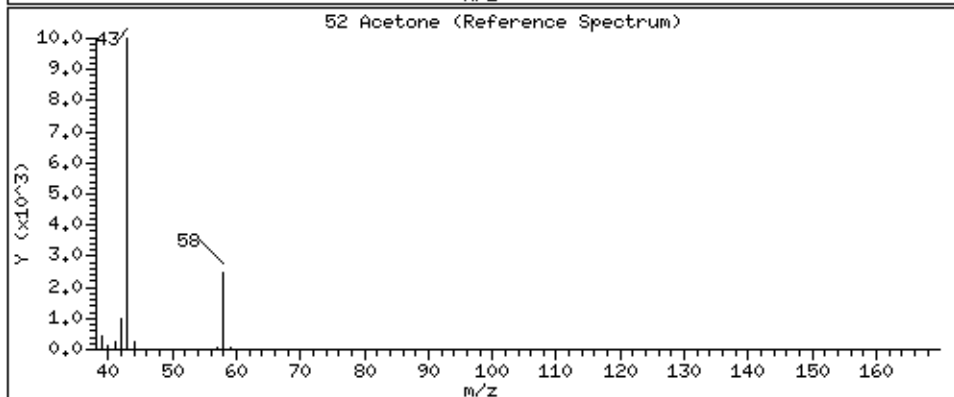
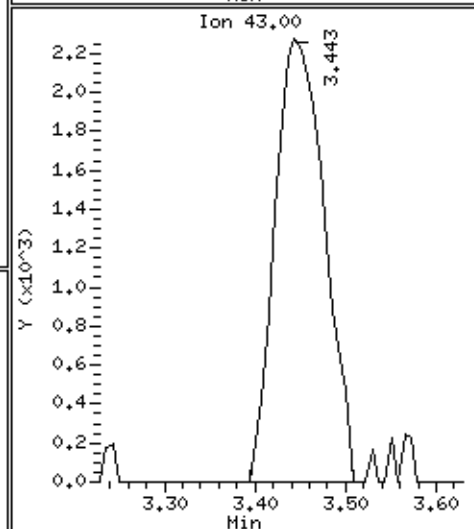
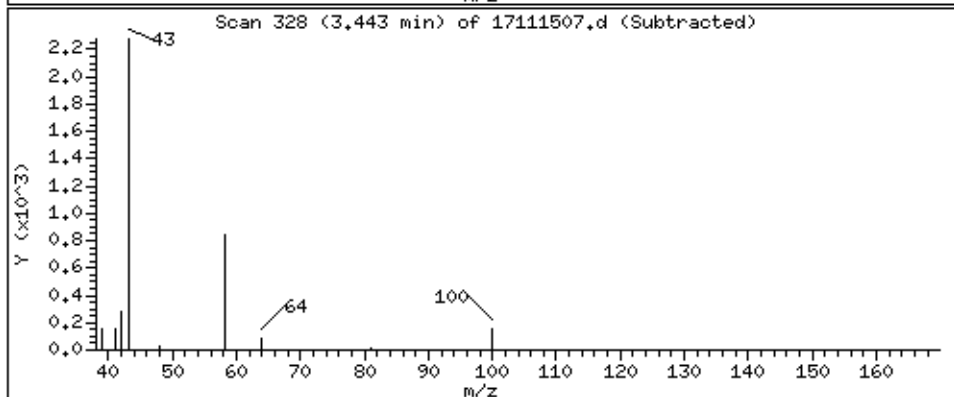
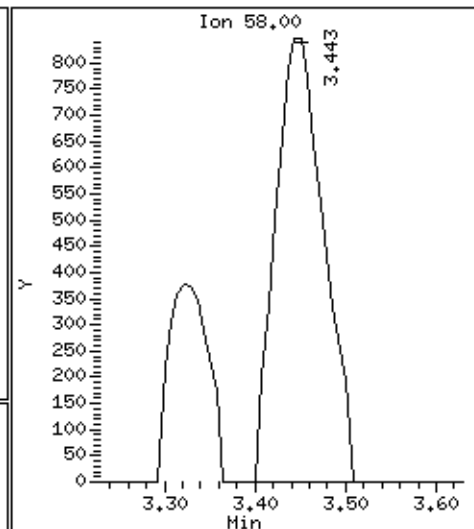
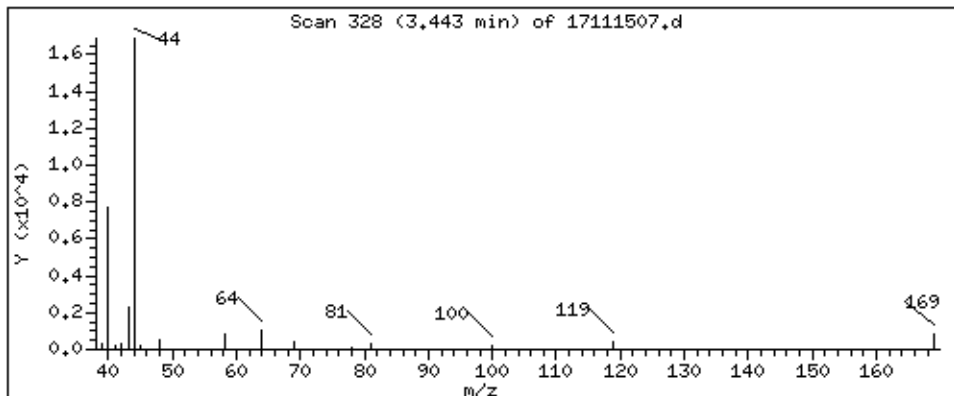
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

52 Acetone

Concentration: 1.428 PPBV



Date : 15-NOV-2018 16:03

Client ID:

Instrument: msd17.i

Sample Info: 200ml 33927

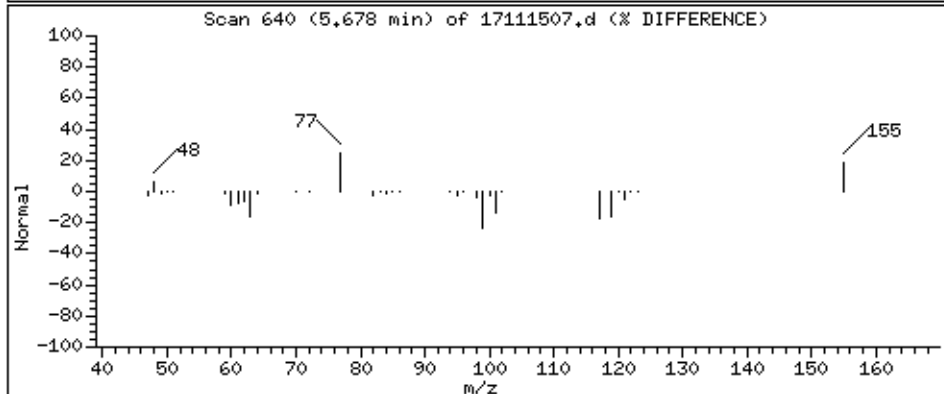
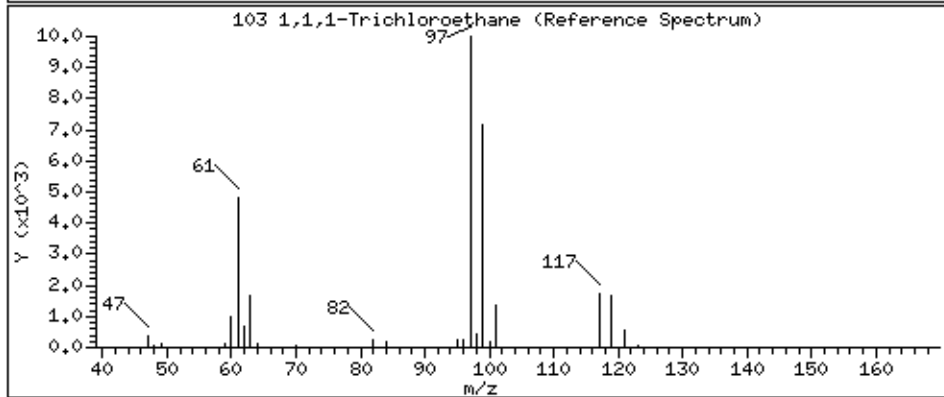
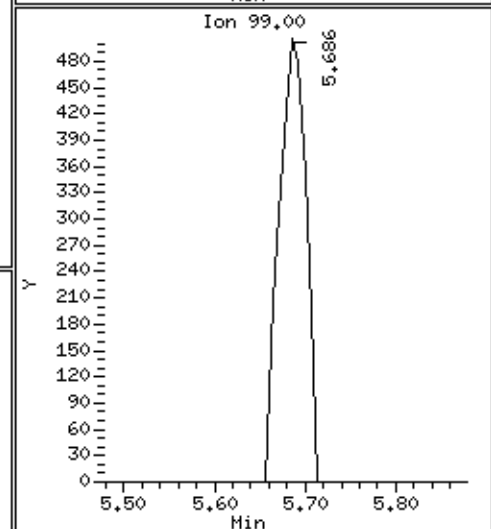
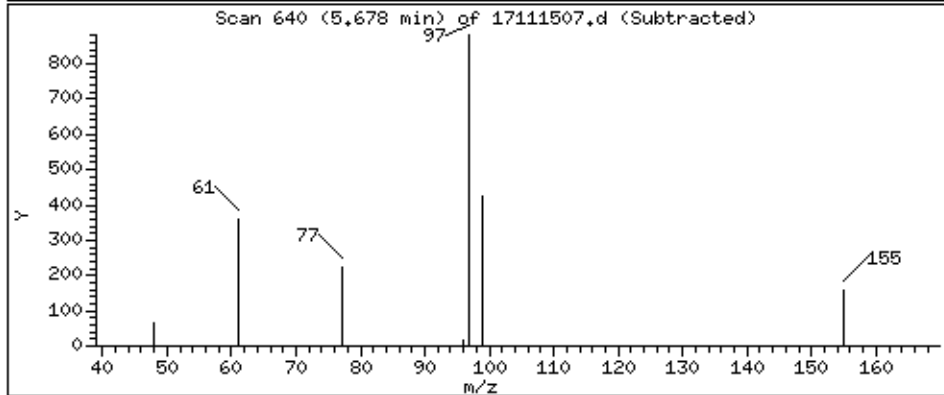
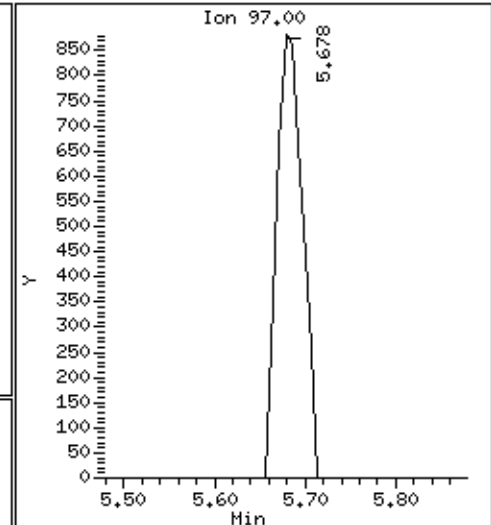
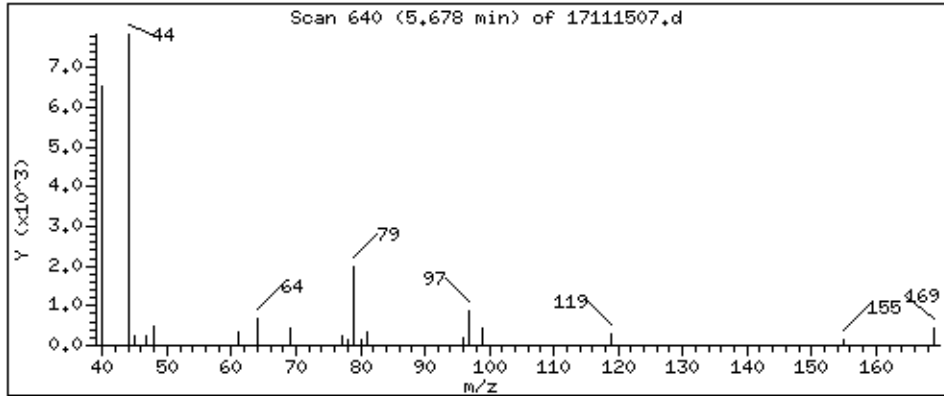
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

103 1,1,1-Trichloroethane

Concentration: 0.1494 PPBV



Date : 15-NOV-2018 16:03

Client ID:

Instrument: msd17.i

Sample Info: 200ml 33927

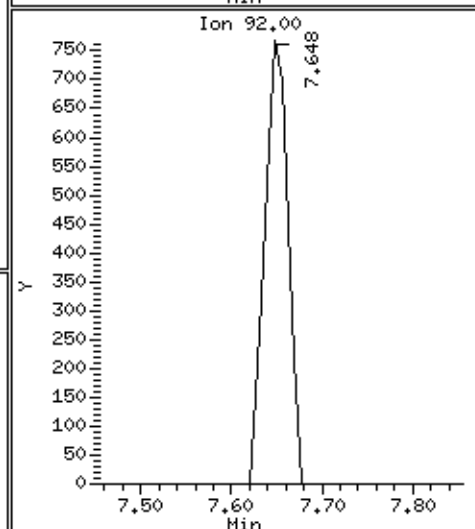
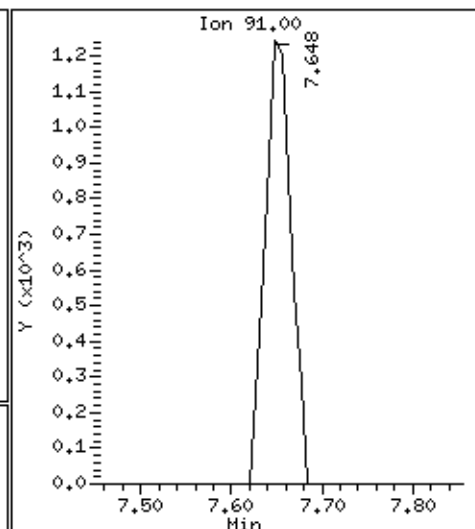
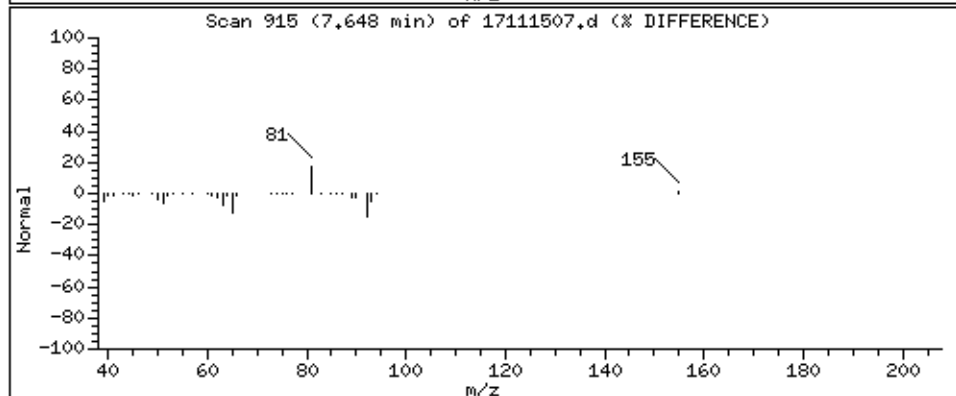
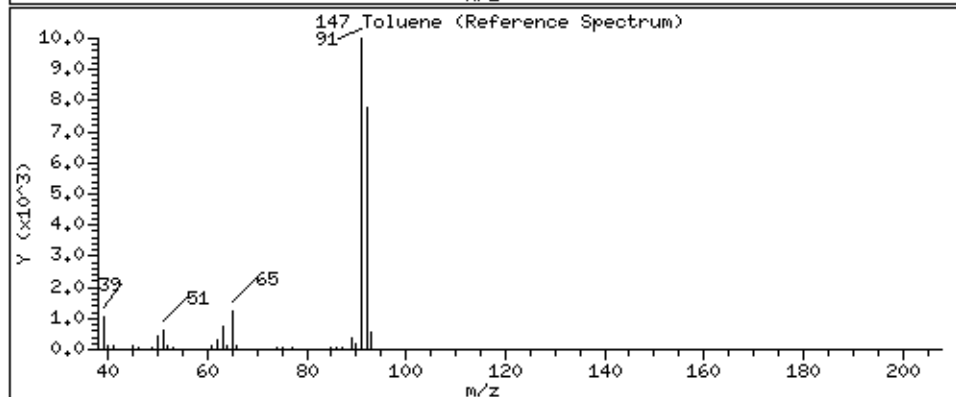
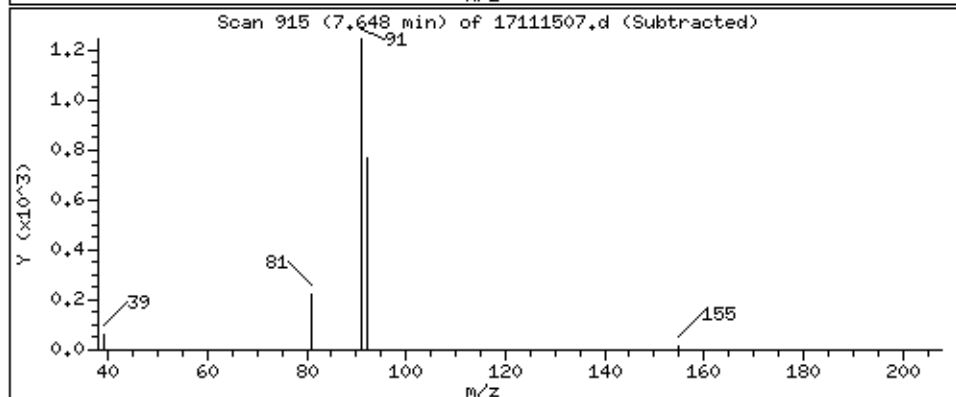
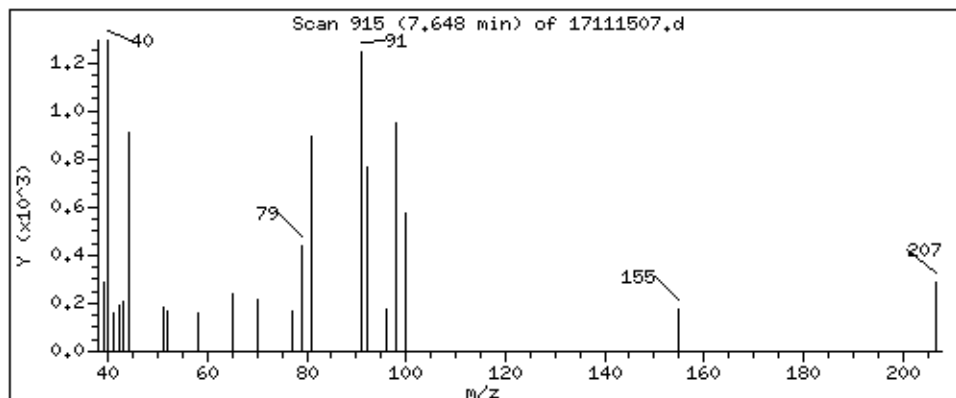
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

147 Toluene

Concentration: 0.1312 PPBV



Date : 15-NOV-2018 16:03

Client ID:

Instrument: msd17.i

Sample Info: 200ml 33927

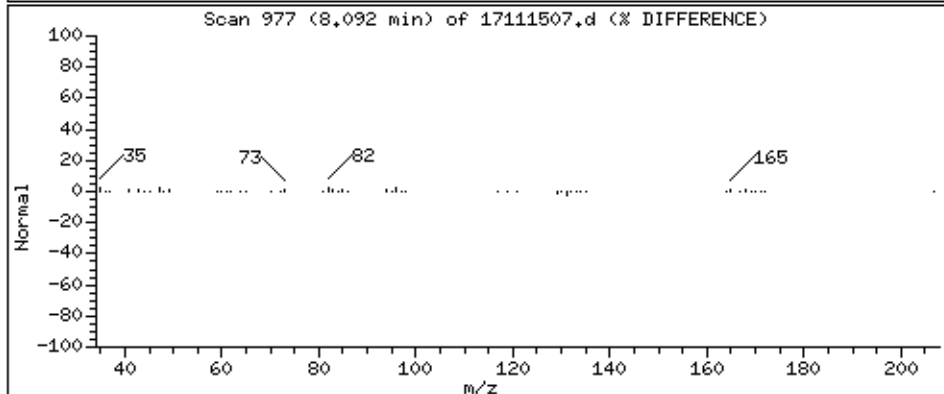
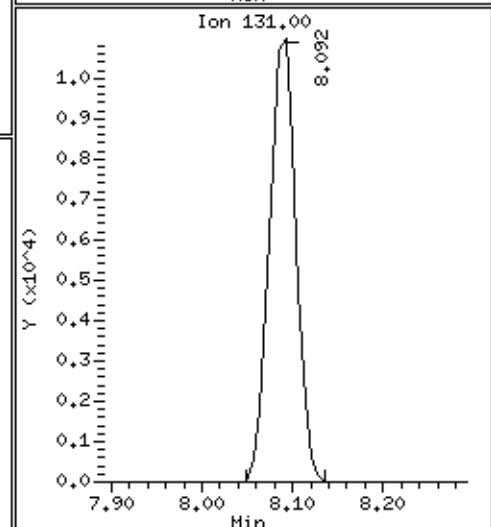
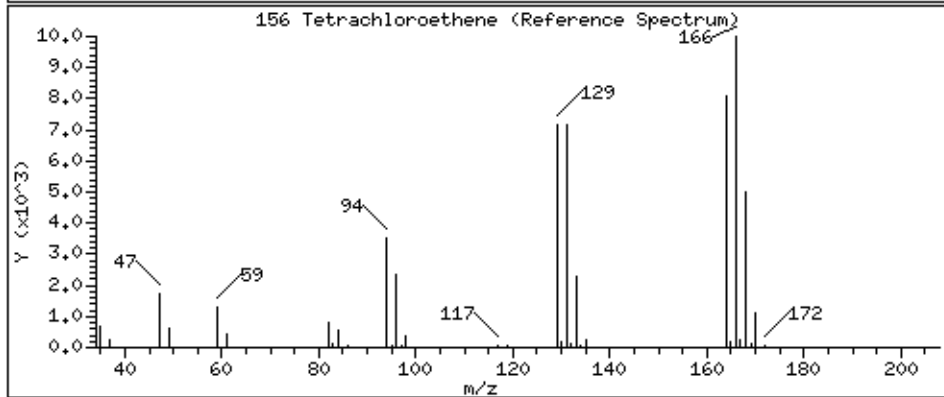
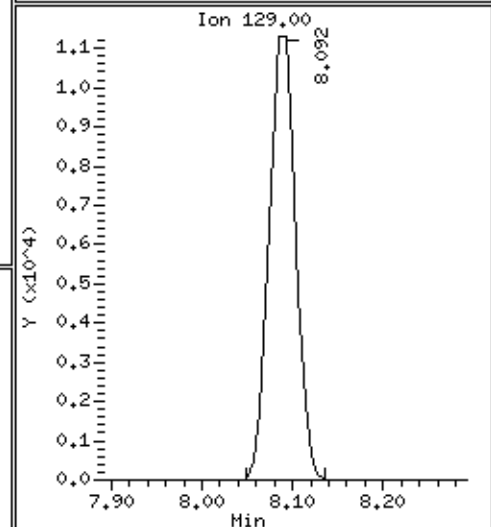
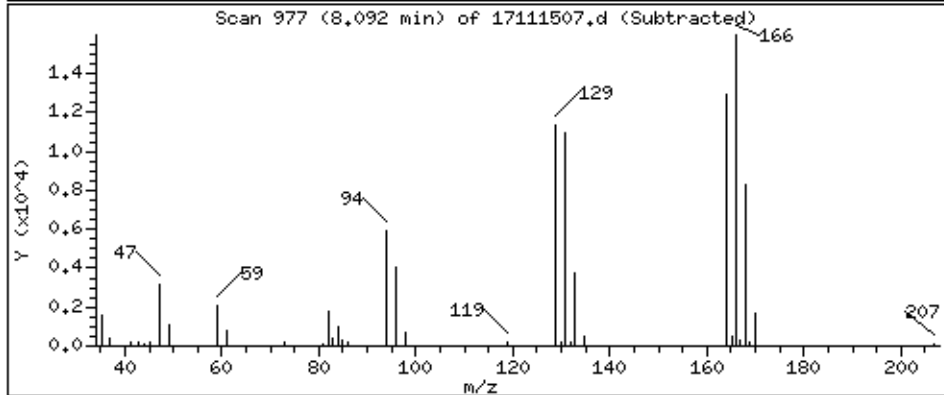
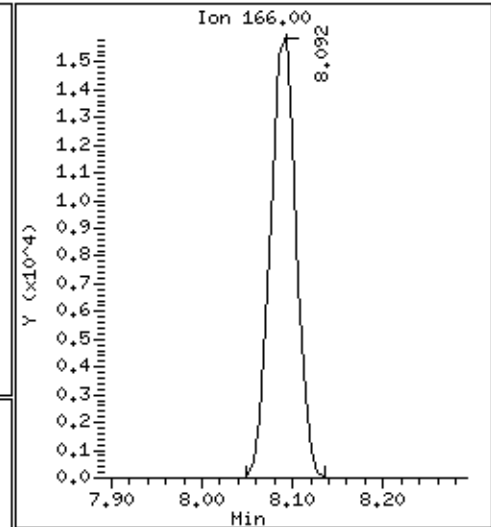
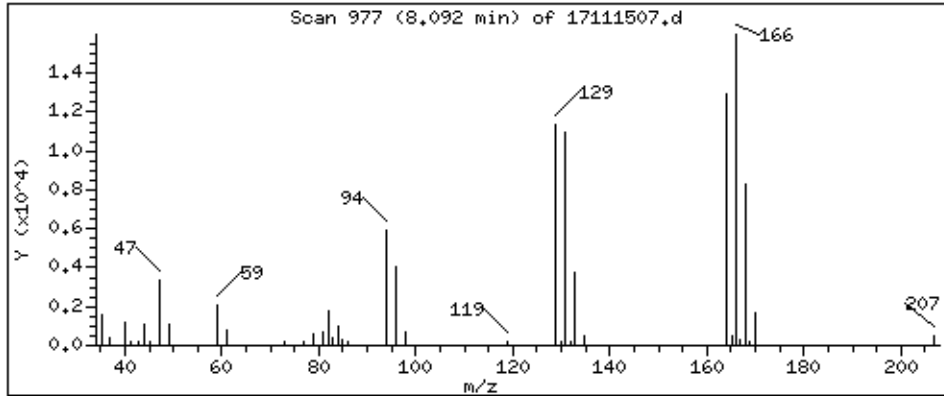
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

156 Tetrachloroethene

Concentration: 2.645 PPBV



Date : 15-NOV-2018 16:03

Client ID:

Instrument: msd17.i

Sample Info: 200ml 33927

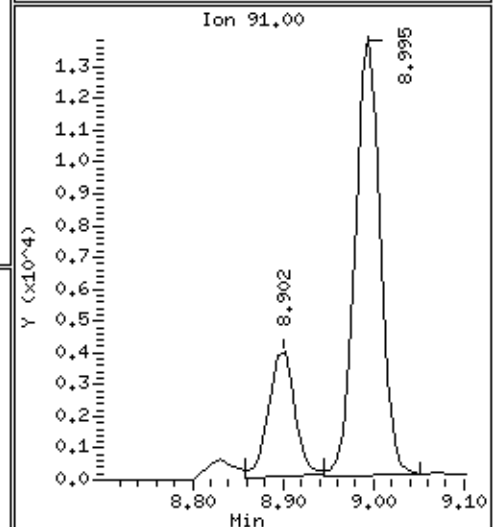
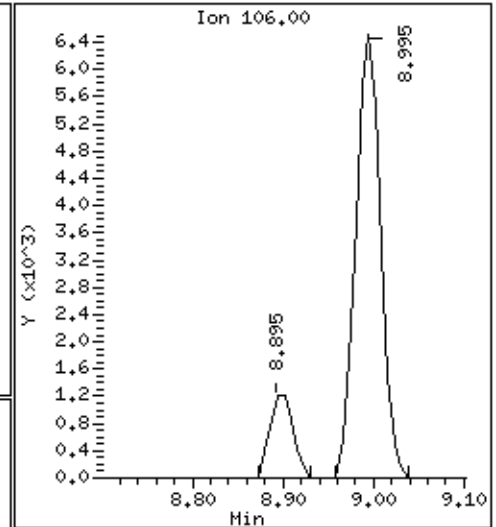
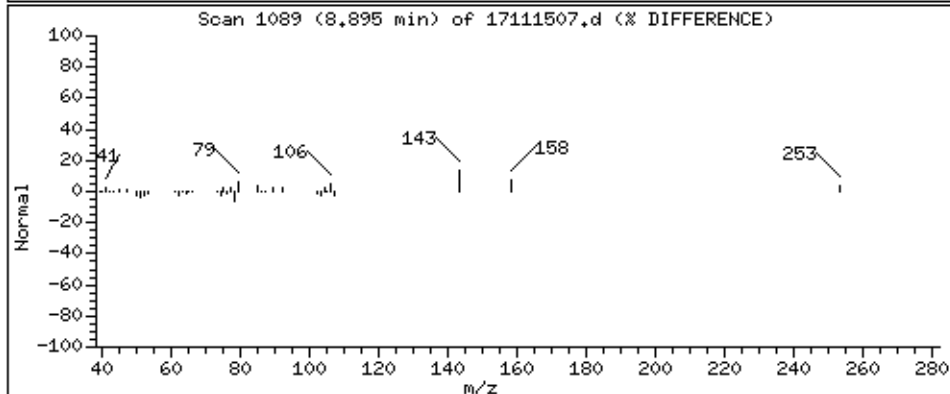
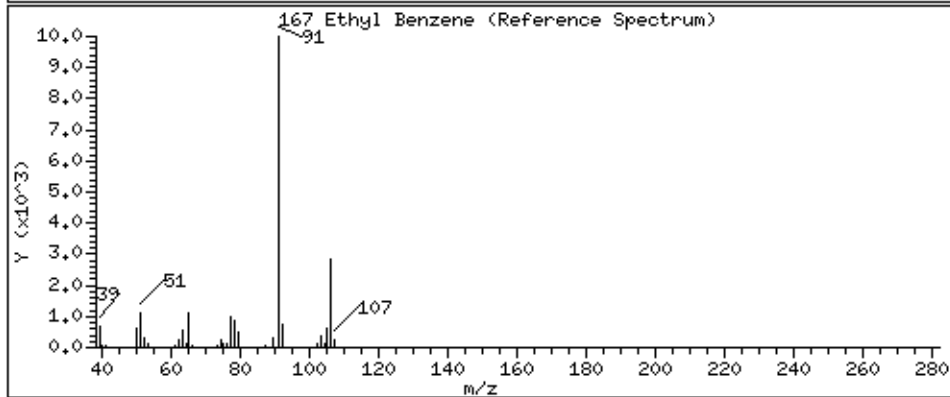
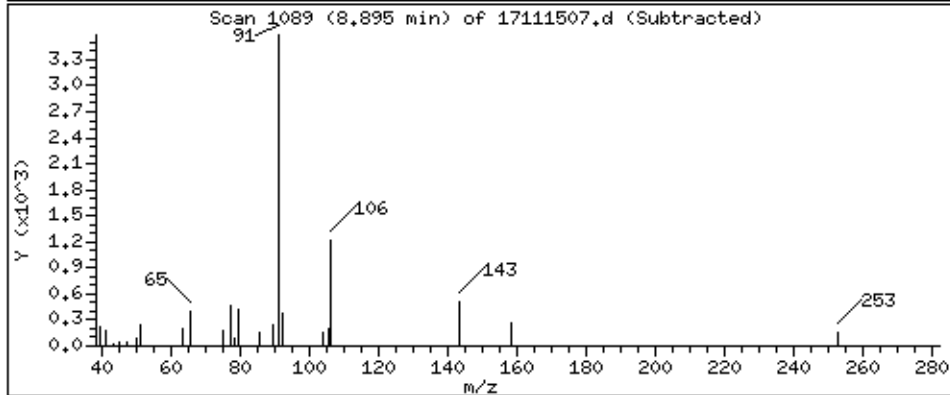
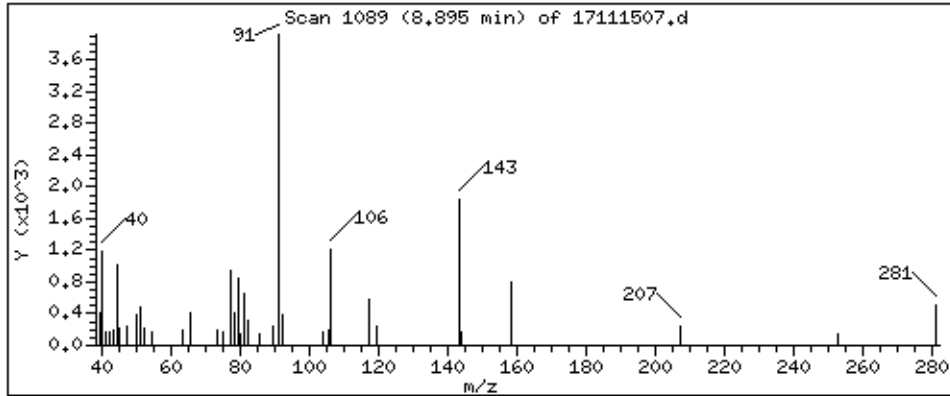
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

167 Ethyl Benzene

Concentration: 0.2603 PPBV



Date : 15-NOV-2018 16:03

Client ID:

Instrument: msd17.i

Sample Info: 200ml 33927

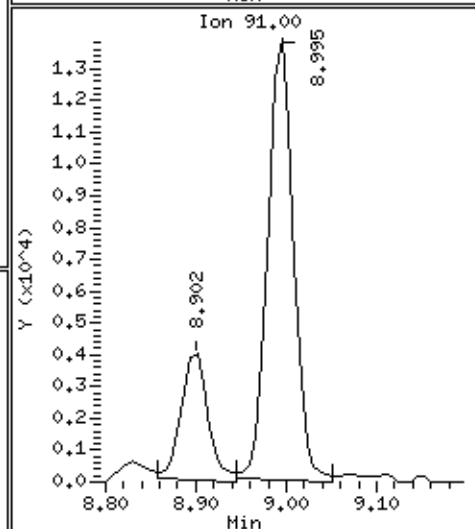
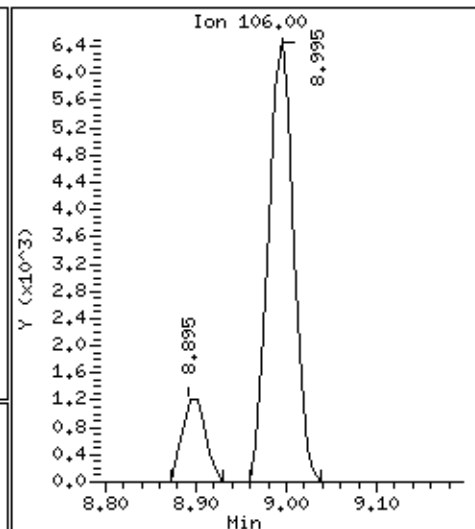
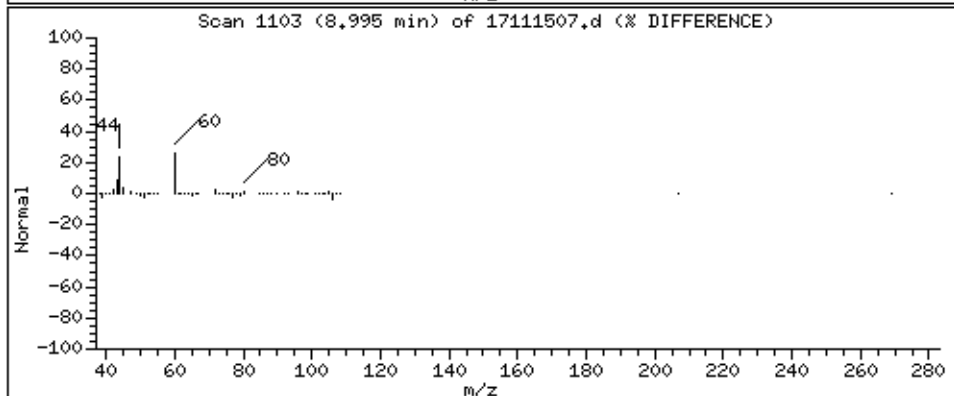
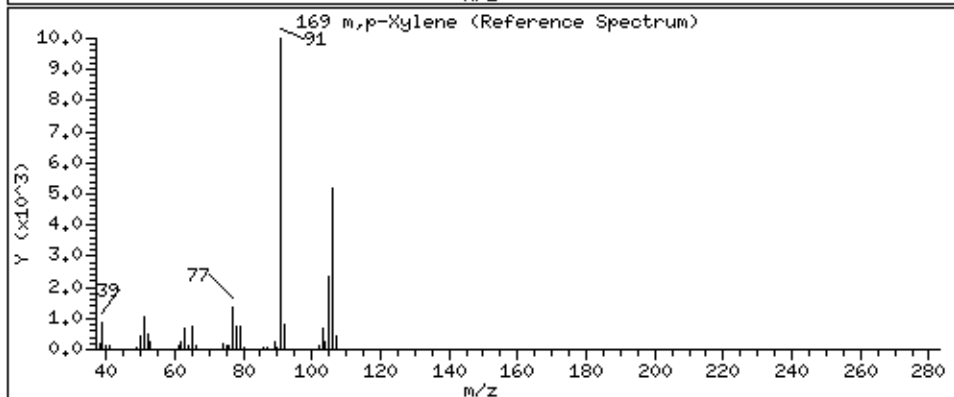
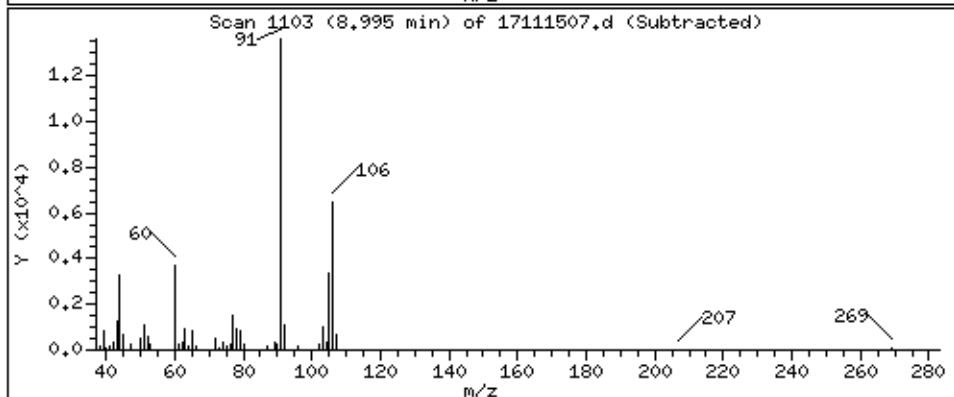
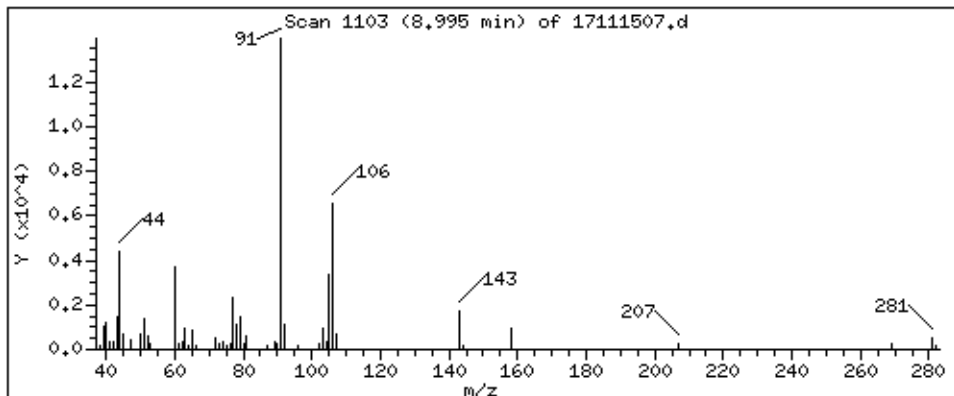
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

169 m,p-Xylene

Concentration: 1.203 PPBV



Date : 15-NOV-2018 16:03

Client ID:

Instrument: msd17.i

Sample Info: 200ml 33927

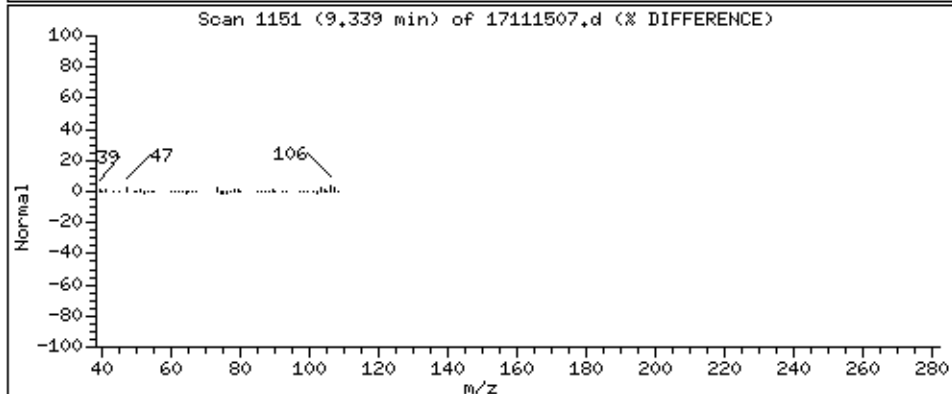
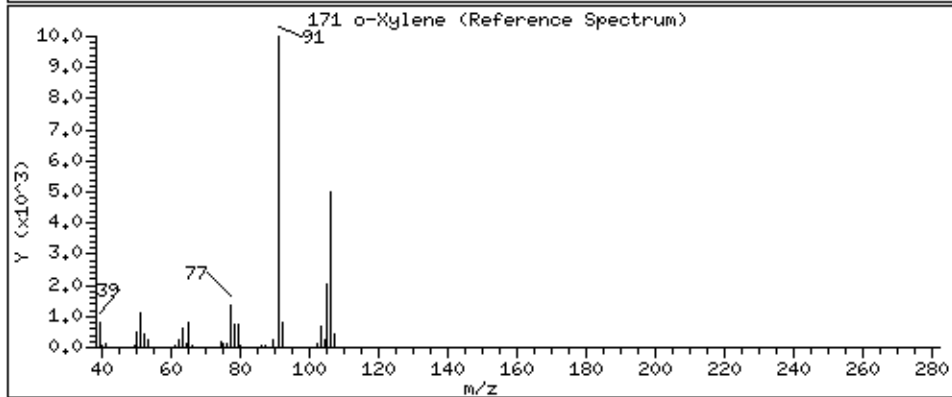
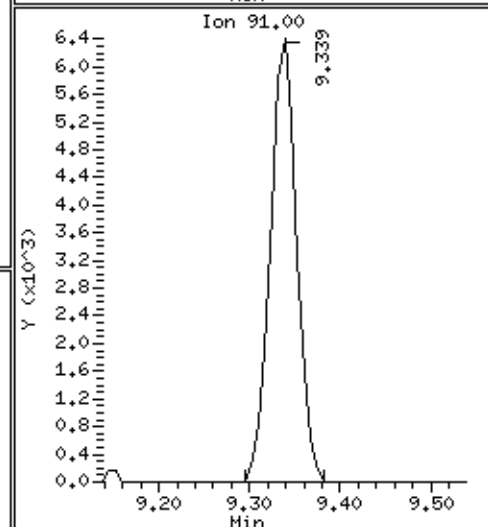
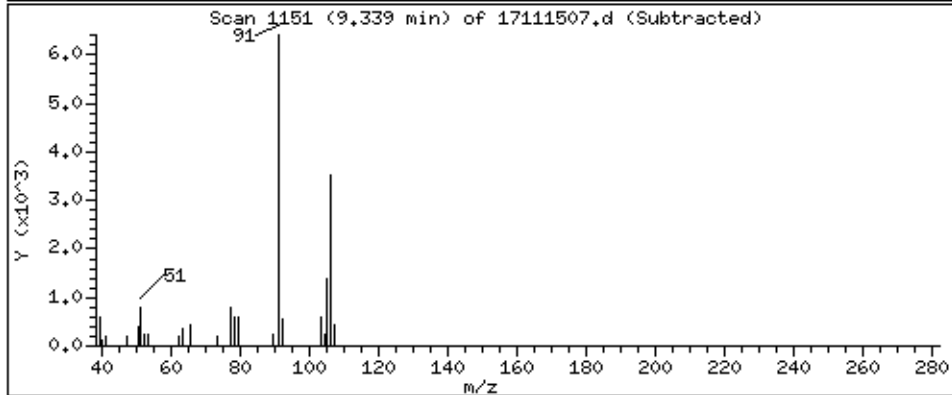
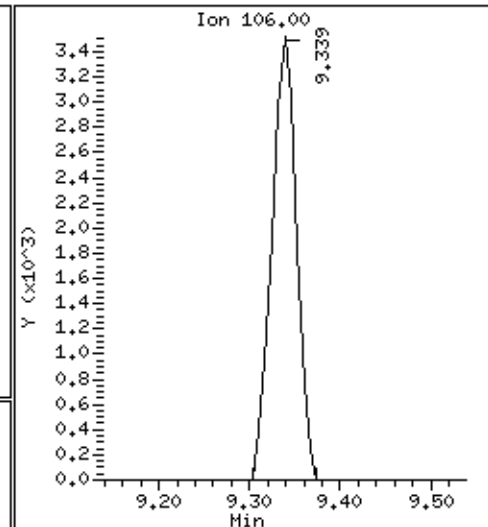
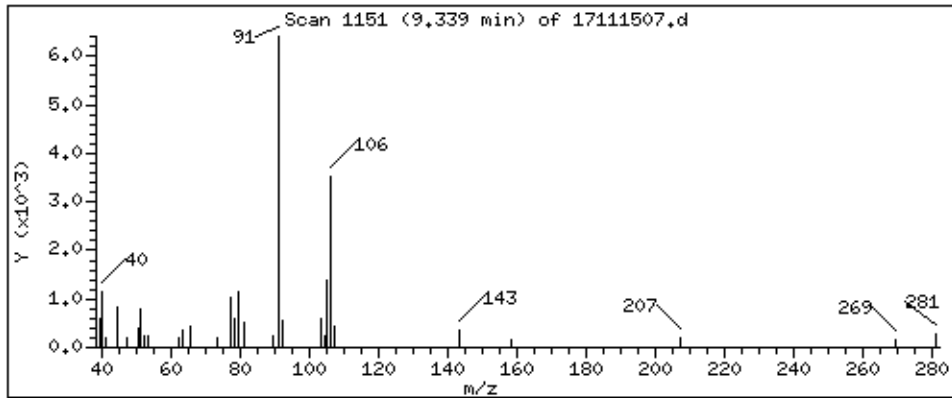
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

171 o-Xylene

Concentration: 0.6738 PPBV



EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	VP-46	Date/Time Analyzed:	11/15/18 04:32 PM
Lab ID:	1811221A-03A	Dilution Factor:	1.40
Date/Time Collected:	11/7/18 10:45 AM	Instrument/File name:	msd17.i / 17111508
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.69	3.0	3.8	2.8 J
1,1,2,2-Tetrachloroethane	79-34-5	0.86	3.8	4.8	Not Detected
1,1,2-Trichloroethane	79-00-5	0.92	3.0	3.8	Not Detected
1,1-Dichloroethane	75-34-3	0.51	2.3	2.8	Not Detected
1,1-Dichloroethene	75-35-4	1.2	2.2	2.8	Not Detected
1,2,4-Trichlorobenzene	120-82-1	1.9	16	21	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.89	2.8	3.4	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.5	4.3	5.4	Not Detected
1,2-Dichlorobenzene	95-50-1	0.76	3.4	4.2	Not Detected
1,2-Dichloroethane	107-06-2	0.45	2.3	2.8	Not Detected
1,2-Dichloropropane	78-87-5	0.84	2.6	3.2	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.76	2.8	3.4	Not Detected
1,3-Butadiene	106-99-0	0.34	1.2	1.5	Not Detected
1,3-Dichlorobenzene	541-73-1	0.59	3.4	4.2	Not Detected
1,4-Dichlorobenzene	106-46-7	0.84	3.4	4.2	Not Detected
1,4-Dioxane	123-91-1	2.2	7.6	10	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.52	2.6	3.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	1.3	6.2	8.2	Not Detected
2-Hexanone	591-78-6	1.1	8.6	11	Not Detected
2-Propanol	67-63-0	1.1	5.2	6.9	Not Detected
3-Chloropropene	107-05-1	2.0	6.6	8.8	Not Detected
4-Ethyltoluene	622-96-8	0.62	2.8	3.4	Not Detected
4-Methyl-2-pentanone	108-10-1	1.4	2.3	2.9	Not Detected
Acetone	67-64-1	2.4	5.0	17	6.8 J

EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	VP-46	Date/Time Analyzed:	11/15/18 04:32 PM
Lab ID:	1811221A-03A	Dilution Factor:	1.40
Date/Time Collected:	11/7/18 10:45 AM	Instrument/Filename:	msd17.i / 17111508
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.36	2.9	3.6	Not Detected
Benzene	71-43-2	1.2	1.8	2.2	Not Detected
Bromodichloromethane	75-27-4	1.1	3.8	4.7	Not Detected
Bromoform	75-25-2	1.2	5.8	7.2	Not Detected
Bromomethane	74-83-9	2.1	8.2	27	Not Detected
Carbon Disulfide	75-15-0	2.0	6.5	8.7	Not Detected
Carbon Tetrachloride	56-23-5	0.70	3.5	4.4	7.6
Chlorobenzene	108-90-7	0.52	2.6	3.2	Not Detected
Chloroethane	75-00-3	2.4	5.5	7.4	Not Detected
Chloroform	67-66-3	0.55	2.7	3.4	2.0 J
Chloromethane	74-87-3	1.7	4.3	14	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.44	2.2	2.8	1.1 J
cis-1,3-Dichloropropene	10061-01-5	0.70	2.5	3.2	Not Detected
Cumene	98-82-8	0.41	2.8	3.4	Not Detected
Cyclohexane	110-82-7	0.58	1.9	2.4	Not Detected
Dibromochloromethane	124-48-1	0.83	4.8	6.0	Not Detected
Ethanol	64-17-5	2.1	4.0	5.3	Not Detected
Ethyl Benzene	100-41-4	0.55	2.4	3.0	Not Detected
Freon 11	75-69-4	0.71	3.1	3.9	1.5 J
Freon 113	76-13-1	1.3	4.3	5.4	Not Detected
Freon 114	76-14-2	1.1	3.9	4.9	Not Detected
Freon 12	75-71-8	0.76	2.8	3.5	3.0 J
Heptane	142-82-5	1.0	2.3	2.9	Not Detected
Hexachlorobutadiene	87-68-3	3.7	22	30	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	VP-46	Date/Time Analyzed:	11/15/18 04:32 PM
Lab ID:	1811221A-03A	Dilution Factor:	1.40
Date/Time Collected:	11/7/18 10:45 AM	Instrument/Filename:	msd17.i / 17111508
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.49	2.0	2.5	Not Detected
m,p-Xylene	108-38-3	0.49	2.4	3.0	Not Detected
Methyl tert-butyl ether	1634-04-4	1.4	7.6	10	Not Detected
Methylene Chloride	75-09-2	1.6	7.3	24	Not Detected
o-Xylene	95-47-6	0.42	2.4	3.0	Not Detected
Propylbenzene	103-65-1	0.34	2.8	3.4	Not Detected
Styrene	100-42-5	0.42	2.4	3.0	Not Detected
Tetrachloroethene	127-18-4	0.66	3.8	4.7	690
Tetrahydrofuran	109-99-9	0.45	1.6	2.1	Not Detected
Toluene	108-88-3	0.42	2.1	2.6	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.83	2.2	2.8	1.6 J
trans-1,3-Dichloropropene	10061-02-6	0.38	2.5	3.2	Not Detected
Trichloroethene	79-01-6	1.4	3.0	3.8	7.1
Vinyl Chloride	75-01-4	0.43	1.4	1.8	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	98
4-Bromofluorobenzene	460-00-4	70-130	88
Toluene-d8	2037-26-5	70-130	103

US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/15NOV18.b/17111508.d
Lab Smp Id: 1811221A-03A
Inj Date : 15-NOV-2018 16:32
Operator : mjb
Smp Info : 200ml SH34232
Misc Info : 2 Hg->4.5 psi
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/15NOV18.b/178q0613e.m
Meth Date : 15-Nov-2018 11:54 p5fl
Cal Date : 09-OCT-2018 15:59
Als bottle: 11
Dil Factor: 1.40000
Integrator: HP RTE
Sample Matrix: AIR
Processing Host: us32apptv003

Inst ID: msd17.i
Quant Type: ISTD
Cal File: 17100911.d
Compound Sublist: GHD22832.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL	FINAL	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
* 98 Bromochloromethane									
5.506	5.497	(1.000)	130	172703	25.0000	CAS #:	74-97-5		
5.506	5.497	(1.000)	128	135059			80.00-	120.00	100.00
5.506	5.497	(1.000)	49	158468			48.32-	108.32	78.20
							63.40-	123.40	91.76

* 123 1,4-Difluorobenzene									
6.388	6.381	(1.000)	114	581184	25.0000	CAS #:	540-36-3		
6.388	6.381	(1.000)	88	86484			80.00-	120.00	100.00
							0.00-	44.55	14.88

* 163 Chlorobenzene-d5									
8.830	8.830	(1.000)	117	535331	25.0000	CAS #:	3114-55-4		
8.830	8.830	(1.000)	82	269184			80.00-	120.00	100.00
							17.97-	77.97	50.28

\$ 117 1,2-Dichloroethane-d4									
6.037	6.035	(1.096)	65	191230	24.3855	CAS #:	17060-07-0		
6.037	6.035	(1.096)	67	100367		24.385	80.00-	120.00	100.00
							23.66-	83.66	52.49

\$ 146 Toluene-d8									
7.598	7.598	(1.190)	98	583059	25.7589	CAS #:	2037-26-5		
7.598	7.598	(1.190)	70	58824		25.759	80.00-	120.00	100.00
							0.00-	40.01	10.09

				CONCENTRATIONS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL (PPBV)	FINAL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	===	=====	=====	=====	=====	=====	=====
\$ 146 Toluene-d8 (continued)									
7.598	7.598	(1.190)	100	376659			35.43-	95.43	64.60

\$ 177 4-Bromofluorobenzene						CAS #:	460-00-4		
9.819	9.819	(1.112)	174	371058	21.9500	21.950	80.00-	120.00	100.00
9.819	9.819	(1.112)	95	365948			59.41-	119.41	98.62
9.819	9.819	(1.112)	176	363090			68.33-	128.33	97.85

11 Freon 12						CAS #:	75-71-8		
1.552	1.533	(0.282)	85	6658	0.43411	0.6078	80.00-	120.00	100.00(a)
1.545	1.533	(0.281)	87	2228			2.38-	62.38	33.47

35 Freon 11						CAS #:	75-69-4		
2.598	2.592	(0.472)	101	3376	0.18767	0.2627	80.00-	120.00	100.00(a)
2.598	2.592	(0.472)	103	2369			34.28-	94.28	70.17

52 Acetone						CAS #:	67-64-1		
3.443	3.429	(0.625)	58	5669	2.03655	2.851	80.00-	120.00	100.00(a)
3.443	3.429	(0.625)	43	15560			290.24-	350.24	274.48

73 trans-1,2-Dichloroethene						CAS #:	156-60-5		
4.188	4.176	(0.761)	98	1241	0.29151	0.4081	80.00-	120.00	100.00(a)
4.181	4.176	(0.759)	61	2590			169.57-	229.57	208.68
4.181	4.176	(0.759)	96	2512			127.00-	187.00	202.40

91 cis-1,2-Dichloroethene						CAS #:	156-59-2		
5.270	5.264	(0.957)	98	1052	0.20522	0.2873	80.00-	120.00	100.00(a)
5.270	5.264	(0.957)	96	1942			122.96-	182.96	184.60
5.270	5.264	(0.957)	61	2074			147.21-	207.21	197.13

100 Chloroform						CAS #:	67-66-3		
5.564	5.559	(1.010)	83	3860	0.28796	0.4031	80.00-	120.00	100.00(a)
5.564	5.559	(1.010)	85	2351			35.00-	95.00	60.92

103 1,1,1-Trichloroethane						CAS #:	71-55-6		
5.686	5.678	(1.033)	97	5505	0.36844	0.5158	80.00-	120.00	100.00(a)
5.686	5.678	(1.033)	99	3168			34.84-	94.84	57.55

106 Carbon Tetrachloride						CAS #:	56-23-5		
5.800	5.794	(1.053)	119	13950	0.85713	1.200	80.00-	120.00	100.00
5.800	5.794	(1.053)	117	13578			73.53-	133.53	97.34

125 Trichloroethene						CAS #:	79-01-6		
6.581	6.581	(1.030)	95	8356	0.94715	1.326	80.00-	120.00	100.00
6.581	6.581	(1.030)	130	9075			81.76-	141.76	108.59
6.581	6.581	(1.030)	97	5395			34.64-	94.64	64.56

				CONCENTRATIONS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
==	=====	=====	===	=====	=====	=====	=====	=====
156 Tetrachloroethene					CAS #: 127-18-4			
8.092	8.092	(0.916)	166	1094241	72.6225	101.67	80.00- 120.00	100.00
8.092	8.092	(0.916)	129	760490			36.14- 96.14	69.50
8.092	8.092	(0.916)	131	740448			34.69- 94.69	67.67

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17111508.d
Lab Smp Id: 1811221A-03A
Analysis Type: VOA
Quant Type: ISTD
Operator: mjb
Method File: /chem/msd17.i/15NOV18.b/178q0613e.m
Misc Info: 2 Hg->4.5 psi

Calibration Date: 15-NOV-2018
Calibration Time: 11:28

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	177601	106561	248641	172703	-2.76
123 1,4-Difluorobenze	599676	359806	839546	581184	-3.08
163 Chlorobenzene-d5	544209	326525	761893	535331	-1.63

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.51	5.18	5.84	5.51	-0.00
123 1,4-Difluorobenze	6.39	6.06	6.72	6.39	-0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

US32APPTV002

RECOVERY REPORT

Client Name:	Client SDG: 15NOV18
Sample Matrix: GAS	Fraction: VOA
Lab Smp Id: 1811221A-03A	
Level: LOW	Operator: mjb
Data Type: MS DATA	SampleType: SAMPLE
SpikeList File: AT12.spk	Quant Type: ISTD
Sublist File: GHD22832.sub	
Method File: /chem/msd17.i/15NOV18.b/178q0613e.m	
Misc Info: 2 Hg->4.5 psi	

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
\$ 117 1,2-Dichloroethane-d4	25.000	24.385	97.54
\$ 146 Toluene-d8	25.000	25.759	103.04
\$ 177 4-Bromofluorobenzene	25.000	21.950	87.80

Data File: /chem/msd17.i/15NOV18.b/17111508.d

Date : 15-NOV-2018 16:32

Client ID:

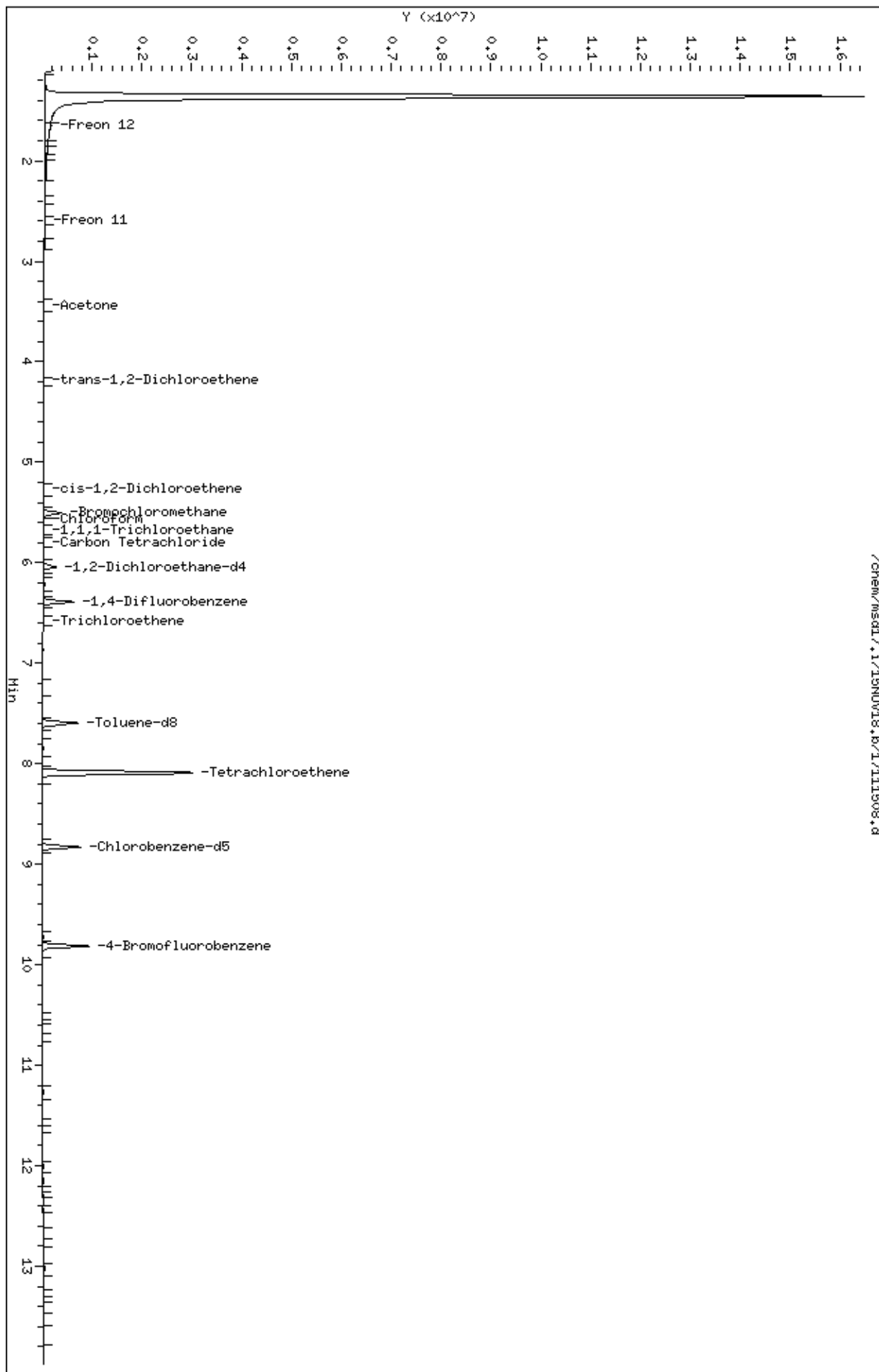
Sample Info: 200ml SH34232

Column phase: RTX-624

Instrument: msd17.i

Operator: mjb

Column diameter: 0.25



Date : 15-NOV-2018 16:32

Client ID:

Instrument: msd17.i

Sample Info: 200ml SH34232

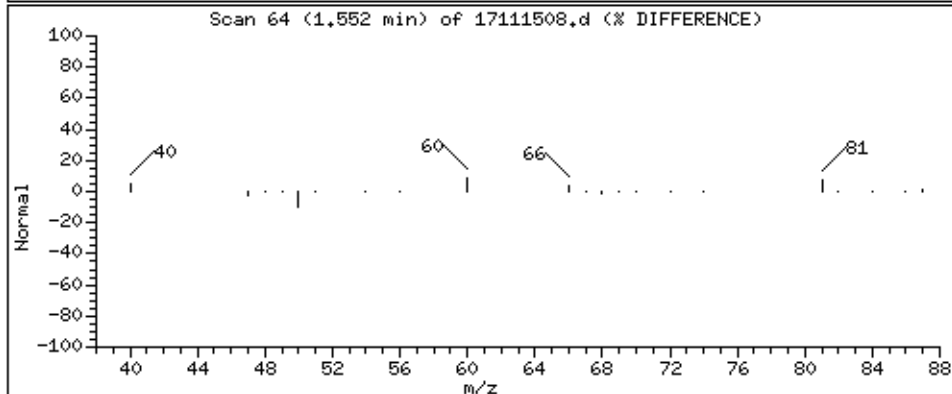
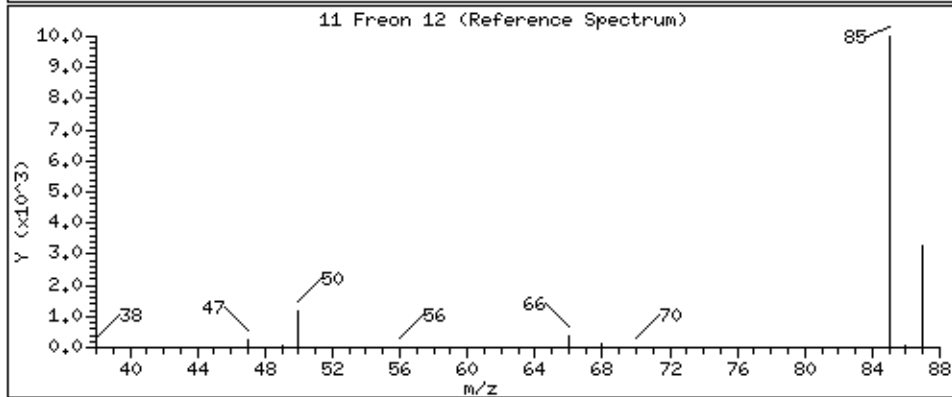
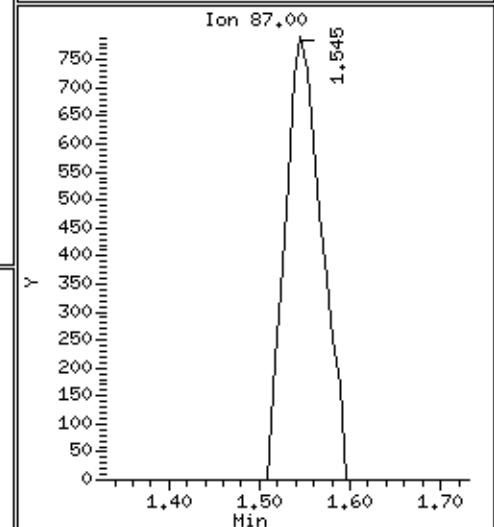
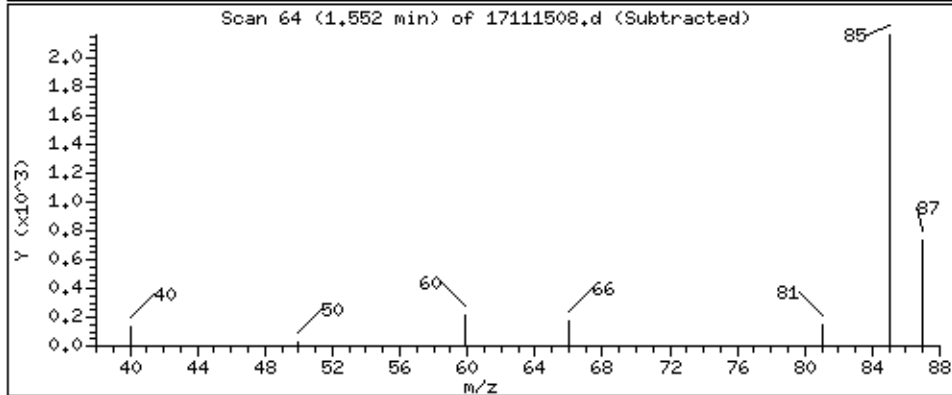
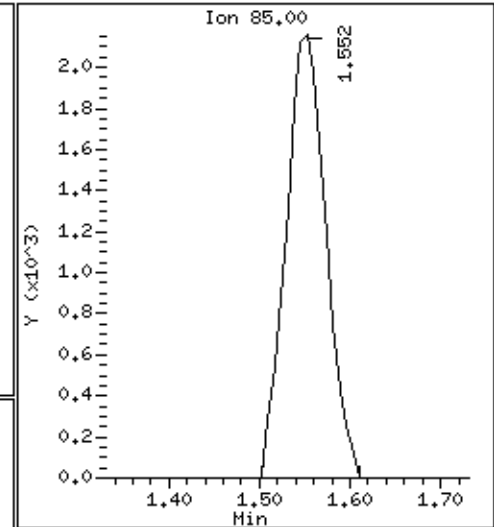
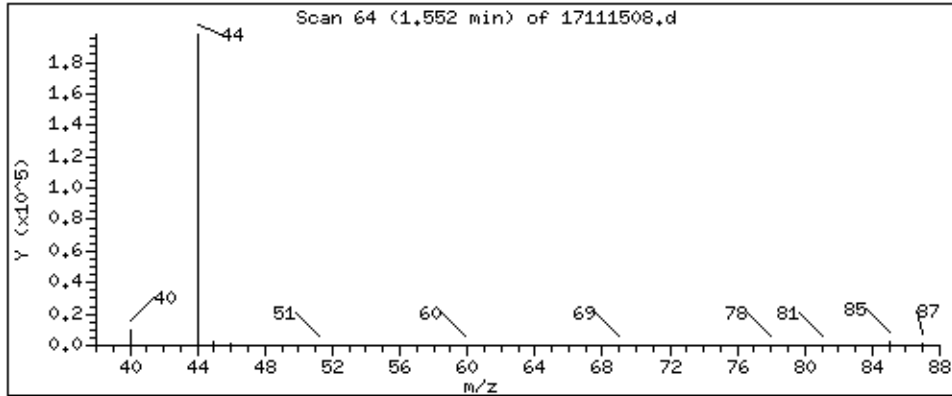
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

11 Freon 12

Concentration: 0.6078 PPBV



Date : 15-NOV-2018 16:32

Client ID:

Instrument: msd17.i

Sample Info: 200ml SH34232

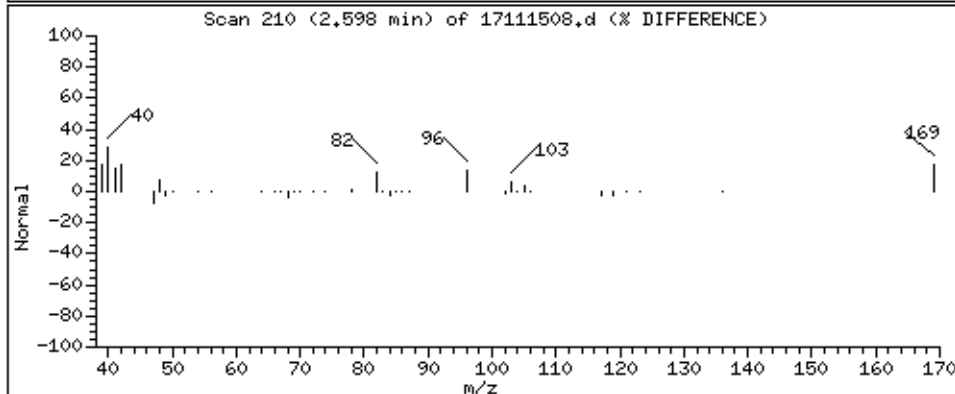
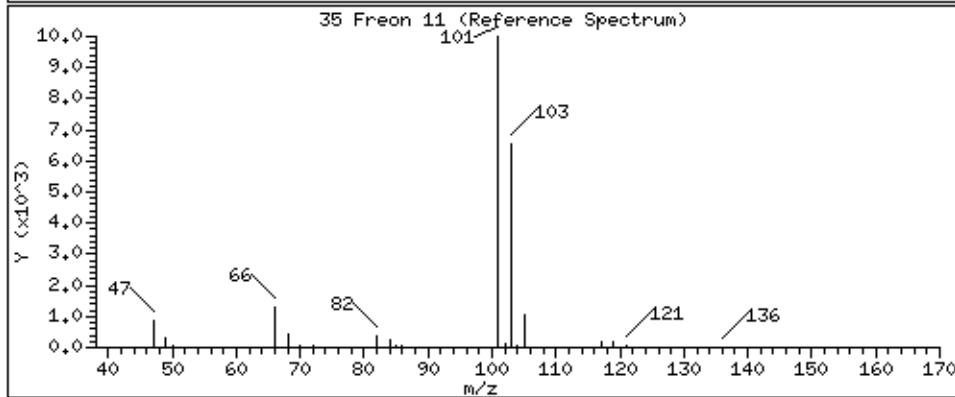
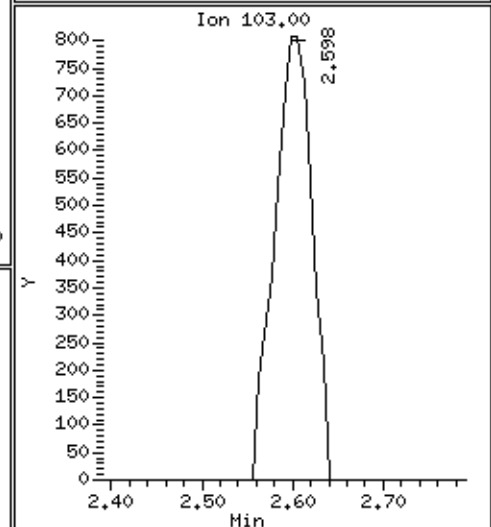
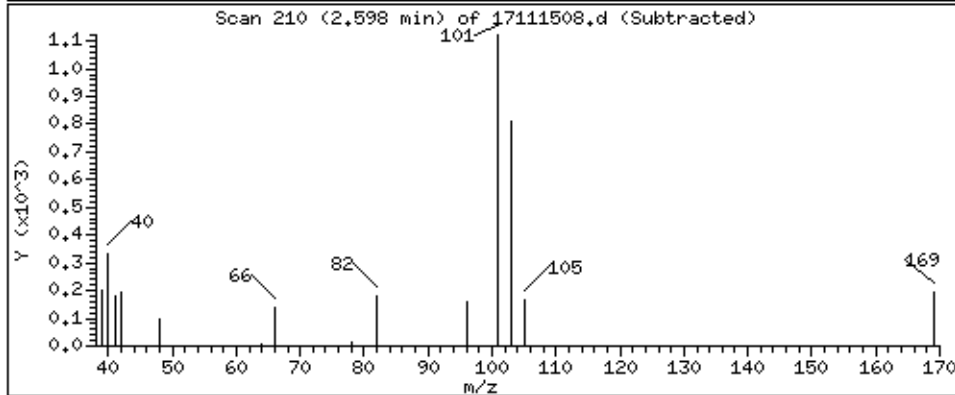
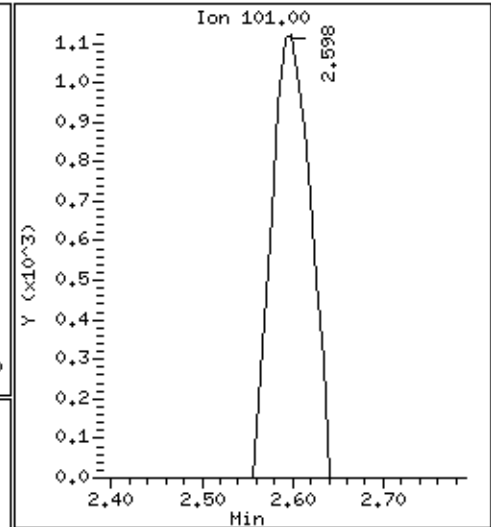
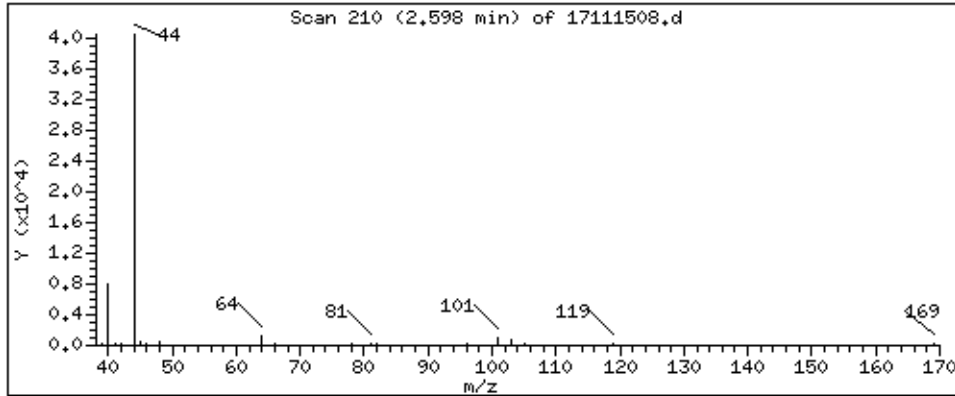
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

35 Freon 11

Concentration: 0.2627 PPBV



Date : 15-NOV-2018 16:32

Client ID:

Instrument: msd17.i

Sample Info: 200ml SH34232

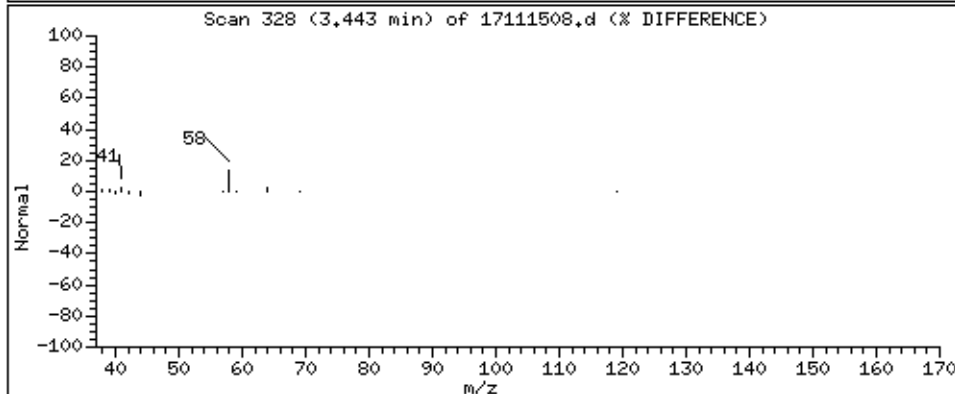
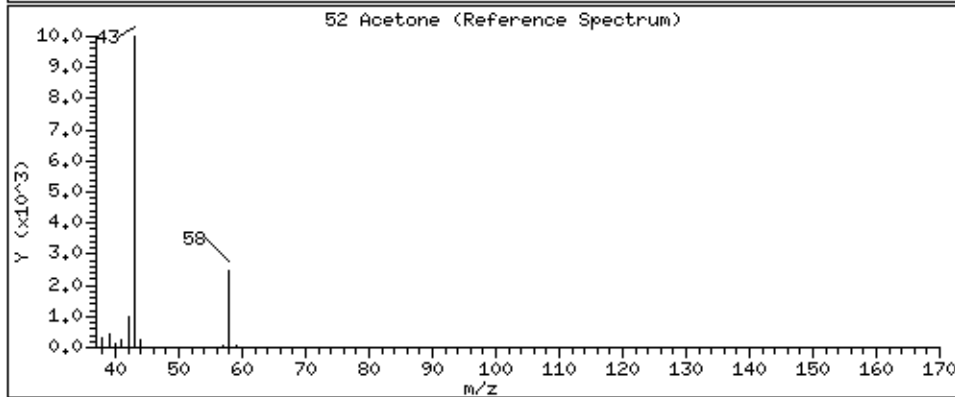
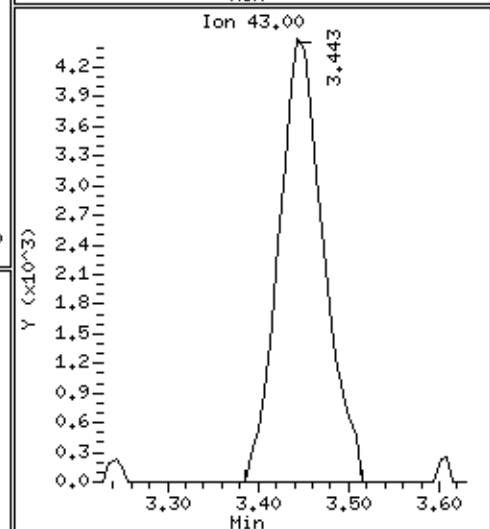
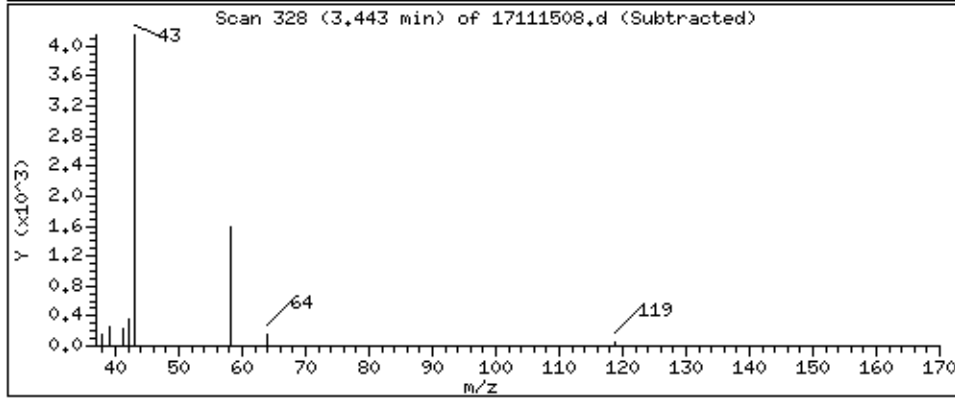
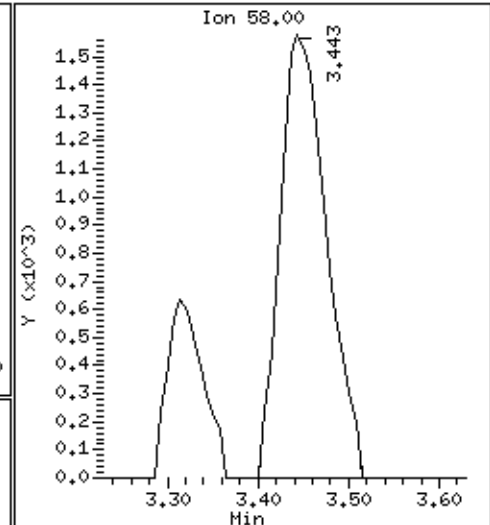
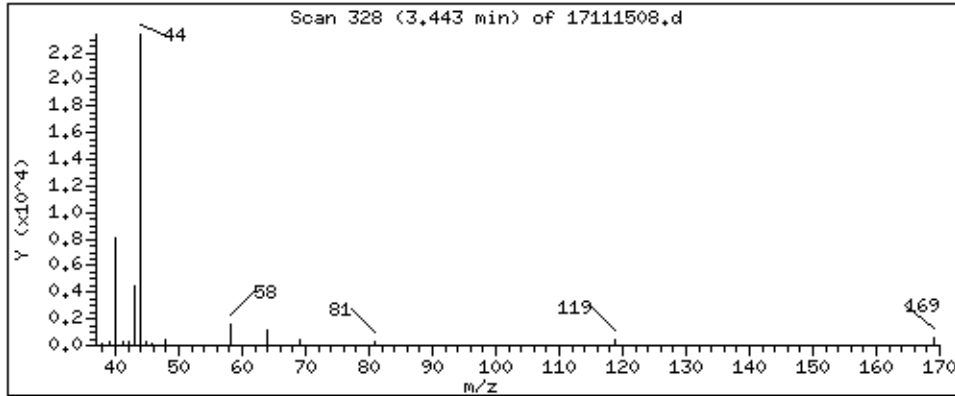
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

52 Acetone

Concentration: 2.851 PPBV



Date : 15-NOV-2018 16:32

Client ID:

Instrument: msd17.i

Sample Info: 200ml SH34232

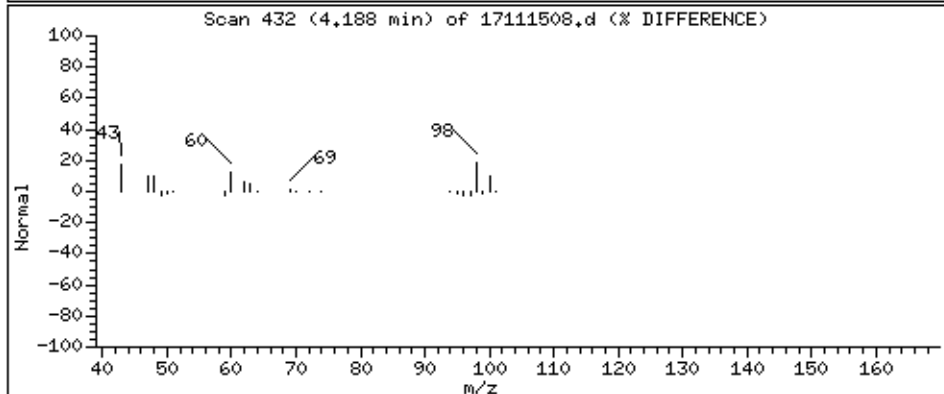
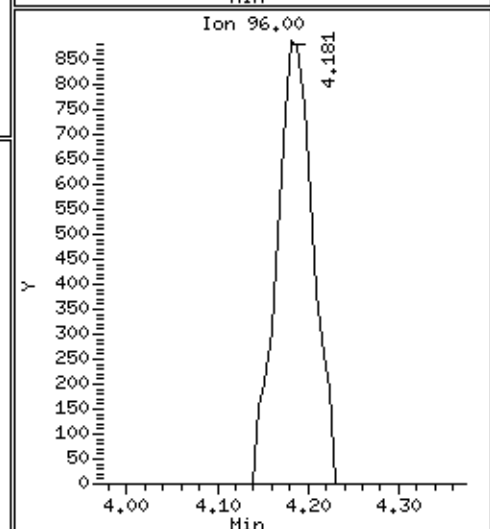
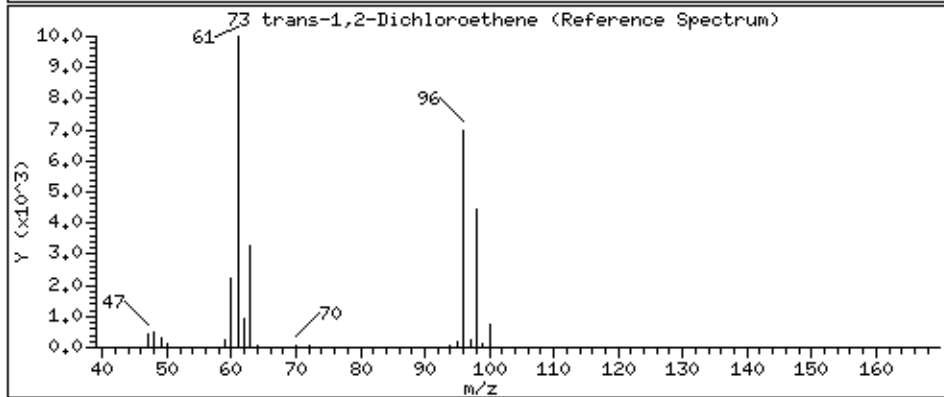
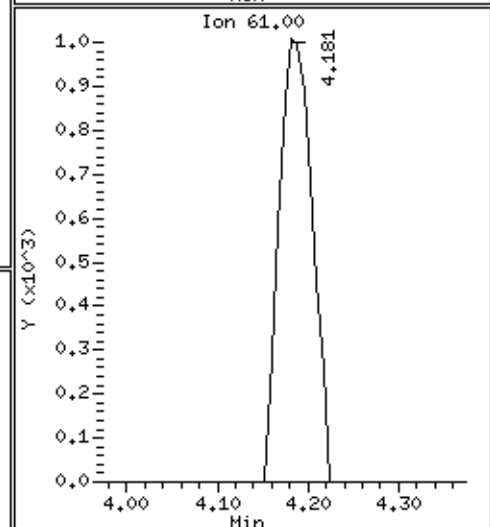
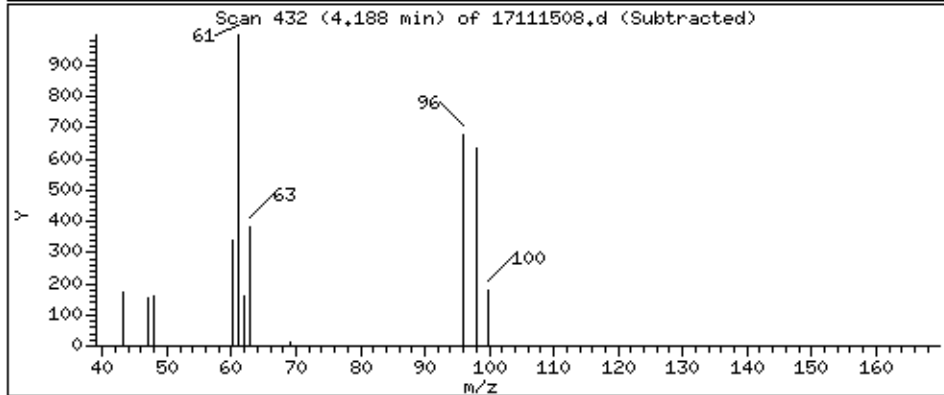
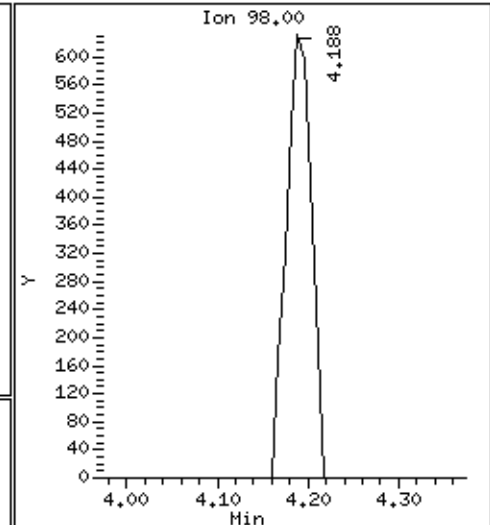
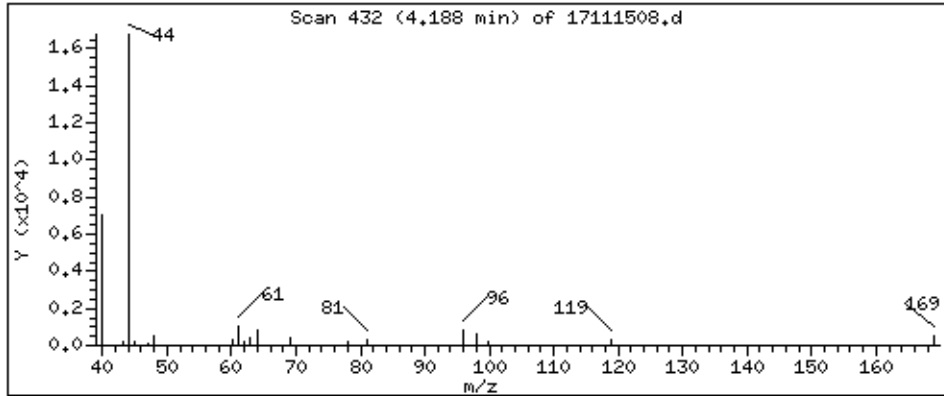
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

73 trans-1,2-Dichloroethene

Concentration: 0.4081 PPBV



Date : 15-NOV-2018 16:32

Client ID:

Instrument: msd17.i

Sample Info: 200ml SH34232

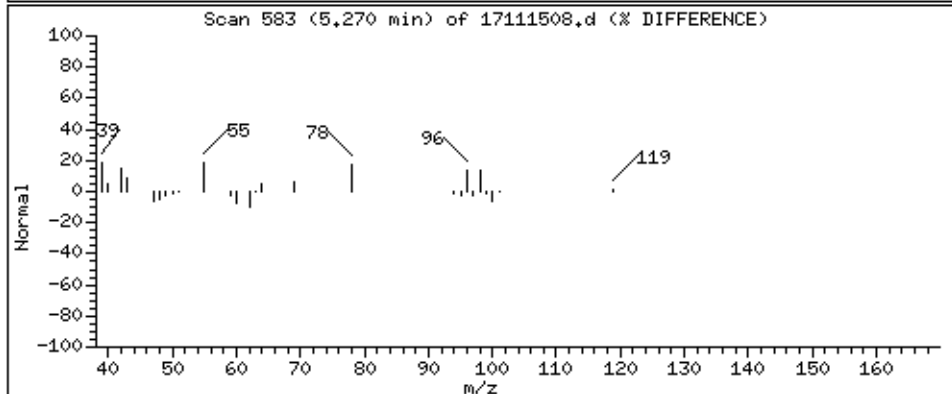
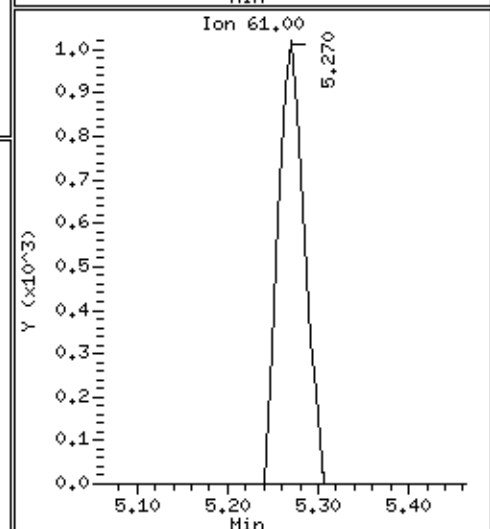
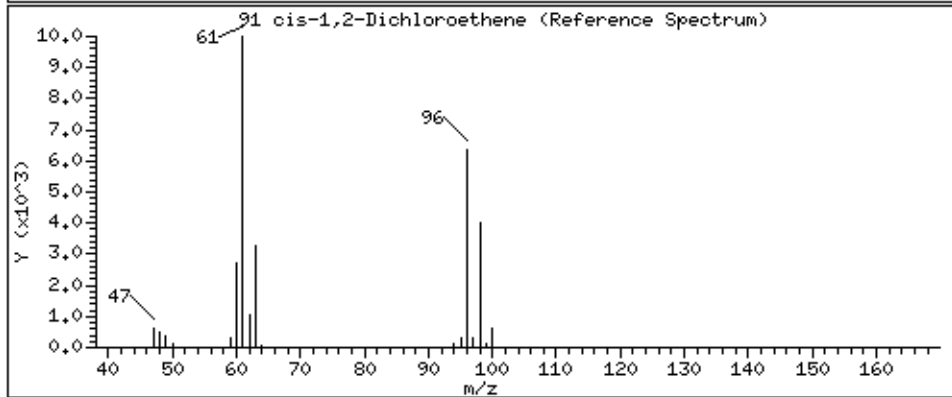
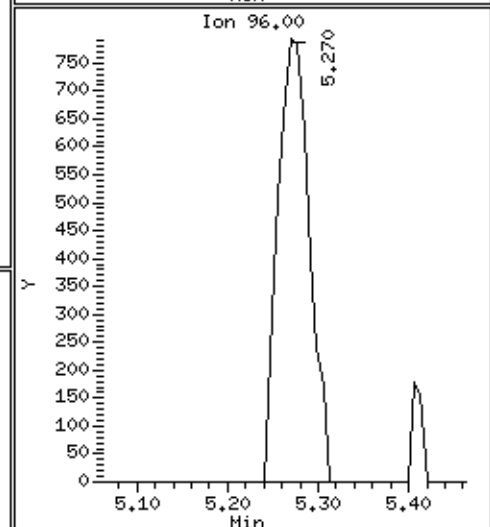
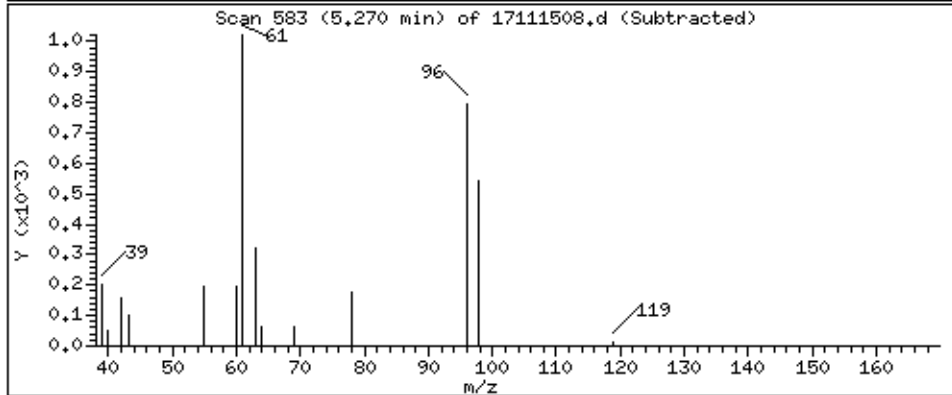
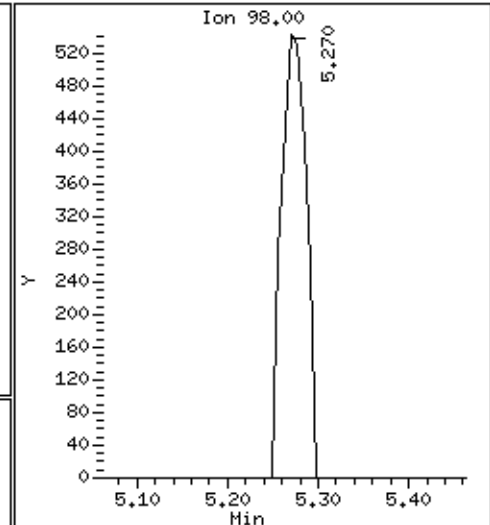
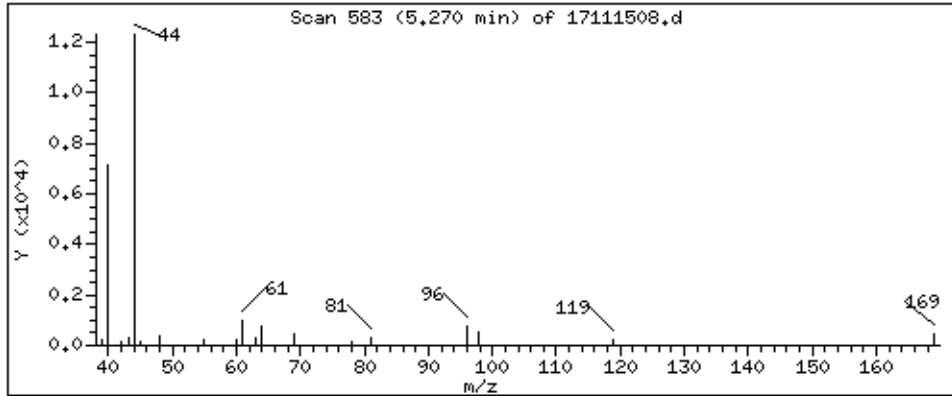
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

91 cis-1,2-Dichloroethene

Concentration: 0.2873 PPBV



Date : 15-NOV-2018 16:32

Client ID:

Instrument: msd17.i

Sample Info: 200ml SH34232

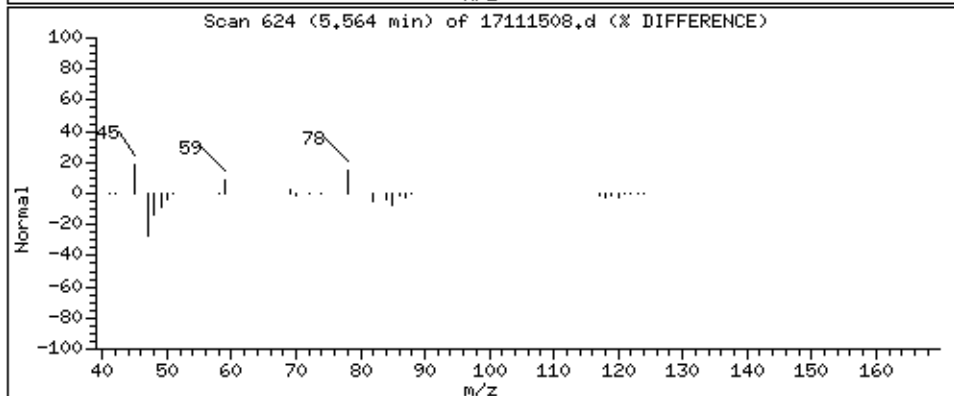
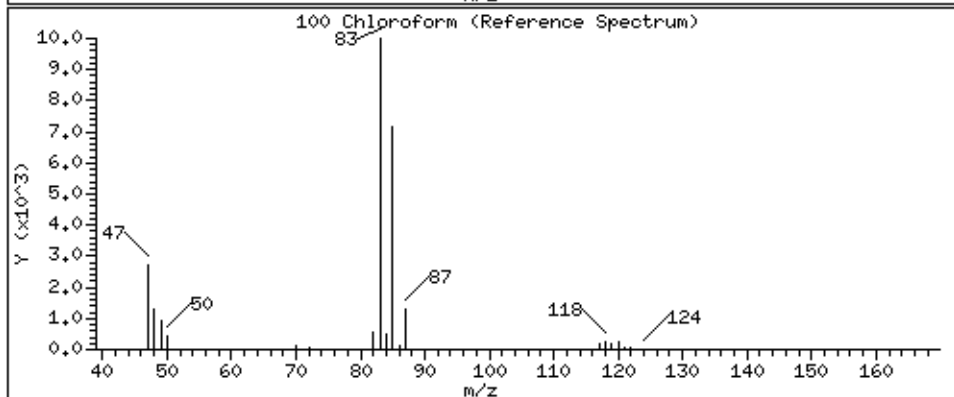
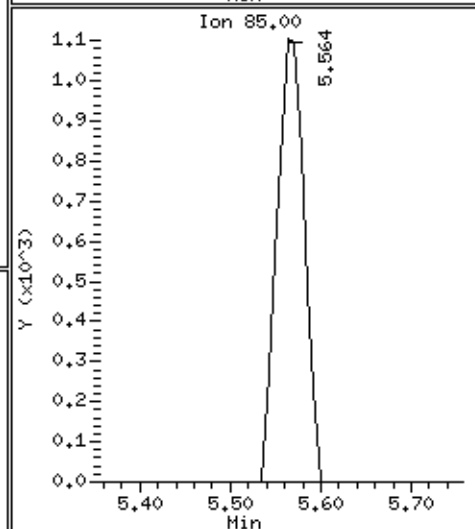
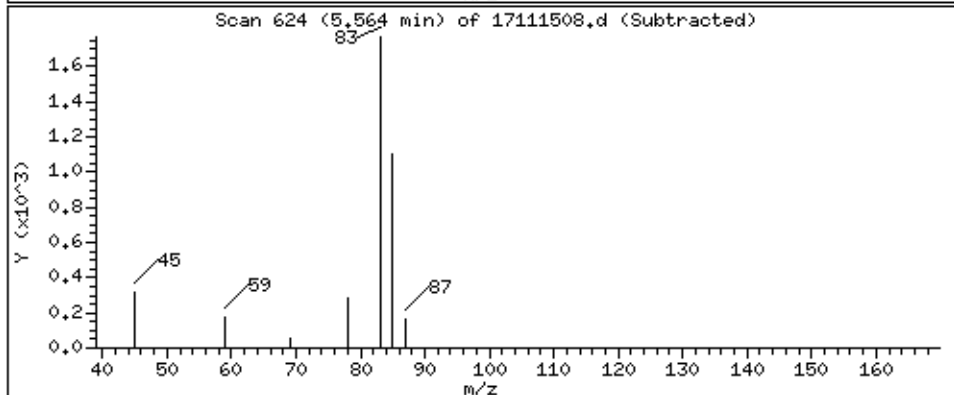
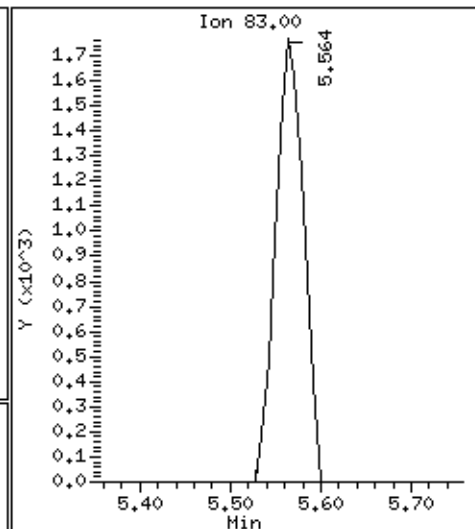
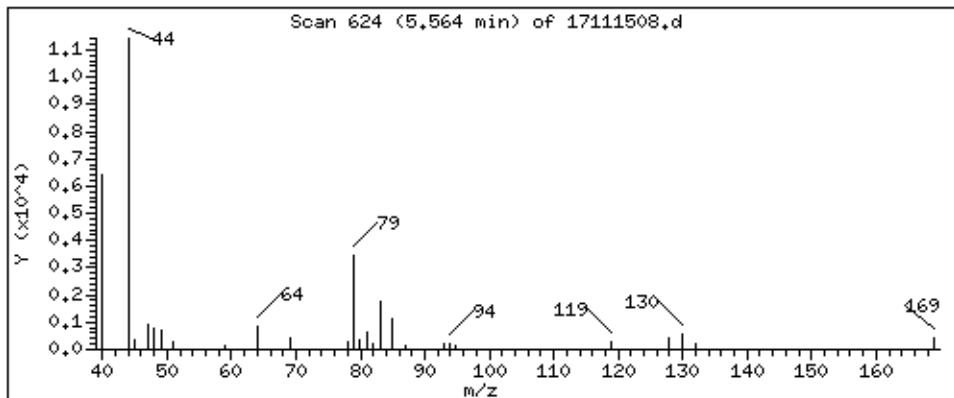
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

100 Chloroform

Concentration: 0.4031 PPBV



Date : 15-NOV-2018 16:32

Client ID:

Instrument: msd17.i

Sample Info: 200ml SH34232

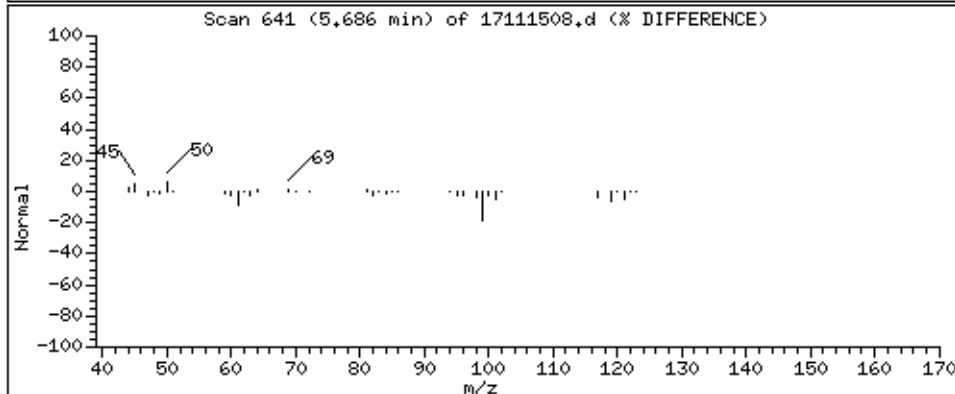
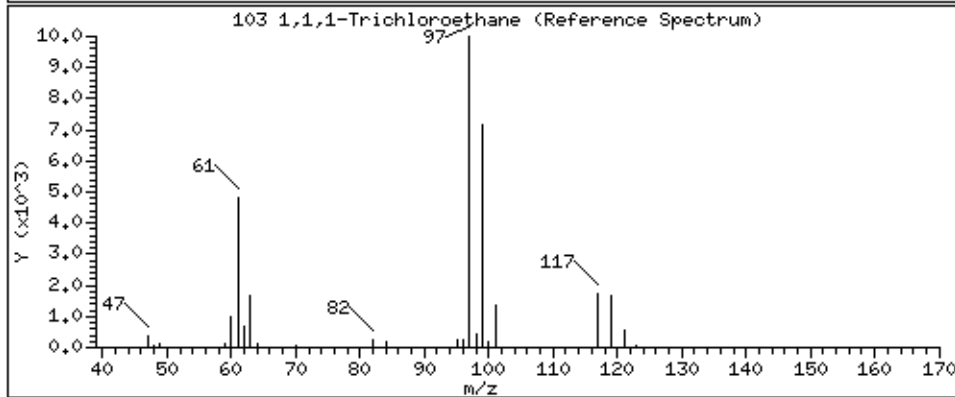
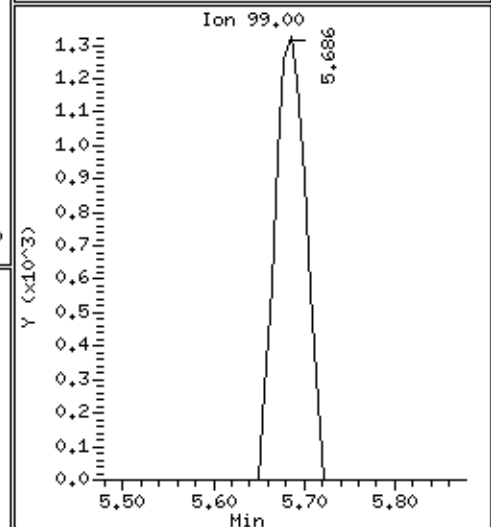
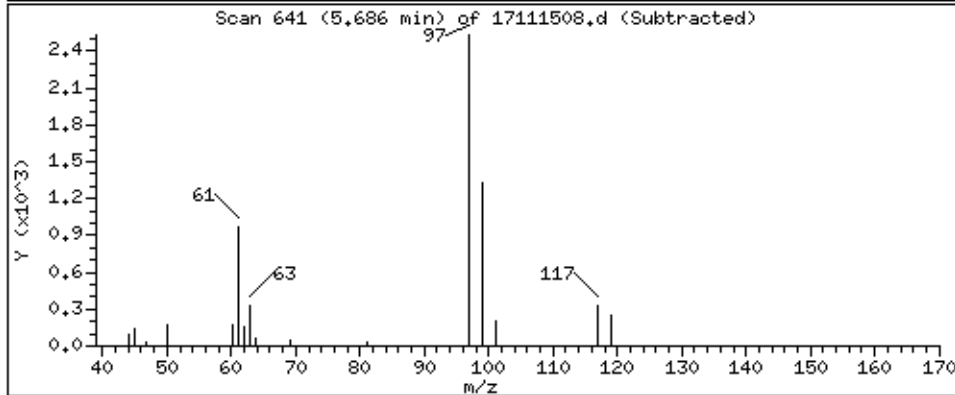
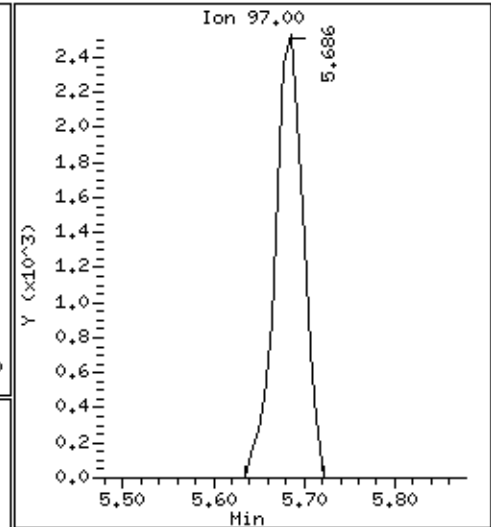
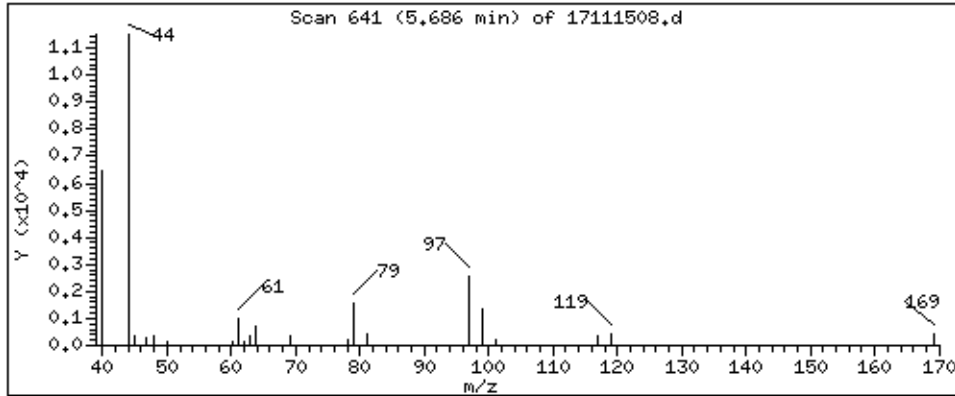
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

103 1,1,1-Trichloroethane

Concentration: 0.5158 PPBV



Date : 15-NOV-2018 16:32

Client ID:

Instrument: msd17.i

Sample Info: 200ml SH34232

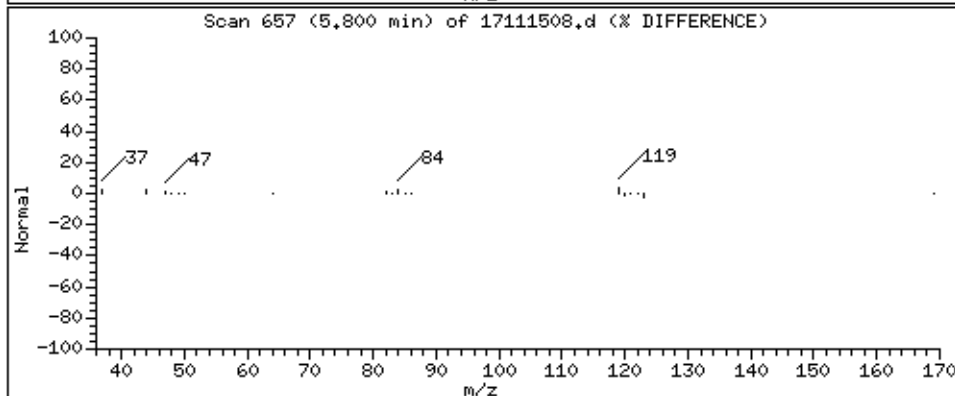
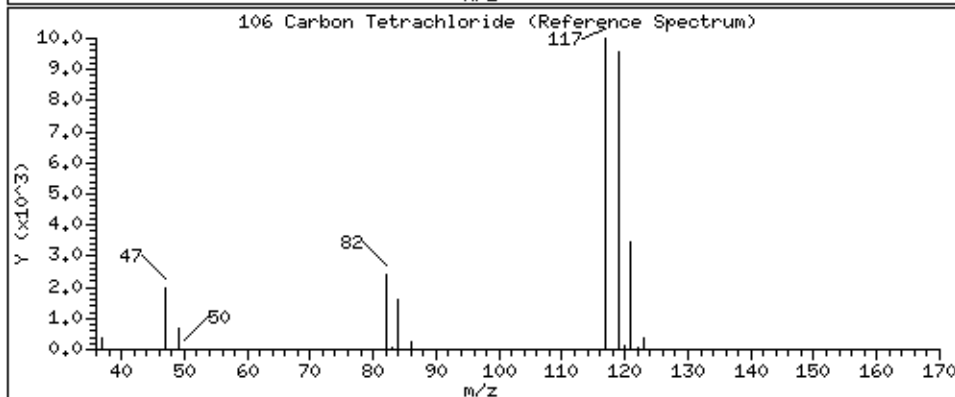
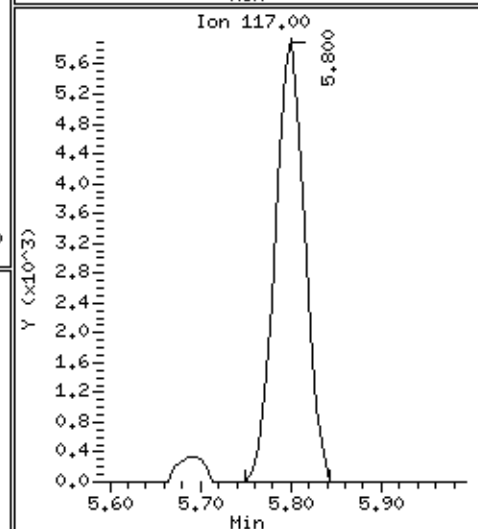
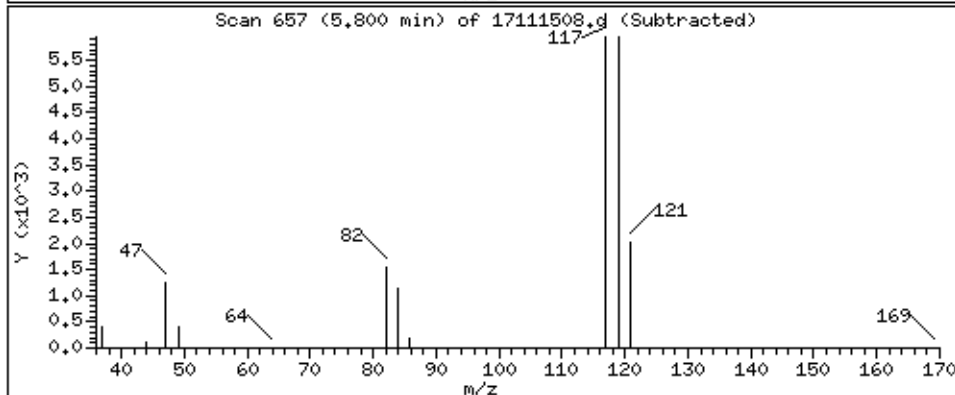
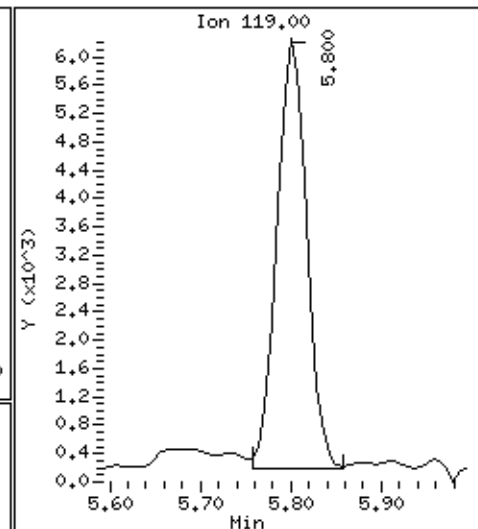
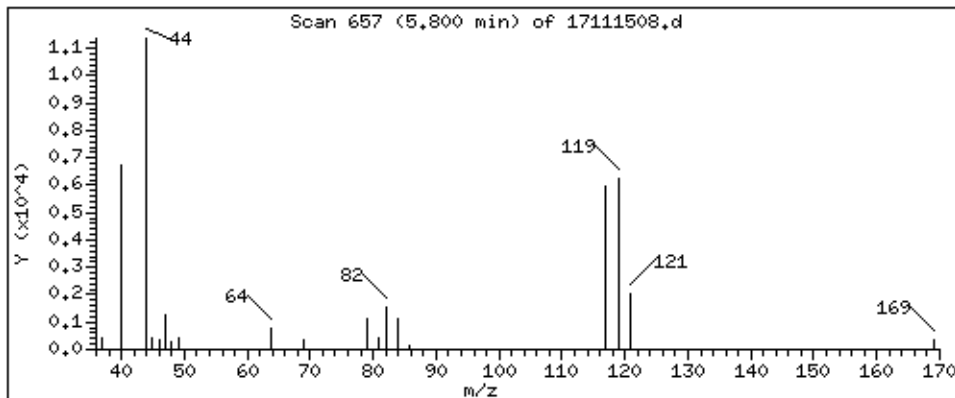
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

106 Carbon Tetrachloride

Concentration: 1,200 PPBV



Date : 15-NOV-2018 16:32

Client ID:

Instrument: msd17.i

Sample Info: 200ml SH34232

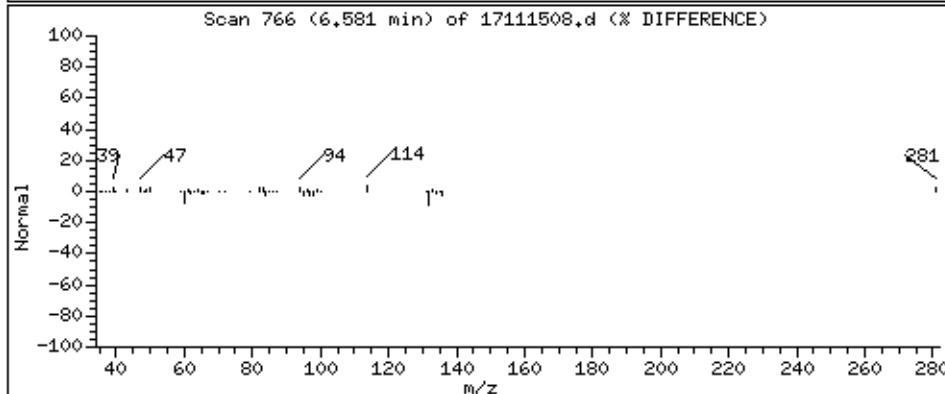
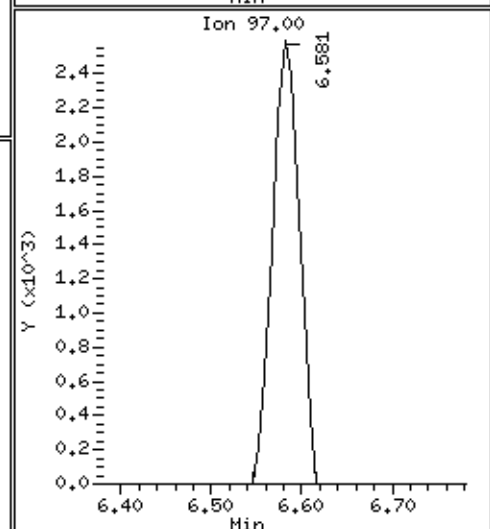
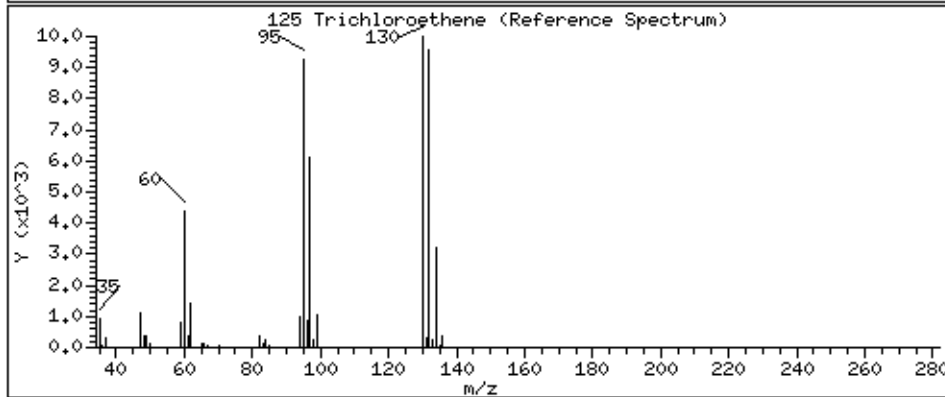
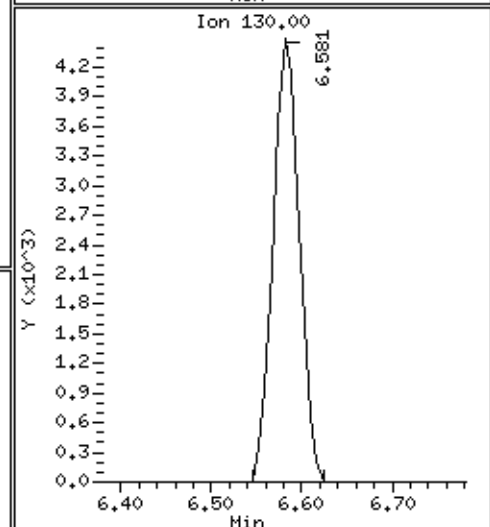
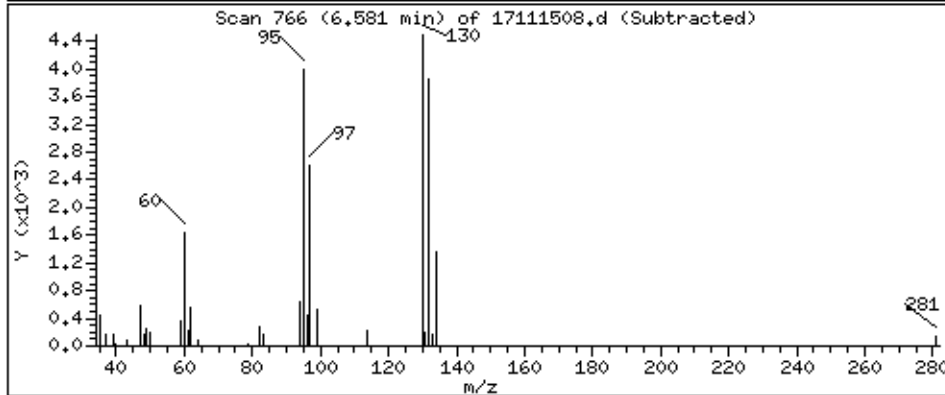
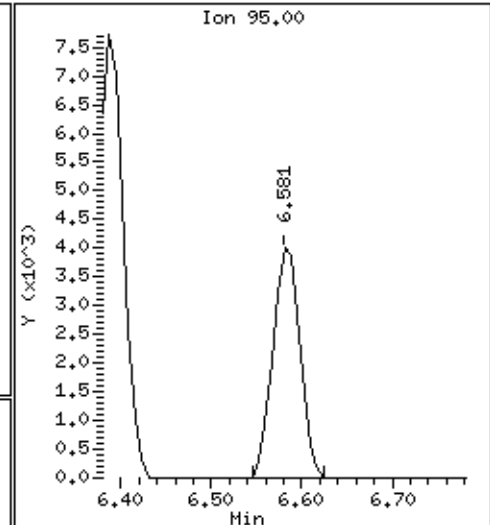
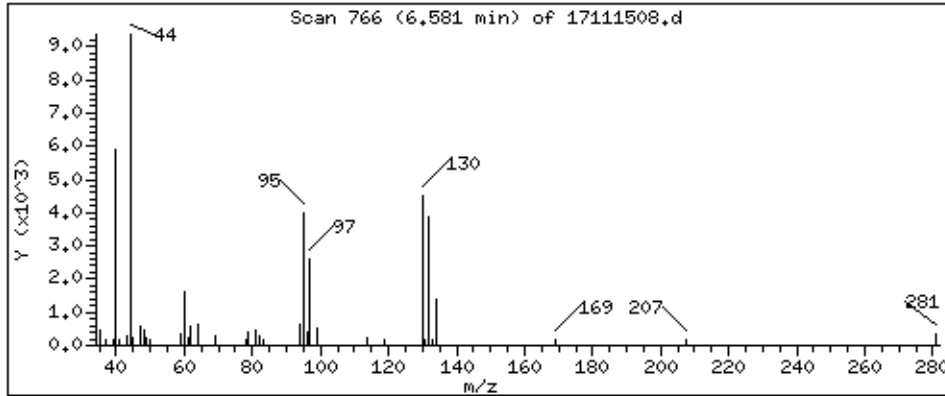
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

125 Trichloroethene

Concentration: 1.326 PPBV



Date : 15-NOV-2018 16:32

Client ID:

Instrument: msd17.i

Sample Info: 200ml SH34232

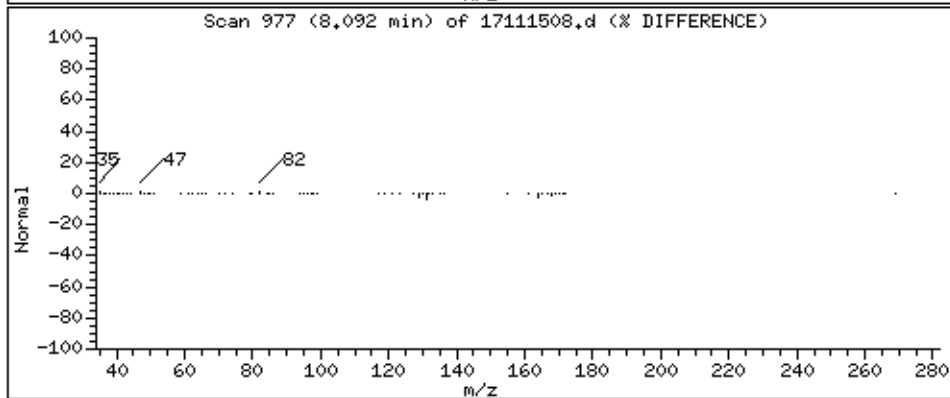
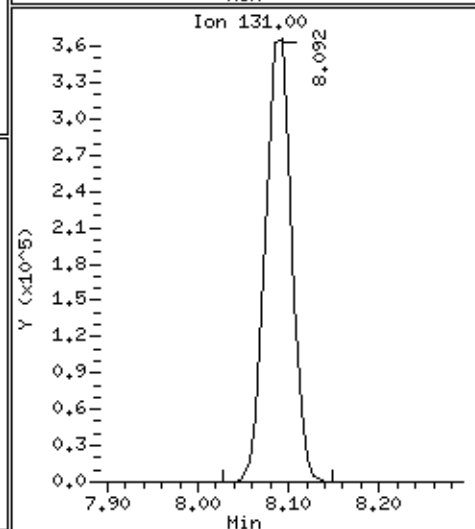
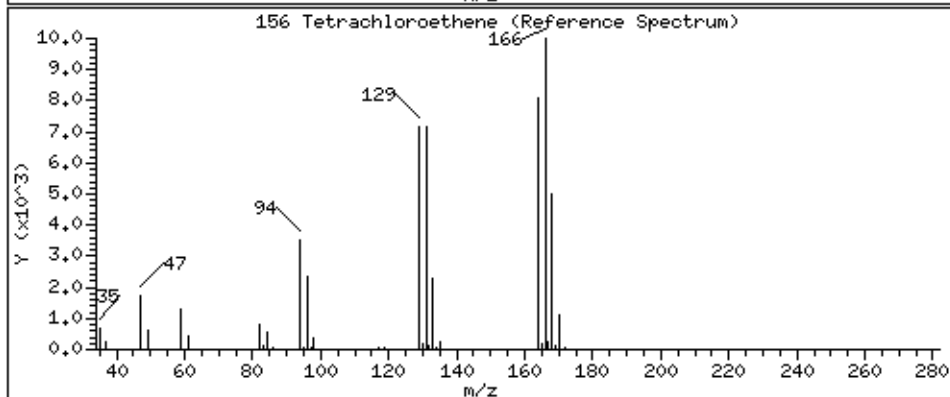
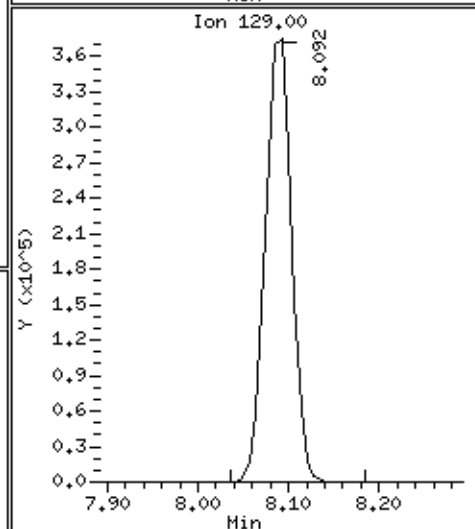
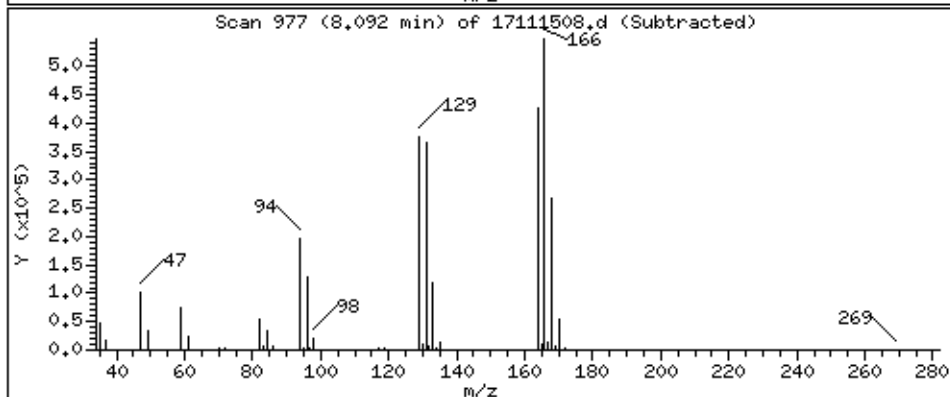
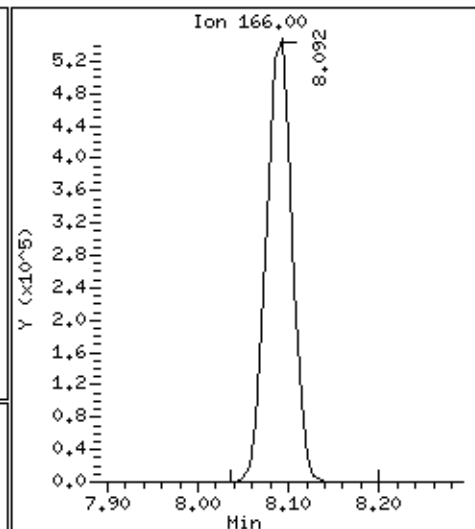
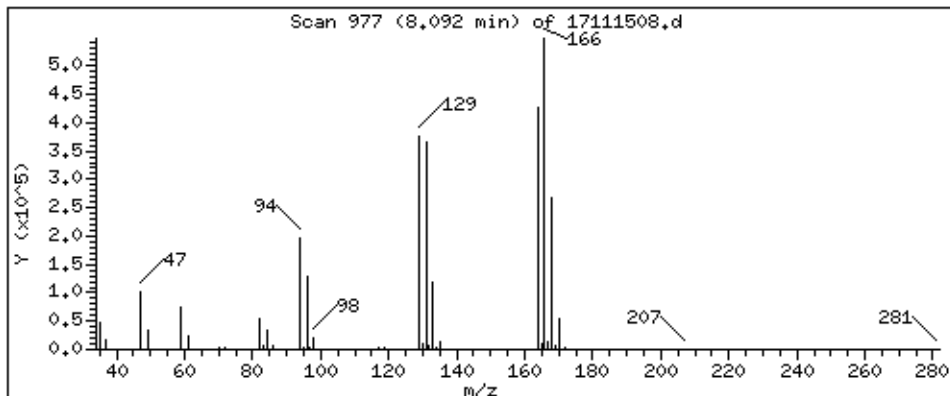
Operator: mjb

Column phase: RTX-624

Column diameter: 0.25

156 Tetrachloroethene

Concentration: 101.67 PPBV



QC Results and Raw Data

EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	Lab Blank	Date/Time Analyzed:	11/15/18 02:21 PM
Lab ID:	1811221A-04A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17111506a
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.49	2.2	2.7	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.62	2.7	3.4	Not Detected
1,1,2-Trichloroethane	79-00-5	0.65	2.2	2.7	Not Detected
1,1-Dichloroethane	75-34-3	0.36	1.6	2.0	Not Detected
1,1-Dichloroethene	75-35-4	0.87	1.6	2.0	Not Detected
1,2,4-Trichlorobenzene	120-82-1	1.3	11	15	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.64	2.0	2.4	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.1	3.1	3.8	Not Detected
1,2-Dichlorobenzene	95-50-1	0.54	2.4	3.0	Not Detected
1,2-Dichloroethane	107-06-2	0.32	1.6	2.0	Not Detected
1,2-Dichloropropane	78-87-5	0.60	1.8	2.3	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.54	2.0	2.4	Not Detected
1,3-Butadiene	106-99-0	0.24	0.88	1.1	Not Detected
1,3-Dichlorobenzene	541-73-1	0.42	2.4	3.0	Not Detected
1,4-Dichlorobenzene	106-46-7	0.60	2.4	3.0	Not Detected
1,4-Dioxane	123-91-1	1.6	5.4	7.2	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.37	1.9	2.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	0.94	4.4	5.9	Not Detected
2-Hexanone	591-78-6	0.82	6.1	8.2	Not Detected
2-Propanol	67-63-0	0.79	3.7	4.9	Not Detected
3-Chloropropene	107-05-1	1.5	4.7	6.3	Not Detected
4-Ethyltoluene	622-96-8	0.44	2.0	2.4	Not Detected
4-Methyl-2-pentanone	108-10-1	1.0	1.6	2.0	Not Detected
Acetone	67-64-1	1.7	3.6	12	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	Lab Blank	Date/Time Analyzed:	11/15/18 02:21 PM
Lab ID:	1811221A-04A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17111506a
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.26	2.1	2.6	Not Detected
Benzene	71-43-2	0.89	1.3	1.6	Not Detected
Bromodichloromethane	75-27-4	0.80	2.7	3.4	Not Detected
Bromoform	75-25-2	0.83	4.1	5.2	Not Detected
Bromomethane	74-83-9	1.5	5.8	19	Not Detected
Carbon Disulfide	75-15-0	1.4	4.7	6.2	Not Detected
Carbon Tetrachloride	56-23-5	0.50	2.5	3.1	Not Detected
Chlorobenzene	108-90-7	0.37	1.8	2.3	Not Detected
Chloroethane	75-00-3	1.7	4.0	5.3	Not Detected
Chloroform	67-66-3	0.39	2.0	2.4	Not Detected
Chloromethane	74-87-3	1.2	3.1	10	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.32	1.6	2.0	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.50	1.8	2.3	Not Detected
Cumene	98-82-8	0.29	2.0	2.4	Not Detected
Cyclohexane	110-82-7	0.41	1.4	1.7	Not Detected
Dibromochloromethane	124-48-1	0.60	3.4	4.2	Not Detected
Ethanol	64-17-5	1.5	2.8	3.8	Not Detected
Ethyl Benzene	100-41-4	0.39	1.7	2.2	Not Detected
Freon 11	75-69-4	0.50	2.2	2.8	Not Detected
Freon 113	76-13-1	0.92	3.1	3.8	Not Detected
Freon 114	76-14-2	0.77	2.8	3.5	Not Detected
Freon 12	75-71-8	0.54	2.0	2.5	Not Detected
Heptane	142-82-5	0.74	1.6	2.0	Not Detected
Hexachlorobutadiene	87-68-3	2.7	16	21	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	Lab Blank	Date/Time Analyzed:	11/15/18 02:21 PM
Lab ID:	1811221A-04A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17111506a
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.35	1.4	1.8	Not Detected
m,p-Xylene	108-38-3	0.35	1.7	2.2	Not Detected
Methyl tert-butyl ether	1634-04-4	0.97	5.4	7.2	Not Detected
Methylene Chloride	75-09-2	1.1	5.2	17	Not Detected
o-Xylene	95-47-6	0.30	1.7	2.2	Not Detected
Propylbenzene	103-65-1	0.24	2.0	2.4	Not Detected
Styrene	100-42-5	0.30	1.7	2.1	Not Detected
Tetrachloroethene	127-18-4	0.47	2.7	3.4	Not Detected
Tetrahydrofuran	109-99-9	0.32	1.2	1.5	Not Detected
Toluene	108-88-3	0.30	1.5	1.9	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.59	1.6	2.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.27	1.8	2.3	Not Detected
Trichloroethene	79-01-6	1.0	2.1	2.7	Not Detected
Vinyl Chloride	75-01-4	0.31	1.0	1.3	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	98
4-Bromofluorobenzene	460-00-4	70-130	88
Toluene-d8	2037-26-5	70-130	104

US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/15NOV18.b/17111506a.d
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Inj Date : 15-NOV-2018 14:21
Operator : mjb Inst ID: msd17.i
Smp Info : 200ml 32888
Misc Info : Humid
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/15NOV18.b/178q0613e.m
Meth Date : 15-Nov-2018 11:54 p5fl Quant Type: ISTD
Cal Date : 09-OCT-2018 15:59 Cal File: 17100911.d
Als bottle: 1 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: GHD22832.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL	FINAL	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
* 98 Bromochloromethane						CAS #:	74-97-5		
5.506	5.497	(1.000)	130	172685	25.0000		80.00-	120.00	100.00
5.506	5.497	(1.000)	128	133785			48.32-	108.32	77.47
5.506	5.497	(1.000)	49	157416			63.40-	123.40	91.16

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.388	6.381	(1.000)	114	580591	25.0000		80.00-	120.00	100.00
6.388	6.381	(1.000)	88	86584			0.00-	44.55	14.91

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	538983	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	273355			17.97-	77.97	50.72

\$ 117 1,2-Dichloroethane-d4						CAS #:	17060-07-0		
6.037	6.035	(1.096)	65	192009	24.4873	24.487	80.00-	120.00	100.00
6.037	6.035	(1.096)	67	100759			23.66-	83.66	52.48

\$ 146 Toluene-d8						CAS #:	2037-26-5		
7.598	7.598	(1.190)	98	590442	26.1117	26.112	80.00-	120.00	100.00
7.598	7.598	(1.190)	70	59365			0.00-	40.01	10.05

						CONCENTRATIONS					
RT	EXP RT (REL RT)	MASS	RESPONSE	ON-COL	FINAL			TARGET	RANGE	RATIO	
==	=====	=====	=====	(PPBV)	(PPBV)			=====	=====	=====	
\$ 146 Toluene-d8 (continued)											
7.598	7.598 (1.190)	100	371118					35.43-	95.43	62.85	

\$ 177 4-Bromofluorobenzene											
9.819	9.819 (1.112)	174	373166	21.9251	21.925	CAS #:	460-00-4	80.00-	120.00	100.00	
9.819	9.819 (1.112)	95	368242					59.41-	119.41	98.68	
9.819	9.819 (1.112)	176	358629					68.33-	128.33	96.10	

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i	Calibration Date: 15-NOV-2018
Lab File ID: 17111506a.d	Calibration Time: 11:28
Lab Smp Id: Lab Blank	Client Smp ID: Lab Blank
Analysis Type: VOA	Level: LOW
Quant Type: ISTD	Sample Type: AIR
Operator: mjb	
Method File: /chem/msd17.i/15NOV18.b/178q0613e.m	
Misc Info: Humid	

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	177601	106561	248641	172685	-2.77
123 1,4-Difluorobenze	599676	359806	839546	580591	-3.18
163 Chlorobenzene-d5	544209	326525	761893	538983	-0.96

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.51	5.18	5.84	5.51	-0.00
123 1,4-Difluorobenze	6.39	6.06	6.72	6.39	-0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

US32APPTV002

RECOVERY REPORT

Client Name:	Client SDG: 15NOV18
Sample Matrix: GAS	Fraction: VOA
Lab Smp Id: Lab Blank	Client Smp ID: Lab Blank
Level: LOW	Operator: mjb
Data Type: MS DATA	SampleType: BLANK
SpikeList File: AT12.spk	Quant Type: ISTD
Sublist File: GHD22832.sub	
Method File: /chem/msd17.i/15NOV18.b/178q0613e.m	
Misc Info: Humid	

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
\$ 117 1,2-Dichloroethane-d4	25.000	24.487	97.95
\$ 146 Toluene-d8	25.000	26.112	104.45
\$ 177 4-Bromofluorobenzene	25.000	21.925	87.70

Data File: /chem/msd17.1/15NOV18.b/17111506a.d

Date : 15-NOV-2018 14:21

Client ID: Lab Blank

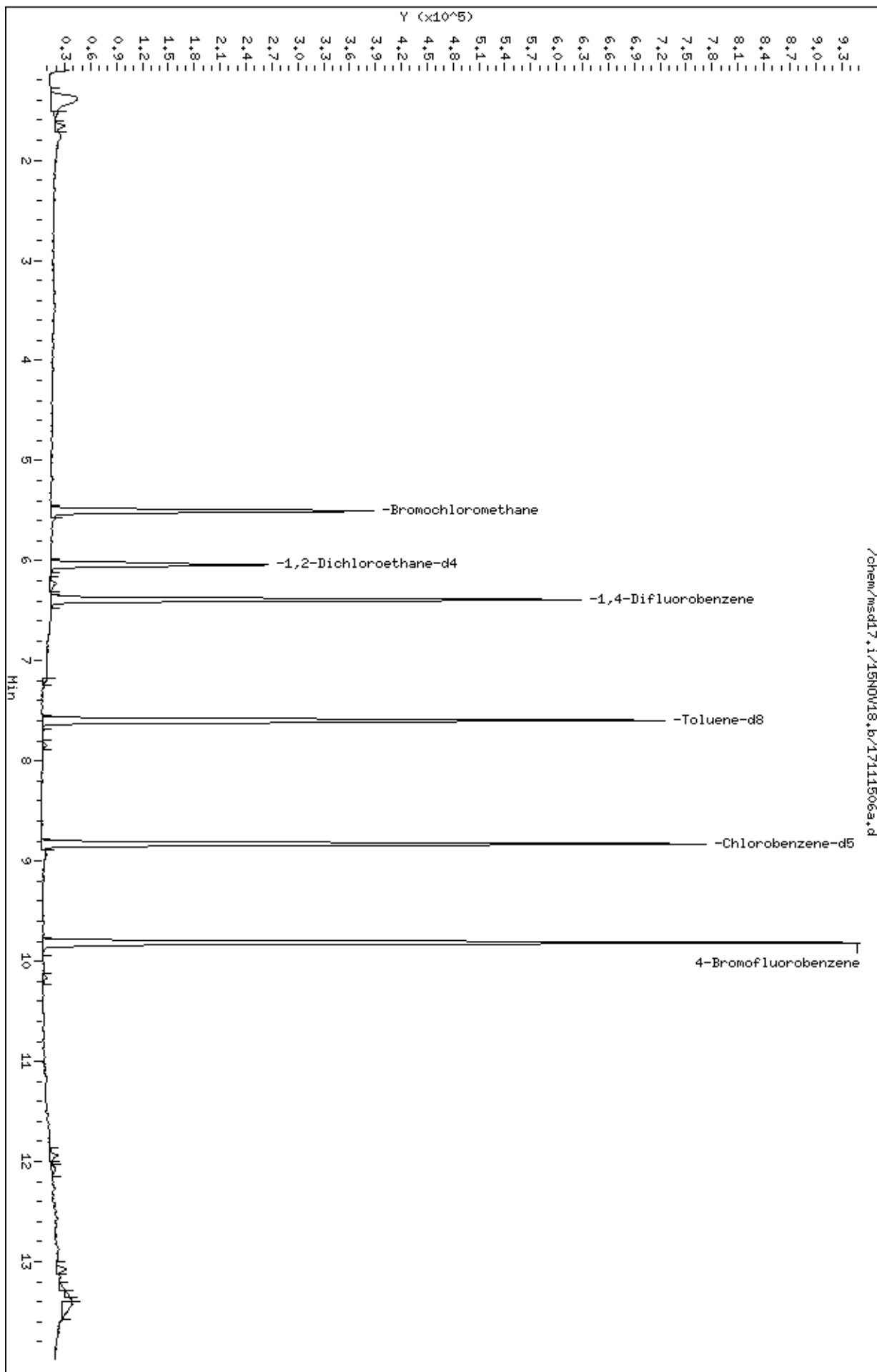
Sample Info: 200ml 32888

Column phase: RTX-624

Instrument: msd17.1

Operator: mjb

Column diameter: 0.25



LEVEL-IV VALIDATABLE

EPA METHOD TO-15 GC/MS FULL SCAN

SURROGATE RECOVERY FORM

Lab Name: AIR TOXICS LIMITED.

SDG No.: 1811221A

CLIENT SAMPLE NO.	SURROGATE % RECOVERY							TOTAL OUT
	1,2-Dichloroethane-d4	#	Toluene-d8	#	4-Bromofluorobenzene	#	#	
01 SSD-Leg (Enterprice)	96		103		86			0
02 VP-41	98		103		89			0
03 VP-46	98		103		88			0
04 Lab Blank	98		104		88			0
05 CCV	100		104		90			0
06 LCS	102		105		92			0
07 LCSD	100		104		93			0
08								0
09								0
10								0
11								0
12								0
13								0
14								0
15								0
16								0
17								0
18								0
19								0
20								0
21								0
22								0
23								0
24								0

Surrogate Recovery Limits

1,2-Dichloroethane-d4 70 - 130

Toluene-d8 70 - 130

4-Bromofluorobenzene 70 - 130

* Designates values outside of QC limits

LEVEL-IV VALIDATABLE

EPA Method TO-15 GC/MS Full Scan

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: AIR TOXICS, LTD

SDG No: 1811221A

Lab File ID: 17111502.d

Date Analyzed: 11/15/2018

Instrument ID: msd17.i

Time Analyzed: 11:28 AM

	Chlorobenzene-d5		RT		1,4-Difluorobenzene		RT		Bromochloromethane		RT	
	Area	#		#	Area	#		#	Area	#		#
24-HOUR STD	544209		8.83		599676		6.39		177601		5.51	
UPPER LIMIT	761893		09.16		839546		06.72		248641		05.84	
LOWER LIMIT	326525		08.50		359806		06.06		106561		05.18	
CLIENT SAMPLE NO												
01 SSD-Leg (Enterprice)	541262		8.83		575679		6.39		178173		5.5	
02 VP-41	536467		8.83		581641		6.39		172690		5.51	
03 VP-46	535331		8.83		581184		6.39		172703		5.51	
04 Lab Blank	538983		8.83		580591		6.39		172685		5.51	
05 CCV	544209		8.83		599676		6.39		177601		5.51	
06 LCS	554982		8.83		604568		6.39		177177		5.51	
07 LCSD	556010		8.83		611614		6.39		180413		5.51	
08												
09												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												

'Area Upper Limit=+40% of internal standard area'

'Area Lower Limit=-40% of internal standard area'

RT Upper Limit=+0.33 minutes of internal standard RT

RT Lower Limit=-0.33 minutes of internal standard RT

* Designates values outside of QC limits

SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab Name: Air Toxics Ltd.

Lab File ID: 17111504.d & 17111503.d

Lab Sample ID: &

Dilution: 1.00 & 1.00

Client Sample ID: LCS & LCSD

Date Analyzed: 11/15/18 & 11/15/18

CAS Number	Compound	Original		Duplicate		RPD	Result Less Than 5X RL
		Amount	Flags	Amount	Flags		
71-55-6	1,1,1-Trichloroethane	100		100		0	
79-34-5	1,1,2,2-Tetrachloroethane	108		110		1.8	
79-00-5	1,1,2-Trichloroethane	108		111		2.7	
75-34-3	1,1-Dichloroethane	98		98		0	
75-35-4	1,1-Dichloroethene	95		93		2.1	
120-82-1	1,2,4-Trichlorobenzene	86		89		3.4	
95-63-6	1,2,4-Trimethylbenzene	101		105		3.9	
106-93-4	1,2-Dibromoethane (EDB)	103		103		0	
95-50-1	1,2-Dichlorobenzene	96		99		3.1	
107-06-2	1,2-Dichloroethane	102		103		0.98	
78-87-5	1,2-Dichloropropane	105		104		0.96	
108-67-8	1,3,5-Trimethylbenzene	102		104		1.9	
106-99-0	1,3-Butadiene	102		100		2.0	
541-73-1	1,3-Dichlorobenzene	98		100		2.0	
106-46-7	1,4-Dichlorobenzene	98		101		3.0	
123-91-1	1,4-Dioxane	108		108		0	
540-84-1	2,2,4-Trimethylpentane	104		103		0.97	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	102		104		1.9	
591-78-6	2-Hexanone	107		109		1.8	
67-63-0	2-Propanol	95		94		1.0	
107-05-1	3-Chloropropene	100		98		2.0	
622-96-8	4-Ethyltoluene	107		112		4.6	
108-10-1	4-Methyl-2-pentanone	102		102		0	
67-64-1	Acetone	96		93		3.2	
100-44-7	alpha-Chlorotoluene	114		118		3.4	
71-43-2	Benzene	107		107		0	
75-27-4	Bromodichloromethane	111		110		0.90	
75-25-2	Bromoform	99		101		2.0	
74-83-9	Bromomethane	107		106		0.94	
75-15-0	Carbon Disulfide	104		102		1.9	
56-23-5	Carbon Tetrachloride	96		96		0	
108-90-7	Chlorobenzene	102		102		0	
75-00-3	Chloroethane	106		106		0	
67-66-3	Chloroform	103		102		0.98	
74-87-3	Chloromethane	110		109		0.91	
156-59-2	cis-1,2-Dichloroethene	88		86		2.3	
10061-01-5	cis-1,3-Dichloropropene	112		113		0.89	
98-82-8	Cumene	103		105		1.9	
110-82-7	Cyclohexane	101		100		1.0	
124-48-1	Dibromochloromethane	104		106		1.9	
64-17-5	Ethanol	97		98		1.0	
100-41-4	Ethyl Benzene	104		105		0.96	
75-69-4	Freon 11	94		93		1.1	
76-13-1	Freon 113	91		90		1.1	
76-14-2	Freon 114	98		96		2.1	

Note: The results appearing in the Amount columns are the raw, unrounded numbers acquired from the instrument.

SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab Name: Air Toxics Ltd.

Lab File ID: 17111504.d & 17111503.d

Lab Sample ID: &

Dilution: 1.00 & 1.00

Client Sample ID: LCS & LCSD

Date Analyzed: 11/15/18 & 11/15/18

CAS Number	Compound	Original		Duplicate		RPD	Result Less Than 5X RL
		Amount	Flags	Amount	Flags		
75-71-8	Freon 12	107		104		2.8	
142-82-5	Heptane	107		108		0.93	
87-68-3	Hexachlorobutadiene	83		85		2.4	
110-54-3	Hexane	97		97		0	
108-38-3	m,p-Xylene	102		103		0.98	
1634-04-4	Methyl tert-butyl ether	96		95		1.0	
75-09-2	Methylene Chloride	96		93		3.2	
95-47-6	o-Xylene	101		102		0.98	
103-65-1	Propylbenzene	106		108		1.9	
100-42-5	Styrene	104		106		1.9	
127-18-4	Tetrachloroethene	95		97		2.1	
109-99-9	Tetrahydrofuran	98		97		1.0	
108-88-3	Toluene	106		106		0	
156-60-5	trans-1,2-Dichloroethene	104		104		0	
10061-02-6	trans-1,3-Dichloropropene	105		106		0.95	
79-01-6	Trichloroethene	107		107		0	
75-01-4	Vinyl Chloride	103		101		2.0	

Note: The results appearing in the Amount columns are the raw, unrounded numbers acquired from the instrument.

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
 End Cal Date : 09-OCT-2018 15:59
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/09OCT18.b/178q0613e.m
 Cal Date : 09-Oct-2018 16:29 p5fl
 Curve Type : Average

Calibration File Names:

Level 2: /chem/msd17.i/13jun18.b/17061302.d
 Level 3: /chem/msd17.i/09OCT18.b/17100911.d
 Level 4: /chem/msd17.i/20aug18.b/17082012.d
 Level 5: /chem/msd17.i/13jun18.b/17061305.d
 Level 6: /chem/msd17.i/09OCT18.b/17100908.d
 Level 7: /chem/msd17.i/20aug18.b/17082014.d
 Level 8: /chem/msd17.i/09OCT18.b/17100909.d

Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
1 Dimethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
2 Freon 14	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
3 Acetaldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
4 Hexafluoropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
5 Freon 13	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
6 Freon 143a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

US32APPTV002

INITIAL CALIBRATION DATA

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 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/09OCT18.b/178q0613e.m
 Cal Date : 09-Oct-2018 16:29 p5fl
 Curve Type : Average

Compound	0.5000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
7 Freon 134a	++++ 0.45133	0.51211	0.46932	++++	0.51367	0.47865	0.48502	5.625
8 Propane	++++ ++++	++++	++++	++++	++++	++++	++++	++++
9 Propylene	++++ 0.51861	0.53283	0.56890	0.48143	0.52484	0.52638	0.52550	5.334
10 1,1-Difluoroethane	++++ 0.18903	0.35497	0.16237	++++	0.27220	0.21691	0.23910	31.994 <-
11 Freon 12	2.08786 2.24562	2.27350	2.22377	2.13721	2.28983	2.28341	2.22017	3.525
12 Vinyl Fluoride	++++ ++++	++++	++++	++++	++++	++++	++++	++++
13 Chlorodifluoromethane	++++ ++++	++++	++++	++++	++++	++++	++++	++++
14 Ethylene Oxide	++++ ++++	++++	++++	++++	++++	++++	++++	++++
15 Freon 114	1.86768 1.89316	1.81501	1.86925	1.84100	1.90764	1.92381	1.87393	2.022

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
 End Cal Date : 09-OCT-2018 15:59
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/09OCT18.b/178q0613e.m
 Cal Date : 09-Oct-2018 16:29 p5fl
 Curve Type : Average

Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
16 Freon 142b	+++++ 1.13347	1.29081	1.08089	+++++	1.12545	1.12516	1.15116	7.016
17 Chloromethane	+++++ 0.49701	0.64098	0.50442	0.61079	0.61437	0.58393	0.57525	10.524
18 Isobutane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
19 Isobutylene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
20 2-Butene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
21 trans-2-butene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
22 1-Butene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
23 Butane	+++++ 0.14504	0.21856	0.18957	0.15149	0.15274	0.14901	0.16773	17.715
24 cis-2-Butene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
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 Origin : Disabled
 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/09OCT18.b/178q0613e.m
 Cal Date : 09-Oct-2018 16:29 p5fl
 Curve Type : Average

Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
25 Vinyl Chloride	0.88252 0.81136	0.83475	0.86864	0.75804	0.80905	0.81683	0.82588	5.015
26 1,3-Butadiene	0.56806 0.56549	0.58126	0.55314	0.54123	0.56756	0.57045	0.56388	2.298
27 3-Methyl-1-butene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
28 Methanol	++++ ++++	++++	++++	++++	++++	++++	++++	++++
29 Bromomethane	++++ 0.85516	0.80209	0.83001	0.83073	0.85423	0.86687	0.83985	2.806
30 Chloroethane	++++ 0.42254	0.44962	0.40077	0.39719	0.42945	0.42705	0.42110	4.636
31 Isopentane	++++ 0.81357	0.81497	0.83263	0.82255	0.82564	0.82856	0.82299	0.916
32 Vinyl Bromide	++++ ++++	++++	++++	++++	++++	++++	++++	++++
33 2-Chloropropane	++++ ++++	++++	++++	++++	++++	++++	++++	++++

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
 End Cal Date : 09-OCT-2018 15:59
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/09OCT18.b/178q0613e.m
 Cal Date : 09-Oct-2018 16:29 p5fl
 Curve Type : Average

Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
34 Pentane	++++ ++++	++++	++++	++++	++++	++++	++++	++++
35 Freon 11	2.42022 2.64932	2.66181	2.66076	2.51785	2.64967	2.66902	2.60409	3.714
36 1-Pentene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
37 Dichlorofluoromethane	++++ 1.69868	1.64910	1.71018	++++	1.65040	1.65464	1.67260	1.758
38 2,3-Dimethylbutane	++++ ++++	++++	++++	++++	++++	++++	++++	++++
39 Isoprene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
40 2-Methyl-2-butene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
41 trans-2-Pentene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
42 Ethanol	++++ 0.28358	0.26524	0.32337	0.26352	0.28642	0.28889	0.28517	7.590

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
 End Cal Date : 09-OCT-2018 15:59
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/09OCT18.b/178q0613e.m
 Cal Date : 09-Oct-2018 16:29 p5fl
 Curve Type : Average

Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
43 1,2-Dichloro-1-fluoroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
44 Ethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
45 cis-2-Pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
46 Acrolein	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
47 Freon 123a	+++++ 1.41162	1.45947	1.35319	+++++	1.36157	1.36389	1.38995	3.245
48 Freon 123	+++++ 2.09514	2.02503	2.11494	+++++	2.02236	2.03934	2.05936	2.077
49 Freon 113	2.06876 2.01769	1.92717	2.06508	2.00091	2.03121	2.04346	2.02204	2.393
50 1,1-Dichloroethene	0.59968 0.63498	0.65075	0.66342	0.56224	0.62991	0.64634	0.62676	5.556
51 2,2-Dimethylbutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
 End Cal Date : 09-OCT-2018 15:59
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/09OCT18.b/178q0613e.m
 Cal Date : 09-Oct-2018 16:29 p5fl
 Curve Type : Average

Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
52 Acetone	+++++ 0.37269	0.54609	0.41308	0.34386	0.36978	0.37220	0.40295	18.252
53 Iodomethane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
54 Bromoethane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
55 4-Methyl-1-pentene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
56 Carbon Disulfide	+++++ 2.56389	2.83263	2.72866	2.34166	2.58492	2.59740	2.60819	6.382
57 2-Propanol	+++++ 1.29433	1.46353	1.28381	1.15257	1.28974	1.29921	1.29720	7.618
58 3-Chloropropene	+++++ 0.45409	0.43992	0.41669	0.35853	0.42583	0.44751	0.42376	8.212
59 Cyclopentene	+++++ 1.69231	1.52180	1.54413	+++++	1.59316	1.64506	1.59929	4.403
60 2-Methylpentane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
 End Cal Date : 09-OCT-2018 15:59
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/09OCT18.b/178q0613e.m
 Cal Date : 09-Oct-2018 16:29 p5fl
 Curve Type : Average

Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
61 Methyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
62 3-Methylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
63 Acetonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
64 Cyclopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
65 1-Chloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
66 Methylene Chloride	+++++ 0.93019	0.93213	0.95153	0.84370	0.92249	0.94560	0.92094	4.267
67 2-Methyl-1-pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
68 2,4-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
69 2,3-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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 Method file : /chem/msd17.i/09OCT18.b/178q0613e.m
 Cal Date : 09-Oct-2018 16:29 p5fl
 Curve Type : Average

Compound	0.5000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
70 tert-Butyl chloride	++++ ++++	++++	++++	++++	++++	++++	++++	++++
71 tert-Butyl alcohol	++++ 1.90309	1.89898	1.97892	1.83267	1.90360	1.91269	1.90499	2.439
72 Methyl tert-butyl ether	++++ 2.69203	2.72873	2.73325	2.64332	2.69807	2.70976	2.70086	1.206
73 trans-1,2-Dichloroethene	0.60923 0.61097	0.71911	0.65022	0.52991	0.59163	0.60264	0.61624	9.382
74 Acrylonitrile	++++ ++++	++++	++++	++++	++++	++++	++++	++++
75 trans-2-Hexene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
76 1-Hexene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
77 cis-2-Hexene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
78 Hexane	1.58126 1.29463	1.27968	1.30729	1.19169	1.27472	1.28511	1.31634	9.321

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Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
79 Methylcyclopentane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
80 sec-Butyl chloride	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
81 2,3,4-Trimethylpentane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
82 1,1-Dichloroethane	1.72954 1.61162	1.57076	1.61532	1.39564	1.56724	1.60516	1.58504	6.272
83 Isopropyl ether	+++++ 2.73604	2.69910	2.75519	2.66645	2.76453	2.75125	2.72876	1.400
84 1-Propanol	+++++ 0.13205	0.12554	0.12260	+++++	0.12102	0.12992	0.12623	3.725
85 Chloroprene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
86 Vinyl Acetate	+++++ 0.26952	0.27077	0.26559	0.22213	0.25830	0.26657	0.25881	7.145
87 Butanal	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
88 Ethyl-tert-butyl ether	+++++ 2.98419	2.90477	2.97934	2.86266	2.96520	2.99698	2.94886	1.803
89 Isobutyl chloride	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
90 2,2-Dichloropropane	+++++ 1.91726	1.95363	1.90494	+++++	1.87117	1.86972	1.90334	1.837
91 cis-1,2-Dichloroethene	0.93861 0.72675	0.72464	0.74690	0.61766	0.71632	0.72342	0.74204	12.982
92 2-Butanone	+++++ 0.46343	0.46175	0.47959	0.38814	0.45172	0.46084	0.45091	7.108
93 Methyl Acrylate	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
94 Ethyl Acetate	+++++ 0.19764	0.15822	+++++	+++++	0.17275	+++++	0.17620	11.316
95 Methacrylonitrile	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
96 2-Chloropentane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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Compound	0.5000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
97 2-Butanol	++++ ++++	++++	++++	++++	++++	++++	++++	++++
99 Tetrahydrofuran	1.04095 0.82973	0.87067	0.83834	0.73443	0.82106	0.83120	0.85234	10.916
100 Chloroform	1.80771 2.03004	1.96157	2.04790	1.72578	1.98789	2.02198	1.94041	6.403
101 1-Bromopropane	++++ ++++	++++	++++	++++	++++	++++	++++	++++
102 Cyclohexane	1.33035 1.29407	1.32310	1.31938	1.26079	1.30769	1.30954	1.30642	1.785
103 1,1,1-Trichloroethane	2.24270 2.18756	2.11337	2.11564	2.12474	2.16649	2.18979	2.16290	2.222
104 Chloroacetonitrile	++++ ++++	++++	++++	++++	++++	++++	++++	++++
105 n-Butylchloride	++++ ++++	++++	++++	++++	++++	++++	++++	++++
106 Carbon Tetrachloride	2.62608 2.31174	2.28896	2.34239	2.25925	2.32450	2.33883	2.35596	5.205

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	200.000 Level 8							
107 1,1-Dichloropropene	++++ 0.18686	0.18164	0.18248	++++	0.17754	0.18158	0.18202	1.822
108 Thiophene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
109 2-Methylhexane	++++ ++++	++++	++++	++++	++++	++++	++++	++++
110 3-Methylhexane	++++ ++++	++++	++++	++++	++++	++++	++++	++++
111 Cyclohexene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
113 2,2,4-Trimethylpentane	3.65569 3.98843	3.92876	3.94475	3.75545	3.95080	3.99638	3.88861	3.356
114 1-Methoxy-2-propanol	++++ ++++	++++	++++	++++	++++	++++	++++	++++
115 Isobutanol	++++ 0.17348	0.19450	0.18048	++++	0.17060	0.16582	0.17698	6.298
116 Benzene	0.81833 0.81535	0.80023	0.79328	0.72015	0.80365	0.79820	0.79274	4.197

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Compound	0.5000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
118 1-Heptene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
119 tert-Amyl methyl ether	++++ 0.76722	0.71509	0.74743	0.71247	0.75359	0.76626	0.74368	3.276
120 1,2-Dichloroethane	0.34672 0.37554	0.36801	0.35212	0.31593	0.35956	0.36594	0.35483	5.559
121 Heptane	0.31070 0.27720	0.26316	0.26715	0.26923	0.27757	0.27633	0.27733	5.672
122 2,3-Dichloro-1-propene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
124 n-Butanol	++++ 0.18423	0.13826	0.15099	++++	0.17015	0.17751	0.16423	11.639
125 Trichloroethene	0.37560 0.39613	0.37458	0.38647	0.34797	0.38835	0.38736	0.37950	4.164
126 Bromodichloroethene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
127 Methylcyclohexane	++++ 1.78093	1.81668	1.82242	1.70323	1.77861	1.77409	1.77933	2.394

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Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
128 Ethyl acrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
129 2-Methylheptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
130 3-Methylheptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
131 2-Pentanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
132 1,2-Dichloropropane	0.32573 0.27887	0.29634	0.27064	0.24813	0.27212	0.27255	0.28063	8.702
133 1-Bromo-2-Chloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
134 Methyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
135 Diethyl Ketone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
136 1,4-Dioxane	+++++	0.20157	0.20798	0.18793	0.20216	0.19932	0.20039	3.367

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Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
137 Dibromomethane	+++++ 0.45037	0.54329	+++++	+++++	0.42104	+++++	0.47157	13.534
138 Bromodichloromethane	0.59837 0.61850	0.58859	0.58637	0.54238	0.60117	0.60504	0.59149	4.084
139 2-Nitropropane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
140 bis(chloromethyl) Ether	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
141 1-Octene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
142 Epichlorohydrin	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
143 2-Chloroethyl Vinyl Ether	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
144 cis-1,3-Dichloropropene	0.44374 0.48597	0.46891	0.46873	0.43144	0.47284	0.47626	0.46398	4.153
145 4-Methyl-2-pentanone	0.30033 0.21667	0.21540	0.22154	0.21096	0.21772	0.21536	0.22828	13.985

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Compound	0.5000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
147 Toluene	1.09011 1.05880	1.01228	1.00975	0.97289	1.03189	1.03004	1.02939	3.641
148 Octane	++++ ++++	++++	++++	++++	++++	++++	++++	++++
149 Vinyl Cyclohexene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
150 trans-1,3-Dichloropropene	0.48276 0.52029	0.47669	0.47805	0.46615	0.49323	0.50360	0.48868	3.775
151 Ethyl Methacrylate	++++ ++++	++++	++++	++++	++++	++++	++++	++++
152 1-Chloro-2-Bromopropane	++++ ++++	++++	++++	++++	++++	++++	++++	++++
153 1-Nitropropane	++++ ++++	++++	++++	++++	++++	++++	++++	++++
154 Bromodichloroethane	++++ ++++	++++	++++	++++	++++	++++	++++	++++
155 1,1,2-Trichloroethane	0.40022 0.40099	0.38518	0.38608	0.37863	0.38534	0.38955	0.38943	2.130

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Compound	0.5000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
156 Tetrachloroethene	0.73731 0.72312	0.66209	0.70249	0.68973	0.70683	0.70402	0.70365	3.405
157 1,3-Dichloropropane	+++++ 0.51489	0.50526	0.50618	+++++	0.49477	0.49644	0.50351	1.620
158 2-Hexanone	+++++ 0.32967	0.30367	0.30060	0.32075	0.32187	0.31978	0.31606	3.600
159 Butyl Acetate	+++++ 0.28045	0.25522	0.23713	+++++	0.26988	0.27341	0.26322	6.552
160 Dibromochloromethane	0.79655 0.85593	0.79602	0.78436	0.78398	0.81626	0.82066	0.80768	3.171
161 1,2-Dibromoethane (EDB)	0.69908 0.67921	0.66121	0.66872	0.64123	0.65560	0.65726	0.66605	2.807
162 1-Nonene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
164 1-Chlorohexane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
165 Chlorobenzene	1.05205 0.99262	0.97878	0.98187	0.96448	0.97062	0.95875	0.98560	3.186

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Compound	0.5000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
166 Butyl Ether	++++ ++++	++++	++++	++++	++++	++++	++++	++++
167 Ethyl Benzene	0.49465 0.49997	0.50966	0.47658	0.50019	0.49712	0.48885	0.49529	2.097
168 1,1,1,2-Tetrachloroethane	++++ 0.62325	0.58422	0.59056	++++	0.61084	0.61279	0.60433	2.702
169 m,p-Xylene	0.66124 0.62357	0.60069	0.59234	0.62097	0.60680	0.60527	0.61584	3.704
170 Nonane	++++ ++++	++++	++++	++++	++++	++++	++++	++++
171 o-Xylene	0.60209 0.58925	0.59042	0.55546	0.59926	0.57379	0.57448	0.58354	2.831
172 Styrene	0.94384 0.99158	0.84843	0.82473	0.95922	0.95182	0.95721	0.92526	6.783
173 2-Heptanone	++++ 1.30693	0.99837	0.96109	++++	1.19126	1.23268	1.13807	13.263
174 Bromoform	0.90932 0.99162	0.88044	0.88254	0.93159	0.94269	0.95775	0.92799	4.364

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Compound	0.5000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
175 Cumene	1.80685 1.79628	1.72603	1.70788	1.82648	1.76219	1.75421	1.76856	2.457
176 Cyclohexanone	++++ 0.28802	0.31934	0.26308	++++	0.26970	0.27776	0.28358	7.777
178 1-Decene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
179 alpha-Pinene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
180 Bromobenzene	++++ 0.70204	0.63260	0.65727	++++	0.68713	0.68252	0.67231	4.081
181 1,1,2,2-Tetrachloroethane	0.87309 0.84595	0.81932	0.80016	0.84779	0.82231	0.82118	0.83283	2.906
182 Propylbenzene	2.04277 2.01613	1.97787	1.93424	2.05869	1.97790	1.98212	1.99853	2.156
183 1,4-Dichloro-2-Butene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
184 trans-1,4-Dichloro-2-butene	++++ ++++	++++	++++	++++	++++	++++	++++	++++

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	200.000 Level 8							
185 1,2,3-Trichloropropane	++++ 0.26568	0.26951	0.24973	++++	0.26251	0.25822	0.26113	2.912
186 3-Ethyltoluene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
187 Decane	++++ ++++	++++	++++	++++	++++	++++	++++	++++
188 4-Ethyltoluene	0.54799 0.56276	0.53609	0.54752	0.59356	0.57058	0.55990	0.55977	3.356
189 2-Chlorotoluene	++++ 0.48217	0.44270	0.43673	++++	0.46885	0.46933	0.45996	4.207
190 1,3,5-Trimethylbenzene	0.80539 0.80232	0.72607	0.72700	0.81193	0.78670	0.78400	0.77763	4.666
191 4-Chlorotoluene	++++ 0.50678	0.44039	0.44581	++++	0.48491	0.48939	0.47346	6.115
192 beta-Pinene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
193 Diisobutyl Ketone	++++ 0.79533	0.65133	0.58476	++++	0.75289	0.77169	0.71120	12.585

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	200.000 Level 8							
194 alpha Methyl Styrene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
195 tert-Butylbenzene	++++ 1.35357	1.23833	1.22351	++++	1.34099	1.33070	1.29742	4.738
196 1,2,4-Trimethylbenzene	0.70298 0.71293	0.65624	0.65298	0.73139	0.70413	0.70358	0.69489	4.210
197 Pentachloroethane	++++ 0.54822	0.45913	0.47213	++++	0.52085	0.52795	0.50566	7.549
198 Limonene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
199 D-Limonene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
200 Benzaldehyde	++++ ++++	++++	++++	++++	++++	++++	++++	++++
201 Indan	++++ ++++	++++	++++	++++	++++	++++	++++	++++
202 Indene	++++ ++++	++++	++++	++++	++++	++++	++++	++++

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 Cal Date : 09-Oct-2018 16:29 p5fl
 Curve Type : Average

Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
203 sec-Butylbenzene	++++ 0.43247	0.38138	0.38099	++++	0.42544	0.42582	0.40922	6.291
204 Isobutylbenzene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
205 2-Ethyltoluene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
206 bis(2-Chloroethyl) Ether	++++ ++++	++++	++++	++++	++++	++++	++++	++++
207 p-Cymene	++++ 1.78131	1.45498	1.46887	++++	1.68334	1.71367	1.62044	9.199
208 1,3-Dichlorobenzene	1.20172 1.18223	1.16397	1.14222	1.21560	1.18027	1.17465	1.18010	2.034
209 1,4-Dichlorobenzene	1.22701 1.20837	1.22871	1.15104	1.23310	1.20185	1.18969	1.20568	2.394
210 1,2,3-Trimethylbenzene	++++ 0.67675	0.61951	0.57531	++++	0.64431	0.65352	0.63388	6.094
211 1-Undecene	++++ ++++	++++	++++	++++	++++	++++	++++	++++

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
 End Cal Date : 09-OCT-2018 15:59
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/09OCT18.b/178q0613e.m
 Cal Date : 09-Oct-2018 16:29 p5fl
 Curve Type : Average

Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
212 alpha-Chlorotoluene	1.14514 1.36114	1.16862	1.16750	1.29252	1.30023	1.31707	1.25032	6.973
213 Butylbenzene	+++++ 0.45444	0.39517	0.40046	+++++	0.42877	0.44050	0.42387	6.023
214 1,2-Dichlorobenzene	1.13991 1.13026	1.11639	1.12150	1.18045	1.13048	1.12076	1.13425	1.925
215 Undecane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
216 4-Ethyl-1,2-dimethylbenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
217 Hexachloroethane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
218 1,3-Diethylbenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
219 1,4-Diethylbenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
220 1,2,4,5-tetramethylbenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
 End Cal Date : 09-OCT-2018 15:59
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/09OCT18.b/178q0613e.m
 Cal Date : 09-Oct-2018 16:29 p5fl
 Curve Type : Average

Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
221 1,2-Dibromo-3-chloropropane	+++++ 0.43020	0.38321	0.38519	+++++	0.40166	0.41260	0.40257	4.877
222 1-Dodecene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
223 Nitrobenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
224 1,3,5-Trichlorobenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
225 Dodecane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
226 1,2,4-Trichlorobenzene	+++++ 1.29169	1.28634	1.25164	1.33184	1.29941	1.27908	1.29000	2.035
227 Hexachlorobutadiene	+++++ 1.16345	1.15224	1.12896	1.16863	1.15237	1.15309	1.15312	1.184
228 Naphthalene	+++++ 2.33100	1.97914	1.91890	2.40451	2.36668	2.31964	2.21998	9.587
229 1,2,3-Trichlorobenzene	+++++ 1.32367	1.28477	+++++	+++++	1.20277	+++++	1.27040	4.858

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
 End Cal Date : 09-OCT-2018 15:59
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/09OCT18.b/178q0613e.m
 Cal Date : 09-Oct-2018 16:29 p5fl
 Curve Type : Average

Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
230 Tridecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
231 Quinoline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
232 2-Methylnaphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
233 1,3,5-Triethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
234 Acenaphthylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
235 Phenanthrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
236 Anthracene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
M 237 1,2-Dichloroethene (Total)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
M 238 Chlorobutane (Total)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
 End Cal Date : 09-OCT-2018 15:59
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/09OCT18.b/178q0613e.m
 Cal Date : 09-Oct-2018 16:29 p5fl
 Curve Type : Average

Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
M 239 Total Xylene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
M 240 3 and 4-Ethyltoluene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
241 Total Volatile Hydrocarbons	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
242 TPH reference to Hexane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
243 TPH reference to Heptane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
244 TPH reference to Gasoline	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
245 TPH reference MineralSpirits	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
246 TPH reference to Stoddard	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
247 TVOC reference to Hexane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
 End Cal Date : 09-OCT-2018 15:59
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/09OCT18.b/178q0613e.m
 Cal Date : 09-Oct-2018 16:29 p5fl
 Curve Type : Average

Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
248 TVOC reference to Heptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
249 TVOC reference to Toluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
250 TVOC reference to Toluene-d8	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
251 NMOC reference to Hexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
252 NMOC reference to Heptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
253 NMOC reference to Toluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
254 C3 - C4 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
255 C4 - C5 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
256 C5 - C6 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
 End Cal Date : 09-OCT-2018 15:59
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/09OCT18.b/178q0613e.m
 Cal Date : 09-Oct-2018 16:29 p5fl
 Curve Type : Average

Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
257 C6 - C7 Hydrocarbons	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
258 C7 - C8 Hydrocarbons	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
259 C8 - C9 Hydrocarbons	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
260 C9 - C10 Hydrocarbons	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
261 C10+ Hydrocarbons	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
262 C5 - C6 Aliphatic ref C5 + C6	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
263 C6-C8 Aliphatic ref Heptane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
264 C8-C10 Aliphatic ref Decane	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
265 C10-C12 Aliphatic ref Dodecan	+++++ +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
 End Cal Date : 09-OCT-2018 15:59
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/09OCT18.b/178q0613e.m
 Cal Date : 09-Oct-2018 16:29 p5fl
 Curve Type : Average

Compound	0.50000 Level 2	2.000 Level 3	5.000 Level 4	20.000 Level 5	50.000 Level 6	100.000 Level 7	RRF	% RSD
	200.000 Level 8							
266 C8-C10 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
267 C8-C10 Aromatic ref 1,2,3-TMB	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
268 C10-C12 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
269 C10-C12 Aromatic 1,2,4,5-TMB	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
270 C10-C12 Aromatic Naphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
\$ 112 Benzene-d6	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
\$ 117 1,2-Dichloroethane-d4	1.08418 1.17692	1.09916	1.10957	1.10875	1.16048	1.20720	1.13518	4.072
\$ 146 Toluene-d8	0.96653 0.97300	0.97150	0.98000	0.96626	0.97888	0.97952	0.97367	0.611
\$ 177 4-Bromofluorobenzene	0.79526 0.79089	0.78258	0.79457	0.80265	0.77421	0.78599	0.78945	1.188

Calibration History

Method : /chem/msd17.i/09OCT18.b/178q0613e.m
Start Cal Date: 13-JUN-2018 22:14
End Cal Date : 09-OCT-2018 15:59

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 2 , Cal Amount: 0.50000		
13-JUN-2018 22:14	AT12low	/chem/msd17.i/13jun18.b/17061302.d

Cal Level: 3 , Cal Amount: 2.00000		
09-OCT-2018 15:59	EthylAcetateCRV	/chem/msd17.i/09OCT18.b/17100911.d
24-AUG-2018 14:36	DBMiCAL	/chem/msd17.i/24aug18.b/17082405.d
20-AUG-2018 22:45	AT1crv	/chem/msd17.i/20aug18.b/17082011.d
23-JUL-2018 11:01	123TCB	/chem/msd17.i/23jul18.b/17072305.d
13-JUN-2018 22:40	AT12curve	/chem/msd17.i/13jun18.b/17061303.d

Cal Level: 4 , Cal Amount: 5.00000		
20-AUG-2018 23:13	AT1crv	/chem/msd17.i/20aug18.b/17082012.d
13-JUN-2018 23:08	AT12curve	/chem/msd17.i/13jun18.b/17061304.d

Cal Level: 5 , Cal Amount: 20.00000		
13-JUN-2018 23:35	AT12curve	/chem/msd17.i/13jun18.b/17061305.d

Cal Level: 6 , Cal Amount: 50.00000		
09-OCT-2018 14:17	EthylAcetateCRV	/chem/msd17.i/09OCT18.b/17100908.d
24-AUG-2018 15:04	DBMiCAL	/chem/msd17.i/24aug18.b/17082406.d
20-AUG-2018 23:40	AT1crv	/chem/msd17.i/20aug18.b/17082013.d
23-JUL-2018 12:23	123TCB	/chem/msd17.i/23jul18.b/17072306.d
14-JUN-2018 00:02	AT12curve	/chem/msd17.i/13jun18.b/17061306.d

Cal Level: 7 , Cal Amount: 100.00000		
21-AUG-2018 00:06	AT1crv	/chem/msd17.i/20aug18.b/17082014.d
14-JUN-2018 00:28	AT12curve	/chem/msd17.i/13jun18.b/17061307.d


```

+-----+-----+-----+
| Cal Level: 8 , Cal Amount: 200.00000 |
+=====+
|09-OCT-2018 14:45 |EthylAcetateCRV |/chem/msd17.i/09OCT18.b/17100909.d |
|24-AUG-2018 15:33 |DBMiCAL |/chem/msd17.i/24aug18.b/17082407.d |
|21-AUG-2018 00:35 |AT1crv |/chem/msd17.i/20aug18.b/17082015.d |
|23-JUL-2018 12:52 |123TCB |/chem/msd17.i/23jul18.b/17072307.d |
|14-JUN-2018 00:56 |AT12curve |/chem/msd17.i/13jun18.b/17061308.d |
+-----+-----+-----+

```

Continuing Calibration

Ccal Level Mode: GLOBAL LEVEL 6

```

+-----+-----+-----+
| Ccal Level: 6 , Ccal Amount: 50.000 |
+=====+
|09-OCT-2018 10:06 |AT12 |/chem/msd17.i/09OCT18.b/17100902.d |
+-----+-----+-----+
| Ccal Level: 6 , Ccal Amount: 50.000 |
+=====+
|09-OCT-2018 14:17 |EthylAcetateCCV |/chem/msd17.i/09OCT18.b/17100908a.d |
+-----+-----+-----+
| Ccal Level: 6 , Ccal Amount: 50.000 |
+=====+
|09-OCT-2018 14:17 |EthylAcetateCRV |/chem/msd17.i/09OCT18.b/17100908.d |
+-----+-----+-----+

```

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
 End Cal Date : 09-OCT-2018 15:59
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/09OCT18.b/178q0613e.m
 Cal Date : 09-Oct-2018 16:23 p5fl
 Curve Type : Average

mjb 10/10/18

Calibration File Names:

Level 2: /chem/msd17.i/13jun18.b/17061302.d
 Level 3: /chem/msd17.i/09OCT18.b/17100911.d
 Level 4: /chem/msd17.i/20aug18.b/17082012.d
 Level 5: /chem/msd17.i/13jun18.b/17061305.d
 Level 6: /chem/msd17.i/09OCT18.b/17100908.d
 Level 7: /chem/msd17.i/20aug18.b/17082014.d
 Level 8: /chem/msd17.i/09OCT18.b/17100909.d

Please see Calibration History page(s)
 for all the calibration files.

	0.50000	2.000	5.000	20.000	50.000	100.000		
Compound	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	RRF	% RSD
	-----	-----	-----	-----	-----	-----		
	200.000							
	Level 8							
=====								
1 Dimethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++

2 Freon 14	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++

3 Acetaldehyde	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++

4 Hexafluoropropene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++

5 Freon 13	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++

6 Freon 143a	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++

=====								

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
 End Cal Date : 24-AUG-2018 15:33
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/24aug18.b/178q0613d.m
 Cal Date : 27-Aug-2018 09:55 ugdc
 Curve Type : Average

Calibration File Names:

Level 2: /chem/msd17.i/13jun18.b/17061302.d
 Level 3: /chem/msd17.i/24aug18.b/17082405.d
 Level 4: /chem/msd17.i/20aug18.b/17082012.d
 Level 5: /chem/msd17.i/13jun18.b/17061305.d
 Level 6: /chem/msd17.i/24aug18.b/17082406.d
 Level 7: /chem/msd17.i/20aug18.b/17082014.d
 Level 8: /chem/msd17.i/24aug18.b/17082407.d

gnd 8/27/18

**Please see Calibration History page(s)
for all the calibration files.**

	0.50000	2.000	5.000	20.000	50.000	100.000	_____		
Compound	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	RRP	% RSD	
	-----	-----	-----	-----	-----	-----			
	200.000								
	Level 8								
1 Dimethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++						+++++	+++++	
2 Freon 14	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++						+++++	+++++	
3 Acetaldehyde	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++						+++++	+++++	
4 Hexafluoropropene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++						+++++	+++++	
5 Freon 13	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++						+++++	+++++	
6 Freon 143a	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++						+++++	+++++	

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
 End Cal Date : 21-AUG-2018 00:35
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.60
 Integrator : HP RTE
 Method file : /chem/msd17.i/20aug18.b/178q0613c.m
 Cal Date : 21-Aug-2018 09:26 ugdc
 Curve Type : Average

Please see Calibration History page(s)
for all the calibration files.

Calibration File Names:

Level 2: /chem/msd17.i/13jun18.b/17061302.d
 Level 3: /chem/msd17.i/20aug18.b/17082011.d
 Level 4: /chem/msd17.i/20aug18.b/17082012.d
 Level 5: /chem/msd17.i/13jun18.b/17061305.d
 Level 6: /chem/msd17.i/20aug18.b/17082013.d
 Level 7: /chem/msd17.i/20aug18.b/17082014.d
 Level 8: /chem/msd17.i/20aug18.b/17082015.d

mjb 8/21/18

	0.50000	2.000	5.000	20.000	50.000	100.000			
Compound	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	RRF	% RSD	
	200.000								
	Level 8								
1 Dimethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++						+++++	+++++	
2 Freon 14	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++						+++++	+++++	
3 Acetaldehyde	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++						+++++	+++++	
4 Hexafluoropropene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++						+++++	+++++	
5 Freon 13	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++						+++++	+++++	
6 Freon 143a	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++						+++++	+++++	

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
End Cal Date : 23-JUL-2018 12:52
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd17.i/23jul18.b/178q0613b.m
Cal Date : 23-Jul-2018 15:52 ghehir
Curve Type : Average

Calibration File Names:

Level 2: /chem/msd17.i/13jun18.b/17061302.d
Level 3: /chem/msd17.i/23jul18.b/17072305.d
Level 4: /chem/msd17.i/13jun18.b/17061304.d
Level 5: /chem/msd17.i/13jun18.b/17061305.d
Level 6: /chem/msd17.i/23jul18.b/17072306.d
Level 7: /chem/msd17.i/13jun18.b/17061307.d
Level 8: /chem/msd17.i/23jul18.b/17072307.d

GH 7/23/18
GD 7/25/18

	0.50000	2.000	5.000	20.000	50.000	100.000		
Compound	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	RRF	% RSD
	-----	-----	-----	-----	-----	-----		
	200.000							
	Level 8							
=====	=====	=====	=====	=====	=====	=====	=====	=====
229 1,2,3-Trichlorobenzene	+++++	1.28477	+++++	+++++	1.20277	+++++		
	1.32367						1.27040	4.858
-----	-----	-----	-----	-----	-----	-----	-----	-----
=====	=====	=====	=====	=====	=====	=====	=====	=====

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-JUN-2018 22:14
 End Cal Date : 14-JUN-2018 00:56
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP RTE
 Method file : /chem/msd17.i/13jun18.b/178q0613a.m
 Cal Date : 15-Jun-2018 09:13 gdelacru
 Curve Type : Average

Calibration File Names:

Level 2: /chem/msd17.i/13jun18.b/17061302.d
 Level 3: /chem/msd17.i/13jun18.b/17061303.d
 Level 4: /chem/msd17.i/13jun18.b/17061304.d
 Level 5: /chem/msd17.i/13jun18.b/17061305.d
 Level 6: /chem/msd17.i/13jun18.b/17061306.d
 Level 7: /chem/msd17.i/13jun18.b/17061307.d
 Level 8: /chem/msd17.i/13jun18.b/17061308.d

gdl 6/15/18

KK
6/15/18

Compound	0.50000	2.000	5.000	20.000	50.000	100.000	RRF	% RSD
	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7		
	200.000							
	Level 8							
9 Propylene	+++++	0.53283	0.56890	0.48143	0.52484	0.52638		
	0.51861						0.52550	5.334
11 Freon 12	2.08786	2.27350	2.22377	2.13721	2.28983	2.28341		
	2.24562						2.22017	3.525
15 Freon 114	1.86768	1.81501	1.86925	1.84100	1.90764	1.92381		
	1.89316						1.87393	2.022
17 Chloromethane	+++++	0.64098	0.50442	0.61079	0.61437	0.58393		
	0.49701						0.57525	10.524
23 Butane	+++++	0.21856	0.18957	0.15149	0.15274	0.14901		
	0.14504						0.16773	17.715
25 Vinyl Chloride	0.88252	0.83475	0.86864	0.75804	0.80905	0.81683		
	0.81136						0.82588	5.015
26 1,3-Butadiene	0.56806	0.58126	0.55314	0.54123	0.56756	0.57045		
	0.56549						0.56388	2.298

MSD17

BFB verification of 176/174 ratio: (124416/126336)*100%=98.48%				Method TO-15/TO-14			
(S/S Std #):	3045-104	Exp. Date:	11/24/2018	SOP# 6			
BCM			124,915	Vacuum NA			
1,4-OFB			429,857	Please check all standards			
CB-d5			395,763				
				Surrogate# 23045-104	q. Date: 11/24/2018	Surrogate#	Exp. Date: NA
				CCV#	3018-356A	q. Date: 11/3/2018	ICS# 3018-392
				CCV sp#	3045-124	q. Date: 12/17/2018	ICS sp#
				CCV sp#	NA	Exp. Date:	Exp. Date: NA
				CCV sp#	NA	Exp. Date:	Exp. Date: NA
				CCV sp#	NA	Exp. Date:	Exp. Date: NA

Verified CCV vs ICAI mid point (-40%): mjb

Method: 17890613E.m

Use	File #	Sample ID#	Canister#	Cat. pos	Pressure	Amount	DF	Verify Load	Loaded Init	Date Analyzed	Time Analyzed	Review Int	
V	17100901	BFB Tune Check	3045-81	12	36ng	50ml	1.00	mjb	mjb	10/09/18	0930	mjb/gd	exp. 11/03/18.
V	17100902	CCV	3018-356A	13	50ppbv (100ppbv)	100ml	1.00	mjb	mjb	10/09/18	1006	mjb/gd	exp. 11/3/18 oxgenates; 11/3/18 TO15N; 0 out
V	17100903	ICS	3018-392A	14	50ppbv (100ppbv)	100ml	1.00	mjb	mjb	10/09/18	1052	mjb/gd	exp. 11/23/18; 0 out
V	17100904	ICSD	3018-392A	14	50ppbv (100ppbv)	100ml	1.00	mjb	mjb	10/09/18	1119	mjb/gd	exp. 11/23/18; 0 out RPD OK
X	17100905	ICAL Level #3	3018-464	9	2.0ppbv (5.0ppbv)	80ml	1.00	mjb	mjb	10/09/18	1305	mjb/-	is out
X	17100906	ICAL Level #6	3045-147	11	50ppbv (200ppbv)	50ml	1.00	-	mjb	10/09/18	-	-	wrong leg selected
V	17100907	system Blank	32888	12	Humid	200ml	1.00	mjb	mjb	10/09/18	1351	mjb/gd	
V	17100908	ICAL Level #6	3045-147	11	50ppbv (200ppbv)	50ml	1.00	mjb	mjb	10/09/18	1417	mjb/gd	
V	17100909	ICAL Level #8	3045-147	11	200ppbv (200ppbv)	200ml	1.00	mjb	mjb	10/09/18	1445	mjb/gd	
V	17100910	System Blank	32888	12	Humid	200ml	1.00	mjb	mjb	10/09/18	1513	mjb/gd	
V	17100911	ICAL Level #3	3018-464	9	2.0ppbv (5.0ppbv)	80ml	1.00	mjb	mjb	10/09/18	1559	mjb/gd	
V	17100912	Lab Blank	32888	12	Humid	200ml	1.00	mjb	mjb	10/09/18	1627	mjb/gd	
V	17100913	1810156-01A	00158c	1	11.6 psi->11.6 psi	200ml	1.00	mb	mjb	10/09/18	1723	mb	
V	17100914	1810156-02A	00123c	2	10.0 psi->10.0 psi	200ml	1.00	mb	mjb	10/09/18	1757	mb	
V	17100915	1810156-03A	00439c	3	10.2 psi->10.2 psi	200ml	1.00	mb	mjb	10/09/18	1819	mb	
V	17100916	1810156-04A	00261c	4	10.6 psi->10.6 psi	200ml	1.00	mb	mjb	10/09/18	1848	mb	
V	17100917	1810156-05A	00075c	5	10.0 psi->10.0 psi	200ml	1.00	mb	mjb	10/09/18	1916	mb	
V	17100918	1810156-06A	00125c	6	10.4 psi->10.4 psi	200ml	1.00	mb	mjb	10/09/18	1944	mb	
V	17100919	1810156-07A	00062c	7	10.2 psi->10.2 psi	200ml	1.00	mb	mjb	10/09/18	2012	mb	
V	17100920	1810156-08A	00030c	8	10.8 psi->10.8 psi	200ml	1.00	mb	mjb	10/09/18	2040	mb	
V	17100921	1810156-05A	00450c	1	11.0 psi->11.0 psi	200ml	1.00	mjb	mb	10/09/18	2216	mjb/gd	
V	17100922	1810156-04A	00377c	2	11.0 psi->11.0 psi	200ml	1.00	mjb	mb	10/09/18	2245	mjb/gd	
V	17100923	1810156-03A	00432c	3	11.0 psi->11.0 psi	120ml	1.67	mjb	mb	10/09/18	2311	mjb/gd	DH TC
V	17100924	1810156-02A	00416c	4	11.4 psi->11.4 psi	110ml	1.82	mb	mb	10/09/18	2338	mjb/gd	DH TC
V	17100925	1810156-01A	00418c	5	10.0 psi->10.0 psi	200ml	1.00	mjb	mb	10/10/18	0006	mjb/gd	

MSD17

BFB verification of 176/174 ratio: (128720/132096)*100 = 97.44%				Method TO-15/TO-14			
IS/5 Std.#:	3045-66	Exp. Date:	11/3/2018	SOP# 6			
BCM	127.377			Vacuum NA			
1,4-DFB	430.836			Please check all standards			
CB-d5	389.322			Surrogate# 23045-66 qp. Date: 10/18/2018 Surrogate# Exp. Date: NA			
				CV# 3018-356 qp. Date: 10/3/2018 LCS# 3018-297B Exp. Date: 9/11/2018			

Verified CCV vs ICAI mid-point (-40%): mlb

Method: 178Q0613B.m / 178Q0613B.m mlb 10/16/18

Use	File #	Sample IDs	Canister#	Cat. pos	Pressures	Amount	DF	Verify Load	Loaded Int	Date Analyzed	Time Analyzed	Review Int	
V	17082001	BFB Tune Check	3045-66	12	36mg	50ml	1.00	mlb	mlb	08/20/18	0938	mlb/gd	exp. 10/18/18.
V	17082002	CCV	3018-356	13	50ppbv (200ppbv)	50ml	1.00	mlb	mlb	08/20/18	1021	mlb/gd	exp. 10/3/18 oxygenates; 11/3/18 TO15N; 0 out
V	17082003	LCS	3018-297B	14	50ppbv (50ppbv)	200ml	1.00	mlb	mlb	08/20/18	1107	mlb/gd	exp. 9/11/18; 0 out
V	17082004	LCSO	3018-297B	14	50ppbv (50ppbv)	200ml	1.00	mlb	mlb	08/20/18	1135	mlb/gd	exp. 9/11/18; 0 out RPD OK
V	17082005	Lab blank	32888	12	Humid	200ml	1.00	mlb	mlb	08/20/18	1225	mlb/gd	
V	17082006	1808382-01A	00982	1	9 Hg>5.2 psi	200ml	1.93	mls	mlb	08/20/18	1559	mls	
V	17082007	1808382-02A	33665	2	8.4 Hg>5 psi	200ml	1.86	mls	mlb	08/20/18	1627	mls	
V	17082008	1808382-03A	34322	3	7.3 Hg>5.2 psi	200ml	1.79	mls	mlb	08/20/18	1656	mls	
X	17082009	1808382-04A	33784	4	15.5 Hg>5.1 psi	200ml	2.79	mls	mlb	08/20/18	-		Computer Crash.
X	17082010	System Blank	32888	12	Humid	200ml	1.00	mlb	mls	08/20/18	2219	mlb/gd	
V	17082011	ICAL Leve #3	3045-73	1	2.0ppbv (5.0ppbv)	80ml	1.00	mlb	mls	08/20/18	2245	mlb/gd	Exp. 9/26/18. AT-1
V	17082012	ICAL Leve #4	3045-73	1	5.0ppbv (5.0ppbv)	200ml	1.00	mlb	mls	08/20/18	2313	mlb/gd	Exp. 9/26/18. AT-1
V	17082013	ICAL Leve #6	3045-50	2	50ppbv (200ppbv)	50ml	1.00	mlb	mls	08/20/18	2340	mlb/gd	Exp. 9/26/18. AT-1
V	17082014	ICAL Leve #7	3045-50	2	100ppbv (200ppbv)	100ml	1.00	mlb	mls	08/21/18	0006	mlb/gd	Exp. 9/26/18. AT-1
V	17082015	ICAL Leve #8	3045-50	2	200ppbv (200ppbv)	200ml	1.00	mlb	mls	08/21/18	0035	mlb/gd	Exp. 9/26/18. AT-1
V	17082016	System Blank	32888	12	Humid	200ml	1.00	mlb	mls	08/21/18	0103	mlb/gd	

6/18/21/18

MSD17

BFB verification of 176/174 ratio: (118888/121968)*100 = 97.47%			Method TO-15/TO-14	
IS/Std #:	3045-104	Exp. Date:	11/24/2018	SOP# 6
BCM			120.541	Vacuum NA
1,4-DFB			409.315	Please check all standards
CB-d5			370.404	Surrogate# 13045-104
				CCV# 3018-356
				CCV sp# N 3045-79
				CCV sp# N 3045-79
				CCL sp# NA

Verified CCV vs ICAL mid-point (-40%): mlb

Method: 17800613.CM

CCV sp#	3045-80	q.p. Date:	10/23/2018	ICS sp#	3018-392	Exp. Date:	11/23/18
CCV sp#	N 3045-79	q.p. Date:	10/23/2018	ICS sp#	NA	Exp. Date:	NA
CCL sp#	NA	Exp. Date:	NA	ICS sp#	NA	Exp. Date:	NA

Use	File #	Sample IDs	Canister#	Cart pos	Pressures	Amount	DF	Verify Load	Loaded Int	Date Analyzed	Time Analyzed	Review Int	
V	17082401	BFB Tune Check	3045-66	10	36mg	50ml	1.00	mlb	mlb	08/24/18	1018	mlb/gd	exp. 10/18/18.
V	17082402	CCV	3018-356	13	50ppbv (200ppbv)	50ml	1.00	mlb	mlb	08/24/18	1103	mlb/gd	exp. 10/3/18 oxygenates; 11/3/18 TO15N.
V	17082403	LCS	3018-292	14	50ppbv (200ppbv)	50ml	1.00	mlb	mlb	08/24/18	1145	mlb/gd	exp. 11/23/18
V	17082404	LCS	3018-392	14	50ppbv (200ppbv)	50ml	1.00	mlb	mlb	08/24/18	1213	mlb/gd	exp. 11/23/18
V	17082405	ICAL Level 3	3045-80	11	2.0ppbv (4.0 ppbv)	100ml	1.00	gd	mlb	08/24/18	1436	gd	exp. 10/23/18 BCM&DBM
V	17082406	ICAL Level 6	3045-79	12	50ppbv (200ppbv)	50ml	1.00	gd	mlb	08/24/18	1504	gd	exp. 10/23/18 BCM&DBM
V	17082407	ICAL Level 8	3045-79	12	200ppbv (200ppbv)	200ml	1.00	gd	mlb	08/24/18	1533	gd	exp. 10/23/18 BCM&DBM
V	17082408	Lab Blank	3045-104	10	#2888	200ml	1.00	gd	mlb	08/24/18	1602	gd	

EA
6/27/18

Verified CCV vs ICA1 mid-point (-40%): ph

Method: 178Q0613B.m

surrogate#.j0045-00	p. Date:	10/18/2018	surrogate#	Exp. Date:	NA
CCV#	3018-273A	p. Date:	9/11/2018	LCS#	3018-297A
CCV sp#	NA	p. Date:	NA	LCS sp#	NA
CCV sp#	NA	Exp. Date:	NA	LCS sp#	NA
CCV sp #	NA	Exp. Date:	NA	LCS sp#	NA

Use	File #	Sample IDs	Canister#	Cert. pos	Pressures	Amount	Dr	Verify Load	loaded init	Date Analyzed	Time Analyzed	Review Init	
V	17072301	BFB Tune Check	3045-66	8	3mg	50ml	1.00	gh	gh	07/23/18	0839	gh	Exp. 10/18/18.
V	17072302	CCV	3018-273A	13	50ppbv(100ppbv)	100ml	1.00	gh	gh	07/23/18	0915	gh	Exp. 9/02/18. 0 out
V	17072303	LCS	3018-297A	14	50ppbv(100ppbv)	100ml	1.00	gh	gh	07/23/18	0942	gh	Exp. 9/11/18. 0 out.
V	17072304	LCSD	3018-297A	14	50ppbv(100ppbv)	100ml	1.00	gh	gh	07/23/18	1008	gh	Exp. 9/11/18. 0 out. RRD ok
V	17072305	Cal Level #3	3018-341	2	2.0ppbv(5.0ppbv)	80ml	1.00	gh	gh	07/23/18	1101	gh	exp. 10/11/18
V	17072306	Cal level #6	3045-59	2	50ppbv(200ppbv)	50ml	1.00	gh	gh	07/23/18	1223	gh	exp. 10/11/18 CCV
V	17072307	Cal level #8	3045-59	2	200ppbv(200ppbv)	200ml	1.00	gh	gh	07/23/18	1252	gh	exp. 10/11/18
X	17072308	Lab Blank	23888	10	humid	200ml	1.00	gh	gh	07/23/18	1341	gh	can not opened
V	17072309	Lab Blank	23888	10	humid	200ml	1.00	gh	gh	07/23/18	1242	gh	
V	17072310	1807313A-03A	N2694	1	5.9 Hg>14.5 psi	15ml	33.0	gh	gh		1532	gh	dhf
C	17072311	System Blank	23888	10	humid	200ml	1.00	gh	gh				

✓ 7/23/08

MSD17

BFB verification of 176/174 ratio: (186624/190016)*100 =98.21%				Method TO-15/TO-14			
IS/Std #:		3045-23	Exp. Date:	8/24/2018	SOP# 6		
BCM		162,788			Vacuum NA		
1,4-DB		570,167			Please check all standards		
CB-45		520,088					
Surrogate# : 3045-23				ip. Date:	8/24/2018	Surrogate#	Exp. Date: NA
CCV#				3018-273	ip. Date:	9/1/2018	Exp. Date: 8/21/2018
CCV sp#				NA	Exp. Date:	NA	Exp. Date: NA
CCV sp#				NA	Exp. Date:	NA	Exp. Date: NA
CCL sp #				NA	Exp. Date:	NA	Exp. Date: NA

Verified CCV vs ICAI mid-point (-40%):

Verified CCV vs ICAI mid-point (-40%):

Method: 178Q0613a.m

Use	File #	Sample IDs	Canister	Cart. pos	Pressures	Amount	DF	Verify load	Unloaded Int	Date Analyzed	Time Analyzed	Review Int
V	17061301	BFB Tune Check	3045-23	12	36mg	50ml	1.00	gh	gh	06/13/18	2132	gh
V	17061302	ICAI Level #2	2018-279	11	0.5ppbv(5.0ppbv)	20ml	1.00	kk	gh	06/13/18	2214	kk/gd
V	17061303	ICAI Level #3	2018-279	11	2.0ppbv(5.0ppbv)	80ml	1.00	kk	gh	06/13/18	2240	kk/gd
V	17061304	ICAI Level #4	2018-279	11	5.0ppbv(5.0ppbv)	200ml	1.00	kk	gh	06/13/18	2308	kk/gd
V	17061305	ICAI Level #5	3018-273	13	20ppbv(200ppbv)	20ml	1.00	kk	gh	06/13/18	2335	kk/gd
V	17061306	ICAI Level #6	3018-273	13	50ppbv(200ppbv)	50ml	1.00	kk	gh	06/14/18	0002	kk/gd
V	17061307	ICAI Level #7	3018-273	13	100ppbv(200ppbv)	100ml	1.00	kk	gh	06/14/18	0028	kk/gd
V	17061308	ICAI Level #8	3018-273	13	200ppbv(200ppbv)	200ml	1.00	kk	gh	06/14/18	0056	kk/gd
V	17061309	System Blank	32888	12	humid	200ml	1.00	kk	gh	06/14/18	0125	kk/gd
V	17061310	System Blank	32888	12	humid	200ml	1.00	kk	gh	06/14/18	0153	kk/gd
V	17061311	ICV	3018-297	14	50ppbv(200ppbv)	50ml	1.00	kk	kk	06/14/18	1204	kk/gd

6/14/18

Initial Calibration Narrative

178q0613E.m

A multi-point initial calibration was analyzed on MSD-17 on 06/13/18 for AT-12.

ICAL: 0 out; Naph @ 9.6 %RSD

Naphthalene is calibrated at 0.2ppbv, 0.5ppbv, 2.0ppbv, 5.0ppbv, 10ppbv, and 20ppbv.

ICV: 0 out – Naph within 70-130 @ 95%

File: 17061311, 50ml: 3018-297 50ppbv(200ppbv)

DoD 4.2: 0 out (File 17061311a)

DoD 5.0: 0 out (File 17061311c)

BFB TUNE FILE:

- 17061301
- 17072301
- 17082001
- 17082401
- 17100901

A three point calibration for 123-Trichlorobenzene was analyzed 7/23/18.

A 5 point calibration for AT-1 was analyzed on 8/20/18.

- No Freon 143a
- No Freon 22

A three point calibration for Dibromomethane was analyzed on 8/24/18

A three point calibration for Ethyl Acetate was analyzed on 10/09/18

Note: The recovery of the internal standard Bromochloromethane may be biased high due to the presence of this analyte in the standard mix used to perform the initial calibration for Dibromomethane only. There is no impact on the calibration as Dibromomethane is not quantified with the internal standard, Bromochloromethane.

MDL: The TO-15 MDL was analyzed on February 23, 2018.

IS and Associated Target Compounds and Surr. Instruction #: 11.20

Modified EPA Methods TO-14A/TO-15

Internal Standard and Associated Target Compounds and Surrogates

Bromochloromethane*
Target Compounds:
Freon 12
Freon 114
Chloromethane
Vinyl Chloride
1,3-Butadiene
Bromomethane
Chloroethane
Freon 11
Ethanol
Freon 113
1,1-Dichloroethene
Acetone
2-Propanol
Carbon Disulfide
3-Chloropropene
Methylene Chloride
Methyl tert-butyl ether
trans-1,2-Dichloroethene
Hexane
1,1-Dichloroethane
2-Butanone (Methyl Ethyl Ketone)
cis-1,2-Dichloroethene
Tetrahydrofuran
Chloroform
1,1,1-Trichloroethane
Cyclohexane
Carbon Tetrachloride
2,2,4-Trimethylpentane
Surrogates:
1,2-Dichloroethane-d4

1,4-Difluorobenzene
Target Compounds:
Benzene
1,2-Dichloroethane
Heptane
Trichloroethene
1,2-Dichloropropane
1,4-Dioxane
Bromodichloromethane
cis-1,3-Dichloropropene
4-Methyl-2-pentanone
Toluene
Surrogates:
Toluene-d8

Chlorobenzene-d5
Target Compounds:
trans-1,3-Dichloropropene
1,1,2-Trichloroethane
Tetrachloroethene
2-Hexanone
Dibromochloromethane
1,2-Dibromoethane (EDB)
Chlorobenzene
Ethyl Benzene
m,p-Xylene
o-Xylene
Styrene
Bromoform
Cumene
1,1,2,2-Tetrachloroethane
Propylbenzene
4-Ethyltoluene
1,3,5-Trimethylbenzene
1,2,4-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
alpha-Chlorotoluene
1,2-Dichlorobenzene
1,2,4-Trichlorobenzene
Hexachlorobutadiene
Surrogates:
Bromofluorobenzene

*Note: If Bromochloromethane (BCM) is required as a target compound, the internal standard mix is blended without BCM. Compounds and surrogates assigned to BCM are re-assigned to 1,4-Difluorobenzene for calibration and subsequent quantitation.

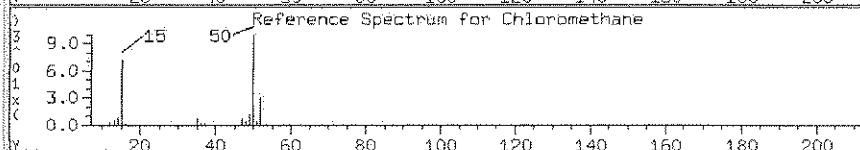
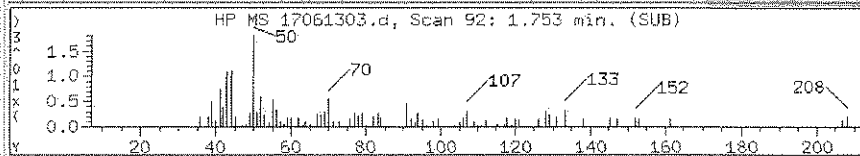
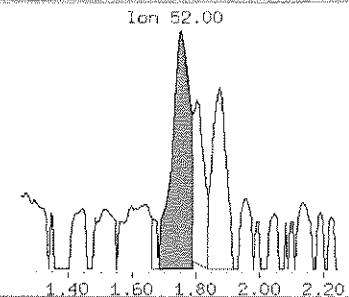
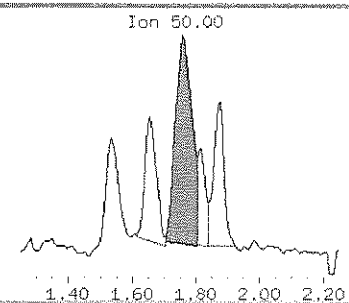
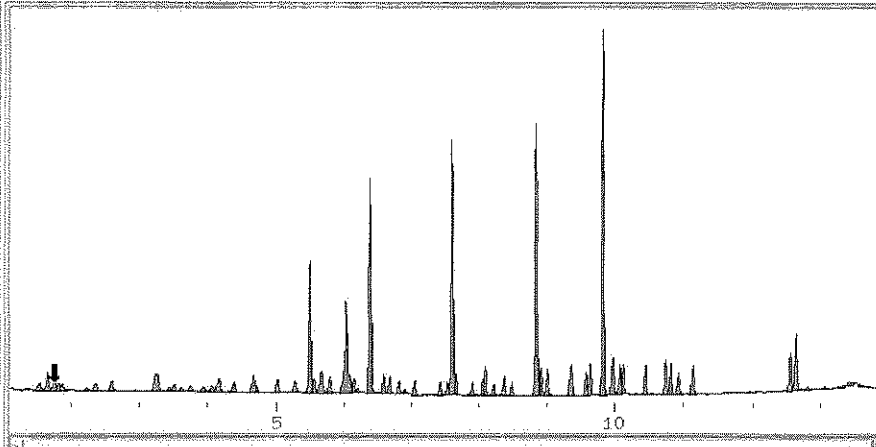
Before

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Sample: ICAL Level #3 Type: CALIB_3 Inj.Date: 13-JUN-2018 22:40

* 98 Bromochloromet
 * 123 1,4-Difluorobe
 * 163 Chlorobenzene-
 * 117 1,2-Dichloroeti
 * 146 Toluene-d8
 * 177 4-Bromofluorobi
 * 9 Propylene
 * 11 Freon 12
 * 15 Freon 114
 * 17 Chloromethane
 * 23 Butane
 * 25 Vinyl Chloride
 * 26 1,3-Butadiene
 * 29 Bromomethane
 * 30 Chloroethane
 * 31 Isopentane
 * 35 Freon 11
 * 42 Ethanol
 * 49 Freon 113
 * 50 1,1-Dichloroeti
 * 52 Acetone
 * 56 Carbon Disulfid
 * 57 2-Propanol
 * 58 3-Chloropropeni
 * 66 Methylene Chlo

17061301.d
 17061302.d
 17061303.d
 17061304.d
 17061305.d
 17061306.d
 17061306a.d
 17061307.d
 17061308.d
 17061309.d
 17061310.d
 17061311.d
 17061311a.d
 17061311c.d



Hit# RT(min) Response Amount Conc Ratio Flags Report:

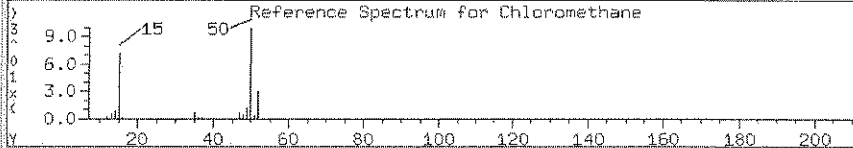
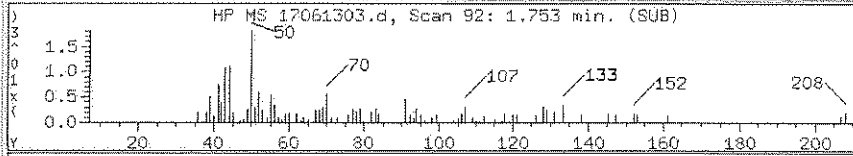
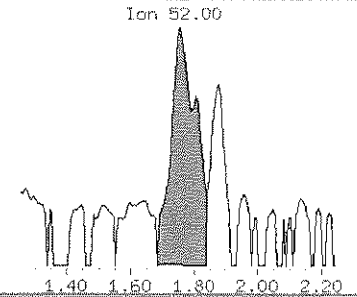
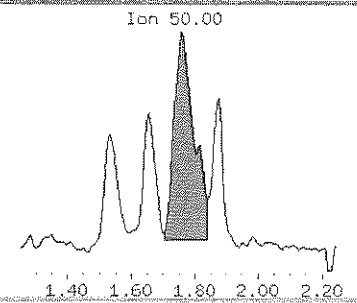
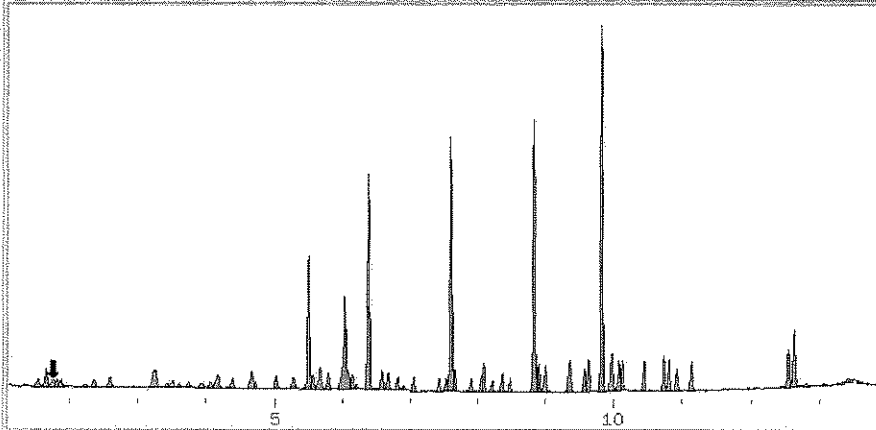
1	1.653	2699	0.7328	0.7328	100	Ta
	1.667	205			8	
2	1.753	7100	1.928	1.928	100	a
	1.753	3177			45	
3	1.817	1730	0.4698	0.4698	100	Ta
	1.803	1445			84	

Before

File Security Edit Display Process Spectra Help

Sample: ICAL Level #3 Type: CALIB_3 Inj.Date: 13-JUN-2018 22:40

** 98 Bromochloromet
 ** 123 1,4-Difluorobe
 ** 163 Chlorobenzene-
 ** 117 1,2-Dichloroetl
 ** 146 Toluene-d8
 ** 177 4-BromoFluorob
 + 9 Propylene
 + 11 Freon 12
 + 15 Freon 114
 + 17 Chloromethane
 + 23 Butane
 + 25 Vinyl Chloride
 + 26 1,3-Butadiene
 + 29 Bromomethane
 + 30 Chloroethane
 + 31 Isopentane
 + 35 Freon 11
 + 42 Ethanol
 + 49 Freon 113
 + 50 1,1-Dichloroetl
 + 52 Acetone
 + 56 Carbon Disulfid
 + 57 2-Propanol
 + 58 3-Chloropropen
 + 66 Methylene Chlo



17061301.d
 17061302.d
 17061303.d
 17061304.d
 17061305.d
 17061306.d
 17061306a.d
 17061307.d
 17061308.d
 17061309.d
 17061310.d
 17061311.d
 17061311a.d
 17061311c.d

Hit# RT(min) Response Amount Conc Ratio Flags Report:

Hit#	RT(min)	Response	Amount	Conc	Ratio	Flags	Report:
1	1.753	6458	2.228	2.228	100	AM	
	1.753	4442			53		

- Mark Chloromethane Undetected.

After

Correct Baseline	
Split Peak	
Merge Peak	
Zoom In	
Change Parameter	
System Peak Subtraction	
Peak Misidentified	
Corrected Peak Integration	/

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/13jun18.b/17061311.d
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 14-JUN-2018 12:04
Operator : kk Inst ID: msd17.i
Smp Info : 50mL #3018-297
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/13jun18.b/178q0613a.m
Meth Date : 15-Jun-2018 09:18 gdelacru Quant Type: ISTD
Cal Date : 14-JUN-2018 00:02 Cal File: 17061306.d
Als bottle: 14 QC Sample: ICV
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL	FINAL	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
* 98 Bromochloromethane									
5.499	5.498	(1.000)	130	161877	25.0000	CAS #:	74-97-5		
5.499	5.498	(1.000)	128	129256			80.00-	120.00	100.00
5.492	5.496	(1.000)	49	152307			48.32-	108.32	79.85
							63.40-	123.40	94.09

* 123 1,4-Difluorobenzene									
6.380	6.384	(1.000)	114	584845	25.0000	CAS #:	540-36-3		
6.380	6.382	(1.000)	88	87807			80.00-	120.00	100.00
							0.00-	44.55	15.01

* 163 Chlorobenzene-d5									
8.830	8.830	(1.000)	117	509281	25.0000	CAS #:	3114-55-4		
8.830	8.830	(1.000)	82	244737			80.00-	120.00	100.00
							17.97-	77.97	48.06

\$ 117 1,2-Dichloroethane-d4									
6.029	6.035	(1.096)	65	192607	26.2036	CAS #:	17060-07-0		
6.037	6.035	(1.098)	67	101369		26.204	80.00-	120.00	100.00
							23.66-	83.66	52.63

\$ 146 Toluene-d8									
7.598	7.598	(1.191)	98	567955	24.9346	CAS #:	2037-26-5		
7.598	7.598	(1.191)	70	57175		24.934	80.00-	120.00	100.00
							0.00-	40.01	10.07

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
					ON-COL (PPBV)	FINAL (PPBV)		
\$ 146	Toluene-d8 (continued)							
7.598	7.598	(1.191)	100	363873			35.43- 95.43	64.07

\$ 177	4-Bromofluorobenzene					CAS #: 460-00-4		
9.819	9.819	(1.112)	174	407713	25.3520	25.352	80.00- 120.00	100.00
9.819	9.819	(1.112)	95	366068			59.41- 119.41	89.79
9.819	9.819	(1.112)	176	397430			68.33- 128.33	97.48

9	Propylene					CAS #: 115-07-1		
1.502	1.500	(0.273)	41	166011	48.7887	48.789	80.00- 120.00	100.00
1.502	1.501	(0.273)	42	112262			36.13- 96.13	67.62
1.502	1.501	(0.273)	39	129490			46.53- 106.53	78.00

11	Freon 12					CAS #: 75-71-8		
1.531	1.532	(0.278)	85	771510	53.6673	53.667	80.00- 120.00	100.00
1.531	1.534	(0.278)	87	248818			2.38- 62.38	32.25

15	Freon 114					CAS #: 76-14-2		
1.653	1.653	(0.301)	135	643377	53.0232	53.023	80.00- 120.00	100.00
1.653	1.652	(0.301)	137	208608			2.28- 62.28	32.42

17	Chloromethane					CAS #: 74-87-3		
1.753	1.751	(0.319)	50	207502	55.7082	55.708	80.00- 120.00	100.00
1.753	1.749	(0.319)	52	69406			5.22- 65.22	33.45

23	Butane					CAS #: 106-97-8		
1.810	1.814	(0.329)	58	48347	44.5145	44.514	80.00- 120.00	100.00
1.810	1.813	(0.329)	43	331004			637.12- 697.12	684.64

25	Vinyl Chloride					CAS #: 75-01-4		
1.846	1.849	(0.336)	62	269671	50.4278	50.428	80.00- 120.00	100.00
1.846	1.849	(0.336)	64	89185			1.91- 61.91	33.07

26	1,3-Butadiene					CAS #: 106-99-0		
1.875	1.875	(0.341)	54	181043	49.5848	49.585	80.00- 120.00	100.00
1.875	1.873	(0.341)	39	182307			72.44- 132.44	100.70

29	Bromomethane					CAS #: 74-83-9		
2.226	2.229	(0.405)	94	284332	52.2853	52.285	80.00- 120.00	100.00
2.226	2.231	(0.405)	96	269554			65.39- 125.39	94.80

30	Chloroethane					CAS #: 75-00-3		
2.340	2.343	(0.426)	64	143387	52.5868	52.587	80.00- 120.00	100.00
2.340	2.345	(0.426)	66	45716			3.25- 63.25	31.88
2.340	2.343	(0.426)	49	39476			0.00- 57.17	27.53

					CONCENTRATIONS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL (PPBV)	FINAL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
31 Isopentane						CAS #:	78-78-4		
2.362	2.358	(0.429)	43	268017	50.2948	50.295	80.00-	120.00	100.00
2.362	2.361	(0.429)	57	202557			45.20-	105.20	75.58
35 Freon 11						CAS #:	75-69-4		
2.591	2.591	(0.471)	101	870979	51.6542	51.654	80.00-	120.00	100.00
2.591	2.591	(0.471)	103	564076			34.28-	94.28	64.76
42 Ethanol						CAS #:	64-17-5		
2.935	2.942	(0.534)	45	95550	51.7466	51.747	80.00-	120.00	100.00
2.935	2.942	(0.534)	46	36982			9.17-	69.17	38.70
49 Freon 113						CAS #:	76-13-1		
3.229	3.231	(0.587)	151	666692	50.9202	50.920	80.00-	120.00	100.00
3.229	3.233	(0.587)	153	432195			34.01-	94.01	64.83
3.229	3.229	(0.587)	101	734453			81.38-	141.38	110.16
50 1,1-Dichloroethene						CAS #:	75-35-4		
3.264	3.265	(0.594)	98	203106	50.0467	50.047	80.00-	120.00	100.00
3.264	3.263	(0.594)	96	318951			124.64-	184.64	157.04
3.264	3.264	(0.594)	61	465371			200.94-	260.94	229.13
52 Acetone						CAS #:	67-64-1		
3.429	3.427	(0.624)	58	122852	47.0853	47.085	80.00-	120.00	100.00
3.422	3.427	(0.622)	43	380907			290.24-	350.24	310.05
56 Carbon Disulfide						CAS #:	75-15-0		
3.501	3.501	(0.637)	76	853196	50.5201	50.520	80.00-	120.00	100.00
57 2-Propanol						CAS #:	67-63-0		
3.601	3.605	(0.655)	45	427238	50.8650	50.865	80.00-	120.00	100.00
3.601	3.603	(0.655)	43	91794			0.00-	51.65	21.49
3.601	3.605	(0.655)	59	18822			0.00-	34.46	4.41
58 3-Chloropropene						CAS #:	107-05-1		
3.744	3.745	(0.681)	76	143942	52.4591	52.459	80.00-	120.00	100.00
3.744	3.744	(0.681)	41	307164			187.06-	247.06	213.39
66 Methylene Chloride						CAS #:	75-09-2		
3.938	3.938	(0.716)	49	297838	49.9462	49.946	80.00-	120.00	100.00
3.938	3.938	(0.716)	84	268612			60.06-	120.06	90.19
3.931	3.938	(0.715)	51	90253			0.22-	60.22	30.30
72 Methyl tert-butyl ether						CAS #:	1634-04-4		
4.146	4.147	(0.754)	73	899957	51.4605	51.460	80.00-	120.00	100.00
4.146	4.145	(0.754)	57	181440			0.00-	50.61	20.16

					CONCENTRATIONS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL (PPBV)	FINAL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
72 Methyl tert-butyl ether (continued)									
4.146	4.145	(0.754)	41	163039			0.00-	49.00	18.12
73 trans-1,2-Dichloroethene									
4.174	4.175	(0.759)	98	208444	52.2387	CAS #: 156-60-5	80.00-	120.00	100.00
4.174	4.174	(0.759)	61	420328			169.57-	229.57	201.65
4.174	4.174	(0.759)	96	326352			127.00-	187.00	156.57
78 Hexane									
4.382	4.382	(0.797)	57	421894	49.4983	CAS #: 110-54-3	80.00-	120.00	100.00
4.382	4.382	(0.797)	43	244464			28.25-	88.25	57.94
4.382	4.382	(0.797)	86	81167			0.00-	48.98	19.24
82 1,1-Dichloroethane									
4.676	4.676	(0.850)	63	499244	48.6438	CAS #: 75-34-3	80.00-	120.00	100.00
4.676	4.676	(0.850)	65	160925			2.30-	62.30	32.23
86 Vinyl Acetate									
4.719	4.718	(0.858)	86	84535	50.4433	CAS #: 108-05-4	80.00-	120.00	100.00
4.711	4.715	(0.857)	43	683910			863.69-	923.69	809.03
91 cis-1,2-Dichloroethene									
5.263	5.263	(0.957)	98	209630	43.6294	CAS #: 156-59-2	80.00-	120.00	100.00
5.263	5.263	(0.957)	96	327109			122.96-	182.96	156.04
5.263	5.263	(0.957)	61	375406			147.21-	207.21	179.08
92 2-Butanone									
5.284	5.289	(0.961)	72	147977	50.6824	CAS #: 78-93-3	80.00-	120.00	100.00
5.284	5.287	(0.961)	43	489750			305.24-	365.24	330.96
5.284	5.287	(0.961)	57	42258			0.00-	59.67	28.56
99 Tetrahydrofuran									
5.492	5.492	(0.999)	42	266692	48.3227	CAS #: 109-99-9	80.00-	120.00	100.00
5.492	5.494	(0.999)	71	130227			18.99-	78.99	48.83
5.492	5.493	(0.999)	72	135955			20.78-	80.78	50.98
100 Chloroform									
5.557	5.558	(1.010)	83	628337	50.0097	CAS #: 67-66-3	80.00-	120.00	100.00
5.557	5.559	(1.010)	85	411839			35.00-	95.00	65.54
102 Cyclohexane									
5.657	5.657	(1.029)	84	431351	50.9922	CAS #: 110-82-7	80.00-	120.00	100.00
5.657	5.656	(1.029)	56	432376			70.31-	130.31	100.24
5.657	5.656	(1.029)	41	240124			25.25-	85.25	55.67
103 1,1,1-Trichloroethane									
5.678	5.677	(1.033)	97	716023	51.1265	CAS #: 71-55-6	80.00-	120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
				ON-COL (PPBV)	FINAL (PPBV)		
103	1,1,1-Trichloroethane (continued)						
5.678	5.677 (1.033)	99	464047			34.84- 94.84	64.81
106	Carbon Tetrachloride				CAS #: 56-23-5		
5.793	5.793 (1.053)	119	760364	49.8434	49.843	80.00- 120.00	100.00
5.793	5.793 (1.053)	117	783404			73.53- 133.53	103.03
113	2,2,4-Trimethylpentane				CAS #: 540-84-1		
5.986	5.984 (1.089)	57	1280419	50.8525	50.852	80.00- 120.00	100.00
5.986	5.984 (1.089)	56	407204			2.59- 62.59	31.80
5.986	5.982 (1.089)	41	357616			0.00- 55.57	27.93
116	Benzene				CAS #: 71-43-2		
6.008	6.008 (0.942)	78	892827	48.1431	48.143	80.00- 120.00	100.00
6.008	6.008 (0.942)	77	215531			0.00- 53.90	24.14
120	1,2-Dichloroethane				CAS #: 107-06-2		
6.101	6.101 (0.956)	62	392562	47.2920	47.292	80.00- 120.00	100.00
6.101	6.101 (0.956)	64	128640			3.07- 63.07	32.77
121	Heptane				CAS #: 142-82-5		
6.151	6.151 (0.964)	71	323927	49.9281	49.928	80.00- 120.00	100.00
6.151	6.151 (0.964)	43	428045			110.59- 170.59	132.14
6.151	6.150 (0.964)	57	300444			64.25- 124.25	92.75
125	Trichloroethene				CAS #: 79-01-6		
6.581	6.581 (1.031)	95	443076	49.9081	49.908	80.00- 120.00	100.00
6.581	6.581 (1.031)	130	497212			81.76- 141.76	112.22
6.581	6.581 (1.031)	97	289357			34.64- 94.64	65.31
127	Methylcyclohexane				CAS #: 108-87-2		
6.674	6.674 (1.214)	83	589375	51.1554	51.155	80.00- 120.00	100.00
6.674	6.674 (1.214)	98	287971			18.58- 78.58	48.86
6.674	6.674 (1.214)	55	397465			37.28- 97.28	67.44
132	1,2-Dichloropropane				CAS #: 78-87-5		
6.817	6.817 (1.068)	63	309667	47.1701	47.170	80.00- 120.00	100.00
6.817	6.817 (1.068)	62	212273			38.79- 98.79	68.55
6.817	6.817 (1.068)	41	165883			23.87- 83.87	53.57
136	1,4-Dioxane				CAS #: 123-91-1		
6.903	6.906 (1.082)	88	237589	50.6810	50.681	80.00- 120.00	100.00
6.903	6.904 (1.082)	58	137360			28.36- 88.36	57.81
6.903	6.903 (1.082)	57	46847			0.00- 49.37	19.72
138	Bromodichloromethane				CAS #: 75-27-4		
7.047	7.046 (1.104)	83	689292	49.8147	49.815	80.00- 120.00	100.00

					CONCENTRATIONS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL (PPBV)	FINAL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
138 Bromodichloromethane (continued)									
7.047	7.046	(1.104)	85	446147			34.11-	94.11	64.73
144 cis-1,3-Dichloropropene						CAS #:	10061-01-5		
7.419	7.419	(1.163)	75	570985	52.6043	52.604	80.00-	120.00	100.00
7.419	7.419	(1.163)	77	180332			2.33-	62.33	31.58
7.419	7.419	(1.163)	39	266367			16.60-	76.60	46.65
145 4-Methyl-2-pentanone						CAS #:	108-10-1		
7.526	7.526	(1.180)	58	261002	48.8730	48.873	80.00-	120.00	100.00
7.526	7.526	(1.180)	43	627175			214.83-	274.83	240.30
7.526	7.526	(1.180)	85	137176			23.05-	83.05	52.56
147 Toluene						CAS #:	108-88-3		
7.655	7.655	(1.200)	91	1181669	49.0697	49.070	80.00-	120.00	100.00
7.655	7.655	(1.200)	92	681737			27.80-	87.80	57.69
150 trans-1,3-Dichloropropene						CAS #:	10061-02-6		
7.899	7.899	(0.895)	75	513497	51.5813	51.581	80.00-	120.00	100.00
7.899	7.899	(0.895)	77	161033			1.77-	61.77	31.36
7.899	7.899	(0.895)	39	226526			14.97-	74.97	44.11
155 1,1,2-Trichloroethane						CAS #:	79-00-5		
8.057	8.056	(0.912)	97	403274	50.8341	50.834	80.00-	120.00	100.00
8.057	8.056	(0.912)	99	254479			32.71-	92.71	63.10
8.057	8.056	(0.912)	83	341532			55.53-	115.53	84.69
156 Tetrachloroethene						CAS #:	127-18-4		
8.092	8.092	(0.916)	166	727636	50.7618	50.762	80.00-	120.00	100.00
8.092	8.092	(0.916)	129	482217			36.14-	96.14	66.27
8.092	8.092	(0.916)	131	465134			34.69-	94.69	63.92
158 2-Hexanone						CAS #:	591-78-6		
8.214	8.214	(0.930)	58	344221	53.4633	53.463	80.00-	120.00	100.00
8.214	8.214	(0.930)	43	606612			146.83-	206.83	176.23
8.214	8.215	(0.930)	100	91998			0.00-	55.52	26.73
160 Dibromochloromethane						CAS #:	124-48-1		
8.365	8.367	(0.947)	129	855479	51.9940	51.994	80.00-	120.00	100.00
8.365	8.367	(0.947)	127	655376			47.05-	107.05	76.61
161 1,2-Dibromoethane (EDB)						CAS #:	106-93-4		
8.479	8.479	(0.960)	107	678855	50.0328	50.033	80.00-	120.00	100.00
8.479	8.479	(0.960)	109	643772			65.51-	125.51	94.83
165 Chlorobenzene						CAS #:	108-90-7		
8.859	8.859	(1.003)	112	998983	49.7555	49.756	80.00-	120.00	100.00

RT ==	EXP RT =====	(REL RT) =====	MASS ===	RESPONSE =====	CONCENTRATIONS		TARGET RANGE =====	RATIO =====
					ON-COL (PPBV) =====	FINAL (PPBV) =====		
165 Chlorobenzene (continued)								
8.859	8.859	(1.003)	114	321349			2.14- 62.14	32.17
8.852	8.852	(1.002)	77	530480			23.42- 83.42	53.10
167 Ethyl Benzene								
8.902	8.902	(1.008)	106	512553	50.7999	CAS #: 100-41-4 50.800	80.00- 120.00	100.00
8.902	8.902	(1.008)	91	1535903			268.52- 328.52	299.66
169 m,p-Xylene								
8.995	8.997	(1.019)	106	625551	49.8627	CAS #: 108-38-3 49.863	80.00- 120.00	100.00
8.995	8.996	(1.019)	91	1220995			161.75- 221.75	195.19
171 o-Xylene								
9.339	9.339	(1.058)	106	603596	50.7762	CAS #: 95-47-6 50.776	80.00- 120.00	100.00
9.339	9.339	(1.058)	91	1201940			170.98- 230.98	199.13
172 Styrene								
9.360	9.360	(1.060)	104	1004384	53.2866	CAS #: 100-42-5 53.287	80.00- 120.00	100.00
9.360	9.360	(1.060)	78	458814			16.10- 76.10	45.68
174 Bromoform								
9.568	9.568	(1.084)	173	1029898	54.4793	CAS #: 75-25-2 54.479	80.00- 120.00	100.00
9.568	9.568	(1.084)	171	524916			21.32- 81.32	50.97
175 Cumene								
9.625	9.625	(1.090)	105	1830184	50.7993	CAS #: 98-82-8 50.799	80.00- 120.00	100.00
9.625	9.626	(1.090)	120	521446			0.00- 58.56	28.49
9.625	9.625	(1.090)	51	138985			0.00- 37.61	7.59
181 1,1,2,2-Tetrachloroethane								
9.948	9.948	(1.127)	83	857417	50.5380	CAS #: 79-34-5 50.538	80.00- 120.00	100.00
9.948	9.948	(1.127)	85	558993			35.03- 95.03	65.19
182 Propylbenzene								
9.976	9.974	(1.130)	91	2082430	51.1496	CAS #: 103-65-1 51.150	80.00- 120.00	100.00
9.976	9.976	(1.130)	120	549061			0.00- 56.23	26.37
9.976	9.976	(1.130)	105	78242			0.00- 33.80	3.76
188 4-Ethyltoluene								
10.069	10.069	(1.140)	120	608527	53.3644	CAS #: 622-96-8 53.364	80.00- 120.00	100.00
10.069	10.069	(1.140)	105	1853867			275.42- 335.42	304.65
190 1,3,5-Trimethylbenzene								
10.120	10.119	(1.146)	120	834173	52.6580	CAS #: 108-67-8 52.658	80.00- 120.00	100.00
10.120	10.119	(1.146)	105	1640106			165.32- 225.32	196.61

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
					ON-COL (PPBV)	FINAL (PPBV)		
196	10.442	1,2,4-Trimethylbenzene				CAS #: 95-63-6		
	10.444	(1.183)	120	755006	53.3355	53.336	80.00- 120.00	100.00
	10.442	(1.183)	105	1529317			176.48- 236.48	202.56
208	10.736	1,3-Dichlorobenzene				CAS #: 541-73-1		
	10.735	(1.216)	146	1231301	51.2188	51.219	80.00- 120.00	100.00
	10.736	(1.216)	148	795210			34.93- 94.93	64.58
	10.736	(1.216)	111	433462			5.13- 65.13	35.20
209	10.821	1,4-Dichlorobenzene				CAS #: 106-46-7		
	10.820	(1.226)	146	1263517	51.4435	51.444	80.00- 120.00	100.00
	10.821	(1.226)	148	814330			34.11- 94.11	64.45
	10.821	(1.226)	111	430578			4.00- 64.00	34.08
212	10.936	alpha-Chlorotoluene				CAS #: 100-44-7		
	10.936	(1.238)	91	1427331	56.0385	56.038	80.00- 120.00	100.00
	10.936	(1.238)	126	353681			0.00- 55.13	24.78
214	11.151	1,2-Dichlorobenzene				CAS #: 95-50-1		
	11.148	(1.263)	146	1160293	50.2160	50.216	80.00- 120.00	100.00
	11.151	(1.263)	148	746354			34.17- 94.17	64.32
	11.151	(1.263)	111	419795			6.50- 66.50	36.18
226	12.562	1,2,4-Trichlorobenzene				CAS #: 120-82-1		
	12.541	(1.423)	180	1115868	42.4625	42.462	80.00- 120.00	100.00
	12.562	(1.423)	182	1062811			65.44- 125.44	95.25
227	12.648	Hexachlorobutadiene				CAS #: 87-68-3		
	12.620	(1.432)	225	971495	41.3568	41.357	80.00- 120.00	100.00
	12.648	(1.432)	223	604967			32.93- 92.93	62.27
228	12.834	Naphthalene				CAS #: 91-20-3		
	12.806	(1.453)	128	214977	4.75364	4.754	80.00- 120.00	100.00
	12.834	(1.453)	127	27977			0.00- 43.59	13.01

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i	Calibration Date: 14-JUN-2018
Lab File ID: 17061311.d	Calibration Time: 00:02
Lab Smp Id: ICV	Client Smp ID: ICV
Analysis Type: VOA	Level: LOW
Quant Type: ISTD	Sample Type: AIR
Operator: kk	
Method File: /chem/msd17.i/13jun18.b/178q0613a.m	
Misc Info: 50ppbv (200ppbv)	

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	162788	97673	227903	161877	-0.56
123 1,4-Difluorobenze	570167	342100	798234	584845	2.57
163 Chlorobenzene-d5	520088	312053	728123	509281	-2.08

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.50	5.17	5.83	5.50	0.00
123 1,4-Difluorobenze	6.38	6.05	6.71	6.38	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name: Client SDG: 13jun18
 Sample Matrix: GAS Fraction: VOA
 Lab Smp Id: ICV Client Smp ID: ICV
 Level: LOW Operator: kk
 Data Type: MS DATA SampleType: ICV
 SpikeList File: AT12.spk Quant Type: ISTD
 Sublist File: AT12.sub
 Method File: /chem/msd17.i/13jun18.b/178q0613a.m
 Misc Info: 50ppbv (200ppbv)

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
9 Propylene	50.000	48.789	97.58	60-140
11 Freon 12	50.000	53.667	107.33	70-130
15 Freon 114	50.000	53.023	106.05	70-130
17 Chloromethane	50.000	55.708	111.42	70-130
23 Butane	50.000	44.514	89.03	60-140
25 Vinyl Chloride	50.000	50.428	100.86	70-130
26 1,3-Butadiene	50.000	49.585	99.17	70-130
29 Bromomethane	50.000	52.285	104.57	70-130
30 Chloroethane	50.000	52.587	105.17	70-130
31 Isopentane	50.000	50.295	100.59	60-140
35 Freon 11	50.000	51.654	103.31	70-130
42 Ethanol	50.000	51.747	103.49	70-130
49 Freon 113	50.000	50.920	101.84	70-130
50 1,1-Dichloroethene	50.000	50.047	100.09	70-130
52 Acetone	50.000	47.085	94.17	70-130
56 Carbon Disulfide	50.000	50.520	101.04	70-130
57 2-Propanol	50.000	50.865	101.73	70-130
58 3-Chloropropene	50.000	52.459	104.92	70-130
66 Methylene Chloride	50.000	49.946	99.89	70-130
72 Methyl tert-butyl	50.000	51.460	102.92	70-130
73 trans-1,2-Dichloro	50.000	52.239	104.48	70-130
78 Hexane	50.000	49.498	99.00	70-130
82 1,1-Dichloroethane	50.000	48.644	97.29	70-130
86 Vinyl Acetate	50.000	50.443	100.89	60-140
91 cis-1,2-Dichloroet	50.000	43.629	87.26	70-130
92 2-Butanone	50.000	50.682	101.36	70-130
99 Tetrahydrofuran	50.000	48.323	96.65	70-130
100 Chloroform	50.000	50.010	100.02	70-130
103 1,1,1-Trichloroeth	50.000	51.126	102.25	70-130
106 Carbon Tetrachlori	50.000	49.843	99.69	70-130
102 Cyclohexane	50.000	50.992	101.98	70-130
113 2,2,4-Trimethylpen	50.000	50.852	101.71	70-130
116 Benzene	50.000	48.143	96.29	70-130

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
120 1,2-Dichloroethane	50.000	47.292	94.58	70-130
121 Heptane	50.000	49.928	99.86	70-130
125 Trichloroethene	50.000	49.908	99.82	70-130
127 Methylcyclohexane	50.000	51.155	102.31	60-140
132 1,2-Dichloropropan	50.000	47.170	94.34	70-130
136 1,4-Dioxane	50.000	50.681	101.36	70-130
138 Bromodichlorometha	50.000	49.815	99.63	70-130
144 cis-1,3-Dichloropr	50.000	52.604	105.21	70-130
145 4-Methyl-2-pentano	50.000	48.873	97.75	70-130
147 Toluene	50.000	49.070	98.14	70-130
150 trans-1,3-Dichloro	50.000	51.581	103.16	70-130
155 1,1,2-Trichloroeth	50.000	50.834	101.67	70-130
156 Tetrachloroethene	50.000	50.762	101.52	70-130
158 2-Hexanone	50.000	53.463	106.93	70-130
160 Dibromochlorometha	50.000	51.994	103.99	70-130
161 1,2-Dibromoethane	50.000	50.033	100.07	70-130
165 Chlorobenzene	50.000	49.756	99.51	70-130
167 Ethyl Benzene	50.000	50.800	101.60	70-130
169 m,p-Xylene	50.000	49.863	99.73	70-130
171 o-Xylene	50.000	50.776	101.55	70-130
172 Styrene	50.000	53.287	106.57	70-130
174 Bromoform	50.000	54.479	108.96	70-130
175 Cumene	50.000	50.799	101.60	70-130
181 1,1,2,2-Tetrachlor	50.000	50.538	101.08	70-130
182 Propylbenzene	50.000	51.150	102.30	70-130
188 4-Ethyltoluene	50.000	53.364	106.73	70-130
190 1,3,5-Trimethylben	50.000	52.658	105.32	70-130
196 1,2,4-Trimethylben	50.000	53.336	106.67	70-130
208 1,3-Dichlorobenzen	50.000	51.219	102.44	70-130
209 1,4-Dichlorobenzen	50.000	51.444	102.89	70-130
212 alpha-Chlorotoluen	50.000	56.038	112.08	70-130
214 1,2-Dichlorobenzen	50.000	50.216	100.43	70-130
226 1,2,4-Trichloroben	50.000	42.462	84.92	70-130
227 Hexachlorobutadien	50.000	41.357	82.71	70-130
228 Naphthalene	5.000	4.754	95.07	60-140

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
\$ 117 1,2-Dichloroethane	25.000	26.204	104.81	70-130
\$ 146 Toluene-d8	25.000	24.934	99.74	70-130
\$ 177 4-Bromofluorobenze	25.000	25.352	101.41	70-130

Data File: /chem/msd17.i/13jun18.b/17061311.d

Date : 14-JUN-2018 12:04

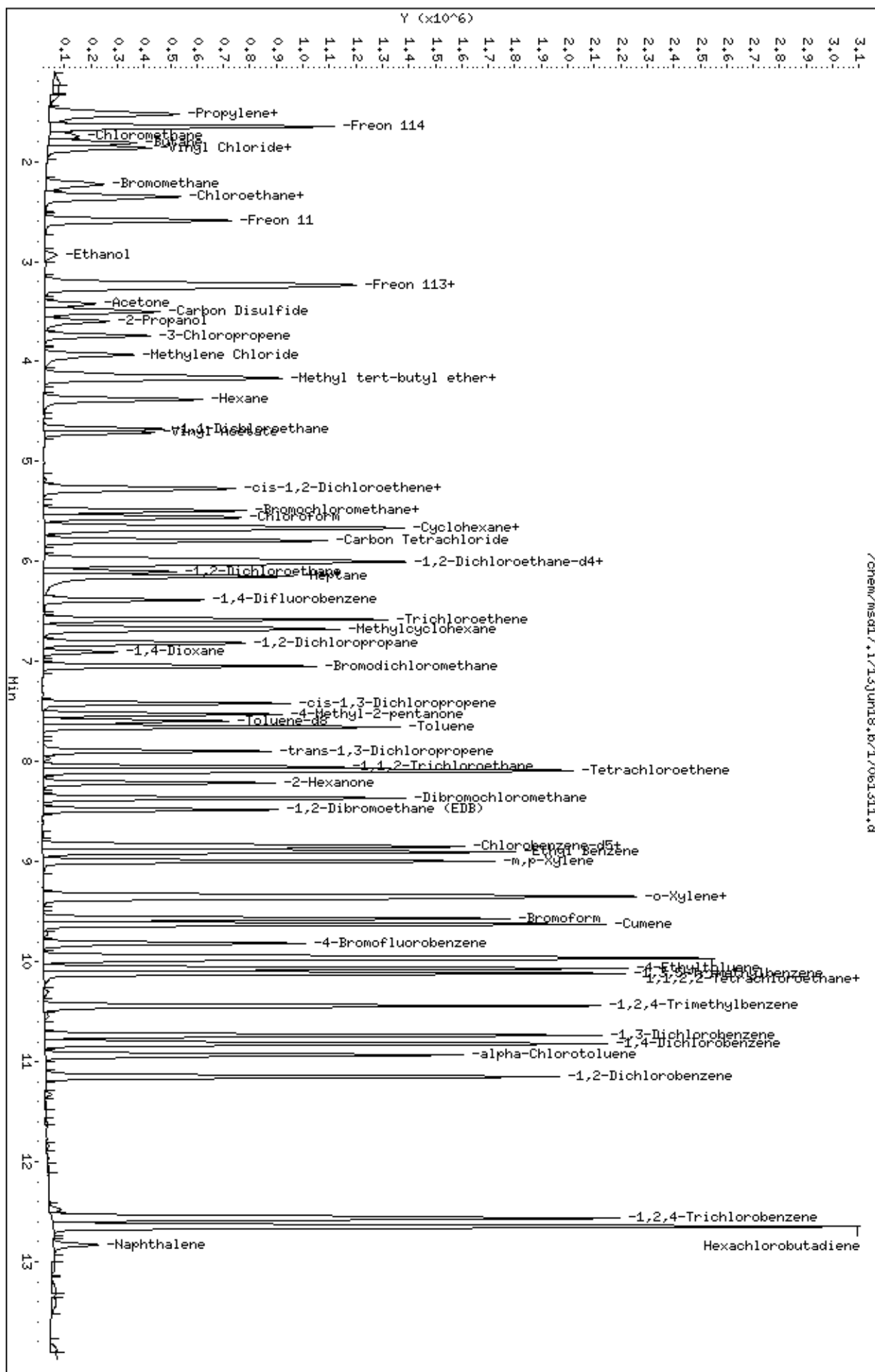
Client ID: ICV

Sample Info: 50mL #3018-297

Page 1

Column phase: RTX-624

Instrument: msd17.i
Operator: KK
Column diameter: 0.25



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

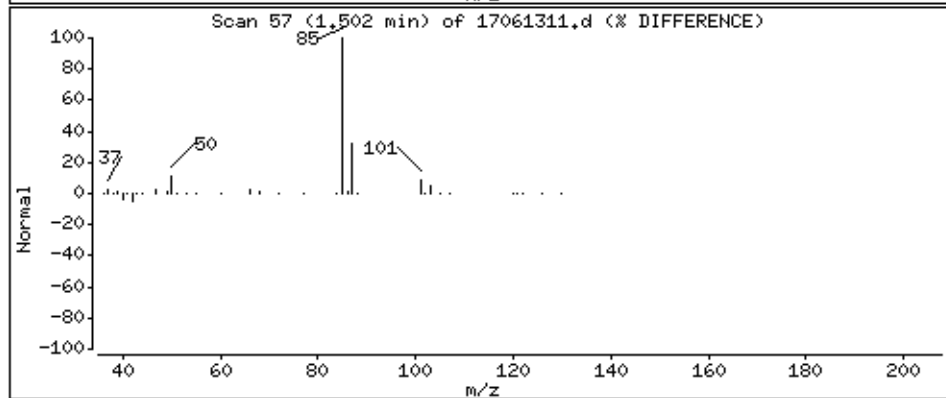
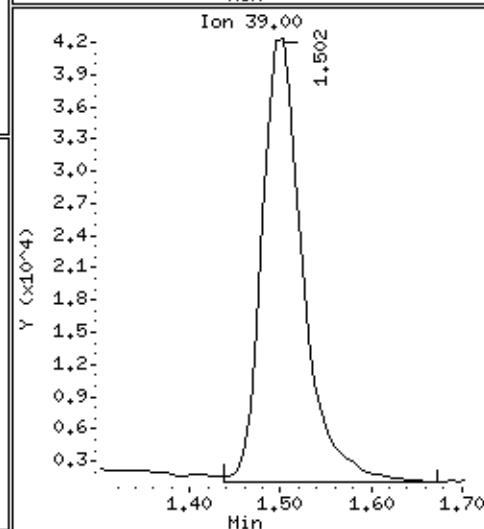
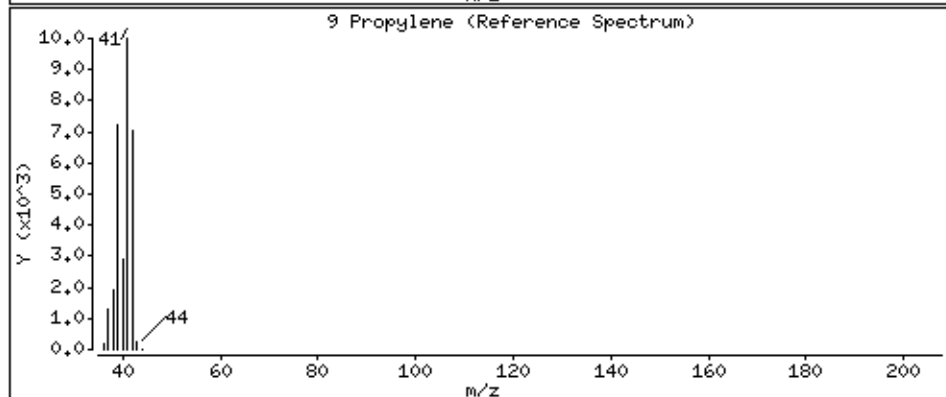
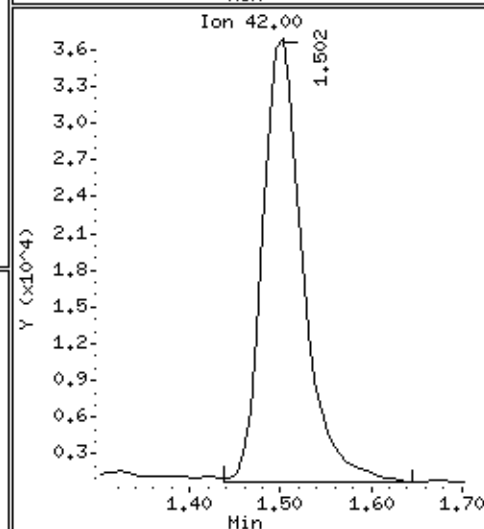
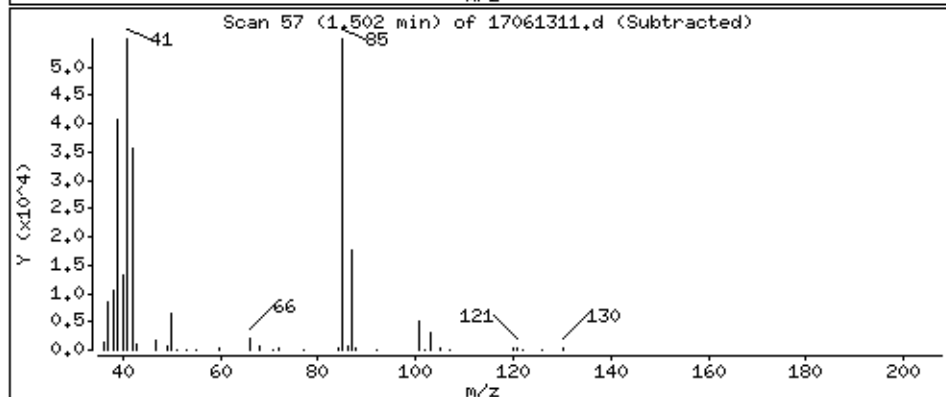
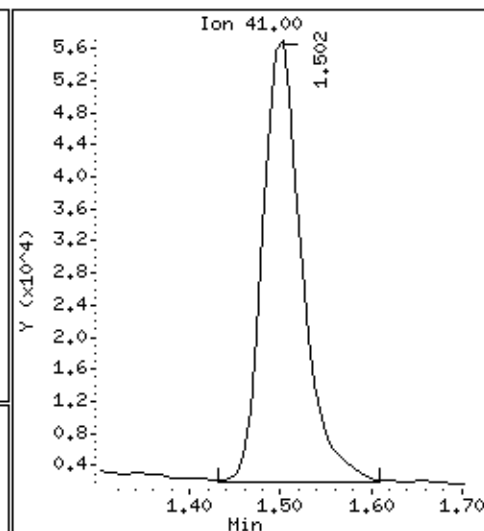
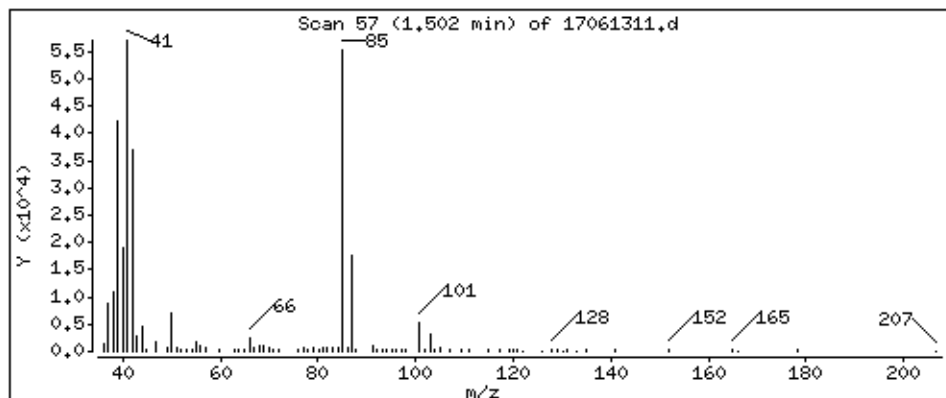
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

9 Propylene

Concentration: 48,789 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

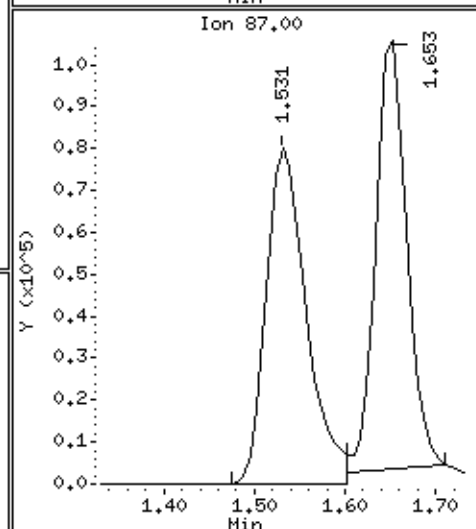
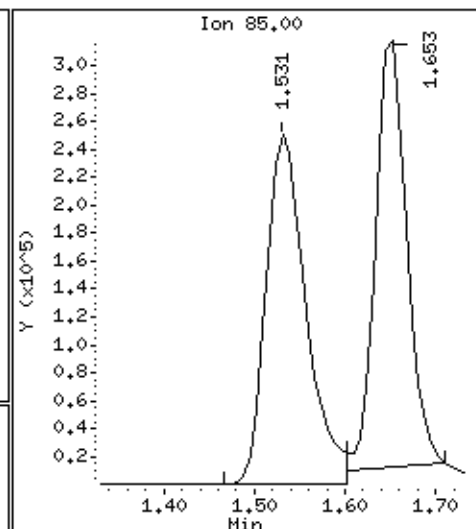
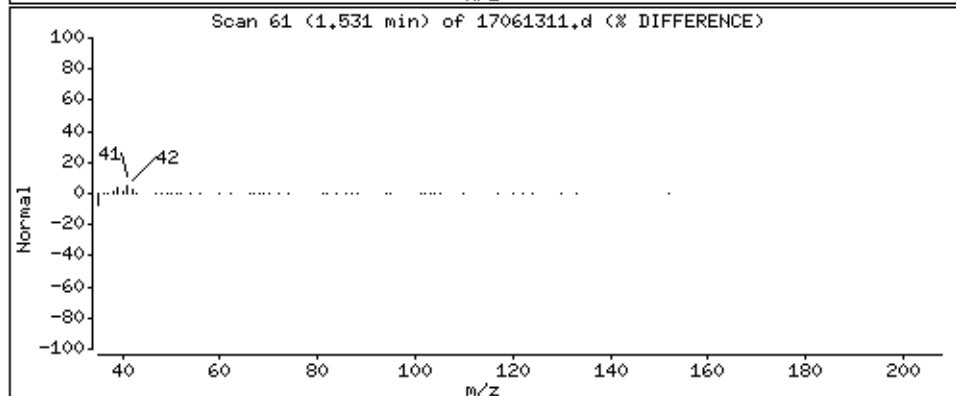
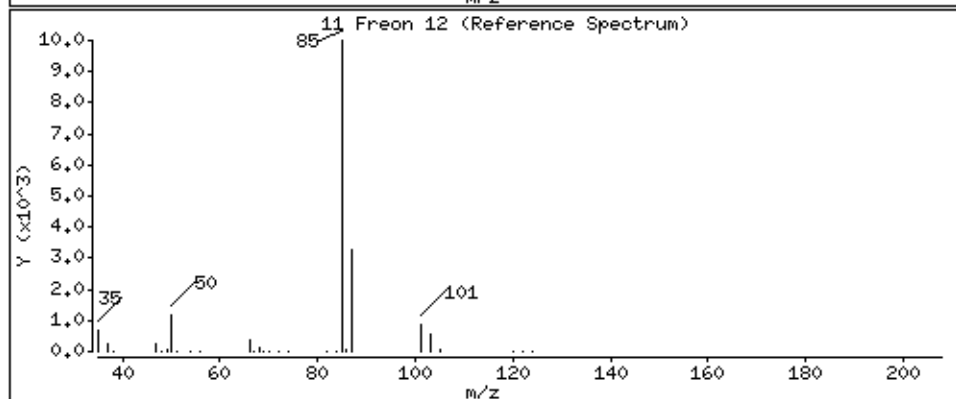
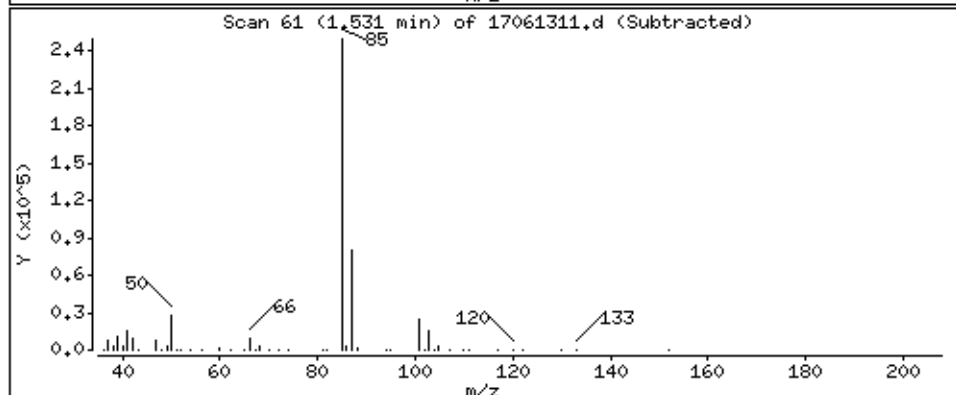
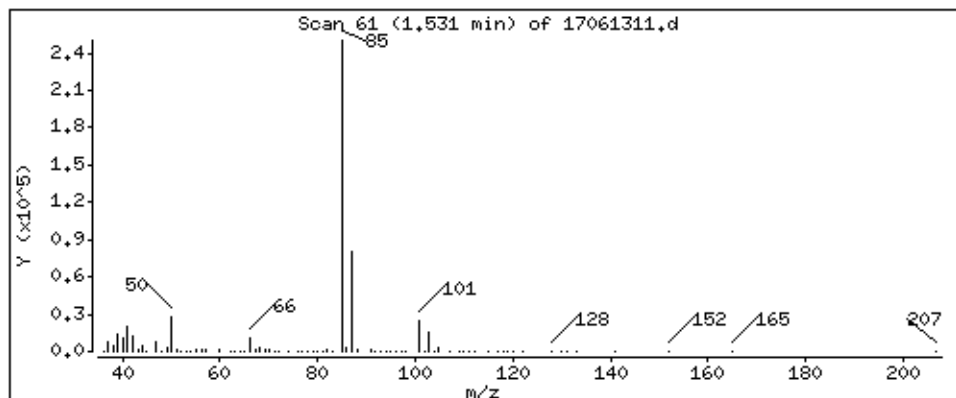
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

11 Freon 12

Concentration: 53,667 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

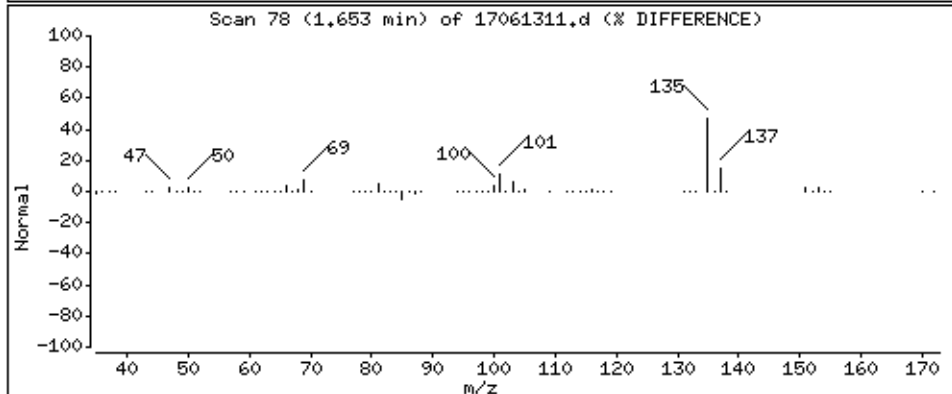
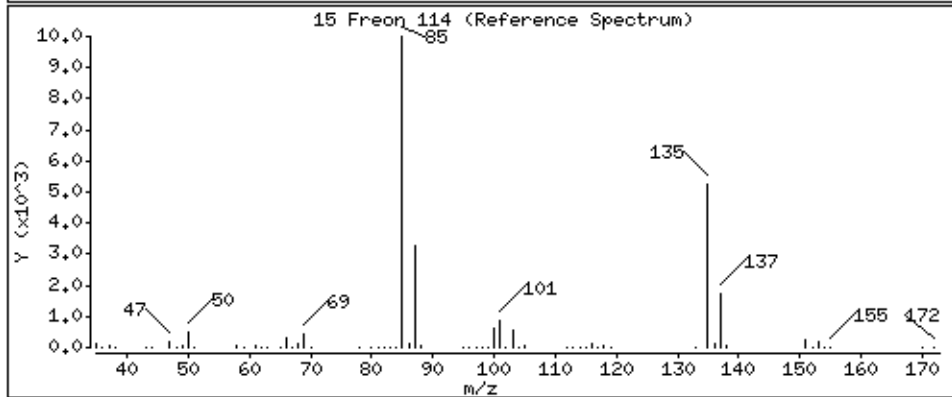
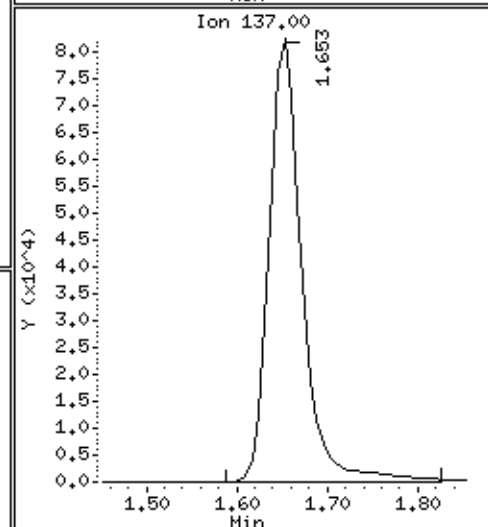
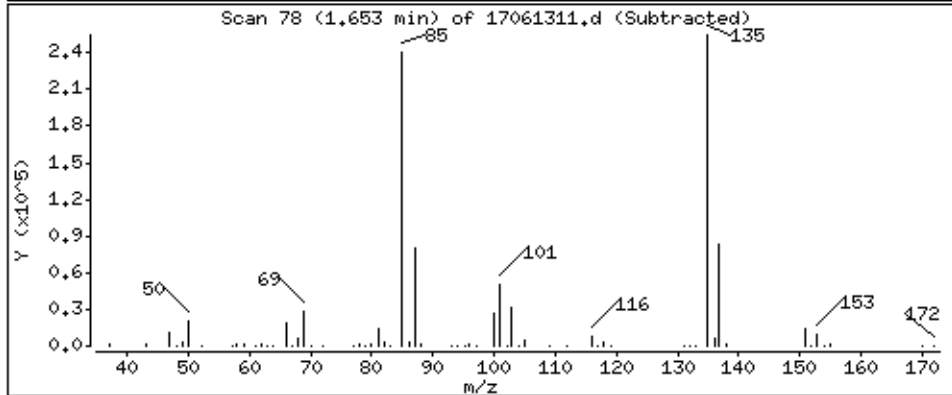
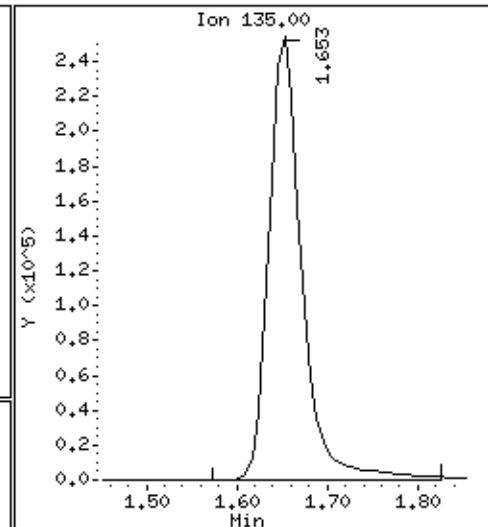
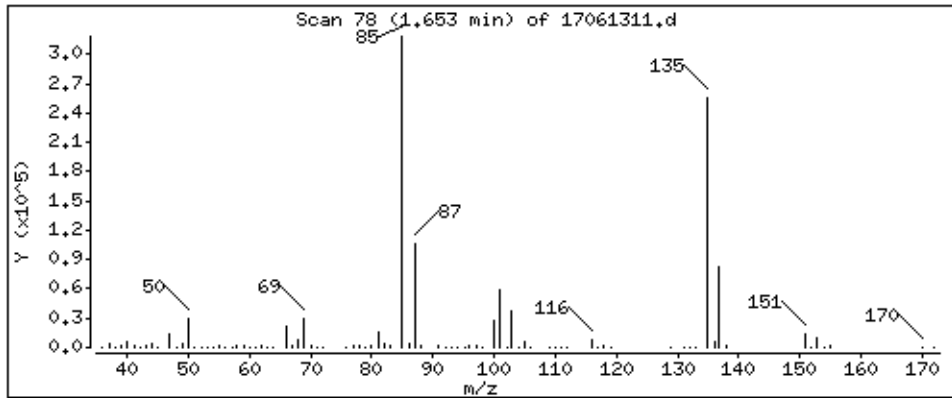
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

15 Freon 114

Concentration: 53.023 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

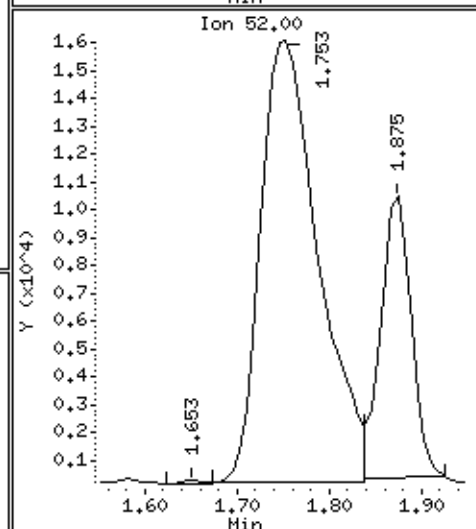
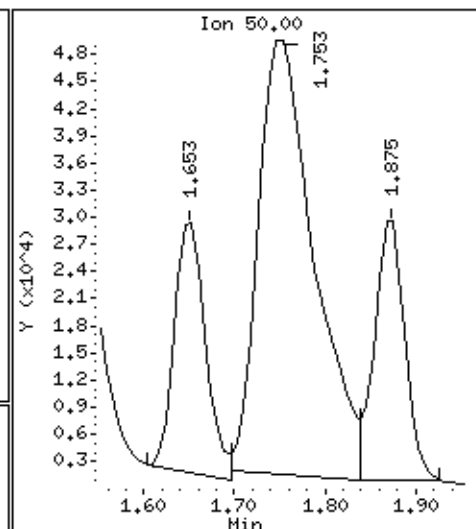
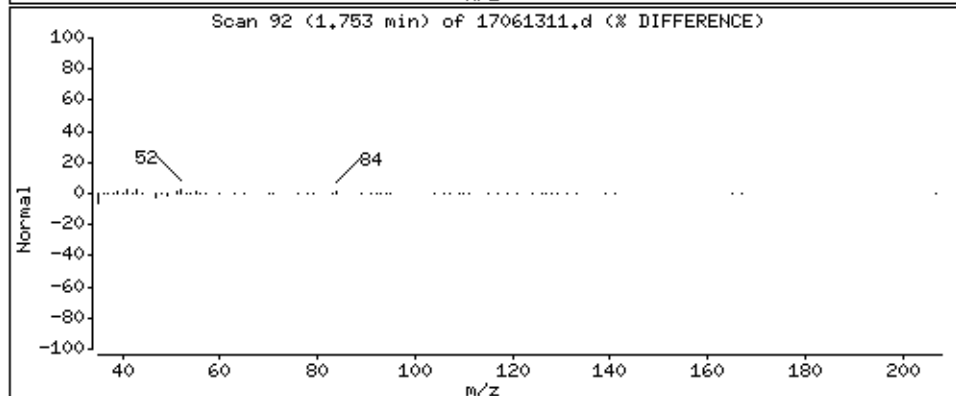
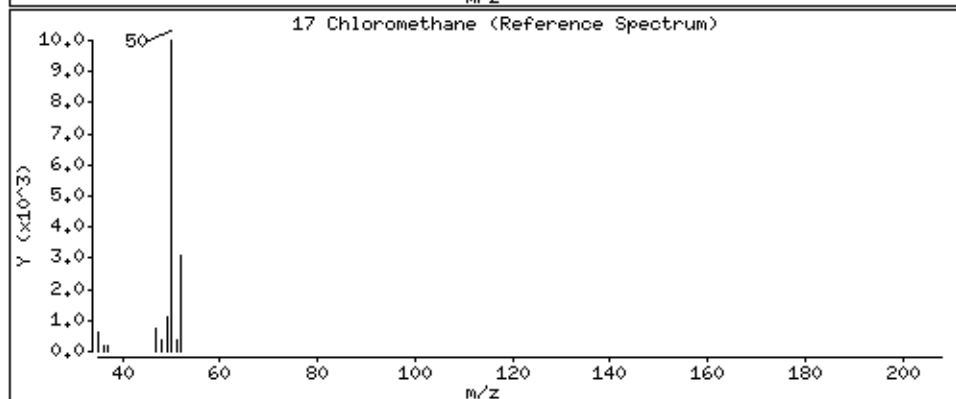
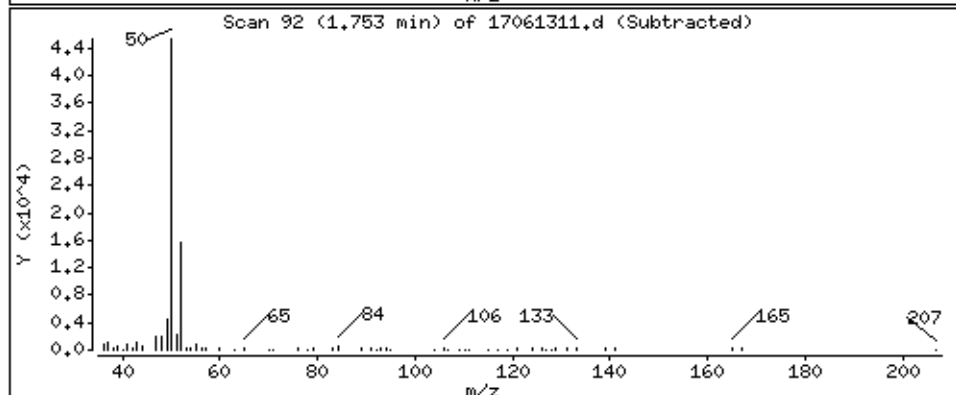
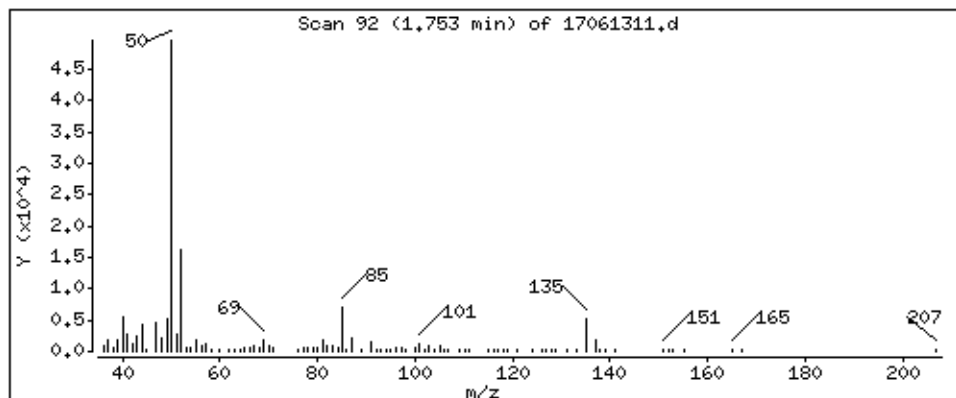
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

17 Chloromethane

Concentration: 55,708 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

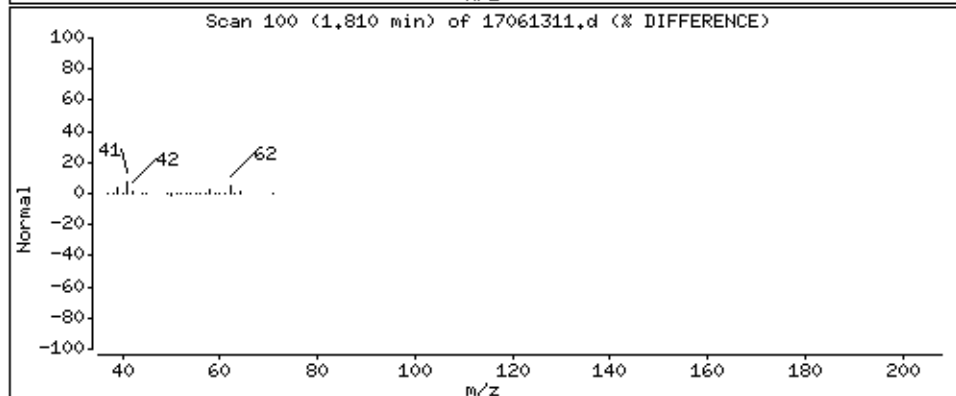
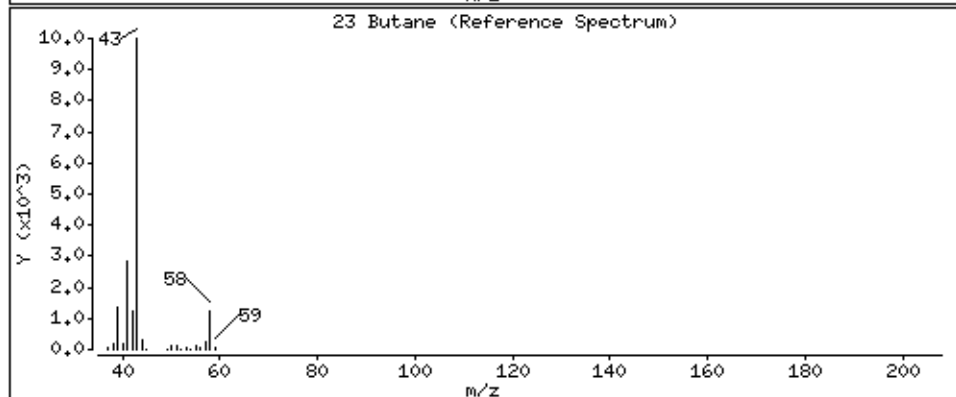
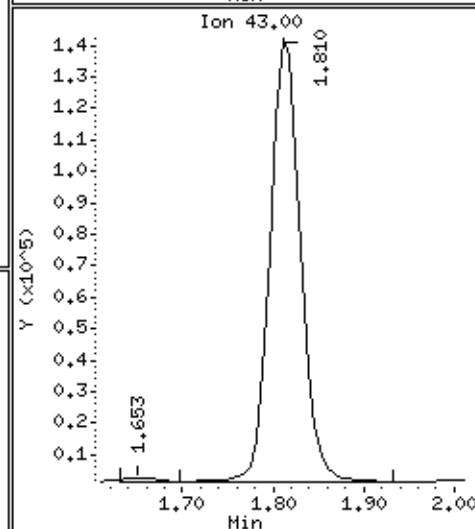
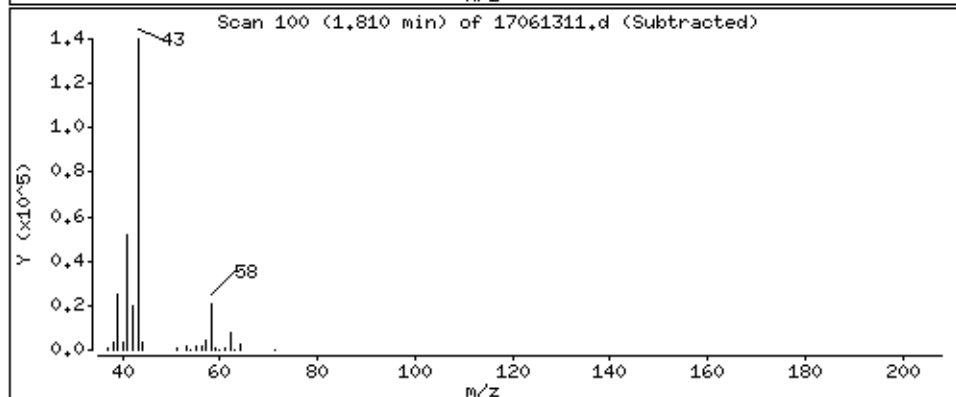
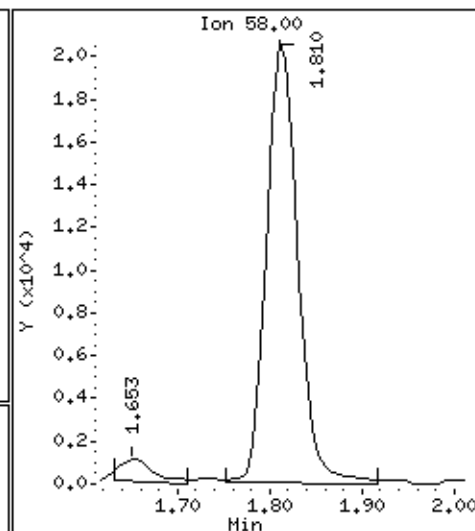
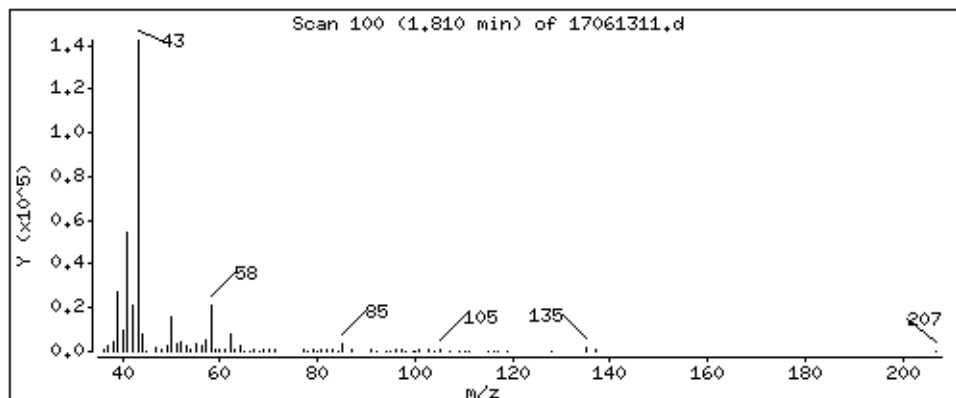
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

23 Butane

Concentration: 44,514 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

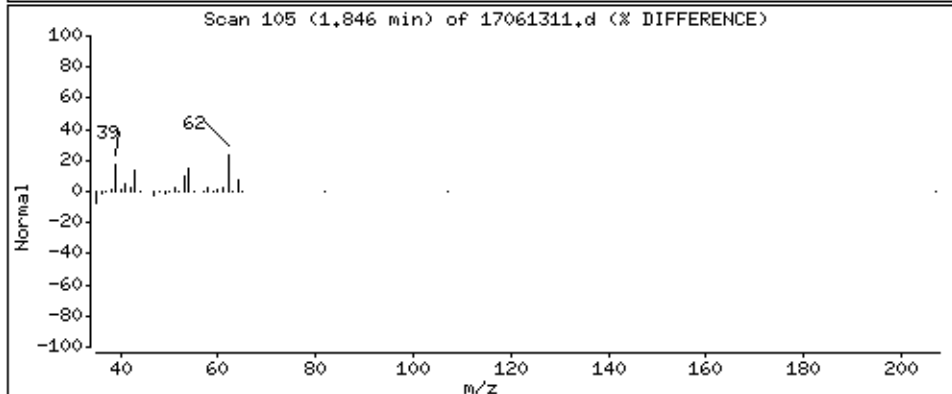
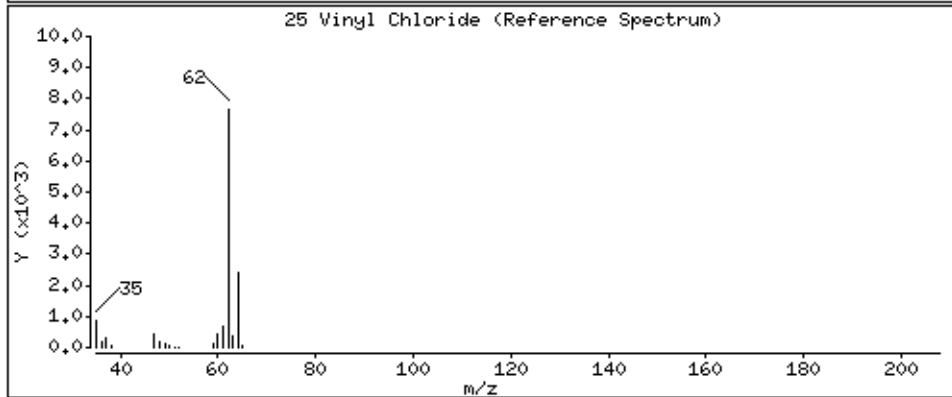
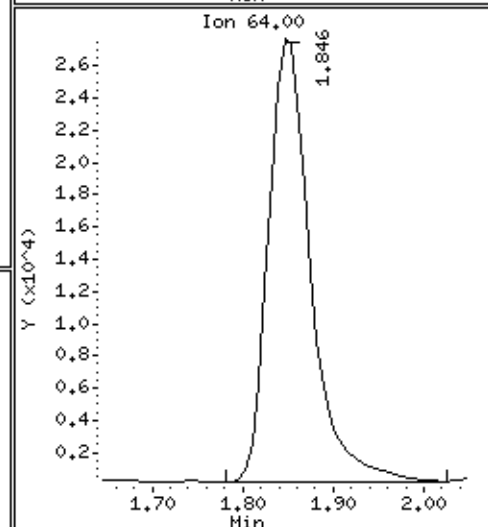
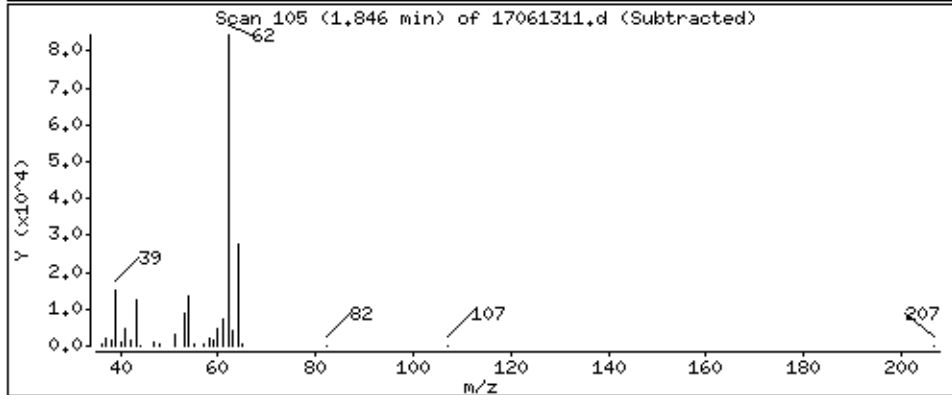
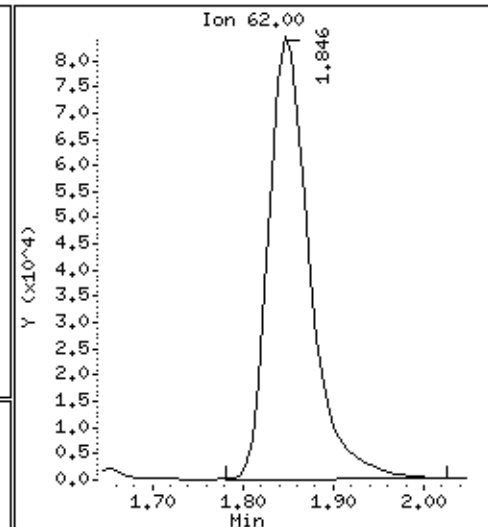
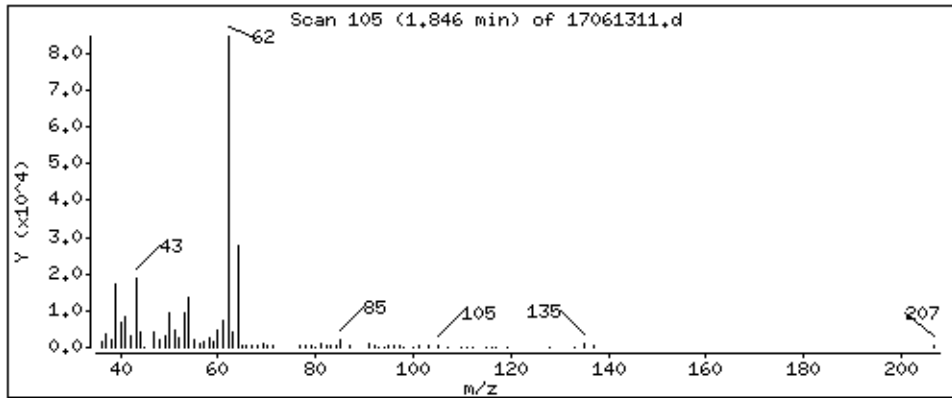
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

25 Vinyl Chloride

Concentration: 50.428 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

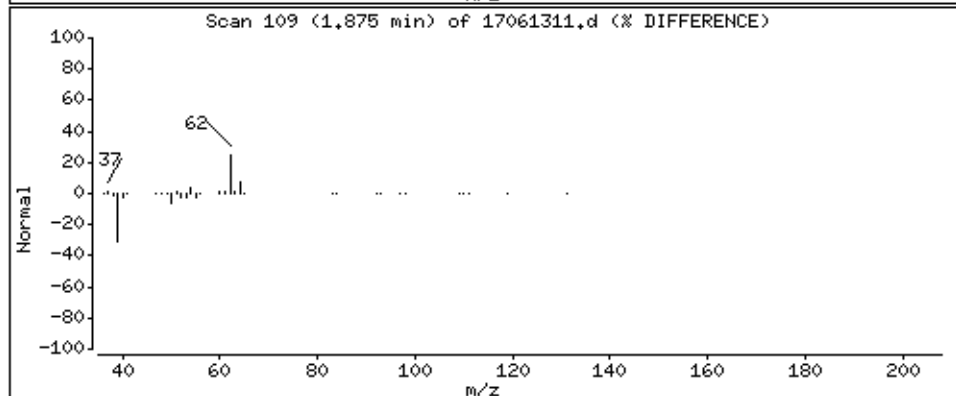
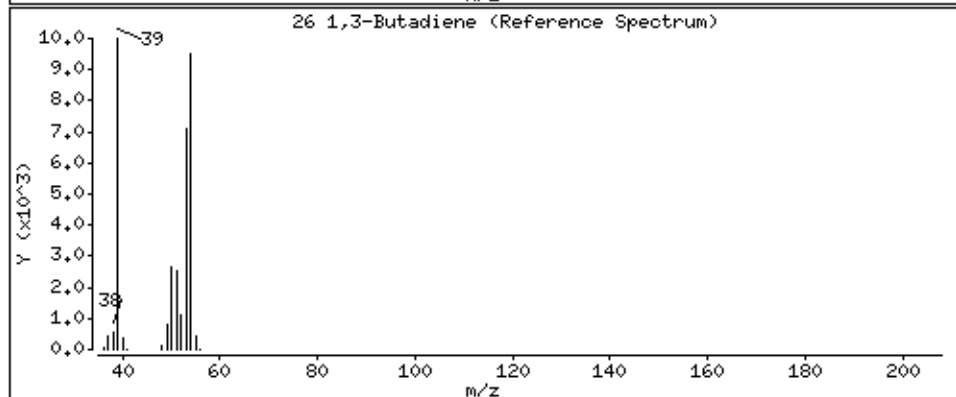
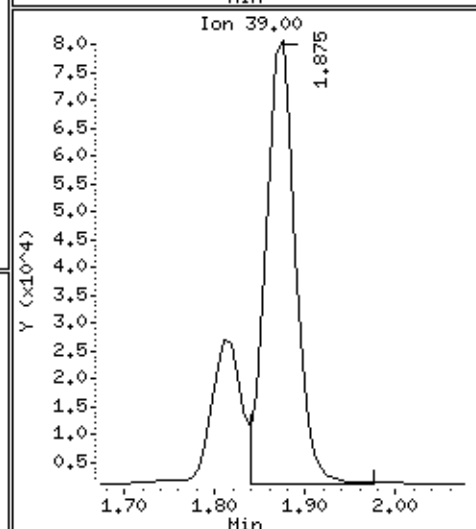
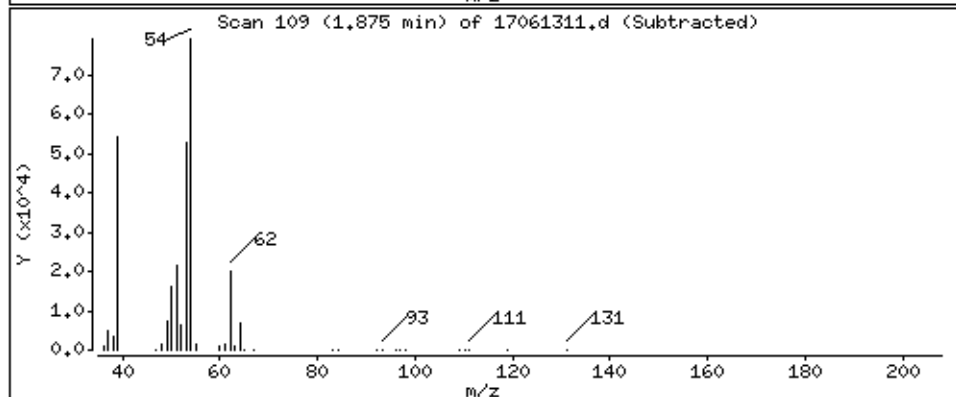
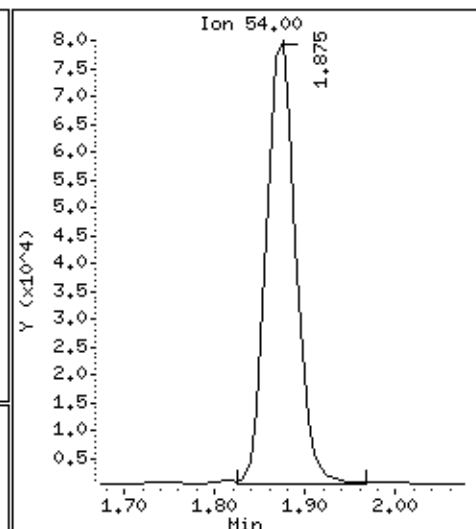
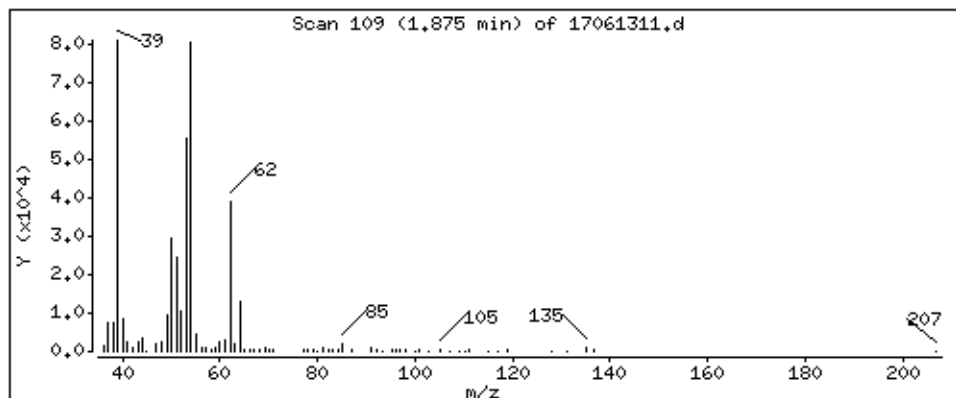
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

26 1,3-Butadiene

Concentration: 49,585 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

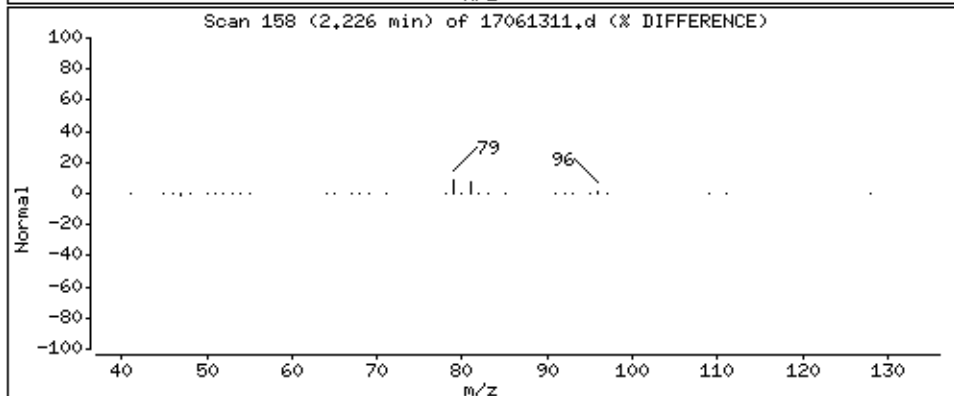
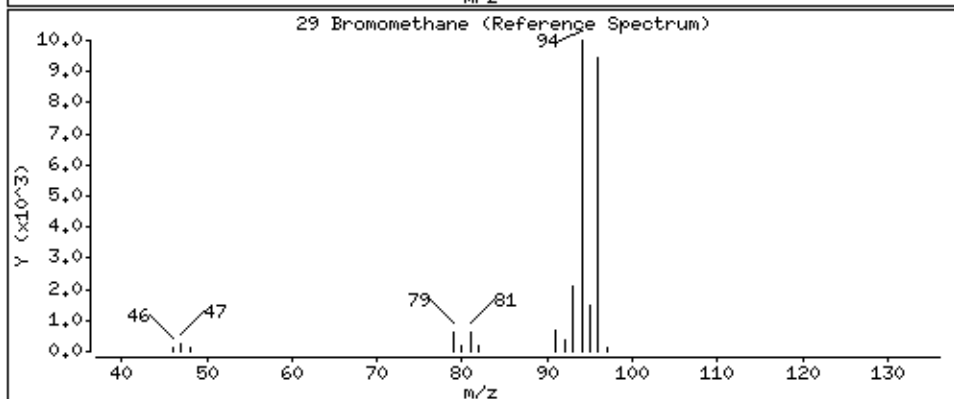
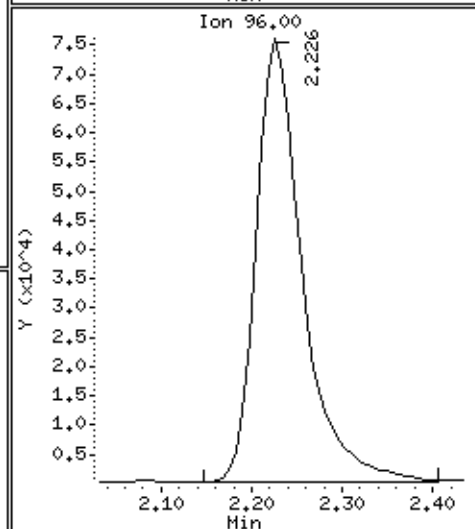
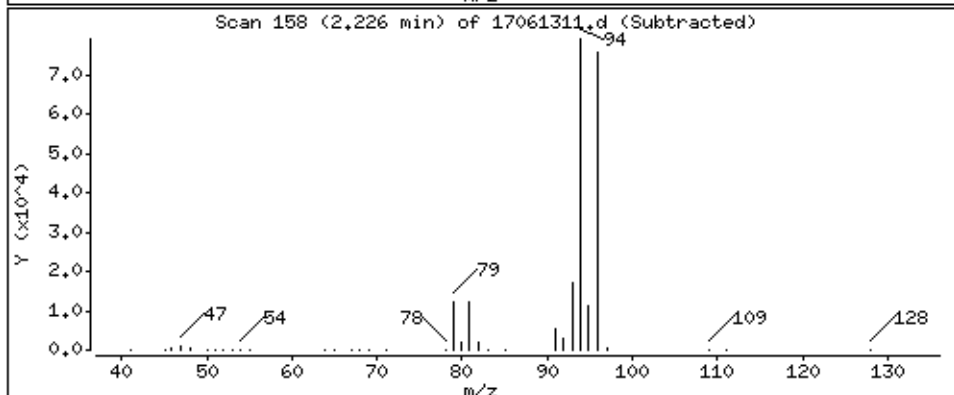
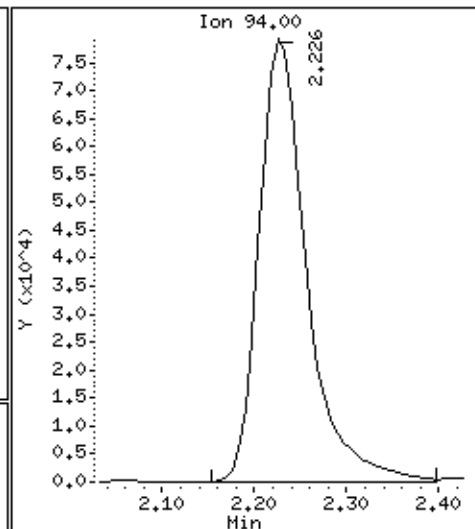
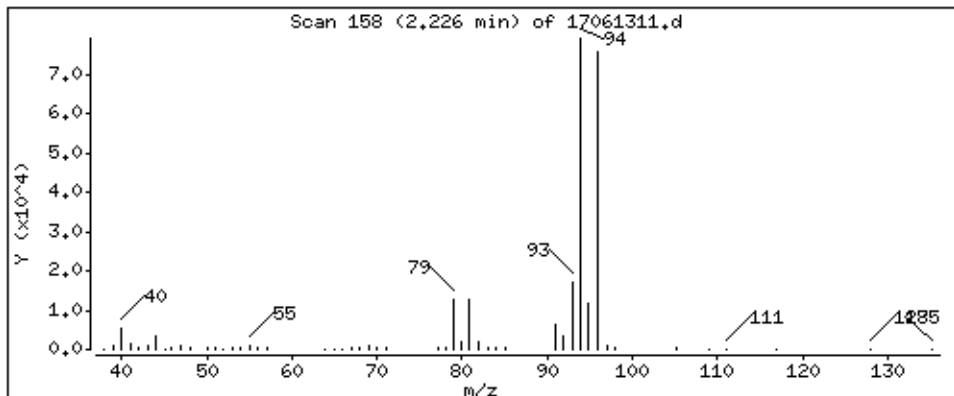
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

29 Bromomethane

Concentration: 52,285 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

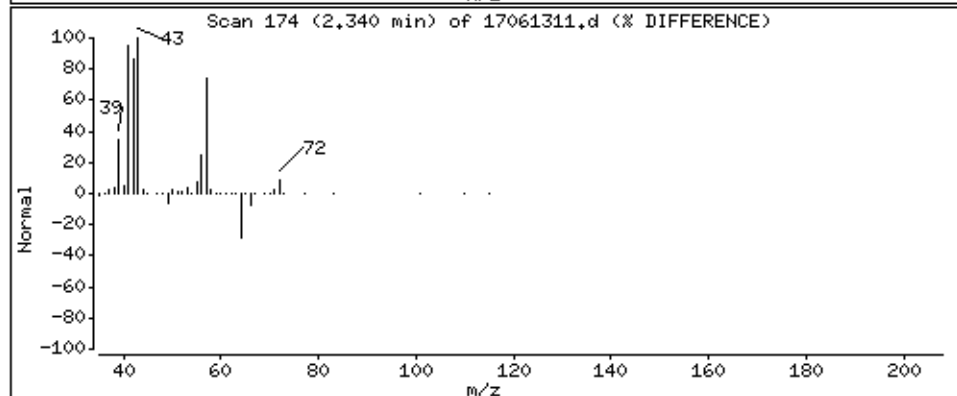
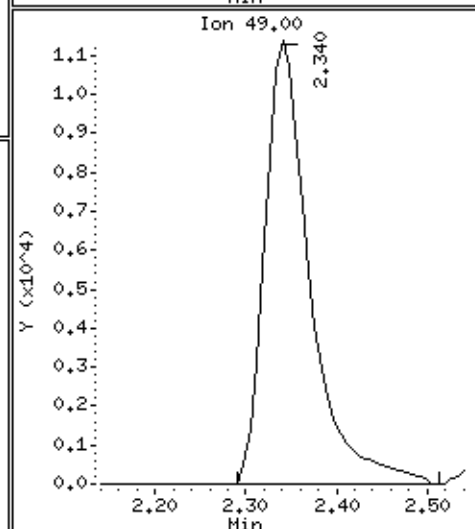
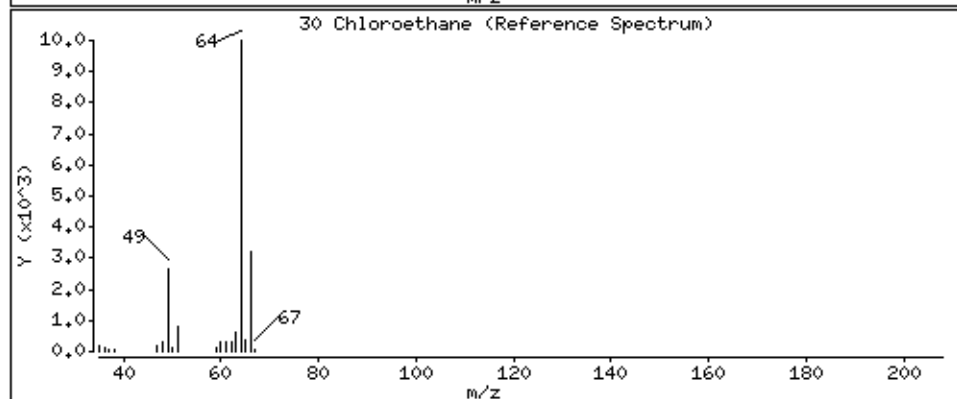
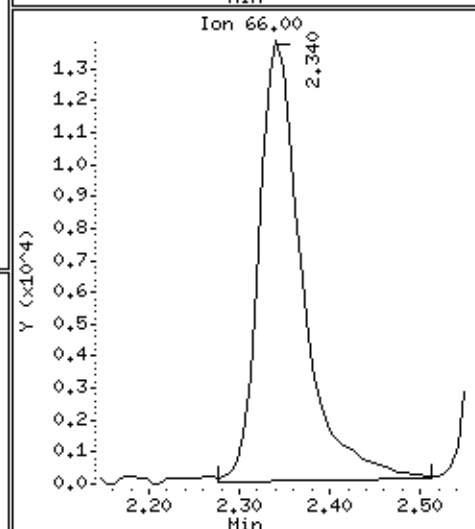
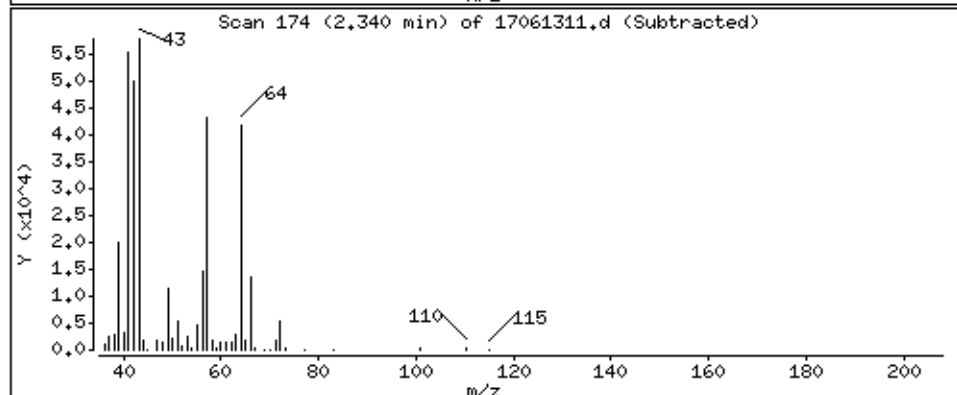
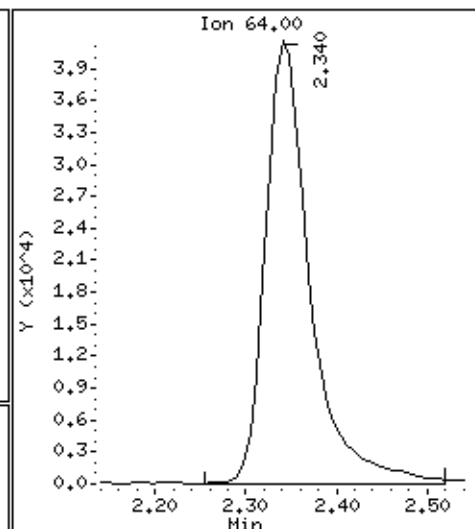
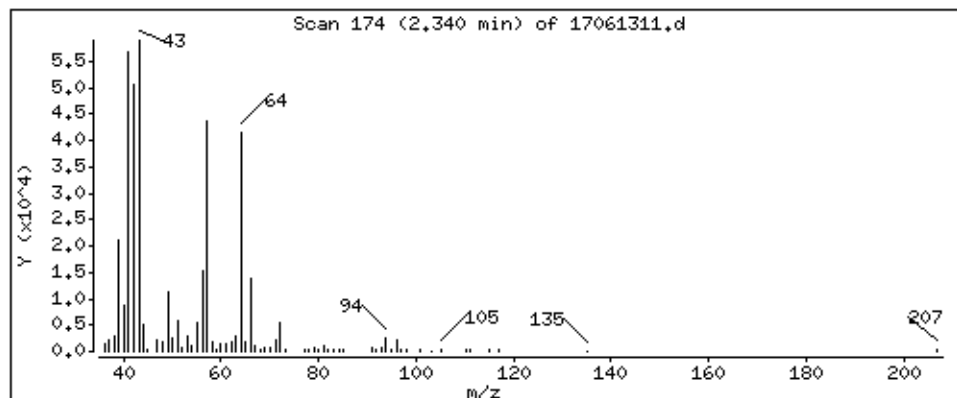
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

30 Chloroethane

Concentration: 52,587 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

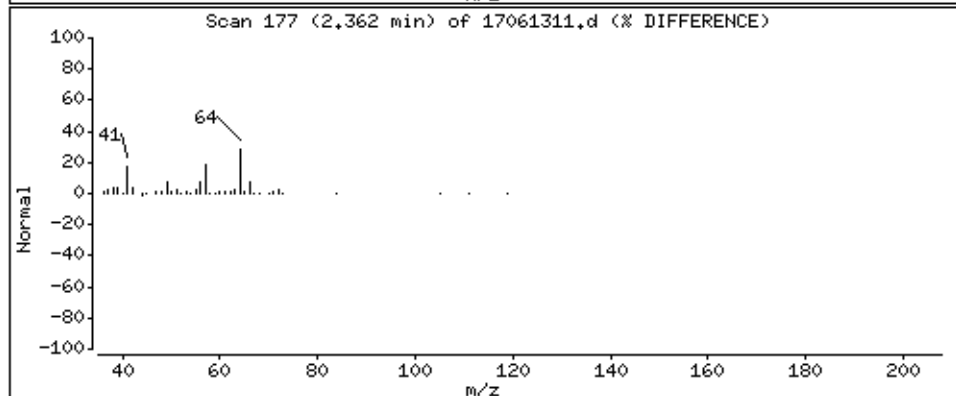
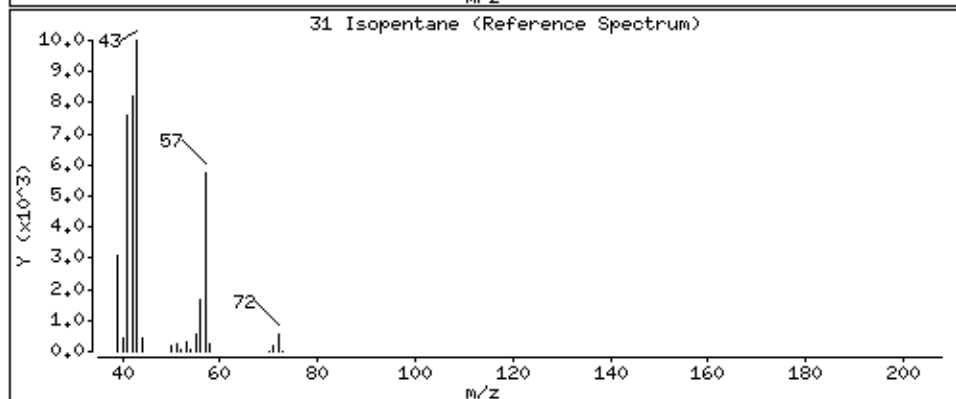
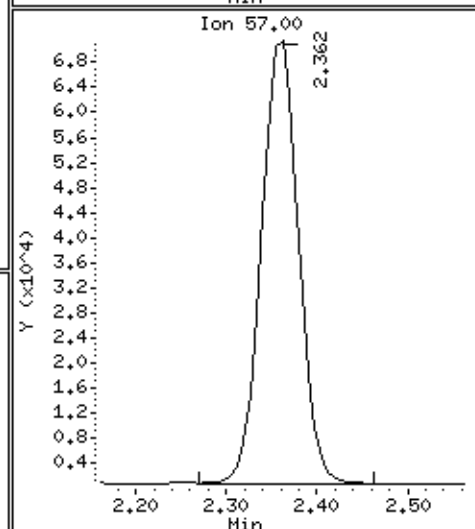
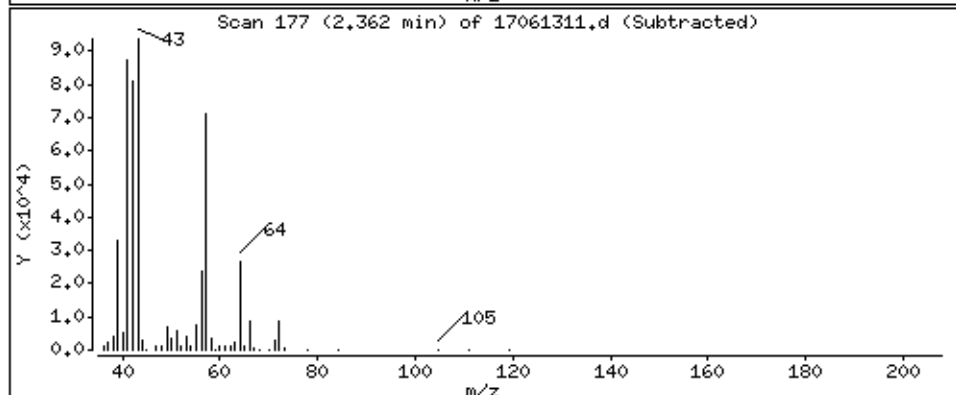
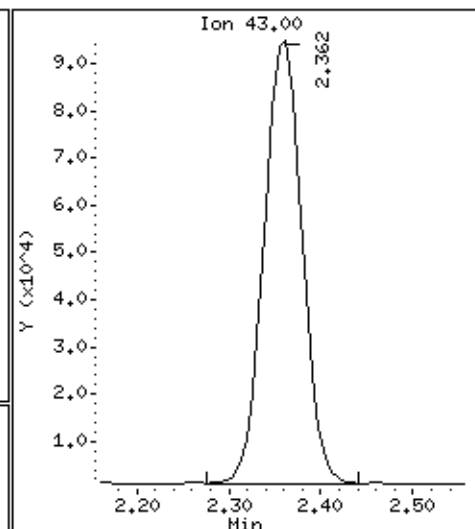
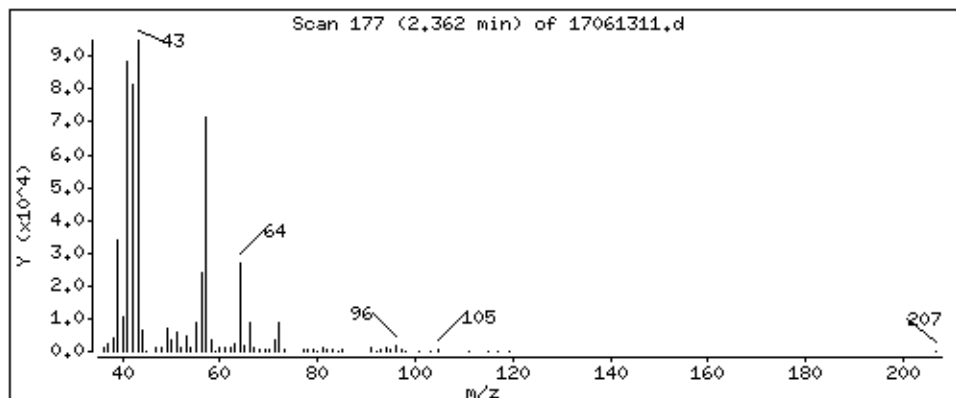
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

31 Isopentane

Concentration: 50,295 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

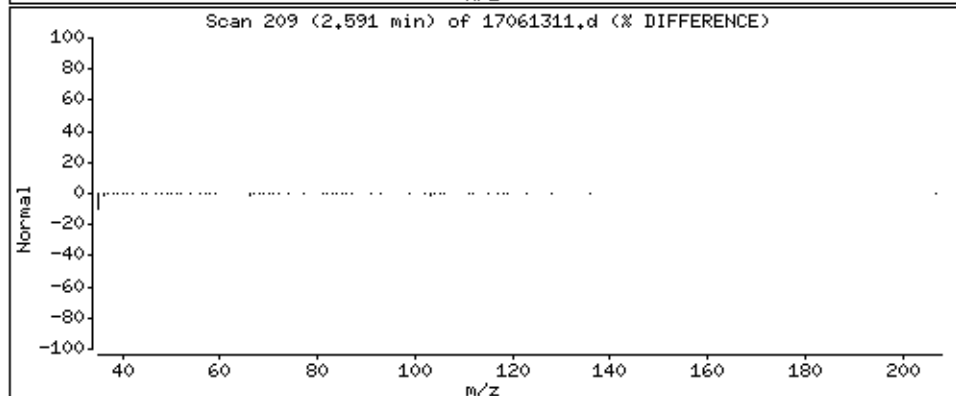
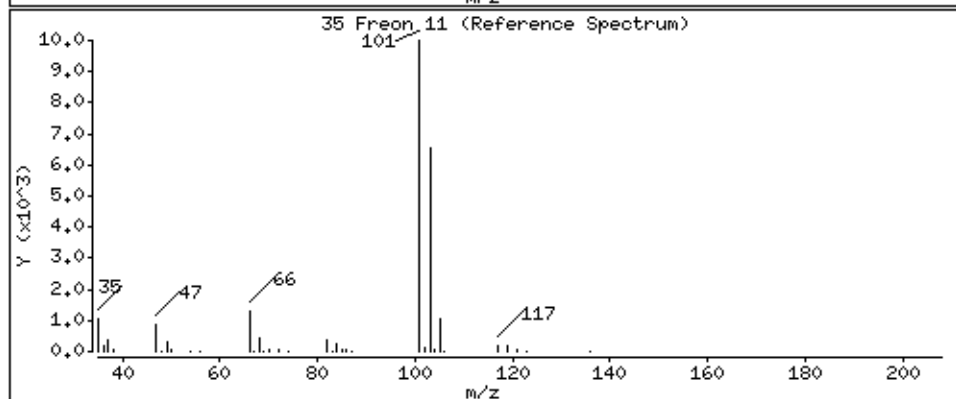
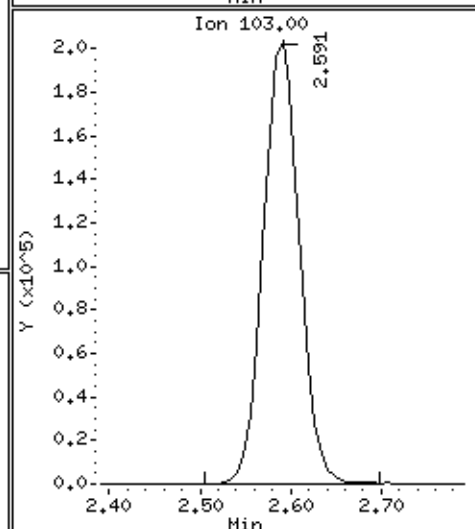
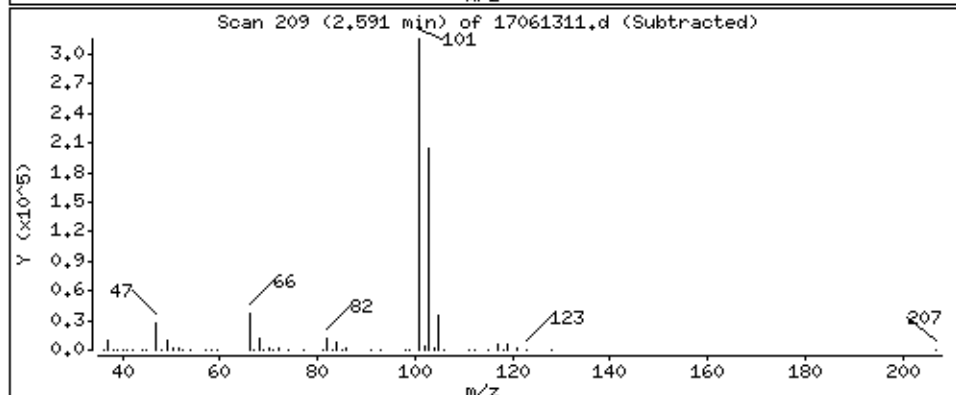
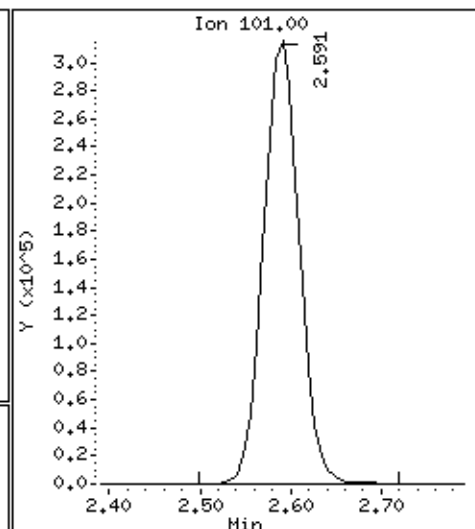
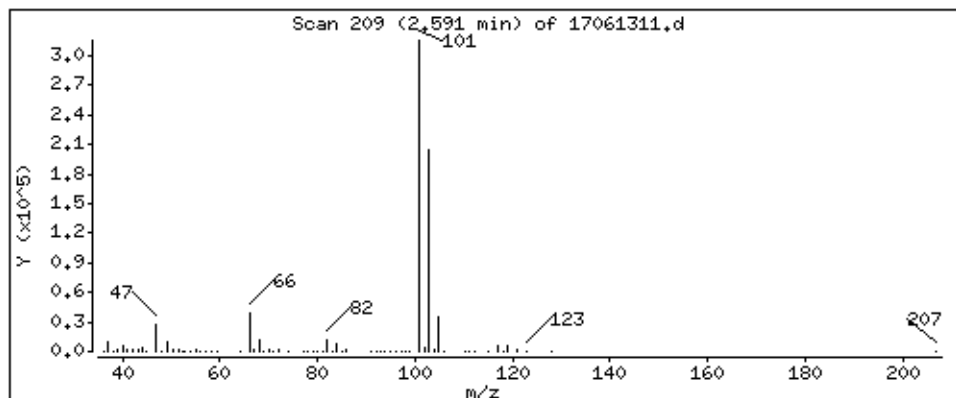
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

35 Freon 11

Concentration: 51.654 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

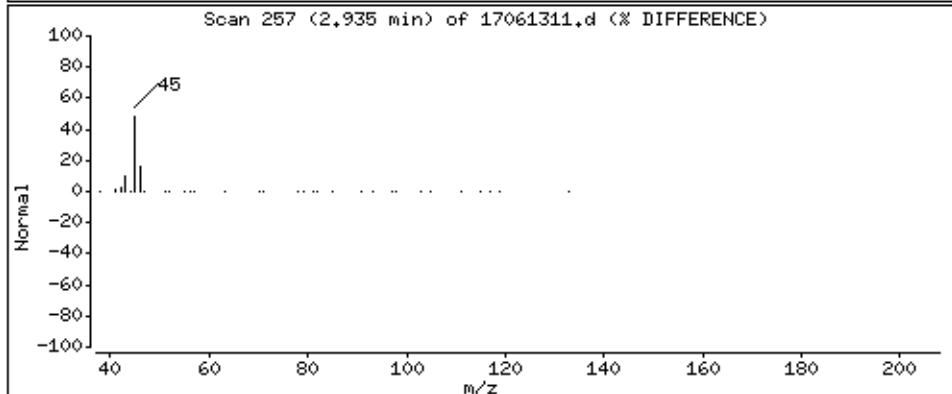
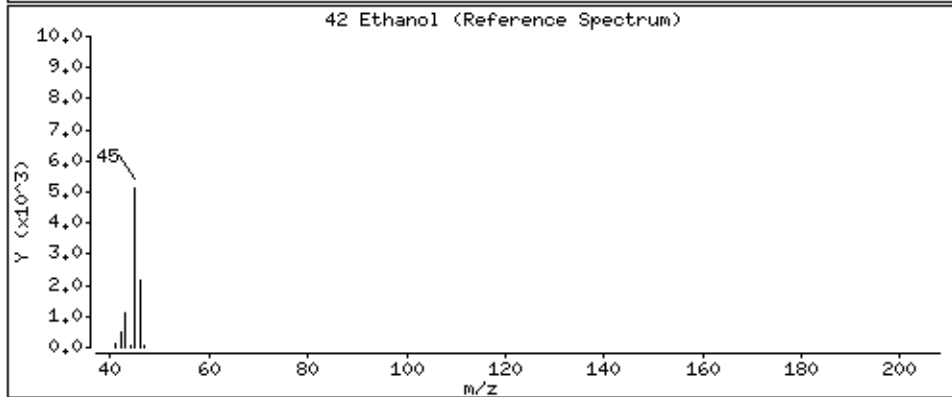
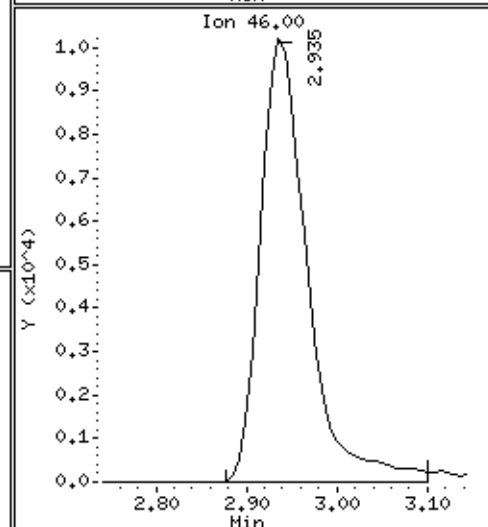
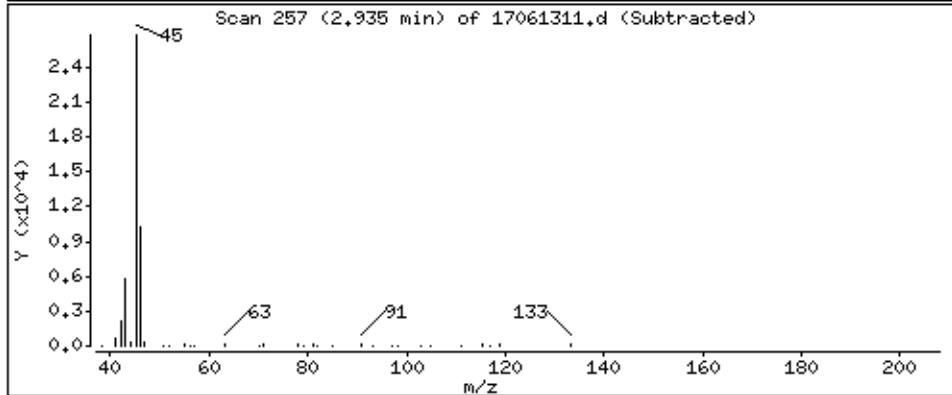
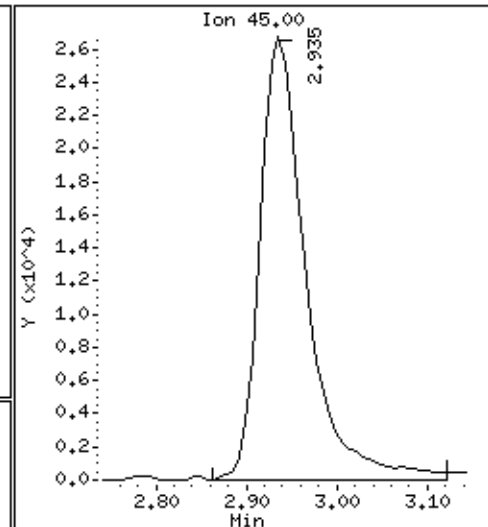
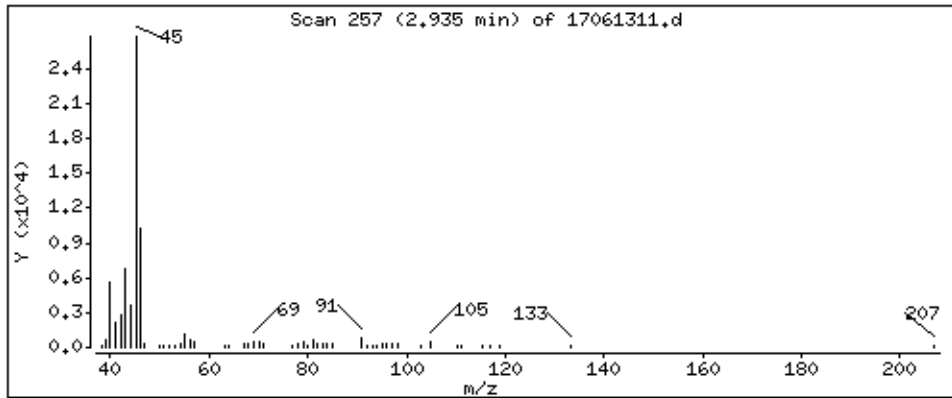
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

42 Ethanol

Concentration: 51.747 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

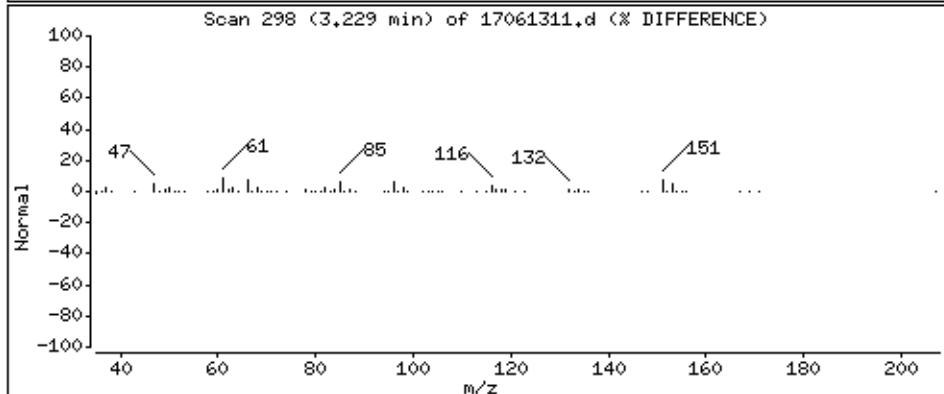
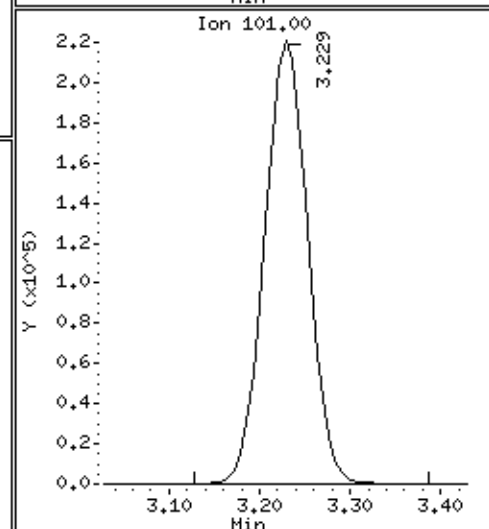
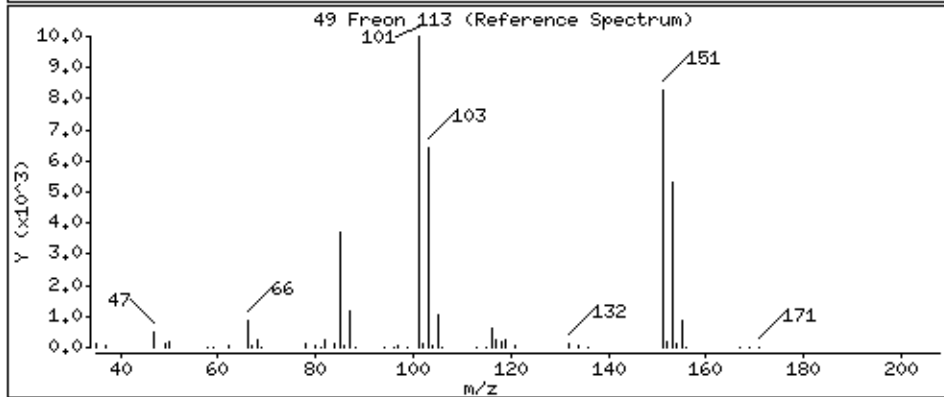
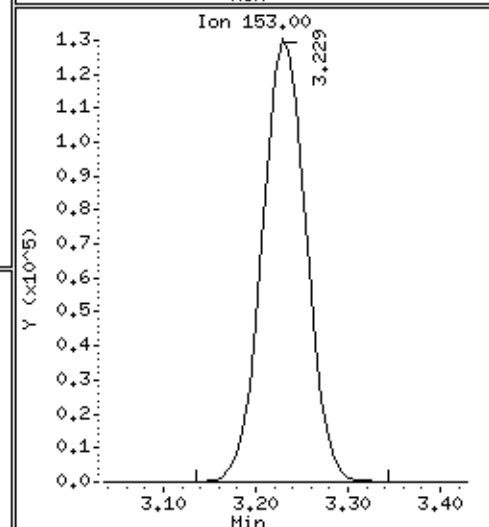
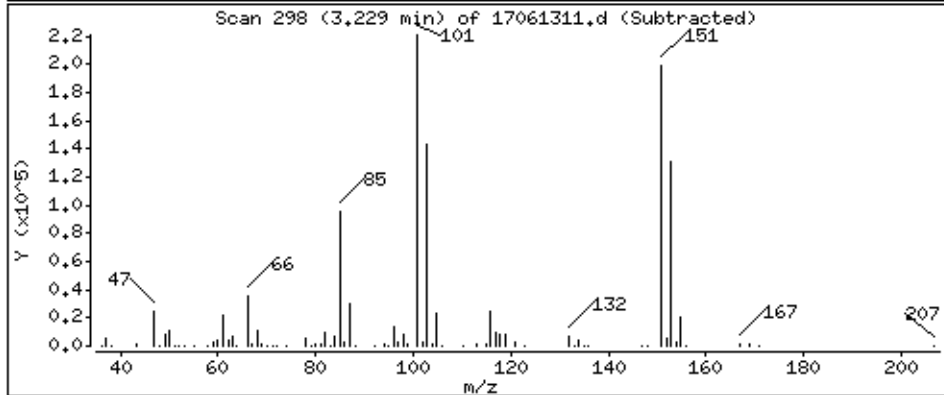
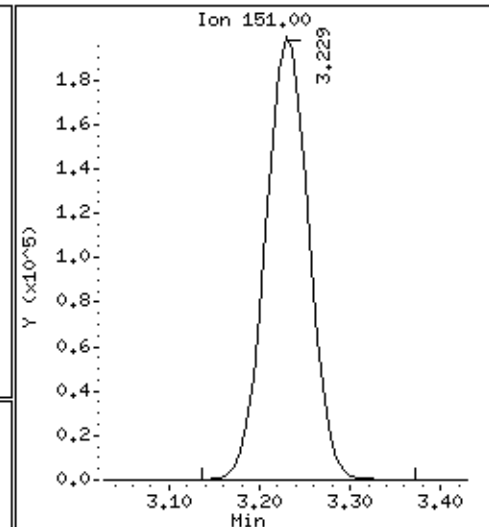
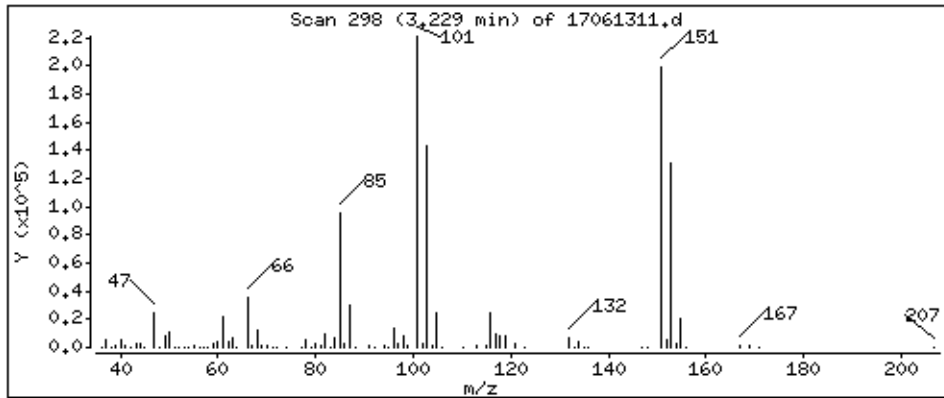
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

49 Freon 113

Concentration: 50.920 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

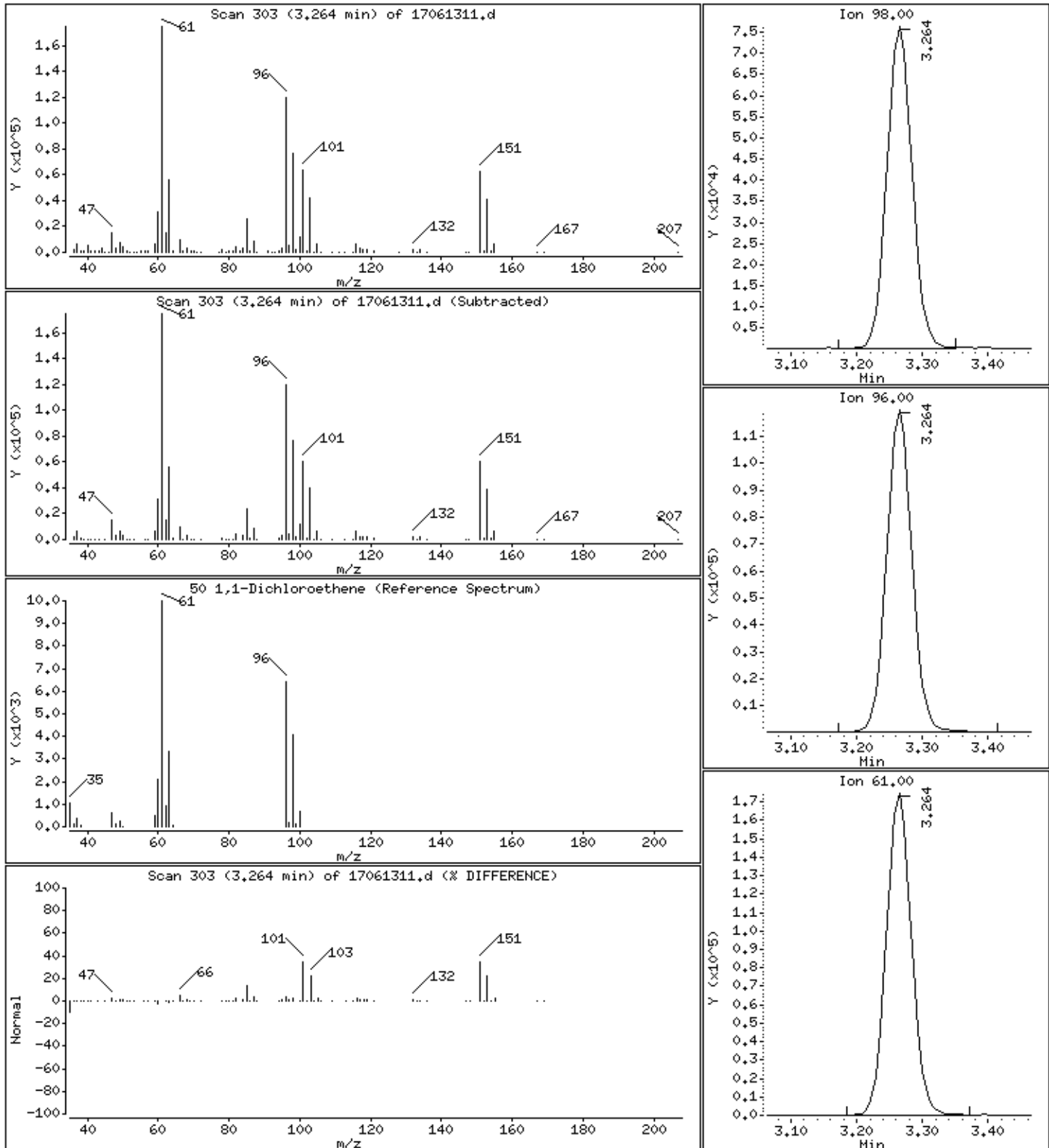
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

50 1,1-Dichloroethene

Concentration: 50.047 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

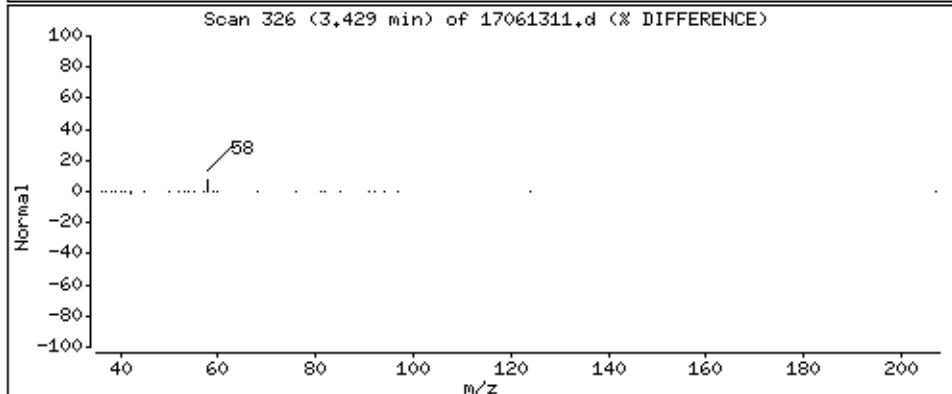
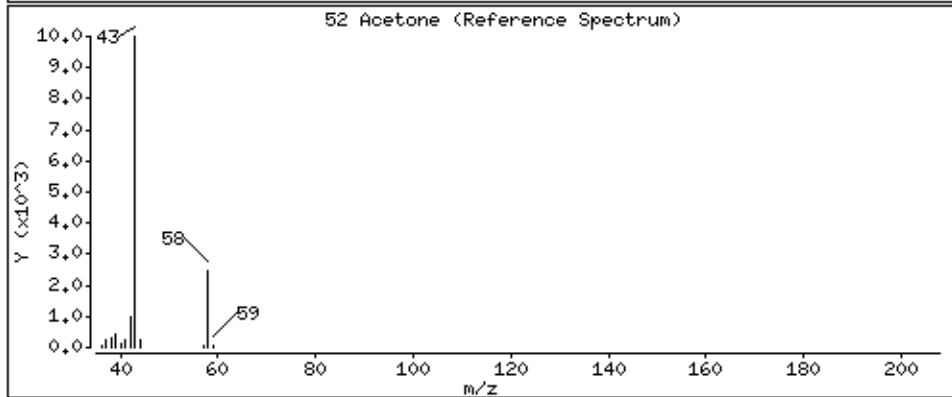
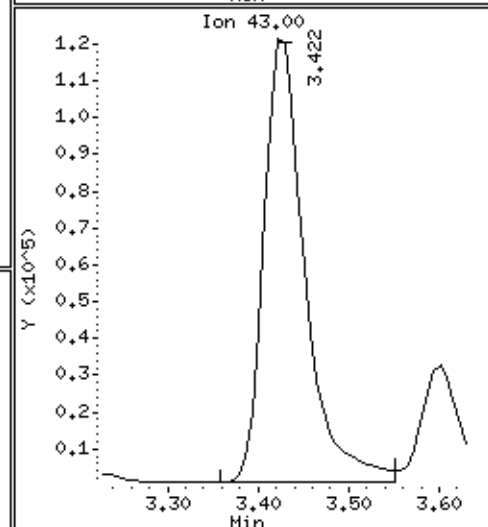
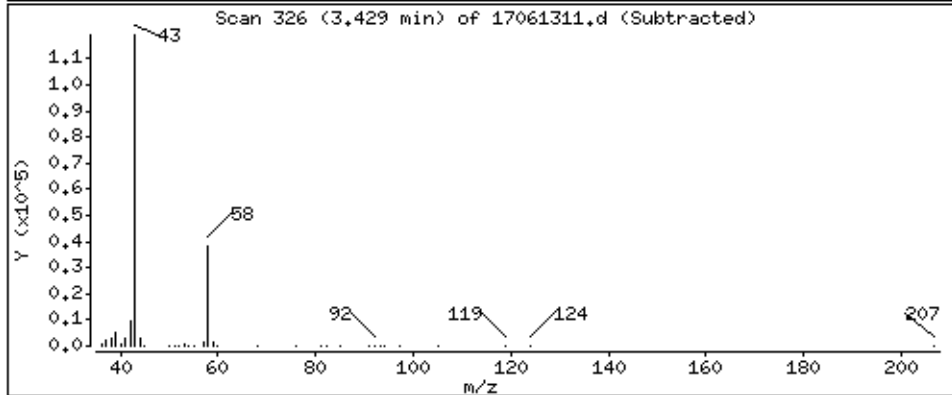
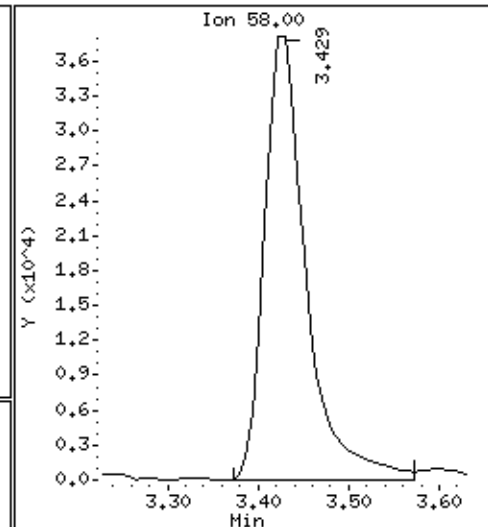
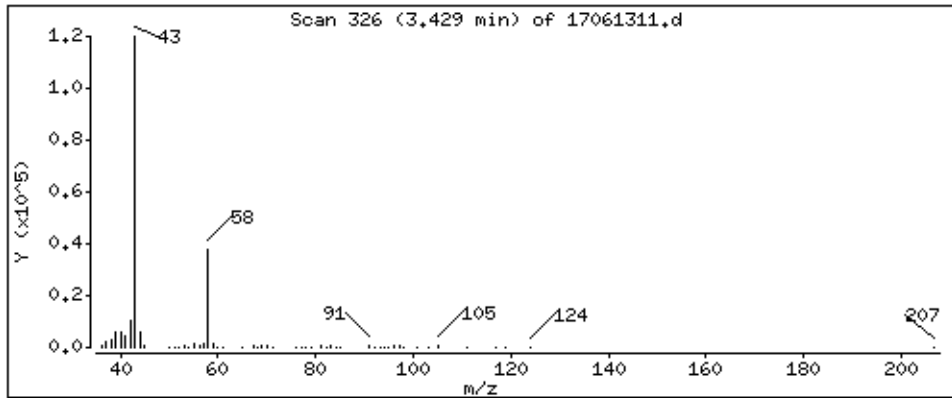
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

52 Acetone

Concentration: 47,085 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

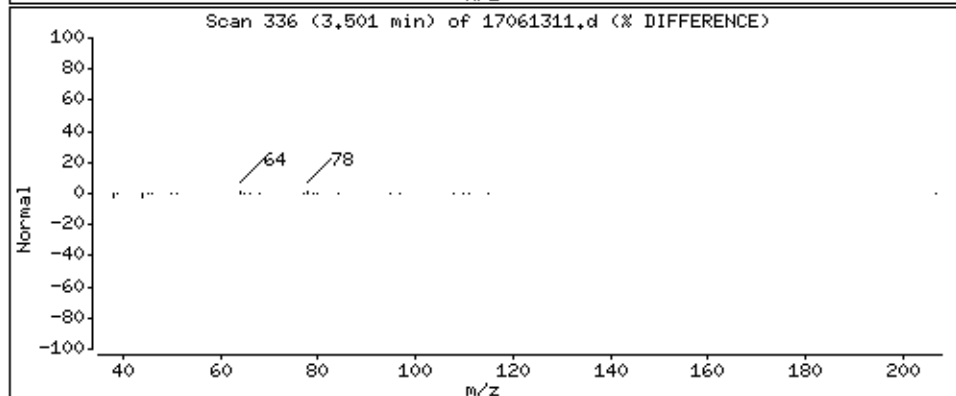
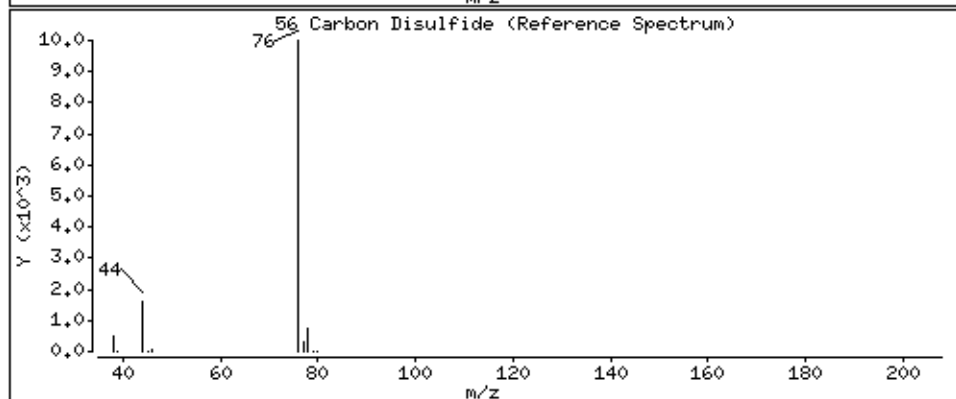
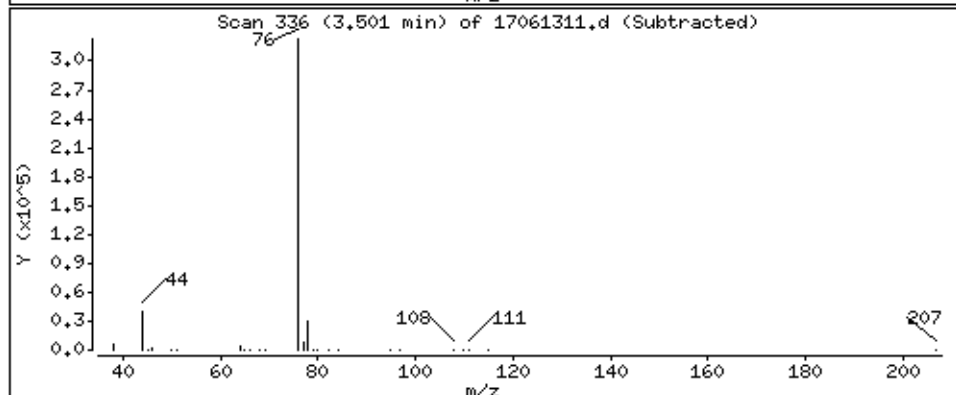
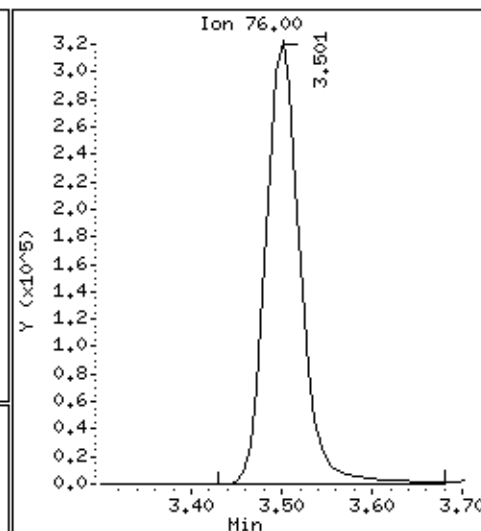
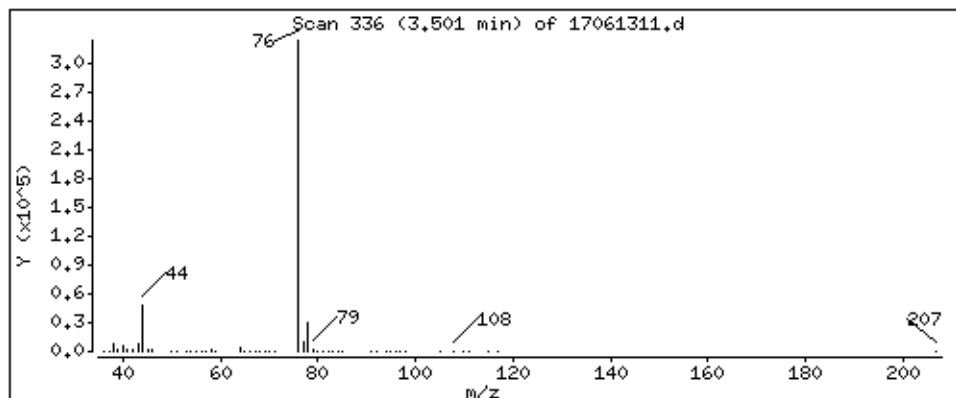
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

56 Carbon Disulfide

Concentration: 50,520 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

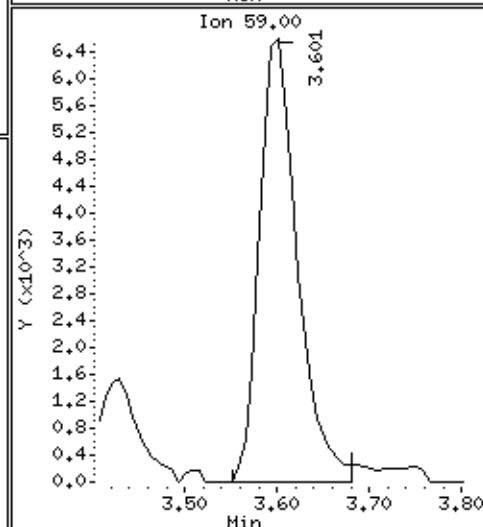
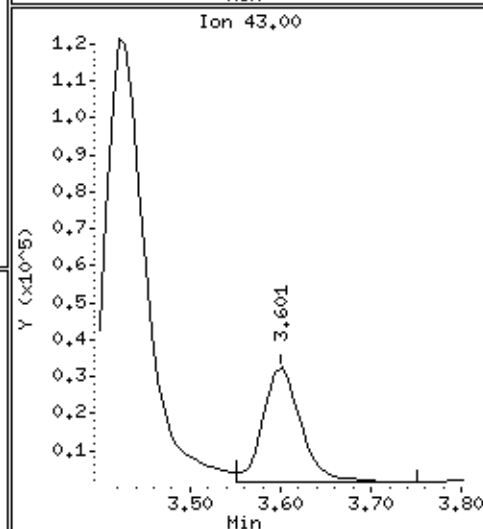
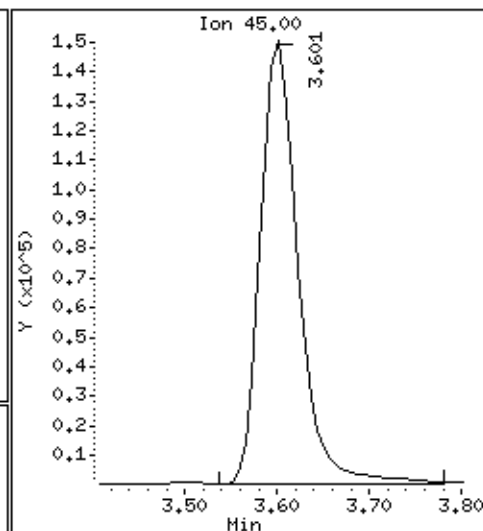
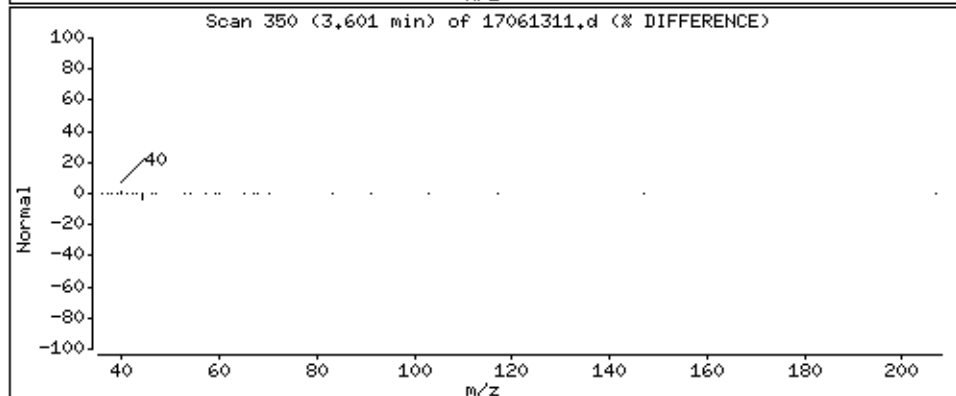
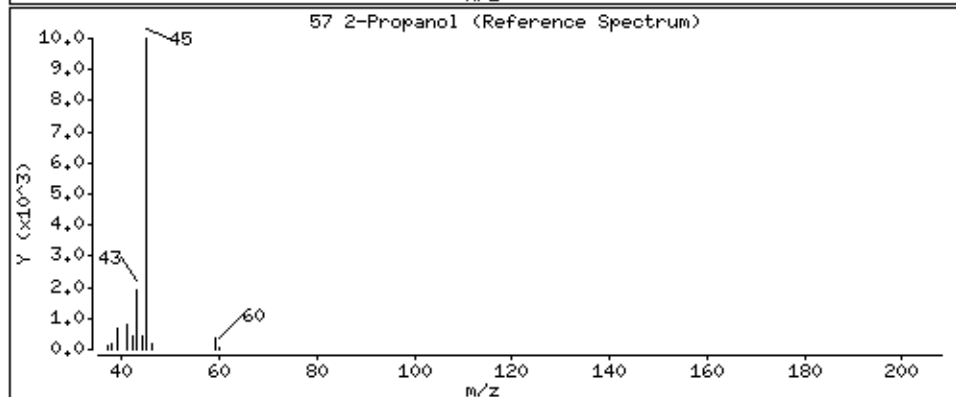
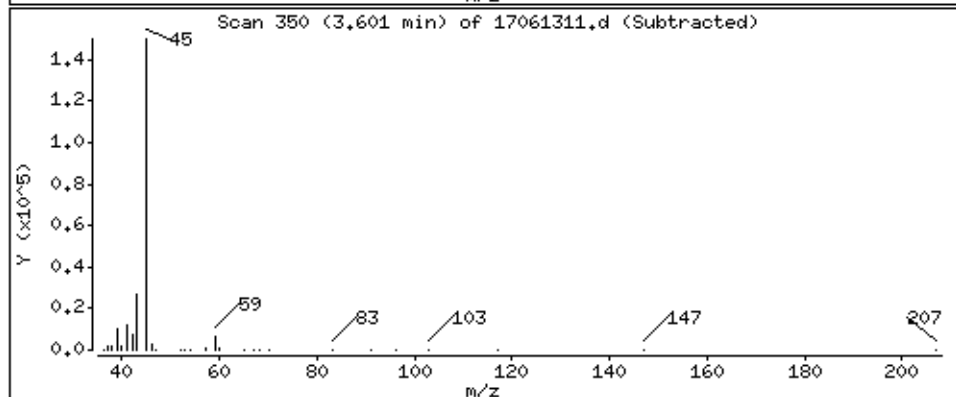
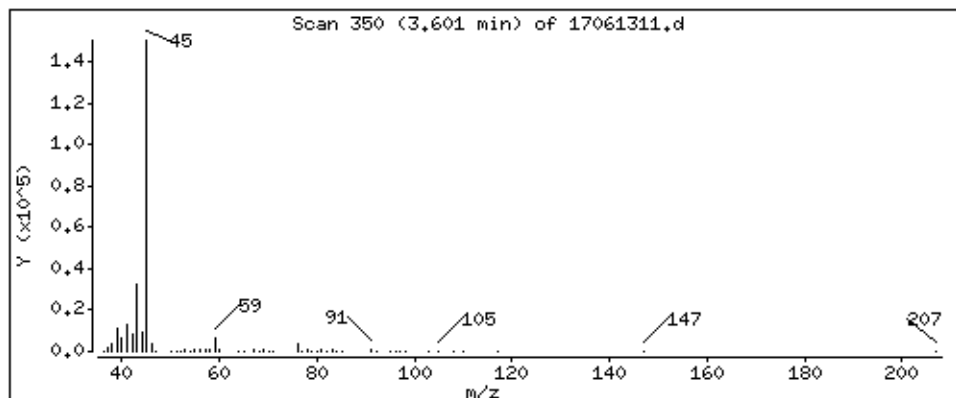
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

57 2-Propanol

Concentration: 50,865 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

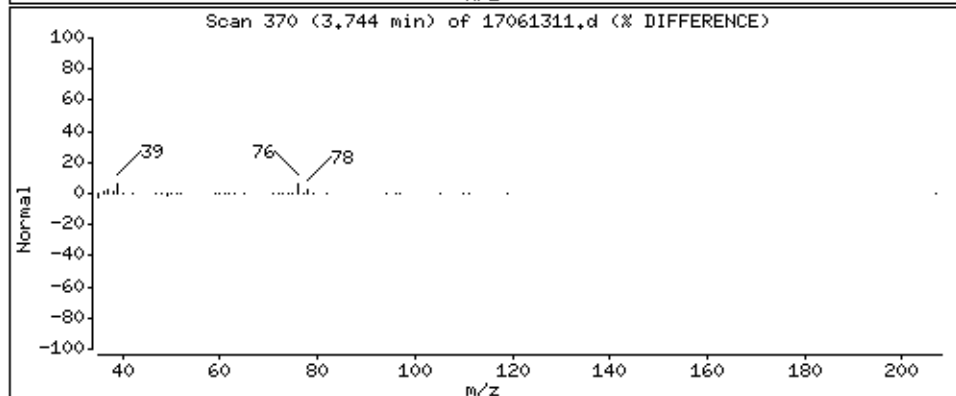
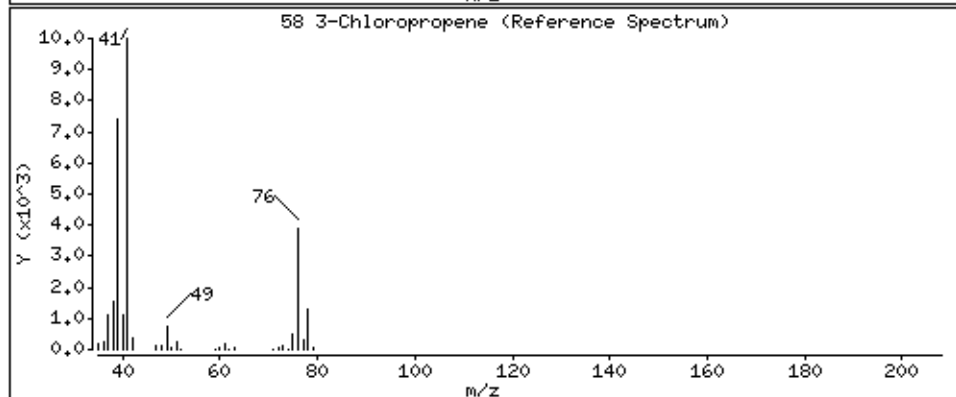
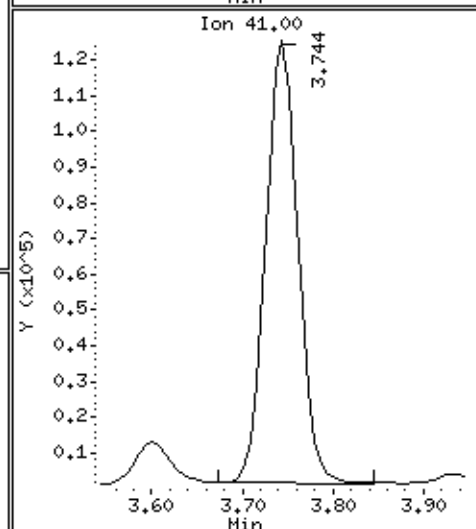
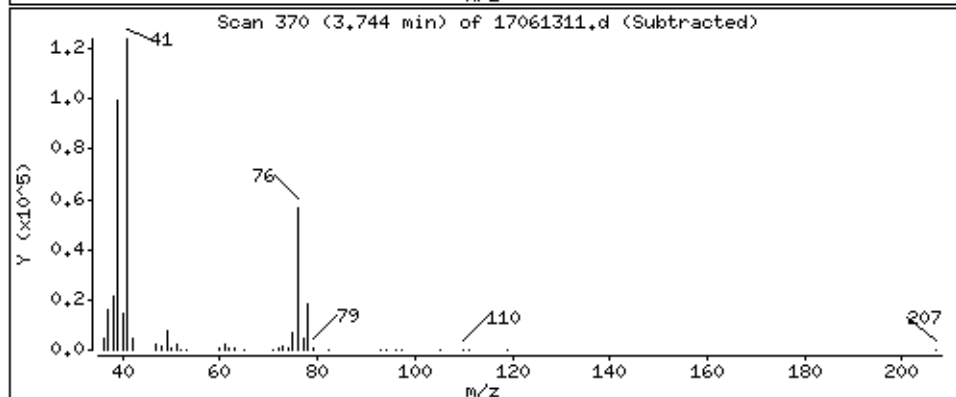
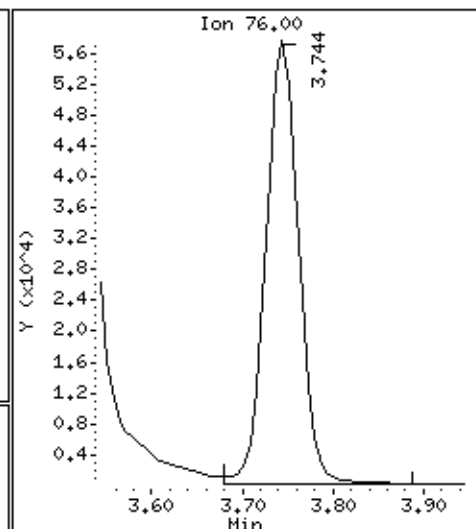
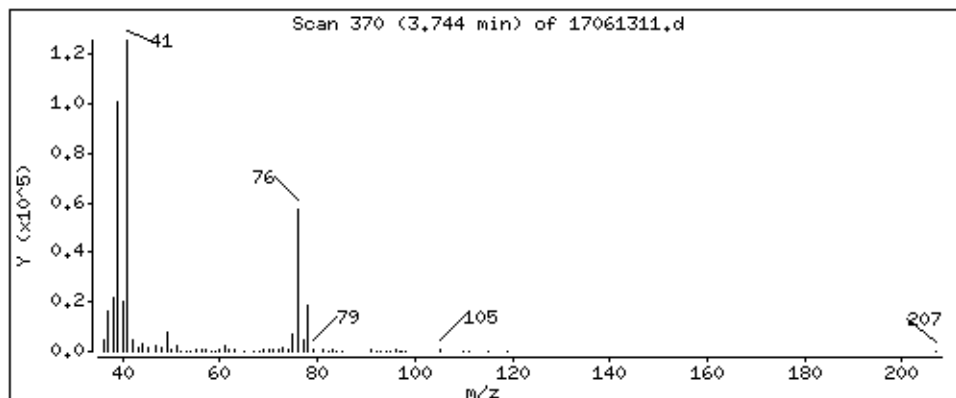
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

58 3-Chloropropene

Concentration: 52,459 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

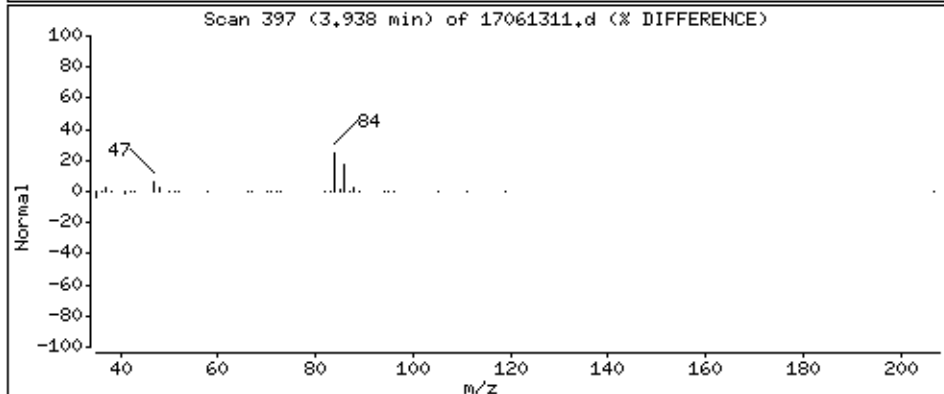
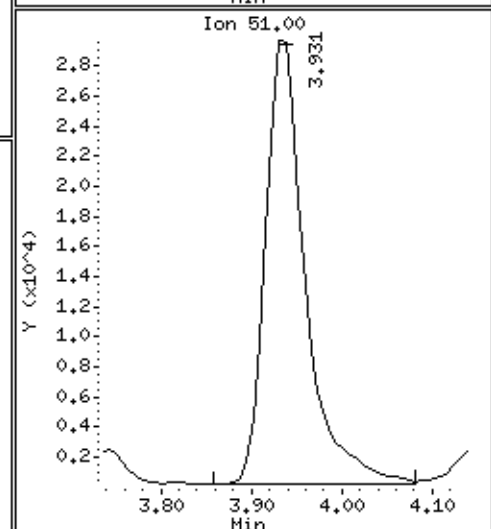
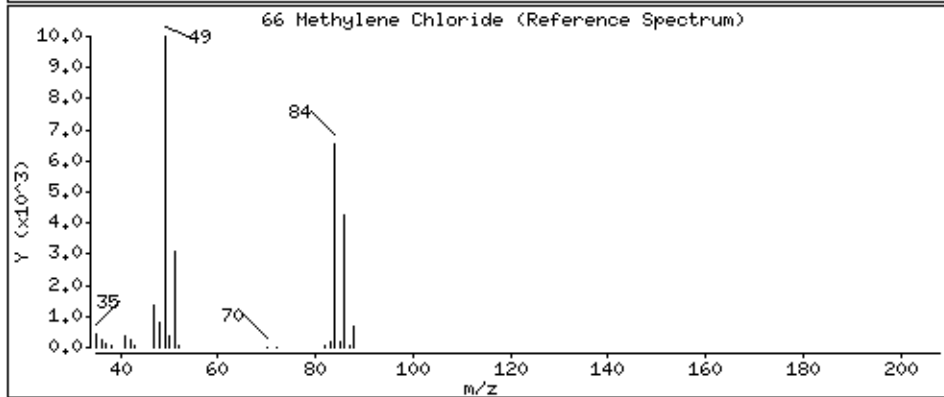
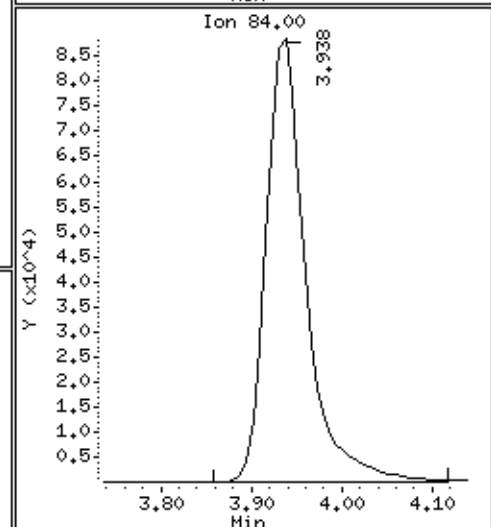
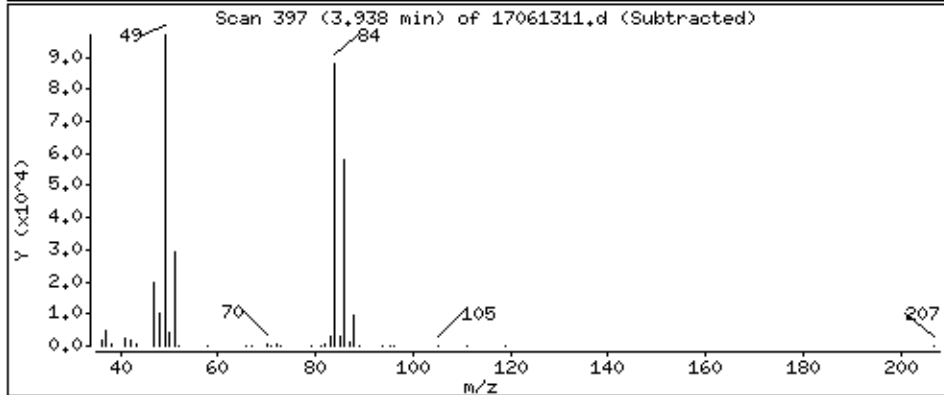
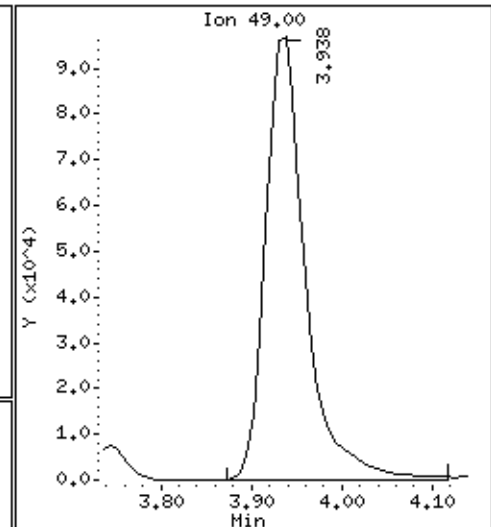
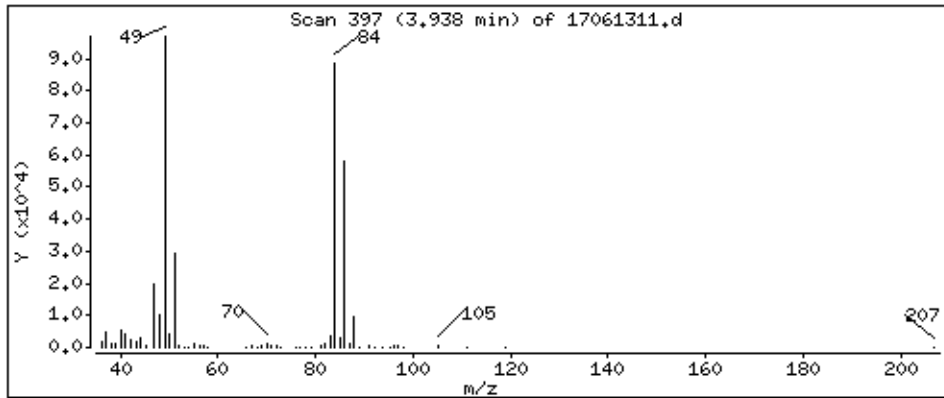
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

66 Methylene Chloride

Concentration: 49,946 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

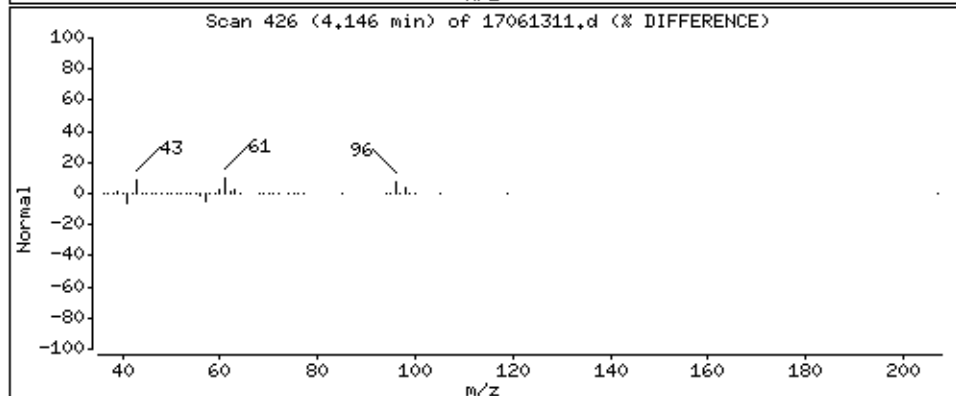
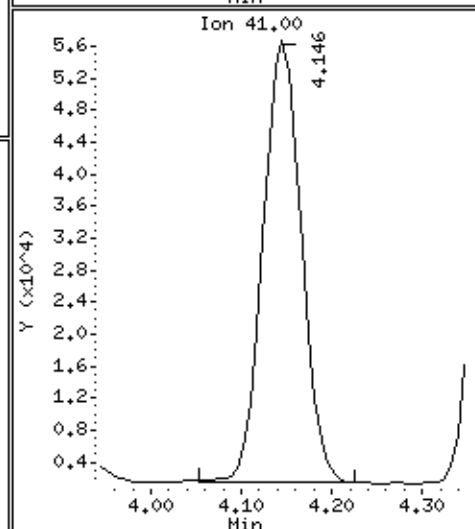
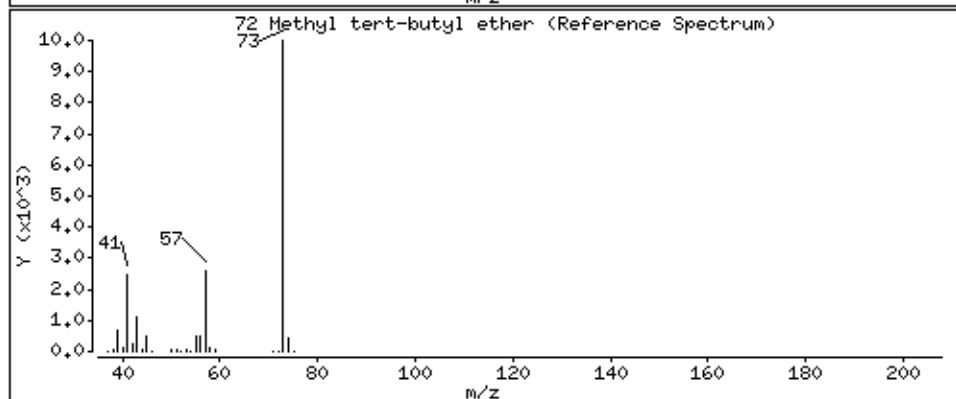
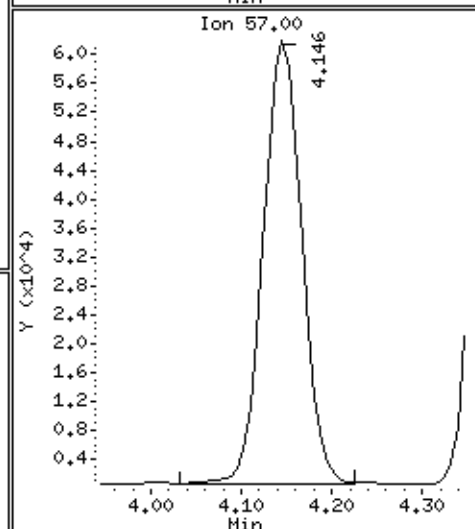
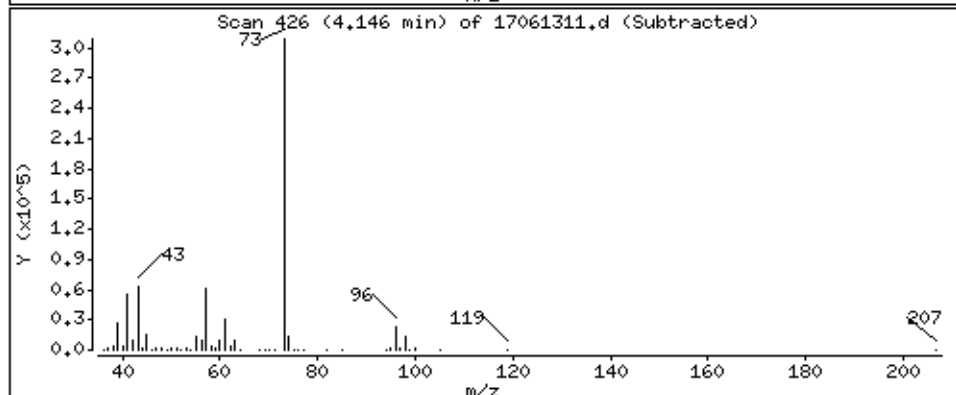
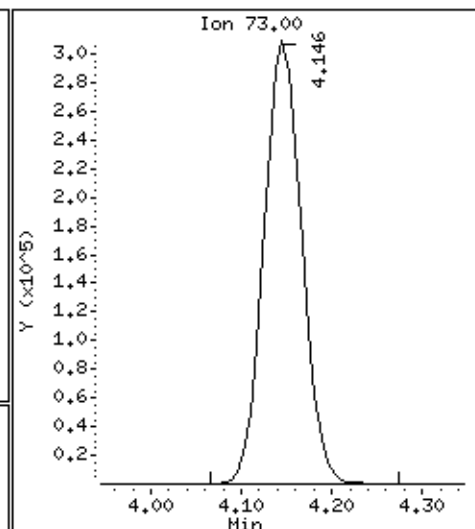
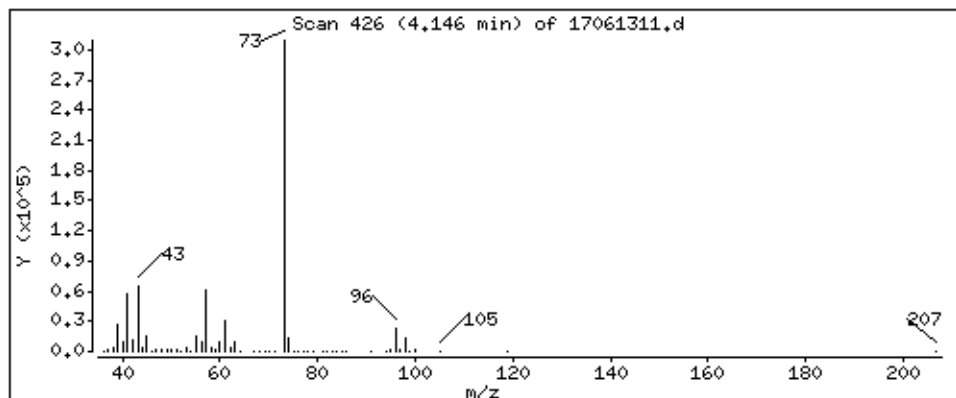
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

72 Methyl tert-butyl ether

Concentration: 51.460 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

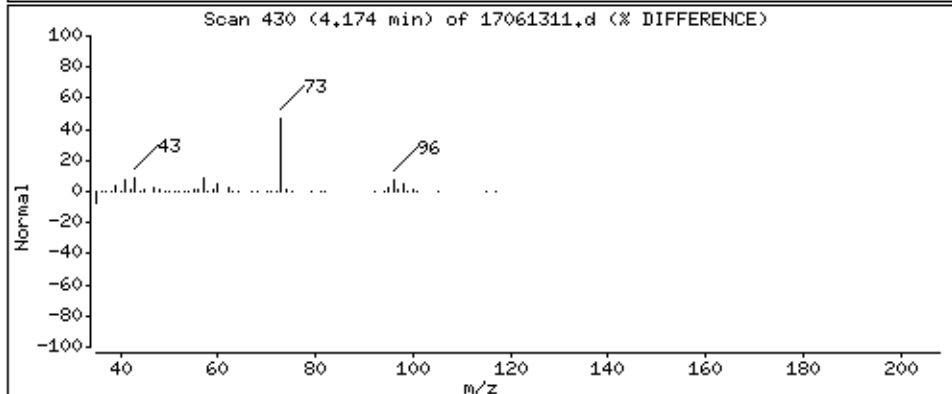
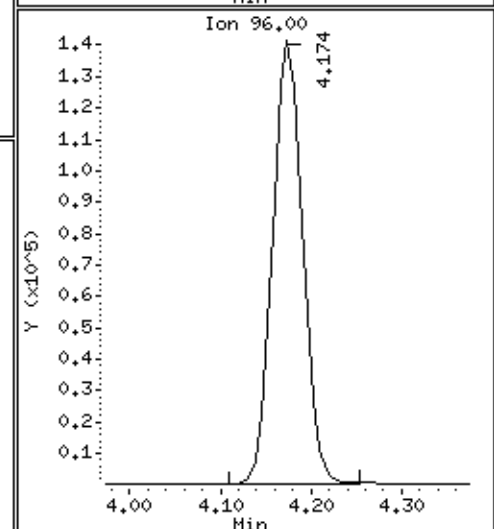
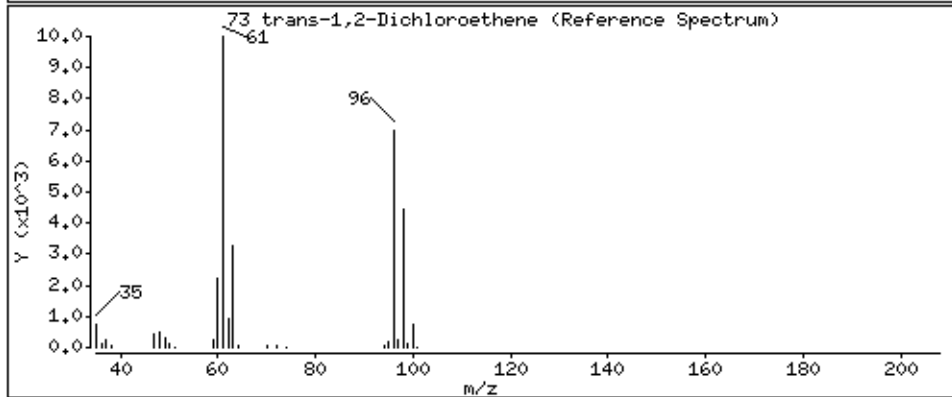
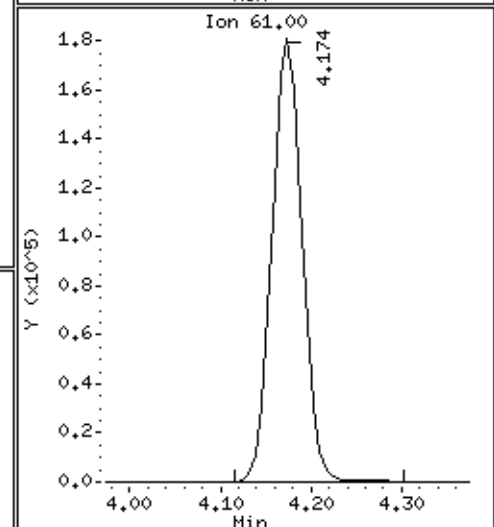
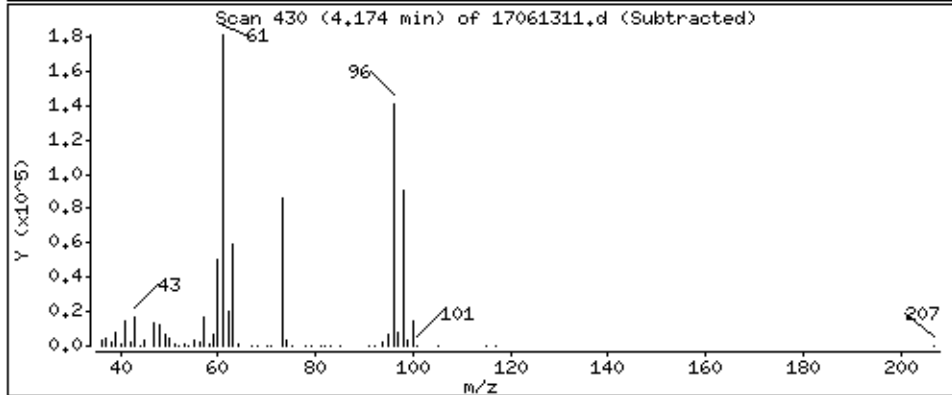
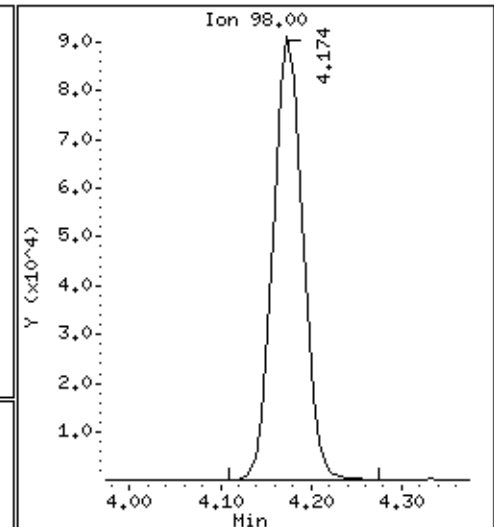
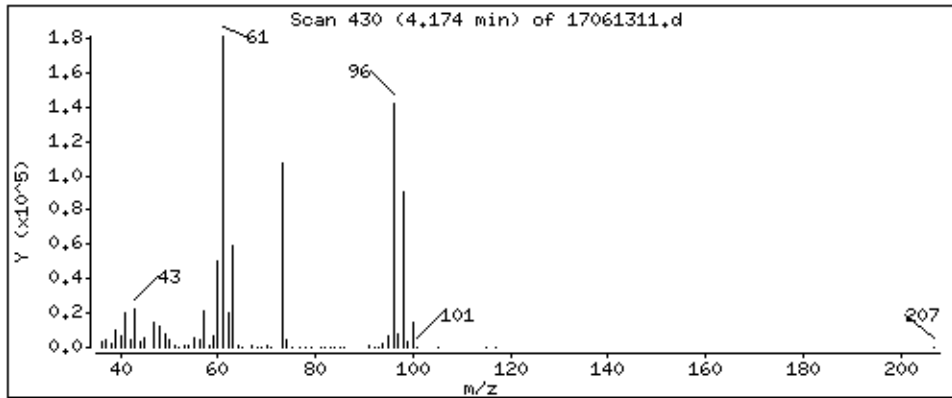
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

73 trans-1,2-Dichloroethene

Concentration: 52,239 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

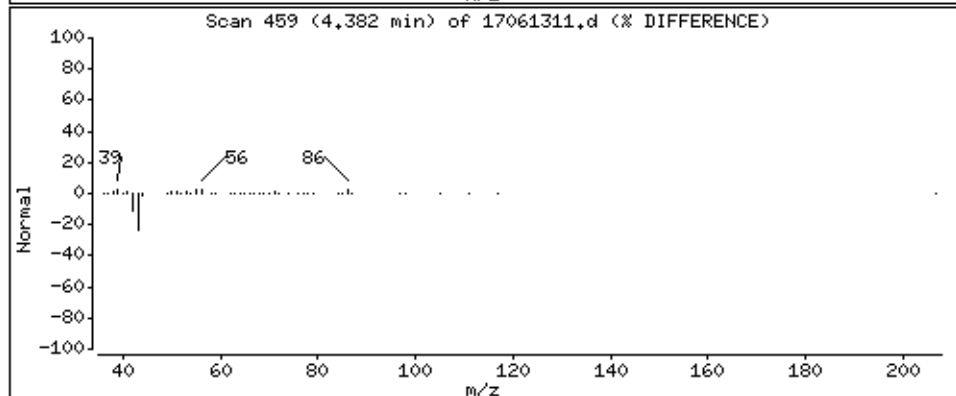
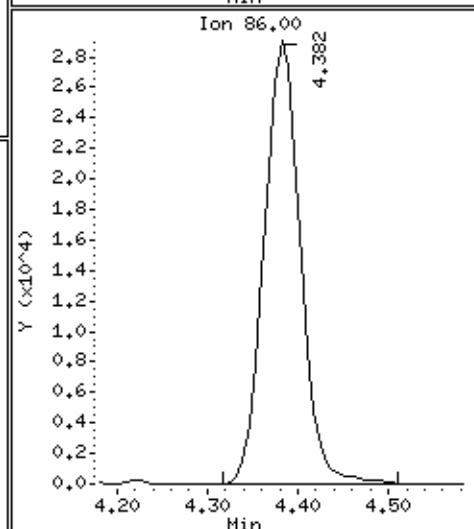
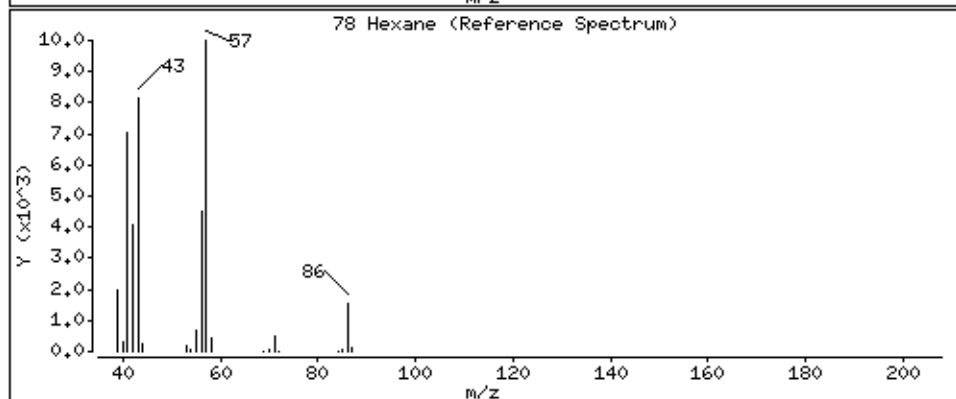
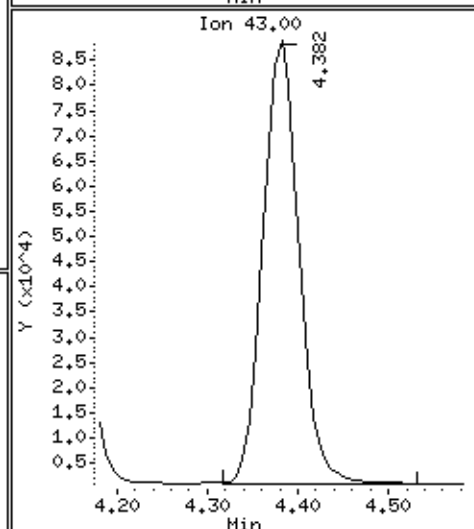
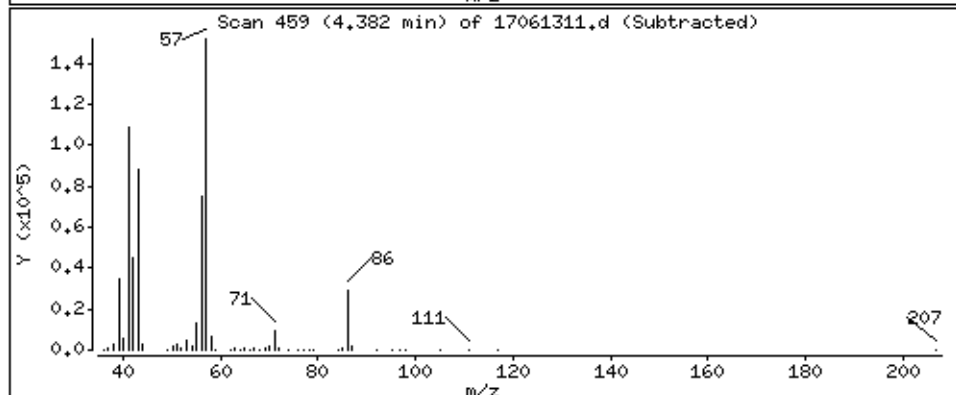
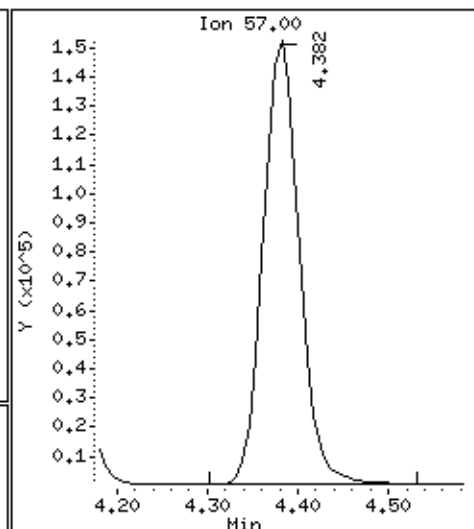
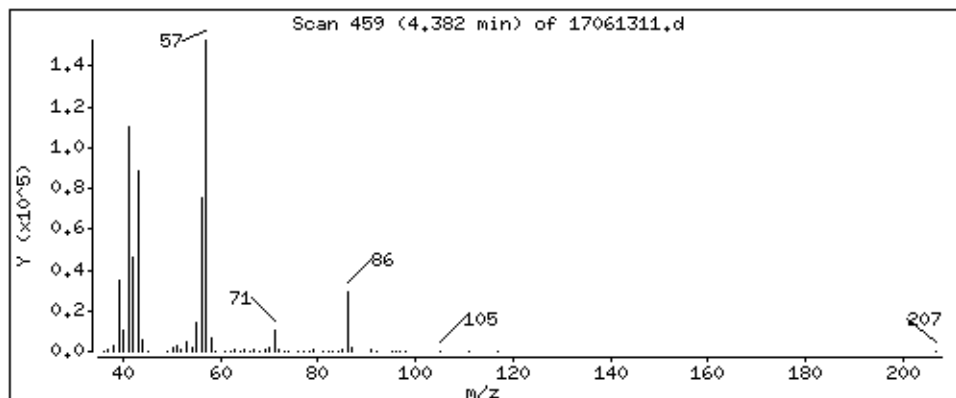
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

78 Hexane

Concentration: 49,498 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

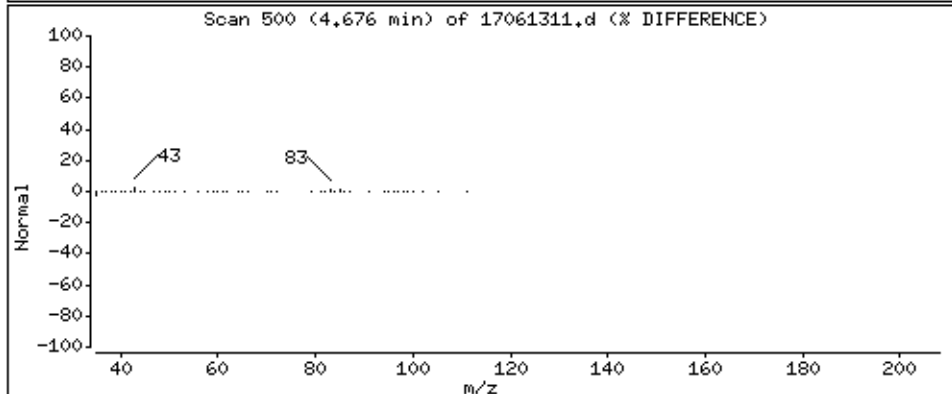
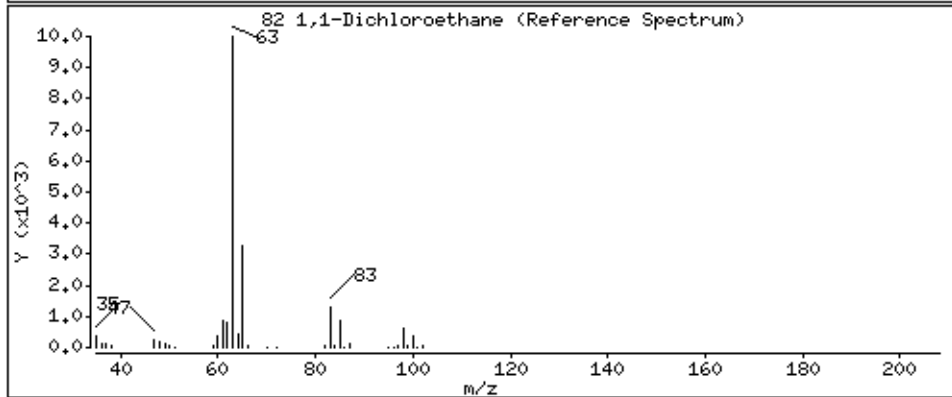
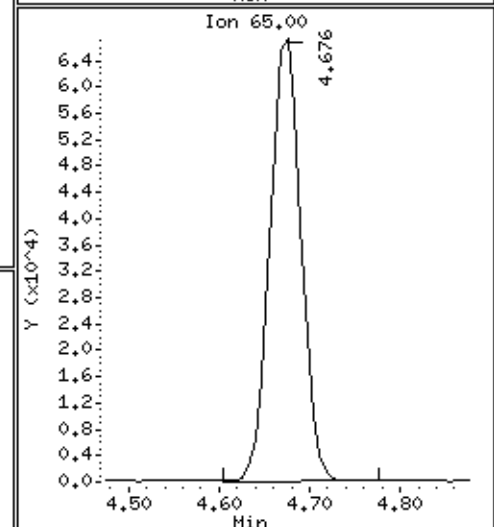
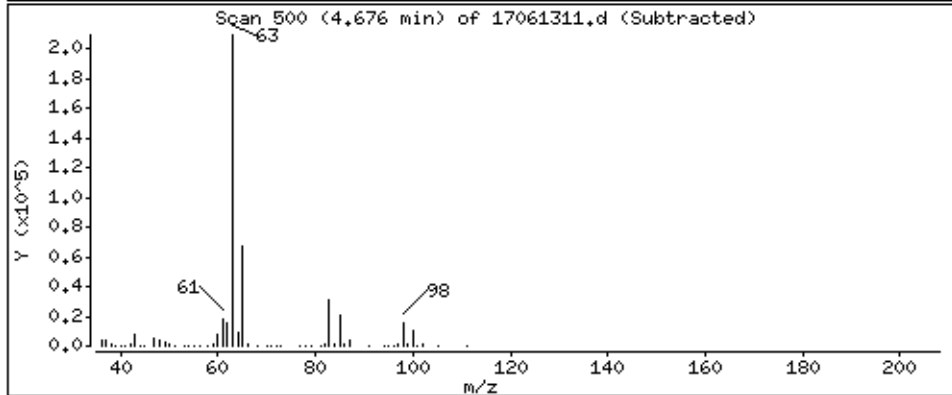
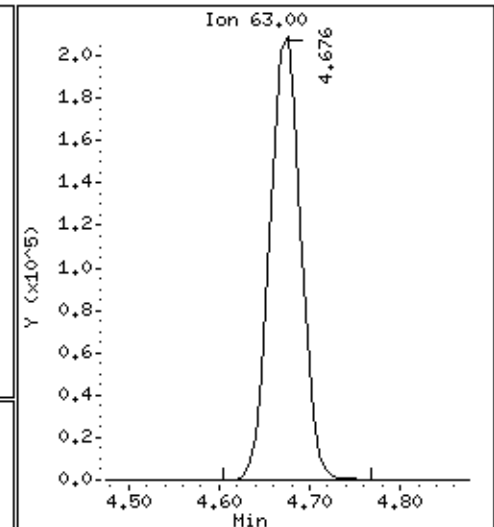
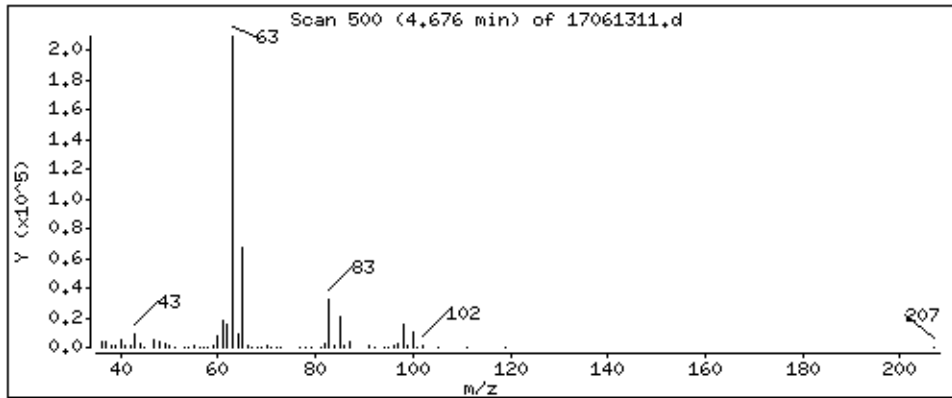
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

82 1,1-Dichloroethane

Concentration: 48,644 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

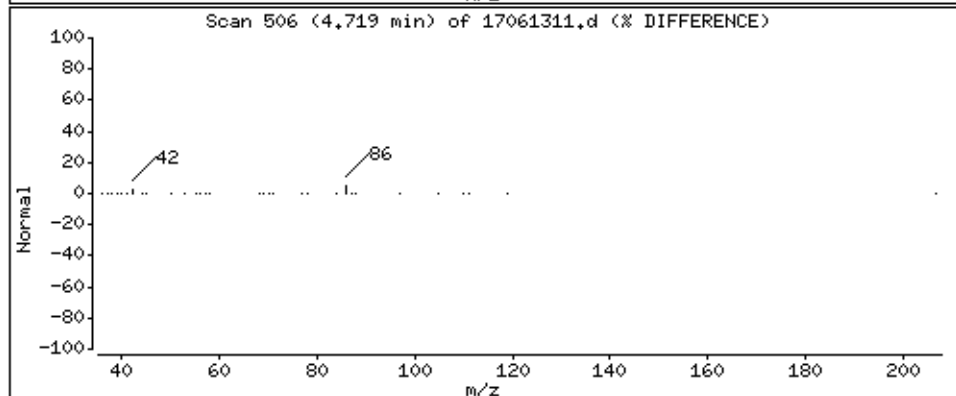
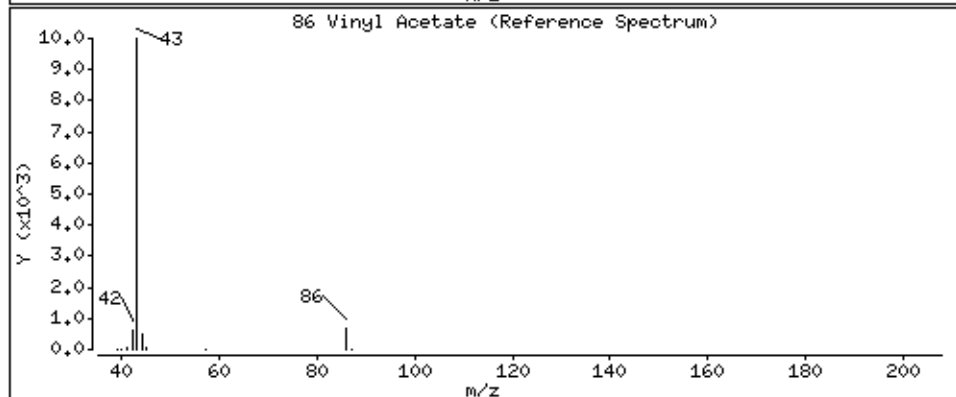
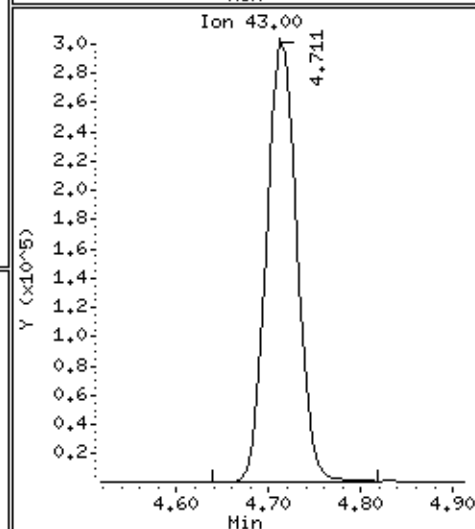
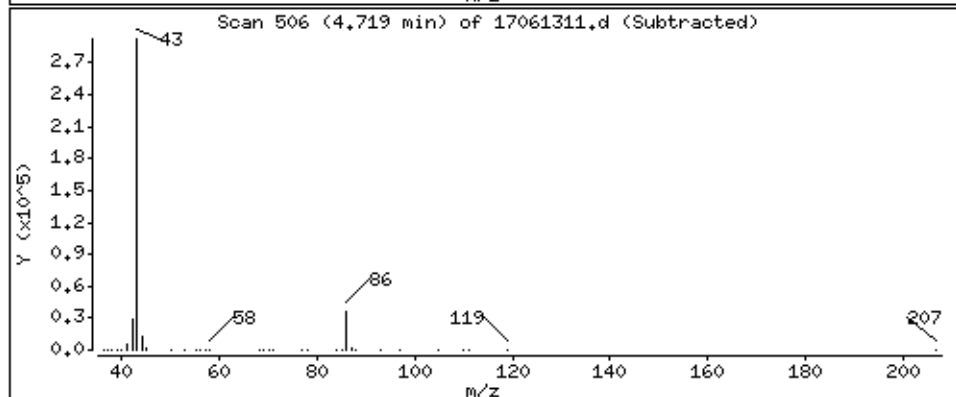
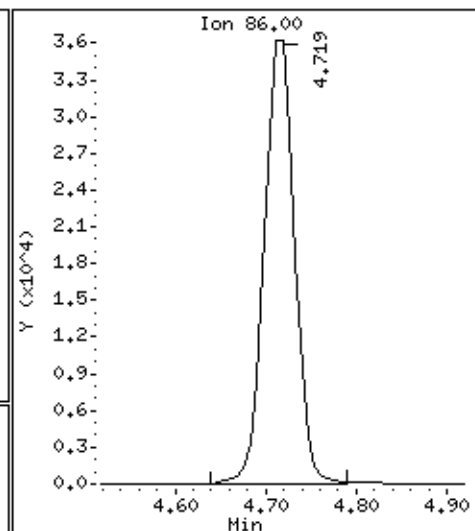
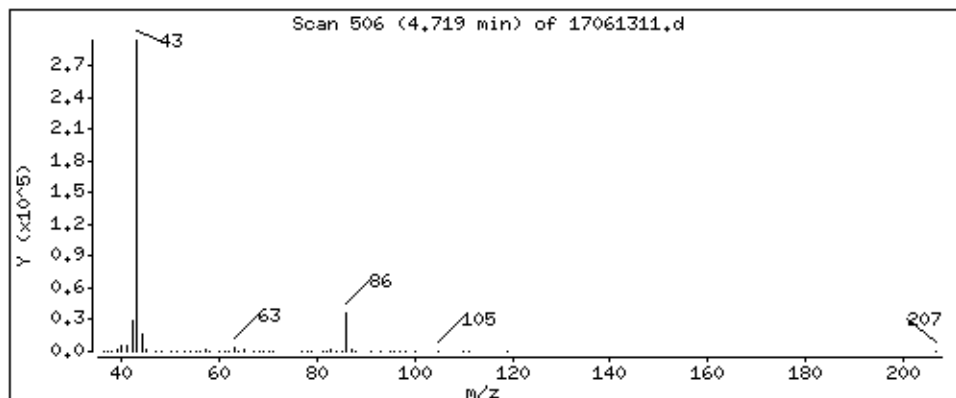
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

86 Vinyl Acetate

Concentration: 50.443 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

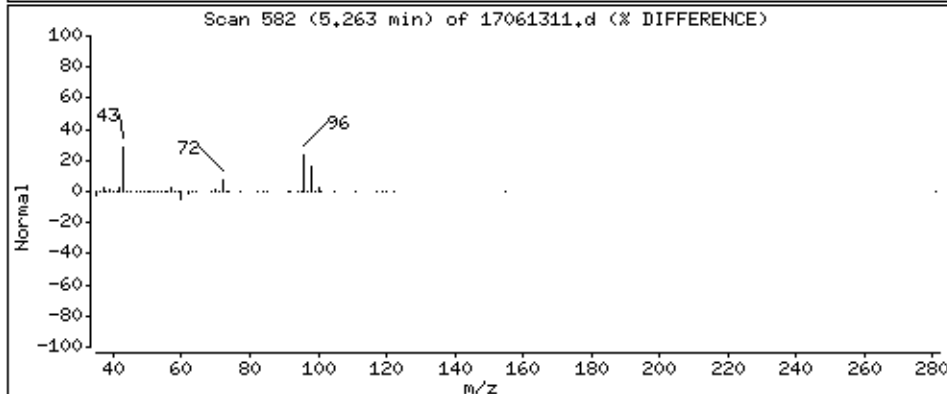
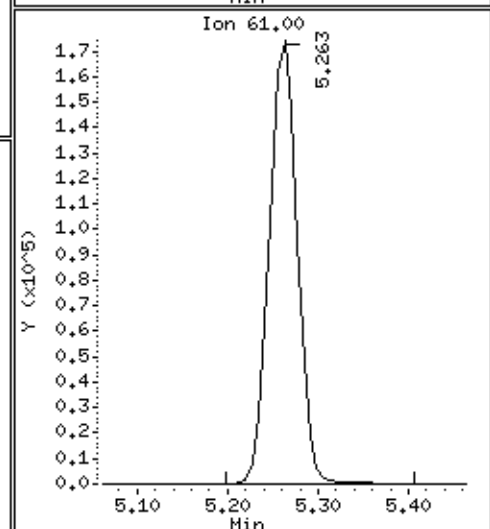
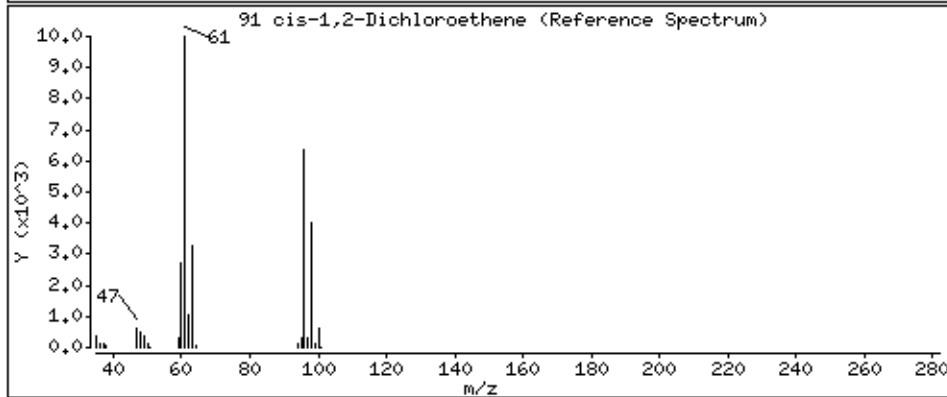
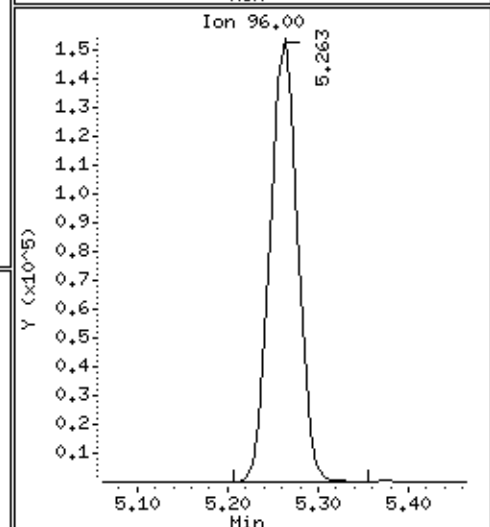
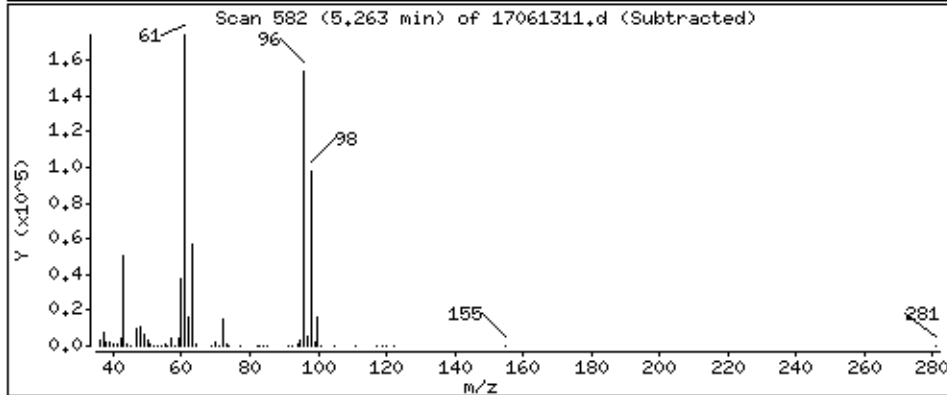
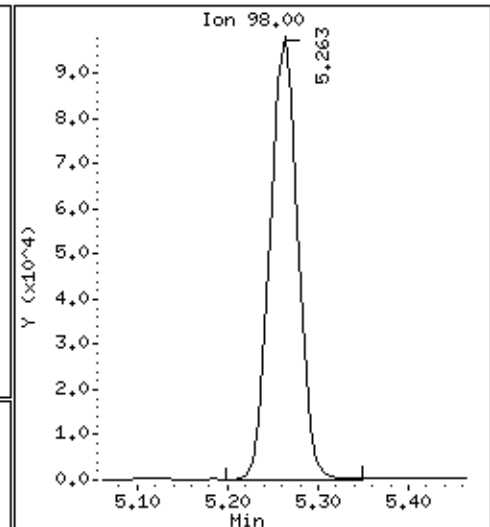
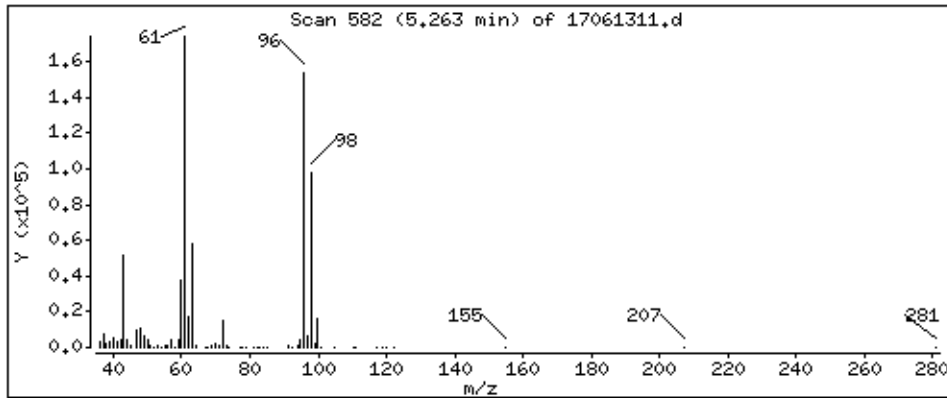
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

91 cis-1,2-Dichloroethene

Concentration: 43,629 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

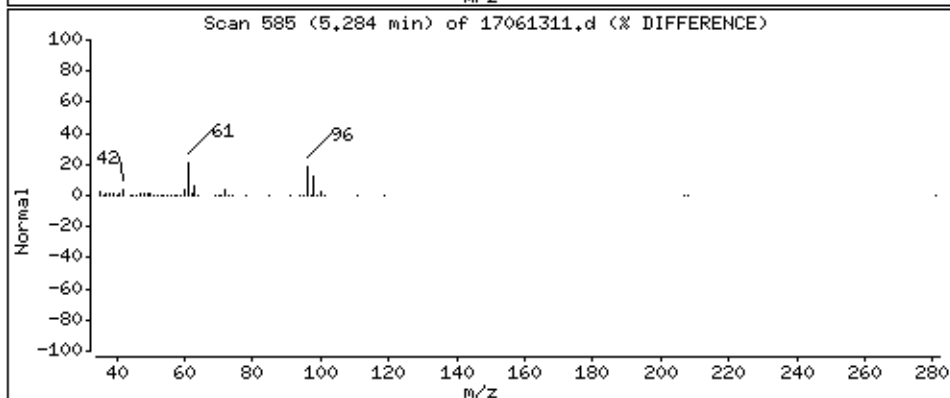
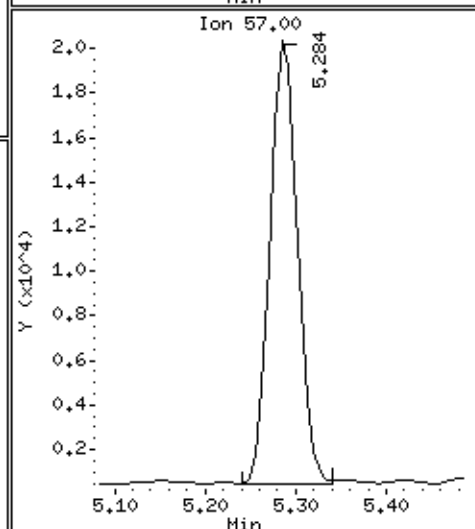
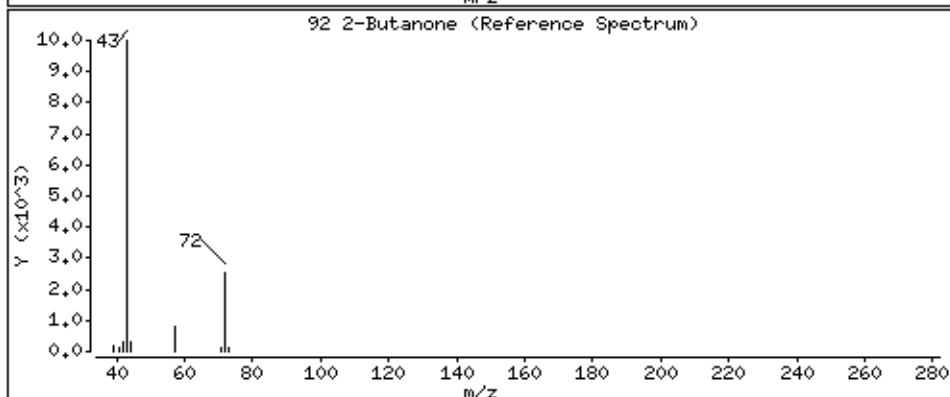
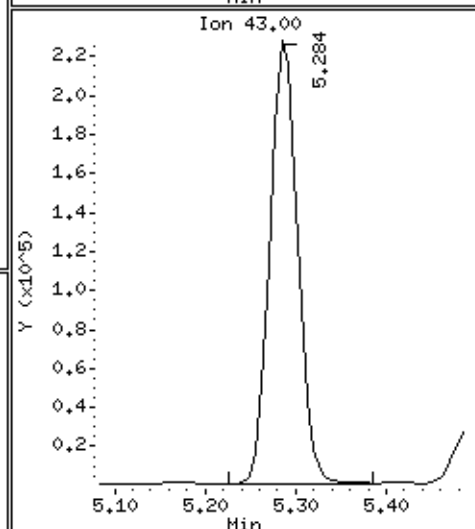
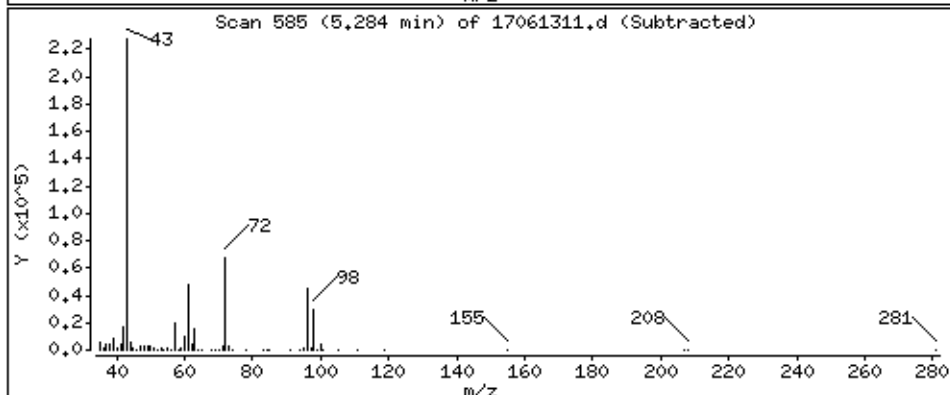
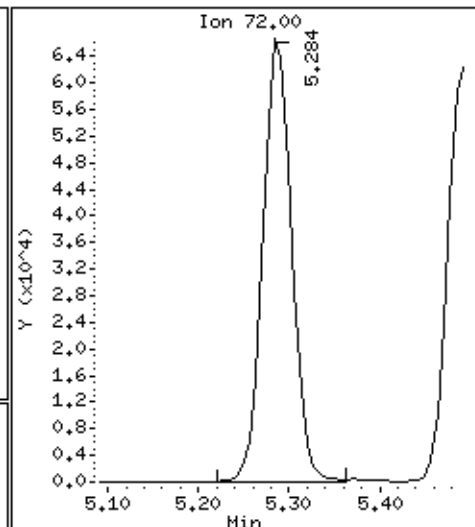
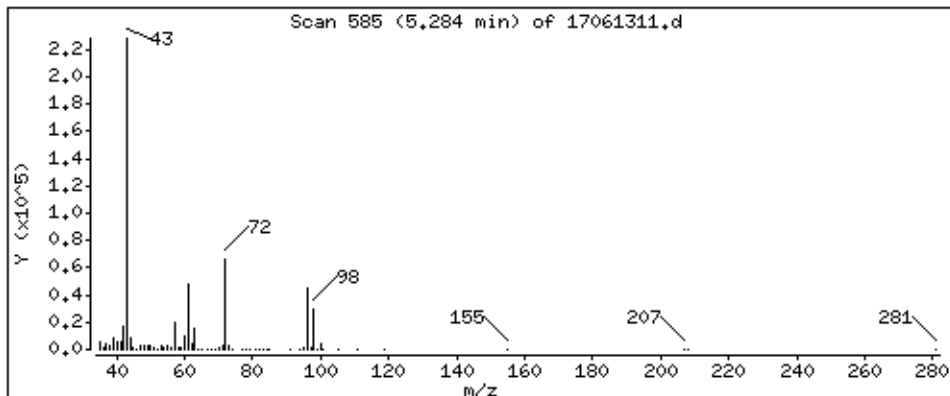
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

92 2-Butanone

Concentration: 50,682 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

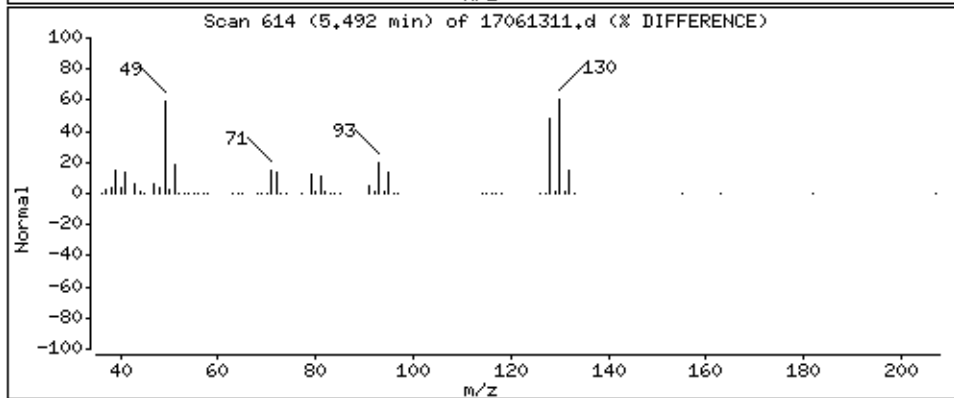
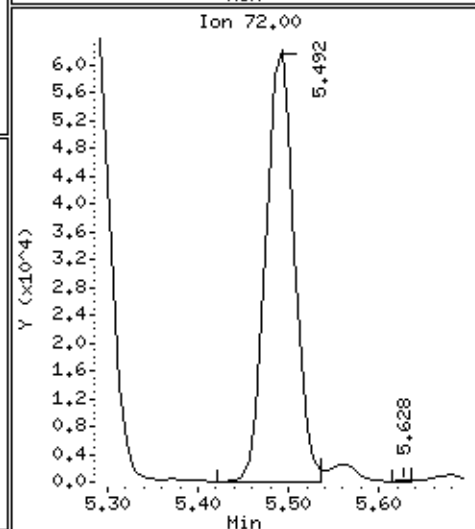
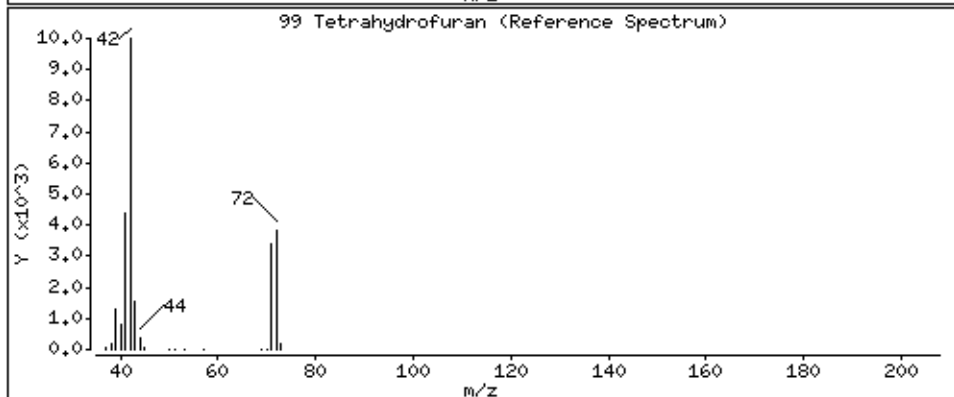
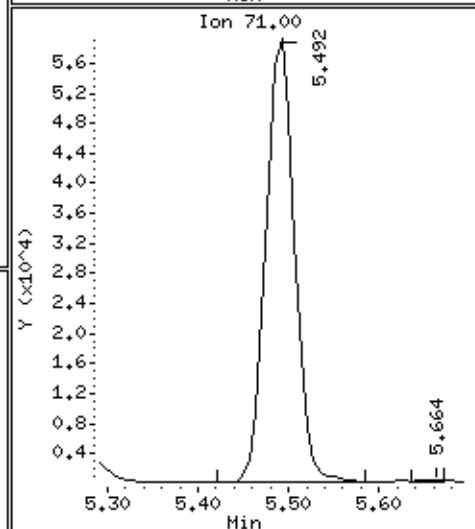
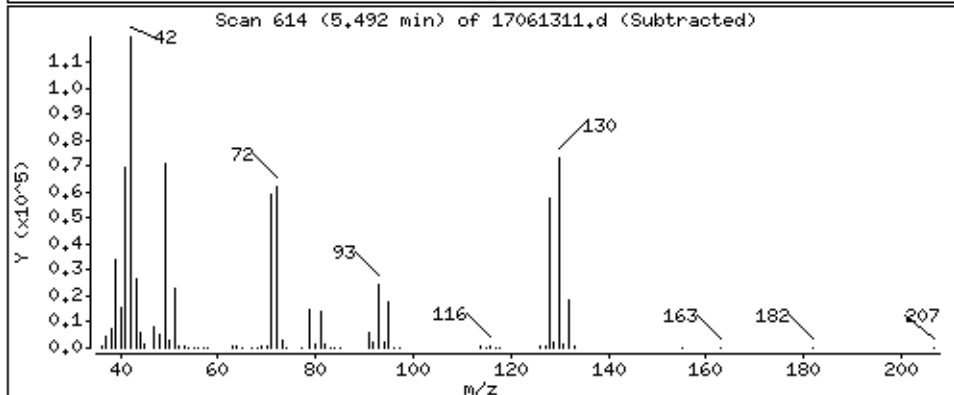
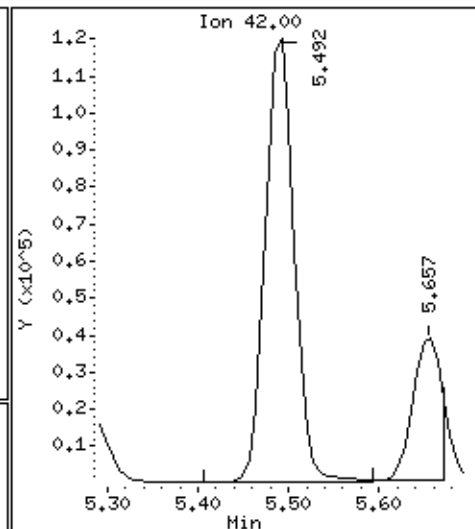
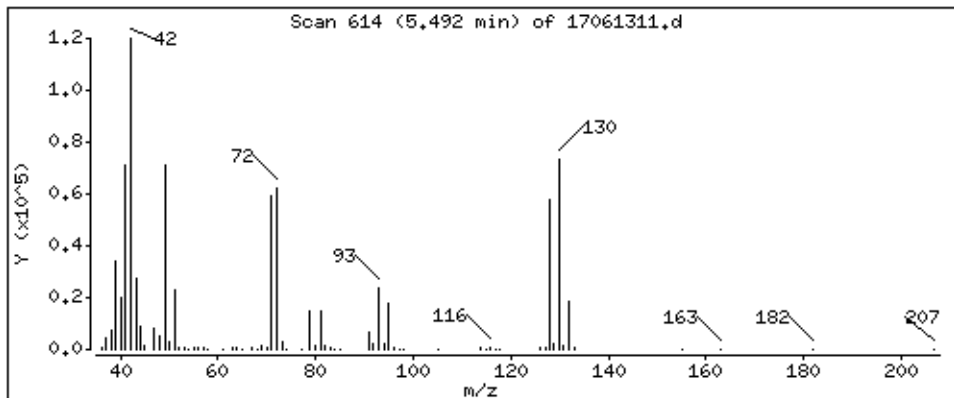
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

99 Tetrahydrofuran

Concentration: 48,323 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

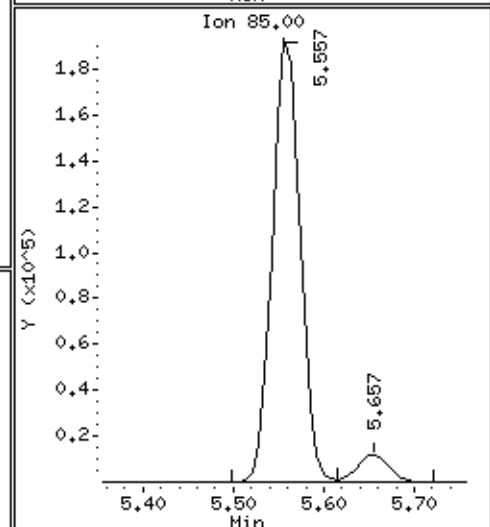
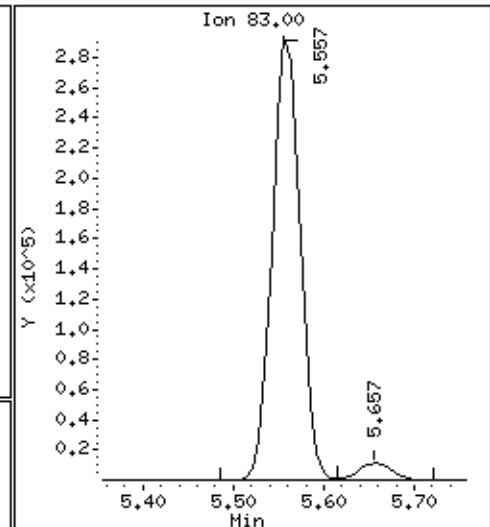
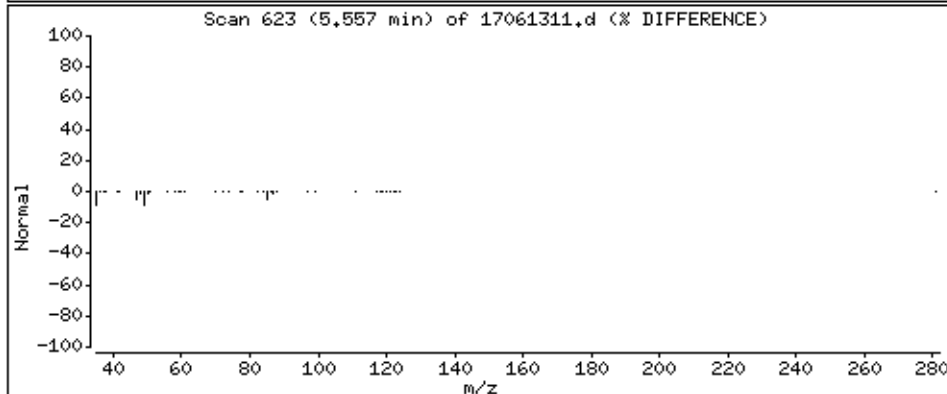
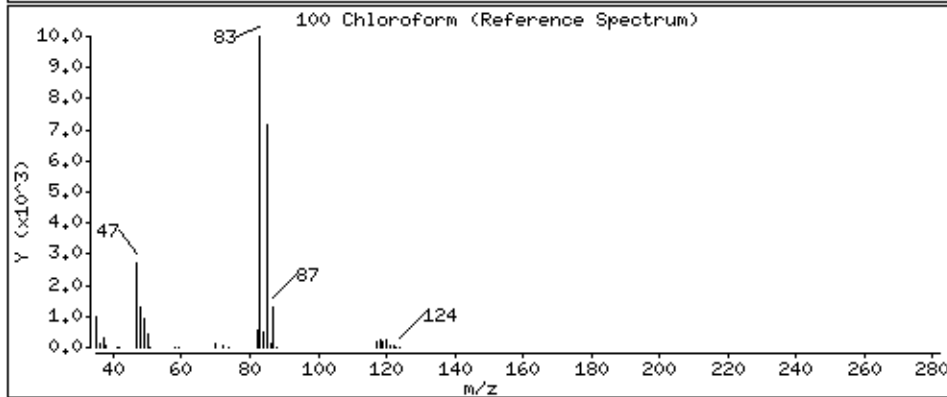
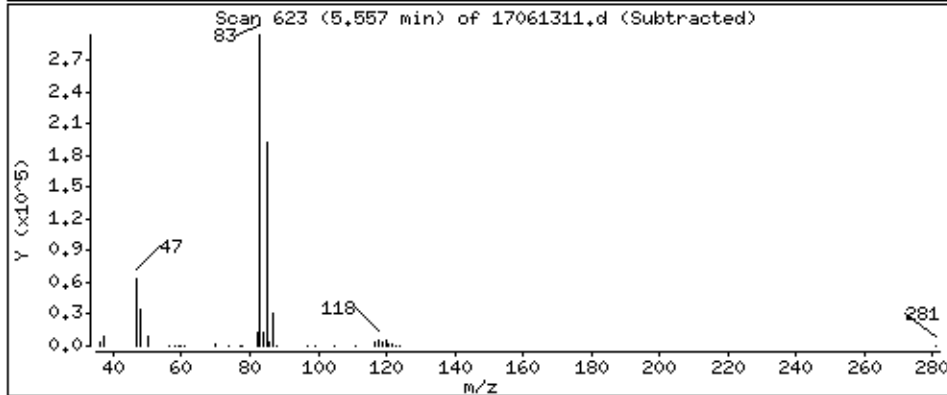
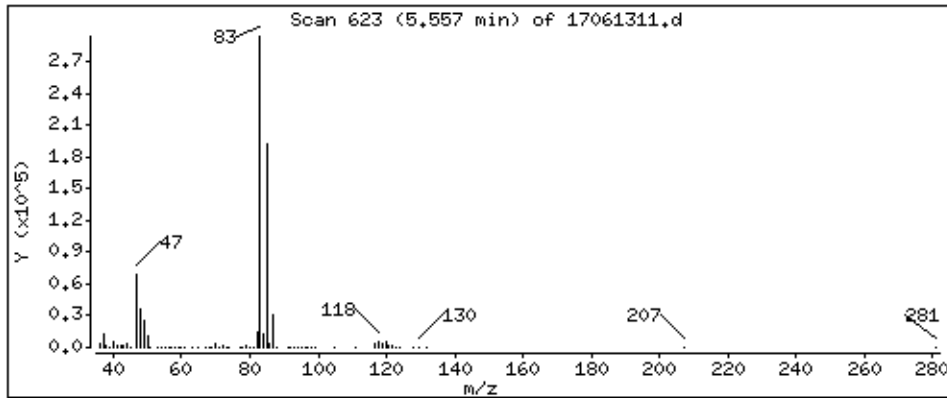
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

100 Chloroform

Concentration: 50.010 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

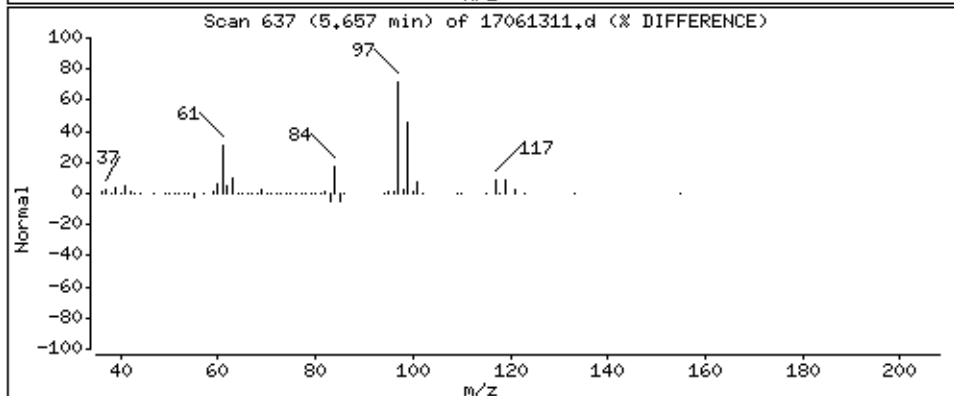
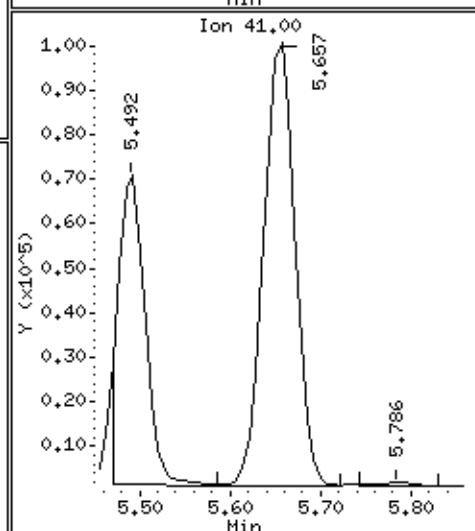
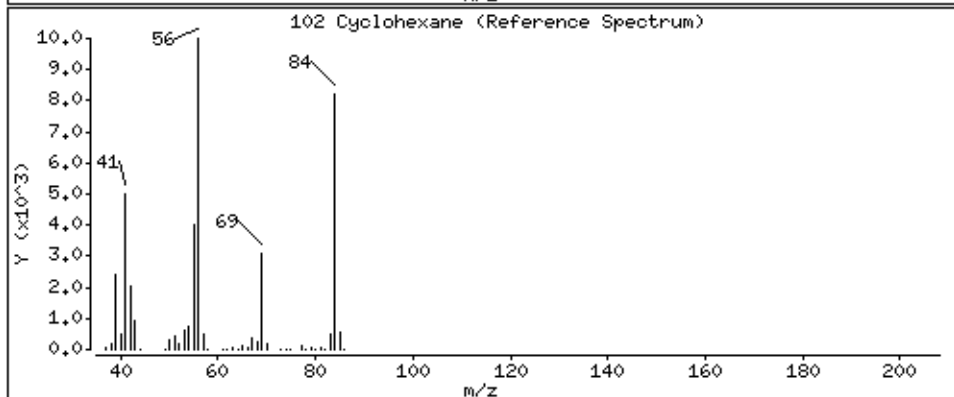
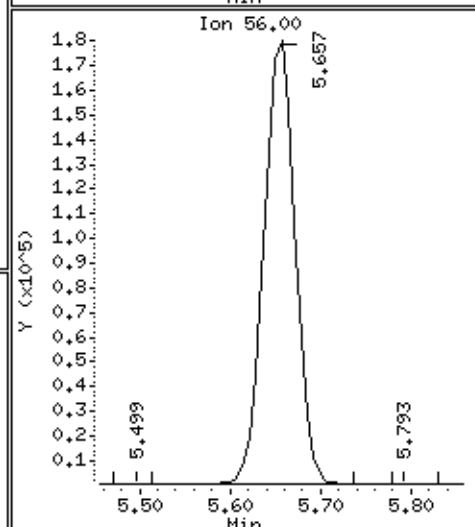
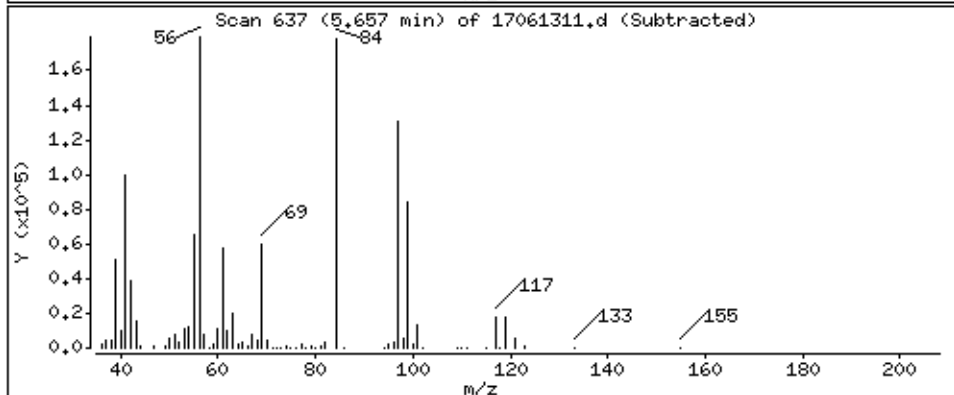
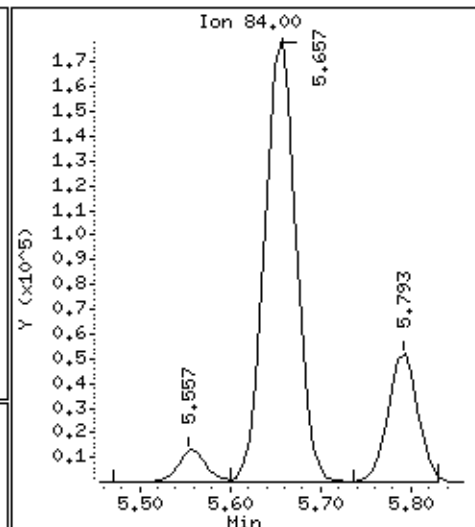
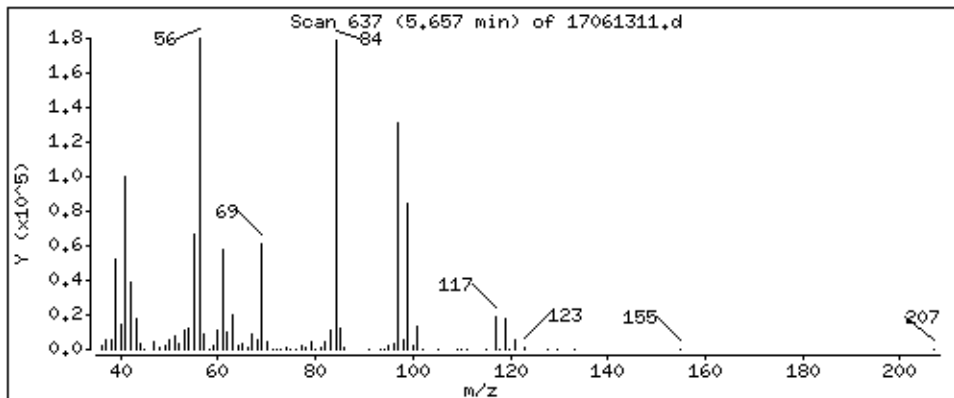
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

102 Cyclohexane

Concentration: 50,992 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

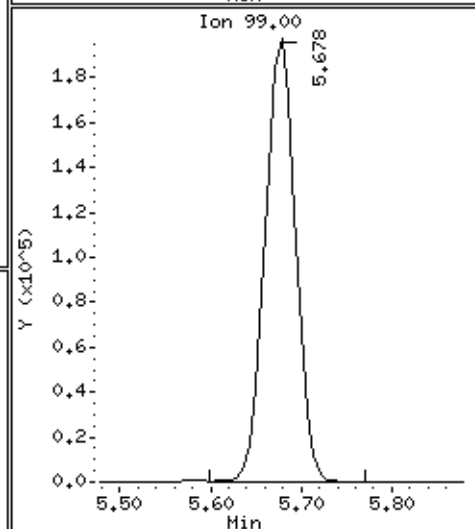
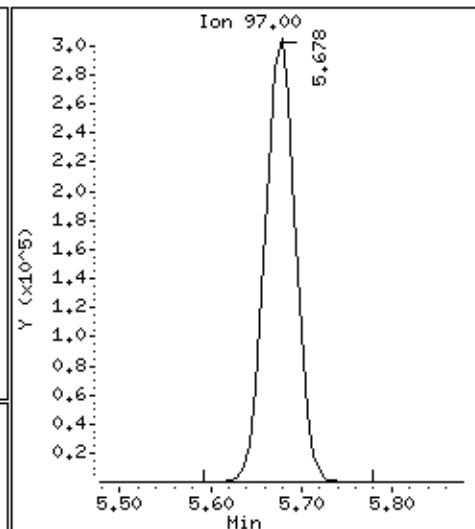
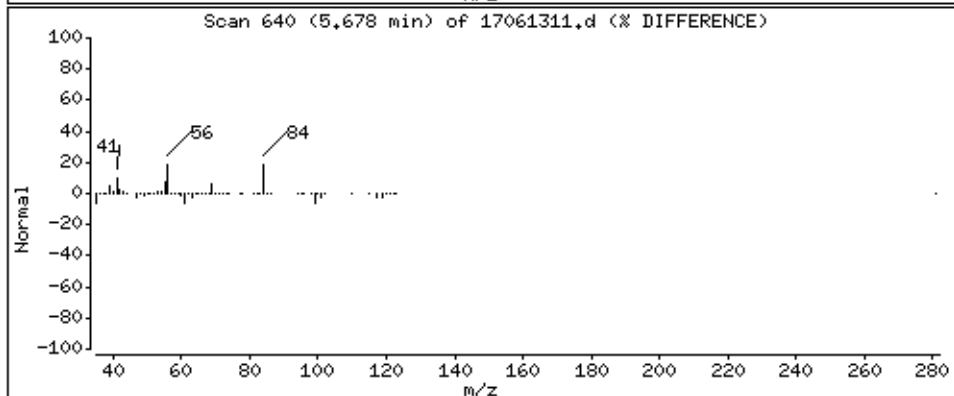
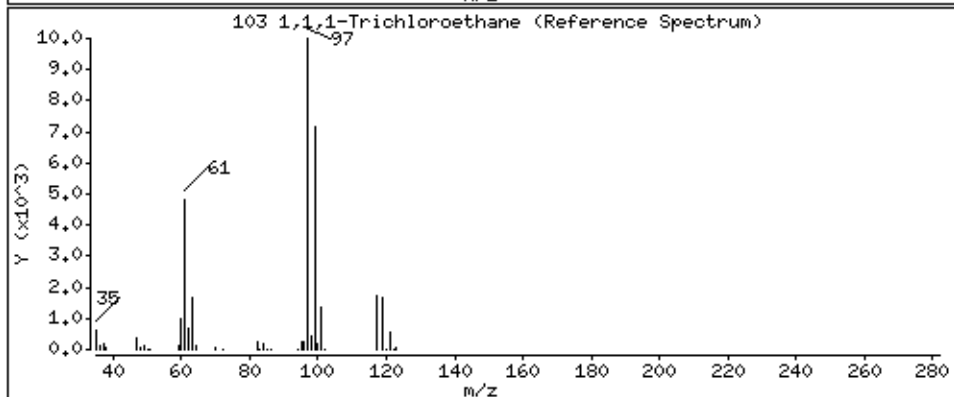
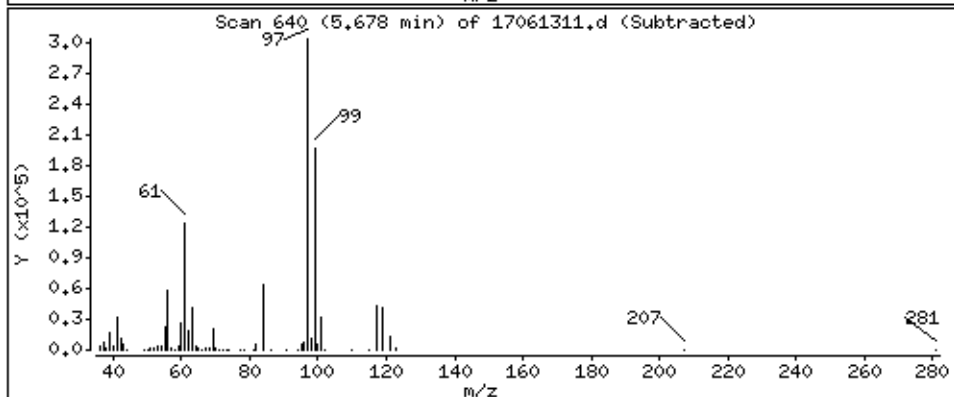
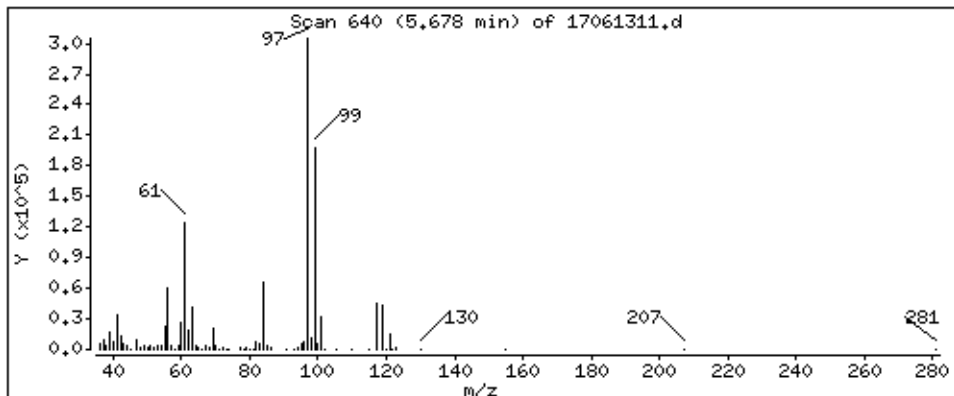
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

103 1,1,1-Trichloroethane

Concentration: 51,126 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

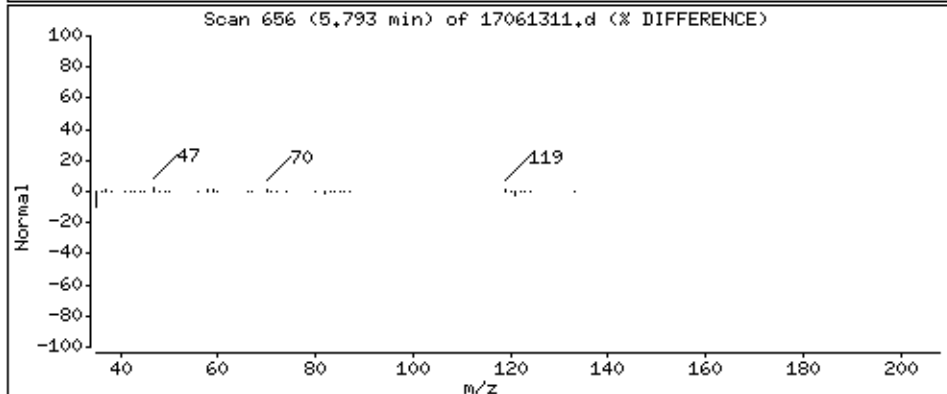
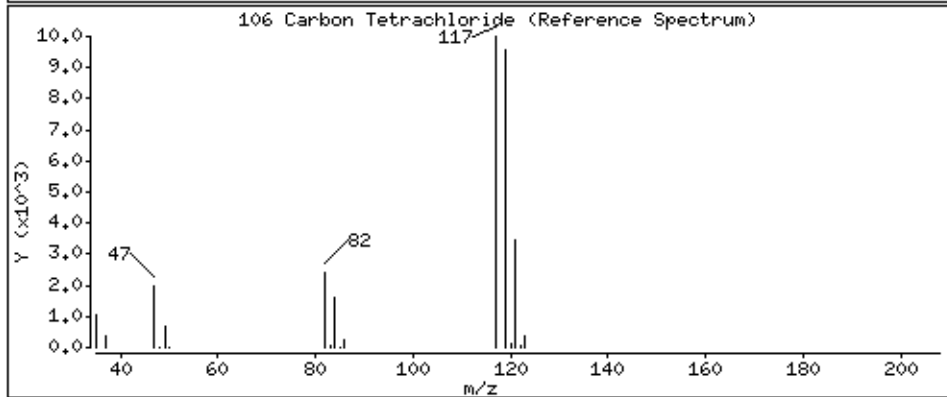
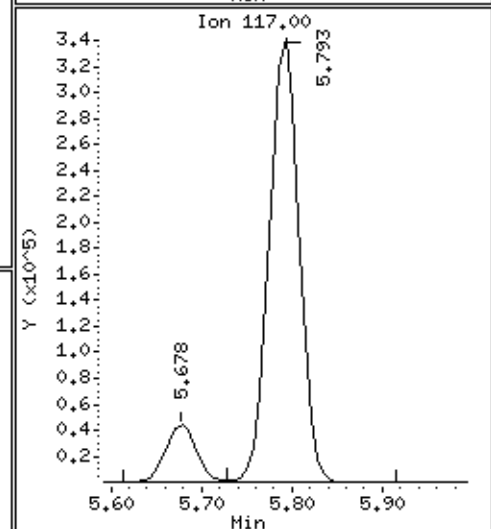
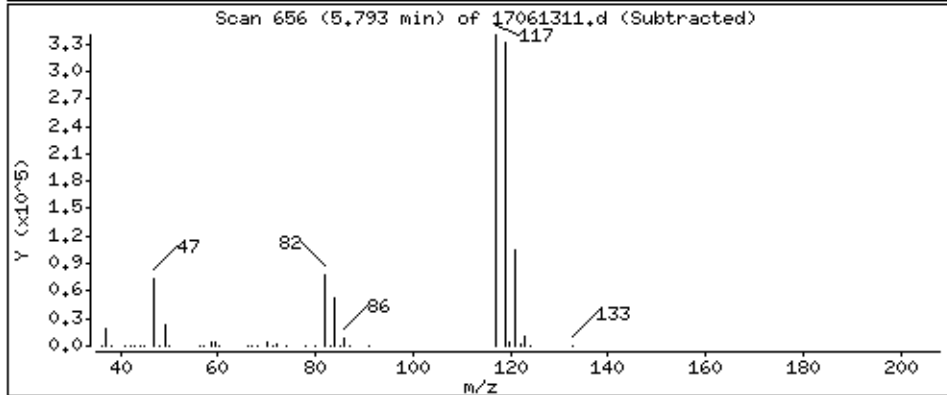
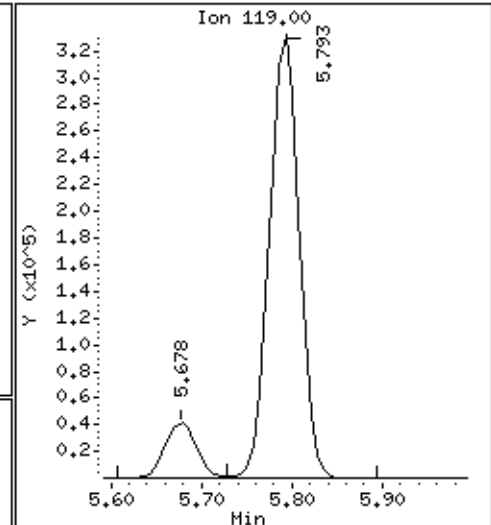
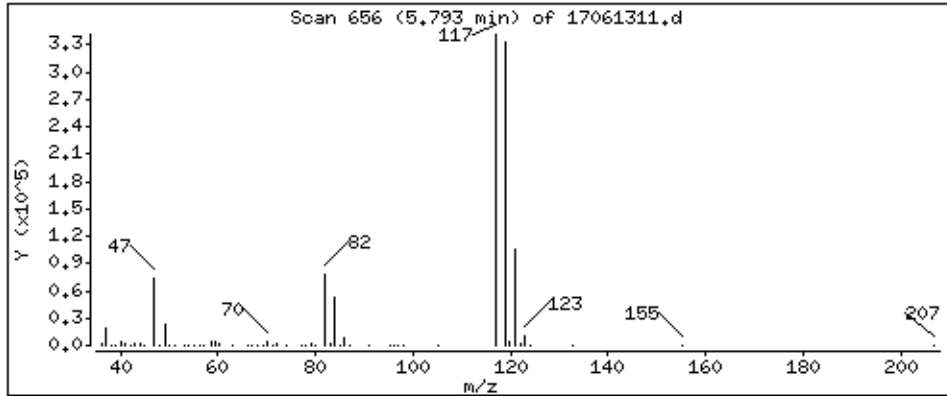
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

106 Carbon Tetrachloride

Concentration: 49,843 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

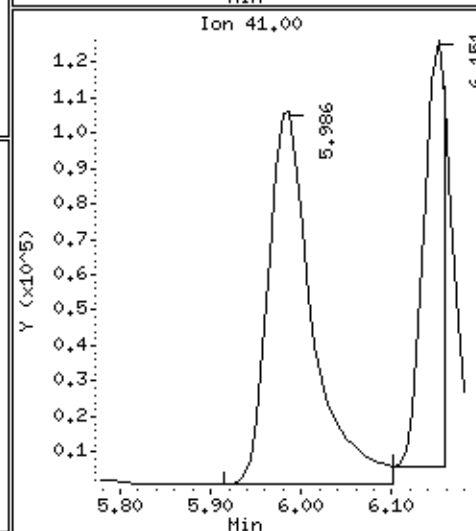
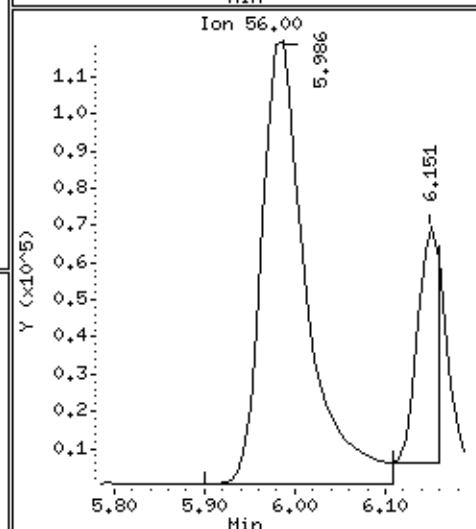
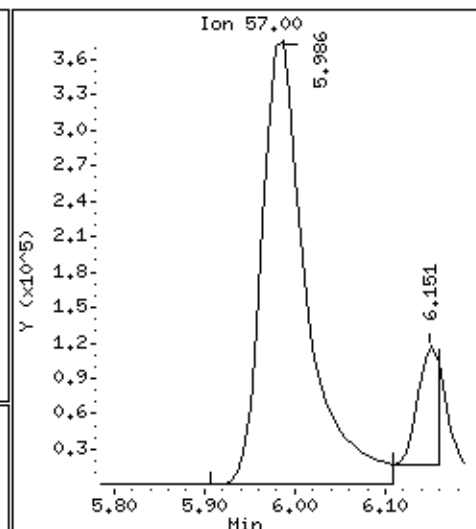
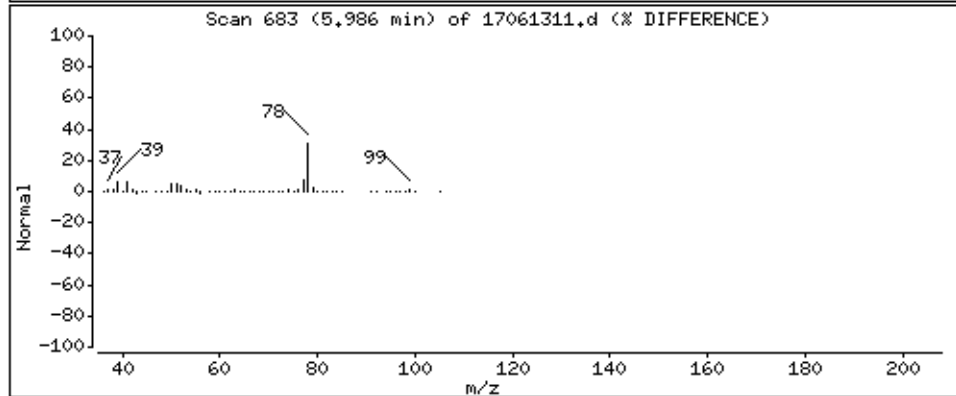
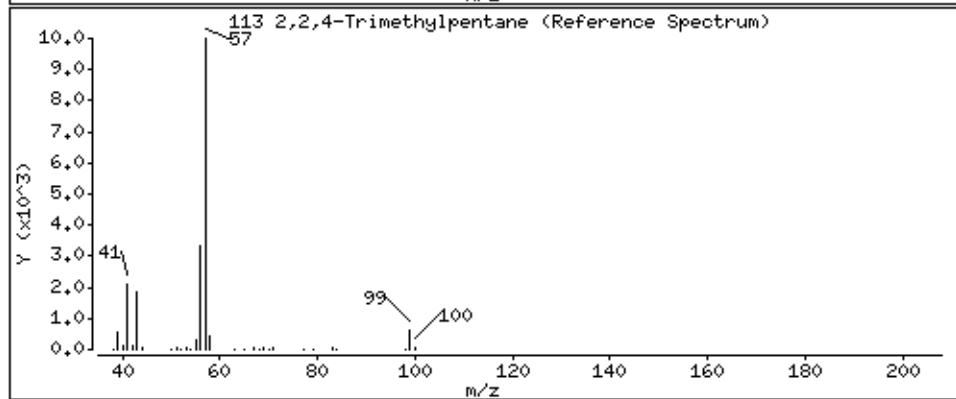
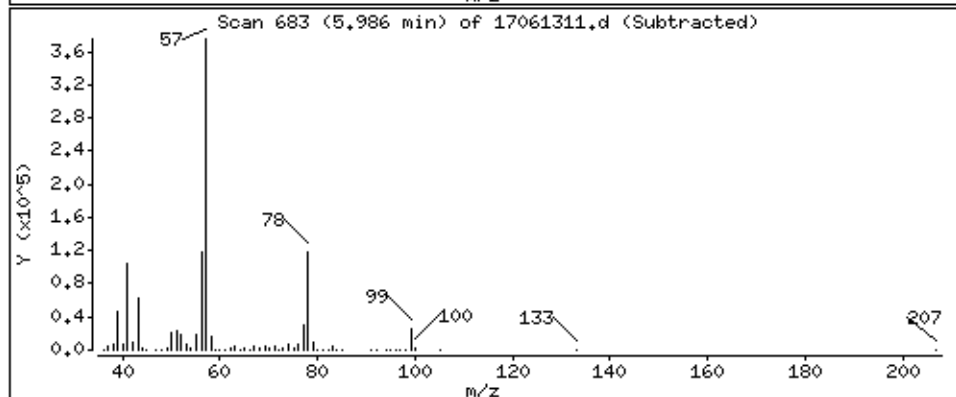
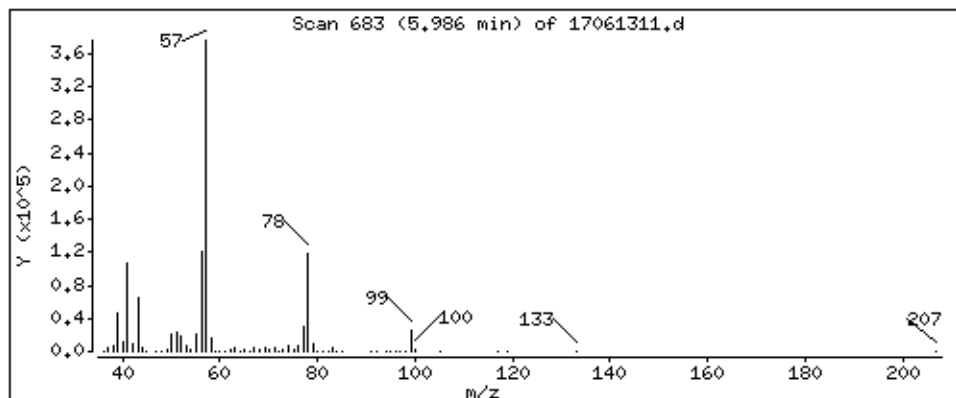
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

113 2,2,4-Trimethylpentane

Concentration: 50,852 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

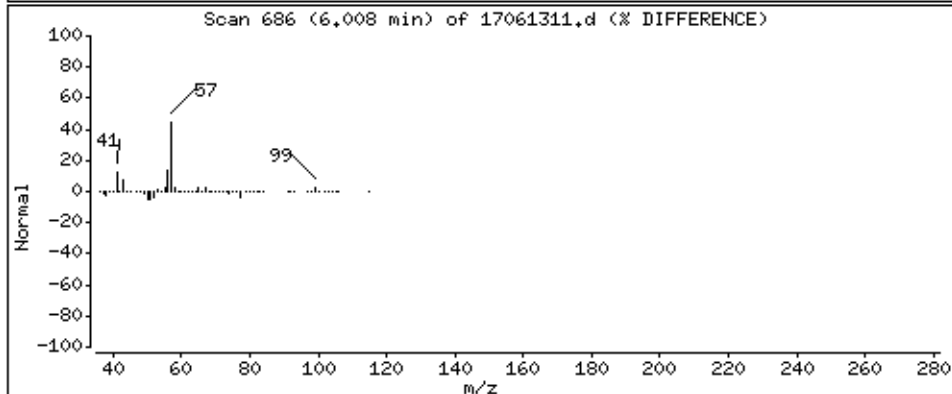
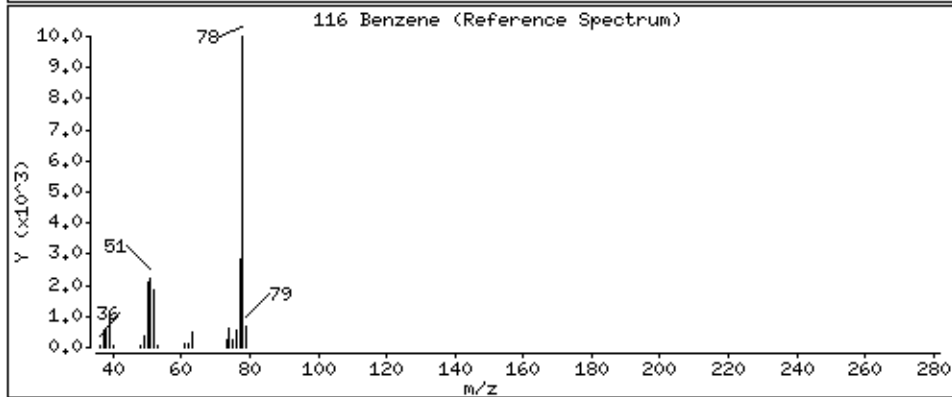
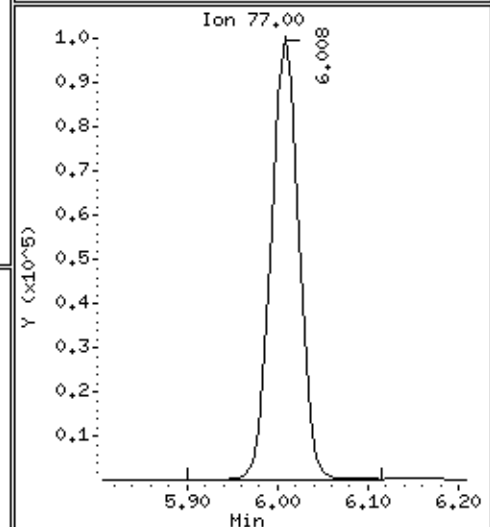
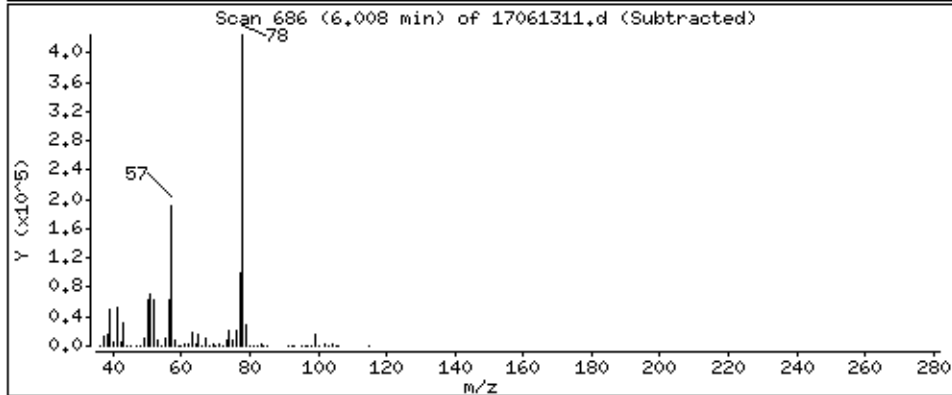
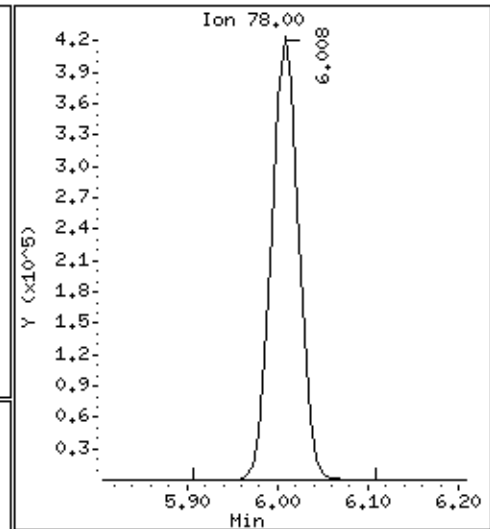
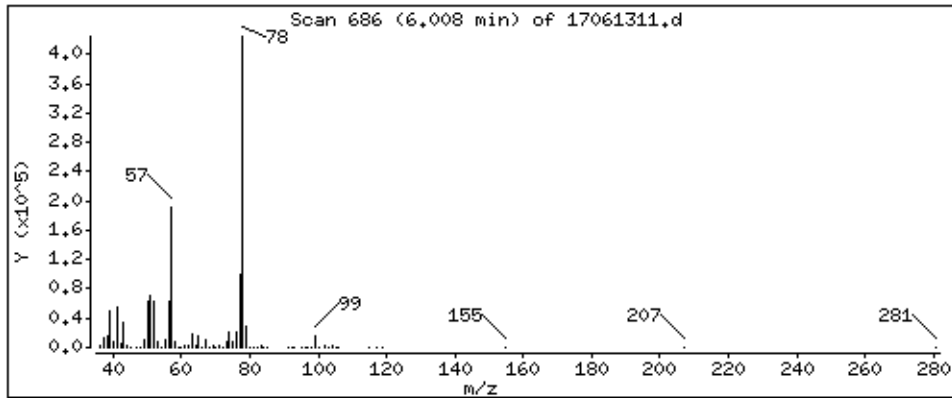
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

116 Benzene

Concentration: 48,143 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

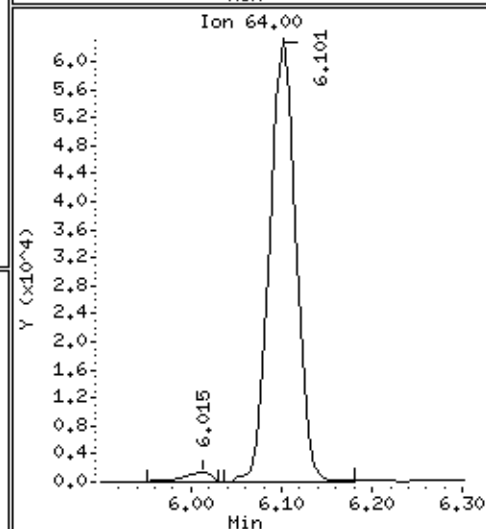
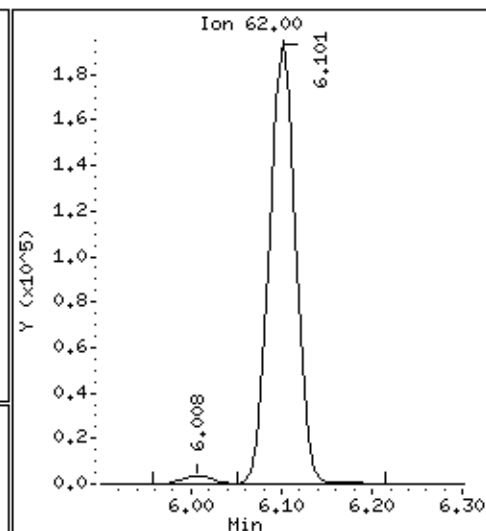
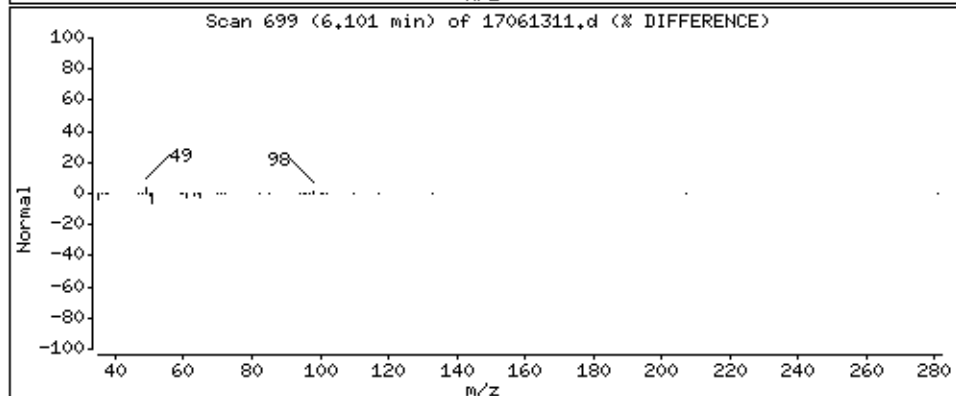
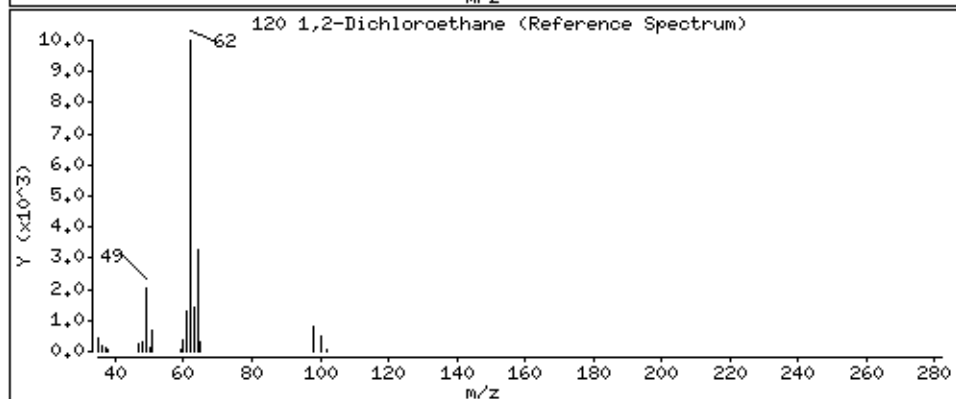
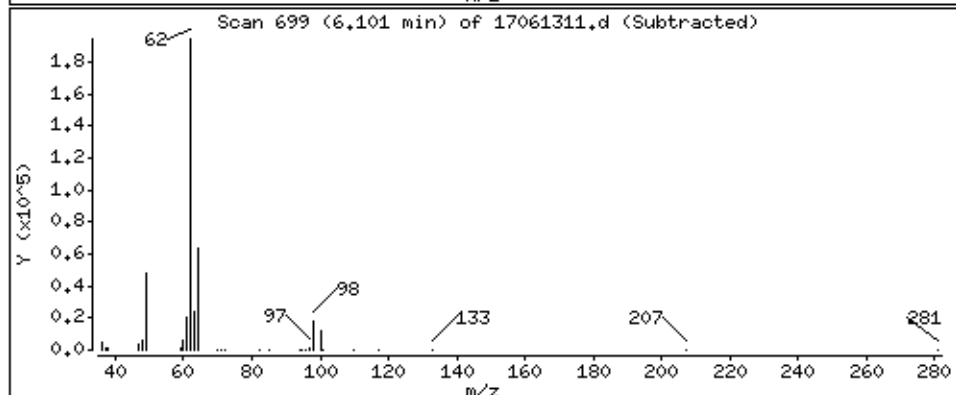
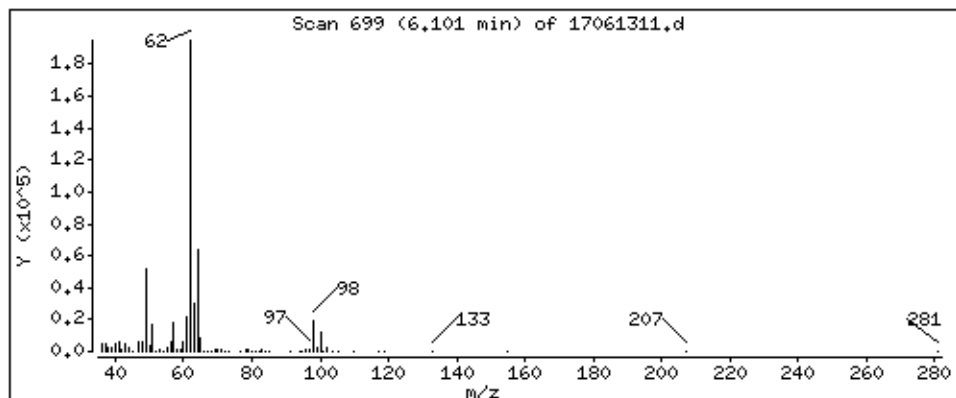
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

120 1,2-Dichloroethane

Concentration: 47,292 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

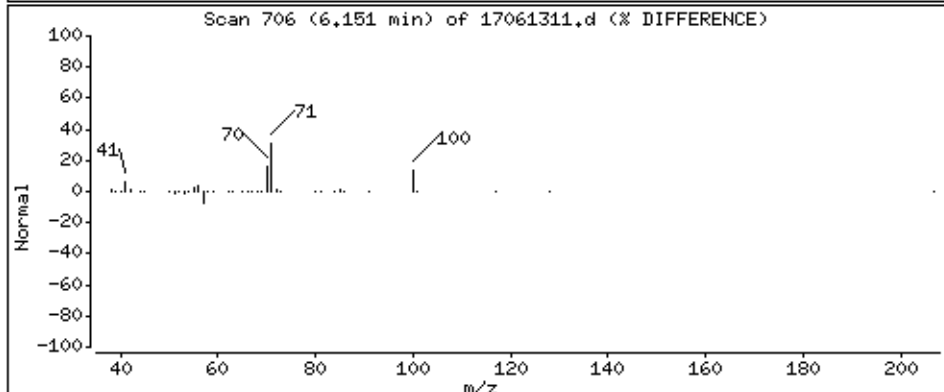
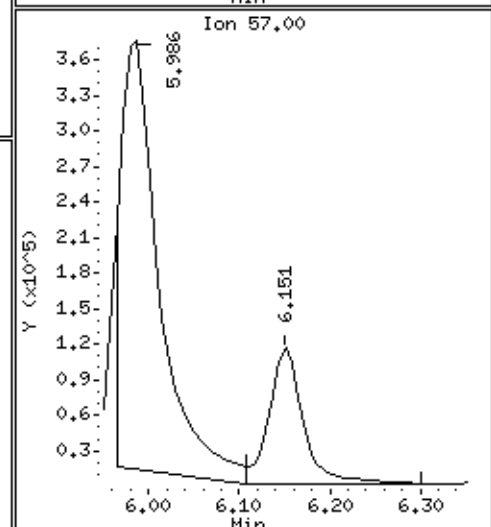
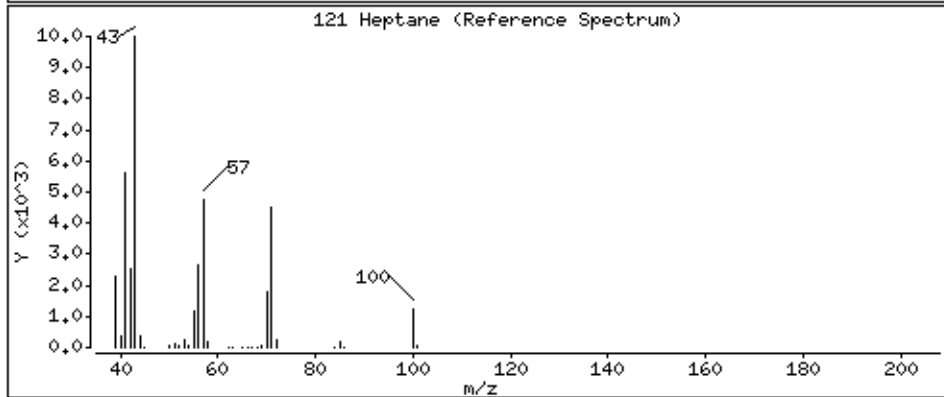
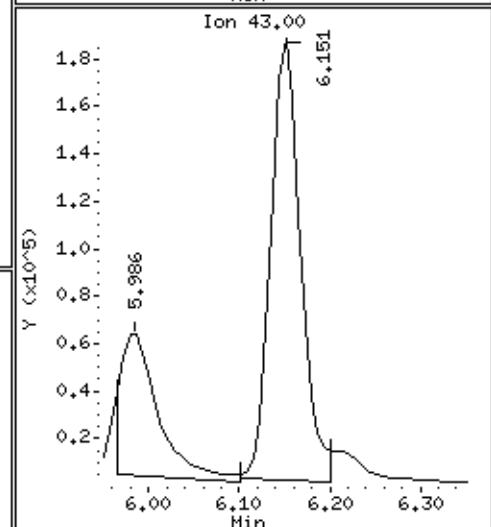
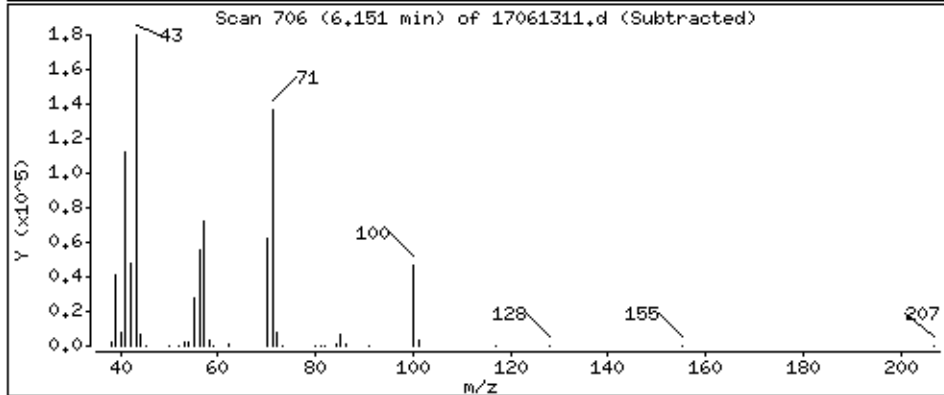
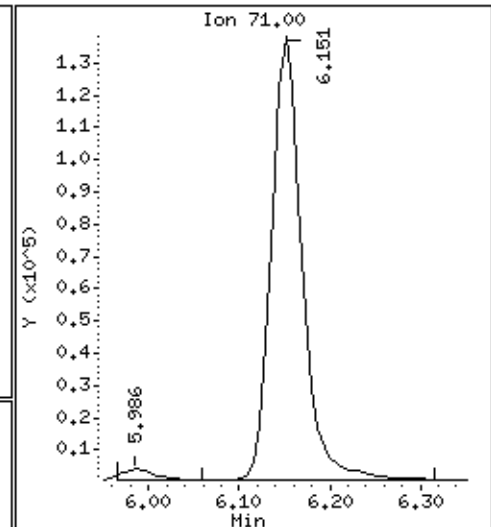
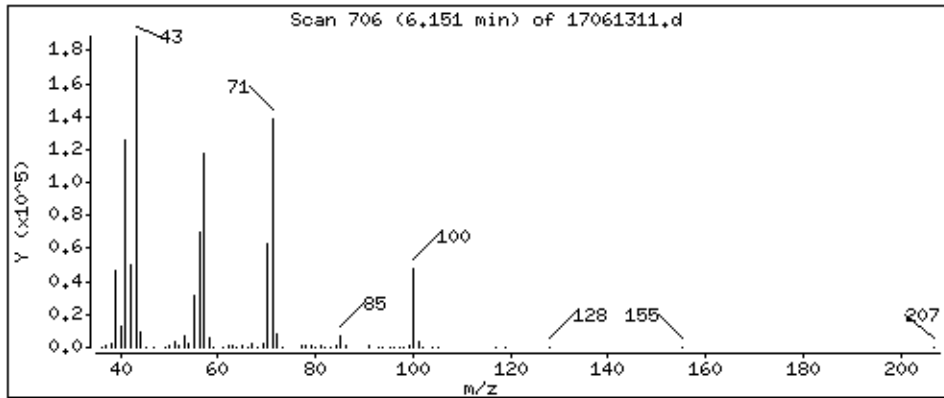
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

121 Heptane

Concentration: 49,928 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

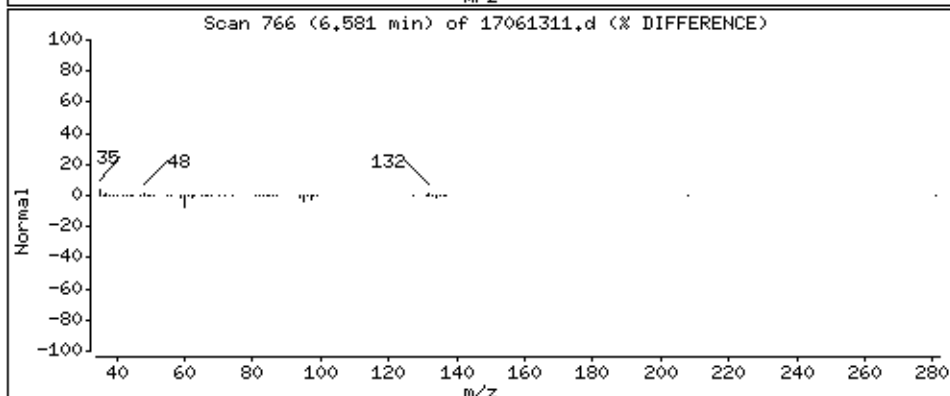
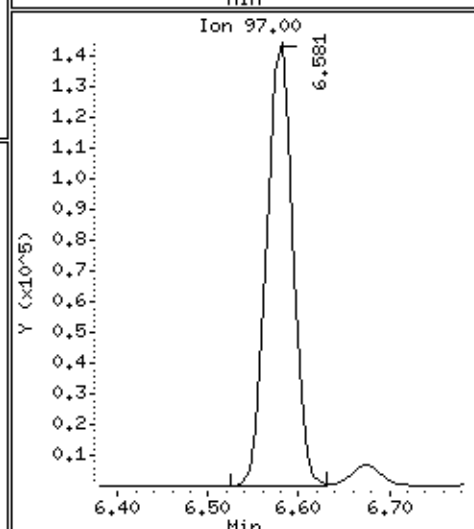
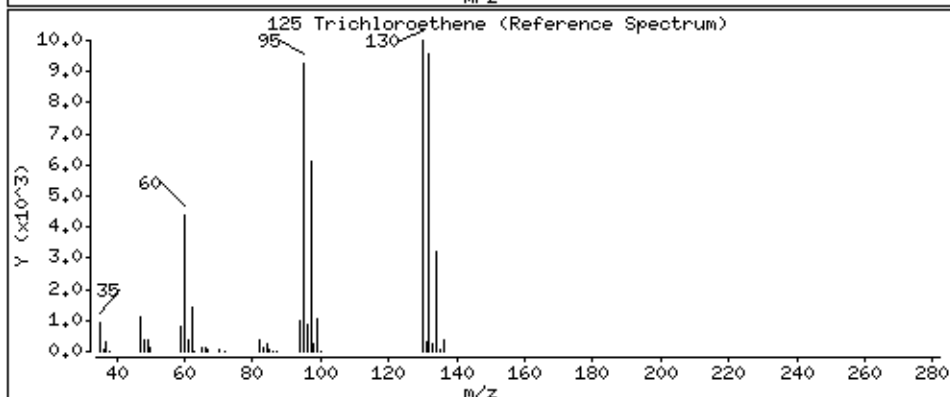
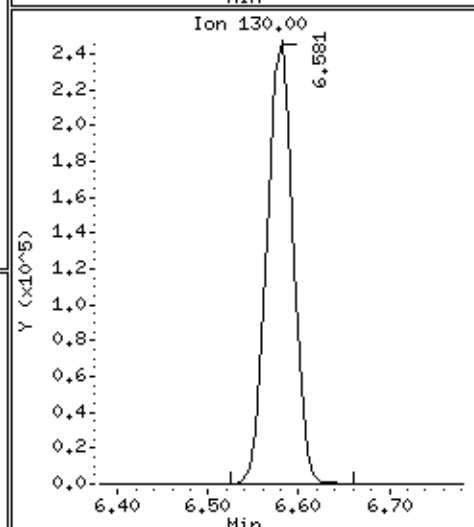
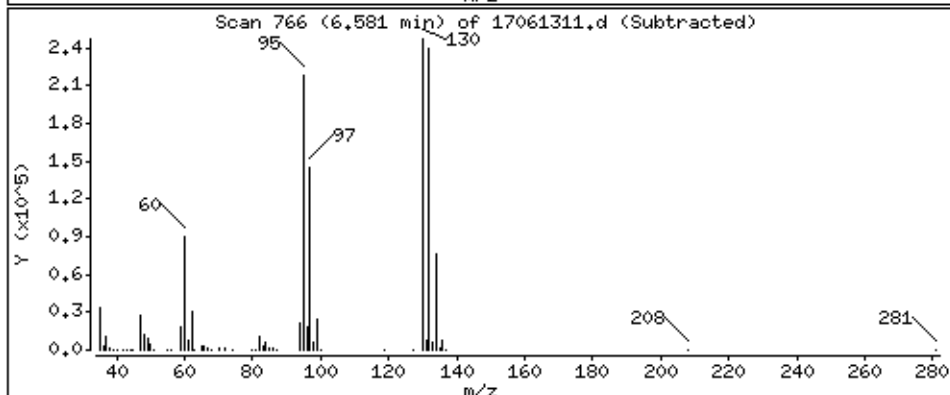
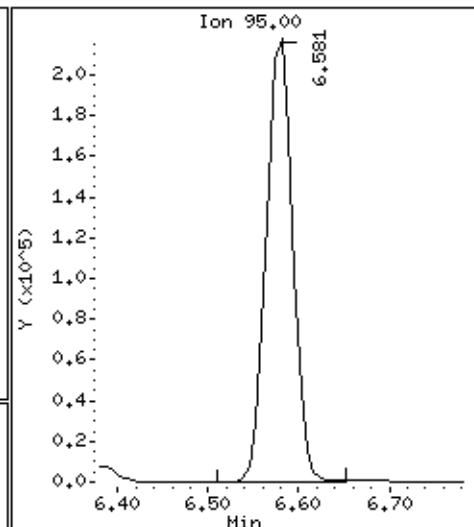
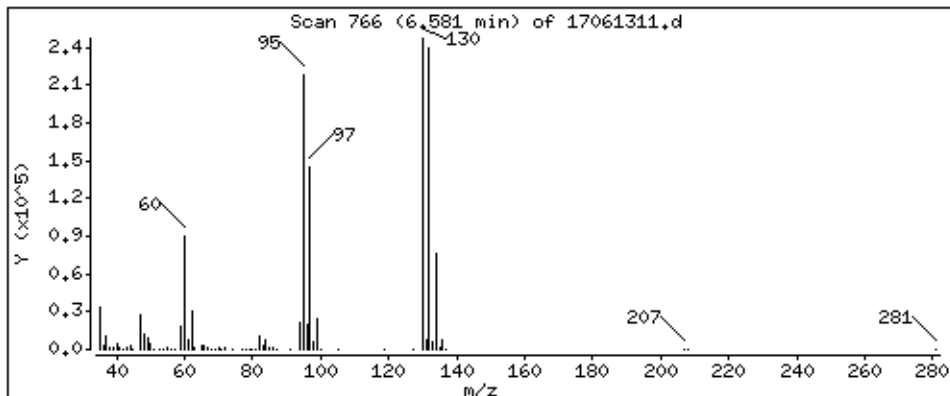
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

125 Trichloroethene

Concentration: 49,908 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

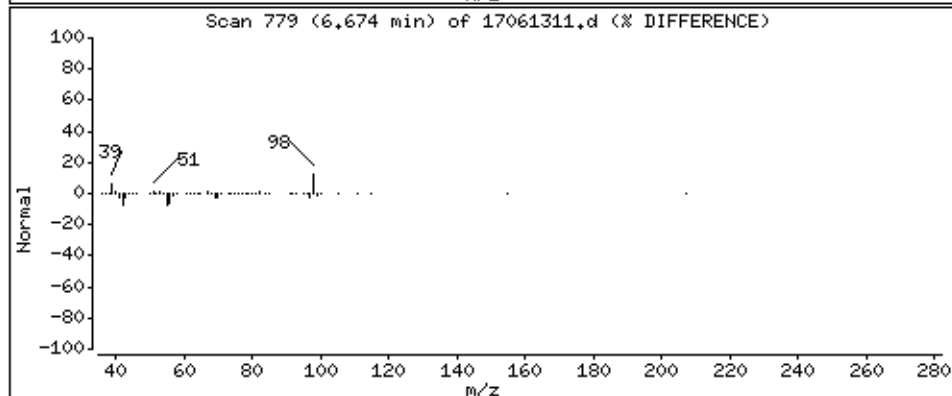
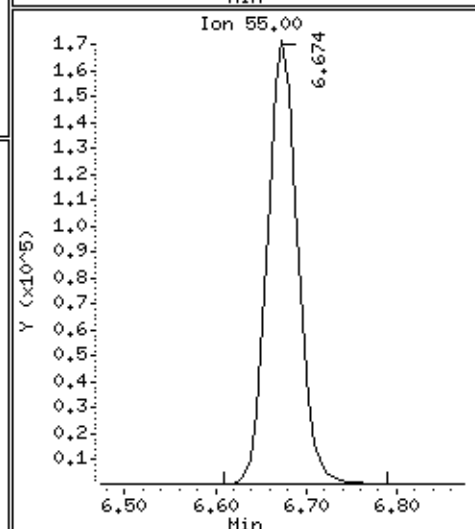
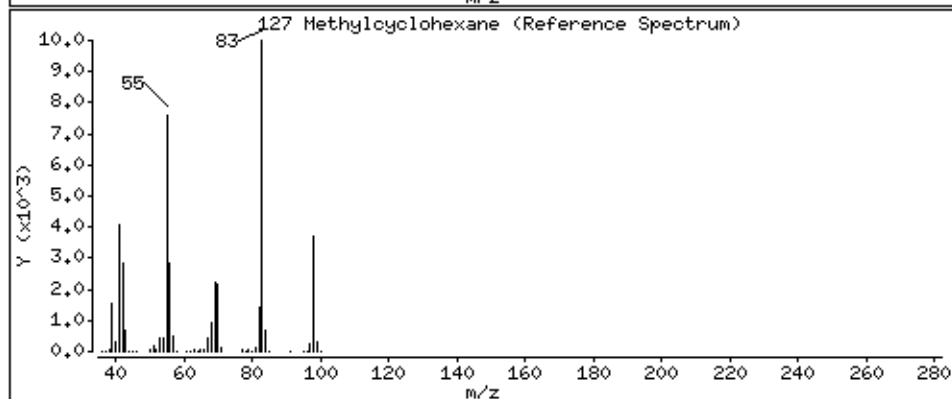
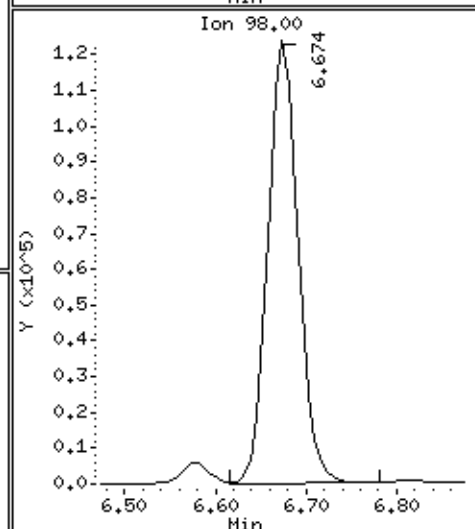
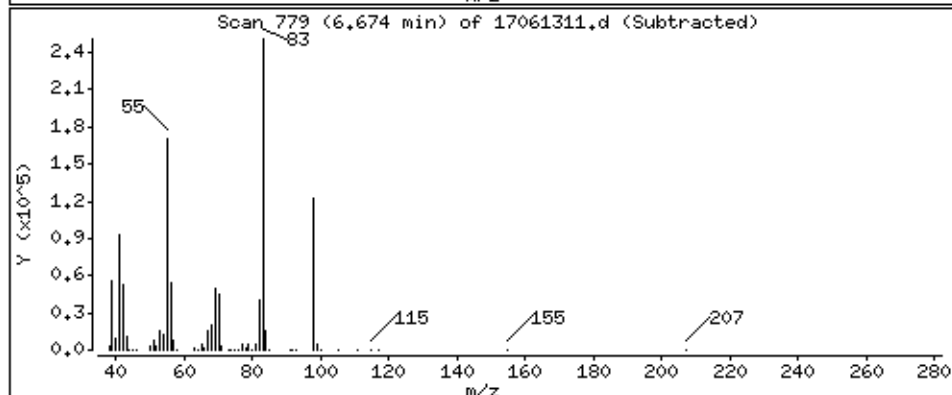
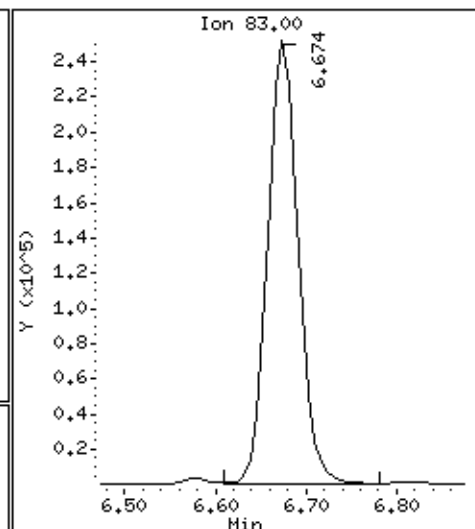
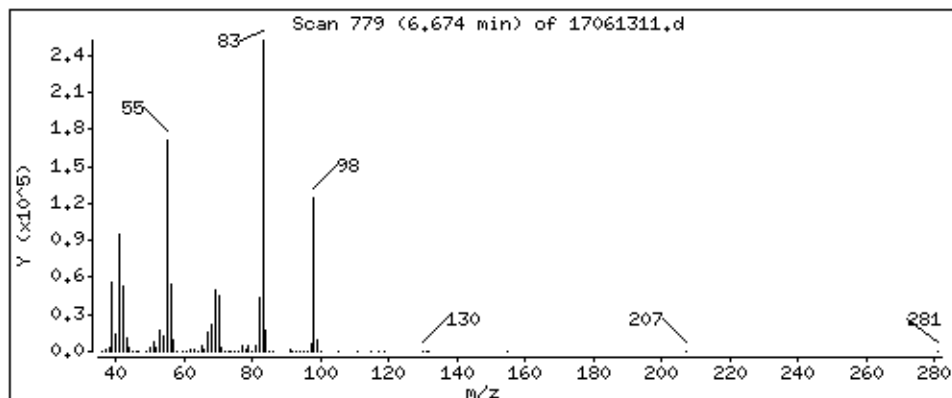
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

127 Methylcyclohexane

Concentration: 51.155 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

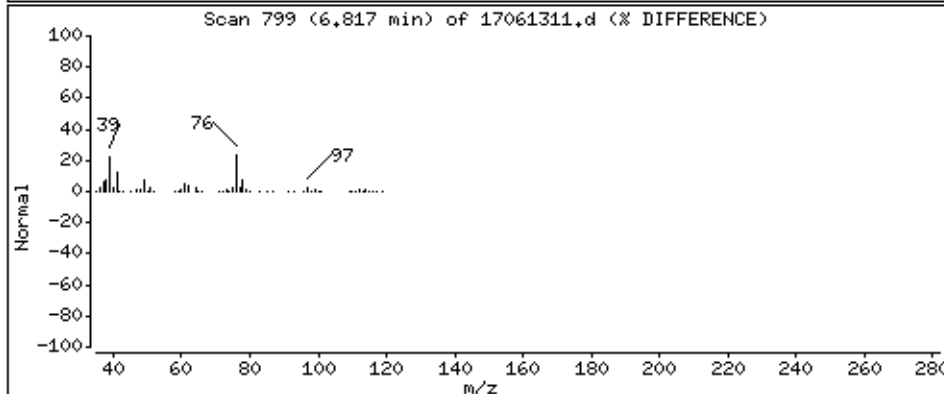
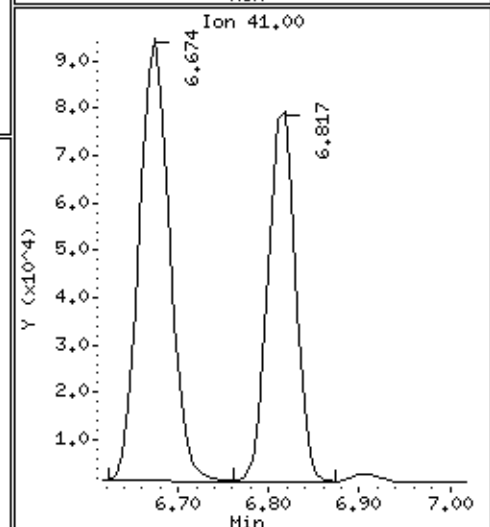
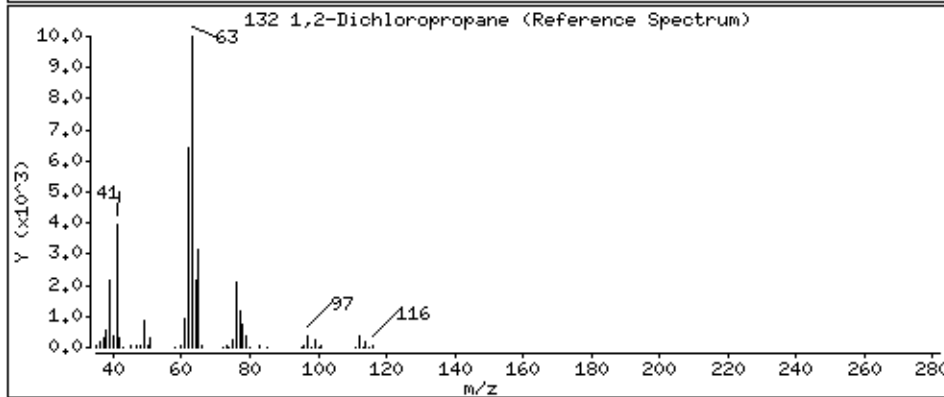
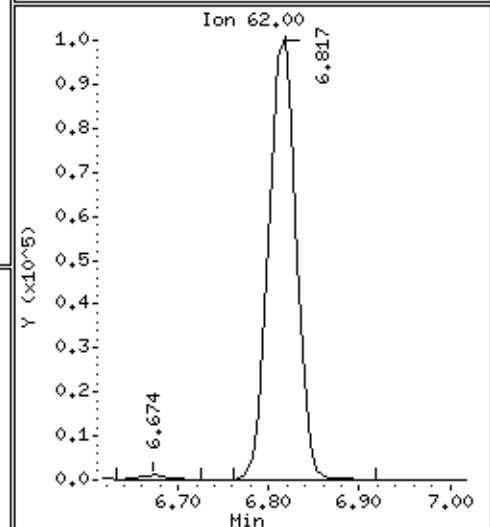
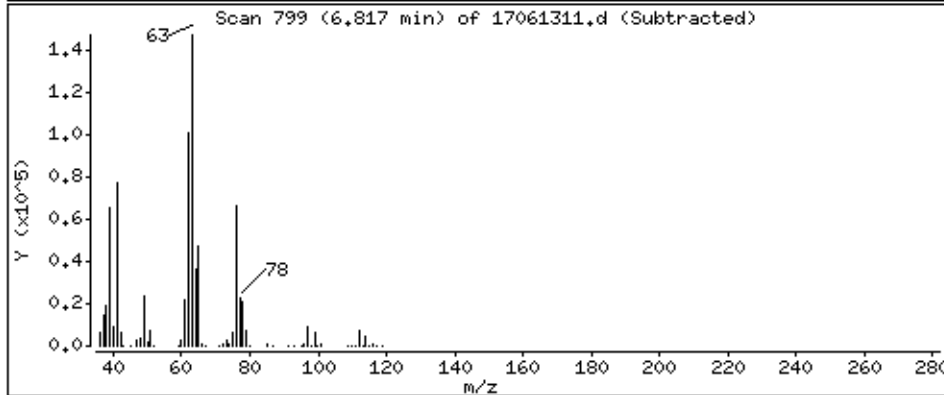
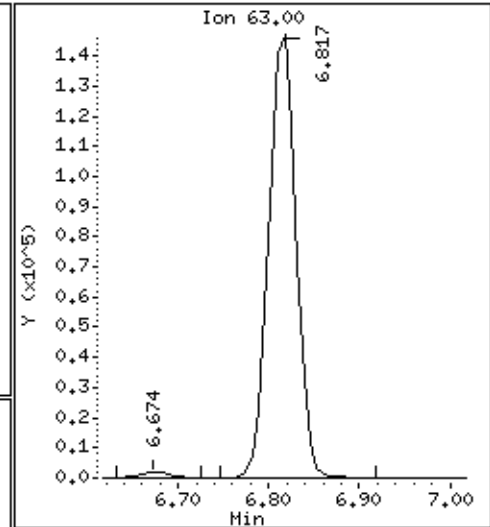
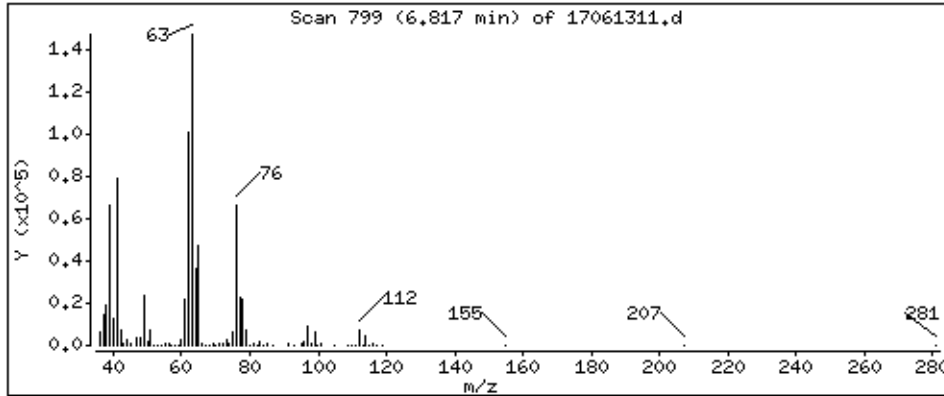
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

132 1,2-Dichloropropane

Concentration: 47,170 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

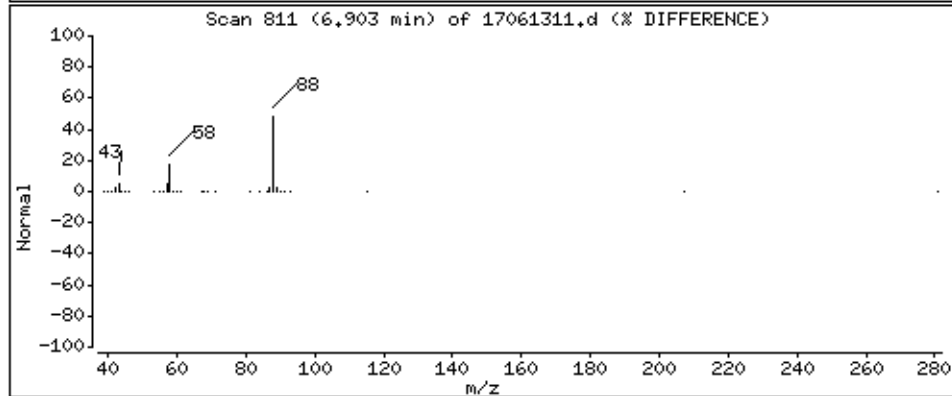
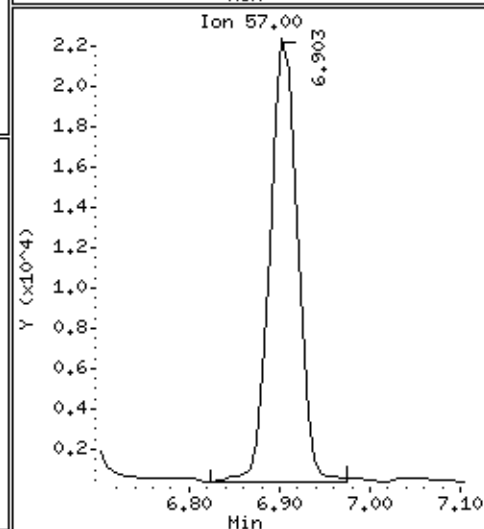
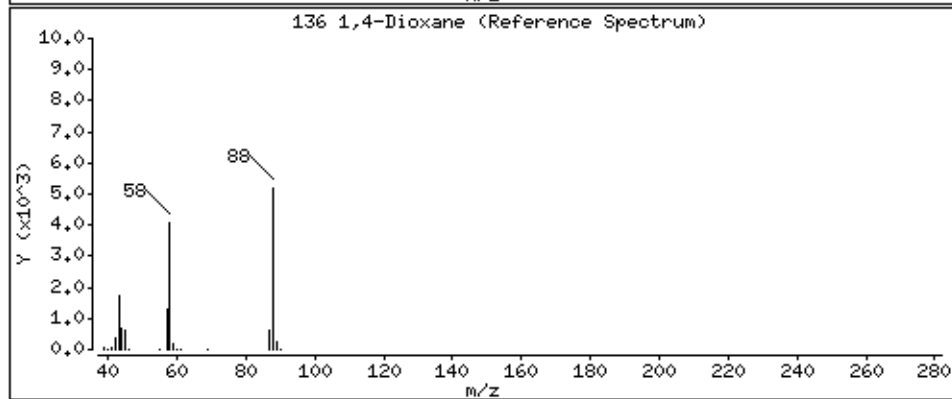
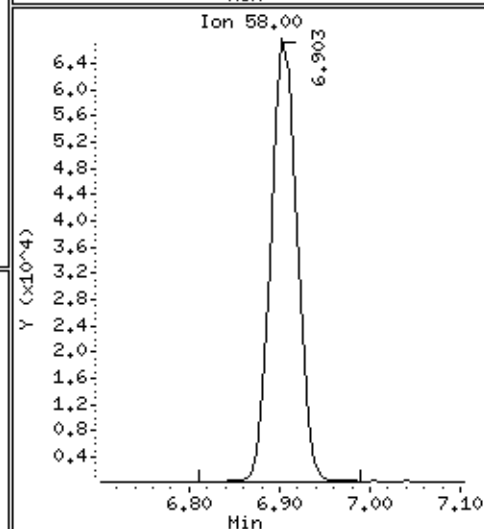
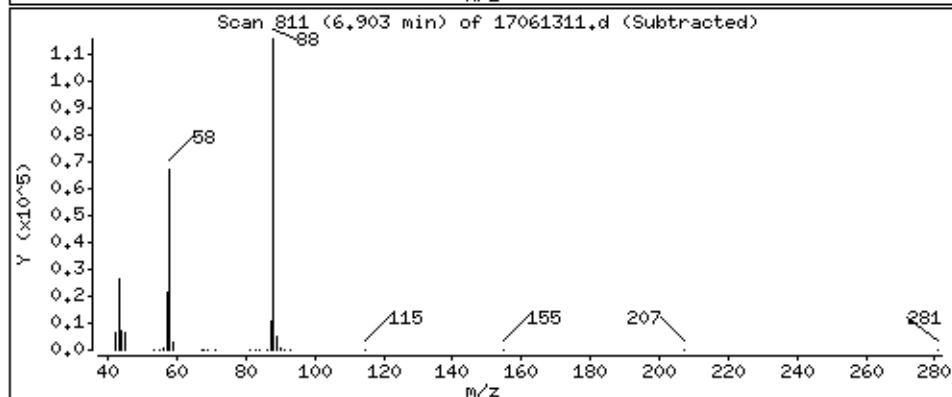
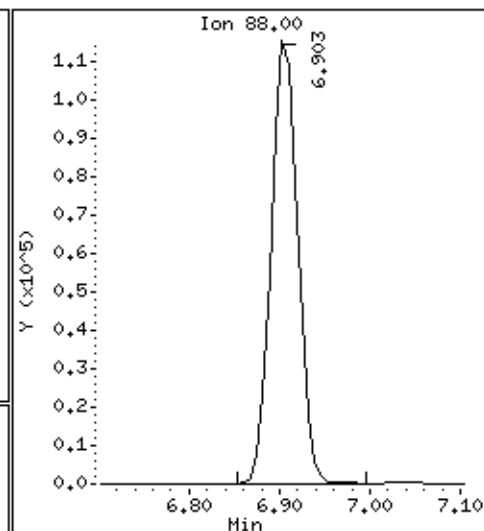
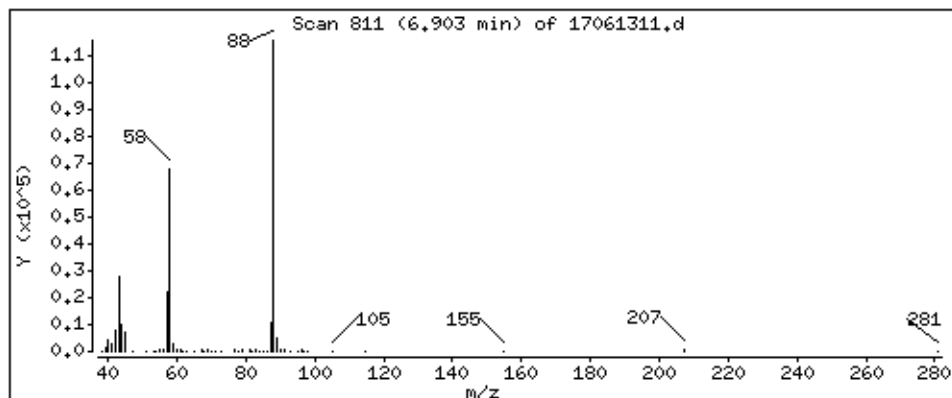
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

136 1,4-Dioxane

Concentration: 50,681 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

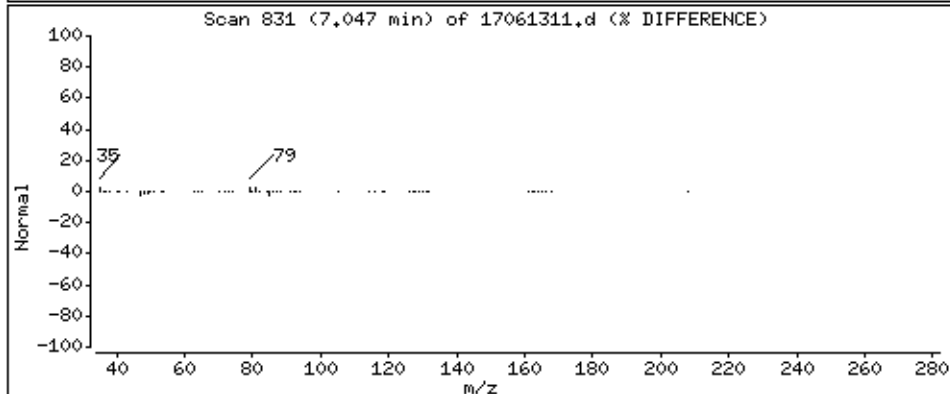
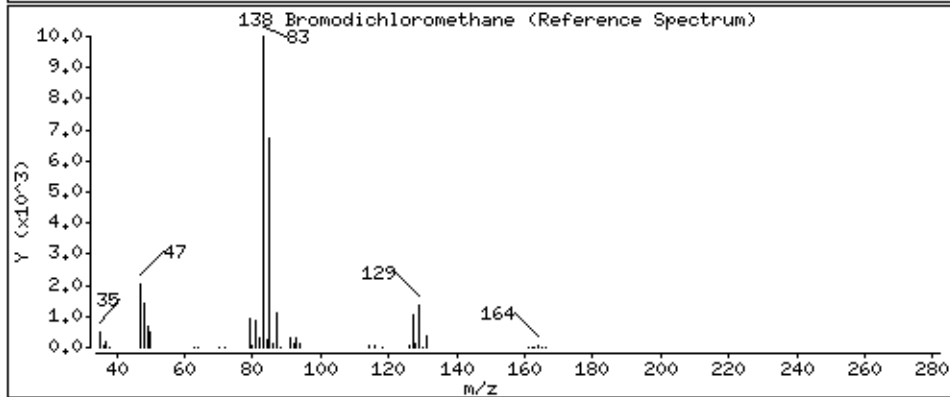
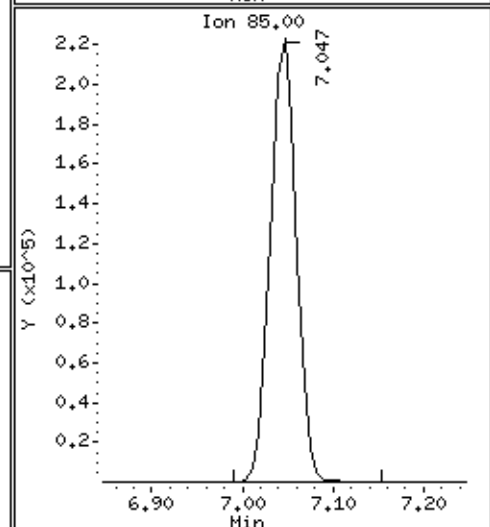
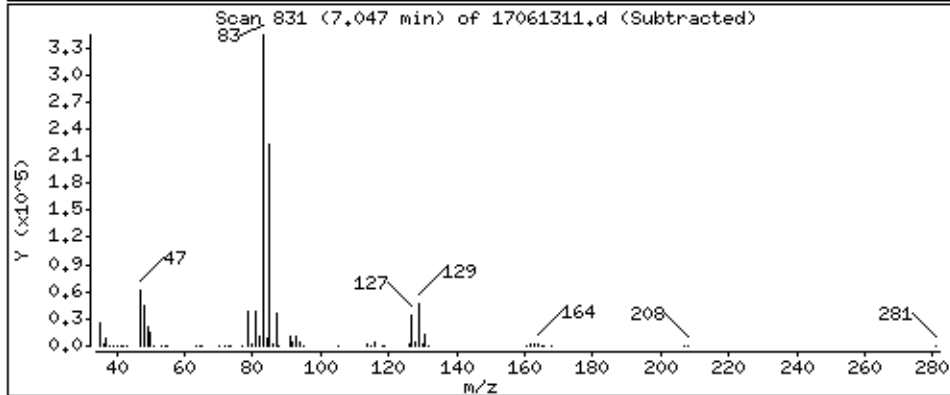
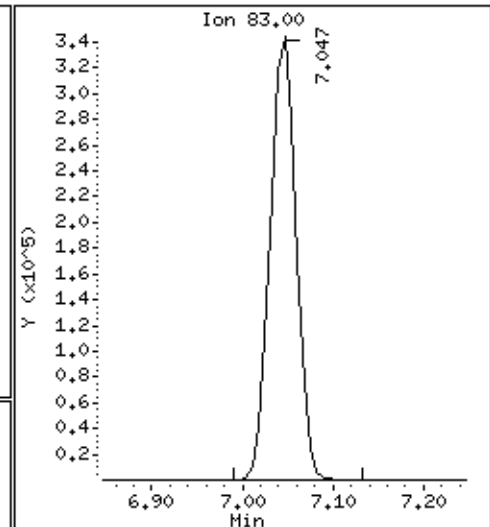
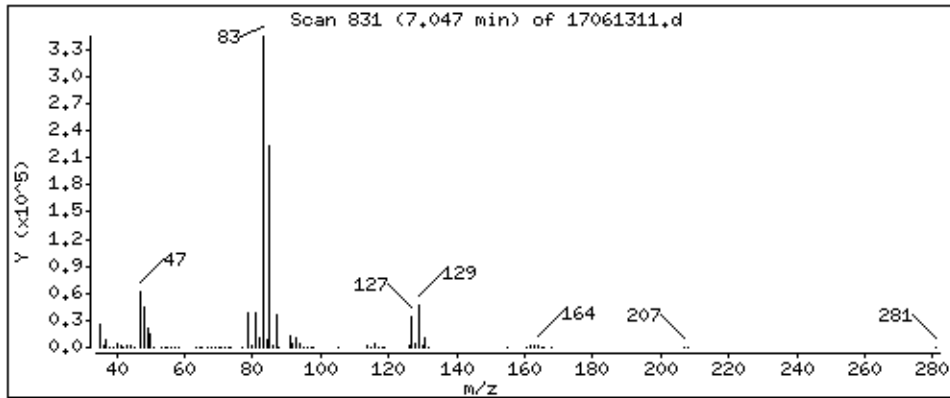
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

138 Bromodichloromethane

Concentration: 49,815 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

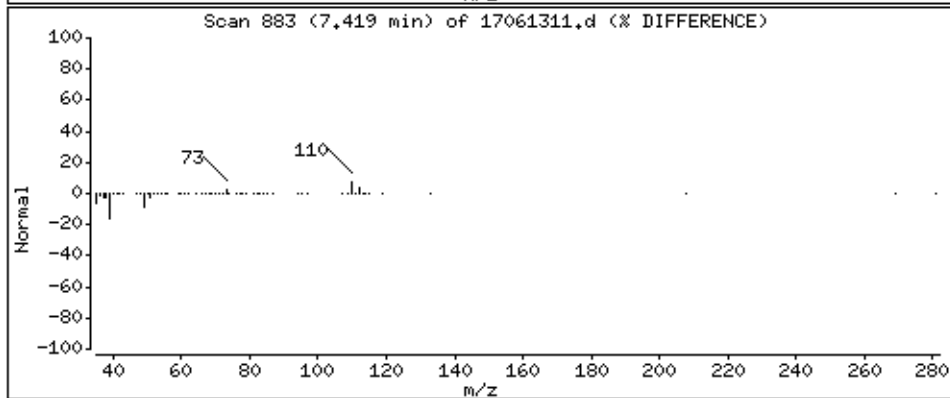
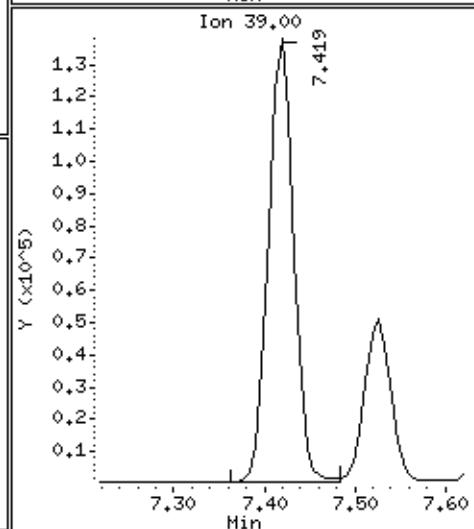
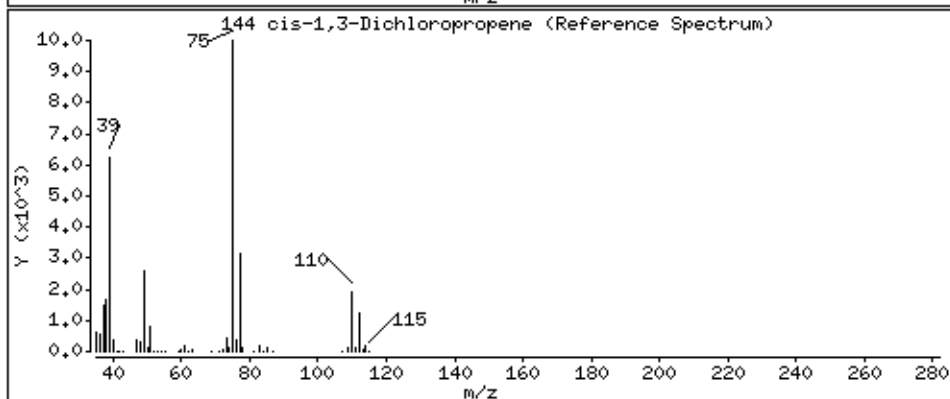
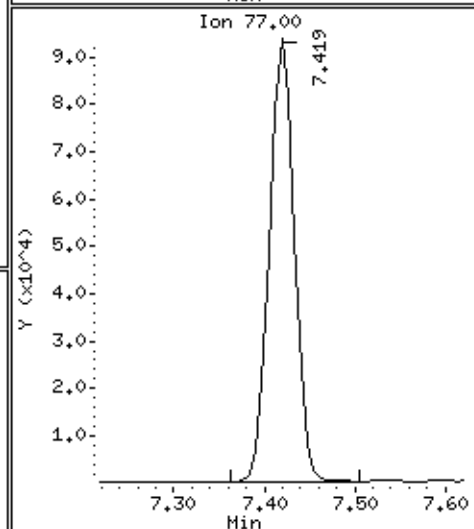
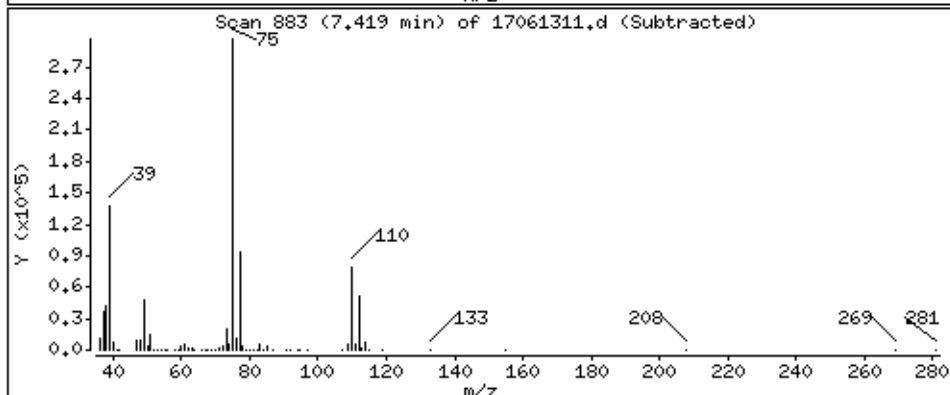
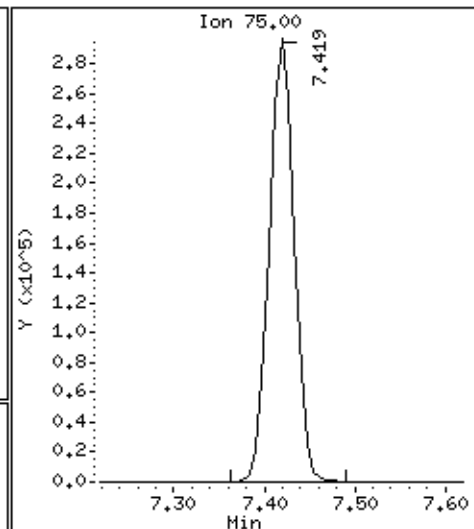
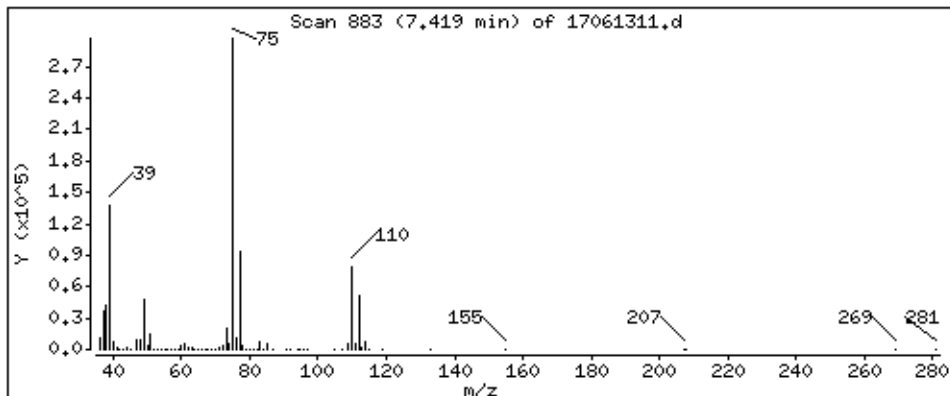
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

144 cis-1,3-Dichloropropene

Concentration: 52,604 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

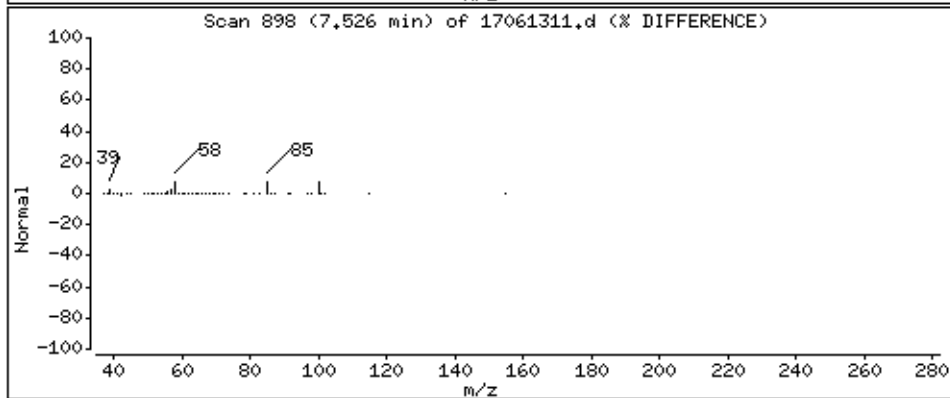
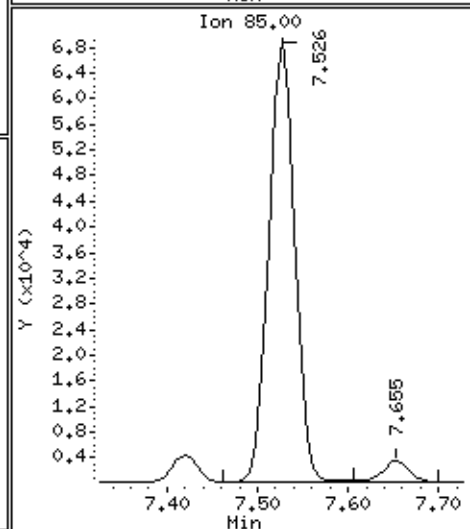
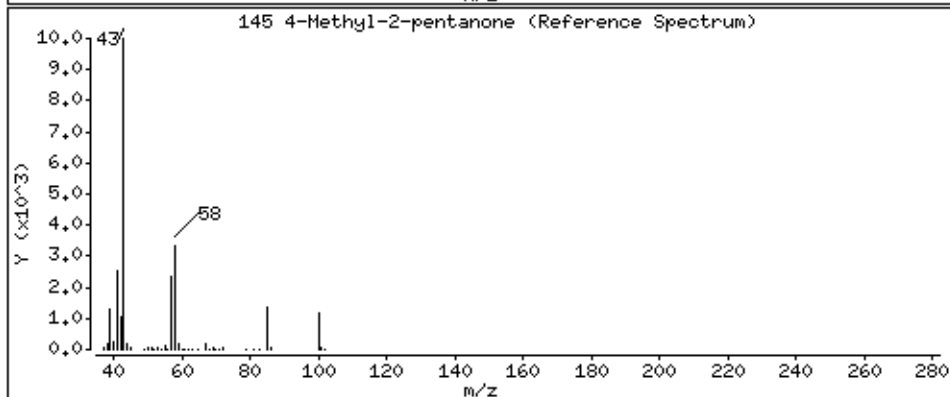
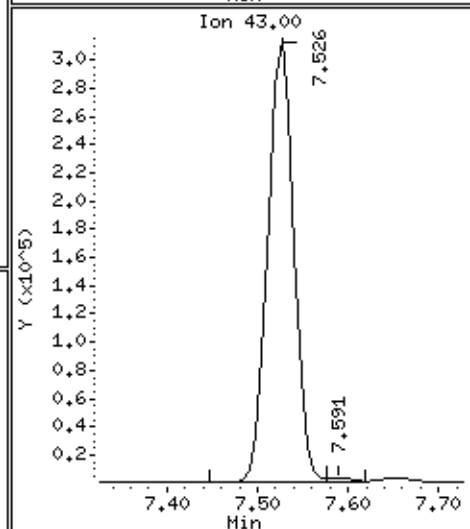
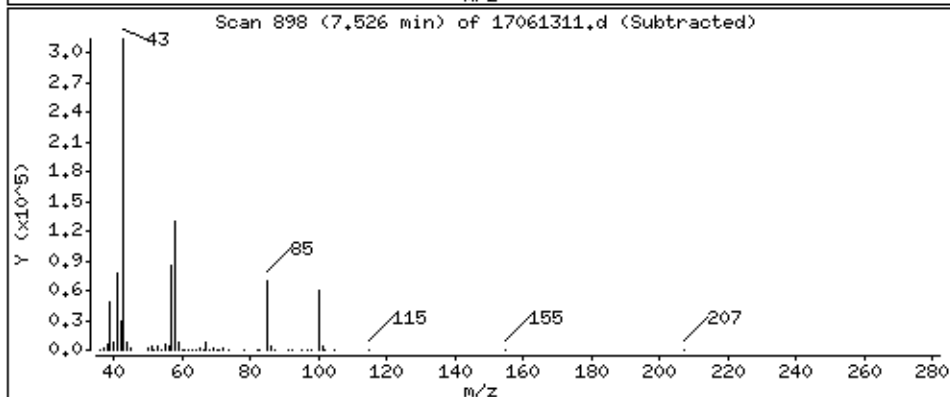
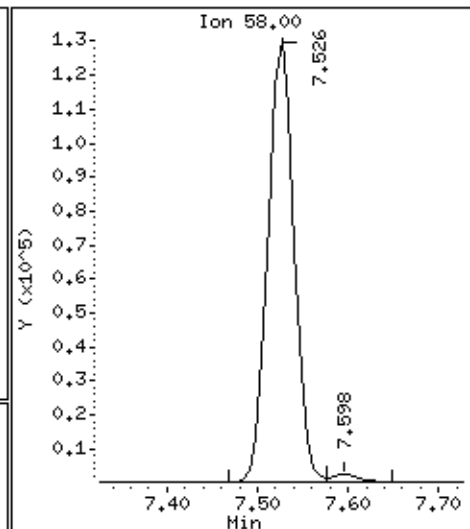
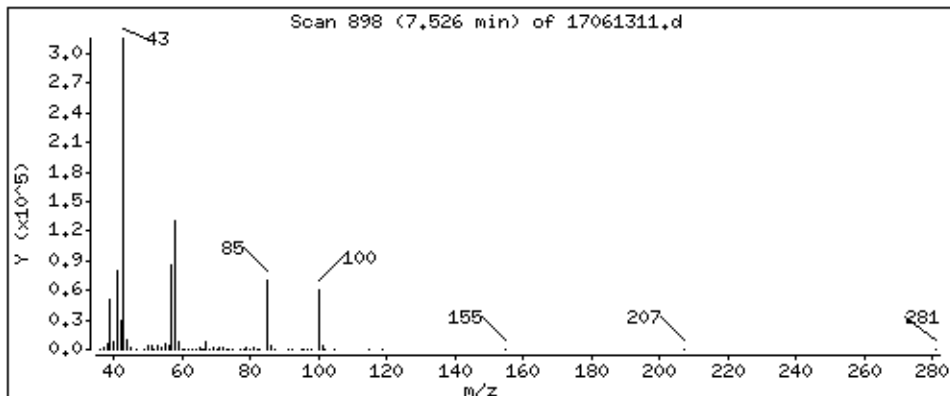
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

145 4-Methyl-2-pentanone

Concentration: 48,873 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

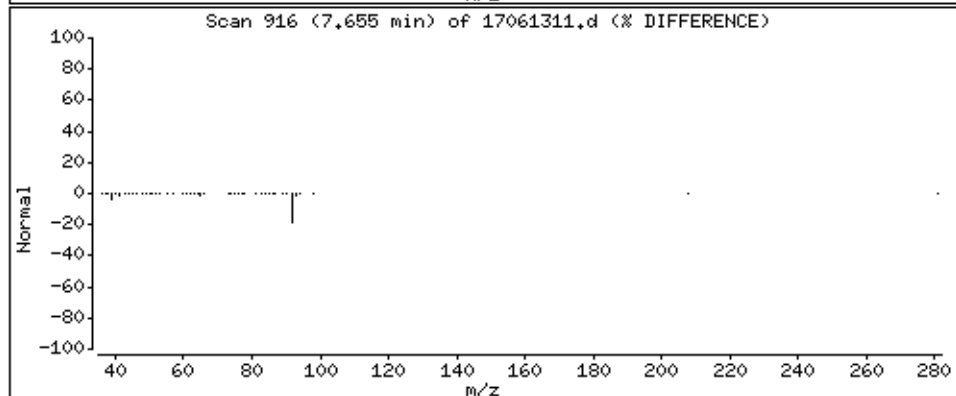
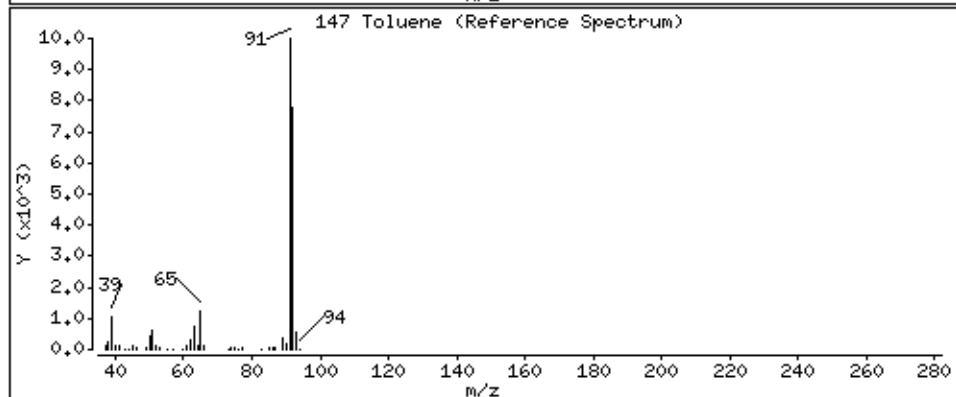
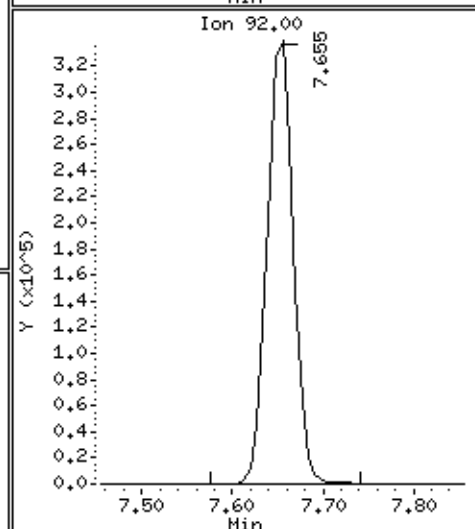
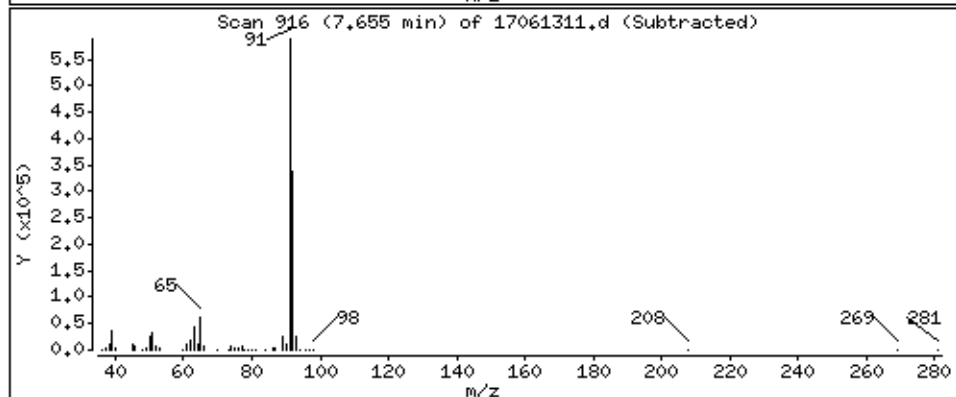
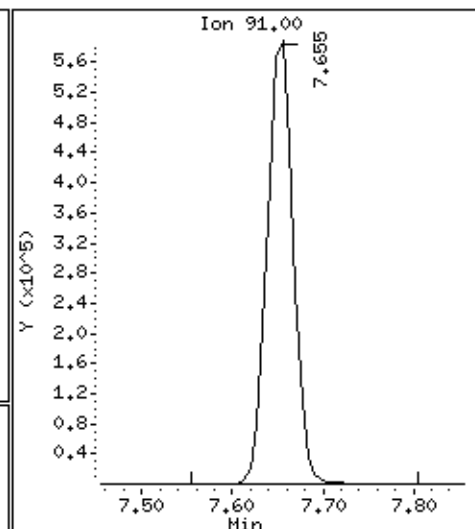
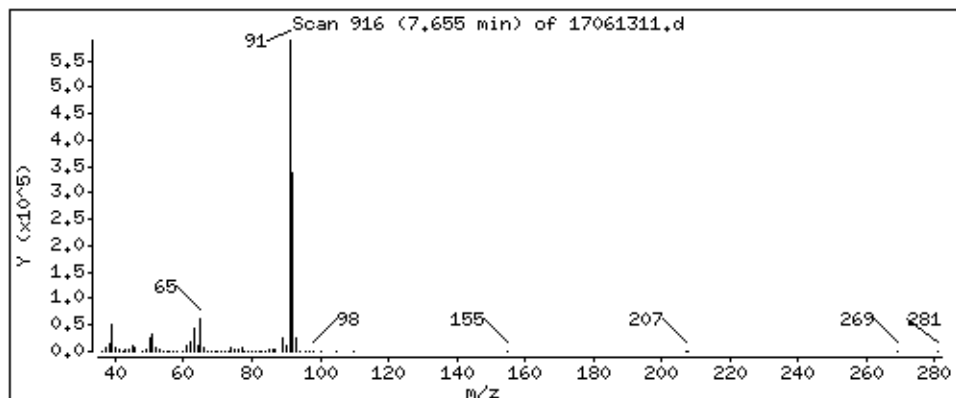
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

147 Toluene

Concentration: 49,070 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

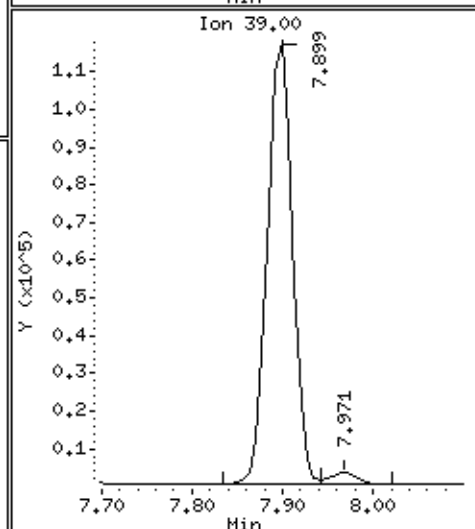
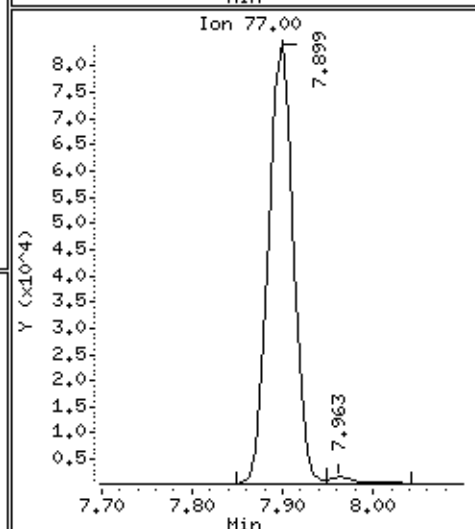
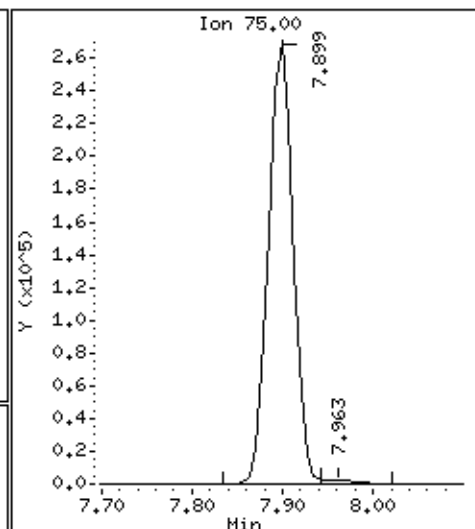
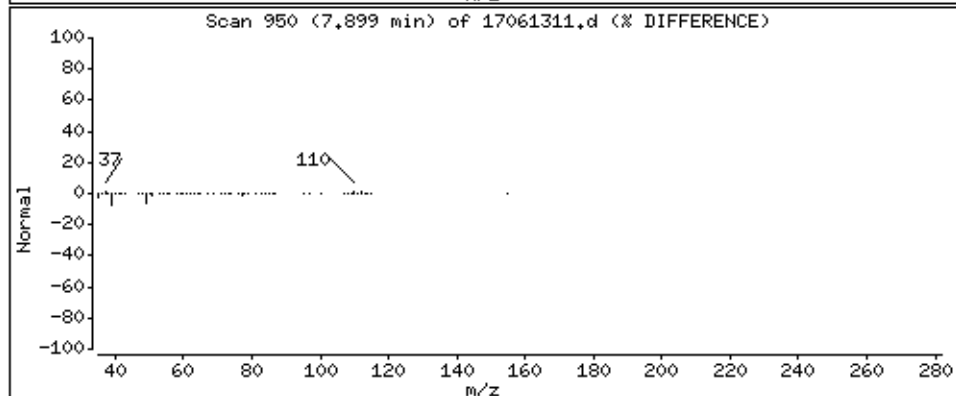
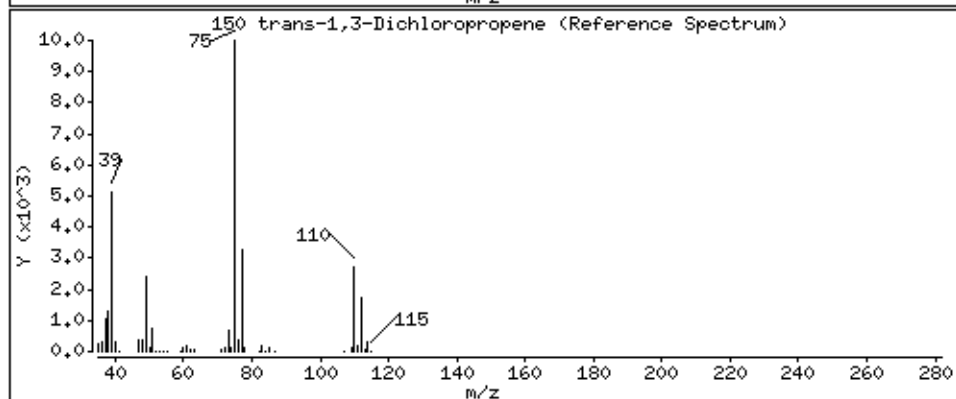
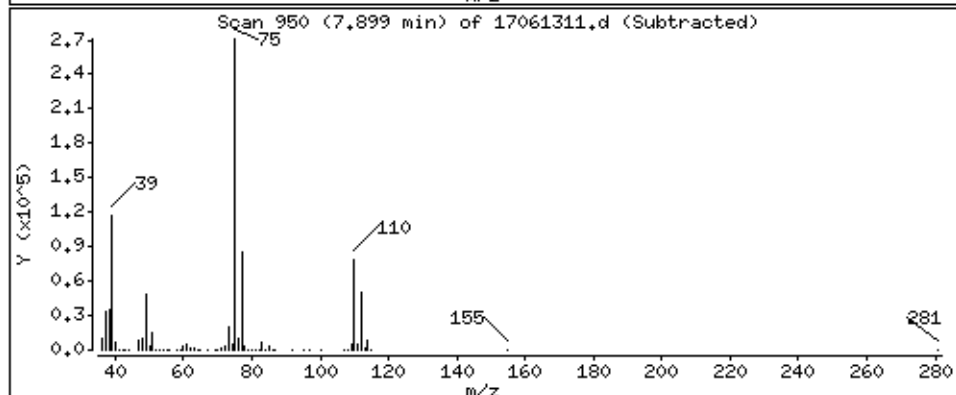
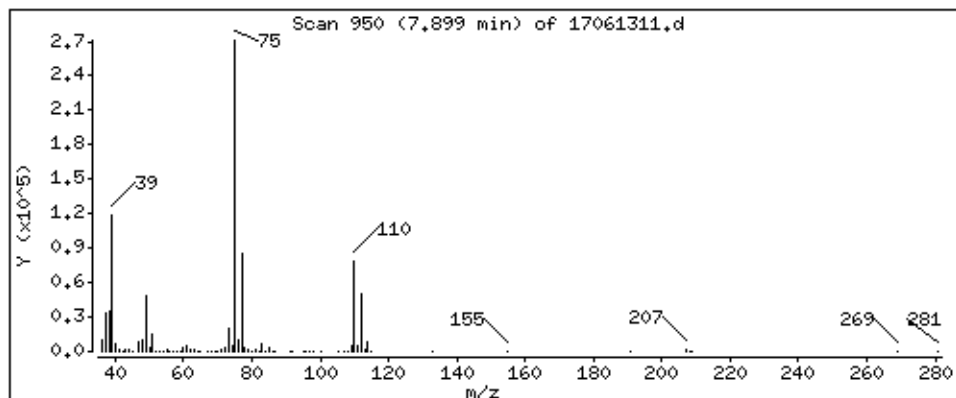
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

150 trans-1,3-Dichloropropene

Concentration: 51,581 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

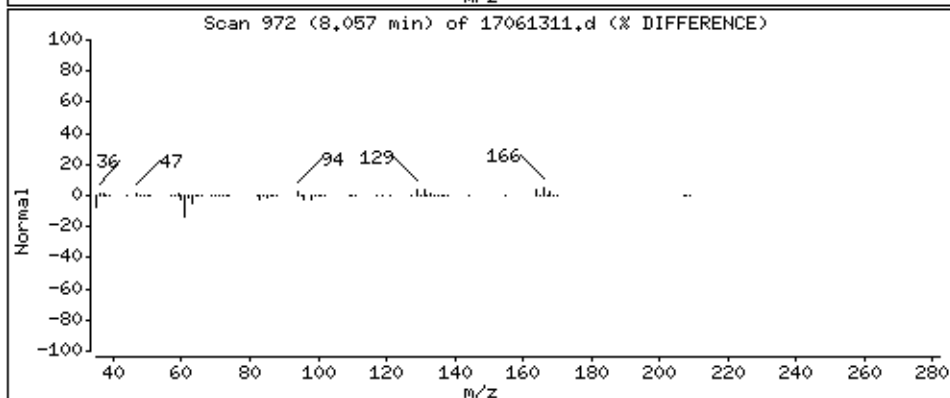
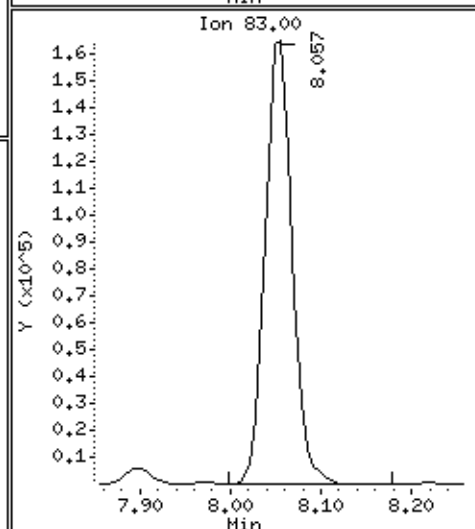
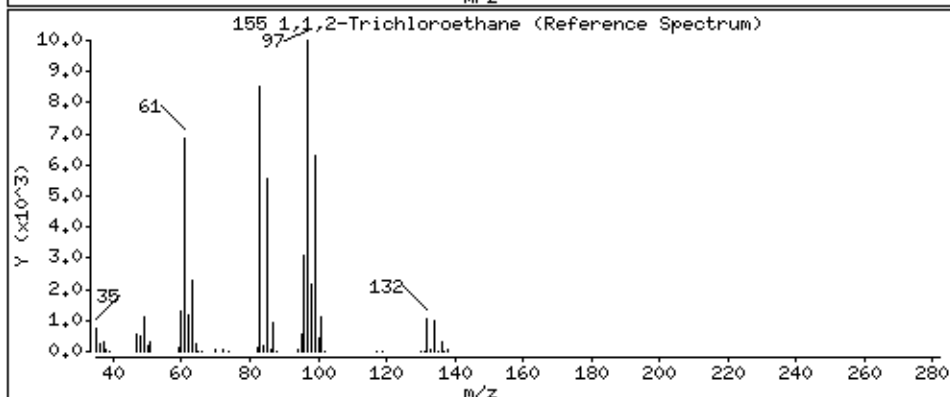
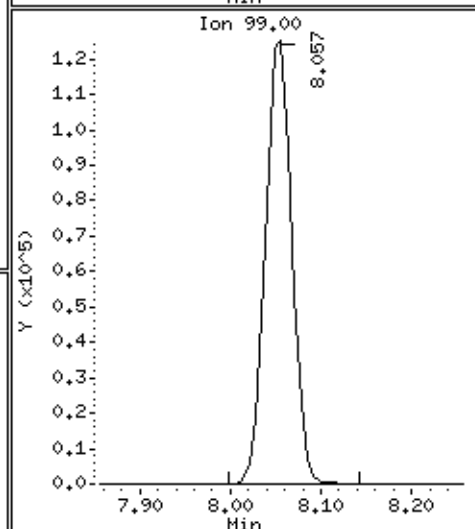
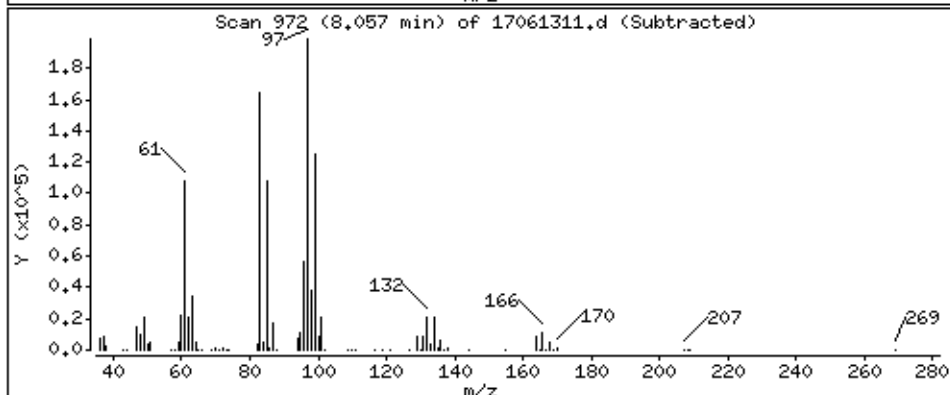
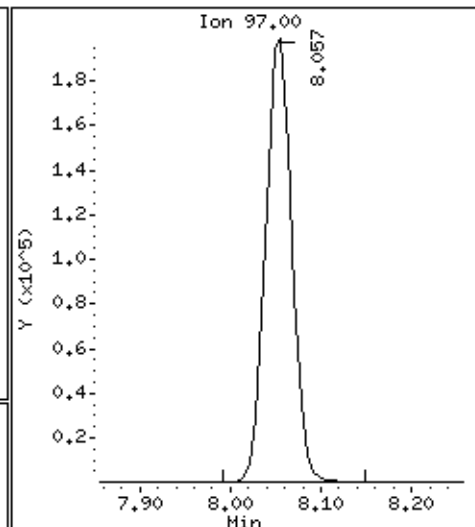
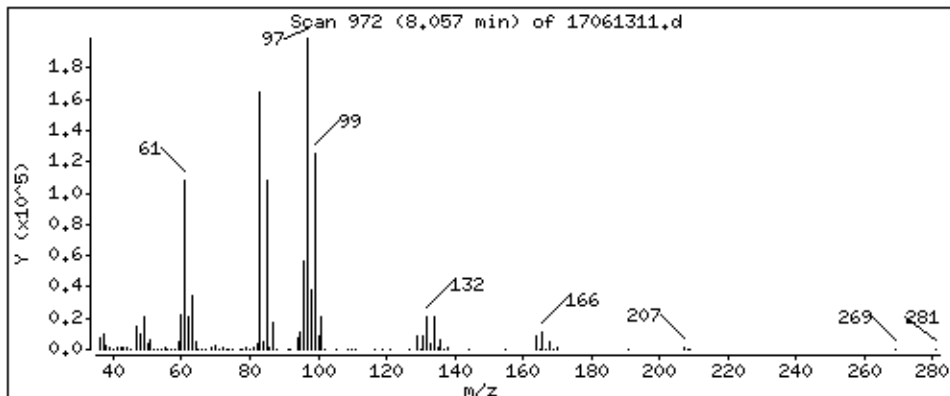
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

155 1,1,2-Trichloroethane

Concentration: 50,834 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

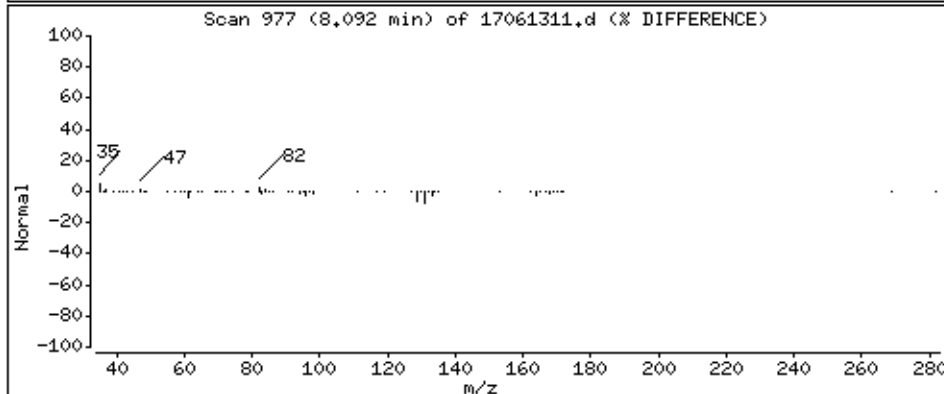
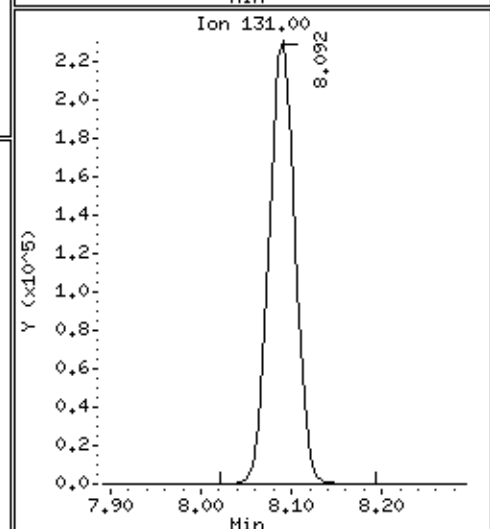
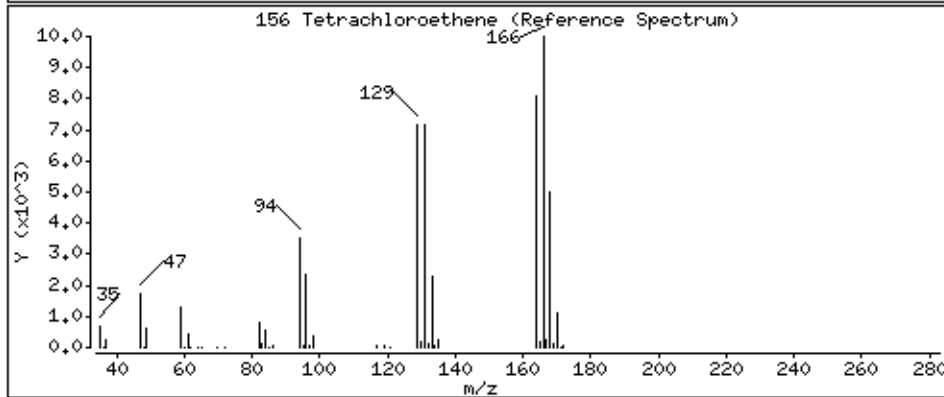
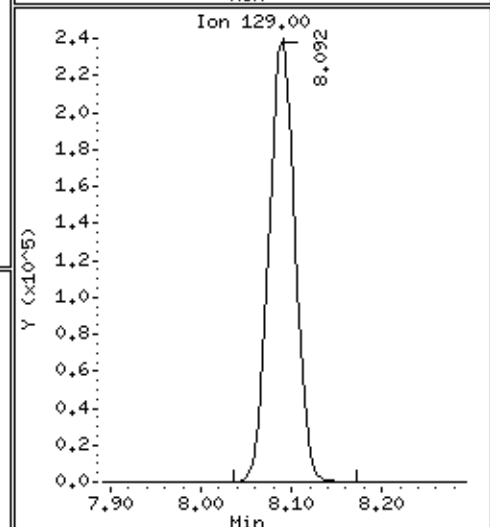
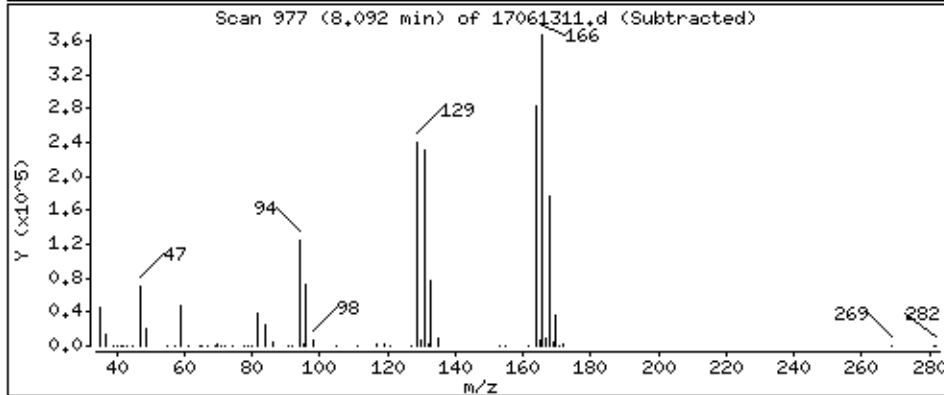
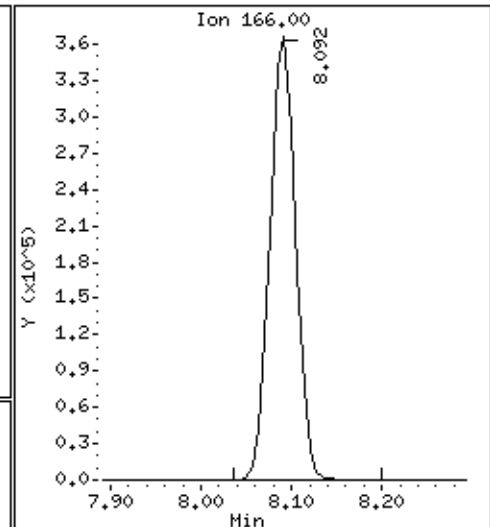
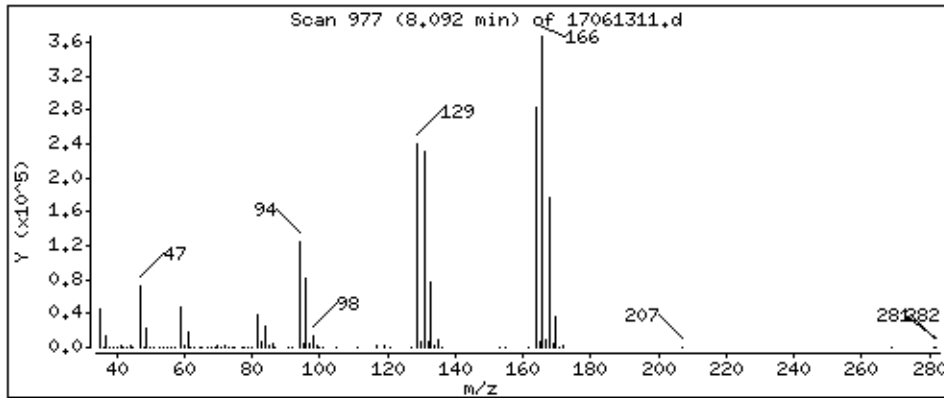
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

156 Tetrachloroethene

Concentration: 50,762 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

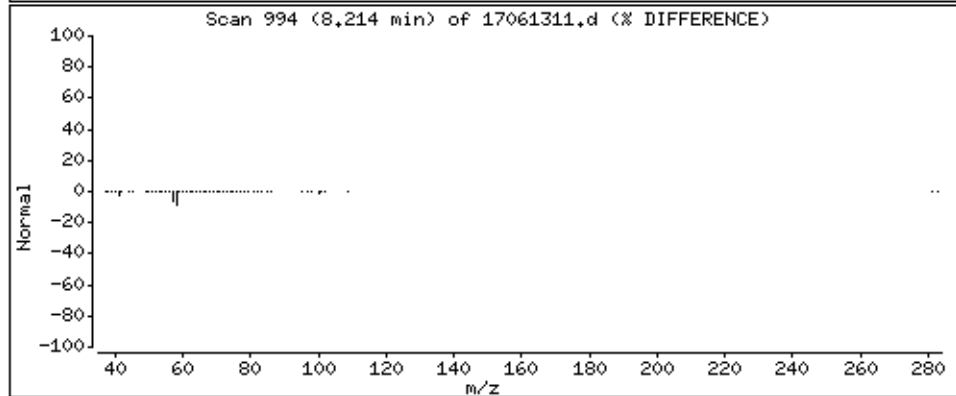
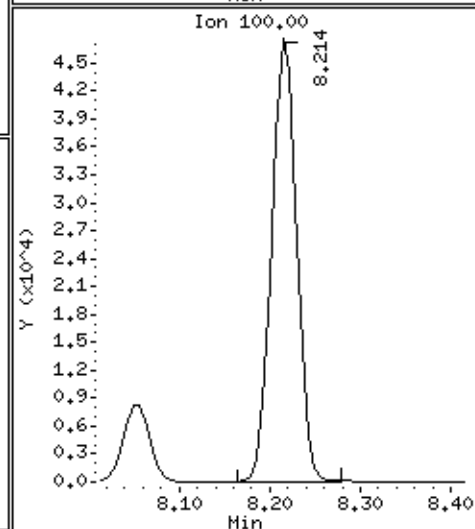
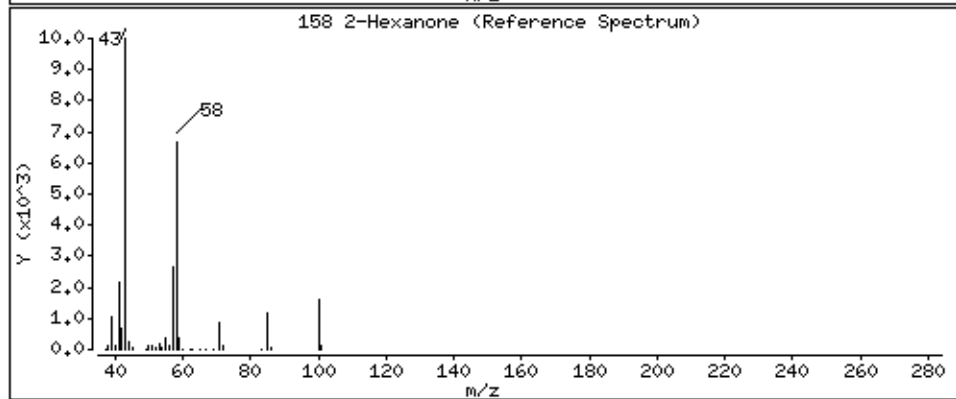
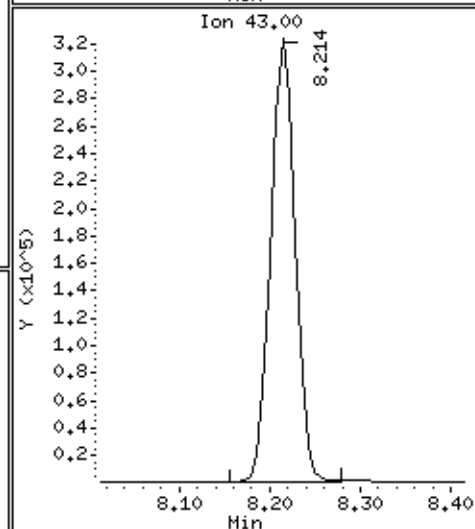
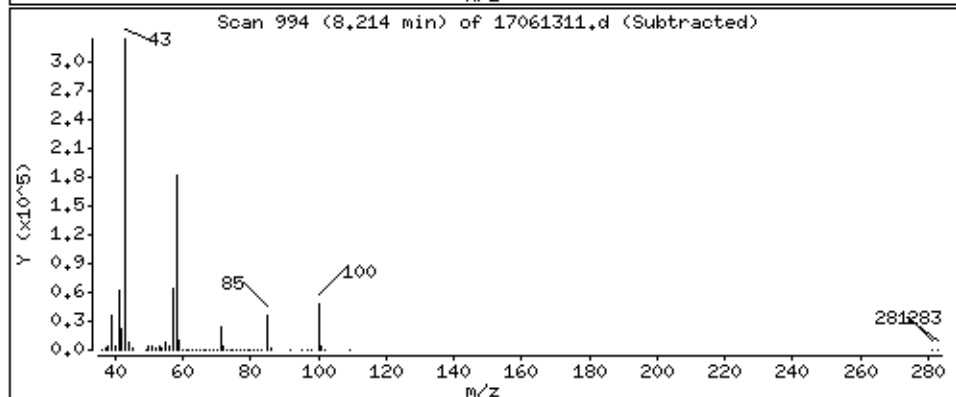
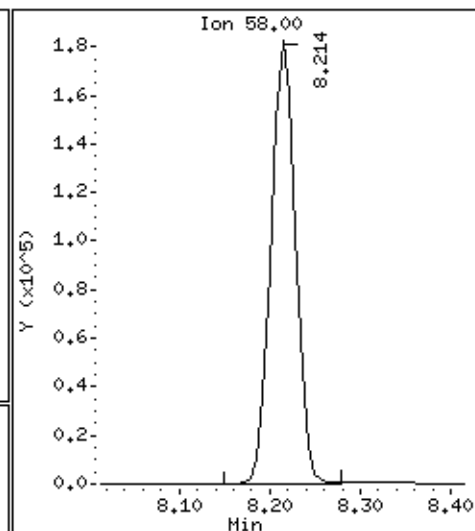
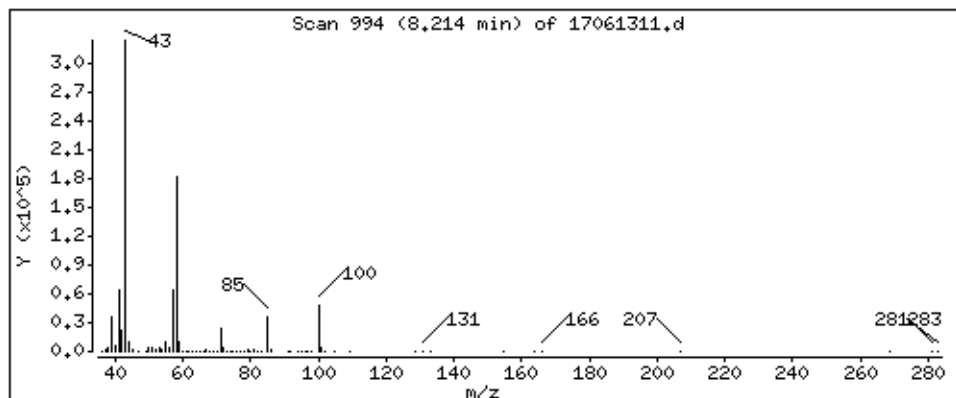
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

158 2-Hexanone

Concentration: 53.463 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

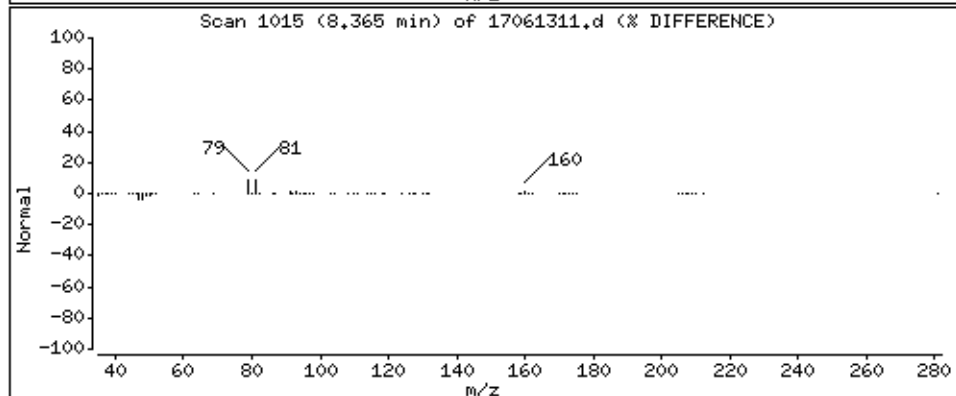
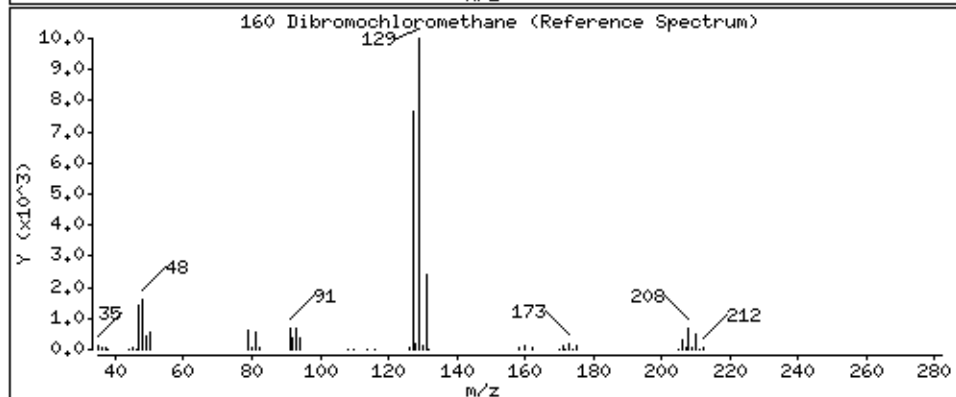
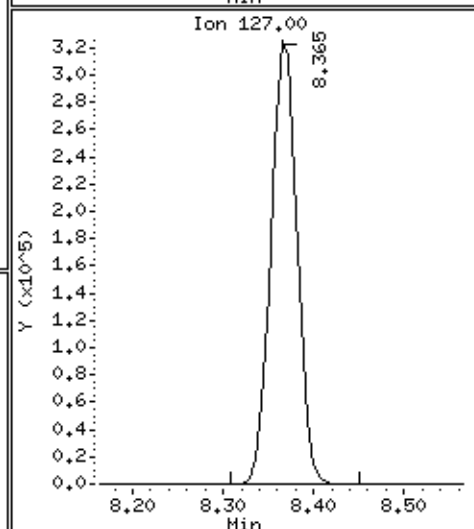
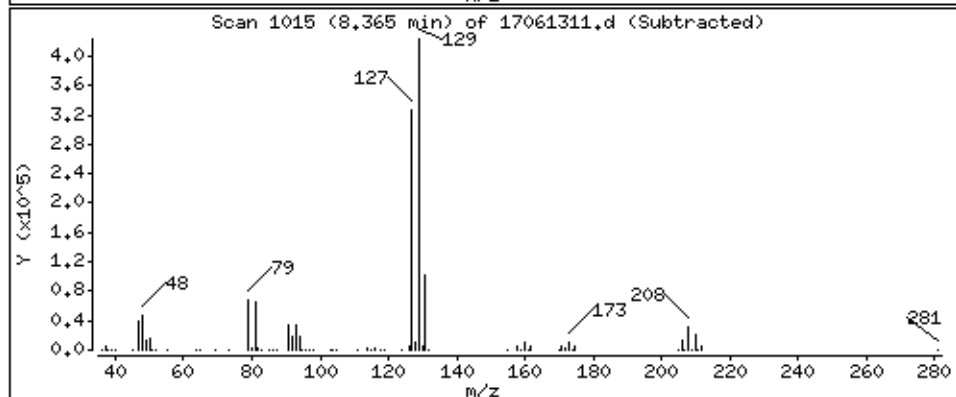
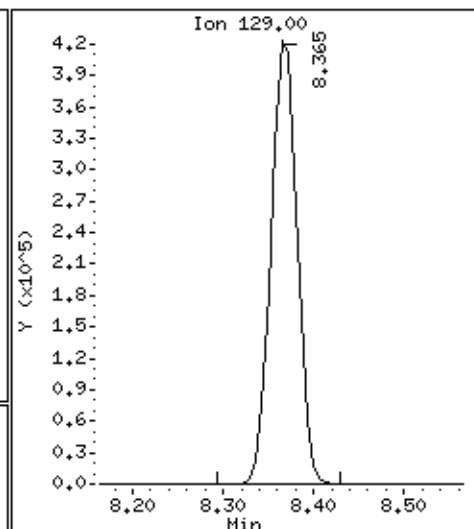
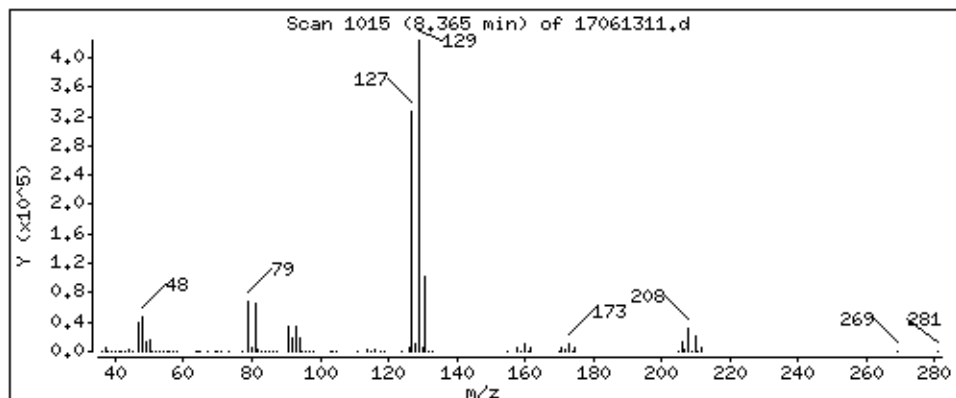
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

160 Dibromochloromethane

Concentration: 51.994 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

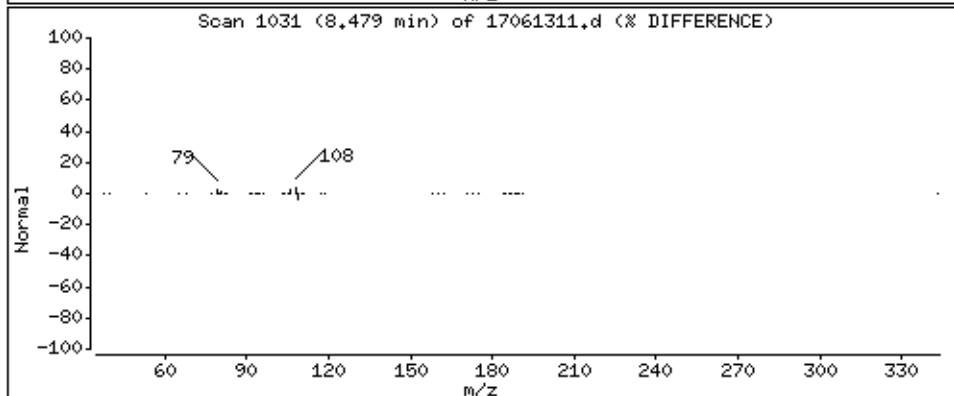
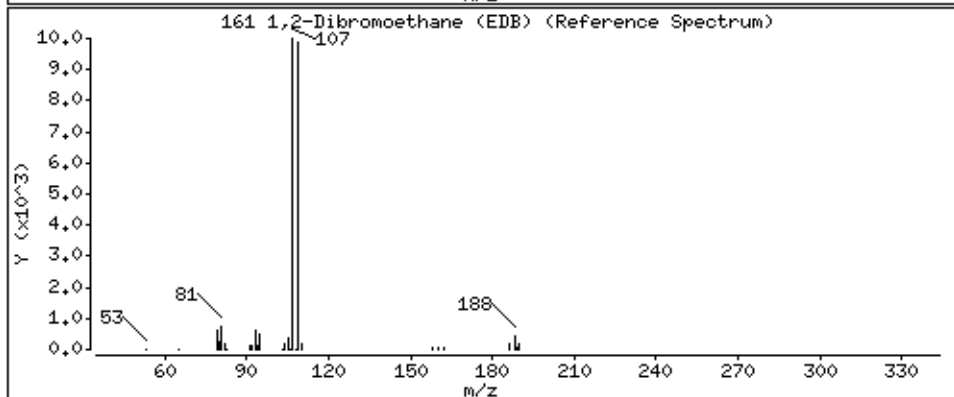
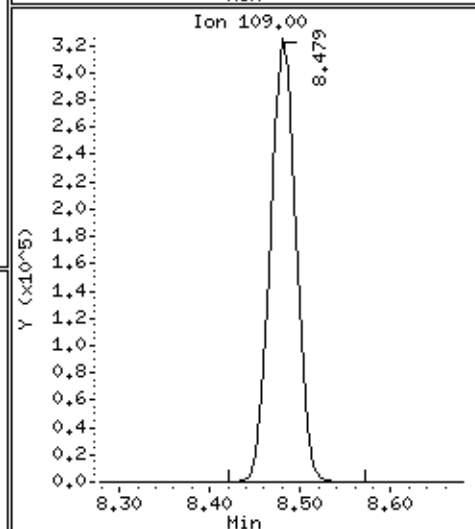
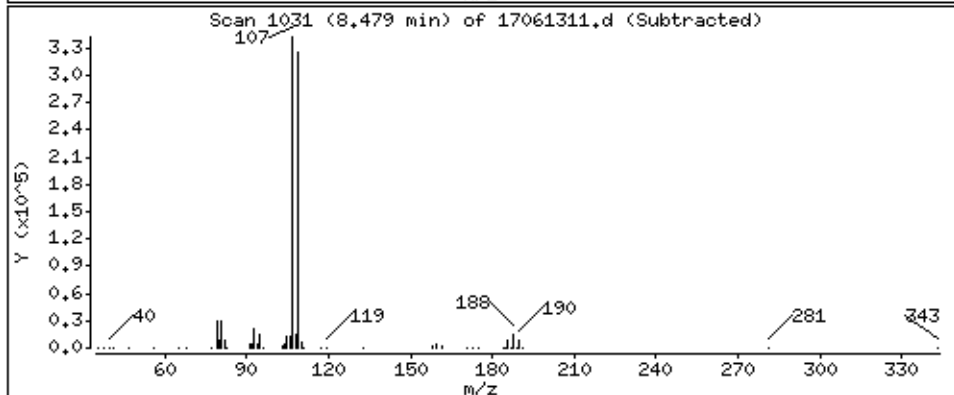
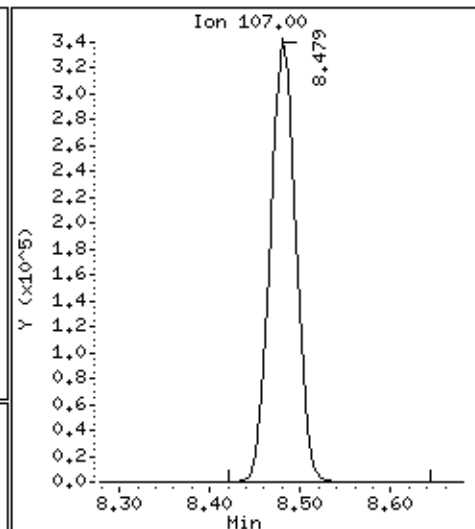
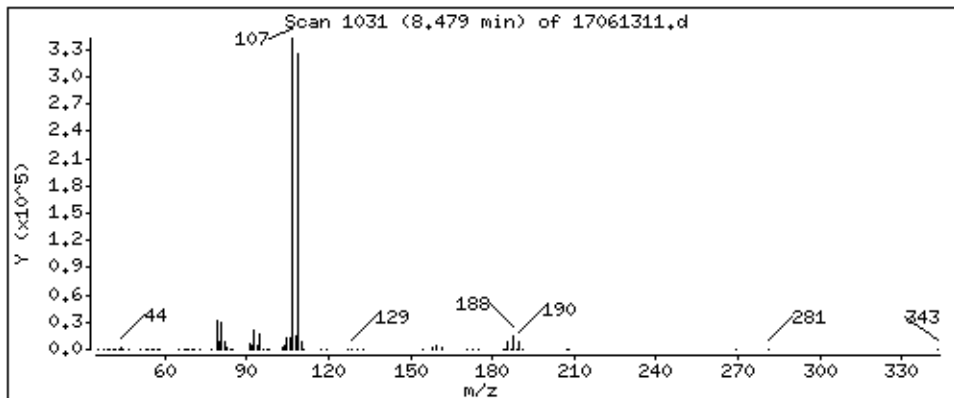
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

161 1,2-Dibromoethane (EDB)

Concentration: 50.033 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

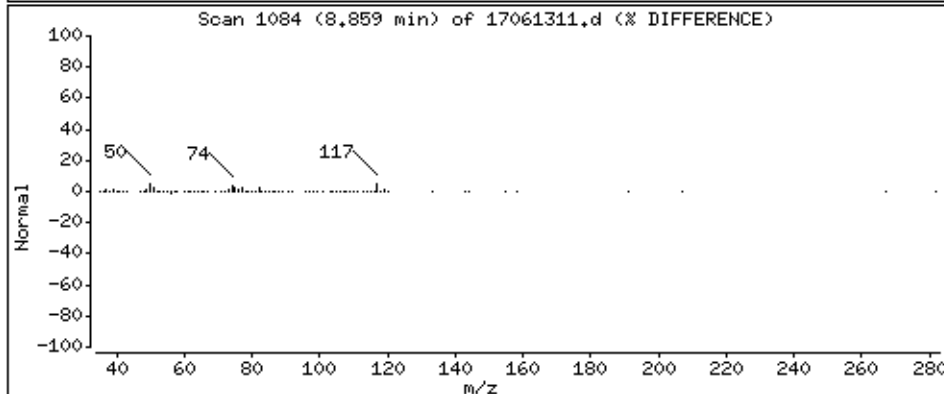
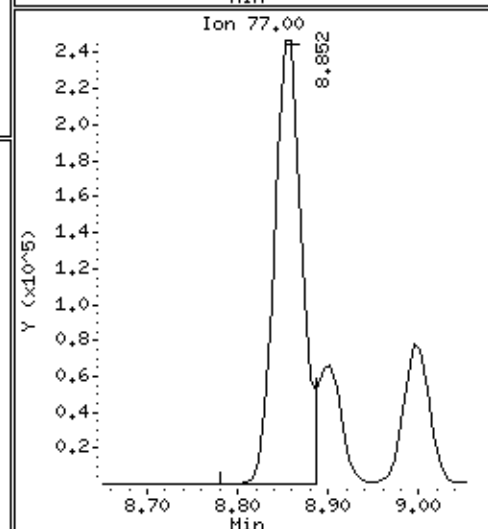
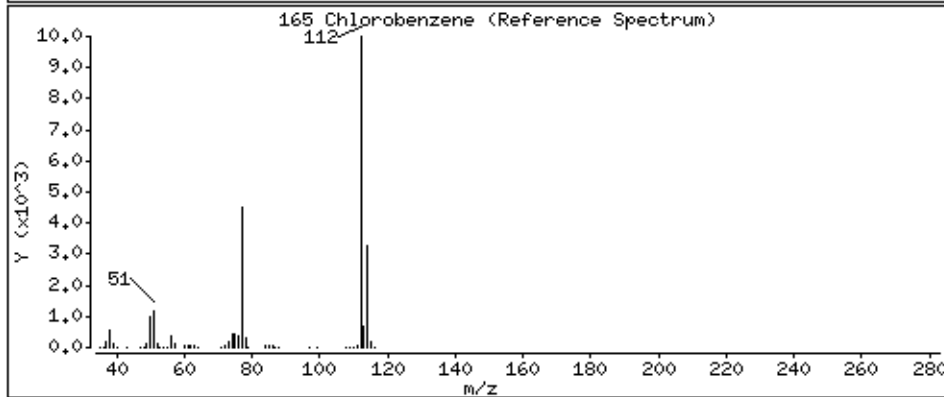
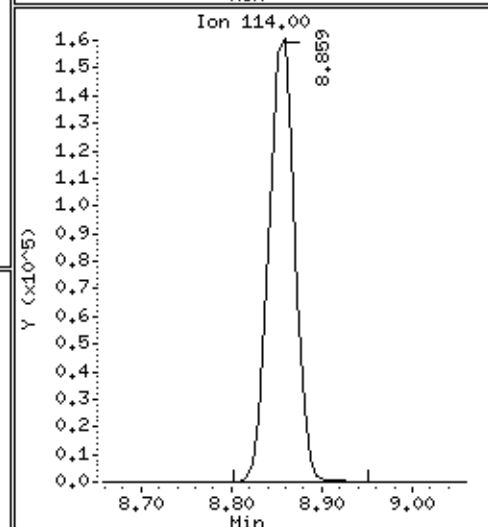
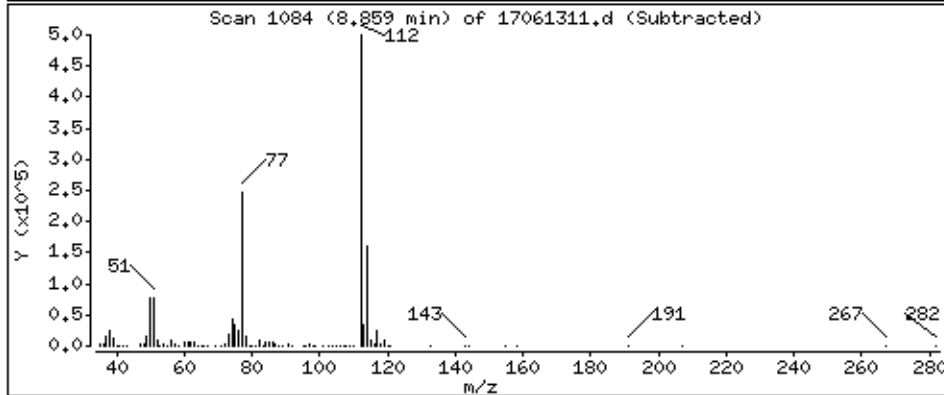
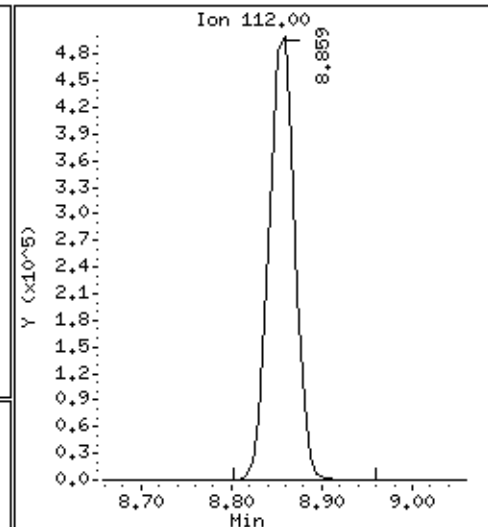
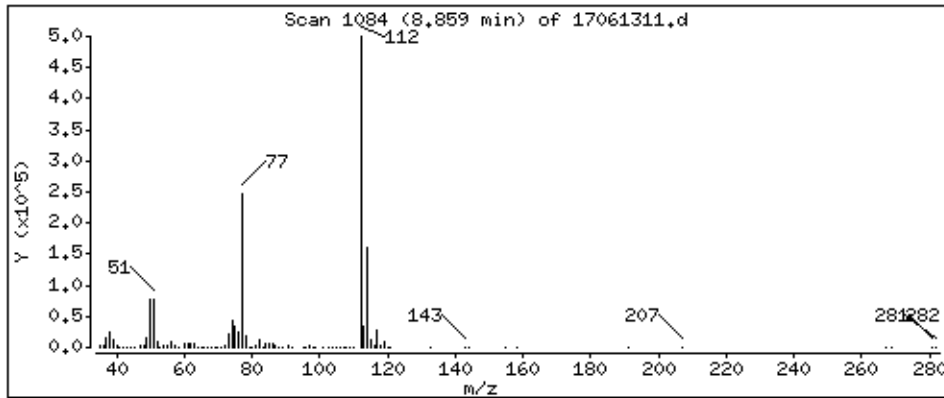
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

165 Chlorobenzene

Concentration: 49,756 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

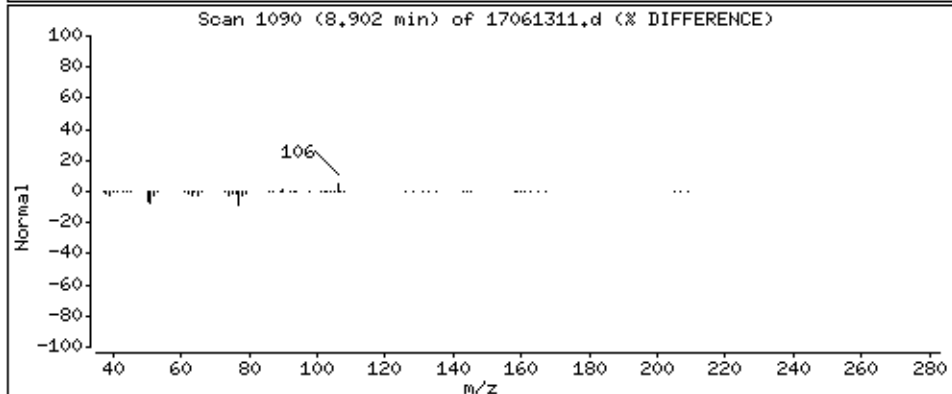
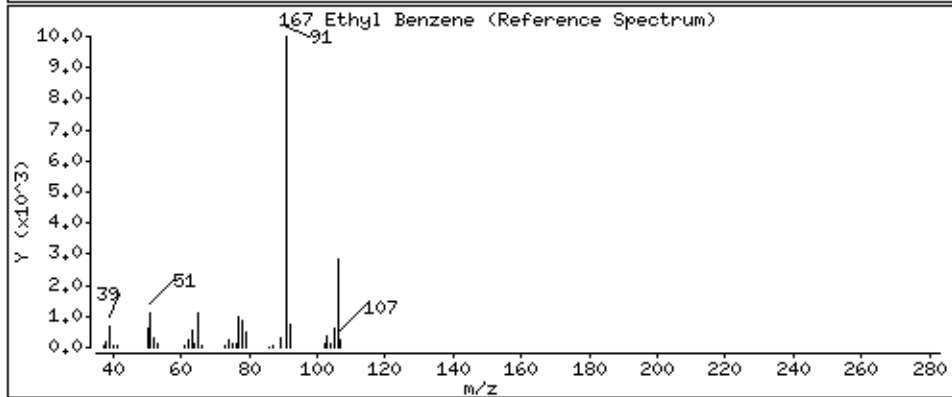
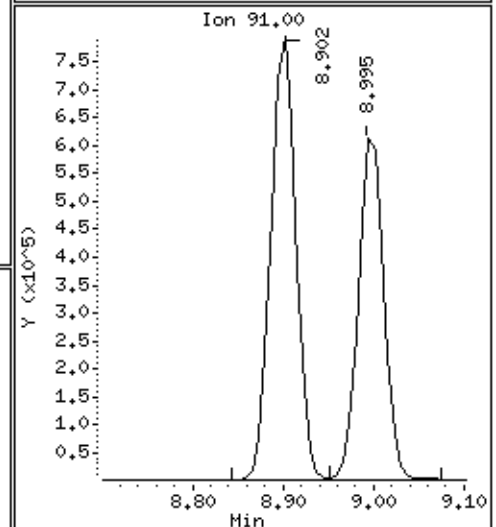
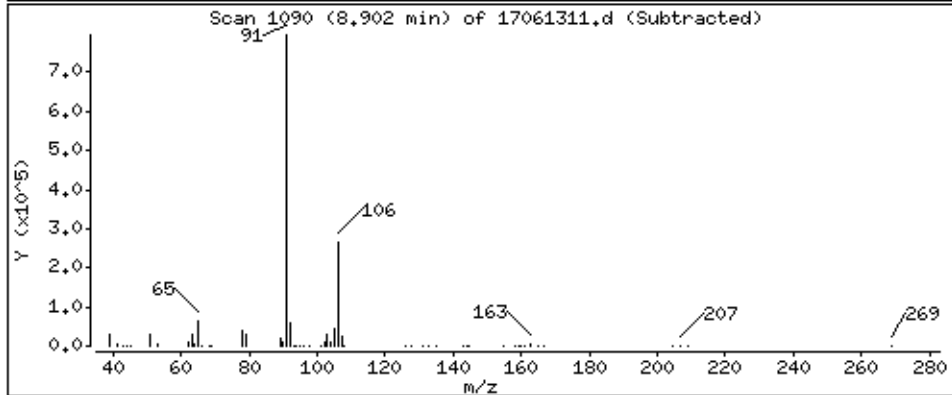
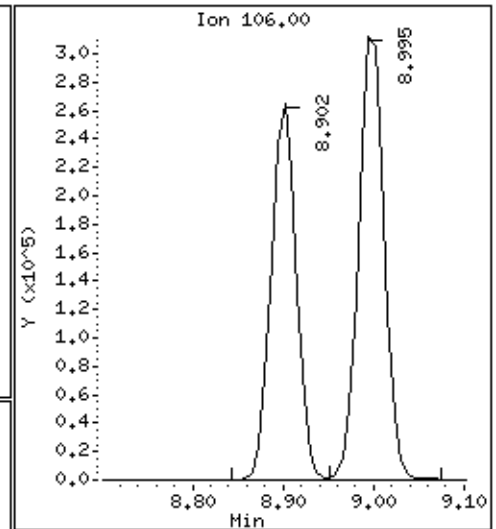
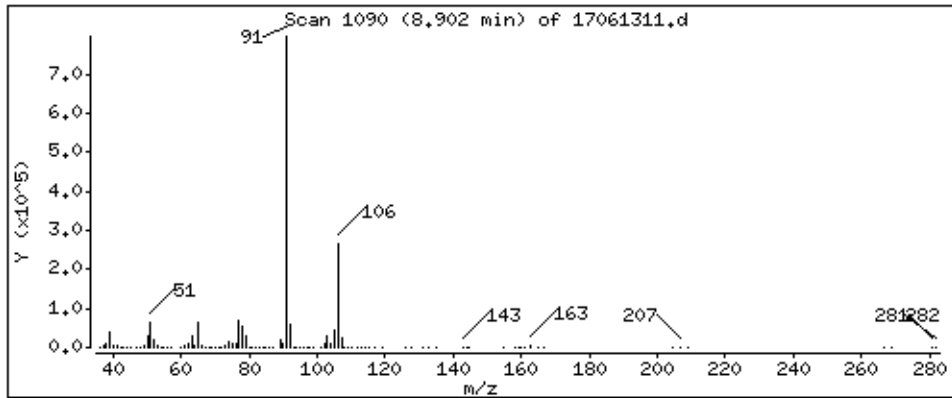
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

167 Ethyl Benzene

Concentration: 50,800 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

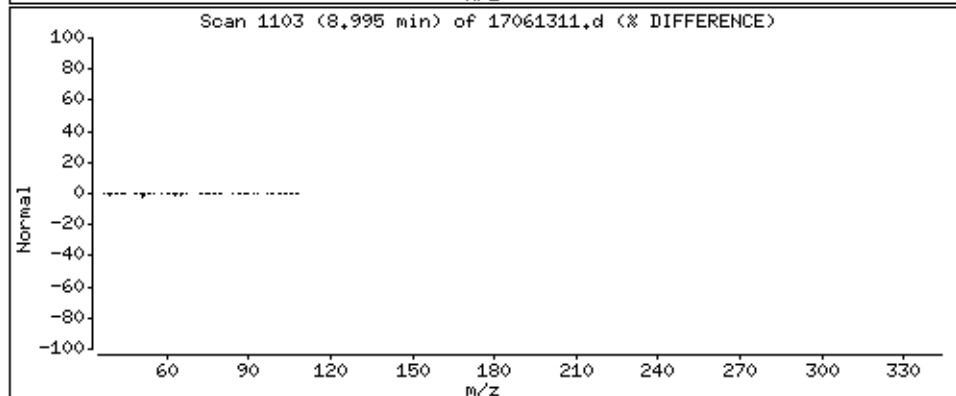
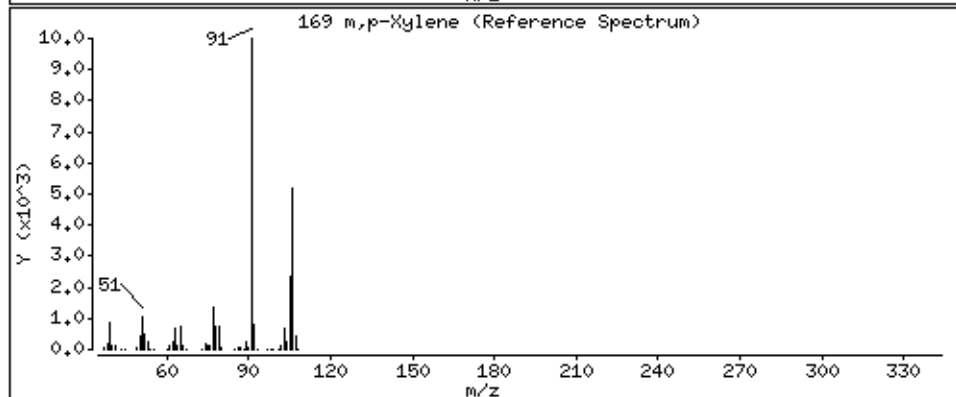
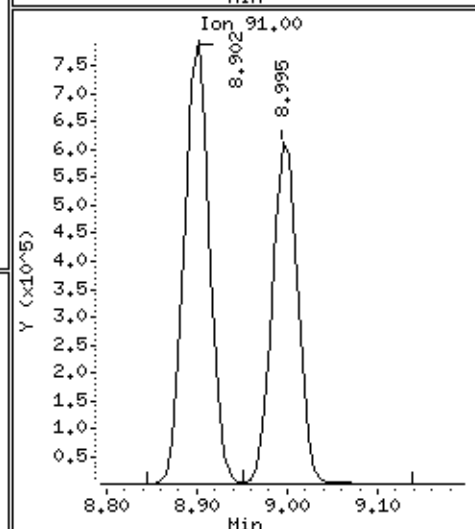
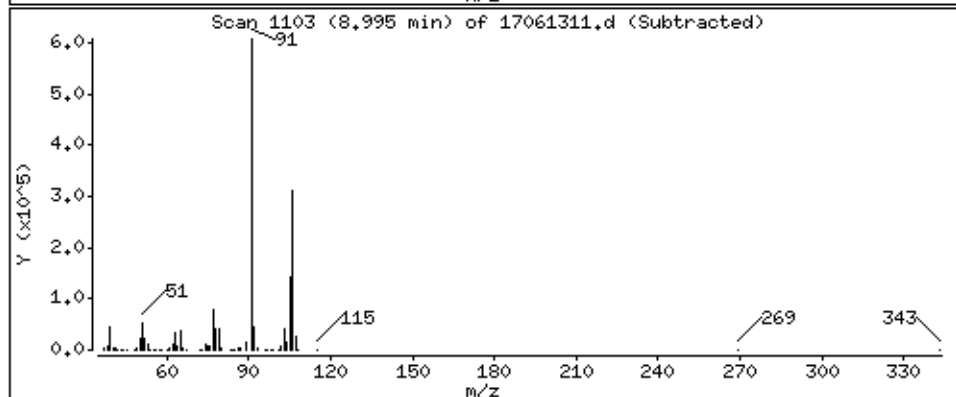
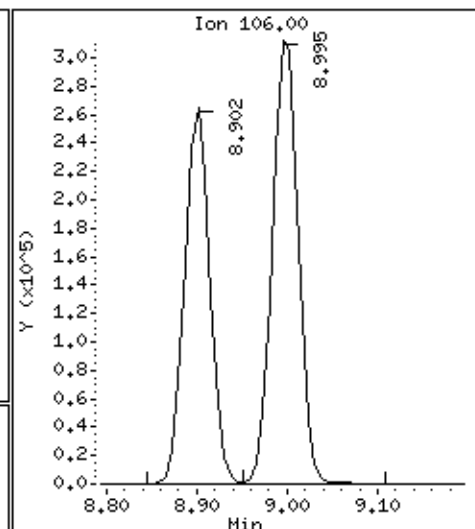
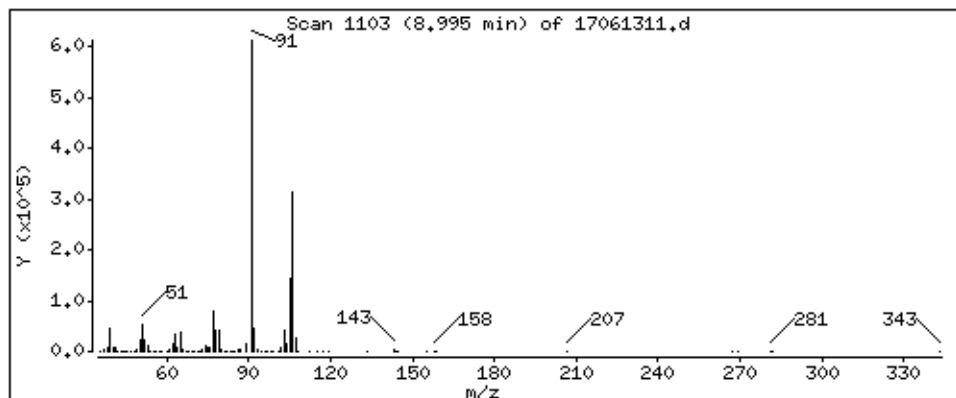
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

169 m,p-Xylene

Concentration: 49,863 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

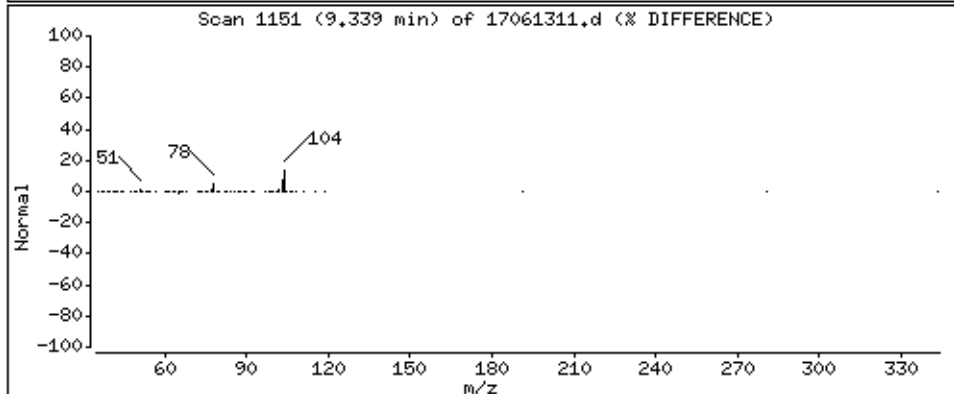
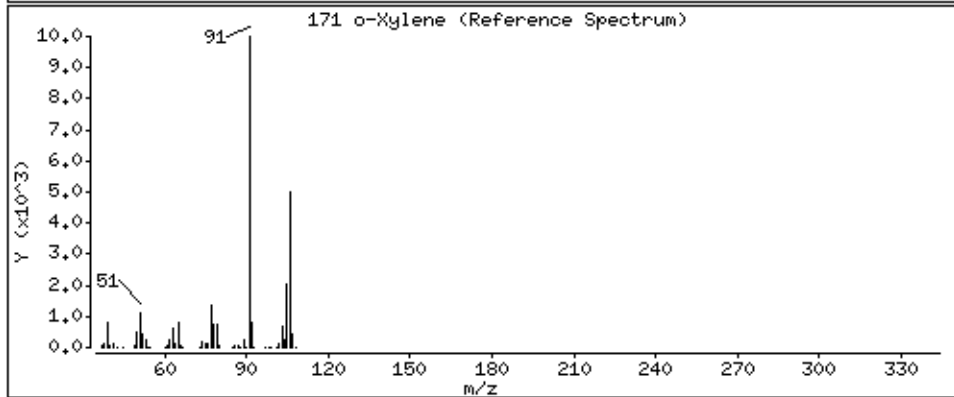
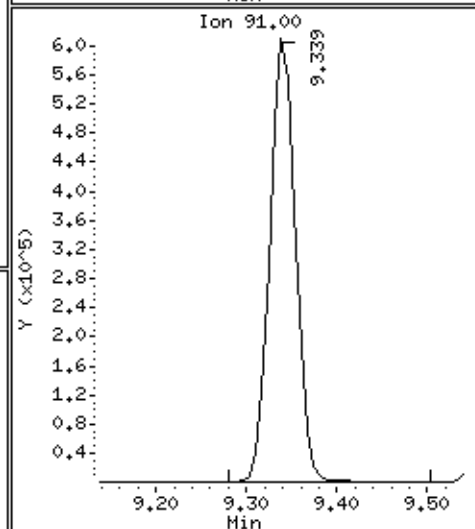
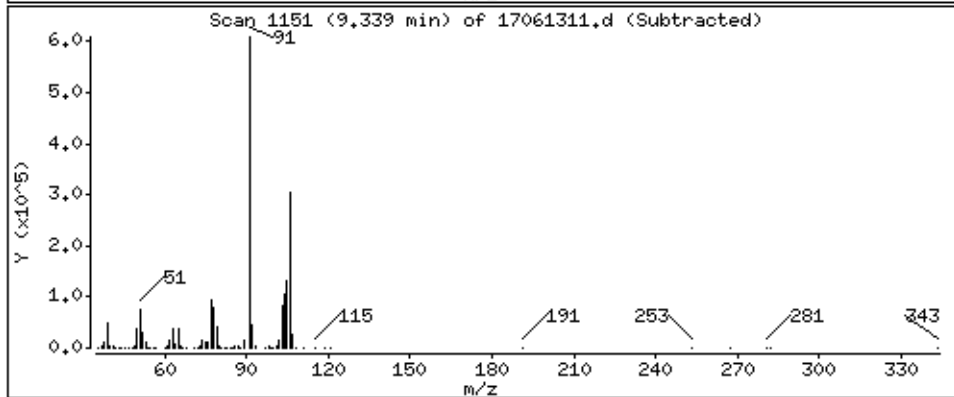
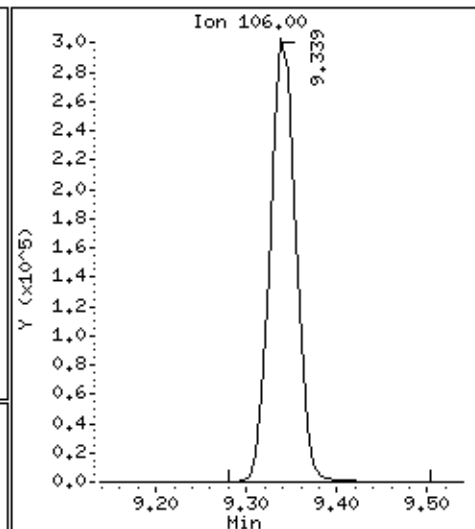
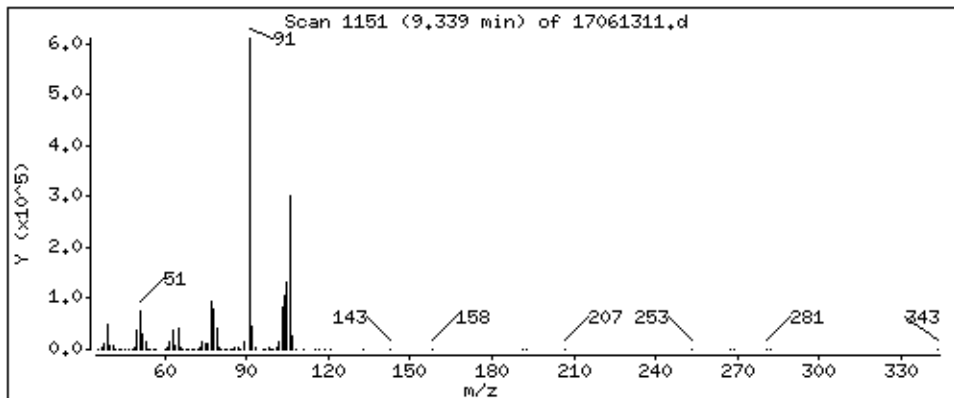
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

171 o-Xylene

Concentration: 50,776 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

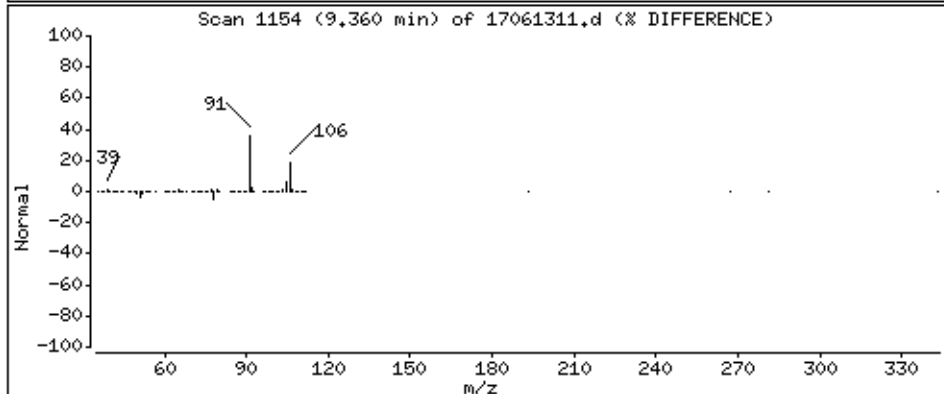
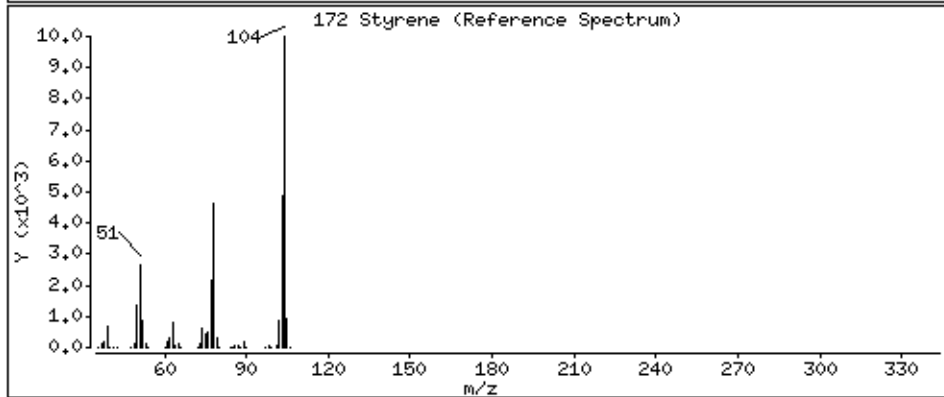
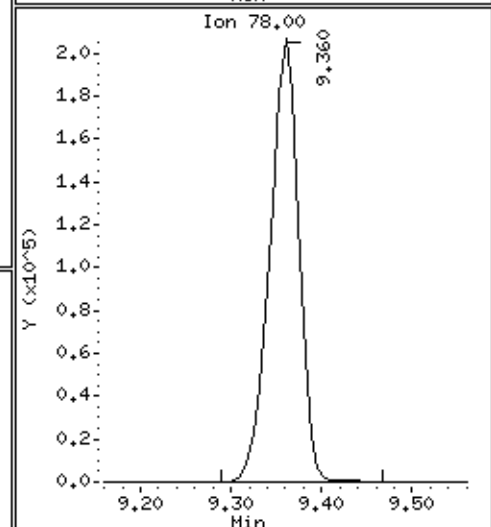
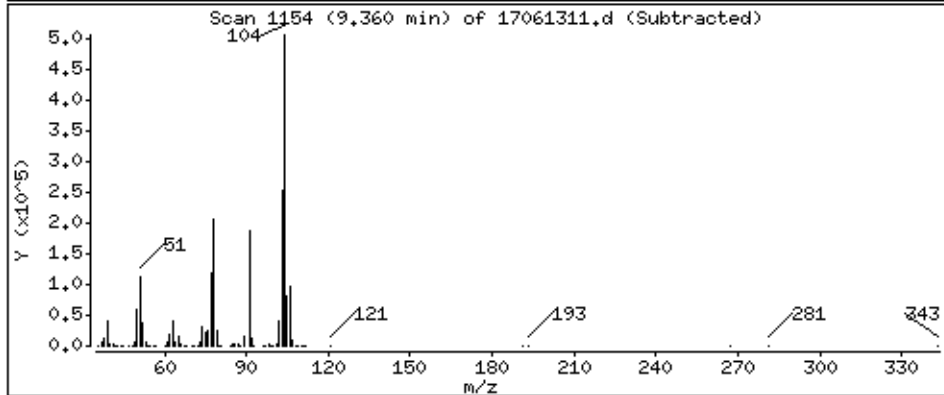
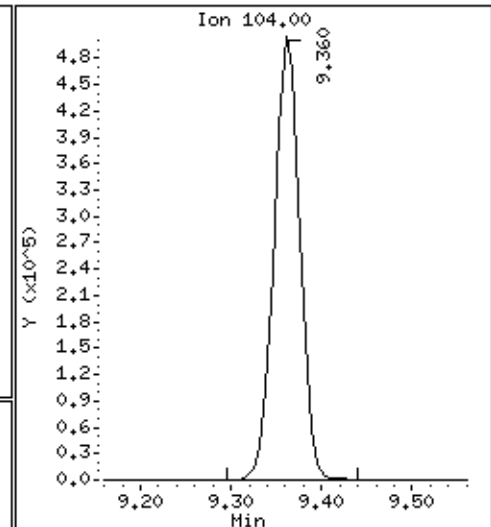
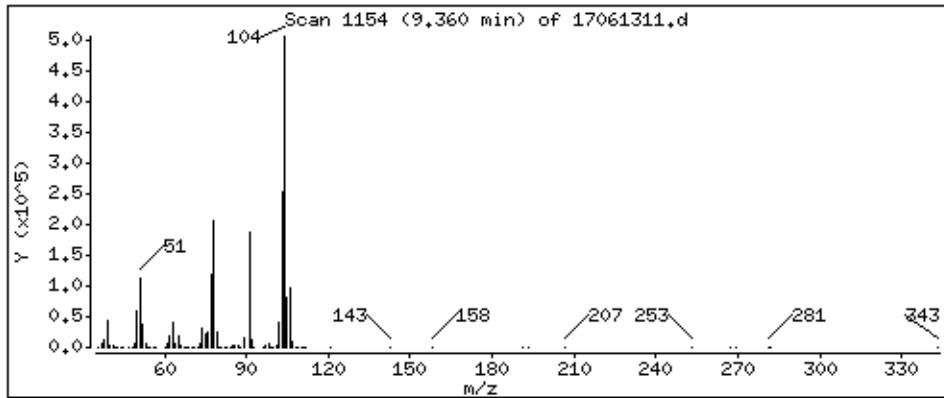
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

172 Styrene

Concentration: 53,287 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

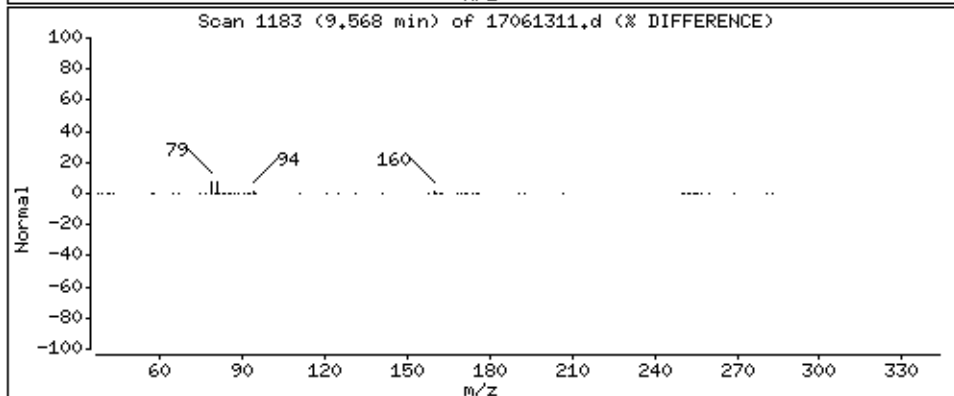
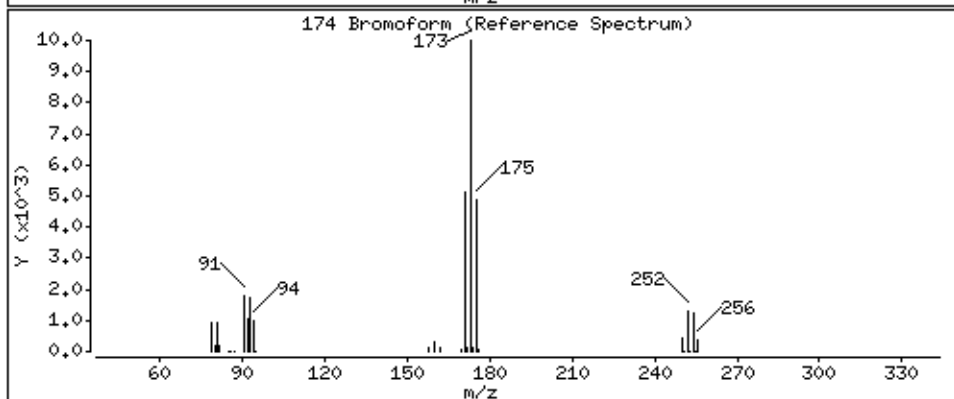
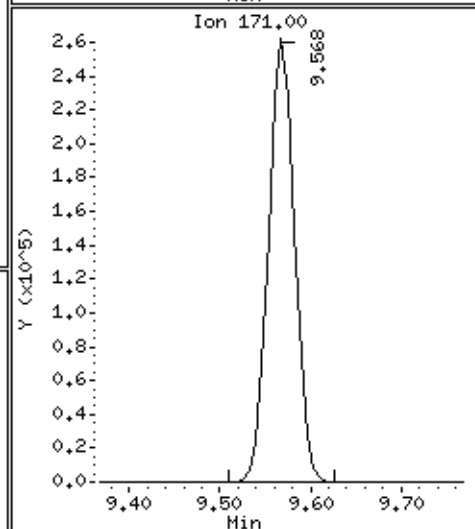
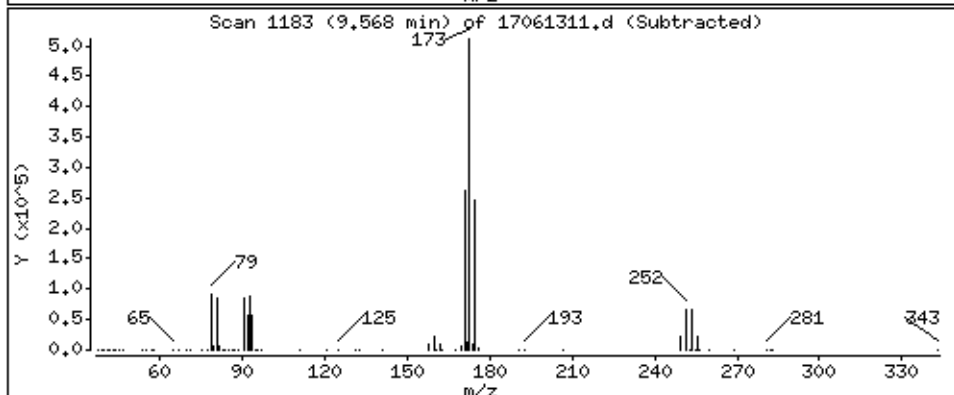
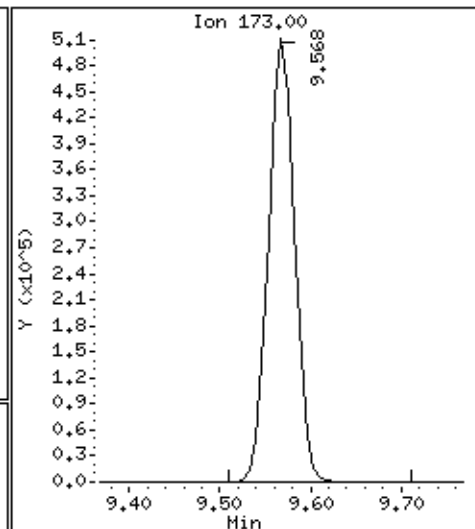
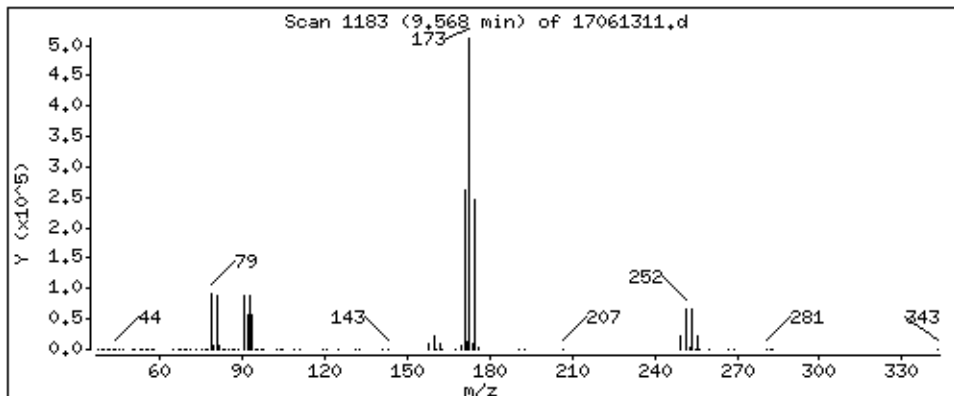
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

174 Bromoform

Concentration: 54.479 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

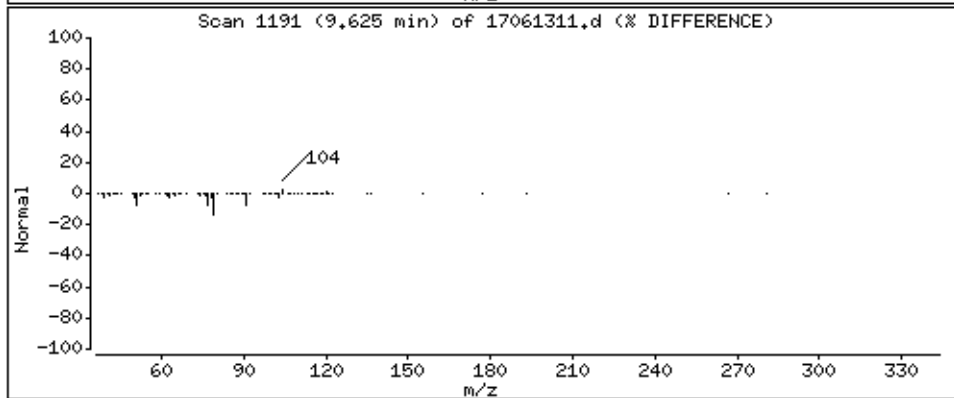
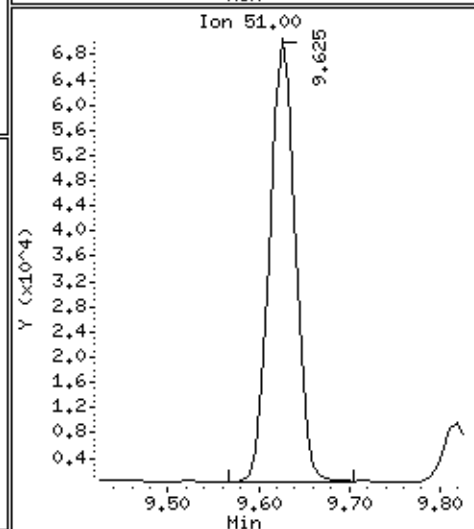
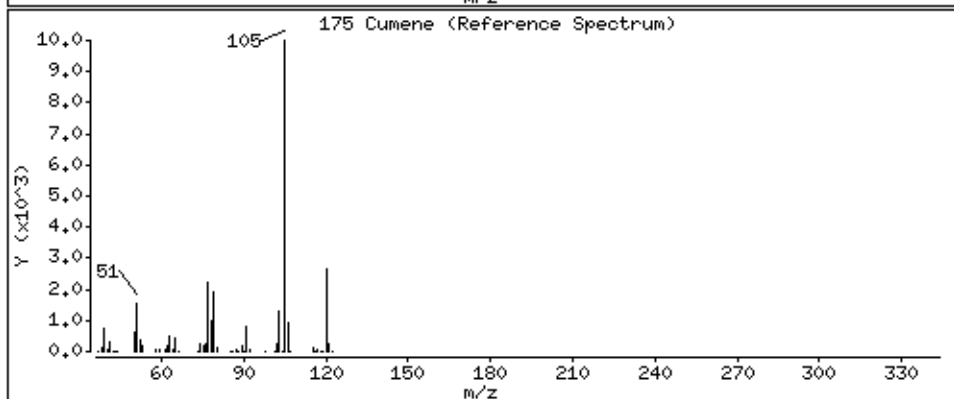
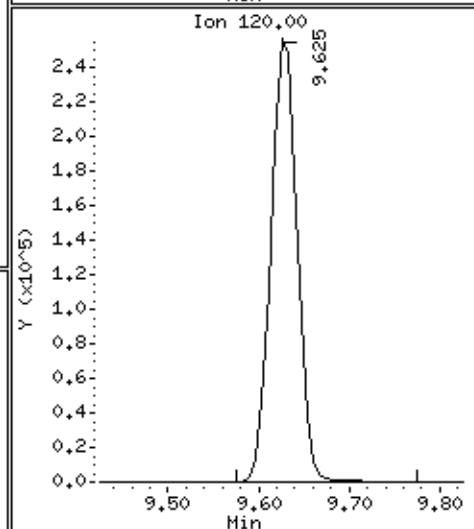
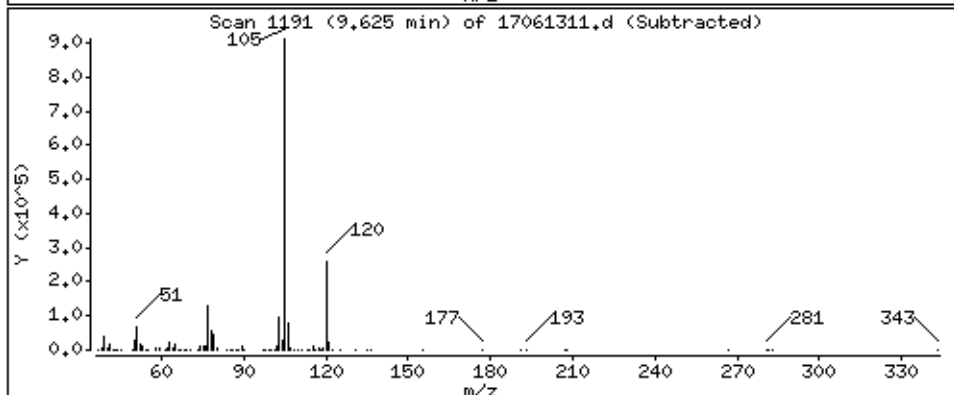
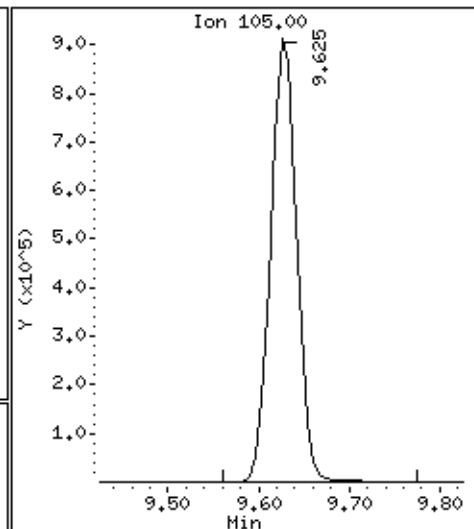
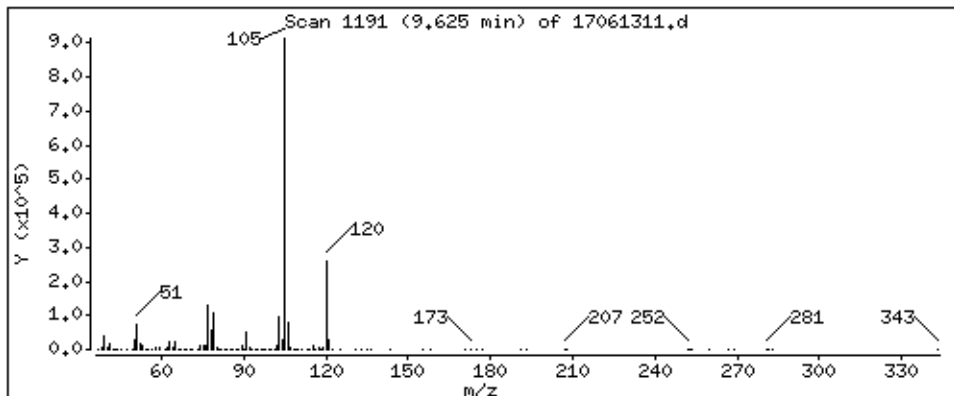
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

175 Cumene

Concentration: 50,799 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

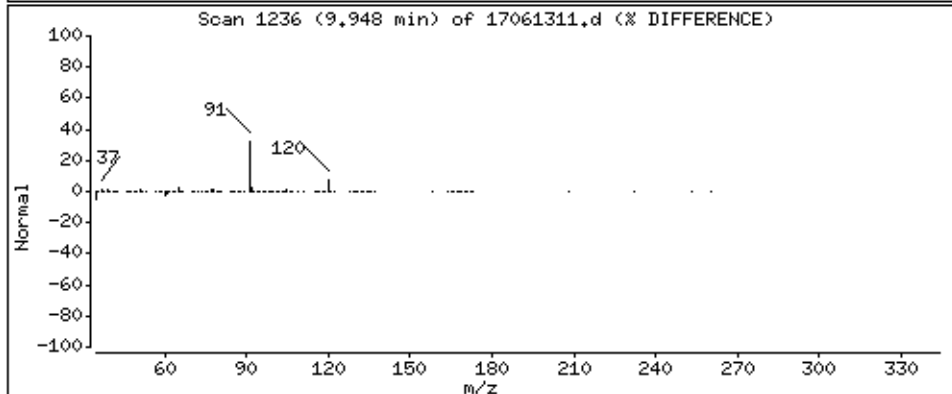
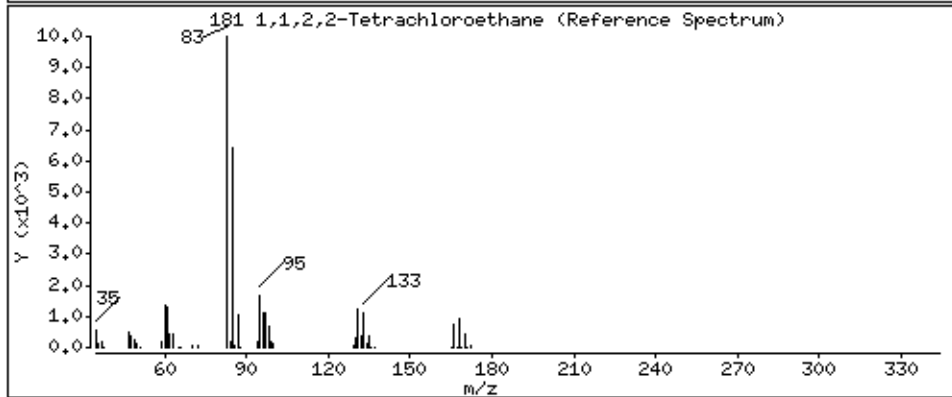
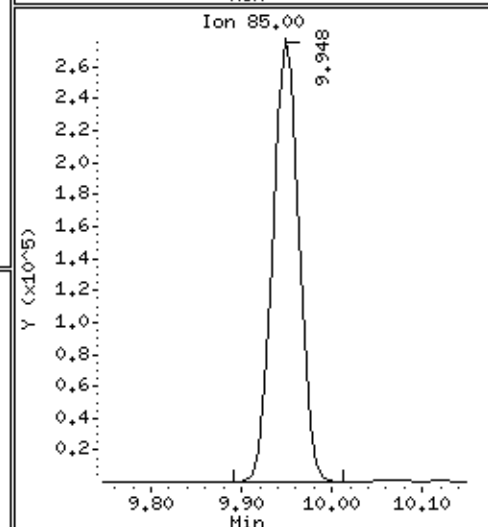
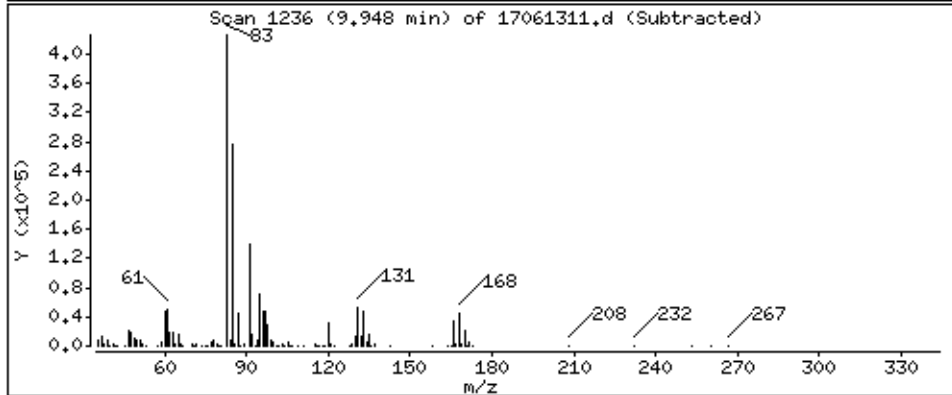
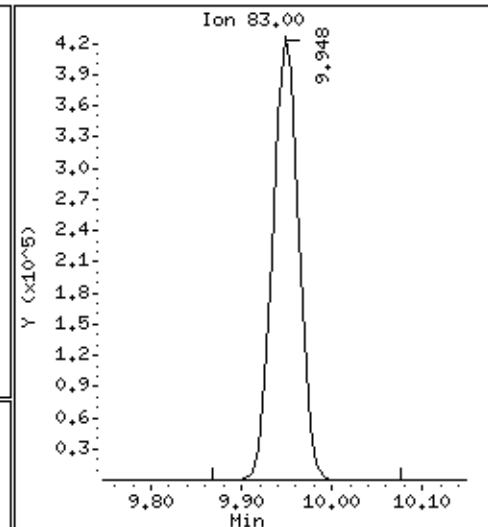
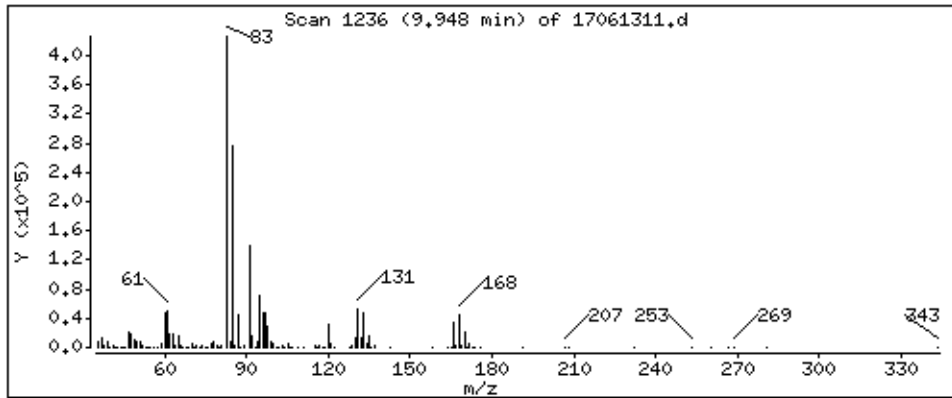
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

181 1,1,2,2-Tetrachloroethane

Concentration: 50,538 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

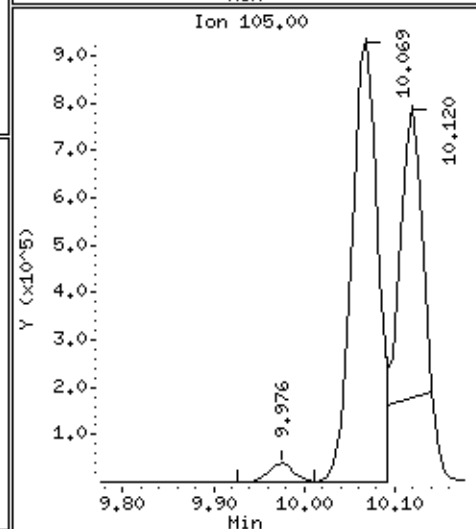
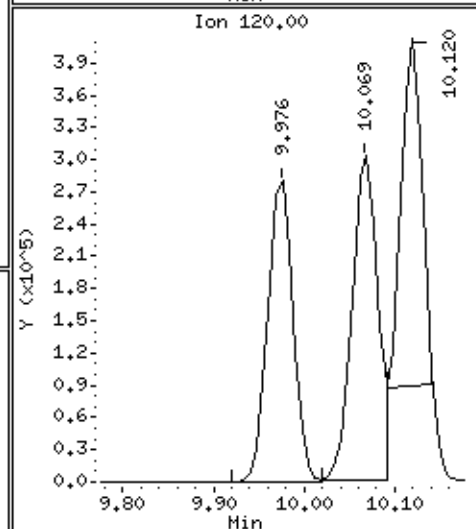
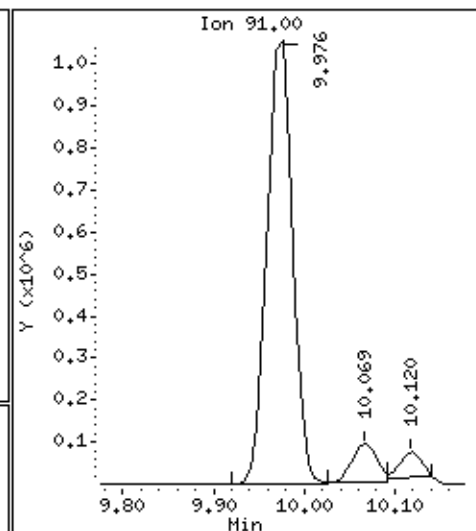
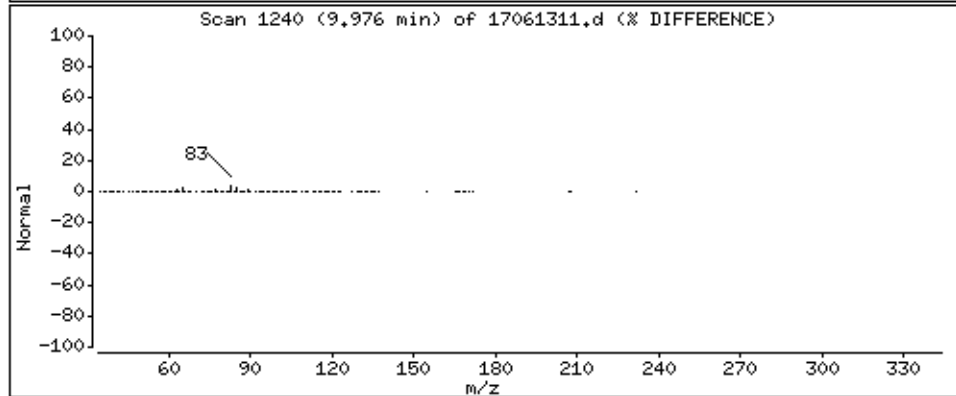
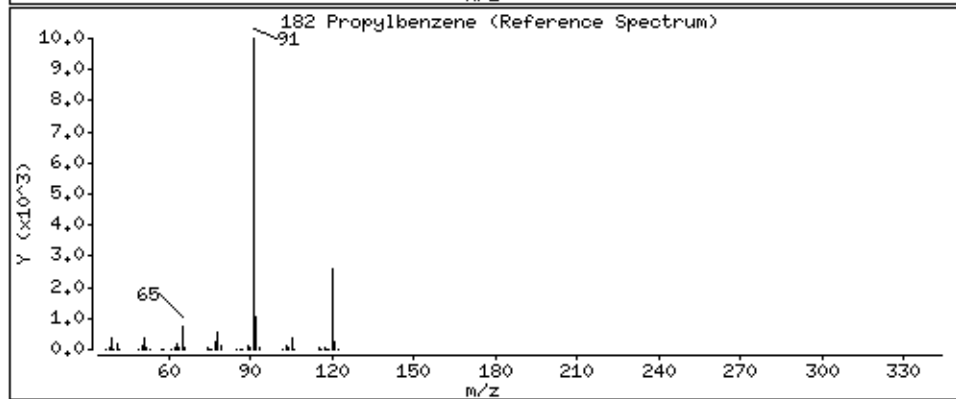
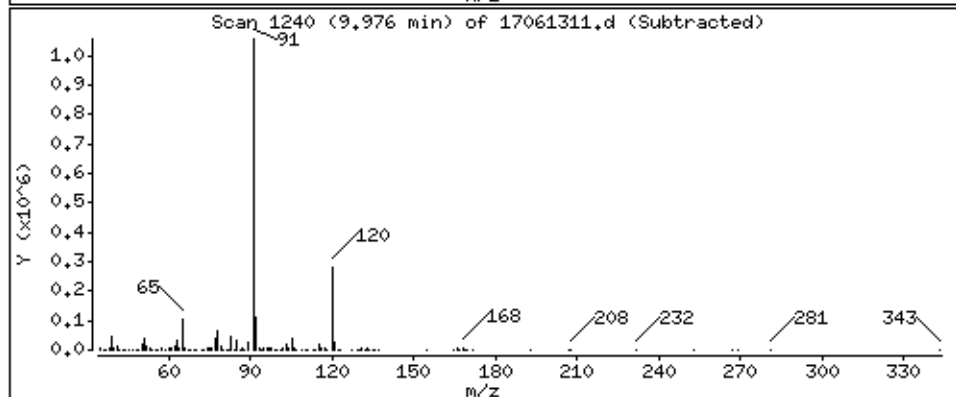
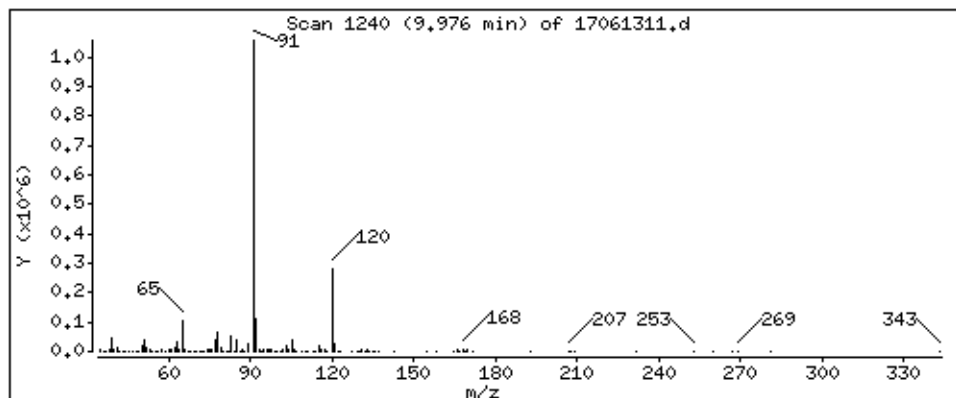
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

182 Propylbenzene

Concentration: 51,150 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

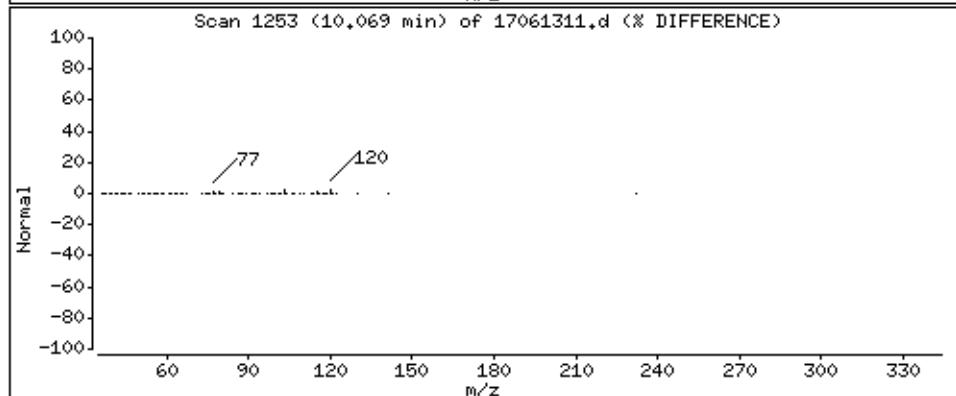
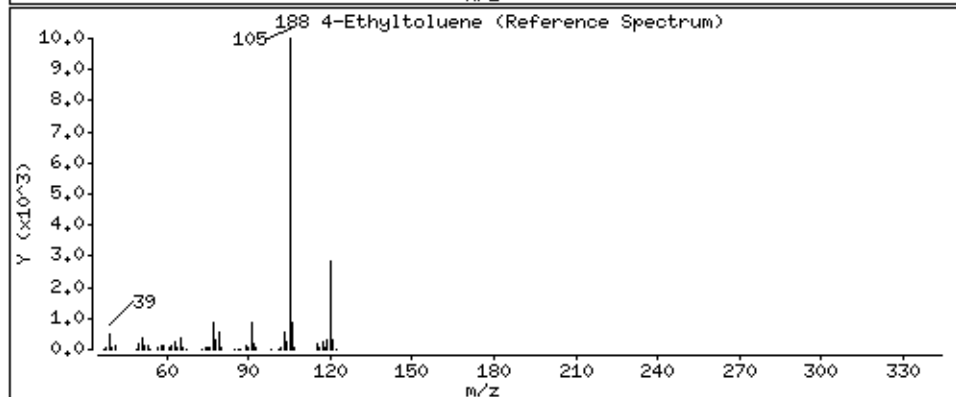
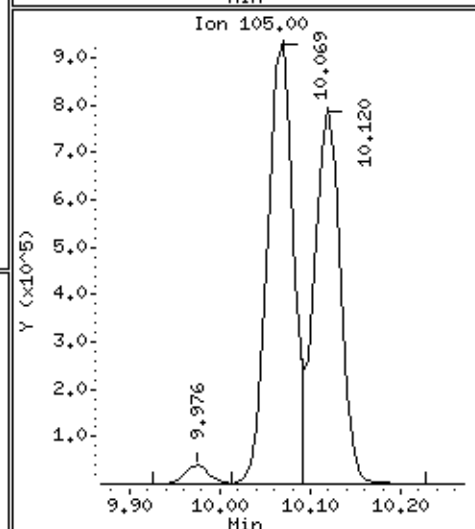
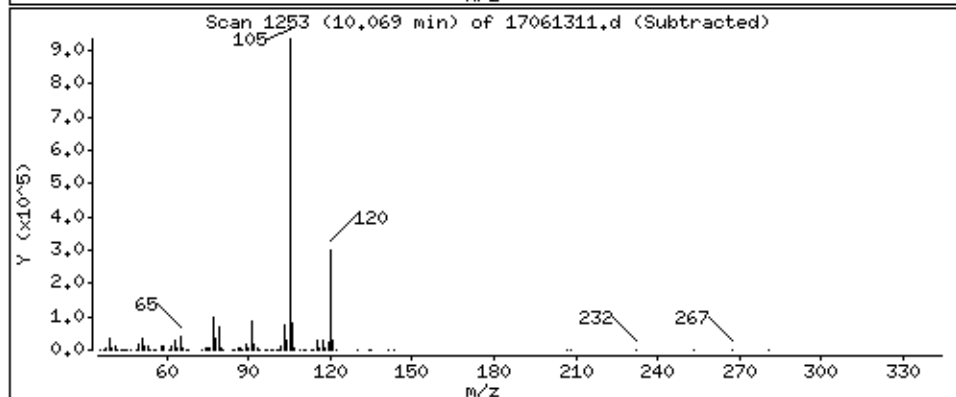
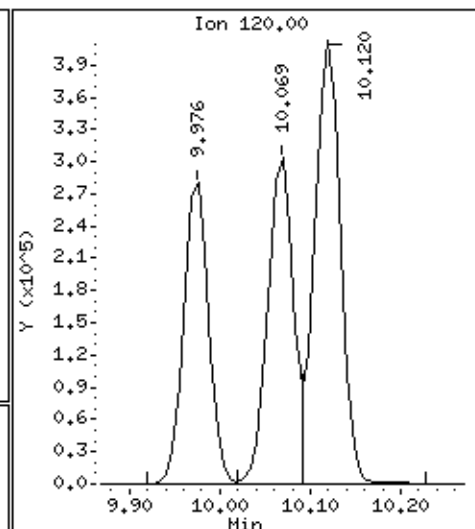
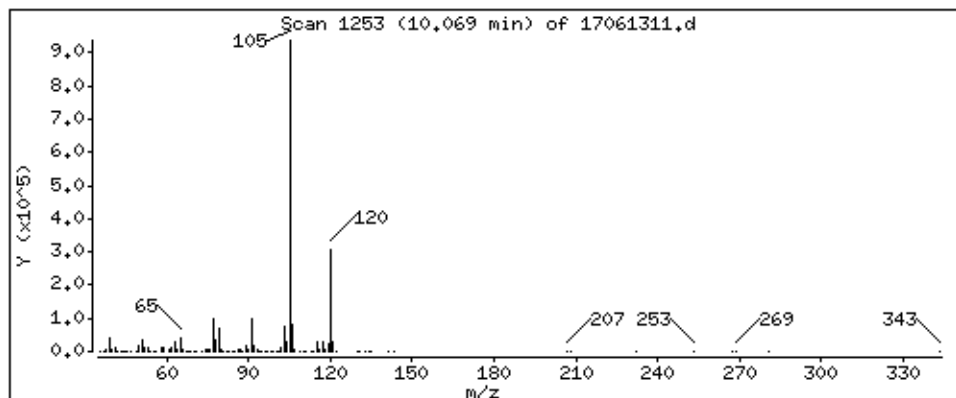
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

188 4-Ethyltoluene

Concentration: 53,364 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

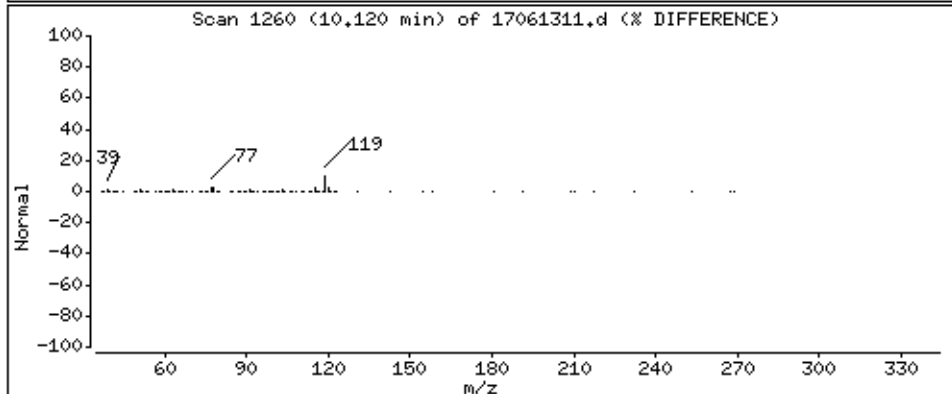
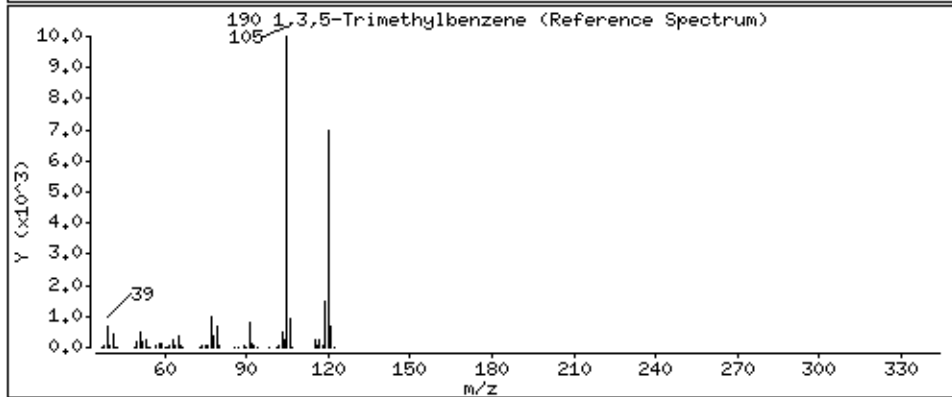
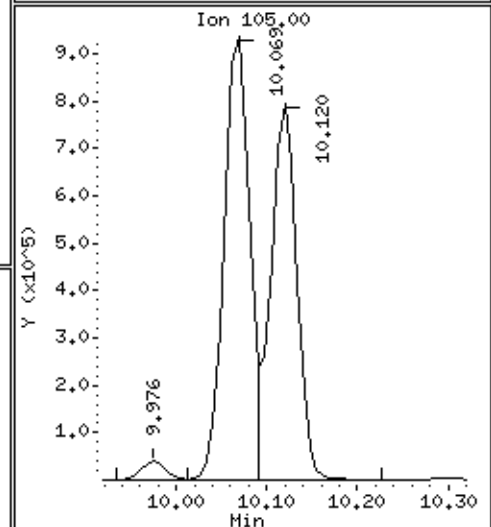
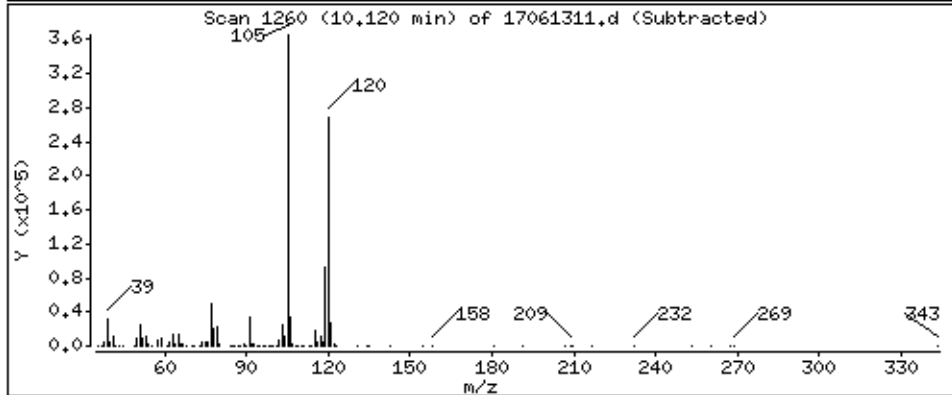
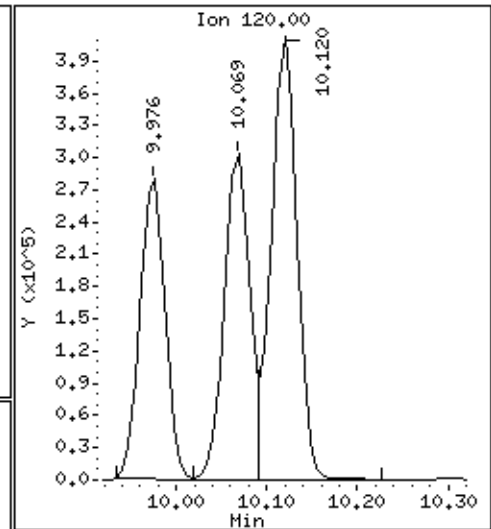
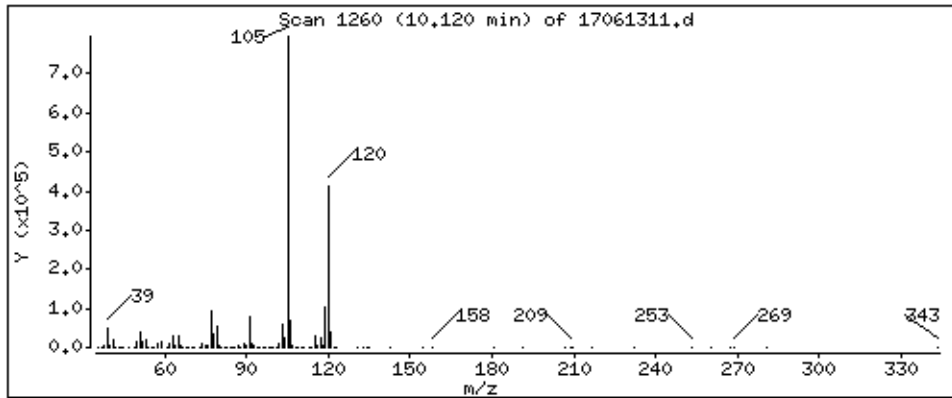
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

190 1,3,5-Trimethylbenzene

Concentration: 52,658 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

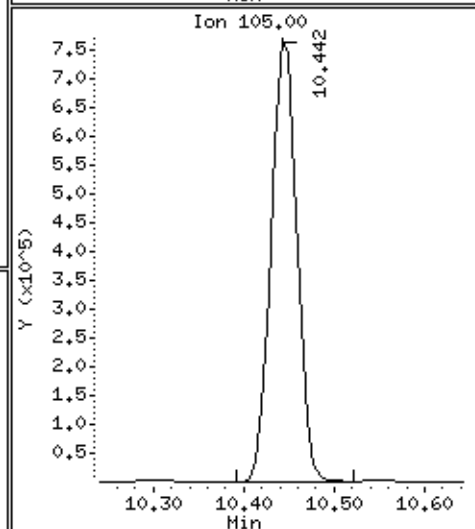
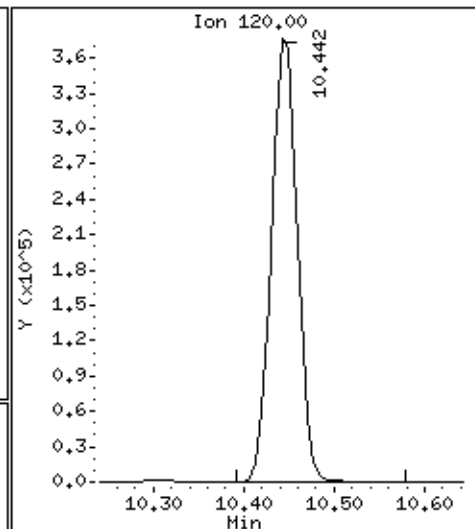
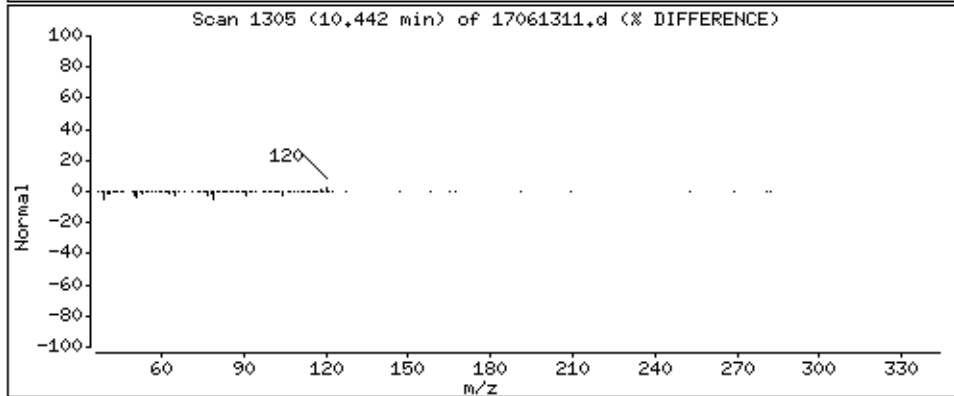
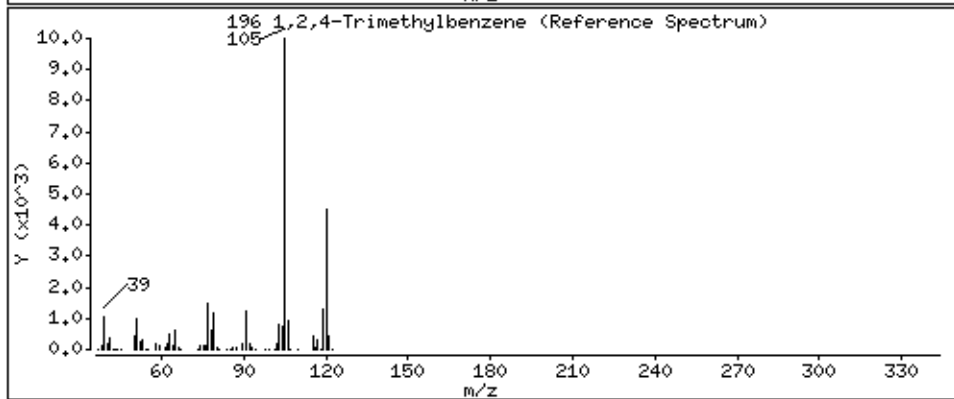
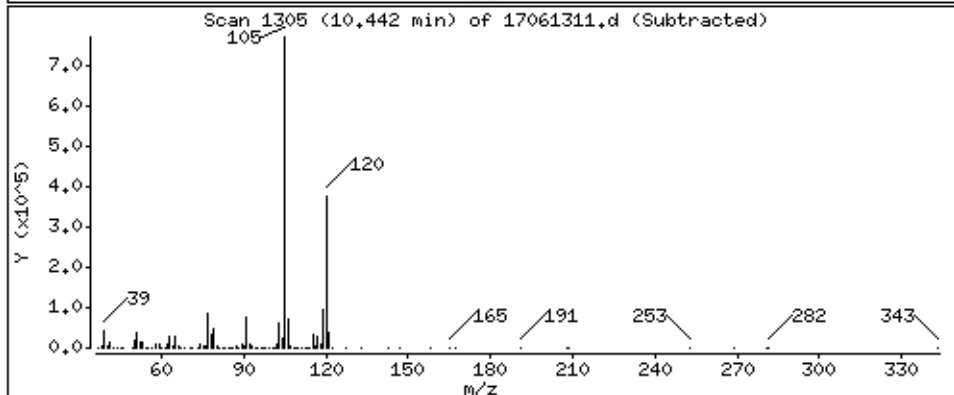
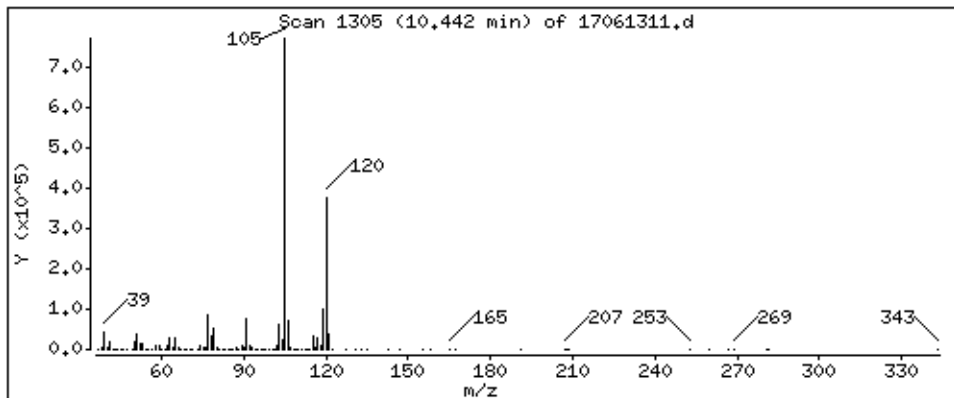
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

196 1,2,4-Trimethylbenzene

Concentration: 53,336 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

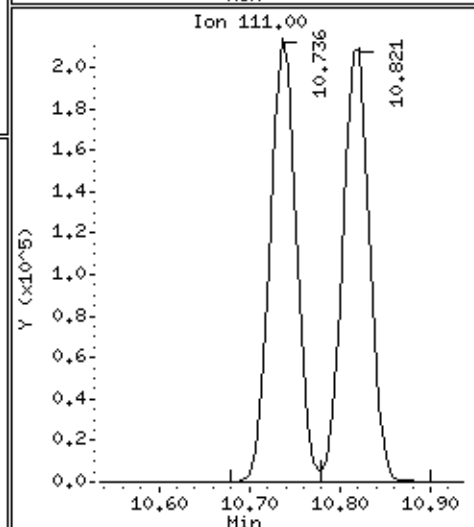
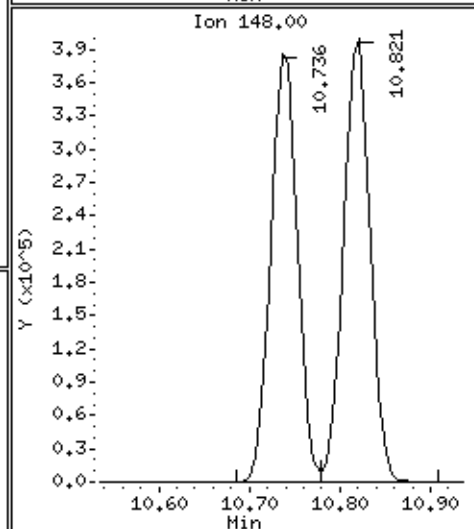
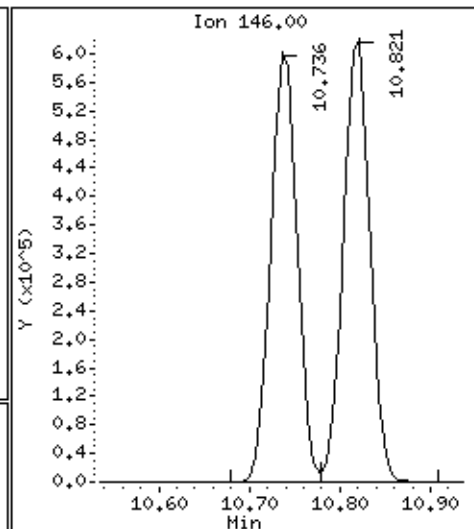
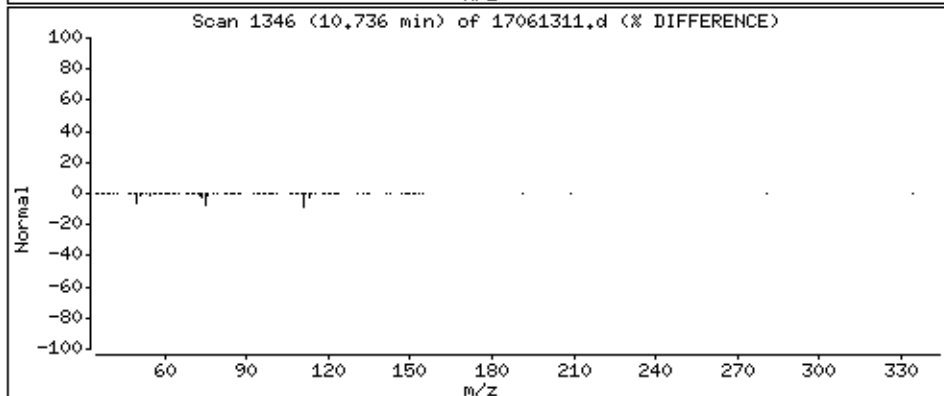
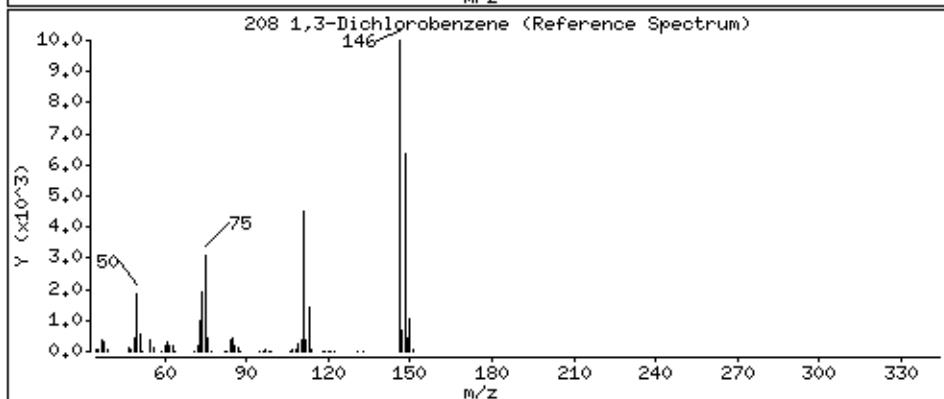
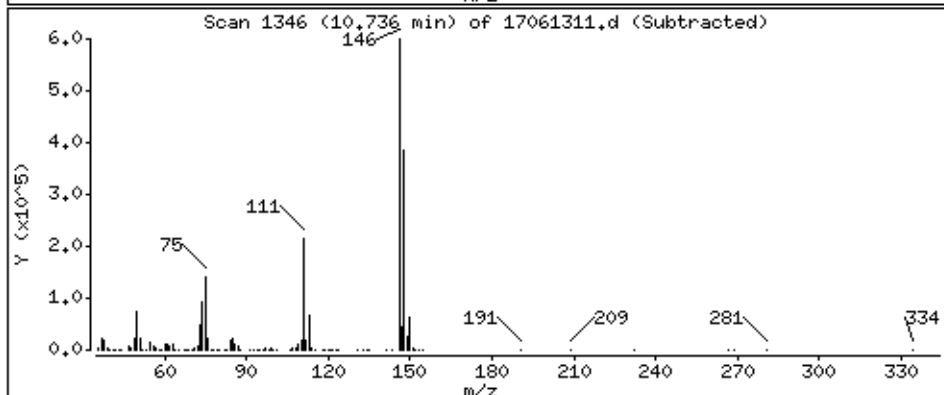
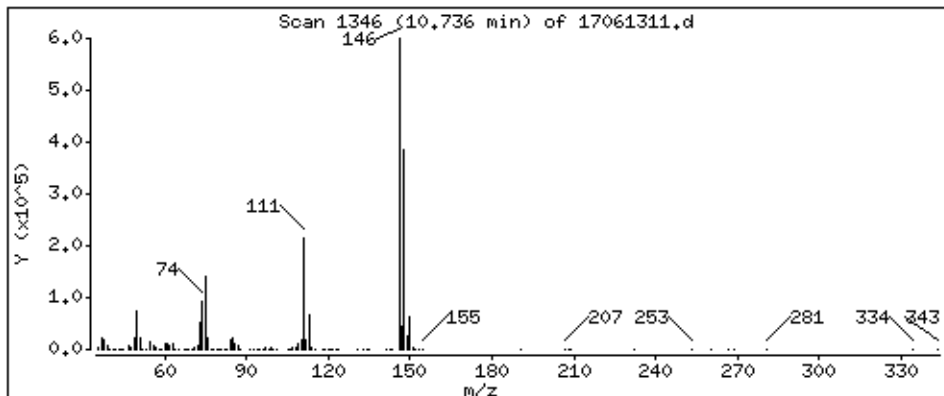
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

208 1,3-Dichlorobenzene

Concentration: 51,219 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

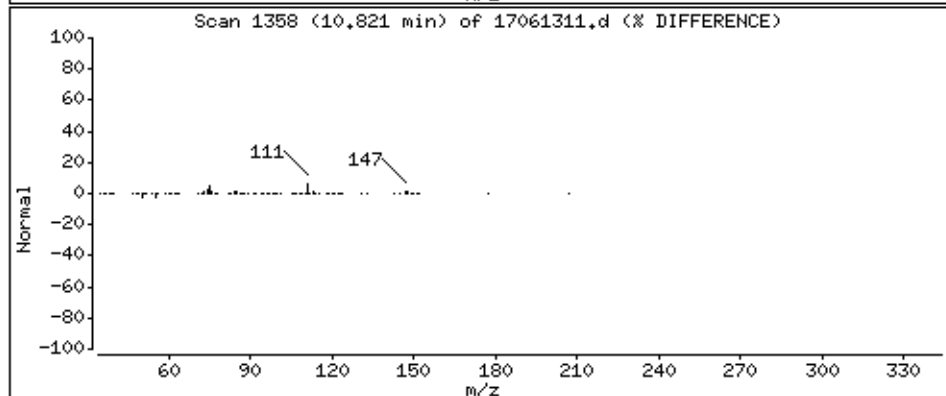
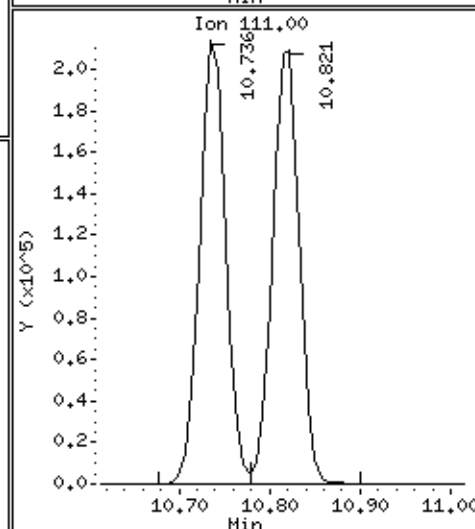
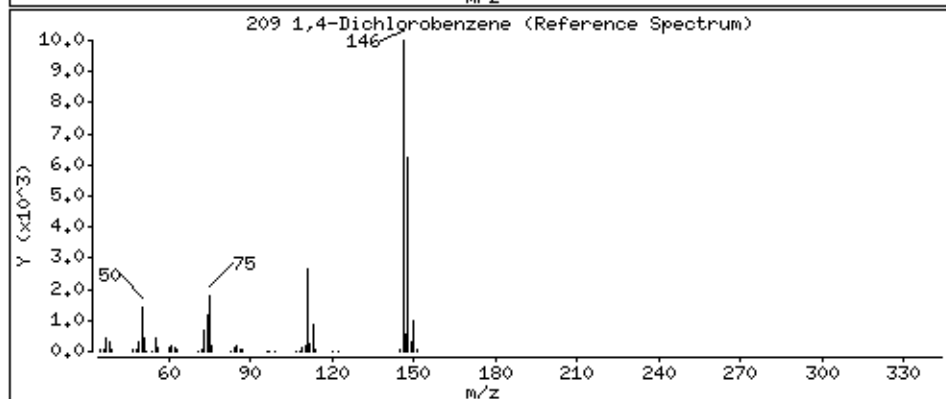
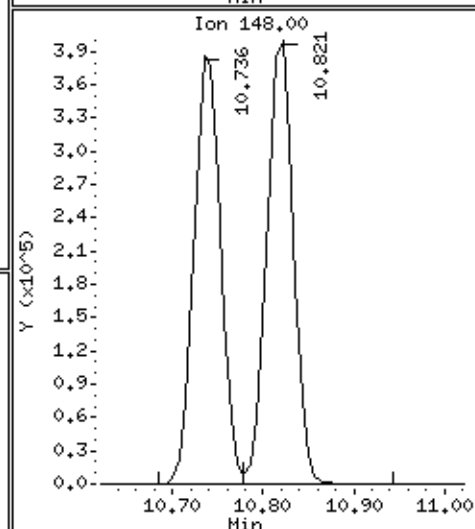
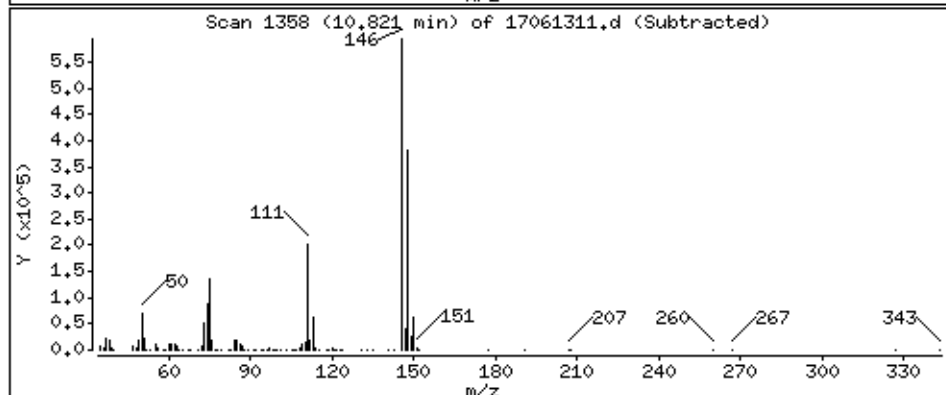
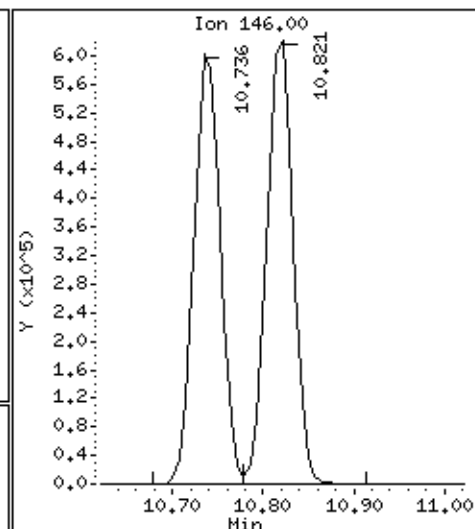
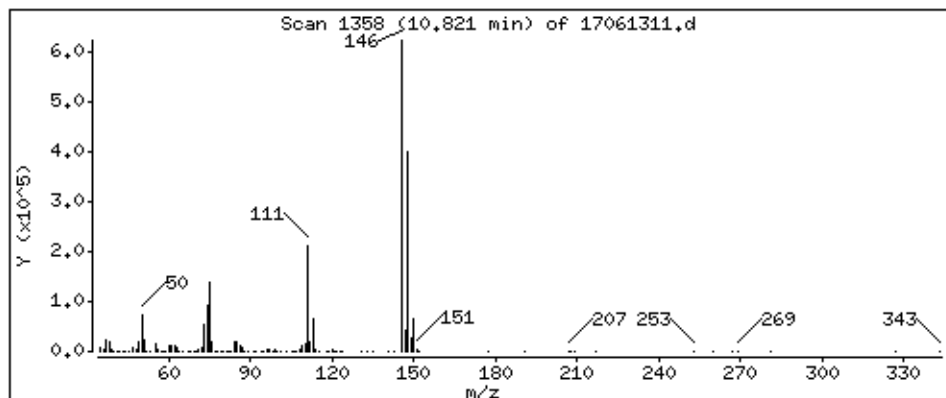
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

209 1,4-Dichlorobenzene

Concentration: 51.444 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

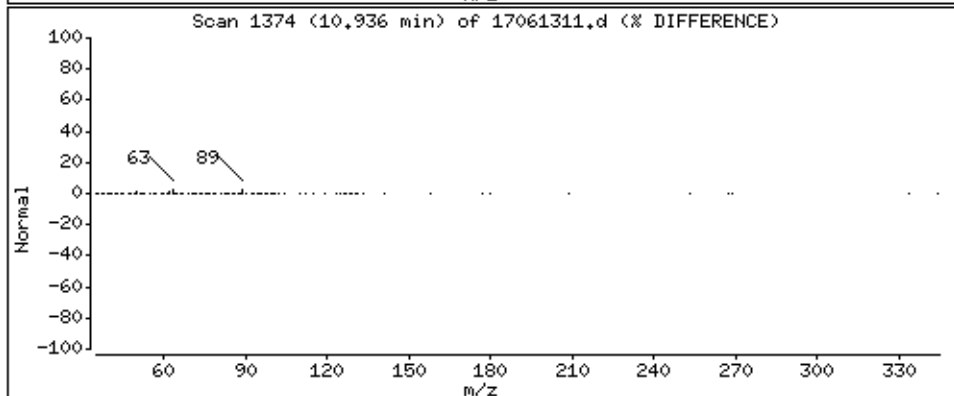
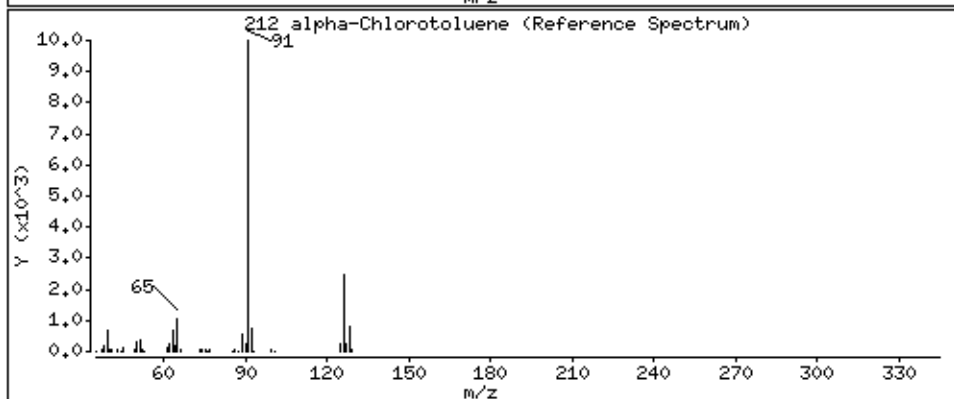
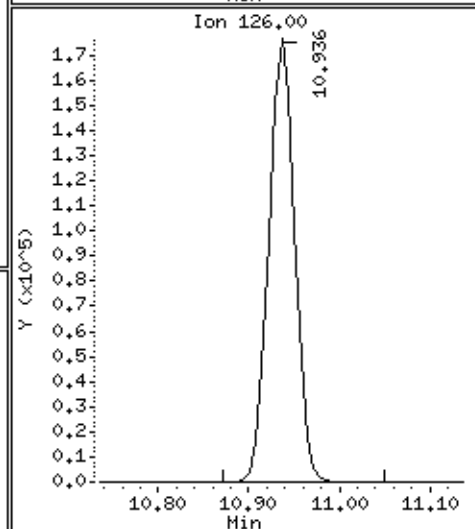
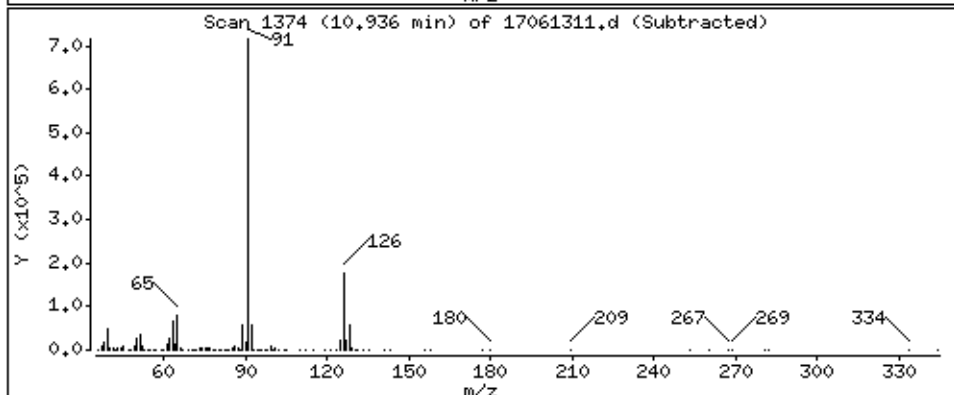
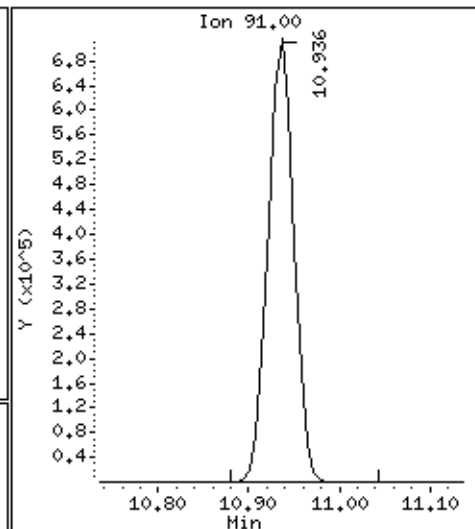
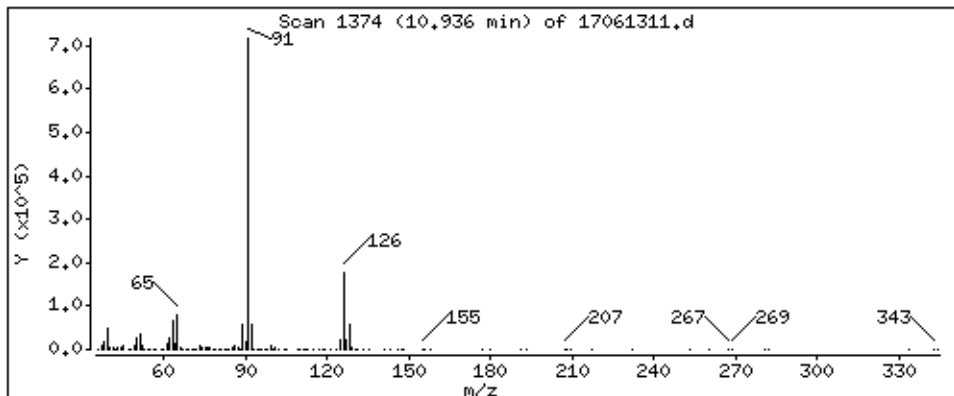
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

212 alpha-Chlorotoluene

Concentration: 56.038 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

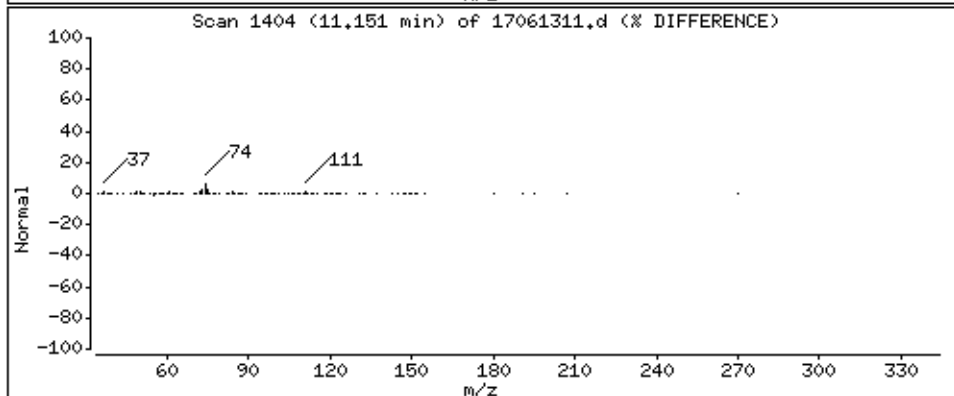
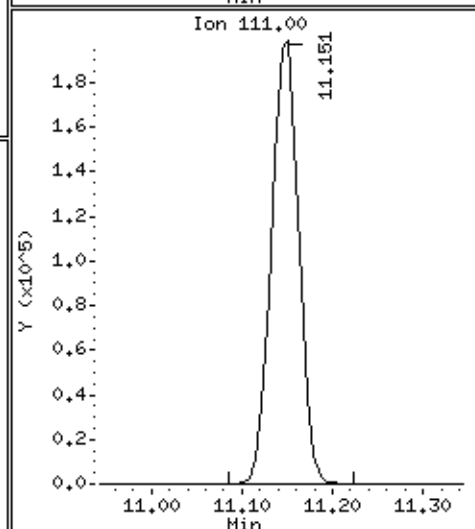
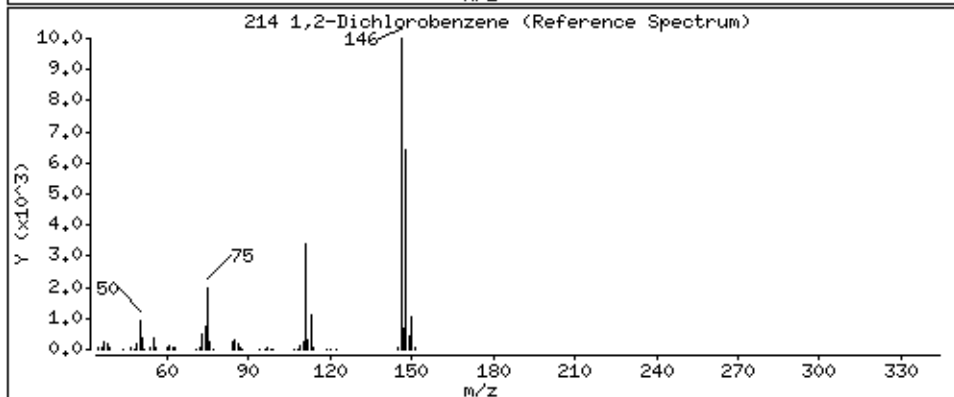
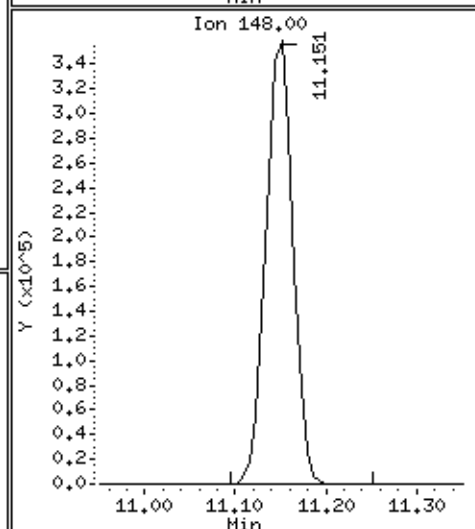
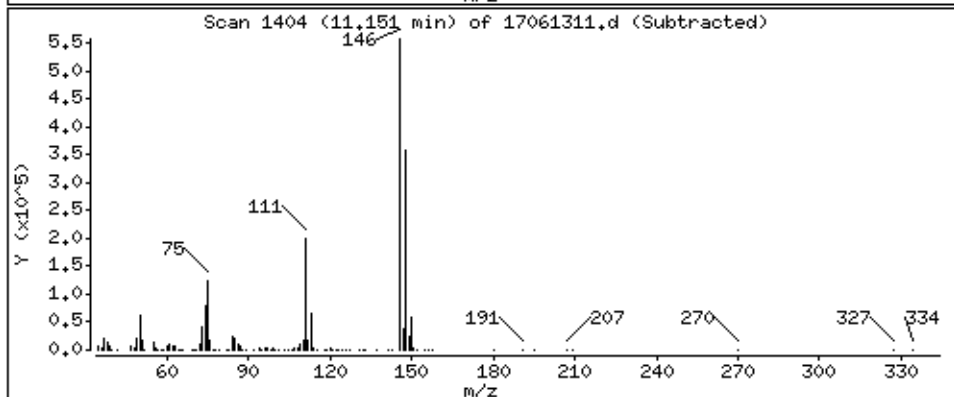
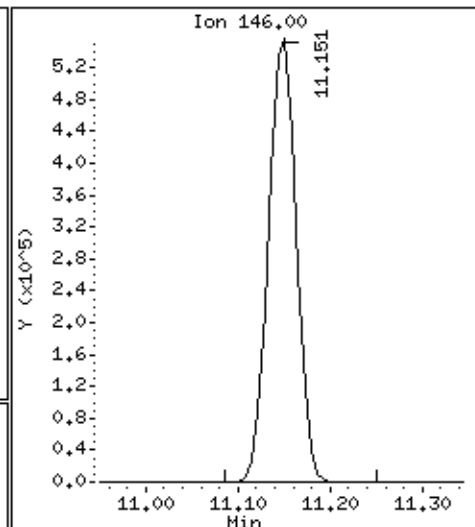
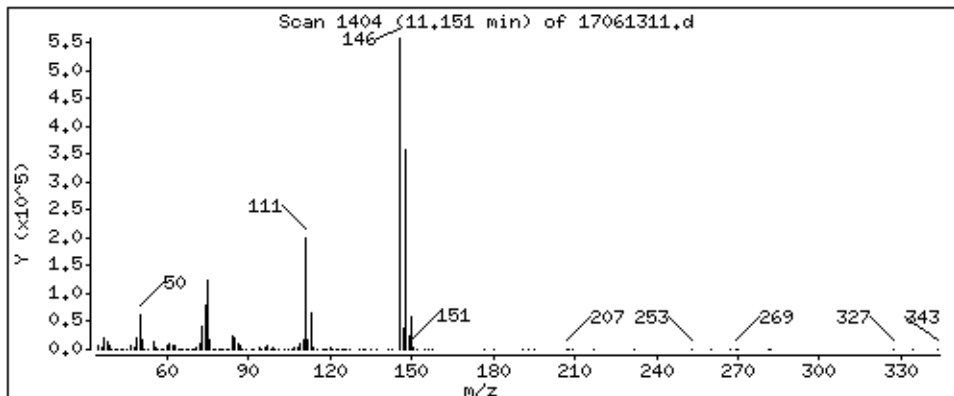
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

214 1,2-Dichlorobenzene

Concentration: 50,216 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

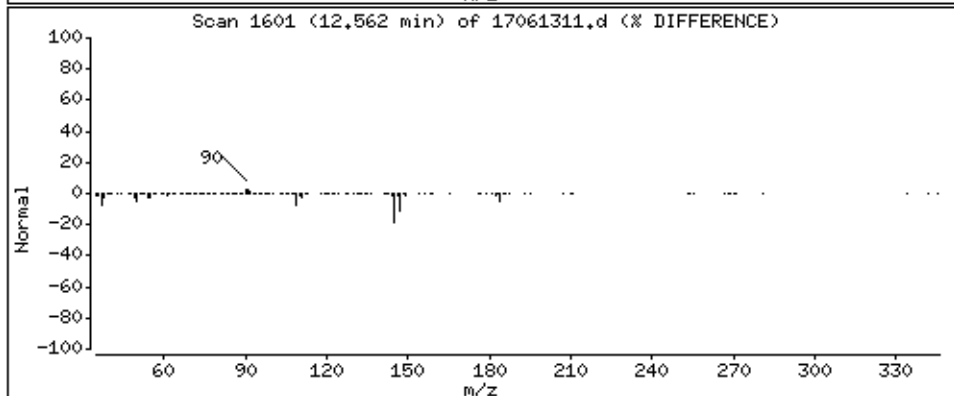
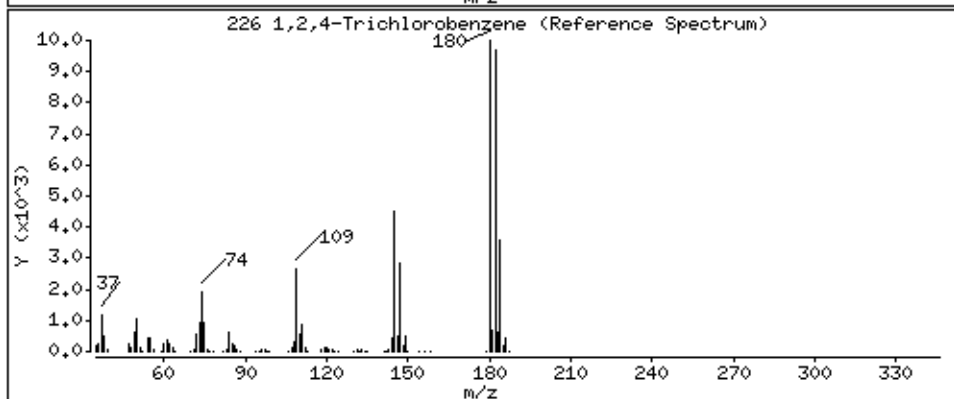
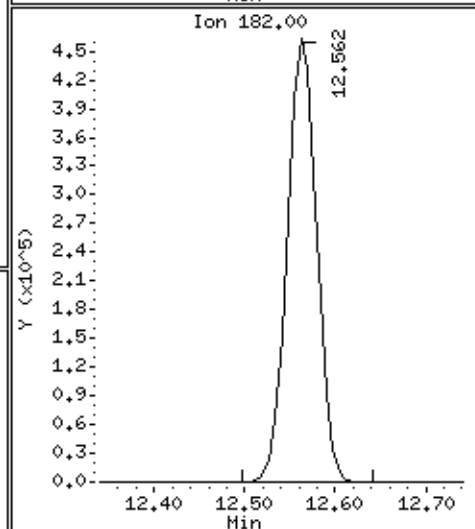
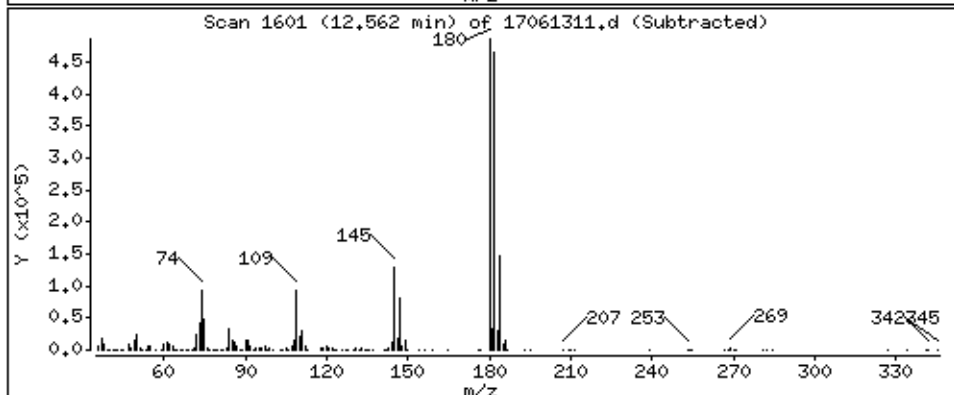
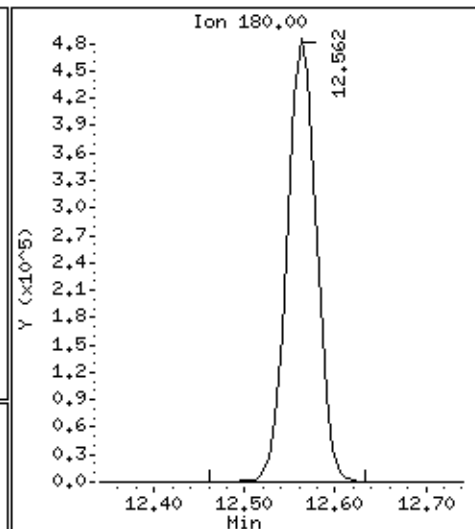
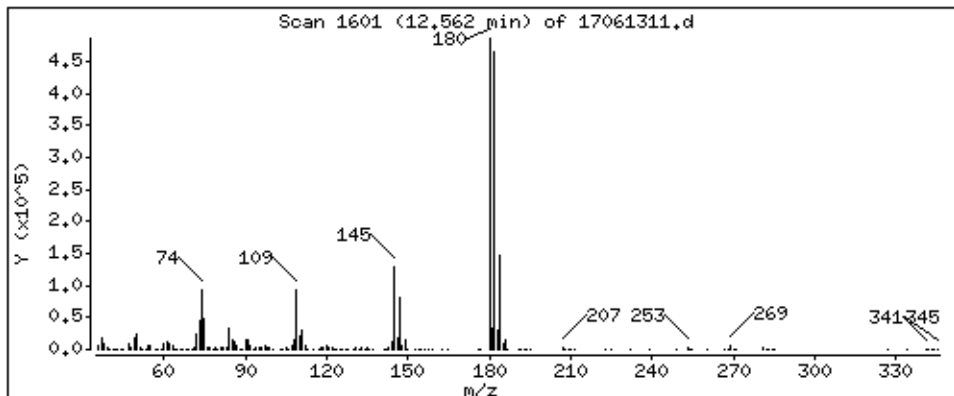
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

226 1,2,4-Trichlorobenzene

Concentration: 42,462 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

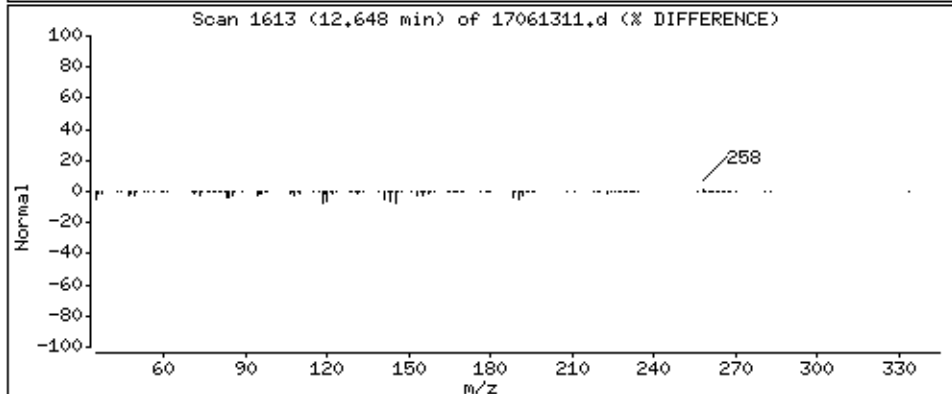
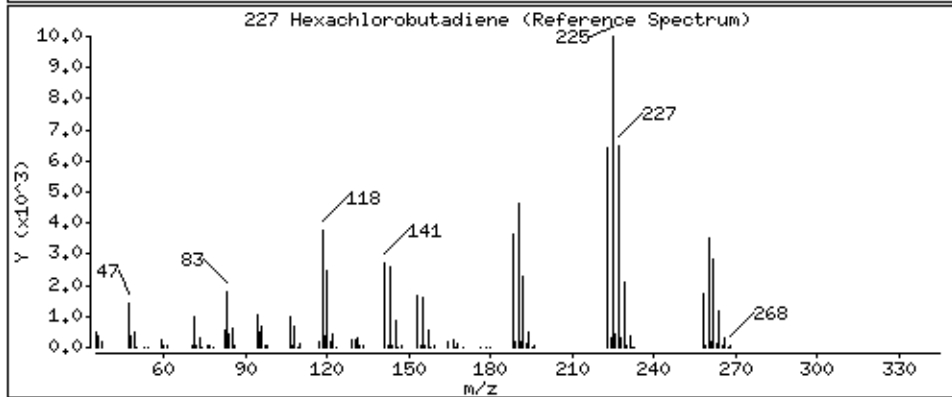
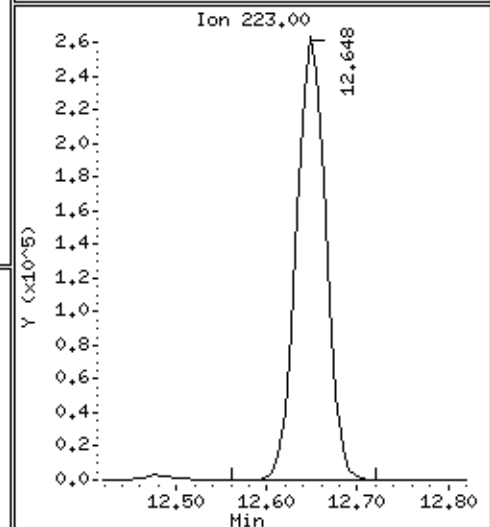
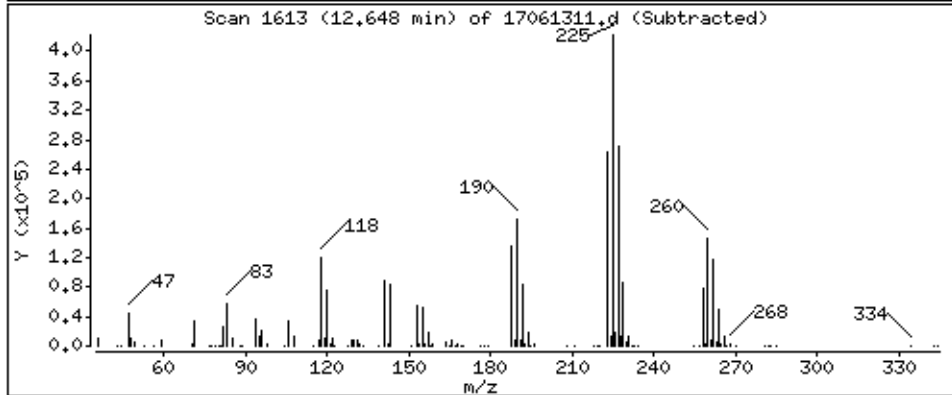
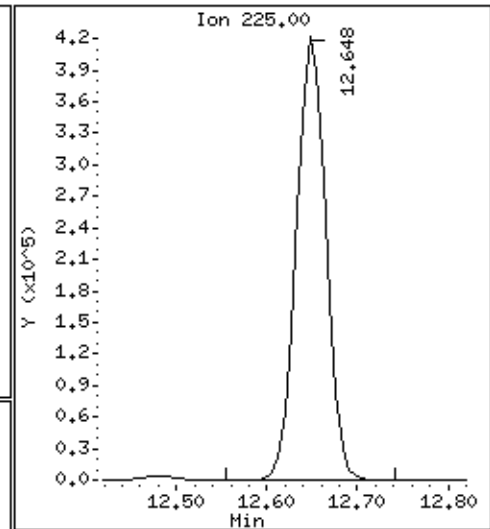
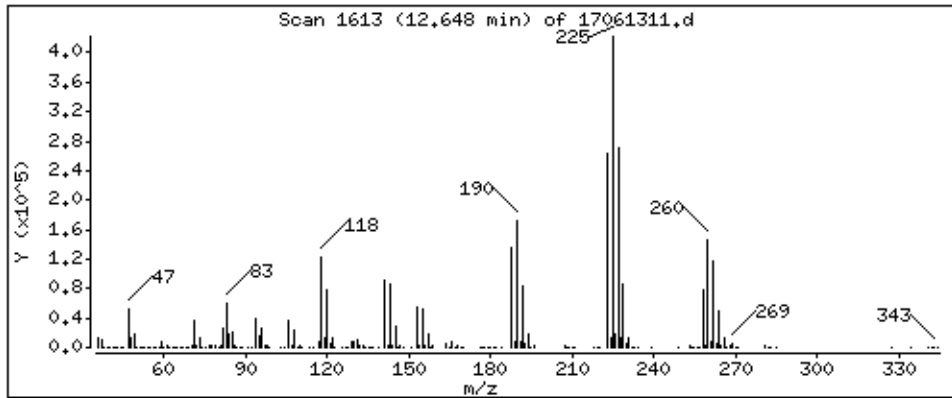
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

227 Hexachlorobutadiene

Concentration: 41,357 PPBV



Date : 14-JUN-2018 12:04

Client ID: ICV

Instrument: msd17.i

Sample Info: 50mL #3018-297

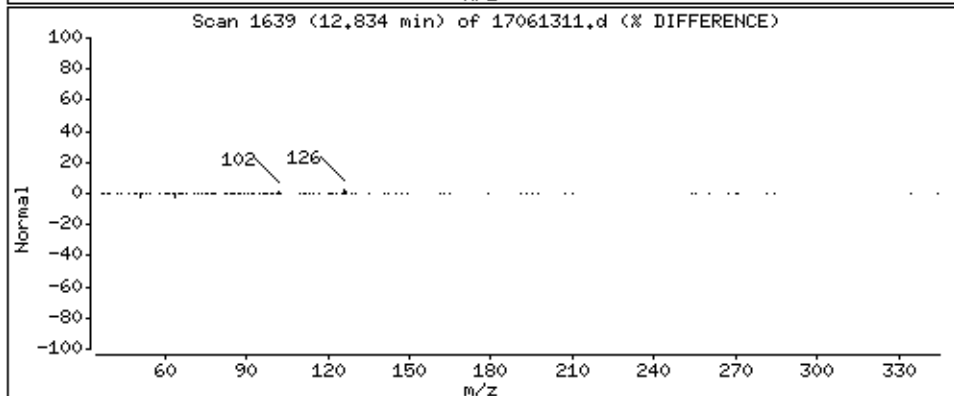
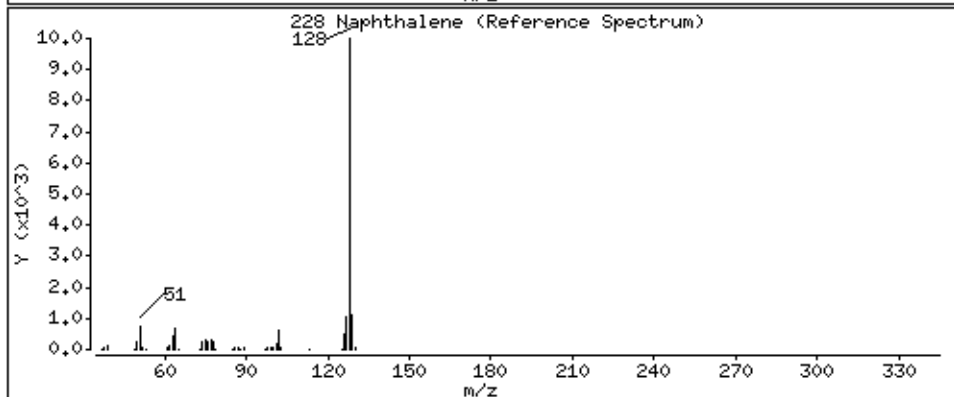
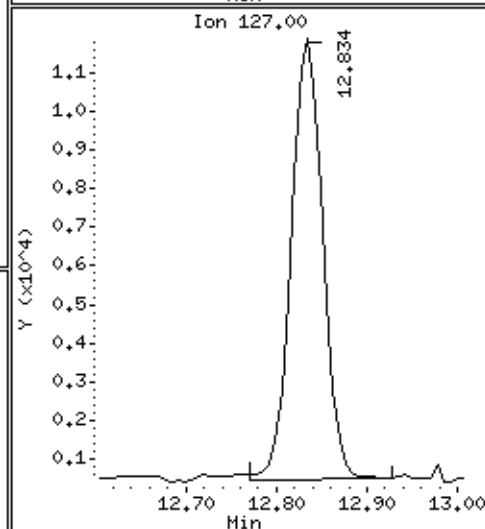
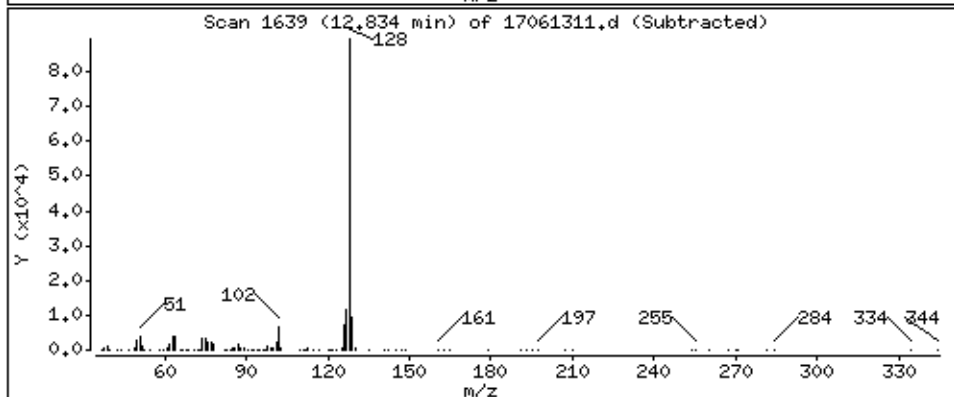
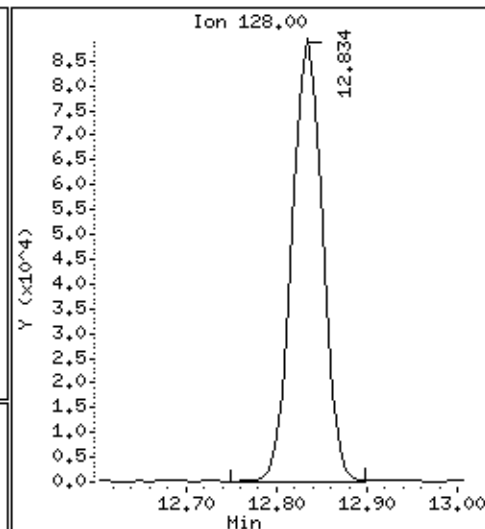
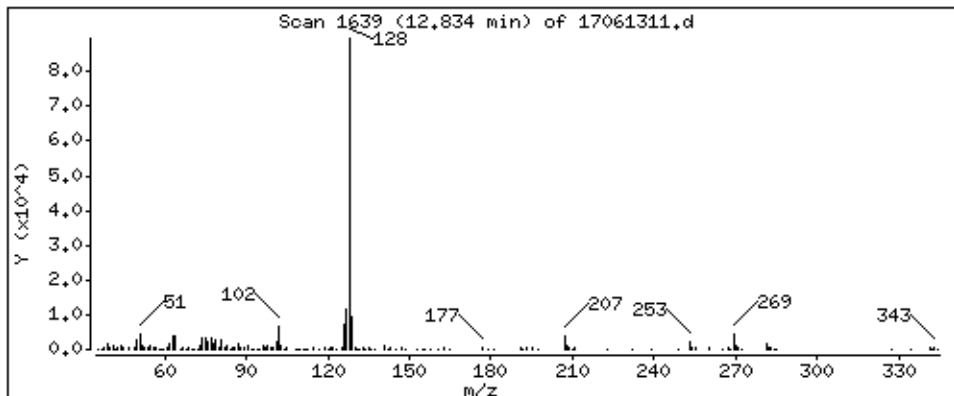
Operator: kk

Column phase: RTX-624

Column diameter: 0.25

228 Naphthalene

Concentration: 4.754 PPBV



Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/13jun18.b/17061302.d
Lab Smp Id: ICAL Level #2
Inj Date : 13-JUN-2018 22:14
Operator : gh Inst ID: msd17.i
Smp Info : 20ml 2018-279
Misc Info : 0.5ppbv(5.0ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/13jun18.b/178q0613a.m
Meth Date : 15-Jun-2018 09:11 gdelacru Quant Type: ISTD
Cal Date : 13-JUN-2018 22:14 Cal File: 17061302.d
Als bottle: 11 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12low.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane						CAS #:	74-97-5		
5.492	5.498	(1.000)	130	167588	25.0000		80.00-	120.00	100.00
5.492	5.498	(1.000)	128	126010			48.32-	108.32	75.19
5.492	5.496	(1.000)	49	155120			63.40-	123.40	92.56

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.380	6.384	(1.000)	114	588519	25.0000		80.00-	120.00	100.00
6.380	6.382	(1.000)	88	89000			0.00-	44.55	15.12

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	525831	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	254500			17.97-	77.97	48.40

\$ 117 1,2-Dichloroethane-d4						CAS #:	17060-07-0		
6.029	6.035	(1.098)	65	181695	25.0000	23.877	80.00-	120.00	100.00
6.029	6.035	(1.098)	67	94090			23.66-	83.66	51.78

\$ 146 Toluene-d8						CAS #:	2037-26-5		
7.598	7.598	(1.191)	98	568819	25.0000	24.817	80.00-	120.00	100.00
7.598	7.598	(1.191)	70	57647			0.00-	40.01	10.13

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO	
==	=====	=====	===	=====	=====	=====	=====	=====	
\$ 146 Toluene-d8 (continued)									
7.598	7.598	(1.191)	100	370085			35.43- 95.43	65.06	

\$ 177 4-Bromofluorobenzene						CAS #:	460-00-4		
9.819	9.819	(1.112)	174	418172	25.0000	25.184	80.00- 120.00	100.00	
9.819	9.819	(1.112)	95	376482			59.41- 119.41	90.03	
9.819	9.819	(1.112)	176	404735			68.33- 128.33	96.79	

11 Freon 12						CAS #:	75-71-8		
1.531	1.532	(0.279)	85	6998	0.50000	0.4702	80.00- 120.00	100.00(a)	
1.538	1.534	(0.280)	87	2538			2.38- 62.38	36.27	

15 Freon 114						CAS #:	76-14-2		
1.653	1.653	(0.301)	135	6260	0.50000	0.4983	80.00- 120.00	100.00(a)	
1.646	1.652	(0.300)	137	2174			2.28- 62.28	34.73	

25 Vinyl Chloride						CAS #:	75-01-4		
1.846	1.849	(0.336)	62	2958	0.50000	0.5343	80.00- 120.00	100.00	
1.839	1.849	(0.335)	64	1884			1.91- 61.91	63.69	

26 1,3-Butadiene						CAS #:	106-99-0		
1.875	1.875	(0.341)	54	1904	0.50000	0.5037	80.00- 120.00	100.00	
1.868	1.873	(0.340)	39	1946			72.44- 132.44	102.21	

35 Freon 11						CAS #:	75-69-4		
2.591	2.591	(0.472)	101	8112	0.50000	0.4647	80.00- 120.00	100.00(a)	
2.591	2.591	(0.472)	103	6830			34.28- 94.28	84.20	

49 Freon 113						CAS #:	76-13-1		
3.229	3.231	(0.588)	151	6934	0.50000	0.5116	80.00- 120.00	100.00	
3.236	3.233	(0.589)	153	4457			34.01- 94.01	64.28	
3.222	3.229	(0.587)	101	7018			81.38- 141.38	101.21	

50 1,1-Dichloroethene						CAS #:	75-35-4		
3.265	3.265	(0.594)	98	2010	0.50000	0.4784	80.00- 120.00	100.00(a)	
3.257	3.263	(0.593)	96	3836			124.64- 184.64	190.85	
3.265	3.264	(0.594)	61	4596			200.94- 260.94	228.66	

73 trans-1,2-Dichloroethene						CAS #:	156-60-5		
4.174	4.175	(0.760)	98	2042	0.50000	0.4943	80.00- 120.00	100.00(a)	
4.174	4.174	(0.760)	61	3488			169.57- 229.57	170.81	
4.174	4.174	(0.760)	96	3037			127.00- 187.00	148.73	

78 Hexane						CAS #:	110-54-3		
4.382	4.382	(0.798)	57	5300	0.50000	0.6006	80.00- 120.00	100.00	
4.382	4.382	(0.798)	43	3587			28.25- 88.25	67.68	

				AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====
78 Hexane (continued)								
4.382	4.382	(0.798)	86	1092			0.00- 48.98	20.60

82 1,1-Dichloroethane						CAS #:	75-34-3	
4.676	4.676	(0.851)	63	5797	0.50000	0.5456	80.00- 120.00	100.00
4.676	4.676	(0.851)	65	1382			2.30- 62.30	23.84

91 cis-1,2-Dichloroethene						CAS #:	156-59-2	
5.263	5.263	(0.958)	98	3146	0.50000	0.6324	80.00- 120.00	100.00
5.263	5.263	(0.958)	96	4186			122.96- 182.96	133.06
5.263	5.263	(0.958)	61	3876			147.21- 207.21	123.20

99 Tetrahydrofuran						CAS #:	109-99-9	
5.492	5.492	(1.000)	42	3489	0.50000	0.6106	80.00- 120.00	100.00
5.499	5.494	(1.001)	71	1503			18.99- 78.99	43.08
5.492	5.493	(1.000)	72	1658			20.78- 80.78	47.52

100 Chloroform						CAS #:	67-66-3	
5.557	5.558	(1.012)	83	6059	0.50000	0.4658	80.00- 120.00	100.00(a)
5.557	5.559	(1.012)	85	4148			35.00- 95.00	68.46

102 Cyclohexane						CAS #:	110-82-7	
5.657	5.657	(1.030)	84	4459	0.50000	0.5092	80.00- 120.00	100.00
5.650	5.656	(1.029)	56	5167			70.31- 130.31	115.88
5.650	5.656	(1.029)	41	2732			25.25- 85.25	61.27

103 1,1,1-Trichloroethane						CAS #:	71-55-6	
5.671	5.677	(1.033)	97	7517	0.50000	0.5184	80.00- 120.00	100.00
5.671	5.677	(1.033)	99	4643			34.84- 94.84	61.77

106 Carbon Tetrachloride						CAS #:	56-23-5	
5.793	5.793	(1.055)	119	8802	0.50000	0.5573	80.00- 120.00	100.00
5.793	5.793	(1.055)	117	8795			73.53- 133.53	99.92

113 2,2,4-Trimethylpentane						CAS #:	540-84-1	
5.979	5.984	(1.089)	57	12253	0.50000	0.4700	80.00- 120.00	100.00(a)
5.986	5.984	(1.090)	56	4258			2.59- 62.59	34.75
5.986	5.982	(1.090)	41	3235			0.00- 55.57	26.40

116 Benzene						CAS #:	71-43-2	
6.008	6.008	(0.942)	78	9632	0.50000	0.5161	80.00- 120.00	100.00
6.008	6.008	(0.942)	77	2196			0.00- 53.90	22.80

120 1,2-Dichloroethane						CAS #:	107-06-2	
6.101	6.101	(0.956)	62	4081	0.50000	0.4886	80.00- 120.00	100.00(a)
6.101	6.101	(0.956)	64	1788			3.07- 63.07	43.81

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	===	=====	=====	=====	=====	=====	=====
121 Heptane						CAS #:	142-82-5		
6.151	6.151	(0.964)	71	3657	0.50000	0.5601	80.00-	120.00	100.00
6.151	6.151	(0.964)	43	3740			110.59-	170.59	102.27
6.144	6.150	(0.963)	57	3483			64.25-	124.25	95.24
125 Trichloroethene						CAS #:	79-01-6		
6.581	6.581	(1.031)	95	4421	0.50000	0.4949	80.00-	120.00	100.00(a)
6.581	6.581	(1.031)	130	4637			81.76-	141.76	104.89
6.581	6.581	(1.031)	97	2510			34.64-	94.64	56.77
132 1,2-Dichloropropane						CAS #:	78-87-5		
6.817	6.817	(1.068)	63	3834	0.50000	0.5804	80.00-	120.00	100.00
6.817	6.817	(1.068)	62	2444			38.79-	98.79	63.75
6.817	6.817	(1.068)	41	2473			23.87-	83.87	64.50
138 Bromodichloromethane						CAS #:	75-27-4		
7.047	7.046	(1.104)	83	7043	0.50000	0.5058	80.00-	120.00	100.00
7.047	7.046	(1.104)	85	4611			34.11-	94.11	65.47
144 cis-1,3-Dichloropropene						CAS #:	10061-01-5		
7.419	7.419	(1.163)	75	5223	0.50000	0.4782	80.00-	120.00	100.00(a)
7.419	7.419	(1.163)	77	1923			2.33-	62.33	36.82
7.419	7.419	(1.163)	39	3000			16.60-	76.60	57.44
145 4-Methyl-2-pentanone						CAS #:	108-10-1		
7.527	7.526	(1.180)	58	3535	0.50000	0.6578	80.00-	120.00	100.00
7.527	7.526	(1.180)	43	6488			214.83-	274.83	183.54
7.527	7.526	(1.180)	85	1753			23.05-	83.05	49.59
147 Toluene						CAS #:	108-88-3		
7.655	7.655	(1.200)	91	12831	0.50000	0.5295	80.00-	120.00	100.00
7.655	7.655	(1.200)	92	7478			27.80-	87.80	58.28
150 trans-1,3-Dichloropropene						CAS #:	10061-02-6		
7.899	7.899	(0.895)	75	5077	0.50000	0.4939	80.00-	120.00	100.00(a)
7.899	7.899	(0.895)	77	1672			1.77-	61.77	32.93
7.899	7.899	(0.895)	39	3118			14.97-	74.97	61.41
155 1,1,2-Trichloroethane						CAS #:	79-00-5		
8.057	8.056	(0.912)	97	4209	0.50000	0.5139	80.00-	120.00	100.00
8.057	8.056	(0.912)	99	2902			32.71-	92.71	68.95
8.057	8.056	(0.912)	83	3773			55.53-	115.53	89.64
156 Tetrachloroethene						CAS #:	127-18-4		
8.092	8.092	(0.916)	166	7754	0.50000	0.5239	80.00-	120.00	100.00
8.092	8.092	(0.916)	129	5366			36.14-	96.14	69.20

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
156	8.092	8.092 (0.916)	131	5250			34.69- 94.69	67.71
160 Dibromochloromethane								
	8.365	8.367 (0.947)	129	8377	0.50000	0.4931	80.00- 120.00	100.00(a)
	8.365	8.367 (0.947)	127	6437			47.05- 107.05	76.84
161 1,2-Dibromoethane (EDB)								
	8.479	8.479 (0.960)	107	7352	0.50000	0.5248	80.00- 120.00	100.00
	8.479	8.479 (0.960)	109	6792			65.51- 125.51	92.38
165 Chlorobenzene								
	8.859	8.859 (1.003)	112	11064	0.50000	0.5337	80.00- 120.00	100.00
	8.859	8.859 (1.003)	114	3014			2.14- 62.14	27.24
	8.845	8.852 (1.002)	77	10152			23.42- 83.42	91.76
167 Ethyl Benzene								
	8.902	8.902 (1.008)	106	5202	0.50000	0.4994	80.00- 120.00	100.00(a)
	8.902	8.902 (1.008)	91	16310			268.52- 328.52	313.53
169 m,p-Xylene								
	8.995	8.997 (1.019)	106	6954	0.50000	0.5368	80.00- 120.00	100.00
	8.995	8.996 (1.019)	91	12929			161.75- 221.75	185.92
171 o-Xylene								
	9.339	9.339 (1.058)	106	6332	0.50000	0.5159	80.00- 120.00	100.00
	9.339	9.339 (1.058)	91	12952			170.98- 230.98	204.55
172 Styrene								
	9.360	9.360 (1.060)	104	9926	0.50000	0.5100	80.00- 120.00	100.00
	9.360	9.360 (1.060)	78	3978			16.10- 76.10	40.08
174 Bromoform								
	9.568	9.568 (1.084)	173	9563	0.50000	0.4899	80.00- 120.00	100.00(a)
	9.568	9.568 (1.084)	171	4890			21.32- 81.32	51.13
175 Cumene								
	9.625	9.625 (1.090)	105	19002	0.50000	0.5108	80.00- 120.00	100.00
	9.625	9.626 (1.090)	120	5078			0.00- 58.56	26.72
	9.625	9.625 (1.090)	51	2431			0.00- 37.61	12.79
181 1,1,2,2-Tetrachloroethane								
	9.948	9.948 (1.127)	83	9182	0.50000	0.5242	80.00- 120.00	100.00
	9.948	9.948 (1.127)	85	6364			35.03- 95.03	69.31
182 Propylbenzene								
	9.976	9.974 (1.130)	91	21483	0.50000	0.5111	80.00- 120.00	100.00

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
182 Propylbenzene (continued)									
9.976	9.976	(1.130)	120	5989			0.00-	56.23	27.88
9.976	9.976	(1.130)	105	1046			0.00-	33.80	4.87

188 4-Ethyltoluene						CAS #:	622-96-8		
10.069	10.069	(1.140)	120	5763	0.50000	0.4895	80.00-	120.00	100.00(a)
10.069	10.069	(1.140)	105	16938			275.42-	335.42	293.91

190 1,3,5-Trimethylbenzene						CAS #:	108-67-8		
10.120	10.119	(1.146)	120	8470	0.50000	0.5178	80.00-	120.00	100.00
10.120	10.119	(1.146)	105	15806			165.32-	225.32	186.61

196 1,2,4-Trimethylbenzene						CAS #:	95-63-6		
10.449	10.444	(1.183)	120	7393	0.50000	0.5058	80.00-	120.00	100.00
10.442	10.443	(1.183)	105	15173			176.48-	236.48	205.23

208 1,3-Dichlorobenzene						CAS #:	541-73-1		
10.736	10.735	(1.216)	146	12638	0.50000	0.5092	80.00-	120.00	100.00
10.736	10.735	(1.216)	148	7758			34.93-	94.93	61.39
10.736	10.735	(1.216)	111	4063			5.13-	65.13	32.15

209 1,4-Dichlorobenzene						CAS #:	106-46-7		
10.822	10.820	(1.226)	146	12904	0.50000	0.5088	80.00-	120.00	100.00
10.822	10.821	(1.226)	148	7845			34.11-	94.11	60.80
10.814	10.817	(1.225)	111	5210			4.00-	64.00	40.38

212 alpha-Chlorotoluene						CAS #:	100-44-7		
10.936	10.936	(1.238)	91	12043	0.50000	0.4579	80.00-	120.00	100.00(a)
10.936	10.936	(1.238)	126	3168			0.00-	55.13	26.31

214 1,2-Dichlorobenzene						CAS #:	95-50-1		
11.151	11.148	(1.263)	146	11988	0.50000	0.5025	80.00-	120.00	100.00
11.151	11.149	(1.263)	148	7530			34.17-	94.17	62.81
11.144	11.146	(1.262)	111	5241			6.50-	66.50	43.72

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17061302.d
Lab Smp Id: ICAL Level #2
Analysis Type: VOA
Quant Type: ISTD
Operator: gh
Method File: /chem/msd17.i/13jun18.b/178q0613a.m
Misc Info: 0.5ppbv(5.0ppbv)

Calibration Date: 14-JUN-2018
Calibration Time: 00:02

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	162788	97673	227903	167588	2.95
123 1,4-Difluorobenze	570167	342100	798234	588519	3.22
163 Chlorobenzene-d5	520088	312053	728123	525831	1.10

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.50	5.17	5.83	5.49	-0.13
123 1,4-Difluorobenze	6.38	6.05	6.71	6.38	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name: Client SDG: 13jun18
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: ICAL Level #2
Level: LOW Operator: gh
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AT12low.sub
Method File: /chem/msd17.i/13jun18.b/178q0613a.m
Misc Info: 0.5ppbv(5.0ppbv)

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
\$ 117 1,2-Dichloroethane	25.000	0.000	0.00*	70-130
\$ 146 Toluene-d8	25.000	0.000	0.00*	70-130
\$ 177 4-Bromofluorobenze	25.000	0.000	0.00*	70-130

Data File: /chem/msd17.i/13jun18.b/17061302.d

Date : 13-JUN-2018 22:14

Client ID:

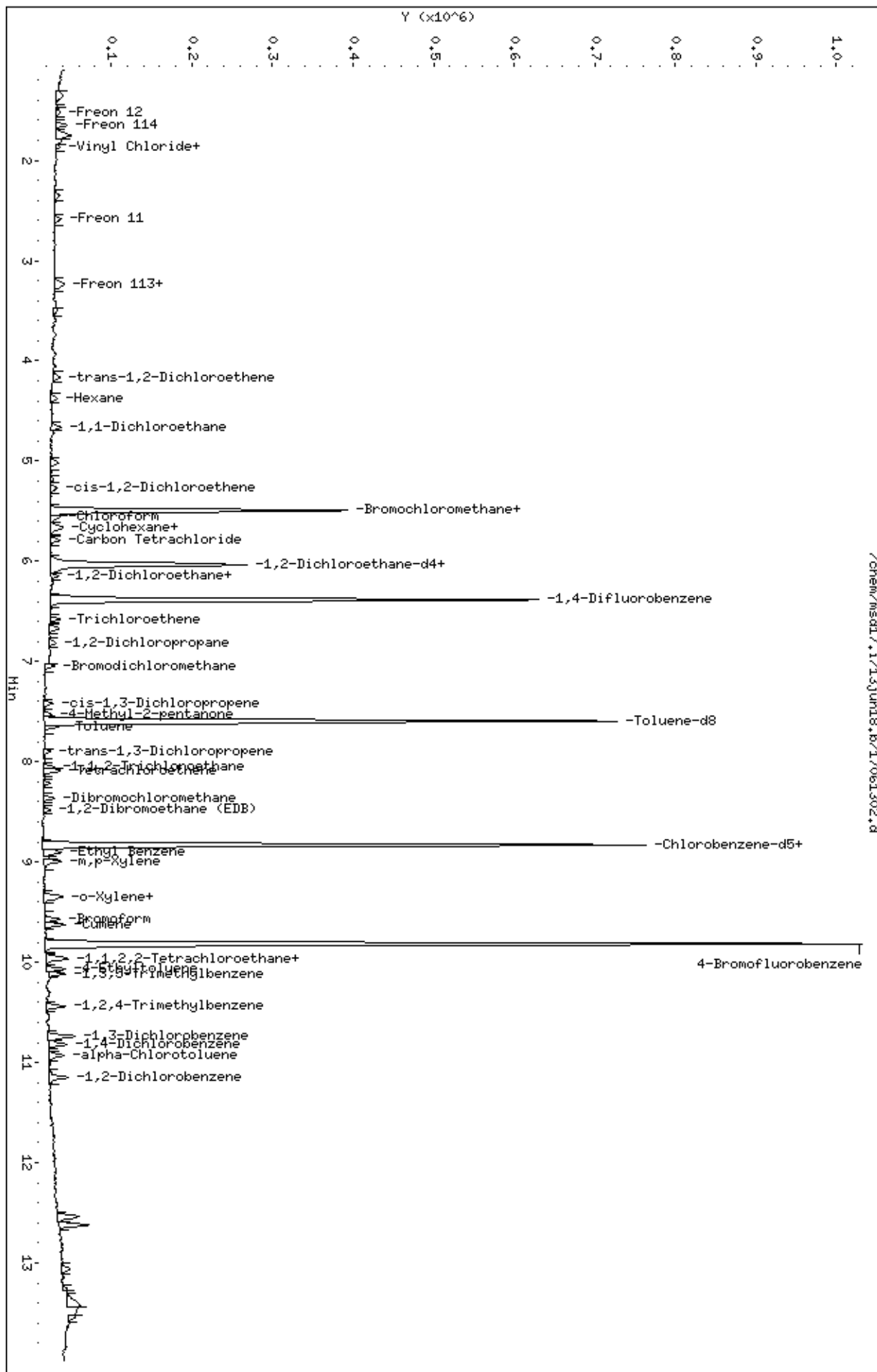
Sample Info: 20ml 2018-279

Column phase: RTX-624

Instrument: msd17.i

Operator: gh

Column diameter: 0.25



US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/09OCT18.b/17100911.d
Lab Smp Id: ICAL Level #3
Inj Date : 09-OCT-2018 15:59
Operator : mjb
Smp Info : 80ml 3018-464
Misc Info : 2.0ppbv (5.0ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/09OCT18.b/178q0613e.m
Meth Date : 09-Oct-2018 16:29 p5fl
Cal Date : 09-OCT-2018 15:59
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE
Sample Matrix: AIR
Processing Host: us32apptv003

Inst ID: msd17.i
Quant Type: ISTD
Cal File: 17100911.d
Calibration Sample, Level: 3
Compound Sublist: EthylAcetateCRV.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

						AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT	ON-COL	TARGET	RANGE	RATIO		
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====		

* 98 Bromochloromethane											CAS #: 74-97-5
5.492	5.496	(1.000)	130	123486	25.0000		80.00-	120.00	100.00		
5.492	5.496	(1.000)	128	95336			48.32-	108.32	77.20		
5.492	5.493	(1.000)	49	109203			63.40-	123.40	88.43		

* 123 1,4-Difluorobenzene											CAS #: 540-36-3
6.380	6.380	(1.000)	114	394769	25.0000		80.00-	120.00	100.00		
6.380	6.380	(1.000)	88	59712			0.00-	44.55	15.13		

* 163 Chlorobenzene-d5											CAS #: 3114-55-4
8.830	8.830	(1.000)	117	379323	25.0000		80.00-	120.00	100.00		
8.830	8.830	(1.000)	82	188882			17.97-	77.97	49.79		

94 Ethyl Acetate											CAS #: 141-78-6
5.306	5.301	(0.966)	70	1563	2.00000	1.796	0.00-	0.00	100.00(a)		
5.306	5.301	(0.966)	61	2285			0.00-	0.00	146.19		
5.306	5.301	(0.966)	45	1981			0.00-	0.00	126.74		

QC Flag Legend

- a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17100911.d
Lab Smp Id: ICAL Level #3
Analysis Type: VOA
Quant Type: ISTD
Operator: mjb

Calibration Date: 09-OCT-2018
Calibration Time: 10:06

Level: LOW
Sample Type: AIR

Method File: /chem/msd17.i/09OCT18.b/178q0613e.m
Misc Info: 2.0ppbv (5.0ppbv)

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	124915	74949	174881	123486	-1.14
123 1,4-Difluorobenze	429857	257914	601800	394769	-8.16
163 Chlorobenzene-d5	395763	237458	554068	379323	-4.15

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.50	5.17	5.83	5.49	-0.13
123 1,4-Difluorobenze	6.38	6.05	6.71	6.38	-0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.i/09OCT18.b/17100911.d

Date : 09-OCT-2018 15:59

Client ID:

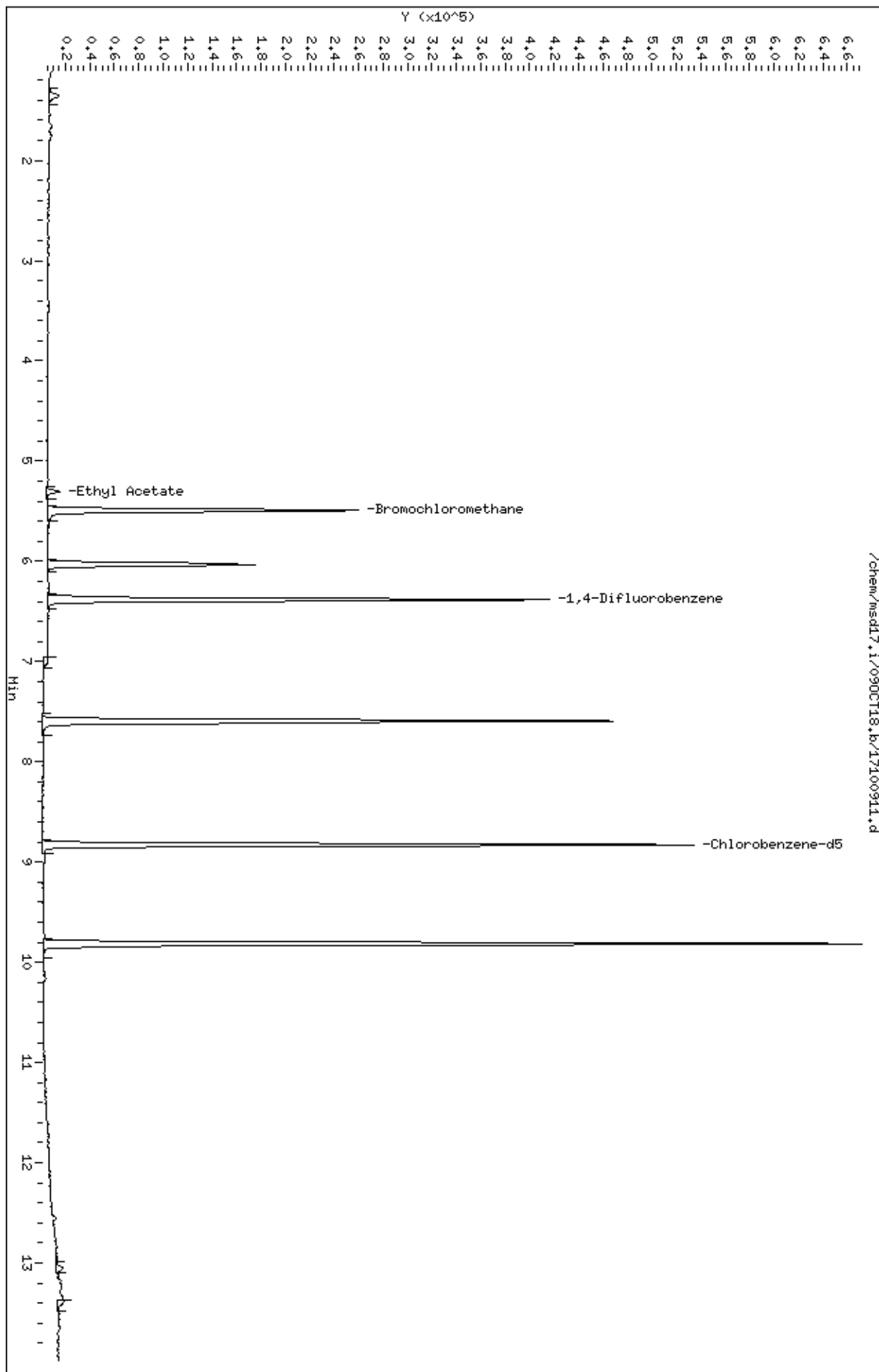
Sample Info: 80ml 3018-464

Column phase: RTX-624

Instrument: msd17.i

Operator: mjb

Column diameter: 0.25



US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/24aug18.b/17082405.d
Lab Smp Id: ICAL Level 3
Inj Date : 24-AUG-2018 14:36
Operator : mjb
Smp Info : 100ml 3045-80
Misc Info : 2.0ppbv (4.0 ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/24aug18.b/178q0613d.m
Meth Date : 27-Aug-2018 09:55 ugdc
Cal Date : 24-AUG-2018 14:36
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE
Sample Matrix: AIR
Processing Host: us32apptv003

Inst ID: msd17.i
Quant Type: ISTD
Cal File: 17082405.d
Calibration Sample, Level: 3
Compound Sublist: DBMiCAL.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane						CAS #:	74-97-5		
5.492	5.494	(1.000)	130	125404	25.0000		80.00-	120.00	100.00
5.492	5.494	(1.000)	128	96587			48.32-	108.32	77.02
5.492	5.493	(1.000)	49	109645			63.40-	123.40	87.43

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.380	6.380	(1.000)	114	401818	25.0000		80.00-	120.00	100.00
6.380	6.380	(1.000)	88	59261			0.00-	44.55	14.75

137 Dibromomethane						CAS #:	74-95-3		
6.925	6.925	(0.784)	174	16274	2.00000	2.304	0.00-	0.00	100.00
6.925	6.925	(0.784)	93	12889			0.00-	0.00	79.20
6.925	6.925	(0.784)	95	10022			0.00-	0.00	61.58

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	374434	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	177842			17.97-	77.97	47.50

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17082405.d
Lab Smp Id: ICAL Level 3
Analysis Type: VOA
Quant Type: ISTD
Operator: mjb

Calibration Date: 24-AUG-2018
Calibration Time: 11:03

Level: LOW
Sample Type: AIR

Method File: /chem/msd17.i/24aug18.b/178q0613d.m
Misc Info: 2.0ppbv (4.0 ppbv)

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	120541	72325	168757	125404	4.03
123 1,4-Difluorobenze	409315	245589	573041	401818	-1.83
163 Chlorobenzene-d5	370404	222242	518566	374434	1.09

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.49	5.16	5.82	5.49	-0.00
123 1,4-Difluorobenze	6.38	6.05	6.71	6.38	-0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.i/24aug18.b/17082405.d

Date : 24-AUG-2018 14:36

Client ID:

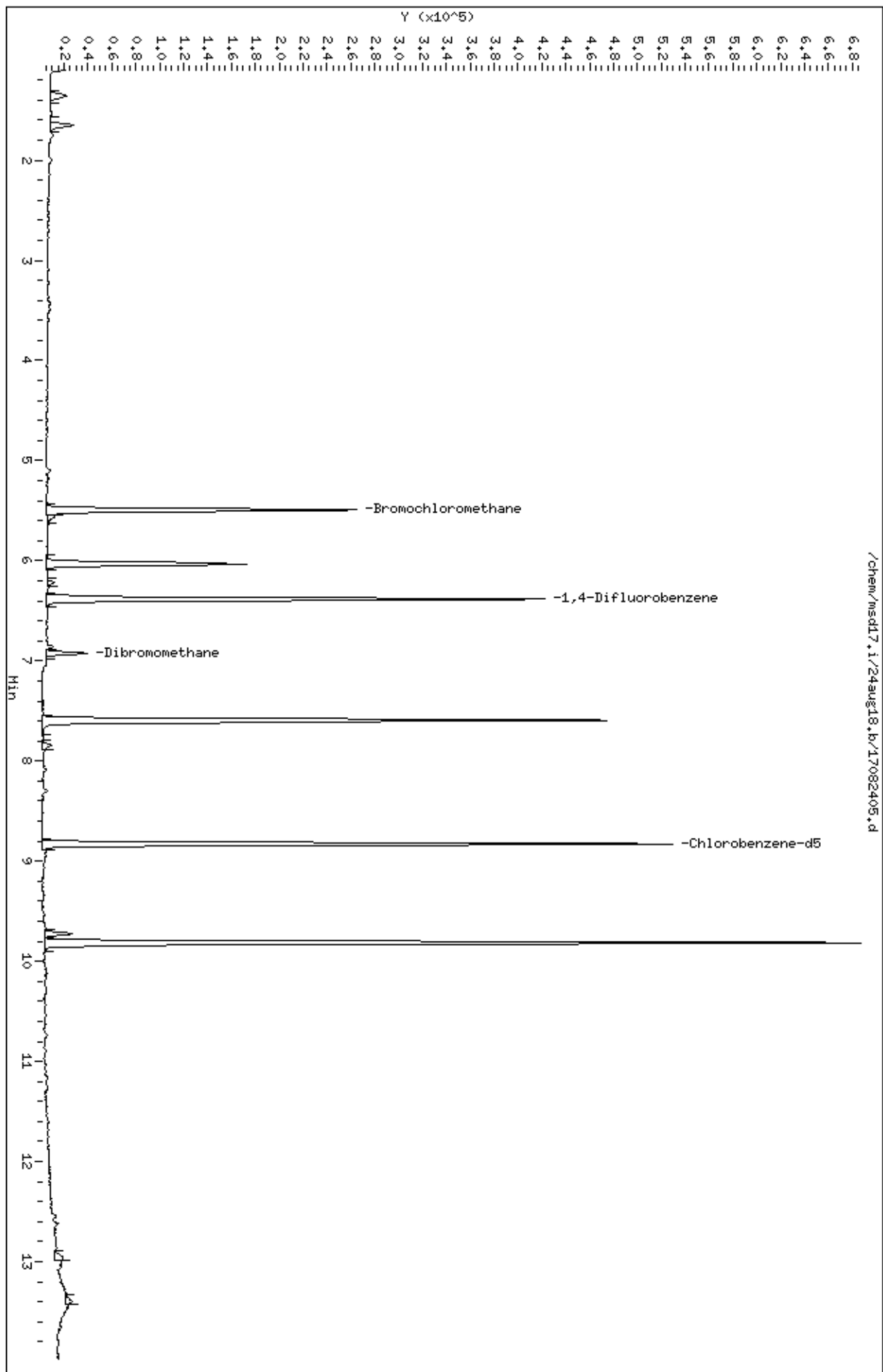
Sample Info: 100ml 3045-80

Column phase: RTX-624

Instrument: msd17.i

Operator: mjb

Column diameter: 0.25



US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/20aug18.b/17082011.d
Lab Smp Id: ICAL Leve #3
Inj Date : 20-AUG-2018 22:45
Operator : mjs
Smp Info : 80ml 3045-73
Misc Info : 2.0ppbv (5.0ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/20aug18.b/178q0613c.m
Meth Date : 21-Aug-2018 09:26 ugdc
Cal Date : 20-AUG-2018 22:45
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP RTE
Sample Matrix: AIR
Processing Host: us32apptv003

Inst ID: msd17.i

Quant Type: ISTD

Cal File: 17082011.d

Calibration Sample, Level: 3

Compound Sublist: AT1crv.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

AMOUNTS									
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane						CAS #:	74-97-5		
5.492	5.495	(1.000)	130	128146	25.00000		80.00-	120.00	100.00
5.499	5.496	(1.000)	128	100967			48.32-	108.32	78.79
5.492	5.494	(1.000)	49	110145			63.40-	123.40	85.95

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.380	6.380	(1.000)	114	432523	25.00000		80.00-	120.00	100.00
6.380	6.380	(1.000)	88	63513			0.00-	44.55	14.68

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	396321	25.00000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	188524			17.97-	77.97	47.57

7 Freon 134a						CAS #:	811-97-2		
1.467	1.474	(0.267)	83	5250	2.000000	2.112	0.00-	0.00	100.00(T)
1.481	1.472	(0.270)	69	6137			0.00-	0.00	116.90
0.000	1.472	(0.000)	63	0			0.00-	0.00	0.00

10 1,1-Difluoroethane						CAS #:	75-37-6		
1.531	1.528	(0.279)	65	3639	2.000000	2.969	0.00-	0.00	100.00(M1)

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	===		=====	=====	=====	=====	=====
10 1,1-Difluoroethane (continued)									
1.574	1.570	(0.287)	51	14478			0.00-	0.00	397.86

16 Freon 142b						CAS #:	75-68-3		
1.696	1.696	(0.309)	65	13233	2.00000	2.243	0.00-	0.00	100.00
1.696	1.696	(0.309)	45	2658			0.00-	0.00	20.09

37 Dichlorofluoromethane						CAS #:	75-43-4		
2.606	2.607	(0.474)	67	16906	2.00000	1.972	0.00-	0.00	100.00(a)
2.606	2.605	(0.474)	69	6006			0.00-	0.00	35.53

47 Freon 123a						CAS #:	354-23-4		
3.078	3.077	(0.560)	117	14962	2.00000	2.100	0.00-	0.00	100.00(a)
3.071	3.071	(0.559)	67	18221			0.00-	0.00	121.78

48 Freon 123						CAS #:	306-83-2		
3.171	3.171	(0.577)	83	20760	2.00000	1.967	0.00-	0.00	100.00(a)
3.179	3.176	(0.579)	133	4552			0.00-	0.00	21.93
3.171	3.173	(0.577)	85	13887			0.00-	0.00	66.89

59 Cyclopentene						CAS #:	142-29-0		
3.752	3.752	(0.683)	67	15601	2.00000	1.903	0.00-	0.00	100.00(a)
3.752	3.752	(0.683)	68	6233			0.00-	0.00	39.95
3.752	3.752	(0.683)	53	2845			0.00-	0.00	18.24

84 1-Propanol						CAS #:	71-23-8		
4.826	4.823	(0.879)	42	1287	2.00000	1.989	0.00-	0.00	100.00(a)
4.826	4.823	(0.879)	59	1559			0.00-	0.00	121.13
4.826	4.823	(0.879)	41	1326			0.00-	0.00	103.03

90 2,2-Dichloropropane						CAS #:	594-20-7		
5.220	5.220	(0.950)	77	20028	2.00000	2.053	0.00-	0.00	100.00
5.220	5.220	(0.950)	79	6748			0.00-	0.00	33.69
5.220	5.220	(0.950)	97	4467			0.00-	0.00	22.30

107 1,1-Dichloropropene						CAS #:	563-58-6		
5.829	5.827	(0.914)	110	6285	2.00000	1.996	0.00-	0.00	100.00(a)
5.822	5.823	(0.912)	75	15170			0.00-	0.00	241.37

115 Isobutanol						CAS #:	78-83-1		
5.979	5.984	(1.089)	39	1994	2.00000	2.198	0.00-	0.00	100.00
5.986	5.985	(1.090)	41	5554			0.00-	0.00	278.54
5.986	5.985	(1.090)	43	5392			0.00-	0.00	270.41

124 n-Butanol						CAS #:	71-36-3		
6.560	6.555	(1.028)	56	4784	2.00000	1.684	0.00-	0.00	100.00(a)

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
124 n-Butanol (continued)									
6.552	6.554	(1.027)	41	3418			0.00-	0.00	71.45
6.560	6.555	(1.028)	43	2567			0.00-	0.00	53.66

157 1,3-Dichloropropane						CAS #:	142-28-9		
8.200	8.200	(1.285)	76	17483	2.00000	2.007	0.00-	0.00	100.00
8.200	8.197	(1.285)	41	8906			0.00-	0.00	50.94
8.200	8.200	(1.285)	78	6295			0.00-	0.00	36.01

159 Butyl Acetate						CAS #:	123-86-4		
8.271	8.271	(1.296)	56	8831	2.00000	1.939	0.00-	0.00	100.00(a)
8.271	8.271	(1.296)	73	4898			0.00-	0.00	55.46
8.271	8.271	(1.296)	43	19753			0.00-	0.00	223.68

168 1,1,1,2-Tetrachloroethane						CAS #:	630-20-6		
8.923	8.923	(1.011)	131	18523	2.00000	1.933	0.00-	0.00	100.00(a)
8.923	8.923	(1.011)	117	13293			0.00-	0.00	71.76
8.923	8.923	(1.011)	95	6501			0.00-	0.00	35.10

173 2-Heptanone						CAS #:	110-43-0		
9.432	9.432	(1.717)	58	10235	2.00000	1.754	0.00-	0.00	100.00(a)
9.432	9.432	(1.717)	43	15370			0.00-	0.00	150.17

176 Cyclohexanone						CAS #:	108-94-1		
9.797	9.797	(1.109)	55	10125	2.00000	2.252	0.00-	0.00	100.00
9.804	9.799	(1.110)	98	5689			0.00-	0.00	56.19
9.797	9.797	(1.109)	42	5950			0.00-	0.00	58.77

180 Bromobenzene						CAS #:	108-86-1		
9.955	9.952	(1.127)	156	20057	2.00000	1.882	0.00-	0.00	100.00(a)
9.955	9.952	(1.127)	158	21972			0.00-	0.00	109.55
9.948	9.948	(1.127)	77	23638			0.00-	0.00	117.85

185 1,2,3-Trichloropropane						CAS #:	96-18-4		
10.005	10.005	(1.133)	110	8545	2.00000	2.064	0.00-	0.00	100.00
10.005	10.005	(1.133)	75	18366			0.00-	0.00	214.93
10.005	10.005	(1.133)	61	4729			0.00-	0.00	55.34

189 2-Chlorotoluene						CAS #:	95-49-8		
10.091	10.091	(1.143)	126	14036	2.00000	1.925	0.00-	0.00	100.00(a)
10.091	10.091	(1.143)	91	33802			0.00-	0.00	240.82
10.091	10.091	(1.143)	65	4060			0.00-	0.00	28.93

191 4-Chlorotoluene						CAS #:	106-43-4		
10.184	10.187	(1.153)	126	13963	2.00000	1.860	0.00-	0.00	100.00(a)
10.184	10.184	(1.153)	91	36609			0.00-	0.00	262.19

				AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====
191 4-Chlorotoluene (continued)								
10.184	10.184	(1.153)	63	5061			0.00- 0.00	36.25

193 Diisobutyl Ketone						CAS #:	108-83-8	
10.213	10.213	(1.157)	57	20651	2.00000	1.832	0.00- 0.00	100.00(a)
10.213	10.213	(1.157)	85	21398			0.00- 0.00	103.62

195 tert-Butylbenzene						CAS #:	98-06-6	
10.392	10.392	(1.177)	119	39262	2.00000	1.909	0.00- 0.00	100.00(a)
10.392	10.392	(1.177)	134	10670			0.00- 0.00	27.18
10.392	10.390	(1.177)	91	24936			0.00- 0.00	63.51

197 Pentachloroethane						CAS #:	76-01-7	
10.471	10.466	(1.186)	167	14557	2.00000	1.816	0.00- 0.00	100.00(a)
10.463	10.463	(1.185)	117	12449			0.00- 0.00	85.52
10.471	10.466	(1.186)	169	7020			0.00- 0.00	48.22

203 sec-Butylbenzene						CAS #:	135-98-8	
10.578	10.575	(1.198)	134	12092	2.00000	1.864	0.00- 0.00	100.00(a)
10.578	10.575	(1.198)	105	55091			0.00- 0.00	455.60
10.578	10.575	(1.198)	91	9027			0.00- 0.00	74.65

207 p-Cymene						CAS #:	99-87-6	
10.685	10.685	(1.210)	119	46131	2.00000	1.796	0.00- 0.00	100.00(a)
10.685	10.685	(1.210)	134	13431			0.00- 0.00	29.11
10.685	10.685	(1.210)	91	9773			0.00- 0.00	21.19

210 1,2,3-Trimethylbenzene						CAS #:	526-73-8	
10.814	10.814	(1.225)	120	19642	2.00000	1.955	0.00- 0.00	100.00(a)
10.814	10.814	(1.225)	105	43639			0.00- 0.00	222.17
10.814	10.814	(1.225)	77	6030			0.00- 0.00	30.70

213 Butylbenzene						CAS #:	104-51-8	
11.036	11.036	(1.250)	134	12529	2.00000	1.864	0.00- 0.00	100.00(a)
11.036	11.036	(1.250)	91	40781			0.00- 0.00	325.49
11.036	11.036	(1.250)	92	21673			0.00- 0.00	172.98

221 1,2-Dibromo-3-chloropropane						CAS #:	96-12-8	
11.817	11.821	(1.338)	157	12150	2.00000	1.904	0.00- 0.00	100.00(a)
11.817	11.820	(1.338)	75	9047			0.00- 0.00	74.46
11.817	11.821	(1.338)	155	10241			0.00- 0.00	84.29

QC Flag Legend

- T - Target compound detected outside RT window.
- a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
- M1- Compound response manually integrated because
Target system did not integrate.

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17082011.d
Lab Smp Id: ICAL Leve #3
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd17.i/20aug18.b/178q0613c.m
Misc Info: 2.0ppbv (5.0ppbv)

Calibration Date: 20-AUG-2018
Calibration Time: 10:21
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	127377	76426	178328	128146	0.60
123 1,4-Difluorobenze	430836	258502	603170	432523	0.39
163 Chlorobenzene-d5	389322	233593	545051	396321	1.80

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.49	5.16	5.82	5.49	0.00
123 1,4-Difluorobenze	6.38	6.05	6.71	6.38	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.i/20aug18.b/17082011.d

Date : 20-AUG-2018 22:45

Client ID:

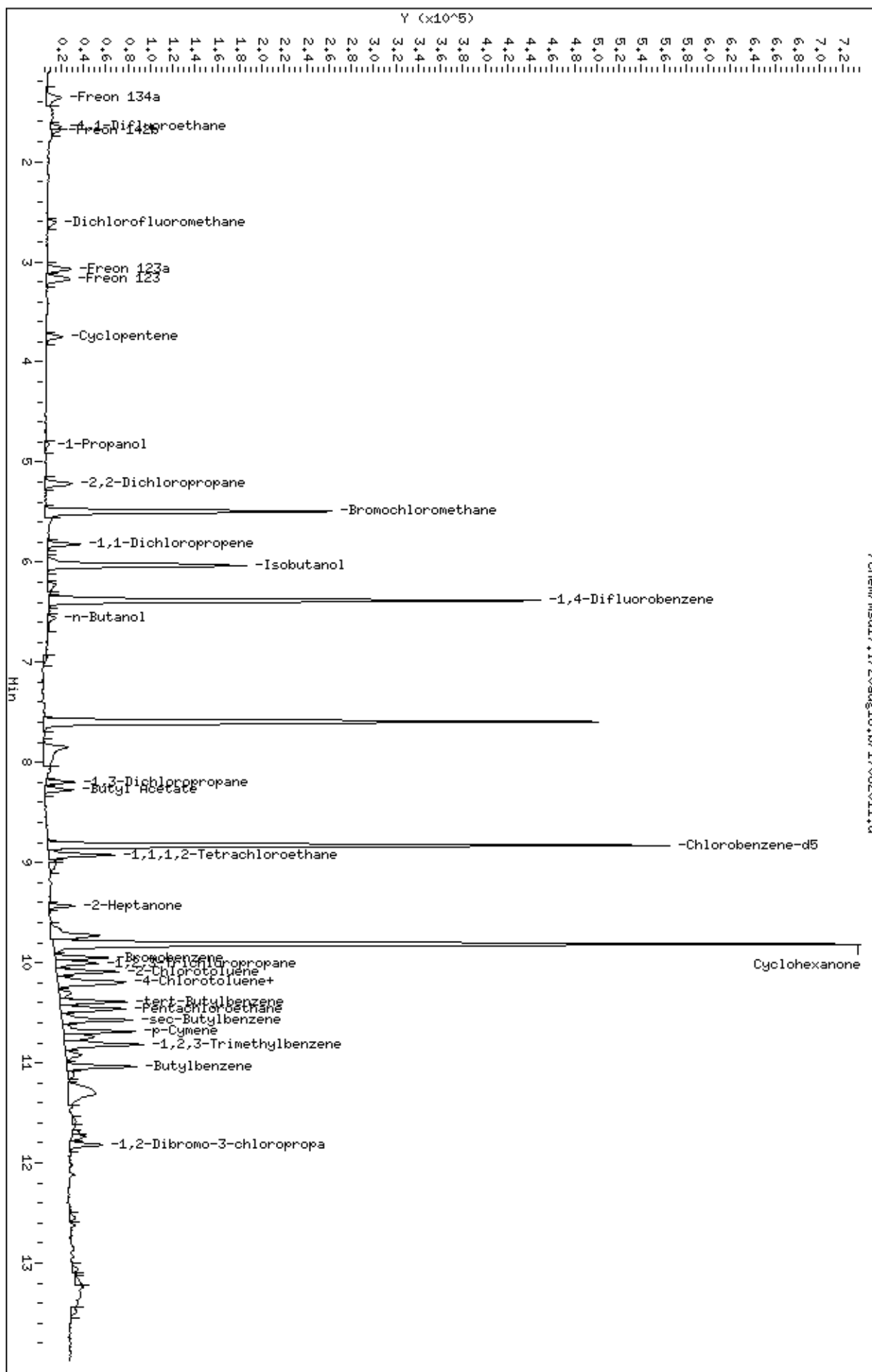
Sample Info: 80ml 3045-73

Column phase: RTX-624

Instrument: msd17.i

Operator: mjs

Column diameter: 0.25



US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/23jul18.b/17072305.d
Lab Smp Id: I Cal Level #3
Inj Date : 23-JUL-2018 11:01
Operator : gh Inst ID: msd17.i
Smp Info : 80ml 3018-341
Misc Info : 2.0ppbv(5.0ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/23jul18.b/178q0613b.m
Meth Date : 25-Jul-2018 10:54 uexa Quant Type: ISTD
Cal Date : 23-JUL-2018 11:01 Cal File: 17072305.d
Als bottle: 2 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 123TCB.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane						CAS #:	74-97-5		
5.499	5.498	(1.000)	130	139091	25.0000		80.00-	120.00	100.00
5.499	5.498	(1.000)	128	108177			48.32-	108.32	77.77
5.499	5.497	(1.000)	49	114849			63.40-	123.40	82.57

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.387	6.385	(1.000)	114	485433	25.0000		80.00-	120.00	100.00
6.387	6.383	(1.000)	88	68528			0.00-	44.55	14.12

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	436459	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	203599			17.97-	77.97	46.65

229 1,2,3-Trichlorobenzene						CAS #:	87-61-6		
13.092	13.071	(1.483)	180	44860	2.00000	2.023	0.00-	0.00	100.00
13.092	13.071	(1.483)	182	41987			0.00-	0.00	93.60
13.092	13.071	(1.483)	145	12863			0.00-	0.00	28.67

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17072305.d
Lab Smp Id: I Cal Level #3
Analysis Type: VOA
Quant Type: ISTD
Operator: gh
Method File: /chem/msd17.i/23jul18.b/178q0613b.m
Misc Info: 2.0ppbv(5.0ppbv)

Calibration Date: 23-JUL-2018
Calibration Time: 09:15

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	137931	82759	193103	139091	0.84
123 1,4-Difluorobenze	478828	287297	670359	485433	1.38
163 Chlorobenzene-d5	433117	259870	606364	436459	0.77

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.50	5.17	5.83	5.50	-0.00
123 1,4-Difluorobenze	6.39	6.06	6.72	6.39	-0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.i/23jul18.b/17072305.d

Date : 23-JUL-2018 11:01

Client ID:

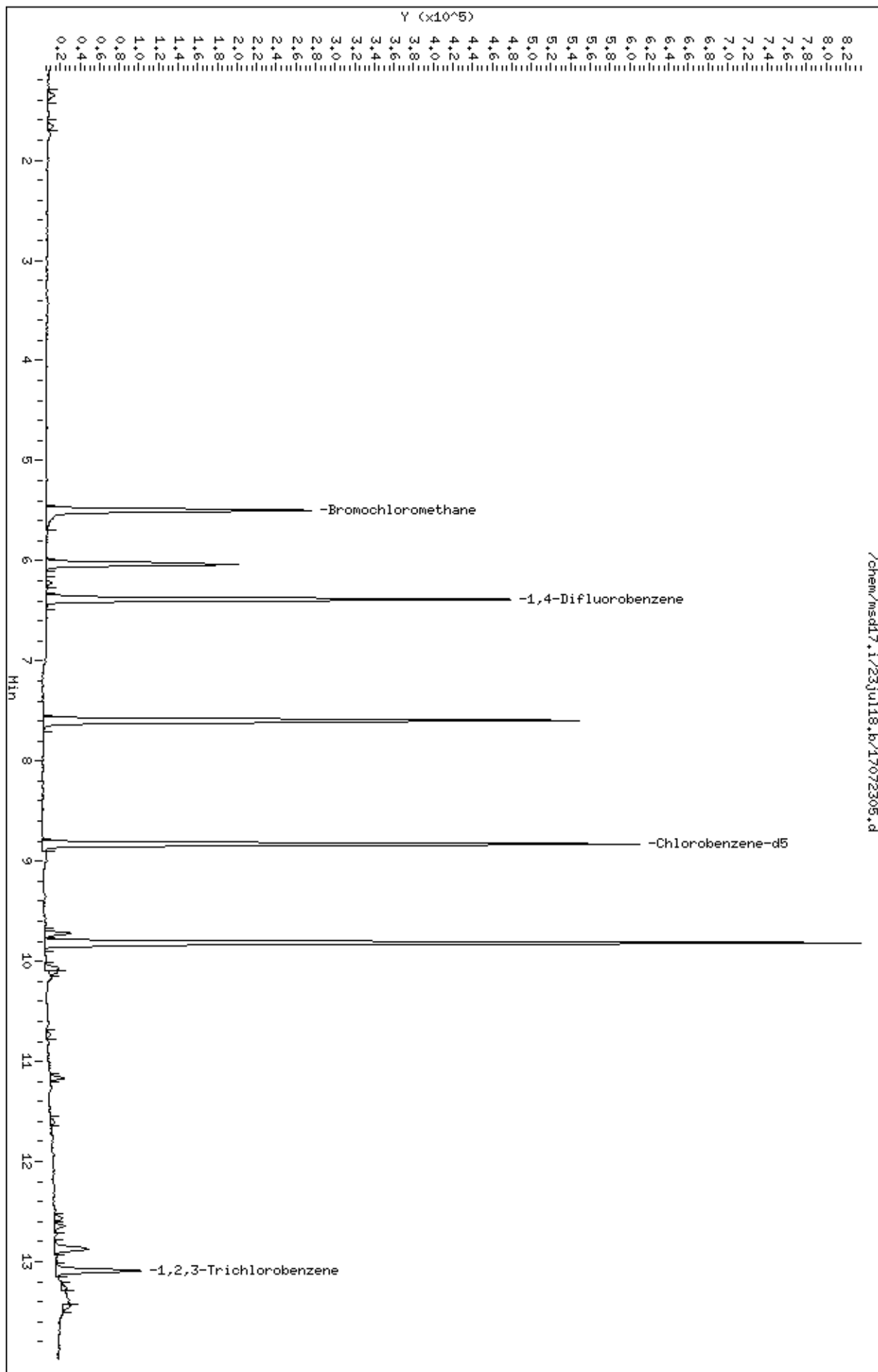
Sample Info: 80ml 3018-341

Column phase: RTX-624

Instrument: msd17.i

Operator: gh

Column diameter: 0.25



Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/13jun18.b/17061303.d
Lab Smp Id: ICAL Level #3
Inj Date : 13-JUN-2018 22:40
Operator : gh Inst ID: msd17.i
Smp Info : 80ml 2018-279
Misc Info : 2.0ppbv(5.0ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/13jun18.b/178q0613a.m
Meth Date : 15-Jun-2018 09:11 gdelacru Quant Type: ISTD
Cal Date : 13-JUN-2018 22:40 Cal File: 17061303.d
Als bottle: 11 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12curve.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane						CAS #:	74-97-5		
5.499	5.498	(1.000)	130	164944	25.0000		80.00-	120.00	100.00
5.499	5.498	(1.000)	128	127931			48.32-	108.32	77.56
5.499	5.496	(1.000)	49	153339			63.40-	123.40	92.96

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.388	6.384	(1.000)	114	585721	25.0000		80.00-	120.00	100.00
6.380	6.382	(1.000)	88	86794			0.00-	44.55	14.82

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	523587	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	254684			17.97-	77.97	48.64

\$ 117 1,2-Dichloroethane-d4						CAS #:	17060-07-0		
6.037	6.035	(1.098)	65	181300	25.0000	24.207	80.00-	120.00	100.00
6.037	6.035	(1.098)	67	96581			23.66-	83.66	53.27

\$ 146 Toluene-d8						CAS #:	2037-26-5		
7.598	7.598	(1.190)	98	569027	25.0000	24.944	80.00-	120.00	100.00
7.598	7.598	(1.190)	70	57767			0.00-	40.01	10.15

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
\$ 146								
7.598	7.598	(1.190)	100	366811			35.43- 95.43	64.46

\$ 177								
9.819	9.819	(1.112)	174	409748	25.0000	24.782	80.00- 120.00	100.00
9.819	9.819	(1.112)	95	377031			59.41- 119.41	92.02
9.819	9.819	(1.112)	176	406869			68.33- 128.33	99.30

9								
1.495	1.500	(0.272)	41	7031	2.00000	2.028	80.00- 120.00	100.00
1.502	1.501	(0.273)	42	4314			36.13- 96.13	61.36
1.502	1.501	(0.273)	39	5923			46.53- 106.53	84.24

11								
1.531	1.532	(0.278)	85	30000	2.00000	2.048	80.00- 120.00	100.00
1.531	1.534	(0.278)	87	9785			2.38- 62.38	32.62

15								
1.653	1.653	(0.301)	135	23950	2.00000	1.937	80.00- 120.00	100.00
1.653	1.652	(0.301)	137	7874			2.28- 62.28	32.88

17								
1.753	1.751	(0.319)	50	8458	2.00000	2.228	80.00- 120.00	100.00(aM)
1.753	1.749	(0.319)	52	4441			5.22- 65.22	52.51

23								
1.810	1.814	(0.329)	58	2884	2.00000	2.606	80.00- 120.00	100.00
1.810	1.813	(0.329)	43	15116			637.12- 697.12	524.13

25								
1.846	1.849	(0.336)	62	11015	2.00000	2.021	80.00- 120.00	100.00
1.853	1.849	(0.337)	64	3866			1.91- 61.91	35.10

26								
1.875	1.875	(0.341)	54	7670	2.00000	2.062	80.00- 120.00	100.00
1.875	1.873	(0.341)	39	8485			72.44- 132.44	110.63

29								
2.226	2.229	(0.405)	94	10584	2.00000	1.910	80.00- 120.00	100.00(a)
2.233	2.231	(0.406)	96	9229			65.39- 125.39	87.20

30								
2.340	2.343	(0.426)	64	5933	2.00000	2.135	80.00- 120.00	100.00
2.348	2.345	(0.427)	66	2616			3.25- 63.25	44.09
2.348	2.343	(0.427)	49	1180			0.00- 57.17	19.89

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
31 Isopentane						CAS #:	78-78-4		
2.355	2.358	(0.428)	43	10754	2.00000	1.980	80.00-	120.00	100.00(a)
2.362	2.361	(0.429)	57	8291			45.20-	105.20	77.10
35 Freon 11						CAS #:	75-69-4		
2.591	2.591	(0.471)	101	35124	2.00000	2.044	80.00-	120.00	100.00
2.591	2.591	(0.471)	103	23199			34.28-	94.28	66.05
42 Ethanol						CAS #:	64-17-5		
2.956	2.942	(0.538)	45	3500	2.00000	1.860	80.00-	120.00	100.00(a)
2.949	2.942	(0.536)	46	1739			9.17-	69.17	49.69
49 Freon 113						CAS #:	76-13-1		
3.229	3.231	(0.587)	151	25430	2.00000	1.906	80.00-	120.00	100.00
3.236	3.233	(0.588)	153	18477			34.01-	94.01	72.66
3.229	3.229	(0.587)	101	30138			81.38-	141.38	118.51
50 1,1-Dichloroethene						CAS #:	75-35-4		
3.264	3.265	(0.594)	98	8587	2.00000	2.076	80.00-	120.00	100.00
3.264	3.263	(0.594)	96	13220			124.64-	184.64	153.95
3.264	3.264	(0.594)	61	18891			200.94-	260.94	220.00
52 Acetone						CAS #:	67-64-1		
3.429	3.427	(0.624)	58	7206	2.00000	2.710	80.00-	120.00	100.00(a)
3.429	3.427	(0.624)	43	18690			290.24-	350.24	259.37
56 Carbon Disulfide						CAS #:	75-15-0		
3.501	3.501	(0.637)	76	37378	2.00000	2.172	80.00-	120.00	100.00
57 2-Propanol						CAS #:	67-63-0		
3.608	3.605	(0.656)	45	19312	2.00000	2.256	80.00-	120.00	100.00
3.601	3.603	(0.655)	43	5147			0.00-	51.65	26.65
3.608	3.605	(0.656)	59	749			0.00-	34.46	3.88
58 3-Chloropropene						CAS #:	107-05-1		
3.752	3.745	(0.682)	76	5805	2.00000	2.076	80.00-	120.00	100.00
3.744	3.744	(0.681)	41	12941			187.06-	247.06	222.93
66 Methylene Chloride						CAS #:	75-09-2		
3.938	3.938	(0.716)	49	12300	2.00000	2.024	80.00-	120.00	100.00(a)
3.938	3.938	(0.716)	84	11562			60.06-	120.06	94.00
3.938	3.938	(0.716)	51	3811			0.22-	60.22	30.98
71 tert-Butyl alcohol						CAS #:	75-65-0		
4.060	4.061	(0.738)	59	25058	2.00000	1.994	80.00-	120.00	100.00(a)
4.060	4.059	(0.738)	41	4859			0.00-	49.54	19.39

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
71	tert-Butyl alcohol (continued)							
4.067	4.061 (0.739)	57	2656				0.00- 40.61	10.60
72	Methyl tert-butyl ether					CAS #: 1634-04-4		
4.153	4.147 (0.755)	73	36007	2.00000	2.021	80.00- 120.00	100.00	
4.145	4.145 (0.754)	57	7437			0.00- 50.61	20.65	
4.145	4.145 (0.754)	41	7474			0.00- 49.00	20.76	
73	trans-1,2-Dichloroethene					CAS #: 156-60-5		
4.181	4.175 (0.760)	98	9489	2.00000	2.334	80.00- 120.00	100.00	
4.174	4.174 (0.759)	61	16100			169.57- 229.57	169.67	
4.174	4.174 (0.759)	96	12588			127.00- 187.00	132.66	
78	Hexane					CAS #: 110-54-3		
4.382	4.382 (0.797)	57	16886	2.00000	1.944	80.00- 120.00	100.00	
4.382	4.382 (0.797)	43	11654			28.25- 88.25	69.02	
4.382	4.382 (0.797)	86	3801			0.00- 48.98	22.51	
82	1,1-Dichloroethane					CAS #: 75-34-3		
4.676	4.676 (0.850)	63	20727	2.00000	1.982	80.00- 120.00	100.00	
4.676	4.676 (0.850)	65	7352			2.30- 62.30	35.47	
83	Isopropyl ether					CAS #: 108-20-3		
4.661	4.656 (0.848)	45	35616	2.00000	1.978	80.00- 120.00	100.00(a)	
4.661	4.658 (0.848)	87	12977			4.15- 64.15	36.44	
4.661	4.658 (0.848)	59	4769			0.00- 42.61	13.39	
86	Vinyl Acetate					CAS #: 108-05-4		
4.718	4.718 (0.858)	86	3573	2.00000	2.092	80.00- 120.00	100.00	
4.718	4.715 (0.858)	43	29448			863.69- 923.69	824.18	
88	Ethyl-tert-butyl ether					CAS #: 637-92-3		
5.019	5.019 (0.913)	59	38330	2.00000	1.970	80.00- 120.00	100.00(a)	
5.019	5.019 (0.913)	87	17897			16.34- 76.34	46.69	
5.019	5.019 (0.913)	41	6583			0.00- 47.31	17.17	
91	cis-1,2-Dichloroethene					CAS #: 156-59-2		
5.263	5.263 (0.957)	98	9562	2.00000	1.953	80.00- 120.00	100.00	
5.263	5.263 (0.957)	96	14812			122.96- 182.96	154.90	
5.263	5.263 (0.957)	61	16629			147.21- 207.21	173.91	
92	2-Butanone					CAS #: 78-93-3		
5.292	5.289 (0.962)	72	6093	2.00000	2.048	80.00- 120.00	100.00	
5.292	5.287 (0.962)	43	20468			305.24- 365.24	335.93	
5.284	5.287 (0.961)	57	2309			0.00- 59.67	37.90	

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
99 Tetrahydrofuran						CAS #:	109-99-9		
5.492	5.492	(0.999)	42	11489	2.00000	2.043	80.00-	120.00	100.00
5.499	5.494	(1.000)	71	5986			18.99-	78.99	52.10
5.499	5.493	(1.000)	72	6078			20.78-	80.78	52.90
100 Chloroform						CAS #:	67-66-3		
5.557	5.558	(1.010)	83	25884	2.00000	2.022	80.00-	120.00	100.00
5.557	5.559	(1.010)	85	19254			35.00-	95.00	74.39
102 Cyclohexane						CAS #:	110-82-7		
5.657	5.657	(1.029)	84	17459	2.00000	2.026	80.00-	120.00	100.00
5.657	5.656	(1.029)	56	17768			70.31-	130.31	101.77
5.657	5.656	(1.029)	41	9613			25.25-	85.25	55.06
103 1,1,1-Trichloroethane						CAS #:	71-55-6		
5.678	5.677	(1.033)	97	27887	2.00000	1.954	80.00-	120.00	100.00
5.678	5.677	(1.033)	99	18146			34.84-	94.84	65.07
106 Carbon Tetrachloride						CAS #:	56-23-5		
5.793	5.793	(1.053)	119	30204	2.00000	1.943	80.00-	120.00	100.00
5.793	5.793	(1.053)	117	32440			73.53-	133.53	107.40
113 2,2,4-Trimethylpentane						CAS #:	540-84-1		
5.986	5.984	(1.089)	57	51842	2.00000	2.021	80.00-	120.00	100.00
5.986	5.984	(1.089)	56	15011			2.59-	62.59	28.96
5.986	5.982	(1.089)	41	14038			0.00-	55.57	27.08
116 Benzene						CAS #:	71-43-2		
6.008	6.008	(0.941)	78	37497	2.00000	2.019	80.00-	120.00	100.00
6.008	6.008	(0.941)	77	9682			0.00-	53.90	25.82
119 tert-Amyl methyl ether						CAS #:	994-05-8		
6.072	6.072	(1.104)	87	9436	2.00000	1.923	80.00-	120.00	100.00(a)
6.079	6.075	(1.105)	73	39013			361.82-	421.82	413.45
6.072	6.072	(1.104)	55	8301			58.31-	118.31	87.97
120 1,2-Dichloroethane						CAS #:	107-06-2		
6.101	6.101	(0.955)	62	17244	2.00000	2.074	80.00-	120.00	100.00
6.101	6.101	(0.955)	64	6293			3.07-	63.07	36.49
121 Heptane						CAS #:	142-82-5		
6.151	6.151	(0.963)	71	12331	2.00000	1.898	80.00-	120.00	100.00
6.151	6.151	(0.963)	43	15863			110.59-	170.59	128.64
6.151	6.150	(0.963)	57	11782			64.25-	124.25	95.55
125 Trichloroethene						CAS #:	79-01-6		
6.581	6.581	(1.030)	95	17552	2.00000	1.974	80.00-	120.00	100.00

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
125 Trichloroethene (continued)									
6.581	6.581	(1.030)	130	19866			81.76-	141.76	113.18
6.581	6.581	(1.030)	97	11942			34.64-	94.64	68.04

127 Methylcyclohexane						CAS #:	108-87-2		
6.674	6.674	(1.214)	83	23972	2.00000	2.042	80.00-	120.00	100.00
6.674	6.674	(1.214)	98	12298			18.58-	78.58	51.30
6.674	6.674	(1.214)	55	15758			37.28-	97.28	65.74

132 1,2-Dichloropropane						CAS #:	78-87-5		
6.817	6.817	(1.067)	63	13886	2.00000	2.112	80.00-	120.00	100.00
6.817	6.817	(1.067)	62	8845			38.79-	98.79	63.70
6.817	6.817	(1.067)	41	8268			23.87-	83.87	59.54

136 1,4-Dioxane						CAS #:	123-91-1		
6.910	6.906	(1.082)	88	9445	2.00000	2.012	80.00-	120.00	100.00
6.903	6.904	(1.081)	58	6364			28.36-	88.36	67.38
6.903	6.903	(1.081)	57	2125			0.00-	49.37	22.50

138 Bromodichloromethane						CAS #:	75-27-4		
7.046	7.046	(1.103)	83	27580	2.00000	1.990	80.00-	120.00	100.00
7.046	7.046	(1.103)	85	18645			34.11-	94.11	67.60

144 cis-1,3-Dichloropropene						CAS #:	10061-01-5		
7.419	7.419	(1.161)	75	21972	2.00000	2.021	80.00-	120.00	100.00
7.419	7.419	(1.161)	77	6655			2.33-	62.33	30.29
7.419	7.419	(1.161)	39	10544			16.60-	76.60	47.99

145 4-Methyl-2-pentanone						CAS #:	108-10-1		
7.526	7.526	(1.178)	58	10093	2.00000	1.887	80.00-	120.00	100.00
7.526	7.526	(1.178)	43	25294			214.83-	274.83	250.61
7.526	7.526	(1.178)	85	6195			23.05-	83.05	61.38

147 Toluene						CAS #:	108-88-3		
7.655	7.655	(1.198)	91	47433	2.00000	1.967	80.00-	120.00	100.00
7.655	7.655	(1.198)	92	27861			27.80-	87.80	58.74

150 trans-1,3-Dichloropropene						CAS #:	10061-02-6		
7.899	7.899	(0.895)	75	19967	2.00000	1.951	80.00-	120.00	100.00
7.899	7.899	(0.895)	77	6435			1.77-	61.77	32.23
7.899	7.899	(0.895)	39	9239			14.97-	74.97	46.27

155 1,1,2-Trichloroethane						CAS #:	79-00-5		
8.056	8.056	(0.912)	97	16134	2.00000	1.978	80.00-	120.00	100.00
8.056	8.056	(0.912)	99	10774			32.71-	92.71	66.78
8.056	8.056	(0.912)	83	14153			55.53-	115.53	87.72

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
156								
Tetrachloroethene								
8.092	8.092	(0.916)	166	27733	2.00000	1.882	80.00- 120.00	100.00
8.092	8.092	(0.916)	129	19614			36.14- 96.14	70.72
8.092	8.092	(0.916)	131	19147			34.69- 94.69	69.04
158								
2-Hexanone								
8.214	8.214	(0.930)	58	12720	2.00000	1.922	80.00- 120.00	100.00(a)
8.214	8.214	(0.930)	43	21166			146.83- 206.83	166.40
8.221	8.215	(0.931)	100	3251			0.00- 55.52	25.56
160								
Dibromochloromethane								
8.372	8.367	(0.948)	129	33343	2.00000	1.971	80.00- 120.00	100.00
8.372	8.367	(0.948)	127	25158			47.05- 107.05	75.45
161								
1,2-Dibromoethane (EDB)								
8.479	8.479	(0.960)	107	27696	2.00000	1.985	80.00- 120.00	100.00
8.479	8.479	(0.960)	109	26889			65.51- 125.51	97.09
165								
Chlorobenzene								
8.859	8.859	(1.003)	112	40998	2.00000	1.986	80.00- 120.00	100.00
8.859	8.859	(1.003)	114	13078			2.14- 62.14	31.90
8.852	8.852	(1.002)	77	25238			23.42- 83.42	61.56
167								
Ethyl Benzene								
8.902	8.902	(1.008)	106	21348	2.00000	2.058	80.00- 120.00	100.00
8.902	8.902	(1.008)	91	59242			268.52- 328.52	277.51
169								
m,p-Xylene								
8.995	8.997	(1.019)	106	25161	2.00000	1.951	80.00- 120.00	100.00
8.995	8.996	(1.019)	91	48458			161.75- 221.75	192.59
171								
o-Xylene								
9.339	9.339	(1.058)	106	24731	2.00000	2.024	80.00- 120.00	100.00
9.339	9.339	(1.058)	91	49833			170.98- 230.98	201.50
172								
Styrene								
9.360	9.360	(1.060)	104	35538	2.00000	1.834	80.00- 120.00	100.00
9.360	9.360	(1.060)	78	17376			16.10- 76.10	48.89
174								
Bromoform								
9.568	9.568	(1.084)	173	36879	2.00000	1.898	80.00- 120.00	100.00
9.568	9.568	(1.084)	171	18848			21.32- 81.32	51.11
175								
Cumene								
9.625	9.625	(1.090)	105	72298	2.00000	1.952	80.00- 120.00	100.00
9.625	9.626	(1.090)	120	20787			0.00- 58.56	28.75

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
				CAL-AMT (PPBV)	ON-COL (PPBV)		
175	Cumene (continued)						
9.625	9.625 (1.090)	51	6060			0.00- 37.61	8.38
181	1,1,2,2-Tetrachloroethane				CAS #: 79-34-5		
9.948	9.948 (1.127)	83	34319	2.00000	1.968	80.00- 120.00	100.00
9.948	9.948 (1.127)	85	22349			35.03- 95.03	65.12
182	Propylbenzene				CAS #: 103-65-1		
9.976	9.974 (1.130)	91	82847	2.00000	1.979	80.00- 120.00	100.00
9.976	9.976 (1.130)	120	22337			0.00- 56.23	26.96
9.976	9.976 (1.130)	105	3379			0.00- 33.80	4.08
188	4-Ethyltoluene				CAS #: 622-96-8		
10.069	10.069 (1.140)	120	22455	2.00000	1.915	80.00- 120.00	100.00
10.069	10.069 (1.140)	105	68449			275.42- 335.42	304.83
190	1,3,5-Trimethylbenzene				CAS #: 108-67-8		
10.119	10.119 (1.146)	120	30413	2.00000	1.867	80.00- 120.00	100.00
10.119	10.119 (1.146)	105	60400			165.32- 225.32	198.60
196	1,2,4-Trimethylbenzene				CAS #: 95-63-6		
10.442	10.444 (1.183)	120	27488	2.00000	1.889	80.00- 120.00	100.00
10.442	10.443 (1.183)	105	58575			176.48- 236.48	213.09
208	1,3-Dichlorobenzene				CAS #: 541-73-1		
10.735	10.735 (1.216)	146	48755	2.00000	1.973	80.00- 120.00	100.00
10.735	10.735 (1.216)	148	33189			34.93- 94.93	68.07
10.735	10.735 (1.216)	111	17597			5.13- 65.13	36.09
209	1,4-Dichlorobenzene				CAS #: 106-46-7		
10.821	10.820 (1.226)	146	51467	2.00000	2.038	80.00- 120.00	100.00
10.821	10.821 (1.226)	148	32365			34.11- 94.11	62.88
10.821	10.817 (1.226)	111	15607			4.00- 64.00	30.32
212	alpha-Chlorotoluene				CAS #: 100-44-7		
10.936	10.936 (1.238)	91	48950	2.00000	1.869	80.00- 120.00	100.00
10.936	10.936 (1.238)	126	12469			0.00- 55.13	25.47
214	1,2-Dichlorobenzene				CAS #: 95-50-1		
11.151	11.148 (1.263)	146	46762	2.00000	1.968	80.00- 120.00	100.00
11.151	11.149 (1.263)	148	29881			34.17- 94.17	63.90
11.151	11.146 (1.263)	111	17927			6.50- 66.50	38.34
226	1,2,4-Trichlorobenzene				CAS #: 120-82-1		
12.541	12.541 (1.420)	180	53881	2.00000	1.994	80.00- 120.00	100.00(a)
12.541	12.541 (1.420)	182	50357			65.44- 125.44	93.46

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	===	=====	=====	=====	=====	=====	=====
227 Hexachlorobutadiene						CAS #:	87-68-3		
12.619	12.620	(1.429)	225	48264	2.000000	1.998	80.00-	120.00	100.00(a)
12.619	12.620	(1.429)	223	29950			32.93-	92.93	62.05

228 Naphthalene						CAS #:	91-20-3		
12.806	12.806	(1.450)	128	8290	0.200000	0.1783	80.00-	120.00	100.00(a)
12.806	12.806	(1.450)	127	1292			0.00-	43.59	15.59

QC Flag Legend

- a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
- M - Compound response manually integrated.

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17061303.d
Lab Smp Id: ICAL Level #3
Analysis Type: VOA
Quant Type: ISTD
Operator: gh
Method File: /chem/msd17.i/13jun18.b/178q0613a.m
Misc Info: 2.0ppbv(5.0ppbv)

Calibration Date: 14-JUN-2018
Calibration Time: 00:02

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	162788	97673	227903	164944	1.32
123 1,4-Difluorobenze	570167	342100	798234	585721	2.73
163 Chlorobenzene-d5	520088	312053	728123	523587	0.67

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.50	5.17	5.83	5.50	0.00
123 1,4-Difluorobenze	6.38	6.05	6.71	6.39	0.11
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name: Client SDG: 13jun18
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: ICAL Level #3
Level: LOW Operator: gh
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AT12curve.sub
Method File: /chem/msd17.i/13jun18.b/178q0613a.m
Misc Info: 2.0ppbv(5.0ppbv)

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
\$ 117 1,2-Dichloroethane	25.000	0.000	0.00*	70-130
\$ 146 Toluene-d8	25.000	0.000	0.00*	70-130
\$ 177 4-Bromofluorobenze	25.000	0.000	0.00*	70-130

Data File: /chem/msd17.i/13jun18.b/17061303.d

Date : 13-JUN-2018 22:40

Client ID:

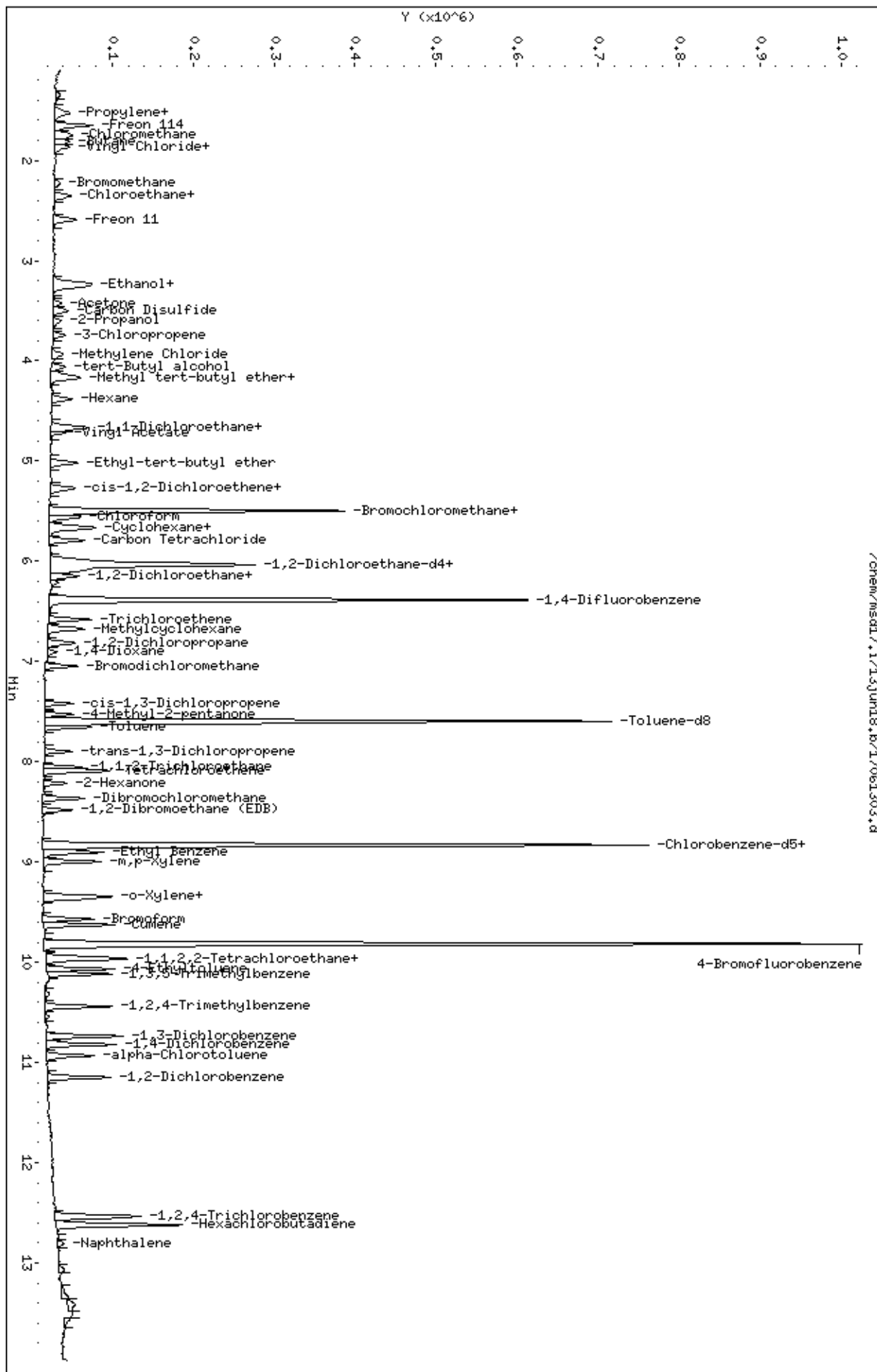
Sample Info: 80ml 2018-279

Column phase: RTX-624

Instrument: msd17.i

Operator: gh

Column diameter: 0.25



US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/20aug18.b/17082012.d
Lab Smp Id: ICAL Leve #4
Inj Date : 20-AUG-2018 23:13
Operator : mjs
Smp Info : 200ml 3045-73
Misc Info : 5.0ppbv (5.0ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/20aug18.b/178q0613c.m
Meth Date : 21-Aug-2018 09:26 ugdc
Cal Date : 20-AUG-2018 23:13
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP RTE
Sample Matrix: AIR
Processing Host: us32apptv003

Inst ID: msd17.i

Quant Type: ISTD

Cal File: 17082012.d

Calibration Sample, Level: 4

Compound Sublist: AT1crv.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

AMOUNTS									
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane						CAS #:	74-97-5		
5.499	5.495	(1.000)	130	126715	25.0000		80.00-	120.00	100.00
5.499	5.496	(1.000)	128	98105			48.32-	108.32	77.42
5.499	5.494	(1.000)	49	108997			63.40-	123.40	86.02

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.380	6.380	(1.000)	114	433437	25.0000		80.00-	120.00	100.00
6.380	6.380	(1.000)	88	62019			0.00-	44.55	14.31

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	390561	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	186216			17.97-	77.97	47.68

7 Freon 134a						CAS #:	811-97-2		
1.474	1.474	(0.268)	83	11894	5.00000	4.838	0.00-	0.00	100.00
1.474	1.472	(0.268)	69	12985			0.00-	0.00	109.17
1.459	1.472	(0.265)	63	549			0.00-	0.00	4.62

10 1,1-Difluoroethane						CAS #:	75-37-6		
1.531	1.528	(0.278)	65	4115	5.00000	3.396	0.00-	0.00	100.00

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	===	=====	=====	=====	=====	=====	=====
10 1,1-Difluoroethane (continued)									
1.567	1.570	(0.285)	51	30122			0.00-	0.00	732.00

16 Freon 142b						CAS #:	75-68-3		
1.696	1.696	(0.308)	65	27393	5.00000	4.695	0.00-	0.00	100.00
1.696	1.696	(0.308)	45	5696			0.00-	0.00	20.79

37 Dichlorofluoromethane						CAS #:	75-43-4		
2.613	2.607	(0.475)	67	43341	5.00000	5.112	0.00-	0.00	100.00
2.605	2.605	(0.474)	69	13210			0.00-	0.00	30.48

47 Freon 123a						CAS #:	354-23-4		
3.078	3.077	(0.560)	117	34294	5.00000	4.868	0.00-	0.00	100.00(a)
3.071	3.071	(0.558)	67	41879			0.00-	0.00	122.12

48 Freon 123						CAS #:	306-83-2		
3.171	3.171	(0.577)	83	53599	5.00000	5.135	0.00-	0.00	100.00
3.179	3.176	(0.578)	133	11036			0.00-	0.00	20.59
3.179	3.173	(0.578)	85	36249			0.00-	0.00	67.63

59 Cyclopentene						CAS #:	142-29-0		
3.752	3.752	(0.682)	67	39133	5.00000	4.828	0.00-	0.00	100.00
3.752	3.752	(0.682)	68	14742			0.00-	0.00	37.67
3.752	3.752	(0.682)	53	6969			0.00-	0.00	17.81

84 1-Propanol						CAS #:	71-23-8		
4.826	4.823	(0.878)	42	3107	5.00000	4.856	0.00-	0.00	100.00
4.826	4.823	(0.878)	59	3992			0.00-	0.00	128.48
4.826	4.823	(0.878)	41	2531			0.00-	0.00	81.46

90 2,2-Dichloropropane						CAS #:	594-20-7		
5.220	5.220	(0.949)	77	48277	5.00000	5.004	0.00-	0.00	100.00
5.220	5.220	(0.949)	79	16245			0.00-	0.00	33.65
5.220	5.220	(0.949)	97	9823			0.00-	0.00	20.35

107 1,1-Dichloropropene						CAS #:	563-58-6		
5.829	5.827	(0.914)	110	15819	5.00000	5.013	0.00-	0.00	100.00
5.829	5.823	(0.914)	75	37425			0.00-	0.00	236.58

115 Isobutanol						CAS #:	78-83-1		
5.986	5.984	(1.089)	39	4574	5.00000	5.099	0.00-	0.00	100.00
5.986	5.985	(1.089)	41	11373			0.00-	0.00	248.64
5.986	5.985	(1.089)	43	14801			0.00-	0.00	323.59

124 n-Butanol						CAS #:	71-36-3		
6.559	6.555	(1.028)	56	13089	5.00000	4.597	0.00-	0.00	100.00

AMOUNTS									
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
124 n-Butanol (continued)									
6.559	6.554	(1.028)	41	9415			0.00-	0.00	71.93
6.559	6.555	(1.028)	43	6683			0.00-	0.00	51.06

157 1,3-Dichloropropane						CAS #:	142-28-9		
8.200	8.200	(1.285)	76	43879	5.00000	5.026	0.00-	0.00	100.00
8.200	8.197	(1.285)	41	21989			0.00-	0.00	50.11
8.200	8.200	(1.285)	78	14771			0.00-	0.00	33.66

159 Butyl Acetate						CAS #:	123-86-4		
8.271	8.271	(1.296)	56	20556	5.00000	4.504	0.00-	0.00	100.00
8.271	8.271	(1.296)	73	10589			0.00-	0.00	51.51
8.271	8.271	(1.296)	43	48225			0.00-	0.00	234.60

168 1,1,1,2-Tetrachloroethane						CAS #:	630-20-6		
8.923	8.923	(1.011)	131	46130	5.00000	4.886	0.00-	0.00	100.00
8.923	8.923	(1.011)	117	33032			0.00-	0.00	71.61
8.923	8.923	(1.011)	95	16264			0.00-	0.00	35.26

173 2-Heptanone						CAS #:	110-43-0		
9.432	9.432	(1.715)	58	24357	5.00000	4.222	0.00-	0.00	100.00
9.432	9.432	(1.715)	43	37605			0.00-	0.00	154.39

176 Cyclohexanone						CAS #:	108-94-1		
9.797	9.797	(1.109)	55	20550	5.00000	4.639	0.00-	0.00	100.00
9.797	9.799	(1.109)	98	11408			0.00-	0.00	55.51
9.797	9.797	(1.109)	42	13242			0.00-	0.00	64.44

180 Bromobenzene						CAS #:	108-86-1		
9.955	9.952	(1.127)	156	51341	5.00000	4.888	0.00-	0.00	100.00
9.955	9.952	(1.127)	158	51435			0.00-	0.00	100.18
9.948	9.948	(1.127)	77	57935			0.00-	0.00	112.84

185 1,2,3-Trichloropropane						CAS #:	96-18-4		
10.005	10.005	(1.133)	110	19507	5.00000	4.782	0.00-	0.00	100.00
10.005	10.005	(1.133)	75	46076			0.00-	0.00	236.20
10.005	10.005	(1.133)	61	11415			0.00-	0.00	58.52

189 2-Chlorotoluene						CAS #:	95-49-8		
10.091	10.091	(1.143)	126	34114	5.00000	4.748	0.00-	0.00	100.00
10.091	10.091	(1.143)	91	84825			0.00-	0.00	248.65
10.091	10.091	(1.143)	65	7625			0.00-	0.00	22.35

191 4-Chlorotoluene						CAS #:	106-43-4		
10.191	10.187	(1.154)	126	34823	5.00000	4.708	0.00-	0.00	100.00
10.184	10.184	(1.153)	91	90563			0.00-	0.00	260.07

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
191 4-Chlorotoluene (continued)									
10.184	10.184	(1.153)	63	11812			0.00-	0.00	33.92

193 Diisobutyl Ketone						CAS #:	108-83-8		
10.213	10.213	(1.157)	57	45677	5.00000	4.111	0.00-	0.00	100.00
10.213	10.213	(1.157)	85	50350			0.00-	0.00	110.23

195 tert-Butylbenzene						CAS #:	98-06-6		
10.392	10.392	(1.177)	119	95571	5.00000	4.715	0.00-	0.00	100.00
10.392	10.392	(1.177)	134	24576			0.00-	0.00	25.71
10.392	10.390	(1.177)	91	59478			0.00-	0.00	62.23

197 Pentachloroethane						CAS #:	76-01-7		
10.470	10.466	(1.186)	167	36879	5.00000	4.668	0.00-	0.00	100.00
10.463	10.463	(1.185)	117	31660			0.00-	0.00	85.85
10.470	10.466	(1.186)	169	16921			0.00-	0.00	45.88

203 sec-Butylbenzene						CAS #:	135-98-8		
10.578	10.575	(1.198)	134	29760	5.00000	4.655	0.00-	0.00	100.00
10.578	10.575	(1.198)	105	135190			0.00-	0.00	454.27
10.578	10.575	(1.198)	91	19712			0.00-	0.00	66.24

207 p-Cymene						CAS #:	99-87-6		
10.685	10.685	(1.210)	119	114737	5.00000	4.532	0.00-	0.00	100.00
10.685	10.685	(1.210)	134	32744			0.00-	0.00	28.54
10.685	10.685	(1.210)	91	24991			0.00-	0.00	21.78

210 1,2,3-Trimethylbenzene						CAS #:	526-73-8		
10.814	10.814	(1.225)	120	44939	5.00000	4.538	0.00-	0.00	100.00
10.814	10.814	(1.225)	105	100828			0.00-	0.00	224.37
10.814	10.814	(1.225)	77	11605			0.00-	0.00	25.82

213 Butylbenzene						CAS #:	104-51-8		
11.036	11.036	(1.250)	134	31281	5.00000	4.724	0.00-	0.00	100.00
11.036	11.036	(1.250)	91	101635			0.00-	0.00	324.91
11.036	11.036	(1.250)	92	51340			0.00-	0.00	164.13

221 1,2-Dibromo-3-chloropropane						CAS #:	96-12-8		
11.824	11.821	(1.339)	157	30088	5.00000	4.784	0.00-	0.00	100.00
11.824	11.820	(1.339)	75	19752			0.00-	0.00	65.65
11.824	11.821	(1.339)	155	22943			0.00-	0.00	76.25

QC Flag Legend

- a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17082012.d
Lab Smp Id: ICAL Leve #4
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd17.i/20aug18.b/178q0613c.m
Misc Info: 5.0ppbv (5.0ppbv)

Calibration Date: 20-AUG-2018
Calibration Time: 10:21

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	127377	76426	178328	126715	-0.52
123 1,4-Difluorobenze	430836	258502	603170	433437	0.60
163 Chlorobenzene-d5	389322	233593	545051	390561	0.32

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.49	5.16	5.82	5.50	0.13
123 1,4-Difluorobenze	6.38	6.05	6.71	6.38	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.i/20aug18.b/17082012.d

Date : 20-AUG-2018 23:13

Client ID:

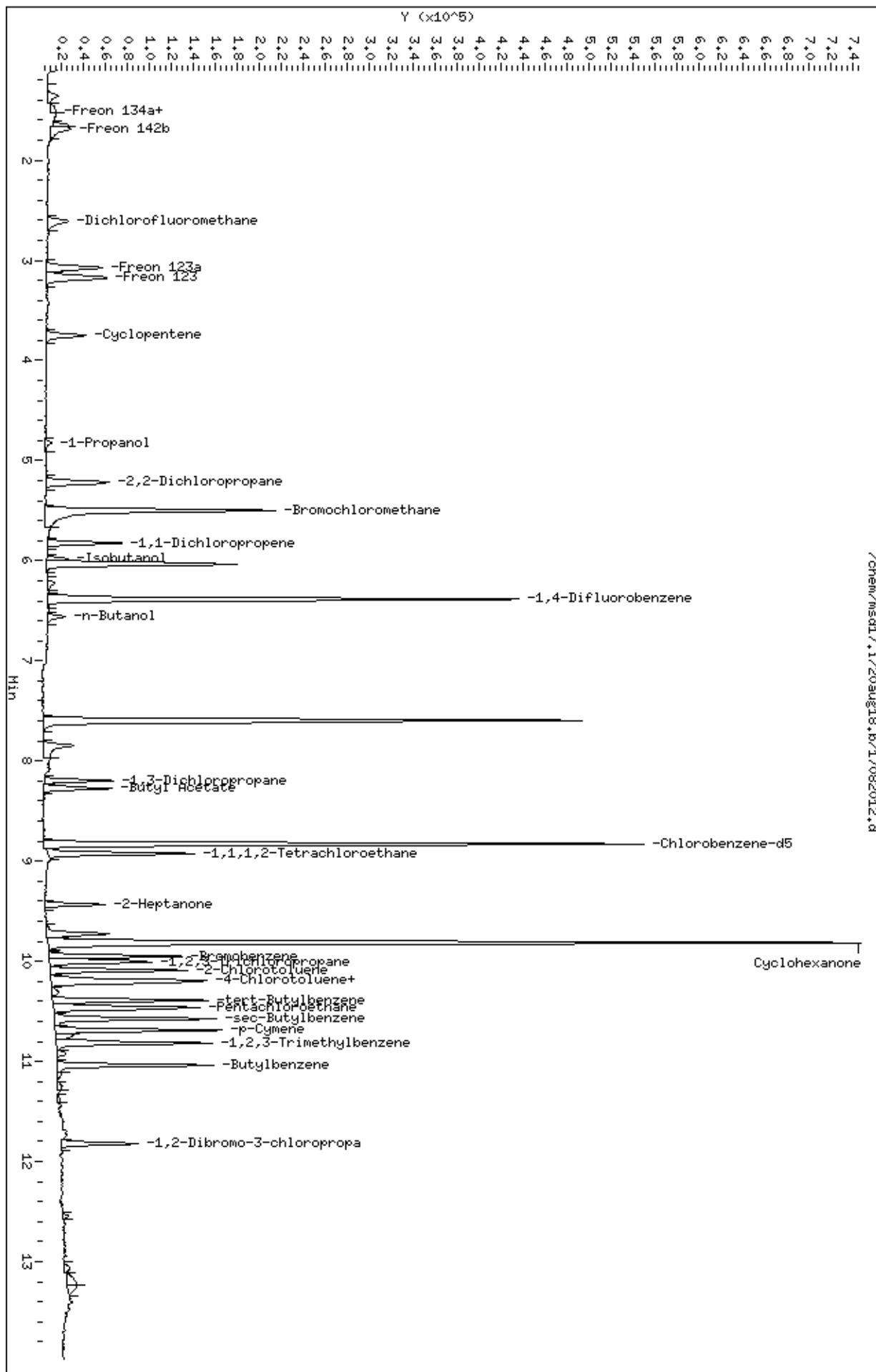
Sample Info: 200ml 3045-73

Column phase: RTX-624

Instrument: msd17.i

Operator: mjs

Column diameter: 0.25



Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/13jun18.b/17061304.d
Lab Smp Id: ICAL Level #4
Inj Date : 13-JUN-2018 23:08
Operator : gh Inst ID: msd17.i
Smp Info : 200ml 2018-279
Misc Info : 5.0ppbv(5.0ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/13jun18.b/178q0613a.m
Meth Date : 15-Jun-2018 09:11 gdelacru Quant Type: ISTD
Cal Date : 13-JUN-2018 23:08 Cal File: 17061304.d
Als bottle: 11 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12curve.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane						CAS #:	74-97-5		
5.499	5.498	(1.000)	130	162076	25.0000		80.00-	120.00	100.00
5.499	5.498	(1.000)	128	126932			48.32-	108.32	78.32
5.499	5.496	(1.000)	49	155696			63.40-	123.40	96.06

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.388	6.384	(1.000)	114	584049	25.0000		80.00-	120.00	100.00
6.388	6.382	(1.000)	88	86054			0.00-	44.55	14.73

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	520349	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	252623			17.97-	77.97	48.55

\$ 117 1,2-Dichloroethane-d4						CAS #:	17060-07-0		
6.037	6.035	(1.098)	65	179835	25.0000	24.436	80.00-	120.00	100.00
6.037	6.035	(1.098)	67	95589			23.66-	83.66	53.15

\$ 146 Toluene-d8						CAS #:	2037-26-5		
7.598	7.598	(1.190)	98	572368	25.0000	25.162	80.00-	120.00	100.00
7.598	7.598	(1.190)	70	56383			0.00-	40.01	9.85

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
\$ 146	Toluene-d8 (continued)							
7.598	7.598	(1.190)	100	365907			35.43- 95.43	63.93
\$ 177	4-Bromofluorobenzene					CAS #: 460-00-4		
9.819	9.819	(1.112)	174	413455	25.0000	25.162	80.00- 120.00	100.00
9.819	9.819	(1.112)	95	370424			59.41- 119.41	89.59
9.819	9.819	(1.112)	176	405452			68.33- 128.33	98.06
9	Propylene					CAS #: 115-07-1		
1.502	1.500	(0.273)	41	18441	5.00000	5.413	80.00- 120.00	100.00
1.502	1.501	(0.273)	42	11548			36.13- 96.13	62.62
1.502	1.501	(0.273)	39	12919			46.53- 106.53	70.06
11	Freon 12					CAS #: 75-71-8		
1.531	1.532	(0.278)	85	72084	5.00000	5.008	80.00- 120.00	100.00
1.538	1.534	(0.280)	87	24620			2.38- 62.38	34.15
15	Freon 114					CAS #: 76-14-2		
1.653	1.653	(0.301)	135	60592	5.00000	4.987	80.00- 120.00	100.00
1.653	1.652	(0.301)	137	19295			2.28- 62.28	31.84
17	Chloromethane					CAS #: 74-87-3		
1.753	1.751	(0.319)	50	16351	5.00000	4.384	80.00- 120.00	100.00(a)
1.746	1.749	(0.317)	52	6313			5.22- 65.22	38.61
23	Butane					CAS #: 106-97-8		
1.818	1.814	(0.330)	58	6145	5.00000	5.651	80.00- 120.00	100.00
1.810	1.813	(0.329)	43	33937			637.12- 697.12	552.27
25	Vinyl Chloride					CAS #: 75-01-4		
1.853	1.849	(0.337)	62	28157	5.00000	5.259	80.00- 120.00	100.00
1.853	1.849	(0.337)	64	8614			1.91- 61.91	30.59
26	1,3-Butadiene					CAS #: 106-99-0		
1.875	1.875	(0.341)	54	17930	5.00000	4.905	80.00- 120.00	100.00
1.875	1.873	(0.341)	39	19520			72.44- 132.44	108.87
29	Bromomethane					CAS #: 74-83-9		
2.233	2.229	(0.406)	94	26905	5.00000	4.941	80.00- 120.00	100.00(a)
2.233	2.231	(0.406)	96	25169			65.39- 125.39	93.55
30	Chloroethane					CAS #: 75-00-3		
2.348	2.343	(0.427)	64	12991	5.00000	4.758	80.00- 120.00	100.00
2.348	2.345	(0.427)	66	5275			3.25- 63.25	40.61
2.340	2.343	(0.426)	49	3505			0.00- 57.17	26.98

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
31 Isopentane							CAS #:	78-78-4	
2.355	2.358	(0.428)	43	26990	5.00000	5.058	80.00-	120.00	100.00
2.362	2.361	(0.429)	57	20136			45.20-	105.20	74.61
35 Freon 11							CAS #:	75-69-4	
2.591	2.591	(0.471)	101	86249	5.00000	5.109	80.00-	120.00	100.00
2.591	2.591	(0.471)	103	58375			34.28-	94.28	67.68
42 Ethanol							CAS #:	64-17-5	
2.949	2.942	(0.536)	45	10482	5.00000	5.670	80.00-	120.00	100.00
2.949	2.942	(0.536)	46	3926			9.17-	69.17	37.45
49 Freon 113							CAS #:	76-13-1	
3.229	3.231	(0.587)	151	66940	5.00000	5.106	80.00-	120.00	100.00
3.229	3.233	(0.587)	153	42266			34.01-	94.01	63.14
3.229	3.229	(0.587)	101	70480			81.38-	141.38	105.29
50 1,1-Dichloroethene							CAS #:	75-35-4	
3.264	3.265	(0.594)	98	21505	5.00000	5.292	80.00-	120.00	100.00
3.264	3.263	(0.594)	96	32767			124.64-	184.64	152.37
3.264	3.264	(0.594)	61	49271			200.94-	260.94	229.11
52 Acetone							CAS #:	67-64-1	
3.429	3.427	(0.624)	58	13390	5.00000	5.126	80.00-	120.00	100.00
3.429	3.427	(0.624)	43	46570			290.24-	350.24	347.80
56 Carbon Disulfide							CAS #:	75-15-0	
3.501	3.501	(0.637)	76	88450	5.00000	5.231	80.00-	120.00	100.00
57 2-Propanol							CAS #:	67-63-0	
3.608	3.605	(0.656)	45	41615	5.00000	4.948	80.00-	120.00	100.00
3.608	3.603	(0.656)	43	8979			0.00-	51.65	21.58
3.608	3.605	(0.656)	59	1405			0.00-	34.46	3.38
58 3-Chloropropene							CAS #:	107-05-1	
3.744	3.745	(0.681)	76	13507	5.00000	4.916	80.00-	120.00	100.00
3.744	3.744	(0.681)	41	31639			187.06-	247.06	234.24
66 Methylene Chloride							CAS #:	75-09-2	
3.938	3.938	(0.716)	49	30844	5.00000	5.166	80.00-	120.00	100.00
3.938	3.938	(0.716)	84	29404			60.06-	120.06	95.33
3.938	3.938	(0.716)	51	9679			0.22-	60.22	31.38
71 tert-Butyl alcohol							CAS #:	75-65-0	
4.067	4.061	(0.739)	59	64147	5.00000	5.194	80.00-	120.00	100.00
4.060	4.059	(0.738)	41	12761			0.00-	49.54	19.89

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
71	tert-Butyl alcohol (continued)							
4.060	4.061 (0.738)	57	6584				0.00- 40.61	10.26
72	Methyl tert-butyl ether					CAS #: 1634-04-4		
4.146	4.147 (0.754)	73	88599	5.00000	5.060	80.00- 120.00	100.00	
4.146	4.145 (0.754)	57	18686			0.00- 50.61	21.09	
4.146	4.145 (0.754)	41	18035			0.00- 49.00	20.36	
73	trans-1,2-Dichloroethene					CAS #: 156-60-5		
4.174	4.175 (0.759)	98	21077	5.00000	5.276	80.00- 120.00	100.00	
4.174	4.174 (0.759)	61	38995			169.57- 229.57	185.01	
4.174	4.174 (0.759)	96	31055			127.00- 187.00	147.34	
78	Hexane					CAS #: 110-54-3		
4.382	4.382 (0.797)	57	42376	5.00000	4.966	80.00- 120.00	100.00	
4.382	4.382 (0.797)	43	24500			28.25- 88.25	57.82	
4.382	4.382 (0.797)	86	7799			0.00- 48.98	18.40	
82	1,1-Dichloroethane					CAS #: 75-34-3		
4.676	4.676 (0.850)	63	52361	5.00000	5.096	80.00- 120.00	100.00	
4.676	4.676 (0.850)	65	17887			2.30- 62.30	34.16	
83	Isopropyl ether					CAS #: 108-20-3		
4.661	4.656 (0.848)	45	89310	5.00000	5.048	80.00- 120.00	100.00	
4.661	4.658 (0.848)	87	30913			4.15- 64.15	34.61	
4.661	4.658 (0.848)	59	11021			0.00- 42.61	12.34	
86	Vinyl Acetate					CAS #: 108-05-4		
4.719	4.718 (0.858)	86	8609	5.00000	5.131	80.00- 120.00	100.00	
4.719	4.715 (0.858)	43	75468			863.69- 923.69	876.62	
88	Ethyl-tert-butyl ether					CAS #: 637-92-3		
5.019	5.019 (0.913)	59	96576	5.00000	5.052	80.00- 120.00	100.00	
5.019	5.019 (0.913)	87	43225			16.34- 76.34	44.76	
5.019	5.019 (0.913)	41	17351			0.00- 47.31	17.97	
91	cis-1,2-Dichloroethene					CAS #: 156-59-2		
5.263	5.263 (0.957)	98	24211	5.00000	5.033	80.00- 120.00	100.00	
5.263	5.263 (0.957)	96	35534			122.96- 182.96	146.77	
5.263	5.263 (0.957)	61	42618			147.21- 207.21	176.03	
92	2-Butanone					CAS #: 78-93-3		
5.292	5.289 (0.962)	72	15546	5.00000	5.318	80.00- 120.00	100.00	
5.292	5.287 (0.962)	43	51512			305.24- 365.24	331.35	
5.292	5.287 (0.962)	57	4356			0.00- 59.67	28.02	

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
99 Tetrahydrofuran						CAS #:	109-99-9		
5.492	5.492	(0.999)	42	27175	5.00000	4.918	80.00-	120.00	100.00
5.492	5.494	(0.999)	71	13448			18.99-	78.99	49.49
5.492	5.493	(0.999)	72	13425			20.78-	80.78	49.40

100 Chloroform						CAS #:	67-66-3		
5.557	5.558	(1.010)	83	66383	5.00000	5.277	80.00-	120.00	100.00
5.564	5.559	(1.012)	85	43242			35.00-	95.00	65.14

102 Cyclohexane						CAS #:	110-82-7		
5.657	5.657	(1.029)	84	42768	5.00000	5.050	80.00-	120.00	100.00
5.657	5.656	(1.029)	56	43728			70.31-	130.31	102.24
5.657	5.656	(1.029)	41	23196			25.25-	85.25	54.24

103 1,1,1-Trichloroethane						CAS #:	71-55-6		
5.678	5.677	(1.033)	97	68579	5.00000	4.891	80.00-	120.00	100.00
5.678	5.677	(1.033)	99	47048			34.84-	94.84	68.60

106 Carbon Tetrachloride						CAS #:	56-23-5		
5.793	5.793	(1.053)	119	75929	5.00000	4.971	80.00-	120.00	100.00
5.793	5.793	(1.053)	117	79479			73.53-	133.53	104.68

113 2,2,4-Trimethylpentane						CAS #:	540-84-1		
5.986	5.984	(1.089)	57	127870	5.00000	5.072	80.00-	120.00	100.00
5.986	5.984	(1.089)	56	41276			2.59-	62.59	32.28
5.986	5.982	(1.089)	41	33201			0.00-	55.57	25.96

116 Benzene						CAS #:	71-43-2		
6.008	6.008	(0.941)	78	92663	5.00000	5.003	80.00-	120.00	100.00
6.008	6.008	(0.941)	77	22282			0.00-	53.90	24.05

119 tert-Amyl methyl ether						CAS #:	994-05-8		
6.072	6.072	(1.104)	87	24228	5.00000	5.025	80.00-	120.00	100.00
6.080	6.075	(1.105)	73	96298			361.82-	421.82	397.47
6.072	6.072	(1.104)	55	23167			58.31-	118.31	95.62

120 1,2-Dichloroethane						CAS #:	107-06-2		
6.101	6.101	(0.955)	62	41131	5.00000	4.962	80.00-	120.00	100.00
6.101	6.101	(0.955)	64	14482			3.07-	63.07	35.21

121 Heptane						CAS #:	142-82-5		
6.151	6.151	(0.963)	71	31206	5.00000	4.816	80.00-	120.00	100.00
6.151	6.151	(0.963)	43	37993			110.59-	170.59	121.75
6.151	6.150	(0.963)	57	30746			64.25-	124.25	98.53

125 Trichloroethene						CAS #:	79-01-6		
6.581	6.581	(1.030)	95	45143	5.00000	5.092	80.00-	120.00	100.00

				AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====
125 Trichloroethene (continued)								
6.581	6.581	(1.030)	130	50515			81.76- 141.76	111.90
6.581	6.581	(1.030)	97	30464			34.64- 94.64	67.48

127 Methylcyclohexane						CAS #:	108-87-2	
6.674	6.674	(1.214)	83	59074	5.00000	5.121	80.00- 120.00	100.00
6.674	6.674	(1.214)	98	28794			18.58- 78.58	48.74
6.674	6.674	(1.214)	55	39706			37.28- 97.28	67.21

132 1,2-Dichloropropane						CAS #:	78-87-5	
6.817	6.817	(1.067)	63	31613	5.00000	4.822	80.00- 120.00	100.00
6.817	6.817	(1.067)	62	21573			38.79- 98.79	68.24
6.817	6.817	(1.067)	41	17081			23.87- 83.87	54.03

136 1,4-Dioxane						CAS #:	123-91-1	
6.910	6.906	(1.082)	88	24294	5.00000	5.189	80.00- 120.00	100.00
6.910	6.904	(1.082)	58	14583			28.36- 88.36	60.03
6.903	6.903	(1.081)	57	4973			0.00- 49.37	20.47

138 Bromodichloromethane						CAS #:	75-27-4	
7.047	7.046	(1.103)	83	68494	5.00000	4.957	80.00- 120.00	100.00
7.047	7.046	(1.103)	85	44767			34.11- 94.11	65.36

144 cis-1,3-Dichloropropene						CAS #:	10061-01-5	
7.419	7.419	(1.161)	75	54752	5.00000	5.051	80.00- 120.00	100.00
7.419	7.419	(1.161)	77	17671			2.33- 62.33	32.27
7.419	7.419	(1.161)	39	25234			16.60- 76.60	46.09

145 4-Methyl-2-pentanone						CAS #:	108-10-1	
7.527	7.526	(1.178)	58	25878	5.00000	4.852	80.00- 120.00	100.00
7.527	7.526	(1.178)	43	57371			214.83- 274.83	221.70
7.527	7.526	(1.178)	85	13070			23.05- 83.05	50.51

147 Toluene						CAS #:	108-88-3	
7.655	7.655	(1.198)	91	117949	5.00000	4.904	80.00- 120.00	100.00
7.655	7.655	(1.198)	92	68438			27.80- 87.80	58.02

150 trans-1,3-Dichloropropene						CAS #:	10061-02-6	
7.899	7.899	(0.895)	75	49751	5.00000	4.891	80.00- 120.00	100.00
7.899	7.899	(0.895)	77	15728			1.77- 61.77	31.61
7.899	7.899	(0.895)	39	23297			14.97- 74.97	46.83

155 1,1,2-Trichloroethane						CAS #:	79-00-5	
8.057	8.056	(0.912)	97	40179	5.00000	4.957	80.00- 120.00	100.00
8.057	8.056	(0.912)	99	26688			32.71- 92.71	66.42
8.057	8.056	(0.912)	83	33865			55.53- 115.53	84.29

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
156						CAS #:	127-18-4	
8.092	8.092	(0.916)	166	73108	5.00000	4.992	80.00- 120.00	100.00
8.092	8.092	(0.916)	129	49512			36.14- 96.14	67.72
8.092	8.092	(0.916)	131	46001			34.69- 94.69	62.92
158						CAS #:	591-78-6	
8.214	8.214	(0.930)	58	31283	5.00000	4.755	80.00- 120.00	100.00
8.214	8.214	(0.930)	43	55361			146.83- 206.83	176.97
8.214	8.215	(0.930)	100	8279			0.00- 55.52	26.46
160						CAS #:	124-48-1	
8.365	8.367	(0.947)	129	81628	5.00000	4.856	80.00- 120.00	100.00
8.365	8.367	(0.947)	127	63501			47.05- 107.05	77.79
161						CAS #:	106-93-4	
8.479	8.479	(0.960)	107	69594	5.00000	5.020	80.00- 120.00	100.00
8.479	8.479	(0.960)	109	66358			65.51- 125.51	95.35
165						CAS #:	108-90-7	
8.859	8.859	(1.003)	112	102183	5.00000	4.981	80.00- 120.00	100.00
8.859	8.859	(1.003)	114	31805			2.14- 62.14	31.13
8.852	8.852	(1.002)	77	56970			23.42- 83.42	55.75
167						CAS #:	100-41-4	
8.902	8.902	(1.008)	106	49598	5.00000	4.811	80.00- 120.00	100.00
8.902	8.902	(1.008)	91	152021			268.52- 328.52	306.51
169						CAS #:	108-38-3	
9.002	8.997	(1.019)	106	61645	5.00000	4.809	80.00- 120.00	100.00
8.995	8.996	(1.019)	91	117240			161.75- 221.75	190.19
171						CAS #:	95-47-6	
9.339	9.339	(1.058)	106	57807	5.00000	4.759	80.00- 120.00	100.00
9.339	9.339	(1.058)	91	119851			170.98- 230.98	207.33
172						CAS #:	100-42-5	
9.360	9.360	(1.060)	104	85829	5.00000	4.457	80.00- 120.00	100.00
9.360	9.360	(1.060)	78	40258			16.10- 76.10	46.90
174						CAS #:	75-25-2	
9.568	9.568	(1.084)	173	91846	5.00000	4.755	80.00- 120.00	100.00
9.568	9.568	(1.084)	171	47871			21.32- 81.32	52.12
175						CAS #:	98-82-8	
9.625	9.625	(1.090)	105	177739	5.00000	4.828	80.00- 120.00	100.00
9.625	9.626	(1.090)	120	50594			0.00- 58.56	28.47

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
				CAL-AMT (PPBV)	ON-COL (PPBV)		
175	Cumene (continued)						
9.625	9.625 (1.090)	51	13925			0.00- 37.61	7.83
181	1,1,2,2-Tetrachloroethane				CAS #: 79-34-5		
9.948	9.948 (1.127)	83	83272	5.00000	4.804	80.00- 120.00	100.00
9.948	9.948 (1.127)	85	54146			35.03- 95.03	65.02
182	Propylbenzene				CAS #: 103-65-1		
9.976	9.974 (1.130)	91	201296	5.00000	4.839	80.00- 120.00	100.00
9.976	9.976 (1.130)	120	52163			0.00- 56.23	25.91
9.976	9.976 (1.130)	105	7729			0.00- 33.80	3.84
188	4-Ethyltoluene				CAS #: 622-96-8		
10.069	10.069 (1.140)	120	56980	5.00000	4.890	80.00- 120.00	100.00
10.069	10.069 (1.140)	105	170098			275.42- 335.42	298.52
190	1,3,5-Trimethylbenzene				CAS #: 108-67-8		
10.120	10.119 (1.146)	120	75659	5.00000	4.674	80.00- 120.00	100.00
10.120	10.119 (1.146)	105	148618			165.32- 225.32	196.43
196	1,2,4-Trimethylbenzene				CAS #: 95-63-6		
10.442	10.444 (1.183)	120	67955	5.00000	4.698	80.00- 120.00	100.00
10.442	10.443 (1.183)	105	139328			176.48- 236.48	205.03
208	1,3-Dichlorobenzene				CAS #: 541-73-1		
10.736	10.735 (1.216)	146	118871	5.00000	4.840	80.00- 120.00	100.00
10.736	10.735 (1.216)	148	75400			34.93- 94.93	63.43
10.736	10.735 (1.216)	111	42809			5.13- 65.13	36.01
209	1,4-Dichlorobenzene				CAS #: 106-46-7		
10.822	10.820 (1.226)	146	119789	5.00000	4.773	80.00- 120.00	100.00
10.822	10.821 (1.226)	148	79614			34.11- 94.11	66.46
10.822	10.817 (1.226)	111	42969			4.00- 64.00	35.87
212	alpha-Chlorotoluene				CAS #: 100-44-7		
10.936	10.936 (1.238)	91	121502	5.00000	4.669	80.00- 120.00	100.00
10.936	10.936 (1.238)	126	31286			0.00- 55.13	25.75
214	1,2-Dichlorobenzene				CAS #: 95-50-1		
11.151	11.148 (1.263)	146	116714	5.00000	4.944	80.00- 120.00	100.00
11.151	11.149 (1.263)	148	72905			34.17- 94.17	62.46
11.144	11.146 (1.262)	111	41574			6.50- 66.50	35.62
226	1,2,4-Trichlorobenzene				CAS #: 120-82-1		
12.541	12.541 (1.420)	180	130258	5.00000	4.851	80.00- 120.00	100.00
12.541	12.541 (1.420)	182	125794			65.44- 125.44	96.57

					AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT	ON-COL	TARGET	RANGE	RATIO	
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====	
227 Hexachlorobutadiene						CAS #:	87-68-3			
12.619	12.620	(1.429)	225	117491	5.000000	4.895	80.00-	120.00	100.00	
12.619	12.620	(1.429)	223	73948			32.93-	92.93	62.94	

228 Naphthalene						CAS #:	91-20-3			
12.806	12.806	(1.450)	128	19970	0.500000	0.4322	80.00-	120.00	100.00(a)	
12.806	12.806	(1.450)	127	3206			0.00-	43.59	16.05	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17061304.d
Lab Smp Id: ICAL Level #4
Analysis Type: VOA
Quant Type: ISTD
Operator: gh
Method File: /chem/msd17.i/13jun18.b/178q0613a.m
Misc Info: 5.0ppbv(5.0ppbv)

Calibration Date: 14-JUN-2018
Calibration Time: 00:02

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	162788	97673	227903	162076	-0.44
123 1,4-Difluorobenze	570167	342100	798234	584049	2.43
163 Chlorobenzene-d5	520088	312053	728123	520349	0.05

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.50	5.17	5.83	5.50	0.00
123 1,4-Difluorobenze	6.38	6.05	6.71	6.39	0.12
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name: Client SDG: 13jun18
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: ICAL Level #4
Level: LOW Operator: gh
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AT12.sub
Method File: /chem/msd17.i/13jun18.b/178q0613a.m
Misc Info: 5.0ppbv(5.0ppbv)

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
\$ 117 1,2-Dichloroethane	25.000	0.000	0.00*	70-130
\$ 146 Toluene-d8	25.000	0.000	0.00*	70-130
\$ 177 4-Bromofluorobenze	25.000	0.000	0.00*	70-130

Data File: /chem/msd17.i/13jun18.b/17061304.d

Date : 13-JUN-2018 23:08

Client ID:

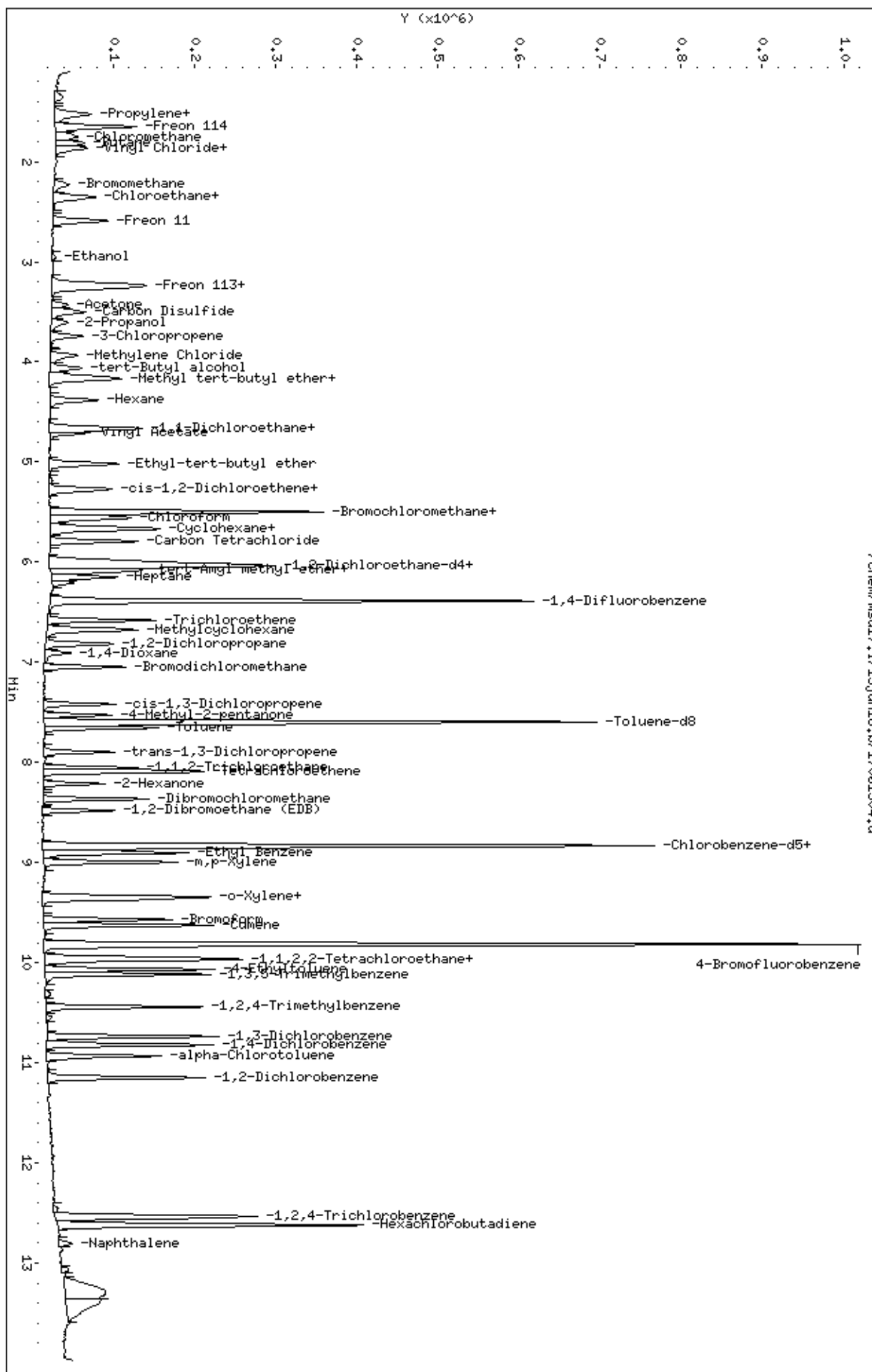
Sample Info: 200ml 2018-279

Column phase: RTX-624

Instrument: msd17.i

Operator: gh

Column diameter: 0.25



Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/13jun18.b/17061305.d
Lab Smp Id: ICAL Level #5
Inj Date : 13-JUN-2018 23:35
Operator : gh Inst ID: msd17.i
Smp Info : 20ml 3018-273
Misc Info : 20ppbv(200ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/13jun18.b/178q0613a.m
Meth Date : 15-Jun-2018 09:11 gdelacru Quant Type: ISTD
Cal Date : 13-JUN-2018 23:35 Cal File: 17061305.d
Als bottle: 13 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12curve.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane									
5.499	5.498	(1.000)	130	162975	25.0000	CAS #:	74-97-5		
5.499	5.498	(1.000)	128	126421			80.00-	120.00	100.00
5.492	5.496	(1.000)	49	149332			48.32-	108.32	77.57
							63.40-	123.40	91.63

* 123 1,4-Difluorobenzene									
6.380	6.384	(1.000)	114	572371	25.0000	CAS #:	540-36-3		
6.380	6.382	(1.000)	88	83604			80.00-	120.00	100.00
							0.00-	44.55	14.61

* 163 Chlorobenzene-d5									
8.830	8.830	(1.000)	117	505935	25.0000	CAS #:	3114-55-4		
8.830	8.830	(1.000)	82	246886			80.00-	120.00	100.00
							17.97-	77.97	48.80

\$ 117 1,2-Dichloroethane-d4									
6.037	6.035	(1.098)	65	180699	25.0000	CAS #:	17060-07-0		
6.037	6.035	(1.098)	67	98237		24.418	80.00-	120.00	100.00
							23.66-	83.66	54.36

\$ 146 Toluene-d8									
7.598	7.598	(1.191)	98	553059	25.0000	CAS #:	2037-26-5		
7.598	7.598	(1.191)	70	56100		24.810	80.00-	120.00	100.00
							0.00-	40.01	10.14

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
\$ 146	Toluene-d8 (continued)							
7.598	7.598	(1.191)	100	360419			35.43- 95.43	65.17

\$ 177	4-Bromofluorobenzene					CAS #: 460-00-4		
9.819	9.819	(1.112)	174	406088	25.0000	25.418	80.00- 120.00	100.00
9.819	9.819	(1.112)	95	358989			59.41- 119.41	88.40
9.819	9.819	(1.112)	176	393759			68.33- 128.33	96.96

9	Propylene					CAS #: 115-07-1		
1.495	1.500	(0.272)	41	62769	20.0000	18.323	80.00- 120.00	100.00
1.495	1.501	(0.272)	42	42916			36.13- 96.13	68.37
1.495	1.501	(0.272)	39	49506			46.53- 106.53	78.87

11	Freon 12					CAS #: 75-71-8		
1.531	1.532	(0.278)	85	278649	20.0000	19.253	80.00- 120.00	100.00
1.531	1.534	(0.278)	87	90921			2.38- 62.38	32.63

15	Freon 114					CAS #: 76-14-2		
1.653	1.653	(0.301)	135	240029	20.0000	19.648	80.00- 120.00	100.00
1.653	1.652	(0.301)	137	75667			2.28- 62.28	31.52

17	Chloromethane					CAS #: 74-87-3		
1.746	1.751	(0.317)	50	79635	20.0000	21.236	80.00- 120.00	100.00
1.746	1.749	(0.317)	52	26884			5.22- 65.22	33.76

23	Butane					CAS #: 106-97-8		
1.810	1.814	(0.329)	58	19751	20.0000	18.063	80.00- 120.00	100.00
1.810	1.813	(0.329)	43	126063			637.12- 697.12	638.26

25	Vinyl Chloride					CAS #: 75-01-4		
1.846	1.849	(0.336)	62	98833	20.0000	18.357	80.00- 120.00	100.00
1.846	1.849	(0.336)	64	32102			1.91- 61.91	32.48

26	1,3-Butadiene					CAS #: 106-99-0		
1.875	1.875	(0.341)	54	70565	20.0000	19.196	80.00- 120.00	100.00
1.868	1.873	(0.340)	39	70581			72.44- 132.44	100.02

29	Bromomethane					CAS #: 74-83-9		
2.226	2.229	(0.405)	94	108311	20.0000	19.783	80.00- 120.00	100.00
2.226	2.231	(0.405)	96	100347			65.39- 125.39	92.65

30	Chloroethane					CAS #: 75-00-3		
2.341	2.343	(0.426)	64	51786	20.0000	18.864	80.00- 120.00	100.00
2.341	2.345	(0.426)	66	17637			3.25- 63.25	34.06
2.341	2.343	(0.426)	49	14062			0.00- 57.17	27.15

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
31 Isopentane						CAS #:	78-78-4		
2.355	2.358	(0.428)	43	107244	20.0000	19.989	80.00-	120.00	100.00
2.355	2.361	(0.428)	57	79475			45.20-	105.20	74.11
35 Freon 11						CAS #:	75-69-4		
2.591	2.591	(0.471)	101	328277	20.0000	19.338	80.00-	120.00	100.00
2.591	2.591	(0.471)	103	211482			34.28-	94.28	64.42
42 Ethanol						CAS #:	64-17-5		
2.935	2.942	(0.534)	45	34358	20.0000	18.482	80.00-	120.00	100.00
2.935	2.942	(0.534)	46	12731			9.17-	69.17	37.05
49 Freon 113						CAS #:	76-13-1		
3.229	3.231	(0.587)	151	260878	20.0000	19.791	80.00-	120.00	100.00
3.229	3.233	(0.587)	153	167354			34.01-	94.01	64.15
3.229	3.229	(0.587)	101	287775			81.38-	141.38	110.31
50 1,1-Dichloroethene						CAS #:	75-35-4		
3.265	3.265	(0.594)	98	73305	20.0000	17.941	80.00-	120.00	100.00
3.265	3.263	(0.594)	96	114077			124.64-	184.64	155.62
3.265	3.264	(0.594)	61	169858			200.94-	260.94	231.71
52 Acetone						CAS #:	67-64-1		
3.422	3.427	(0.622)	58	44832	20.0000	17.067	80.00-	120.00	100.00
3.422	3.427	(0.622)	43	139307			290.24-	350.24	310.73
56 Carbon Disulfide						CAS #:	75-15-0		
3.501	3.501	(0.637)	76	305306	20.0000	17.956	80.00-	120.00	100.00
57 2-Propanol						CAS #:	67-63-0		
3.601	3.605	(0.655)	45	150272	20.0000	17.770	80.00-	120.00	100.00
3.601	3.603	(0.655)	43	31146			0.00-	51.65	20.73
3.601	3.605	(0.655)	59	6554			0.00-	34.46	4.36
58 3-Chloropropene						CAS #:	107-05-1		
3.744	3.745	(0.681)	76	46745	20.0000	16.921	80.00-	120.00	100.00
3.744	3.744	(0.681)	41	104615			187.06-	247.06	223.80
66 Methylene Chloride						CAS #:	75-09-2		
3.938	3.938	(0.716)	49	110002	20.0000	18.323	80.00-	120.00	100.00
3.938	3.938	(0.716)	84	96207			60.06-	120.06	87.46
3.938	3.938	(0.716)	51	31687			0.22-	60.22	28.81
71 tert-Butyl alcohol						CAS #:	75-65-0		
4.060	4.061	(0.738)	59	238943	20.0000	19.241	80.00-	120.00	100.00
4.060	4.059	(0.738)	41	46911			0.00-	49.54	19.63

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
71	tert-Butyl alcohol (continued)							
4.060	4.061 (0.738)		57	25867			0.00- 40.61	10.83
72	Methyl tert-butyl ether					CAS #: 1634-04-4		
4.146	4.147 (0.754)		73	344636	20.0000	19.574	80.00- 120.00	100.00
4.146	4.145 (0.754)		57	71224			0.00- 50.61	20.67
4.146	4.145 (0.754)		41	66695			0.00- 49.00	19.35
73	trans-1,2-Dichloroethene					CAS #: 156-60-5		
4.174	4.175 (0.759)		98	69090	20.0000	17.198	80.00- 120.00	100.00
4.174	4.174 (0.759)		61	135325			169.57- 229.57	195.87
4.174	4.174 (0.759)		96	105246			127.00- 187.00	152.33
78	Hexane					CAS #: 110-54-3		
4.382	4.382 (0.797)		57	155372	20.0000	18.106	80.00- 120.00	100.00
4.382	4.382 (0.797)		43	90239			28.25- 88.25	58.08
4.382	4.382 (0.797)		86	28745			0.00- 48.98	18.50
82	1,1-Dichloroethane					CAS #: 75-34-3		
4.676	4.676 (0.850)		63	181963	20.0000	17.610	80.00- 120.00	100.00
4.676	4.676 (0.850)		65	58830			2.30- 62.30	32.33
83	Isopropyl ether					CAS #: 108-20-3		
4.654	4.656 (0.846)		45	347652	20.0000	19.543	80.00- 120.00	100.00
4.654	4.658 (0.846)		87	118433			4.15- 64.15	34.07
4.654	4.658 (0.846)		59	44409			0.00- 42.61	12.77
86	Vinyl Acetate					CAS #: 108-05-4		
4.719	4.718 (0.858)		86	28961	20.0000	17.165	80.00- 120.00	100.00
4.712	4.715 (0.857)		43	259461			863.69- 923.69	895.90
88	Ethyl-tert-butyl ether					CAS #: 637-92-3		
5.020	5.019 (0.913)		59	373234	20.0000	19.415	80.00- 120.00	100.00
5.020	5.019 (0.913)		87	174614			16.34- 76.34	46.78
5.020	5.019 (0.913)		41	64838			0.00- 47.31	17.37
91	cis-1,2-Dichloroethene					CAS #: 156-59-2		
5.263	5.263 (0.957)		98	80531	20.0000	16.648	80.00- 120.00	100.00
5.263	5.263 (0.957)		96	124655			122.96- 182.96	154.79
5.263	5.263 (0.957)		61	143053			147.21- 207.21	177.64
92	2-Butanone					CAS #: 78-93-3		
5.292	5.289 (0.962)		72	50606	20.0000	17.216	80.00- 120.00	100.00
5.285	5.287 (0.961)		43	172810			305.24- 365.24	341.48
5.292	5.287 (0.962)		57	14505			0.00- 59.67	28.66

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
99 Tetrahydrofuran						CAS #:	109-99-9		
5.492	5.492	(0.999)	42	95755	20.0000	17.233	80.00-	120.00	100.00
5.492	5.494	(0.999)	71	46795			18.99-	78.99	48.87
5.492	5.493	(0.999)	72	47341			20.78-	80.78	49.44
100 Chloroform						CAS #:	67-66-3		
5.557	5.558	(1.010)	83	225007	20.0000	17.788	80.00-	120.00	100.00
5.557	5.559	(1.010)	85	146932			35.00-	95.00	65.30
102 Cyclohexane						CAS #:	110-82-7		
5.657	5.657	(1.029)	84	164382	20.0000	19.302	80.00-	120.00	100.00
5.657	5.656	(1.029)	56	166322			70.31-	130.31	101.18
5.657	5.656	(1.029)	41	93370			25.25-	85.25	56.80
103 1,1,1-Trichloroethane						CAS #:	71-55-6		
5.679	5.677	(1.033)	97	277023	20.0000	19.647	80.00-	120.00	100.00
5.679	5.677	(1.033)	99	177357			34.84-	94.84	64.02
106 Carbon Tetrachloride						CAS #:	56-23-5		
5.793	5.793	(1.053)	119	294561	20.0000	19.179	80.00-	120.00	100.00
5.793	5.793	(1.053)	117	306016			73.53-	133.53	103.89
113 2,2,4-Trimethylpentane						CAS #:	540-84-1		
5.987	5.984	(1.089)	57	489636	20.0000	19.315	80.00-	120.00	100.00
5.979	5.984	(1.087)	56	159469			2.59-	62.59	32.57
5.979	5.982	(1.087)	41	129880			0.00-	55.57	26.53
116 Benzene						CAS #:	71-43-2		
6.008	6.008	(0.942)	78	329754	20.0000	18.168	80.00-	120.00	100.00
6.008	6.008	(0.942)	77	79418			0.00-	53.90	24.08
119 tert-Amyl methyl ether						CAS #:	994-05-8		
6.072	6.072	(1.104)	87	92892	20.0000	19.161	80.00-	120.00	100.00
6.072	6.075	(1.104)	73	363470			361.82-	421.82	391.28
6.072	6.072	(1.104)	55	81576			58.31-	118.31	87.82
120 1,2-Dichloroethane						CAS #:	107-06-2		
6.101	6.101	(0.956)	62	144663	20.0000	17.807	80.00-	120.00	100.00
6.101	6.101	(0.956)	64	47418			3.07-	63.07	32.78
121 Heptane						CAS #:	142-82-5		
6.151	6.151	(0.964)	71	123278	20.0000	19.415	80.00-	120.00	100.00
6.151	6.151	(0.964)	43	172231			110.59-	170.59	139.71
6.151	6.150	(0.964)	57	109564			64.25-	124.25	88.88
125 Trichloroethene						CAS #:	79-01-6		
6.581	6.581	(1.031)	95	159336	20.0000	18.339	80.00-	120.00	100.00

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
125 Trichloroethene (continued)									
6.581	6.581	(1.031)	130	178105			81.76-	141.76	111.78
6.581	6.581	(1.031)	97	101454			34.64-	94.64	63.67

127 Methylcyclohexane						CAS #:	108-87-2		
6.674	6.674	(1.214)	83	222067	20.0000	19.145	80.00-	120.00	100.00
6.674	6.674	(1.214)	98	107642			18.58-	78.58	48.47
6.674	6.674	(1.214)	55	151400			37.28-	97.28	68.18

132 1,2-Dichloropropane						CAS #:	78-87-5		
6.817	6.817	(1.068)	63	113618	20.0000	17.684	80.00-	120.00	100.00
6.817	6.817	(1.068)	62	79007			38.79-	98.79	69.54
6.817	6.817	(1.068)	41	63299			23.87-	83.87	55.71

136 1,4-Dioxane						CAS #:	123-91-1		
6.903	6.906	(1.082)	88	86051	20.0000	18.756	80.00-	120.00	100.00
6.903	6.904	(1.082)	58	50559			28.36-	88.36	58.75
6.903	6.903	(1.082)	57	16502			0.00-	49.37	19.18

138 Bromodichloromethane						CAS #:	75-27-4		
7.047	7.046	(1.104)	83	248352	20.0000	18.339	80.00-	120.00	100.00
7.047	7.046	(1.104)	85	161103			34.11-	94.11	64.87

144 cis-1,3-Dichloropropene						CAS #:	10061-01-5		
7.419	7.419	(1.163)	75	197557	20.0000	18.597	80.00-	120.00	100.00
7.419	7.419	(1.163)	77	63618			2.33-	62.33	32.20
7.419	7.419	(1.163)	39	92844			16.60-	76.60	47.00

145 4-Methyl-2-pentanone						CAS #:	108-10-1		
7.527	7.526	(1.180)	58	96598	20.0000	18.482	80.00-	120.00	100.00
7.527	7.526	(1.180)	43	234202			214.83-	274.83	242.45
7.527	7.526	(1.180)	85	51627			23.05-	83.05	53.45

147 Toluene						CAS #:	108-88-3		
7.656	7.655	(1.200)	91	445483	20.0000	18.902	80.00-	120.00	100.00
7.656	7.655	(1.200)	92	259300			27.80-	87.80	58.21

150 trans-1,3-Dichloropropene						CAS #:	10061-02-6		
7.899	7.899	(0.895)	75	188675	20.0000	19.078	80.00-	120.00	100.00
7.899	7.899	(0.895)	77	59447			1.77-	61.77	31.51
7.899	7.899	(0.895)	39	86676			14.97-	74.97	45.94

155 1,1,2-Trichloroethane						CAS #:	79-00-5		
8.057	8.056	(0.912)	97	153251	20.0000	19.446	80.00-	120.00	100.00
8.057	8.056	(0.912)	99	96362			32.71-	92.71	62.88
8.057	8.056	(0.912)	83	130023			55.53-	115.53	84.84

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
156						CAS #:	127-18-4	
8.092	8.092	(0.916)	166	279166	20.0000	19.604	80.00- 120.00	100.00
8.092	8.092	(0.916)	129	183253			36.14- 96.14	65.64
8.092	8.092	(0.916)	131	179143			34.69- 94.69	64.17
158						CAS #:	591-78-6	
8.214	8.214	(0.930)	58	129824	20.0000	20.297	80.00- 120.00	100.00
8.214	8.214	(0.930)	43	225173			146.83- 206.83	173.44
8.214	8.215	(0.930)	100	33857			0.00- 55.52	26.08
160						CAS #:	124-48-1	
8.365	8.367	(0.947)	129	317313	20.0000	19.413	80.00- 120.00	100.00
8.365	8.367	(0.947)	127	247260			47.05- 107.05	77.92
161						CAS #:	106-93-4	
8.479	8.479	(0.960)	107	259537	20.0000	19.255	80.00- 120.00	100.00
8.479	8.479	(0.960)	109	244511			65.51- 125.51	94.21
165						CAS #:	108-90-7	
8.859	8.859	(1.003)	112	390372	20.0000	19.572	80.00- 120.00	100.00
8.859	8.859	(1.003)	114	125820			2.14- 62.14	32.23
8.852	8.852	(1.002)	77	212894			23.42- 83.42	54.54
167						CAS #:	100-41-4	
8.902	8.902	(1.008)	106	202451	20.0000	20.198	80.00- 120.00	100.00
8.902	8.902	(1.008)	91	611086			268.52- 328.52	301.84
169						CAS #:	108-38-3	
8.995	8.997	(1.019)	106	251336	20.0000	20.166	80.00- 120.00	100.00
8.995	8.996	(1.019)	91	475021			161.75- 221.75	189.00
171						CAS #:	95-47-6	
9.339	9.339	(1.058)	106	242551	20.0000	20.539	80.00- 120.00	100.00
9.339	9.339	(1.058)	91	482551			170.98- 230.98	198.95
172						CAS #:	100-42-5	
9.360	9.360	(1.060)	104	388241	20.0000	20.734	80.00- 120.00	100.00
9.360	9.360	(1.060)	78	180417			16.10- 76.10	46.47
174						CAS #:	75-25-2	
9.568	9.568	(1.084)	173	377058	20.0000	20.077	80.00- 120.00	100.00
9.568	9.568	(1.084)	171	192458			21.32- 81.32	51.04
175						CAS #:	98-82-8	
9.625	9.625	(1.090)	105	739264	20.0000	20.655	80.00- 120.00	100.00
9.625	9.626	(1.090)	120	211484			0.00- 58.56	28.61

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
				CAL-AMT (PPBV)	ON-COL (PPBV)		
175	Cumene (continued)						
9.625	9.625 (1.090)	51	56631			0.00- 37.61	7.66
181	1,1,2,2-Tetrachloroethane				CAS #: 79-34-5		
9.948	9.948 (1.127)	83	343143	20.0000	20.359	80.00- 120.00	100.00
9.948	9.948 (1.127)	85	223327			35.03- 95.03	65.08
182	Propylbenzene				CAS #: 103-65-1		
9.976	9.974 (1.130)	91	833251	20.0000	20.602	80.00- 120.00	100.00
9.976	9.976 (1.130)	120	219100			0.00- 56.23	26.29
9.976	9.976 (1.130)	105	32899			0.00- 33.80	3.95
188	4-Ethyltoluene				CAS #: 622-96-8		
10.069	10.069 (1.140)	120	240243	20.0000	21.207	80.00- 120.00	100.00
10.069	10.069 (1.140)	105	735144			275.42- 335.42	306.00
190	1,3,5-Trimethylbenzene				CAS #: 108-67-8		
10.120	10.119 (1.146)	120	328626	20.0000	20.882	80.00- 120.00	100.00
10.120	10.119 (1.146)	105	646880			165.32- 225.32	196.84
196	1,2,4-Trimethylbenzene				CAS #: 95-63-6		
10.442	10.444 (1.183)	120	296028	20.0000	21.050	80.00- 120.00	100.00
10.442	10.443 (1.183)	105	607043			176.48- 236.48	205.06
208	1,3-Dichlorobenzene				CAS #: 541-73-1		
10.736	10.735 (1.216)	146	492013	20.0000	20.602	80.00- 120.00	100.00
10.736	10.735 (1.216)	148	322962			34.93- 94.93	65.64
10.736	10.735 (1.216)	111	171235			5.13- 65.13	34.80
209	1,4-Dichlorobenzene				CAS #: 106-46-7		
10.822	10.820 (1.226)	146	499093	20.0000	20.455	80.00- 120.00	100.00
10.822	10.821 (1.226)	148	325676			34.11- 94.11	65.25
10.814	10.817 (1.225)	111	168972			4.00- 64.00	33.86
212	alpha-Chlorotoluene				CAS #: 100-44-7		
10.936	10.936 (1.238)	91	523146	20.0000	20.675	80.00- 120.00	100.00
10.936	10.936 (1.238)	126	131217			0.00- 55.13	25.08
214	1,2-Dichlorobenzene				CAS #: 95-50-1		
11.144	11.148 (1.262)	146	477784	20.0000	20.815	80.00- 120.00	100.00
11.151	11.149 (1.263)	148	309397			34.17- 94.17	64.76
11.144	11.146 (1.262)	111	174592			6.50- 66.50	36.54
226	1,2,4-Trichlorobenzene				CAS #: 120-82-1		
12.541	12.541 (1.420)	180	539060	20.0000	20.649	80.00- 120.00	100.00
12.541	12.541 (1.420)	182	511682			65.44- 125.44	94.92

						AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT	ON-COL	TARGET	RANGE	RATIO		
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====	=====	=====
227 Hexachlorobutadiene						CAS #:	87-68-3				
12.620	12.620	(1.429)	225	473000	20.0000	20.269	80.00-	120.00	100.00		
12.620	12.620	(1.429)	223	293023			32.93-	92.93	61.95		

228 Naphthalene						CAS #:	91-20-3				
12.806	12.806	(1.450)	128	97322	2.00000	2.166	80.00-	120.00	100.00		
12.806	12.806	(1.450)	127	13500			0.00-	43.59	13.87		

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17061305.d
Lab Smp Id: ICAL Level #5
Analysis Type: VOA
Quant Type: ISTD
Operator: gh
Method File: /chem/msd17.i/13jun18.b/178q0613a.m
Misc Info: 20ppbv(200ppbv)

Calibration Date: 14-JUN-2018
Calibration Time: 00:02

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	162788	97673	227903	162975	0.11
123 1,4-Difluorobenze	570167	342100	798234	572371	0.39
163 Chlorobenzene-d5	520088	312053	728123	505935	-2.72

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.50	5.17	5.83	5.50	0.01
123 1,4-Difluorobenze	6.38	6.05	6.71	6.38	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name: Client SDG: 13jun18
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: ICAL Level #5
Level: LOW Operator: gh
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AT12.sub
Method File: /chem/msd17.i/13jun18.b/178q0613a.m
Misc Info: 20ppbv(200ppbv)

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
\$ 117 1,2-Dichloroethane	25.000	0.000	0.00*	70-130
\$ 146 Toluene-d8	25.000	0.000	0.00*	70-130
\$ 177 4-Bromofluorobenze	25.000	0.000	0.00*	70-130

Data File: /chem/msd17.i/13jun18.b/17061305.d

Date : 13-JUN-2018 23:35

Client ID:

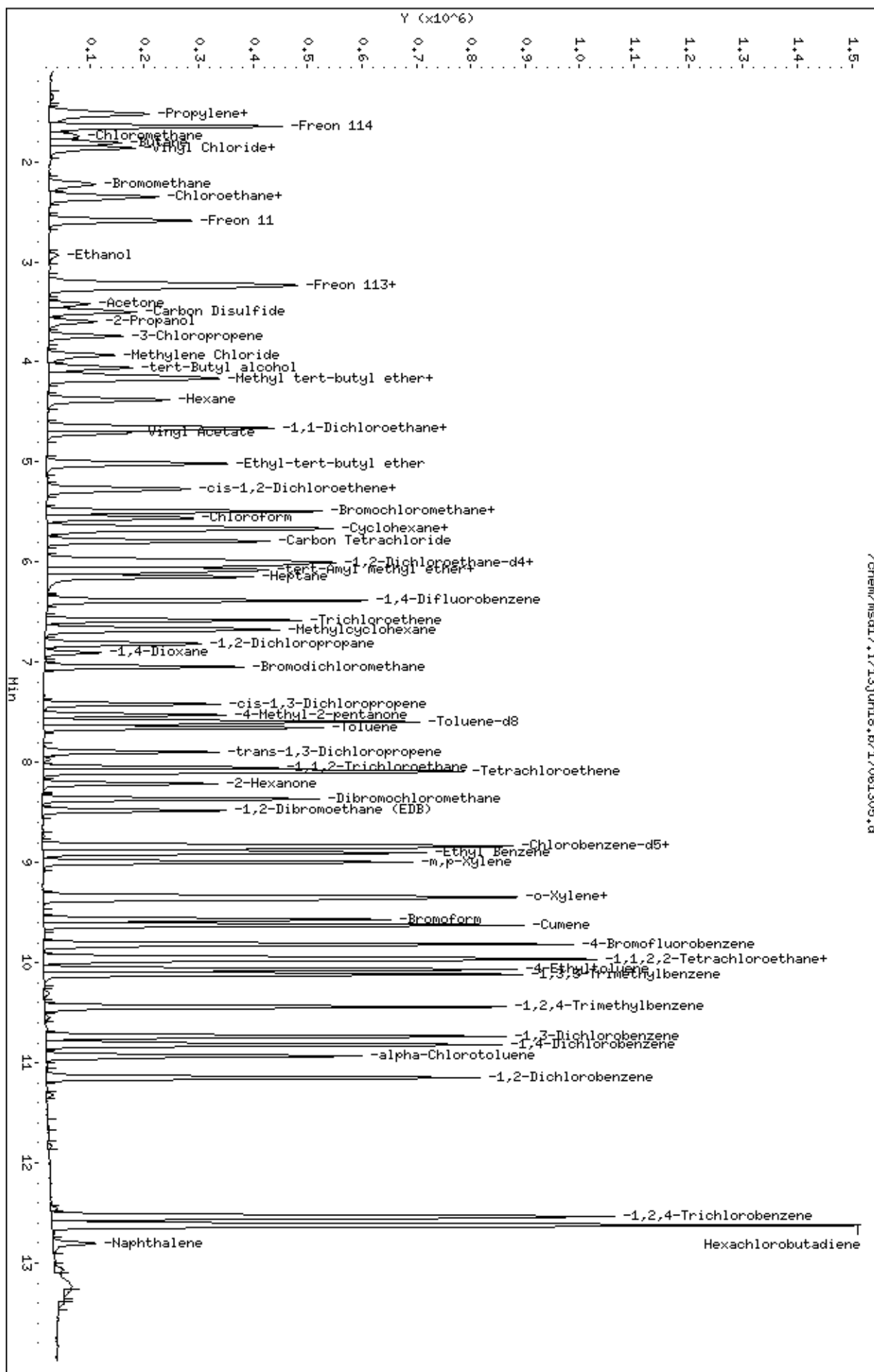
Sample Info: 20ml 3018-273

Column phase: RTX-624

Instrument: msd17.1

Operator: gh

Column diameter: 0.25



US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/09OCT18.b/17100908.d
Lab Smp Id: ICAL Level #6
Inj Date : 09-OCT-2018 14:17
Operator : mjb
Smp Info : 50ml 3045-147
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/09OCT18.b/178q0613e.m
Meth Date : 09-Oct-2018 15:48 p5fl
Cal Date : 09-OCT-2018 14:17
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE
Sample Matrix: AIR
Processing Host: us32apptv003

Inst ID: msd17.i
Quant Type: ISTD
Cal File: 17100908.d
Calibration Sample, Level: 6
Compound Sublist: EthylAcetateCRV.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====

* 98 Bromochloromethane						CAS #:	74-97-5		
5.492	5.495	(1.000)	130	129698	25.0000		80.00-	120.00	100.00
5.492	5.495	(1.000)	128	101132			48.32-	108.32	77.97
5.492	5.493	(1.000)	49	112560			63.40-	123.40	86.79

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.380	6.380	(1.000)	114	421209	25.0000		80.00-	120.00	100.00
6.380	6.380	(1.000)	88	62073			0.00-	44.55	14.74

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	393873	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	197430			17.97-	77.97	50.13

94 Ethyl Acetate						CAS #:	141-78-6		
5.299	5.301	(0.965)	70	44810	50.0000	5.570	0.00-	0.00	100.00
5.299	5.299	(0.965)	61	56455			0.00-	0.00	125.99
5.299	5.299	(0.965)	45	48442			0.00-	0.00	108.11

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17100908.d
Lab Smp Id: ICAL Level #6
Analysis Type: VOA
Quant Type: ISTD
Operator: mjb
Method File: /chem/msd17.i/09OCT18.b/178q0613e.m
Misc Info: 50ppbv (200ppbv)

Calibration Date: 09-OCT-2018
Calibration Time: 14:17

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	129698	77819	181577	129698	0.00
123 1,4-Difluorobenze	421209	252725	589693	421209	0.00
163 Chlorobenzene-d5	393873	236324	551422	393873	0.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.49	5.16	5.82	5.49	0.00
123 1,4-Difluorobenze	6.38	6.05	6.71	6.38	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.i/09OCT18.b/17100908.d

Date : 09-OCT-2018 14:17

Client ID:

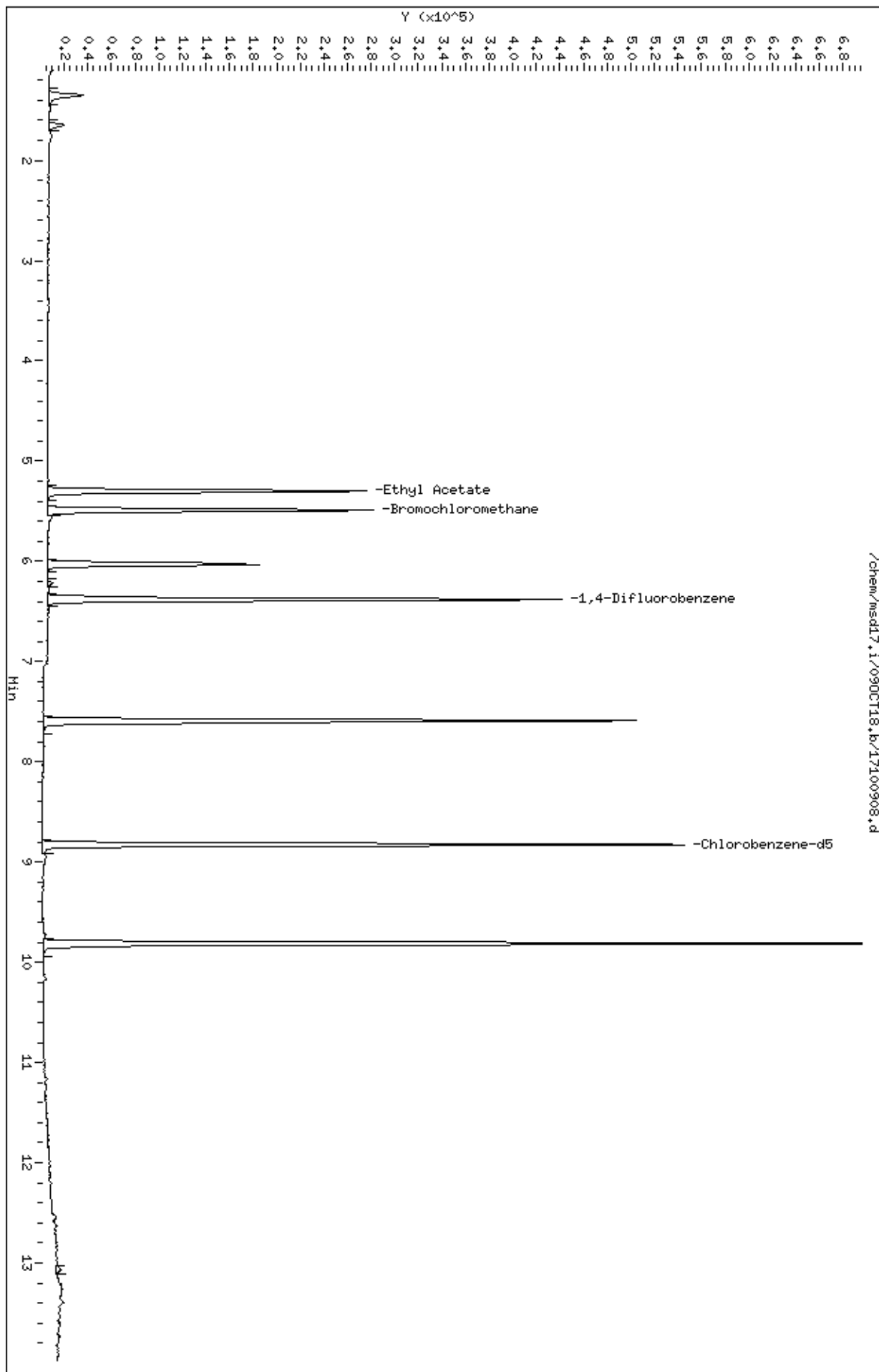
Sample Info: 50ml 3045-147

Column phase: RTX-624

Instrument: msd17.i

Operator: mjb

Column diameter: 0.25



US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/24aug18.b/17082406.d
Lab Smp Id: ICAL Level 6
Inj Date : 24-AUG-2018 15:04
Operator : mjb
Smp Info : 50ml 3045-79
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/24aug18.b/178q0613d.m
Meth Date : 24-Aug-2018 16:09 ugdc
Cal Date : 24-AUG-2018 15:04
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE
Sample Matrix: AIR
Processing Host: us32apptv003

Inst ID: msd17.i

Quant Type: ISTD

Cal File: 17082406.d

Calibration Sample, Level: 6

Compound Sublist: DBMiCAL.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

				AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane						CAS #:	74-97-5		
5.492	5.494	(1.000)	130	181686	25.0000		80.00-	120.00	100.00
5.492	5.494	(1.000)	128	139326			48.32-	108.32	76.69
5.492	5.493	(1.000)	49	156875			63.40-	123.40	86.34

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.380	6.380	(1.000)	114	416929	25.0000		80.00-	120.00	100.00
6.380	6.380	(1.000)	88	62422			0.00-	44.55	14.97

137 Dibromomethane						CAS #:	74-95-3		
6.925	6.925	(0.784)	174	320897	50.0000	44.643	0.00-	0.00	100.00
6.925	6.925	(0.784)	93	249413			0.00-	0.00	77.72
6.925	6.925	(0.784)	95	212199			0.00-	0.00	66.13

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	381075	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	181484			17.97-	77.97	47.62

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17082406.d
Lab Smp Id: ICAL Level 6
Analysis Type: VOA
Quant Type: ISTD
Operator: mjb
Method File: /chem/msd17.i/24aug18.b/178q0613d.m
Misc Info: 50ppbv (200ppbv)

Calibration Date: 24-AUG-2018
Calibration Time: 15:04
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	181686	109012	254360	181686	0.00
123 1,4-Difluorobenze	416929	250157	583701	416929	0.00
163 Chlorobenzene-d5	381075	228645	533505	381075	0.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.49	5.16	5.82	5.49	0.00
123 1,4-Difluorobenze	6.38	6.05	6.71	6.38	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.i/24aug18.b/17082406.d

Date : 24-AUG-2018 15:04

Client ID:

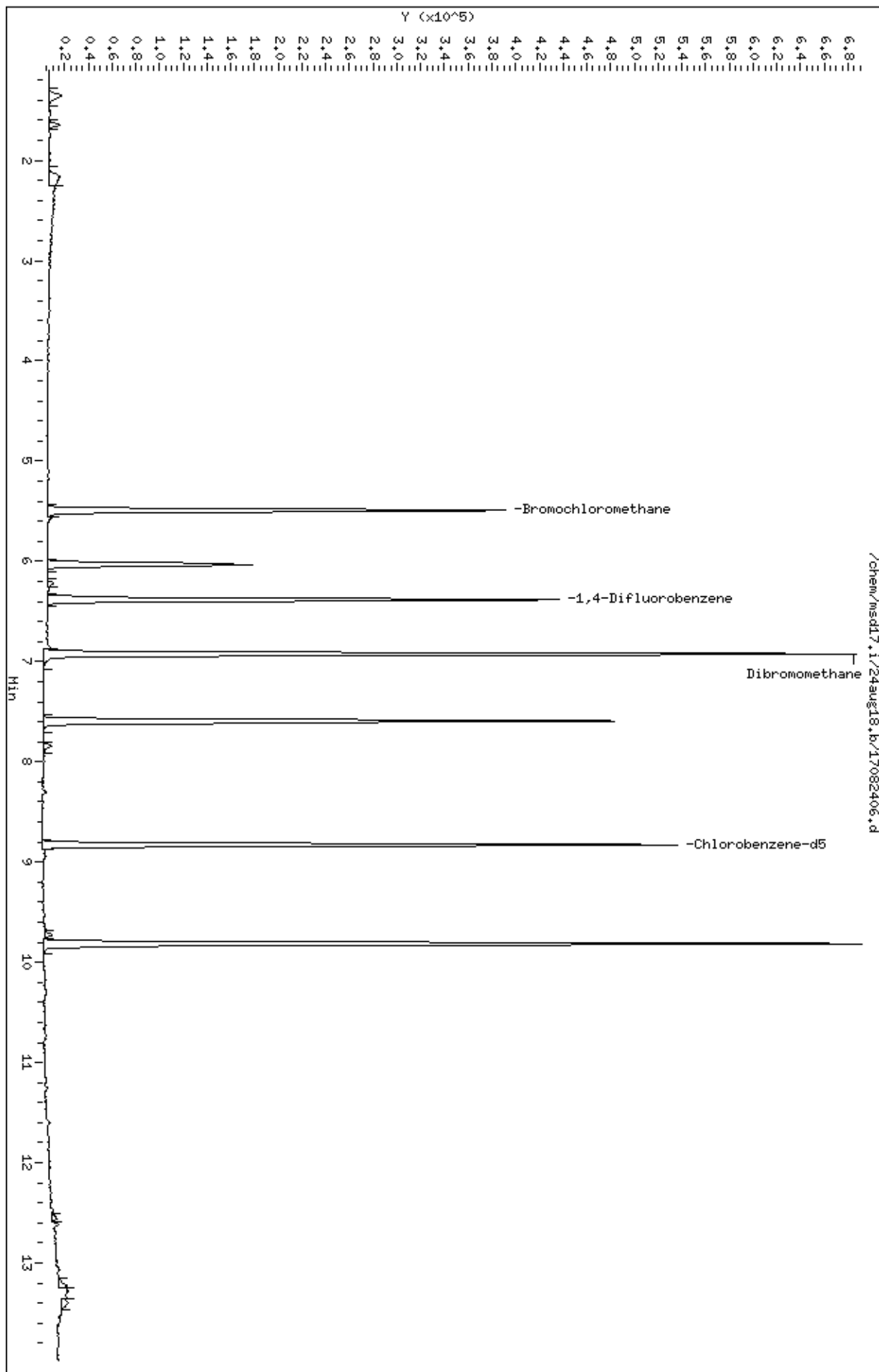
Sample Info: 50ml 3045-79

Column phase: RTX-624

Instrument: msd17.i

Operator: mjb

Column diameter: 0.25



US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/20aug18.b/17082013.d
Lab Smp Id: ICAL Leve #6
Inj Date : 20-AUG-2018 23:40
Operator : mjs
Smp Info : 50ml 3045-50
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/20aug18.b/178q0613c.m
Meth Date : 21-Aug-2018 09:16 ugdc
Cal Date : 20-AUG-2018 23:40
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP RTE
Sample Matrix: AIR
Processing Host: us32apptv003

Inst ID: msd17.i

Quant Type: ISTD

Cal File: 17082013.d

Calibration Sample, Level: 6

Compound Sublist: AT1crv.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

				AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane									
5.492	5.495	(1.000)	130	132219	25.0000	CAS #: 74-97-5	80.00-	120.00	100.00
5.492	5.496	(1.000)	128	103272			48.32-	108.32	78.11
5.492	5.494	(1.000)	49	113917			63.40-	123.40	86.16

* 123 1,4-Difluorobenzene									
6.380	6.380	(1.000)	114	456453	25.0000	CAS #: 540-36-3	80.00-	120.00	100.00
6.380	6.380	(1.000)	88	64747			0.00-	44.55	14.18

* 163 Chlorobenzene-d5									
8.830	8.830	(1.000)	117	403793	25.0000	CAS #: 3114-55-4	80.00-	120.00	100.00
8.830	8.830	(1.000)	82	194092			17.97-	77.97	48.07

7 Freon 134a									
1.474	1.474	(0.268)	83	135835	50.0000	CAS #: 811-97-2	0.00-	0.00	100.00
1.466	1.472	(0.267)	69	230952		52.954	0.00-	0.00	170.02
1.474	1.472	(0.268)	63	14897			0.00-	0.00	10.97

10 1,1-Difluoroethane									
1.524	1.528	(0.277)	65	71980	50.0000	CAS #: 75-37-6	0.00-	0.00	100.00

				AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
==	=====	=====	===	=====	=====	=====	=====	=====
10 1,1-Difluoroethane (continued)								
1.567	1.570	(0.285)	51	330374			0.00- 0.00	458.98
16 Freon 142b						CAS #:	75-68-3	
1.696	1.696	(0.309)	65	297611	50.0000	48.883	0.00- 0.00	100.00
1.696	1.696	(0.309)	45	60277			0.00- 0.00	20.25
37 Dichlorofluoromethane						CAS #:	75-43-4	
2.605	2.607	(0.474)	67	436428	50.0000	49.336	0.00- 0.00	100.00
2.605	2.605	(0.474)	69	144754			0.00- 0.00	33.17
47 Freon 123a						CAS #:	354-23-4	
3.071	3.077	(0.559)	117	360052	50.0000	48.979	0.00- 0.00	100.00
3.071	3.071	(0.559)	67	424225			0.00- 0.00	117.82
48 Freon 123						CAS #:	306-83-2	
3.171	3.171	(0.577)	83	534788	50.0000	49.102	0.00- 0.00	100.00
3.171	3.176	(0.577)	133	117591			0.00- 0.00	21.99
3.171	3.173	(0.577)	85	357393			0.00- 0.00	66.83
59 Cyclopentene						CAS #:	142-29-0	
3.751	3.752	(0.683)	67	421292	50.0000	49.808	0.00- 0.00	100.00
3.751	3.752	(0.683)	68	163969			0.00- 0.00	38.92
3.751	3.752	(0.683)	53	73170			0.00- 0.00	17.37
84 1-Propanol						CAS #:	71-23-8	
4.819	4.823	(0.877)	42	32001	50.0000	47.936	0.00- 0.00	100.00
4.819	4.823	(0.877)	59	46196			0.00- 0.00	144.36
4.819	4.823	(0.877)	41	21673			0.00- 0.00	67.73
90 2,2-Dichloropropane						CAS #:	594-20-7	
5.220	5.220	(0.950)	77	494808	50.0000	49.155	0.00- 0.00	100.00
5.220	5.220	(0.950)	79	161045			0.00- 0.00	32.55
5.220	5.220	(0.950)	97	108262			0.00- 0.00	21.88
107 1,1-Dichloropropene						CAS #:	563-58-6	
5.822	5.827	(0.912)	110	162079	50.0000	48.770	0.00- 0.00	100.00
5.822	5.823	(0.912)	75	395459			0.00- 0.00	243.99
115 Isobutanol						CAS #:	78-83-1	
5.979	5.984	(1.089)	39	45113	50.0000	48.198	0.00- 0.00	100.00
5.979	5.985	(1.089)	41	116369			0.00- 0.00	257.95
5.979	5.985	(1.089)	43	157344			0.00- 0.00	348.78
124 n-Butanol						CAS #:	71-36-3	
6.552	6.555	(1.027)	56	155329	50.0000	51.802	0.00- 0.00	100.00

AMOUNTS									
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
124 n-Butanol (continued)									
6.552	6.554	(1.027)	41	99604			0.00-	0.00	64.12
6.552	6.555	(1.027)	43	76950			0.00-	0.00	49.54

157 1,3-Dichloropropane						CAS #:	142-28-9		
8.200	8.200	(1.285)	76	451679	50.0000	49.132	0.00-	0.00	100.00
8.193	8.197	(1.284)	41	228644			0.00-	0.00	50.62
8.200	8.200	(1.285)	78	148715			0.00-	0.00	32.92

159 Butyl Acetate						CAS #:	123-86-4		
8.271	8.271	(1.296)	56	246379	50.0000	51.266	0.00-	0.00	100.00
8.271	8.271	(1.296)	73	121926			0.00-	0.00	49.49
8.271	8.271	(1.296)	43	556184			0.00-	0.00	225.74

168 1,1,1,2-Tetrachloroethane						CAS #:	630-20-6		
8.923	8.923	(1.011)	131	493309	50.0000	50.539	0.00-	0.00	100.00
8.923	8.923	(1.011)	117	337644			0.00-	0.00	68.44
8.923	8.923	(1.011)	95	173225			0.00-	0.00	35.11

173 2-Heptanone						CAS #:	110-43-0		
9.432	9.432	(1.717)	58	315014	50.0000	52.337	0.00-	0.00	100.00
9.432	9.432	(1.717)	43	459537			0.00-	0.00	145.88

176 Cyclohexanone						CAS #:	108-94-1		
9.797	9.797	(1.109)	55	217802	50.0000	47.552	0.00-	0.00	100.00
9.797	9.799	(1.109)	98	129595			0.00-	0.00	59.50
9.797	9.797	(1.109)	42	147925			0.00-	0.00	67.92

180 Bromobenzene						CAS #:	108-86-1		
9.947	9.952	(1.127)	156	554916	50.0000	51.102	0.00-	0.00	100.00
9.947	9.952	(1.127)	158	536679			0.00-	0.00	96.71
9.947	9.948	(1.127)	77	650316			0.00-	0.00	117.19

185 1,2,3-Trichloropropane						CAS #:	96-18-4		
10.005	10.005	(1.133)	110	212001	50.0000	50.264	0.00-	0.00	100.00
10.005	10.005	(1.133)	75	498937			0.00-	0.00	235.35
10.005	10.005	(1.133)	61	121762			0.00-	0.00	57.43

189 2-Chlorotoluene						CAS #:	95-49-8		
10.091	10.091	(1.143)	126	378633	50.0000	50.966	0.00-	0.00	100.00
10.091	10.091	(1.143)	91	955986			0.00-	0.00	252.48
10.091	10.091	(1.143)	65	81306			0.00-	0.00	21.47

191 4-Chlorotoluene						CAS #:	106-43-4		
10.184	10.187	(1.153)	126	391606	50.0000	51.210	0.00-	0.00	100.00
10.184	10.184	(1.153)	91	987274			0.00-	0.00	252.11

				AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
==	=====	=====	===	=====	=====	=====	=====	=====
191 4-Chlorotoluene (continued)								
10.184	10.184	(1.153)	63	123977			0.00- 0.00	31.66
						CAS #:	108-83-8	
10.213	10.213	(1.157)	57	608027	50.0000	52.931	0.00- 0.00	100.00
10.213	10.213	(1.157)	85	641369			0.00- 0.00	105.48
						CAS #:	98-06-6	
10.392	10.392	(1.177)	119	1082968	50.0000	51.679	0.00- 0.00	100.00
10.392	10.392	(1.177)	134	283024			0.00- 0.00	26.13
10.384	10.390	(1.176)	91	670807			0.00- 0.00	61.94
						CAS #:	76-01-7	
10.463	10.466	(1.185)	167	420629	50.0000	51.502	0.00- 0.00	100.00
10.463	10.463	(1.185)	117	359875			0.00- 0.00	85.56
10.463	10.466	(1.185)	169	203269			0.00- 0.00	48.33
						CAS #:	135-98-8	
10.571	10.575	(1.197)	134	343577	50.0000	51.981	0.00- 0.00	100.00
10.571	10.575	(1.197)	105	1541439			0.00- 0.00	448.64
10.571	10.575	(1.197)	91	226127			0.00- 0.00	65.82
						CAS #:	99-87-6	
10.685	10.685	(1.210)	119	1359444	50.0000	51.941	0.00- 0.00	100.00
10.685	10.685	(1.210)	134	381781			0.00- 0.00	28.08
10.685	10.685	(1.210)	91	297507			0.00- 0.00	21.88
						CAS #:	526-73-8	
10.814	10.814	(1.225)	120	520334	50.0000	50.822	0.00- 0.00	100.00
10.814	10.814	(1.225)	105	1165430			0.00- 0.00	223.98
10.814	10.814	(1.225)	77	129390			0.00- 0.00	24.87
						CAS #:	104-51-8	
11.036	11.036	(1.250)	134	346265	50.0000	50.578	0.00- 0.00	100.00
11.036	11.036	(1.250)	91	1137547			0.00- 0.00	328.52
11.036	11.036	(1.250)	92	593090			0.00- 0.00	171.28
						CAS #:	96-12-8	
11.817	11.821	(1.338)	157	324372	50.0000	49.886	0.00- 0.00	100.00
11.817	11.820	(1.338)	75	216033			0.00- 0.00	66.60
11.817	11.821	(1.338)	155	251028			0.00- 0.00	77.39

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17082013.d
Lab Smp Id: ICAL Leve #6
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd17.i/20aug18.b/178q0613c.m
Misc Info: 50ppbv (200ppbv)

Calibration Date: 20-AUG-2018
Calibration Time: 23:40

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	132219	79331	185107	132219	0.00
123 1,4-Difluorobenze	456453	273872	639034	456453	0.00
163 Chlorobenzene-d5	403793	242276	565310	403793	0.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.49	5.16	5.82	5.49	0.00
123 1,4-Difluorobenze	6.38	6.05	6.71	6.38	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.i/20aug18.b/17082013.d

Date : 20-AUG-2018 23:40

Client ID:

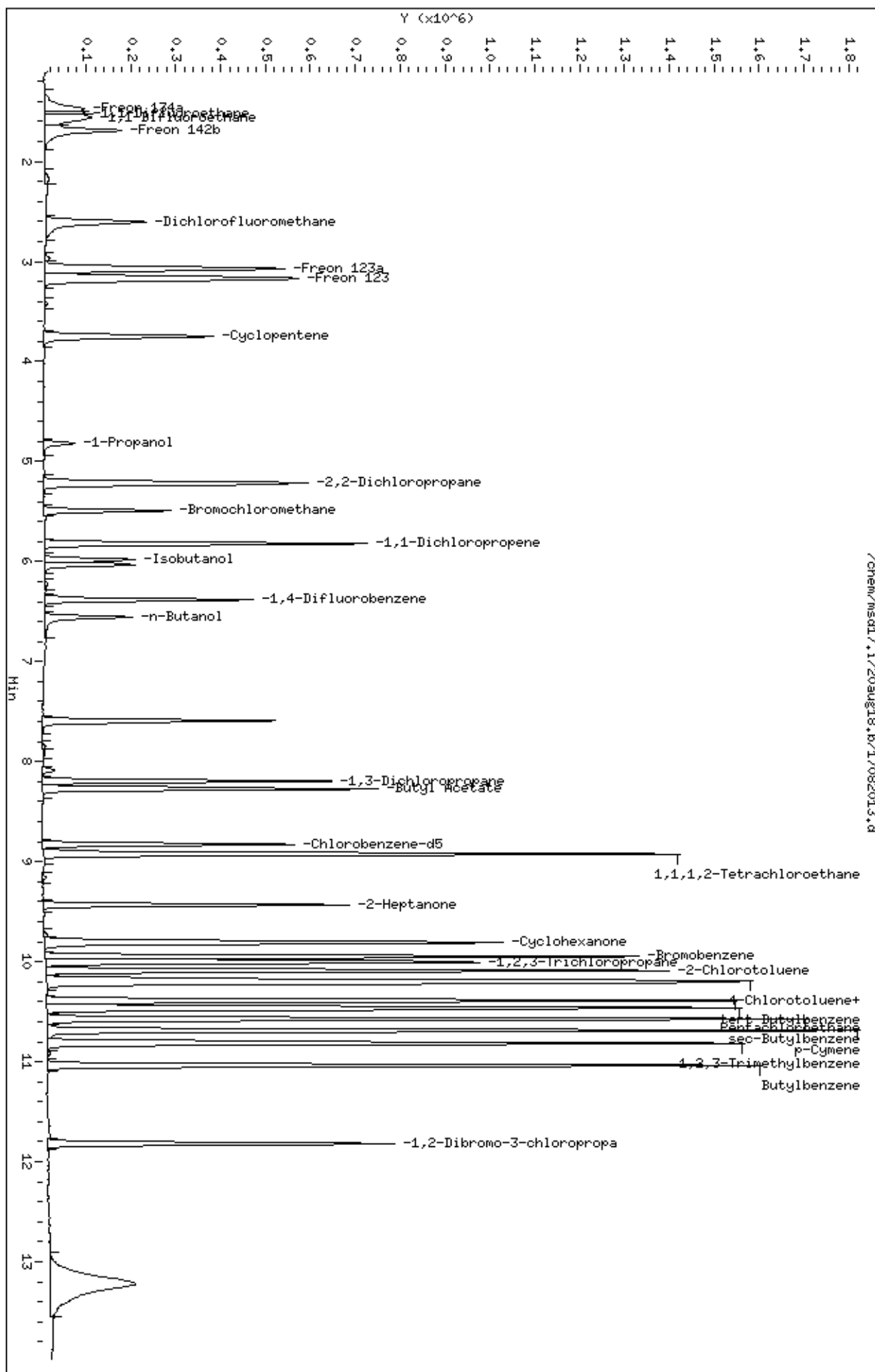
Sample Info: 50ml 3045-50

Column phase: RTX-624

Instrument: msd17.i

Operator: mjs

Column diameter: 0.25



US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/23jul18.b/17072306.d
Lab Smp Id: I Cal level #6
Inj Date : 23-JUL-2018 12:23
Operator : gh Inst ID: msd17.i
Smp Info : 50ml 3045-59
Misc Info : 50ppbv(200ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/23jul18.b/178q0613b.m
Meth Date : 25-Jul-2018 10:55 uexa Quant Type: ISTD
Cal Date : 23-JUL-2018 12:23 Cal File: 17072306.d
Als bottle: 2 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 123TCB.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane						CAS #:	74-97-5		
5.499	5.498	(1.000)	130	139912	25.0000		80.00-	120.00	100.00
5.499	5.498	(1.000)	128	107900			48.32-	108.32	77.12
5.492	5.496	(1.000)	49	114500			63.40-	123.40	81.84

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.387	6.385	(1.000)	114	476704	25.0000		80.00-	120.00	100.00
6.380	6.383	(1.000)	88	68542			0.00-	44.55	14.38

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	440151	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	204825			17.97-	77.97	46.54

229 1,2,3-Trichlorobenzene						CAS #:	87-61-6		
13.063	13.071	(1.479)	180	1058802	50.0000	47.338	0.00-	0.00	100.00
13.063	13.071	(1.479)	182	1007575			0.00-	0.00	95.16
13.063	13.071	(1.479)	145	292464			0.00-	0.00	27.62

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17072306.d
Lab Smp Id: I Cal level #6
Analysis Type: VOA
Quant Type: ISTD
Operator: gh
Method File: /chem/msd17.i/23jul18.b/178q0613b.m
Misc Info: 50ppbv(200ppbv)

Calibration Date: 23-JUL-2018
Calibration Time: 12:23

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	139912	83947	195877	139912	0.00
123 1,4-Difluorobenze	476704	286022	667386	476704	0.00
163 Chlorobenzene-d5	440151	264091	616211	440151	0.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.50	5.17	5.83	5.50	0.00
123 1,4-Difluorobenze	6.39	6.06	6.72	6.39	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.1/23jul18.b/17072306.d

Date : 23-JUL-2018 12:23

Client ID:

Sample Info: 50ml 3045-59

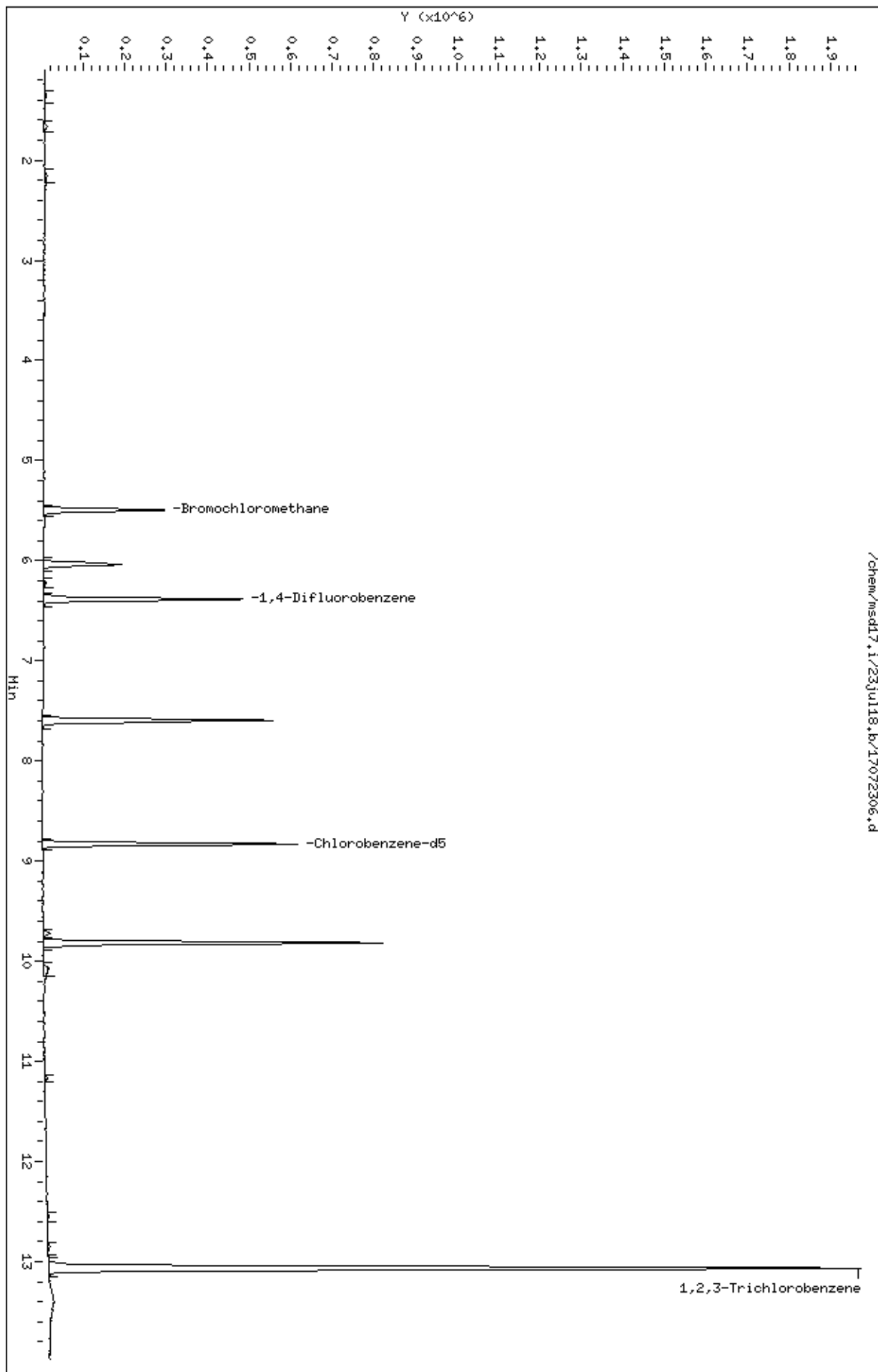
Column phase: RTX-624

Instrument: msd17.1

Operator: gln

Column diameter: 0.25

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Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/13jun18.b/17061306.d
Lab Smp Id: ICAL Level #6
Inj Date : 14-JUN-2018 00:02
Operator : gh Inst ID: msd17.i
Smp Info : 50ml 3018-273
Misc Info : 50ppbv(200ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/13jun18.b/178q0613a.m
Meth Date : 15-Jun-2018 09:13 gdelacru Quant Type: ISTD
Cal Date : 14-JUN-2018 00:02 Cal File: 17061306.d
Als bottle: 13 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12curve.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane						CAS #:	74-97-5		
5.499	5.498	(1.000)	130	162788	25.0000		80.00-	120.00	100.00
5.499	5.498	(1.000)	128	127493			48.32-	108.32	78.32
5.492	5.496	(1.000)	49	152046			63.40-	123.40	93.40

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.380	6.384	(1.000)	114	570167	25.0000		80.00-	120.00	100.00
6.380	6.382	(1.000)	88	82934			0.00-	44.55	14.55

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	520088	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	249495			17.97-	77.97	47.97

\$ 117 1,2-Dichloroethane-d4						CAS #:	17060-07-0		
6.036	6.035	(1.098)	65	188913	25.0000	25.557	80.00-	120.00	100.00
6.036	6.035	(1.098)	67	101374			23.66-	83.66	53.66

\$ 146 Toluene-d8						CAS #:	2037-26-5		
7.598	7.598	(1.191)	98	558123	25.0000	25.134	80.00-	120.00	100.00
7.598	7.598	(1.191)	70	55894			0.00-	40.01	10.01

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
\$ 146	Toluene-d8 (continued)							
7.598	7.598 (1.191)	100	365200				35.43- 95.43	65.43
\$ 177	4-Bromofluorobenzene					CAS #: 460-00-4		
9.818	9.819 (1.112)	174	402659	25.0000	24.517	80.00- 120.00	100.00	
9.818	9.819 (1.112)	95	360026			59.41- 119.41	89.41	
9.818	9.819 (1.112)	176	395928			68.33- 128.33	98.33	
9	Propylene					CAS #: 115-07-1		
1.502	1.500 (0.273)	41	170875	50.0000	49.937	80.00- 120.00	100.00	
1.502	1.501 (0.273)	42	112992			36.13- 96.13	66.13	
1.502	1.501 (0.273)	39	130778			46.53- 106.53	76.53	
11	Freon 12					CAS #: 75-71-8		
1.531	1.532 (0.278)	85	745513	50.0000	51.569	80.00- 120.00	100.00	
1.531	1.534 (0.278)	87	241425			2.38- 62.38	32.38	
15	Freon 114					CAS #: 76-14-2		
1.653	1.653 (0.301)	135	621083	50.0000	50.899	80.00- 120.00	100.00	
1.653	1.652 (0.301)	137	200510			2.28- 62.28	32.28	
17	Chloromethane					CAS #: 74-87-3		
1.753	1.751 (0.319)	50	200025	50.0000	53.400	80.00- 120.00	100.00	
1.753	1.749 (0.319)	52	70440			5.22- 65.22	35.22	
23	Butane					CAS #: 106-97-8		
1.810	1.814 (0.329)	58	49727	50.0000	45.529	80.00- 120.00	100.00	
1.810	1.813 (0.329)	43	331739			637.12- 697.12	667.12	
25	Vinyl Chloride					CAS #: 75-01-4		
1.846	1.849 (0.336)	62	263407	50.0000	48.981	80.00- 120.00	100.00	
1.846	1.849 (0.336)	64	84059			1.91- 61.91	31.91	
26	1,3-Butadiene					CAS #: 106-99-0		
1.875	1.875 (0.341)	54	184783	50.0000	50.326	80.00- 120.00	100.00	
1.875	1.873 (0.341)	39	189290			72.44- 132.44	102.44	
29	Bromomethane					CAS #: 74-83-9		
2.226	2.229 (0.405)	94	278116	50.0000	50.856	80.00- 120.00	100.00	
2.226	2.231 (0.405)	96	265290			65.39- 125.39	95.39	
30	Chloroethane					CAS #: 75-00-3		
2.340	2.343 (0.426)	64	139818	50.0000	50.991	80.00- 120.00	100.00	
2.340	2.345 (0.426)	66	46488			3.25- 63.25	33.25	
2.340	2.343 (0.426)	49	37982			0.00- 57.17	27.17	

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
31 Isopentane							CAS #:	78-78-4	
2.362	2.358	(0.429)	43	268810	50.0000	50.161	80.00-	120.00	100.00
2.362	2.361	(0.429)	57	202158			45.20-	105.20	75.20
35 Freon 11							CAS #:	75-69-4	
2.591	2.591	(0.471)	101	862669	50.0000	50.875	80.00-	120.00	100.00
2.591	2.591	(0.471)	103	554526			34.28-	94.28	64.28
42 Ethanol							CAS #:	64-17-5	
2.935	2.942	(0.534)	45	93250	50.0000	50.218	80.00-	120.00	100.00
2.935	2.942	(0.534)	46	36522			9.17-	69.17	39.17
49 Freon 113							CAS #:	76-13-1	
3.228	3.231	(0.587)	151	661313	50.0000	50.227	80.00-	120.00	100.00
3.228	3.233	(0.587)	153	423329			34.01-	94.01	64.01
3.228	3.229	(0.587)	101	736559			81.38-	141.38	111.38
50 1,1-Dichloroethene							CAS #:	75-35-4	
3.264	3.265	(0.594)	98	205084	50.0000	50.251	80.00-	120.00	100.00
3.264	3.263	(0.594)	96	317139			124.64-	184.64	154.64
3.264	3.264	(0.594)	61	473627			200.94-	260.94	230.94
52 Acetone							CAS #:	67-64-1	
3.422	3.427	(0.622)	58	120392	50.0000	45.884	80.00-	120.00	100.00
3.422	3.427	(0.622)	43	385543			290.24-	350.24	320.24
56 Carbon Disulfide							CAS #:	75-15-0	
3.501	3.501	(0.637)	76	841587	50.0000	49.554	80.00-	120.00	100.00
57 2-Propanol							CAS #:	67-63-0	
3.601	3.605	(0.655)	45	419908	50.0000	49.712	80.00-	120.00	100.00
3.601	3.603	(0.655)	43	90916			0.00-	51.65	21.65
3.601	3.605	(0.655)	59	18731			0.00-	34.46	4.46
58 3-Chloropropene							CAS #:	107-05-1	
3.744	3.745	(0.681)	76	138640	50.0000	50.244	80.00-	120.00	100.00
3.744	3.744	(0.681)	41	300936			187.06-	247.06	217.06
66 Methylene Chloride							CAS #:	75-09-2	
3.938	3.938	(0.716)	49	300342	50.0000	50.084	80.00-	120.00	100.00
3.938	3.938	(0.716)	84	270480			60.06-	120.06	90.06
3.938	3.938	(0.716)	51	90778			0.22-	60.22	30.22
71 tert-Butyl alcohol							CAS #:	75-65-0	
4.059	4.061	(0.738)	59	619767	50.0000	49.964	80.00-	120.00	100.00
4.059	4.059	(0.738)	41	121128			0.00-	49.54	19.54

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
71	tert-Butyl alcohol (continued)							
4.059	4.061 (0.738)		57	65784			0.00- 40.61	10.61
72	Methyl tert-butyl ether					CAS #: 1634-04-4		
4.145	4.147 (0.754)		73	878428	50.0000	49.948	80.00- 120.00	100.00
4.145	4.145 (0.754)		57	181057			0.00- 50.61	20.61
4.145	4.145 (0.754)		41	166874			0.00- 49.00	19.00
73	trans-1,2-Dichloroethene					CAS #: 156-60-5		
4.174	4.175 (0.759)		98	192619	50.0000	48.002	80.00- 120.00	100.00
4.174	4.174 (0.759)		61	384419			169.57- 229.57	199.57
4.174	4.174 (0.759)		96	302412			127.00- 187.00	157.00
78	Hexane					CAS #: 110-54-3		
4.382	4.382 (0.797)		57	415019	50.0000	48.419	80.00- 120.00	100.00
4.382	4.382 (0.797)		43	241733			28.25- 88.25	58.25
4.382	4.382 (0.797)		86	78776			0.00- 48.98	18.98
82	1,1-Dichloroethane					CAS #: 75-34-3		
4.675	4.676 (0.850)		63	510256	50.0000	49.438	80.00- 120.00	100.00
4.675	4.676 (0.850)		65	164805			2.30- 62.30	32.30
83	Isopropyl ether					CAS #: 108-20-3		
4.654	4.656 (0.846)		45	900064	50.0000	50.655	80.00- 120.00	100.00
4.654	4.658 (0.846)		87	307412			4.15- 64.15	34.15
4.654	4.658 (0.846)		59	113468			0.00- 42.61	12.61
86	Vinyl Acetate					CAS #: 108-05-4		
4.718	4.718 (0.858)		86	84097	50.0000	49.901	80.00- 120.00	100.00
4.711	4.715 (0.857)		43	751565			863.69- 923.69	893.69
88	Ethyl-tert-butyl ether					CAS #: 637-92-3		
5.019	5.019 (0.913)		59	965399	50.0000	50.277	80.00- 120.00	100.00
5.019	5.019 (0.913)		87	447360			16.34- 76.34	46.34
5.019	5.019 (0.913)		41	167091			0.00- 47.31	17.31
91	cis-1,2-Dichloroethene					CAS #: 156-59-2		
5.263	5.263 (0.957)		98	233215	50.0000	48.266	80.00- 120.00	100.00
5.263	5.263 (0.957)		96	356734			122.96- 182.96	152.96
5.263	5.263 (0.957)		61	413289			147.21- 207.21	177.21
92	2-Butanone					CAS #: 78-93-3		
5.284	5.289 (0.961)		72	147069	50.0000	50.089	80.00- 120.00	100.00
5.284	5.287 (0.961)		43	493033			305.24- 365.24	335.24
5.284	5.287 (0.961)		57	43630			0.00- 59.67	29.67

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
99 Tetrahydrofuran						CAS #:	109-99-9		
5.492	5.492	(0.999)	42	267319	50.0000	48.165	80.00-	120.00	100.00
5.492	5.494	(0.999)	71	130970			18.99-	78.99	48.99
5.492	5.493	(0.999)	72	135742			20.78-	80.78	50.78
100 Chloroform						CAS #:	67-66-3		
5.556	5.558	(1.010)	83	647210	50.0000	51.224	80.00-	120.00	100.00
5.556	5.559	(1.010)	85	420707			35.00-	95.00	65.00
102 Cyclohexane						CAS #:	110-82-7		
5.657	5.657	(1.029)	84	425751	50.0000	50.048	80.00-	120.00	100.00
5.657	5.656	(1.029)	56	427054			70.31-	130.31	100.31
5.657	5.656	(1.029)	41	235238			25.25-	85.25	55.25
103 1,1,1-Trichloroethane						CAS #:	71-55-6		
5.678	5.677	(1.033)	97	705357	50.0000	50.083	80.00-	120.00	100.00
5.678	5.677	(1.033)	99	457350			34.84-	94.84	64.84
106 Carbon Tetrachloride						CAS #:	56-23-5		
5.793	5.793	(1.053)	119	756801	50.0000	49.332	80.00-	120.00	100.00
5.793	5.793	(1.053)	117	783520			73.53-	133.53	103.53
113 2,2,4-Trimethylpentane						CAS #:	540-84-1		
5.986	5.984	(1.089)	57	1286285	50.0000	50.800	80.00-	120.00	100.00
5.986	5.984	(1.089)	56	419148			2.59-	62.59	32.59
5.979	5.982	(1.087)	41	328898			0.00-	55.57	25.57
116 Benzene						CAS #:	71-43-2		
6.008	6.008	(0.942)	78	916434	50.0000	50.688	80.00-	120.00	100.00
6.008	6.008	(0.942)	77	219026			0.00-	53.90	23.90
119 tert-Amyl methyl ether						CAS #:	994-05-8		
6.072	6.072	(1.104)	87	245352	50.0000	50.667	80.00-	120.00	100.00
6.072	6.075	(1.104)	73	961337			361.82-	421.82	391.82
6.072	6.072	(1.104)	55	216667			58.31-	118.31	88.31
120 1,2-Dichloroethane						CAS #:	107-06-2		
6.101	6.101	(0.956)	62	410015	50.0000	50.666	80.00-	120.00	100.00
6.101	6.101	(0.956)	64	135612			3.07-	63.07	33.07
121 Heptane						CAS #:	142-82-5		
6.151	6.151	(0.964)	71	316523	50.0000	50.043	80.00-	120.00	100.00
6.151	6.151	(0.964)	43	445001			110.59-	170.59	140.59
6.151	6.150	(0.964)	57	298328			64.25-	124.25	94.25
125 Trichloroethene						CAS #:	79-01-6		
6.581	6.581	(1.031)	95	442854	50.0000	51.167	80.00-	120.00	100.00

RT ==	EXP RT =====	(REL RT) =====	MASS ====	RESPONSE =====	AMOUNTS		TARGET RANGE =====	RATIO =====
					CAL-AMT (PPBV)	ON-COL (PPBV)		
125 Trichloroethene (continued)								
6.581	6.581	(1.031)	130	494912			81.76- 141.76	111.76
6.581	6.581	(1.031)	97	286259			34.64- 94.64	64.64

127 Methylcyclohexane						CAS #:	108-87-2	
6.674	6.674	(1.214)	83	579072	50.0000	49.980	80.00- 120.00	100.00
6.674	6.674	(1.214)	98	281319			18.58- 78.58	48.58
6.674	6.674	(1.214)	55	389583			37.28- 97.28	67.28

132 1,2-Dichloropropane						CAS #:	78-87-5	
6.817	6.817	(1.068)	63	310312	50.0000	48.485	80.00- 120.00	100.00
6.817	6.817	(1.068)	62	213452			38.79- 98.79	68.79
6.817	6.817	(1.068)	41	167162			23.87- 83.87	53.87

136 1,4-Dioxane						CAS #:	123-91-1	
6.903	6.906	(1.082)	88	230527	50.0000	50.440	80.00- 120.00	100.00
6.903	6.904	(1.082)	58	134527			28.36- 88.36	58.36
6.903	6.903	(1.082)	57	44659			0.00- 49.37	19.37

138 Bromodichloromethane						CAS #:	75-27-4	
7.046	7.046	(1.104)	83	685531	50.0000	50.818	80.00- 120.00	100.00
7.046	7.046	(1.104)	85	439472			34.11- 94.11	64.11

144 cis-1,3-Dichloropropene						CAS #:	10061-01-5	
7.419	7.419	(1.163)	75	539191	50.0000	50.954	80.00- 120.00	100.00
7.419	7.419	(1.163)	77	174326			2.33- 62.33	32.33
7.419	7.419	(1.163)	39	251273			16.60- 76.60	46.60

145 4-Methyl-2-pentanone						CAS #:	108-10-1	
7.526	7.526	(1.180)	58	248278	50.0000	47.687	80.00- 120.00	100.00
7.526	7.526	(1.180)	43	607852			214.83- 274.83	244.83
7.526	7.526	(1.180)	85	131714			23.05- 83.05	53.05

147 Toluene						CAS #:	108-88-3	
7.655	7.655	(1.200)	91	1176696	50.0000	50.121	80.00- 120.00	100.00
7.655	7.655	(1.200)	92	680154			27.80- 87.80	57.80

150 trans-1,3-Dichloropropene						CAS #:	10061-02-6	
7.899	7.899	(0.895)	75	513050	50.0000	50.466	80.00- 120.00	100.00
7.899	7.899	(0.895)	77	163011			1.77- 61.77	31.77
7.899	7.899	(0.895)	39	230699			14.97- 74.97	44.97

155 1,1,2-Trichloroethane						CAS #:	79-00-5	
8.056	8.056	(0.912)	97	400823	50.0000	49.475	80.00- 120.00	100.00
8.056	8.056	(0.912)	99	251369			32.71- 92.71	62.71
8.056	8.056	(0.912)	83	342833			55.53- 115.53	85.53

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
156						CAS #:	127-18-4	
8.092	8.092	(0.916)	166	735223	50.0000	50.225	80.00- 120.00	100.00
8.092	8.092	(0.916)	129	486310			36.14- 96.14	66.14
8.092	8.092	(0.916)	131	475601			34.69- 94.69	64.69
158						CAS #:	591-78-6	
8.214	8.214	(0.930)	58	334800	50.0000	50.920	80.00- 120.00	100.00
8.214	8.214	(0.930)	43	592040			146.83- 206.83	176.83
8.214	8.215	(0.930)	100	85439			0.00- 55.52	25.52
160						CAS #:	124-48-1	
8.364	8.367	(0.947)	129	849057	50.0000	50.531	80.00- 120.00	100.00
8.364	8.367	(0.947)	127	654209			47.05- 107.05	77.05
161						CAS #:	106-93-4	
8.479	8.479	(0.960)	107	681941	50.0000	49.216	80.00- 120.00	100.00
8.479	8.479	(0.960)	109	651345			65.51- 125.51	95.51
165						CAS #:	108-90-7	
8.859	8.859	(1.003)	112	1009618	50.0000	49.240	80.00- 120.00	100.00
8.859	8.859	(1.003)	114	324498			2.14- 62.14	32.14
8.851	8.852	(1.002)	77	539348			23.42- 83.42	53.42
167						CAS #:	100-41-4	
8.902	8.902	(1.008)	106	517095	50.0000	50.185	80.00- 120.00	100.00
8.902	8.902	(1.008)	91	1543622			268.52- 328.52	298.52
169						CAS #:	108-38-3	
8.995	8.997	(1.019)	106	631183	50.0000	49.266	80.00- 120.00	100.00
8.995	8.996	(1.019)	91	1210283			161.75- 221.75	191.75
171						CAS #:	95-47-6	
9.339	9.339	(1.058)	106	596843	50.0000	49.165	80.00- 120.00	100.00
9.339	9.339	(1.058)	91	1199543			170.98- 230.98	200.98
172						CAS #:	100-42-5	
9.360	9.360	(1.060)	104	990065	50.0000	51.435	80.00- 120.00	100.00
9.360	9.360	(1.060)	78	456377			16.10- 76.10	46.10
174						CAS #:	75-25-2	
9.568	9.568	(1.084)	173	980561	50.0000	50.792	80.00- 120.00	100.00
9.568	9.568	(1.084)	171	503215			21.32- 81.32	51.32
175						CAS #:	98-82-8	
9.625	9.625	(1.090)	105	1832989	50.0000	49.820	80.00- 120.00	100.00
9.625	9.626	(1.090)	120	523479			0.00- 58.56	28.56

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
				CAL-AMT (PPBV)	ON-COL (PPBV)		
175	Cumene (continued)						
9.625	9.625 (1.090)	51	139439			0.00- 37.61	7.61
181	1,1,2,2-Tetrachloroethane				CAS #: 79-34-5		
9.947	9.948 (1.127)	83	855348	50.0000	49.368	80.00- 120.00	100.00
9.947	9.948 (1.127)	85	556264			35.03- 95.03	65.03
182	Propylbenzene				CAS #: 103-65-1		
9.969	9.974 (1.129)	91	2057365	50.0000	49.484	80.00- 120.00	100.00
9.976	9.976 (1.130)	120	539593			0.00- 56.23	26.23
9.976	9.976 (1.130)	105	78257			0.00- 33.80	3.80
188	4-Ethyltoluene				CAS #: 622-96-8		
10.069	10.069 (1.140)	120	593504	50.0000	50.965	80.00- 120.00	100.00
10.069	10.069 (1.140)	105	1812679			275.42- 335.42	305.42
190	1,3,5-Trimethylbenzene				CAS #: 108-67-8		
10.119	10.119 (1.146)	120	818308	50.0000	50.583	80.00- 120.00	100.00
10.119	10.119 (1.146)	105	1598286			165.32- 225.32	195.32
196	1,2,4-Trimethylbenzene				CAS #: 95-63-6		
10.442	10.444 (1.183)	120	732418	50.0000	50.665	80.00- 120.00	100.00
10.442	10.443 (1.183)	105	1512278			176.48- 236.48	206.48
208	1,3-Dichlorobenzene				CAS #: 541-73-1		
10.735	10.735 (1.216)	146	1227693	50.0000	50.008	80.00- 120.00	100.00
10.735	10.735 (1.216)	148	797147			34.93- 94.93	64.93
10.735	10.735 (1.216)	111	431340			5.13- 65.13	35.13
209	1,4-Dichlorobenzene				CAS #: 106-46-7		
10.821	10.820 (1.226)	146	1250137	50.0000	49.841	80.00- 120.00	100.00
10.821	10.821 (1.226)	148	801467			34.11- 94.11	64.11
10.814	10.817 (1.225)	111	425089			4.00- 64.00	34.00
212	alpha-Chlorotoluene				CAS #: 100-44-7		
10.936	10.936 (1.238)	91	1352470	50.0000	51.996	80.00- 120.00	100.00
10.936	10.936 (1.238)	126	339861			0.00- 55.13	25.13
214	1,2-Dichlorobenzene				CAS #: 95-50-1		
11.144	11.148 (1.262)	146	1175898	50.0000	49.834	80.00- 120.00	100.00
11.144	11.149 (1.262)	148	754518			34.17- 94.17	64.17
11.144	11.146 (1.262)	111	429195			6.50- 66.50	36.50
226	1,2,4-Trichlorobenzene				CAS #: 120-82-1		
12.540	12.541 (1.420)	180	1351616	50.0000	50.365	80.00- 120.00	100.00
12.540	12.541 (1.420)	182	1289965			65.44- 125.44	95.44

AMOUNTS									
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
227 Hexachlorobutadiene						CAS #:	87-68-3		
12.619	12.620	(1.429)	225	1198663	50.0000	49.967	80.00-	120.00	100.00
12.619	12.620	(1.429)	223	754359			32.93-	92.93	62.93

228 Naphthalene						CAS #:	91-20-3		
12.805	12.806	(1.450)	128	246176	5.00000	5.330	80.00-	120.00	100.00
12.805	12.806	(1.450)	127	33449			0.00-	43.59	13.59

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17061306.d
Lab Smp Id: ICAL Level #6
Analysis Type: VOA
Quant Type: ISTD
Operator: gh
Method File: /chem/msd17.i/13jun18.b/178q0613a.m
Misc Info: 50ppbv(200ppbv)

Calibration Date: 14-JUN-2018
Calibration Time: 00:02

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	162788	97673	227903	162788	0.00
123 1,4-Difluorobenze	570167	342100	798234	570167	0.00
163 Chlorobenzene-d5	520088	312053	728123	520088	0.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.50	5.17	5.83	5.50	0.00
123 1,4-Difluorobenze	6.38	6.05	6.71	6.38	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name: Client SDG: 13jun18
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: ICAL Level #6
Level: LOW Operator: gh
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AT12.sub
Method File: /chem/msd17.i/13jun18.b/178q0613a.m
Misc Info: 50ppbv(200ppbv)

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
\$ 117 1,2-Dichloroethane	25.000	0.000	0.00*	70-130
\$ 146 Toluene-d8	25.000	0.000	0.00*	70-130
\$ 177 4-Bromofluorobenze	25.000	0.000	0.00*	70-130

Data File: /chem/msd17.1/13jun18.b/17061306.d

Date : 14-JUN-2018 00:02

Client ID:

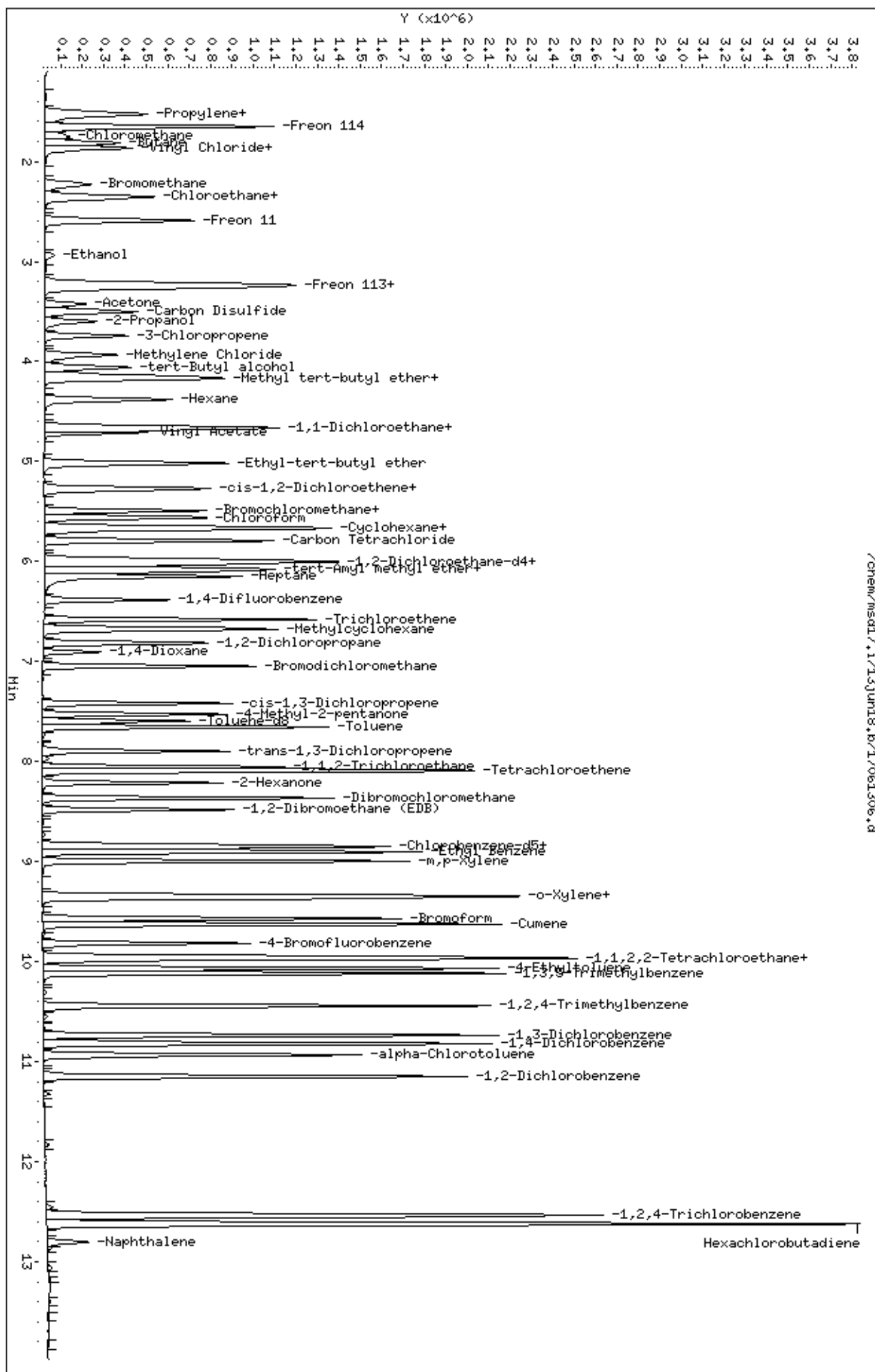
Sample Info: 50ml 3018-273

Column phase: RTX-624

Instrument: msd17.1

Operator: gh

Column diameter: 0.25



US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/20aug18.b/17082014.d
Lab Smp Id: ICAL Leve #7
Inj Date : 21-AUG-2018 00:06
Operator : mjs
Smp Info : 100ml 3045-50
Misc Info : 100ppbv (200ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/20aug18.b/178q0613c.m
Meth Date : 21-Aug-2018 09:26 ugdc
Cal Date : 21-AUG-2018 00:06
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP RTE
Sample Matrix: AIR
Processing Host: us32apptv003

Inst ID: msd17.i
Quant Type: ISTD
Cal File: 17082014.d
Calibration Sample, Level: 7
Compound Sublist: AT1crv.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane						CAS #:	74-97-5		
5.492	5.495	(1.000)	130	135186	25.0000		80.00-	120.00	100.00
5.492	5.496	(1.000)	128	104763			48.32-	108.32	77.50
5.492	5.494	(1.000)	49	117587			63.40-	123.40	86.98

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.380	6.380	(1.000)	114	468518	25.0000		80.00-	120.00	100.00
6.380	6.380	(1.000)	88	68732			0.00-	44.55	14.67

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	416748	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	201512			17.97-	77.97	48.35

7 Freon 134a						CAS #:	811-97-2		
1.481	1.474	(0.270)	83	258825	100.000	98.686	0.00-	0.00	100.00
1.474	1.472	(0.268)	69	397657			0.00-	0.00	153.64
1.481	1.472	(0.270)	63	29507			0.00-	0.00	11.40

10 1,1-Difluoroethane						CAS #:	75-37-6		
1.531	1.528	(0.279)	65	117291	100.000	90.720	0.00-	0.00	100.00

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	===	=====	=====	=====	=====	=====	=====
10 1,1-Difluoroethane (continued)									
1.574	1.570	(0.287)	51	664629			0.00-	0.00	566.65
16 Freon 142b					CAS #:		75-68-3		
1.696	1.696	(0.309)	65	608425	100.000	97.742	0.00-	0.00	100.00
1.696	1.696	(0.309)	45	125789			0.00-	0.00	20.67
37 Dichlorofluoromethane					CAS #:		75-43-4		
2.605	2.607	(0.474)	67	894738	100.000	98.926	0.00-	0.00	100.00
2.605	2.605	(0.474)	69	292738			0.00-	0.00	32.72
47 Freon 123a					CAS #:		354-23-4		
3.078	3.077	(0.560)	117	737515	100.000	98.125	0.00-	0.00	100.00
3.071	3.071	(0.559)	67	876399			0.00-	0.00	118.83
48 Freon 123					CAS #:		306-83-2		
3.171	3.171	(0.577)	83	1102763	100.000	99.028	0.00-	0.00	100.00
3.171	3.176	(0.577)	133	241921			0.00-	0.00	21.94
3.171	3.173	(0.577)	85	737987			0.00-	0.00	66.92
59 Cyclopentene					CAS #:		142-29-0		
3.751	3.752	(0.683)	67	889559	100.000	102.86	0.00-	0.00	100.00
3.751	3.752	(0.683)	68	347011			0.00-	0.00	39.01
3.751	3.752	(0.683)	53	152764			0.00-	0.00	17.17
84 1-Propanol					CAS #:		71-23-8		
4.819	4.823	(0.877)	42	70256	100.000	102.93	0.00-	0.00	100.00
4.819	4.823	(0.877)	59	94198			0.00-	0.00	134.08
4.819	4.823	(0.877)	41	48081			0.00-	0.00	68.44
90 2,2-Dichloropropane					CAS #:		594-20-7		
5.220	5.220	(0.950)	77	1011038	100.000	98.233	0.00-	0.00	100.00
5.220	5.220	(0.950)	79	323809			0.00-	0.00	32.03
5.220	5.220	(0.950)	97	222668			0.00-	0.00	22.02
107 1,1-Dichloropropene					CAS #:		563-58-6		
5.829	5.827	(0.914)	110	340286	100.000	99.756	0.00-	0.00	100.00
5.822	5.823	(0.912)	75	831234			0.00-	0.00	244.28
115 Isobutanol					CAS #:		78-83-1		
5.986	5.984	(1.090)	39	89665	100.000	93.694	0.00-	0.00	100.00
5.986	5.985	(1.090)	41	244140			0.00-	0.00	272.28
5.986	5.985	(1.090)	43	330925			0.00-	0.00	369.07
124 n-Butanol					CAS #:		71-36-3		
6.552	6.555	(1.027)	56	332668	100.000	108.09	0.00-	0.00	100.00

AMOUNTS									
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
124 n-Butanol (continued)									
6.552	6.554	(1.027)	41	215428			0.00-	0.00	64.76
6.552	6.555	(1.027)	43	169721			0.00-	0.00	51.02
157 1,3-Dichloropropane									
8.200	8.200	(1.285)	76	930370	100.000	CAS #: 142-28-9 98.597	0.00-	0.00	100.00
8.193	8.197	(1.284)	41	477533			0.00-	0.00	51.33
8.200	8.200	(1.285)	78	306132			0.00-	0.00	32.90
159 Butyl Acetate									
8.271	8.271	(1.296)	56	512388	100.000	CAS #: 123-86-4 103.87	0.00-	0.00	100.00
8.271	8.271	(1.296)	73	259993			0.00-	0.00	50.74
8.271	8.271	(1.296)	43	1158167			0.00-	0.00	226.03
168 1,1,1,2-Tetrachloroethane									
8.923	8.923	(1.011)	131	1021513	100.000	CAS #: 630-20-6 101.40	0.00-	0.00	100.00
8.923	8.923	(1.011)	117	685565			0.00-	0.00	67.11
8.923	8.923	(1.011)	95	351299			0.00-	0.00	34.39
173 2-Heptanone									
9.432	9.432	(1.717)	58	666565	100.000	CAS #: 110-43-0 108.31	0.00-	0.00	100.00
9.432	9.432	(1.717)	43	973135			0.00-	0.00	145.99
176 Cyclohexanone									
9.797	9.797	(1.109)	55	463016	100.000	CAS #: 108-94-1 97.946	0.00-	0.00	100.00
9.797	9.799	(1.109)	98	270247			0.00-	0.00	58.37
9.797	9.797	(1.109)	42	308059			0.00-	0.00	66.53
180 Bromobenzene									
9.947	9.952	(1.127)	156	1137749	100.000	CAS #: 108-86-1 101.52	0.00-	0.00	100.00
9.947	9.952	(1.127)	158	1108553			0.00-	0.00	97.43
9.947	9.948	(1.127)	77	1349628			0.00-	0.00	118.62
185 1,2,3-Trichloropropane									
10.005	10.005	(1.133)	110	430452	100.000	CAS #: 96-18-4 98.886	0.00-	0.00	100.00
10.005	10.005	(1.133)	75	1023130			0.00-	0.00	237.69
10.005	10.005	(1.133)	61	248008			0.00-	0.00	57.62
189 2-Chlorotoluene									
10.091	10.091	(1.143)	126	782370	100.000	CAS #: 95-49-8 102.04	0.00-	0.00	100.00
10.091	10.091	(1.143)	91	1993518			0.00-	0.00	254.81
10.091	10.091	(1.143)	65	173415			0.00-	0.00	22.17
191 4-Chlorotoluene									
10.184	10.187	(1.153)	126	815810	100.000	CAS #: 106-43-4 103.36	0.00-	0.00	100.00
10.184	10.184	(1.153)	91	2094534			0.00-	0.00	256.74

				AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
==	=====	=====	===	=====	=====	=====	=====	=====
191 4-Chlorotoluene (continued)								
10.184	10.184	(1.153)	63	254496			0.00- 0.00	31.20
						CAS #:	108-83-8	
10.213	10.213	(1.157)	57	1286405	100.000	108.50	0.00- 0.00	100.00
10.213	10.213	(1.157)	85	1345593			0.00- 0.00	104.60
						CAS #:	98-06-6	
10.392	10.392	(1.177)	119	2218261	100.000	102.56	0.00- 0.00	100.00
10.392	10.392	(1.177)	134	563485			0.00- 0.00	25.40
10.392	10.390	(1.177)	91	1389287			0.00- 0.00	62.63
						CAS #:	76-01-7	
10.463	10.466	(1.185)	167	880089	100.000	104.41	0.00- 0.00	100.00
10.463	10.463	(1.185)	117	756201			0.00- 0.00	85.92
10.463	10.466	(1.185)	169	422481			0.00- 0.00	48.00
						CAS #:	135-98-8	
10.571	10.575	(1.197)	134	709846	100.000	104.06	0.00- 0.00	100.00
10.571	10.575	(1.197)	105	3219580			0.00- 0.00	453.56
10.571	10.575	(1.197)	91	475017			0.00- 0.00	66.92
						CAS #:	99-87-6	
10.685	10.685	(1.210)	119	2856680	100.000	105.75	0.00- 0.00	100.00
10.685	10.685	(1.210)	134	803427			0.00- 0.00	28.12
10.685	10.685	(1.210)	91	619162			0.00- 0.00	21.67
						CAS #:	526-73-8	
10.814	10.814	(1.225)	120	1089416	100.000	103.10	0.00- 0.00	100.00
10.814	10.814	(1.225)	105	2436409			0.00- 0.00	223.64
10.814	10.814	(1.225)	77	273804			0.00- 0.00	25.13
						CAS #:	104-51-8	
11.036	11.036	(1.250)	134	734316	100.000	103.92	0.00- 0.00	100.00
11.036	11.036	(1.250)	91	2408208			0.00- 0.00	327.95
11.036	11.036	(1.250)	92	1260392			0.00- 0.00	171.64
						CAS #:	96-12-8	
11.824	11.821	(1.339)	157	687801	100.000	102.49	0.00- 0.00	100.00
11.824	11.820	(1.339)	75	464861			0.00- 0.00	67.59
11.824	11.821	(1.339)	155	535696			0.00- 0.00	77.89

US32APPTV002

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: msd17.i	Calibration Date: 20-AUG-2018
Lab File ID: 17082014.d	Calibration Time: 10:21
Lab Smp Id: ICAL Leve #7	
Analysis Type: VOA	Level: LOW
Quant Type: ISTD	Sample Type: AIR
Operator: mjs	
Method File: /chem/msd17.i/20aug18.b/178q0613c.m	
Misc Info: 100ppbv (200ppbv)	

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	127377	76426	178328	135186	6.13
123 1,4-Difluorobenze	430836	258502	603170	468518	8.75
163 Chlorobenzene-d5	389322	233593	545051	416748	7.04

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.49	5.16	5.82	5.49	0.00
123 1,4-Difluorobenze	6.38	6.05	6.71	6.38	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
 AREA LOWER LIMIT = - 40% of internal standard area.
 RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.i/20aug18.b/17082014.d

Date : 21-AUG-2018 00:06

Client ID:

Sample Info: 100ml 3045-50

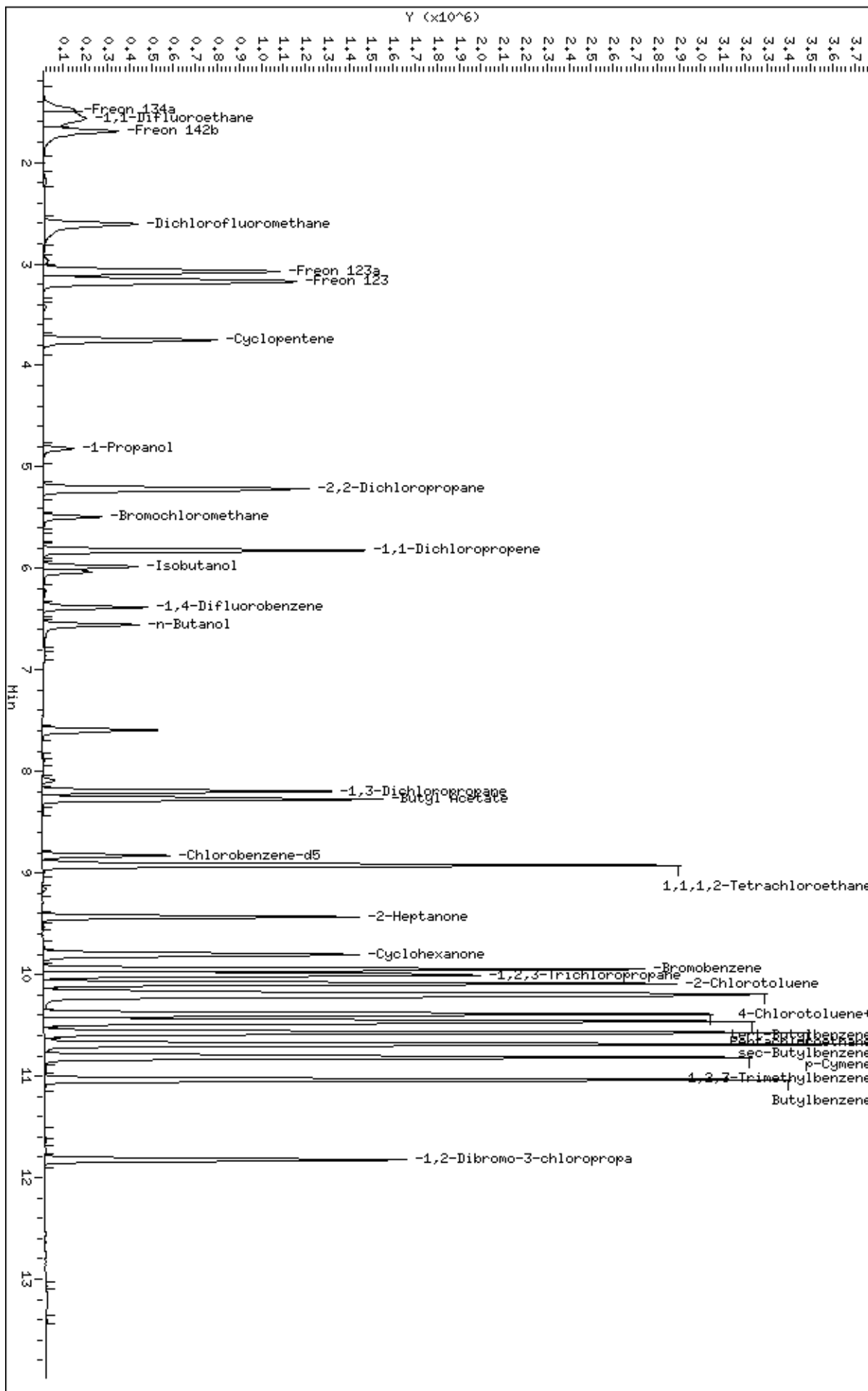
Column phase: RTX-624

Instrument: msd17.i

Operator: mjs

Column diameter: 0.25

/chem/msd17.i/20aug18.b/17082014.d



Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/13jun18.b/17061307.d
Lab Smp Id: ICAL Level #7
Inj Date : 14-JUN-2018 00:28
Operator : gh Inst ID: msd17.i
Smp Info : 100ml 3018-273
Misc Info : 100ppbv(200ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/13jun18.b/178q0613a.m
Meth Date : 15-Jun-2018 09:11 gdelacru Quant Type: ISTD
Cal Date : 14-JUN-2018 00:28 Cal File: 17061307.d
Als bottle: 13 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12curve.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane									
5.499	5.498	(1.000)	130	163558	25.0000	CAS #:	74-97-5		
5.499	5.498	(1.000)	128	130947			80.00-	120.00	100.00
5.499	5.496	(1.000)	49	146341			48.32-	108.32	80.06
							63.40-	123.40	89.47

* 123 1,4-Difluorobenzene									
6.387	6.384	(1.000)	114	581063	25.0000	CAS #:	540-36-3		
6.380	6.382	(1.000)	88	87881			80.00-	120.00	100.00
							0.00-	44.55	15.12

* 163 Chlorobenzene-d5									
8.830	8.830	(1.000)	117	525935	25.0000	CAS #:	3114-55-4		
8.830	8.830	(1.000)	82	249239			80.00-	120.00	100.00
							17.97-	77.97	47.39

\$ 117 1,2-Dichloroethane-d4									
6.036	6.035	(1.098)	65	197448	25.0000	CAS #:	17060-07-0		
6.036	6.035	(1.098)	67	111919		26.586	80.00-	120.00	100.00
							23.66-	83.66	56.68

\$ 146 Toluene-d8									
7.598	7.598	(1.190)	98	569163	25.0000	CAS #:	2037-26-5		
7.598	7.598	(1.190)	70	56991		25.150	80.00-	120.00	100.00
							0.00-	40.01	10.01

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
\$ 146	Toluene-d8 (continued)							
7.598	7.598 (1.190)		100	371175			35.43- 95.43	65.21

\$ 177	4-Bromofluorobenzene					CAS #: 460-00-4		
9.818	9.819 (1.112)		174	413382	25.0000	24.890	80.00- 120.00	100.00
9.818	9.819 (1.112)		95	364553			59.41- 119.41	88.19
9.818	9.819 (1.112)		176	400562			68.33- 128.33	96.90

9	Propylene					CAS #: 115-07-1		
1.502	1.500 (0.273)		41	344376	100.000	100.17	80.00- 120.00	100.00
1.502	1.501 (0.273)		42	226453			36.13- 96.13	65.76
1.502	1.501 (0.273)		39	263297			46.53- 106.53	76.46

11	Freon 12					CAS #: 75-71-8		
1.531	1.532 (0.278)		85	1493878	100.000	102.85	80.00- 120.00	100.00
1.531	1.534 (0.278)		87	487428			2.38- 62.38	32.63

15	Freon 114					CAS #: 76-14-2		
1.653	1.653 (0.300)		135	1258621	100.000	102.66	80.00- 120.00	100.00
1.653	1.652 (0.300)		137	403706			2.28- 62.28	32.08

17	Chloromethane					CAS #: 74-87-3		
1.753	1.751 (0.319)		50	382028	100.000	101.51	80.00- 120.00	100.00(A)
1.753	1.749 (0.319)		52	128028			5.22- 65.22	33.51

23	Butane					CAS #: 106-97-8		
1.817	1.814 (0.330)		58	97490	100.000	88.839	80.00- 120.00	100.00
1.817	1.813 (0.330)		43	670469			637.12- 697.12	687.73

25	Vinyl Chloride					CAS #: 75-01-4		
1.853	1.849 (0.337)		62	534396	100.000	98.904	80.00- 120.00	100.00
1.853	1.849 (0.337)		64	172439			1.91- 61.91	32.27

26	1,3-Butadiene					CAS #: 106-99-0		
1.875	1.875 (0.341)		54	373204	100.000	101.16	80.00- 120.00	100.00
1.875	1.873 (0.341)		39	387452			72.44- 132.44	103.82

29	Bromomethane					CAS #: 74-83-9		
2.233	2.229 (0.406)		94	567132	100.000	103.22	80.00- 120.00	100.00
2.233	2.231 (0.406)		96	536996			65.39- 125.39	94.69

30	Chloroethane					CAS #: 75-00-3		
2.340	2.343 (0.426)		64	279387	100.000	101.41	80.00- 120.00	100.00
2.347	2.345 (0.427)		66	90800			3.25- 63.25	32.50
2.340	2.343 (0.426)		49	76422			0.00- 57.17	27.35

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
31 Isopentane						CAS #:	78-78-4		
2.362	2.358	(0.429)	43	542072	100.000	100.68	80.00-	120.00	100.00
2.362	2.361	(0.429)	57	403506			45.20-	105.20	74.44
35 Freon 11						CAS #:	75-69-4		
2.591	2.591	(0.471)	101	1746161	100.000	102.49	80.00-	120.00	100.00
2.591	2.591	(0.471)	103	1134725			34.28-	94.28	64.98
42 Ethanol						CAS #:	64-17-5		
2.935	2.942	(0.534)	45	189002	100.000	101.30	80.00-	120.00	100.00
2.942	2.942	(0.535)	46	74288			9.17-	69.17	39.31
49 Freon 113						CAS #:	76-13-1		
3.236	3.231	(0.588)	151	1336898	100.000	101.06	80.00-	120.00	100.00
3.236	3.233	(0.588)	153	864847			34.01-	94.01	64.69
3.228	3.229	(0.587)	101	1473989			81.38-	141.38	110.25
50 1,1-Dichloroethene						CAS #:	75-35-4		
3.264	3.265	(0.594)	98	422859	100.000	103.12	80.00-	120.00	100.00
3.264	3.263	(0.594)	96	653120			124.64-	184.64	154.45
3.264	3.264	(0.594)	61	970528			200.94-	260.94	229.52
52 Acetone						CAS #:	67-64-1		
3.429	3.427	(0.624)	58	243505	100.000	92.369	80.00-	120.00	100.00
3.429	3.427	(0.624)	43	777491			290.24-	350.24	319.29
56 Carbon Disulfide						CAS #:	75-15-0		
3.501	3.501	(0.637)	76	1699302	100.000	99.586	80.00-	120.00	100.00
57 2-Propanol						CAS #:	67-63-0		
3.601	3.605	(0.655)	45	849982	100.000	100.15	80.00-	120.00	100.00
3.601	3.603	(0.655)	43	179279			0.00-	51.65	21.09
3.601	3.605	(0.655)	59	34688			0.00-	34.46	4.08
58 3-Chloropropene						CAS #:	107-05-1		
3.744	3.745	(0.681)	76	292775	100.000	105.60	80.00-	120.00	100.00
3.744	3.744	(0.681)	41	609633			187.06-	247.06	208.23
66 Methylene Chloride						CAS #:	75-09-2		
3.938	3.938	(0.716)	49	618640	100.000	102.68	80.00-	120.00	100.00
3.938	3.938	(0.716)	84	554914			60.06-	120.06	89.70
3.938	3.938	(0.716)	51	185736			0.22-	60.22	30.02
71 tert-Butyl alcohol						CAS #:	75-65-0		
4.059	4.061	(0.738)	59	1251346	100.000	100.40	80.00-	120.00	100.00
4.059	4.059	(0.738)	41	245298			0.00-	49.54	19.60

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
71	tert-Butyl alcohol (continued)							
4.059	4.061 (0.738)		57	129625			0.00- 40.61	10.36
72	Methyl tert-butyl ether					CAS #: 1634-04-4		
4.145	4.147 (0.754)		73	1772813	100.000	100.33	80.00- 120.00	100.00
4.145	4.145 (0.754)		57	365250			0.00- 50.61	20.60
4.145	4.145 (0.754)		41	338042			0.00- 49.00	19.07
73	trans-1,2-Dichloroethene					CAS #: 156-60-5		
4.174	4.175 (0.759)		98	394265	100.000	97.792	80.00- 120.00	100.00
4.174	4.174 (0.759)		61	787900			169.57- 229.57	199.84
4.174	4.174 (0.759)		96	617995			127.00- 187.00	156.75
78	Hexane					CAS #: 110-54-3		
4.382	4.382 (0.797)		57	840762	100.000	97.628	80.00- 120.00	100.00
4.382	4.382 (0.797)		43	499094			28.25- 88.25	59.36
4.382	4.382 (0.797)		86	162165			0.00- 48.98	19.29
82	1,1-Dichloroethane					CAS #: 75-34-3		
4.675	4.676 (0.850)		63	1050145	100.000	101.27	80.00- 120.00	100.00
4.675	4.676 (0.850)		65	335573			2.30- 62.30	31.95
83	Isopropyl ether					CAS #: 108-20-3		
4.654	4.656 (0.846)		45	1799955	100.000	100.82	80.00- 120.00	100.00
4.654	4.658 (0.846)		87	616703			4.15- 64.15	34.26
4.654	4.658 (0.846)		59	222907			0.00- 42.61	12.38
86	Vinyl Acetate					CAS #: 108-05-4		
4.718	4.718 (0.858)		86	174401	100.000	103.00	80.00- 120.00	100.00
4.711	4.715 (0.857)		43	1559303			863.69- 923.69	894.09
88	Ethyl-tert-butyl ether					CAS #: 637-92-3		
5.019	5.019 (0.913)		59	1960719	100.000	101.63	80.00- 120.00	100.00
5.019	5.019 (0.913)		87	910437			16.34- 76.34	46.43
5.019	5.019 (0.913)		41	337249			0.00- 47.31	17.20
91	cis-1,2-Dichloroethene					CAS #: 156-59-2		
5.263	5.263 (0.957)		98	473284	100.000	97.490	80.00- 120.00	100.00
5.263	5.263 (0.957)		96	735371			122.96- 182.96	155.38
5.263	5.263 (0.957)		61	845924			147.21- 207.21	178.73
92	2-Butanone					CAS #: 78-93-3		
5.284	5.289 (0.961)		72	301499	100.000	102.20	80.00- 120.00	100.00
5.284	5.287 (0.961)		43	1016277			305.24- 365.24	337.07
5.284	5.287 (0.961)		57	86882			0.00- 59.67	28.82

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
99 Tetrahydrofuran						CAS #:	109-99-9		
5.492	5.492	(0.999)	42	543795	100.000	97.519	80.00-	120.00	100.00
5.492	5.494	(0.999)	71	261805			18.99-	78.99	48.14
5.492	5.493	(0.999)	72	276370			20.78-	80.78	50.82
100 Chloroform						CAS #:	67-66-3		
5.556	5.558	(1.010)	83	1322841	100.000	104.20	80.00-	120.00	100.00
5.556	5.559	(1.010)	85	869276			35.00-	95.00	65.71
102 Cyclohexane						CAS #:	110-82-7		
5.657	5.657	(1.029)	84	856744	100.000	100.24	80.00-	120.00	100.00
5.657	5.656	(1.029)	56	850786			70.31-	130.31	99.30
5.657	5.656	(1.029)	41	474986			25.25-	85.25	55.44
103 1,1,1-Trichloroethane						CAS #:	71-55-6		
5.678	5.677	(1.033)	97	1432632	100.000	101.24	80.00-	120.00	100.00
5.678	5.677	(1.033)	99	927280			34.84-	94.84	64.73
106 Carbon Tetrachloride						CAS #:	56-23-5		
5.793	5.793	(1.053)	119	1530140	100.000	99.273	80.00-	120.00	100.00
5.793	5.793	(1.053)	117	1579121			73.53-	133.53	103.20
113 2,2,4-Trimethylpentane						CAS #:	540-84-1		
5.986	5.984	(1.089)	57	2614557	100.000	102.77	80.00-	120.00	100.00
5.986	5.984	(1.089)	56	843777			2.59-	62.59	32.27
5.979	5.982	(1.087)	41	669928			0.00-	55.57	25.62
116 Benzene						CAS #:	71-43-2		
6.008	6.008	(0.941)	78	1855225	100.000	100.69	80.00-	120.00	100.00
6.008	6.008	(0.941)	77	451345			0.00-	53.90	24.33
119 tert-Amyl methyl ether						CAS #:	994-05-8		
6.072	6.072	(1.104)	87	501309	100.000	103.04	80.00-	120.00	100.00
6.072	6.075	(1.104)	73	1978174			361.82-	421.82	394.60
6.072	6.072	(1.104)	55	450025			58.31-	118.31	89.77
120 1,2-Dichloroethane						CAS #:	107-06-2		
6.101	6.101	(0.955)	62	850534	100.000	103.13	80.00-	120.00	100.00
6.101	6.101	(0.955)	64	278180			3.07-	63.07	32.71
121 Heptane						CAS #:	142-82-5		
6.151	6.151	(0.963)	71	642254	100.000	99.637	80.00-	120.00	100.00
6.151	6.151	(0.963)	43	906582			110.59-	170.59	141.16
6.151	6.150	(0.963)	57	612033			64.25-	124.25	95.29
125 Trichloroethene						CAS #:	79-01-6		
6.581	6.581	(1.030)	95	900328	100.000	102.07	80.00-	120.00	100.00

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
125 Trichloroethene (continued)									
6.581	6.581	(1.030)	130	1015623			81.76-	141.76	112.81
6.581	6.581	(1.030)	97	583024			34.64-	94.64	64.76

127 Methylcyclohexane						CAS #:	108-87-2		
6.674	6.674	(1.214)	83	1160667	100.000	99.706	80.00-	120.00	100.00
6.674	6.674	(1.214)	98	563494			18.58-	78.58	48.55
6.674	6.674	(1.214)	55	788459			37.28-	97.28	67.93

132 1,2-Dichloropropane						CAS #:	78-87-5		
6.817	6.817	(1.067)	63	633465	100.000	97.121	80.00-	120.00	100.00
6.817	6.817	(1.067)	62	430480			38.79-	98.79	67.96
6.817	6.817	(1.067)	41	337910			23.87-	83.87	53.34

136 1,4-Dioxane						CAS #:	123-91-1		
6.903	6.906	(1.081)	88	463272	100.000	99.466	80.00-	120.00	100.00
6.903	6.904	(1.081)	58	265983			28.36-	88.36	57.41
6.903	6.903	(1.081)	57	89758			0.00-	49.37	19.37

138 Bromodichloromethane						CAS #:	75-27-4		
7.046	7.046	(1.103)	83	1406268	100.000	102.29	80.00-	120.00	100.00
7.046	7.046	(1.103)	85	907565			34.11-	94.11	64.54

144 cis-1,3-Dichloropropene						CAS #:	10061-01-5		
7.419	7.419	(1.161)	75	1106943	100.000	102.64	80.00-	120.00	100.00
7.419	7.419	(1.161)	77	350477			2.33-	62.33	31.66
7.419	7.419	(1.161)	39	513244			16.60-	76.60	46.37

145 4-Methyl-2-pentanone						CAS #:	108-10-1		
7.526	7.526	(1.178)	58	500557	100.000	94.340	80.00-	120.00	100.00
7.526	7.526	(1.178)	43	1223639			214.83-	274.83	244.46
7.526	7.526	(1.178)	85	264964			23.05-	83.05	52.93

147 Toluene						CAS #:	108-88-3		
7.655	7.655	(1.198)	91	2394081	100.000	100.06	80.00-	120.00	100.00
7.655	7.655	(1.198)	92	1378132			27.80-	87.80	57.56

150 trans-1,3-Dichloropropene						CAS #:	10061-02-6		
7.899	7.899	(0.895)	75	1059452	100.000	103.05	80.00-	120.00	100.00
7.899	7.899	(0.895)	77	331724			1.77-	61.77	31.31
7.899	7.899	(0.895)	39	471093			14.97-	74.97	44.47

155 1,1,2-Trichloroethane						CAS #:	79-00-5		
8.056	8.056	(0.912)	97	819506	100.000	100.03	80.00-	120.00	100.00
8.056	8.056	(0.912)	99	517531			32.71-	92.71	63.15
8.056	8.056	(0.912)	83	687682			55.53-	115.53	83.91

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
156						CAS #:	127-18-4	
8.092	8.092	(0.916)	166	1481073	100.000	100.05	80.00- 120.00	100.00
8.092	8.092	(0.916)	129	980061			36.14- 96.14	66.17
8.092	8.092	(0.916)	131	955018			34.69- 94.69	64.48
158						CAS #:	591-78-6	
8.214	8.214	(0.930)	58	672732	100.000	101.18	80.00- 120.00	100.00
8.214	8.214	(0.930)	43	1202533			146.83- 206.83	178.75
8.214	8.215	(0.930)	100	179302			0.00- 55.52	26.65
160						CAS #:	124-48-1	
8.364	8.367	(0.947)	129	1726447	100.000	101.61	80.00- 120.00	100.00
8.364	8.367	(0.947)	127	1334117			47.05- 107.05	77.28
161						CAS #:	106-93-4	
8.479	8.479	(0.960)	107	1382707	100.000	98.681	80.00- 120.00	100.00
8.479	8.479	(0.960)	109	1326183			65.51- 125.51	95.91
165						CAS #:	108-90-7	
8.859	8.859	(1.003)	112	2016969	100.000	97.276	80.00- 120.00	100.00
8.859	8.859	(1.003)	114	651340			2.14- 62.14	32.29
8.851	8.852	(1.002)	77	1079343			23.42- 83.42	53.51
167						CAS #:	100-41-4	
8.902	8.902	(1.008)	106	1028414	100.000	98.700	80.00- 120.00	100.00
8.902	8.902	(1.008)	91	3114893			268.52- 328.52	302.88
169						CAS #:	108-38-3	
8.995	8.997	(1.019)	106	1273341	100.000	98.284	80.00- 120.00	100.00
8.995	8.996	(1.019)	91	2447785			161.75- 221.75	192.23
171						CAS #:	95-47-6	
9.339	9.339	(1.058)	106	1208548	100.000	98.447	80.00- 120.00	100.00
9.339	9.339	(1.058)	91	2448553			170.98- 230.98	202.60
172						CAS #:	100-42-5	
9.360	9.360	(1.060)	104	2013716	100.000	103.45	80.00- 120.00	100.00
9.360	9.360	(1.060)	78	929887			16.10- 76.10	46.18
174						CAS #:	75-25-2	
9.568	9.568	(1.084)	173	2014863	100.000	103.21	80.00- 120.00	100.00
9.568	9.568	(1.084)	171	1029200			21.32- 81.32	51.08
175						CAS #:	98-82-8	
9.625	9.625	(1.090)	105	3690392	100.000	99.188	80.00- 120.00	100.00
9.625	9.626	(1.090)	120	1054207			0.00- 58.56	28.57

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
				CAL-AMT (PPBV)	ON-COL (PPBV)		
175	Cumene (continued)						
9.625	9.625 (1.090)	51	283282			0.00- 37.61	7.68
181	1,1,2,2-Tetrachloroethane				CAS #: 79-34-5		
9.947	9.948 (1.127)	83	1727555	100.000	98.602	80.00- 120.00	100.00
9.947	9.948 (1.127)	85	1127305			35.03- 95.03	65.25
182	Propylbenzene				CAS #: 103-65-1		
9.969	9.974 (1.129)	91	4169855	100.000	99.178	80.00- 120.00	100.00
9.976	9.976 (1.130)	120	1087931			0.00- 56.23	26.09
9.976	9.976 (1.130)	105	159734			0.00- 33.80	3.83
188	4-Ethyltoluene				CAS #: 622-96-8		
10.069	10.069 (1.140)	120	1177894	100.000	100.02	80.00- 120.00	100.00
10.069	10.069 (1.140)	105	3665651			275.42- 335.42	311.20
190	1,3,5-Trimethylbenzene				CAS #: 108-67-8		
10.119	10.119 (1.146)	120	1649341	100.000	100.82	80.00- 120.00	100.00
10.119	10.119 (1.146)	105	3248617			165.32- 225.32	196.96
196	1,2,4-Trimethylbenzene				CAS #: 95-63-6		
10.442	10.444 (1.183)	120	1480153	100.000	101.25	80.00- 120.00	100.00
10.442	10.443 (1.183)	105	3023952			176.48- 236.48	204.30
208	1,3-Dichlorobenzene				CAS #: 541-73-1		
10.735	10.735 (1.216)	146	2471154	100.000	99.538	80.00- 120.00	100.00
10.735	10.735 (1.216)	148	1588979			34.93- 94.93	64.30
10.735	10.735 (1.216)	111	867387			5.13- 65.13	35.10
209	1,4-Dichlorobenzene				CAS #: 106-46-7		
10.814	10.820 (1.225)	146	2502796	100.000	98.674	80.00- 120.00	100.00
10.821	10.821 (1.226)	148	1614188			34.11- 94.11	64.50
10.814	10.817 (1.225)	111	849830			4.00- 64.00	33.96
212	alpha-Chlorotoluene				CAS #: 100-44-7		
10.936	10.936 (1.238)	91	2770782	100.000	105.34	80.00- 120.00	100.00
10.936	10.936 (1.238)	126	692248			0.00- 55.13	24.98
214	1,2-Dichlorobenzene				CAS #: 95-50-1		
11.144	11.148 (1.262)	146	2357785	100.000	98.811	80.00- 120.00	100.00
11.144	11.149 (1.262)	148	1522791			34.17- 94.17	64.59
11.144	11.146 (1.262)	111	855109			6.50- 66.50	36.27
226	1,2,4-Trichlorobenzene				CAS #: 120-82-1		
12.540	12.541 (1.420)	180	2690851	100.000	99.153	80.00- 120.00	100.00
12.540	12.541 (1.420)	182	2576601			65.44- 125.44	95.75

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
227 Hexachlorobutadiene						CAS #:	87-68-3		
12.619	12.620	(1.429)	225	2425810	100.000	99.997	80.00-	120.00	100.00
12.619	12.620	(1.429)	223	1515010			32.93-	92.93	62.45

228 Naphthalene						CAS #:	91-20-3		
12.805	12.806	(1.450)	128	487992	10.0000	10.449	80.00-	120.00	100.00
12.805	12.806	(1.450)	127	64481			0.00-	43.59	13.21

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: msd17.i	Calibration Date: 14-JUN-2018
Lab File ID: 17061307.d	Calibration Time: 00:02
Lab Smp Id: ICAL Level #7	
Analysis Type: VOA	Level: LOW
Quant Type: ISTD	Sample Type: AIR
Operator: gh	
Method File: /chem/msd17.i/13jun18.b/178q0613a.m	
Misc Info: 100ppbv(200ppbv)	

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	162788	97673	227903	163558	0.47
123 1,4-Difluorobenze	570167	342100	798234	581063	1.91
163 Chlorobenzene-d5	520088	312053	728123	525935	1.12

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.50	5.17	5.83	5.50	0.00
123 1,4-Difluorobenze	6.38	6.05	6.71	6.39	0.11
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
 AREA LOWER LIMIT = - 40% of internal standard area.
 RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name: Client SDG: 13jun18
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: ICAL Level #7
Level: LOW Operator: gh
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AT12.sub
Method File: /chem/msd17.i/13jun18.b/178q0613a.m
Misc Info: 100ppbv(200ppbv)

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
\$ 117 1,2-Dichloroethane	25.000	0.000	0.00*	70-130
\$ 146 Toluene-d8	25.000	0.000	0.00*	70-130
\$ 177 4-Bromofluorobenze	25.000	0.000	0.00*	70-130

Data File: /chem/msd17.i/13jun18.b/17061307.d

Date : 14-JUN-2018 00:28

Client ID:

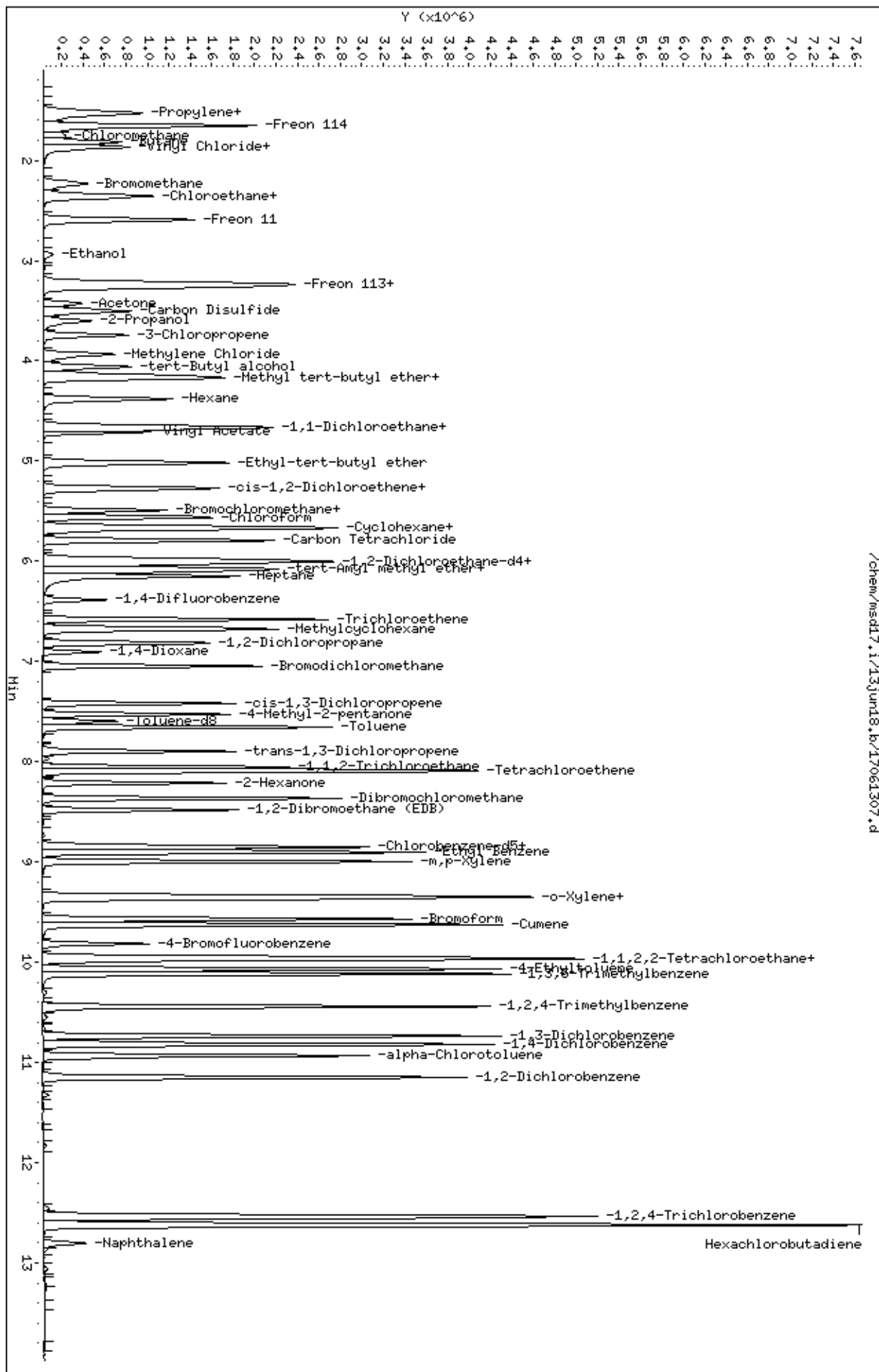
Sample Info: 100ml 3018-273

Column phase: RTX-624

Instrument: msd17.i

Operator: gh

Column diameter: 0.25



US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/09OCT18.b/17100909.d
Lab Smp Id: ICAL Level #8
Inj Date : 09-OCT-2018 14:45
Operator : mjb
Smp Info : 200ml 3045-147
Misc Info : 200ppbv (200ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/09OCT18.b/178q0613e.m
Meth Date : 09-Oct-2018 16:29 p5fl
Cal Date : 09-OCT-2018 14:45
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE
Sample Matrix: AIR
Processing Host: us32apptv003

Inst ID: msd17.i
Quant Type: ISTD
Cal File: 17100909.d
Calibration Sample, Level: 8
Compound Sublist: EthylAcetateCRV.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

						AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT	ON-COL	TARGET	RANGE	RATIO		
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====		

* 98 Bromochloromethane											CAS #: 74-97-5
5.499	5.496	(1.000)	130	123558	25.0000		80.00-	120.00	100.00		
5.499	5.496	(1.000)	128	96217			48.32-	108.32	77.87		
5.492	5.493	(1.000)	49	109029			63.40-	123.40	88.24		

* 123 1,4-Difluorobenzene											CAS #: 540-36-3
6.380	6.380	(1.000)	114	407034	25.0000		80.00-	120.00	100.00		
6.380	6.380	(1.000)	88	59942			0.00-	44.55	14.73		

* 163 Chlorobenzene-d5											CAS #: 3114-55-4
8.830	8.830	(1.000)	117	383189	25.0000		80.00-	120.00	100.00		
8.830	8.830	(1.000)	82	192186			17.97-	77.97	50.15		

94 Ethyl Acetate											CAS #: 141-78-6
5.299	5.301	(0.964)	70	195362	200.000	224.34	0.00-	0.00	100.00(A)		
5.299	5.301	(0.964)	61	238618			0.00-	0.00	122.14		
5.299	5.301	(0.964)	45	205561			0.00-	0.00	105.22		

QC Flag Legend

A - Target compound detected but, quantitated amount
exceeded maximum amount.

US32APPTV002

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: msd17.i	Calibration Date: 09-OCT-2018
Lab File ID: 17100909.d	Calibration Time: 10:06
Lab Smp Id: ICAL Level #8	
Analysis Type: VOA	Level: LOW
Quant Type: ISTD	Sample Type: AIR
Operator: mjb	
Method File: /chem/msd17.i/09OCT18.b/178q0613e.m	
Misc Info: 200ppbv (200ppbv)	

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	124915	74949	174881	123558	-1.09
123 1,4-Difluorobenze	429857	257914	601800	407034	-5.31
163 Chlorobenzene-d5	395763	237458	554068	383189	-3.18

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.50	5.17	5.83	5.50	-0.00
123 1,4-Difluorobenze	6.38	6.05	6.71	6.38	-0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
 AREA LOWER LIMIT = - 40% of internal standard area.
 RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.i/09OCT18.b/17100909.d

Date : 09-OCT-2018 14:45

Client ID:

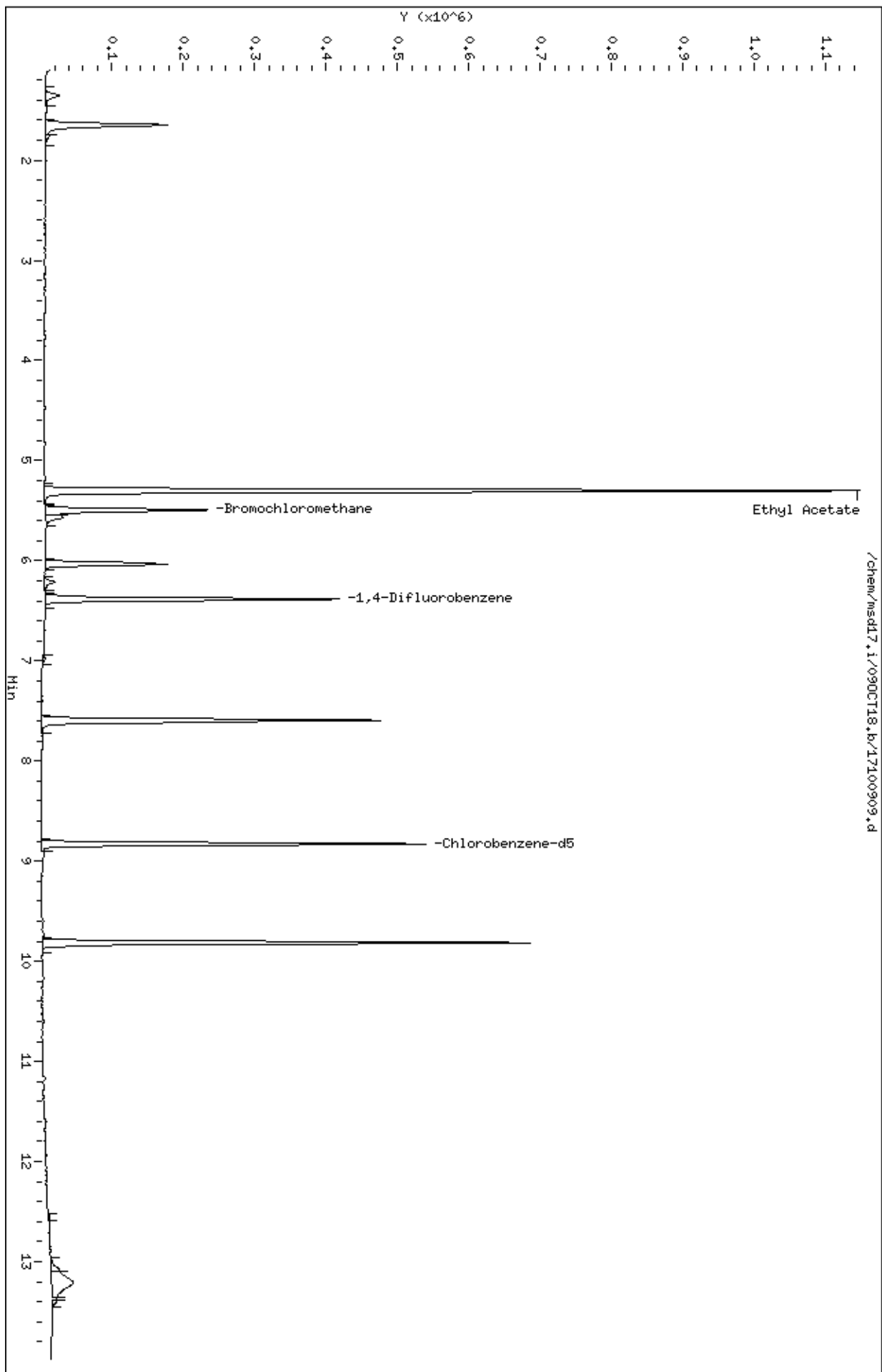
Sample Info: 200ml 3045-147

Column phase: RTX-624

Instrument: msd17.i

Operator: mjb

Column diameter: 0.25



US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/24aug18.b/17082407.d
Lab Smp Id: ICAL Level 8
Inj Date : 24-AUG-2018 15:33
Operator : mjb
Smp Info : 200ml 3045-79
Misc Info : 200ppbv (200ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/24aug18.b/178q0613d.m
Meth Date : 27-Aug-2018 09:55 ugdc
Cal Date : 24-AUG-2018 15:33
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE
Sample Matrix: AIR
Processing Host: us32apptv003

Inst ID: msd17.i
Quant Type: ISTD
Cal File: 17082407.d
Calibration Sample, Level: 8
Compound Sublist: DBMiCAL.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT	ON-COL	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
* 98 Bromochloromethane						CAS #:	74-97-5		
5.492	5.494	(1.000)	130	354644	25.0000		80.00-	120.00	100.00
5.492	5.494	(1.000)	128	272552			48.32-	108.32	76.85
5.492	5.493	(1.000)	49	317835			63.40-	123.40	89.62

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.380	6.380	(1.000)	114	437262	25.0000		80.00-	120.00	100.00
6.380	6.380	(1.000)	88	64153			0.00-	44.55	14.67

137 Dibromomethane						CAS #:	74-95-3		
6.925	6.925	(0.784)	174	1405150	200.000	191.01	0.00-	0.00	100.00
6.925	6.925	(0.784)	93	1103049			0.00-	0.00	78.50
6.925	6.925	(0.784)	95	923389			0.00-	0.00	65.71

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	390000	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	191244			17.97-	77.97	49.04

US32APPTV002

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: msd17.i	Calibration Date: 24-AUG-2018
Lab File ID: 17082407.d	Calibration Time: 11:03
Lab Smp Id: ICAL Level 8	
Analysis Type: VOA	Level: LOW
Quant Type: ISTD	Sample Type: AIR
Operator: mjb	
Method File: /chem/msd17.i/24aug18.b/178q0613d.m	
Misc Info: 200ppbv (200ppbv)	

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF	
		LOWER	UPPER			
98 Bromochloromethan	120541	72325	168757	354644	194.21	< -
123 1,4-Difluorobenze	409315	245589	573041	437262	6.83	
163 Chlorobenzene-d5	370404	222242	518566	390000	5.29	

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.49	5.16	5.82	5.49	0.00
123 1,4-Difluorobenze	6.38	6.05	6.71	6.38	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
 AREA LOWER LIMIT = - 40% of internal standard area.
 RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.i/24aug18.b/17082407.d

Date : 24-AUG-2018 15:33

Client ID:

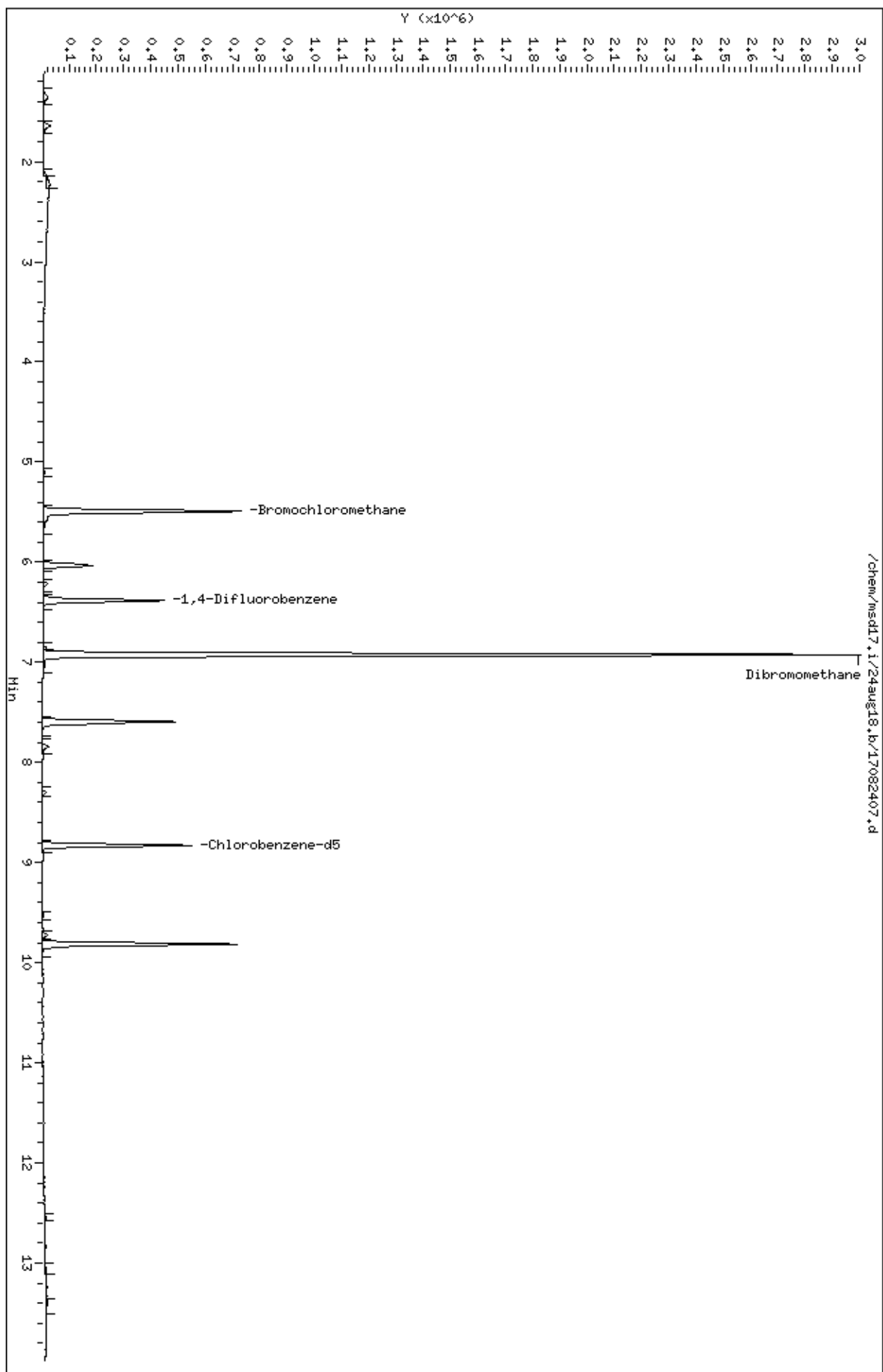
Sample Info: 200ml 3045-79

Column phase: RTX-624

Instrument: msd17.i

Operator: mjb

Column diameter: 0.25



US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/20aug18.b/17082015.d
Lab Smp Id: ICAL Leve #8
Inj Date : 21-AUG-2018 00:35
Operator : mjs
Smp Info : 200ml 3045-50
Misc Info : 200ppbv (200ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/20aug18.b/178q0613c.m
Meth Date : 21-Aug-2018 09:26 ugdc
Cal Date : 21-AUG-2018 00:35
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP RTE
Sample Matrix: AIR
Processing Host: us32apptv003

Inst ID: msd17.i

Quant Type: ISTD

Cal File: 17082015.d

Calibration Sample, Level: 8

Compound Sublist: AT1crv.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

				AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane						CAS #:	74-97-5		
5.499	5.495	(1.000)	130	131185	25.0000		80.00-	120.00	100.00
5.499	5.496	(1.000)	128	102511			48.32-	108.32	78.14
5.499	5.494	(1.000)	49	115559			63.40-	123.40	88.09

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.380	6.380	(1.000)	114	460502	25.0000		80.00-	120.00	100.00
6.380	6.380	(1.000)	88	67624			0.00-	44.55	14.68

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	407845	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	194908			17.97-	77.97	47.79

7 Freon 134a						CAS #:	811-97-2		
1.474	1.474	(0.268)	83	473664	200.000	186.11	0.00-	0.00	100.00
1.467	1.472	(0.267)	69	733279			0.00-	0.00	154.81
1.474	1.472	(0.268)	63	54802			0.00-	0.00	11.57

10 1,1-Difluoroethane						CAS #:	75-37-6		
1.524	1.528	(0.277)	65	198385	200.000	158.12	0.00-	0.00	100.00

				AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
==	=====	=====	===		=====	=====	=====	=====
10 1,1-Difluoroethane (continued)								
1.567	1.570	(0.285)	51	1232994			0.00- 0.00	621.52

16 Freon 142b						CAS #:	75-68-3	
1.696	1.696	(0.308)	65	1189557	200.000	196.93	0.00- 0.00	100.00
1.696	1.696	(0.308)	45	240882			0.00- 0.00	20.25

37 Dichlorofluoromethane						CAS #:	75-43-4	
2.605	2.607	(0.474)	67	1782728	200.000	203.12	0.00- 0.00	100.00(A)
2.605	2.605	(0.474)	69	583238			0.00- 0.00	32.72

47 Freon 123a						CAS #:	354-23-4	
3.078	3.077	(0.560)	117	1481470	200.000	203.12	0.00- 0.00	100.00(A)
3.071	3.071	(0.558)	67	1753298			0.00- 0.00	118.35

48 Freon 123						CAS #:	306-83-2	
3.171	3.171	(0.577)	83	2198807	200.000	203.47	0.00- 0.00	100.00(A)
3.179	3.176	(0.578)	133	476916			0.00- 0.00	21.69
3.171	3.173	(0.577)	85	1487118			0.00- 0.00	67.63

59 Cyclopentene						CAS #:	142-29-0	
3.752	3.752	(0.682)	67	1776050	200.000	211.63	0.00- 0.00	100.00(A)
3.752	3.752	(0.682)	68	699235			0.00- 0.00	39.37
3.752	3.752	(0.682)	53	306732			0.00- 0.00	17.27

84 1-Propanol						CAS #:	71-23-8	
4.826	4.823	(0.878)	42	138588	200.000	209.23	0.00- 0.00	100.00(A)
4.826	4.823	(0.878)	59	188131			0.00- 0.00	135.75
4.826	4.823	(0.878)	41	91375			0.00- 0.00	65.93

90 2,2-Dichloropropane						CAS #:	594-20-7	
5.220	5.220	(0.949)	77	2012121	200.000	201.46	0.00- 0.00	100.00(A)
5.220	5.220	(0.949)	79	652388			0.00- 0.00	32.42
5.220	5.220	(0.949)	97	443935			0.00- 0.00	22.06

107 1,1-Dichloropropene						CAS #:	563-58-6	
5.829	5.827	(0.914)	110	688381	200.000	205.32	0.00- 0.00	100.00(A)
5.822	5.823	(0.912)	75	1685463			0.00- 0.00	244.84

115 Isobutanol						CAS #:	78-83-1	
5.986	5.984	(1.089)	39	182068	200.000	196.05	0.00- 0.00	100.00
5.986	5.985	(1.089)	41	493212			0.00- 0.00	270.89
5.986	5.985	(1.089)	43	670220			0.00- 0.00	368.12

124 n-Butanol						CAS #:	71-36-3	
6.552	6.555	(1.027)	56	678722	200.000	224.36	0.00- 0.00	100.00(A)

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	===	=====	=====	=====	=====	=====	=====
124 n-Butanol (continued)									
6.552	6.554	(1.027)	41	426413			0.00-	0.00	62.83
6.552	6.555	(1.027)	43	340335			0.00-	0.00	50.14

157 1,3-Dichloropropane						CAS #:	142-28-9		
8.200	8.200	(1.285)	76	1896875	200.000	204.52	0.00-	0.00	100.00(A)
8.200	8.197	(1.285)	41	952113			0.00-	0.00	50.19
8.200	8.200	(1.285)	78	619168			0.00-	0.00	32.64

159 Butyl Acetate						CAS #:	123-86-4		
8.271	8.271	(1.296)	56	1033172	200.000	213.09	0.00-	0.00	100.00(A)
8.271	8.271	(1.296)	73	518481			0.00-	0.00	50.18
8.271	8.271	(1.296)	43	2338879			0.00-	0.00	226.38

168 1,1,1,2-Tetrachloroethane						CAS #:	630-20-6		
8.923	8.923	(1.011)	131	2033526	200.000	206.26	0.00-	0.00	100.00(A)
8.923	8.923	(1.011)	117	1369334			0.00-	0.00	67.34
8.923	8.923	(1.011)	95	706365			0.00-	0.00	34.74

173 2-Heptanone						CAS #:	110-43-0		
9.432	9.432	(1.715)	58	1371594	200.000	229.67	0.00-	0.00	100.00(A)
9.432	9.432	(1.715)	43	2005336			0.00-	0.00	146.20

176 Cyclohexanone						CAS #:	108-94-1		
9.797	9.797	(1.109)	55	939724	200.000	203.13	0.00-	0.00	100.00(A)
9.797	9.799	(1.109)	98	547263			0.00-	0.00	58.24
9.797	9.797	(1.109)	42	630631			0.00-	0.00	67.11

180 Bromobenzene						CAS #:	108-86-1		
9.955	9.952	(1.127)	156	2290603	200.000	208.84	0.00-	0.00	100.00(A)
9.955	9.952	(1.127)	158	2237486			0.00-	0.00	97.68
9.948	9.948	(1.127)	77	2723406			0.00-	0.00	118.89

185 1,2,3-Trichloropropane						CAS #:	96-18-4		
10.005	10.005	(1.133)	110	866857	200.000	203.48	0.00-	0.00	100.00(A)
10.005	10.005	(1.133)	75	2029254			0.00-	0.00	234.09
10.005	10.005	(1.133)	61	500015			0.00-	0.00	57.68

189 2-Chlorotoluene						CAS #:	95-49-8		
10.091	10.091	(1.143)	126	1573219	200.000	209.66	0.00-	0.00	100.00(A)
10.091	10.091	(1.143)	91	4014266			0.00-	0.00	255.16
10.091	10.091	(1.143)	65	346093			0.00-	0.00	22.00

191 4-Chlorotoluene						CAS #:	106-43-4		
10.191	10.187	(1.154)	126	1653488	200.000	214.08	0.00-	0.00	100.00(A)
10.184	10.184	(1.153)	91	4253373			0.00-	0.00	257.24

				AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====
191 4-Chlorotoluene (continued)								
10.184	10.184	(1.153)	63	514231			0.00- 0.00	31.10

193 Diisobutyl Ketone						CAS #:	108-83-8	
10.213	10.213	(1.157)	57	2594982	200.000	223.66	0.00- 0.00	100.00(A)
10.213	10.213	(1.157)	85	2704308			0.00- 0.00	104.21

195 tert-Butylbenzene						CAS #:	98-06-6	
10.392	10.392	(1.177)	119	4416372	200.000	208.66	0.00- 0.00	100.00(A)
10.392	10.392	(1.177)	134	1126994			0.00- 0.00	25.52
10.392	10.390	(1.177)	91	2805606			0.00- 0.00	63.53

197 Pentachloroethane						CAS #:	76-01-7	
10.463	10.466	(1.185)	167	1788710	200.000	216.84	0.00- 0.00	100.00(A)
10.463	10.463	(1.185)	117	1542838			0.00- 0.00	86.25
10.463	10.466	(1.185)	169	858838			0.00- 0.00	48.01

203 sec-Butylbenzene						CAS #:	135-98-8	
10.578	10.575	(1.198)	134	1411061	200.000	211.36	0.00- 0.00	100.00(A)
10.578	10.575	(1.198)	105	6427562			0.00- 0.00	455.51
10.578	10.575	(1.198)	91	952377			0.00- 0.00	67.49

207 p-Cymene						CAS #:	99-87-6	
10.685	10.685	(1.210)	119	5811996	200.000	219.86	0.00- 0.00	100.00(A)
10.685	10.685	(1.210)	134	1633870			0.00- 0.00	28.11
10.685	10.685	(1.210)	91	1258522			0.00- 0.00	21.65

210 1,2,3-Trimethylbenzene						CAS #:	526-73-8	
10.814	10.814	(1.225)	120	2208084	200.000	213.53	0.00- 0.00	100.00(A)
10.814	10.814	(1.225)	105	4939081			0.00- 0.00	223.68
10.814	10.814	(1.225)	77	557822			0.00- 0.00	25.26

213 Butylbenzene						CAS #:	104-51-8	
11.036	11.036	(1.250)	134	1482743	200.000	214.43	0.00- 0.00	100.00(A)
11.036	11.036	(1.250)	91	4917597			0.00- 0.00	331.66
11.036	11.036	(1.250)	92	2569579			0.00- 0.00	173.30

221 1,2-Dibromo-3-chloropropane						CAS #:	96-12-8	
11.824	11.821	(1.339)	157	1403642	200.000	213.73	0.00- 0.00	100.00(A)
11.817	11.820	(1.338)	75	962296			0.00- 0.00	68.56
11.824	11.821	(1.339)	155	1088543			0.00- 0.00	77.55

QC Flag Legend

A - Target compound detected but, quantitated amount
exceeded maximum amount.

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17082015.d
Lab Smp Id: ICAL Leve #8
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd17.i/20aug18.b/178q0613c.m
Misc Info: 200ppbv (200ppbv)

Calibration Date: 20-AUG-2018
Calibration Time: 10:21
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	127377	76426	178328	131185	2.99
123 1,4-Difluorobenze	430836	258502	603170	460502	6.89
163 Chlorobenzene-d5	389322	233593	545051	407845	4.76

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.49	5.16	5.82	5.50	0.13
123 1,4-Difluorobenze	6.38	6.05	6.71	6.38	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.i/20aug18.b/17082015.d

Date : 21-AUG-2018 00:35

Client ID:

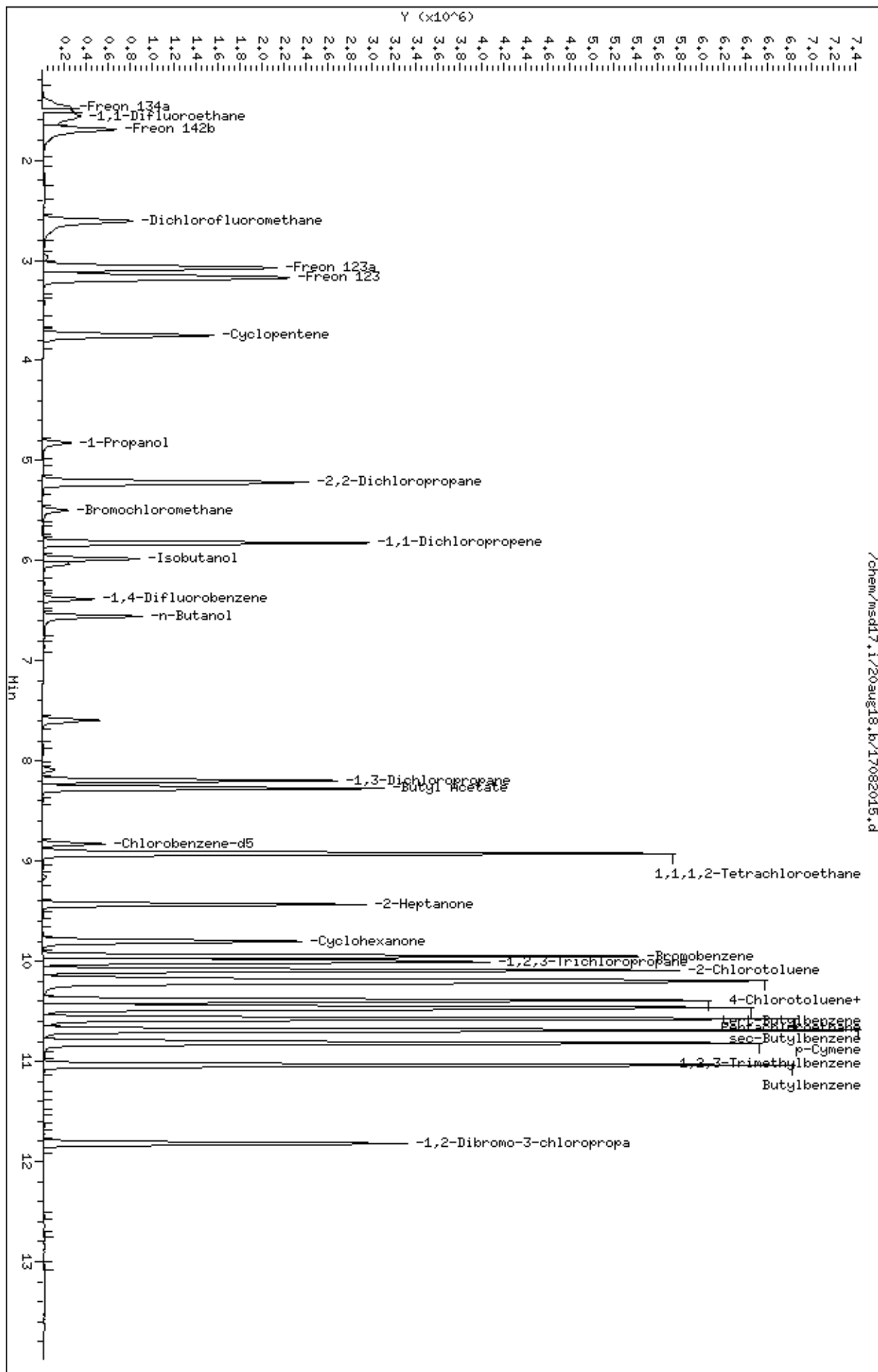
Sample Info: 200ml 3045-50

Column phase: RTX-624

Instrument: msd17.i

Operator: mjs

Column diameter: 0.25



US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/23jul18.b/17072307.d
Lab Smp Id: I Cal level #8
Inj Date : 23-JUL-2018 12:52
Operator : gh Inst ID: msd17.i
Smp Info : 200ml 3045-59
Misc Info : 200ppbv(200ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/23jul18.b/178q0613b.m
Meth Date : 25-Jul-2018 10:54 uexa Quant Type: ISTD
Cal Date : 23-JUL-2018 12:52 Cal File: 17072307.d
Als bottle: 2 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 123TCB.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====

* 98 Bromochloromethane						CAS #:	74-97-5		
5.499	5.498	(1.000)	130	143318	25.0000		80.00-	120.00	100.00
5.499	5.498	(1.000)	128	110565			48.32-	108.32	77.15
5.499	5.497	(1.000)	49	117347			63.40-	123.40	81.88

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.387	6.385	(1.000)	114	485764	25.0000		80.00-	120.00	100.00
6.387	6.383	(1.000)	88	69455			0.00-	44.55	14.30

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	439849	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	206868			17.97-	77.97	47.03

229 1,2,3-Trichlorobenzene						CAS #:	87-61-6		
13.056	13.071	(1.479)	180	4657712	200.000	208.38	0.00-	0.00	100.00(A)
13.056	13.071	(1.479)	182	4481634			0.00-	0.00	96.22
13.056	13.071	(1.479)	145	1302618			0.00-	0.00	27.97

QC Flag Legend

A - Target compound detected but, quantitated amount
exceeded maximum amount.

US32APPTV002

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: msd17.i	Calibration Date: 23-JUL-2018
Lab File ID: 17072307.d	Calibration Time: 09:15
Lab Smp Id: I Cal level #8	
Analysis Type: VOA	Level: LOW
Quant Type: ISTD	Sample Type: AIR
Operator: gh	
Method File: /chem/msd17.i/23jul18.b/178q0613b.m	
Misc Info: 200ppbv(200ppbv)	

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	137931	82759	193103	143318	3.91
123 1,4-Difluorobenze	478828	287297	670359	485764	1.45
163 Chlorobenzene-d5	433117	259870	606364	439849	1.55

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.50	5.17	5.83	5.50	-0.00
123 1,4-Difluorobenze	6.39	6.06	6.72	6.39	-0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
 AREA LOWER LIMIT = - 40% of internal standard area.
 RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.i/23jul18.b/17072307.d

Date : 23-JUL-2018 12:52

Client ID:

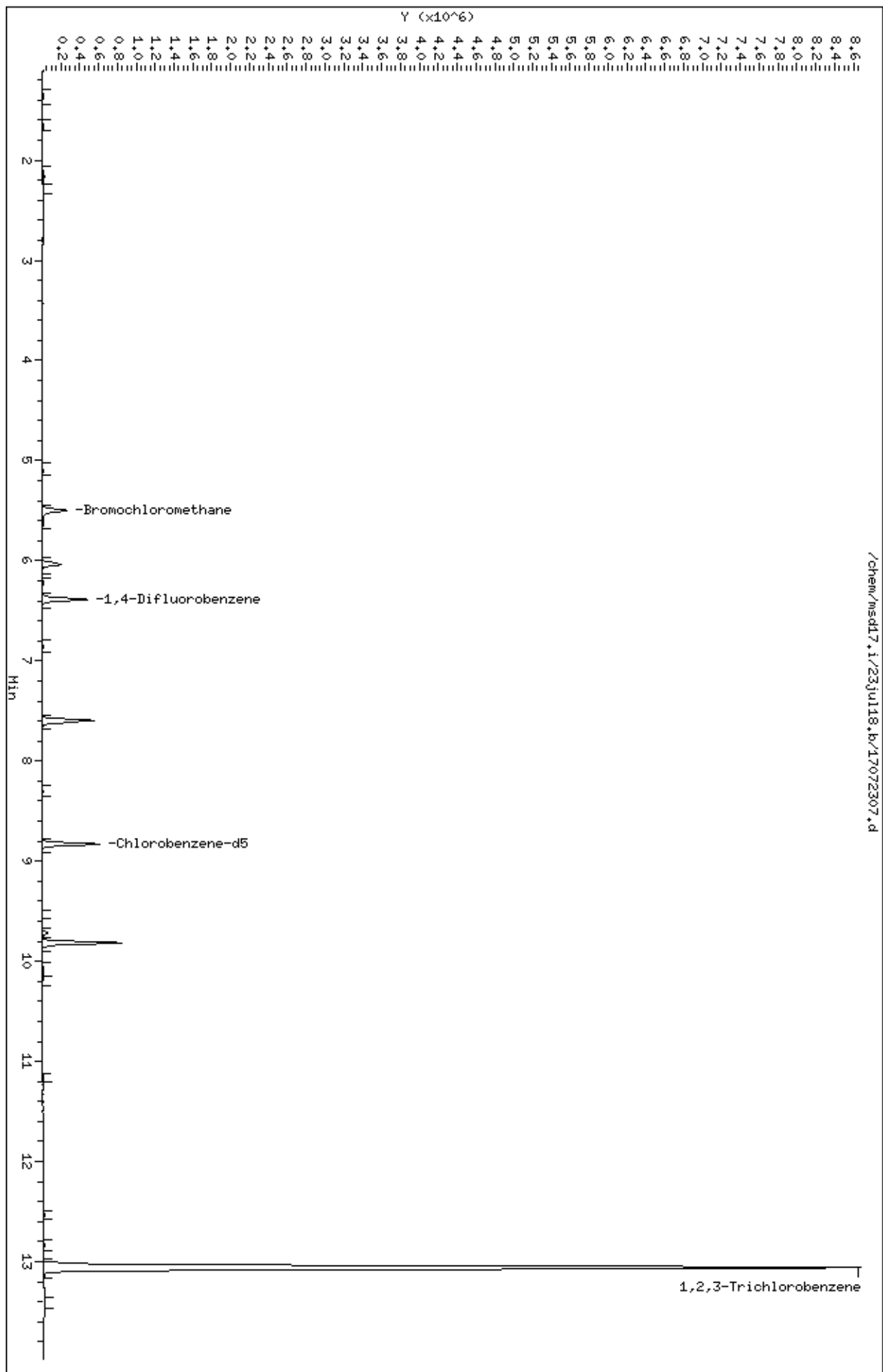
Sample Info: 200ml 3045-59

Column phase: RTX-624

Instrument: msd17.i

Operator: gh

Column diameter: 0.25



Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/13jun18.b/17061308.d
Lab Smp Id: ICAL Level #8
Inj Date : 14-JUN-2018 00:56
Operator : gh Inst ID: msd17.i
Smp Info : 200ml 3018-273
Misc Info : 200ppbv(200ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/13jun18.b/178q0613a.m
Meth Date : 15-Jun-2018 09:11 gdelacru Quant Type: ISTD
Cal Date : 14-JUN-2018 00:56 Cal File: 17061308.d
Als bottle: 13 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12curve.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane						CAS #:	74-97-5		
5.499	5.498	(1.000)	130	165381	25.0000		80.00-	120.00	100.00
5.499	5.498	(1.000)	128	127741			48.32-	108.32	77.24
5.499	5.496	(1.000)	49	130007			63.40-	123.40	78.61

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.387	6.384	(1.000)	114	579474	25.0000		80.00-	120.00	100.00
6.387	6.382	(1.000)	88	86040			0.00-	44.55	14.85

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	518495	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	249002			17.97-	77.97	48.02

\$ 117 1,2-Dichloroethane-d4						CAS #:	17060-07-0		
6.036	6.035	(1.098)	65	194640	25.0000	25.919	80.00-	120.00	100.00
6.036	6.035	(1.098)	67	121922			23.66-	83.66	62.64

\$ 146 Toluene-d8						CAS #:	2037-26-5		
7.598	7.598	(1.190)	98	563828	25.0000	24.983	80.00-	120.00	100.00
7.598	7.598	(1.190)	70	57836			0.00-	40.01	10.26

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
\$ 146	Toluene-d8 (continued)							
7.598	7.598 (1.190)		100	375192			35.43- 95.43	66.54

\$ 177	4-Bromofluorobenzene					CAS #: 460-00-4		
9.818	9.819 (1.112)		174	410074	25.0000	25.046	80.00- 120.00	100.00
9.818	9.819 (1.112)		95	363576			59.41- 119.41	88.66
9.818	9.819 (1.112)		176	398731			68.33- 128.33	97.23

9	Propylene					CAS #: 115-07-1		
1.502	1.500 (0.273)		41	686151	200.000	197.38	80.00- 120.00	100.00
1.502	1.501 (0.273)		42	455476			36.13- 96.13	66.38
1.502	1.501 (0.273)		39	531922			46.53- 106.53	77.52

11	Freon 12					CAS #: 75-71-8		
1.538	1.532 (0.280)		85	2971068	200.000	202.29	80.00- 120.00	100.00(A)
1.538	1.534 (0.280)		87	958892			2.38- 62.38	32.27

15	Freon 114					CAS #: 76-14-2		
1.653	1.653 (0.301)		135	2504739	200.000	202.05	80.00- 120.00	100.00(A)
1.653	1.652 (0.301)		137	804555			2.28- 62.28	32.12

17	Chloromethane					CAS #: 74-87-3		
1.746	1.751 (0.317)		50	657572	200.000	172.80	80.00- 120.00	100.00(A)
1.746	1.749 (0.317)		52	238234			5.22- 65.22	36.23

23	Butane					CAS #: 106-97-8		
1.817	1.814 (0.330)		58	191894	200.000	172.94	80.00- 120.00	100.00
1.817	1.813 (0.330)		43	1318033			637.12- 697.12	686.85

25	Vinyl Chloride					CAS #: 75-01-4		
1.853	1.849 (0.337)		62	1073468	200.000	196.48	80.00- 120.00	100.00
1.853	1.849 (0.337)		64	347916			1.91- 61.91	32.41

26	1,3-Butadiene					CAS #: 106-99-0		
1.875	1.875 (0.341)		54	748174	200.000	200.57	80.00- 120.00	100.00(A)
1.875	1.873 (0.341)		39	785060			72.44- 132.44	104.93

29	Bromomethane					CAS #: 74-83-9		
2.233	2.229 (0.406)		94	1131422	200.000	203.65	80.00- 120.00	100.00(A)
2.233	2.231 (0.406)		96	1064843			65.39- 125.39	94.12

30	Chloroethane					CAS #: 75-00-3		
2.347	2.343 (0.427)		64	559039	200.000	200.68	80.00- 120.00	100.00(A)
2.347	2.345 (0.427)		66	181357			3.25- 63.25	32.44
2.347	2.343 (0.427)		49	149211			0.00- 57.17	26.69

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
31 Isopentane						CAS #:	78-78-4		
2.362	2.358	(0.429)	43	1076395	200.000	197.71	80.00-	120.00	100.00
2.362	2.361	(0.429)	57	812385			45.20-	105.20	75.47
35 Freon 11						CAS #:	75-69-4		
2.591	2.591	(0.471)	101	3505182	200.000	203.47	80.00-	120.00	100.00(A)
2.591	2.591	(0.471)	103	2278935			34.28-	94.28	65.02
42 Ethanol						CAS #:	64-17-5		
2.942	2.942	(0.535)	45	375191	200.000	198.88	80.00-	120.00	100.00
2.942	2.942	(0.535)	46	143990			9.17-	69.17	38.38
49 Freon 113						CAS #:	76-13-1		
3.236	3.231	(0.588)	151	2669506	200.000	199.57	80.00-	120.00	100.00
3.236	3.233	(0.588)	153	1709589			34.01-	94.01	64.04
3.236	3.229	(0.588)	101	2945100			81.38-	141.38	110.32
50 1,1-Dichloroethene						CAS #:	75-35-4		
3.271	3.265	(0.595)	98	840103	200.000	202.62	80.00-	120.00	100.00(A)
3.264	3.263	(0.594)	96	1315593			124.64-	184.64	156.60
3.264	3.264	(0.594)	61	1946150			200.94-	260.94	231.66
52 Acetone						CAS #:	67-64-1		
3.429	3.427	(0.624)	58	493089	200.000	184.98	80.00-	120.00	100.00
3.429	3.427	(0.624)	43	1559766			290.24-	350.24	316.33
56 Carbon Disulfide						CAS #:	75-15-0		
3.501	3.501	(0.637)	76	3392143	200.000	196.60	80.00-	120.00	100.00
57 2-Propanol						CAS #:	67-63-0		
3.608	3.605	(0.656)	45	1712463	200.000	199.56	80.00-	120.00	100.00
3.608	3.603	(0.656)	43	358266			0.00-	51.65	20.92
3.608	3.605	(0.656)	59	68045			0.00-	34.46	3.97
58 3-Chloropropene						CAS #:	107-05-1		
3.744	3.745	(0.681)	76	600788	200.000	214.32	80.00-	120.00	100.00(A)
3.744	3.744	(0.681)	41	1241628			187.06-	247.06	206.67
66 Methylene Chloride						CAS #:	75-09-2		
3.938	3.938	(0.716)	49	1230691	200.000	202.01	80.00-	120.00	100.00(A)
3.938	3.938	(0.716)	84	1115952			60.06-	120.06	90.68
3.938	3.938	(0.716)	51	369333			0.22-	60.22	30.01
71 tert-Butyl alcohol						CAS #:	75-65-0		
4.059	4.061	(0.738)	59	2517878	200.000	199.80	80.00-	120.00	100.00
4.059	4.059	(0.738)	41	479802			0.00-	49.54	19.06

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
71	tert-Butyl alcohol (continued)							
4.059	4.061 (0.738)		57	271259			0.00- 40.61	10.77
72	Methyl tert-butyl ether					CAS #: 1634-04-4		
4.145	4.147 (0.754)		73	3561684	200.000	199.34	80.00- 120.00	100.00
4.145	4.145 (0.754)		57	717467			0.00- 50.61	20.14
4.145	4.145 (0.754)		41	669649			0.00- 49.00	18.80
73	trans-1,2-Dichloroethene					CAS #: 156-60-5		
4.174	4.175 (0.759)		98	808340	200.000	198.29	80.00- 120.00	100.00
4.174	4.174 (0.759)		61	1596985			169.57- 229.57	197.56
4.174	4.174 (0.759)		96	1255310			127.00- 187.00	155.29
78	Hexane					CAS #: 110-54-3		
4.382	4.382 (0.797)		57	1712857	200.000	196.70	80.00- 120.00	100.00
4.382	4.382 (0.797)		43	997804			28.25- 88.25	58.25
4.382	4.382 (0.797)		86	323406			0.00- 48.98	18.88
82	1,1-Dichloroethane					CAS #: 75-34-3		
4.675	4.676 (0.850)		63	2132253	200.000	203.35	80.00- 120.00	100.00(A)
4.675	4.676 (0.850)		65	681558			2.30- 62.30	31.96
83	Isopropyl ether					CAS #: 108-20-3		
4.654	4.656 (0.846)		45	3619913	200.000	200.53	80.00- 120.00	100.00(A)
4.661	4.658 (0.848)		87	1248222			4.15- 64.15	34.48
4.661	4.658 (0.848)		59	452281			0.00- 42.61	12.49
86	Vinyl Acetate					CAS #: 108-05-4		
4.718	4.718 (0.858)		86	356590	200.000	208.27	80.00- 120.00	100.00(A)
4.718	4.715 (0.858)		43	3206431			863.69- 923.69	899.19
88	Ethyl-tert-butyl ether					CAS #: 637-92-3		
5.019	5.019 (0.913)		59	3948222	200.000	202.40	80.00- 120.00	100.00(A)
5.019	5.019 (0.913)		87	1813995			16.34- 76.34	45.94
5.019	5.019 (0.913)		41	668145			0.00- 47.31	16.92
91	cis-1,2-Dichloroethene					CAS #: 156-59-2		
5.263	5.263 (0.957)		98	961523	200.000	195.88	80.00- 120.00	100.00
5.263	5.263 (0.957)		96	1492306			122.96- 182.96	155.20
5.263	5.263 (0.957)		61	1707703			147.21- 207.21	177.60
92	2-Butanone					CAS #: 78-93-3		
5.291	5.289 (0.962)		72	613141	200.000	205.55	80.00- 120.00	100.00(A)
5.284	5.287 (0.961)		43	2042393			305.24- 365.24	333.10
5.284	5.287 (0.961)		57	175035			0.00- 59.67	28.55

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
99 Tetrahydrofuran						CAS #:	109-99-9		
5.492	5.492	(0.999)	42	1097778	200.000	194.70	80.00-	120.00	100.00
5.492	5.494	(0.999)	71	533759			18.99-	78.99	48.62
5.492	5.493	(0.999)	72	562293			20.78-	80.78	51.22

100 Chloroform						CAS #:	67-66-3		
5.564	5.558	(1.012)	83	2685838	200.000	209.24	80.00-	120.00	100.00(A)
5.564	5.559	(1.012)	85	1769837			35.00-	95.00	65.90

102 Cyclohexane						CAS #:	110-82-7		
5.657	5.657	(1.029)	84	1712120	200.000	198.11	80.00-	120.00	100.00
5.657	5.656	(1.029)	56	1718961			70.31-	130.31	100.40
5.657	5.656	(1.029)	41	950204			25.25-	85.25	55.50

103 1,1,1-Trichloroethane						CAS #:	71-55-6		
5.678	5.677	(1.033)	97	2894243	200.000	202.28	80.00-	120.00	100.00(A)
5.678	5.677	(1.033)	99	1882501			34.84-	94.84	65.04

106 Carbon Tetrachloride						CAS #:	56-23-5		
5.793	5.793	(1.053)	119	3058545	200.000	196.24	80.00-	120.00	100.00
5.793	5.793	(1.053)	117	3193949			73.53-	133.53	104.43

113 2,2,4-Trimethylpentane						CAS #:	540-84-1		
5.979	5.984	(1.087)	57	5276885	200.000	205.13	80.00-	120.00	100.00(A)
5.979	5.984	(1.087)	56	1584222			2.59-	62.59	30.02
5.979	5.982	(1.087)	41	1367804			0.00-	55.57	25.92

116 Benzene						CAS #:	71-43-2		
6.008	6.008	(0.941)	78	3779810	200.000	205.70	80.00-	120.00	100.00(A)
6.008	6.008	(0.941)	77	908681			0.00-	53.90	24.04

119 tert-Amyl methyl ether						CAS #:	994-05-8		
6.072	6.072	(1.104)	87	1015071	200.000	206.33	80.00-	120.00	100.00(A)
6.072	6.075	(1.104)	73	4026100			361.82-	421.82	396.63
6.072	6.072	(1.104)	55	882418			58.31-	118.31	86.93

120 1,2-Dichloroethane						CAS #:	107-06-2		
6.101	6.101	(0.955)	62	1740912	200.000	211.67	80.00-	120.00	100.00(A)
6.101	6.101	(0.955)	64	561189			3.07-	63.07	32.24

121 Heptane						CAS #:	142-82-5		
6.151	6.151	(0.963)	71	1285034	200.000	199.90	80.00-	120.00	100.00
6.151	6.151	(0.963)	43	1819104			110.59-	170.59	141.56
6.151	6.150	(0.963)	57	1198904			64.25-	124.25	93.30

125 Trichloroethene						CAS #:	79-01-6		
6.581	6.581	(1.030)	95	1836360	200.000	208.76	80.00-	120.00	100.00(A)

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
125 Trichloroethene (continued)									
6.581	6.581	(1.030)	130	2072171			81.76-	141.76	112.84
6.581	6.581	(1.030)	97	1196656			34.64-	94.64	65.16

127 Methylcyclohexane						CAS #:	108-87-2		
6.674	6.674	(1.214)	83	2356255	200.000	200.18	80.00-	120.00	100.00(A)
6.674	6.674	(1.214)	98	1139957			18.58-	78.58	48.38
6.674	6.674	(1.214)	55	1598654			37.28-	97.28	67.85

132 1,2-Dichloropropane						CAS #:	78-87-5		
6.817	6.817	(1.067)	63	1292771	200.000	198.75	80.00-	120.00	100.00
6.817	6.817	(1.067)	62	894022			38.79-	98.79	69.16
6.817	6.817	(1.067)	41	695864			23.87-	83.87	53.83

136 1,4-Dioxane						CAS #:	123-91-1		
6.903	6.906	(1.081)	88	942919	200.000	203.00	80.00-	120.00	100.00(A)
6.903	6.904	(1.081)	58	544433			28.36-	88.36	57.74
6.903	6.903	(1.081)	57	183561			0.00-	49.37	19.47

138 Bromodichloromethane						CAS #:	75-27-4		
7.046	7.046	(1.103)	83	2867215	200.000	209.13	80.00-	120.00	100.00(A)
7.046	7.046	(1.103)	85	1854413			34.11-	94.11	64.68

144 cis-1,3-Dichloropropene						CAS #:	10061-01-5		
7.419	7.419	(1.161)	75	2252856	200.000	209.48	80.00-	120.00	100.00(A)
7.419	7.419	(1.161)	77	710702			2.33-	62.33	31.55
7.419	7.419	(1.161)	39	1043496			16.60-	76.60	46.32

145 4-Methyl-2-pentanone						CAS #:	108-10-1		
7.526	7.526	(1.178)	58	1004433	200.000	189.82	80.00-	120.00	100.00
7.526	7.526	(1.178)	43	2481528			214.83-	274.83	247.06
7.526	7.526	(1.178)	85	537718			23.05-	83.05	53.53

147 Toluene						CAS #:	108-88-3		
7.655	7.655	(1.198)	91	4908364	200.000	205.71	80.00-	120.00	100.00(A)
7.655	7.655	(1.198)	92	2799452			27.80-	87.80	57.03

150 trans-1,3-Dichloropropene						CAS #:	10061-02-6		
7.899	7.899	(0.895)	75	2158150	200.000	212.94	80.00-	120.00	100.00(A)
7.899	7.899	(0.895)	77	684075			1.77-	61.77	31.70
7.899	7.899	(0.895)	39	967642			14.97-	74.97	44.84

155 1,1,2-Trichloroethane						CAS #:	79-00-5		
8.056	8.056	(0.912)	97	1663307	200.000	205.94	80.00-	120.00	100.00(A)
8.056	8.056	(0.912)	99	1050621			32.71-	92.71	63.16
8.056	8.056	(0.912)	83	1406170			55.53-	115.53	84.54

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
156						CAS #:	127-18-4	
8.092	8.092	(0.916)	166	2999473	200.000	205.53	80.00- 120.00	100.00(A)
8.092	8.092	(0.916)	129	2006170			36.14- 96.14	66.88
8.092	8.092	(0.916)	131	1944108			34.69- 94.69	64.81
158						CAS #:	591-78-6	
8.214	8.214	(0.930)	58	1367438	200.000	208.61	80.00- 120.00	100.00(A)
8.214	8.214	(0.930)	43	2436744			146.83- 206.83	178.20
8.214	8.215	(0.930)	100	354119			0.00- 55.52	25.90
160						CAS #:	124-48-1	
8.371	8.367	(0.948)	129	3550346	200.000	211.95	80.00- 120.00	100.00(A)
8.371	8.367	(0.948)	127	2741522			47.05- 107.05	77.22
161						CAS #:	106-93-4	
8.479	8.479	(0.960)	107	2817349	200.000	203.95	80.00- 120.00	100.00(A)
8.479	8.479	(0.960)	109	2678322			65.51- 125.51	95.07
165						CAS #:	108-90-7	
8.859	8.859	(1.003)	112	4117365	200.000	201.42	80.00- 120.00	100.00(A)
8.859	8.859	(1.003)	114	1321612			2.14- 62.14	32.10
8.859	8.852	(1.003)	77	2160857			23.42- 83.42	52.48
167						CAS #:	100-41-4	
8.902	8.902	(1.008)	106	2073854	200.000	201.89	80.00- 120.00	100.00(A)
8.902	8.902	(1.008)	91	6308014			268.52- 328.52	304.17
169						CAS #:	108-38-3	
9.002	8.997	(1.019)	106	2586561	200.000	202.51	80.00- 120.00	100.00(A)
9.002	8.996	(1.019)	91	5001112			161.75- 221.75	193.35
171						CAS #:	95-47-6	
9.339	9.339	(1.058)	106	2444172	200.000	201.96	80.00- 120.00	100.00(A)
9.339	9.339	(1.058)	91	5001467			170.98- 230.98	204.63
172						CAS #:	100-42-5	
9.360	9.360	(1.060)	104	4113050	200.000	214.34	80.00- 120.00	100.00(A)
9.360	9.360	(1.060)	78	1891947			16.10- 76.10	46.00
174						CAS #:	75-25-2	
9.568	9.568	(1.084)	173	4113203	200.000	213.71	80.00- 120.00	100.00(A)
9.568	9.568	(1.084)	171	2094690			21.32- 81.32	50.93
175						CAS #:	98-82-8	
9.625	9.625	(1.090)	105	7450906	200.000	203.13	80.00- 120.00	100.00(A)
9.632	9.626	(1.091)	120	2117200			0.00- 58.56	28.42

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
				CAL-AMT (PPBV)	ON-COL (PPBV)		
175	Cumene (continued)						
9.625	9.625 (1.090)	51	564610			0.00- 37.61	7.58
181	1,1,2,2-Tetrachloroethane				CAS #: 79-34-5		
9.947	9.948 (1.127)	83	3508953	200.000	203.15	80.00- 120.00	100.00(A)
9.947	9.948 (1.127)	85	2296167			35.03- 95.03	65.44
182	Propylbenzene				CAS #: 103-65-1		
9.976	9.974 (1.130)	91	8362845	200.000	201.76	80.00- 120.00	100.00(A)
9.976	9.976 (1.130)	120	2171011			0.00- 56.23	25.96
9.976	9.976 (1.130)	105	314644			0.00- 33.80	3.76
188	4-Ethyltoluene				CAS #: 622-96-8		
10.069	10.069 (1.140)	120	2334313	200.000	201.07	80.00- 120.00	100.00(A)
10.069	10.069 (1.140)	105	7682432			275.42- 335.42	329.11
190	1,3,5-Trimethylbenzene				CAS #: 108-67-8		
10.119	10.119 (1.146)	120	3328008	200.000	206.35	80.00- 120.00	100.00(A)
10.119	10.119 (1.146)	105	6230430			165.32- 225.32	187.21
196	1,2,4-Trimethylbenzene				CAS #: 95-63-6		
10.449	10.444 (1.183)	120	2957219	200.000	205.19	80.00- 120.00	100.00(A)
10.449	10.443 (1.183)	105	6103404			176.48- 236.48	206.39
208	1,3-Dichlorobenzene				CAS #: 541-73-1		
10.735	10.735 (1.216)	146	4903855	200.000	200.36	80.00- 120.00	100.00(A)
10.735	10.735 (1.216)	148	3163715			34.93- 94.93	64.51
10.735	10.735 (1.216)	111	1740755			5.13- 65.13	35.50
209	1,4-Dichlorobenzene				CAS #: 106-46-7		
10.821	10.820 (1.226)	146	5012271	200.000	200.44	80.00- 120.00	100.00(A)
10.821	10.821 (1.226)	148	3215706			34.11- 94.11	64.16
10.821	10.817 (1.226)	111	1694076			4.00- 64.00	33.80
212	alpha-Chlorotoluene				CAS #: 100-44-7		
10.936	10.936 (1.238)	91	5645967	200.000	217.73	80.00- 120.00	100.00(A)
10.936	10.936 (1.238)	126	1399153			0.00- 55.13	24.78
214	1,2-Dichlorobenzene				CAS #: 95-50-1		
11.151	11.148 (1.263)	146	4688262	200.000	199.30	80.00- 120.00	100.00
11.151	11.149 (1.263)	148	3013639			34.17- 94.17	64.28
11.151	11.146 (1.263)	111	1708806			6.50- 66.50	36.45
226	1,2,4-Trichlorobenzene				CAS #: 120-82-1		
12.540	12.541 (1.420)	180	5357898	200.000	200.26	80.00- 120.00	100.00(A)
12.540	12.541 (1.420)	182	5130382			65.44- 125.44	95.75

AMOUNTS									
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	===	=====	=====	=====	=====	=====	=====
227 Hexachlorobutadiene						CAS #:	87-68-3		
12.626	12.620	(1.430)	225	4825939	200.000	201.79	80.00-	120.00	100.00(A)
12.626	12.620	(1.430)	223	3003799			32.93-	92.93	62.24

228 Naphthalene						CAS #:	91-20-3		
12.805	12.806	(1.450)	128	966889	20.00000	21.000	80.00-	120.00	100.00(A)
12.805	12.806	(1.450)	127	127602			0.00-	43.59	13.20

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17061308.d
Lab Smp Id: ICAL Level #8
Analysis Type: VOA
Quant Type: ISTD
Operator: gh
Method File: /chem/msd17.i/13jun18.b/178q0613a.m
Misc Info: 200ppbv(200ppbv)

Calibration Date: 14-JUN-2018
Calibration Time: 00:02

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	162788	97673	227903	165381	1.59
123 1,4-Difluorobenze	570167	342100	798234	579474	1.63
163 Chlorobenzene-d5	520088	312053	728123	518495	-0.31

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.50	5.17	5.83	5.50	0.00
123 1,4-Difluorobenze	6.38	6.05	6.71	6.39	0.11
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name: Client SDG: 13jun18
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: ICAL Level #8
Level: LOW Operator: gh
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AT12.sub
Method File: /chem/msd17.i/13jun18.b/178q0613a.m
Misc Info: 200ppbv(200ppbv)

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
\$ 117 1,2-Dichloroethane	25.000	0.000	0.00*	70-130
\$ 146 Toluene-d8	25.000	0.000	0.00*	70-130
\$ 177 4-Bromofluorobenze	25.000	0.000	0.00*	70-130

Data File: /chem/msd17.i/13jun18.b/17061308.d

Date : 14-JUN-2018 00:56

Client ID:

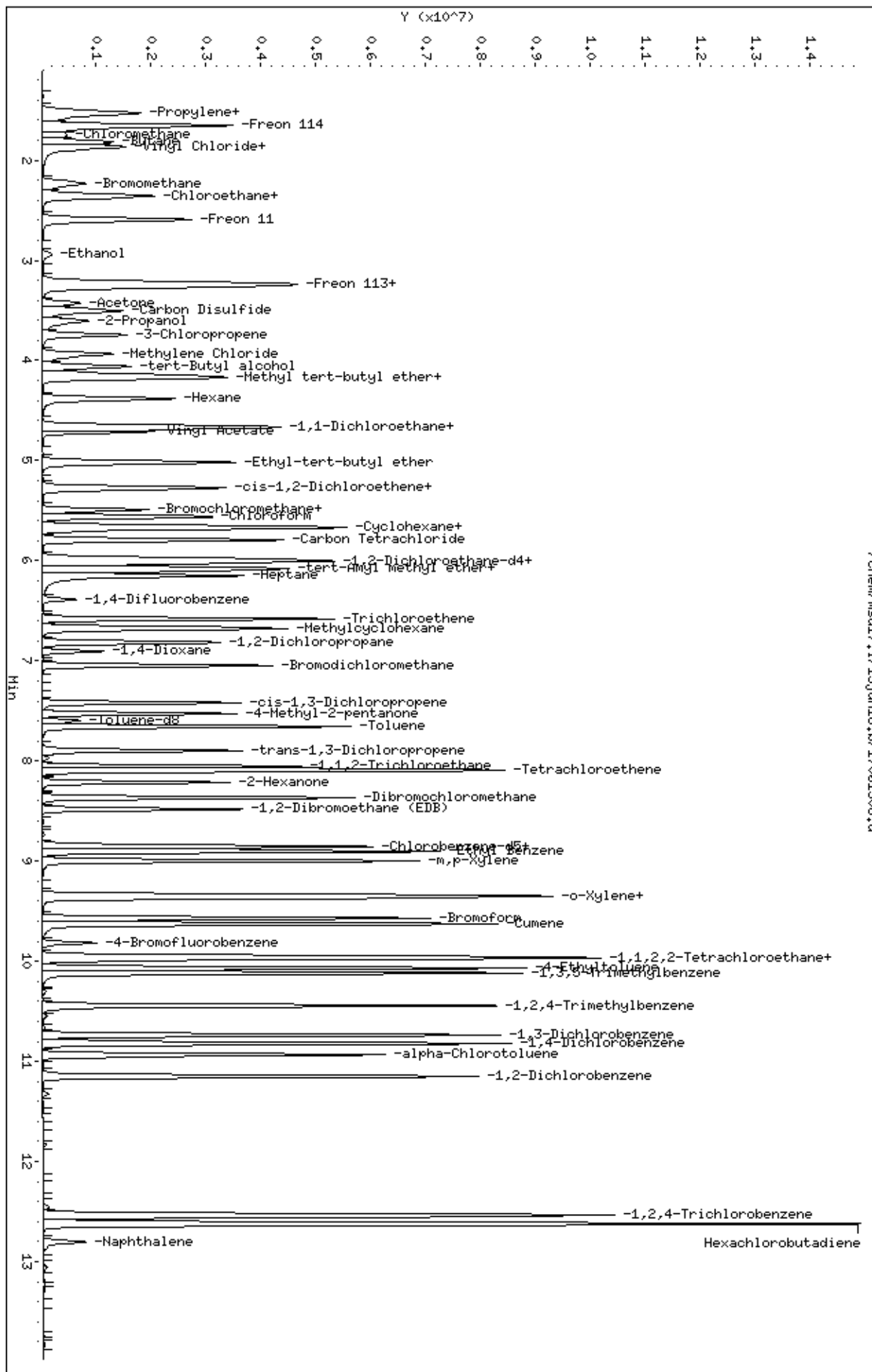
Sample Info: 200ml 3018-273

Column phase: RTX-624

Instrument: msd17.i

Operator: gh

Column diameter: 0.25



Eurofins Air Toxics 3Q 2018 TO-14A/TO-15 QUAD DoD 5.0 Limit of Detections (LODs) Effective 10-01-18						
CAS #	Analyte	Molecular Weight (MW)	LOD (ppbv)	LOQ (ppbv)	LOD (ug/m3)	LOQ (ug/m3)
71-55-6	1,1,1-Trichloroethane	133.42	0.4	0.5	2.18274	2.72843
79-34-5	1,1,2,2-Tetrachloroethane	167.86	0.4	0.5	2.74618	3.43272
79-00-5	1,1,2-Trichloroethane	133.42	0.4	0.5	2.18274	2.72843
75-34-3	1,1-Dichloroethane	98.97	0.4	0.5	1.61914	2.02393
75-35-4	1,1-Dichloroethene	96.95	0.4	0.5	1.58609	1.98262
120-82-1	1,2,4-Trichlorobenzene	181.46	1.5	2	11.13252	14.84335
95-63-6	1,2,4-Trimethylbenzene	120.19	0.4	0.5	1.9663	2.45787
106-93-4	1,2-Dibromoethane (EDB)	187.88	0.4	0.5	3.0737	3.84213
95-50-1	1,2-Dichlorobenzene	147.01	0.4	0.5	2.40507	3.00634
107-06-2	1,2-Dichloroethane	98.96	0.4	0.5	1.61898	2.02372
78-87-5	1,2-Dichloropropane	112.99	0.4	0.5	1.84851	2.31063
108-67-8	1,3,5-Trimethylbenzene	120.19	0.4	0.5	1.9663	2.45787
106-99-0	1,3-Butadiene	54.09	0.4	0.5	0.88491	1.10613
541-73-1	1,3-Dichlorobenzene	147.01	0.4	0.5	2.40507	3.00634
106-46-7	1,4-Dichlorobenzene	147.01	0.4	0.5	2.40507	3.00634
123-91-1	1,4-Dioxane	88.11	1.5	2	5.40552	7.20736
540-84-1	2,2,4-Trimethylpentane	114.22	0.4	0.5	1.86863	2.33579
78-93-3	2-Butanone	72.11	1.5	2	4.42393	5.89857
591-78-6	2-Hexanone	100.16	1.5	2	6.14479	8.19305
67-63-0	2-Propanol	60.09	1.5	2	3.6865	4.91534
107-05-1	3-Chloropropene	76.53	1.5	2	4.69509	6.26012
622-96-8	4-Ethyltoluene	120.19	0.4	0.5	1.9663	2.45787
108-10-1	4-Methyl-2-pentanone	100.16	0.4	0.5	1.63861	2.04826
67-64-1	Acetone	58.08	1.5	5	3.56319	11.8773
100-44-7	alpha-Chlorotoluene	126.58	0.4	0.5	2.07084	2.58855
71-43-2	Benzene	78.11	0.4	0.5	1.27787	1.59734
75-27-4	Bromodichloromethane	163.83	0.4	0.5	2.68025	3.35031
75-25-2	Bromoform	252.77	0.4	0.5	4.1353	5.16912
74-83-9	Bromomethane	94.95	1.5	5	5.82515	19.41718
75-15-0	Carbon Disulfide	76.14	1.5	2	4.67117	6.22822
56-23-5	Carbon Tetrachloride	153.84	0.4	0.5	2.51681	3.14601
108-90-7	Chlorobenzene	112.56	0.4	0.5	1.84147	2.30184
75-00-3	Chloroethane	64.52	1.5	2	3.95828	5.27771
67-66-3	Chloroform	119.39	0.4	0.5	1.95321	2.44151
74-87-3	Chloromethane	50.49	1.5	5	3.09755	10.32515
156-59-2	cis-1,2-Dichloroethene	96.94	0.4	0.5	1.58593	1.98241
10061-01-5	cis-1,3-Dichloropropene	110.97	0.4	0.5	1.81546	2.26933
98-82-8	Cumene	120.19	0.4	0.5	1.9663	2.45787
110-82-7	Cyclohexane	84.16	0.4	0.5	1.37685	1.72106
124-48-1	Dibromochloromethane	208.28	0.4	0.5	3.40744	4.2593
64-17-5	Ethanol	46.07	1.5	2	2.82638	3.76851

3Q2018 MSD-17 QUAD LODs

100-41-4	Ethyl Benzene	106.16	0.4	0.5	1.73677	2.17096
75-69-4	Freon 11	137.38	0.4	0.5	2.24753	2.80941
76-13-1	Freon 113	187.39	0.4	0.5	3.06569	3.83211
76-14-2	Freon 114	170.93	0.4	0.5	2.7964	3.4955
75-71-8	Freon 12	120.92	0.4	0.5	1.97824	2.4728
142-82-5	Heptane	100.2	0.4	0.5	1.63926	2.04908
87-68-3	Hexachlorobutadiene	260.76	1.5	2	15.99755	21.33006
110-54-3	Hexane	86.17	0.4	0.5	1.40973	1.76217
108-38-3	m,p-Xylene	106.17	0.4	0.5	1.73693	2.17117
1634-04-4	Methyl tert-butyl ether	88.15	1.5	2	5.40798	7.2106
75-09-2	Methylene Chloride	84.94	1.5	5	5.21104	17.37014
91-20-3	Naphthalene	128.17	0.15	1	0.78632	5.24213
95-47-6	o-Xylene	106.17	0.4	0.5	1.73693	2.17117
103-65-1	Propylbenzene	120.19	0.4	0.5	1.9663	2.45787
115-07-1	Propylene	42.08	1.5	2	2.5816	3.44213
100-42-5	Styrene	104.14	0.4	0.5	1.70372	2.12965
127-18-4	Tetrachloroethene	165.85	0.4	0.5	2.71329	3.39162
109-99-9	Tetrahydrofuran	72.1	0.4	0.5	1.17955	1.47444
108-88-3	Toluene	92.13	0.4	0.5	1.50724	1.88405
156-60-5	trans-1,2-Dichloroethene	96.94	0.4	0.5	1.58593	1.98241
10061-02-6	trans-1,3-Dichloropropene	110.97	0.4	0.5	1.81546	2.26933
79-01-6	Trichloroethene	131.39	0.4	0.5	2.14953	2.68691
108-05-4	Vinyl Acetate	86.09	1.5	2	5.2816	7.04213
75-01-4	Vinyl Chloride	62.5	0.4	0.5	1.02249	1.27812

ppbv - part per billion by volume

Concentration (ug/m3) = Concentration (ppbv)*MW/24.45

Instrument ID - msd17.i file msd17.i/18sep18.b/17091807.d msd17.i/19sep18.b/17091907.d

msd17.i/19sep18.b/17091907a.d

Report Date : 23-Feb-2018 15:48

Page 1

Method File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.1

Method Detection Limit Summary Report
MDL verification:
0.4 ppbv (2.5 ppbv); 3018-100A; 32 mL

MSD17 T015 0.5 ppbv PL
0.4 ppbv (5.0 ppbv); 3018-100; 30 mL

ID:	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09
FILENAME:	17021208	17021209	17021210	17021308	17021309	17021310	17021409	17021410	17021411
INT.DATF:	12-FEB-2018	12-FEB-2018	12-FEB-2018	13-FEB-2018	13-FEB-2018	13-FEB-2018	14-FEB-2018	14-FEB-2018	14-FEB-2018
INT.TIME:	14:13	14:38	15:04	13:12	13:38	14:03	15:51	16:16	16:41
Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09
1 Dimethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
2 Freon 14	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
3 Acetaldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
4 Hexafluoropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
5 Freon 13	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
6 Freon 143a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
7 Freon 134a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
8 Propane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
9 Propylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
10 1,1-Difluoroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
11 Freon 12	0.73	0.75	0.80	0.70	0.68	0.76	0.71	0.74	0.73
12 Vinyl Fluoride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
13 Chlorodifluoromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
14 Ethylene Oxide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
15 Freon 114	0.68	0.66	0.76	0.67	0.64	0.68	0.62	0.67	0.64
16 Freon 142b	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
17 Chloromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

PL (ppbv)

MDL (ppbv)

Reviewer 1
Reviewer 2

Chloromethane

Date: 2/26/18
Date: 3/1/18

$\bar{X} = 0.107 \text{ ppbv}$
 $2\bar{X} = 0.215 \text{ ppbv}$
 $4\bar{X} = 0.4 \text{ ppbv}$
All ratios of the mean recovered concentration and the MDL value are between 1 and 20.

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
18 Isobutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
19 Isobutylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
20 2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
21 trans-2-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
22 1-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
23 Butane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
24 cis-2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
25 Vinyl Chloride	0.64	0.73	0.70	0.64	0.67	0.61	0.64	0.72	0.70	0.67	0.04	0.12
26 1,3-Butadiene	0.68	0.79	0.74	0.69	0.71	0.70	0.75	0.75	0.68	0.72	0.04	0.12
27 3-Methyl-1-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
28 Methanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
29 Bromomethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
30 Chloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
31 Isopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
32 Vinyl Bromide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
33 2-Chloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
34 Pentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
35 Freon 11	0.71	0.70	0.66	0.70	0.63	0.69	0.69	0.62	0.66	0.67	0.03	0.09
36 1-Pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
37 Dichlorofluoromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
38 2,3-Dimethylbutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
39 Isoprene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

PL(pbk)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
40 2-Methyl-2-butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
41 trans-2-Pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
42 Ethanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
43 1,2-Dichloro-1-fluoro	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
44 Ethyl Ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
45 cis-2-Pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
46 Acrolein	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
47 Freon 123a	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
48 Freon 123	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
49 Freon 113	0.59	0.77	0.73	0.59	0.62	0.68	0.65	0.67	0.69	0.59	0.04	0.12
50 1,1-Dichloroethene	0.54	0.51	0.51	0.53	0.59	0.71	0.55	0.51	0.66	0.57	0.07	0.22
51 2,2-Dimethylbutane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
52 Acetone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
53 Iodomethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
54 Bromomethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
55 4-Methyl-1-pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
56 Carbon Disulfide	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
57 2-Propanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
58 3-Chloropropene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
59 Cyclopentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
60 2-Methylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
61 Methyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
62 3-Methylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
63 Acetonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

PL (ppm)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
64 Cyclopentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
65 1-Chloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
66 Methylene Chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
67 2-Methyl-1-pentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
68 2,4-Dimethylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
69 2,3-Dimethylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
70 tert-Butyl chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
71 tert-Butyl alcohol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
72 Methyl tert-butyl ethel	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
73 trans-1,2-Dichloroethel	0.62	0.61	0.68	0.53	0.57	0.57	0.65	0.68	0.67	0.62	0.05	0.15
74 Acrylonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
75 trans-2-Hexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
76 1-Hexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
77 cis-2-Hexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
78 Hexane	0.55	0.62	0.56	0.60	0.58	0.52	0.53	0.53	0.58	0.56	0.03	0.10
79 Methylcyclopentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
80 sec-Butyl chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
81 2,3,4-Trimethylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
82 1,1-Dichloroethane	0.67	0.74	0.65	0.69	0.68	0.72	0.68	0.67	0.66	0.69	0.03	0.09
83 Isopropyl ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
84 1-Propanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
85 Chloroprene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
86 Vinyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

PL (ppbv)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
87 Butanal	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
88 Ethyl-tert-butyl ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
89 Isobutyl chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
90 2,2-Dichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
91 cis-1,2-Dichloroethene	0.54	0.53	0.58	0.62	0.57	0.62	0.61	0.61	0.57	0.59	0.03	0.08
92 2-Butanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
93 Methyl Acrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
94 Ethyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
95 Methacrylonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
96 2-Chloropentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
97 2-Butanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
98 Bromochloromethane	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
99 Tetrahydrofuran	0.65	0.64	0.57	0.62	0.62	0.65	0.63	0.70	0.68	0.64	0.04	0.11
100 Chloroform	0.67	0.66	0.74	0.70	0.67	0.69	0.66	0.66	0.67	0.68	0.03	0.08
101 1-Bromopropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
102 Cyclohexane	0.52	0.53	0.57	0.63	0.59	0.56	0.65	0.56	0.58	0.58	0.04	0.12
103 1,1,1-Trichloroethane	0.72	0.69	0.75	0.66	0.72	0.73	0.73	0.68	0.74	0.71	0.03	0.09
104 Chloroacetonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
105 n-Butylchloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
106 Carbon Tetrachloride	0.67	0.72	0.71	0.71	0.67	0.74	0.66	0.67	0.66	0.69	0.03	0.08
107 1,1-Dichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
108 Thiophene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
109 2-Methylhexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
110 3-Methylhexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

PL(ppbw)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
111 Cyclohexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
112 Benzene-d6	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
113 2,2,4-Trimethylpentane	0.55	0.61	0.60	0.57	0.58	0.61	0.60	0.64	0.60	0.60	0.03	0.08
114 1-Methoxy-2-propanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
115 Isobutanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
116 Benzene	0.94	0.87	0.83	0.87	0.86	0.86	0.82	0.85	0.80	0.86	0.04	0.12
117 1,2-Dichloroethane-d4	24.90	24.67	25.60	24.41	24.06	24.58	24.30	24.49	24.03	24.56	0.48	1.39
118 1-Heptene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
119 tert-Amyl methyl ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
120 1,2-Dichloroethane	0.82	0.87	0.82	0.84	0.78	0.85	0.85	0.80	0.80	0.83	0.03	0.08
121 Heptane	0.55	0.69	0.55	0.59	0.62	0.67	0.68	0.72	0.63	0.63	0.06	0.18
122 2,3-Dichloro-1-Propene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
* 123 1,4-Difluorobenzene	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
124 n-Butanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
125 Trichloroethene	0.85	0.85	0.75	0.73	0.74	0.89	0.79	0.77	0.87	0.80	0.07	0.19
126 Bromodichloroethene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
127 Methylcyclohexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
128 Ethyl acrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
129 2-Methylheptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
130 3-Methylheptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
131 2-Pentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
132 1,2-Dichloropropane	0.86	0.88	0.76	0.76	0.83	0.79	0.80	0.79	0.86	0.82	0.04	0.13
133 1-Bromo-2-Chloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
134 Methyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Reference

MDL

0.28

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
135 Diethyl Ketone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
136 1,4-Dioxane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
137 Dibromomethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
138 Bromodichloromethane	0.81	0.85	0.83	0.74	0.75	0.02	0.85	0.83	0.83	0.81	0.04	0.12
139 2-Nitropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
140 bis(chloromethyl) Etbe	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
141 1-Octene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
142 Epichlorohydrin	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
143 2-Chloroethyl Vinyl Et	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
144 cis-1,3-Dichloropropen	0.74	0.84	0.72	0.79	0.81	0.77	0.74	0.79	0.79	0.78	0.04	0.11
145 4-Methyl-2-pentanone	0.93	0.85	0.90	0.97	0.73	0.73	0.79	0.88	0.86	0.85	0.08	0.25
146 Toluene-d8	25.69	26.14	25.84	25.28	25.57	25.52	25.69	25.68	25.68	25.68	0.24	0.69
147 Toluene	0.80	0.75	0.79	0.77	0.80	0.79	0.76	0.82	0.73	0.78	0.03	0.08
148 Octane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
149 Vinyl Cyclohexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
150 trans-1,3-Dichloroprop	0.71	0.71	0.69	0.66	0.71	0.71	0.70	0.74	0.70	0.70	0.02	0.06
151 Ethyl Methacrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
152 1-Chloro-2-Bromopropan	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
153 1-Nitropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
154 Bromodichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
155 1,1,2-Trichloroethane	0.79	0.81	0.82	0.85	0.73	0.75	0.81	0.78	0.73	0.79	0.04	0.12
156 Tetrachloroethane	0.75	0.72	0.71	0.76	0.74	0.74	0.73	0.79	0.75	0.74	0.02	0.07
157 1,3-Dichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
158 2-Hexanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

24 (ppbv)

MDL11

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd17.i/12feb18.b/177q1026c.m
 Batch File: /chem/msd17.i/12feb18.b
 Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
159 Butyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
160 Dibromochloromethane	0.71	0.75	0.78	0.71	0.71	0.71	0.73	0.73	0.72	0.73	0.03	0.07
161 1,2-Dibromochloroethane (EDR)	0.80	0.79	0.69	0.73	0.75	0.71	0.65	0.78	0.72	0.73	0.05	0.14
162 1-Nonene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 163 Chlorobenzene-d5	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
164 1-Chlorohexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
165 Chlorobenzene	0.75	0.77	0.77	0.77	0.80	0.77	0.74	0.81	0.72	0.77	0.03	0.08
166 Butyl Ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
167 Ethyl Benzene	0.68	0.68	0.67	0.72	0.62	0.71	0.64	0.67	0.66	0.67	0.03	0.09
168 1,1,1,2-Tetrachloroeth	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
169 m,p-Xylene	0.61	0.59	0.68	0.68	0.67	0.63	0.63	0.64	0.62	0.65	0.03	0.08
170 Nonane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
171 o-Xylene	0.59	0.63	0.65	0.64	0.65	0.62	0.66	0.61	0.60	0.63	0.02	0.07
172 Styrene	0.60	0.59	0.57	0.56	0.64	0.59	0.59	0.59	0.57	0.59	0.02	0.07
173 2-Heptanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
174 Bromoform	0.69	0.73	0.73	0.73	0.72	0.68	0.70	0.72	0.77	0.72	0.03	0.08
175 Cumene	0.61	0.60	0.59	0.62	0.60	0.65	0.61	0.65	0.61	0.62	0.02	0.06
176 Cyclohexanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
\$ 177 4-Bromofluorobenzene	23.76	23.49	24.02	24.15	24.62	24.49	23.28	23.50	24.02	23.93	0.46	1.32
178 1-Decene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
179 alpha-Pinene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
180 Bromobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
181 1,1,2,2-Tetrachloroeth	0.85	0.86	0.88	0.79	0.83	0.81	0.81	0.83	0.81	0.83	0.03	0.09
182 Propylbenzene	0.70	0.72	0.70	0.72	0.74	0.72	0.72	0.70	0.75	0.72	0.02	0.05

PLC(only)

NDL b1k/A

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
183 1,4-Dichloro-2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
184 trans-1,4-Dichloro-2-b	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
185 1,2,3-Trichloropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
186 3-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
187 Decane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
188 4-Ethyltoluene	0.60	0.62	0.59	0.63	0.63	0.64	0.58	0.66	0.67	0.62	0.03	0.09
189 2-Chlorotoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
190 1,3,5-Trimethylbenzene	0.62	0.66	0.60	0.66	0.67	0.68	0.64	0.65	0.62	0.65	0.03	0.08
191 4-Chlorotoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
192 beta-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
193 Diisobutyl Ketone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
194 alpha Methyl Styrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
195 tert-Butylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
196 1,2,4-Trimethylbenzene	0.55	0.62	0.55	0.61	0.65	0.67	0.67	0.63	0.64	0.62	0.05	0.13
197 Pentachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
198 Limonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
199 D-Limonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
200 Benzaldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
201 Indan	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
202 Indene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
203 sec-Butylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
204 Isobutylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
205 2-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

PL (ppb v)

MDL (ppb/ppi)

0.5

0.11

0.5

0.03

0.5

0.05

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
206 bis(2-Chloroethyl) Eth	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
207 p-Cymene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
208 1,3-Dichlorobenzene	0.77	0.77	0.81	0.77	0.82	0.77	0.78	0.74	0.77	0.78	0.02	0.07
209 1,4-Dichlorobenzene	0.71	0.78	0.76	0.78	0.81	0.80	0.74	0.81	0.73	0.77	0.04	0.10
210 1,2,3-Trimethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
211 1-Undecene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
212 alpha-Chlorotoluene	0.63	0.57	0.60	0.61	0.59	0.60	0.63	0.59	0.59	0.60	0.02	0.05
213 Butylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
214 1,2-Dichlorobenzene	0.76	0.74	0.83	0.78	0.79	0.82	0.75	0.82	0.79	0.79	0.03	0.09
215 Undecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
216 4-Ethyl-1,2-dimethylbe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
217 Hexachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
218 1,3-Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
219 1,4-Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
220 1,2,4,5-tetramethylben	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
221 1,2-Dibromo-3-chloropr	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
222 1-Dodecene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
223 Nitrobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
224 1,3,5-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
225 Dodecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
226 1,2,4-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
227 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
228 Naphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
229 1,2,3-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

DL (ppbv)

MPL (ppt)

0.5

0.5

0.04

0.03

0.5

0.05

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
230 Tridecane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
231 Quinoline	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
232 2-Methylnaphthalene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
233 1,3,5-Trichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
234 Acenaphthylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
235 Phenanthrene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
236 Anthracene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 237 1,2-Dichloroethane (Pb)	1.15	1.21	1.26	1.35	1.38	1.39	1.28	1.29	1.34	1.31	0.06	0.16
M 238 Chlorobutane (Total)	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 239 Total Xylene	1.20	1.32	1.33	1.32	1.32	1.25	1.29	1.25	1.22	1.28	0.05	0.14
M 240 1,2,4-Trichlorobenzene	0.60	0.62	0.59	0.83	0.69	0.64	0.58	0.66	0.62	0.62	0.03	0.09
241 Total Volatile Hydrocarbons	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
242 TPH reference to Hexan	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
243 TPH reference to Hepta	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
244 TPH reference to Gasol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
245 TPH reference Minerals	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
246 TPH reference to Stodd	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
247 TVOC reference to Hexa	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
248 TVOC reference to Hept	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
249 TVOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
250 TVOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
251 NMOC reference to Hexa	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
252 NMOC reference to Hept	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
253 NMOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Report Date : 23-Feb-2018 15:48

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Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd17.1/12feb18.b/177q1026c.m
Batch File: /chem/msd17.1/12feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
254 C3 - C4 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
255 C4 - C5 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
256 C5 - C6 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
257 C6 - C7 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
258 C7 - C8 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
259 C8 - C9 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
260 C9 - C10 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
261 C10+ Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
262 C5 - C6 Aliphatic ref	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
263 C6-C8 Aliphatic ref He	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
264 C8-C10 Aliphatic ref D	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
265 C10-C12 Aliphatic ref	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
266 C8-C10 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
267 C9-C10 Aromatic ref 1,	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
268 C10-C12 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
269 C10-C12 Aromatic 1,2,	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
270 C10-C12 Aromatic Naph	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Report Date : 26-Feb-2018 09:46

MADIT TOXIS 2.0ppbv PL
3.0ppbv (5.0ppbv), 3018-100, 125mL

Page 1

METHOD DETECTION LIMIT SUMMARY REPORT

1.5ppbv (2.5ppbv), 3018-100A, 125mL

Method File: /var/chem/msd17.1/21feb18.b/177q1026c.m
Batch File: /chem/msd17.1/21feb18.b
Inst ID: msd17.1

ID: MDL01 MDL02 MDL03 MDL04 MDL05 MDL06 MDL07 MDL08 MDL09
FILENAME: 17022107 17022108 17022109 17022207 17022208 17022209 17022306 17022307 17022308
INST DATE: 21-FEB-2018 21-FEB-2018 21-FEB-2018 22-FEB-2018 22-FEB-2018 22-FEB-2018 23-FEB-2018 23-FEB-2018 23-FEB-2018
INST TIME: 13:06 13:33 14:00 10:47 11:14 11:40 13:28 13:54 14:21

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
1 Dimethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
2 Freon 14	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
3 Acetaldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
4 Hexafluoropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
5 Freon 13	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
6 Freon 143a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
7 Freon 134a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
8 Propane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
9 Propylene	3.23	3.23	3.52	3.53	3.03	3.79	3.75	3.65	3.47	3.47	0.56	2.0
10 1,1-Difluoroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
11 Freon 12	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
12 Vinyl Fluoride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
13 Chlorodifluoromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
14 Ethylene Oxide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
15 Freon 114	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
16 Freon 142b	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
17 Chloromethane	3.28	3.44	3.55	3.73	3.40	3.23	3.36	3.83	3.43	3.47	0.20	5.0

Reviewer 1
Reviewer 2

W. Collins
M. Collins

Date: 2/26/18
Date: 2/27/18

MDL 0.08

$\bar{x} = 0.3908 \text{ ppbv}$
 $\sigma_x = 0.7816 \text{ ppbv}$

$4\sigma = 1.56 \text{ ppbv}$

All ratios of the mean recovered concentration and the MDL value are between 1 and 20.

MDL 0.09

MDL 6.14

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /var/chem/msd17.i/21feb18.b/177q1026c.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
18 Isobutane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
19 Isobutylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
20 2-Butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
21 trans-2-butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
22 1-Butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
23 Butane	3.13	3.16	3.58	3.17	3.29	3.60	3.29	3.18	3.14	3.27	0.19	0.55
24 cis-2-Butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
25 Vinyl Chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
26 1,3-Butadiene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
27 3-Methyl-1-butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
28 Methanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
29 Bromomethane	2.80	2.96	2.71	2.69	2.72	2.65	2.68	3.05	2.75	2.78	0.14	0.39
30 Chloroethane	3.38	3.11	3.54	3.18	3.11	2.92	3.09	3.57	3.08	3.22	0.23	0.66
31 Isopentane	2.98	3.27	3.16	2.98	3.03	3.07	3.07	3.50	3.36	3.16	0.18	0.53
32 Vinyl Bromide	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
33 2-Chloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
34 Pentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
35 Freon 11	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
36 1-Pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
37 Dichlorofluoromethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
38 2,3-Dimethylbutane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
39 Isoprene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

P2(p2b)

MDL 6/14/18

Eurolins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /var/chem/msd17.i/21feb18.b/177q1026c.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
40 2-Methyl-2-butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
41 trans-2-Pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
42 Ethanol	3.72	3.37	3.05	3.68	3.13	3.53	3.14	3.77	3.51	3.43	0.26	2.0
43 1,2-Dichloro-1-fluoro	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
44 Ethyl Ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
45 cis-2-Pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
46 Acrolein	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
47 Freon 123a	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
48 Freon 123	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
49 Freon 113	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
50 1,1-Dichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
51 2,2-Dimethylbutane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
52 Acetone	3.64	3.67	3.79	4.29	3.85	4.09	3.56	4.14	3.78	3.87	0.25	5.0
53 Iodomethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
54 Bromomethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
55 4-Methyl-1-pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
56 Carbon Disulfide	3.85	3.00	2.99	3.12	3.15	3.11	2.78	3.38	3.03	3.07	0.16	2.0
57 2-Propanol	3.29	3.08	3.14	3.30	3.26	3.35	3.11	3.40	3.30	3.24	0.11	2.0
58 3-Chloropropene	2.43	2.56	2.37	2.50	2.31	2.41	2.51	2.78	2.74	2.51	0.16	2.0
59 Cyclopentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
60 2-Methylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
61 Methyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
62 3-Methylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
63 Acetonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

PC (ppm)

MDL (ppm)

Report Date : 26-Feb-2018 09:46

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /var/chem/msd17.i/21feb18.b/177q1026c.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
64 Cyclopentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
65 1-Chloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
66 Methylene Chloride	3.10	3.00	3.18	3.11	3.05	3.14	2.86	3.26	3.06	3.08	0.11	0.33
67 2-Methyl-1-pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
68 2,4-Dimethylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
69 2,3-Dimethylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
70 tert-Butyl chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
71 tert-Butyl alcohol	2.29	2.29	2.39	2.39	2.39	2.26	2.13	2.54	2.42	2.34	0.12	0.34
72 Methyl tert-butyl ether	2.48	2.40	2.34	2.47	2.43	2.36	2.30	2.61	2.42	2.43	0.09	0.27
73 trans-1,2-Dichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
74 Acrylonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
75 trans-2-Hexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
76 1-Hexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
77 cis-2-Hexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
78 Hexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
79 Methylcyclopentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
80 sec-Butyl chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
81 2,3,4-Trimethylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
82 1,1-Dichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
83 Isopropyl ether	2.66	2.57	2.53	2.63	2.67	2.69	2.66	2.80	2.60	2.65	0.08	0.22
84 1-Propanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
85 Chloroprene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
86 Vinyl Acetate	1.88	1.85	1.96	1.86	1.74	1.72	1.81	1.85	1.94	1.84	0.08	0.24

PL(ppbv)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /var/chem/msd17.i/21feb18.b/177q1026c.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
87 Butanal	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
88 Ethyl-tert-butyl ether	2.36	2.39	2.37	2.47	2.46	2.37	2.46	2.50	2.48	2.43	0.05	0.16
89 Isobutyl chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
90 2,2-Dichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
91 cis-1,2-Dichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
92 2-Butanone	2.74	2.86	2.74	2.72	2.92	2.83	2.68	3.01	2.73	2.81	0.11	0.32
93 Methyl Acrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
94 Ethyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
95 Methacrylonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
96 2-Chloropentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
97 2-Butanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 98 Bromochloromethane	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
99 Tetrahydrofuran	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
100 Chloroform	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
101 1-Bromopropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
102 Cyclohexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
103 1,1,1-Trichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
104 Chloroacetonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
105 n-Butylchloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
106 Carbon Tetrachloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
107 1,1-Dichloropropene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
108 Thiophene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
109 2-Methylhexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
110 3-Methylhexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

PL (ppb)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /var/chem/msd17.1/21feb18.b/177q1026c.m
Batch File: /chem/msd17.1/21feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
111 Cyclohexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
112 Benzene-d6	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
113 2,2,4-Trimethylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
114 1-Methoxy-2-propanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
115 Isobutanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
116 Benzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
117 1,2-Dichloroethane-d4	24.90	24.91	24.66	25.44	25.07	25.25	24.39	25.38	24.69	24.96	0.35	1.02
118 1-Heptene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
119 tert-Amyl methyl ether	2.27	2.06	2.15	2.25	2.06	2.23	2.15	2.23	2.19	2.18	0.08	0.23
120 1,2-Dichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
121 Heptane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
122 2,3-Dichloro-1-propene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 123 1,4-Difluorobenzene	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
124 n-Butanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
125 Trichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
126 Bromodichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
127 Methylcyclohexane	2.29	2.28	2.34	2.43	2.37	2.34	2.33	2.64	2.37	2.38	0.11	0.32
128 Ethyl acrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
129 2-Methylheptane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
130 3-Methylheptane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
131 2-Pentanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
132 1,2-Dichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
133 1-Bromo-2-Chloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
134 Methyl Methacrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

PL (ppbv)

MDL (ppbv)

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Eurolims Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /var/chem/msd17.1/21feb18.b/177q1026c.m
Batch File: /chem/msd17.1/21feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
135 Diethyl Ketone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
136 1,4-Dioxane	3.14	3.47	3.48	3.24	3.43	3.47	3.29	3.65	3.39	3.40	0.15	0.44
137 Dibromomethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
138 Bromodichloromethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
139 2-Nitropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
140 bis(chloromethyl) Eth	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
141 1-Octene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
142 Epichlorohydrin	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
143 2-Chloroethyl Vinyl Et	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
144 cis-1,3-Dichloropropen	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
145 4-Methyl-2-pentanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
146 Toluene-d8	25.99	26.45	26.09	25.66	26.10	25.79	25.85	28.27	26.24	26.27	0.79	2.28
147 Toluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
148 Octane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
149 Vinyl Cyclohexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
150 trans-1,3-Dichloroprop	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
151 Ethyl Methacrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
152 1-Chloro-2-Bromopropan	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
153 1-Nitropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
154 Bromodichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
155 1,1,2-Trichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
156 Tetrachloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
157 1,3-Dichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
158 2-Hexanone	3.15	3.24	3.19	3.37	3.19	3.20	3.19	3.16	3.18	3.22	0.07	0.20

PL(PPM)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /var/chem/msd17.i/21feb18.b/177q1026c.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
159 Butyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
160 Dibromochloromethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
161 1,2-Dibromoethane (EDB)	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
162 1-Nonene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 163 Chlorobenzene-d5	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
164 1-Chlorohexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
165 Chlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
166 Butyl Ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
167 Ethyl Benzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
168 1,1,1,2-Tetrachloroeth	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
169 m,p-Xylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
170 Nonane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
171 o-Xylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
172 Styrene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
173 2-Heptanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
174 Bromoform	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
175 Cumene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
176 Cyclohexanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
\$ 177 4-Bromofluorobenzene	23.41	23.58	23.73	23.36	23.46	24.08	23.39	24.00	23.51	23.62	0.27	0.77
178 1-Decene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
179 alpha-Pinene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
180 Bromobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
181 1,1,2,2-Tetrachloroeth	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
182 Propylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Report Date : 26-Feb-2018 09:46

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /var/chem/msd17.i/21feb18.b/177q1026c.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
183 1,4-Dichloro-2-Butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
184 trans-1,4-Dichloro-2-b	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
185 1,2,3-Trichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
186 3-Ethyltoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
187 Decane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
188 4-Ethyltoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
189 2-Chlorotoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
190 1,3,5-Trimethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
191 4-Chlorotoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
192 beta-Pinene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
193 Diisobutyl Ketone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
194 alpha Methyl Styrene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
195 tert-Butylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
196 1,2,4-Trimethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
197 Pentachloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
198 Limonene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
199 D-Limonene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
200 Benzaldehyde	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
201 Indan	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
202 Indene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
203 sec-Butylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
204 Isobutylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
205 2-Ethyltoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /var/chem/msd17.1/21feb18.b/177q1026c.m
Batch File: /chem/msd17.1/21feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
206 bis(2-Chloroethyl) Eth	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
207 p-Cymene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
208 1,3-Dichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
209 1,4-Dichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
210 1,2,3-Trimethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
211 1-Undecene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
212 alpha-Chlorotoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
213 Butylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
214 1,2-Dichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
215 Undecane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
216 4-Ethyl-1,2-dimethylbe	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
217 Hexachloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
218 1,3-Diethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
219 1,4-Diethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
220 1,2,4,5-tetramethylben	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
221 1,2-Dibromo-3-chloropr	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
222 1-Dodecene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
223 Nitrobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
224 1,3,5-Trichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
225 Dodecane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
226 1,2,4-Trichlorobenzene	2.64	2.86	2.99	2.91	2.92	2.86	2.78	2.86	2.82	2.87	0.06	0.18
227 Hexachlorobutadiene	3.67	3.72	3.77	3.72	3.93	3.84	3.65	3.80	3.75	3.76	0.09	0.25
228 Naphthalene	0.27	0.29	0.29	0.27	0.28	0.27	0.25	0.25	0.27	0.27	0.01	0.04
229 1,2,3-Trichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

PL(ppbv)

MPL(MLPP)

0.11
0.13
0.02

3/27/18
3/27/18

See Corrected Summary Pages
Corrected - mol.mn
23Feb18.b

(CAR 15 ISAD 684395)
3/27/18

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /var/chem/msd17.i/21feb18.b/177q1026c.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
230 Tridecane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
231 Quinoline	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
232 2-Methylnaphthalene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
233 1,3,5-Triethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
234 Acenaphthylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
235 Phenanthrene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
236 Anthracene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 237 1,2-Dichloroethene (To	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 238 Chlorobutane (Total)	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 239 Total Xylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 240 3 and 4-Ethyltoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
241 Total Volatile Hydrocar	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
242 TPH reference to Hexan	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
243 TPH reference to Heptan	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
244 TPH reference to Gasol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
245 TPH reference Minerals	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
246 TPH reference to Stodd	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
247 TVOC reference to Hexa	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
248 TVOC reference to Hept	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
249 TVOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
250 TVOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
251 NMOC reference to Hexa	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
252 NMOC reference to Hept	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
253 NMOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

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Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /var/chem/msd17.i/21feb18.b/177q1026c.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
254 C3 - C4 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
255 C4 - C5 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
256 C5 - C6 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
257 C6 - C7 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
258 C7 - C8 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
259 C8 - C9 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
260 C9 - C10 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
261 C10+ Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
262 C5 - C6 Aliphatic ref	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
263 C6-C8 Aliphatic ref He	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
264 C8-C10 Aliphatic ref D	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
265 C10-C12 Aliphatic ref	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
266 C8-C10 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
267 C8-C10 Aromatic ref 1,	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
268 C10-C12 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
269 C10-C12 Aromatic 1,2,	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
270 C10-C12 Aromatic Naph	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Report Date : 23-Feb-2018 15:40

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Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

ID:	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10
FILENAME:	17021206EPALB	17021206EPALB	17021207EPALB	17021305EPALB	17021306EPALB	17021307EPALB	17021405EPALB	17021406EPALB	17021407EPALB	17021408EPALB
INJ. DATE:	12-FEB-2018	12-FEB-2018	12-FEB-2018	13-FEB-2018	13-FEB-2018	13-FEB-2018	14-FEB-2018	14-FEB-2018	14-FEB-2018	14-FEB-2018
INJ. TIME:	11:20	12:23	13:07	09:54	10:23	10:51	10:59	13:34	14:57	15:25

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
1 Dimethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
2 Freon 14	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
3 Acetaldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
4 Hexafluoropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
5 Freon 13	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
6 Freon 143a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
7 Freon 134a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
8 Propane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
9 Propylene	0.00	0.00	0.00	0.00	+++++	+++++	0.09	0.00	0.00	+++++	0.01	0.04	0.11
10 1,1-Difluoroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
11 Freon 12	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
12 Vinyl Fluoride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
13 Chlorodifluoromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
14 Ethylene Oxide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
15 Freon 114	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
16 Freon 142b	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
17 Chloromethane	0.00	+++++	+++++	0.00	+++++	+++++	0.08	0.00	0.00	+++++	0.02	0.04	0.13

Reviewer 1
Reviewer 2

Date: 3/7/18
Date: 03/07/18

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0.09

0.08

MDL BULK (P20)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.1/12feb18.b/177q1026c.m
Batch File: /chem/msd17.1/12feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
18 Isobutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
19 Isobutylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
20 2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
21 trans-2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
22 1-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
23 Butane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
24 cis-2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
25 Vinyl Chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
26 1,3-Butadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
27 3-Methyl-1-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
28 Methanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
29 Bromomethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
30 Chloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
31 Isopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
32 Vinyl Bromide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
33 2-Chloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
34 Pentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
35 Freon 11	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
36 1-Pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
37 Dichlorofluoromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
38 2,3-Dimethylbutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
39 Isoprene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
40 2-Methyl-2-butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
41 trans-2-Pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
42 Ethanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
43 1,2-Dichloro-1-fluoro	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
44 Ethyl Ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
45 cis-2-Pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
46 Acrolein	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
47 Preen 123a	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
48 Preen 123	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
49 Preen 113	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
50 1,1-Dichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
51 2,2-Dimethylbutane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
52 Acetone	0.39	0.53	0.38	0.37	0.37	0.38	0.48	0.36	0.17	0.14	0.36	0.12	0.34
53 Iodomethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
54 Bromomethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
55 4-Methyl-1-pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
56 Carbon Disulfide	0.09	0.05	0.03	0.08	0.05	0.04	0.06	0.06	0.04	0.04	0.05	0.02	0.05
57 2-Propanol	0.00	++++	++++	0.00	++++	++++	0.05	++++	++++	++++	0.02	0.03	0.18
58 3-Chloropropene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
59 Cyclopentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
60 2-Methylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
61 Methyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
62 3-Methylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
63 Acetonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

MDL blk (ppbv)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
64 Cyclopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
65 1-Chloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
66 Methylene Chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
67 2-Methyl-1-pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
68 2,4-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
69 2,3-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
70 tert-Butyl chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
71 tert-Butyl alcohol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
72 Methyl tert-butyl ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
73 trans-1,2-Dichloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
74 Acrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
75 trans-2-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
76 1-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
77 cis-2-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
78 Hexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
79 Methylcyclopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
80 sec-Butyl chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
81 2,3,4-Trimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
82 1,1-Dichloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
83 Isopropyl ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
84 1-Propanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
85 Chloroprene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
86 Vinyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
87 Butanal	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
88 Ethyl-tert-butyl ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
89 Isobutyl chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
90 2,2-Dichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
91 cis-1,2-Dichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
92 2-Butanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
93 Methyl Acrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
94 Ethyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
95 Methacrylonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
96 2-Chloropentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
97 2-Butanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
98 Bromochloromethane	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
99 Tetrahydrofuran	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
100 Chloroform	0.00	++++	++++	++++	++++	++++	0.00	++++	++++	++++	0.00	0.00	N/A
101 1-Bromopropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
102 Cyclohexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
103 1,1,1-Trichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
104 Chloroacetonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
105 n-Butylchloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
106 Carbon Tetrachloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
107 1,1-Dichloropropene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
108 Thiophene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
109 2-Methylhexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
110 3-Methylhexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
111 Cyclohexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
112 Benzene-d6	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
113 2,2,4-Trimethylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
114 1-Methoxy-2-propanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
115 Isobutanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
116 Benzene	0.20	0.20	0.17	0.14	0.12	0.11	0.16	0.22	0.19	0.13	0.17	0.04	0.11
117 1,2-Dichloroethane-d4	24.38	24.32	25.27	24.79	23.95	24.53	24.19	24.17	24.60	24.87	24.92	0.39	1.10
118 1-Heptene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
119 tert-Amyl methyl ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
120 1,2-Dichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
121 Heptane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
122 2,3-Dichloro-1-propene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 123 1,4-Difluorobenzene	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
124 n-Butanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
125 Trichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
126 Bromodichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
127 Methylcyclohexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
128 Ethyl acrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
129 2-Methylheptane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
130 3-Methylheptane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
131 2-Pentanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
132 1,2-Dichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
133 1-Bromo-2-Chloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
134 Methyl methacrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

MOL 0.11 (ppbv)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
135 Diethyl Ketone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
136 1,4-Dioxane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
137 Dibromomethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
138 Bromodichloromethane	+++++	+++++	+++++	0.00	+++++	+++++	+++++	+++++	+++++	+++++	0.00	0.00	N/A
139 2-Nitropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
140 bis(chloromethyl) Ethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
141 1-Octane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
142 Epichlorohydrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
143 2-Chloroethyl Vinyl Et	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
144 cis-1,3-Dichloropropen	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
145 4-Methyl-2-pentanone	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
146 Toluene-d8	25.75	25.86	26.37	25.87	26.34	26.33	26.04	25.91	25.80	25.45	25.97	0.30	0.84
147 Toluene	0.04	+++++	+++++	0.04	0.00	0.00	0.06	+++++	+++++	+++++	0.03	0.03	0.10
148 Octane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
149 Vinyl Cyclohexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
150 trans-1,3-Dichloroprop	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
151 Ethyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
152 1-Chloro-2-Bromopropan	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
153 1-Nitropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
154 Bromodichloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
155 1,1,2-Trichloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
156 Tetrachloroethane	0.04	+++++	+++++	0.02	+++++	+++++	0.02	+++++	+++++	+++++	0.03	0.01	0.06
157 1,3-Dichloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
158 2-Hexanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

MPL 61K (ppbv)

0.06

0.04

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
159 Butyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
160 Dibromochloromethane	++++	++++	++++	++++	++++	++++	0.00	++++	++++	++++	0.00	0.00	N/A
161 1,2-Dibromoethane (EDB)	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
162 1-Nonene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 163 Chlorobenzene-d5	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
164 1-Chlorohexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
165 Chlorobenzene	0.00	++++	++++	0.00	++++	++++	0.00	++++	++++	++++	0.00	0.00	0.00
166 Butyl Ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
167 Ethyl Benzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
168 1,1,1,2-Tetrachloroeth	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
169 m,p-Xylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
170 Nonane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
171 o-Xylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
172 Styrene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
173 2-Heptanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
174 Bromoform	0.00	++++	++++	0.00	++++	++++	++++	++++	++++	++++	0.00	0.00	N/A
175 Cumene	0.00	++++	++++	0.00	++++	++++	0.00	++++	++++	++++	0.00	0.00	0.00
176 Cyclohexanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
S 177 4-Bromofluorobenzene	23.73	23.47	23.23	24.25	24.41	24.04	23.43	23.63	23.69	23.53	23.74	0.38	1.07
178 1-Decene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
179 alpha-Pinene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
180 Bromobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
181 1,1,2,2-Tetrachloroeth	0.02	++++	++++	0.00	0.00	0.00	0.02	++++	++++	++++	0.01	0.01	0.04
182 Propylbenzene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

MDL 6K (ppbv)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
183 1,4-Dichloro-2-Butane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
184 trans-1,4-Dichloro-2-b	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
185 1,2,3-Trichloropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
186 3-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
187 Decane	+++++	+++++	+++++	0.03	+++++	+++++	+++++	+++++	+++++	+++++	0.01	0.02	0.11
188 4-Ethyltoluene	0.00	+++++	+++++	0.03	+++++	+++++	0.00	+++++	+++++	+++++	0.01	0.02	0.11
189 2-Chlorotoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
190 1,3,5-Trimethylbenzene	0.05	+++++	+++++	0.05	+++++	+++++	0.58	+++++	+++++	+++++	0.09	0.03	0.21
191 4-Chlorotoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
192 beta-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
193 Diisobutyl Ketone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
194 alpha Methyl Styrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
195 tert-Butylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
196 1,2,4-Trimethylbenzene	0.04	+++++	+++++	0.04	+++++	+++++	0.05	+++++	+++++	+++++	0.04	0.01	0.04
197 Pentachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
198 Limonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
199 D-Limonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
200 Benzaldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
201 Indan	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
202 Indene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
203 sec-Butylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
204 Isobutylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
205 2-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

NA-HK (ppbv)

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
206 bis(2-Chloroethyl) Eth	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
207 p-Cymene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
208 1,3-Dichlorobenzene	0.05	++++	++++	0.04	++++	++++	0.04	++++	++++	++++	0.04	0.00	0.02
209 1,4-Dichlorobenzene	0.05	++++	++++	0.05	++++	++++	0.04	++++	++++	++++	0.05	0.01	0.07
210 1,2,3-Trimethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
211 1-Undecene	++++	++++	++++	0.03	++++	++++	0.00	++++	++++	++++	0.01	0.02	0.07
212 alpha-Chlorotoluene	0.00	++++	++++	0.03	0.00	++++	0.00	++++	++++	++++	0.01	0.02	0.07
213 Butylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
214 1,2-Dichlorobenzene	0.04	++++	++++	0.03	0.00	++++	0.04	++++	++++	++++	0.03	0.02	0.09
215 Undecane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
216 4-Ethyl-1,2-dimethylbe	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
217 Hexachloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
218 1,3-Diethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
219 1,4-Diethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
220 1,2,4,5-tetramethylben	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
221 1,2-Dibromo-3-chloropr	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
222 1-Dodecene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
223 Nitrobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
224 1,3,5-Trichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
225 Dodecane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
226 1,2,4-Trichlorobenzene	0.11	0.00	0.00	0.10	0.03	0.00	0.08	0.00	0.00	0.00	0.03	0.05	0.13
227 Hexachlorobutadiene	0.05	0.05	0.00	0.10	0.04	++++	0.13	0.00	++++	++++	0.06	0.06	0.18
228 Naphthalene	0.01	++++	++++	0.01	++++	++++	0.02	++++	++++	++++	0.01	0.01	0.04
229 1,2,3-Trichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

MOL LK (ppbv)

0.05

0.03

0.04

0.11

0.13

0.02

82

3/27/18

CAP# I3-PD184

SEE CAP# I3-PD184
MOL Summary
PAGES 39ALGAL

14Feb18

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
230 Tridecane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
231 Quinoline	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
232 2-Methylnaphthalene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
233 1,3,5-Trichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
234 Acenaphthylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
235 Phenanthrene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
236 Anthracene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 237 1,2-Dichloroethene (To	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 238 Chlorobutane (Total)	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 239 Total Xylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 240 3 and 4-Ethyltoluene	++++	++++	++++	0.03	++++	++++	++++	++++	++++	++++	0.03	0.03	N/A
241 Total Volatile Hydroc	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
242 TPH reference to Hexan	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
243 TPH reference to Hepta	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
244 TPH reference to Gasol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
245 TPH reference Minerals	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
246 TPH reference to Stodd	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
247 TVOC reference to Hexa	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
248 TVOC reference to Hept	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
249 TVOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
250 TVOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
251 NMOC reference to Hexa	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
252 NMOC reference to Hept	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
253 NMOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Report Date : 23-Feb-2018 15:40

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Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd17.i/12feb18.b/177q1026c.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
254 C3 - C4 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
255 C4 - C5 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
256 C5 - C6 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
257 C6 - C7 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
258 C7 - C8 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
259 C8 - C9 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
260 C9 - C10 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
261 C10+ Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
262 C5 - C6 Aliphatic ref	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
263 C6-C8 Aliphatic ref He	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
264 C8-C10 Aliphatic ref D	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
265 C10-C12 Aliphatic ref	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
266 C8-C10 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
267 C8-C10 Aromatic ref I,	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
268 C10-C12 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
269 C10-C12 Aromatic 1,2,	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
270 C10-C12 Aromatic Naph	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Report Date : 27-Mar-2018 13:45

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd17.i/21feb18.b/177q1026e.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.1

ID: MDL01 MDL02 MDL03 MDL04 MDL05 MDL06 MDL07 MDL08 MDL09
FILENAME: 17022107e 17022108e 17022109e 17022207e 17022208e 17022209e 17022306e 17022307e 17022308e
INJ. DATE: 21-FEB-2018 21-FEB-2018 21-FEB-2018 22-FEB-2018 22-FEB-2018 22-FEB-2018 23-FEB-2018 23-FEB-2018 23-FEB-2018
INJ. TIME: 13:06 13:33 14:00 10:47 11:14 11:40 13:28 13:54 14:21

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
1 Dimethyl Ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
2 Freon 14	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
3 Acetaldehyde	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
4 Hexafluoropropene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
5 Freon 13	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
6 Freon 143a	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
7 Freon 134a	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
8 Propane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
9 Propylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
10 1,1-Difluoroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
11 Freon 12	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
12 Vinyl Fluoride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
13 Chlorodifluoromethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
14 Ethylene Oxide	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
15 Freon 114	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
16 Freon 142b	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
17 Chloromethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Reviewer 1 dy
Reviewer 2

Date: 3/27/18
Date:

(Corrected - MDL.rp) MSO-17 To 15 NAFH 0.25ug (CALCULATED)
23Feb18.b 0.389bV(0.589bV); 3018-100 120mL

CAR # 13Feb184395
MDL VERIFICATION (NAFTRONUG) 17022609e
0.169bV (0.2589bV); 3018-1004

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/21feb18.b/177q1026e.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
18 Isobutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
19 Isobutylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
20 2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
21 trans-2-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
22 1-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
23 Butane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
24 cis-2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
25 Vinyl Chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
26 1,3-Butadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
27 3-Methyl-1-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
28 Methanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
29 Bromomethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
30 Chloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
31 Isopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
32 Vinyl Bromide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
33 2-Chloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
34 Pentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
35 Freon 11	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
36 1-Pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
37 Dichlorofluoromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
38 2,3-Dimethylbutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
39 Isoprene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.1/21feb18.b/177q1026e.m
Batch File: /chem/msd17.1/21feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEVI	MDL
40 2-Methyl-2-butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
41 trans-2-Pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
42 Ethanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
43 1,2-Dichloro-1-fluoro	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
44 Ethyl Ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
45 cis-2-Pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
46 Acrolein	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
47 Freon 123a	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
48 Freon 123	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
49 Freon 113	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
50 1,1-Dichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
51 2,2-Dimethylbutane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
52 Acetone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
53 Iodomethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
54 Bromoethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
55 4-Methyl-1-pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
56 Carbon Disulfide	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
57 2-Propanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
58 3-Chloropropene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
59 Cyclopentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
60 2-Methylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
61 Methyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
62 3-Methylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
63 Acetonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd17.i/21feb18.b/177q1026e.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
64 Cyclopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
65 1-Chloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
66 Methylene chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
67 2-Methyl-1-pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
68 2,4-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
69 2,3-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
70 tert-Butyl chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
71 tert-Butyl alcohol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
72 Methyl tert-butyl ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
73 trans-1,2-Dichloroethene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
74 Acrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
75 trans-2-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
76 1-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
77 cis-2-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
78 Hexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
79 Methylcyclopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
80 sec-Butyl chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
81 2,3,4-Trimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
82 1,1-Dichloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
83 Isopropyl ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
84 1-Propanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
85 Chloroprene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
86 Vinyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/21feb18.b/177q1026e.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
87 Butanal	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
88 Ethyl-tert-butyl ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
89 Isobutyl chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
90 2,2-Dichloropropene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
91 cis-1,2-Dichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
92 2-Butanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
93 Methyl Acrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
94 Ethyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
95 Methacrylonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
96 2-Chloropentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
97 2-Butanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 98 Bromochloromethane	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
99 Tetrahydrofuran	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
100 Chloroform	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
101 1-Bromopropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
102 Cyclohexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
103 1,1,1-Trichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
104 Chloroacetonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
105 n-Butylchloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
106 Carbon Tetrachloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
107 1,1-Dichloropropene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
108 Thiophene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
109 2-Methylhexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
110 3-Methylhexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

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Eurolins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd17.i/21feb18.b/177q1026e.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
111 Cyclohexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
112 Benzene-d6	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
113 2,2,4-Trimethylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
114 1-Methoxy-2-propanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
115 Isobutanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
116 Benzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
117 1,2-Dichloroethane-d4	24.90	24.91	24.66	25.44	25.07	25.25	24.39	25.38	24.69	24.96	0.35	1.02
118 1-Heptene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
119 tert-Amyl methyl ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
120 1,2-Dichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
121 Heptane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
122 2,3-Dichloro-1-propane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 123 1,4-Difluorobenzene	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
124 n-Butanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
125 Trichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
126 Bromodichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
127 Methylcyclohexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
128 Ethyl acrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
129 2-Methylheptane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
130 3-Methylheptane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
131 2-Pentanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
132 1,2-Dichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
133 1-Bromo-2-Chloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
134 Methyl Methacrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/21feb18.b/177q1026e.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
135 Diethyl Ketone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
136 1,4-Dioxane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
137 Dibromomethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
138 Bromodichloromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
139 2-Nitropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
140 bis(chloromethyl) Ethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
141 1-Octene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
142 Epichlorohydrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
143 2-Chloroethyl Vinyl Et	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
144 cis-1,3-Dichloropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
145 4-Methyl-2-Pentanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
146 Toluene-d8	25.98	26.45	26.09	25.66	26.10	25.79	25.85	26.27	26.24	26.27	0.79	2.28
147 Toluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
148 Octane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
149 Vinyl Cyclohexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
150 trans-1,3-Dichloroprop	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
151 Ethyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
152 1-Chloro-2-Bromopropan	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
153 1-Nitropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
154 Bromodichloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
155 1,1,2-Trichloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
156 Tetrachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
157 1,3-Dichloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
158 2-Hexanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.1/21feb18.b/177q1026e.m
Batch File: /chem/msd17.1/21feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
159 Butyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
160 Dibromochloromethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
161 1,2-Dibromomethane (EDB)	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
162 1-Nonene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 163 Chlorobenzene-d5	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
164 1-Chlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
165 Chlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
166 Butyl Ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
167 Ethyl Benzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
168 1,1,1,2-Tetrachloroeth	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
169 m,p-Xylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
170 Nonane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
171 o-Xylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
172 Styrene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
173 2-Heptanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
174 Bromoform	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
175 Cumene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
176 Cyclohexanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
\$ 177 4-Bromofluorobenzene	23.41	23.56	23.73	23.36	23.48	24.08	23.39	24.00	23.51	23.62	0.27	0.77
178 1-Decene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
179 alpha-Pinene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
180 Bromobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
181 1,1,2,2-Tetrachloroeth	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
182 Propylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.1/21feb18.b/177q1026e.m
Batch File: /chem/msd17.1/21feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
183 1,4-Dichloro-2-butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
184 trans-1,4-Dichloro-2-b	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
185 1,2,3-Trichloropropene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
186 3-Ethyltoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
187 Decane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
188 4-Ethyltoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
189 2-Chlorotoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
190 1,3,5-Trimethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
191 4-Chlorotoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
192 beta-Pinene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
193 Diisobutyl Ketone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
194 alpha Methyl Styrene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
195 tert-Butylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
196 1,2,4-Trimethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
197 Pentachloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
198 Limonene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
199 D-Limonene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
200 Benzaldehyde	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
201 Indan	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
202 Indene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
203 sec-Butylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
204 Isobutylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
205 2-Ethyltoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/21feb18.b/177ql026e.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
206 bis(2-Chloroethyl) Eth	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
207 p-Cymene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
208 1,3-Dichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
209 1,4-Dichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
210 1,2,3-Trimethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
211 1-Undecene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
212 alpha-Chlorotoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
213 Butylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
214 1,2-Dichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
215 Undecane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
216 4-Ethyl-1,2-dimethylbe	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
217 Hexachloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
218 1,3-Diethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
219 1,4-Diethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
220 1,2,4,5-tetramethylben	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
221 1,2-Dibromo-3-chloropr	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
222 1-Dodecene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
223 Nitrobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
224 1,3,5-Trichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
225 Dodecane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
226 1,2,4-Trichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
227 Hexachlorobutadiene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
228 Naphthalene	0.28	0.30	0.30	0.28	0.29	0.28	0.26	0.27	0.28	0.28	0.01	0.04
229 1,2,3-Trichlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

PLC(pbv)

MDL(84)

0.02

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/21feb18.b/177q1026e.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
230 Tridecane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
231 Quinoline	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
232 2-Methylnaphthalene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
233 1,3,5-Triethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
234 Acenaphthylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
235 Phenanthrene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
236 Anthracene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 237 1,2-Dichloroethene (To	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 238 Chlorobutane (Total)	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 239 Total Xylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 240 3 and 4-Ethyltoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
241 Total Volatile Hydrocar	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
242 TPH reference to Hexan	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
243 TPH reference to Hepta	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
244 TPH reference to Gasol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
245 TPH reference Minerals	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
246 TPH reference to Stodd	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
247 TVOC reference to Hexa	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
248 TVOC reference to Hept	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
249 TVOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
250 TVOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
251 NMOC reference to Hexa	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
252 NMOC reference to Hept	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
253 NMOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/21feb18.b/177q1026e.m
Batch File: /chem/msd17.i/21feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
254 C3 - C4 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
255 C4 - C5 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
256 C5 - C6 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
257 C6 - C7 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
258 C7 - C8 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
259 C8 - C9 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
260 C9 - C10 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
261 C10+ Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
262 C5 - C6 Aliphatic ref	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
263 C6-C8 Aliphatic ref He	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
264 C9-C10 Aliphatic ref D	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
265 C10-C12 Aliphatic ref	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
266 C8-C10 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
267 C8-C10 Aromatic ref 1,	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
268 C10-C12 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
269 C10-C12 Aromatic 1,2,	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
270 C10-C12 Aromatic Naph	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

(EPA Lab In-house)
14 Feb 18.b

BLANK MOL (N/A ONLY) - CORRECT

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Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd17.i/12feb18.b/177q1026e.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

ID:	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10		
FILENAME:	17021205EPALb	17021206EPALb	17021207EPALb	17021305EPALb	17021305EPALb	17021305EPALb	17021307EPALb	17021405EPALb	17021406EPALb	17021407EPALb		
INT. DATE:	12-FEB-2018	12-FEB-2018	12-FEB-2018	13-FEB-2018	13-FEB-2018	13-FEB-2018	14-FEB-2018	14-FEB-2018	14-FEB-2018	14-FEB-2018		
INT. TIME:	11:20	12:23	13:07	09:54	10:23	10:51	10:59	13:34	14:57	15:25		
Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	AVG CONC	STD DEV	MDL
1 Dimethyl Ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
2 Freon 14	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
3 Acetaldehyde	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
4 Hexafluoropropene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
5 Freon 13	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
6 Freon 143a	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
7 Freon 134a	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
8 Propane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
9 Propylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
10 1,1-Difluoroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
11 Freon 12	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
12 Vinyl Fluoride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
13 Chlorodifluoromethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
14 Ethylene Oxide	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
15 Freon 114	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
16 Freon 142b	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
17 Chloromethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Reviewer 1
Reviewer 2

Date: 3/27/18
Date:

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026e.m
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Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
18 Isobutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
19 Isobutylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
20 2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
21 trans-2-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
22 1-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
23 Butane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
24 cis-2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
25 Vinyl Chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
26 1,3-Butadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
27 3-Methyl-1-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
28 Methanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
29 Bromomethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
30 Chloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
31 Isopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
32 Vinyl Bromide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
33 2-Chloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
34 Pentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
35 Freon 11	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
36 1-Pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
37 Dichlorofluoromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
38 2,3-Dimethylbutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
39 Isoprene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
40 2-Methyl-2-butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
41 trans-2-Pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
42 Ethanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
43 1,2-Dichloro-1-fluoro	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
44 Ethyl Ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
45 cis-2-Pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
46 Acrolein	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
47 Freon 123a	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
48 Freon 123	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
49 Freon 113	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
50 1,1-Dichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
51 2,2-Dimethylbutane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
52 Acetone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
53 Iodomethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
54 Bromomethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
55 4-Methyl-1-pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
56 Carbon Disulfide	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
57 2-Propanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
58 3-Chloropropene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
59 Cyclopentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
60 2-Methylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
61 Methyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
62 3-Methylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
63 Acetonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

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Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
64 Cyclopentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
65 1-Chloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
66 Methylene Chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
67 2-Methyl-1-pentene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
68 2,4-Dimethylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
69 2,3-Dimethylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
70 tert-Butyl chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
71 tert-Butyl alcohol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
72 Methyl tert-butyl ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
73 trans-1,2-Dichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
74 Acrylonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
75 trans-2-Hexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
76 1-Hexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
77 cis-2-Hexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
78 Hexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
79 Methylcyclopentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
80 sec-Butyl chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
81 2,3,4-Trimethylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
82 1,1-Dichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
83 Isopropyl ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
84 1-Propanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
85 Chloroprene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
86 Vinyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

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Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
87 Butanal	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
88 Ethyl-tert-butyl ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
89 Isobutyl chloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
90 2,2-Dichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
91 cis-1,2-Dichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
92 2-Butanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
93 Methyl Acrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
94 Ethyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
95 Methacrylonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
96 2-Chloropentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
97 2-Butanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 98 Bromochloromethane	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
99 Tetrahydrofuran	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
100 Chloroform	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
101 1-Bromopropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
102 Cyclohexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
103 1,1,1-Trichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
104 Chloroacetonitrile	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
105 n-Butylchloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
106 Carbon Tetrachloride	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
107 1,1-Dichloropropene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
108 Thiophene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
109 2-Methylhexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
110 3-Methylhexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

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METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msdl7.1/12feb18.b/177q1026e.m
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Inst ID: msdl7.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
111 Cyclohexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
\$ 112 Benzene-d6	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
113 2,2,4-Trimethylpentane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
114 1-Methoxy-2-propanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
115 Isobutanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
116 Benzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
\$ 117 1,2-Dichloroethane-d4	24.38	24.32	25.27	24.79	23.95	24.53	24.19	24.17	24.60	24.87	24.51	0.39	1.10
118 1-Heptene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
119 tert-Amyl methyl ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
120 1,2-Dichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
121 Heptane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
122 2,3-Dichloro-1-propene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 123 1,4-Difluorobenzene	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
124 n-Butanol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
125 Trichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
126 Bromodichloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
127 Methylcyclohexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
128 Ethyl acrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
129 2-Methylheptane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
130 3-Methylheptane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
131 2-Pentanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
132 1,2-Dichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
133 1-Bromo-2-Chloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
134 Methyl Methacrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

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Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
135 Diethyl Ketone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
136 1,4-Dioxane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
137 Dibromomethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
138 Bromodichloromethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
139 2-Nitropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
140 bis(chloromethyl) Ethne	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
141 1-Octene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
142 Epichlorohydrin	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
143 2-Chloroethyl Vinyl Et	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
144 cis-1,3-Dichloropropan	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
145 4-Methyl-2-pentanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
\$ 146 Toluene-d8	25.75	25.88	26.37	25.87	26.34	26.33	26.04	25.91	25.80	25.45	25.97	0.30	0.84
147 Toluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
148 Octane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
149 Vinyl Cyclohexene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
150 trans-1,3-Dichloroprop	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
151 Ethyl Methacrylate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
152 1-Chloro-2-Bromopropan	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
153 1-Nitropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
154 Bromodichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
155 1,1,2-Trichloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
156 Tetrachloroethene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
157 1,3-Dichloropropane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
158 2-Hexanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

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Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
159 Butyl Acetate	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
160 Dibromochloromethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
161 1,2-Dibromoethane (EDB)	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
162 1-Nonene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
* 163 Chlorobenzene-d5	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	0.00
164 1-chlorohexane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
165 Chlorobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
166 Butyl Ether	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
167 Ethyl Benzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
168 1,1,1,2-Tetrachloroeth	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
169 m,p-Xylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
170 Nonane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
171 o-Xylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
172 Styrene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
173 2-Heptanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
174 Bromoform	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
175 Cumene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
176 Cyclohexanone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
\$ 177 4-Bromofluorobenzene	23.73	23.47	23.23	24.25	24.41	24.04	23.43	23.63	23.69	23.53	23.74	0.38	1.07
178 1-Decene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
179 alpha-Pinene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
180 Bromobenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
181 1,1,2,2-Tetrachloroeth	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
182 Propylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

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Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
183 1,4-Dichloro-2-Butene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
184 trans-1,4-Dichloro-2-b	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
185 1,2,3-Trichloropropene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
186 3-Ethyltoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
187 Decane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
188 4-Ethyltoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
189 2-Chlorotoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
190 1,3,5-Trimethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
191 4-Chlorotoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
192 beta-Pinene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
193 Diisobutyl ketone	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
194 alpha Methyl Styrene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
195 tert-Butylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
196 1,2,4-Trimethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
197 Pentachloroethane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
198 Limonene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
199 D-Limonene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
200 Benzaldehyde	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
201 Indan	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
202 Indene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
203 sec-Butylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
204 Isobutylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
205 2-Ethyltoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.i/12feb18.b/177q1026e.m
Batch File: /chem/msd17.i/12feb18.b
Inst ID: msd17.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
206 bis(2-Chloroethyl) Eth	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
207 p-Cymene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
208 1,3-Dichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
209 1,4-Dichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
210 1,2,3-Trimehylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
211 1-Undecene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
212 alpha-Chlorotoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
213 Butylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
214 1,2-Dichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
215 Undecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
216 4-Ethyl-1,2-dimethylbe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
217 Hexachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
218 1,1-Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
219 1,4-Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
220 1,2,4,5-tetramethylben	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
221 1,2-Dibromo-3-chloropr	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
222 1-Dodecene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
223 Nitrobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
224 1,3,5-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
225 Dodecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
226 1,2,4-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
227 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
228 Naphthalene	0.01	+++++	+++++	0.01	+++++	+++++	+++++	+++++	+++++	+++++	0.01	0.01	0.04
229 1,2,3-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

MOL CLK (ppbv)

0.02

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORTMethod File: /chem/msd17.1/12feb18.b/177q1026e.m
Batch File: /chem/msd17.1/12feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
230 Tridecane	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
231 Quinoline	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
232 2-Methylnaphthalene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
233 1,3,5-Trimethylbenzene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
234 Acenaphthylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
235 Phenanthrene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
236 Anthracene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 237 1,2-Dichloroethene (To	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 238 Chlorobutane (Total)	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 239 Total Xylene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
M 240 3 and 4-Ethyltoluene	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
241 Total Volatile Hydrocar	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
242 TPH reference to Hexam	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
243 TPH reference to Heptal	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
244 TPH reference to Gasol	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
245 TPH reference Minerals	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
246 TPH reference to Stodd	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
247 TVOC reference to Hexa	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
248 TVOC reference to Hept	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
249 TVOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
250 TVOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
251 NMOC reference to Hexa	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
252 NMOC reference to Hept	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
253 NMOC reference to Tolu	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Report Date : 27-Mar-2018 14:38

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Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd17.1/12feb18.b/177q1026e.m
Batch File: /chem/msd17.1/12feb18.b
Inst ID: msd17.1

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	MDL09	MDL10	AVG CONC	STD DEV	MDL
254 C3 - C4 Hydrocarbons	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
255 C4 - C5 Hydrocarbons	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
256 C5 - C6 Hydrocarbons	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
257 C6 - C7 Hydrocarbons	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
258 C7 - C8 Hydrocarbons	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
259 C8 - C9 Hydrocarbons	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
260 C9 - C10 Hydrocarbons	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
261 C10+ Hydrocarbons	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
262 C5 - C6 Aliphatic ref	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
263 C6-C8 Aliphatic ref He	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
264 C8-C10 Aliphatic ref D	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
265 C10-C12 Aliphatic ref	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
266 C8-C10 Aromatic	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
267 C8-C10 Aromatic ref 1,	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
268 C10-C12 Aromatic	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
269 C10-C12 Aromatic 1,2,	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
270 C10-C12 Aromatic Naph	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	CCV	Date/Time Analyzed:	11/15/18 11:28 AM
Lab ID:	1811221A-05A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17111502
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	100
1,1,2,2-Tetrachloroethane	79-34-5	107
1,1,2-Trichloroethane	79-00-5	108
1,1-Dichloroethane	75-34-3	100
1,1-Dichloroethene	75-35-4	96
1,2,4-Trichlorobenzene	120-82-1	82
1,2,4-Trimethylbenzene	95-63-6	100
1,2-Dibromoethane (EDB)	106-93-4	103
1,2-Dichlorobenzene	95-50-1	95
1,2-Dichloroethane	107-06-2	106
1,2-Dichloropropane	78-87-5	105
1,3,5-Trimethylbenzene	108-67-8	100
1,3-Butadiene	106-99-0	105
1,3-Dichlorobenzene	541-73-1	97
1,4-Dichlorobenzene	106-46-7	94
1,4-Dioxane	123-91-1	107
2,2,4-Trimethylpentane	540-84-1	102
2-Butanone (Methyl Ethyl Ketone)	78-93-3	102
2-Hexanone	591-78-6	104
2-Propanol	67-63-0	94
3-Chloropropene	107-05-1	96
4-Ethyltoluene	622-96-8	106
4-Methyl-2-pentanone	108-10-1	99
Acetone	67-64-1	97

EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	CCV	Date/Time Analyzed:	11/15/18 11:28 AM
Lab ID:	1811221A-05A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17111502
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	106
Benzene	71-43-2	108
Bromodichloromethane	75-27-4	108
Bromoform	75-25-2	95
Bromomethane	74-83-9	106
Carbon Disulfide	75-15-0	101
Carbon Tetrachloride	56-23-5	95
Chlorobenzene	108-90-7	100
Chloroethane	75-00-3	107
Chloroform	67-66-3	104
Chloromethane	74-87-3	109
cis-1,2-Dichloroethene	156-59-2	96
cis-1,3-Dichloropropene	10061-01-5	106
Cumene	98-82-8	103
Cyclohexane	110-82-7	97
Dibromochloromethane	124-48-1	104
Ethanol	64-17-5	94
Ethyl Benzene	100-41-4	102
Freon 11	75-69-4	93
Freon 113	76-13-1	93
Freon 114	76-14-2	97
Freon 12	75-71-8	105
Heptane	142-82-5	107
Hexachlorobutadiene	87-68-3	78

EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	CCV	Date/Time Analyzed:	11/15/18 11:28 AM
Lab ID:	1811221A-05A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17111502
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	95
m,p-Xylene	108-38-3	102
Methyl tert-butyl ether	1634-04-4	96
Methylene Chloride	75-09-2	95
o-Xylene	95-47-6	101
Propylbenzene	103-65-1	105
Styrene	100-42-5	103
Tetrachloroethene	127-18-4	97
Tetrahydrofuran	109-99-9	93
Toluene	108-88-3	106
trans-1,2-Dichloroethene	156-60-5	96
trans-1,3-Dichloropropene	10061-02-6	106
Trichloroethene	79-01-6	105
Vinyl Chloride	75-01-4	100

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	100
4-Bromofluorobenzene	460-00-4	70-130	90
Toluene-d8	2037-26-5	70-130	104

US32APPTV002

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd17.i Injection Date: 15-NOV-2018 11:28
 Lab File ID: 17111502.d Init. Cal. Date(s): 13-JUN-2018 09-OCT-2018
 Analysis Type: AIR Init. Cal. Times: 22:14 15:59
 Lab Sample ID: CCV Quant Type: ISTD
 Method: /chem/msd17.i/15NOV18.b/178q0613e.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
\$ 117 1,2-Dichloroethane-d4	1.13518	1.13081	0.010	0.38504	30.00000	Averaged
\$ 146 Toluene-d8	0.97367	1.00983	0.010	-3.71348	30.00000	Averaged
\$ 177 4-Bromofluorobenzene	0.78945	0.70849	0.010	10.25544	30.00000	Averaged
9 Propylene	0.52550	0.51859	0.010	1.31452	40.00000	Averaged
11 Freon 12	2.22017	2.33901	0.010	-5.35259	30.00000	Averaged
15 Freon 114	1.87393	1.81279	0.010	3.26307	30.00000	Averaged
17 Chloromethane	0.57525	0.62795	0.010	-9.16167	30.00000	Averaged
23 Butane	0.16773	0.15278	0.010	8.91844	40.00000	Averaged
25 Vinyl Chloride	0.82588	0.82420	0.010	0.20338	30.00000	Averaged
26 1,3-Butadiene	0.56388	0.59270	0.010	-5.11145	30.00000	Averaged
29 Bromomethane	0.83985	0.89131	0.010	-6.12779	30.00000	Averaged
30 Chloroethane	0.42110	0.45063	0.010	-7.01228	30.00000	Averaged
31 Isopentane	0.82299	0.81095	0.010	1.46327	40.00000	Averaged
35 Freon 11	2.60409	2.41823	0.010	7.13746	30.00000	Averaged
42 Ethanol	0.28517	0.26852	0.010	5.83966	30.00000	Averaged
49 Freon 113	2.02204	1.87325	0.010	7.35821	30.00000	Averaged
50 1,1-Dichloroethene	0.62676	0.60086	0.010	4.13239	30.00000	Averaged
52 Acetone	0.40295	0.39238	0.010	2.62345	30.00000	Averaged
56 Carbon Disulfide	2.60819	2.64303	0.010	-1.33569	30.00000	Averaged
57 2-Propanol	1.29720	1.21414	0.010	6.40289	30.00000	Averaged
58 3-Chloropropene	0.42376	0.40568	0.010	4.26655	30.00000	Averaged
66 Methylene Chloride	0.92094	0.87934	0.010	4.51761	30.00000	Averaged
71 tert-Butyl alcohol	1.90499	1.68392	0.010	11.60463	40.00000	Averaged
72 Methyl tert-butyl ether	2.70086	2.59424	0.010	3.94772	30.00000	Averaged
73 trans-1,2-Dichloroethene	0.61624	0.58953	0.010	4.33449	30.00000	Averaged
78 Hexane	1.31634	1.24603	0.010	5.34151	30.00000	Averaged
82 1,1-Dichloroethane	1.58504	1.58537	0.010	-0.02059	30.00000	Averaged
83 Isopropyl ether	2.72876	2.58593	0.010	5.23432	40.00000	Averaged
86 Vinyl Acetate	0.25881	0.24988	0.010	3.45307	30.00000	Averaged
88 Ethyl-tert-butyl ether	2.94886	2.77282	0.010	5.96977	40.00000	Averaged
91 cis-1,2-Dichloroethene	0.74204	0.70871	0.010	4.49199	30.00000	Averaged
92 2-Butanone	0.45091	0.46100	0.010	-2.23700	30.00000	Averaged
99 Tetrahydrofuran	0.85234	0.79680	0.010	6.51600	30.00000	Averaged
100 Chloroform	1.94041	2.01353	0.010	-3.76824	30.00000	Averaged
102 Cyclohexane	1.30642	1.27135	0.010	2.68433	30.00000	Averaged
103 1,1,1-Trichloroethane	2.16290	2.15801	0.010	0.22587	30.00000	Averaged

US32APPTV002

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd17.i Injection Date: 15-NOV-2018 11:28
Lab File ID: 17111502.d Init. Cal. Date(s): 13-JUN-2018 09-OCT-2018
Analysis Type: AIR Init. Cal. Times: 22:14 15:59
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd17.i/15NOV18.b/178q0613e.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
106 Carbon Tetrachloride	2.35596	2.22906	0.010	5.38657	30.00000	Averaged
113 2,2,4-Trimethylpentane	3.88861	3.95013	0.010	-1.58214	30.00000	Averaged
116 Benzene	0.79274	0.85875	0.010	-8.32646	30.00000	Averaged
119 tert-Amyl methyl ether	0.74368	0.69659	0.010	6.33128	40.00000	Averaged
120 1,2-Dichloroethane	0.35483	0.37482	0.010	-5.63300	30.00000	Averaged
121 Heptane	0.27733	0.29669	0.010	-6.97925	30.00000	Averaged
125 Trichloroethene	0.37950	0.39752	0.010	-4.74838	30.00000	Averaged
127 Methylcyclohexane	1.77933	1.74556	0.010	1.89753	30.00000	Averaged
132 1,2-Dichloropropane	0.28063	0.29603	0.010	-5.48811	30.00000	Averaged
136 1,4-Dioxane	0.20039	0.21461	0.010	-7.09522	30.00000	Averaged
138 Bromodichloromethane	0.59149	0.63659	0.010	-7.62566	30.00000	Averaged
144 cis-1,3-Dichloropropene	0.46398	0.49254	0.010	-6.15503	30.00000	Averaged
145 4-Methyl-2-pentanone	0.22828	0.22661	0.010	0.73507	30.00000	Averaged
147 Toluene	1.02939	1.08758	0.010	-5.65221	30.00000	Averaged
150 trans-1,3-Dichloropropene	0.48868	0.51650	0.010	-5.69166	30.00000	Averaged
155 1,1,2-Trichloroethane	0.38943	0.41966	0.010	-7.76402	30.00000	Averaged
156 Tetrachloroethene	0.70365	0.68330	0.010	2.89208	30.00000	Averaged
158 2-Hexanone	0.31606	0.32827	0.010	-3.86507	30.00000	Averaged
160 Dibromochloromethane	0.80768	0.83736	0.010	-3.67481	30.00000	Averaged
161 1,2-Dibromoethane (EDB)	0.66605	0.68681	0.010	-3.11811	30.00000	Averaged
165 Chlorobenzene	0.98560	0.99118	0.010	-0.56641	30.00000	Averaged
167 Ethyl Benzene	0.49529	0.50775	0.010	-2.51605	30.00000	Averaged
169 m,p-Xylene	0.61584	0.62657	0.010	-1.74236	30.00000	Averaged
171 o-Xylene	0.58354	0.59029	0.010	-1.15729	30.00000	Averaged
172 Styrene	0.92526	0.94938	0.010	-2.60641	30.00000	Averaged
174 Bromoform	0.92799	0.87829	0.010	5.35569	30.00000	Averaged
175 Cumene	1.76856	1.82075	0.010	-2.95099	30.00000	Averaged
181 1,1,2,2-Tetrachloroethane	0.83283	0.89449	0.010	-7.40332	30.00000	Averaged
182 Propylbenzene	1.99853	2.09652	0.010	-4.90309	30.00000	Averaged
188 4-Ethyltoluene	0.55977	0.59353	0.010	-6.03094	30.00000	Averaged
190 1,3,5-Trimethylbenzene	0.77763	0.78052	0.010	-0.37117	30.00000	Averaged
196 1,2,4-Trimethylbenzene	0.69489	0.69384	0.010	0.15147	30.00000	Averaged
208 1,3-Dichlorobenzene	1.18010	1.14460	0.010	3.00773	30.00000	Averaged
209 1,4-Dichlorobenzene	1.20568	1.14055	0.010	5.40221	30.00000	Averaged
212 alpha-Chlorotoluene	1.25032	1.32905	0.010	-6.29682	30.00000	Averaged

US32APPTV002

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd17.i Injection Date: 15-NOV-2018 11:28
Lab File ID: 17111502.d Init. Cal. Date(s): 13-JUN-2018 09-OCT-2018
Analysis Type: AIR Init. Cal. Times: 22:14 15:59
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd17.i/15NOV18.b/178q0613e.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
214 1,2-Dichlorobenzene	1.13425	1.07563	0.010	5.16831	30.00000	Averaged
226 1,2,4-Trichlorobenzene	1.29000	1.06093	0.010	17.75742	30.00000	Averaged
227 Hexachlorobutadiene	1.15312	0.90605	0.010	21.42650	30.00000	Averaged
228 Naphthalene	2.21998	1.90507	0.010	14.18535	40.00000	Averaged

US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/15NOV18.b/17111502.d
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 15-NOV-2018 11:28
Operator : mjb Inst ID: msd17.i
Smp Info : 50ml 3018-488
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/15NOV18.b/178q0613e.m
Meth Date : 15-Nov-2018 11:46 p5fl Quant Type: ISTD
Cal Date : 09-OCT-2018 15:59 Cal File: 17100911.d
Als bottle: 13 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

				AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
* 98 Bromochloromethane									
5.506	5.497	(1.000)	130	177601	25.0000	CAS #:	74-97-5		
5.506	5.497	(1.000)	128	134282			80.00-	120.00	100.00
5.499	5.494	(1.000)	49	164923			48.32-	108.32	75.61
							63.40-	123.40	92.86

* 123 1,4-Difluorobenzene									
6.388	6.381	(1.000)	114	599676	25.0000	CAS #:	540-36-3		
6.388	6.381	(1.000)	88	88192			80.00-	120.00	100.00
							0.00-	44.55	14.71

* 163 Chlorobenzene-d5									
8.830	8.830	(1.000)	117	544209	25.0000	CAS #:	3114-55-4		
8.830	8.830	(1.000)	82	278780			80.00-	120.00	100.00
							17.97-	77.97	51.23

\$ 117 1,2-Dichloroethane-d4									
6.037	6.035	(1.096)	65	200834	25.0000	CAS #:	17060-07-0		
6.037	6.035	(1.096)	67	111349		24.904	80.00-	120.00	100.00
							23.66-	83.66	55.44

\$ 146 Toluene-d8									
7.598	7.598	(1.190)	98	605568	25.0000	CAS #:	2037-26-5		
7.598	7.598	(1.190)	70	61714		25.928	80.00-	120.00	100.00
							0.00-	40.01	10.19

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
\$ 146	Toluene-d8 (continued)							
7.598	7.598	(1.190)	100	393347			35.43- 95.43	64.96

\$ 177	4-Bromofluorobenzene					CAS #: 460-00-4		
9.819	9.819	(1.112)	174	385567	25.0000	22.436	80.00- 120.00	100.00
9.819	9.819	(1.112)	95	388428			59.41- 119.41	100.74
9.819	9.819	(1.112)	176	375456			68.33- 128.33	97.38

9	Propylene					CAS #: 115-07-1		
1.510	1.501	(0.274)	41	184205	50.0000	49.343	80.00- 120.00	100.00
1.510	1.502	(0.274)	42	125769			36.13- 96.13	68.28
1.510	1.502	(0.274)	39	138249			46.53- 106.53	75.05

11	Freon 12					CAS #: 75-71-8		
1.538	1.533	(0.279)	85	830824	50.0000	52.676	80.00- 120.00	100.00
1.538	1.535	(0.279)	87	272125			2.38- 62.38	32.75

15	Freon 114					CAS #: 76-14-2		
1.660	1.654	(0.301)	135	643909	50.0000	48.368	80.00- 120.00	100.00
1.660	1.653	(0.301)	137	203949			2.28- 62.28	31.67

17	Chloromethane					CAS #: 74-87-3		
1.753	1.751	(0.318)	50	223051	50.0000	54.581	80.00- 120.00	100.00
1.753	1.749	(0.318)	52	74899			5.22- 65.22	33.58

23	Butane					CAS #: 106-97-8		
1.818	1.815	(0.330)	58	54266	50.0000	45.541	80.00- 120.00	100.00
1.818	1.814	(0.330)	43	362389			637.12- 697.12	667.80

25	Vinyl Chloride					CAS #: 75-01-4		
1.861	1.851	(0.338)	62	292760	50.0000	49.898	80.00- 120.00	100.00
1.861	1.851	(0.338)	64	125297			1.91- 61.91	42.80

26	1,3-Butadiene					CAS #: 106-99-0		
1.882	1.876	(0.342)	54	210531	50.0000	52.556	80.00- 120.00	100.00
1.882	1.874	(0.342)	39	190607			72.44- 132.44	90.54

29	Bromomethane					CAS #: 74-83-9		
2.240	2.232	(0.407)	94	316597	50.0000	53.064	80.00- 120.00	100.00
2.240	2.233	(0.407)	96	297551			65.39- 125.39	93.98

30	Chloroethane					CAS #: 75-00-3		
2.355	2.345	(0.428)	64	160066	50.0000	53.506	80.00- 120.00	100.00
2.355	2.348	(0.428)	66	47967			3.25- 63.25	29.97
2.355	2.345	(0.428)	49	38651			0.00- 57.17	24.15

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
31 Isopentane							CAS #:	78-78-4	
2.369	2.359	(0.430)	43	288051	50.0000	49.268	80.00-	120.00	100.00
2.369	2.362	(0.430)	57	220151			45.20-	105.20	76.43
35 Freon 11							CAS #:	75-69-4	
2.598	2.592	(0.472)	101	858963	50.0000	46.431	80.00-	120.00	100.00
2.598	2.592	(0.472)	103	559980			34.28-	94.28	65.19
42 Ethanol							CAS #:	64-17-5	
2.949	2.944	(0.536)	45	95378	50.0000	47.080	80.00-	120.00	100.00
2.949	2.944	(0.536)	46	37576			9.17-	69.17	39.40
49 Freon 113							CAS #:	76-13-1	
3.243	3.233	(0.589)	151	665387	50.0000	46.321	80.00-	120.00	100.00
3.243	3.235	(0.589)	153	422900			34.01-	94.01	63.56
3.243	3.231	(0.589)	101	762435			81.38-	141.38	114.59
50 1,1-Dichloroethene							CAS #:	75-35-4	
3.272	3.266	(0.594)	98	213428	50.0000	47.934	80.00-	120.00	100.00
3.279	3.265	(0.595)	96	333563			124.64-	184.64	156.29
3.272	3.265	(0.594)	61	485023			200.94-	260.94	227.25
52 Acetone							CAS #:	67-64-1	
3.436	3.429	(0.624)	58	139374	50.0000	48.688	80.00-	120.00	100.00
3.436	3.429	(0.624)	43	397046			290.24-	350.24	284.88
56 Carbon Disulfide							CAS #:	75-15-0	
3.508	3.502	(0.637)	76	938814	50.0000	50.668	80.00-	120.00	100.00
57 2-Propanol							CAS #:	67-63-0	
3.608	3.606	(0.655)	45	431267	50.0000	46.798	80.00-	120.00	100.00
3.615	3.606	(0.657)	43	85564			0.00-	51.65	19.84
3.608	3.606	(0.655)	59	19631			0.00-	34.46	4.55
58 3-Chloropropene							CAS #:	107-05-1	
3.752	3.747	(0.681)	76	144099	50.0000	47.867	80.00-	120.00	100.00
3.752	3.746	(0.681)	41	307360			187.06-	247.06	213.30
66 Methylene Chloride							CAS #:	75-09-2	
3.945	3.939	(0.716)	49	312344	50.0000	47.741	80.00-	120.00	100.00
3.945	3.939	(0.716)	84	300645			60.06-	120.06	96.25
3.945	3.939	(0.716)	51	97856			0.22-	60.22	31.33
71 tert-Butyl alcohol							CAS #:	75-65-0	
4.067	4.062	(0.739)	59	598136	50.0000	44.198	80.00-	120.00	100.00
4.067	4.061	(0.739)	41	115020			0.00-	49.54	19.23

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
				CAL-AMT (PPBV)	ON-COL (PPBV)		
71	tert-Butyl alcohol (continued)						
4.067	4.062 (0.739)	57	64870			0.00- 40.61	10.85
72	Methyl tert-butyl ether				CAS #: 1634-04-4		
4.153	4.148 (0.754)	73	921483	50.0000	48.026	80.00- 120.00	100.00
4.160	4.148 (0.755)	57	188732			0.00- 50.61	20.48
4.153	4.147 (0.754)	41	165426			0.00- 49.00	17.95
73	trans-1,2-Dichloroethene				CAS #: 156-60-5		
4.181	4.176 (0.759)	98	209404	50.0000	47.833	80.00- 120.00	100.00
4.181	4.175 (0.759)	61	415454			169.57- 229.57	198.40
4.181	4.175 (0.759)	96	329476			127.00- 187.00	157.34
78	Hexane				CAS #: 110-54-3		
4.396	4.384 (0.798)	57	442593	50.0000	47.329	80.00- 120.00	100.00
4.389	4.383 (0.797)	43	250702			28.25- 88.25	56.64
4.396	4.384 (0.798)	86	80957			0.00- 48.98	18.29
82	1,1-Dichloroethane				CAS #: 75-34-3		
4.683	4.677 (0.850)	63	563128	50.0000	50.010	80.00- 120.00	100.00
4.683	4.677 (0.850)	65	179204			2.30- 62.30	31.82
83	Isopropyl ether				CAS #: 108-20-3		
4.668	4.659 (0.848)	45	918531	50.0000	47.383	80.00- 120.00	100.00
4.668	4.660 (0.848)	87	316508			4.15- 64.15	34.46
4.668	4.660 (0.848)	59	117504			0.00- 42.61	12.79
86	Vinyl Acetate				CAS #: 108-05-4		
4.726	4.720 (0.858)	86	88757	50.0000	48.273	80.00- 120.00	100.00
4.726	4.717 (0.858)	43	783917			863.69- 923.69	883.22
88	Ethyl-tert-butyl ether				CAS #: 637-92-3		
5.027	5.021 (0.913)	59	984915	50.0000	47.015	80.00- 120.00	100.00
5.027	5.021 (0.913)	87	449716			16.34- 76.34	45.66
5.027	5.021 (0.913)	41	164030			0.00- 47.31	16.65
91	cis-1,2-Dichloroethene				CAS #: 156-59-2		
5.270	5.264 (0.957)	98	251736	50.0000	47.754	80.00- 120.00	100.00
5.270	5.264 (0.957)	96	390260			122.96- 182.96	155.03
5.270	5.264 (0.957)	61	447169			147.21- 207.21	177.63
92	2-Butanone				CAS #: 78-93-3		
5.299	5.292 (0.962)	72	163748	50.0000	51.118	80.00- 120.00	100.00
5.292	5.288 (0.961)	43	518685			305.24- 365.24	316.76
5.292	5.288 (0.961)	57	46414			0.00- 59.67	28.34

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
99 Tetrahydrofuran						CAS #:	109-99-9		
5.499	5.493	(0.999)	42	283027	50.0000	46.742	80.00-	120.00	100.00
5.499	5.495	(0.999)	71	140472			18.99-	78.99	49.63
5.499	5.494	(0.999)	72	146993			20.78-	80.78	51.94
100 Chloroform						CAS #:	67-66-3		
5.564	5.559	(1.010)	83	715213	50.0000	51.884	80.00-	120.00	100.00
5.564	5.560	(1.010)	85	466004			35.00-	95.00	65.16
102 Cyclohexane						CAS #:	110-82-7		
5.664	5.658	(1.029)	84	451587	50.0000	48.658	80.00-	120.00	100.00
5.664	5.657	(1.029)	56	455339			70.31-	130.31	100.83
5.664	5.657	(1.029)	41	230572			25.25-	85.25	51.06
103 1,1,1-Trichloroethane						CAS #:	71-55-6		
5.686	5.678	(1.033)	97	766534	50.0000	49.887	80.00-	120.00	100.00
5.686	5.678	(1.033)	99	490683			34.84-	94.84	64.01
106 Carbon Tetrachloride						CAS #:	56-23-5		
5.800	5.794	(1.053)	119	791770	50.0000	47.307	80.00-	120.00	100.00
5.800	5.794	(1.053)	117	827333			73.53-	133.53	104.49
113 2,2,4-Trimethylpentane						CAS #:	540-84-1		
5.986	5.984	(1.087)	57	1403102	50.0000	50.791	80.00-	120.00	100.00
5.986	5.984	(1.087)	56	445307			2.59-	62.59	31.74
5.986	5.983	(1.087)	41	355913			0.00-	55.57	25.37
116 Benzene						CAS #:	71-43-2		
6.015	6.009	(0.942)	78	1029944	50.0000	54.163	80.00-	120.00	100.00
6.015	6.009	(0.942)	77	242990			0.00-	53.90	23.59
119 tert-Amyl methyl ether						CAS #:	994-05-8		
6.080	6.074	(1.104)	87	247432	50.0000	46.834	80.00-	120.00	100.00
6.080	6.076	(1.104)	73	1000886			361.82-	421.82	404.51
6.080	6.074	(1.104)	55	232622			58.31-	118.31	94.01
120 1,2-Dichloroethane						CAS #:	107-06-2		
6.108	6.102	(0.956)	62	449538	50.0000	52.816	80.00-	120.00	100.00
6.108	6.102	(0.956)	64	149115			3.07-	63.07	33.17
121 Heptane						CAS #:	142-82-5		
6.158	6.152	(0.964)	71	355834	50.0000	53.490	80.00-	120.00	100.00
6.158	6.152	(0.964)	43	475326			110.59-	170.59	133.58
6.158	6.151	(0.964)	57	287839			64.25-	124.25	80.89
125 Trichloroethene						CAS #:	79-01-6		
6.581	6.581	(1.030)	95	476761	50.0000	52.374	80.00-	120.00	100.00

					AMOUNTS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	===	=====	=====	=====	=====	=====	=====
125 Trichloroethene (continued)									
6.581	6.581	(1.030)	130	522244			81.76-	141.76	109.54
6.581	6.581	(1.030)	97	307756			34.64-	94.64	64.55
						CAS #:	108-87-2		
6.674	6.674	(1.212)	83	620030	50.0000	49.051	80.00-	120.00	100.00
6.681	6.675	(1.213)	98	295619			18.58-	78.58	47.68
6.674	6.674	(1.212)	55	418838			37.28-	97.28	67.55
						CAS #:	78-87-5		
6.817	6.817	(1.067)	63	355040	50.0000	52.744	80.00-	120.00	100.00
6.817	6.817	(1.067)	62	241867			38.79-	98.79	68.12
6.817	6.817	(1.067)	41	177793			23.87-	83.87	50.08
						CAS #:	123-91-1		
6.910	6.907	(1.082)	88	257393	50.0000	53.548	80.00-	120.00	100.00
6.903	6.904	(1.081)	58	149029			28.36-	88.36	57.90
6.903	6.903	(1.081)	57	50994			0.00-	49.37	19.81
						CAS #:	75-27-4		
7.047	7.047	(1.103)	83	763498	50.0000	53.813	80.00-	120.00	100.00
7.047	7.047	(1.103)	85	492809			34.11-	94.11	64.55
						CAS #:	10061-01-5		
7.419	7.419	(1.161)	75	590732	50.0000	53.078	80.00-	120.00	100.00
7.419	7.419	(1.161)	77	189508			2.33-	62.33	32.08
7.419	7.419	(1.161)	39	255470			16.60-	76.60	43.25
						CAS #:	108-10-1		
7.526	7.526	(1.178)	58	271779	50.0000	49.632	80.00-	120.00	100.00
7.526	7.526	(1.178)	43	634202			214.83-	274.83	233.35
7.526	7.526	(1.178)	85	141739			23.05-	83.05	52.15
						CAS #:	108-88-3		
7.655	7.655	(1.198)	91	1304389	50.0000	52.826	80.00-	120.00	100.00
7.648	7.654	(1.197)	92	757626			27.80-	87.80	58.08
						CAS #:	10061-02-6		
7.899	7.899	(0.895)	75	562166	50.0000	52.846	80.00-	120.00	100.00
7.899	7.899	(0.895)	77	177696			1.77-	61.77	31.61
7.899	7.899	(0.895)	39	235467			14.97-	74.97	41.89
						CAS #:	79-00-5		
8.049	8.055	(0.912)	97	456769	50.0000	53.882	80.00-	120.00	100.00
8.049	8.055	(0.912)	99	287659			32.71-	92.71	62.98
8.049	8.055	(0.912)	83	390088			55.53-	115.53	85.40

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
					CAL-AMT (PPBV)	ON-COL (PPBV)		
156						CAS #:	127-18-4	
8.092	8.092	(0.916)	166	743722	50.0000	48.554	80.00- 120.00	100.00
8.085	8.091	(0.916)	129	515805			36.14- 96.14	69.35
8.085	8.091	(0.916)	131	504590			34.69- 94.69	67.85
158						CAS #:	591-78-6	
8.214	8.214	(0.930)	58	357297	50.0000	51.932	80.00- 120.00	100.00
8.214	8.214	(0.930)	43	615033			146.83- 206.83	172.13
8.214	8.215	(0.930)	100	90716			0.00- 55.52	25.39
160						CAS #:	124-48-1	
8.365	8.367	(0.947)	129	911398	50.0000	51.837	80.00- 120.00	100.00
8.365	8.367	(0.947)	127	710153			47.05- 107.05	77.92
161						CAS #:	106-93-4	
8.479	8.479	(0.960)	107	747542	50.0000	51.559	80.00- 120.00	100.00
8.479	8.479	(0.960)	109	707593			65.51- 125.51	94.66
165						CAS #:	108-90-7	
8.852	8.858	(1.002)	112	1078819	50.0000	50.283	80.00- 120.00	100.00
8.852	8.858	(1.002)	114	354251			2.14- 62.14	32.84
8.852	8.852	(1.002)	77	579117			23.42- 83.42	53.68
167						CAS #:	100-41-4	
8.902	8.902	(1.008)	106	552645	50.0000	51.258	80.00- 120.00	100.00
8.895	8.901	(1.007)	91	1685634			268.52- 328.52	305.01
169						CAS #:	108-38-3	
8.995	8.997	(1.019)	106	681973	50.0000	50.871	80.00- 120.00	100.00
8.995	8.996	(1.019)	91	1316063			161.75- 221.75	192.98
171						CAS #:	95-47-6	
9.339	9.339	(1.058)	106	642483	50.0000	50.579	80.00- 120.00	100.00
9.339	9.339	(1.058)	91	1302181			170.98- 230.98	202.68
172						CAS #:	100-42-5	
9.360	9.360	(1.060)	104	1033320	50.0000	51.303	80.00- 120.00	100.00
9.360	9.360	(1.060)	78	479718			16.10- 76.10	46.42
174						CAS #:	75-25-2	
9.568	9.568	(1.084)	173	955951	50.0000	47.322	80.00- 120.00	100.00
9.568	9.568	(1.084)	171	486035			21.32- 81.32	50.84
175						CAS #:	98-82-8	
9.625	9.625	(1.090)	105	1981740	50.0000	51.475	80.00- 120.00	100.00
9.625	9.626	(1.090)	120	556719			0.00- 58.56	28.09

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS		TARGET RANGE	RATIO
				CAL-AMT (PPBV)	ON-COL (PPBV)		
175	Cumene (continued)						
9.625	9.625 (1.090)	51	153488			0.00- 37.61	7.75
181	1,1,2,2-Tetrachloroethane				CAS #: 79-34-5		
9.948	9.948 (1.127)	83	973577	50.0000	53.702	80.00- 120.00	100.00
9.948	9.948 (1.127)	85	635312			35.03- 95.03	65.26
182	Propylbenzene				CAS #: 103-65-1		
9.969	9.974 (1.129)	91	2281895	50.0000	52.452	80.00- 120.00	100.00
9.969	9.975 (1.129)	120	568581			0.00- 56.23	24.92
9.969	9.975 (1.129)	105	86548			0.00- 33.80	3.79
188	4-Ethyltoluene				CAS #: 622-96-8		
10.062	10.068 (1.140)	120	646011	50.0000	53.015	80.00- 120.00	100.00
10.062	10.068 (1.140)	105	2011362			275.42- 335.42	311.35
190	1,3,5-Trimethylbenzene				CAS #: 108-67-8		
10.120	10.119 (1.146)	120	849531	50.0000	50.186	80.00- 120.00	100.00
10.112	10.118 (1.145)	105	1696105			165.32- 225.32	199.65
196	1,2,4-Trimethylbenzene				CAS #: 95-63-6		
10.442	10.444 (1.183)	120	755186	50.0000	49.924	80.00- 120.00	100.00
10.442	10.443 (1.183)	105	1583010			176.48- 236.48	209.62
208	1,3-Dichlorobenzene				CAS #: 541-73-1		
10.736	10.735 (1.216)	146	1245806	50.0000	48.496	80.00- 120.00	100.00
10.736	10.735 (1.216)	148	787034			34.93- 94.93	63.17
10.736	10.735 (1.216)	111	455275			5.13- 65.13	36.54
209	1,4-Dichlorobenzene				CAS #: 106-46-7		
10.814	10.819 (1.225)	146	1241395	50.0000	47.299	80.00- 120.00	100.00
10.814	10.820 (1.225)	148	798561			34.11- 94.11	64.33
10.814	10.817 (1.225)	111	442637			4.00- 64.00	35.66
212	alpha-Chlorotoluene				CAS #: 100-44-7		
10.929	10.935 (1.238)	91	1446564	50.0000	53.148	80.00- 120.00	100.00
10.936	10.936 (1.238)	126	333691			0.00- 55.13	23.07
214	1,2-Dichlorobenzene				CAS #: 95-50-1		
11.144	11.148 (1.262)	146	1170733	50.0000	47.416	80.00- 120.00	100.00
11.144	11.149 (1.262)	148	745850			34.17- 94.17	63.71
11.144	11.146 (1.262)	111	440621			6.50- 66.50	37.64
226	1,2,4-Trichlorobenzene				CAS #: 120-82-1		
12.555	12.543 (1.422)	180	1154738	50.0000	41.121	80.00- 120.00	100.00
12.562	12.544 (1.423)	182	1110682			65.44- 125.44	96.18

						AMOUNTS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT	ON-COL	TARGET	RANGE	RATIO		
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====	=====	=====
227 Hexachlorobutadiene						CAS #:	87-68-3				
12.648	12.625	(1.432)	225	986162	50.0000	39.287	80.00-	120.00	100.00		
12.648	12.625	(1.432)	223	619138			32.93-	92.93	62.78		

228 Naphthalene						CAS #:	91-20-3				
12.827	12.809	(1.453)	128	207351	5.0000	4.291	80.00-	120.00	100.00		
12.827	12.809	(1.453)	127	26048			0.00-	43.59	12.56		

US32APPTV002

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: msd17.i	Calibration Date: 15-NOV-2018
Lab File ID: 17111502.d	Calibration Time: 11:28
Lab Smp Id: CCV	Client Smp ID: CCV
Analysis Type: VOA	Level: LOW
Quant Type: ISTD	Sample Type: AIR
Operator: mjb	
Method File: /chem/msd17.i/15NOV18.b/178q0613e.m	
Misc Info: 50ppbv (200ppbv)	

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	177601	106561	248641	177601	0.00
123 1,4-Difluorobenze	599676	359806	839546	599676	0.00
163 Chlorobenzene-d5	544209	326525	761893	544209	0.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.51	5.18	5.84	5.51	0.00
123 1,4-Difluorobenze	6.39	6.06	6.72	6.39	0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
 AREA LOWER LIMIT = - 40% of internal standard area.
 RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.1/15NOV18.b/17111502.d

Date: 15-NOV-2018 11:28

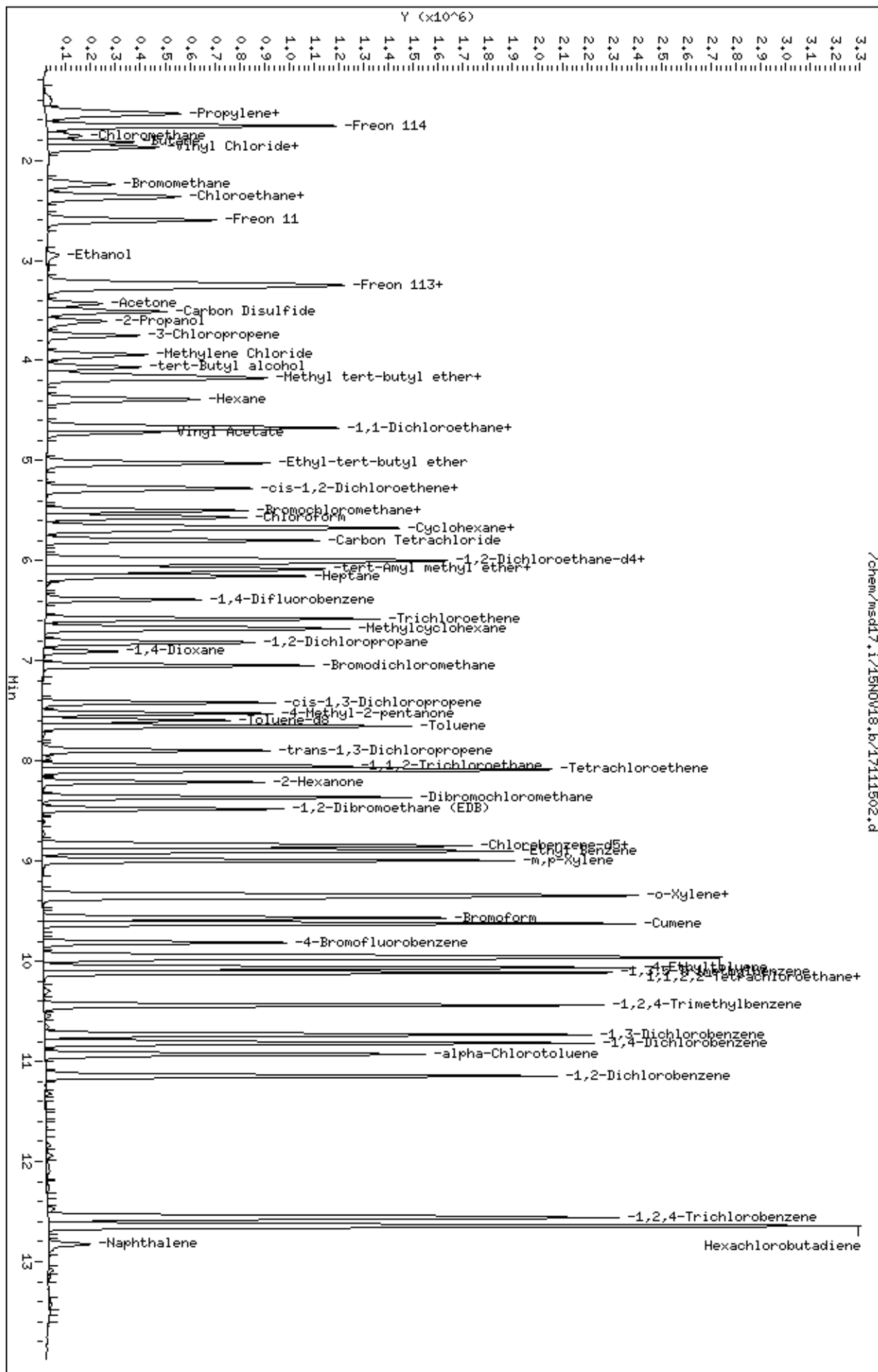
Client ID: CCV

Sample Info: 50ml 3018-488

Page 1

Column phase: RTX-624

Instrument: msd17.1
Operator: mjb
Column diameter: 0.25



EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	LCS	Date/Time Analyzed:	11/15/18 12:05 PM
Lab ID:	1811221A-06A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17111503
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	100
1,1,2,2-Tetrachloroethane	79-34-5	108
1,1,2-Trichloroethane	79-00-5	108
1,1-Dichloroethane	75-34-3	98
1,1-Dichloroethene	75-35-4	95
1,2,4-Trichlorobenzene	120-82-1	86
1,2,4-Trimethylbenzene	95-63-6	101
1,2-Dibromoethane (EDB)	106-93-4	103
1,2-Dichlorobenzene	95-50-1	96
1,2-Dichloroethane	107-06-2	102
1,2-Dichloropropane	78-87-5	105
1,3,5-Trimethylbenzene	108-67-8	102
1,3-Butadiene	106-99-0	102
1,3-Dichlorobenzene	541-73-1	98
1,4-Dichlorobenzene	106-46-7	98
1,4-Dioxane	123-91-1	108
2,2,4-Trimethylpentane	540-84-1	104
2-Butanone (Methyl Ethyl Ketone)	78-93-3	102
2-Hexanone	591-78-6	107
2-Propanol	67-63-0	95
3-Chloropropene	107-05-1	100
4-Ethyltoluene	622-96-8	107
4-Methyl-2-pentanone	108-10-1	102
Acetone	67-64-1	96

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	LCS	Date/Time Analyzed:	11/15/18 12:05 PM
Lab ID:	1811221A-06A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17111503
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	114
Benzene	71-43-2	107
Bromodichloromethane	75-27-4	111
Bromoform	75-25-2	99
Bromomethane	74-83-9	107
Carbon Disulfide	75-15-0	104
Carbon Tetrachloride	56-23-5	96
Chlorobenzene	108-90-7	102
Chloroethane	75-00-3	106
Chloroform	67-66-3	103
Chloromethane	74-87-3	110
cis-1,2-Dichloroethene	156-59-2	88
cis-1,3-Dichloropropene	10061-01-5	112
Cumene	98-82-8	103
Cyclohexane	110-82-7	101
Dibromochloromethane	124-48-1	104
Ethanol	64-17-5	97
Ethyl Benzene	100-41-4	104
Freon 11	75-69-4	94
Freon 113	76-13-1	91
Freon 114	76-14-2	98
Freon 12	75-71-8	107
Heptane	142-82-5	107
Hexachlorobutadiene	87-68-3	83

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	LCS	Date/Time Analyzed:	11/15/18 12:05 PM
Lab ID:	1811221A-06A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17111503
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	97
m,p-Xylene	108-38-3	102
Methyl tert-butyl ether	1634-04-4	96
Methylene Chloride	75-09-2	96
o-Xylene	95-47-6	101
Propylbenzene	103-65-1	106
Styrene	100-42-5	104
Tetrachloroethene	127-18-4	95
Tetrahydrofuran	109-99-9	98
Toluene	108-88-3	106
trans-1,2-Dichloroethene	156-60-5	104
trans-1,3-Dichloropropene	10061-02-6	105
Trichloroethene	79-01-6	107
Vinyl Chloride	75-01-4	103

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	102
4-Bromofluorobenzene	460-00-4	70-130	92
Toluene-d8	2037-26-5	70-130	105

* % Recovery is calculated using unrounded analytical results.

US32APPTV002

RECOVERY REPORT

Client Name: Client SDG: 15NOV18
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: LCS Client Smp ID: LCS
Level: LOW Operator: mjb
Data Type: MS DATA SampleType: LCS
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AT12.sub
Method File: /chem/msd17.i/15NOV18.b/178q0613e.m
Misc Info: 50ppbv (200ppbv)

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
9 Propylene	50.000	48.576	97.15
11 Freon 12	50.000	53.382	106.76
15 Freon 114	50.000	48.907	97.81
17 Chloromethane	50.000	54.967	109.93
23 Butane	50.000	45.462	90.92
25 Vinyl Chloride	50.000	51.330	102.66
26 1,3-Butadiene	50.000	51.151	102.30
29 Bromomethane	50.000	53.392	106.78
30 Chloroethane	50.000	52.983	105.97
31 Isopentane	50.000	49.381	98.76
35 Freon 11	50.000	47.264	94.53
42 Ethanol	50.000	48.308	96.62
49 Freon 113	50.000	45.544	91.09
50 1,1-Dichloroethene	50.000	47.358	94.72
52 Acetone	50.000	48.086	96.17
56 Carbon Disulfide	50.000	52.123	104.25
57 2-Propanol	50.000	47.484	94.97
58 3-Chloropropene	50.000	49.786	99.57
66 Methylene Chloride	50.000	47.750	95.50
72 Methyl tert-butyl ether	50.000	48.116	96.23
73 trans-1,2-Dichloroethene	50.000	52.181	104.36
78 Hexane	50.000	48.493	96.99
82 1,1-Dichloroethane	50.000	49.010	98.02
86 Vinyl Acetate	50.000	48.505	97.01
91 cis-1,2-Dichloroethene	50.000	43.825	87.65
92 2-Butanone	50.000	50.853	101.71
99 Tetrahydrofuran	50.000	48.905	97.81
100 Chloroform	50.000	51.595	103.19
103 1,1,1-Trichloroethane	50.000	49.952	99.90
106 Carbon Tetrachloride	50.000	48.165	96.33
102 Cyclohexane	50.000	50.650	101.30
113 2,2,4-Trimethylpentane	50.000	51.958	103.92
116 Benzene	50.000	53.616	107.23

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
120 1,2-Dichloroethane	50.000	51.099	102.20
121 Heptane	50.000	53.384	106.77
125 Trichloroethene	50.000	53.541	107.08
127 Methylcyclohexane	50.000	50.630	101.26
132 1,2-Dichloropropane	50.000	52.413	104.83
136 1,4-Dioxane	50.000	54.227	108.45
138 Bromodichloromethane	50.000	55.424	110.85
144 cis-1,3-Dichloropropene	50.000	56.142	112.28
145 4-Methyl-2-pentanone	50.000	51.156	102.31
147 Toluene	50.000	53.252	106.51
150 trans-1,3-Dichloropropene	50.000	52.745	105.49
155 1,1,2-Trichloroethane	50.000	53.882	107.76
156 Tetrachloroethene	50.000	47.447	94.89
158 2-Hexanone	50.000	53.492	106.99
160 Dibromochloromethane	50.000	52.127	104.25
161 1,2-Dibromoethane (EDB)	50.000	51.626	103.25
165 Chlorobenzene	50.000	50.836	101.67
167 Ethyl Benzene	50.000	51.754	103.51
169 m,p-Xylene	50.000	51.028	102.06
171 o-Xylene	50.000	50.338	100.68
172 Styrene	50.000	52.008	104.02
174 Bromoform	50.000	49.643	99.29
175 Cumene	50.000	51.550	103.10
181 1,1,2,2-Tetrachloroethane	50.000	54.178	108.36
182 Propylbenzene	50.000	53.234	106.47
188 4-Ethyltoluene	50.000	53.615	107.23
190 1,3,5-Trimethylbenzene	50.000	50.911	101.82
196 1,2,4-Trimethylbenzene	50.000	50.744	101.49
208 1,3-Dichlorobenzene	50.000	48.770	97.54
209 1,4-Dichlorobenzene	50.000	48.923	97.85
212 alpha-Chlorotoluene	50.000	57.127	114.25
214 1,2-Dichlorobenzene	50.000	47.834	95.67
226 1,2,4-Trichlorobenzene	50.000	43.057	86.11
227 Hexachlorobutadiene	50.000	41.482	82.96
228 Naphthalene	5.000	4.999	99.99

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
\$ 117 1,2-Dichloroethane-d4	25.000	25.475	101.90
\$ 146 Toluene-d8	25.000	26.153	104.61
\$ 177 4-Bromofluorobenzene	25.000	23.003	92.01

US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/15NOV18.b/17111503.d
Lab Smp Id: LCS Client Smp ID: LCS
Inj Date : 15-NOV-2018 12:05
Operator : mjb Inst ID: msd17.i
Smp Info : 50ml 3018-487
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/15NOV18.b/178q0613e.m
Meth Date : 15-Nov-2018 11:54 p5fl Quant Type: ISTD
Cal Date : 09-OCT-2018 15:59 Cal File: 17100911.d
Als bottle: 14 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL	FINAL	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====
* 98 Bromochloromethane									
5.506	5.497	(1.000)	130	177177	25.0000	CAS #: 74-97-5	80.00-	120.00	100.00
5.506	5.497	(1.000)	128	138321			48.32-	108.32	78.07
5.499	5.497	(1.000)	49	163674			63.40-	123.40	92.38

* 123 1,4-Difluorobenzene									
6.387	6.381	(1.000)	114	604568	25.0000	CAS #: 540-36-3	80.00-	120.00	100.00
6.387	6.381	(1.000)	88	90134			0.00-	44.55	14.91

* 163 Chlorobenzene-d5									
8.830	8.830	(1.000)	117	554982	25.0000	CAS #: 3114-55-4	80.00-	120.00	100.00
8.830	8.830	(1.000)	82	278945			17.97-	77.97	50.26

\$ 117 1,2-Dichloroethane-d4									
6.036	6.035	(1.096)	65	204954	25.4755	CAS #: 17060-07-0	80.00-	120.00	100.00
6.036	6.035	(1.096)	67	108830		25.475	23.66-	83.66	53.10

\$ 146 Toluene-d8									
7.598	7.598	(1.190)	98	615808	26.1535	CAS #: 2037-26-5	80.00-	120.00	100.00
7.598	7.598	(1.190)	70	62184		26.153	0.00-	40.01	10.10

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
					ON-COL (PPBV)	FINAL (PPBV)		
\$ 146	Toluene-d8 (continued)							
7.598	7.598	(1.190)	100	398340			35.43- 95.43	64.69

\$ 177	4-Bromofluorobenzene					CAS #: 460-00-4		
9.818	9.819	(1.112)	174	403130	23.0028	23.003	80.00- 120.00	100.00
9.818	9.819	(1.112)	95	392299			59.41- 119.41	97.31
9.818	9.819	(1.112)	176	386278			68.33- 128.33	95.82

9	Propylene					CAS #: 115-07-1		
1.509	1.501	(0.274)	41	180911	48.5763	48.576	80.00- 120.00	100.00
1.509	1.501	(0.274)	42	123216			36.13- 96.13	68.11
1.509	1.501	(0.274)	39	130226			46.53- 106.53	71.98

11	Freon 12					CAS #: 75-71-8		
1.545	1.533	(0.281)	85	839943	53.3820	53.382	80.00- 120.00	100.00
1.545	1.533	(0.281)	87	273122			2.38- 62.38	32.52

15	Freon 114					CAS #: 76-14-2		
1.660	1.654	(0.301)	135	649523	48.9070	48.907	80.00- 120.00	100.00
1.660	1.654	(0.301)	137	208401			2.28- 62.28	32.09

17	Chloromethane					CAS #: 74-87-3		
1.753	1.751	(0.318)	50	224092	54.9667	54.967	80.00- 120.00	100.00
1.760	1.751	(0.320)	52	78786			5.22- 65.22	35.16

23	Butane					CAS #: 106-97-8		
1.817	1.815	(0.330)	58	54042	45.4618	45.462	80.00- 120.00	100.00
1.817	1.815	(0.330)	43	363736			637.12- 697.12	673.05

25	Vinyl Chloride					CAS #: 75-01-4		
1.860	1.851	(0.338)	62	300438	51.3295	51.330	80.00- 120.00	100.00
1.860	1.851	(0.338)	64	114864			1.91- 61.91	38.23

26	1,3-Butadiene					CAS #: 106-99-0		
1.882	1.876	(0.342)	54	204415	51.1511	51.151	80.00- 120.00	100.00
1.882	1.876	(0.342)	39	187043			72.44- 132.44	91.50

29	Bromomethane					CAS #: 74-83-9		
2.240	2.232	(0.407)	94	317796	53.3924	53.392	80.00- 120.00	100.00
2.240	2.232	(0.407)	96	295245			65.39- 125.39	92.90

30	Chloroethane					CAS #: 75-00-3		
2.355	2.345	(0.428)	64	158121	52.9827	52.983	80.00- 120.00	100.00
2.355	2.345	(0.428)	66	50226			3.25- 63.25	31.76
2.355	2.345	(0.428)	49	38078			0.00- 57.17	24.08

					CONCENTRATIONS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL (PPBV)	FINAL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
31 Isopentane						CAS #:	78-78-4		
2.369	2.359	(0.430)	43	288021	49.3813	49.381	80.00-	120.00	100.00
2.369	2.359	(0.430)	57	221681			45.20-	105.20	76.97
35 Freon 11						CAS #:	75-69-4		
2.598	2.592	(0.472)	101	872276	47.2638	47.264	80.00-	120.00	100.00
2.598	2.592	(0.472)	103	564971			34.28-	94.28	64.77
42 Ethanol						CAS #:	64-17-5		
2.949	2.944	(0.536)	45	97631	48.3080	48.308	80.00-	120.00	100.00
2.949	2.944	(0.536)	46	39106			9.17-	69.17	40.05
49 Freon 113						CAS #:	76-13-1		
3.243	3.233	(0.589)	151	652665	45.5441	45.544	80.00-	120.00	100.00
3.243	3.233	(0.589)	153	425091			34.01-	94.01	65.13
3.243	3.233	(0.589)	101	760533			81.38-	141.38	116.53
50 1,1-Dichloroethene						CAS #:	75-35-4		
3.279	3.266	(0.595)	98	210359	47.3577	47.358	80.00-	120.00	100.00
3.279	3.266	(0.595)	96	331853			124.64-	184.64	157.76
3.271	3.266	(0.594)	61	479079			200.94-	260.94	227.74
52 Acetone						CAS #:	67-64-1		
3.436	3.429	(0.624)	58	137322	48.0861	48.086	80.00-	120.00	100.00
3.436	3.429	(0.624)	43	396072			290.24-	350.24	288.43
56 Carbon Disulfide						CAS #:	75-15-0		
3.508	3.502	(0.637)	76	963473	52.1232	52.123	80.00-	120.00	100.00
57 2-Propanol						CAS #:	67-63-0		
3.608	3.606	(0.655)	45	436539	47.4842	47.484	80.00-	120.00	100.00
3.608	3.606	(0.655)	43	91018			0.00-	51.65	20.85
3.608	3.606	(0.655)	59	19469			0.00-	34.46	4.46
58 3-Chloropropene						CAS #:	107-05-1		
3.759	3.747	(0.683)	76	149521	49.7865	49.786	80.00-	120.00	100.00
3.751	3.747	(0.681)	41	317189			187.06-	247.06	212.14
66 Methylene Chloride						CAS #:	75-09-2		
3.945	3.939	(0.716)	49	311659	47.7506	47.750	80.00-	120.00	100.00
3.945	3.939	(0.716)	84	302979			60.06-	120.06	97.21
3.945	3.939	(0.716)	51	98364			0.22-	60.22	31.56
72 Methyl tert-butyl ether						CAS #:	1634-04-4		
4.160	4.148	(0.755)	73	921009	48.1164	48.116	80.00-	120.00	100.00
4.160	4.148	(0.755)	57	189350			0.00-	50.61	20.56

					CONCENTRATIONS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL (PPBV)	FINAL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
72 Methyl tert-butyl ether (continued)									
4.152	4.148	(0.754)	41	167347			0.00-	49.00	18.17
73 trans-1,2-Dichloroethene									
4.181	4.176	(0.759)	98	227893	52.1808	CAS #: 156-60-5	80.00-	120.00	100.00
4.181	4.176	(0.759)	61	456487			169.57-	229.57	200.31
4.181	4.176	(0.759)	96	359519			127.00-	187.00	157.76
78 Hexane									
4.396	4.384	(0.798)	57	452390	48.4927	CAS #: 110-54-3	80.00-	120.00	100.00
4.389	4.384	(0.797)	43	260228			28.25-	88.25	57.52
4.396	4.384	(0.798)	86	82846			0.00-	48.98	18.31
82 1,1-Dichloroethane									
4.683	4.677	(0.850)	63	550542	49.0096	CAS #: 75-34-3	80.00-	120.00	100.00
4.683	4.677	(0.850)	65	179995			2.30-	62.30	32.69
86 Vinyl Acetate									
4.726	4.720	(0.858)	86	88969	48.5049	CAS #: 108-05-4	80.00-	120.00	100.00
4.726	4.720	(0.858)	43	704137			863.69-	923.69	791.43
91 cis-1,2-Dichloroethene									
5.270	5.264	(0.957)	98	230475	43.8254	CAS #: 156-59-2	80.00-	120.00	100.00
5.270	5.264	(0.957)	96	360312			122.96-	182.96	156.33
5.270	5.264	(0.957)	61	411424			147.21-	207.21	178.51
92 2-Butanone									
5.299	5.292	(0.962)	72	162509	50.8533	CAS #: 78-93-3	80.00-	120.00	100.00
5.299	5.292	(0.962)	43	531204			305.24-	365.24	326.88
5.299	5.292	(0.962)	57	47960			0.00-	59.67	29.51
99 Tetrahydrofuran									
5.499	5.493	(0.999)	42	295415	48.9046	CAS #: 109-99-9	80.00-	120.00	100.00
5.499	5.493	(0.999)	71	145325			18.99-	78.99	49.19
5.499	5.493	(0.999)	72	154893			20.78-	80.78	52.43
100 Chloroform									
5.564	5.559	(1.010)	83	709528	51.5950	CAS #: 67-66-3	80.00-	120.00	100.00
5.564	5.559	(1.010)	85	463168			35.00-	95.00	65.28
102 Cyclohexane									
5.664	5.658	(1.029)	84	468953	50.6499	CAS #: 110-82-7	80.00-	120.00	100.00
5.664	5.658	(1.029)	56	469526			70.31-	130.31	100.12
5.664	5.658	(1.029)	41	241160			25.25-	85.25	51.43
103 1,1,1-Trichloroethane									
5.685	5.678	(1.033)	97	765704	49.9524	CAS #: 71-55-6	80.00-	120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
				ON-COL (PPBV)	FINAL (PPBV)		
103	1,1,1-Trichloroethane (continued)						
5.685	5.678 (1.033)	99	504541			34.84- 94.84	65.89
106	Carbon Tetrachloride				CAS #: 56-23-5		
5.800	5.794 (1.053)	119	804204	48.1647	48.165	80.00- 120.00	100.00
5.800	5.794 (1.053)	117	842752			73.53- 133.53	104.79
113	2,2,4-Trimethylpentane				CAS #: 540-84-1		
5.993	5.984 (1.088)	57	1431901	51.9577	51.958	80.00- 120.00	100.00
5.993	5.984 (1.088)	56	458834			2.59- 62.59	32.04
5.986	5.984 (1.087)	41	365378			0.00- 55.57	25.52
116	Benzene				CAS #: 71-43-2		
6.015	6.009 (0.942)	78	1027850	53.6157	53.616	80.00- 120.00	100.00
6.015	6.009 (0.942)	77	241965			0.00- 53.90	23.54
120	1,2-Dichloroethane				CAS #: 107-06-2		
6.108	6.102 (0.956)	62	438467	51.0989	51.099	80.00- 120.00	100.00
6.108	6.102 (0.956)	64	148570			3.07- 63.07	33.88
121	Heptane				CAS #: 142-82-5		
6.158	6.152 (0.964)	71	358032	53.3845	53.384	80.00- 120.00	100.00
6.158	6.152 (0.964)	43	480935			110.59- 170.59	134.33
6.158	6.152 (0.964)	57	294908			64.25- 124.25	82.37
125	Trichloroethene				CAS #: 79-01-6		
6.581	6.581 (1.030)	95	491360	53.5412	53.541	80.00- 120.00	100.00
6.581	6.581 (1.030)	130	538901			81.76- 141.76	109.68
6.581	6.581 (1.030)	97	310867			34.64- 94.64	63.27
127	Methylcyclohexane				CAS #: 108-87-2		
6.674	6.674 (1.212)	83	638451	50.6295	50.630	80.00- 120.00	100.00
6.681	6.674 (1.213)	98	303919			18.58- 78.58	47.60
6.674	6.674 (1.212)	55	427739			37.28- 97.28	67.00
132	1,2-Dichloropropane				CAS #: 78-87-5		
6.817	6.817 (1.067)	63	355689	52.4129	52.413	80.00- 120.00	100.00
6.817	6.817 (1.067)	62	245992			38.79- 98.79	69.16
6.817	6.817 (1.067)	41	178193			23.87- 83.87	50.10
136	1,4-Dioxane				CAS #: 123-91-1		
6.910	6.907 (1.082)	88	262787	54.2274	54.227	80.00- 120.00	100.00
6.903	6.907 (1.081)	58	155561			28.36- 88.36	59.20
6.903	6.907 (1.081)	57	51432			0.00- 49.37	19.57
138	Bromodichloromethane				CAS #: 75-27-4		
7.046	7.047 (1.103)	83	792771	55.4240	55.424	80.00- 120.00	100.00

					CONCENTRATIONS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL (PPBV)	FINAL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
138 Bromodichloromethane (continued)									
7.046	7.047	(1.103)	85	505412			34.11-	94.11	63.75
144 cis-1,3-Dichloropropene									
7.419	7.419	(1.161)	75	629930	56.1416	CAS #: 10061-01-5	80.00-	120.00	100.00
7.419	7.419	(1.161)	77	203428		56.142	2.33-	62.33	32.29
7.419	7.419	(1.161)	39	271966			16.60-	76.60	43.17
145 4-Methyl-2-pentanone									
7.526	7.526	(1.178)	58	282406	51.1558	CAS #: 108-10-1	80.00-	120.00	100.00
7.526	7.526	(1.178)	43	666112		51.156	214.83-	274.83	235.87
7.526	7.526	(1.178)	85	145727			23.05-	83.05	51.60
147 Toluene									
7.655	7.655	(1.198)	91	1325646	53.2526	CAS #: 108-88-3	80.00-	120.00	100.00
7.655	7.655	(1.198)	92	764024		53.252	27.80-	87.80	57.63
150 trans-1,3-Dichloropropene									
7.899	7.899	(0.895)	75	572199	52.7450	CAS #: 10061-02-6	80.00-	120.00	100.00
7.899	7.899	(0.895)	77	184370		52.745	1.77-	61.77	32.22
7.899	7.899	(0.895)	39	236766			14.97-	74.97	41.38
155 1,1,2-Trichloroethane									
8.049	8.055	(0.912)	97	465807	53.8815	CAS #: 79-00-5	80.00-	120.00	100.00
8.049	8.055	(0.912)	99	289350		53.882	32.71-	92.71	62.12
8.049	8.055	(0.912)	83	394636			55.53-	115.53	84.72
156 Tetrachloroethene									
8.092	8.092	(0.916)	166	741150	47.4469	CAS #: 127-18-4	80.00-	120.00	100.00
8.085	8.092	(0.916)	129	524981		47.447	36.14-	96.14	70.83
8.085	8.092	(0.916)	131	504730			34.69-	94.69	68.10
158 2-Hexanone									
8.214	8.214	(0.930)	58	375315	53.4926	CAS #: 591-78-6	80.00-	120.00	100.00
8.214	8.214	(0.930)	43	649739		53.492	146.83-	206.83	173.12
8.214	8.214	(0.930)	100	95994			0.00-	55.52	25.58
160 Dibromochloromethane									
8.364	8.367	(0.947)	129	934627	52.1268	CAS #: 124-48-1	80.00-	120.00	100.00
8.364	8.367	(0.947)	127	724631		52.127	47.05-	107.05	77.53
161 1,2-Dibromoethane (EDB)									
8.479	8.479	(0.960)	107	763324	51.6257	CAS #: 106-93-4	80.00-	120.00	100.00
8.479	8.479	(0.960)	109	713291		51.626	65.51-	125.51	93.45
165 Chlorobenzene									
8.851	8.858	(1.002)	112	1112272	50.8362	CAS #: 108-90-7	80.00-	120.00	100.00

					CONCENTRATIONS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL (PPBV)	FINAL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
165 Chlorobenzene (continued)									
8.851	8.858	(1.002)	114	353516			2.14-	62.14	31.78
8.851	8.858	(1.002)	77	583611			23.42-	83.42	52.47
167 Ethyl Benzene						CAS #:	100-41-4		
8.902	8.902	(1.008)	106	569044	51.7546	51.754	80.00-	120.00	100.00
8.902	8.902	(1.008)	91	1734592			268.52-	328.52	304.83
169 m,p-Xylene						CAS #:	108-38-3		
8.995	8.997	(1.019)	106	697613	51.0278	51.028	80.00-	120.00	100.00
8.995	8.997	(1.019)	91	1342901			161.75-	221.75	192.50
171 o-Xylene						CAS #:	95-47-6		
9.339	9.339	(1.058)	106	652086	50.3383	50.338	80.00-	120.00	100.00
9.339	9.339	(1.058)	91	1336263			170.98-	230.98	204.92
172 Styrene						CAS #:	100-42-5		
9.360	9.360	(1.060)	104	1068250	52.0080	52.008	80.00-	120.00	100.00
9.360	9.360	(1.060)	78	495197			16.10-	76.10	46.36
174 Bromoform						CAS #:	75-25-2		
9.568	9.568	(1.084)	173	1022688	49.6431	49.643	80.00-	120.00	100.00
9.568	9.568	(1.084)	171	521241			21.32-	81.32	50.97
175 Cumene						CAS #:	98-82-8		
9.625	9.625	(1.090)	105	2023881	51.5497	51.550	80.00-	120.00	100.00
9.625	9.625	(1.090)	120	560601			0.00-	58.56	27.70
9.625	9.625	(1.090)	51	156090			0.00-	37.61	7.71
181 1,1,2,2-Tetrachloroethane						CAS #:	79-34-5		
9.947	9.948	(1.127)	83	1001650	54.1778	54.178	80.00-	120.00	100.00
9.947	9.948	(1.127)	85	649063			35.03-	95.03	64.80
182 Propylbenzene						CAS #:	103-65-1		
9.969	9.974	(1.129)	91	2361802	53.2346	53.234	80.00-	120.00	100.00
9.969	9.974	(1.129)	120	588157			0.00-	56.23	24.90
9.969	9.974	(1.129)	105	87397			0.00-	33.80	3.70
188 4-Ethyltoluene						CAS #:	622-96-8		
10.062	10.068	(1.140)	120	666251	53.6152	53.615	80.00-	120.00	100.00
10.062	10.068	(1.140)	105	2127972			275.42-	335.42	319.39
190 1,3,5-Trimethylbenzene						CAS #:	108-67-8		
10.119	10.119	(1.146)	120	878873	50.9112	50.911	80.00-	120.00	100.00
10.112	10.119	(1.145)	105	1758915			165.32-	225.32	200.13

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
					ON-COL (PPBV)	FINAL (PPBV)		
196	10.442	10.444 (1.183)	120	782775	50.7437	50.744	80.00- 120.00	100.00
	10.442	10.444 (1.183)	105	1650108			176.48- 236.48	210.80

208	10.735	10.735 (1.216)	146	1277633	48.7697	48.770	80.00- 120.00	100.00
	10.735	10.735 (1.216)	148	818931			34.93- 94.93	64.10
	10.735	10.735 (1.216)	111	473149			5.13- 65.13	37.03

209	10.814	10.819 (1.225)	146	1309441	48.9231	48.923	80.00- 120.00	100.00
	10.814	10.819 (1.225)	148	824911			34.11- 94.11	63.00
	10.814	10.819 (1.225)	111	462308			4.00- 64.00	35.31

212	10.936	10.935 (1.238)	91	1585629	57.1270	57.127	80.00- 120.00	100.00
	10.936	10.935 (1.238)	126	372203			0.00- 55.13	23.47

214	11.144	11.148 (1.262)	146	1204440	47.8342	47.834	80.00- 120.00	100.00
	11.144	11.148 (1.262)	148	776554			34.17- 94.17	64.47
	11.144	11.148 (1.262)	111	454060			6.50- 66.50	37.70

226	12.540	12.543 (1.420)	180	1233023	43.0569	43.057	80.00- 120.00	100.00
	12.540	12.543 (1.420)	182	1183632			65.44- 125.44	95.99

227	12.619	12.625 (1.429)	225	1061881	41.4822	41.482	80.00- 120.00	100.00
	12.619	12.625 (1.429)	223	657241			32.93- 92.93	61.89

228	12.805	12.809 (1.450)	128	246378	4.99936	4.999	80.00- 120.00	100.00
	12.805	12.809 (1.450)	127	33402			0.00- 43.59	13.56

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i	Calibration Date: 15-NOV-2018
Lab File ID: 17111503.d	Calibration Time: 11:28
Lab Smp Id: LCS	Client Smp ID: LCS
Analysis Type: VOA	Level: LOW
Quant Type: ISTD	Sample Type: AIR
Operator: mjb	
Method File: /chem/msd17.i/15NOV18.b/178q0613e.m	
Misc Info: 50ppbv (200ppbv)	

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	177601	106561	248641	177177	-0.24
123 1,4-Difluorobenze	599676	359806	839546	604568	0.82
163 Chlorobenzene-d5	544209	326525	761893	554982	1.98

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.51	5.18	5.84	5.51	-0.00
123 1,4-Difluorobenze	6.39	6.06	6.72	6.39	-0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.1/15NOV18.b/17111503.d

Date : 15-NOV-2018 12:05

Client ID: LCS

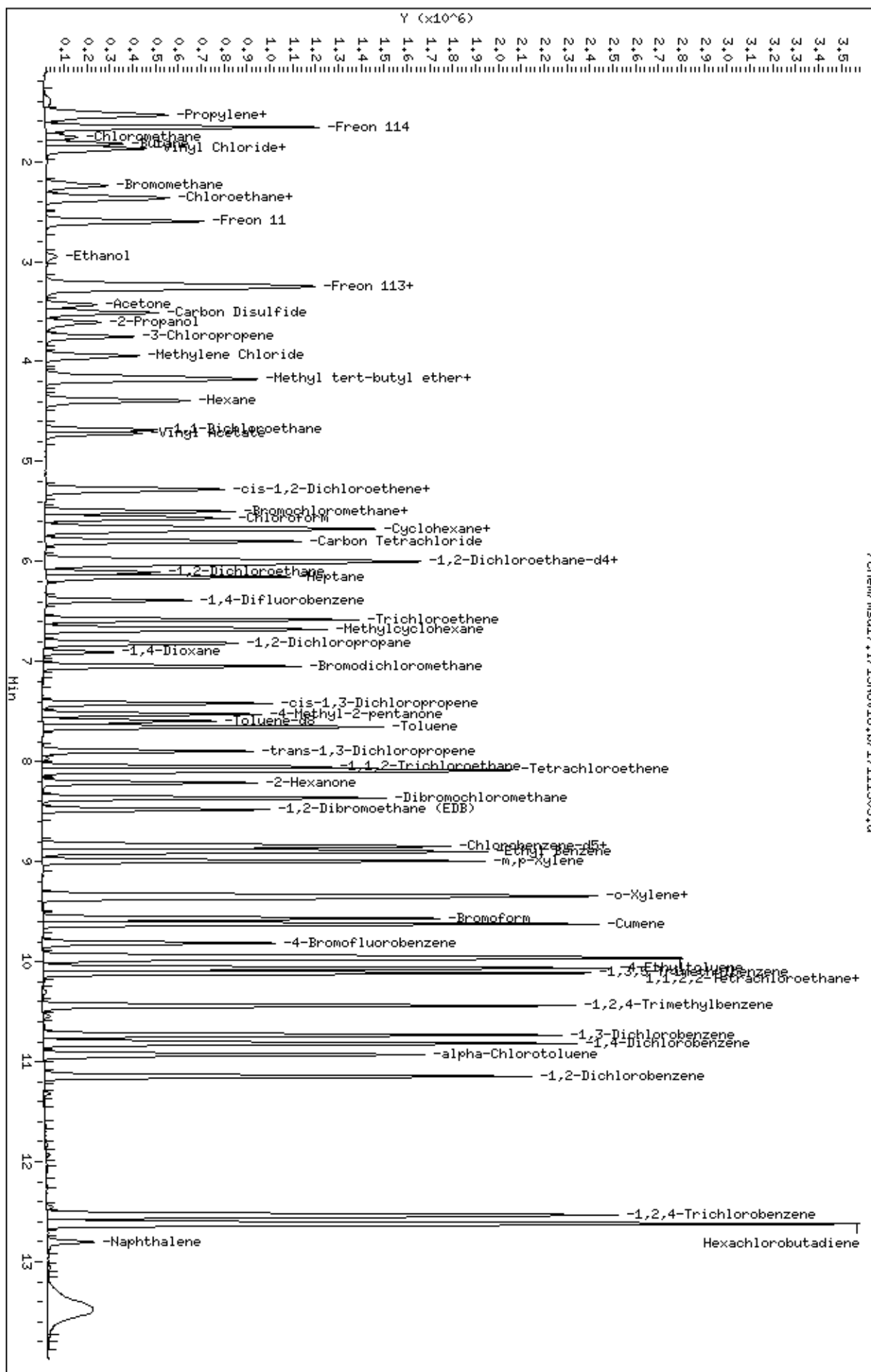
Sample Info: 50ml 3018-487

Column phase: RTX-624

Instrument: msd17.1

Operator: mjb

Column diameter: 0.25



/chem/msd17.1/15NOV18.b/17111503.d

EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	LCSD	Date/Time Analyzed:	11/15/18 12:31 PM
Lab ID:	1811221A-06AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17111504
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	100
1,1,2,2-Tetrachloroethane	79-34-5	110
1,1,2-Trichloroethane	79-00-5	111
1,1-Dichloroethane	75-34-3	98
1,1-Dichloroethene	75-35-4	93
1,2,4-Trichlorobenzene	120-82-1	89
1,2,4-Trimethylbenzene	95-63-6	105
1,2-Dibromoethane (EDB)	106-93-4	103
1,2-Dichlorobenzene	95-50-1	99
1,2-Dichloroethane	107-06-2	103
1,2-Dichloropropane	78-87-5	104
1,3,5-Trimethylbenzene	108-67-8	104
1,3-Butadiene	106-99-0	100
1,3-Dichlorobenzene	541-73-1	100
1,4-Dichlorobenzene	106-46-7	101
1,4-Dioxane	123-91-1	108
2,2,4-Trimethylpentane	540-84-1	103
2-Butanone (Methyl Ethyl Ketone)	78-93-3	104
2-Hexanone	591-78-6	109
2-Propanol	67-63-0	94
3-Chloropropene	107-05-1	98
4-Ethyltoluene	622-96-8	112
4-Methyl-2-pentanone	108-10-1	102
Acetone	67-64-1	93

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	LCSD	Date/Time Analyzed:	11/15/18 12:31 PM
Lab ID:	1811221A-06AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17111504
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	118
Benzene	71-43-2	107
Bromodichloromethane	75-27-4	110
Bromoform	75-25-2	101
Bromomethane	74-83-9	106
Carbon Disulfide	75-15-0	102
Carbon Tetrachloride	56-23-5	96
Chlorobenzene	108-90-7	102
Chloroethane	75-00-3	106
Chloroform	67-66-3	102
Chloromethane	74-87-3	109
cis-1,2-Dichloroethene	156-59-2	86
cis-1,3-Dichloropropene	10061-01-5	113
Cumene	98-82-8	105
Cyclohexane	110-82-7	100
Dibromochloromethane	124-48-1	106
Ethanol	64-17-5	98
Ethyl Benzene	100-41-4	105
Freon 11	75-69-4	93
Freon 113	76-13-1	90
Freon 114	76-14-2	96
Freon 12	75-71-8	104
Heptane	142-82-5	108
Hexachlorobutadiene	87-68-3	85

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Biosperge

Client ID:	LCSD	Date/Time Analyzed:	11/15/18 12:31 PM
Lab ID:	1811221A-06AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17111504
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	97
m,p-Xylene	108-38-3	103
Methyl tert-butyl ether	1634-04-4	95
Methylene Chloride	75-09-2	93
o-Xylene	95-47-6	102
Propylbenzene	103-65-1	108
Styrene	100-42-5	106
Tetrachloroethene	127-18-4	97
Tetrahydrofuran	109-99-9	97
Toluene	108-88-3	106
trans-1,2-Dichloroethene	156-60-5	104
trans-1,3-Dichloropropene	10061-02-6	106
Trichloroethene	79-01-6	107
Vinyl Chloride	75-01-4	101

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	100
4-Bromofluorobenzene	460-00-4	70-130	93
Toluene-d8	2037-26-5	70-130	104

* % Recovery is calculated using unrounded analytical results.

US32APPTV002

RECOVERY REPORT

Client Name: Client SDG: 15NOV18
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: LCSD Client Smp ID: LCSD
Level: LOW Operator: mjb
Data Type: MS DATA SampleType: LCSD
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AT12.sub
Method File: /chem/msd17.i/15NOV18.b/178q0613e.m
Misc Info: 50ppbv (200ppbv)

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
9 Propylene	50.000	47.721	95.44
11 Freon 12	50.000	52.175	104.35
15 Freon 114	50.000	48.166	96.33
17 Chloromethane	50.000	54.482	108.96
23 Butane	50.000	45.465	90.93
25 Vinyl Chloride	50.000	50.376	100.75
26 1,3-Butadiene	50.000	50.264	100.53
29 Bromomethane	50.000	53.264	106.53
30 Chloroethane	50.000	52.836	105.67
31 Isopentane	50.000	47.738	95.48
35 Freon 11	50.000	46.602	93.20
42 Ethanol	50.000	49.043	98.09
49 Freon 113	50.000	45.185	90.37
50 1,1-Dichloroethene	50.000	46.738	93.48
52 Acetone	50.000	46.408	92.82
56 Carbon Disulfide	50.000	51.092	102.18
57 2-Propanol	50.000	47.153	94.31
58 3-Chloropropene	50.000	49.093	98.19
66 Methylene Chloride	50.000	46.638	93.28
72 Methyl tert-butyl ether	50.000	47.545	95.09
73 trans-1,2-Dichloroethene	50.000	51.920	103.84
78 Hexane	50.000	48.691	97.38
82 1,1-Dichloroethane	50.000	49.171	98.34
86 Vinyl Acetate	50.000	47.358	94.72
91 cis-1,2-Dichloroethene	50.000	43.186	86.37
92 2-Butanone	50.000	51.910	103.82
99 Tetrahydrofuran	50.000	48.391	96.78
100 Chloroform	50.000	50.799	101.60
103 1,1,1-Trichloroethane	50.000	49.918	99.84
106 Carbon Tetrachloride	50.000	48.054	96.11
102 Cyclohexane	50.000	50.068	100.14
113 2,2,4-Trimethylpentane	50.000	51.716	103.43
116 Benzene	50.000	53.443	106.89

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
120 1,2-Dichloroethane	50.000	51.572	103.14
121 Heptane	50.000	54.116	108.23
125 Trichloroethene	50.000	53.421	106.84
127 Methylcyclohexane	50.000	49.885	99.77
132 1,2-Dichloropropane	50.000	51.790	103.58
136 1,4-Dioxane	50.000	53.981	107.96
138 Bromodichloromethane	50.000	55.039	110.08
144 cis-1,3-Dichloropropene	50.000	56.404	112.81
145 4-Methyl-2-pentanone	50.000	51.016	102.03
147 Toluene	50.000	53.266	106.53
150 trans-1,3-Dichloropropene	50.000	53.058	106.12
155 1,1,2-Trichloroethane	50.000	55.410	110.82
156 Tetrachloroethene	50.000	48.349	96.70
158 2-Hexanone	50.000	54.467	108.93
160 Dibromochloromethane	50.000	53.059	106.12
161 1,2-Dibromoethane (EDB)	50.000	51.629	103.26
165 Chlorobenzene	50.000	51.080	102.16
167 Ethyl Benzene	50.000	52.547	105.09
169 m,p-Xylene	50.000	51.645	103.29
171 o-Xylene	50.000	51.207	102.41
172 Styrene	50.000	52.986	105.97
174 Bromoform	50.000	50.451	100.90
175 Cumene	50.000	52.471	104.94
181 1,1,2,2-Tetrachloroethane	50.000	55.203	110.41
182 Propylbenzene	50.000	54.138	108.28
188 4-Ethyltoluene	50.000	55.830	111.66
190 1,3,5-Trimethylbenzene	50.000	52.124	104.25
196 1,2,4-Trimethylbenzene	50.000	52.737	105.47
208 1,3-Dichlorobenzene	50.000	50.028	100.06
209 1,4-Dichlorobenzene	50.000	50.628	101.26
212 alpha-Chlorotoluene	50.000	59.151	118.30
214 1,2-Dichlorobenzene	50.000	49.424	98.85
226 1,2,4-Trichlorobenzene	50.000	44.355	88.71
227 Hexachlorobutadiene	50.000	42.351	84.70
228 Naphthalene	5.000	5.159	103.18

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
\$ 117 1,2-Dichloroethane-d4	25.000	25.054	100.22
\$ 146 Toluene-d8	25.000	25.931	103.72
\$ 177 4-Bromofluorobenzene	25.000	23.257	93.03

US32APPTV002

EPA TO-15/MODIFIED EPA T014A

Data file : /chem/msd17.i/15NOV18.b/17111504.d
Lab Smp Id: LCSD Client Smp ID: LCSD
Inj Date : 15-NOV-2018 12:31
Operator : mjb Inst ID: msd17.i
Smp Info : 50ml 3018-487
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL GC/MS
Method : /chem/msd17.i/15NOV18.b/178q0613e.m
Meth Date : 15-Nov-2018 11:54 p5fl Quant Type: ISTD
Cal Date : 09-OCT-2018 15:59 Cal File: 17100911.d
Als bottle: 14 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS					
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL	FINAL	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	(PPBV)	(PPBV)	=====	=====	=====

* 98 Bromochloromethane						CAS #:	74-97-5		
5.506	5.497	(1.000)	130	180413	25.0000		80.00-	120.00	100.00
5.506	5.497	(1.000)	128	137706			48.32-	108.32	76.33
5.499	5.497	(1.000)	49	162834			63.40-	123.40	90.26

* 123 1,4-Difluorobenzene						CAS #:	540-36-3		
6.387	6.381	(1.000)	114	611614	25.0000		80.00-	120.00	100.00
6.387	6.381	(1.000)	88	89353			0.00-	44.55	14.61

* 163 Chlorobenzene-d5						CAS #:	3114-55-4		
8.830	8.830	(1.000)	117	556010	25.0000		80.00-	120.00	100.00
8.830	8.830	(1.000)	82	277948			17.97-	77.97	49.99

\$ 117 1,2-Dichloroethane-d4						CAS #:	17060-07-0		
6.036	6.035	(1.096)	65	205247	25.0544	25.054	80.00-	120.00	100.00
6.036	6.035	(1.096)	67	108489			23.66-	83.66	52.86

\$ 146 Toluene-d8						CAS #:	2037-26-5		
7.598	7.598	(1.190)	98	617678	25.9307	25.931	80.00-	120.00	100.00
7.598	7.598	(1.190)	70	63808			0.00-	40.01	10.33

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
					ON-COL (PPBV)	FINAL (PPBV)		
\$ 146	Toluene-d8 (continued)							
7.598	7.598	(1.190)	100	398040			35.43- 95.43	64.44

\$ 177	4-Bromofluorobenzene					CAS #: 460-00-4		
9.819	9.819	(1.112)	174	408342	23.2571	23.257	80.00- 120.00	100.00
9.819	9.819	(1.112)	95	399964			59.41- 119.41	97.95
9.819	9.819	(1.112)	176	391685			68.33- 128.33	95.92

9	Propylene					CAS #: 115-07-1		
1.509	1.501	(0.274)	41	180972	47.7212	47.721	80.00- 120.00	100.00
1.509	1.501	(0.274)	42	124218			36.13- 96.13	68.64
1.509	1.501	(0.274)	39	132718			46.53- 106.53	73.34

11	Freon 12					CAS #: 75-71-8		
1.545	1.533	(0.281)	85	835943	52.1749	52.175	80.00- 120.00	100.00
1.545	1.533	(0.281)	87	272585			2.38- 62.38	32.61

15	Freon 114					CAS #: 76-14-2		
1.660	1.654	(0.301)	135	651363	48.1659	48.166	80.00- 120.00	100.00
1.660	1.654	(0.301)	137	206823			2.28- 62.28	31.75

17	Chloromethane					CAS #: 74-87-3		
1.753	1.751	(0.318)	50	226173	54.4821	54.482	80.00- 120.00	100.00
1.753	1.751	(0.318)	52	76668			5.22- 65.22	33.90

23	Butane					CAS #: 106-97-8		
1.817	1.815	(0.330)	58	55033	45.4652	45.465	80.00- 120.00	100.00
1.817	1.815	(0.330)	43	361650			637.12- 697.12	657.14

25	Vinyl Chloride					CAS #: 75-01-4		
1.860	1.851	(0.338)	62	300241	50.3759	50.376	80.00- 120.00	100.00
1.860	1.851	(0.338)	64	108001			1.91- 61.91	35.97

26	1,3-Butadiene					CAS #: 106-99-0		
1.882	1.876	(0.342)	54	204536	50.2636	50.264	80.00- 120.00	100.00
1.882	1.876	(0.342)	39	185992			72.44- 132.44	90.93

29	Bromomethane					CAS #: 74-83-9		
2.240	2.232	(0.407)	94	322820	53.2637	53.264	80.00- 120.00	100.00
2.240	2.232	(0.407)	96	299175			65.39- 125.39	92.68

30	Chloroethane					CAS #: 75-00-3		
2.355	2.345	(0.428)	64	160564	52.8363	52.836	80.00- 120.00	100.00
2.355	2.345	(0.428)	66	53187			3.25- 63.25	33.13
2.355	2.345	(0.428)	49	38337			0.00- 57.17	23.88

					CONCENTRATIONS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL (PPBV)	FINAL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
31 Isopentane						CAS #:	78-78-4		
2.369	2.359	(0.430)	43	283521	47.7379	47.738	80.00-	120.00	100.00
2.369	2.359	(0.430)	57	221751			45.20-	105.20	78.21
35 Freon 11						CAS #:	75-69-4		
2.598	2.592	(0.472)	101	875767	46.6019	46.602	80.00-	120.00	100.00
2.598	2.592	(0.472)	103	566358			34.28-	94.28	64.67
42 Ethanol						CAS #:	64-17-5		
2.949	2.944	(0.536)	45	100927	49.0433	49.043	80.00-	120.00	100.00
2.949	2.944	(0.536)	46	38115			9.17-	69.17	37.76
49 Freon 113						CAS #:	76-13-1		
3.243	3.233	(0.589)	151	659346	45.1851	45.185	80.00-	120.00	100.00
3.243	3.233	(0.589)	153	425087			34.01-	94.01	64.47
3.243	3.233	(0.589)	101	767246			81.38-	141.38	116.36
50 1,1-Dichloroethene						CAS #:	75-35-4		
3.279	3.266	(0.595)	98	211398	46.7381	46.738	80.00-	120.00	100.00
3.279	3.266	(0.595)	96	332283			124.64-	184.64	157.18
3.279	3.266	(0.595)	61	477318			200.94-	260.94	225.79
52 Acetone						CAS #:	67-64-1		
3.436	3.429	(0.624)	58	134948	46.4076	46.408	80.00-	120.00	100.00
3.436	3.429	(0.624)	43	393722			290.24-	350.24	291.76
56 Carbon Disulfide						CAS #:	75-15-0		
3.508	3.502	(0.637)	76	961657	51.0919	51.092	80.00-	120.00	100.00
57 2-Propanol						CAS #:	67-63-0		
3.608	3.606	(0.655)	45	441411	47.1530	47.153	80.00-	120.00	100.00
3.608	3.606	(0.655)	43	91129			0.00-	51.65	20.65
3.608	3.606	(0.655)	59	18803			0.00-	34.46	4.26
58 3-Chloropropene						CAS #:	107-05-1		
3.759	3.747	(0.683)	76	150130	49.0928	49.093	80.00-	120.00	100.00
3.751	3.747	(0.681)	41	319208			187.06-	247.06	212.62
66 Methylene Chloride						CAS #:	75-09-2		
3.945	3.939	(0.716)	49	309958	46.6383	46.638	80.00-	120.00	100.00
3.945	3.939	(0.716)	84	299497			60.06-	120.06	96.63
3.945	3.939	(0.716)	51	96221			0.22-	60.22	31.04
72 Methyl tert-butyl ether						CAS #:	1634-04-4		
4.160	4.148	(0.755)	73	926699	47.5453	47.545	80.00-	120.00	100.00
4.160	4.148	(0.755)	57	191352			0.00-	50.61	20.65

					CONCENTRATIONS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL (PPBV)	FINAL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
72 Methyl tert-butyl ether (continued)									
4.153	4.148	(0.754)	41	165351			0.00-	49.00	17.84
73 trans-1,2-Dichloroethene									
4.188	4.176	(0.761)	98	230893	51.9195	CAS #: 51.920	156-60-5	80.00- 120.00	100.00
4.181	4.176	(0.759)	61	461363			169.57-	229.57	199.82
4.188	4.176	(0.761)	96	362167			127.00-	187.00	156.85
78 Hexane									
4.396	4.384	(0.798)	57	462532	48.6907	CAS #: 48.691	110-54-3	80.00- 120.00	100.00
4.396	4.384	(0.798)	43	262144			28.25-	88.25	56.68
4.396	4.384	(0.798)	86	84132			0.00-	48.98	18.19
82 1,1-Dichloroethane									
4.683	4.677	(0.850)	63	562443	49.1711	CAS #: 49.171	75-34-3	80.00- 120.00	100.00
4.683	4.677	(0.850)	65	177467			2.30-	62.30	31.55
86 Vinyl Acetate									
4.726	4.720	(0.858)	86	88452	47.3580	CAS #: 47.358	108-05-4	80.00- 120.00	100.00
4.726	4.720	(0.858)	43	718535			863.69-	923.69	812.34
91 cis-1,2-Dichloroethene									
5.270	5.264	(0.957)	98	231260	43.1860	CAS #: 43.186	156-59-2	80.00- 120.00	100.00
5.270	5.264	(0.957)	96	366317			122.96-	182.96	158.40
5.270	5.264	(0.957)	61	412352			147.21-	207.21	178.31
92 2-Butanone									
5.299	5.292	(0.962)	72	168916	51.9099	CAS #: 51.910	78-93-3	80.00- 120.00	100.00
5.299	5.292	(0.962)	43	539083			305.24-	365.24	319.14
5.299	5.292	(0.962)	57	45951			0.00-	59.67	27.20
99 Tetrahydrofuran									
5.499	5.493	(0.999)	42	297648	48.3906	CAS #: 48.391	109-99-9	80.00- 120.00	100.00
5.499	5.493	(0.999)	71	146504			18.99-	78.99	49.22
5.499	5.493	(0.999)	72	155645			20.78-	80.78	52.29
100 Chloroform									
5.564	5.559	(1.010)	83	711340	50.7991	CAS #: 50.799	67-66-3	80.00- 120.00	100.00
5.564	5.559	(1.010)	85	470359			35.00-	95.00	66.12
102 Cyclohexane									
5.664	5.658	(1.029)	84	472035	50.0685	CAS #: 50.068	110-82-7	80.00- 120.00	100.00
5.664	5.658	(1.029)	56	474540			70.31-	130.31	100.53
5.664	5.658	(1.029)	41	241778			25.25-	85.25	51.22
103 1,1,1-Trichloroethane									
5.686	5.678	(1.033)	97	779146	49.9177	CAS #: 49.918	71-55-6	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
				ON-COL (PPBV)	FINAL (PPBV)		
103	1,1,1-Trichloroethane (continued)						
5.686	5.678 (1.033)	99	502804			34.84- 94.84	64.53
106	Carbon Tetrachloride				CAS #: 56-23-5		
5.800	5.794 (1.053)	119	817008	48.0539	48.054	80.00- 120.00	100.00
5.800	5.794 (1.053)	117	849362			73.53- 133.53	103.96
113	2,2,4-Trimethylpentane				CAS #: 540-84-1		
5.994	5.984 (1.088)	57	1451276	51.7163	51.716	80.00- 120.00	100.00
5.994	5.984 (1.088)	56	464518			2.59- 62.59	32.01
5.994	5.984 (1.088)	41	369497			0.00- 55.57	25.46
116	Benzene				CAS #: 71-43-2		
6.015	6.009 (0.942)	78	1036483	53.4432	53.443	80.00- 120.00	100.00
6.015	6.009 (0.942)	77	245573			0.00- 53.90	23.69
120	1,2-Dichloroethane				CAS #: 107-06-2		
6.108	6.102 (0.956)	62	447680	51.5716	51.572	80.00- 120.00	100.00
6.108	6.102 (0.956)	64	145544			3.07- 63.07	32.51
121	Heptane				CAS #: 142-82-5		
6.158	6.152 (0.964)	71	367168	54.1162	54.116	80.00- 120.00	100.00
6.158	6.152 (0.964)	43	492486			110.59- 170.59	134.13
6.158	6.152 (0.964)	57	293822			64.25- 124.25	80.02
125	Trichloroethene				CAS #: 79-01-6		
6.581	6.581 (1.030)	95	495972	53.4212	53.421	80.00- 120.00	100.00
6.581	6.581 (1.030)	130	544663			81.76- 141.76	109.82
6.581	6.581 (1.030)	97	318295			34.64- 94.64	64.18
127	Methylcyclohexane				CAS #: 108-87-2		
6.674	6.674 (1.212)	83	640557	49.8855	49.885	80.00- 120.00	100.00
6.681	6.674 (1.213)	98	305008			18.58- 78.58	47.62
6.674	6.674 (1.212)	55	433316			37.28- 97.28	67.65
132	1,2-Dichloropropane				CAS #: 78-87-5		
6.817	6.817 (1.067)	63	355561	51.7905	51.790	80.00- 120.00	100.00
6.817	6.817 (1.067)	62	243817			38.79- 98.79	68.57
6.817	6.817 (1.067)	41	181717			23.87- 83.87	51.11
136	1,4-Dioxane				CAS #: 123-91-1		
6.910	6.907 (1.082)	88	264642	53.9811	53.981	80.00- 120.00	100.00
6.910	6.907 (1.082)	58	157236			28.36- 88.36	59.41
6.903	6.907 (1.081)	57	51035			0.00- 49.37	19.28
138	Bromodichloromethane				CAS #: 75-27-4		
7.046	7.047 (1.103)	83	796438	55.0389	55.039	80.00- 120.00	100.00

					CONCENTRATIONS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL (PPBV)	FINAL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
138 Bromodichloromethane (continued)									
7.046	7.047	(1.103)	85	511254			34.11-	94.11	64.19

144 cis-1,3-Dichloropropene						CAS #:	10061-01-5		
7.419	7.419	(1.161)	75	640251	56.4040	56.404	80.00-	120.00	100.00
7.419	7.419	(1.161)	77	203269			2.33-	62.33	31.75
7.419	7.419	(1.161)	39	277551			16.60-	76.60	43.35

145 4-Methyl-2-pentanone						CAS #:	108-10-1		
7.526	7.526	(1.178)	58	284918	51.0163	51.016	80.00-	120.00	100.00
7.526	7.526	(1.178)	43	669051			214.83-	274.83	234.82
7.526	7.526	(1.178)	85	152255			23.05-	83.05	53.44

147 Toluene						CAS #:	108-88-3		
7.655	7.655	(1.198)	91	1341441	53.2663	53.266	80.00-	120.00	100.00
7.655	7.655	(1.198)	92	766652			27.80-	87.80	57.15

150 trans-1,3-Dichloropropene						CAS #:	10061-02-6		
7.899	7.899	(0.895)	75	576669	53.0586	53.058	80.00-	120.00	100.00
7.899	7.899	(0.895)	77	182220			1.77-	61.77	31.60
7.899	7.899	(0.895)	39	239540			14.97-	74.97	41.54

155 1,1,2-Trichloroethane						CAS #:	79-00-5		
8.049	8.055	(0.912)	97	479906	55.4097	55.410	80.00-	120.00	100.00
8.049	8.055	(0.912)	99	295121			32.71-	92.71	61.50
8.049	8.055	(0.912)	83	399267			55.53-	115.53	83.20

156 Tetrachloroethene						CAS #:	127-18-4		
8.092	8.092	(0.916)	166	756647	48.3494	48.349	80.00-	120.00	100.00
8.092	8.092	(0.916)	129	527375			36.14-	96.14	69.70
8.092	8.092	(0.916)	131	505704			34.69-	94.69	66.83

158 2-Hexanone						CAS #:	591-78-6		
8.214	8.214	(0.930)	58	382862	54.4673	54.467	80.00-	120.00	100.00
8.214	8.214	(0.930)	43	656190			146.83-	206.83	171.39
8.214	8.214	(0.930)	100	97523			0.00-	55.52	25.47

160 Dibromochloromethane						CAS #:	124-48-1		
8.364	8.367	(0.947)	129	953104	53.0589	53.059	80.00-	120.00	100.00
8.364	8.367	(0.947)	127	738873			47.05-	107.05	77.52

161 1,2-Dibromoethane (EDB)						CAS #:	106-93-4		
8.479	8.479	(0.960)	107	764790	51.6291	51.629	80.00-	120.00	100.00
8.479	8.479	(0.960)	109	728763			65.51-	125.51	95.29

165 Chlorobenzene						CAS #:	108-90-7		
8.852	8.858	(1.002)	112	1119673	51.0798	51.080	80.00-	120.00	100.00

					CONCENTRATIONS				
RT	EXP RT	(REL RT)	MASS	RESPONSE	ON-COL (PPBV)	FINAL (PPBV)	TARGET	RANGE	RATIO
==	=====	=====	====	=====	=====	=====	=====	=====	=====
165 Chlorobenzene (continued)									
8.852	8.858	(1.002)	114	359370			2.14-	62.14	32.10
8.852	8.858	(1.002)	77	595976			23.42-	83.42	53.23
167 Ethyl Benzene						CAS #:	100-41-4		
8.902	8.902	(1.008)	106	578825	52.5468	52.547	80.00-	120.00	100.00
8.902	8.902	(1.008)	91	1760255			268.52-	328.52	304.11
169 m,p-Xylene						CAS #:	108-38-3		
8.995	8.997	(1.019)	106	707362	51.6452	51.645	80.00-	120.00	100.00
8.995	8.997	(1.019)	91	1364111			161.75-	221.75	192.84
171 o-Xylene						CAS #:	95-47-6		
9.339	9.339	(1.058)	106	664572	51.2071	51.207	80.00-	120.00	100.00
9.339	9.339	(1.058)	91	1351238			170.98-	230.98	203.32
172 Styrene						CAS #:	100-42-5		
9.360	9.360	(1.060)	104	1090366	52.9865	52.986	80.00-	120.00	100.00
9.360	9.360	(1.060)	78	500802			16.10-	76.10	45.93
174 Bromoform						CAS #:	75-25-2		
9.568	9.568	(1.084)	173	1041257	50.4510	50.451	80.00-	120.00	100.00
9.568	9.568	(1.084)	171	533797			21.32-	81.32	51.26
175 Cumene						CAS #:	98-82-8		
9.625	9.625	(1.090)	105	2063878	52.4712	52.471	80.00-	120.00	100.00
9.625	9.625	(1.090)	120	580365			0.00-	58.56	28.12
9.625	9.625	(1.090)	51	160227			0.00-	37.61	7.76
181 1,1,2,2-Tetrachloroethane						CAS #:	79-34-5		
9.947	9.948	(1.127)	83	1022491	55.2027	55.203	80.00-	120.00	100.00
9.947	9.948	(1.127)	85	661072			35.03-	95.03	64.65
182 Propylbenzene						CAS #:	103-65-1		
9.969	9.974	(1.129)	91	2406328	54.1378	54.138	80.00-	120.00	100.00
9.969	9.974	(1.129)	120	598257			0.00-	56.23	24.86
9.969	9.974	(1.129)	105	88373			0.00-	33.80	3.67
188 4-Ethyltoluene						CAS #:	622-96-8		
10.062	10.068	(1.140)	120	695058	55.8299	55.830	80.00-	120.00	100.00
10.062	10.068	(1.140)	105	2167217			275.42-	335.42	311.80
190 1,3,5-Trimethylbenzene						CAS #:	108-67-8		
10.112	10.119	(1.145)	120	901470	52.1235	52.124	80.00-	120.00	100.00
10.112	10.119	(1.145)	105	1792732			165.32-	225.32	198.87

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
					ON-COL (PPBV)	FINAL (PPBV)		
196	1,2,4-Trimethylbenzene					CAS #: 95-63-6		
10.442	10.444 (1.183)	120	815028	52.7367	52.737	80.00- 120.00	100.00	
10.442	10.444 (1.183)	105	1690029			176.48- 236.48	207.36	
208	1,3-Dichlorobenzene					CAS #: 541-73-1		
10.735	10.735 (1.216)	146	1313024	50.0279	50.028	80.00- 120.00	100.00	
10.735	10.735 (1.216)	148	838608			34.93- 94.93	63.87	
10.735	10.735 (1.216)	111	483697			5.13- 65.13	36.84	
209	1,4-Dichlorobenzene					CAS #: 106-46-7		
10.814	10.819 (1.225)	146	1357588	50.6282	50.628	80.00- 120.00	100.00	
10.814	10.819 (1.225)	148	863653			34.11- 94.11	63.62	
10.814	10.819 (1.225)	111	475059			4.00- 64.00	34.99	
212	alpha-Chlorotoluene					CAS #: 100-44-7		
10.929	10.935 (1.238)	91	1644850	59.1510	59.151	80.00- 120.00	100.00	
10.936	10.935 (1.238)	126	378489			0.00- 55.13	23.01	
214	1,2-Dichlorobenzene					CAS #: 95-50-1		
11.144	11.148 (1.262)	146	1246781	49.4241	49.424	80.00- 120.00	100.00	
11.144	11.148 (1.262)	148	793687			34.17- 94.17	63.66	
11.144	11.148 (1.262)	111	466054			6.50- 66.50	37.38	
226	1,2,4-Trichlorobenzene					CAS #: 120-82-1		
12.555	12.543 (1.422)	180	1272554	44.3550	44.355	80.00- 120.00	100.00	
12.562	12.543 (1.423)	182	1228960			65.44- 125.44	96.57	
227	Hexachlorobutadiene					CAS #: 87-68-3		
12.641	12.625 (1.432)	225	1086142	42.3514	42.351	80.00- 120.00	100.00	
12.641	12.625 (1.432)	223	682655			32.93- 92.93	62.85	
228	Naphthalene					CAS #: 91-20-3		
12.827	12.809 (1.453)	128	254714	5.15895	5.159	80.00- 120.00	100.00	
12.827	12.809 (1.453)	127	33370			0.00- 43.59	13.10	

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd17.i
Lab File ID: 17111504.d
Lab Smp Id: LCSD
Analysis Type: VOA
Quant Type: ISTD
Operator: mjb
Method File: /chem/msd17.i/15NOV18.b/178q0613e.m
Misc Info: 50ppbv (200ppbv)

Calibration Date: 15-NOV-2018
Calibration Time: 11:28
Client Smp ID: LCSD
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	177601	106561	248641	180413	1.58
123 1,4-Difluorobenze	599676	359806	839546	611614	1.99
163 Chlorobenzene-d5	544209	326525	761893	556010	2.17

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
98 Bromochloromethan	5.51	5.18	5.84	5.51	-0.00
123 1,4-Difluorobenze	6.39	6.06	6.72	6.39	-0.00
163 Chlorobenzene-d5	8.83	8.50	9.16	8.83	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd17.1/15NOV18.b/17111504.d

Date: 15-NOV-2018 12:31

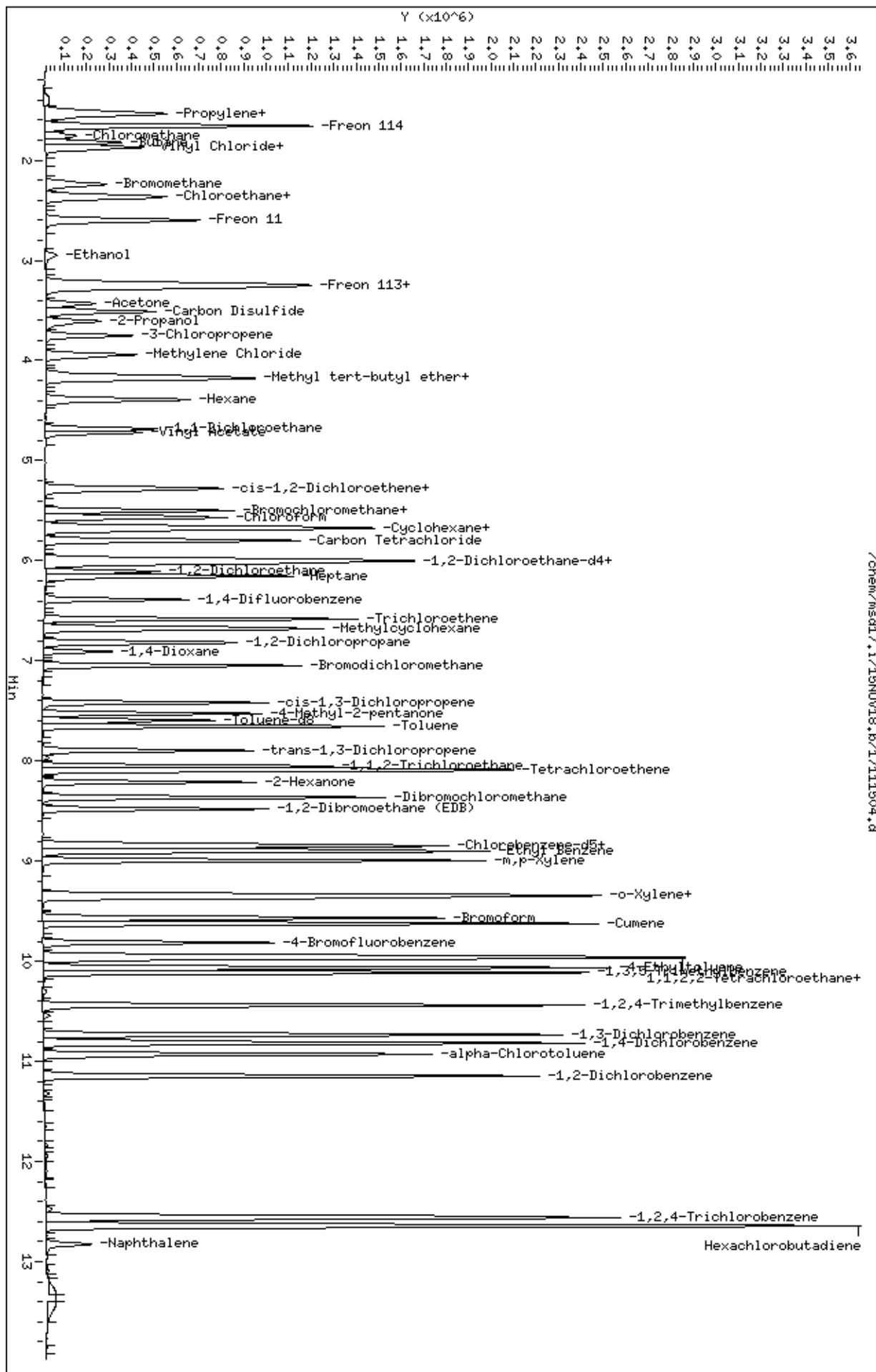
Client ID: LCSD

Sample Info: 50ml 3018-487

Page 1

Column phase: RTX-624

Instrument: msd17.1
Operator: mjb
Column diameter: 0.25



MSD17

BFB verification of 176/174 ratio: (166720/171136)*100%= 97.42%				Method TO-15/TO-14			
IS/5 Std.#:	3045-155	Exp. Date:	1/2/2019	SOP# 6	Please check all standards		
BCM			177.601	Vacuum NA			
1,4-DFB			599.676	Surrogate# 2 3045-155	q. Date: 1/2/2019	Surrogate#	Exp. Date: NA
CB-d5			544.209	CCV#	3018-488	q. Date: 1/28/2019	Exp. Date: 01/28/19

Verified CCV vs ICAL mid-point (-40%): mlb

Method: 178q0613E.m

CCV sp#	NA	Exp. Date:	ICV sp#	NA	Exp. Date:
CCV sp #	NA	Exp. Date:	ICV sp #	NA	Exp. Date:

Use	File #	Sample IDs	Canister#	Cart. pos.	Pressures	Amount	DF	Verify Load	Loaded Int	Date Analyzed	Time Analyzed	Review Int	
V	17111501	BFB Tune Check	3045-155	1	36mg	200ml	1.00	mlb	mlb	11/15/18	1049	mlb/gd	exp. 1/2/19
V	17111502	CCV	3018-488	13	50ppbv (200ppbv)	50ml	1.00	mlb	mlb	11/15/18	1128	mlb/gd	exp. 1/28/19, 0 out
V	17111503	LCS	3018-487	14	50ppbv (200ppbv)	50ml	1.00	mlb	mlb	11/15/18	1205	mlb/gd	exp. 1/28/19, 0 out
V	17111504	LCS	3018-487	14	50ppbv (200ppbv)	50ml	1.00	mlb	mlb	11/15/18	1231	mlb/gd	exp. 1/28/19, 0 out RPD OK
V	17111505	Lab Blank	32888	12	Humid	200ml	1.00	mlb	mlb	11/15/18	1320	mlb/gd	
V	17111506	Lab Blank	32888	12	Humid	200ml	1.00	mlb	mlb	11/15/18	1421	mlb/gd	
V	17111507	1811221-02A	33927	10	0.6 psi > 4.6 psi	200ml	1.26	DF	mlb	11/15/18	1603	DF	Blue Dot PI=3.8 PE=3.4
V	17111508	1811221-03A	SH34232	11	2 Hg > 4.5 psi	200ml	1.40	DF	mlb	11/15/18	1632	DF	
V	17111509	1811165-01A	00206	2	4.5 Hg > 4.8 psi	200ml	1.56	DF	mlb	11/15/18	1703	DF	
V	17111510	1811165-02A	934	3	5.3 Hg > 5.1 psi	200ml	1.64	DF	mlb	11/15/18	1731	DF	
V	17111511	1811165-03A	N1775	4	5.9 Hg > 4.9 psi	200ml	1.66	DF	mlb	11/15/18	1759	DF	
V	17111512	1811165-04A	N0452	5	14.9 Hg > 5.2 psi	200ml	2.69	DF	mlb	11/15/18	1827	DF	
V	17111513	1811240-01A	N1992	6	4.3 Hg > 15.2 psi	200ml	2.37	DF	mlb	11/15/18	1856	DF	
V	17111514	1811257-02A	H85-01	9	Tedlar Bag	130ml	1.54	DF	mlb	11/15/18	1923	DF	all TC
V	17111515	1811221-01A	00326	12	2.8 Hg > 4.7 psi	40ml	7.28	DF	mlb	11/15/18	1948	DF	all TC
V	17111516	System Blank	32888	1	Humid	200ml	1.00		DF				

DF 11/18/18

Eurofins Air Toxics Inc.

Data file : /var/chem/msd17.i/13jun18.b/17061301.d
 Lab Smp Id: BFB Client Smp ID: BFB
 Inj Date : 13-JUN-2018 21:32
 Operator : gh Inst ID: msd17.i
 Smp Info : 1ml 3045-23; BFB30; BFB30
 Misc Info : 36ng
 Comment :
 Method : /var/chem/msd17.i/13jun18.b/bfb30.m
 Meth Date : 13-Jun-2018 21:47 Quant Type: ESTD
 Cal Date : Cal File:
 Als bottle: 12 QC Sample: BFB
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: all.sub
 Target Version: 3.50 Sample Matrix: WATER
 Processing Host: eeyore

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	1.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb								
					CAS #: 460-00-4			
9.819	9.826	-0.007	95	175434			100.00- 100.00	92.32
9.819	9.826	-0.007	50	28082			8.00- 40.00	16.01
9.819	9.826	-0.007	75	82280			30.00- 66.00	46.90
9.819	9.826	-0.007	96	11476			5.00- 9.00	6.54
9.819	9.826	-0.007	173	0			0.00- 1.99	0.00
9.819	9.826	-0.007	174	190037			50.00- 120.00	108.32
9.819	9.826	-0.007	175	14236			4.00- 9.00	7.49
9.819	9.826	-0.007	176	186624			93.00- 101.00	98.20
9.819	9.826	-0.007	177	12579			5.00- 9.00	6.74

Date : 13-JUN-2018 21:32

Client ID: BFB

Instrument: msd17.i

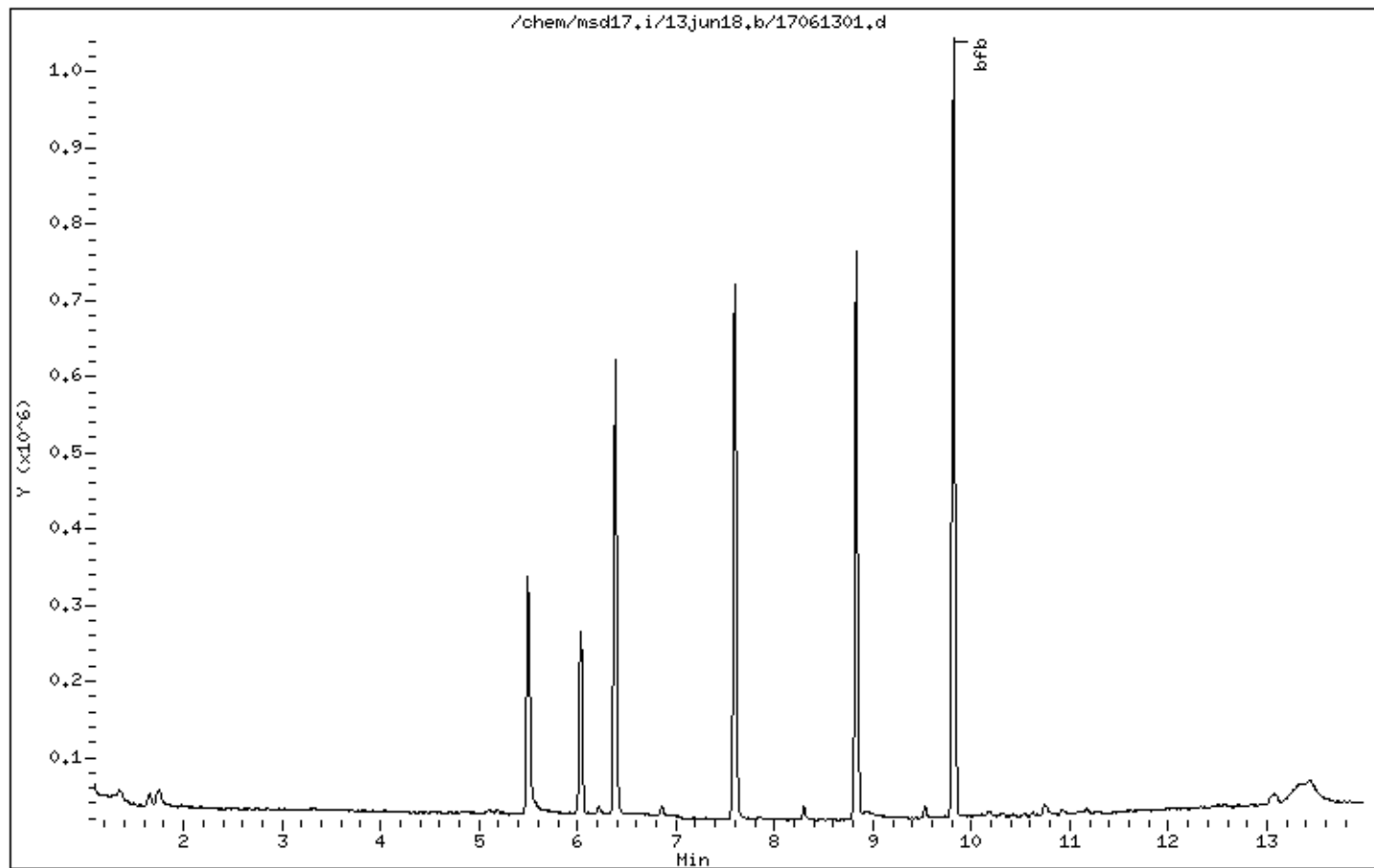
Sample Info: 1ml 3045-23; BFB30; BFB30

Volume Injected (uL): 1.0

Operator: gh

Column phase:

Column diameter: 2.00



Date : 13-JUN-2018 21:32

Client ID: BFB

Instrument: msd17.i

Sample Info: 1ml 3045-23; BFB30; BFB30

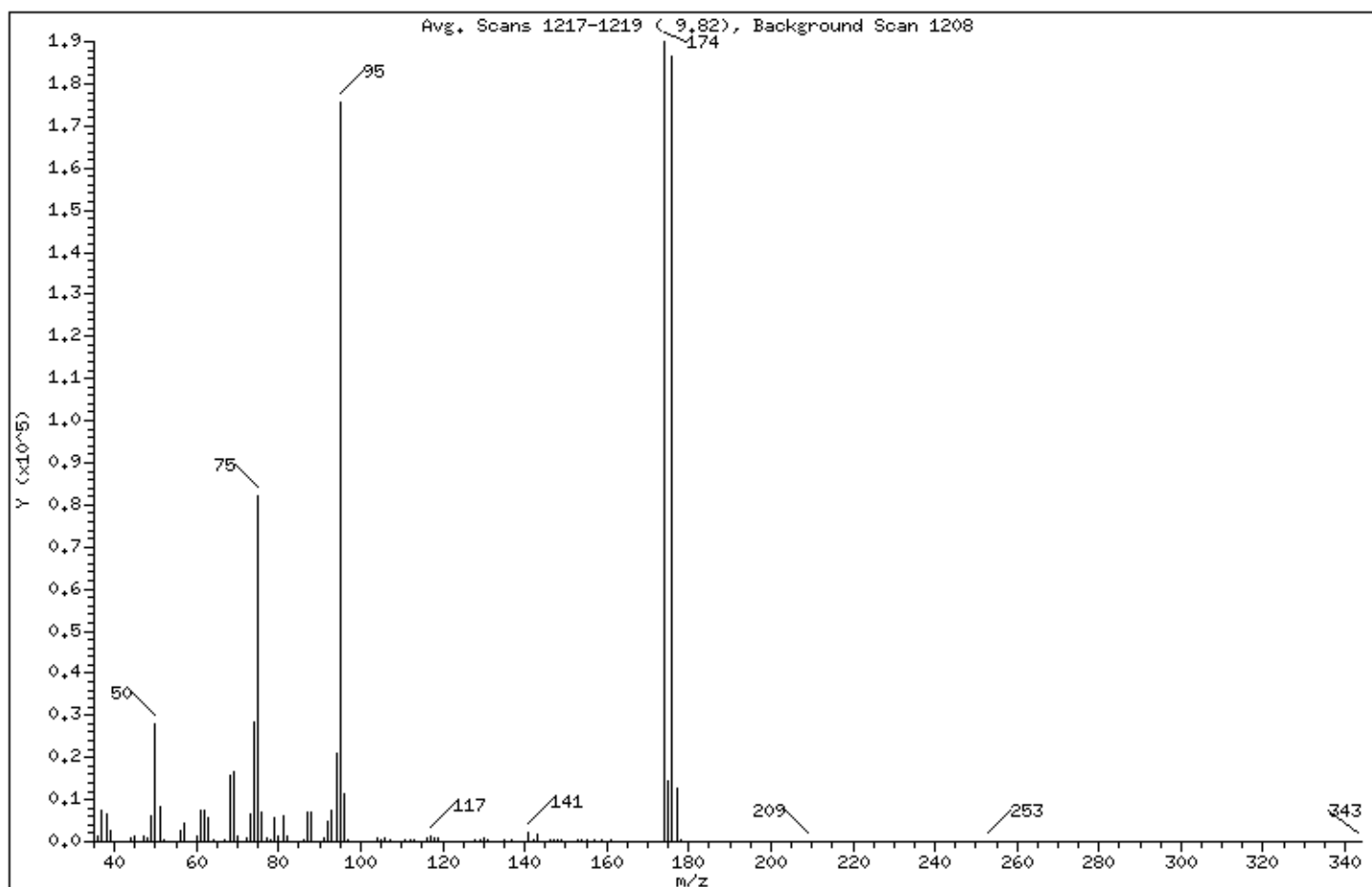
Volume Injected (uL): 1.0

Operator: gh

Column phase:

Column diameter: 2.00

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	16.01
75	30.00 - 66.00% of mass 95	46.90
96	5.00 - 9.00% of mass 95	6.54
173	Less than 1.99% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	108.32
175	4.00 - 9.00% of mass 174	8.11 (7.49)
176	93.00 - 101.00% of mass 174	106.38 (98.20)
177	5.00 - 9.00% of mass 176	7.17 (6.74)

Date : 13-JUN-2018 21:32

Client ID: BFB

Instrument: msd17.i

Sample Info: 1ml 3045-23; BFB30; BFB30

Volume Injected (uL): 1.0

Operator: gh

Column phase:

Column diameter: 2.00

Data File: 17061301.d

Spectrum: Avg. Scans 1217-1219 (9.82), Background Scan 1208

Location of Maximum: 174.00

Number of points: 111

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1214	69.00	16408	103.00	100	141.00	2054
37.00	7405	70.00	1148	104.00	977	142.00	281
38.00	6567	71.00	69	105.00	274	143.00	1827
39.00	2643	72.00	834	106.00	934	144.00	178
40.00	81	73.00	6688	107.00	409	145.00	189
41.00	5	74.00	28240	109.00	43	146.00	278
44.00	756	75.00	82280	110.00	1	147.00	221
45.00	1205	76.00	7071	111.00	280	148.00	495
46.00	120	77.00	819	112.00	229	149.00	282
47.00	1464	78.00	516	113.00	246	150.00	199
48.00	825	79.00	5677	115.00	92	153.00	275
49.00	6117	80.00	1502	116.00	730	154.00	239
50.00	28080	81.00	6108	117.00	1319	155.00	600
51.00	8509	82.00	1254	118.00	725	157.00	395
52.00	452	83.00	163	119.00	898	159.00	274
53.00	78	84.00	44	121.00	217	161.00	297
55.00	182	85.00	3	123.00	156	174.00	190016
56.00	2733	86.00	270	124.00	119	175.00	14236
57.00	4553	87.00	6913	127.00	66	176.00	186624
58.00	78	88.00	6890	128.00	613	177.00	12579
60.00	1418	91.00	820	129.00	422	178.00	350
61.00	7384	92.00	4656	130.00	735	193.00	104
62.00	7214	93.00	7340	131.00	242	195.00	59
63.00	5670	94.00	21120	134.00	123	207.00	75
64.00	626	95.00	175424	135.00	387	209.00	115
65.00	177	96.00	11476	137.00	419	253.00	85
67.00	524	97.00	296	139.00	104	343.00	7
68.00	15892	98.00	171	140.00	173		

US32APPTV002

Data file : /chem/msd17.i/23jul18.b/17072301.d
 Lab Smp Id: BFB Client Smp ID: BFB
 Inj Date : 23-JUL-2018 08:39
 Operator : gh Inst ID: msd17.i
 Smp Info : 1ml 3045-66
 Misc Info : 36ng
 Comment :
 Method : /chem/msd17.i/23jul18.b/bfb30.m
 Meth Date : 25-Jul-2018 19:46 ugvh Quant Type: ESTD
 Cal Date : Cal File:
 Als bottle: 8 QC Sample: BFB
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: all.sub
 Sample Matrix: AIR
 Processing Host: us32apptv003

Concentration Formula: Amt * DF * Uf * Vf * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
					ON-COL (ug/L)	FINAL (ug/L)		
1 bfb								
CAS #: 460-00-4								
9.819	9.826	-0.007	95	135170			100.00- 100.00	88.51
9.819	9.826	-0.007	50	21768			8.00- 40.00	16.10
9.819	9.826	-0.007	75	64059			30.00- 66.00	47.39
9.819	9.826	-0.007	96	9292			5.00- 9.00	6.87
9.819	9.826	-0.007	173	0			0.00- 1.99	0.00
9.819	9.826	-0.007	174	152725			50.00- 120.00	112.99
9.819	9.826	-0.007	175	11533			4.00- 9.00	7.55
9.819	9.826	-0.007	176	148885			93.00- 101.00	97.49
9.819	9.826	-0.007	177	9533			5.00- 9.00	6.40

Date : 23-JUL-2018 08:39

Client ID: BFB

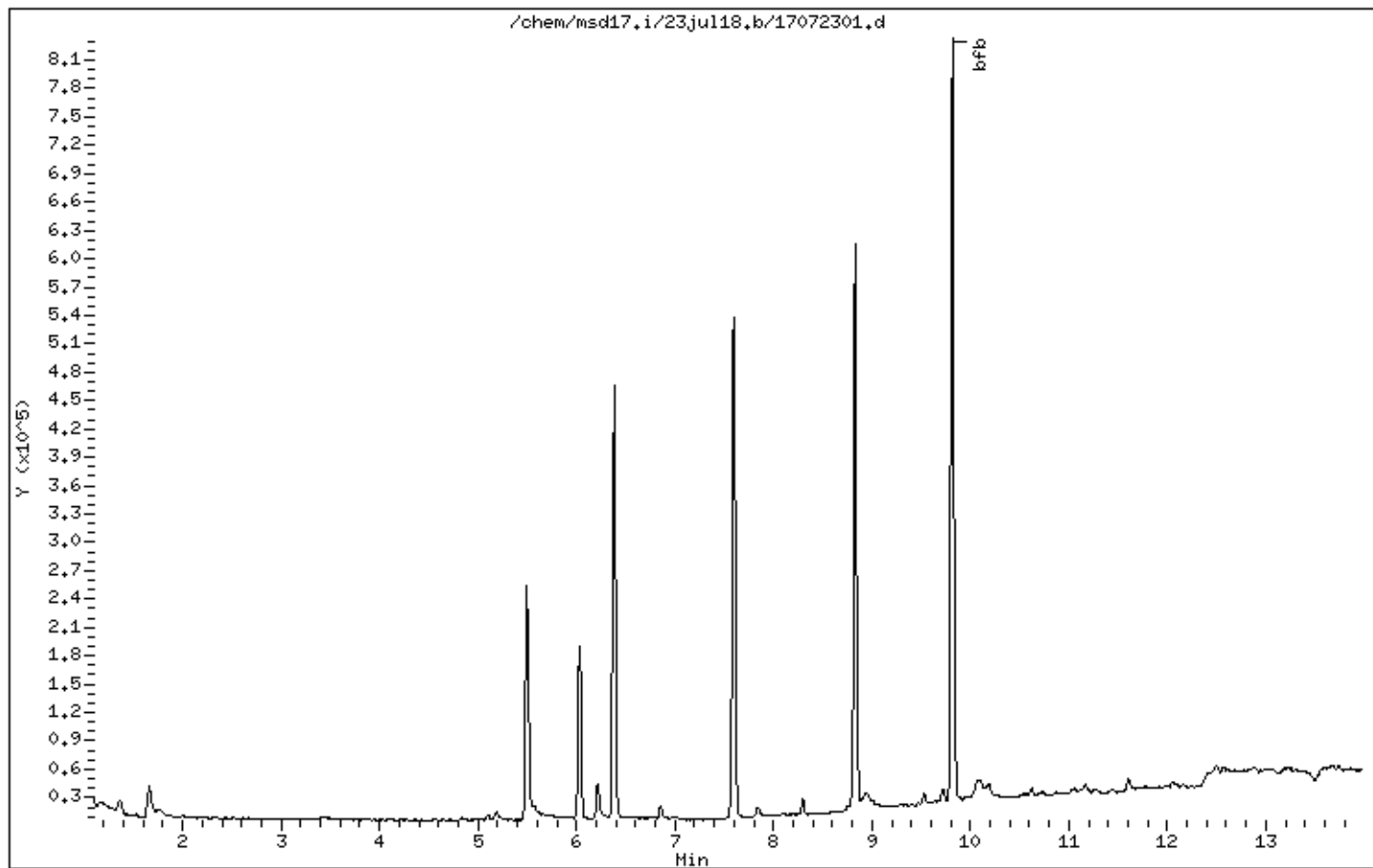
Instrument: msd17.i

Sample Info: 1ml 3045-66

Operator: gh

Column phase:

Column diameter: 2.00



Date : 23-JUL-2018 08:39

Client ID: BFB

Instrument: msd17.i

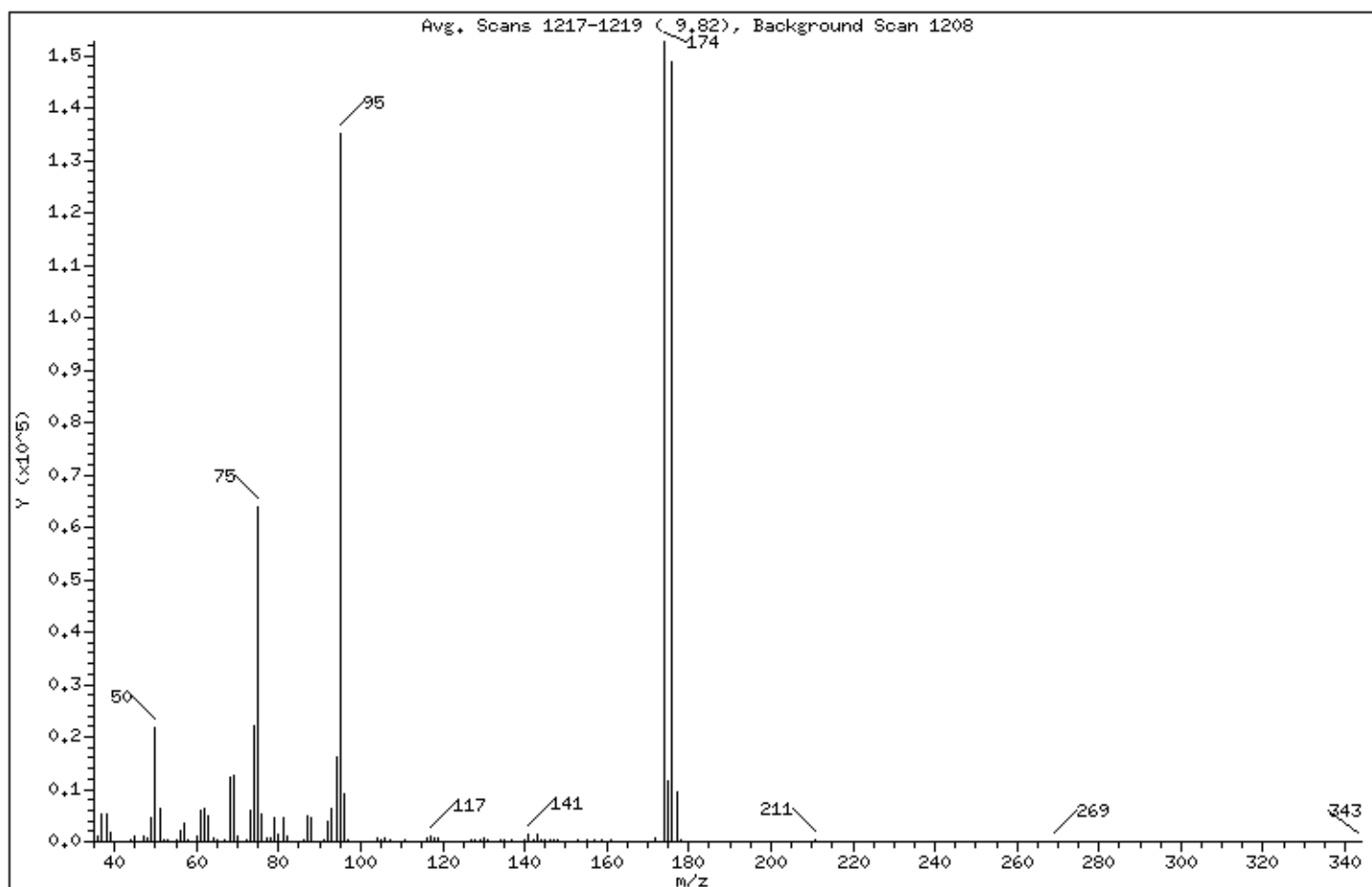
Sample Info: 1ml 3045-66

Operator: gh

Column phase:

Column diameter: 2.00

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	16.10
75	30.00 - 66.00% of mass 95	47.39
96	5.00 - 9.00% of mass 95	6.87
173	Less than 1.99% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	112.99
175	4.00 - 9.00% of mass 174	8.53 (7.55)
176	93.00 - 101.00% of mass 174	110.15 (97.49)
177	5.00 - 9.00% of mass 176	7.05 (6.40)

Date : 23-JUL-2018 08:39

Client ID: BFB

Instrument: msd17.i

Sample Info: 1ml 3045-66

Operator: gh

Column phase:

Column diameter: 2.00

Data File: 17072301.d

Spectrum: Avg. Scans 1217-1219 (9.82), Background Scan 1208

Location of Maximum: 174.00

Number of points: 109

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	896	66.00	167	97.00	425	141.00	1415
37.00	5299	67.00	319	98.00	167	142.00	255
38.00	5120	68.00	12441	99.00	15	143.00	1293
39.00	1884	69.00	12702	104.00	635	144.00	221
40.00	20	70.00	987	105.00	280	145.00	190
41.00	54	71.00	121	106.00	748	146.00	253
43.00	29	72.00	525	107.00	189	147.00	190
44.00	344	73.00	5901	109.00	100	148.00	404
45.00	893	74.00	21944	111.00	319	150.00	115
46.00	103	75.00	64056	112.00	136	153.00	204
47.00	995	76.00	5348	113.00	116	155.00	333
48.00	707	77.00	692	115.00	112	156.00	105
49.00	4674	78.00	606	116.00	558	157.00	304
50.00	21768	79.00	4518	117.00	937	159.00	308
51.00	6342	80.00	1248	118.00	575	161.00	209
52.00	396	81.00	4668	119.00	850	172.00	561
53.00	203	82.00	1204	124.00	51	174.00	152704
54.00	132	83.00	131	125.00	50	175.00	11533
55.00	372	85.00	66	127.00	202	176.00	148864
56.00	1940	86.00	238	128.00	521	177.00	9533
57.00	3608	87.00	5044	129.00	233	178.00	266
58.00	273	88.00	4730	130.00	539	211.00	196
60.00	1225	91.00	506	131.00	247	269.00	131
61.00	5878	92.00	3949	134.00	226	270.00	80
62.00	6165	93.00	6205	135.00	226	343.00	52
63.00	4777	94.00	16140	137.00	293		
64.00	604	95.00	135168	139.00	112		
65.00	280	96.00	9292	140.00	190		

US32APPTV002

Data file : /chem/msd17.i/20aug18.b/17082001.d
 Lab Smp Id: BFB Client Smp ID: BFB
 Inj Date : 20-AUG-2018 09:38
 Operator : mjb Inst ID: msd17.i
 Smp Info : 50ml 3045-66;BFB Tune Check
 Misc Info : 36ng
 Comment :
 Method : /chem/msd17.i/20aug18.b/bfb30.m
 Meth Date : 25-Jul-2018 19:27 ugvh Quant Type: ESTD
 Cal Date : Cal File:
 Als bottle: 12 QC Sample: BFB
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: all.sub
 Sample Matrix: WATER
 Processing Host: us32apptv003

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	1.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
					CAS #: 460-00-4			
1 bfb								
9.819	9.826	-0.007	95	120800			100.00- 100.00	91.45
9.819	9.826	-0.007	50	19722			8.00- 40.00	16.33
9.819	9.826	-0.007	75	57914			30.00- 66.00	47.94
9.819	9.826	-0.007	96	8236			5.00- 9.00	6.82
9.819	9.826	-0.007	173	0			0.00- 1.99	0.00
9.819	9.826	-0.007	174	132096			50.00- 120.00	109.35
9.819	9.826	-0.007	175	9548			4.00- 9.00	7.23
9.819	9.826	-0.007	176	128725			93.00- 101.00	97.45
9.819	9.826	-0.007	177	8015			5.00- 9.00	6.23

Date : 20-AUG-2018 09:38

Client ID: BFB

Instrument: msd17.i

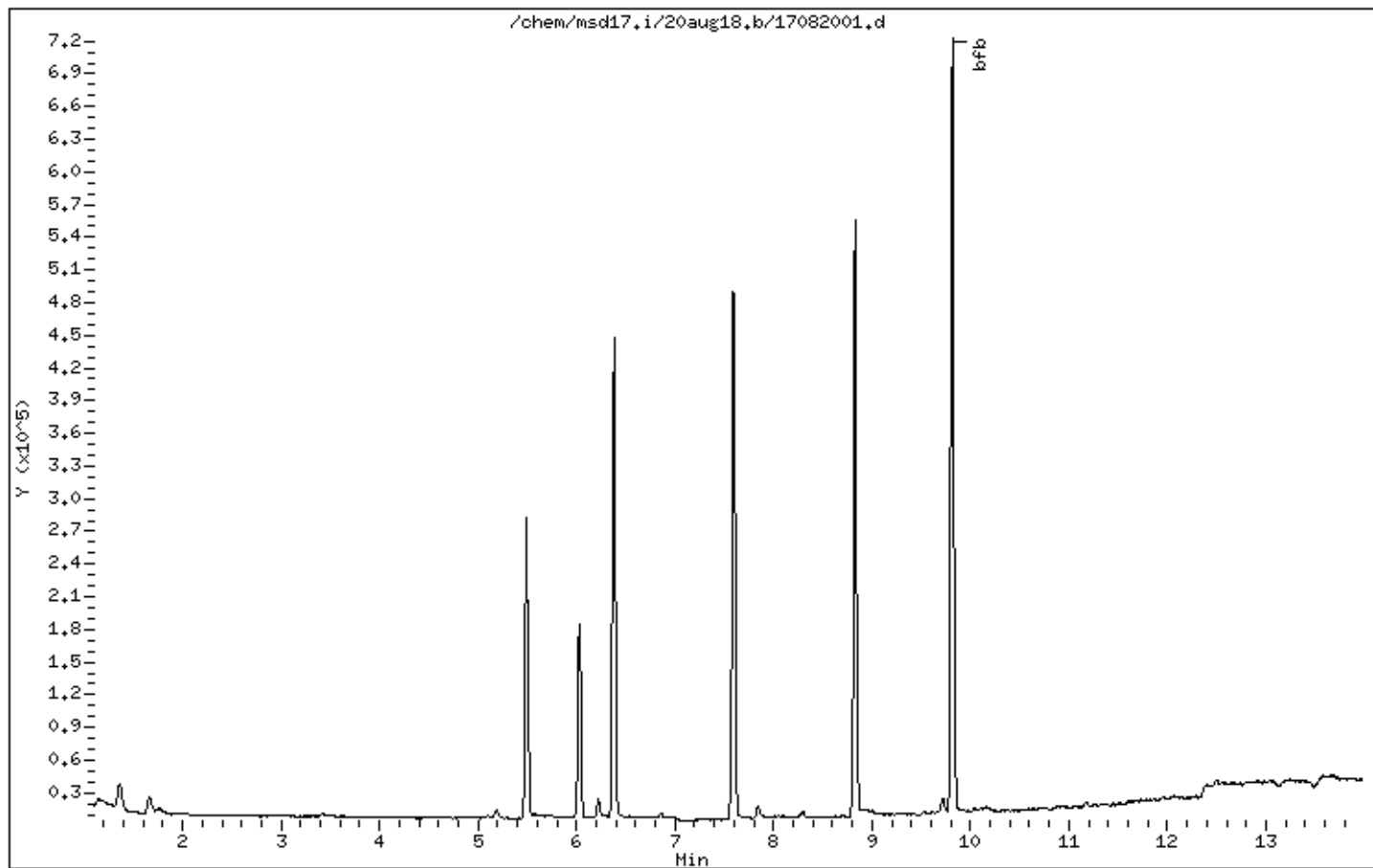
Sample Info: 50ml 3045-66;BFB Tune Check

Volume Injected (uL): 1.0

Operator: mjb

Column phase:

Column diameter: 2.00



Date : 20-AUG-2018 09:38

Client ID: BFB

Instrument: msd17.i

Sample Info: 50ml 3045-66;BFB Tune Check

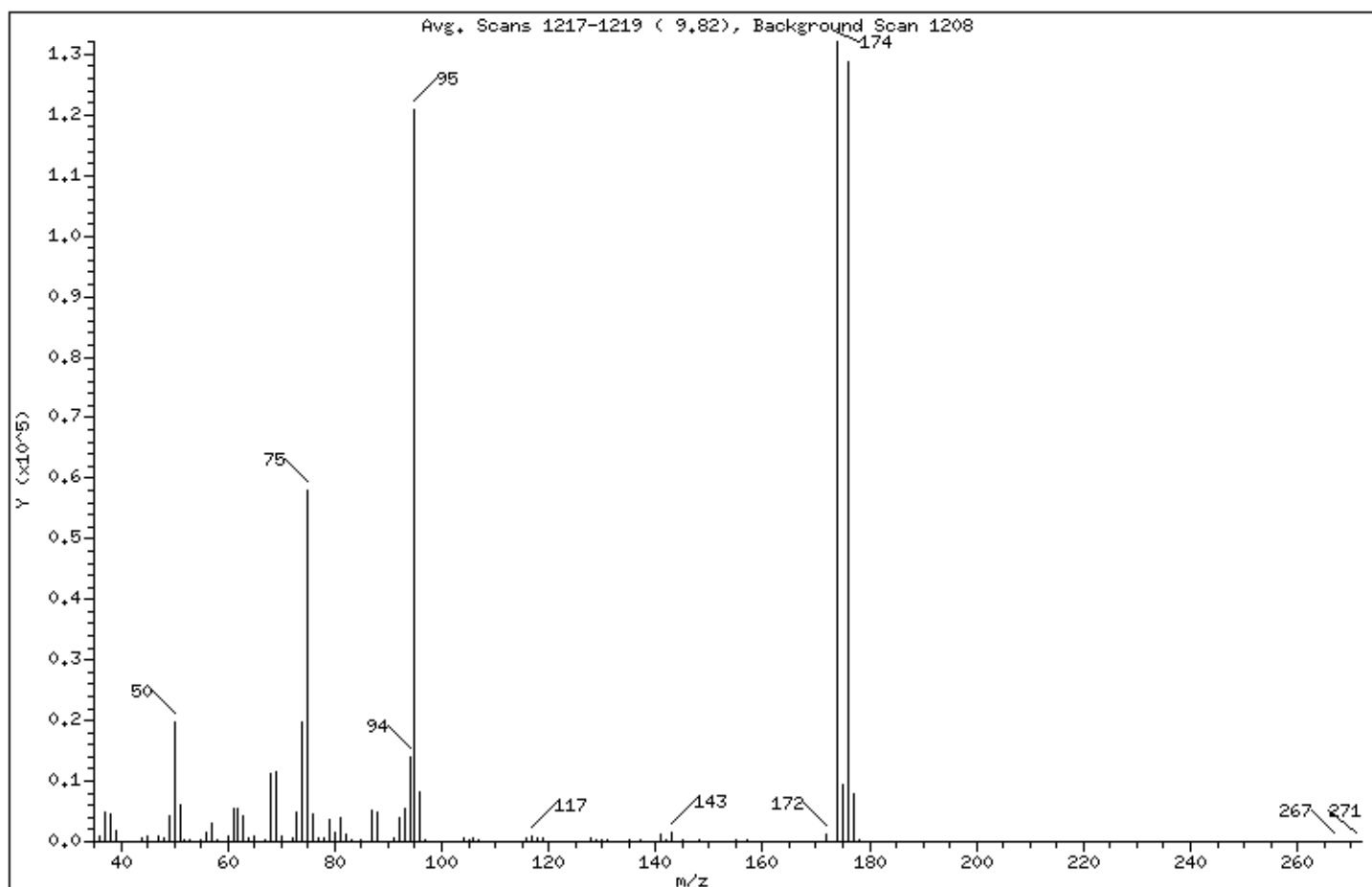
Volume Injected (uL): 1.0

Operator: mjb

Column phase:

Column diameter: 2.00

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	16.33
75	30.00 - 66.00% of mass 95	47.94
96	5.00 - 9.00% of mass 95	6.82
173	Less than 1.99% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	109.35
175	4.00 - 9.00% of mass 174	7.90 (7.23)
176	93.00 - 101.00% of mass 174	106.56 (97.45)
177	5.00 - 9.00% of mass 176	6.63 (6.23)

Date : 20-AUG-2018 09:38

Client ID: BFB

Instrument: msd17.i

Sample Info: 50ml 3045-66;BFB Tune Check

Volume Injected (uL): 1.0

Operator: mjb

Column phase:

Column diameter: 2.00

Data File: 17082001.d

Spectrum: Avg. Scans 1217-1219 (9.82), Background Scan 1208

Location of Maximum: 174.00

Number of points: 90

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	900	62.00	5386	91.00	462	141.00	1121
37.00	4961	63.00	4136	92.00	3850	142.00	198
38.00	4449	64.00	599	93.00	5337	143.00	1382
39.00	1708	65.00	770	94.00	14071	145.00	210
40.00	13	67.00	411	95.00	120800	148.00	276
42.00	43	68.00	11158	96.00	8236	154.00	56
43.00	110	69.00	11608	97.00	229	155.00	180
44.00	747	70.00	1025	104.00	601	157.00	260
45.00	795	72.00	635	105.00	224	159.00	57
47.00	901	73.00	4930	106.00	528	161.00	114
48.00	664	74.00	19848	107.00	256	172.00	1138
49.00	4350	75.00	57912	111.00	51	174.00	132096
50.00	19720	76.00	4544	112.00	54	175.00	9548
51.00	6225	77.00	633	116.00	465	176.00	128720
52.00	312	78.00	485	117.00	787	177.00	8015
53.00	178	79.00	3781	118.00	476	178.00	250
54.00	59	80.00	1433	119.00	700	253.00	117
55.00	336	81.00	4027	128.00	537	267.00	125
56.00	1506	82.00	1093	129.00	226	269.00	93
57.00	2926	83.00	231	130.00	444	270.00	5
58.00	174	85.00	181	131.00	281	271.00	111
60.00	1024	87.00	5117	135.00	161		
61.00	5327	88.00	4828	137.00	242		

US32APPTV002

Data file : /chem/msd17.i/24aug18.b/17082401.d
 Lab Smp Id: BFB Client Smp ID: BFB
 Inj Date : 24-AUG-2018 10:18
 Operator : mjb Inst ID: msd17.i
 Smp Info : 50ml 3045-66;BFB Tune Check
 Misc Info : 36ng
 Comment :
 Method : /chem/msd17.i/24aug18.b/bfb30.m
 Meth Date : 25-Jul-2018 19:27 ugvh Quant Type: ESTD
 Cal Date : Cal File:
 Als bottle: 10 QC Sample: BFB
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: all.sub
 Sample Matrix: WATER
 Processing Host: us32apptv003

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	1.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO
					ON-COL (ug/L)	FINAL (ug/L)		
1 bfb								
CAS #: 460-00-4								
9.819	9.826	-0.007	95	110304			100.00- 100.00	90.43
9.819	9.826	-0.007	50	17711			8.00- 40.00	16.06
9.819	9.826	-0.007	75	52976			30.00- 66.00	48.03
9.819	9.826	-0.007	96	7288			5.00- 9.00	6.61
9.819	9.826	-0.007	173	480			0.00- 1.99	0.39
9.819	9.826	-0.007	174	121973			50.00- 120.00	110.58
9.819	9.826	-0.007	175	8972			4.00- 9.00	7.36
9.819	9.826	-0.007	176	118890			93.00- 101.00	97.47
9.819	9.826	-0.007	177	7601			5.00- 9.00	6.39

Date : 24-AUG-2018 10:18

Client ID: BFB

Instrument: msd17.i

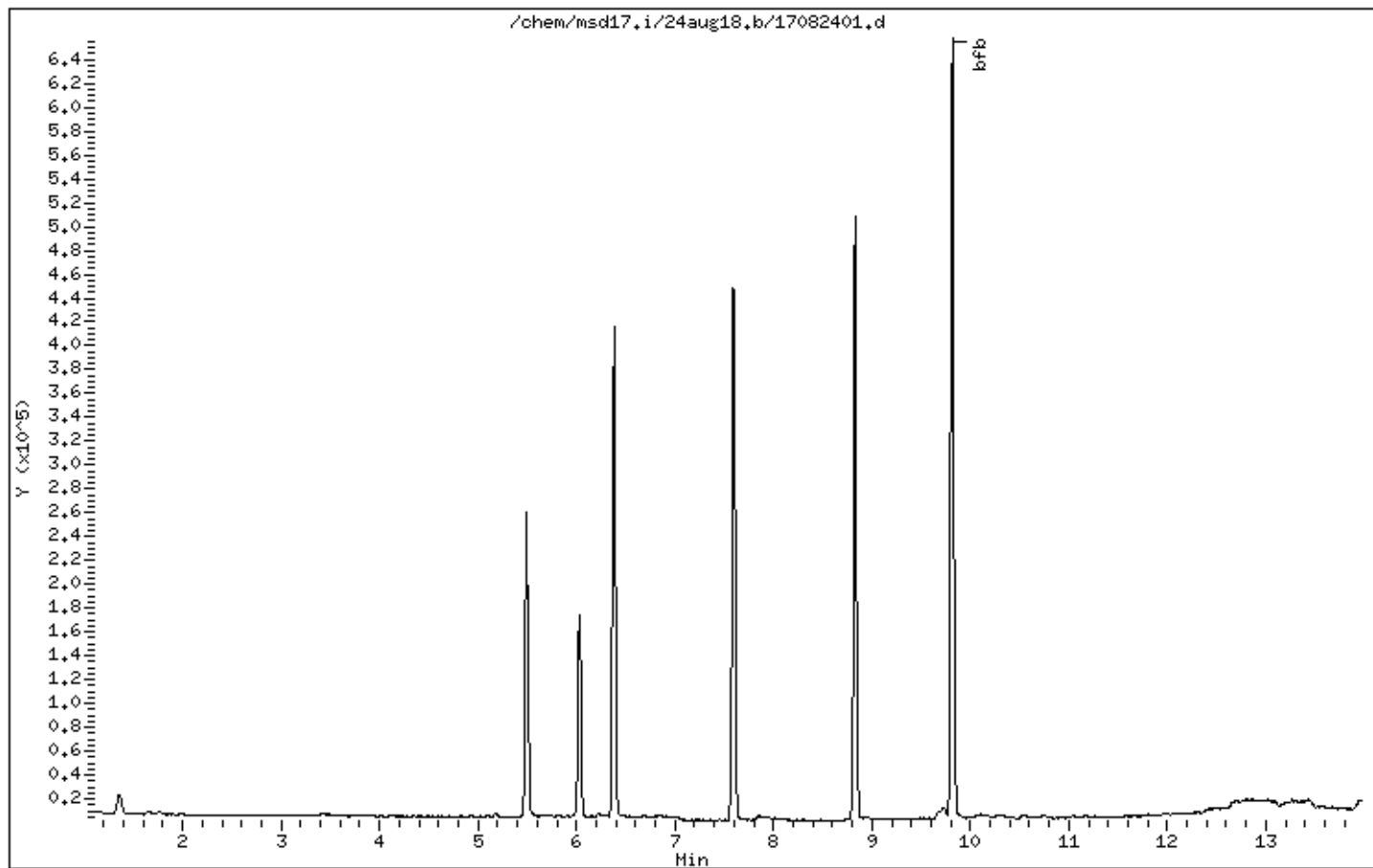
Sample Info: 50ml 3045-66;BFB Tune Check

Volume Injected (uL): 1.0

Operator: mjb

Column phase:

Column diameter: 2.00



Date : 24-AUG-2018 10:18

Client ID: BFB

Instrument: msd17.i

Sample Info: 50ml 3045-66;BFB Tune Check

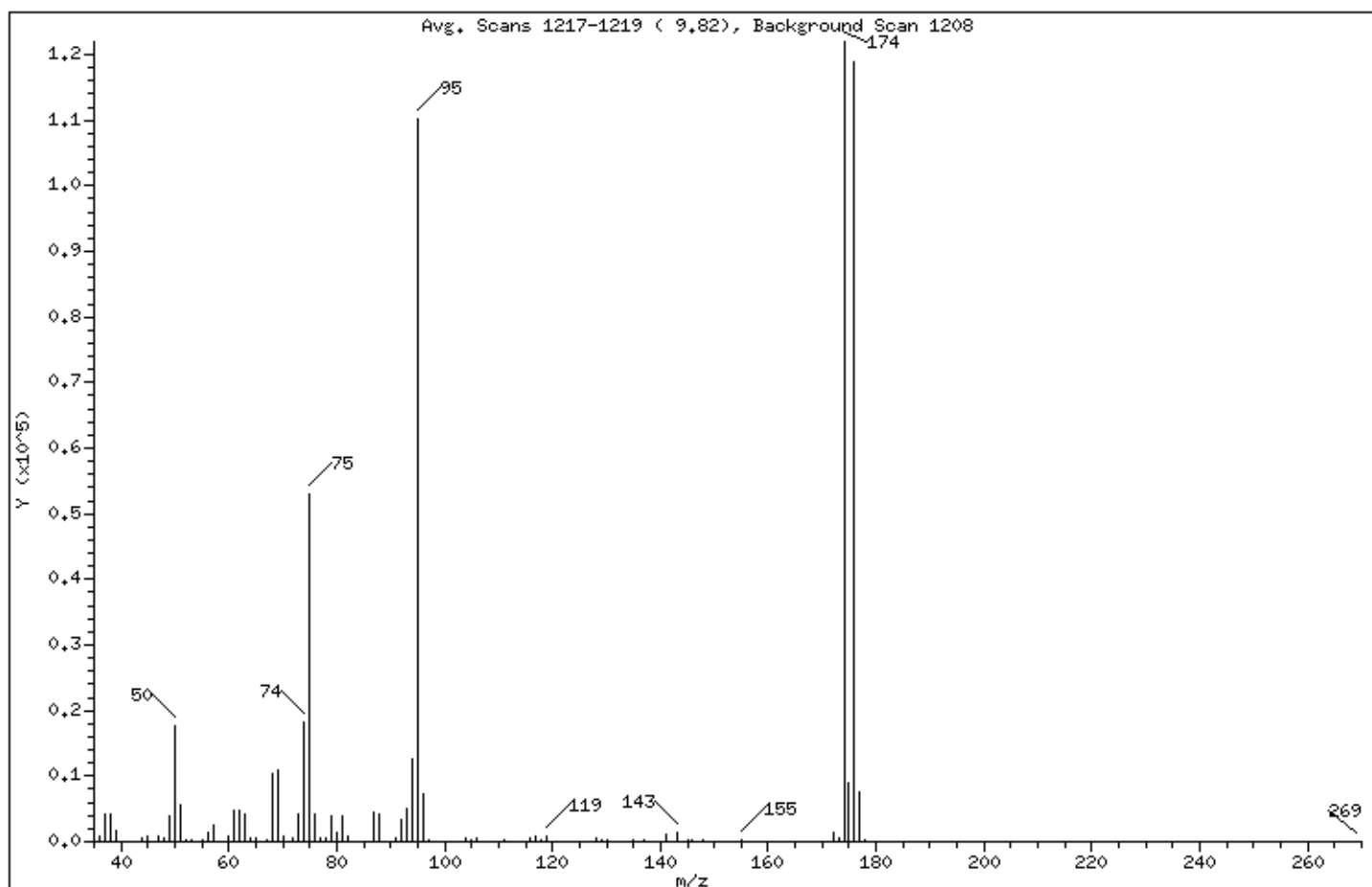
Volume Injected (uL): 1.0

Operator: mjb

Column phase:

Column diameter: 2.00

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	16.06
75	30.00 - 66.00% of mass 95	48.03
96	5.00 - 9.00% of mass 95	6.61
173	Less than 1.99% of mass 174	0.44 (0.39)
174	50.00 - 120.00% of mass 95	110.58
175	4.00 - 9.00% of mass 174	8.13 (7.36)
176	93.00 - 101.00% of mass 174	107.78 (97.47)
177	5.00 - 9.00% of mass 176	6.89 (6.39)

Date : 24-AUG-2018 10:18

Client ID: BFB

Instrument: msd17.i

Sample Info: 50ml 3045-66;BFB Tune Check

Volume Injected (uL): 1.0

Operator: mjb

Column phase:

Column diameter: 2.00

Data File: 17082401.d

Spectrum: Avg. Scans 1217-1219 (9.82), Background Scan 1208

Location of Maximum: 174.00

Number of points: 84

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	775	64.00	514	92.00	3242	142.00	50
37.00	4313	65.00	631	93.00	5053	143.00	1459
38.00	4128	67.00	383	94.00	12566	145.00	271
39.00	1545	68.00	10283	95.00	110304	146.00	244
42.00	118	69.00	10856	96.00	7288	148.00	344
44.00	638	70.00	715	97.00	240	154.00	106
45.00	945	72.00	608	104.00	570	155.00	326
47.00	881	73.00	4328	105.00	207	157.00	111
48.00	559	74.00	18120	106.00	484	159.00	57
49.00	3896	75.00	52976	111.00	178	161.00	50
50.00	17704	76.00	4249	116.00	474	172.00	1321
51.00	5541	77.00	559	117.00	733	173.00	480
52.00	243	78.00	504	118.00	385	174.00	121968
53.00	159	79.00	3829	119.00	775	175.00	8972
55.00	300	80.00	1296	121.00	56	176.00	118888
56.00	1499	81.00	3821	128.00	435	177.00	7601
57.00	2402	82.00	971	129.00	211	178.00	226
58.00	57	83.00	127	130.00	395	269.00	44
60.00	965	86.00	119	131.00	115		
61.00	4744	87.00	4551	135.00	344		
62.00	4767	88.00	4277	137.00	210		
63.00	4183	91.00	556	141.00	1178		

US32APPTV002

Data file : /chem/msd17.i/09OCT18.b/17100901.d
 Lab Smp Id: BFB Client Smp ID: BFB
 Inj Date : 09-OCT-2018 09:30
 Operator : mjb Inst ID: msd17.i
 Smp Info : 50ml 3045-81;BFB Tune Check
 Misc Info : 36ng
 Comment :
 Method : /chem/msd17.i/09OCT18.b/bfb30.m
 Meth Date : 25-Jul-2018 19:27 ugvh Quant Type: ESTD
 Cal Date : Cal File:
 Als bottle: 12 QC Sample: BFB
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: all.sub
 Sample Matrix: WATER
 Processing Host: us32apptv003

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	1.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
					CAS #: 460-00-4			
1 bfb								
9.819	9.826	-0.007	95	121789			100.00- 100.00	96.40
9.819	9.826	-0.007	50	19605			8.00- 40.00	16.10
9.819	9.826	-0.007	75	56600			30.00- 66.00	46.47
9.819	9.826	-0.007	96	7875			5.00- 9.00	6.47
9.819	9.826	-0.007	173	0			0.00- 1.99	0.00
9.819	9.826	-0.007	174	126338			50.00- 120.00	103.74
9.819	9.826	-0.007	175	9256			4.00- 9.00	7.33
9.819	9.826	-0.007	176	124421			93.00- 101.00	98.48
9.819	9.826	-0.007	177	7710			5.00- 9.00	6.20

Date : 09-OCT-2018 09:30

Client ID: BFB

Instrument: msd17.i

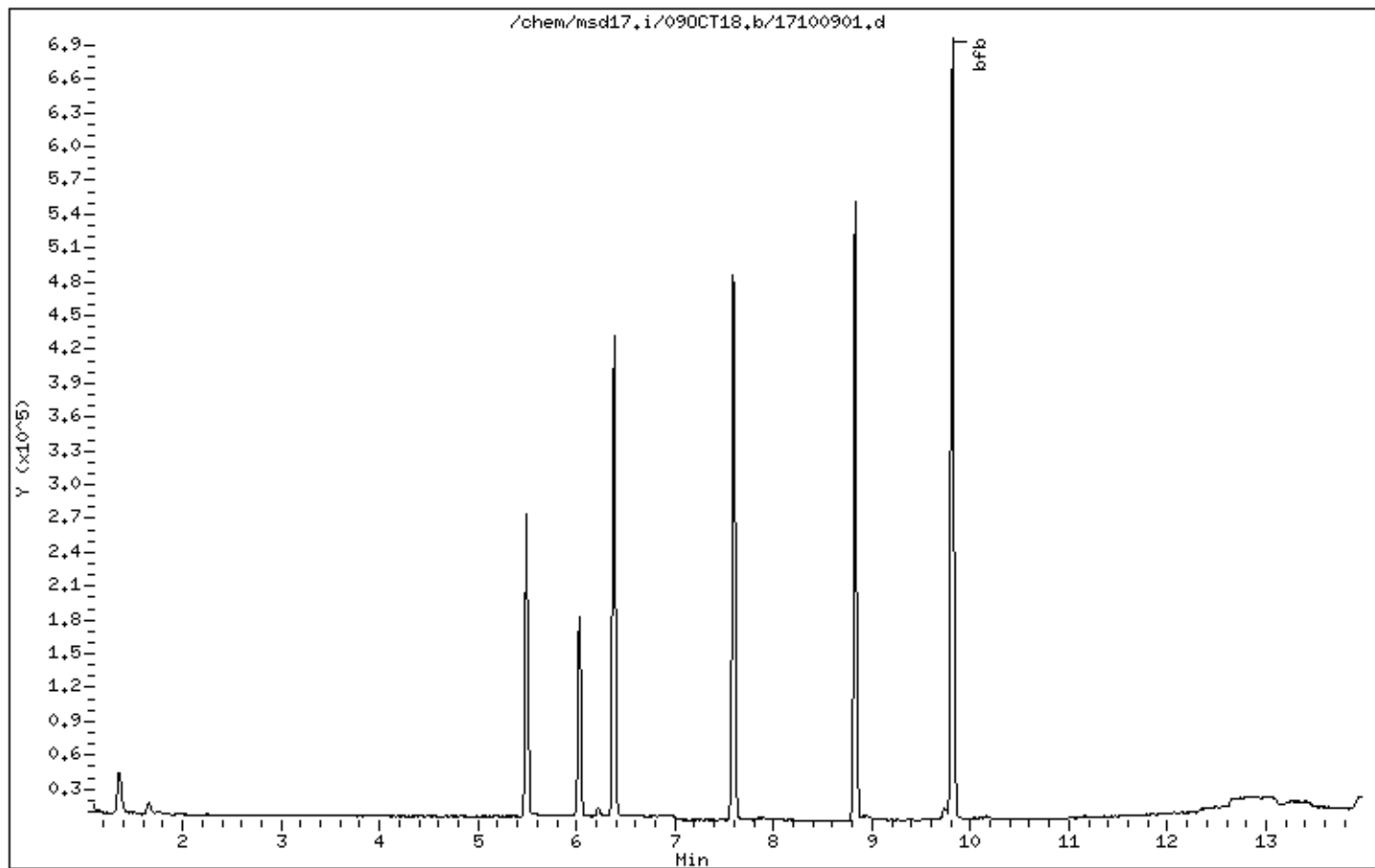
Sample Info: 50ml 3045-81;BFB Tune Check

Volume Injected (uL): 1.0

Operator: mjb

Column phase:

Column diameter: 2.00



Date : 09-OCT-2018 09:30

Client ID: BFB

Instrument: msd17.i

Sample Info: 50ml 3045-81;BFB Tune Check

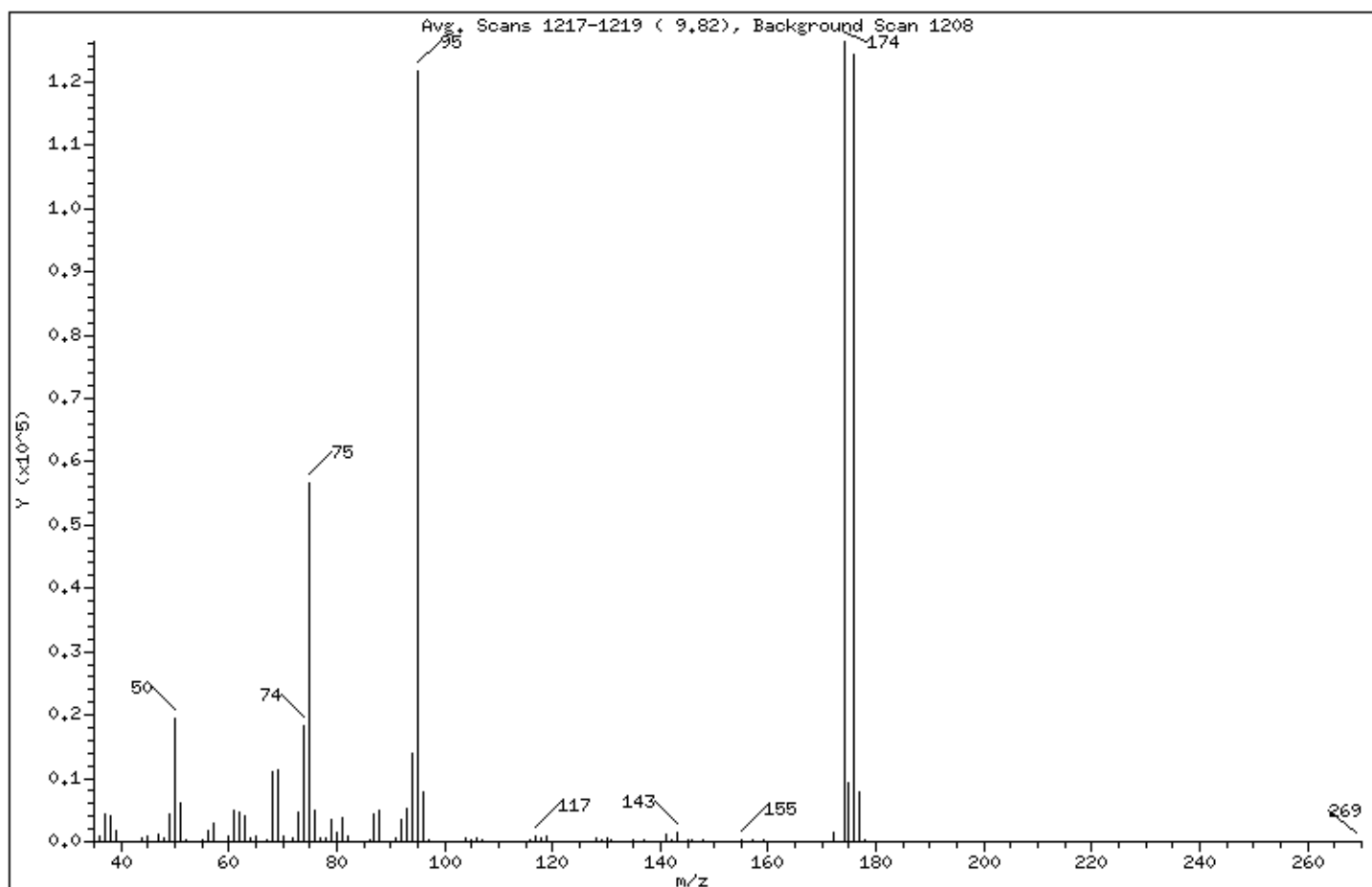
Volume Injected (uL): 1.0

Operator: mjb

Column phase:

Column diameter: 2.00

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	16.10
75	30.00 - 66.00% of mass 95	46.47
96	5.00 - 9.00% of mass 95	6.47
173	Less than 1.99% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	103.74
175	4.00 - 9.00% of mass 174	7.60 (7.33)
176	93.00 - 101.00% of mass 174	102.16 (98.48)
177	5.00 - 9.00% of mass 176	6.33 (6.20)

Date : 09-OCT-2018 09:30

Client ID: BFB

Instrument: msd17.i

Sample Info: 50ml 3045-81;BFB Tune Check

Volume Injected (uL): 1.0

Operator: mjb

Column phase:

Column diameter: 2.00

Data File: 17100901.d

Spectrum: Avg. Scans 1217-1219 (9.82), Background Scan 1208

Location of Maximum: 174.00

Number of points: 82

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	809	63.00	4019	91.00	483	135.00	283
37.00	4308	64.00	477	92.00	3459	137.00	237
38.00	4044	65.00	881	93.00	5208	141.00	1132
39.00	1813	67.00	244	94.00	14061	142.00	183
40.00	31	68.00	10896	95.00	121784	143.00	1528
41.00	141	69.00	11197	96.00	7875	145.00	330
43.00	14	70.00	878	97.00	286	146.00	269
44.00	505	72.00	676	104.00	528	148.00	345
45.00	954	73.00	4616	105.00	211	150.00	125
47.00	1092	74.00	18240	106.00	504	155.00	321
48.00	636	75.00	56600	107.00	182	157.00	271
49.00	4350	76.00	4911	111.00	52	159.00	184
50.00	19600	77.00	594	116.00	431	172.00	1549
51.00	6031	78.00	541	117.00	916	174.00	126336
52.00	311	79.00	3463	118.00	514	175.00	9256
55.00	372	80.00	1321	119.00	781	176.00	124416
56.00	1736	81.00	3673	121.00	30	177.00	7710
57.00	2961	82.00	950	128.00	532	178.00	329
60.00	939	86.00	222	129.00	257	269.00	30
61.00	5038	87.00	4444	130.00	507		
62.00	4662	88.00	4933	131.00	188		

US32APPTV002

Data file : /chem/msd17.i/15NOV18.b/17111501.d
 Lab Smp Id: BFB Client Smp ID: BFB
 Inj Date : 15-NOV-2018 10:49
 Operator : mjb Inst ID: msd17.i
 Smp Info : 200ml 3045-155;BFB Tune Check
 Misc Info : 36ng
 Comment :
 Method : /chem/msd17.i/15NOV18.b/bfb30.m
 Meth Date : 08-Aug-2018 10:02 uexa Quant Type: ESTD
 Cal Date : Cal File:
 Als bottle: 1 QC Sample: BFB
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: all.sub
 Sample Matrix: WATER
 Processing Host: us32apptv003

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	1.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
					CAS #: 460-00-4			
1 bfb								
9.819	9.826	-0.007	95	168042			100.00- 100.00	98.18
9.819	9.826	-0.007	50	27146			8.00- 40.00	16.15
9.819	9.826	-0.007	75	80688			30.00- 66.00	48.02
9.819	9.826	-0.007	96	11060			5.00- 9.00	6.58
9.819	9.826	-0.007	173	2196			0.00- 1.99	1.28
9.819	9.826	-0.007	174	171157			50.00- 120.00	101.85
9.819	9.826	-0.007	175	12406			4.00- 9.00	7.25
9.819	9.826	-0.007	176	166741			93.00- 101.00	97.42
9.819	9.826	-0.007	177	10881			5.00- 9.00	6.53

Date : 15-NOV-2018 10:49

Client ID: BFB

Instrument: msd17.i

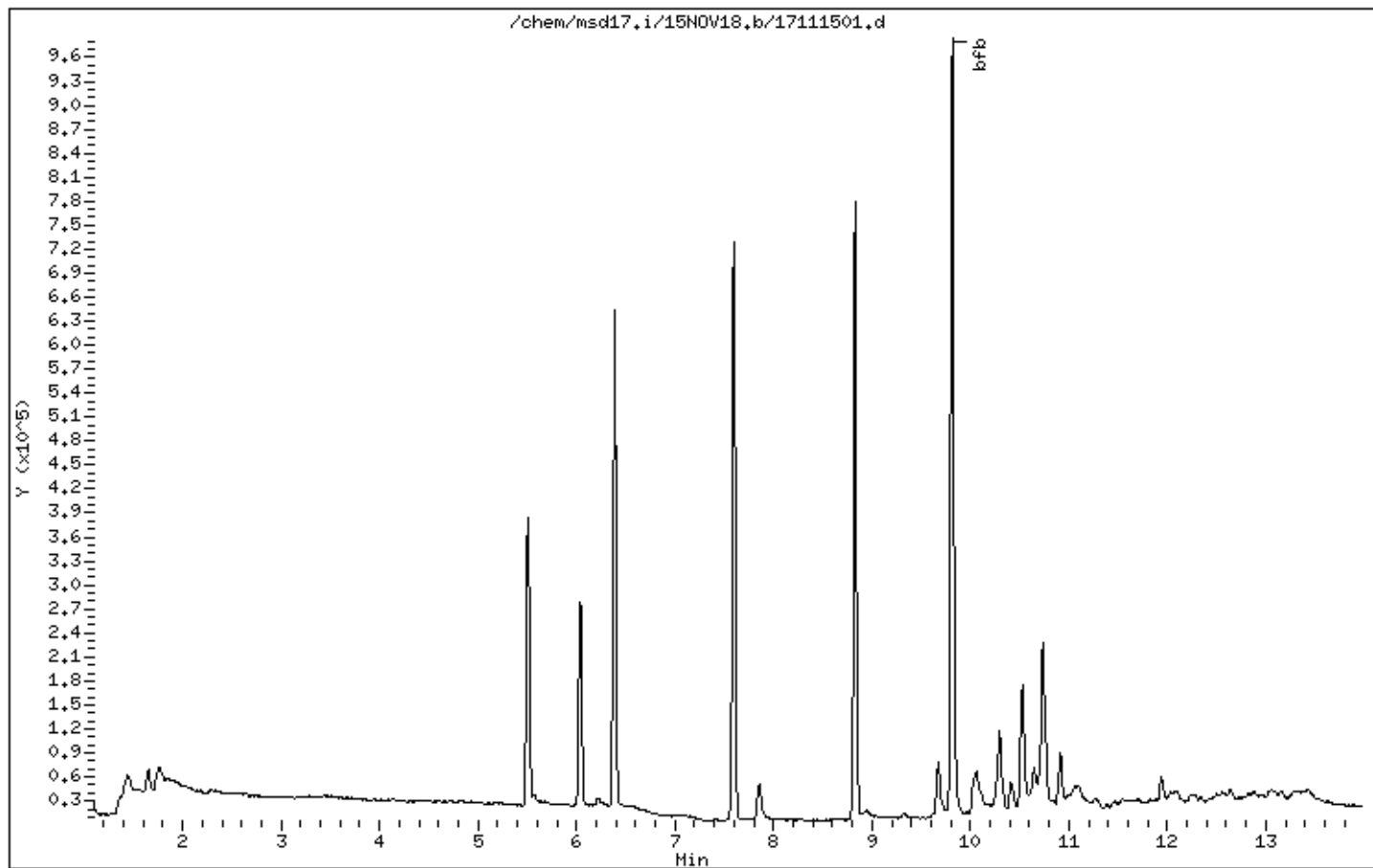
Sample Info: 200ml 3045-155:BFB Tune Check

Volume Injected (uL): 1.0

Operator: mjb

Column phase:

Column diameter: 2.00



Date : 15-NOV-2018 10:49

Client ID: BFB

Instrument: msd17.i

Sample Info: 200ml 3045-155:BFB Tune Check

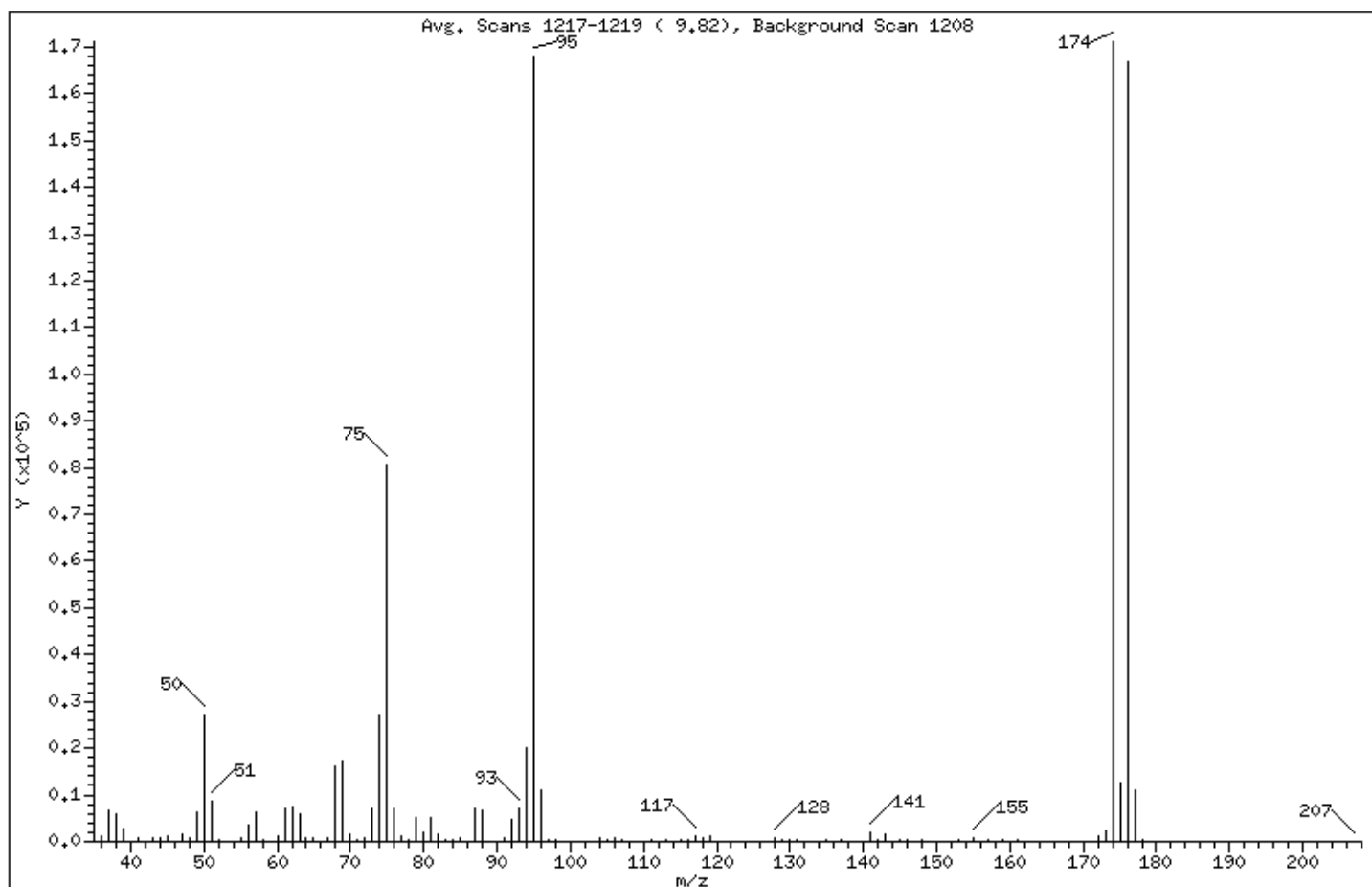
Volume Injected (uL): 1.0

Operator: mjb

Column phase:

Column diameter: 2.00

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	16.15
75	30.00 - 66.00% of mass 95	48.02
96	5.00 - 9.00% of mass 95	6.58
173	Less than 1.99% of mass 174	1.31 (1.28)
174	50.00 - 120.00% of mass 95	101.85
175	4.00 - 9.00% of mass 174	7.38 (7.25)
176	93.00 - 101.00% of mass 174	99.23 (97.42)
177	5.00 - 9.00% of mass 176	6.48 (6.53)

Date : 15-NOV-2018 10:49

Client ID: BFB

Instrument: msd17.i

Sample Info: 200ml 3045-155:BFB Tune Check

Volume Injected (uL): 1.0

Operator: mjb

Column phase:

Column diameter: 2.00

Data File: 17111501.d

Spectrum: Avg. Scans 1217-1219 (9.82), Background Scan 1208

Location of Maximum: 174.00

Number of points: 104

m/z	Y	m/z	Y	m/z	Y	m/z	Y

36.00	1354	65.00	825	94.00	20016	142.00	204
37.00	6785	66.00	52	95.00	168000	143.00	1577
38.00	5871	67.00	621	96.00	11060	144.00	106
39.00	2753	68.00	16068	97.00	456	145.00	303
40.00	38	69.00	17240	98.00	352	146.00	369

41.00	925	70.00	1388	99.00	132	147.00	196
42.00	103	71.00	224	104.00	883	148.00	481
43.00	930	72.00	941	105.00	346	150.00	124
44.00	748	73.00	7187	106.00	911	153.00	205
45.00	1357	74.00	27120	107.00	199	155.00	689

46.00	111	75.00	80688	111.00	438	157.00	347
47.00	1440	76.00	7117	112.00	191	158.00	33
48.00	903	77.00	1114	113.00	295	159.00	234
49.00	6242	78.00	534	115.00	204	161.00	236
50.00	27144	79.00	5124	116.00	566	171.00	114

51.00	8522	80.00	1908	117.00	1068	172.00	1335
52.00	393	81.00	5058	118.00	657	173.00	2196
53.00	114	82.00	1450	119.00	1012	174.00	171136
55.00	856	83.00	283	121.00	37	175.00	12406
56.00	3502	84.00	252	128.00	598	176.00	166720

57.00	6434	85.00	885	129.00	321	177.00	10881
58.00	410	86.00	162	130.00	510	178.00	373
60.00	1229	87.00	6987	131.00	317	207.00	32
61.00	7145	88.00	6641	134.00	54		
62.00	7525	91.00	793	135.00	407		

63.00	5817	92.00	4709	137.00	435		
64.00	709	93.00	7229	141.00	1795		

Shipping/ Receiving Documents

Eurofins Air Toxics, Inc. Sample Receipt Confirmation Cover Page

Thank you for choosing Eurofins Air Toxics, Inc. (EATL). We have received your samples and have listed any Sample Receipt Discrepancies below.

In order to expedite analysis and reporting, please review the attached information for accuracy.

For corrections call: **Air Toxics, Ltd. at 916-985-1000**

EATL will proceed with the analysis as specified on the Chain of Custody (COC) and Sample Receipt Summary page.

Please note : The Sample Receipt Confirmation, including the total workorder charge, is subject to change upon secondary review. Our aim is to provide a confirmation to you in a timely manner. Sample Receipt Discrepancies, if any, may not include discrepancies regarding sample receipt pressure(s). Additionally, the COC will be provided with the final report.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 .FAX (916) 985-1020

Hours 6:30 A.M to 5:30 P.M. PST



Air Toxics

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager

John Pentland

Collected by: (Print and Sign)

Victoria Lohman

Company SHD

Email

Address 455 Philip St City Wadsworth State Ort Zip 94561

Phone 519-884-0310 Fax 519-884-0310

Project Info:

P.O. # Hittsville

Project #

Project Name Biosperex

Turn Around Time:

☒ Normal

☐ Rush

Lab Use Only
Pressurized by

Date

Pressurization Gas:

specify N₂ He

Lab I.D.

Field Sample I.D. (Location)

Can #

Date

Time

Analyses Requested

Canister Pressure/Vacuum

Initial Final Receipt Final (ps)

01A

SSD-Leg (Enter price)

00326

10/23/18

12:31/13:07 TO-15

26

4

02A

VP-41

3401

11/17/18

9:10/9:45 TO-15 + helium-30

30

0

03A

VP-410

0443

11/17/18

10:15/10:45 TO-15 + helium

30

0

Relinquished by: (signature) Date/Time

[Signature] 11/17/18

Received by: (signature) Date/Time

[Signature] 6412 11/09/18 10:00

Relinquished by: (signature) Date/Time

[Signature] 11/17/18

Received by: (signature) Date/Time

[Signature] 6412 11/09/18 10:00

Relinquished by: (signature) Date/Time

[Signature] 11/17/18

Received by: (signature) Date/Time

[Signature] 6412 11/09/18 10:00

Lab Use Only

Shipper Name

Air Bill #

Temp (°C)

Condition

Custody Seals Intact?

Work Order #

Use Only

Reddy

NA

Good

Yes No None

1811221

Notes: PID 1.2 ppm
Field screen

SAMPLE RECEIPT SUMMARY

WORKORDER 1811221A

Client	Phone	Date Promised: 11/16/18 2:00 pm
Ms. Kathy Willy	716-297-6150	Date Completed: 11/16/18
GHD		Date Received: 11/9/18
2055 Niagara Falls Blvd.	Fax	PO#: 256-402-D02-3100
Suite Three	716-297-6296	Project#: Biosperge
Niagara Falls, NY 14304		
Sales Rep: SP		Total \$: \$ 511.00
		Logged By: JT

<u>Fraction</u>	<u>Sample #</u>	<u>Analysis</u>	<u>Collected</u>	<u>Receipt Vac./Pres.</u>	<u>Amount\$</u>
01A	SSD-Leg (Enterprice)	TO-15	10/23/2018	2.8 "Hg	\$117.00
02A	VP-41	TO-15	11/7/2018	0.6 psi	\$117.00
03A	VP-46	TO-15	11/7/2018	2 "Hg	\$117.00
04A	Lab Blank	TO-15	NA	NA	\$0.00
05A	CCV	TO-15	NA	NA	\$0.00
06A	LCS	TO-15	NA	NA	\$0.00
06AA	LCSD	TO-15	NA	NA	\$0.00

Misc. Charges 6 Liter Summa Canister (4) @ \$25.00 each., Shipment 121317	\$100.00
EATL Flow controller (4) @ \$15.00 each., Shipment 121317	\$60.00

Note: Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: Hicksville/22832

BILL TO: Ms. Kathy Willy
GHD
2055 Niagara Falls Blvd.
Suite Three
Niagara Falls, NY 14304

Analysis Code: TO-14A

TERMS:

Reporting Method: TO-15

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

Eurofins Air Toxics, Inc.	Title: Sample Discrepancy Report		Release Date: 03/23/17	
	Form #: F1.3	Revision #: 6	Revision Date: 03/23/17	Page #: 1 of 2

Sample Discrepancy Report

Identification

Initiated By: JT Project ID: 22832 PM: RAS Date: 11/12/2018 Discrepancy Type: ☒ 1. ☒ 2. ☐ 3.

Workorder(s) affected: 1811221A Sample(s) affected: ALL 02A

1. Sample Receipt Discrepancies

Narration Not Required:

- 1.1. ☐ Sample container (cartridge/tube) was received broken, however sample was intact.
- 1.2. ☐ No brass cap on canister.
- 1.3. ☐ Date of Collection noted on first sample, but no arrow down to indicate all samples.
- 1.4. ☐ Sampling year not documented on COC but noted on sample tag.
- 1.5. ☐ Sorbent Sample received outside method required temperature of 2°C to 6°C but less than 6°C.

Notify Lab for further determination:

- 1.6. ☐ Tedlar bag received with minimal volume.

Narration Required in Lab Narrative and Sample Confirmation:

- 1.7. ☐ COC was not filled out in ink.
- 1.8. ☒ COC improperly relinquished / received.
☐ Signature missing ☐ date missing ☒ time missing.
- 1.9. ☐ Sample ID on tags do not match the COC.
- 1.10. ☐ Can numbers do not match the COC.
- 1.11. ☐ Sampling date discrepancy.
- 1.12. ☐ Custody Seal on the outside of the container was
☐ broken / ☐ improperly placed (check one).
- 1.13. ☐ ID-none on the sample Tag/Blank.
- 1.14. ☐ Other (describe below).

Initials: _____ Date: _____

Describe the Discrepancy:

2. Sample Receipt/Screening Discrepancies requiring PM notification

Document on Cover Page of Sample Receipt Confirmation and in Receiving Notes of Lab Narrative

If Section II. is filled out PM must be notified within 24 hrs of initiation

2.1. ☐ COC was not received with samples. 2.2. ☐ Analysis method(s) is ☐ not specified / ☐ incorrectly specified (check one) on the COC. 2.3. ☐ Incorrect sampling media / container for analysis requested. 2.4. ☐ Number of samples on the COC does not match the number of samples that were received. 2.5. ☐ Samples were received expired. 2.6. ☐ Sampling date is not documented for ☐ <u>some</u> / ☐ <u>any</u> samples (check one). 2.7. ☐ Sample received with amount of H₂O in the Tedlar Bag. 2.8. ☐ Sample cannot be analyzed. Container was ☐ received broken / ☐ leaking / ☐ flat / ☐ defective. 2.9. ☐ Tedlar bag / canister received emitting a strong odor; Sample ☐ can / ☐ cannot (check one) be analyzed. 2.10. ☐ Sorbent samples -sampling volume was not provided. 2.11. ☒ Flow controller used – canister samples received at ambient or under pressure.	2.12. ☐ Canister was at ambient pressure at time of pressurization and (check all that apply): ☐ Canister valve was open. ☐ Brass nut was loose/not present. ☐ Sample can be analyzed. ☐ Sample cannot be analyzed. 2.13. ☐ Canister sample received with a vacuum difference >5.0"Hg between the receipt vac. and the final recorded vac. on the COC. ☐ Canister passed leak check in lab <2psi, no evidence sample was compromised. ☐ Canister failed lab leak check, canister found to be leaking. Canister sample compromised. 2.14. ☐ Canister sample received at >15"Hg (<u>not</u> identified as a Trip/Field Blank). 2.15. ☐ Canister Trip Blank received at low vacuum (<25"Hg). 2.16. ☐ Sorbent Sample received outside method required temperature of 2°C to 6°C; ☐ ice / ☐ blue ice (check one) was present. A temp. Blank ☐ was / ☐ was not present (check one). 2.17. ☐ Other (describe below).

Initials: AB

Date: 11/13/2018

Notify Receiving:

Notify PM: ☒

Describe the Discrepancy:

2.11 - 02A received @ 0.6 psi. Client final reading @ 0.0 psi.

2.11 DF 11/15/18 Sample 02A had a blue dot and passed leak check with a pressure of 3.8 psi before analysis and a pressure of 3.4psi after analysis.

0485 of 0494

3. Lab Discrepancies requiring Team Leader/PM notification

Document in Analytical Notes of Lab Narrative

If Section III. is filled out PM must be notified within 24 hrs of initiation

3.1. ☐ Tedlar Bag found to be leaking at the time of analysis; sample ☐ can / ☐ cannot (check one) be analyzed.	3.7. ☐ Reporting Limit was raised.
3.2. ☐ Tedlar Bag found to be flat/low volume; sample cannot be analyzed.	3.8. ☐ Post weight > Pre weight in field/lab Blank for PM10/TSP samples.
3.3. ☐ Samples received with insufficient time to analyze prior to expiration.	3.9. ☐ Sample Trip Blank has a reportable level(s) of target compound(s) present. Re-analysis confirmed the initial result.
3.4. ☐ Canister found to be leaking at the time of analysis.	3.10. ☐ Other (describe below).
3.5. ☐ Sample loss due to instrument malfunction / broken glassware.	
3.6. ☐ Low/high surrogate recoveries noted in QC/sample(s) for extractable samples.	

Initials: _____ Date: _____ Notify Receiving: ☐ Notify PM: ☐

Team Lead Initials: _____ Date: _____

Describe the Discrepancy: _____

How Does this Affect Client: _____

Project Manager Use Only

Project Manager Notification

☒ Section 2 Complete

☐ Section 3 Complete

Action:

- ☐ It is not necessary to notify the client. Narrate the discrepancy in Receiving Notes/Analytical Notes of Lab Narrative.

PM Initials: _____ Date: _____

- ☒ Client notification required. See attached client contact / email, or comments below:

Client Notification:

PM Initials: RAS Person notified: Kathy Willy

Date: 11/15/2018

- ☐ Waiting for Client Reply

Comments: **Proceed and narrate**

☐ Notify Lab Name: _____ Date: _____ Notify Receiving: ☐

- ☐ Additional notifications attached.

Additional Comments:

Other Records

DILUTION FACTORS

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Vacuum}} = \frac{14.7 \text{ psi} + \text{Final Pressure (psi)}}{14.7 \text{ psi} - [(\text{Initial Pressure ("Hg)}) (14.7 \text{ psi} / 30 \text{ "Hg})]}$$

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Pressure}} = \frac{14.7 \text{ psi} + \text{Final Pressure (psi)}}{14.7 \text{ psi} + \text{Initial Pressure (psi)}}$$

Initial Vacuum ("Hg)	5 psi Final Press. Dil. Factor	10 psi Final Press. Dil. Factor	15 psi Final Press. Dil. Factor
0.0	1.34	1.68	2.02
0.5	1.36	1.71	2.05
1.0	1.39	1.74	2.09
1.5	1.41	1.77	2.13
2.0	1.44	1.80	2.16
2.5	1.46	1.83	2.20
3.0	1.49	1.87	2.24
3.5	1.52	1.90	2.29
4.0	1.55	1.94	2.33
4.5	1.58	1.98	2.38
5.0	1.61	2.02	2.42
5.5	1.64	2.06	2.47
6.0	1.68	2.10	2.53
6.5	1.71	2.15	2.58
7.0	1.75	2.19	2.64
7.5	1.79	2.24	2.69
8.0	1.83	2.29	2.76
8.5	1.87	2.34	2.82
9.0	1.91	2.40	2.89
9.5	1.96	2.46	2.96
10.0	2.01	2.52	3.03
10.5	2.06	2.59	3.11
11.0	2.12	2.65	3.19
11.5	2.17	2.72	3.28
12.0	2.23	2.80	3.37
12.5	2.30	2.88	3.46
13.0	2.36	2.97	3.57
13.5	2.44	3.06	3.67
14.0	2.51	3.15	3.79
14.5	2.59	3.25	3.91
15.0	2.68	3.36	4.04
15.5	2.77	3.48	4.18
16.0	2.87	3.60	4.33
16.5	2.98	3.73	4.49
17.0	3.09	3.88	4.66
17.5	3.22	4.03	4.85
18.0	3.35	4.20	5.05
18.5	3.50	4.38	5.27
19.0	3.65	4.58	5.51
19.5	3.83	4.80	5.77
20.0	4.02	5.04	6.06
20.5	4.23	5.31	6.38

Initial Vacuum ("Hg)	5 psi Final Press. Dil. Factor	10 psi Final Press. Dil. Factor	15 psi Final Press. Dil. Factor
21.0	4.47	5.60	6.73
21.5	4.73	5.93	7.13
22.0	5.03	6.30	7.58
22.5	5.36	6.72	8.08
23.0	5.74	7.20	8.66
23.5	6.19	7.76	9.32
24.0	6.70	8.40	10.10
24.5	7.31	9.17	11.02
25.0	8.04	10.08	12.12
25.5	8.93	11.20	13.47
26.0	10.05	12.60	15.15
26.5	11.49	14.40	17.32
27.0	13.40	16.80	20.20
27.5	16.08	20.16	24.24
28.0	20.10	25.20	30.31
28.5	26.80	33.61	40.41
29.0	40.20	50.41	60.61

Initial Pressure (psi)	5 psi Final Press. Dil. Factor	10 psi Final Press. Dil. Factor	15 psi Final Press. Dil. Factor
0.0	1.34	1.68	2.02
0.2	1.32	1.66	1.99
0.4	1.30	1.64	1.97
0.6	1.29	1.61	1.94
0.8	1.27	1.59	1.92
1.0	1.25	1.57	1.89
1.2	1.24	1.55	1.87
1.4	1.22	1.53	1.84
1.6	1.21	1.52	1.82
1.8	1.19	1.50	1.80
2.0	1.18	1.48	1.78
2.2	1.17	1.46	1.76
2.4	1.15	1.44	1.74
2.6	1.14	1.43	1.72
2.8	1.13	1.41	1.70
3.0	1.11	1.40	1.68
3.2	1.10	1.38	1.66
3.4	1.09	1.36	1.64
3.6	1.08	1.35	1.62
3.8	1.06	1.34	1.61
4.0	1.05	1.32	1.59

DILUTION FACTORS

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Pressure}} = \frac{14.7 \text{ psi} + \text{Final Pressure (psi)}}{14.7 \text{ psi} + \text{Initial Pressure (psi)}}$$

Initial Pressure (psi)	5 psi Final Press. Dil. Factor	10 psi Final Press. Dil. Factor	15 psi Final Press. Dil. Factor
0.0	1.34	1.68	2.02
0.2	1.32	1.66	1.99
0.4	1.30	1.64	1.97
0.6	1.29	1.61	1.94
0.8	1.27	1.59	1.92
1.0	1.25	1.57	1.89
1.2	1.24	1.55	1.87
1.4	1.22	1.53	1.84
1.6	1.21	1.52	1.82
1.8	1.19	1.50	1.80
2.0	1.18	1.48	1.78
2.2	1.17	1.46	1.76
2.4	1.15	1.44	1.74
2.6	1.14	1.43	1.72
2.8	1.13	1.41	1.70
3.0	1.11	1.40	1.68
3.2	1.10	1.38	1.66
3.4	1.09	1.36	1.64
3.6	1.08	1.35	1.62
3.8	1.06	1.34	1.61
4.0	1.05	1.32	1.59
4.2	1.04	1.31	1.57
4.4	1.03	1.29	1.55
4.6	1.02	1.28	1.54
4.8	1.01	1.27	1.52
5.0	1.00	1.25	1.51
5.2	NA	1.24	1.49
5.4	NA	1.23	1.48
5.6	NA	1.22	1.46
5.8	NA	1.20	1.45
6.0	NA	1.19	1.43
6.2	NA	1.18	1.42
6.4	NA	1.17	1.41
6.6	NA	1.16	1.39
6.8	NA	1.15	1.38
7.0	NA	1.14	1.37
7.2	NA	1.13	1.36
7.4	NA	1.12	1.34

Initial Pressure (psi)	5 psi Final Press. Dil. Factor	10 psi Final Press. Dil. Factor	15 psi Final Press. Dil. Factor
7.6	NA	1.11	1.33
7.8	NA	1.10	1.32
8.0	NA	1.09	1.31
8.2	NA	1.08	1.30
8.4	NA	1.07	1.29
8.6	NA	1.06	1.27
8.8	NA	1.05	1.26
9.0	NA	1.04	1.25
9.2	NA	1.03	1.24
9.4	NA	1.02	1.23
9.6	NA	1.02	1.22
9.8	NA	1.01	1.21
10.0	NA	1.00	1.20
10.2	NA	NA	1.19
10.4	NA	NA	1.18
10.6	NA	NA	1.17
10.8	NA	NA	1.16
11.0	NA	NA	1.16
11.2	NA	NA	1.15
11.4	NA	NA	1.14
11.6	NA	NA	1.13
11.8	NA	NA	1.12
12.0	NA	NA	1.11
12.2	NA	NA	1.10
12.4	NA	NA	1.10
12.6	NA	NA	1.09
12.8	NA	NA	1.08
13.0	NA	NA	1.07
13.2	NA	NA	1.06
13.4	NA	NA	1.06
13.6	NA	NA	1.05
13.8	NA	NA	1.04
14.0	NA	NA	1.03
14.2	NA	NA	1.03
14.4	NA	NA	1.02
14.6	NA	NA	1.01
14.8	NA	NA	1.01

Compound Listing

TO-15

CAS Number	Compound	Detection Limit	Type
		ppbv	
75-71-8	Freon 12	0.50	
76-14-2	Freon 114	0.50	
67-64-1	Acetone	5.0	
67-63-0	2-Propanol	2.0	
75-15-0	Carbon Disulfide	2.0	
107-05-1	3-Chloropropene	2.0	
75-09-2	Methylene Chloride	5.0	
1634-04-4	Methyl tert-butyl ether	2.0	
156-60-5	trans-1,2-Dichloroethene	0.50	
110-54-3	Hexane	0.50	
75-34-3	1,1-Dichloroethane	0.50	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	2.0	
156-59-2	cis-1,2-Dichloroethene	0.50	
109-99-9	Tetrahydrofuran	0.50	
67-66-3	Chloroform	0.50	
71-55-6	1,1,1-Trichloroethane	0.50	
110-82-7	Cyclohexane	0.50	
56-23-5	Carbon Tetrachloride	0.50	
540-84-1	2,2,4-Trimethylpentane	0.50	
71-43-2	Benzene	0.50	
107-06-2	1,2-Dichloroethane	0.50	
142-82-5	Heptane	0.50	
79-01-6	Trichloroethene	0.50	
78-87-5	1,2-Dichloropropane	0.50	
123-91-1	1,4-Dioxane	2.0	
75-27-4	Bromodichloromethane	0.50	
10061-01-5	cis-1,3-Dichloropropene	0.50	
108-10-1	4-Methyl-2-pentanone	0.50	
108-88-3	Toluene	0.50	
10061-02-6	trans-1,3-Dichloropropene	0.50	
79-00-5	1,1,2-Trichloroethane	0.50	
127-18-4	Tetrachloroethene	0.50	
591-78-6	2-Hexanone	2.0	
124-48-1	Dibromochloromethane	0.50	
106-93-4	1,2-Dibromoethane (EDB)	0.50	
108-90-7	Chlorobenzene	0.50	
100-41-4	Ethyl Benzene	0.50	
108-38-3	m,p-Xylene	0.50	
95-47-6	o-Xylene	0.50	
100-42-5	Styrene	0.50	
75-25-2	Bromoform	0.50	
98-82-8	Cumene	0.50	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	
103-65-1	Propylbenzene	0.50	
622-96-8	4-Ethyltoluene	0.50	
108-67-8	1,3,5-Trimethylbenzene	0.50	

Compound Listing

TO-15

CAS Number	Compound	Detection Limit	Type
		ppbv	
95-63-6	1,2,4-Trimethylbenzene	0.50	
541-73-1	1,3-Dichlorobenzene	0.50	
106-46-7	1,4-Dichlorobenzene	0.50	
100-44-7	alpha-Chlorotoluene	0.50	
95-50-1	1,2-Dichlorobenzene	0.50	
120-82-1	1,2,4-Trichlorobenzene	2.0	
87-68-3	Hexachlorobutadiene	2.0	
2037-26-5	Toluene-d8		
17060-07-0	1,2-Dichloroethane-d4		
460-00-4	4-Bromofluorobenzene		
74-87-3	Chloromethane	5.0	
75-01-4	Vinyl Chloride	0.50	
106-99-0	1,3-Butadiene	0.50	
74-83-9	Bromomethane	5.0	
75-00-3	Chloroethane	2.0	
75-69-4	Freon 11	0.50	
64-17-5	Ethanol	2.0	
76-13-1	Freon 113	0.50	
75-35-4	1,1-Dichloroethene	0.50	

Eurofins Air Toxics		Data Review Checklist		Release Date: 10/12/18
Workorder # 1811221A		Form F1.27	Revision #16	Revision Date: 10/12/18 Page 1 of 2

S	S	S	S	D	Section 1 – Spec Out					
1	2	3	4		Initials/Instrument/Date		S1: <i>MSD17 mjb 11/15/18</i>	S2: <i>11/15/18</i>	S3:	S4:
☒					Project Identification (PID), Project Requirements Table (PRT), Daily QC and ICAL met Criteria					
☒					Lumen QC and ICAL evaluation (ref. SOP/Method) report initialed and in folder					
☒					Manual Integrations included and approved					
☒					Chain of Custody verified for special comments/notes and analyses requested (add comments below)					
☒					Non-standard Target sublist verified (MDL, LOD, RL, control limits, etc.)					
☒					Verified standard expiration dates					

Profile, analyses, reporting, special notes and unusual circumstances: *SI: Zero at, Flag to MDL*

A	A	A	A	D	Section 2 – Sample Analysis					
1	2	3	4		Initials/Date		A1: <i>DF 11/15/18</i>	A2:	A3:	A4:
☒					IS/Surr Recoveries, Dilution Factors, Load Volumes, leg(s) of instrument, Initial/Final Pressures, Canister #s Verified and dilution ranges are met per SOP (ex. Over-ranged/overdiluted)					
☒					a) Tedlar Bag IDs verified against COC b) Tedlar Bag ID confirmed with loading sequence/leg(s) of instrument					
☒					Manual Integrations/Bag or Can Dilution Forms/Re-pressurization Forms/Bag-Can Transfer Forms present (circle all that apply)					
☒					12/24 Hr clock time & Hold Time met for all samples					
☒					Re-analysis of sample(s) has been evaluated for comparability and/or sample(s) has/have been checked for trends (Inf/Eff), field dups/trip blanks, samples following bad loads on CIAAs have been verified (system blks, confirmation runs).					
☒					All runs have been evaluated for potential carry-over (TPHg/non-Target/over-range compounds/ etc.)					

Analytical and special notes: *A1: 02A-03A Hg by OIA 4/1 TL 02A Budok SDR update 11/23/18*

D	D	D	D	T	3	Section 3 – Target Data Reduction		Technical Review Needed?		T:	
1	2	3	4			Initials/Instrument/Date		D1: <i>MSD-17 mjb 11/15/18</i>	D2: <i>11/15/18</i>	D3:	D4:
☒						CAR #		(if applicable)			
☒						Spectra Verified (documentation of spectral defense included if applicable)					
☒						TICs resemble reference spectra/ TICs between sample dups. are consistent (if applicable)					
☒						Lab Narrative is correct					
☒						TPH/NMOC calculations complete and included in folder					

Special notes:

A	3	Section 4- Atlas Data Entry		Lumen verified and included in folder		Circle one: ☒ Yes/No	
	T	Initials/Date: <i>11/16/18</i>		3 rd Tier: <i>11/16/18</i>		(needed only for DOD or per client request)	
☒		Sample Discrepancy Report (SDR) complete and approved (if applicable)					
☒		Manually entered results are checked					
☒		At least one result per sample is verified against Target quant sheets					
☒		Appropriate data qualifier flags are applied					
☒		Final Invoice is correct/ Final PDF report, COC and EDD reviewed and correct					

Special Notes:

Note (1) Please check all the appropriate boxes. Indicate "NA" for any statement that doesn't apply

Note (2) 3rd Tier Report Reviewer and Write Up Reviewer must be separate individuals for DoD & Client Specific Projects

Eurofins Air Toxics Reissued	Data Review Checklist			Release Date: 10/12/18
	Form F1.27	Revision #16	Revision Date: 10/12/18	Page 2 of 2

Workorder # :				Reason for Reissue:
W	T	3T	Q	
				Reissue Request form Present
				Client or QA or Lab contact present with reason for reissue
				Review all affected data
				Report header has correct R1, R2 etc
				The Lab Narrative clearly explains the reissue (Date, Reason and whether client requested)
				Date for Reissue in Report Header matches date in Lab Narrative
				Check Project Profile for correct reporting instructions (multiple clients, # hardcopies, etc)
				Corrective Action issued - #
				The reissued workorder has been approved by QA Manager or a Technical Director
Additional Comments:				
Write Up (Initials/Date)		Tech Review (Initials/Date)		*3rd Tier Review <i>* 3rd Tier Report Review is for DoD & Client Specific projects only</i> (Initials/Date)
				QA Review (Initials/Date)

Workorder # :				Reason for Reissue:
W	T	3T	Q	
				Reissue Request form Present
				Client or QA or Lab contact present with reason for reissue
				Review all affected data
				Report header has correct R1, R2 etc
				The Lab Narrative clearly explains the reissue (Date, Reason and whether client requested)
				Date for Reissue in Report Header matches date in Lab Narrative
				Check Project Profile for correct reporting instructions (multiple clients, # hardcopies, etc)
				Corrective Action issued - #
				The reissued workorder has been approved by QA Manager or a Technical Director
Additional Comments:				
Write Up (Initials/Date)		Tech Review (Initials/Date)		*3rd Tier Review <i>* 3rd Tier Report Review is for DoD & Client Specific projects only</i> (Initials/Date)
				QA Review (Initials/Date)

Note (1) Please check all the appropriate boxes. Indicate "NA" for any statement that doesn't apply

Note (2) 3rd Tier Report Reviewer and Write Up Reviewer must be separate individuals for DoD & Client Specific Projects

Not Applicable

Electronic Comprehensive Validation Package (eCVP)

COMPREHENSIVE VALIDATION PACKAGE

Modified ASTM D-1946

INVENTORY SHEET

Work Order #: 1811221B

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b. Target Compound Raw Data		
-Internal Standard Area and Retention Time Summary		
-Surrogate Recovery Summary (If Applicable)		
-Chromatogram(s) and Ion Profiles (If Applicable)		
3. QC Results and Raw Data		
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b. Surrogate Recover Summary Form (If Applicable)	--	--
c. Internal Standard Summary Form (If Applicable)	--	--
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b. <u>Manual Integrations</u>	--	--
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Comments:

Completed by:

Vera Belitsky

Vera Belitsky / Document Control

11/27/18

(Signature)

(Print Name & Title)

(Date)

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WORK ORDER #: 1811221B

Work Order Summary

CLIENT:	Ms. Kathy Willy GHD 2055 Niagara Falls Blvd. Suite Three Niagara Falls, NY 14304	BILL TO:	Ms. Kathy Willy GHD 2055 Niagara Falls Blvd. Suite Three Niagara Falls, NY 14304
PHONE:	716-297-6150	P.O. #	256-402-D02-3100
FAX:	716-297-6296	PROJECT #	Biosperge
DATE RECEIVED:	11/09/2018	CONTACT:	Rachel Selenis
DATE COMPLETED:	11/16/2018		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
02A	VP-41	Modified ASTM D-1946	0.6 psi	4.6 psi
03A	VP-46	Modified ASTM D-1946	2 "Hg	4.5 psi
04A	Lab Blank	Modified ASTM D-1946	NA	NA
05A	LCS	Modified ASTM D-1946	NA	NA
05AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY:



Technical Director

DATE: 11/16/18

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified ASTM D-1946
GHD
Workorder# 1811221B

Two 6 Liter Summa Canister samples were received on November 09, 2018. The laboratory performed analysis via Modified ASTM Method D-1946 for Helium in air using GC/TCD. The method involves direct injection of 1.0 mL of sample.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	ASTM D-1946	ATL Modifications
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A minimum of 5-point calibration curve is performed. Quantitation is based on average Response Factor.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections > 5 X's the RL.

Receiving Notes

The Chain of Custody (COC) was not relinquished properly. A time was not provided by the field sampler.

Despite the use of flow controllers for sample collection, the final canister vacuum for sample VP-41 was measured at ambient pressure at the laboratory.

Analytical Notes

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the detection limit.

M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Table 1

Client Sample ID	Lab Sample ID	Date Collected	Date Received	Date Extracted	Sample	Date Analyzed	Sample Extract	Sample Condition
					Holding Time (Days)		Holding Time (Days)	
VP-41	1811221B-02A	11/ 7/2018	11/ 9/2018	NA	7	11/14/2018	NA	Good
VP-46	1811221B-03A	11/ 7/2018	11/ 9/2018	NA	7	11/14/2018	NA	Good
Lab Blank	1811221B-04A	NA	NA	NA	NA	11/14/2018	NA	Good
LCS	1811221B-05A	NA	NA	NA	NA	11/14/2018	NA	Good
LCSD	1811221B-05AA	NA	NA	NA	NA	11/14/2018	NA	Good

Sample Results and Raw Data

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946
 Biosperge

Client ID:	VP-41	Date/Time Analyzed:	11/14/18 07:39 PM
Lab ID:	1811221B-02A	Dilution Factor:	1.26
Date/Time Collected:	11/7/18 09:45 AM	Instrument/Filename:	gc10.i / 10111425c
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (%)	LOD (%)	Rpt. Limit (%)	Amount (%)
Helium	7440-59-7	0.0040	0.0091	0.063	Not Detected

US32APPTV002

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/14Nov2018.b/10111425c.d

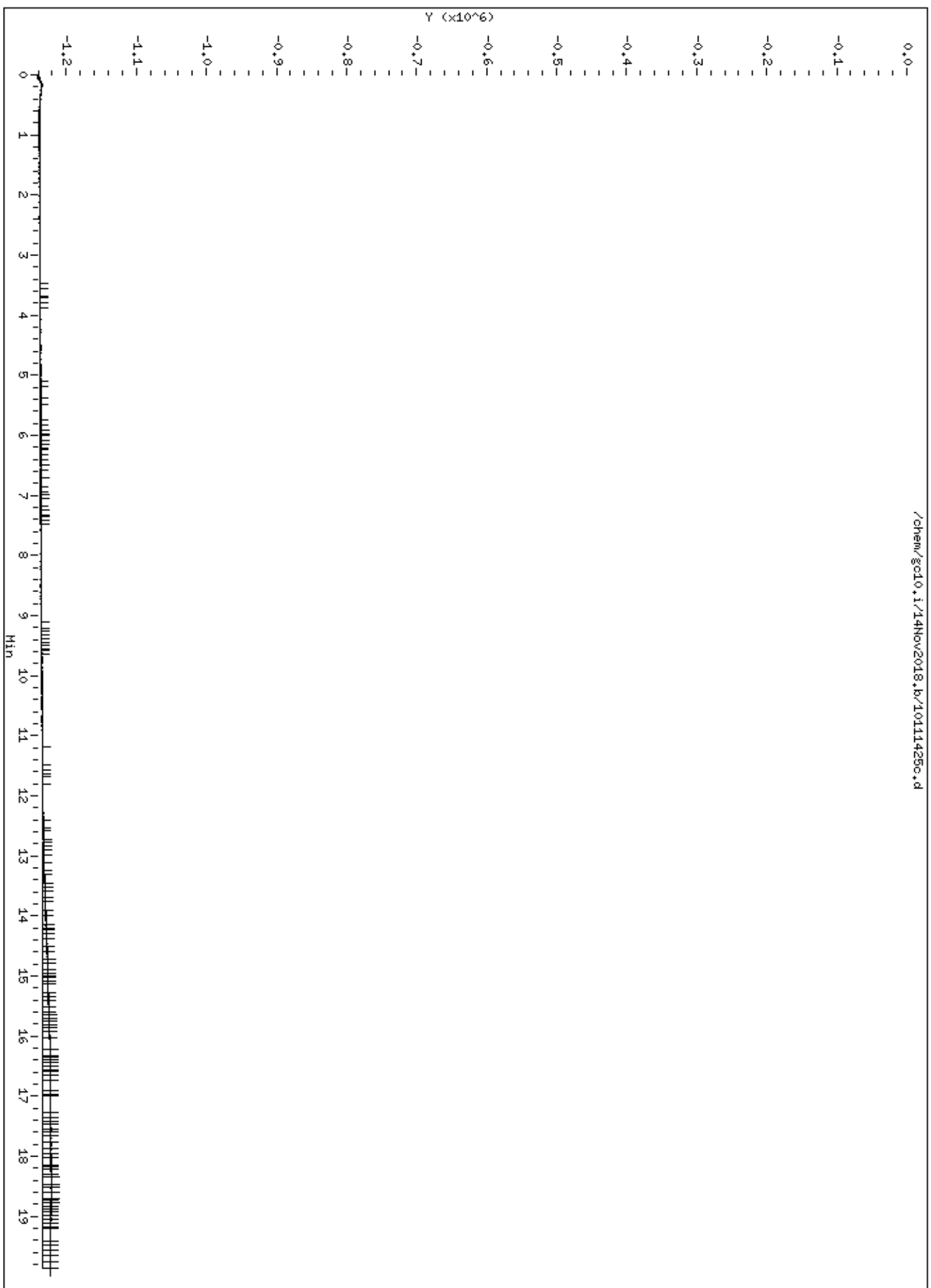
Lab Smp Id:

Inj Date : 14-NOV-2018 19:39

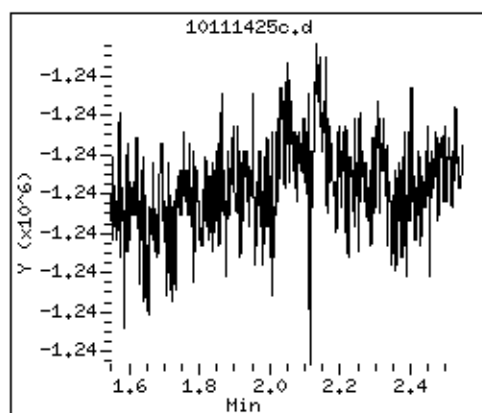
Operator : gh

Inst ID: gc10.i

Smp Info :



1 Helium (Undetected)



NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946
 Biosperge

Client ID:	VP-46	Date/Time Analyzed:	11/14/18 08:38 PM
Lab ID:	1811221B-03A	Dilution Factor:	1.40
Date/Time Collected:	11/7/18 10:45 AM	Instrument/Filename:	gc10.i / 10111426c
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (%)	LOD (%)	Rpt. Limit (%)	Amount (%)
Helium	7440-59-7	0.0044	0.010	0.070	Not Detected

US32APPTV002

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/14Nov2018.b/10111426c.d

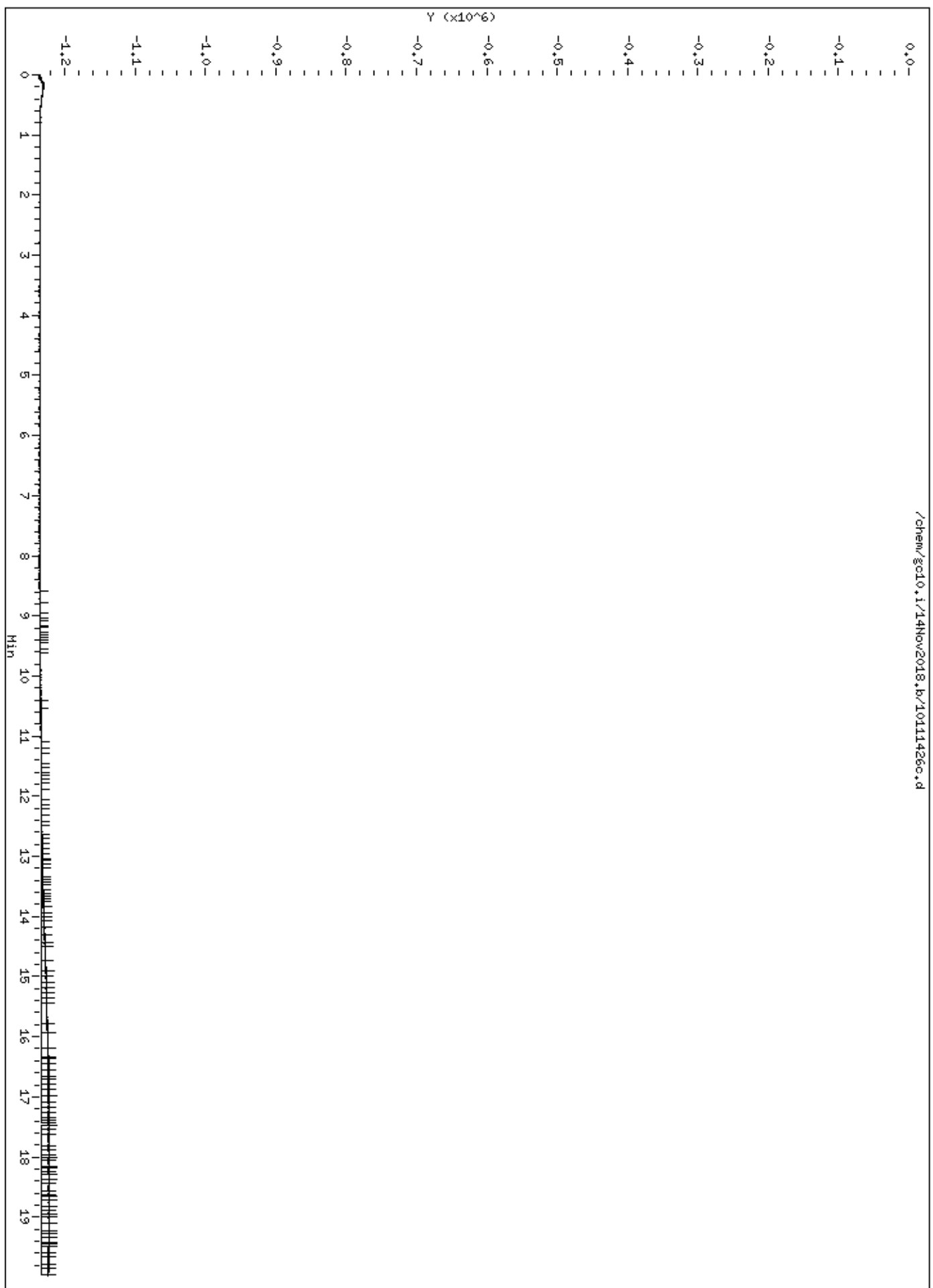
Lab Smp Id:

Inj Date : 14-NOV-2018 20:38

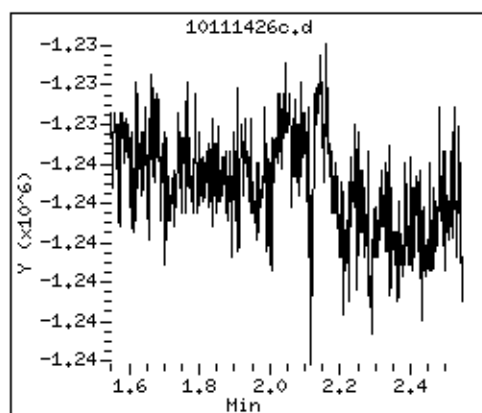
Operator : gh

Inst ID: gc10.i

Smp Info :



1 Helium (Undetected)



QC Results and Raw Data

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946
 Biosperge

Client ID:	Lab Blank	Date/Time Analyzed:	11/14/18 09:53 AM
Lab ID:	1811221B-04A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	gc10.i / 10111405c
Media:	NA - Not Applicable		

Compound	CAS#	MDL (%)	LOD (%)	Rpt. Limit (%)	Amount (%)
Helium	7440-59-7	0.0032	0.0072	0.050	Not Detected

US32APPTV002

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/14Nov2018.b/10111405c.d
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Inj Date : 14-NOV-2018 09:53
Operator : LY Inst ID: gc10.i
Smp Info :
Misc Info : 1.0mL,34341;;Lab Blank;Lab Blank
Comment : GC/TCD
Method : /chem/gc10.i/14Nov2018.b/107n1213.m/108C0420.m/108C0222.m
Meth Date : 14-Nov-2018 09:51 ulyo Quant Type: ESTD
Cal Date : 22-FEB-2018 19:46 Cal File: 10022208c.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: heh2.sub

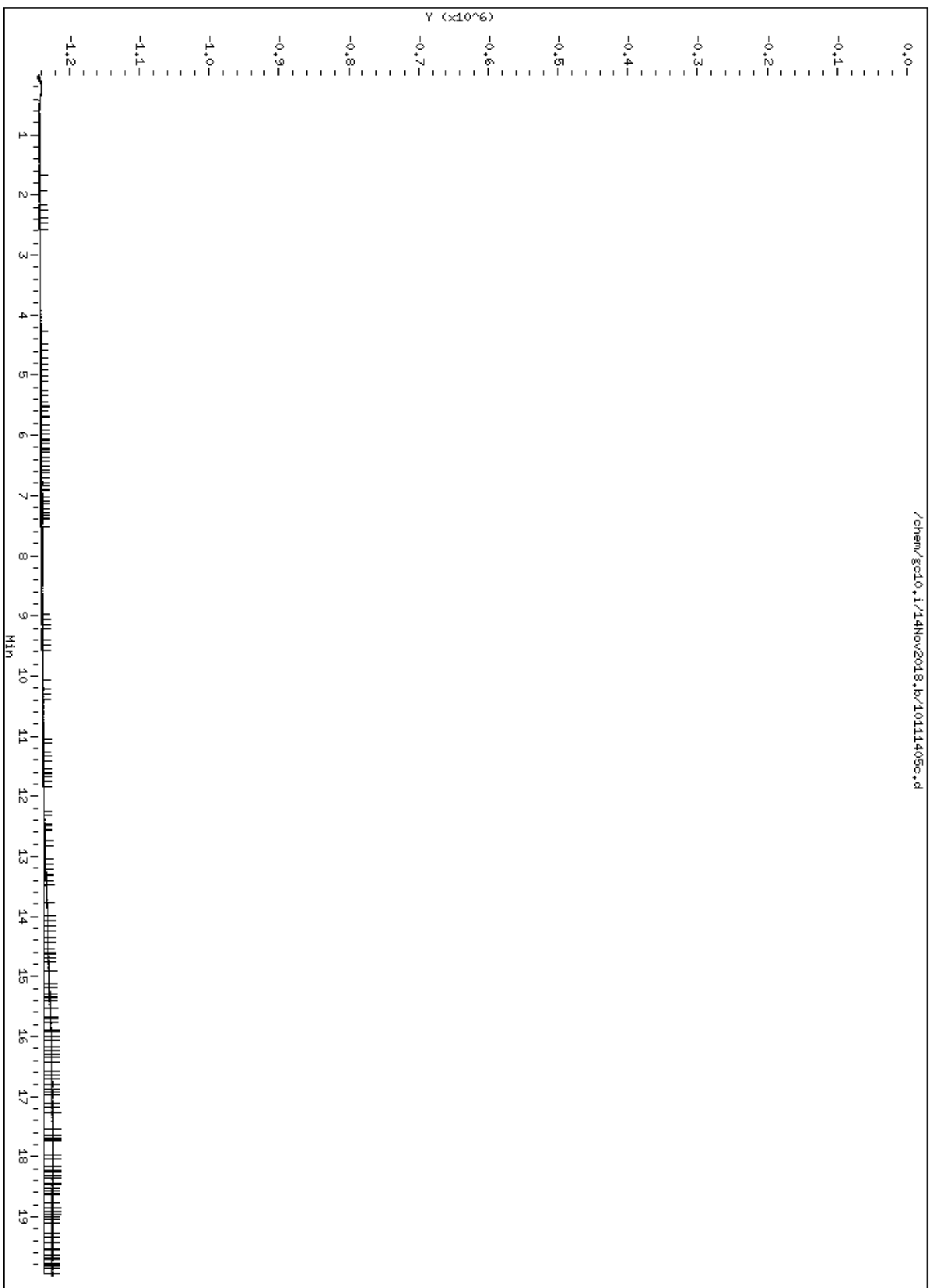
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

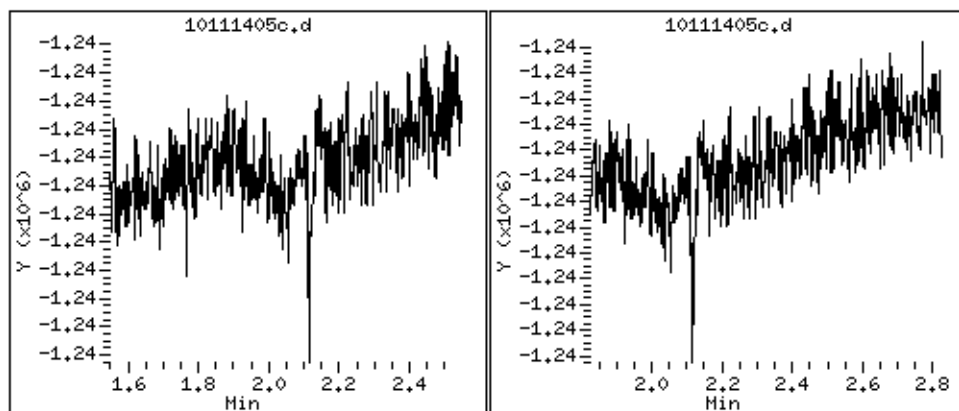
Local Compound Variable

Compounds =====	RT ==	EXP RT	DLT RT	RESPONSE =====	CONCENTRATIONS	
					ON-COLUMN (%) =====	FINAL (%) =====
1 Helium				Compound Not Detected.		
2 Hydrogen				Compound Not Detected.		



1 Helium (Undetected)

2 Hydrogen (Undetected)



SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab Name: Air Toxics Ltd.

Lab File ID: 10111429c.d & 10111402c.d

Lab Sample ID: &

Dilution: 1.00 & 1.00

Client Sample ID: LCS & LCSD

Date Analyzed: 11/14/18 & 11/14/18

CAS Number	Compound	Original		Duplicate		RPD	Result Less Than 5X RL
		Amount	Flags	Amount	Flags		
7440-59-7	Helium	102		101		0.98	

Note: The results appearing in the Amount columns are the raw, unrounded numbers acquired from the instrument.

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-FEB-2018 16:44
 End Cal Date : 22-FEB-2018 19:46
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP Genie
 Method file : /chem/gc10.i/22Feb2018.b/108C0222.m
 Cal Date : 22-Feb-2018 21:52 mskidmor
 Curve Type : Average

Calibration File Names:

Level 1: /chem/gc10.i/22Feb2018.b/10022202c.d
 Level 2: /chem/gc10.i/22Feb2018.b/10022203c.d
 Level 3: /chem/gc10.i/22Feb2018.b/10022208c.d
 Level 4: /chem/gc10.i/22Feb2018.b/10022204c.d
 Level 5: /chem/gc10.i/22Feb2018.b/10022205c.d
 Level 6: /chem/gc10.i/22Feb2018.b/10022206c.d

Compound	0.000e+00 Level 1	0.000e+00 Level 2	0.000e+00 Level 3	0.000e+00 Level 4	0.000e+00 Level 5	0.000e+00 Level 6	RRF	% RSD
1 Helium	282687152	258830926	243184312	233796282	266799350	265993771	258548632	6.821
2 Hydrogen	441209900	484861980	432170632	421025722	423524891	411206529	435666609	6.006

Calibration History

Method : /chem/gc10.i/22Feb2018.b/108C0222.m
Start Cal Date: 19-FEB-2018 16:44
End Cal Date : 22-FEB-2018 19:46

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 0.00000		
22-FEB-2018 15:58	h2	/chem/gc10.i/22Feb2018.b/10022202c.d
19-FEB-2018 20:04	he	/chem/gc10.i/19Feb2018.b/10021917c.d

Cal Level: 2 , Cal Amount: 0.00000		
22-FEB-2018 16:36	h2	/chem/gc10.i/22Feb2018.b/10022203c.d
19-FEB-2018 16:44	he	/chem/gc10.i/19Feb2018.b/10021911c.d

Cal Level: 3 , Cal Amount: 0.00000		
22-FEB-2018 19:46	h2	/chem/gc10.i/22Feb2018.b/10022208c.d
19-FEB-2018 17:29	he	/chem/gc10.i/19Feb2018.b/10021912c.d

Cal Level: 4 , Cal Amount: 0.00000		
22-FEB-2018 17:07	h2	/chem/gc10.i/22Feb2018.b/10022204c.d
19-FEB-2018 17:53	he	/chem/gc10.i/19Feb2018.b/10021913c.d

Cal Level: 5 , Cal Amount: 0.00000		
22-FEB-2018 18:03	h2	/chem/gc10.i/22Feb2018.b/10022205c.d
19-FEB-2018 18:48	he	/chem/gc10.i/19Feb2018.b/10021914c.d

Cal Level: 6 , Cal Amount: 0.00000		
22-FEB-2018 18:52	h2	/chem/gc10.i/22Feb2018.b/10022206c.d
19-FEB-2018 19:14	ngas	/chem/gc10.i/19Feb2018.b/10021915c.d

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-FEB-2018 16:44
End Cal Date : 22-FEB-2018 19:46
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem/gc10.i/22Feb2018.b/107n1213.m/107C0414.m/108C0222.m
Cal Date : 22-Feb-2018 20:22 mskidmor
Curve Type : Average

Calibration File Names:

Level 1: /chem/gc10.i/22Feb2018.b/10022202c.d
Level 2: /chem/gc10.i/22Feb2018.b/10022203c.d
Level 3: /chem/gc10.i/22Feb2018.b/10022208c.d
Level 4: /chem/gc10.i/22Feb2018.b/10022204c.d
Level 5: /chem/gc10.i/22Feb2018.b/10022205c.d
Level 6: /chem/gc10.i/22Feb2018.b/10022206c.d

ms
2/22/18
Please see Calibration History page(s)
for all the calibration files.

Compound	0.000e+00	0.000e+00	0.000e+00	0.000e+00	0.000e+00	0.000e+00	0.000e+00	RRF	% RSD
Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	RRF	% RSD		
1 Helium	282687152	258830926	243184312	233796282	266799350	265993771	258548632		6.821
2 Hydrogen	441209900	484861980	432170632	421025722	423524891	411206529	435666609		6.006

Initial Calibration Narrative

A six point calibration curve was analyzed on February 19, 2018 for Helium and a six point calibration was analyzed on February 22, 2018 for Hydrogen on instrument GC-10. The calibration curve features the following:

- 1.) ICAL is named as 108C0222.m.
- 2.) Units: %
- 3.) The ICAL is based on 1.0 mL loop load
- 4.) Helium Level 1 was reanalyzed due to linearity. The standard was remade
- 5.) The second source file numbers are 10021918c and 10022210c
- 6.) Following are the levels for the ICAL:

Compounds	Level-1	Level-2	Level-3	Level-4	Level-5	Level-6
Helium	0.0495	0.500	2.500	10.0	50.0	100
Hydrogen	0.0100	0.100	0.500	2.00	10.0	25.0

GC-10

Logbook #3007
Leak Test ~~MS~~ MS
MS

USE	File #	Sample Name/Client ID	Can #	Verified Pressure >2psi	Pressure	Amt	DF	Date	Time	Review Init.	Comments
✓	10021909	System Blank	33771	NA	NA	1.0mL 1.00	2/19/18	1572	1572	MS	Helium
✓	10	2787-148-148	32116	✓	✓	(25:50) 1.0mL	✓	1616	1616	MS	Level-1 only
✓	11	2810-691	NA	✓	✓	(25:10) 1.0mL	✓	1644	1644	MS	-2
✓	12	2787-149	329	✓	✓	(25:10) 1.0mL	✓	1729	1729	MS	-3
✓	13	✓	✓	✓	✓	(25:50) 1.0mL	✓	1753	1753	MS	-4
✓	14	2810-798	✓	✓	✓	(25:50) 1.0mL	✓	1848	1848	MS	-5
✓	15	✓	✓	✓	✓	1.0mL	✓	1914	1914	MS	-6
✓	16	Na Lab Blank 33771	✓	✓	✓	1.0mL	✓	1940	1940	MS	Helium
✓	17	2787-148A	32116	✓	✓	1.0mL	✓	2004	2004	MS	Level 1 only
✓	18	2810-691 Ngs NA	✓	✓	✓	1.0mL	✓	2030	2030	MS	EXP. 11/30/20

Calculation check:

File ID: 10021918

Compound:

Helium

Initials:

MS

Sample Amt=

Area Count Sample x

RF

Dilution Factor =

(062144882) x (258548632)

(1.00) =

1.01

Reported Result=

1.01 MS 2/19/18

Reviewed by/Date MS 2/19/18

15

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Data file : /chem/gc10.i/19Feb2018.b/10021918c.d
Lab Smp Id: 2810-691 Ngas Client Smp ID: ICV
Inj Date : 19-FEB-2018 20:30
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/19Feb2018.b/108C0219.m
Meth Date : 20-Feb-2018 13:41 mskidmor Quant Type: ESTD
Cal Date : 19-FEB-2018 20:04 Cal File: 10021917c.d
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: he.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

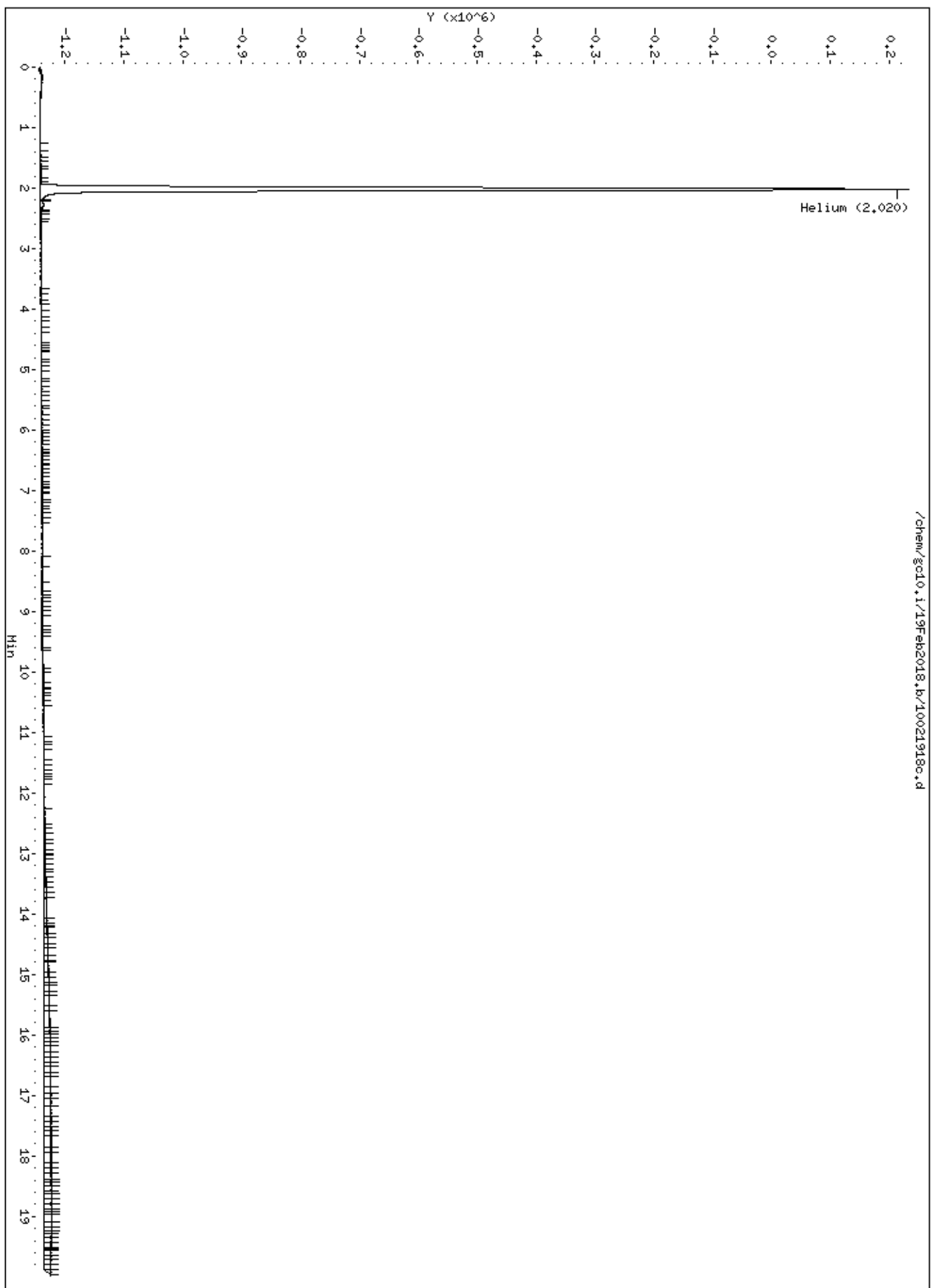
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS	
					ON-COLUMN (%)	FINAL (%)
=====	==	=====	=====	=====	=====	=====
1 Helium	2.020	2.380	-0.360	262144882	1.01391	1.01

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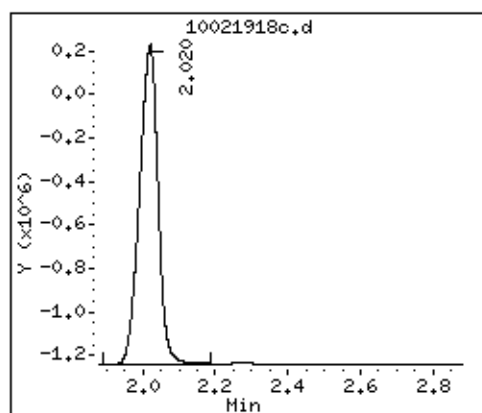
RECOVERY REPORT

Client Name: Client SDG: 19Feb2018
Sample Matrix: GAS Fraction: Atm Gas
Lab Smp Id: 2810-691 Ngas Client Smp ID: ICV
Level: LOW Operator: mjs
Data Type: GC DATA SampleType: LCS
SpikeList File: 2810-691he.spk Quant Type: ESTD
Sublist File: he.sub
Method File: /chem/gc10.i/19Feb2018.b/108C0219.m
Misc Info:

SPIKE COMPOUND	CONC ADDED %	CONC RECOVERED %	% RECOVERED	LIMITS
1 Helium	1.00	1.01	101.39	85-115



1 Helium



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Modified ASTM D-1945/1946

Data file : /chem/gc10.i/22Feb2018.b/10022210c.d
Lab Smp Id: 2299-1522 Client Smp ID: ICV
Inj Date : 22-FEB-2018 20:54
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/22Feb2018.b/107n1213.m/107C0414.m/108C0222.m
Meth Date : 22-Feb-2018 20:22 mskidmor Quant Type: ESTD
Cal Date : 22-FEB-2018 19:46 Cal File: 10022208c.d
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: h2.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

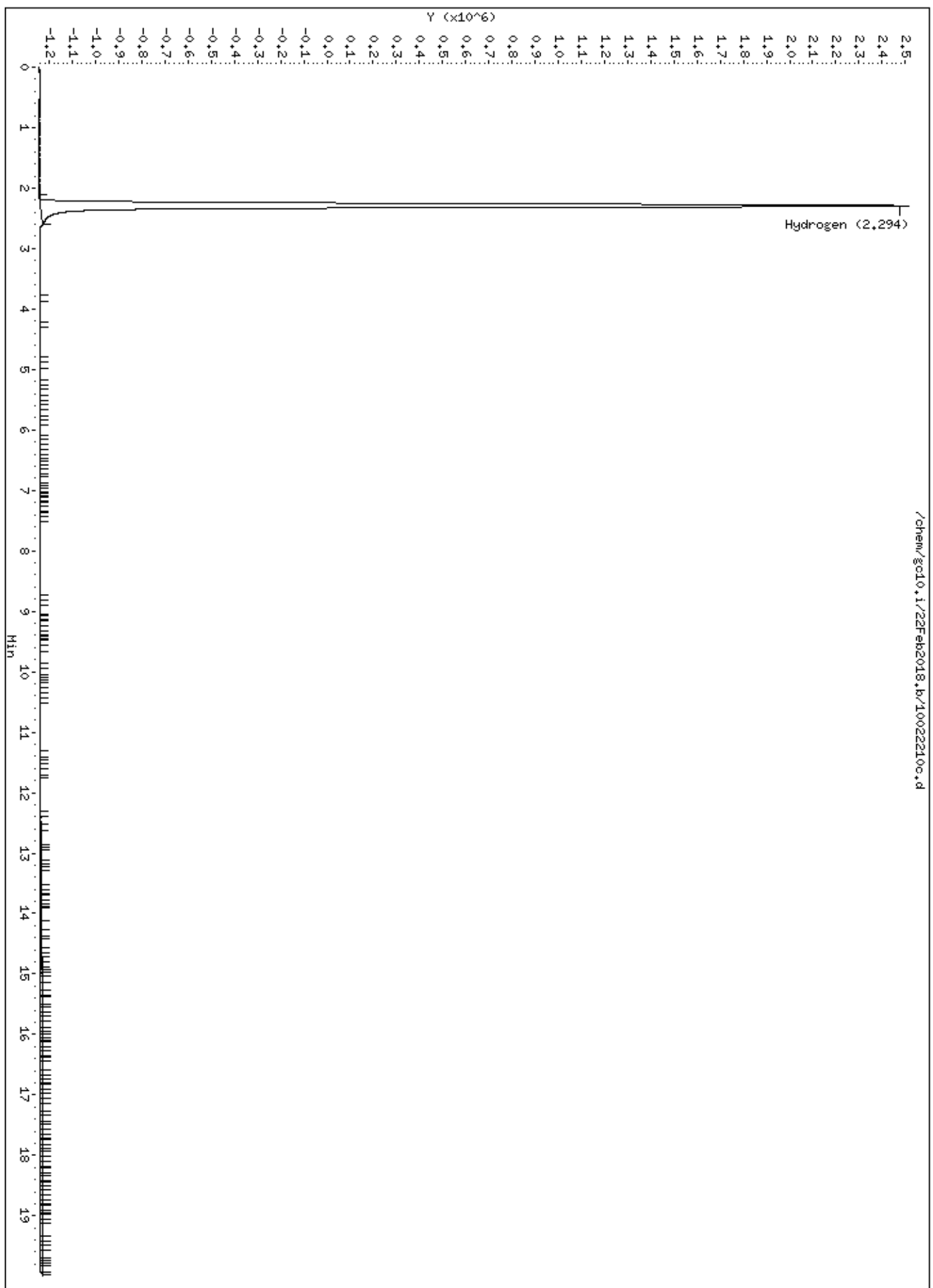
Compounds =====	RT ==	EXP RT =====	DLT RT =====	RESPONSE =====	CONCENTRATIONS	
					ON-COLUMN (%) =====	FINAL (%) =====
2 Hydrogen	2.294	2.294	0.000	844905956	1.93934	1.94

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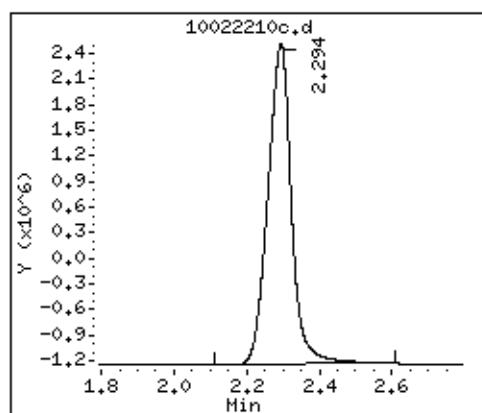
RECOVERY REPORT

Client Name: Client SDG: 22Feb2018
Sample Matrix: GAS Fraction: Atm Gas
Lab Smp Id: 2299-1522 Client Smp ID: ICV
Level: LOW Operator: mjs
Data Type: GC DATA SampleType: LCS
SpikeList File: 2.0%H2.spk Quant Type: ESTD
Sublist File: h2.sub
Method File: /chem/gc10.i/22Feb2018.b/107n1213.m/107C0414.m/108C0222.m
Misc Info:

SPIKE COMPOUND	CONC ADDED %	CONC RECOVERED %	% RECOVERED	LIMITS
2 Hydrogen	2.00	1.94	97.16	85-115



2 Hydrogen



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Modified ASTM D-1945/1946

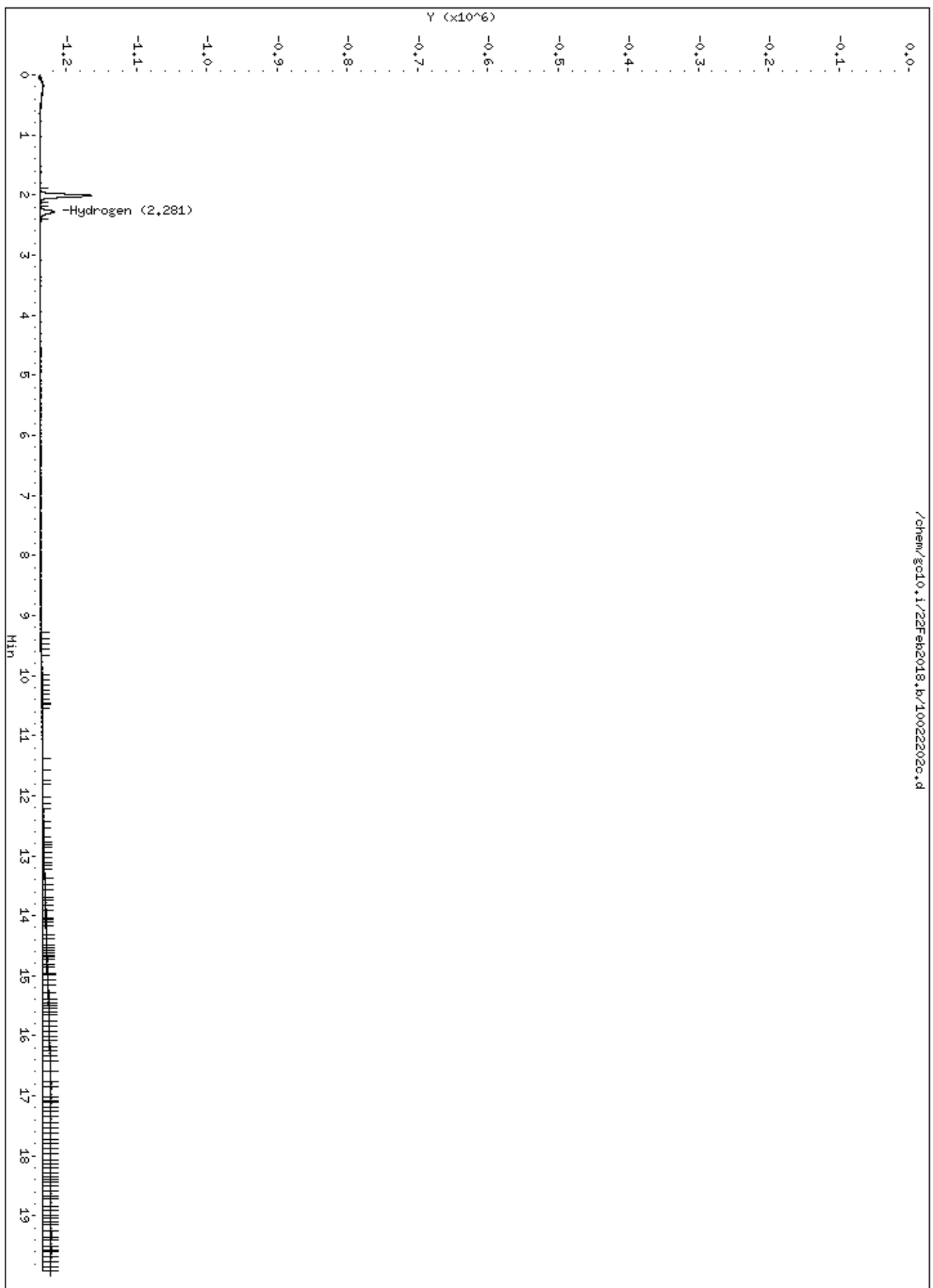
Data file : /chem/gc10.i/22Feb2018.b/10022202c.d
Lab Smp Id: 2787-148A Client Smp ID: Level 1
Inj Date : 22-FEB-2018 15:58
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL, 32116
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/22Feb2018.b/107n1213.m/107C0414.m/108C0222.m
Meth Date : 09-Mar-2018 13:42 lyohanne Quant Type: ESTD
Cal Date : 22-FEB-2018 15:58 Cal File: 10022202c.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: h2.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

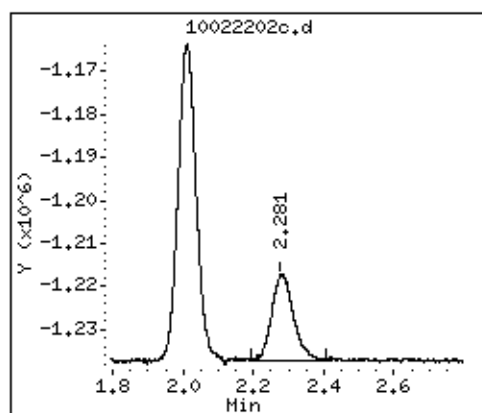
Cpnd Variable

Local Compound Variable

Compounds =====	RT ==	EXP RT =====	DLT RT =====	RESPONSE =====	AMOUNTS	
					CAL-AMT (%)	ON-COL (%)
2 Hydrogen	2.281	2.294	-0.013	4412099	0.01000	0.0101



2 Hydrogen



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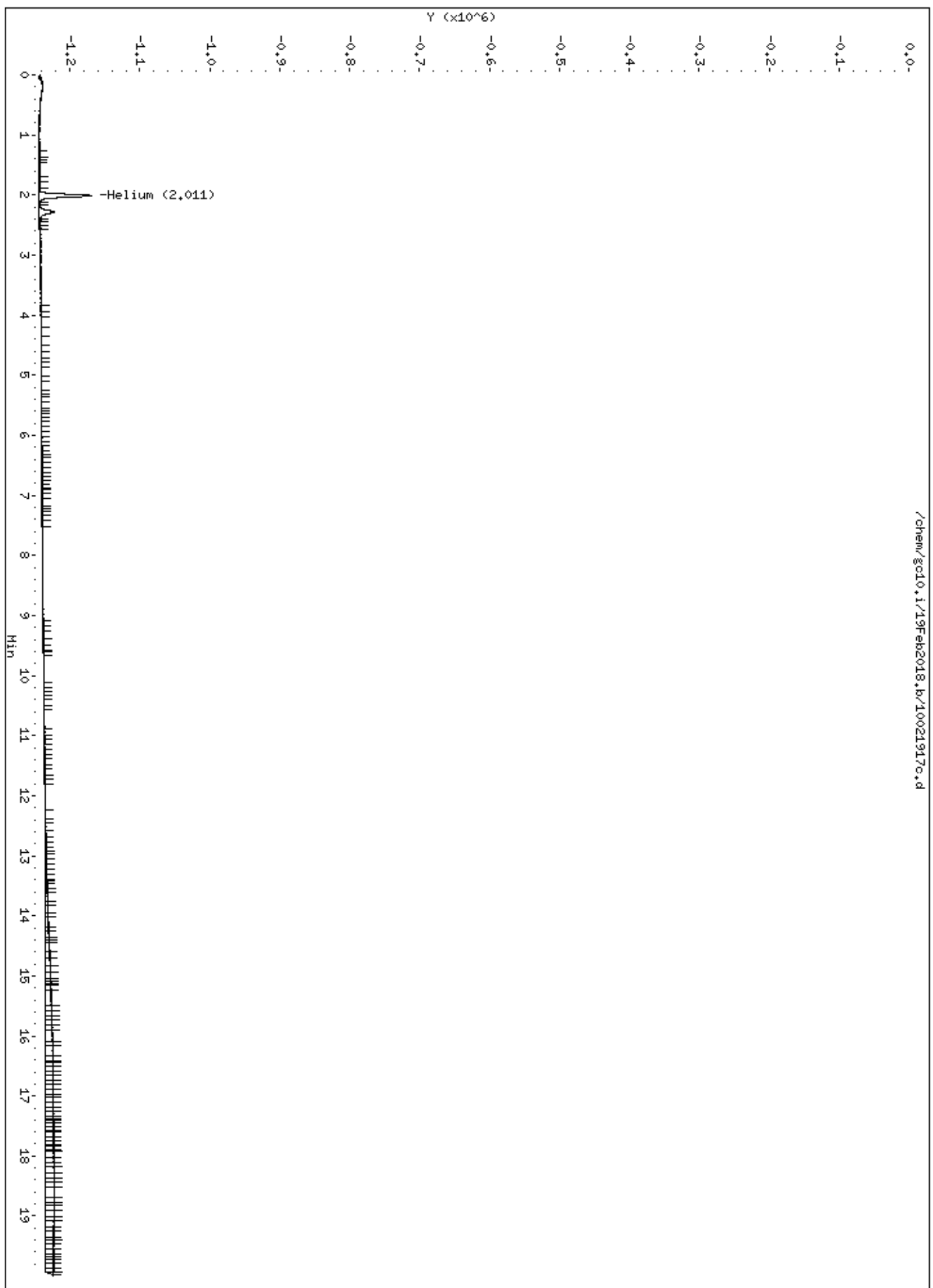
Data file : /chem/gc10.i/19Feb2018.b/10021917c.d
Lab Smp Id: 2787-148A Client Smp ID: Level 1
Inj Date : 19-FEB-2018 20:04
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL, 32116
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/19Feb2018.b/108C0219.m
Meth Date : 20-Feb-2018 13:40 mskidmor Quant Type: ESTD
Cal Date : 19-FEB-2018 20:04 Cal File: 10021917c.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: he.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

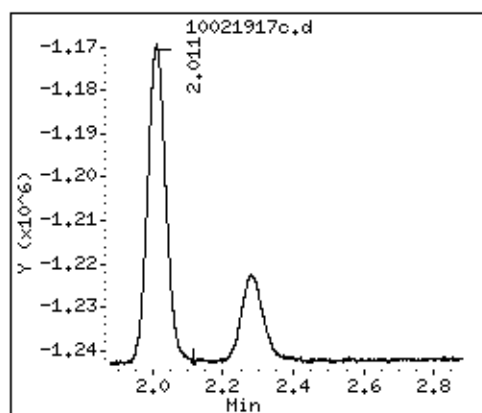
Cpnd Variable

Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS	
					CAL-AMT (%)	ON-COL (%)
=====	==	=====	=====	=====	=====	=====
1 Helium	2.011	2.380	-0.369	13993014	0.04950	0.0541



1 Helium



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Modified ASTM D-1945/1946

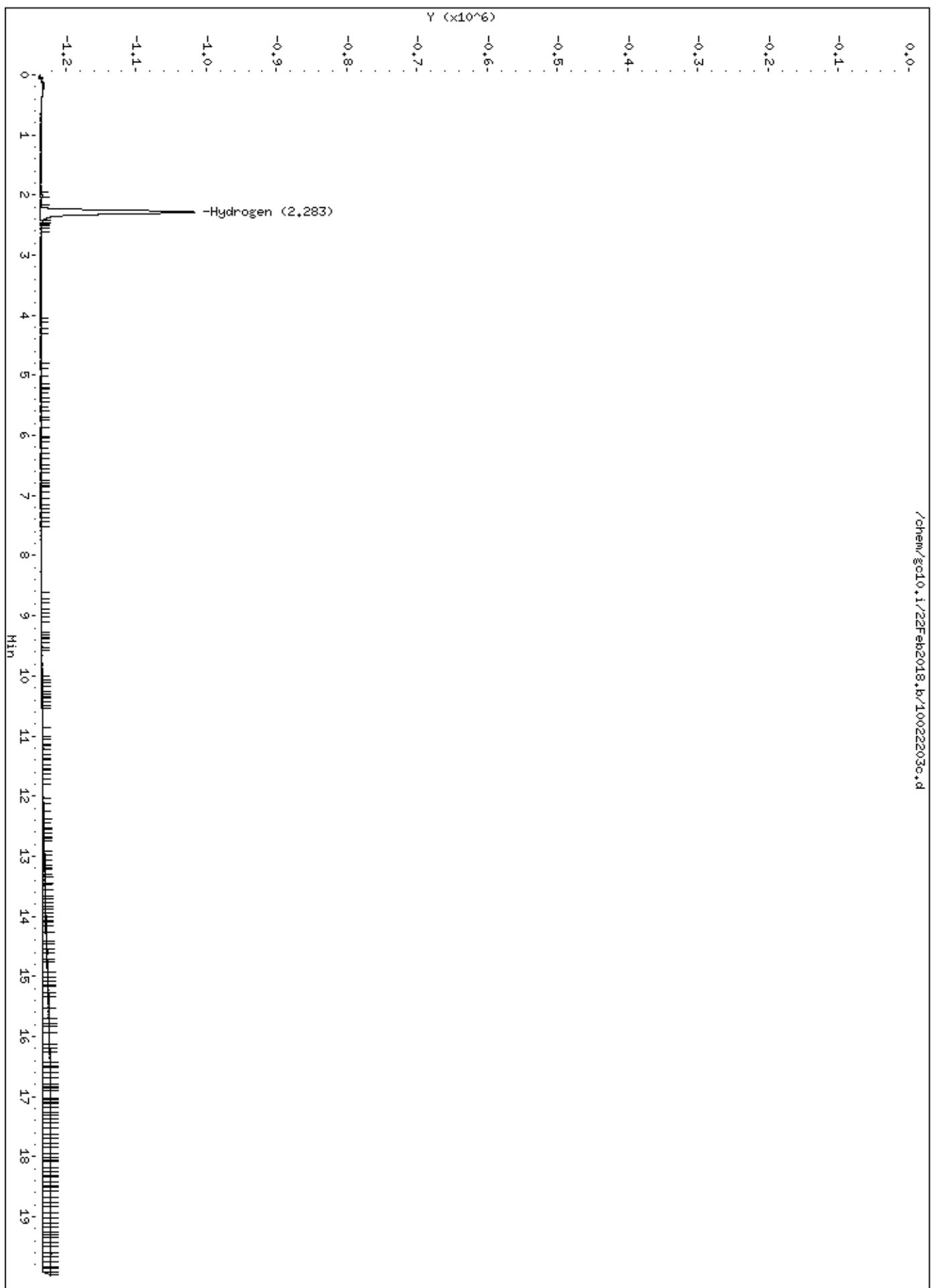
Data file : /chem/gc10.i/22Feb2018.b/10022203c.d
Lab Smp Id: 2299-1684 Client Smp ID: Level 2
Inj Date : 22-FEB-2018 16:36
Operator : mjs Inst ID: gc10.i
Smp Info : (5:100)1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/22Feb2018.b/107n1213.m/107C0414.m/108C0222.m
Meth Date : 09-Mar-2018 13:42 lyohanne Quant Type: ESTD
Cal Date : 22-FEB-2018 16:36 Cal File: 10022203c.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: h2.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

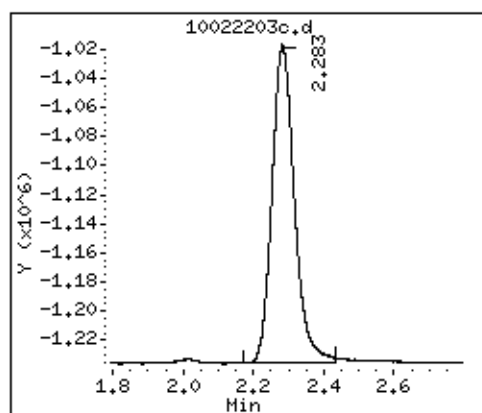
Cpnd Variable

Local Compound Variable

Compounds =====	RT ==	EXP RT =====	DLT RT =====	RESPONSE =====	AMOUNTS	
					CAL-AMT (%)	ON-COL (%)
2 Hydrogen	2.283	2.294	-0.011	48486198	0.10000	0.111



2 Hydrogen



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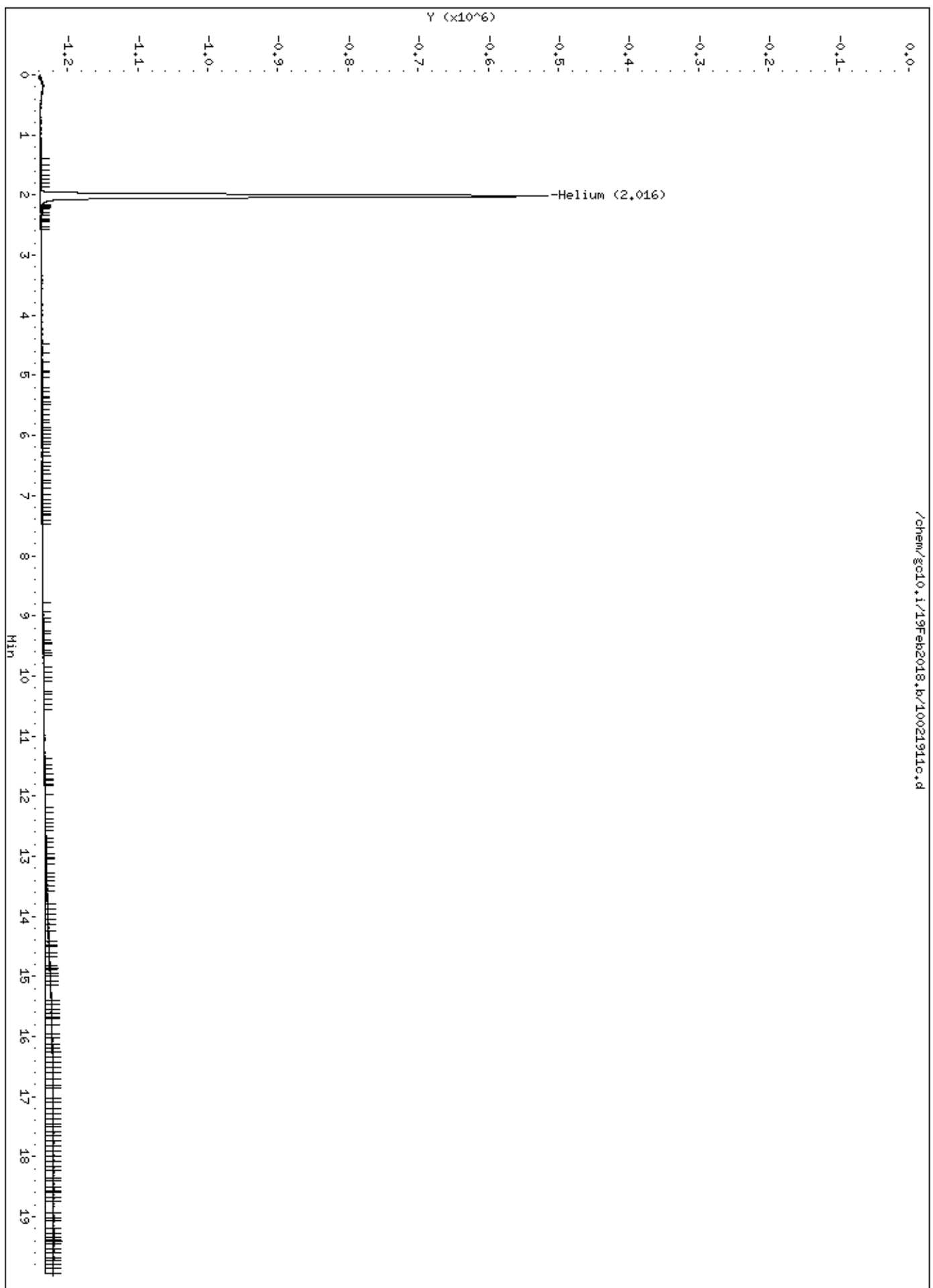
Data file : /chem/gc10.i/19Feb2018.b/10021911c.d
Lab Smp Id: 2810-691 Client Smp ID: Level 2
Inj Date : 19-FEB-2018 16:44
Operator : mjs Inst ID: gc10.i
Smp Info : (25:50)1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/19Feb2018.b/108C0219.m
Meth Date : 20-Feb-2018 13:40 mskidmor Quant Type: ESTD
Cal Date : 19-FEB-2018 16:44 Cal File: 10021911c.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: he.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

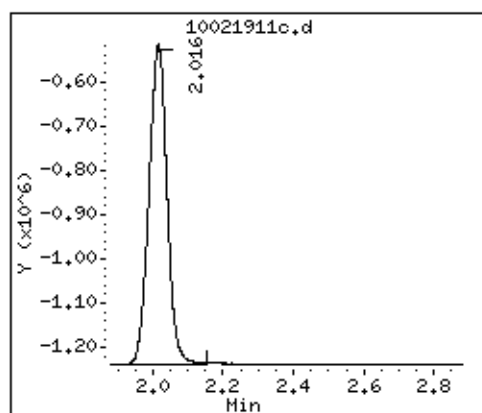
Cpnd Variable

Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS	
					CAL-AMT (%)	ON-COL (%)
=====	==	=====	=====	=====	=====	=====
1 Helium	2.016	2.380	-0.364	129415463	0.50000	0.500



1 Helium



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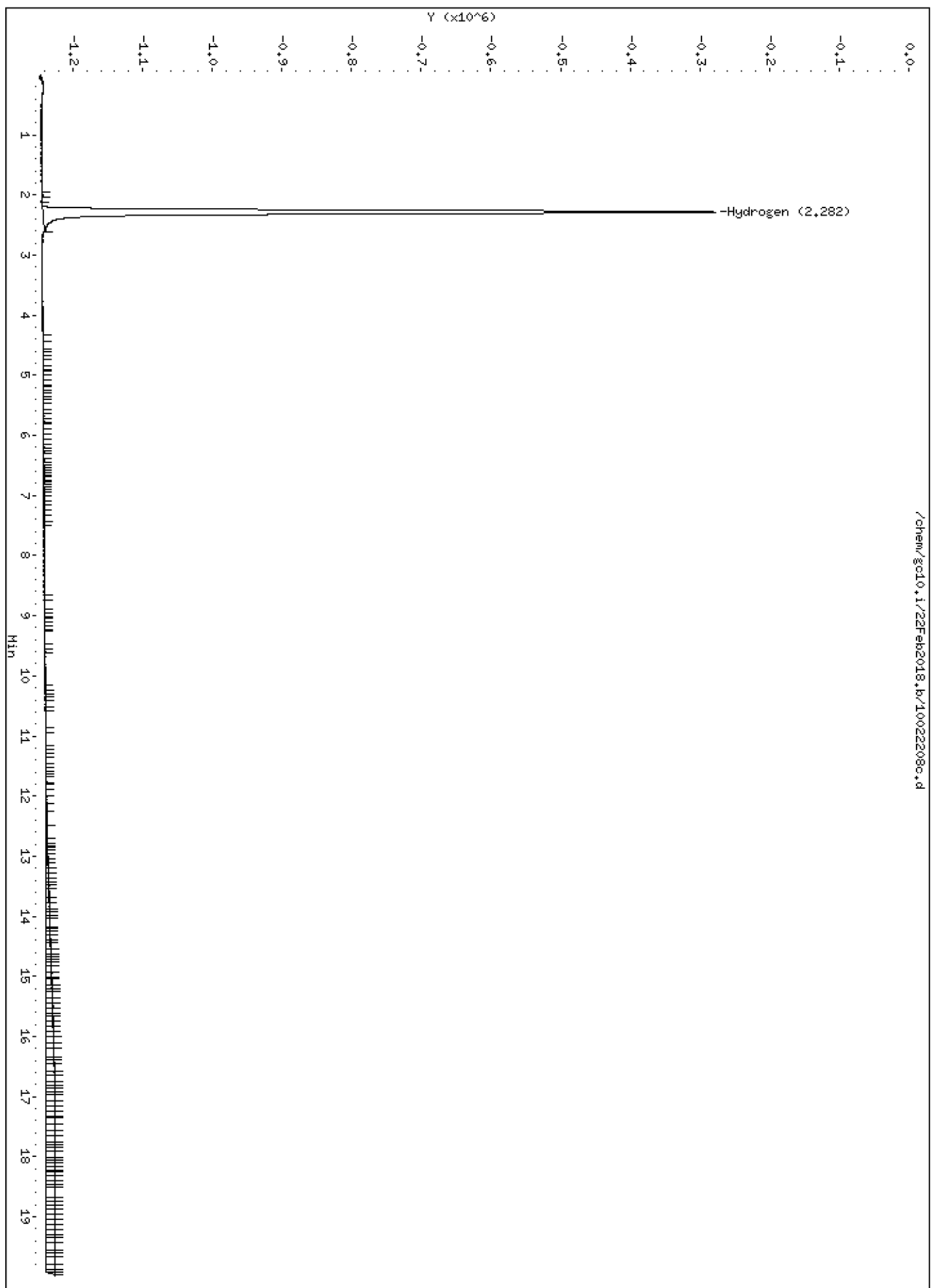
Data file : /chem/gc10.i/22Feb2018.b/10022208c.d
Lab Smp Id: 2299-1684 Client Smp ID: Level 3
Inj Date : 22-FEB-2018 19:46
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/22Feb2018.b/107n1213.m/107C0414.m/108C0222.m
Meth Date : 22-Feb-2018 20:22 mskidmor Quant Type: ESTD
Cal Date : 22-FEB-2018 19:46 Cal File: 10022208c.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: h2.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

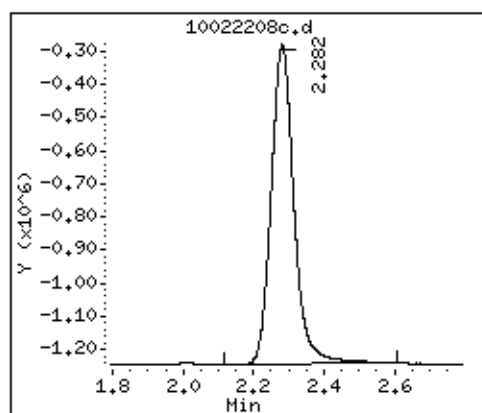
Cpnd Variable

Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS	
					CAL-AMT (%)	ON-COL (%)
=====	==	=====	=====	=====	=====	=====
2 Hydrogen	2.282	2.294	-0.012	216085316	0.50000	0.496



2 Hydrogen



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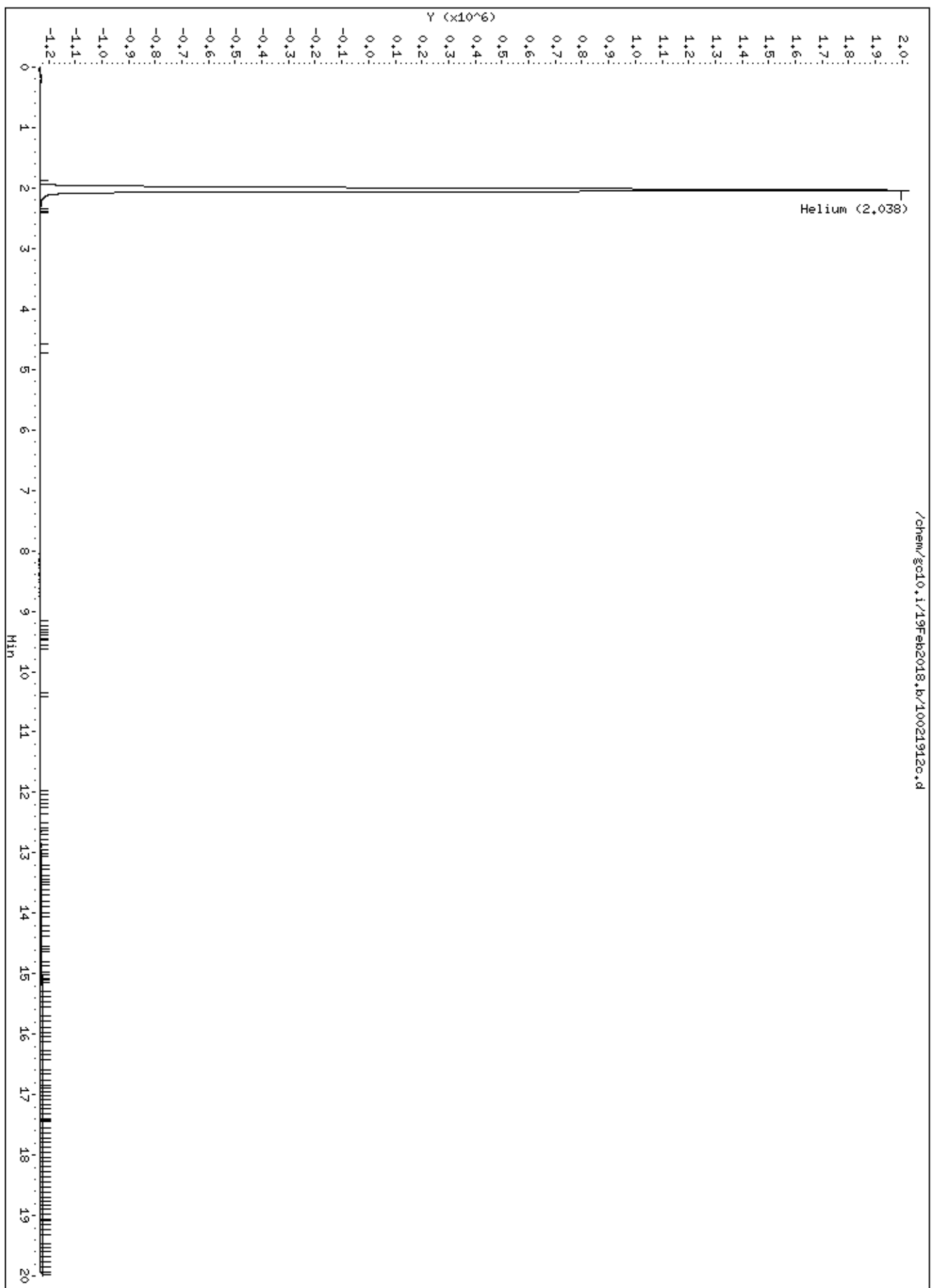
Data file : /chem/gc10.i/19Feb2018.b/10021912c.d
Lab Smp Id: 2787-149 Client Smp ID: Level 3
Inj Date : 19-FEB-2018 17:29
Operator : mjs Inst ID: gc10.i
Smp Info : (25:100)1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/19Feb2018.b/108C0219.m
Meth Date : 20-Feb-2018 13:40 mskidmor Quant Type: ESTD
Cal Date : 19-FEB-2018 17:29 Cal File: 10021912c.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: he.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

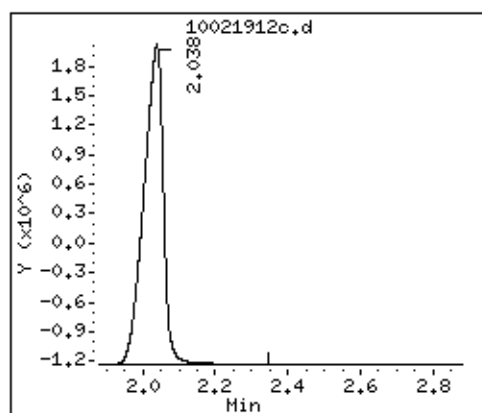
Cpnd Variable

Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS	
					CAL-AMT (%)	ON-COL (%)
=====	==	=====	=====	=====	=====	=====
1 Helium	2.038	2.380	-0.342	607960779	2.50000	2.42



1 Helium



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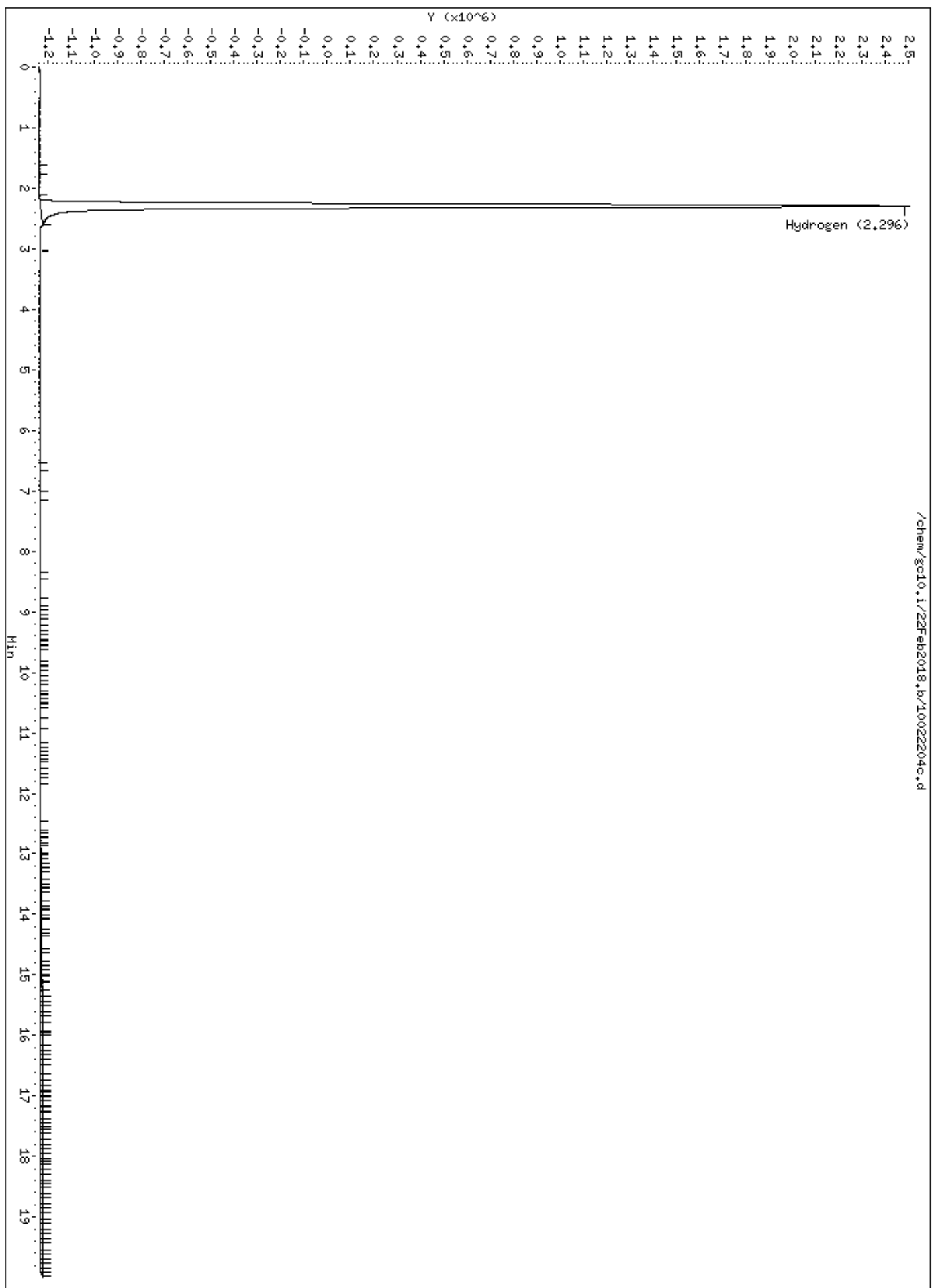
Data file : /chem/gc10.i/22Feb2018.b/10022204c.d
Lab Smp Id: 2299-1684 Client Smp ID: Level 4
Inj Date : 22-FEB-2018 17:07
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/22Feb2018.b/107n1213.m/107C0414.m/108C0222.m
Meth Date : 09-Mar-2018 13:42 lyohanne Quant Type: ESTD
Cal Date : 22-FEB-2018 17:07 Cal File: 10022204c.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: h2.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

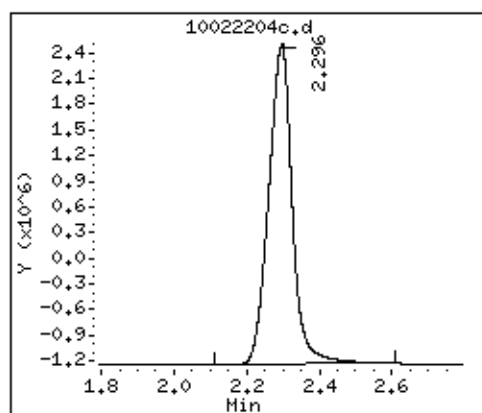
Cpnd Variable

Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS	
					CAL-AMT (%)	ON-COL (%)
2 Hydrogen	2.296	2.294	0.002	842051444	2.00000	1.93



2 Hydrogen



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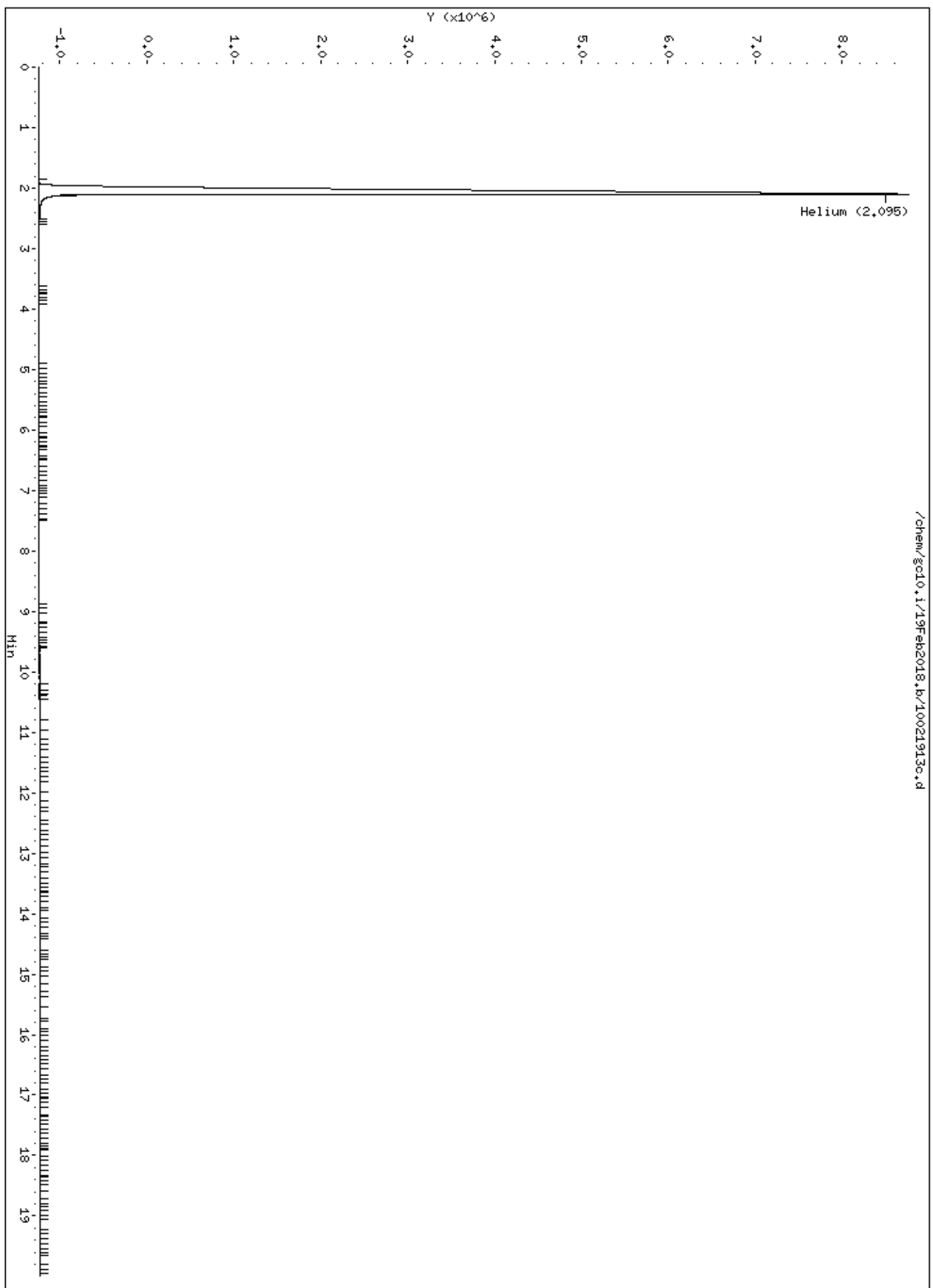
Data file : /chem/gc10.i/19Feb2018.b/10021913c.d
Lab Smp Id: 2787-149 Client Smp ID: Level 4
Inj Date : 19-FEB-2018 17:53
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/19Feb2018.b/108C0219.m
Meth Date : 20-Feb-2018 13:40 mskidmor Quant Type: ESTD
Cal Date : 19-FEB-2018 17:53 Cal File: 10021913c.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: he.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

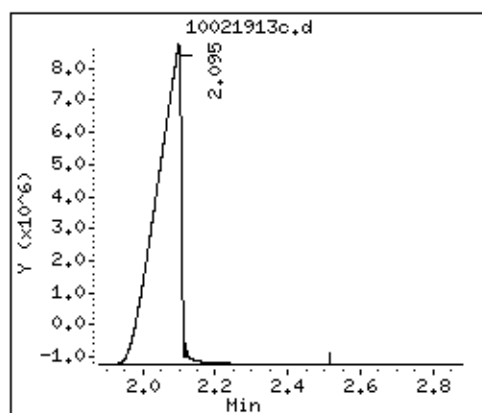
Cpnd Variable

Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS	
					CAL-AMT (%)	ON-COL (%)
=====	==	=====	=====	=====	=====	=====
1 Helium	2.095	2.380	-0.285	2337962821	10.0000	9.53



1 Helium



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Modified ASTM D-1945/1946

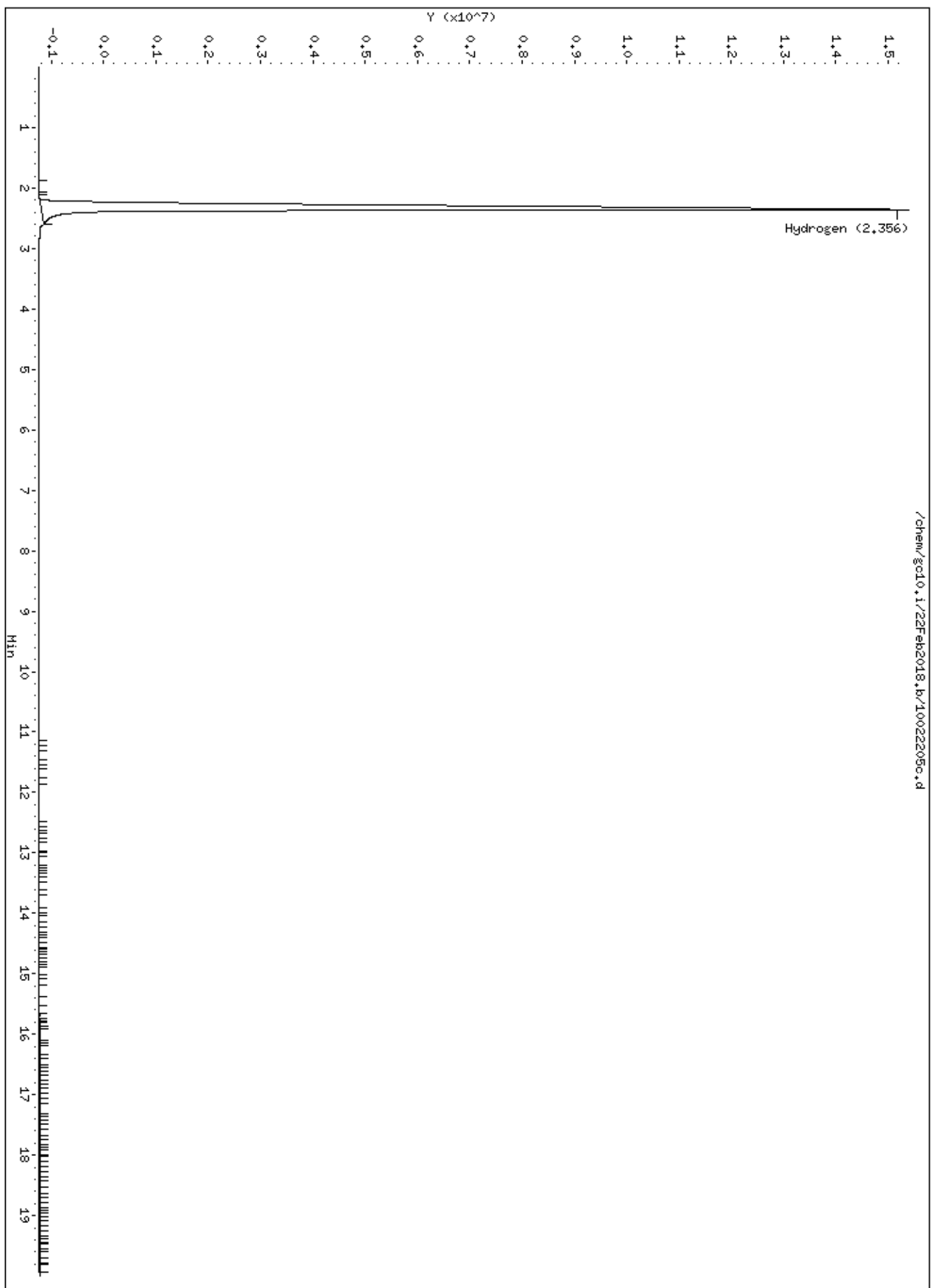
Data file : /chem/gc10.i/22Feb2018.b/10022205c.d
Lab Smp Id: 2810-799 Client Smp ID: Level 5
Inj Date : 22-FEB-2018 18:03
Operator : mjs Inst ID: gc10.i
Smp Info : (10:100)1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/22Feb2018.b/107n1213.m/107C0414.m/108C0222.m
Meth Date : 09-Mar-2018 13:42 lyohanne Quant Type: ESTD
Cal Date : 22-FEB-2018 18:03 Cal File: 10022205c.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: h2.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

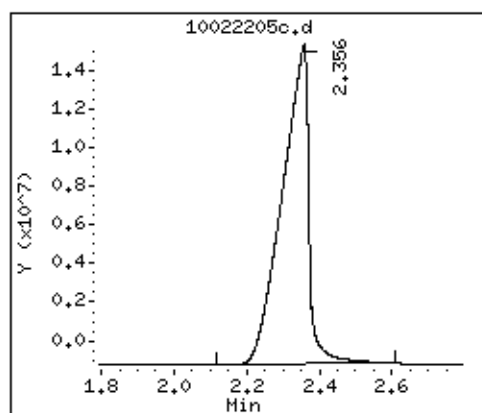
Cpnd Variable

Local Compound Variable

Compounds =====	RT ==	EXP RT =====	DLT RT =====	RESPONSE =====	AMOUNTS	
					CAL-AMT (%)	ON-COL (%)
					=====	=====
2 Hydrogen	2.356	2.294	0.062	4235248906	10.0000	9.72



2 Hydrogen



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Modified ASTM D-1945/1946

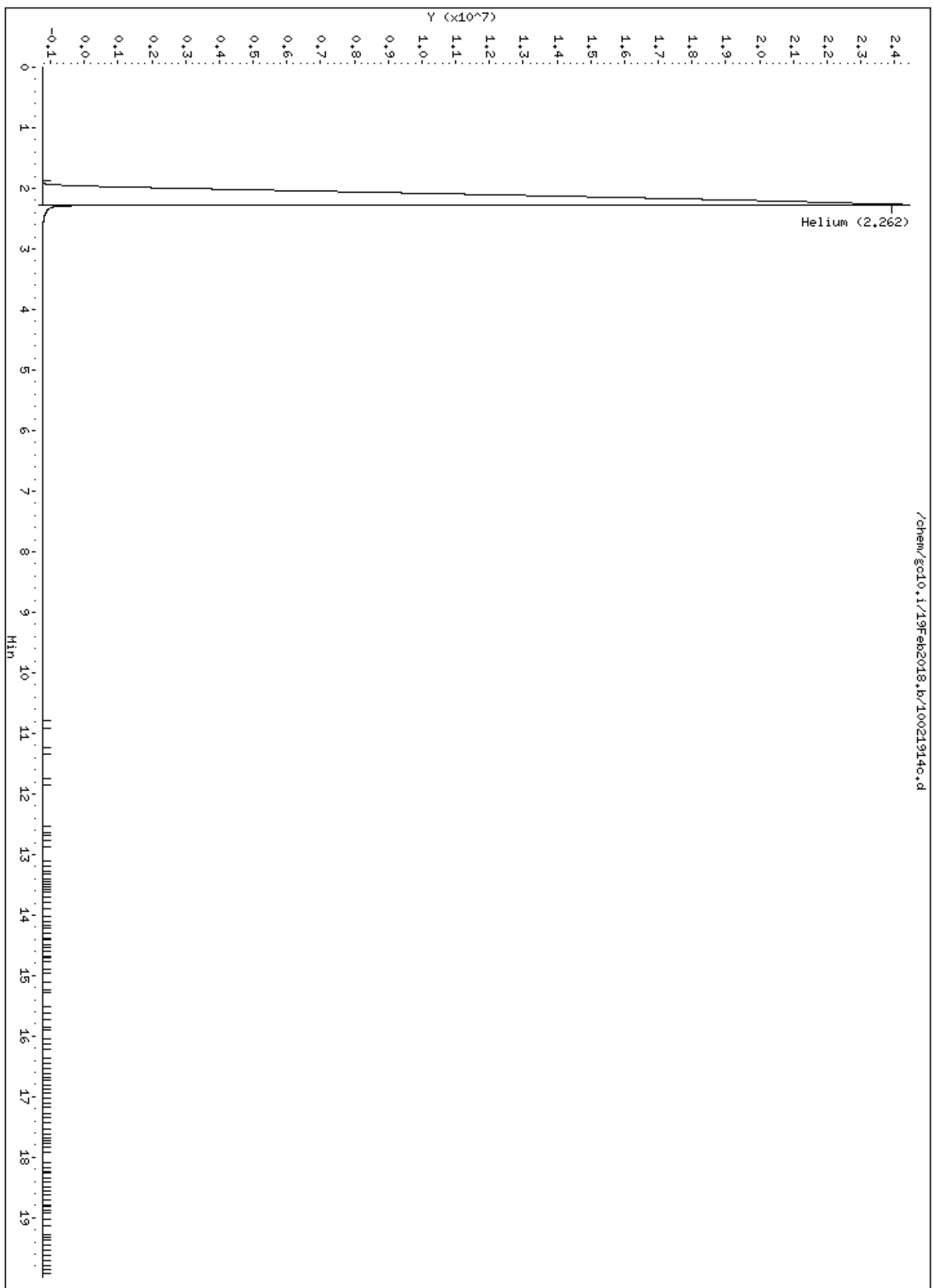
Data file : /chem/gc10.i/19Feb2018.b/10021914c.d
Lab Smp Id: 2810-798 Client Smp ID: Level 5
Inj Date : 19-FEB-2018 18:48
Operator : mjs Inst ID: gc10.i
Smp Info : (25:50)1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/19Feb2018.b/108C0219.m
Meth Date : 20-Feb-2018 13:40 mskidmor Quant Type: ESTD
Cal Date : 19-FEB-2018 18:48 Cal File: 10021914c.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: he.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

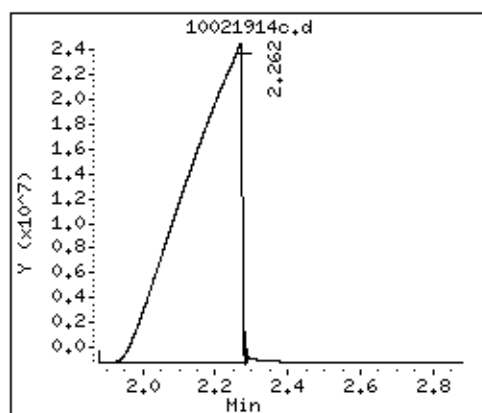
Cpnd Variable

Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS	
					CAL-AMT (%)	ON-COL (%)
=====	==	=====	=====	=====	=====	=====
1 Helium	2.262	2.380	-0.118	13339967502	50.0000	53.2



1 Helium



Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

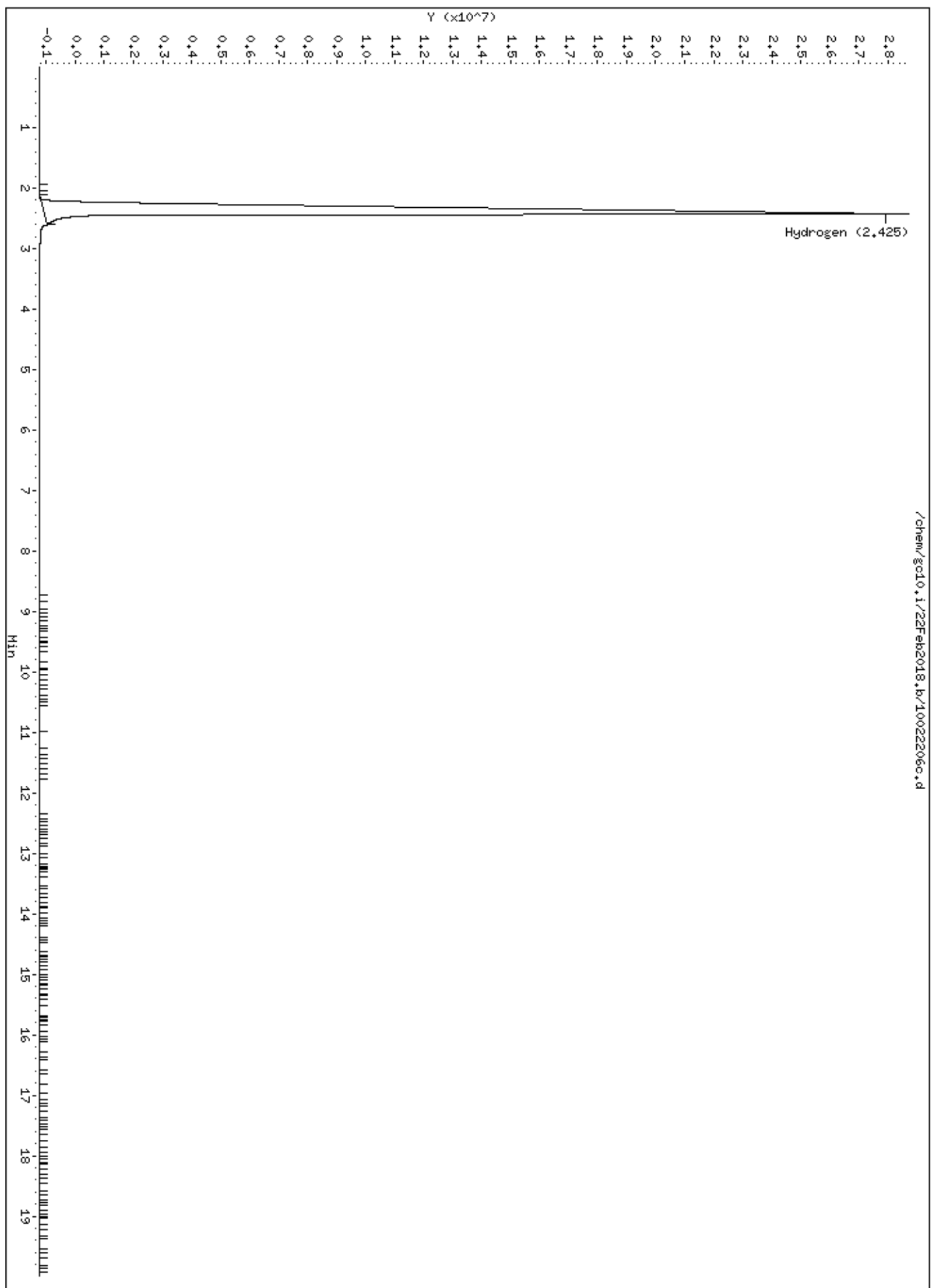
Data file : /chem/gc10.i/22Feb2018.b/10022206c.d
Lab Smp Id: 2810-799 Client Smp ID: Level 6
Inj Date : 22-FEB-2018 18:52
Operator : mjs Inst ID: gc10.i
Smp Info : (25:100)1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/22Feb2018.b/107n1213.m/107C0414.m/108C0222.m
Meth Date : 09-Mar-2018 13:42 lyohanne Quant Type: ESTD
Cal Date : 22-FEB-2018 18:52 Cal File: 10022206c.d
Als bottle: 1 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: h2.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

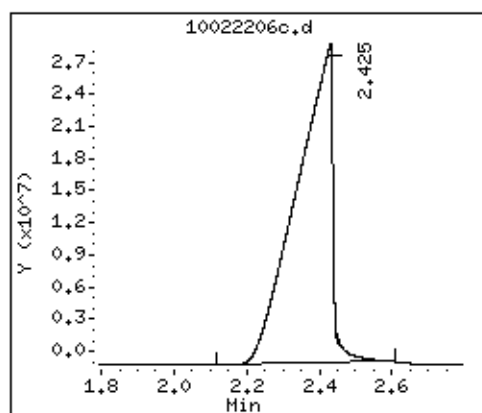
Cpnd Variable

Local Compound Variable

Compounds =====	RT ==	EXP RT =====	DLT RT =====	RESPONSE =====	AMOUNTS	
					CAL-AMT (%) =====	ON-COL (%) =====
2 Hydrogen	2.425	2.294	0.131	10280163225	25.0000	23.6



2 Hydrogen



Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Feb2018.b/10021915c.d
Lab Smp Id: 2810-798 Client Smp ID: Level 6
Inj Date : 19-FEB-2018 19:14
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL,
Misc Info :
Comment : GC/TCD
Method : /chem/gc10.i/19Feb2018.b/108C0219.m
Meth Date : 20-Feb-2018 13:40 mskidmor Quant Type: ESTD
Cal Date : 19-FEB-2018 19:14 Cal File: 10021915c.d
Als bottle: 1 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: he.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

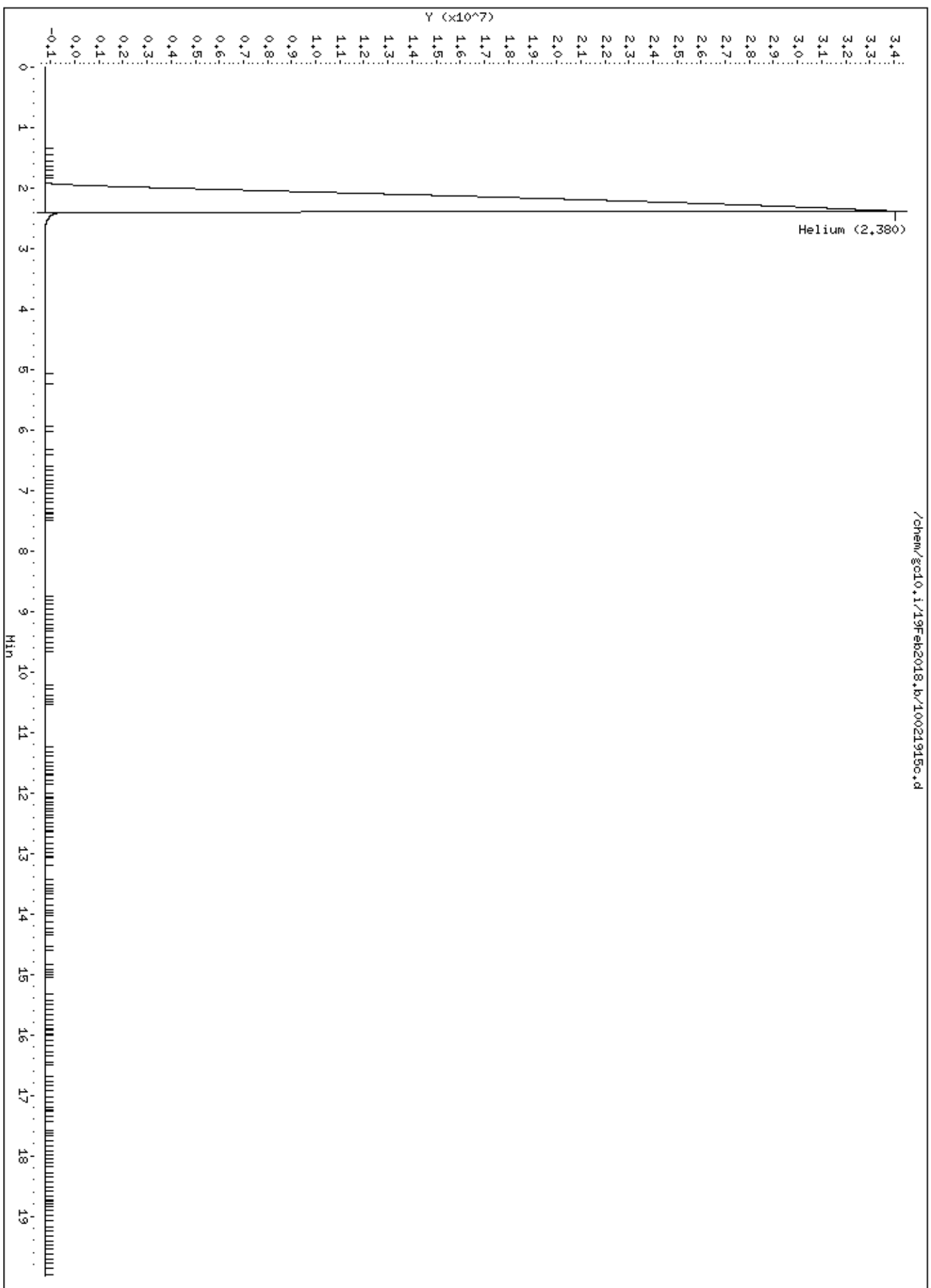
Cpnd Variable

Local Compound Variable

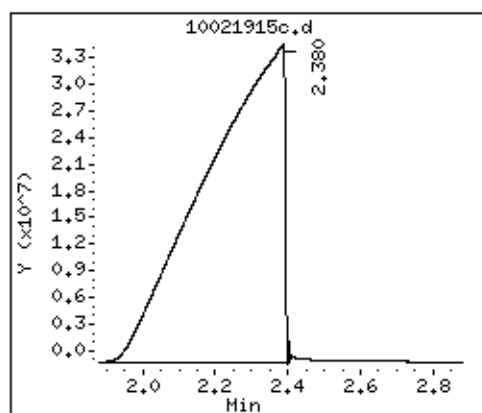
Compounds	RT	EXP	RT	DLT	RT	RESPONSE	AMOUNTS	
							CAL-AMT (%)	ON-COL (%)
=====	==	=====	=====	=====	=====	=====	=====	
1 Helium	2.380	2.380	0.000	26599377052	100.000	105(A)		

QC Flag Legend

A - Target compound detected but, quantitated amount
exceeded maximum amount.



1 Helium



Report Date : 15-Feb-2018 12:13

Page 1

GC-10 ASTM D-1945/1946

He/H₂ MDL
7CD

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/gc10.i/13Feb2018.b/107m1213.m/107C0414.m/107C0216.m
Batch File: /chem/gc10.i/13Feb2018.b
Inst ID: gc10.i

ID: MDL01 MDL02 MDL03 MDL04 MDL05 MDL06 MDL07
FILENAME: 10021308C 10021309C 10021310C 10021407C 10021408C 10021507C 10021508C
INJ. DATE: 13-FEB-2018 13-FEB-2018 13-FEB-2018 14-FEB-2018 14-FEB-2018 15-FEB-2018 15-FEB-2018
INJ. TIME: 11:48 12:11 12:35 10:13 10:36 10:56 11:27

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL
1 Helium	367.51	356.11	377.20	382.59	375.91	386.19	371.11	373.80	10.05	31.60
2 Hydrogen	96.17	88.69	103.75	107.02	108.24	109.92	101.48	102.18	7.54	23.70

1.000 g H₂ 2787-146 was
spiked, resulting in a
concentration of Helium at 0.0036%
and Hydrogen at 0.0099%.

Reviewer 1 [Signature] Date: 2/16/18
Reviewer 2 [Signature] Date: 02/23/18

US32APPTV002

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gc10.i Injection Date: 14-NOV-2018 07:42
Lab File ID: 10111401c.d Init. Cal. Date(s): 19-FEB-2018 22-FEB-2018
Analysis Type: AIR Init. Cal. Times: 16:44 19:46
Lab Sample ID: 2810-252 NGAS Quant Type: ESTD
Method: /chem/gc10.i/14Nov2018.b/107n1213.m/108C0420.m/108C0222.m

COMPOUND	RRF / AMOUNT	RF0.000	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
=====	=====	=====	=====	=====	=====	=====
1 Helium	258548632	257102191	0.010	0.55945	15.00000	Averaged
=====	=====	=====	=====	=====	=====	=====

US32APPTV002

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/14Nov2018.b/10111401c.d
Lab Smp Id: 2810-252 NGAS Client Smp ID: CCV
Inj Date : 14-NOV-2018 07:42
Operator : LY Inst ID: gc10.i
Smp Info :
Misc Info : 1.0mL,;;2810-252 NGAS;CCV
Comment : GC/TCD
Method : /chem/gc10.i/14Nov2018.b/107n1213.m/108C0420.m/108C0222.m
Meth Date : 14-Nov-2018 09:51 ulyo Quant Type: ESTD
Cal Date : 22-FEB-2018 19:46 Cal File: 10022208c.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ngas.sub

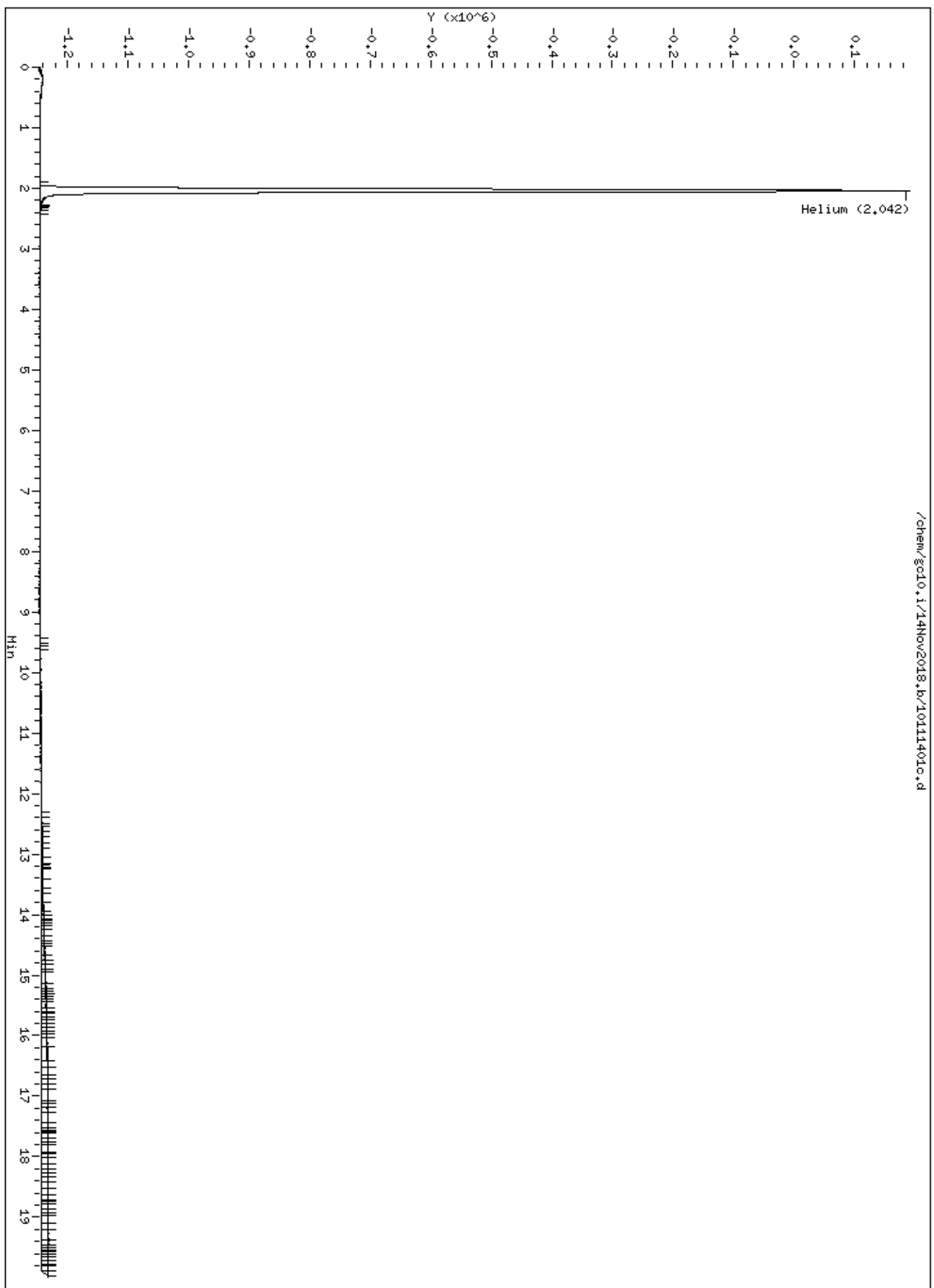
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

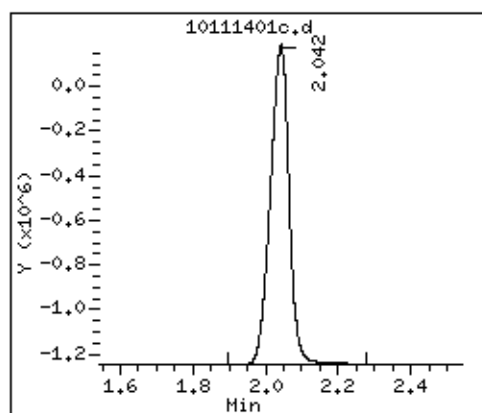
Cpnd Variable

Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS	
					CAL-AMT (%)	ON-COL (%)
=====	==	=====	=====	=====	=====	=====
1 Helium	2.042	2.042	0.000	257102191	1.00000	0.994



1 Helium



NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946
Biosperge

Client ID:	LCS	Date/Time Analyzed:	11/14/18 08:21 AM
Lab ID:	1811221B-05A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	gc10.i / 10111402c
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Helium	7440-59-7	102

* % Recovery is calculated using unrounded analytical results.

US32APPTV002

RECOVERY REPORT

Client Name: Client SDG: 14Nov2018
Sample Matrix: GAS Fraction: Atm Gas
Lab Smp Id: 2810-691 NGAS Client Smp ID: LCS
Level: LOW Operator: LY
Data Type: GC DATA SampleType: LCS
SpikeList File: 2810-691he.spk Quant Type: ESTD
Sublist File: ngas.sub
Method File: /chem/gc10.i/14Nov2018.b/107n1213.m/108C0420.m/108C0222.m
Misc Info: 1.0mL,;;2810-691 NGAS;LCS

SPIKE COMPOUND	CONC ADDED %	CONC RECOVERED %	% RECOVERED
1 Helium	1.00	1.02	101.94

US32APPTV002

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/14Nov2018.b/10111402c.d
Lab Smp Id: 2810-691 NGAS Client Smp ID: LCS
Inj Date : 14-NOV-2018 08:21
Operator : LY Inst ID: gc10.i
Smp Info : 1.0mL,
Misc Info : 1.0mL;;;2810-691 NGAS;LCS
Comment : GC/TCD
Method : /chem/gc10.i/14Nov2018.b/107n1213.m/108C0420.m/108C0222.m
Meth Date : 14-Nov-2018 08:19 ulyo Quant Type: ESTD
Cal Date : 22-FEB-2018 19:46 Cal File: 10022208c.d
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ngas.sub

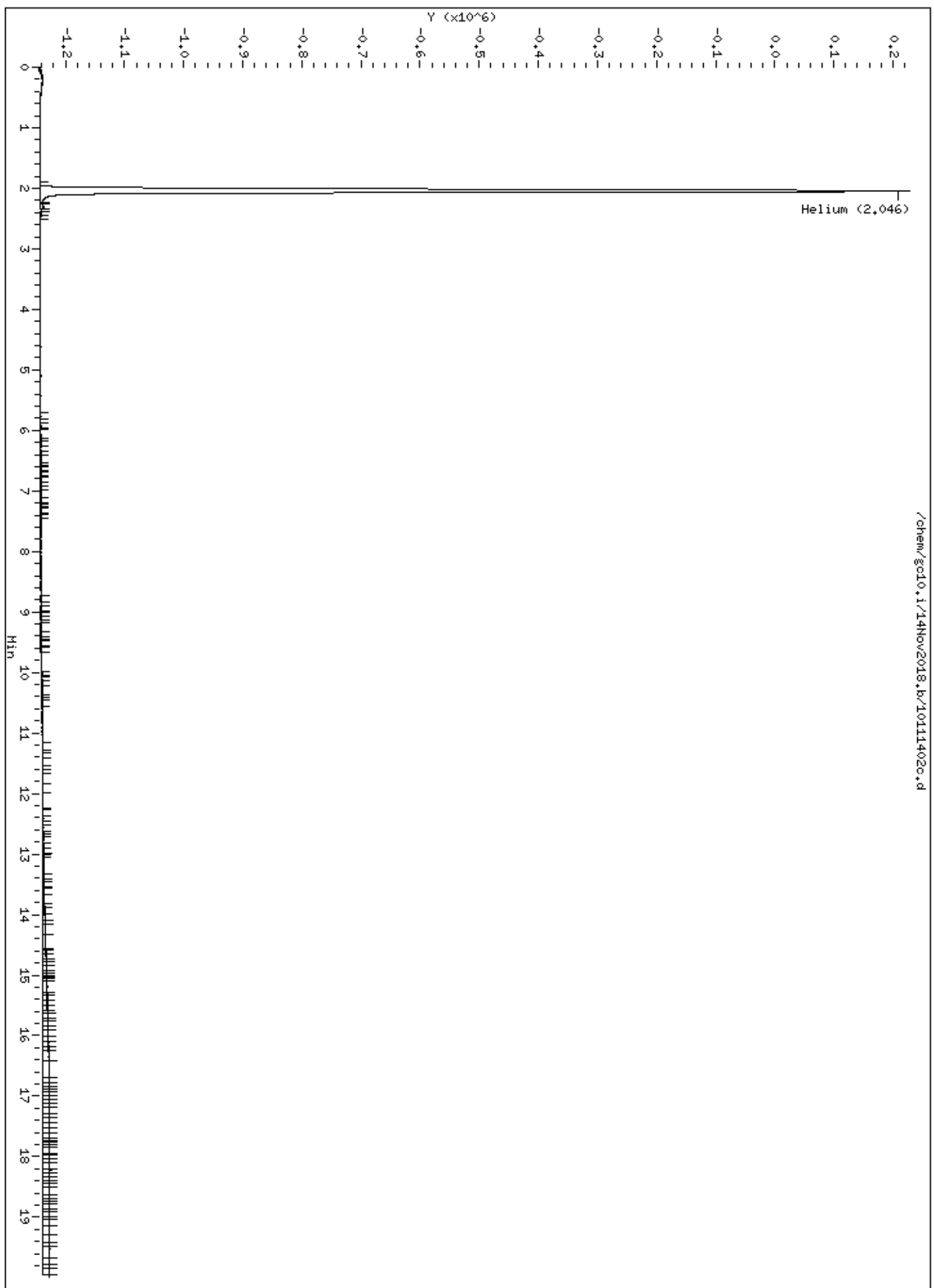
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

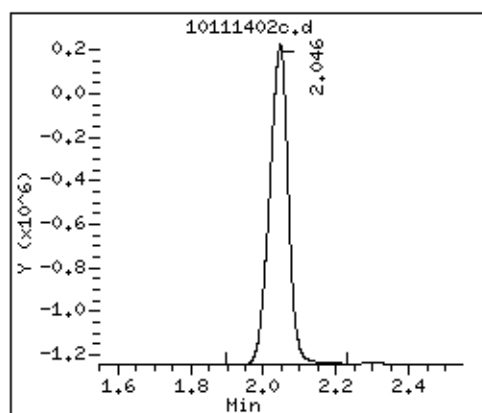
Cpnd Variable

Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS	
					ON-COLUMN (%)	FINAL (%)
=====	==	=====	=====	=====	=====	=====
1 Helium	2.046	2.042	0.004	263561953	1.01939	1.02



1 Helium



NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946
 Biosperge

Client ID:	LCSD	Date/Time Analyzed:	11/14/18 10:08 PM
Lab ID:	1811221B-05AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	gc10.i / 10111429c
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Helium	7440-59-7	101

* % Recovery is calculated using unrounded analytical results.

US32APPTV002

RECOVERY REPORT

Client Name: Client SDG: 14Nov2018
Sample Matrix: GAS Fraction: Atm Gas
Lab Smp Id: 2810-691 Ngas Client Smp ID: LCSD
Level: LOW Operator: gh
Data Type: GC DATA SampleType: LCSD
SpikeList File: 2810-691he.spk Quant Type: ESTD
Sublist File: ngas.sub
Method File: /chem/gc10.i/14Nov2018.b/107n1213.m/108C0420.m/108C0222.m
Misc Info: 1.0mL, ;;2810-691 Ngas;LCSD

SPIKE COMPOUND	CONC ADDED %	CONC RECOVERED %	% RECOVERED
1 Helium	1.00	1.01	100.62

US32APPTV002

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/14Nov2018.b/10111429c.d
Lab Smp Id: 2810-691 Ngas Client Smp ID: LCSD
Inj Date : 14-NOV-2018 22:08
Operator : gh Inst ID: gc10.i
Smp Info : 1.0mL,
Misc Info : 1.0mL, ;;2810-691 Ngas;LCSD
Comment : GC/TCD
Method : /chem/gc10.i/14Nov2018.b/107n1213.m/108C0420.m/108C0222.m
Meth Date : 14-Nov-2018 23:33 ulyo Quant Type: ESTD
Cal Date : 22-FEB-2018 19:46 Cal File: 10022208c.d
Als bottle: 1 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ngas.sub

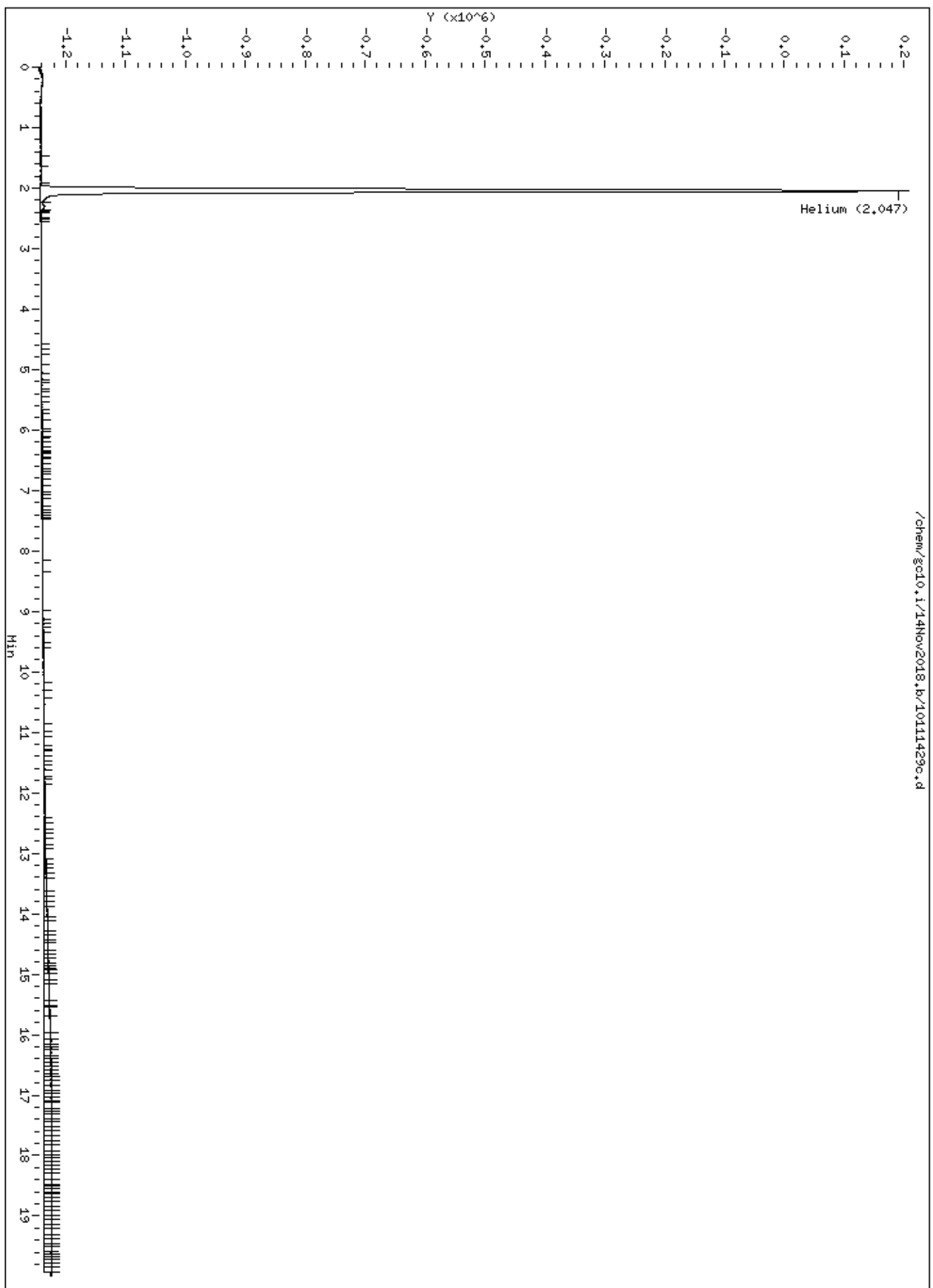
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

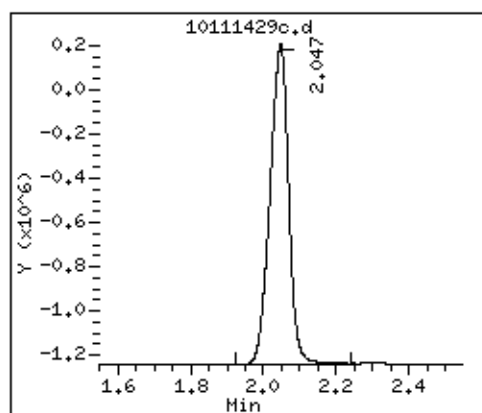
Cpnd Variable

Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS	
					ON-COLUMN (%)	FINAL (%)
=====	==	=====	=====	=====	=====	=====
1 Helium	2.047	2.048	-0.001	260151438	1.00620	1.01



1 Helium



USE	File #	Sample Name/Client ID	Can #	Verified Pressure >2psi	Pressure	Amt	DF	Date	Time	Review Init.	Comments
✓	1011401	2810-252 N ₂	NA	NA	NA	1.00	1.00	11/14/18	0942	g	ccv
✓	02	2810-691 N ₂							0821		ccv
✓	03	2299-1684 H ₂							0835		ccv
✓	04	He Lab Blank	610015		Lab Blank He				0926	g	Lab Blank
✓	05	N ₂ Lab Blank	34341		N ₂				0953		
✓	06	181144B-01A	N2669	✓	4.04g → 15psi		2.33		1019	g	
✓	07		N3412	✓	2.54g → 15psi		2.20		1045		
✓	08		8027	✓	4.04g → 15psi		2.33		1110		
✓	09		3348	✓	3.54g → 15psi		2.29		1134		
✓	10		D0741	✓	4.54g → 15psi		2.38		1157		
✓	11	1811241B-01A	N2607	✓	5.54g → 15.2psi		2.47		1225	g	
✓	12		L4563	✓	5.14g → 15.2psi		2.45		1313		
✓	13		N3095	✓	5.74g → 15.3psi		2.52		1340		
✓	14		D0489	✓	4.94g → 15.4psi		2.46		1406		
✓	15		D1033	✓	6.74g → 14.7psi		2.58		1438		

Calculation check:

File ID: 1011402 Compound: Methane

Initials: g

Sample Amt=

Area Count Sample x

Dilution Factor =

(1.00) =

10.7%

RF

(1210768756)

Reported Result=

10.7%

Reviewed by/Date VA 11/15/18

*Must be an independent reviewer

USE	File #	Sample Name/Client ID	Can #	Verified Pressure >2psi	Pressure	Amt	DF	Date	Time	Review Init.	Comments
✓	10111416	18112118-06A	N3440	✓	4.7"Hg → 15psi	1.0ml	2.40	11/14/18	1521	GH	
✓	17	↓ -06AA	N3440	✓	4.3"Hg-15psi	2.40			1525	GH	
✓	18	18111644-01A	00224	✓	1.6"Hg-15.2psi	2.15			1621	GH	
✓	19	↓ -D1AA	00224	✓	1.6"Hg-15.2psi	2.15			1653	GH	
✓	20	1911209B-01A	00799	✓	5.7"Hg-15.8psi	2.56			1717	GH	
✓	21	18111644-02A	N3121	✓	3.1"Hg-16.3psi	2.35			1742	GH	
✓	22	1811209B-02A	N3475	✓	2.4"Hg-15psi	2.20			1819	GH	
✓	23	18111644-03A	3047	✓	5.1"Hg-15.6psi	2.46			1842	GH	
✓	24	1811209B-03A	01022	✓	3.1"Hg-14.9psi	2.24			1910	GH	
✓	25	18111644-02A	33922	✓	0.6psi-4.6psi	1.26			1939	GH	blue dot initial: 4.6psi
✓	26	↓ -03A	34232	✓	2.0"Hg-4.5psi	1.40			2038	GH	H2 CCS
✓	27	2294-1522	NA	NA	NA	1.00			2165	GH	Exp. 11/23/19
✓	28	2294-1522	NA	NA	NA	1.00			2142	GH	↓ CCS
✓	29	2810-691 N949	NA	NA	NA	1.00			2204	GH	Exp. 11/20/20
✓	30	2810-252 N949	NA	NA	NA	1.00			2232	GH	Exp. 3/20/20

Calculation check:

File ID: 10111416 Compound: O₂

Initials: GH

Sample Amt=

Area Count Sample x

Dilution Factor = (366624936) x

(2.40) =

18.9

RF

366624936

Reported Result=

18.9

Reviewed by/Date GH 11/15/18

*Must be an independent reviewer

Shipping/ Receiving Documents

Eurofins Air Toxics, Inc. Sample Receipt Confirmation Cover Page

Thank you for choosing Eurofins Air Toxics, Inc. (EATL). We have received your samples and have listed any Sample Receipt Discrepancies below.

In order to expedite analysis and reporting, please review the attached information for accuracy.

For corrections call: **Air Toxics, Ltd. at 916-985-1000**

EATL will proceed with the analysis as specified on the Chain of Custody (COC) and Sample Receipt Summary page.

Please note : The Sample Receipt Confirmation, including the total workorder charge, is subject to change upon secondary review. Our aim is to provide a confirmation to you in a timely manner. Sample Receipt Discrepancies, if any, may not include discrepancies regarding sample receipt pressure(s). Additionally, the COC will be provided with the final report.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 .FAX (916) 985-1020

Hours 6:30 A.M to 5:30 P.M. PST

SAMPLE RECEIPT SUMMARY

WORKORDER 1811221B

Client

Ms. Kathy Willy
GHD
2055 Niagara Falls Blvd.
Suite Three
Niagara Falls, NY 14304

Phone

716-297-6150

Fax

716-297-6296

Date Promised: 11/16/18 2:00 pm

Date Completed: 11/16/18

Date Received: 11/9/18

PO#: 256-402-D02-3100

Project#: Biosperge

Total \$: \$ 130.00

Logged By: JT

Sales Rep: SP

<u>Fraction</u>	<u>Sample #</u>	<u>Analysis</u>	<u>Collected</u>	<u>Receipt Vac./Pres.</u>	<u>Amount\$</u>
02A	VP-41	Modified ASTM D-1946	11/7/2018	0.6 psi	\$65.00
03A	VP-46	Modified ASTM D-1946	11/7/2018	2 "Hg	\$65.00
04A	Lab Blank	Modified ASTM D-1946	NA	NA	\$0.00
05A	LCS	Modified ASTM D-1946	NA	NA	\$0.00
05AA	LCSD	Modified ASTM D-1946	NA	NA	\$0.00

Note: Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: Hicksville/22832

BILL TO: Ms. Kathy Willy
GHD
2055 Niagara Falls Blvd.
Suite Three
Niagara Falls, NY 14304

Analysis Code: ASTM

TERMS: NET 35

Reporting Method: Modified ASTM D-1946 (Sh)-He only
180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

Eurofins Air Toxics, Inc.	Title: Sample Discrepancy Report			Release Date: 03/23/17
	Form #: F1.3	Revision #: 6	Revision Date: 03/23/17	Page #: 1 of 2

Sample Discrepancy Report

Identification

Initiated By: JT Project ID: 22832 PM: RAS Date: 11/12/2018 Discrepancy Type: ☒ 1. ☒ 2. ☐ 3.

Workorder(s) affected: 1811221B Sample(s) affected: ALL, 02A

1. Sample Receipt Discrepancies

Narration Not Required:

- 1.1. ☐ Sample container (cartridge/tube) was received broken, however sample was intact.
- 1.2. ☐ No brass cap on canister.
- 1.3. ☐ Date of Collection noted on first sample, but no arrow down to indicate all samples.
- 1.4. ☐ Sampling year not documented on COC but noted on sample tag.
- 1.5. ☐ Sorbent Sample received outside method required temperature of 2°C to 6°C but less than 6°C.

Notify Lab for further determination:

- 1.6. ☐ Tedlar bag received with minimal volume.

Narration Required in Lab Narrative and Sample Confirmation:

- 1.7. ☐ COC was not filled out in ink.
- 1.8. ☒ COC improperly relinquished / received.
☐ Signature missing ☐ date missing ☒ time missing.
- 1.9. ☐ Sample ID on tags do not match the COC.
- 1.10. ☐ Can numbers do not match the COC.
- 1.11. ☐ Sampling date discrepancy.
- 1.12. ☐ Custody Seal on the outside of the container was
☐ broken / ☐ improperly placed (check one).
- 1.13. ☐ ID-none on the sample Tag/Blank.
- 1.14. ☐ Other (describe below).

Initials: _____ Date: _____

Describe the Discrepancy: _____

2. Sample Receipt/Screening Discrepancies requiring PM notification

Document on Cover Page of Sample Receipt Confirmation and in Receiving Notes of Lab Narrative

If Section II. is filled out PM must be notified within 24 hrs of initiation

2.1. ☐ COC was not received with samples. 2.2. ☐ Analysis method(s) is ☐ not specified / ☐ incorrectly specified (check one) on the COC. 2.3. ☐ Incorrect sampling media / container for analysis requested. 2.4. ☐ Number of samples on the COC does not match the number of samples that were received. 2.5. ☐ Samples were received expired. 2.6. ☐ Sampling date is not documented for ☐ <u>some</u> / ☐ <u>any</u> samples (check one). 2.7. ☐ Sample received with amount of H₂O in the Tedlar Bag. 2.8. ☐ Sample cannot be analyzed. Container was ☐ received broken / ☐ leaking / ☐ flat / ☐ defective. 2.9. ☐ Tedlar bag / canister received emitting a strong odor; Sample ☐ can / ☐ cannot (check one) be analyzed. 2.10. ☐ Sorbent samples -sampling volume was not provided. 2.11. ☒ Flow controller used – canister samples received at ambient or under pressure.	2.12. ☐ Canister was at ambient pressure at time of pressurization and (check all that apply): ☐ Canister valve was open. ☐ Brass nut was loose/not present. ☐ Sample can be analyzed. ☐ Sample cannot be analyzed. 2.13. ☐ Canister sample received with a vacuum difference >5.0"Hg between the receipt vac. and the final recorded vac. on the COC. ☐ Canister passed leak check in lab <2psi, no evidence sample was compromised. ☐ Canister failed lab leak check, canister found to be leaking. Canister sample compromised. 2.14. ☐ Canister sample received at >15"Hg (<u>not</u> identified as a Trip/Field Blank). 2.15. ☐ Canister Trip Blank received at low vacuum (<25"Hg). 2.16. ☐ Sorbent Sample received outside method required temperature of 2°C to 6°C; ☐ ice / ☐ blue ice (check one) was present. A temp. Blank ☐ was / ☐ was not present (check one). 2.17. ☐ Other (describe below).

Notify Receiving:

Initials: AB

Date: 11/13/2018

Notify PM: ☐

Describe the Discrepancy: _____

2.11 - 02A received @ 0.6 psi. Client final reading @ 0.0 psi.

3. Lab Discrepancies requiring Team Leader/PM notification

Document in Analytical Notes of Lab Narrative

If Section III. is filled out PM must be notified within 24 hrs of initiation

3.1. ☐ Tedlar Bag found to be leaking at the time of analysis; sample ☐ can / ☐ cannot (check one) be analyzed.	3.7. ☐ Reporting Limit was raised.
3.2. ☐ Tedlar Bag found to be flat/low volume; sample cannot be analyzed.	3.8. ☐ Post weight > Pre weight in field/lab Blank for PM10/TSP samples.
3.3. ☐ Samples received with insufficient time to analyze prior to expiration.	3.9. ☐ Sample Trip Blank has a reportable level(s) of target compound(s) present. Re-analysis confirmed the initial result.
3.4. ☐ Canister found to be leaking at the time of analysis.	3.10. ☐ Other (describe below).
3.5. ☐ Sample loss due to instrument malfunction / broken glassware.	
3.6. ☐ Low/high surrogate recoveries noted in QC/sample(s) for extractable samples.	

Initials: _____ Date: _____ Notify Receiving: ☐ Notify PM: ☐

Team Lead Initials: _____ Date: _____

Describe the Discrepancy: _____

How Does this Affect Client: _____

Project Manager Use Only

Project Manager Notification

☒ Section 2 Complete

☐ Section 3 Complete

Action:

- ☐ It is not necessary to notify the client. Narrate the discrepancy in Receiving Notes/Analytical Notes of Lab Narrative.

PM Initials: _____ Date: _____

- ☒ Client notification required. See attached client contact / email, or comments below:

Client Notification:

PM Initials: RAS Person notified: Kathy Willy

Date: 11/15/2018

- ☐ Waiting for Client Reply

Comments: **Proceed and narrate**

☐ Notify Lab Name: _____ Date: _____ Notify Receiving: ☐

- ☐ Additional notifications attached.

Additional Comments:

Other Records

DILUTION FACTORS

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Vacuum}} = \frac{14.7 \text{ psi} + \text{Final Pressure (psi)}}{14.7 \text{ psi} - [(\text{Initial Pressure ("Hg)}) (14.7 \text{ psi} / 30 \text{ "Hg})]}$$

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Pressure}} = \frac{14.7 \text{ psi} + \text{Final Pressure (psi)}}{14.7 \text{ psi} + \text{Initial Pressure (psi)}}$$

Initial Vacuum ("Hg)	5 psi Final Press. Dil. Factor	10 psi Final Press. Dil. Factor	15 psi Final Press. Dil. Factor
0.0	1.34	1.68	2.02
0.5	1.36	1.71	2.05
1.0	1.39	1.74	2.09
1.5	1.41	1.77	2.13
2.0	1.44	1.80	2.16
2.5	1.46	1.83	2.20
3.0	1.49	1.87	2.24
3.5	1.52	1.90	2.29
4.0	1.55	1.94	2.33
4.5	1.58	1.98	2.38
5.0	1.61	2.02	2.42
5.5	1.64	2.06	2.47
6.0	1.68	2.10	2.53
6.5	1.71	2.15	2.58
7.0	1.75	2.19	2.64
7.5	1.79	2.24	2.69
8.0	1.83	2.29	2.76
8.5	1.87	2.34	2.82
9.0	1.91	2.40	2.89
9.5	1.96	2.46	2.96
10.0	2.01	2.52	3.03
10.5	2.06	2.59	3.11
11.0	2.12	2.65	3.19
11.5	2.17	2.72	3.28
12.0	2.23	2.80	3.37
12.5	2.30	2.88	3.46
13.0	2.36	2.97	3.57
13.5	2.44	3.06	3.67
14.0	2.51	3.15	3.79
14.5	2.59	3.25	3.91
15.0	2.68	3.36	4.04
15.5	2.77	3.48	4.18
16.0	2.87	3.60	4.33
16.5	2.98	3.73	4.49
17.0	3.09	3.88	4.66
17.5	3.22	4.03	4.85
18.0	3.35	4.20	5.05
18.5	3.50	4.38	5.27
19.0	3.65	4.58	5.51
19.5	3.83	4.80	5.77
20.0	4.02	5.04	6.06
20.5	4.23	5.31	6.38

Initial Vacuum ("Hg)	5 psi Final Press. Dil. Factor	10 psi Final Press. Dil. Factor	15 psi Final Press. Dil. Factor
21.0	4.47	5.60	6.73
21.5	4.73	5.93	7.13
22.0	5.03	6.30	7.58
22.5	5.36	6.72	8.08
23.0	5.74	7.20	8.66
23.5	6.19	7.76	9.32
24.0	6.70	8.40	10.10
24.5	7.31	9.17	11.02
25.0	8.04	10.08	12.12
25.5	8.93	11.20	13.47
26.0	10.05	12.60	15.15
26.5	11.49	14.40	17.32
27.0	13.40	16.80	20.20
27.5	16.08	20.16	24.24
28.0	20.10	25.20	30.31
28.5	26.80	33.61	40.41
29.0	40.20	50.41	60.61

Initial Pressure (psi)	5 psi Final Press. Dil. Factor	10 psi Final Press. Dil. Factor	15 psi Final Press. Dil. Factor
0.0	1.34	1.68	2.02
0.2	1.32	1.66	1.99
0.4	1.30	1.64	1.97
0.6	1.29	1.61	1.94
0.8	1.27	1.59	1.92
1.0	1.25	1.57	1.89
1.2	1.24	1.55	1.87
1.4	1.22	1.53	1.84
1.6	1.21	1.52	1.82
1.8	1.19	1.50	1.80
2.0	1.18	1.48	1.78
2.2	1.17	1.46	1.76
2.4	1.15	1.44	1.74
2.6	1.14	1.43	1.72
2.8	1.13	1.41	1.70
3.0	1.11	1.40	1.68
3.2	1.10	1.38	1.66
3.4	1.09	1.36	1.64
3.6	1.08	1.35	1.62
3.8	1.06	1.34	1.61
4.0	1.05	1.32	1.59

DILUTION FACTORS

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Pressure}} = \frac{14.7 \text{ psi} + \text{Final Pressure (psi)}}{14.7 \text{ psi} + \text{Initial Pressure (psi)}}$$

Initial Pressure (psi)	5 psi Final Press. Dil. Factor	10 psi Final Press. Dil. Factor	15 psi Final Press. Dil. Factor
0.0	1.34	1.68	2.02
0.2	1.32	1.66	1.99
0.4	1.30	1.64	1.97
0.6	1.29	1.61	1.94
0.8	1.27	1.59	1.92
1.0	1.25	1.57	1.89
1.2	1.24	1.55	1.87
1.4	1.22	1.53	1.84
1.6	1.21	1.52	1.82
1.8	1.19	1.50	1.80
2.0	1.18	1.48	1.78
2.2	1.17	1.46	1.76
2.4	1.15	1.44	1.74
2.6	1.14	1.43	1.72
2.8	1.13	1.41	1.70
3.0	1.11	1.40	1.68
3.2	1.10	1.38	1.66
3.4	1.09	1.36	1.64
3.6	1.08	1.35	1.62
3.8	1.06	1.34	1.61
4.0	1.05	1.32	1.59
4.2	1.04	1.31	1.57
4.4	1.03	1.29	1.55
4.6	1.02	1.28	1.54
4.8	1.01	1.27	1.52
5.0	1.00	1.25	1.51
5.2	NA	1.24	1.49
5.4	NA	1.23	1.48
5.6	NA	1.22	1.46
5.8	NA	1.20	1.45
6.0	NA	1.19	1.43
6.2	NA	1.18	1.42
6.4	NA	1.17	1.41
6.6	NA	1.16	1.39
6.8	NA	1.15	1.38
7.0	NA	1.14	1.37
7.2	NA	1.13	1.36
7.4	NA	1.12	1.34

Initial Pressure (psi)	5 psi Final Press. Dil. Factor	10 psi Final Press. Dil. Factor	15 psi Final Press. Dil. Factor
7.6	NA	1.11	1.33
7.8	NA	1.10	1.32
8.0	NA	1.09	1.31
8.2	NA	1.08	1.30
8.4	NA	1.07	1.29
8.6	NA	1.06	1.27
8.8	NA	1.05	1.26
9.0	NA	1.04	1.25
9.2	NA	1.03	1.24
9.4	NA	1.02	1.23
9.6	NA	1.02	1.22
9.8	NA	1.01	1.21
10.0	NA	1.00	1.20
10.2	NA	NA	1.19
10.4	NA	NA	1.18
10.6	NA	NA	1.17
10.8	NA	NA	1.16
11.0	NA	NA	1.16
11.2	NA	NA	1.15
11.4	NA	NA	1.14
11.6	NA	NA	1.13
11.8	NA	NA	1.12
12.0	NA	NA	1.11
12.2	NA	NA	1.10
12.4	NA	NA	1.10
12.6	NA	NA	1.09
12.8	NA	NA	1.08
13.0	NA	NA	1.07
13.2	NA	NA	1.06
13.4	NA	NA	1.06
13.6	NA	NA	1.05
13.8	NA	NA	1.04
14.0	NA	NA	1.03
14.2	NA	NA	1.03
14.4	NA	NA	1.02
14.6	NA	NA	1.01
14.8	NA	NA	1.01

Compound Listing

Modified ASTM D-1946 (Sh)-He only

CAS Number	Compound	Detection Limit	Type
		%	
7440-59-7	Helium	0.050	

Eurofins Air Toxics, Inc.		Data Review Checklist		Release Date: 11/21/17
Workorder # 1811221B		Form F1.27	Revision #15	Revision Date: 11/21/17
				Page 1 of 2

S	S	S	S	D	Section 1 - Spec Out				
1	2	3	4		Initials/Instrument/Date	S1: GC-10 11/15/18	S2:	S3:	S4:
✓					Project Identification (PID), Project Requirements Table (PRT), Daily QC and ICAL met Criteria				
✓					Lumen QC and ICAL evaluation (ref. SOP/Method) report initialed and in folder				
✓					Manual Integrations included and approved				
✓					Chain of Custody verified for special comments (add comments below)				
✓					Non-standard Target sublist verified (MDL, LOD, RL, control limits, etc.)				
✓					Verified standard expiration dates				

Profile, analyses, reporting, special notes and unusual circumstances:

A	A	A	A	D	Section 2 - Sample Analysis				
1	2	3	4		Initials/Date	A1: 11/15/18	A2:	A3:	A4:
✓					IS/Surr Recoveries, Dilution Factors, Load Volumes, leg(s) of instrument, Initial/Final Pressures, Canister #s Verified and dilution ranges are met per SOP (ex. Over-ranged/overdiluted)				
✓					a) Tedlar Bag IDs verified against COC b) Tedlar Bag ID confirmed with loading sequence/leg(s) of instrument				
✓					Manual Integrations/Bag or Can Dilution Forms/Re-pressurization Forms/Bag-Can Transfer Forms present (circle all that apply)				
✓					12/24 Hr clock time & Hold Time met for all samples				
✓					Re-analysis of sample(s) has been evaluated for comparability and/or sample(s) has/have been checked for trends (Inf/Eff), field dups/trip blanks, samples following bad loads on CIAAs have been verified (system blks, confirmation runs).				
✓					All runs have been evaluated for potential carry-over (TPHg/non-Target/over-range compounds/ etc.)				

Analytical and special notes:

D	D	D	D	T	3	Section 3 - Target Data Reduction		Technical Review Needed?		T:
1	2	3	4			Initials/Instrument/Date	D1: 11/16/18	D2:	D3:	D4:
✓						CAR #	(if applicable)			
✓						Spectra Verified (documentation of spectral defense included if applicable)				
✓						TICs resemble reference spectra/ TICs between sample dups. are consistent (if applicable)				
✓						Lab Narrative is correct				
✓						TPH/NMOC calculations complete and included in folder				

Special notes:

A	3	Section 4- Atlas Data Entry		Lumen verified and included in folder		Circle one: Yes/No	
T		Initials/Date:	11/16/18	3 rd Tier:	(needed only for DOD or per client request)		
✓		Sample Discrepancy Report (SDR) complete and approved (if applicable)					
✓		Manually entered results are checked					
✓		At least one result per sample is verified against Target quant sheets					
✓		Appropriate data qualifier flags are applied					
✓		Final Invoice is correct/ Final PDF report, COC and EDD reviewed and correct					

Special Notes:

Note (1) Please check all the appropriate boxes. Indicate "NA" for any statement that doesn't apply

Note (2) 3rd Tier Report Reviewer and Write Up Reviewer must be separate individuals for DoD & Client Specific Projects

Eurofins Air Toxics, Inc.	Data Review Checklist			Release Date: 11/21/17
	Form F1.27	Revision #15	Revision Date: 11/21/17	Page 2 of 2
Reissued				

Workorder # :				Reason for Reissue:	
W	T	3T	Q		
				Reissue Request form Present	
				Client or QA or Lab contact present with reason for reissue	
				Review all affected data	
				Report header has correct R1, R2 etc	
				The Lab Narrative clearly explains the reissue (Date, Reason and whether client requested)	
				Date for Reissue in Report Header matches date in Lab Narrative	
				Check Project Profile for correct reporting instructions (multiple clients, # hardcopies, etc)	
				Corrective Action issued - #	
				The reissued workorder has been approved by QA Manager or a Technical Director	
Additional Comments:					
Write Up (Initials/Date)		Tech Review (Initials/Date)		*3 rd Tier Review * 3 rd Tier Report Review is for DoD & Client Specific projects only (Initials/Date)	

Workorder # :				Reason for Reissue:	
W	T	3T	Q		
				Reissue Request form Present	
				Client or QA or Lab contact present with reason for reissue	
				Review all affected data	
				Report header has correct R1, R2 etc	
				The Lab Narrative clearly explains the reissue (Date, Reason and whether client requested)	
				Date for Reissue in Report Header matches date in Lab Narrative	
				Check Project Profile for correct reporting instructions (multiple clients, # hardcopies, etc)	
				Corrective Action issued - #	
				The reissued workorder has been approved by QA Manager or a Technical Director	
Additional Comments:					
Write Up (Initials/Date)		Tech Review (Initials/Date)		*3 rd Tier Review * 3 rd Tier Report Review is for DoD & Client Specific projects only (Initials/Date)	

Note (1) Please check all the appropriate boxes. Indicate "NA" for any statement that doesn't apply
Note (2) 3rd Tier Report Reviewer and Write Up Reviewer must be separate individuals for DoD & Client Specific Projects

Not Applicable

Attachment C

Data Validation Memos



Memorandum

September 20, 2018

To: John Pentilchuk

Ref. No.: 006883

From: Kathy Willy/adh/20

Tel: 716-205-1942

**Subject: Analytical Results and Full Validation
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
July 2018**

1. Introduction

This document details a validation of analytical results for air samples collected in support of the Soil Gas Sampling at the Hicksville site during July 2018. Samples were submitted to Eurofins Air Toxics located in Folsom, California. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Full Contract Laboratory Program (CLP) equivalent raw data deliverables were provided by the laboratory. Evaluation of the data was based on information obtained from the finished data sheets, raw data, chain of custody forms, calibration data, blank data, and recovery data from surrogate spikes/laboratory control samples (LCS). The assessment of analytical and in-house data included checks for data consistency (by observing comparability of duplicate analyses), adherence to accuracy and precision criteria, and transmittal errors.

The Quality Assurance/Quality Control (QA/QC) criteria by which these data have been assessed are outlined in the analytical method referenced in Table 3 and applicable guidance from the document entitled "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review", United States Environmental Protection Agency (USEPA) 540-R-08-01, June 2008, which will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 3. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

All samples were properly delivered and stored by the laboratory at the required temperature (0-6°C).



3. Gas Chromatography/Mass Spectrometer (GC/MS) – Tuning and Mass Calibration (Instrument Performance Check)

Prior to volatile organic compound (VOC) analysis, GC/MS instrumentation is tuned to ensure optimization over the mass range of interest. To evaluate instrument tuning, the method requires the analysis of specific tuning compound bromofluorobenzene (BFB). The resulting spectra must meet the criteria cited in the method before analysis is initiated. Analysis of the tuning compound must then be repeated every 24 hours throughout sample analysis to ensure the continued optimization of the instrument.

Tuning compounds were analyzed at the required frequency throughout VOC analysis periods. All tuning criteria were met indicating that proper optimization of the instrumentation was achieved.

4. Initial Calibration - Organic Analyses

To quantify VOCs of interest in samples, calibration of the GC/MS over a specific concentration range must be performed. Initially, a five-point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each analyte over a specific concentration range. Linearity of the calibration curve and instrument sensitivity are evaluated against the following criteria:

- i) All relative response factors (RRFs) must be greater than or equal to 0.05.
- ii) The percent relative standard deviation (RSD) values must not exceed 30.0 percent.

The initial calibration data for VOCs were reviewed. All compounds met the above criteria for sensitivity and linearity.

5. Continuing Calibration - Organic Analyses

To ensure that instrument calibration for VOC analyses is acceptable throughout the sample analysis period, continuing calibration standards must be analyzed and compared to the initial calibration curve every 24 hours.

The following criteria were employed to evaluate continuing calibration data:

- i) All RRF values must be greater than or equal to 0.05.
- ii) Percent difference (%D) values must not exceed 30.0 percent.

Calibration standards were analyzed at the required frequency, and all results met the above criteria for instrument sensitivity and stability.



6. Laboratory Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect indicating that laboratory contamination was not a factor for this investigation.

7. Surrogate Spike Recoveries

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for TO-15 determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met the laboratory criteria.

8. Internal Standards (IS) Analyses

IS data were evaluated for all VOC sample analyses.

To ensure that changes in the GC/MS sensitivity and response do not affect sample analysis results, IS compounds are added to each sample prior to analysis. All results are then calculated as a ratio of the IS responses.

The sample IS results were evaluated against the following criteria:

- i) The retention time of the IS must not vary more than ± 30 seconds from the associated calibration standard.
- ii) IS area counts must not vary by more than ± 40 percent from the associated calibration standard.

All VOC IS recoveries and retention times met the above criteria.



9. Laboratory Control Sample Analyses

LCS and laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

For this study, LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

9.1 Organic Analyses

The LCS/LCSD contained all compounds of interest. All LCS recoveries and RPDs were within the laboratory control limits demonstrating acceptable analytical accuracy and precision.

10. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the distillation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

No MS/MSD analyses were performed on these investigative samples.

11. Field QA/QC Samples

Field QA/QC samples were not submitted with investigative samples from this event.

12. Analyte Reporting

The laboratory reported detected results down to the laboratory's Method Detection Limit (MDL) for each analyte. Positive analyte detections less than the Practical Quantitation Limit (PQL) but greater than the MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the reporting limit (RL) in Table 2. Results for ethanol exceeded the instruments calibrated range for two samples. The results were qualified as estimated based on the calibration exceedance (see Table 4).

13. Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to the identification



criteria established by the methods. The samples identified in Table 1 were reviewed. The organic compounds reported adhered to the specified identification criteria.

14. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable with the specific qualifications noted herein.

Table 1

Sample Collection and Analysis Summary
Soil Vapor Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
July 2018

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	<u>Analysis/Parameters</u>	
					TO-15	Helium
SSDS-1	SSDS	Soil Gas	07/11/2018	13:30	x	
SSDS-2	SSDS	Soil Gas	07/18/2018	04:10	x	
SV-1	SV-1	Soil Gas	07/11/2018	11:00	x	x

Notes:

TO-15 - "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999

Table 2

**Analytical Results Summary
Soil Vapor Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
July 2018**

Parameters	Unit	Location ID:	SSDS	SSDS	SV-1
		Sample Name:	SSDS-1	SSDS-2	SV-1
		Sample Date:	07/11/2018	07/18/2018	07/11/2018
Volatile Organic Compounds					
Helium	%		-	-	0.070 U
1,1,1-Trichloroethane	µg/m ³		0.74 J	1.2 J	11 J
1,1,2,2-Tetrachloroethane	µg/m ³		5.0 U	5.5 U	48 U
1,1,2-Trichloroethane	µg/m ³		4.0 U	4.4 U	38 U
1,1-Dichloroethane	µg/m ³		3.0 U	3.2 U	28 U
1,1-Dichloroethene	µg/m ³		2.9 U	3.2 U	28 U
1,2,4-Trichlorobenzene	µg/m ³		22 U	24 U	210 U
1,2,4-Trimethylbenzene	µg/m ³		33	33	34
1,2-Dibromoethane (Ethylene dibromide)	µg/m ³		5.6 U	6.2 U	53 U
1,2-Dichlorobenzene	µg/m ³		4.4 U	4.8 U	42 U
1,2-Dichloroethane	µg/m ³		3.0 U	3.2 U	28 U
1,2-Dichloropropane	µg/m ³		3.4 U	3.7 U	32 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m ³		5.1 U	5.6 U	48 U
1,3,5-Trimethylbenzene	µg/m ³		9.0	10	11 J
1,3-Butadiene	µg/m ³		1.6 U	1.8 U	15 U
1,3-Dichlorobenzene	µg/m ³		6.5	5.2	42 U
1,4-Dichlorobenzene	µg/m ³		4.4 U	4.8 U	42 U
1,4-Dioxane	µg/m ³		10 U	12 U	100 U
2,2,4-Trimethylpentane	µg/m ³		19	70	10 J
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m ³		32	26	82 U
2-Hexanone	µg/m ³		12 U	13 U	110 U
4-Ethyl toluene	µg/m ³		25	30	29 J
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m ³		4.6	13	28 U
Acetone	µg/m ³		130	130	36 J
Allyl chloride	µg/m ³		9.1 U	10 U	87 U
Benzene	µg/m ³		6.6	15	22 U
Benzyl chloride	µg/m ³		3.8 U	4.2 U	36 U
Bromodichloromethane	µg/m ³		4.9 U	5.4 U	46 U
Bromoform	µg/m ³		7.5 U	8.3 U	72 U
Bromomethane (Methyl bromide)	µg/m ³		28 U	31 U	270 U
Carbon disulfide	µg/m ³		9.1 U	3.6 J	86 U
Carbon tetrachloride	µg/m ³		4.6 U	0.82 J	44 U
Chlorobenzene	µg/m ³		0.89 J	3.7 U	32 U
Chloroethane	µg/m ³		7.7 U	8.5 U	73 U
Chloroform (Trichloromethane)	µg/m ³		3.7	4.6	34 U
Chloromethane (Methyl chloride)	µg/m ³		15 U	17 U	140 U
cis-1,2-Dichloroethene	µg/m ³		2.9 U	3.2 U	28 U
cis-1,3-Dichloropropene	µg/m ³		3.3 U	3.6 U	32 U
Cyclohexane	µg/m ³		5.2	7.3	24 U
Dibromochloromethane	µg/m ³		6.2 U	6.8 U	59 U
Dichlorodifluoromethane (CFC-12)	µg/m ³		3.0 J	3.2 J	34 U
Ethanol	µg/m ³		660 J	760 J	64
Ethylbenzene	µg/m ³		12	20	14 J

Table 2

**Analytical Results Summary
Soil Vapor Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
July 2018**

Parameters	Unit	Location ID:	SSDS	SSDS	SV-1
		Sample Name:	SSDS-1	SSDS-2	SV-1
		Sample Date:	07/11/2018	07/18/2018	07/11/2018
Volatile Organic Compounds					
Hexachlorobutadiene	µg/m ³		31 U	34 U	300 U
Hexane	µg/m ³		55	24	24 U
Isopropyl alcohol	µg/m ³		72	40	68 U
Isopropyl benzene	µg/m ³		1.7 J	3.0 J	34 U
m&p-Xylenes	µg/m ³		40	64	52
Methyl tert butyl ether (MTBE)	µg/m ³		10 U	12 U	100 U
Methylene chloride	µg/m ³		25 U	28 U	240 U
N-Heptane	µg/m ³		6.8	16	28 U
N-Propylbenzene	µg/m ³		5.2	6.2	6.4 J
o-Xylene	µg/m ³		19	26	24 J
Styrene	µg/m ³		10	11	13 J
Tetrachloroethene	µg/m ³		280	380	10000
Tetrahydrofuran	µg/m ³		29	31	11 J
Toluene	µg/m ³		52	84	50
trans-1,2-Dichloroethene	µg/m ³		1.2 J	3.2 U	28 U
trans-1,3-Dichloropropene	µg/m ³		3.3 U	3.6 U	32 U
Trichloroethene	µg/m ³		8.1	14	89
Trichlorofluoromethane (CFC-11)	µg/m ³		2.1 J	3.0 J	39 U
Trifluorotrichloroethane (CFC-113)	µg/m ³		5.6 U	6.2 U	53 U
Vinyl chloride	µg/m ³		1.9 U	2.0 U	18 U

Notes:

- J - Estimated concentration
- U - Not detected at the associated reporting limit
- - Not applicable

Table 3

**Analytical Methods and Holding Time Criteria
Soil Vapor Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
July 2018**

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
Volatile Organic Compounds (VOCs)	TO-15 ¹	Air	-	30
Helium	ASTM 1946 ²	Air	-	30

Notes:

- ¹ - "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999
- ² - Annual Book of ASTM Standards, American Society for Testing Materials, Section 5 and Section 11
- - Not applicable

Table 4

**Qualified Sample Data Due to Exceedance of Calibration Range
Soil Vapor Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
July 2018**

Parameter	Sample ID	Analyte	Qualified Result	Units
TO-15	SSDS-2	Ethanol	760 J	$\mu\text{g}/\text{m}^3$
TO-15	SSDS-1	Ethanol	660 J	$\mu\text{g}/\text{m}^3$

Notes:

J - Estimated concentration

TO-15 - "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air",
EPA-625/R-96/010b, January 1999



Memorandum

January 29, 2019

To: John Pentilchuk

Ref. No.: 006883

From: Kathy Willy/adh/22

Tel: 716-205-1942

**Subject: Analytical Results and Full Validation
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2018**

1. Introduction

This document details a validation of analytical results for air samples collected in support of the Soil Gas Sampling at the Hicksville site during October and November 2018. Samples were submitted to Eurofins Air Toxics located in Folsom, California. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Full Contract Laboratory Program (CLP) equivalent raw data deliverables were provided by the laboratory. Evaluation of the data was based on information obtained from the finished data sheets, raw data, chain of custody forms, calibration data, blank data, and recovery data from surrogate spikes/laboratory control samples (LCS). The assessment of analytical and in-house data included checks for data consistency (by observing comparability of duplicate analyses), adherence to accuracy and precision criteria, and transmittal errors.

The Quality Assurance/Quality Control (QA/QC) criteria by which these data have been assessed are outlined in the analytical method referenced in Table 3 and applicable guidance from the document entitled "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review", United States Environmental Protection Agency (USEPA) 540-R-08-01, June 2008, which will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 3. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

All samples were properly delivered and stored by the laboratory at the required temperature (0-6°C).



3. Gas Chromatography/Mass Spectrometry (GC/MS) – Tuning and Mass Calibration (Instrument Performance Check)

Prior to volatile organic compound (VOC) analysis, GC/MS instrumentation is tuned to ensure optimization over the mass range of interest. To evaluate instrument tuning, the method requires the analysis of specific tuning compound bromofluorobenzene (BFB). The resulting spectra must meet the criteria cited in the method before analysis is initiated. Analysis of the tuning compound must then be repeated every 24 hours throughout sample analysis to ensure the continued optimization of the instrument.

Tuning compounds were analyzed at the required frequency throughout VOC analysis periods. All tuning criteria were met indicating that proper optimization of the instrumentation was achieved.

4. Initial Calibration - Organic Analyses

To quantify VOCs of interest in samples, calibration of the GC/MS over a specific concentration range must be performed. Initially, a five-point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each analyte over a specific concentration range. Linearity of the calibration curve and instrument sensitivity are evaluated against the following criteria:

- i) All relative response factors (RRFs) must be greater than or equal to 0.05.
- ii) The percent relative standard deviation (RSD) values must not exceed 30.0 percent.

The initial calibration data for VOCs were reviewed. All compounds met the above criteria for sensitivity and linearity.

5. Continuing Calibration - Organic Analyses

To ensure that instrument calibration for VOC analyses is acceptable throughout the sample analysis period, continuing calibration standards must be analyzed and compared to the initial calibration curve every 24 hours.

The following criteria were employed to evaluate continuing calibration data:

- i) All RRF values must be greater than or equal to 0.05.
- ii) Percent difference (%D) values must not exceed 30.0 percent.

Calibration standards were analyzed at the required frequency, and all results met the above criteria for instrument sensitivity and stability.

6. Laboratory Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.



For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect indicating that laboratory contamination was not a factor for this investigation.

7. Surrogate Spike Recoveries

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for TO-15 determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met the laboratory criteria.

8. Internal Standards (IS) Analyses

IS data were evaluated for all VOC sample analyses.

To ensure that changes in the GC/MS sensitivity and response do not affect sample analysis results, IS compounds are added to each sample prior to analysis. All results are then calculated as a ratio of the IS responses.

The sample IS results were evaluated against the following criteria:

- i) The retention time of the IS must not vary more than ± 30 seconds from the associated calibration standard.
- ii) IS area counts must not vary by more than ± 40 percent from the associated calibration standard.

All VOC IS recoveries and retention times met the above criteria.

9. Laboratory Control Sample Analyses

LCS and laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

For this study, LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.



9.1 Organic Analyses

The LCS/LCSD contained all compounds of interest. All LCS recoveries and RPDs were within the laboratory control limits demonstrating acceptable analytical accuracy and precision.

10. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the distillation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

No MS/MSD analyses were performed on these investigative samples.

11. Field QA/QC Samples

Field QA/QC samples were not submitted with investigative samples from this event.

12. Analyte Reporting

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the practical quantitation limit (PQL) but greater than the MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the reporting limit (RL) in Table 2.

13. Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to the identification criteria established by the methods. The samples identified in Table 1 were reviewed. The organic compounds reported adhered to the specified identification criteria.

14. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable without qualification.

Table 1

Sample Collection and Analysis Summary
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2018

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	<u>Analysis/Parameters</u>	
					TO-15	Helium
SSD-Leg (Enterprise)	SSD-LEG	Soil Gas	10/23/2018	13:07	x	
VP-41	VP-41	Soil Gas	11/07/2018	09:45	x	x
VP-46	VP-46	Soil Gas	11/07/2018	10:45	x	x

Notes:

TO-15 - "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999

Table 2

**Analytical Results Summary
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2018**

	Location ID: Sample Name: Sample Date:	SSD-LEG SSD-Leg (Enterprise) 10/23/2018	VP-41 VP-41 11/07/2018	VP-46 VP-46 11/07/2018
Parameters	Unit			
Volatile Organic Compounds				
Helium	%	-	0.063 U	0.070 U
1,1,1-Trichloroethane	µg/m3	20 U	0.82 J	2.8 J
1,1,2,2-Tetrachloroethane	µg/m3	25 U	4.3 U	4.8 U
1,1,2-Trichloroethane	µg/m3	20 U	3.4 U	3.8 U
1,1-Dichloroethane	µg/m3	15 U	2.6 U	2.8 U
1,1-Dichloroethene	µg/m3	14 U	2.5 U	2.8 U
1,2,4-Trichlorobenzene	µg/m3	110 U	19 U	21 U
1,2,4-Trimethylbenzene	µg/m3	18 U	3.1 U	3.4 U
1,2-Dibromoethane (Ethylene dibromide)	µg/m3	28 U	4.8 U	5.4 U
1,2-Dichlorobenzene	µg/m3	22 U	3.8 U	4.2 U
1,2-Dichloroethane	µg/m3	15 U	2.5 U	2.8 U
1,2-Dichloropropane	µg/m3	17 U	2.9 U	3.2 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m3	25 U	4.4 U	4.9 U
1,3,5-Trimethylbenzene	µg/m3	18 U	3.1 U	3.4 U
1,3-Butadiene	µg/m3	8.0 U	1.4 U	1.5 U
1,3-Dichlorobenzene	µg/m3	22 U	3.8 U	4.2 U
1,4-Dichlorobenzene	µg/m3	22 U	3.8 U	4.2 U
1,4-Dioxane	µg/m3	52 U	9.1 U	10 U
2,2,4-Trimethylpentane	µg/m3	17 U	2.9 U	3.3 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m3	28 J	7.4 U	8.2 U
2-Hexanone	µg/m3	60 U	10 U	11 U
4-Ethyl toluene	µg/m3	18 U	3.1 U	3.4 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m3	15 U	2.6 U	2.9 U
Acetone	µg/m3	31 J	3.4 J	6.8 J
Allyl chloride	µg/m3	46 U	7.9 U	8.8 U
Benzene	µg/m3	12 U	2.0 U	2.2 U
Benzyl chloride	µg/m3	19 U	3.3 U	3.6 U
Bromodichloromethane	µg/m3	24 U	4.2 U	4.7 U
Bromoform	µg/m3	38 U	6.5 U	7.2 U
Bromomethane (Methyl bromide)	µg/m3	140 U	24 U	27 U
Carbon disulfide	µg/m3	45 U	7.8 U	8.7 U
Carbon tetrachloride	µg/m3	23 U	4.0 U	7.6
Chlorobenzene	µg/m3	17 U	2.9 U	3.2 U
Chloroethane	µg/m3	38 U	6.6 U	7.4 U
Chloroform (Trichloromethane)	µg/m3	4.9 J	3.1 U	2.0 J
Chloromethane (Methyl chloride)	µg/m3	75 U	13 U	14 U
cis-1,2-Dichloroethene	µg/m3	14 U	2.5 U	1.1 J
cis-1,3-Dichloropropene	µg/m3	16 U	2.8 U	3.2 U
Cyclohexane	µg/m3	12 U	2.2 U	2.4 U
Dibromochloromethane	µg/m3	31 U	5.4 U	6.0 U
Dichlorodifluoromethane (CFC-12)	µg/m3	18 U	3.1 J	3.0 J
Ethanol	µg/m3	13 J	4.7 U	5.3 U
Ethylbenzene	µg/m3	16 U	1.1 J	3.0 U
Hexachlorobutadiene	µg/m3	160 U	27 U	30 U
Hexane	µg/m3	5.5 J	2.2 U	2.5 U
Isopropyl alcohol	µg/m3	7.2 J	6.2 U	6.9 U
Isopropyl benzene	µg/m3	18 U	3.1 U	3.4 U

Table 2

**Analytical Results Summary
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2018**

	Location ID:	SSD-LEG	VP-41	VP-46
	Sample Name:	SSD-Leg (Enterprise)	VP-41	VP-46
	Sample Date:	10/23/2018	11/07/2018	11/07/2018
Parameters	Unit			
Volatile Organic Compounds				
m&p-Xylenes	µg/m3	16 U	5.2	3.0 U
Methyl tert butyl ether (MTBE)	µg/m3	52 U	9.1 U	10 U
Methylene chloride	µg/m3	9.3 J	22 U	24 U
N-Heptane	µg/m3	15 U	2.6 U	2.9 U
N-Propylbenzene	µg/m3	18 U	3.1 U	3.4 U
o-Xylene	µg/m3	16 U	2.9	3.0 U
Styrene	µg/m3	16 U	2.7 U	3.0 U
Tetrachloroethene	µg/m3	4800	18	690
Tetrahydrofuran	µg/m3	11 U	1.8 U	2.1 U
Toluene	µg/m3	14 U	0.49 J	2.6 U
trans-1,2-Dichloroethene	µg/m3	14 U	2.5 U	1.6 J
trans-1,3-Dichloropropene	µg/m3	16 U	2.8 U	3.2 U
Trichloroethene	µg/m3	65	3.4 U	7.1
Trichlorofluoromethane (CFC-11)	µg/m3	20 U	1.6 J	1.5 J
Trifluorotrichloroethane (CFC-113)	µg/m3	28 U	4.8 U	5.4 U
Vinyl chloride	µg/m3	9.3 U	1.6 U	1.8 U

Notes:

- J - Estimated concentration
 U - Not detected at the associated reporting limit
 - - Not applicable

Table 3

**Analytical Methods and Holding Time Criteria
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2018**

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
Volatile Organic Compounds (VOCs)	TO-15 ¹	Air	-	30
Helium	ASTM 1946 ²	Air	-	7

Notes:

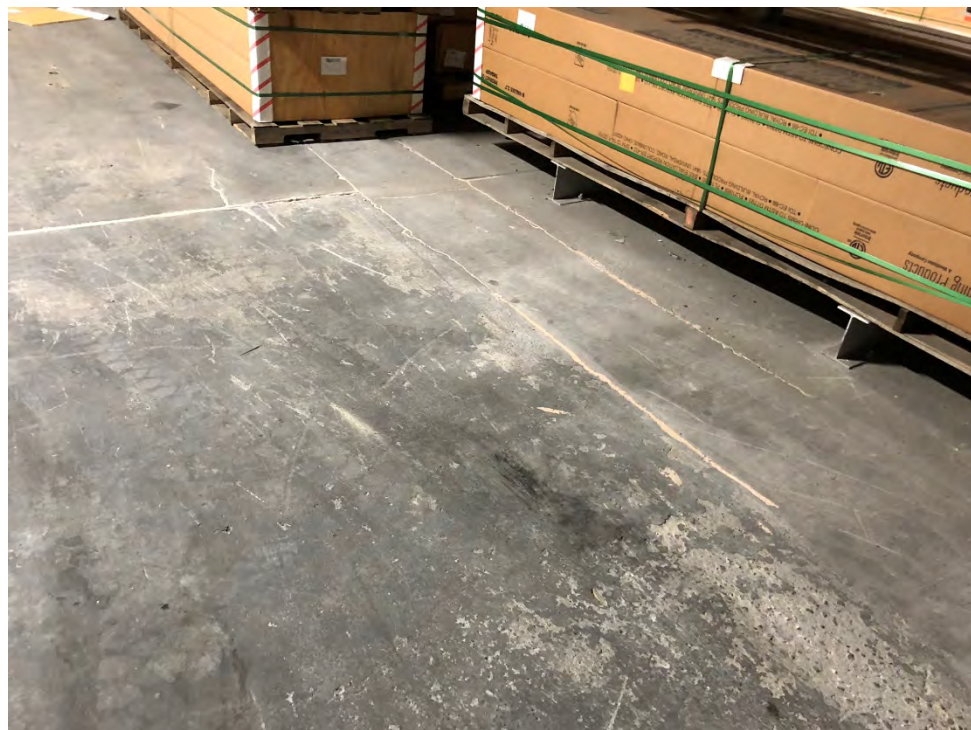
- ¹ - "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999
- ² - Annual Book of ASTM Standards, American Society for Testing Materials, Section 5 and Section 11
- - Not applicable

Attachment D

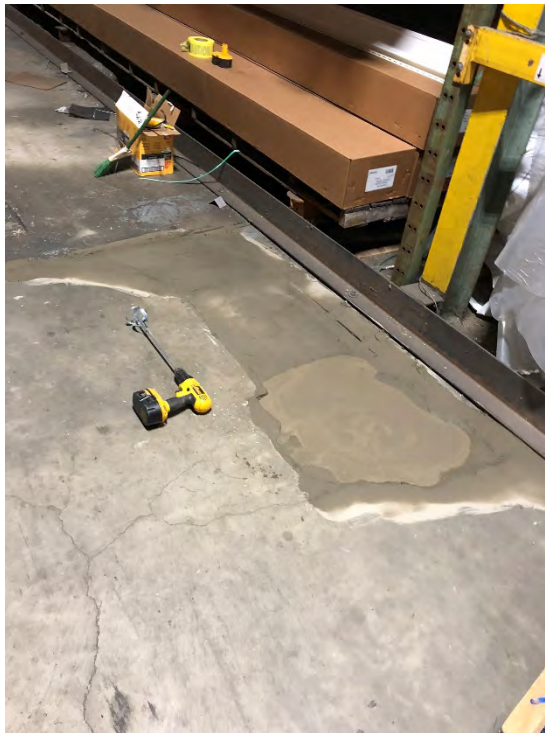
Photo Log, Interior Work



Site Photographs



Site Photographs



Site Photographs



Site Photographs





Site Photographs



Site Photographs



Site Photographs



Attachment B

As-Recorded Drawings

DRAWING INDEX			
DWG. N °	REV. No.	DATE	TITLE
ENGINEERING FLOW SHEETS			
EF-001		5/17	PROCESS & INSTRUMENTATION DIAGRAM
MECHANICAL/PIPING			
ME-001	-	5/17	OVERALL SITE PLAN
ME-002	-	5/17	PIPE AND FAN INSTALLATION DETAILS

RUCO POLYMER CORP. SITE
HICKSVILLE, NEW YORK

SUB-SLAB DEPRESSURIZATION SYSTEM

1 ENTERPRISE PLACE
AS RECORDED

JUNE 3, 2019

GHD

GHD Services Inc.

The diagram is a detailed site plan of the Enterprise Place Building. The building's footprint is outlined in black, with several sections highlighted in light blue with diagonal hatching. These hatched areas are labeled as 'LOADING DOCK' with arrows pointing to them. The building is situated on a lot with a 'COMMERCIAL' area to the north and 'PLANT 2' and 'PILOT PLANT' areas to the south. A series of six SSD (Solid State Drive) locations are marked along the southern edge of the building, labeled SSD-1 through SSD-6. Each SSD location is accompanied by a vertical dimension line indicating a height of 45' and a horizontal dimension line indicating a width of 5'. The horizontal dimensions between the SSD locations are: 87' between SSD-6 and SSD-5, 97' between SSD-5 and SSD-4, 104' between SSD-4 and SSD-3, 98' between SSD-3 and SSD-2, 96' between SSD-2 and SSD-1, and 132' between SSD-1 and the eastern edge of the building. The building itself is labeled '1 ENTERPRISE PLACE BUILDING' with an arrow pointing to its main structure. The plan also shows various other features such as parking spaces, access roads, and utility lines.



Attachment C

Photo Log, Phase II SSD Installation



Photo 1 - Vacuum Operation at SSD-4



Photo 2 - Casing pipes and 3-inch extraction pipe during installation at SSD-6



SSD System Photographs



Photo 3 - Connection between vertical riser and horizontal pipe at SSD-2



Photo 4 - Riser Pipe at SSD-2



SSD System Photographs



Photo 5 - Completed installation at SSD-1



Photo 6 - Completed installation at SSD-2



SSD System Photographs



Photo 7 - Completed installation at SSD-3



Photo 8 - Completed installation at SSD-4



SSD System Photographs



Photo 9 - Completed installation at SSD-6



Photo 10 - Completed system – view looking north



SSD System Photographs



Photo 11 – Completed system – view looking south



SSD System Photographs

Attachment D

Laboratory Reports

3/6/2019

Ms. Kathy Willy

GHD

2055 Niagara Falls Blvd.

Suite Three

Niagara Falls NY 14304

Project Name: Enterprise

Project #:

Workorder #: 1902551A

Dear Ms. Kathy Willy

The following report includes the data for the above referenced project for sample(s) received on 2/27/2019 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Rachel Selenis at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Rachel Selenis

Project Manager

WORK ORDER #: 1902551A

Work Order Summary

CLIENT:	Ms. Kathy Willy GHD 2055 Niagara Falls Blvd. Suite Three Niagara Falls, NY 14304	BILL TO:	Accounts Payable OxyChem/Glenn Springs Holdings PO Box 2148 Houston, TX 77252
PHONE:	716-297-6150	P.O. #	256-402-D02-3100
FAX:	716-297-6296	PROJECT #	Enterprise
DATE RECEIVED:	02/27/2019	CONTACT:	Rachel Selenis
DATE COMPLETED:	03/06/2019		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	IA-1	TO-15	1.5 "Hg	5 psi
02A	IA-2	TO-15	1.5 "Hg	5 psi
03A	IA-3	TO-15	3.0 "Hg	5 psi
04A	OA-1	TO-15	0.5 "Hg	5 psi
05A	SSDS Leg	TO-15	1.0 "Hg	5 psi
06A	SV-1	TO-15	3.0 "Hg	5 psi
07A	Lab Blank	TO-15	NA	NA
08A	CCV	TO-15	NA	NA
09A	LCS	TO-15	NA	NA
09AA	LCSD	TO-15	NA	NA

CERTIFIED BY:



Technical Director

DATE: 03/06/19

Certification numbers: AZ Licensure AZ0775, FL NELAP - E8 , LA NELAP - 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP CA009332018-10, VA NELAP - 9505, WA NELAP - C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005-011, Effective date: 10/18/2018, Expiration date: 10/17/2019.

Eurofins Air Toxics LLC. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics LLC.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
GHD
Workorder# 1902551A

Six 6 Liter Summa Canister samples were received on February 27, 2019. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	IA-1	Date/Time Analyzed:	3/4/19 10:39 PM
Lab ID:	1902551A-01A	Dilution Factor:	1.41
Date/Time Collected:	2/22/19 02:00 PM	Instrument/Filename:	msd3.i / 3030417
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.54	3.1	3.8	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	1.7	3.9	4.8	Not Detected
1,1,2-Trichloroethane	79-00-5	0.38	3.1	3.8	Not Detected
1,1-Dichloroethane	75-34-3	0.68	2.3	2.8	Not Detected
1,1-Dichloroethene	75-35-4	1.0	2.2	2.8	Not Detected
1,2,4-Trichlorobenzene	120-82-1	2.1	10	21	Not Detected
1,2,4-Trimethylbenzene	95-63-6	2.0	2.8	3.5	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.1	4.3	5.4	Not Detected
1,2-Dichlorobenzene	95-50-1	0.85	3.4	4.2	Not Detected
1,2-Dichloroethane	107-06-2	0.91	2.3	2.8	Not Detected
1,2-Dichloropropane	78-87-5	1.4	2.6	3.2	Not Detected
1,3,5-Trimethylbenzene	108-67-8	1.2	2.8	3.5	Not Detected
1,3-Butadiene	106-99-0	0.97	1.2	1.6	Not Detected
1,3-Dichlorobenzene	541-73-1	0.85	3.4	4.2	Not Detected
1,4-Dichlorobenzene	106-46-7	0.76	3.4	4.2	Not Detected
1,4-Dioxane	123-91-1	0.91	5.1	10	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.46	2.6	3.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	1.1	4.2	8.3	2.0 J
2-Hexanone	591-78-6	0.81	5.8	12	Not Detected
2-Propanol	67-63-0	0.94	3.5	6.9	1.2 J
3-Chloropropene	107-05-1	1.8	4.4	8.8	Not Detected
4-Ethyltoluene	622-96-8	1.1	2.8	3.5	Not Detected
4-Methyl-2-pentanone	108-10-1	1.3	2.3	2.9	Not Detected
Acetone	67-64-1	2.6	3.3	17	9.2 J

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	IA-1	Date/Time Analyzed:	3/4/19 10:39 PM
Lab ID:	1902551A-01A	Dilution Factor:	1.41
Date/Time Collected:	2/22/19 02:00 PM	Instrument/File Name:	msd3.i / 3030417
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.36	2.9	3.6	Not Detected
Benzene	71-43-2	0.54	1.8	2.2	0.71 J
Bromodichloromethane	75-27-4	0.47	3.8	4.7	Not Detected
Bromoform	75-25-2	2.3	5.8	7.3	Not Detected
Bromomethane	74-83-9	0.82	5.5	27	Not Detected
Carbon Disulfide	75-15-0	5.0	5.0	8.8	Not Detected
Carbon Tetrachloride	56-23-5	0.44	3.5	4.4	Not Detected
Chlorobenzene	108-90-7	0.26	2.6	3.2	Not Detected
Chloroethane	75-00-3	0.63	3.7	7.4	Not Detected
Chloroform	67-66-3	0.34	2.8	3.4	Not Detected
Chloromethane	74-87-3	1.4	2.9	14	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.61	2.2	2.8	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.90	2.6	3.2	Not Detected
Cumene	98-82-8	1.0	2.8	3.5	Not Detected
Cyclohexane	110-82-7	0.34	1.9	2.4	Not Detected
Dibromochloromethane	124-48-1	0.96	4.8	6.0	Not Detected
Ethanol	64-17-5	0.98	2.6	5.3	5.4
Ethyl Benzene	100-41-4	0.61	2.4	3.1	0.72 J
Freon 11	75-69-4	0.95	3.2	4.0	1.2 J
Freon 113	76-13-1	1.1	4.3	5.4	Not Detected
Freon 114	76-14-2	1.4	3.9	4.9	Not Detected
Freon 12	75-71-8	0.84	2.8	3.5	2.9 J
Heptane	142-82-5	0.64	2.3	2.9	Not Detected
Hexachlorobutadiene	87-68-3	6.2	15	30	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	IA-1	Date/Time Analyzed:	3/4/19 10:39 PM
Lab ID:	1902551A-01A	Dilution Factor:	1.41
Date/Time Collected:	2/22/19 02:00 PM	Instrument/Filename:	msd3.i / 3030417
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.99	2.0	2.5	Not Detected
m,p-Xylene	108-38-3	0.49	2.4	3.1	1.4 J
Methyl tert-butyl ether	1634-04-4	0.81	5.1	10	Not Detected
Methylene Chloride	75-09-2	0.88	4.9	24	Not Detected
o-Xylene	95-47-6	0.92	2.4	3.1	Not Detected
Propylbenzene	103-65-1	1.1	2.8	3.5	Not Detected
Styrene	100-42-5	0.72	2.4	3.0	0.83 J
Tetrachloroethene	127-18-4	0.96	3.8	4.8	Not Detected
Tetrahydrofuran	109-99-9	0.46	1.7	2.1	0.81 J
Toluene	108-88-3	0.85	2.1	2.6	5.2
trans-1,2-Dichloroethene	156-60-5	0.84	2.2	2.8	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.45	2.6	3.2	Not Detected
Trichloroethene	79-01-6	0.61	3.0	3.8	Not Detected
Vinyl Chloride	75-01-4	1.0	1.4	1.8	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	88
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	103

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	IA-2	Date/Time Analyzed:	3/4/19 06:18 PM
Lab ID:	1902551A-02A	Dilution Factor:	1.41
Date/Time Collected:	2/22/19 01:45 PM	Instrument/Filename:	msd3.i / 3030415
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.54	3.1	3.8	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	1.7	3.9	4.8	Not Detected
1,1,2-Trichloroethane	79-00-5	0.38	3.1	3.8	Not Detected
1,1-Dichloroethane	75-34-3	0.68	2.3	2.8	Not Detected
1,1-Dichloroethene	75-35-4	1.0	2.2	2.8	Not Detected
1,2,4-Trichlorobenzene	120-82-1	2.1	10	21	Not Detected
1,2,4-Trimethylbenzene	95-63-6	2.0	2.8	3.5	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.1	4.3	5.4	Not Detected
1,2-Dichlorobenzene	95-50-1	0.85	3.4	4.2	Not Detected
1,2-Dichloroethane	107-06-2	0.91	2.3	2.8	Not Detected
1,2-Dichloropropane	78-87-5	1.4	2.6	3.2	Not Detected
1,3,5-Trimethylbenzene	108-67-8	1.2	2.8	3.5	Not Detected
1,3-Butadiene	106-99-0	0.97	1.2	1.6	Not Detected
1,3-Dichlorobenzene	541-73-1	0.85	3.4	4.2	Not Detected
1,4-Dichlorobenzene	106-46-7	0.76	3.4	4.2	Not Detected
1,4-Dioxane	123-91-1	0.91	5.1	10	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.46	2.6	3.3	6.1
2-Butanone (Methyl Ethyl Ketone)	78-93-3	1.1	4.2	8.3	1.2 J
2-Hexanone	591-78-6	0.81	5.8	12	Not Detected
2-Propanol	67-63-0	0.94	3.5	6.9	Not Detected
3-Chloropropene	107-05-1	1.8	4.4	8.8	Not Detected
4-Ethyltoluene	622-96-8	1.1	2.8	3.5	3.7
4-Methyl-2-pentanone	108-10-1	1.3	2.3	2.9	Not Detected
Acetone	67-64-1	2.6	3.3	17	12 J

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	IA-2	Date/Time Analyzed:	3/4/19 06:18 PM
Lab ID:	1902551A-02A	Dilution Factor:	1.41
Date/Time Collected:	2/22/19 01:45 PM	Instrument/Filename:	msd3.i / 3030415
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.36	2.9	3.6	Not Detected
Benzene	71-43-2	0.54	1.8	2.2	1.6 J
Bromodichloromethane	75-27-4	0.47	3.8	4.7	Not Detected
Bromoform	75-25-2	2.3	5.8	7.3	Not Detected
Bromomethane	74-83-9	0.82	5.5	27	Not Detected
Carbon Disulfide	75-15-0	5.0	5.0	8.8	Not Detected
Carbon Tetrachloride	56-23-5	0.44	3.5	4.4	Not Detected
Chlorobenzene	108-90-7	0.26	2.6	3.2	Not Detected
Chloroethane	75-00-3	0.63	3.7	7.4	Not Detected
Chloroform	67-66-3	0.34	2.8	3.4	Not Detected
Chloromethane	74-87-3	1.4	2.9	14	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.61	2.2	2.8	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.90	2.6	3.2	Not Detected
Cumene	98-82-8	1.0	2.8	3.5	Not Detected
Cyclohexane	110-82-7	0.34	1.9	2.4	0.78 J
Dibromochloromethane	124-48-1	0.96	4.8	6.0	Not Detected
Ethanol	64-17-5	0.98	2.6	5.3	5.5
Ethyl Benzene	100-41-4	0.61	2.4	3.1	12
Freon 11	75-69-4	0.95	3.2	4.0	1.4 J
Freon 113	76-13-1	1.1	4.3	5.4	Not Detected
Freon 114	76-14-2	1.4	3.9	4.9	Not Detected
Freon 12	75-71-8	0.84	2.8	3.5	2.6 J
Heptane	142-82-5	0.64	2.3	2.9	5.4
Hexachlorobutadiene	87-68-3	6.2	15	30	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	IA-2	Date/Time Analyzed:	3/4/19 06:18 PM
Lab ID:	1902551A-02A	Dilution Factor:	1.41
Date/Time Collected:	2/22/19 01:45 PM	Instrument/Filename:	msd3.i / 3030415
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.99	2.0	2.5	6.3
m,p-Xylene	108-38-3	0.49	2.4	3.1	52
Methyl tert-butyl ether	1634-04-4	0.81	5.1	10	Not Detected
Methylene Chloride	75-09-2	0.88	4.9	24	Not Detected
o-Xylene	95-47-6	0.92	2.4	3.1	23
Propylbenzene	103-65-1	1.1	2.8	3.5	Not Detected
Styrene	100-42-5	0.72	2.4	3.0	1.3 J
Tetrachloroethene	127-18-4	0.96	3.8	4.8	Not Detected
Tetrahydrofuran	109-99-9	0.46	1.7	2.1	1.5 J
Toluene	108-88-3	0.85	2.1	2.6	27
trans-1,2-Dichloroethene	156-60-5	0.84	2.2	2.8	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.45	2.6	3.2	Not Detected
Trichloroethene	79-01-6	0.61	3.0	3.8	Not Detected
Vinyl Chloride	75-01-4	1.0	1.4	1.8	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	86
4-Bromofluorobenzene	460-00-4	70-130	104
Toluene-d8	2037-26-5	70-130	100

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	IA-3	Date/Time Analyzed:	3/4/19 06:44 PM
Lab ID:	1902551A-03A	Dilution Factor:	1.49
Date/Time Collected:	2/22/19 01:30 PM	Instrument/Filename:	msd3.i / 3030416
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.57	3.2	4.1	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	1.8	4.1	5.1	Not Detected
1,1,2-Trichloroethane	79-00-5	0.41	3.2	4.1	Not Detected
1,1-Dichloroethane	75-34-3	0.72	2.4	3.0	Not Detected
1,1-Dichloroethene	75-35-4	1.1	2.4	3.0	Not Detected
1,2,4-Trichlorobenzene	120-82-1	2.2	11	22	Not Detected
1,2,4-Trimethylbenzene	95-63-6	2.1	2.9	3.7	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.1	4.6	5.7	Not Detected
1,2-Dichlorobenzene	95-50-1	0.90	3.6	4.5	Not Detected
1,2-Dichloroethane	107-06-2	0.96	2.4	3.0	Not Detected
1,2-Dichloropropane	78-87-5	1.5	2.8	3.4	Not Detected
1,3,5-Trimethylbenzene	108-67-8	1.2	2.9	3.7	Not Detected
1,3-Butadiene	106-99-0	1.0	1.3	1.6	Not Detected
1,3-Dichlorobenzene	541-73-1	0.90	3.6	4.5	Not Detected
1,4-Dichlorobenzene	106-46-7	0.81	3.6	4.5	Not Detected
1,4-Dioxane	123-91-1	0.97	5.4	11	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.49	2.8	3.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	1.1	4.4	8.8	5.9 J
2-Hexanone	591-78-6	0.85	6.1	12	Not Detected
2-Propanol	67-63-0	0.99	3.7	7.3	1.3 J
3-Chloropropene	107-05-1	1.9	4.7	9.3	Not Detected
4-Ethyltoluene	622-96-8	1.2	2.9	3.7	Not Detected
4-Methyl-2-pentanone	108-10-1	1.3	2.4	3.0	Not Detected
Acetone	67-64-1	2.8	3.5	18	10 J

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	IA-3	Date/Time Analyzed:	3/4/19 06:44 PM
Lab ID:	1902551A-03A	Dilution Factor:	1.49
Date/Time Collected:	2/22/19 01:30 PM	Instrument/File Name:	msd3.i / 3030416
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.38	3.1	3.8	Not Detected
Benzene	71-43-2	0.57	1.9	2.4	0.62 J
Bromodichloromethane	75-27-4	0.50	4.0	5.0	Not Detected
Bromoform	75-25-2	2.5	6.2	7.7	Not Detected
Bromomethane	74-83-9	0.87	5.8	29	Not Detected
Carbon Disulfide	75-15-0	5.3	5.3	9.3	Not Detected
Carbon Tetrachloride	56-23-5	0.47	3.8	4.7	Not Detected
Chlorobenzene	108-90-7	0.27	2.7	3.4	Not Detected
Chloroethane	75-00-3	0.67	3.9	7.9	Not Detected
Chloroform	67-66-3	0.36	2.9	3.6	Not Detected
Chloromethane	74-87-3	1.5	3.1	15	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.65	2.4	3.0	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.95	2.7	3.4	Not Detected
Cumene	98-82-8	1.1	2.9	3.7	Not Detected
Cyclohexane	110-82-7	0.36	2.0	2.6	Not Detected
Dibromochloromethane	124-48-1	1.0	5.1	6.3	Not Detected
Ethanol	64-17-5	1.0	2.8	5.6	5.0 J
Ethyl Benzene	100-41-4	0.65	2.6	3.2	2.1 J
Freon 11	75-69-4	1.0	3.3	4.2	1.1 J
Freon 113	76-13-1	1.1	4.6	5.7	Not Detected
Freon 114	76-14-2	1.4	4.2	5.2	Not Detected
Freon 12	75-71-8	0.88	2.9	3.7	2.7 J
Heptane	142-82-5	0.67	2.4	3.0	Not Detected
Hexachlorobutadiene	87-68-3	6.5	16	32	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	IA-3	Date/Time Analyzed:	3/4/19 06:44 PM
Lab ID:	1902551A-03A	Dilution Factor:	1.49
Date/Time Collected:	2/22/19 01:30 PM	Instrument/Filename:	msd3.i / 3030416
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	1.0	2.1	2.6	Not Detected
m,p-Xylene	108-38-3	0.52	2.6	3.2	7.4
Methyl tert-butyl ether	1634-04-4	0.86	5.4	11	Not Detected
Methylene Chloride	75-09-2	0.93	5.2	26	Not Detected
o-Xylene	95-47-6	0.97	2.6	3.2	2.1 J
Propylbenzene	103-65-1	1.2	2.9	3.7	Not Detected
Styrene	100-42-5	0.76	2.5	3.2	0.81 J
Tetrachloroethene	127-18-4	1.0	4.0	5.0	Not Detected
Tetrahydrofuran	109-99-9	0.48	1.8	2.2	0.70 J
Toluene	108-88-3	0.90	2.2	2.8	4.5
trans-1,2-Dichloroethene	156-60-5	0.89	2.4	3.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.47	2.7	3.4	Not Detected
Trichloroethene	79-01-6	0.64	3.2	4.0	Not Detected
Vinyl Chloride	75-01-4	1.1	1.5	1.9	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	90
4-Bromofluorobenzene	460-00-4	70-130	102
Toluene-d8	2037-26-5	70-130	103

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	OA-1	Date/Time Analyzed:	3/4/19 11:05 PM
Lab ID:	1902551A-04A	Dilution Factor:	1.36
Date/Time Collected:	2/22/19 01:35 PM	Instrument/Filename:	msd3.i / 3030418
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.52	3.0	3.7	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	1.7	3.7	4.7	Not Detected
1,1,2-Trichloroethane	79-00-5	0.37	3.0	3.7	Not Detected
1,1-Dichloroethane	75-34-3	0.66	2.2	2.8	Not Detected
1,1-Dichloroethene	75-35-4	0.97	2.2	2.7	Not Detected
1,2,4-Trichlorobenzene	120-82-1	2.0	10	20	Not Detected
1,2,4-Trimethylbenzene	95-63-6	1.9	2.7	3.3	3.2 J
1,2-Dibromoethane (EDB)	106-93-4	1.0	4.2	5.2	Not Detected
1,2-Dichlorobenzene	95-50-1	0.82	3.3	4.1	Not Detected
1,2-Dichloroethane	107-06-2	0.88	2.2	2.8	Not Detected
1,2-Dichloropropane	78-87-5	1.4	2.5	3.1	Not Detected
1,3,5-Trimethylbenzene	108-67-8	1.1	2.7	3.3	1.3 J
1,3-Butadiene	106-99-0	0.93	1.2	1.5	Not Detected
1,3-Dichlorobenzene	541-73-1	0.82	3.3	4.1	Not Detected
1,4-Dichlorobenzene	106-46-7	0.74	3.3	4.1	Not Detected
1,4-Dioxane	123-91-1	0.88	4.9	9.8	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.44	2.5	3.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	1.0	4.0	8.0	Not Detected
2-Hexanone	591-78-6	0.78	5.6	11	Not Detected
2-Propanol	67-63-0	0.90	3.3	6.7	Not Detected
3-Chloropropene	107-05-1	1.7	4.2	8.5	Not Detected
4-Ethyltoluene	622-96-8	1.1	2.7	3.3	2.4 J
4-Methyl-2-pentanone	108-10-1	1.2	2.2	2.8	Not Detected
Acetone	67-64-1	2.5	3.2	16	5.6 J

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	OA-1	Date/Time Analyzed:	3/4/19 11:05 PM
Lab ID:	1902551A-04A	Dilution Factor:	1.36
Date/Time Collected:	2/22/19 01:35 PM	Instrument/Filename:	msd3.i / 3030418
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.35	2.8	3.5	Not Detected
Benzene	71-43-2	0.52	1.7	2.2	0.59 J
Bromodichloromethane	75-27-4	0.46	3.6	4.6	Not Detected
Bromoform	75-25-2	2.2	5.6	7.0	Not Detected
Bromomethane	74-83-9	0.79	5.3	26	Not Detected
Carbon Disulfide	75-15-0	4.8	4.8	8.5	Not Detected
Carbon Tetrachloride	56-23-5	0.43	3.4	4.3	Not Detected
Chlorobenzene	108-90-7	0.25	2.5	3.1	Not Detected
Chloroethane	75-00-3	0.61	3.6	7.2	Not Detected
Chloroform	67-66-3	0.33	2.6	3.3	Not Detected
Chloromethane	74-87-3	1.3	2.8	14	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.59	2.2	2.7	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.86	2.5	3.1	Not Detected
Cumene	98-82-8	1.0	2.7	3.3	Not Detected
Cyclohexane	110-82-7	0.33	1.9	2.3	Not Detected
Dibromochloromethane	124-48-1	0.93	4.6	5.8	Not Detected
Ethanol	64-17-5	0.95	2.6	5.1	3.4 J
Ethyl Benzene	100-41-4	0.59	2.4	3.0	Not Detected
Freon 11	75-69-4	0.92	3.0	3.8	1.3 J
Freon 113	76-13-1	1.0	4.2	5.2	Not Detected
Freon 114	76-14-2	1.3	3.8	4.8	Not Detected
Freon 12	75-71-8	0.81	2.7	3.4	2.7 J
Heptane	142-82-5	0.61	2.2	2.8	Not Detected
Hexachlorobutadiene	87-68-3	5.9	14	29	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	OA-1	Date/Time Analyzed:	3/4/19 11:05 PM
Lab ID:	1902551A-04A	Dilution Factor:	1.36
Date/Time Collected:	2/22/19 01:35 PM	Instrument/Filename:	msd3.i / 3030418
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.96	1.9	2.4	Not Detected
m,p-Xylene	108-38-3	0.47	2.4	3.0	2.2 J
Methyl tert-butyl ether	1634-04-4	0.78	4.9	9.8	Not Detected
Methylene Chloride	75-09-2	0.85	4.7	24	Not Detected
o-Xylene	95-47-6	0.88	2.4	3.0	Not Detected
Propylbenzene	103-65-1	1.1	2.7	3.3	Not Detected
Styrene	100-42-5	0.70	2.3	2.9	Not Detected
Tetrachloroethene	127-18-4	0.92	3.7	4.6	Not Detected
Tetrahydrofuran	109-99-9	0.44	1.6	2.0	Not Detected
Toluene	108-88-3	0.82	2.0	2.6	1.4 J
trans-1,2-Dichloroethene	156-60-5	0.81	2.2	2.7	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.43	2.5	3.1	Not Detected
Trichloroethene	79-01-6	0.58	2.9	3.6	Not Detected
Vinyl Chloride	75-01-4	0.97	1.4	1.7	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	88
4-Bromofluorobenzene	460-00-4	70-130	100
Toluene-d8	2037-26-5	70-130	102

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	SSDS Leg	Date/Time Analyzed:	3/4/19 11:31 PM
Lab ID:	1902551A-05A	Dilution Factor:	1.39
Date/Time Collected:	2/22/19 09:20 AM	Instrument/Filename:	msd3.i / 3030419
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.53	3.0	3.8	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	1.7	3.8	4.8	Not Detected
1,1,2-Trichloroethane	79-00-5	0.38	3.0	3.8	Not Detected
1,1-Dichloroethane	75-34-3	0.68	2.2	2.8	Not Detected
1,1-Dichloroethene	75-35-4	0.99	2.2	2.8	Not Detected
1,2,4-Trichlorobenzene	120-82-1	2.1	10	21	Not Detected
1,2,4-Trimethylbenzene	95-63-6	2.0	2.7	3.4	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.1	4.3	5.3	Not Detected
1,2-Dichlorobenzene	95-50-1	0.84	3.3	4.2	Not Detected
1,2-Dichloroethane	107-06-2	0.90	2.2	2.8	Not Detected
1,2-Dichloropropane	78-87-5	1.4	2.6	3.2	Not Detected
1,3,5-Trimethylbenzene	108-67-8	1.2	2.7	3.4	Not Detected
1,3-Butadiene	106-99-0	0.95	1.2	1.5	Not Detected
1,3-Dichlorobenzene	541-73-1	0.84	3.3	4.2	Not Detected
1,4-Dichlorobenzene	106-46-7	0.75	3.3	4.2	Not Detected
1,4-Dioxane	123-91-1	0.90	5.0	10	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.45	2.6	3.2	5.5
2-Butanone (Methyl Ethyl Ketone)	78-93-3	1.1	4.1	8.2	Not Detected
2-Hexanone	591-78-6	0.80	5.7	11	Not Detected
2-Propanol	67-63-0	0.92	3.4	6.8	2.8 J
3-Chloropropene	107-05-1	1.8	4.4	8.7	Not Detected
4-Ethyltoluene	622-96-8	1.1	2.7	3.4	1.7 J
4-Methyl-2-pentanone	108-10-1	1.2	2.3	2.8	Not Detected
Acetone	67-64-1	2.6	3.3	16	15 J

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	SSDS Leg	Date/Time Analyzed:	3/4/19 11:31 PM
Lab ID:	1902551A-05A	Dilution Factor:	1.39
Date/Time Collected:	2/22/19 09:20 AM	Instrument/File Name:	msd3.i / 3030419
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.36	2.9	3.6	Not Detected
Benzene	71-43-2	0.53	1.8	2.2	3.0
Bromodichloromethane	75-27-4	0.46	3.7	4.6	Not Detected
Bromoform	75-25-2	2.3	5.7	7.2	Not Detected
Bromomethane	74-83-9	0.81	5.4	27	Not Detected
Carbon Disulfide	75-15-0	4.9	4.9	8.6	Not Detected
Carbon Tetrachloride	56-23-5	0.44	3.5	4.4	Not Detected
Chlorobenzene	108-90-7	0.26	2.6	3.2	Not Detected
Chloroethane	75-00-3	0.62	3.7	7.3	Not Detected
Chloroform	67-66-3	0.34	2.7	3.4	Not Detected
Chloromethane	74-87-3	1.4	2.9	14	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.61	2.2	2.8	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.88	2.5	3.2	Not Detected
Cumene	98-82-8	1.0	2.7	3.4	Not Detected
Cyclohexane	110-82-7	0.33	1.9	2.4	1.8 J
Dibromochloromethane	124-48-1	0.95	4.7	5.9	Not Detected
Ethanol	64-17-5	0.97	2.6	5.2	48
Ethyl Benzene	100-41-4	0.60	2.4	3.0	1.7 J
Freon 11	75-69-4	0.94	3.1	3.9	1.1 J
Freon 113	76-13-1	1.1	4.3	5.3	Not Detected
Freon 114	76-14-2	1.4	3.9	4.8	Not Detected
Freon 12	75-71-8	0.82	2.7	3.4	2.8 J
Heptane	142-82-5	0.63	2.3	2.8	1.9 J
Hexachlorobutadiene	87-68-3	6.1	15	30	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	SSDS Leg	Date/Time Analyzed:	3/4/19 11:31 PM
Lab ID:	1902551A-05A	Dilution Factor:	1.39
Date/Time Collected:	2/22/19 09:20 AM	Instrument/Filename:	msd3.i / 3030419
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.98	2.0	2.4	4.5
m,p-Xylene	108-38-3	0.48	2.4	3.0	4.9
Methyl tert-butyl ether	1634-04-4	0.80	5.0	10	Not Detected
Methylene Chloride	75-09-2	0.87	4.8	24	5.4 J
o-Xylene	95-47-6	0.90	2.4	3.0	1.9 J
Propylbenzene	103-65-1	1.1	2.7	3.4	Not Detected
Styrene	100-42-5	0.71	2.4	3.0	Not Detected
Tetrachloroethene	127-18-4	0.94	3.8	4.7	1.2 J
Tetrahydrofuran	109-99-9	0.45	1.6	2.0	2.3
Toluene	108-88-3	0.84	2.1	2.6	9.3
trans-1,2-Dichloroethene	156-60-5	0.83	2.2	2.8	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.44	2.5	3.2	Not Detected
Trichloroethene	79-01-6	0.60	3.0	3.7	0.60 J
Vinyl Chloride	75-01-4	0.99	1.4	1.8	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	86
4-Bromofluorobenzene	460-00-4	70-130	104
Toluene-d8	2037-26-5	70-130	102

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	SV-1	Date/Time Analyzed:	3/4/19 11:58 PM
Lab ID:	1902551A-06A	Dilution Factor:	1.49
Date/Time Collected:	2/22/19 09:30 AM	Instrument/File Name:	msd3.i / 3030420
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.57	3.2	4.1	2.1 J
1,1,2,2-Tetrachloroethane	79-34-5	1.8	4.1	5.1	Not Detected
1,1,2-Trichloroethane	79-00-5	0.41	3.2	4.1	Not Detected
1,1-Dichloroethane	75-34-3	0.72	2.4	3.0	Not Detected
1,1-Dichloroethene	75-35-4	1.1	2.4	3.0	Not Detected
1,2,4-Trichlorobenzene	120-82-1	2.2	11	22	Not Detected
1,2,4-Trimethylbenzene	95-63-6	2.1	2.9	3.7	4.3
1,2-Dibromoethane (EDB)	106-93-4	1.1	4.6	5.7	Not Detected
1,2-Dichlorobenzene	95-50-1	0.90	3.6	4.5	Not Detected
1,2-Dichloroethane	107-06-2	0.96	2.4	3.0	Not Detected
1,2-Dichloropropane	78-87-5	1.5	2.8	3.4	Not Detected
1,3,5-Trimethylbenzene	108-67-8	1.2	2.9	3.7	1.7 J
1,3-Butadiene	106-99-0	1.0	1.3	1.6	Not Detected
1,3-Dichlorobenzene	541-73-1	0.90	3.6	4.5	Not Detected
1,4-Dichlorobenzene	106-46-7	0.81	3.6	4.5	Not Detected
1,4-Dioxane	123-91-1	0.97	5.4	11	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.49	2.8	3.5	6.6
2-Butanone (Methyl Ethyl Ketone)	78-93-3	1.1	4.4	8.8	4.8 J
2-Hexanone	591-78-6	0.85	6.1	12	Not Detected
2-Propanol	67-63-0	0.99	3.7	7.3	5.8 J
3-Chloropropene	107-05-1	1.9	4.7	9.3	Not Detected
4-Ethyltoluene	622-96-8	1.2	2.9	3.7	4.2
4-Methyl-2-pentanone	108-10-1	1.3	2.4	3.0	Not Detected
Acetone	67-64-1	2.8	3.5	18	54

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	SV-1	Date/Time Analyzed:	3/4/19 11:58 PM
Lab ID:	1902551A-06A	Dilution Factor:	1.49
Date/Time Collected:	2/22/19 09:30 AM	Instrument/Filename:	msd3.i / 3030420
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.38	3.1	3.8	Not Detected
Benzene	71-43-2	0.57	1.9	2.4	4.1
Bromodichloromethane	75-27-4	0.50	4.0	5.0	Not Detected
Bromoform	75-25-2	2.5	6.2	7.7	Not Detected
Bromomethane	74-83-9	0.87	5.8	29	Not Detected
Carbon Disulfide	75-15-0	5.3	5.3	9.3	Not Detected
Carbon Tetrachloride	56-23-5	0.47	3.8	4.7	0.64 J
Chlorobenzene	108-90-7	0.27	2.7	3.4	Not Detected
Chloroethane	75-00-3	0.67	3.9	7.9	Not Detected
Chloroform	67-66-3	0.36	2.9	3.6	0.52 J
Chloromethane	74-87-3	1.5	3.1	15	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.65	2.4	3.0	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.95	2.7	3.4	Not Detected
Cumene	98-82-8	1.1	2.9	3.7	Not Detected
Cyclohexane	110-82-7	0.36	2.0	2.6	1.8 J
Dibromochloromethane	124-48-1	1.0	5.1	6.3	Not Detected
Ethanol	64-17-5	1.0	2.8	5.6	290
Ethyl Benzene	100-41-4	0.65	2.6	3.2	3.1 J
Freon 11	75-69-4	1.0	3.3	4.2	2.1 J
Freon 113	76-13-1	1.1	4.6	5.7	1.4 J
Freon 114	76-14-2	1.4	4.2	5.2	Not Detected
Freon 12	75-71-8	0.88	2.9	3.7	2.9 J
Heptane	142-82-5	0.67	2.4	3.0	3.1
Hexachlorobutadiene	87-68-3	6.5	16	32	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	SV-1	Date/Time Analyzed:	3/4/19 11:58 PM
Lab ID:	1902551A-06A	Dilution Factor:	1.49
Date/Time Collected:	2/22/19 09:30 AM	Instrument/Filename:	msd3.i / 3030420
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	1.0	2.1	2.6	3.7
m,p-Xylene	108-38-3	0.52	2.6	3.2	10
Methyl tert-butyl ether	1634-04-4	0.86	5.4	11	Not Detected
Methylene Chloride	75-09-2	0.93	5.2	26	Not Detected
o-Xylene	95-47-6	0.97	2.6	3.2	4.4
Propylbenzene	103-65-1	1.2	2.9	3.7	Not Detected
Styrene	100-42-5	0.76	2.5	3.2	Not Detected
Tetrachloroethene	127-18-4	1.0	4.0	5.0	59
Tetrahydrofuran	109-99-9	0.48	1.8	2.2	9.4
Toluene	108-88-3	0.90	2.2	2.8	13
trans-1,2-Dichloroethene	156-60-5	0.89	2.4	3.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.47	2.7	3.4	Not Detected
Trichloroethene	79-01-6	0.64	3.2	4.0	6.9
Vinyl Chloride	75-01-4	1.1	1.5	1.9	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	86
4-Bromofluorobenzene	460-00-4	70-130	108
Toluene-d8	2037-26-5	70-130	101

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	Lab Blank	Date/Time Analyzed:	3/4/19 12:30 PM
Lab ID:	1902551A-07A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/File Name:	msd3.i / 3030406a
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.38	2.2	2.7	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	1.2	2.7	3.4	Not Detected
1,1,2-Trichloroethane	79-00-5	0.27	2.2	2.7	Not Detected
1,1-Dichloroethane	75-34-3	0.48	1.6	2.0	Not Detected
1,1-Dichloroethene	75-35-4	0.71	1.6	2.0	Not Detected
1,2,4-Trichlorobenzene	120-82-1	1.5	7.4	15	Not Detected
1,2,4-Trimethylbenzene	95-63-6	1.4	2.0	2.4	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.77	3.1	3.8	Not Detected
1,2-Dichlorobenzene	95-50-1	0.60	2.4	3.0	Not Detected
1,2-Dichloroethane	107-06-2	0.65	1.6	2.0	Not Detected
1,2-Dichloropropane	78-87-5	1.0	1.8	2.3	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.84	2.0	2.4	Not Detected
1,3-Butadiene	106-99-0	0.68	0.88	1.1	Not Detected
1,3-Dichlorobenzene	541-73-1	0.60	2.4	3.0	Not Detected
1,4-Dichlorobenzene	106-46-7	0.54	2.4	3.0	Not Detected
1,4-Dioxane	123-91-1	0.65	3.6	7.2	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.33	1.9	2.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	0.77	2.9	5.9	Not Detected
2-Hexanone	591-78-6	0.57	4.1	8.2	Not Detected
2-Propanol	67-63-0	0.66	2.4	4.9	0.93 J
3-Chloropropene	107-05-1	1.3	3.1	6.3	Not Detected
4-Ethyltoluene	622-96-8	0.79	2.0	2.4	Not Detected
4-Methyl-2-pentanone	108-10-1	0.90	1.6	2.0	Not Detected
Acetone	67-64-1	1.8	2.4	12	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	Lab Blank	Date/Time Analyzed:	3/4/19 12:30 PM
Lab ID:	1902551A-07A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd3.i / 3030406a
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.26	2.1	2.6	Not Detected
Benzene	71-43-2	0.38	1.3	1.6	Not Detected
Bromodichloromethane	75-27-4	0.34	2.7	3.4	Not Detected
Bromoform	75-25-2	1.6	4.1	5.2	Not Detected
Bromomethane	74-83-9	0.58	3.9	19	Not Detected
Carbon Disulfide	75-15-0	3.6	3.6	6.2	Not Detected
Carbon Tetrachloride	56-23-5	0.31	2.5	3.1	Not Detected
Chlorobenzene	108-90-7	0.18	1.8	2.3	Not Detected
Chloroethane	75-00-3	0.45	2.6	5.3	Not Detected
Chloroform	67-66-3	0.24	2.0	2.4	Not Detected
Chloromethane	74-87-3	0.99	2.1	10	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.44	1.6	2.0	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.64	1.8	2.3	Not Detected
Cumene	98-82-8	0.74	2.0	2.4	Not Detected
Cyclohexane	110-82-7	0.24	1.4	1.7	Not Detected
Dibromochloromethane	124-48-1	0.68	3.4	4.2	Not Detected
Ethanol	64-17-5	0.70	1.9	3.8	Not Detected
Ethyl Benzene	100-41-4	0.43	1.7	2.2	Not Detected
Freon 11	75-69-4	0.67	2.2	2.8	Not Detected
Freon 113	76-13-1	0.77	3.1	3.8	Not Detected
Freon 114	76-14-2	0.98	2.8	3.5	Not Detected
Freon 12	75-71-8	0.59	2.0	2.5	Not Detected
Heptane	142-82-5	0.45	1.6	2.0	Not Detected
Hexachlorobutadiene	87-68-3	4.4	11	21	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	Lab Blank	Date/Time Analyzed:	3/4/19 12:30 PM
Lab ID:	1902551A-07A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd3.i / 3030406a
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.70	1.4	1.8	Not Detected
m,p-Xylene	108-38-3	0.35	1.7	2.2	Not Detected
Methyl tert-butyl ether	1634-04-4	0.58	3.6	7.2	Not Detected
Methylene Chloride	75-09-2	0.62	3.5	17	Not Detected
o-Xylene	95-47-6	0.65	1.7	2.2	Not Detected
Propylbenzene	103-65-1	0.79	2.0	2.4	Not Detected
Styrene	100-42-5	0.51	1.7	2.1	Not Detected
Tetrachloroethene	127-18-4	0.68	2.7	3.4	Not Detected
Tetrahydrofuran	109-99-9	0.32	1.2	1.5	Not Detected
Toluene	108-88-3	0.60	1.5	1.9	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.59	1.6	2.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.32	1.8	2.3	Not Detected
Trichloroethene	79-01-6	0.43	2.1	2.7	Not Detected
Vinyl Chloride	75-01-4	0.72	1.0	1.3	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	87
4-Bromofluorobenzene	460-00-4	70-130	102
Toluene-d8	2037-26-5	70-130	101

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	CCV	Date/Time Analyzed:	3/4/19 10:25 AM
Lab ID:	1902551A-08A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd3.i / 3030402
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	85
1,1,2,2-Tetrachloroethane	79-34-5	94
1,1,2-Trichloroethane	79-00-5	95
1,1-Dichloroethane	75-34-3	83
1,1-Dichloroethene	75-35-4	88
1,2,4-Trichlorobenzene	120-82-1	97
1,2,4-Trimethylbenzene	95-63-6	97
1,2-Dibromoethane (EDB)	106-93-4	99
1,2-Dichlorobenzene	95-50-1	106
1,2-Dichloroethane	107-06-2	89
1,2-Dichloropropane	78-87-5	98
1,3,5-Trimethylbenzene	108-67-8	102
1,3-Butadiene	106-99-0	83
1,3-Dichlorobenzene	541-73-1	106
1,4-Dichlorobenzene	106-46-7	104
1,4-Dioxane	123-91-1	96
2,2,4-Trimethylpentane	540-84-1	85
2-Butanone (Methyl Ethyl Ketone)	78-93-3	82
2-Hexanone	591-78-6	85
2-Propanol	67-63-0	74
3-Chloropropene	107-05-1	80
4-Ethyltoluene	622-96-8	102
4-Methyl-2-pentanone	108-10-1	90
Acetone	67-64-1	79

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	CCV	Date/Time Analyzed:	3/4/19 10:25 AM
Lab ID:	1902551A-08A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd3.i / 3030402
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	94
Benzene	71-43-2	97
Bromodichloromethane	75-27-4	97
Bromoform	75-25-2	103
Bromomethane	74-83-9	97
Carbon Disulfide	75-15-0	84
Carbon Tetrachloride	56-23-5	89
Chlorobenzene	108-90-7	101
Chloroethane	75-00-3	90
Chloroform	67-66-3	88
Chloromethane	74-87-3	92
cis-1,2-Dichloroethene	156-59-2	82
cis-1,3-Dichloropropene	10061-01-5	101
Cumene	98-82-8	98
Cyclohexane	110-82-7	84
Dibromochloromethane	124-48-1	99
Ethanol	64-17-5	77
Ethyl Benzene	100-41-4	96
Freon 11	75-69-4	90
Freon 113	76-13-1	93
Freon 114	76-14-2	104
Freon 12	75-71-8	99
Heptane	142-82-5	91
Hexachlorobutadiene	87-68-3	104

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	CCV	Date/Time Analyzed:	3/4/19 10:25 AM
Lab ID:	1902551A-08A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd3.i / 3030402
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	77
m,p-Xylene	108-38-3	99
Methyl tert-butyl ether	1634-04-4	77
Methylene Chloride	75-09-2	83
o-Xylene	95-47-6	96
Propylbenzene	103-65-1	97
Styrene	100-42-5	96
Tetrachloroethene	127-18-4	104
Tetrahydrofuran	109-99-9	78
Toluene	108-88-3	102
trans-1,2-Dichloroethene	156-60-5	90
trans-1,3-Dichloropropene	10061-02-6	89
Trichloroethene	79-01-6	95
Vinyl Chloride	75-01-4	90

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	83
4-Bromofluorobenzene	460-00-4	70-130	105
Toluene-d8	2037-26-5	70-130	104

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	LCS	Date/Time Analyzed:	3/4/19 10:48 AM
Lab ID:	1902551A-09A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd3.i / 3030403
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	89
1,1,2,2-Tetrachloroethane	79-34-5	95
1,1,2-Trichloroethane	79-00-5	96
1,1-Dichloroethane	75-34-3	89
1,1-Dichloroethene	75-35-4	96
1,2,4-Trichlorobenzene	120-82-1	109
1,2,4-Trimethylbenzene	95-63-6	97
1,2-Dibromoethane (EDB)	106-93-4	100
1,2-Dichlorobenzene	95-50-1	107
1,2-Dichloroethane	107-06-2	91
1,2-Dichloropropane	78-87-5	102
1,3,5-Trimethylbenzene	108-67-8	104
1,3-Butadiene	106-99-0	88
1,3-Dichlorobenzene	541-73-1	105
1,4-Dichlorobenzene	106-46-7	104
1,4-Dioxane	123-91-1	98
2,2,4-Trimethylpentane	540-84-1	88
2-Butanone (Methyl Ethyl Ketone)	78-93-3	89
2-Hexanone	591-78-6	90
2-Propanol	67-63-0	85
3-Chloropropene	107-05-1	82
4-Ethyltoluene	622-96-8	100
4-Methyl-2-pentanone	108-10-1	93
Acetone	67-64-1	82

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	LCS	Date/Time Analyzed:	3/4/19 10:48 AM
Lab ID:	1902551A-09A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd3.i / 3030403
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	97
Benzene	71-43-2	101
Bromodichloromethane	75-27-4	103
Bromoform	75-25-2	105
Bromomethane	74-83-9	106
Carbon Disulfide	75-15-0	79
Carbon Tetrachloride	56-23-5	93
Chlorobenzene	108-90-7	101
Chloroethane	75-00-3	101
Chloroform	67-66-3	94
Chloromethane	74-87-3	97
cis-1,2-Dichloroethene	156-59-2	100
cis-1,3-Dichloropropene	10061-01-5	99
Cumene	98-82-8	97
Cyclohexane	110-82-7	90
Dibromochloromethane	124-48-1	103
Ethanol	64-17-5	86
Ethyl Benzene	100-41-4	97
Freon 11	75-69-4	98
Freon 113	76-13-1	98
Freon 114	76-14-2	118
Freon 12	75-71-8	108
Heptane	142-82-5	92
Hexachlorobutadiene	87-68-3	111

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	LCS	Date/Time Analyzed:	3/4/19 10:48 AM
Lab ID:	1902551A-09A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd3.i / 3030403
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	84
m,p-Xylene	108-38-3	98
Methyl tert-butyl ether	1634-04-4	79
Methylene Chloride	75-09-2	86
o-Xylene	95-47-6	98
Propylbenzene	103-65-1	98
Styrene	100-42-5	96
Tetrachloroethene	127-18-4	107
Tetrahydrofuran	109-99-9	84
Toluene	108-88-3	103
trans-1,2-Dichloroethene	156-60-5	83
trans-1,3-Dichloropropene	10061-02-6	92
Trichloroethene	79-01-6	99
Vinyl Chloride	75-01-4	99

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	85
4-Bromofluorobenzene	460-00-4	70-130	103
Toluene-d8	2037-26-5	70-130	102

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	LCSD	Date/Time Analyzed:	3/4/19 11:11 AM
Lab ID:	1902551A-09AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd3.i / 3030404
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	91
1,1,2,2-Tetrachloroethane	79-34-5	95
1,1,2-Trichloroethane	79-00-5	98
1,1-Dichloroethane	75-34-3	93
1,1-Dichloroethene	75-35-4	100
1,2,4-Trichlorobenzene	120-82-1	108
1,2,4-Trimethylbenzene	95-63-6	98
1,2-Dibromoethane (EDB)	106-93-4	101
1,2-Dichlorobenzene	95-50-1	106
1,2-Dichloroethane	107-06-2	91
1,2-Dichloropropane	78-87-5	101
1,3,5-Trimethylbenzene	108-67-8	100
1,3-Butadiene	106-99-0	90
1,3-Dichlorobenzene	541-73-1	105
1,4-Dichlorobenzene	106-46-7	105
1,4-Dioxane	123-91-1	100
2,2,4-Trimethylpentane	540-84-1	91
2-Butanone (Methyl Ethyl Ketone)	78-93-3	95
2-Hexanone	591-78-6	91
2-Propanol	67-63-0	88
3-Chloropropene	107-05-1	86
4-Ethyltoluene	622-96-8	103
4-Methyl-2-pentanone	108-10-1	93
Acetone	67-64-1	86

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	LCSD	Date/Time Analyzed:	3/4/19 11:11 AM
Lab ID:	1902551A-09AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd3.i / 3030404
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	97
Benzene	71-43-2	100
Bromodichloromethane	75-27-4	102
Bromoform	75-25-2	106
Bromomethane	74-83-9	108
Carbon Disulfide	75-15-0	81
Carbon Tetrachloride	56-23-5	95
Chlorobenzene	108-90-7	101
Chloroethane	75-00-3	104
Chloroform	67-66-3	96
Chloromethane	74-87-3	99
cis-1,2-Dichloroethene	156-59-2	103
cis-1,3-Dichloropropene	10061-01-5	100
Cumene	98-82-8	97
Cyclohexane	110-82-7	93
Dibromochloromethane	124-48-1	103
Ethanol	64-17-5	87
Ethyl Benzene	100-41-4	98
Freon 11	75-69-4	101
Freon 113	76-13-1	101
Freon 114	76-14-2	122
Freon 12	75-71-8	111
Heptane	142-82-5	93
Hexachlorobutadiene	87-68-3	111

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Enterprise

Client ID:	LCSD	Date/Time Analyzed:	3/4/19 11:11 AM
Lab ID:	1902551A-09AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd3.i / 3030404
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	87
m,p-Xylene	108-38-3	99
Methyl tert-butyl ether	1634-04-4	82
Methylene Chloride	75-09-2	88
o-Xylene	95-47-6	99
Propylbenzene	103-65-1	98
Styrene	100-42-5	97
Tetrachloroethene	127-18-4	106
Tetrahydrofuran	109-99-9	87
Toluene	108-88-3	103
trans-1,2-Dichloroethene	156-60-5	85
trans-1,3-Dichloropropene	10061-02-6	92
Trichloroethene	79-01-6	100
Vinyl Chloride	75-01-4	102

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	84
4-Bromofluorobenzene	460-00-4	70-130	103
Toluene-d8	2037-26-5	70-130	101

* % Recovery is calculated using unrounded analytical results.

3/6/2019

Ms. Kathy Willy

GHD

2055 Niagara Falls Blvd.

Suite Three

Niagara Falls NY 14304

Project Name: Enterprise

Project #:

Workorder #: 1902551B

Dear Ms. Kathy Willy

The following report includes the data for the above referenced project for sample(s) received on 2/27/2019 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Rachel Selenis at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Rachel Selenis

Project Manager

WORK ORDER #: 1902551B

Work Order Summary

CLIENT:	Ms. Kathy Willy GHD 2055 Niagara Falls Blvd. Suite Three Niagara Falls, NY 14304	BILL TO:	Accounts Payable OxyChem/Glenn Springs Holdings PO Box 2148 Houston, TX 77252
PHONE:	716-297-6150	P.O. #	256-402-D02-3100
FAX:	716-297-6296	PROJECT #	Enterprise
DATE RECEIVED:	02/27/2019	CONTACT:	Rachel Selenis
DATE COMPLETED:	03/06/2019		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
06A	SV-1	Modified ASTM D-1946	3.0 "Hg	5 psi
07A	Lab Blank	Modified ASTM D-1946	NA	NA
08A	LCS	Modified ASTM D-1946	NA	NA
08AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY:



Technical Director

DATE: 03/06/19

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified ASTM D-1946
GHD
Workorder# 1902551B

One 6 Liter Summa Canister sample was received on February 27, 2019. The laboratory performed analysis via Modified ASTM Method D-1946 for Helium in air using GC/TCD. The method involves direct injection of 1.0 mL of sample.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	ASTM D-1946	ATL Modifications
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A minimum of 5-point calibration curve is performed. Quantitation is based on average Response Factor.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections > 5 X's the RL.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the detection limit.

M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946
Enterprise

Client ID:	SV-1	Date/Time Analyzed:	2/28/19 11:42 AM
Lab ID:	1902551B-06A	Dilution Factor:	1.49
Date/Time Collected:	2/22/19 09:30 AM	Instrument/Filename:	gc10.i / 10022806c
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (%)	LOD (%)	Rpt. Limit (%)	Amount (%)
Helium	7440-59-7	0.0024	0.0092	0.074	Not Detected

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946
Enterprise

Client ID:	Lab Blank	Date/Time Analyzed:	2/28/19 10:35 AM
Lab ID:	1902551B-07A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	gc10.i / 10022804c
Media:	NA - Not Applicable		

Compound	CAS#	MDL (%)	LOD (%)	Rpt. Limit (%)	Amount (%)
Helium	7440-59-7	0.0016	0.0062	0.050	Not Detected

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946
Enterprise

Client ID:	LCS	Date/Time Analyzed:	2/28/19 09:31 AM
Lab ID:	1902551B-08A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	gc10.i / 10022802c
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Helium	7440-59-7	99

* % Recovery is calculated using unrounded analytical results.

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946
Enterprise

Client ID:	LCSD	Date/Time Analyzed:	2/28/19 04:46 PM
Lab ID:	1902551B-08AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	gc10.i / 10022810c
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Helium	7440-59-7	99

* % Recovery is calculated using unrounded analytical results.

6/13/2019

Ms. Kathy Willy

GHD

2055 Niagara Falls Blvd.

Suite Three

Niagara Falls NY 14304

Project Name: Hicksville-Enterprice

Project #: 6883DM

Workorder #: 1906135

Dear Ms. Kathy Willy

The following report includes the data for the above referenced project for sample(s) received on 6/7/2019 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Brian Whittaker at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Brian Whittaker

Project Manager

WORK ORDER #: 1906135

Work Order Summary

CLIENT:	Ms. Kathy Willy GHD 2055 Niagara Falls Blvd. Suite Three Niagara Falls, NY 14304	BILL TO:	Accounts Payable OxyChem/Glenn Springs Holdings PO Box 2148 Houston, TX 77252
PHONE:	716-297-6150	P.O. #	450256640
FAX:	716-297-6296	PROJECT #	6883DM Hicksville-Enterprice
DATE RECEIVED:	06/07/2019	CONTACT:	Brian Whittaker
DATE COMPLETED:	06/13/2019		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SV6419VW001	TO-15	3.5 "Hg	5.2 psi
02A	SV6419VW002	TO-15	2.2 "Hg	4.5 psi
03A	SV6419VW003	TO-15	3.1 "Hg	5.3 psi
04A	SV6419VW004	TO-15	2.6 "Hg	5.2 psi
05A	SV6419VW005	TO-15	4.7 "Hg	4.6 psi
06A	Lab Blank	TO-15	NA	NA
07A	CCV	TO-15	NA	NA
08A	LCS	TO-15	NA	NA
08AA	LCSD	TO-15	NA	NA

CERTIFIED BY:



Technical Director

DATE: 06/13/19

Certification numbers: AZ Licensure AZ0775, FL NELAP - E8 , LA NELAP - 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP CA009332018-10, VA NELAP - 9505, WA NELAP - C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005-011, Effective date: 10/18/2018, Expiration date: 10/17/2019.

Eurofins Air Toxics LLC. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
GHD
Workorder# 1906135

Five 6 Liter Summa Canister samples were received on June 07, 2019. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified may be false positives.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	SV6419VW001	Date/Time Analyzed:	6/11/19 01:02 AM
Lab ID:	1906135-01A	Dilution Factor:	1.53
Date/Time Collected:	6/4/19 01:50 PM	Instrument/Filename:	msdp.i / p061026
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.98	3.7	4.2	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.91	4.7	5.2	Not Detected
1,1,2-Trichloroethane	79-00-5	1.6	3.7	4.2	Not Detected
1,1-Dichloroethane	75-34-3	0.72	2.8	3.1	Not Detected
1,1-Dichloroethene	75-35-4	1.2	2.7	3.0	Not Detected
1,2,4-Trichlorobenzene	120-82-1	2.5	16	23	Not Detected
1,2,4-Trimethylbenzene	95-63-6	1.4	3.4	3.8	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.3	5.3	5.9	Not Detected
1,2-Dichlorobenzene	95-50-1	0.77	4.1	4.6	Not Detected
1,2-Dichloroethane	107-06-2	0.95	2.8	3.1	Not Detected
1,2-Dichloropropane	78-87-5	0.75	3.2	3.5	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.45	3.4	3.8	Not Detected
1,3-Butadiene	106-99-0	0.38	1.5	1.7	Not Detected
1,3-Dichlorobenzene	541-73-1	0.71	4.1	4.6	19
1,4-Dichlorobenzene	106-46-7	0.80	4.1	4.6	Not Detected
1,4-Dioxane	123-91-1	1.4	7.6	11	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.62	3.2	3.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	2.5	6.2	9.0	16
2-Hexanone	591-78-6	1.5	8.6	12	Not Detected
2-Propanol	67-63-0	1.1	5.2	7.5	24
3-Chloropropene	107-05-1	1.5	6.6	9.6	Not Detected
4-Ethyltoluene	622-96-8	0.93	3.4	3.8	Not Detected
4-Methyl-2-pentanone	108-10-1	0.67	2.8	3.1	3.0 J
Acetone	67-64-1	1.7	5.0	18	90

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	SV6419VW001	Date/Time Analyzed:	6/11/19 01:02 AM
Lab ID:	1906135-01A	Dilution Factor:	1.53
Date/Time Collected:	6/4/19 01:50 PM	Instrument/Filename:	msdp.i / p061026
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.52	3.6	4.0	Not Detected
Benzene	71-43-2	0.40	2.2	2.4	11
Bromodichloromethane	75-27-4	1.2	4.6	5.1	Not Detected
Bromoform	75-25-2	1.5	7.1	7.9	Not Detected
Bromomethane	74-83-9	1.7	8.2	30	Not Detected
Carbon Disulfide	75-15-0	1.4	6.6	9.5	1.8 J
Carbon Tetrachloride	56-23-5	0.92	4.3	4.8	Not Detected
Chlorobenzene	108-90-7	0.52	3.2	3.5	0.61 J
Chloroethane	75-00-3	1.9	5.6	8.1	Not Detected
Chloroform	67-66-3	0.74	3.4	3.7	1.4 J
Chloromethane	74-87-3	1.2	4.4	16	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.4	2.7	3.0	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.97	3.1	3.5	Not Detected
Cumene	98-82-8	0.38	3.4	3.8	Not Detected
Cyclohexane	110-82-7	1.1	2.4	2.6	Not Detected
Dibromochloromethane	124-48-1	0.70	5.8	6.5	Not Detected
Ethanol	64-17-5	2.0	4.0	5.8	220
Ethyl Benzene	100-41-4	0.74	3.0	3.3	Not Detected
Freon 11	75-69-4	0.60	3.8	4.3	2.1 J
Freon 113	76-13-1	1.4	5.3	5.9	Not Detected
Freon 114	76-14-2	1.2	4.8	5.3	Not Detected
Freon 12	75-71-8	0.73	3.4	3.8	2.8 J
Heptane	142-82-5	0.50	2.8	3.1	1.2 J
Hexachlorobutadiene	87-68-3	3.2	22	33	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	SV6419VW001	Date/Time Analyzed:	6/11/19 01:02 AM
Lab ID:	1906135-01A	Dilution Factor:	1.53
Date/Time Collected:	6/4/19 01:50 PM	Instrument/Filename:	msdp.i / p061026
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.43	2.4	2.7	4.5
m,p-Xylene	108-38-3	0.65	3.0	3.3	2.7 J
Methyl tert-butyl ether	1634-04-4	1.5	7.6	11	Not Detected
Methylene Chloride	75-09-2	1.1	7.3	26	1.2 J
o-Xylene	95-47-6	1.0	3.0	3.3	Not Detected
Propylbenzene	103-65-1	0.56	3.4	3.8	Not Detected
Styrene	100-42-5	0.52	2.9	3.2	1.1 J
Tetrachloroethene	127-18-4	0.98	4.6	5.2	Not Detected
Tetrahydrofuran	109-99-9	0.56	2.0	2.2	1.6 J
Toluene	108-88-3	0.45	2.6	2.9	57
trans-1,2-Dichloroethene	156-60-5	1.9	2.7	3.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.69	3.1	3.5	Not Detected
Trichloroethene	79-01-6	0.54	3.7	4.1	1.7 J
Vinyl Chloride	75-01-4	0.46	1.8	2.0	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	100
4-Bromofluorobenzene	460-00-4	70-130	98
Toluene-d8	2037-26-5	70-130	100

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	SV6419VW002	Date/Time Analyzed:	6/11/19 01:29 AM
Lab ID:	1906135-02A	Dilution Factor:	1.41
Date/Time Collected:	6/4/19 02:00 PM	Instrument/Filename:	msdp.i / p061027
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.91	3.4	3.8	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.84	4.3	4.8	Not Detected
1,1,2-Trichloroethane	79-00-5	1.5	3.4	3.8	Not Detected
1,1-Dichloroethane	75-34-3	0.67	2.6	2.8	Not Detected
1,1-Dichloroethene	75-35-4	1.1	2.5	2.8	Not Detected
1,2,4-Trichlorobenzene	120-82-1	2.3	14	21	Not Detected
1,2,4-Trimethylbenzene	95-63-6	1.3	3.1	3.5	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.2	4.9	5.4	Not Detected
1,2-Dichlorobenzene	95-50-1	0.71	3.8	4.2	Not Detected
1,2-Dichloroethane	107-06-2	0.87	2.6	2.8	Not Detected
1,2-Dichloropropane	78-87-5	0.69	2.9	3.2	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.42	3.1	3.5	Not Detected
1,3-Butadiene	106-99-0	0.35	1.4	1.6	Not Detected
1,3-Dichlorobenzene	541-73-1	0.66	3.8	4.2	20
1,4-Dichlorobenzene	106-46-7	0.74	3.8	4.2	Not Detected
1,4-Dioxane	123-91-1	1.3	7.0	10	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.58	3.0	3.3	0.64 J
2-Butanone (Methyl Ethyl Ketone)	78-93-3	2.3	5.7	8.3	28
2-Hexanone	591-78-6	1.4	8.0	12	Not Detected
2-Propanol	67-63-0	0.99	4.8	6.9	42
3-Chloropropene	107-05-1	1.4	6.1	8.8	Not Detected
4-Ethyltoluene	622-96-8	0.86	3.1	3.5	Not Detected
4-Methyl-2-pentanone	108-10-1	0.62	2.6	2.9	2.7 J
Acetone	67-64-1	1.6	4.6	17	170

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	SV6419VW002	Date/Time Analyzed:	6/11/19 01:29 AM
Lab ID:	1906135-02A	Dilution Factor:	1.41
Date/Time Collected:	6/4/19 02:00 PM	Instrument/Filename:	msdp.i / p061027
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.48	3.3	3.6	Not Detected
Benzene	71-43-2	0.37	2.0	2.2	7.7
Bromodichloromethane	75-27-4	1.1	4.2	4.7	Not Detected
Bromoform	75-25-2	1.4	6.5	7.3	Not Detected
Bromomethane	74-83-9	1.5	7.6	27	Not Detected
Carbon Disulfide	75-15-0	1.3	6.0	8.8	1.5 J
Carbon Tetrachloride	56-23-5	0.85	4.0	4.4	Not Detected
Chlorobenzene	108-90-7	0.48	2.9	3.2	0.70 J
Chloroethane	75-00-3	1.7	5.1	7.4	Not Detected
Chloroform	67-66-3	0.68	3.1	3.4	Not Detected
Chloromethane	74-87-3	1.1	4.0	14	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.3	2.5	2.8	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.90	2.9	3.2	Not Detected
Cumene	98-82-8	0.35	3.1	3.5	Not Detected
Cyclohexane	110-82-7	1.0	2.2	2.4	Not Detected
Dibromochloromethane	124-48-1	0.65	5.4	6.0	Not Detected
Ethanol	64-17-5	1.9	3.7	5.3	250
Ethyl Benzene	100-41-4	0.68	2.7	3.1	Not Detected
Freon 11	75-69-4	0.55	3.6	4.0	1.5 J
Freon 113	76-13-1	1.3	4.8	5.4	Not Detected
Freon 114	76-14-2	1.1	4.4	4.9	Not Detected
Freon 12	75-71-8	0.68	3.1	3.5	2.6 J
Heptane	142-82-5	0.46	2.6	2.9	1.0 J
Hexachlorobutadiene	87-68-3	3.0	21	30	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	SV6419VW002	Date/Time Analyzed:	6/11/19 01:29 AM
Lab ID:	1906135-02A	Dilution Factor:	1.41
Date/Time Collected:	6/4/19 02:00 PM	Instrument/Filename:	msdp.i / p061027
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.40	2.2	2.5	7.9
m,p-Xylene	108-38-3	0.60	2.7	3.1	2.4 J
Methyl tert-butyl ether	1634-04-4	1.4	7.0	10	Not Detected
Methylene Chloride	75-09-2	0.98	6.8	24	86
o-Xylene	95-47-6	0.92	2.7	3.1	0.96 J
Propylbenzene	103-65-1	0.52	3.1	3.5	Not Detected
Styrene	100-42-5	0.48	2.7	3.0	0.77 J
Tetrachloroethene	127-18-4	0.90	4.3	4.8	3.5 J
Tetrahydrofuran	109-99-9	0.52	1.9	2.1	21
Toluene	108-88-3	0.42	2.4	2.6	60
trans-1,2-Dichloroethene	156-60-5	1.7	2.5	2.8	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.64	2.9	3.2	Not Detected
Trichloroethene	79-01-6	0.50	3.4	3.8	0.81 J
Vinyl Chloride	75-01-4	0.43	1.6	1.8	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	101
4-Bromofluorobenzene	460-00-4	70-130	103
Toluene-d8	2037-26-5	70-130	100

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	SV6419VW003	Date/Time Analyzed:	6/11/19 01:55 AM
Lab ID:	1906135-03A	Dilution Factor:	1.52
Date/Time Collected:	6/4/19 01:55 PM	Instrument/Filename:	msdp.i / p061028
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.98	3.7	4.1	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.90	4.7	5.2	Not Detected
1,1,2-Trichloroethane	79-00-5	1.6	3.7	4.1	Not Detected
1,1-Dichloroethane	75-34-3	0.72	2.8	3.1	Not Detected
1,1-Dichloroethene	75-35-4	1.1	2.7	3.0	Not Detected
1,2,4-Trichlorobenzene	120-82-1	2.5	16	22	Not Detected
1,2,4-Trimethylbenzene	95-63-6	1.4	3.4	3.7	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.3	5.2	5.8	Not Detected
1,2-Dichlorobenzene	95-50-1	0.77	4.1	4.6	Not Detected
1,2-Dichloroethane	107-06-2	0.94	2.8	3.1	Not Detected
1,2-Dichloropropane	78-87-5	0.74	3.2	3.5	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.45	3.4	3.7	Not Detected
1,3-Butadiene	106-99-0	0.38	1.5	1.7	Not Detected
1,3-Dichlorobenzene	541-73-1	0.71	4.1	4.6	20
1,4-Dichlorobenzene	106-46-7	0.79	4.1	4.6	Not Detected
1,4-Dioxane	123-91-1	1.4	7.6	11	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.62	3.2	3.6	0.67 J
2-Butanone (Methyl Ethyl Ketone)	78-93-3	2.5	6.2	9.0	14
2-Hexanone	591-78-6	1.5	8.6	12	Not Detected
2-Propanol	67-63-0	1.1	5.2	7.5	40
3-Chloropropene	107-05-1	1.5	6.6	9.5	Not Detected
4-Ethyltoluene	622-96-8	0.93	3.4	3.7	Not Detected
4-Methyl-2-pentanone	108-10-1	0.67	2.8	3.1	2.1 J
Acetone	67-64-1	1.7	5.0	18	100

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	SV6419VW003	Date/Time Analyzed:	6/11/19 01:55 AM
Lab ID:	1906135-03A	Dilution Factor:	1.52
Date/Time Collected:	6/4/19 01:55 PM	Instrument/Filename:	msdp.i / p061028
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.52	3.5	3.9	Not Detected
Benzene	71-43-2	0.40	2.2	2.4	5.3
Bromodichloromethane	75-27-4	1.2	4.6	5.1	Not Detected
Bromoform	75-25-2	1.5	7.0	7.8	Not Detected
Bromomethane	74-83-9	1.6	8.1	30	Not Detected
Carbon Disulfide	75-15-0	1.4	6.5	9.5	2.0 J
Carbon Tetrachloride	56-23-5	0.92	4.3	4.8	Not Detected
Chlorobenzene	108-90-7	0.52	3.1	3.5	0.83 J
Chloroethane	75-00-3	1.8	5.5	8.0	Not Detected
Chloroform	67-66-3	0.74	3.3	3.7	Not Detected
Chloromethane	74-87-3	1.2	4.3	16	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.4	2.7	3.0	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.96	3.1	3.4	Not Detected
Cumene	98-82-8	0.38	3.4	3.7	Not Detected
Cyclohexane	110-82-7	1.1	2.3	2.6	Not Detected
Dibromochloromethane	124-48-1	0.70	5.8	6.5	Not Detected
Ethanol	64-17-5	2.0	4.0	5.7	260
Ethyl Benzene	100-41-4	0.73	3.0	3.3	Not Detected
Freon 11	75-69-4	0.60	3.8	4.3	1.2 J
Freon 113	76-13-1	1.4	5.2	5.8	Not Detected
Freon 114	76-14-2	1.2	4.8	5.3	Not Detected
Freon 12	75-71-8	0.73	3.4	3.8	2.6 J
Heptane	142-82-5	0.49	2.8	3.1	1.3 J
Hexachlorobutadiene	87-68-3	3.2	22	32	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	SV6419VW003	Date/Time Analyzed:	6/11/19 01:55 AM
Lab ID:	1906135-03A	Dilution Factor:	1.52
Date/Time Collected:	6/4/19 01:55 PM	Instrument/File name:	msdp.i / p061028
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.42	2.4	2.7	5.5
m,p-Xylene	108-38-3	0.64	3.0	3.3	2.1 J
Methyl tert-butyl ether	1634-04-4	1.5	7.6	11	Not Detected
Methylene Chloride	75-09-2	1.1	7.3	26	Not Detected
o-Xylene	95-47-6	0.99	3.0	3.3	Not Detected
Propylbenzene	103-65-1	0.56	3.4	3.7	Not Detected
Styrene	100-42-5	0.52	2.9	3.2	0.69 J
Tetrachloroethene	127-18-4	0.97	4.6	5.2	Not Detected
Tetrahydrofuran	109-99-9	0.56	2.0	2.2	Not Detected
Toluene	108-88-3	0.45	2.6	2.9	46
trans-1,2-Dichloroethene	156-60-5	1.9	2.7	3.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.69	3.1	3.4	Not Detected
Trichloroethene	79-01-6	0.54	3.7	4.1	Not Detected
Vinyl Chloride	75-01-4	0.46	1.7	1.9	0.67 J

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	104
4-Bromofluorobenzene	460-00-4	70-130	102
Toluene-d8	2037-26-5	70-130	100

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	SV6419VW004	Date/Time Analyzed:	6/11/19 02:22 AM
Lab ID:	1906135-04A	Dilution Factor:	1.48
Date/Time Collected:	6/4/19 01:57 PM	Instrument/Filename:	msdp.i / p061029
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.95	3.6	4.0	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.88	4.6	5.1	Not Detected
1,1,2-Trichloroethane	79-00-5	1.6	3.6	4.0	Not Detected
1,1-Dichloroethane	75-34-3	0.70	2.7	3.0	Not Detected
1,1-Dichloroethene	75-35-4	1.1	2.6	2.9	Not Detected
1,2,4-Trichlorobenzene	120-82-1	2.4	15	22	Not Detected
1,2,4-Trimethylbenzene	95-63-6	1.3	3.3	3.6	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.3	5.1	5.7	Not Detected
1,2-Dichlorobenzene	95-50-1	0.75	4.0	4.4	Not Detected
1,2-Dichloroethane	107-06-2	0.92	2.7	3.0	Not Detected
1,2-Dichloropropane	78-87-5	0.72	3.1	3.4	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.44	3.3	3.6	Not Detected
1,3-Butadiene	106-99-0	0.37	1.5	1.6	Not Detected
1,3-Dichlorobenzene	541-73-1	0.69	4.0	4.4	22
1,4-Dichlorobenzene	106-46-7	0.77	4.0	4.4	Not Detected
1,4-Dioxane	123-91-1	1.4	7.4	11	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.60	3.1	3.4	0.70 J
2-Butanone (Methyl Ethyl Ketone)	78-93-3	2.4	6.0	8.7	17
2-Hexanone	591-78-6	1.4	8.4	12	Not Detected
2-Propanol	67-63-0	1.0	5.0	7.3	49
3-Chloropropene	107-05-1	1.5	6.4	9.3	Not Detected
4-Ethyltoluene	622-96-8	0.90	3.3	3.6	Not Detected
4-Methyl-2-pentanone	108-10-1	0.65	2.7	3.0	2.0 J
Acetone	67-64-1	1.7	4.8	18	140

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	SV6419VW004	Date/Time Analyzed:	6/11/19 02:22 AM
Lab ID:	1906135-04A	Dilution Factor:	1.48
Date/Time Collected:	6/4/19 01:57 PM	Instrument/Filename:	msdp.i / p061029
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.50	3.4	3.8	Not Detected
Benzene	71-43-2	0.38	2.1	2.4	6.8
Bromodichloromethane	75-27-4	1.2	4.4	5.0	Not Detected
Bromoform	75-25-2	1.5	6.9	7.6	Not Detected
Bromomethane	74-83-9	1.6	7.9	29	Not Detected
Carbon Disulfide	75-15-0	1.4	6.4	9.2	2.0 J
Carbon Tetrachloride	56-23-5	0.89	4.2	4.6	Not Detected
Chlorobenzene	108-90-7	0.50	3.0	3.4	0.84 J
Chloroethane	75-00-3	1.8	5.4	7.8	Not Detected
Chloroform	67-66-3	0.72	3.2	3.6	Not Detected
Chloromethane	74-87-3	1.2	4.2	15	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.3	2.6	2.9	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.94	3.0	3.4	Not Detected
Cumene	98-82-8	0.36	3.3	3.6	Not Detected
Cyclohexane	110-82-7	1.1	2.3	2.5	Not Detected
Dibromochloromethane	124-48-1	0.68	5.7	6.3	Not Detected
Ethanol	64-17-5	2.0	3.8	5.6	310
Ethyl Benzene	100-41-4	0.71	2.9	3.2	Not Detected
Freon 11	75-69-4	0.58	3.7	4.2	1.4 J
Freon 113	76-13-1	1.3	5.1	5.7	Not Detected
Freon 114	76-14-2	1.2	4.6	5.2	Not Detected
Freon 12	75-71-8	0.71	3.3	3.6	2.6 J
Heptane	142-82-5	0.48	2.7	3.0	1.0 J
Hexachlorobutadiene	87-68-3	3.1	22	32	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	SV6419VW004	Date/Time Analyzed:	6/11/19 02:22 AM
Lab ID:	1906135-04A	Dilution Factor:	1.48
Date/Time Collected:	6/4/19 01:57 PM	Instrument/Filename:	msdp.i / p061029
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.41	2.3	2.6	8.4
m,p-Xylene	108-38-3	0.62	2.9	3.2	1.9 J
Methyl tert-butyl ether	1634-04-4	1.4	7.4	11	Not Detected
Methylene Chloride	75-09-2	1.0	7.1	26	Not Detected
o-Xylene	95-47-6	0.96	2.9	3.2	Not Detected
Propylbenzene	103-65-1	0.54	3.3	3.6	Not Detected
Styrene	100-42-5	0.50	2.8	3.2	0.54 J
Tetrachloroethene	127-18-4	0.95	4.5	5.0	Not Detected
Tetrahydrofuran	109-99-9	0.54	2.0	2.2	Not Detected
Toluene	108-88-3	0.44	2.5	2.8	40
trans-1,2-Dichloroethene	156-60-5	1.8	2.6	2.9	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.67	3.0	3.4	Not Detected
Trichloroethene	79-01-6	0.52	3.6	4.0	Not Detected
Vinyl Chloride	75-01-4	0.45	1.7	1.9	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	105
4-Bromofluorobenzene	460-00-4	70-130	103
Toluene-d8	2037-26-5	70-130	100

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	SV6419VW005	Date/Time Analyzed:	6/11/19 02:48 AM
Lab ID:	1906135-05A	Dilution Factor:	1.56
Date/Time Collected:	6/4/19 02:05 PM	Instrument/Filename:	msdp.i / p061030
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	1.0	3.8	4.2	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.93	4.8	5.4	Not Detected
1,1,2-Trichloroethane	79-00-5	1.6	3.8	4.2	Not Detected
1,1-Dichloroethane	75-34-3	0.74	2.8	3.2	Not Detected
1,1-Dichloroethene	75-35-4	1.2	2.8	3.1	Not Detected
1,2,4-Trichlorobenzene	120-82-1	2.6	16	23	Not Detected
1,2,4-Trimethylbenzene	95-63-6	1.4	3.4	3.8	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.3	5.4	6.0	Not Detected
1,2-Dichlorobenzene	95-50-1	0.79	4.2	4.7	Not Detected
1,2-Dichloroethane	107-06-2	0.97	2.8	3.2	Not Detected
1,2-Dichloropropane	78-87-5	0.76	3.2	3.6	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.46	3.4	3.8	Not Detected
1,3-Butadiene	106-99-0	0.39	1.5	1.7	Not Detected
1,3-Dichlorobenzene	541-73-1	0.72	4.2	4.7	20
1,4-Dichlorobenzene	106-46-7	0.82	4.2	4.7	Not Detected
1,4-Dioxane	123-91-1	1.5	7.8	11	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.64	3.3	3.6	0.81 J
2-Butanone (Methyl Ethyl Ketone)	78-93-3	2.5	6.3	9.2	15
2-Hexanone	591-78-6	1.5	8.8	13	Not Detected
2-Propanol	67-63-0	1.1	5.3	7.7	55
3-Chloropropene	107-05-1	1.5	6.7	9.8	Not Detected
4-Ethyltoluene	622-96-8	0.95	3.4	3.8	Not Detected
4-Methyl-2-pentanone	108-10-1	0.68	2.9	3.2	2.2 J
Acetone	67-64-1	1.8	5.1	18	86

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	SV6419VW005	Date/Time Analyzed:	6/11/19 02:48 AM
Lab ID:	1906135-05A	Dilution Factor:	1.56
Date/Time Collected:	6/4/19 02:05 PM	Instrument/File Name:	msdp.i / p061030
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.53	3.6	4.0	Not Detected
Benzene	71-43-2	0.40	2.2	2.5	5.0
Bromodichloromethane	75-27-4	1.2	4.7	5.2	Not Detected
Bromoform	75-25-2	1.6	7.2	8.1	Not Detected
Bromomethane	74-83-9	1.7	8.4	30	Not Detected
Carbon Disulfide	75-15-0	1.5	6.7	9.7	2.2 J
Carbon Tetrachloride	56-23-5	0.94	4.4	4.9	Not Detected
Chlorobenzene	108-90-7	0.53	3.2	3.6	0.75 J
Chloroethane	75-00-3	1.9	5.7	8.2	Not Detected
Chloroform	67-66-3	0.76	3.4	3.8	Not Detected
Chloromethane	74-87-3	1.2	4.4	16	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.4	2.8	3.1	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.99	3.2	3.5	Not Detected
Cumene	98-82-8	0.38	3.4	3.8	Not Detected
Cyclohexane	110-82-7	1.2	2.4	2.7	Not Detected
Dibromochloromethane	124-48-1	0.71	6.0	6.6	Not Detected
Ethanol	64-17-5	2.1	4.0	5.9	200
Ethyl Benzene	100-41-4	0.75	3.0	3.4	0.84 J
Freon 11	75-69-4	0.61	3.9	4.4	1.4 J
Freon 113	76-13-1	1.4	5.4	6.0	Not Detected
Freon 114	76-14-2	1.2	4.9	5.4	Not Detected
Freon 12	75-71-8	0.75	3.5	3.8	2.6 J
Heptane	142-82-5	0.51	2.9	3.2	0.94 J
Hexachlorobutadiene	87-68-3	3.3	23	33	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	SV6419VW005	Date/Time Analyzed:	6/11/19 02:48 AM
Lab ID:	1906135-05A	Dilution Factor:	1.56
Date/Time Collected:	6/4/19 02:05 PM	Instrument/Filename:	msdp.i / p061030
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.44	2.5	2.7	8.3
m,p-Xylene	108-38-3	0.66	3.0	3.4	3.7
Methyl tert-butyl ether	1634-04-4	1.5	7.8	11	Not Detected
Methylene Chloride	75-09-2	1.1	7.5	27	Not Detected
o-Xylene	95-47-6	1.0	3.0	3.4	1.0 J
Propylbenzene	103-65-1	0.57	3.4	3.8	Not Detected
Styrene	100-42-5	0.53	3.0	3.3	1.2 J
Tetrachloroethene	127-18-4	1.0	4.8	5.3	Not Detected
Tetrahydrofuran	109-99-9	0.57	2.1	2.3	Not Detected
Toluene	108-88-3	0.46	2.6	2.9	57
trans-1,2-Dichloroethene	156-60-5	1.9	2.8	3.1	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.71	3.2	3.5	Not Detected
Trichloroethene	79-01-6	0.55	3.8	4.2	Not Detected
Vinyl Chloride	75-01-4	0.47	1.8	2.0	0.88 J

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	100
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	99

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	Lab Blank	Date/Time Analyzed:	6/10/19 12:57 PM
Lab ID:	1906135-06A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/File name:	msdp.i / p061006
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.64	2.4	2.7	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.60	3.1	3.4	Not Detected
1,1,2-Trichloroethane	79-00-5	1.0	2.4	2.7	Not Detected
1,1-Dichloroethane	75-34-3	0.47	1.8	2.0	Not Detected
1,1-Dichloroethene	75-35-4	0.75	1.8	2.0	Not Detected
1,2,4-Trichlorobenzene	120-82-1	1.6	10	15	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.89	2.2	2.4	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.86	3.4	3.8	Not Detected
1,2-Dichlorobenzene	95-50-1	0.50	2.7	3.0	Not Detected
1,2-Dichloroethane	107-06-2	0.62	1.8	2.0	Not Detected
1,2-Dichloropropane	78-87-5	0.49	2.1	2.3	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.29	2.2	2.4	Not Detected
1,3-Butadiene	106-99-0	0.25	0.99	1.1	Not Detected
1,3-Dichlorobenzene	541-73-1	0.46	2.7	3.0	Not Detected
1,4-Dichlorobenzene	106-46-7	0.52	2.7	3.0	Not Detected
1,4-Dioxane	123-91-1	0.95	5.0	7.2	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.41	2.1	2.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	1.6	4.1	5.9	Not Detected
2-Hexanone	591-78-6	0.98	5.6	8.2	Not Detected
2-Propanol	67-63-0	0.70	3.4	4.9	Not Detected
3-Chloropropene	107-05-1	0.99	4.3	6.3	Not Detected
4-Ethyltoluene	622-96-8	0.61	2.2	2.4	Not Detected
4-Methyl-2-pentanone	108-10-1	0.44	1.8	2.0	Not Detected
Acetone	67-64-1	1.1	3.3	12	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	Lab Blank	Date/Time Analyzed:	6/10/19 12:57 PM
Lab ID:	1906135-06A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/File name:	msdp.i / p061006
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.34	2.3	2.6	Not Detected
Benzene	71-43-2	0.26	1.4	1.6	Not Detected
Bromodichloromethane	75-27-4	0.78	3.0	3.4	Not Detected
Bromoform	75-25-2	1.0	4.6	5.2	Not Detected
Bromomethane	74-83-9	1.1	5.4	19	Not Detected
Carbon Disulfide	75-15-0	0.94	4.3	6.2	Not Detected
Carbon Tetrachloride	56-23-5	0.60	2.8	3.1	Not Detected
Chlorobenzene	108-90-7	0.34	2.1	2.3	Not Detected
Chloroethane	75-00-3	1.2	3.6	5.3	Not Detected
Chloroform	67-66-3	0.49	2.2	2.4	Not Detected
Chloromethane	74-87-3	0.80	2.8	10	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.90	1.8	2.0	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.64	2.0	2.3	Not Detected
Cumene	98-82-8	0.25	2.2	2.4	Not Detected
Cyclohexane	110-82-7	0.75	1.5	1.7	Not Detected
Dibromochloromethane	124-48-1	0.46	3.8	4.2	Not Detected
Ethanol	64-17-5	1.3	2.6	3.8	Not Detected
Ethyl Benzene	100-41-4	0.48	1.9	2.2	Not Detected
Freon 11	75-69-4	0.39	2.5	2.8	Not Detected
Freon 113	76-13-1	0.90	3.4	3.8	Not Detected
Freon 114	76-14-2	0.80	3.1	3.5	Not Detected
Freon 12	75-71-8	0.48	2.2	2.5	Not Detected
Heptane	142-82-5	0.32	1.8	2.0	Not Detected
Hexachlorobutadiene	87-68-3	2.1	15	21	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	Lab Blank	Date/Time Analyzed:	6/10/19 12:57 PM
Lab ID:	1906135-06A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdp.i / p061006
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.28	1.6	1.8	Not Detected
m,p-Xylene	108-38-3	0.42	1.9	2.2	Not Detected
Methyl tert-butyl ether	1634-04-4	0.98	5.0	7.2	Not Detected
Methylene Chloride	75-09-2	0.70	4.8	17	Not Detected
o-Xylene	95-47-6	0.65	1.9	2.2	Not Detected
Propylbenzene	103-65-1	0.37	2.2	2.4	Not Detected
Styrene	100-42-5	0.34	1.9	2.1	Not Detected
Tetrachloroethene	127-18-4	0.64	3.0	3.4	Not Detected
Tetrahydrofuran	109-99-9	0.36	1.3	1.5	Not Detected
Toluene	108-88-3	0.30	1.7	1.9	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.2	1.8	2.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.45	2.0	2.3	Not Detected
Trichloroethene	79-01-6	0.35	2.4	2.7	Not Detected
Vinyl Chloride	75-01-4	0.30	1.1	1.3	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	98
4-Bromofluorobenzene	460-00-4	70-130	94
Toluene-d8	2037-26-5	70-130	100

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	CCV	Date/Time Analyzed:	6/10/19 10:56 AM
Lab ID:	1906135-07A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdp.i / p061002
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	97
1,1,2,2-Tetrachloroethane	79-34-5	97
1,1,2-Trichloroethane	79-00-5	97
1,1-Dichloroethane	75-34-3	100
1,1-Dichloroethene	75-35-4	101
1,2,4-Trichlorobenzene	120-82-1	99
1,2,4-Trimethylbenzene	95-63-6	106
1,2-Dibromoethane (EDB)	106-93-4	99
1,2-Dichlorobenzene	95-50-1	96
1,2-Dichloroethane	107-06-2	94
1,2-Dichloropropane	78-87-5	99
1,3,5-Trimethylbenzene	108-67-8	102
1,3-Butadiene	106-99-0	110
1,3-Dichlorobenzene	541-73-1	96
1,4-Dichlorobenzene	106-46-7	99
1,4-Dioxane	123-91-1	95
2,2,4-Trimethylpentane	540-84-1	116
2-Butanone (Methyl Ethyl Ketone)	78-93-3	105
2-Hexanone	591-78-6	94
2-Propanol	67-63-0	105
3-Chloropropene	107-05-1	107
4-Ethyltoluene	622-96-8	103
4-Methyl-2-pentanone	108-10-1	98
Acetone	67-64-1	112

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	CCV	Date/Time Analyzed:	6/10/19 10:56 AM
Lab ID:	1906135-07A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdp.i / p061002
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	94
Benzene	71-43-2	98
Bromodichloromethane	75-27-4	95
Bromoform	75-25-2	96
Bromomethane	74-83-9	102
Carbon Disulfide	75-15-0	98
Carbon Tetrachloride	56-23-5	100
Chlorobenzene	108-90-7	97
Chloroethane	75-00-3	100
Chloroform	67-66-3	100
Chloromethane	74-87-3	79
cis-1,2-Dichloroethene	156-59-2	103
cis-1,3-Dichloropropene	10061-01-5	102
Cumene	98-82-8	107
Cyclohexane	110-82-7	109
Dibromochloromethane	124-48-1	98
Ethanol	64-17-5	106
Ethyl Benzene	100-41-4	101
Freon 11	75-69-4	99
Freon 113	76-13-1	91
Freon 114	76-14-2	96
Freon 12	75-71-8	98
Heptane	142-82-5	107
Hexachlorobutadiene	87-68-3	97

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	CCV	Date/Time Analyzed:	6/10/19 10:56 AM
Lab ID:	1906135-07A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdp.i / p061002
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	112
m,p-Xylene	108-38-3	106
Methyl tert-butyl ether	1634-04-4	105
Methylene Chloride	75-09-2	108
o-Xylene	95-47-6	106
Propylbenzene	103-65-1	102
Styrene	100-42-5	98
Tetrachloroethene	127-18-4	95
Tetrahydrofuran	109-99-9	112
Toluene	108-88-3	98
trans-1,2-Dichloroethene	156-60-5	102
trans-1,3-Dichloropropene	10061-02-6	103
Trichloroethene	79-01-6	96
Vinyl Chloride	75-01-4	119

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	102
4-Bromofluorobenzene	460-00-4	70-130	98
Toluene-d8	2037-26-5	70-130	100

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	LCS	Date/Time Analyzed:	6/10/19 11:21 AM
Lab ID:	1906135-08A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdp.i / p061003
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	98
1,1,2,2-Tetrachloroethane	79-34-5	102
1,1,2-Trichloroethane	79-00-5	99
1,1-Dichloroethane	75-34-3	101
1,1-Dichloroethene	75-35-4	103
1,2,4-Trichlorobenzene	120-82-1	110
1,2,4-Trimethylbenzene	95-63-6	114
1,2-Dibromoethane (EDB)	106-93-4	102
1,2-Dichlorobenzene	95-50-1	103
1,2-Dichloroethane	107-06-2	95
1,2-Dichloropropane	78-87-5	102
1,3,5-Trimethylbenzene	108-67-8	112
1,3-Butadiene	106-99-0	113
1,3-Dichlorobenzene	541-73-1	101
1,4-Dichlorobenzene	106-46-7	105
1,4-Dioxane	123-91-1	97
2,2,4-Trimethylpentane	540-84-1	120
2-Butanone (Methyl Ethyl Ketone)	78-93-3	103
2-Hexanone	591-78-6	104
2-Propanol	67-63-0	111
3-Chloropropene	107-05-1	102
4-Ethyltoluene	622-96-8	108
4-Methyl-2-pentanone	108-10-1	102
Acetone	67-64-1	106

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	LCS	Date/Time Analyzed:	6/10/19 11:21 AM
Lab ID:	1906135-08A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdp.i / p061003
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	109
Benzene	71-43-2	100
Bromodichloromethane	75-27-4	99
Bromoform	75-25-2	101
Bromomethane	74-83-9	112
Carbon Disulfide	75-15-0	87
Carbon Tetrachloride	56-23-5	102
Chlorobenzene	108-90-7	99
Chloroethane	75-00-3	108
Chloroform	67-66-3	100
Chloromethane	74-87-3	122
cis-1,2-Dichloroethene	156-59-2	115
cis-1,3-Dichloropropene	10061-01-5	98
Cumene	98-82-8	112
Cyclohexane	110-82-7	112
Dibromochloromethane	124-48-1	100
Ethanol	64-17-5	108
Ethyl Benzene	100-41-4	106
Freon 11	75-69-4	103
Freon 113	76-13-1	92
Freon 114	76-14-2	102
Freon 12	75-71-8	101
Heptane	142-82-5	108
Hexachlorobutadiene	87-68-3	105

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	LCS	Date/Time Analyzed:	6/10/19 11:21 AM
Lab ID:	1906135-08A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdp.i / p061003
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	113
m,p-Xylene	108-38-3	108
Methyl tert-butyl ether	1634-04-4	105
Methylene Chloride	75-09-2	106
o-Xylene	95-47-6	113
Propylbenzene	103-65-1	108
Styrene	100-42-5	111
Tetrachloroethene	127-18-4	97
Tetrahydrofuran	109-99-9	113
Toluene	108-88-3	100
trans-1,2-Dichloroethene	156-60-5	89
trans-1,3-Dichloropropene	10061-02-6	106
Trichloroethene	79-01-6	98
Vinyl Chloride	75-01-4	120

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	103
4-Bromofluorobenzene	460-00-4	70-130	98
Toluene-d8	2037-26-5	70-130	99

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	LCS D	Date/Time Analyzed:	6/10/19 11:46 AM
Lab ID:	1906135-08AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdp.i / p061004
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	100
1,1,2,2-Tetrachloroethane	79-34-5	102
1,1,2-Trichloroethane	79-00-5	98
1,1-Dichloroethane	75-34-3	101
1,1-Dichloroethene	75-35-4	102
1,2,4-Trichlorobenzene	120-82-1	110
1,2,4-Trimethylbenzene	95-63-6	114
1,2-Dibromoethane (EDB)	106-93-4	102
1,2-Dichlorobenzene	95-50-1	103
1,2-Dichloroethane	107-06-2	95
1,2-Dichloropropane	78-87-5	102
1,3,5-Trimethylbenzene	108-67-8	110
1,3-Butadiene	106-99-0	111
1,3-Dichlorobenzene	541-73-1	101
1,4-Dichlorobenzene	106-46-7	104
1,4-Dioxane	123-91-1	96
2,2,4-Trimethylpentane	540-84-1	122
2-Butanone (Methyl Ethyl Ketone)	78-93-3	105
2-Hexanone	591-78-6	103
2-Propanol	67-63-0	112
3-Chloropropene	107-05-1	102
4-Ethyltoluene	622-96-8	111
4-Methyl-2-pentanone	108-10-1	102
Acetone	67-64-1	104

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	LCSD	Date/Time Analyzed:	6/10/19 11:46 AM
Lab ID:	1906135-08AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdp.i / p061004
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	110
Benzene	71-43-2	99
Bromodichloromethane	75-27-4	99
Bromoform	75-25-2	101
Bromomethane	74-83-9	111
Carbon Disulfide	75-15-0	87
Carbon Tetrachloride	56-23-5	102
Chlorobenzene	108-90-7	100
Chloroethane	75-00-3	109
Chloroform	67-66-3	102
Chloromethane	74-87-3	122
cis-1,2-Dichloroethene	156-59-2	117
cis-1,3-Dichloropropene	10061-01-5	99
Cumene	98-82-8	112
Cyclohexane	110-82-7	114
Dibromochloromethane	124-48-1	103
Ethanol	64-17-5	108
Ethyl Benzene	100-41-4	105
Freon 11	75-69-4	104
Freon 113	76-13-1	92
Freon 114	76-14-2	102
Freon 12	75-71-8	102
Heptane	142-82-5	109
Hexachlorobutadiene	87-68-3	105

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprice

Client ID:	LCSD	Date/Time Analyzed:	6/10/19 11:46 AM
Lab ID:	1906135-08AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdp.i / p061004
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	115
m,p-Xylene	108-38-3	110
Methyl tert-butyl ether	1634-04-4	107
Methylene Chloride	75-09-2	107
o-Xylene	95-47-6	113
Propylbenzene	103-65-1	109
Styrene	100-42-5	112
Tetrachloroethene	127-18-4	98
Tetrahydrofuran	109-99-9	112
Toluene	108-88-3	99
trans-1,2-Dichloroethene	156-60-5	88
trans-1,3-Dichloropropene	10061-02-6	106
Trichloroethene	79-01-6	97
Vinyl Chloride	75-01-4	106

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	104
4-Bromofluorobenzene	460-00-4	70-130	98
Toluene-d8	2037-26-5	70-130	100

* % Recovery is calculated using unrounded analytical results.

6/20/2019

Ms. Kathy Willy

GHD

2055 Niagara Falls Blvd.

Suite Three

Niagara Falls NY 14304

Project Name: Hicksville-Enterprise

Project #: 6883 DM

Workorder #: 1906271

Dear Ms. Kathy Willy

The following report includes the data for the above referenced project for sample(s) received on 6/14/2019 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Brian Whittaker at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Brian Whittaker

Project Manager

WORK ORDER #: 1906271

Work Order Summary

CLIENT:	Ms. Kathy Willy GHD 2055 Niagara Falls Blvd. Suite Three Niagara Falls, NY 14304	BILL TO:	Accounts Payable OxyChem/Glenn Springs Holdings PO Box 2148 Houston, TX 77252
PHONE:	716-297-6150	P.O. #	450256640
FAX:	716-297-6296	PROJECT #	6883 DM Hicksville-Enterprise
DATE RECEIVED:	06/14/2019	CONTACT:	Brian Whittaker
DATE COMPLETED:	06/20/2019		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SV61119CM006	TO-15	5.1 "Hg	5.1 psi
02A	SV61119CM007	TO-15	5.9 "Hg	4.9 psi
03A	SV61119CM008	TO-15	4.9 "Hg	4.9 psi
04A	SV61119CM009	TO-15	3.9 "Hg	4.6 psi
05A	SV61119CM010	TO-15	4.5 "Hg	4.9 psi
06A	SV61119CM011	TO-15	5.3 "Hg	5.3 psi
07A	Lab Blank	TO-15	NA	NA
08A	CCV	TO-15	NA	NA
09A	LCS	TO-15	NA	NA
09AA	LCSD	TO-15	NA	NA

CERTIFIED BY:



Technical Director

DATE: 06/20/19

Certification numbers: AZ Licensure AZ0775, FL NELAP - E8 , LA NELAP - 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP CA009332018-10, VA NELAP - 9505, WA NELAP - C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005-011, Effective date: 10/18/2018, Expiration date: 10/17/2019.

Eurofins Air Toxics LLC. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics LLC.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
GHD
Workorder# 1906271

Six 6 Liter Summa Canister samples were received on June 14, 2019. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified may be false positives.

Dilution was performed on samples SV61119CM007 and SV61119CM008 due to the presence of high level target species.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV61119CM006	Date/Time Analyzed:	6/18/19 03:02 PM
Lab ID:	1906271-01A	Dilution Factor:	1.62
Date/Time Collected:	6/11/19 11:46 AM	Instrument/Filename:	msdj.i / j061810
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	1.0	3.5	4.4	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.93	4.4	5.6	Not Detected
1,1,2-Trichloroethane	79-00-5	1.6	3.5	4.4	Not Detected
1,1-Dichloroethane	75-34-3	0.58	2.6	3.3	Not Detected
1,1-Dichloroethene	75-35-4	0.95	2.6	3.2	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.2	18	24	Not Detected
1,2,4-Trimethylbenzene	95-63-6	3.0	3.2	4.0	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.70	5.0	6.2	Not Detected
1,2-Dichlorobenzene	95-50-1	0.81	3.9	4.9	Not Detected
1,2-Dichloroethane	107-06-2	1.1	2.6	3.3	Not Detected
1,2-Dichloropropane	78-87-5	1.5	3.0	3.7	Not Detected
1,3,5-Trimethylbenzene	108-67-8	2.4	3.2	4.0	Not Detected
1,3-Butadiene	106-99-0	0.86	1.4	1.8	Not Detected
1,3-Dichlorobenzene	541-73-1	0.98	3.9	4.9	2.4 J
1,4-Dichlorobenzene	106-46-7	0.83	3.9	4.9	Not Detected
1,4-Dioxane	123-91-1	2.5	8.8	12	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.82	3.0	3.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	4.7	7.2	9.6	15
2-Hexanone	591-78-6	3.0	10	13	Not Detected
2-Propanol	67-63-0	1.3	6.0	8.0	37
3-Chloropropene	107-05-1	3.3	7.6	10	Not Detected
4-Ethyltoluene	622-96-8	1.5	3.2	4.0	Not Detected
4-Methyl-2-pentanone	108-10-1	1.2	2.6	3.3	2.4 J
Acetone	67-64-1	5.9	6.7	19	120

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV61119CM006	Date/Time Analyzed:	6/18/19 03:02 PM
Lab ID:	1906271-01A	Dilution Factor:	1.62
Date/Time Collected:	6/11/19 11:46 AM	Instrument/File Name:	msdj.i / j061810
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.86	3.4	4.2	Not Detected
Benzene	71-43-2	0.69	2.1	2.6	2.3 J
Bromodichloromethane	75-27-4	2.0	4.3	5.4	Not Detected
Bromoform	75-25-2	1.9	6.7	8.4	Not Detected
Bromomethane	74-83-9	7.6	9.4	31	Not Detected
Carbon Disulfide	75-15-0	2.2	7.6	10	3.9 J
Carbon Tetrachloride	56-23-5	0.77	4.1	5.1	Not Detected
Chlorobenzene	108-90-7	0.93	3.0	3.7	Not Detected
Chloroethane	75-00-3	3.3	6.4	8.5	Not Detected
Chloroform	67-66-3	0.84	3.2	4.0	Not Detected
Chloromethane	74-87-3	1.1	5.0	17	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.4	2.6	3.2	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.73	2.9	3.7	Not Detected
Cumene	98-82-8	1.0	3.2	4.0	Not Detected
Cyclohexane	110-82-7	0.82	2.2	2.8	Not Detected
Dibromochloromethane	124-48-1	0.84	5.5	6.9	Not Detected
Ethanol	64-17-5	4.7	5.3	6.1	380
Ethyl Benzene	100-41-4	0.40	2.8	3.5	Not Detected
Freon 11	75-69-4	0.87	3.6	4.6	2.1 J
Freon 113	76-13-1	1.2	5.0	6.2	Not Detected
Freon 114	76-14-2	0.63	4.5	5.7	Not Detected
Freon 12	75-71-8	1.2	3.2	4.0	2.8 J
Heptane	142-82-5	1.6	2.6	3.3	Not Detected
Hexachlorobutadiene	87-68-3	6.8	26	34	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV61119CM006	Date/Time Analyzed:	6/18/19 03:02 PM
Lab ID:	1906271-01A	Dilution Factor:	1.62
Date/Time Collected:	6/11/19 11:46 AM	Instrument/Filename:	msdj.i / j061810
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	1.4	2.3	2.8	8.0
m,p-Xylene	108-38-3	0.95	2.8	3.5	Not Detected
Methyl tert-butyl ether	1634-04-4	1.5	8.8	12	Not Detected
Methylene Chloride	75-09-2	1.8	8.4	28	Not Detected
o-Xylene	95-47-6	1.5	2.8	3.5	Not Detected
Propylbenzene	103-65-1	1.8	3.2	4.0	Not Detected
Styrene	100-42-5	0.74	2.8	3.4	Not Detected
Tetrachloroethene	127-18-4	1.5	4.4	5.5	11
Tetrahydrofuran	109-99-9	0.96	1.9	2.4	4.0
Toluene	108-88-3	2.0	2.4	3.0	2.7 J
trans-1,2-Dichloroethene	156-60-5	1.8	2.6	3.2	Not Detected
trans-1,3-Dichloropropene	10061-02-6	1.1	2.9	3.7	Not Detected
Trichloroethene	79-01-6	1.6	3.5	4.4	2.6 J
Vinyl Chloride	75-01-4	1.5	1.6	2.1	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	98
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	96

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV61119CM007	Date/Time Analyzed:	6/18/19 03:30 PM
Lab ID:	1906271-02A	Dilution Factor:	2.07
Date/Time Collected:	6/11/19 12:01 PM	Instrument/Filename:	msdj.i / j061811
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	1.4	4.5	5.6	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	1.2	5.7	7.1	Not Detected
1,1,2-Trichloroethane	79-00-5	2.1	4.5	5.6	Not Detected
1,1-Dichloroethane	75-34-3	0.74	3.4	4.2	Not Detected
1,1-Dichloroethene	75-35-4	1.2	3.3	4.1	Not Detected
1,2,4-Trichlorobenzene	120-82-1	4.0	23	31	Not Detected
1,2,4-Trimethylbenzene	95-63-6	3.8	4.1	5.1	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.89	6.4	8.0	Not Detected
1,2-Dichlorobenzene	95-50-1	1.0	5.0	6.2	Not Detected
1,2-Dichloroethane	107-06-2	1.4	3.4	4.2	Not Detected
1,2-Dichloropropane	78-87-5	2.0	3.8	4.8	Not Detected
1,3,5-Trimethylbenzene	108-67-8	3.1	4.1	5.1	Not Detected
1,3-Butadiene	106-99-0	1.1	1.8	2.3	Not Detected
1,3-Dichlorobenzene	541-73-1	1.2	5.0	6.2	4.5 J
1,4-Dichlorobenzene	106-46-7	1.1	5.0	6.2	Not Detected
1,4-Dioxane	123-91-1	3.2	11	15	Not Detected
2,2,4-Trimethylpentane	540-84-1	1.0	3.9	4.8	14
2-Butanone (Methyl Ethyl Ketone)	78-93-3	6.0	9.2	12	15
2-Hexanone	591-78-6	3.8	13	17	Not Detected
2-Propanol	67-63-0	1.7	7.6	10	31
3-Chloropropene	107-05-1	4.2	9.7	13	Not Detected
4-Ethyltoluene	622-96-8	1.9	4.1	5.1	Not Detected
4-Methyl-2-pentanone	108-10-1	1.6	3.4	4.2	2.7 J
Acetone	67-64-1	7.6	8.6	24	130

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV61119CM007	Date/Time Analyzed:	6/18/19 03:30 PM
Lab ID:	1906271-02A	Dilution Factor:	2.07
Date/Time Collected:	6/11/19 12:01 PM	Instrument/File Name:	msdj.i / j061811
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	1.1	4.3	5.4	Not Detected
Benzene	71-43-2	0.88	2.6	3.3	1.5 J
Bromodichloromethane	75-27-4	2.6	5.5	6.9	Not Detected
Bromoform	75-25-2	2.4	8.6	11	Not Detected
Bromomethane	74-83-9	9.8	12	40	Not Detected
Carbon Disulfide	75-15-0	2.8	9.7	13	8.6 J
Carbon Tetrachloride	56-23-5	0.98	5.2	6.5	Not Detected
Chlorobenzene	108-90-7	1.2	3.8	4.8	Not Detected
Chloroethane	75-00-3	4.2	8.2	11	Not Detected
Chloroform	67-66-3	1.1	4.0	5.0	Not Detected
Chloromethane	74-87-3	1.4	6.4	21	2.8 J
cis-1,2-Dichloroethene	156-59-2	1.8	3.3	4.1	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.94	3.8	4.7	Not Detected
Cumene	98-82-8	1.3	4.1	5.1	Not Detected
Cyclohexane	110-82-7	1.0	2.8	3.6	Not Detected
Dibromochloromethane	124-48-1	1.1	7.0	8.8	Not Detected
Ethanol	64-17-5	6.0	6.8	7.8	460
Ethyl Benzene	100-41-4	0.51	3.6	4.5	Not Detected
Freon 11	75-69-4	1.1	4.6	5.8	1.5 J
Freon 113	76-13-1	1.5	6.3	7.9	Not Detected
Freon 114	76-14-2	0.80	5.8	7.2	Not Detected
Freon 12	75-71-8	1.5	4.1	5.1	2.8 J
Heptane	142-82-5	2.0	3.4	4.2	Not Detected
Hexachlorobutadiene	87-68-3	8.7	33	44	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV61119CM007	Date/Time Analyzed:	6/18/19 03:30 PM
Lab ID:	1906271-02A	Dilution Factor:	2.07
Date/Time Collected:	6/11/19 12:01 PM	Instrument/Filename:	msdj.i / j061811
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	1.8	2.9	3.6	9.4
m,p-Xylene	108-38-3	1.2	3.6	4.5	Not Detected
Methyl tert-butyl ether	1634-04-4	2.0	11	15	Not Detected
Methylene Chloride	75-09-2	2.4	11	36	Not Detected
o-Xylene	95-47-6	1.9	3.6	4.5	Not Detected
Propylbenzene	103-65-1	2.2	4.1	5.1	Not Detected
Styrene	100-42-5	0.94	3.5	4.4	Not Detected
Tetrachloroethene	127-18-4	1.9	5.6	7.0	19
Tetrahydrofuran	109-99-9	1.2	2.4	3.0	3.1
Toluene	108-88-3	2.6	3.1	3.9	4.8
trans-1,2-Dichloroethene	156-60-5	2.3	3.3	4.1	Not Detected
trans-1,3-Dichloropropene	10061-02-6	1.4	3.8	4.7	Not Detected
Trichloroethene	79-01-6	2.1	4.4	5.6	2.2 J
Vinyl Chloride	75-01-4	1.9	2.1	2.6	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	97
4-Bromofluorobenzene	460-00-4	70-130	95
Toluene-d8	2037-26-5	70-130	94

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV61119CM008	Date/Time Analyzed:	6/18/19 04:00 PM
Lab ID:	1906271-03A	Dilution Factor:	1.99
Date/Time Collected:	6/11/19 12:10 PM	Instrument/File name:	msdj.i / j061812
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	1.3	4.3	5.4	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	1.1	5.5	6.8	Not Detected
1,1,2-Trichloroethane	79-00-5	2.0	4.3	5.4	Not Detected
1,1-Dichloroethane	75-34-3	0.71	3.2	4.0	Not Detected
1,1-Dichloroethene	75-35-4	1.2	3.2	3.9	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.9	22	30	Not Detected
1,2,4-Trimethylbenzene	95-63-6	3.6	3.9	4.9	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.86	6.1	7.6	Not Detected
1,2-Dichlorobenzene	95-50-1	1.0	4.8	6.0	Not Detected
1,2-Dichloroethane	107-06-2	1.3	3.2	4.0	Not Detected
1,2-Dichloropropane	78-87-5	1.9	3.7	4.6	Not Detected
1,3,5-Trimethylbenzene	108-67-8	3.0	3.9	4.9	Not Detected
1,3-Butadiene	106-99-0	1.0	1.8	2.2	Not Detected
1,3-Dichlorobenzene	541-73-1	1.2	4.8	6.0	3.9 J
1,4-Dichlorobenzene	106-46-7	1.0	4.8	6.0	Not Detected
1,4-Dioxane	123-91-1	3.1	11	14	Not Detected
2,2,4-Trimethylpentane	540-84-1	1.0	3.7	4.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	5.8	8.8	12	17
2-Hexanone	591-78-6	3.7	12	16	Not Detected
2-Propanol	67-63-0	1.6	7.3	9.8	32
3-Chloropropene	107-05-1	4.0	9.3	12	Not Detected
4-Ethyltoluene	622-96-8	1.8	3.9	4.9	Not Detected
4-Methyl-2-pentanone	108-10-1	1.5	3.3	4.1	2.4 J
Acetone	67-64-1	7.3	8.3	24	130

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV61119CM008	Date/Time Analyzed:	6/18/19 04:00 PM
Lab ID:	1906271-03A	Dilution Factor:	1.99
Date/Time Collected:	6/11/19 12:10 PM	Instrument/File Name:	msdj.i / j061812
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	1.0	4.1	5.2	Not Detected
Benzene	71-43-2	0.85	2.5	3.2	1.0 J
Bromodichloromethane	75-27-4	2.5	5.3	6.7	Not Detected
Bromoform	75-25-2	2.3	8.2	10	Not Detected
Bromomethane	74-83-9	9.4	12	39	Not Detected
Carbon Disulfide	75-15-0	2.7	9.3	12	4.2 J
Carbon Tetrachloride	56-23-5	0.95	5.0	6.3	Not Detected
Chlorobenzene	108-90-7	1.1	3.7	4.6	Not Detected
Chloroethane	75-00-3	4.0	7.9	10	Not Detected
Chloroform	67-66-3	1.0	3.9	4.8	Not Detected
Chloromethane	74-87-3	1.3	6.2	20	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.8	3.2	3.9	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.90	3.6	4.5	Not Detected
Cumene	98-82-8	1.3	3.9	4.9	Not Detected
Cyclohexane	110-82-7	1.0	2.7	3.4	Not Detected
Dibromochloromethane	124-48-1	1.0	6.8	8.5	Not Detected
Ethanol	64-17-5	5.8	6.6	7.5	470
Ethyl Benzene	100-41-4	0.50	3.4	4.3	Not Detected
Freon 11	75-69-4	1.1	4.5	5.6	1.9 J
Freon 113	76-13-1	1.4	6.1	7.6	Not Detected
Freon 114	76-14-2	0.77	5.6	7.0	Not Detected
Freon 12	75-71-8	1.4	3.9	4.9	2.4 J
Heptane	142-82-5	1.9	3.3	4.1	Not Detected
Hexachlorobutadiene	87-68-3	8.4	32	42	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV61119CM008	Date/Time Analyzed:	6/18/19 04:00 PM
Lab ID:	1906271-03A	Dilution Factor:	1.99
Date/Time Collected:	6/11/19 12:10 PM	Instrument/Filename:	msdj.i / j061812
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	1.7	2.8	3.5	9.2
m,p-Xylene	108-38-3	1.2	3.4	4.3	Not Detected
Methyl tert-butyl ether	1634-04-4	1.9	11	14	Not Detected
Methylene Chloride	75-09-2	2.3	10	34	Not Detected
o-Xylene	95-47-6	1.8	3.4	4.3	Not Detected
Propylbenzene	103-65-1	2.2	3.9	4.9	Not Detected
Styrene	100-42-5	0.91	3.4	4.2	Not Detected
Tetrachloroethene	127-18-4	1.8	5.4	6.7	31
Tetrahydrofuran	109-99-9	1.2	2.3	2.9	2.1 J
Toluene	108-88-3	2.5	3.0	3.7	3.2 J
trans-1,2-Dichloroethene	156-60-5	2.2	3.2	3.9	Not Detected
trans-1,3-Dichloropropene	10061-02-6	1.3	3.6	4.5	Not Detected
Trichloroethene	79-01-6	2.0	4.3	5.3	3.1 J
Vinyl Chloride	75-01-4	1.8	2.0	2.5	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	98
4-Bromofluorobenzene	460-00-4	70-130	102
Toluene-d8	2037-26-5	70-130	94

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV61119CM009	Date/Time Analyzed:	6/18/19 05:21 PM
Lab ID:	1906271-04A	Dilution Factor:	1.51
Date/Time Collected:	6/11/19 12:31 PM	Instrument/Filename:	msdj.i / j061814
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.99	3.3	4.1	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.87	4.1	5.2	Not Detected
1,1,2-Trichloroethane	79-00-5	1.5	3.3	4.1	Not Detected
1,1-Dichloroethane	75-34-3	0.54	2.4	3.0	Not Detected
1,1-Dichloroethene	75-35-4	0.89	2.4	3.0	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.0	17	22	Not Detected
1,2,4-Trimethylbenzene	95-63-6	2.8	3.0	3.7	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.65	4.6	5.8	Not Detected
1,2-Dichlorobenzene	95-50-1	0.76	3.6	4.5	Not Detected
1,2-Dichloroethane	107-06-2	1.0	2.4	3.0	Not Detected
1,2-Dichloropropane	78-87-5	1.4	2.8	3.5	Not Detected
1,3,5-Trimethylbenzene	108-67-8	2.3	3.0	3.7	Not Detected
1,3-Butadiene	106-99-0	0.80	1.3	1.7	Not Detected
1,3-Dichlorobenzene	541-73-1	0.92	3.6	4.5	2.3 J
1,4-Dichlorobenzene	106-46-7	0.78	3.6	4.5	Not Detected
1,4-Dioxane	123-91-1	2.4	8.2	11	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.77	2.8	3.5	0.79 J
2-Butanone (Methyl Ethyl Ketone)	78-93-3	4.4	6.7	8.9	24
2-Hexanone	591-78-6	2.8	9.3	12	Not Detected
2-Propanol	67-63-0	1.2	5.6	7.4	39
3-Chloropropene	107-05-1	3.1	7.1	9.4	Not Detected
4-Ethyltoluene	622-96-8	1.4	3.0	3.7	Not Detected
4-Methyl-2-pentanone	108-10-1	1.2	2.5	3.1	3.4
Acetone	67-64-1	5.5	6.3	18	130

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV61119CM009	Date/Time Analyzed:	6/18/19 05:21 PM
Lab ID:	1906271-04A	Dilution Factor:	1.51
Date/Time Collected:	6/11/19 12:31 PM	Instrument/Filename:	msdj.i / j061814
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.80	3.1	3.9	Not Detected
Benzene	71-43-2	0.64	1.9	2.4	0.86 J
Bromodichloromethane	75-27-4	1.9	4.0	5.0	Not Detected
Bromoform	75-25-2	1.7	6.2	7.8	Not Detected
Bromomethane	74-83-9	7.1	8.8	29	Not Detected
Carbon Disulfide	75-15-0	2.1	7.0	9.4	2.4 J
Carbon Tetrachloride	56-23-5	0.72	3.8	4.8	Not Detected
Chlorobenzene	108-90-7	0.87	2.8	3.5	Not Detected
Chloroethane	75-00-3	3.1	6.0	8.0	Not Detected
Chloroform	67-66-3	0.78	2.9	3.7	Not Detected
Chloromethane	74-87-3	1.0	4.7	16	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.4	2.4	3.0	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.68	2.7	3.4	Not Detected
Cumene	98-82-8	0.97	3.0	3.7	Not Detected
Cyclohexane	110-82-7	0.77	2.1	2.6	Not Detected
Dibromochloromethane	124-48-1	0.78	5.1	6.4	Not Detected
Ethanol	64-17-5	4.4	5.0	5.7	430
Ethyl Benzene	100-41-4	0.38	2.6	3.3	Not Detected
Freon 11	75-69-4	0.82	3.4	4.2	1.9 J
Freon 113	76-13-1	1.1	4.6	5.8	Not Detected
Freon 114	76-14-2	0.59	4.2	5.3	Not Detected
Freon 12	75-71-8	1.1	3.0	3.7	2.7 J
Heptane	142-82-5	1.5	2.5	3.1	Not Detected
Hexachlorobutadiene	87-68-3	6.4	24	32	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV61119CM009	Date/Time Analyzed:	6/18/19 05:21 PM
Lab ID:	1906271-04A	Dilution Factor:	1.51
Date/Time Collected:	6/11/19 12:31 PM	Instrument/Filename:	msdj.i / j061814
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	1.3	2.1	2.7	14
m,p-Xylene	108-38-3	0.89	2.6	3.3	Not Detected
Methyl tert-butyl ether	1634-04-4	1.4	8.2	11	Not Detected
Methylene Chloride	75-09-2	1.7	7.9	26	45
o-Xylene	95-47-6	1.4	2.6	3.3	Not Detected
Propylbenzene	103-65-1	1.6	3.0	3.7	Not Detected
Styrene	100-42-5	0.69	2.6	3.2	Not Detected
Tetrachloroethene	127-18-4	1.4	4.1	5.1	24
Tetrahydrofuran	109-99-9	0.89	1.8	2.2	24
Toluene	108-88-3	1.9	2.3	2.8	2.1 J
trans-1,2-Dichloroethene	156-60-5	1.7	2.4	3.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	1.0	2.7	3.4	Not Detected
Trichloroethene	79-01-6	1.5	3.2	4.0	4.5
Vinyl Chloride	75-01-4	1.4	1.5	1.9	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	97
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	92

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV61119CM010	Date/Time Analyzed:	6/18/19 10:07 PM
Lab ID:	1906271-05A	Dilution Factor:	1.57
Date/Time Collected:	6/11/19 12:35 PM	Instrument/Filename:	msdj.i / j061818
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	1.0	3.4	4.3	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.90	4.3	5.4	Not Detected
1,1,2-Trichloroethane	79-00-5	1.6	3.4	4.3	Not Detected
1,1-Dichloroethane	75-34-3	0.56	2.5	3.2	Not Detected
1,1-Dichloroethene	75-35-4	0.92	2.5	3.1	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.1	17	23	Not Detected
1,2,4-Trimethylbenzene	95-63-6	2.9	3.1	3.8	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.68	4.8	6.0	Not Detected
1,2-Dichlorobenzene	95-50-1	0.79	3.8	4.7	Not Detected
1,2-Dichloroethane	107-06-2	1.0	2.5	3.2	Not Detected
1,2-Dichloropropane	78-87-5	1.5	2.9	3.6	Not Detected
1,3,5-Trimethylbenzene	108-67-8	2.4	3.1	3.8	Not Detected
1,3-Butadiene	106-99-0	0.83	1.4	1.7	Not Detected
1,3-Dichlorobenzene	541-73-1	0.95	3.8	4.7	4.5 J
1,4-Dichlorobenzene	106-46-7	0.81	3.8	4.7	Not Detected
1,4-Dioxane	123-91-1	2.4	8.5	11	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.80	2.9	3.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	4.5	6.9	9.2	16
2-Hexanone	591-78-6	2.9	9.6	13	Not Detected
2-Propanol	67-63-0	1.3	5.8	7.7	43
3-Chloropropene	107-05-1	3.2	7.4	9.8	Not Detected
4-Ethyltoluene	622-96-8	1.4	3.1	3.8	Not Detected
4-Methyl-2-pentanone	108-10-1	1.2	2.6	3.2	2.7 J
Acetone	67-64-1	5.7	6.5	19	130

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV61119CM010	Date/Time Analyzed:	6/18/19 10:07 PM
Lab ID:	1906271-05A	Dilution Factor:	1.57
Date/Time Collected:	6/11/19 12:35 PM	Instrument/File name:	msdj.i / j061818
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.83	3.2	4.1	Not Detected
Benzene	71-43-2	0.67	2.0	2.5	1.2 J
Bromodichloromethane	75-27-4	2.0	4.2	5.2	Not Detected
Bromoform	75-25-2	1.8	6.5	8.1	Not Detected
Bromomethane	74-83-9	7.4	9.1	30	Not Detected
Carbon Disulfide	75-15-0	2.2	7.3	9.8	6.1 J
Carbon Tetrachloride	56-23-5	0.75	4.0	4.9	Not Detected
Chlorobenzene	108-90-7	0.90	2.9	3.6	Not Detected
Chloroethane	75-00-3	3.2	6.2	8.3	Not Detected
Chloroform	67-66-3	0.82	3.1	3.8	1.2 J
Chloromethane	74-87-3	1.0	4.9	16	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.4	2.5	3.1	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.71	2.8	3.6	Not Detected
Cumene	98-82-8	1.0	3.1	3.8	Not Detected
Cyclohexane	110-82-7	0.80	2.2	2.7	Not Detected
Dibromochloromethane	124-48-1	0.81	5.3	6.7	Not Detected
Ethanol	64-17-5	4.6	5.2	5.9	400
Ethyl Benzene	100-41-4	0.39	2.7	3.4	Not Detected
Freon 11	75-69-4	0.85	3.5	4.4	2.4 J
Freon 113	76-13-1	1.1	4.8	6.0	Not Detected
Freon 114	76-14-2	0.61	4.4	5.5	Not Detected
Freon 12	75-71-8	1.1	3.1	3.9	3.3 J
Heptane	142-82-5	1.5	2.6	3.2	Not Detected
Hexachlorobutadiene	87-68-3	6.6	25	33	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV61119CM010	Date/Time Analyzed:	6/18/19 10:07 PM
Lab ID:	1906271-05A	Dilution Factor:	1.57
Date/Time Collected:	6/11/19 12:35 PM	Instrument/Filename:	msdj.i / j061818
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	1.4	2.2	2.8	2.1 J
m,p-Xylene	108-38-3	0.92	2.7	3.4	Not Detected
Methyl tert-butyl ether	1634-04-4	1.5	8.5	11	Not Detected
Methylene Chloride	75-09-2	1.8	8.2	27	3.3 J
o-Xylene	95-47-6	1.4	2.7	3.4	Not Detected
Propylbenzene	103-65-1	1.7	3.1	3.8	Not Detected
Styrene	100-42-5	0.72	2.7	3.3	Not Detected
Tetrachloroethene	127-18-4	1.4	4.2	5.3	13
Tetrahydrofuran	109-99-9	0.93	1.8	2.3	2.0 J
Toluene	108-88-3	1.9	2.4	3.0	5.5
trans-1,2-Dichloroethene	156-60-5	1.8	2.5	3.1	Not Detected
trans-1,3-Dichloropropene	10061-02-6	1.1	2.8	3.6	Not Detected
Trichloroethene	79-01-6	1.6	3.4	4.2	6.6
Vinyl Chloride	75-01-4	1.4	1.6	2.0	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	97
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	94

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV61119CM011	Date/Time Analyzed:	6/18/19 10:33 PM
Lab ID:	1906271-06A	Dilution Factor:	1.65
Date/Time Collected:	6/11/19 01:35 PM	Instrument/Filename:	msdj.i / j061819
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	1.1	3.6	4.5	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.95	4.5	5.7	Not Detected
1,1,2-Trichloroethane	79-00-5	1.6	3.6	4.5	Not Detected
1,1-Dichloroethane	75-34-3	0.59	2.7	3.3	Not Detected
1,1-Dichloroethene	75-35-4	0.97	2.6	3.3	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.2	18	24	Not Detected
1,2,4-Trimethylbenzene	95-63-6	3.0	3.2	4.0	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.71	5.1	6.3	Not Detected
1,2-Dichlorobenzene	95-50-1	0.83	4.0	5.0	Not Detected
1,2-Dichloroethane	107-06-2	1.1	2.7	3.3	Not Detected
1,2-Dichloropropane	78-87-5	1.6	3.0	3.8	Not Detected
1,3,5-Trimethylbenzene	108-67-8	2.5	3.2	4.0	Not Detected
1,3-Butadiene	106-99-0	0.88	1.5	1.8	Not Detected
1,3-Dichlorobenzene	541-73-1	1.0	4.0	5.0	6.0
1,4-Dichlorobenzene	106-46-7	0.85	4.0	5.0	Not Detected
1,4-Dioxane	123-91-1	2.6	8.9	12	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.84	3.1	3.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	4.8	7.3	9.7	22
2-Hexanone	591-78-6	3.1	10	14	Not Detected
2-Propanol	67-63-0	1.4	6.1	8.1	36
3-Chloropropene	107-05-1	3.3	7.7	10	Not Detected
4-Ethyltoluene	622-96-8	1.5	3.2	4.0	Not Detected
4-Methyl-2-pentanone	108-10-1	1.3	2.7	3.4	3.2 J
Acetone	67-64-1	6.0	6.8	20	160

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV61119CM011	Date/Time Analyzed:	6/18/19 10:33 PM
Lab ID:	1906271-06A	Dilution Factor:	1.65
Date/Time Collected:	6/11/19 01:35 PM	Instrument/Filename:	msdj.i / j061819
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.87	3.4	4.3	Not Detected
Benzene	71-43-2	0.70	2.1	2.6	2.1 J
Bromodichloromethane	75-27-4	2.0	4.4	5.5	Not Detected
Bromoform	75-25-2	1.9	6.8	8.5	Not Detected
Bromomethane	74-83-9	7.8	9.6	32	Not Detected
Carbon Disulfide	75-15-0	2.3	7.7	10	2.6 J
Carbon Tetrachloride	56-23-5	0.78	4.2	5.2	Not Detected
Chlorobenzene	108-90-7	0.95	3.0	3.8	Not Detected
Chloroethane	75-00-3	3.4	6.5	8.7	Not Detected
Chloroform	67-66-3	0.86	3.2	4.0	1.9 J
Chloromethane	74-87-3	1.1	5.1	17	1.6 J
cis-1,2-Dichloroethene	156-59-2	1.5	2.6	3.3	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.74	3.0	3.7	Not Detected
Cumene	98-82-8	1.1	3.2	4.0	Not Detected
Cyclohexane	110-82-7	0.84	2.3	2.8	Not Detected
Dibromochloromethane	124-48-1	0.85	5.6	7.0	Not Detected
Ethanol	64-17-5	4.8	5.4	6.2	470
Ethyl Benzene	100-41-4	0.41	2.9	3.6	Not Detected
Freon 11	75-69-4	0.89	3.7	4.6	2.8 J
Freon 113	76-13-1	1.2	5.0	6.3	Not Detected
Freon 114	76-14-2	0.64	4.6	5.8	Not Detected
Freon 12	75-71-8	1.2	3.3	4.1	3.2 J
Heptane	142-82-5	1.6	2.7	3.4	Not Detected
Hexachlorobutadiene	87-68-3	7.0	26	35	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV61119CM011	Date/Time Analyzed:	6/18/19 10:33 PM
Lab ID:	1906271-06A	Dilution Factor:	1.65
Date/Time Collected:	6/11/19 01:35 PM	Instrument/Filename:	msdj.i / j061819
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	1.4	2.3	2.9	5.6
m,p-Xylene	108-38-3	0.97	2.9	3.6	Not Detected
Methyl tert-butyl ether	1634-04-4	1.6	8.9	12	Not Detected
Methylene Chloride	75-09-2	1.9	8.6	29	Not Detected
o-Xylene	95-47-6	1.5	2.9	3.6	Not Detected
Propylbenzene	103-65-1	1.8	3.2	4.0	Not Detected
Styrene	100-42-5	0.75	2.8	3.5	Not Detected
Tetrachloroethene	127-18-4	1.5	4.5	5.6	19
Tetrahydrofuran	109-99-9	0.97	1.9	2.4	5.0
Toluene	108-88-3	2.0	2.5	3.1	2.5 J
trans-1,2-Dichloroethene	156-60-5	1.9	2.6	3.3	Not Detected
trans-1,3-Dichloropropene	10061-02-6	1.1	3.0	3.7	Not Detected
Trichloroethene	79-01-6	1.6	3.5	4.4	5.6
Vinyl Chloride	75-01-4	1.5	1.7	2.1	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	98
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	93

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	Lab Blank	Date/Time Analyzed:	6/18/19 10:45 AM
Lab ID:	1906271-07A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j061805a
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.65	2.2	2.7	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.58	2.7	3.4	Not Detected
1,1,2-Trichloroethane	79-00-5	1.0	2.2	2.7	Not Detected
1,1-Dichloroethane	75-34-3	0.36	1.6	2.0	Not Detected
1,1-Dichloroethene	75-35-4	0.59	1.6	2.0	Not Detected
1,2,4-Trichlorobenzene	120-82-1	2.0	11	15	Not Detected
1,2,4-Trimethylbenzene	95-63-6	1.8	2.0	2.4	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.43	3.1	3.8	Not Detected
1,2-Dichlorobenzene	95-50-1	0.50	2.4	3.0	Not Detected
1,2-Dichloroethane	107-06-2	0.67	1.6	2.0	Not Detected
1,2-Dichloropropane	78-87-5	0.95	1.8	2.3	Not Detected
1,3,5-Trimethylbenzene	108-67-8	1.5	2.0	2.4	Not Detected
1,3-Butadiene	106-99-0	0.53	0.88	1.1	Not Detected
1,3-Dichlorobenzene	541-73-1	0.61	2.4	3.0	Not Detected
1,4-Dichlorobenzene	106-46-7	0.51	2.4	3.0	0.61 J
1,4-Dioxane	123-91-1	1.6	5.4	7.2	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.51	1.9	2.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	2.9	4.4	5.9	Not Detected
2-Hexanone	591-78-6	1.9	6.1	8.2	Not Detected
2-Propanol	67-63-0	0.82	3.7	4.9	Not Detected
3-Chloropropene	107-05-1	2.0	4.7	6.3	Not Detected
4-Ethyltoluene	622-96-8	0.92	2.0	2.4	Not Detected
4-Methyl-2-pentanone	108-10-1	0.78	1.6	2.0	Not Detected
Acetone	67-64-1	3.6	4.2	12	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	Lab Blank	Date/Time Analyzed:	6/18/19 10:45 AM
Lab ID:	1906271-07A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j061805a
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.53	2.1	2.6	Not Detected
Benzene	71-43-2	0.42	1.3	1.6	Not Detected
Bromodichloromethane	75-27-4	1.2	2.7	3.4	Not Detected
Bromoform	75-25-2	1.1	4.1	5.2	Not Detected
Bromomethane	74-83-9	4.7	5.8	19	Not Detected
Carbon Disulfide	75-15-0	1.4	4.7	6.2	Not Detected
Carbon Tetrachloride	56-23-5	0.48	2.5	3.1	Not Detected
Chlorobenzene	108-90-7	0.58	1.8	2.3	Not Detected
Chloroethane	75-00-3	2.0	4.0	5.3	Not Detected
Chloroform	67-66-3	0.52	2.0	2.4	Not Detected
Chloromethane	74-87-3	0.67	3.1	10	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.90	1.6	2.0	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.45	1.8	2.3	Not Detected
Cumene	98-82-8	0.64	2.0	2.4	Not Detected
Cyclohexane	110-82-7	0.51	1.4	1.7	Not Detected
Dibromochloromethane	124-48-1	0.52	3.4	4.2	Not Detected
Ethanol	64-17-5	2.9	3.3	3.8	Not Detected
Ethyl Benzene	100-41-4	0.25	1.7	2.2	Not Detected
Freon 11	75-69-4	0.54	2.2	2.8	Not Detected
Freon 113	76-13-1	0.72	3.1	3.8	Not Detected
Freon 114	76-14-2	0.39	2.8	3.5	Not Detected
Freon 12	75-71-8	0.72	2.0	2.5	Not Detected
Heptane	142-82-5	0.97	1.6	2.0	Not Detected
Hexachlorobutadiene	87-68-3	4.2	16	21	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	Lab Blank	Date/Time Analyzed:	6/18/19 10:45 AM
Lab ID:	1906271-07A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j061805a
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.86	1.4	1.8	Not Detected
m,p-Xylene	108-38-3	0.59	1.7	2.2	Not Detected
Methyl tert-butyl ether	1634-04-4	0.94	5.4	7.2	Not Detected
Methylene Chloride	75-09-2	1.1	5.2	17	Not Detected
o-Xylene	95-47-6	0.90	1.7	2.2	Not Detected
Propylbenzene	103-65-1	1.1	2.0	2.4	Not Detected
Styrene	100-42-5	0.46	1.7	2.1	Not Detected
Tetrachloroethene	127-18-4	0.91	2.7	3.4	Not Detected
Tetrahydrofuran	109-99-9	0.59	1.2	1.5	Not Detected
Toluene	108-88-3	1.2	1.5	1.9	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.1	1.6	2.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.68	1.8	2.3	Not Detected
Trichloroethene	79-01-6	1.0	2.1	2.7	Not Detected
Vinyl Chloride	75-01-4	0.91	1.0	1.3	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	97
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	97

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	CCV	Date/Time Analyzed:	6/18/19 09:07 AM
Lab ID:	1906271-08A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j061802
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	97
1,1,2,2-Tetrachloroethane	79-34-5	95
1,1,2-Trichloroethane	79-00-5	100
1,1-Dichloroethane	75-34-3	102
1,1-Dichloroethene	75-35-4	102
1,2,4-Trichlorobenzene	120-82-1	88
1,2,4-Trimethylbenzene	95-63-6	97
1,2-Dibromoethane (EDB)	106-93-4	96
1,2-Dichlorobenzene	95-50-1	98
1,2-Dichloroethane	107-06-2	93
1,2-Dichloropropane	78-87-5	98
1,3,5-Trimethylbenzene	108-67-8	100
1,3-Butadiene	106-99-0	92
1,3-Dichlorobenzene	541-73-1	97
1,4-Dichlorobenzene	106-46-7	95
1,4-Dioxane	123-91-1	96
2,2,4-Trimethylpentane	540-84-1	108
2-Butanone (Methyl Ethyl Ketone)	78-93-3	98
2-Hexanone	591-78-6	100
2-Propanol	67-63-0	97
3-Chloropropene	107-05-1	99
4-Ethyltoluene	622-96-8	100
4-Methyl-2-pentanone	108-10-1	93
Acetone	67-64-1	94

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	CCV	Date/Time Analyzed:	6/18/19 09:07 AM
Lab ID:	1906271-08A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j061802
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	93
Benzene	71-43-2	100
Bromodichloromethane	75-27-4	96
Bromoform	75-25-2	98
Bromomethane	74-83-9	104
Carbon Disulfide	75-15-0	101
Carbon Tetrachloride	56-23-5	101
Chlorobenzene	108-90-7	98
Chloroethane	75-00-3	101
Chloroform	67-66-3	100
Chloromethane	74-87-3	95
cis-1,2-Dichloroethene	156-59-2	99
cis-1,3-Dichloropropene	10061-01-5	96
Cumene	98-82-8	97
Cyclohexane	110-82-7	100
Dibromochloromethane	124-48-1	98
Ethanol	64-17-5	100
Ethyl Benzene	100-41-4	97
Freon 11	75-69-4	99
Freon 113	76-13-1	100
Freon 114	76-14-2	99
Freon 12	75-71-8	100
Heptane	142-82-5	96
Hexachlorobutadiene	87-68-3	94

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	CCV	Date/Time Analyzed:	6/18/19 09:07 AM
Lab ID:	1906271-08A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j061802
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	104
m,p-Xylene	108-38-3	96
Methyl tert-butyl ether	1634-04-4	97
Methylene Chloride	75-09-2	106
o-Xylene	95-47-6	98
Propylbenzene	103-65-1	97
Styrene	100-42-5	96
Tetrachloroethene	127-18-4	102
Tetrahydrofuran	109-99-9	101
Toluene	108-88-3	96
trans-1,2-Dichloroethene	156-60-5	99
trans-1,3-Dichloropropene	10061-02-6	98
Trichloroethene	79-01-6	96
Vinyl Chloride	75-01-4	101

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	97
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	96

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	LCS	Date/Time Analyzed:	6/18/19 09:33 AM
Lab ID:	1906271-09A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j061803
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	91
1,1,2,2-Tetrachloroethane	79-34-5	94
1,1,2-Trichloroethane	79-00-5	94
1,1-Dichloroethane	75-34-3	97
1,1-Dichloroethene	75-35-4	98
1,2,4-Trichlorobenzene	120-82-1	97
1,2,4-Trimethylbenzene	95-63-6	95
1,2-Dibromoethane (EDB)	106-93-4	92
1,2-Dichlorobenzene	95-50-1	97
1,2-Dichloroethane	107-06-2	90
1,2-Dichloropropane	78-87-5	94
1,3,5-Trimethylbenzene	108-67-8	95
1,3-Butadiene	106-99-0	85
1,3-Dichlorobenzene	541-73-1	97
1,4-Dichlorobenzene	106-46-7	97
1,4-Dioxane	123-91-1	88
2,2,4-Trimethylpentane	540-84-1	102
2-Butanone (Methyl Ethyl Ketone)	78-93-3	89
2-Hexanone	591-78-6	97
2-Propanol	67-63-0	96
3-Chloropropene	107-05-1	90
4-Ethyltoluene	622-96-8	95
4-Methyl-2-pentanone	108-10-1	89
Acetone	67-64-1	89

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	LCS	Date/Time Analyzed:	6/18/19 09:33 AM
Lab ID:	1906271-09A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j061803
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	92
Benzene	71-43-2	95
Bromodichloromethane	75-27-4	94
Bromoform	75-25-2	97
Bromomethane	74-83-9	100
Carbon Disulfide	75-15-0	83
Carbon Tetrachloride	56-23-5	94
Chlorobenzene	108-90-7	94
Chloroethane	75-00-3	98
Chloroform	67-66-3	94
Chloromethane	74-87-3	93
cis-1,2-Dichloroethene	156-59-2	102
cis-1,3-Dichloropropene	10061-01-5	86
Cumene	98-82-8	95
Cyclohexane	110-82-7	94
Dibromochloromethane	124-48-1	96
Ethanol	64-17-5	97
Ethyl Benzene	100-41-4	95
Freon 11	75-69-4	96
Freon 113	76-13-1	93
Freon 114	76-14-2	100
Freon 12	75-71-8	96
Heptane	142-82-5	94
Hexachlorobutadiene	87-68-3	96

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	LCS	Date/Time Analyzed:	6/18/19 09:33 AM
Lab ID:	1906271-09A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j061803
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	99
m,p-Xylene	108-38-3	95
Methyl tert-butyl ether	1634-04-4	91
Methylene Chloride	75-09-2	97
o-Xylene	95-47-6	96
Propylbenzene	103-65-1	96
Styrene	100-42-5	94
Tetrachloroethene	127-18-4	99
Tetrahydrofuran	109-99-9	93
Toluene	108-88-3	91
trans-1,2-Dichloroethene	156-60-5	83
trans-1,3-Dichloropropene	10061-02-6	95
Trichloroethene	79-01-6	91
Vinyl Chloride	75-01-4	95

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	92
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	97

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	LCS D	Date/Time Analyzed:	6/18/19 09:59 AM
Lab ID:	1906271-09AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j061804
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	92
1,1,2,2-Tetrachloroethane	79-34-5	93
1,1,2-Trichloroethane	79-00-5	95
1,1-Dichloroethane	75-34-3	96
1,1-Dichloroethene	75-35-4	97
1,2,4-Trichlorobenzene	120-82-1	98
1,2,4-Trimethylbenzene	95-63-6	93
1,2-Dibromoethane (EDB)	106-93-4	92
1,2-Dichlorobenzene	95-50-1	97
1,2-Dichloroethane	107-06-2	90
1,2-Dichloropropane	78-87-5	94
1,3,5-Trimethylbenzene	108-67-8	94
1,3-Butadiene	106-99-0	85
1,3-Dichlorobenzene	541-73-1	96
1,4-Dichlorobenzene	106-46-7	99
1,4-Dioxane	123-91-1	89
2,2,4-Trimethylpentane	540-84-1	102
2-Butanone (Methyl Ethyl Ketone)	78-93-3	91
2-Hexanone	591-78-6	95
2-Propanol	67-63-0	96
3-Chloropropene	107-05-1	89
4-Ethyltoluene	622-96-8	88
4-Methyl-2-pentanone	108-10-1	88
Acetone	67-64-1	91

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	LCSD	Date/Time Analyzed:	6/18/19 09:59 AM
Lab ID:	1906271-09AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j061804
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	92
Benzene	71-43-2	95
Bromodichloromethane	75-27-4	93
Bromoform	75-25-2	95
Bromomethane	74-83-9	100
Carbon Disulfide	75-15-0	83
Carbon Tetrachloride	56-23-5	94
Chlorobenzene	108-90-7	92
Chloroethane	75-00-3	99
Chloroform	67-66-3	94
Chloromethane	74-87-3	90
cis-1,2-Dichloroethene	156-59-2	102
cis-1,3-Dichloropropene	10061-01-5	85
Cumene	98-82-8	93
Cyclohexane	110-82-7	93
Dibromochloromethane	124-48-1	95
Ethanol	64-17-5	96
Ethyl Benzene	100-41-4	93
Freon 11	75-69-4	95
Freon 113	76-13-1	93
Freon 114	76-14-2	99
Freon 12	75-71-8	95
Heptane	142-82-5	93
Hexachlorobutadiene	87-68-3	94

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	LCSD	Date/Time Analyzed:	6/18/19 09:59 AM
Lab ID:	1906271-09AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j061804
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	98
m,p-Xylene	108-38-3	92
Methyl tert-butyl ether	1634-04-4	90
Methylene Chloride	75-09-2	98
o-Xylene	95-47-6	94
Propylbenzene	103-65-1	94
Styrene	100-42-5	92
Tetrachloroethene	127-18-4	97
Tetrahydrofuran	109-99-9	93
Toluene	108-88-3	90
trans-1,2-Dichloroethene	156-60-5	81
trans-1,3-Dichloropropene	10061-02-6	95
Trichloroethene	79-01-6	91
Vinyl Chloride	75-01-4	97

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	95
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	97

* % Recovery is calculated using unrounded analytical results.

8/5/2019

Ms. Kathy Willy

GHD

2055 Niagara Falls Blvd.

Suite Three

Niagara Falls NY 14304

Project Name: Hicksville

Project #: 06883

Workorder #: 1907655A

Dear Ms. Kathy Willy

The following report includes the data for the above referenced project for sample(s) received on 7/30/2019 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Brian Whittaker at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Brian Whittaker

Project Manager

WORK ORDER #: 1907655A

Work Order Summary

CLIENT:	Ms. Kathy Willy GHD 2055 Niagara Falls Blvd. Suite Three Niagara Falls, NY 14304	BILL TO:	Accounts Payable OxyChem/Glenn Springs Holdings PO Box 2148 Houston, TX 77252
PHONE:	716-297-6150	P.O. #	450256640
FAX:	716-297-6296	PROJECT #	06883 Hicksville
DATE RECEIVED:	07/30/2019	CONTACT:	Brian Whittaker
DATE COMPLETED:	08/05/2019		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SV72619VW001	TO-15	2.6 "Hg	5.1 psi
02A	Lab Blank	TO-15	NA	NA
03A	CCV	TO-15	NA	NA
04A	LCS	TO-15	NA	NA
04AA	LCSD	TO-15	NA	NA

CERTIFIED BY:



Technical Director

DATE: 08/05/19

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005-011, Effective date: 10/18/2018, Expiration date: 10/17/2019.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
GHD
Workorder# 1907655A

One 6 Liter Summa Canister sample was received on July 30, 2019. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified may be false positives.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville

Client ID:	SV72619VW001	Date/Time Analyzed:	7/31/19 03:10 PM
Lab ID:	1907655A-01A	Dilution Factor:	1.47
Date/Time Collected:	7/26/19 09:25 AM	Instrument/Filename:	msd17.i / 17073106
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	1.4	3.2	4.0	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	2.2	4.0	5.0	Not Detected
1,1,2-Trichloroethane	79-00-5	1.8	3.2	4.0	Not Detected
1,1-Dichloroethane	75-34-3	1.1	2.4	3.0	Not Detected
1,1-Dichloroethene	75-35-4	1.3	2.3	2.9	Not Detected
1,2,4-Trichlorobenzene	120-82-1	4.1	16	22	Not Detected
1,2,4-Trimethylbenzene	95-63-6	1.2	2.9	3.6	1.6 J
1,2-Dibromoethane (EDB)	106-93-4	2.2	4.5	5.6	Not Detected
1,2-Dichlorobenzene	95-50-1	1.9	3.5	4.4	Not Detected
1,2-Dichloroethane	107-06-2	1.5	2.4	3.0	Not Detected
1,2-Dichloropropane	78-87-5	2.0	2.7	3.4	Not Detected
1,3,5-Trimethylbenzene	108-67-8	1.6	2.9	3.6	Not Detected
1,3-Butadiene	106-99-0	0.52	1.3	1.6	Not Detected
1,3-Dichlorobenzene	541-73-1	1.8	3.5	4.4	2.7 J
1,4-Dichlorobenzene	106-46-7	1.8	3.5	4.4	Not Detected
1,4-Dioxane	123-91-1	5.6	7.9	10	Not Detected
2,2,4-Trimethylpentane	540-84-1	1.0	2.7	3.4	2.7 J
2-Butanone (Methyl Ethyl Ketone)	78-93-3	1.8	6.5	8.7	7.8 J
2-Hexanone	591-78-6	2.9	9.0	12	Not Detected
2-Propanol	67-63-0	2.2	5.4	7.2	280
3-Chloropropene	107-05-1	2.0	6.9	9.2	Not Detected
4-Ethyltoluene	622-96-8	0.94	2.9	3.6	1.6 J
4-Methyl-2-pentanone	108-10-1	1.1	2.4	3.0	4.8
Acetone	67-64-1	2.5	5.2	17	36

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville

Client ID:	SV72619VW001	Date/Time Analyzed:	7/31/19 03:10 PM
Lab ID:	1907655A-01A	Dilution Factor:	1.47
Date/Time Collected:	7/26/19 09:25 AM	Instrument/File Name:	msd17.i / 17073106
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	1.3	3.0	3.8	Not Detected
Benzene	71-43-2	0.75	1.9	2.3	2.7
Bromodichloromethane	75-27-4	1.5	3.9	4.9	Not Detected
Bromoform	75-25-2	2.6	6.1	7.6	Not Detected
Bromomethane	74-83-9	2.2	8.6	28	Not Detected
Carbon Disulfide	75-15-0	1.3	6.9	9.2	3.3 J
Carbon Tetrachloride	56-23-5	1.3	3.7	4.6	Not Detected
Chlorobenzene	108-90-7	1.1	2.7	3.4	Not Detected
Chloroethane	75-00-3	1.2	5.8	7.8	Not Detected
Chloroform	67-66-3	1.0	2.9	3.6	Not Detected
Chloromethane	74-87-3	3.4	4.6	15	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.82	2.3	2.9	Not Detected
cis-1,3-Dichloropropene	10061-01-5	1.0	2.7	3.3	Not Detected
Cumene	98-82-8	0.87	2.9	3.6	Not Detected
Cyclohexane	110-82-7	1.1	2.0	2.5	1.4 J
Dibromochloromethane	124-48-1	2.4	5.0	6.3	Not Detected
Ethanol	64-17-5	3.7	4.2	5.5	180
Ethyl Benzene	100-41-4	1.3	2.6	3.2	2.5 J
Freon 11	75-69-4	1.3	3.3	4.1	1.9 J
Freon 113	76-13-1	2.7	4.5	5.6	Not Detected
Freon 114	76-14-2	2.5	4.1	5.1	Not Detected
Freon 12	75-71-8	1.4	2.9	3.6	2.8 J
Heptane	142-82-5	0.96	2.4	3.0	1.7 J
Hexachlorobutadiene	87-68-3	3.9	24	31	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville

Client ID:	SV72619VW001	Date/Time Analyzed:	7/31/19 03:10 PM
Lab ID:	1907655A-01A	Dilution Factor:	1.47
Date/Time Collected:	7/26/19 09:25 AM	Instrument/Filename:	msd17.i / 17073106
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.98	2.1	2.6	3.4
m,p-Xylene	108-38-3	0.83	2.6	3.2	7.1
Methyl tert-butyl ether	1634-04-4	0.74	7.9	10	Not Detected
Methylene Chloride	75-09-2	2.2	7.7	26	2.5 J
o-Xylene	95-47-6	1.0	2.6	3.2	2.0 J
Propylbenzene	103-65-1	1.2	2.9	3.6	Not Detected
Styrene	100-42-5	0.88	2.5	3.1	1.4 J
Tetrachloroethene	127-18-4	2.0	4.0	5.0	2.9 J
Tetrahydrofuran	109-99-9	1.2	1.7	2.2	Not Detected
Toluene	108-88-3	0.89	2.2	2.8	30
trans-1,2-Dichloroethene	156-60-5	0.87	2.3	2.9	Not Detected
trans-1,3-Dichloropropene	10061-02-6	1.5	2.7	3.3	Not Detected
Trichloroethene	79-01-6	1.4	3.2	4.0	Not Detected
Vinyl Chloride	75-01-4	0.75	1.5	1.9	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	101
4-Bromofluorobenzene	460-00-4	70-130	98
Toluene-d8	2037-26-5	70-130	99

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville

Client ID:	Lab Blank	Date/Time Analyzed:	7/31/19 12:04 PM
Lab ID:	1907655A-02A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17073105c
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.98	2.2	2.7	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	1.5	2.7	3.4	Not Detected
1,1,2-Trichloroethane	79-00-5	1.2	2.2	2.7	Not Detected
1,1-Dichloroethane	75-34-3	0.77	1.6	2.0	Not Detected
1,1-Dichloroethene	75-35-4	0.87	1.6	2.0	Not Detected
1,2,4-Trichlorobenzene	120-82-1	2.8	11	15	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.84	2.0	2.4	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.5	3.1	3.8	Not Detected
1,2-Dichlorobenzene	95-50-1	1.3	2.4	3.0	Not Detected
1,2-Dichloroethane	107-06-2	1.0	1.6	2.0	Not Detected
1,2-Dichloropropane	78-87-5	1.4	1.8	2.3	Not Detected
1,3,5-Trimethylbenzene	108-67-8	1.1	2.0	2.4	Not Detected
1,3-Butadiene	106-99-0	0.35	0.88	1.1	Not Detected
1,3-Dichlorobenzene	541-73-1	1.2	2.4	3.0	Not Detected
1,4-Dichlorobenzene	106-46-7	1.3	2.4	3.0	Not Detected
1,4-Dioxane	123-91-1	3.8	5.4	7.2	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.70	1.9	2.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	1.2	4.4	5.9	Not Detected
2-Hexanone	591-78-6	2.0	6.1	8.2	Not Detected
2-Propanol	67-63-0	1.5	3.7	4.9	Not Detected
3-Chloropropene	107-05-1	1.4	4.7	6.3	Not Detected
4-Ethyltoluene	622-96-8	0.64	2.0	2.4	Not Detected
4-Methyl-2-pentanone	108-10-1	0.78	1.6	2.0	Not Detected
Acetone	67-64-1	1.7	3.6	12	1.8 J

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville

Client ID:	Lab Blank	Date/Time Analyzed:	7/31/19 12:04 PM
Lab ID:	1907655A-02A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17073105c
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.88	2.1	2.6	Not Detected
Benzene	71-43-2	0.51	1.3	1.6	Not Detected
Bromodichloromethane	75-27-4	1.0	2.7	3.4	Not Detected
Bromoform	75-25-2	1.8	4.1	5.2	Not Detected
Bromomethane	74-83-9	1.5	5.8	19	Not Detected
Carbon Disulfide	75-15-0	0.90	4.7	6.2	Not Detected
Carbon Tetrachloride	56-23-5	0.88	2.5	3.1	Not Detected
Chlorobenzene	108-90-7	0.74	1.8	2.3	Not Detected
Chloroethane	75-00-3	0.82	4.0	5.3	Not Detected
Chloroform	67-66-3	0.68	2.0	2.4	Not Detected
Chloromethane	74-87-3	2.3	3.1	10	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.56	1.6	2.0	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.68	1.8	2.3	Not Detected
Cumene	98-82-8	0.59	2.0	2.4	Not Detected
Cyclohexane	110-82-7	0.72	1.4	1.7	Not Detected
Dibromochloromethane	124-48-1	1.6	3.4	4.2	Not Detected
Ethanol	64-17-5	2.5	2.8	3.8	Not Detected
Ethyl Benzene	100-41-4	0.87	1.7	2.2	Not Detected
Freon 11	75-69-4	0.90	2.2	2.8	Not Detected
Freon 113	76-13-1	1.8	3.1	3.8	Not Detected
Freon 114	76-14-2	1.7	2.8	3.5	Not Detected
Freon 12	75-71-8	0.94	2.0	2.5	Not Detected
Heptane	142-82-5	0.66	1.6	2.0	Not Detected
Hexachlorobutadiene	87-68-3	2.7	16	21	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville

Client ID:	Lab Blank	Date/Time Analyzed:	7/31/19 12:04 PM
Lab ID:	1907655A-02A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17073105c
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.67	1.4	1.8	Not Detected
m,p-Xylene	108-38-3	0.56	1.7	2.2	Not Detected
Methyl tert-butyl ether	1634-04-4	0.50	5.4	7.2	Not Detected
Methylene Chloride	75-09-2	1.5	5.2	17	Not Detected
o-Xylene	95-47-6	0.69	1.7	2.2	Not Detected
Propylbenzene	103-65-1	0.84	2.0	2.4	Not Detected
Styrene	100-42-5	0.60	1.7	2.1	Not Detected
Tetrachloroethene	127-18-4	1.4	2.7	3.4	Not Detected
Tetrahydrofuran	109-99-9	0.80	1.2	1.5	Not Detected
Toluene	108-88-3	0.60	1.5	1.9	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.59	1.6	2.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	1.0	1.8	2.3	Not Detected
Trichloroethene	79-01-6	0.97	2.1	2.7	Not Detected
Vinyl Chloride	75-01-4	0.51	1.0	1.3	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	96
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	99

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville

Client ID:	CCV	Date/Time Analyzed:	7/31/19 10:43 AM
Lab ID:	1907655A-03A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17073102
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	102
1,1,2,2-Tetrachloroethane	79-34-5	96
1,1,2-Trichloroethane	79-00-5	98
1,1-Dichloroethane	75-34-3	105
1,1-Dichloroethene	75-35-4	103
1,2,4-Trichlorobenzene	120-82-1	97
1,2,4-Trimethylbenzene	95-63-6	105
1,2-Dibromoethane (EDB)	106-93-4	100
1,2-Dichlorobenzene	95-50-1	100
1,2-Dichloroethane	107-06-2	97
1,2-Dichloropropane	78-87-5	98
1,3,5-Trimethylbenzene	108-67-8	105
1,3-Butadiene	106-99-0	101
1,3-Dichlorobenzene	541-73-1	98
1,4-Dichlorobenzene	106-46-7	100
1,4-Dioxane	123-91-1	103
2,2,4-Trimethylpentane	540-84-1	105
2-Butanone (Methyl Ethyl Ketone)	78-93-3	102
2-Hexanone	591-78-6	100
2-Propanol	67-63-0	103
3-Chloropropene	107-05-1	105
4-Ethyltoluene	622-96-8	102
4-Methyl-2-pentanone	108-10-1	99
Acetone	67-64-1	97

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville

Client ID:	CCV	Date/Time Analyzed:	7/31/19 10:43 AM
Lab ID:	1907655A-03A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17073102
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	103
Benzene	71-43-2	98
Bromodichloromethane	75-27-4	98
Bromoform	75-25-2	103
Bromomethane	74-83-9	103
Carbon Disulfide	75-15-0	100
Carbon Tetrachloride	56-23-5	101
Chlorobenzene	108-90-7	98
Chloroethane	75-00-3	104
Chloroform	67-66-3	101
Chloromethane	74-87-3	102
cis-1,2-Dichloroethene	156-59-2	106
cis-1,3-Dichloropropene	10061-01-5	100
Cumene	98-82-8	104
Cyclohexane	110-82-7	103
Dibromochloromethane	124-48-1	100
Ethanol	64-17-5	103
Ethyl Benzene	100-41-4	101
Freon 11	75-69-4	99
Freon 113	76-13-1	100
Freon 114	76-14-2	96
Freon 12	75-71-8	102
Heptane	142-82-5	103
Hexachlorobutadiene	87-68-3	97

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville

Client ID:	CCV	Date/Time Analyzed:	7/31/19 10:43 AM
Lab ID:	1907655A-03A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17073102
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	106
m,p-Xylene	108-38-3	104
Methyl tert-butyl ether	1634-04-4	103
Methylene Chloride	75-09-2	104
o-Xylene	95-47-6	105
Propylbenzene	103-65-1	100
Styrene	100-42-5	108
Tetrachloroethene	127-18-4	99
Tetrahydrofuran	109-99-9	102
Toluene	108-88-3	98
trans-1,2-Dichloroethene	156-60-5	104
trans-1,3-Dichloropropene	10061-02-6	100
Trichloroethene	79-01-6	100
Vinyl Chloride	75-01-4	103

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	101
4-Bromofluorobenzene	460-00-4	70-130	100
Toluene-d8	2037-26-5	70-130	98

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville

Client ID:	LCS	Date/Time Analyzed:	7/31/19 11:09 AM
Lab ID:	1907655A-04A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17073103
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	99
1,1,2,2-Tetrachloroethane	79-34-5	100
1,1,2-Trichloroethane	79-00-5	101
1,1-Dichloroethane	75-34-3	101
1,1-Dichloroethene	75-35-4	97
1,2,4-Trichlorobenzene	120-82-1	92
1,2,4-Trimethylbenzene	95-63-6	111
1,2-Dibromoethane (EDB)	106-93-4	100
1,2-Dichlorobenzene	95-50-1	103
1,2-Dichloroethane	107-06-2	97
1,2-Dichloropropane	78-87-5	97
1,3,5-Trimethylbenzene	108-67-8	110
1,3-Butadiene	106-99-0	93
1,3-Dichlorobenzene	541-73-1	102
1,4-Dichlorobenzene	106-46-7	105
1,4-Dioxane	123-91-1	93
2,2,4-Trimethylpentane	540-84-1	103
2-Butanone (Methyl Ethyl Ketone)	78-93-3	97
2-Hexanone	591-78-6	93
2-Propanol	67-63-0	88
3-Chloropropene	107-05-1	102
4-Ethyltoluene	622-96-8	110
4-Methyl-2-pentanone	108-10-1	96
Acetone	67-64-1	84

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville

Client ID:	LCS	Date/Time Analyzed:	7/31/19 11:09 AM
Lab ID:	1907655A-04A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17073103
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	104
Benzene	71-43-2	98
Bromodichloromethane	75-27-4	97
Bromoform	75-25-2	111
Bromomethane	74-83-9	98
Carbon Disulfide	75-15-0	98
Carbon Tetrachloride	56-23-5	100
Chlorobenzene	108-90-7	100
Chloroethane	75-00-3	100
Chloroform	67-66-3	98
Chloromethane	74-87-3	102
cis-1,2-Dichloroethene	156-59-2	94
cis-1,3-Dichloropropene	10061-01-5	104
Cumene	98-82-8	109
Cyclohexane	110-82-7	105
Dibromochloromethane	124-48-1	103
Ethanol	64-17-5	79
Ethyl Benzene	100-41-4	103
Freon 11	75-69-4	95
Freon 113	76-13-1	95
Freon 114	76-14-2	98
Freon 12	75-71-8	102
Heptane	142-82-5	102
Hexachlorobutadiene	87-68-3	98

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville

Client ID:	LCS	Date/Time Analyzed:	7/31/19 11:09 AM
Lab ID:	1907655A-04A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17073103
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	105
m,p-Xylene	108-38-3	106
Methyl tert-butyl ether	1634-04-4	100
Methylene Chloride	75-09-2	98
o-Xylene	95-47-6	106
Propylbenzene	103-65-1	107
Styrene	100-42-5	111
Tetrachloroethene	127-18-4	102
Tetrahydrofuran	109-99-9	99
Toluene	108-88-3	96
trans-1,2-Dichloroethene	156-60-5	108
trans-1,3-Dichloropropene	10061-02-6	102
Trichloroethene	79-01-6	99
Vinyl Chloride	75-01-4	102

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	98
4-Bromofluorobenzene	460-00-4	70-130	105
Toluene-d8	2037-26-5	70-130	97

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville

Client ID:	LCSD	Date/Time Analyzed:	7/31/19 11:36 AM
Lab ID:	1907655A-04AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17073104
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	101
1,1,2,2-Tetrachloroethane	79-34-5	99
1,1,2-Trichloroethane	79-00-5	100
1,1-Dichloroethane	75-34-3	100
1,1-Dichloroethene	75-35-4	95
1,2,4-Trichlorobenzene	120-82-1	97
1,2,4-Trimethylbenzene	95-63-6	111
1,2-Dibromoethane (EDB)	106-93-4	100
1,2-Dichlorobenzene	95-50-1	102
1,2-Dichloroethane	107-06-2	95
1,2-Dichloropropane	78-87-5	98
1,3,5-Trimethylbenzene	108-67-8	111
1,3-Butadiene	106-99-0	91
1,3-Dichlorobenzene	541-73-1	103
1,4-Dichlorobenzene	106-46-7	105
1,4-Dioxane	123-91-1	96
2,2,4-Trimethylpentane	540-84-1	104
2-Butanone (Methyl Ethyl Ketone)	78-93-3	98
2-Hexanone	591-78-6	96
2-Propanol	67-63-0	91
3-Chloropropene	107-05-1	99
4-Ethyltoluene	622-96-8	110
4-Methyl-2-pentanone	108-10-1	99
Acetone	67-64-1	88

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville

Client ID:	LCSD	Date/Time Analyzed:	7/31/19 11:36 AM
Lab ID:	1907655A-04AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17073104
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	105
Benzene	71-43-2	98
Bromodichloromethane	75-27-4	98
Bromoform	75-25-2	110
Bromomethane	74-83-9	101
Carbon Disulfide	75-15-0	98
Carbon Tetrachloride	56-23-5	98
Chlorobenzene	108-90-7	98
Chloroethane	75-00-3	100
Chloroform	67-66-3	99
Chloromethane	74-87-3	99
cis-1,2-Dichloroethene	156-59-2	94
cis-1,3-Dichloropropene	10061-01-5	103
Cumene	98-82-8	106
Cyclohexane	110-82-7	102
Dibromochloromethane	124-48-1	103
Ethanol	64-17-5	86
Ethyl Benzene	100-41-4	104
Freon 11	75-69-4	96
Freon 113	76-13-1	94
Freon 114	76-14-2	96
Freon 12	75-71-8	99
Heptane	142-82-5	105
Hexachlorobutadiene	87-68-3	101

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville

Client ID:	LCSD	Date/Time Analyzed:	7/31/19 11:36 AM
Lab ID:	1907655A-04AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd17.i / 17073104
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	104
m,p-Xylene	108-38-3	102
Methyl tert-butyl ether	1634-04-4	99
Methylene Chloride	75-09-2	100
o-Xylene	95-47-6	104
Propylbenzene	103-65-1	108
Styrene	100-42-5	107
Tetrachloroethene	127-18-4	102
Tetrahydrofuran	109-99-9	98
Toluene	108-88-3	96
trans-1,2-Dichloroethene	156-60-5	106
trans-1,3-Dichloropropene	10061-02-6	102
Trichloroethene	79-01-6	103
Vinyl Chloride	75-01-4	100

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	99
4-Bromofluorobenzene	460-00-4	70-130	105
Toluene-d8	2037-26-5	70-130	99

* % Recovery is calculated using unrounded analytical results.

8/6/2019

Ms. Kathy Willy

GHD

2055 Niagara Falls Blvd.

Suite Three

Niagara Falls NY 14304

Project Name: Hicksville

Project #: 06883

Workorder #: 1907655B

Dear Ms. Kathy Willy

The following report includes the data for the above referenced project for sample(s) received on 7/30/2019 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Brian Whittaker at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Brian Whittaker

Project Manager

WORK ORDER #: 1907655B

Work Order Summary

CLIENT:	Ms. Kathy Willy GHD 2055 Niagara Falls Blvd. Suite Three Niagara Falls, NY 14304	BILL TO:	Accounts Payable OxyChem/Glenn Springs Holdings PO Box 2148 Houston, TX 77252
PHONE:	716-297-6150	P.O. #	450256640
FAX:	716-297-6296	PROJECT #	06883 Hicksville
DATE RECEIVED:	07/30/2019	CONTACT:	Brian Whittaker
DATE COMPLETED:	08/06/2019		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SV72619VW001	Modified ASTM D-1946	2.6 "Hg	5.1 psi
02A	Lab Blank	Modified ASTM D-1946	NA	NA
03A	LCS	Modified ASTM D-1946	NA	NA
03AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY:



Technical Director

DATE: 08/06/19

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified ASTM D-1946
GHD
Workorder# 1907655B

One 6 Liter Summa Canister sample was received on July 30, 2019. The laboratory performed analysis via Modified ASTM Method D-1946 for Helium in air using GC/TCD. The method involves direct injection of 1.0 mL of sample.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	ASTM D-1946	ATL Modifications
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A minimum of 5-point calibration curve is performed. Quantitation is based on average Response Factor.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections > 5 X's the RL.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the detection limit.

M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946
Hicksville

Client ID:	SV72619VW001	Date/Time Analyzed:	7/31/19 09:41 PM
Lab ID:	1907655B-01A	Dilution Factor:	1.48
Date/Time Collected:	7/26/19 09:25 AM	Instrument/Filename:	gc10.i / 10073132c
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (%)	LOD (%)	Rpt. Limit (%)	Amount (%)
Helium	7440-59-7	0.0024	0.0092	0.074	0.0024 J

J = Estimated value.

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946
Hicksville

Client ID:	Lab Blank	Date/Time Analyzed:	7/31/19 07:54 PM
Lab ID:	1907655B-02A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	gc10.i / 10073129c
Media:	NA - Not Applicable		

Compound	CAS#	MDL (%)	LOD (%)	Rpt. Limit (%)	Amount (%)
Helium	7440-59-7	0.0016	0.0062	0.050	Not Detected

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946
Hicksville

Client ID:	LCS	Date/Time Analyzed:	7/31/19 06:46 PM
Lab ID:	1907655B-03A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	gc10.i / 10073127c
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Helium	7440-59-7	98

* % Recovery is calculated using unrounded analytical results.

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946
Hicksville

Client ID:	LCSD	Date/Time Analyzed:	7/31/19 07:27 PM
Lab ID:	1907655B-03AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	gc10.i / 10073128c
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Helium	7440-59-7	98

* % Recovery is calculated using unrounded analytical results.

10/17/2019

Ms. Kathy Willy

GHD

2055 Niagara Falls Blvd.

Suite Three

Niagara Falls NY 14304

Project Name: Hicksville - Enterprise

Project #: 068830M

Workorder #: 1910306

Dear Ms. Kathy Willy

The following report includes the data for the above referenced project for sample(s) received on 10/10/2019 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Brian Whittaker at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Brian Whittaker

Project Manager

WORK ORDER #: 1910306

Work Order Summary

CLIENT: Ms. Kathy Willy
GHD
2055 Niagara Falls Blvd.
Suite Three
Niagara Falls, NY 14304

BILL TO: Accounts Payable
OxyChem/Glenn Springs Holdings
PO Box 2148
Houston, TX 77252

PHONE: 716-297-6150

P.O. # 450256640

FAX: 716-297-6296

PROJECT # 068830M Hicksville - Enterprise

DATE RECEIVED: 10/10/2019

CONTACT: Brian Whittaker

DATE COMPLETED: 10/17/2019

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SV10819CM001	TO-15	8.0 "Hg	5 psi
02A	SV10819CM002	TO-15	9.0 "Hg	5 psi
03A	SV10819CM003	TO-15	9.0 "Hg	5 psi
04A	SV10819CM004	TO-15	6.0 "Hg	5 psi
05A	SV10819CM005	TO-15	6.5 "Hg	5 psi
06A	SV10819CM006	TO-15	7.5 "Hg	5 psi
07A	Lab Blank	TO-15	NA	NA
08A	CCV	TO-15	NA	NA
09A	LCS	TO-15	NA	NA
09AA	LCSD	TO-15	NA	NA

CERTIFIED BY:



Technical Director

DATE: 10/17/19

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005-011, Effective date: 10/18/2018, Expiration date: 10/17/2019.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
GHD
Workorder# 1910306

Six 6 Liter Summa Canister samples were received on October 10, 2019. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified may be false positives.

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	SV10819CM001	Date/Time Analyzed:	10/15/19 07:32 PM
Lab ID:	1910306-01A	Dilution Factor:	1.83
Date/Time Collected:	10/8/19 01:00 PM	Instrument/Filename:	msdj.i / j101520
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	1.2	4.0	5.0	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	1.0	5.0	6.3	Not Detected
1,1,2-Trichloroethane	79-00-5	1.8	4.0	5.0	Not Detected
1,1-Dichloroethane	75-34-3	0.65	3.0	3.7	Not Detected
1,1-Dichloroethene	75-35-4	1.1	2.9	3.6	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.6	20	27	Not Detected
1,2,4-Trimethylbenzene	95-63-6	3.4	3.6	4.5	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.79	5.6	7.0	Not Detected
1,2-Dichlorobenzene	95-50-1	0.92	4.4	5.5	Not Detected
1,2-Dichloroethane	107-06-2	1.2	3.0	3.7	Not Detected
1,2-Dichloropropane	78-87-5	1.7	3.4	4.2	Not Detected
1,3,5-Trimethylbenzene	108-67-8	2.8	3.6	4.5	Not Detected
1,3-Butadiene	106-99-0	0.97	1.6	2.0	Not Detected
1,3-Dichlorobenzene	541-73-1	1.1	4.4	5.5	Not Detected
1,4-Dichlorobenzene	106-46-7	0.94	4.4	5.5	Not Detected
1,4-Dioxane	123-91-1	2.9	9.9	13	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.93	3.4	4.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	5.3	8.1	11	Not Detected
2-Hexanone	591-78-6	3.4	11	15	Not Detected
2-Propanol	67-63-0	1.5	6.7	9.0	12
3-Chloropropene	107-05-1	3.7	8.6	11	Not Detected
4-Ethyltoluene	622-96-8	1.7	3.6	4.5	Not Detected
4-Methyl-2-pentanone	108-10-1	1.4	3.0	3.7	Not Detected
Acetone	67-64-1	6.7	7.6	22	73

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	SV10819CM001	Date/Time Analyzed:	10/15/19 07:32 PM
Lab ID:	1910306-01A	Dilution Factor:	1.83
Date/Time Collected:	10/8/19 01:00 PM	Instrument/Filename:	msdj.i / j101520
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.97	3.8	4.7	Not Detected
Benzene	71-43-2	0.78	2.3	2.9	13
Bromodichloromethane	75-27-4	2.3	4.9	6.1	Not Detected
Bromoform	75-25-2	2.1	7.6	9.4	Not Detected
Bromomethane	74-83-9	8.6	11	36	Not Detected
Carbon Disulfide	75-15-0	2.5	8.5	11	Not Detected
Carbon Tetrachloride	56-23-5	0.87	4.6	5.8	Not Detected
Chlorobenzene	108-90-7	1.0	3.4	4.2	Not Detected
Chloroethane	75-00-3	3.7	7.2	9.6	Not Detected
Chloroform	67-66-3	0.95	3.6	4.5	1.8 J
Chloromethane	74-87-3	1.2	5.7	19	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.6	2.9	3.6	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.83	3.3	4.2	Not Detected
Cumene	98-82-8	1.2	3.6	4.5	Not Detected
Cyclohexane	110-82-7	0.93	2.5	3.1	Not Detected
Dibromochloromethane	124-48-1	0.94	6.2	7.8	Not Detected
Ethanol	64-17-5	5.3	6.0	6.9	200 J0
Ethyl Benzene	100-41-4	0.46	3.2	4.0	Not Detected
Freon 11	75-69-4	0.99	4.1	5.1	4.8 J
Freon 113	76-13-1	1.3	5.6	7.0	Not Detected
Freon 114	76-14-2	0.71	5.1	6.4	Not Detected
Freon 12	75-71-8	1.3	3.6	4.5	3.9 J
Heptane	142-82-5	1.8	3.0	3.7	Not Detected
Hexachlorobutadiene	87-68-3	7.7	29	39	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	SV10819CM001	Date/Time Analyzed:	10/15/19 07:32 PM
Lab ID:	1910306-01A	Dilution Factor:	1.83
Date/Time Collected:	10/8/19 01:00 PM	Instrument/Filename:	msdj.i / j101520
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	1.6	2.6	3.2	2.0 J
m,p-Xylene	108-38-3	1.1	3.2	4.0	Not Detected
Methyl tert-butyl ether	1634-04-4	1.7	9.9	13	Not Detected
Methylene Chloride	75-09-2	2.1	9.5	32	Not Detected
o-Xylene	95-47-6	1.6	3.2	4.0	Not Detected
Propylbenzene	103-65-1	2.0	3.6	4.5	Not Detected
Styrene	100-42-5	0.83	3.1	3.9	Not Detected
Tetrachloroethene	127-18-4	1.7	5.0	6.2	3.0 J
Tetrahydrofuran	109-99-9	1.1	2.2	2.7	Not Detected
Toluene	108-88-3	2.3	2.8	3.4	Not Detected
trans-1,2-Dichloroethene	156-60-5	2.1	2.9	3.6	Not Detected
trans-1,3-Dichloropropene	10061-02-6	1.2	3.3	4.2	Not Detected
Trichloroethene	79-01-6	1.8	3.9	4.9	Not Detected
Vinyl Chloride	75-01-4	1.7	1.9	2.3	Not Detected

J = Estimated value.

J0 = Estimated value due to bias in the CCV.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	123
4-Bromofluorobenzene	460-00-4	70-130	108
Toluene-d8	2037-26-5	70-130	95

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	SV10819CM002	Date/Time Analyzed:	10/15/19 11:20 PM
Lab ID:	1910306-02A	Dilution Factor:	1.91
Date/Time Collected:	10/8/19 01:11 PM	Instrument/Filename:	msdj.i / j101527
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	1.2	4.2	5.2	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	1.1	5.2	6.6	Not Detected
1,1,2-Trichloroethane	79-00-5	1.9	4.2	5.2	Not Detected
1,1-Dichloroethane	75-34-3	0.68	3.1	3.9	Not Detected
1,1-Dichloroethene	75-35-4	1.1	3.0	3.8	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.7	21	28	Not Detected
1,2,4-Trimethylbenzene	95-63-6	3.5	3.8	4.7	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.82	5.9	7.3	Not Detected
1,2-Dichlorobenzene	95-50-1	0.96	4.6	5.7	Not Detected
1,2-Dichloroethane	107-06-2	1.3	3.1	3.9	Not Detected
1,2-Dichloropropane	78-87-5	1.8	3.5	4.4	Not Detected
1,3,5-Trimethylbenzene	108-67-8	2.9	3.8	4.7	Not Detected
1,3-Butadiene	106-99-0	1.0	1.7	2.1	Not Detected
1,3-Dichlorobenzene	541-73-1	1.2	4.6	5.7	Not Detected
1,4-Dichlorobenzene	106-46-7	0.98	4.6	5.7	Not Detected
1,4-Dioxane	123-91-1	3.0	10	14	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.97	3.6	4.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	5.5	8.4	11	Not Detected
2-Hexanone	591-78-6	3.6	12	16	Not Detected
2-Propanol	67-63-0	1.6	7.0	9.4	13
3-Chloropropene	107-05-1	3.9	9.0	12	Not Detected
4-Ethyltoluene	622-96-8	1.8	3.8	4.7	Not Detected
4-Methyl-2-pentanone	108-10-1	1.5	3.1	3.9	Not Detected
Acetone	67-64-1	7.0	7.9	23	86

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	SV10819CM002	Date/Time Analyzed:	10/15/19 11:20 PM
Lab ID:	1910306-02A	Dilution Factor:	1.91
Date/Time Collected:	10/8/19 01:11 PM	Instrument/File Name:	msdj.i / j101527
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	1.0	4.0	4.9	Not Detected
Benzene	71-43-2	0.81	2.4	3.0	0.96 J
Bromodichloromethane	75-27-4	2.4	5.1	6.4	Not Detected
Bromoform	75-25-2	2.2	7.9	9.9	Not Detected
Bromomethane	74-83-9	9.0	11	37	Not Detected
Carbon Disulfide	75-15-0	2.6	8.9	12	Not Detected
Carbon Tetrachloride	56-23-5	0.91	4.8	6.0	Not Detected
Chlorobenzene	108-90-7	1.1	3.5	4.4	Not Detected
Chloroethane	75-00-3	3.9	7.6	10	Not Detected
Chloroform	67-66-3	0.99	3.7	4.7	Not Detected
Chloromethane	74-87-3	1.3	5.9	20	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.7	3.0	3.8	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.86	3.5	4.3	Not Detected
Cumene	98-82-8	1.2	3.8	4.7	Not Detected
Cyclohexane	110-82-7	0.97	2.6	3.3	Not Detected
Dibromochloromethane	124-48-1	0.99	6.5	8.1	Not Detected
Ethanol	64-17-5	5.6	6.3	7.2	360 J0
Ethyl Benzene	100-41-4	0.48	3.3	4.1	Not Detected
Freon 11	75-69-4	1.0	4.3	5.4	3.2 J
Freon 113	76-13-1	1.4	5.8	7.3	Not Detected
Freon 114	76-14-2	0.74	5.3	6.7	Not Detected
Freon 12	75-71-8	1.4	3.8	4.7	3.4 J
Heptane	142-82-5	1.9	3.1	3.9	Not Detected
Hexachlorobutadiene	87-68-3	8.0	30	41	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	SV10819CM002	Date/Time Analyzed:	10/15/19 11:20 PM
Lab ID:	1910306-02A	Dilution Factor:	1.91
Date/Time Collected:	10/8/19 01:11 PM	Instrument/Filename:	msdj.i / j101527
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	1.6	2.7	3.4	Not Detected
m,p-Xylene	108-38-3	1.1	3.3	4.1	Not Detected
Methyl tert-butyl ether	1634-04-4	1.8	10	14	Not Detected
Methylene Chloride	75-09-2	2.2	10	33	Not Detected
o-Xylene	95-47-6	1.7	3.3	4.1	Not Detected
Propylbenzene	103-65-1	2.1	3.8	4.7	Not Detected
Styrene	100-42-5	0.87	3.2	4.1	Not Detected
Tetrachloroethene	127-18-4	1.7	5.2	6.5	3.2 J
Tetrahydrofuran	109-99-9	1.1	2.2	2.8	Not Detected
Toluene	108-88-3	2.4	2.9	3.6	Not Detected
trans-1,2-Dichloroethene	156-60-5	2.2	3.0	3.8	Not Detected
trans-1,3-Dichloropropene	10061-02-6	1.3	3.5	4.3	Not Detected
Trichloroethene	79-01-6	1.9	4.1	5.1	Not Detected
Vinyl Chloride	75-01-4	1.7	2.0	2.4	Not Detected

J = Estimated value.

J0 = Estimated value due to bias in the CCV.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	118
4-Bromofluorobenzene	460-00-4	70-130	106
Toluene-d8	2037-26-5	70-130	91

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	SV10819CM003	Date/Time Analyzed:	10/15/19 11:46 PM
Lab ID:	1910306-03A	Dilution Factor:	1.91
Date/Time Collected:	10/8/19 01:55 PM	Instrument/Filename:	msdj.i / j101528
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	1.2	4.2	5.2	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	1.1	5.2	6.6	Not Detected
1,1,2-Trichloroethane	79-00-5	1.9	4.2	5.2	Not Detected
1,1-Dichloroethane	75-34-3	0.68	3.1	3.9	Not Detected
1,1-Dichloroethene	75-35-4	1.1	3.0	3.8	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.7	21	28	Not Detected
1,2,4-Trimethylbenzene	95-63-6	3.5	3.8	4.7	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.82	5.9	7.3	Not Detected
1,2-Dichlorobenzene	95-50-1	0.96	4.6	5.7	Not Detected
1,2-Dichloroethane	107-06-2	1.3	3.1	3.9	Not Detected
1,2-Dichloropropane	78-87-5	1.8	3.5	4.4	Not Detected
1,3,5-Trimethylbenzene	108-67-8	2.9	3.8	4.7	Not Detected
1,3-Butadiene	106-99-0	1.0	1.7	2.1	Not Detected
1,3-Dichlorobenzene	541-73-1	1.2	4.6	5.7	Not Detected
1,4-Dichlorobenzene	106-46-7	0.98	4.6	5.7	Not Detected
1,4-Dioxane	123-91-1	3.0	10	14	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.97	3.6	4.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	5.5	8.4	11	Not Detected
2-Hexanone	591-78-6	3.6	12	16	Not Detected
2-Propanol	67-63-0	1.6	7.0	9.4	15
3-Chloropropene	107-05-1	3.9	9.0	12	Not Detected
4-Ethyltoluene	622-96-8	1.8	3.8	4.7	Not Detected
4-Methyl-2-pentanone	108-10-1	1.5	3.1	3.9	Not Detected
Acetone	67-64-1	7.0	7.9	23	76

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	SV10819CM003	Date/Time Analyzed:	10/15/19 11:46 PM
Lab ID:	1910306-03A	Dilution Factor:	1.91
Date/Time Collected:	10/8/19 01:55 PM	Instrument/File Name:	msdj.i / j101528
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	1.0	4.0	4.9	Not Detected
Benzene	71-43-2	0.81	2.4	3.0	2.4 J
Bromodichloromethane	75-27-4	2.4	5.1	6.4	Not Detected
Bromoform	75-25-2	2.2	7.9	9.9	Not Detected
Bromomethane	74-83-9	9.0	11	37	Not Detected
Carbon Disulfide	75-15-0	2.6	8.9	12	Not Detected
Carbon Tetrachloride	56-23-5	0.91	4.8	6.0	Not Detected
Chlorobenzene	108-90-7	1.1	3.5	4.4	Not Detected
Chloroethane	75-00-3	3.9	7.6	10	Not Detected
Chloroform	67-66-3	0.99	3.7	4.7	Not Detected
Chloromethane	74-87-3	1.3	5.9	20	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.7	3.0	3.8	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.86	3.5	4.3	Not Detected
Cumene	98-82-8	1.2	3.8	4.7	Not Detected
Cyclohexane	110-82-7	0.97	2.6	3.3	Not Detected
Dibromochloromethane	124-48-1	0.99	6.5	8.1	Not Detected
Ethanol	64-17-5	5.6	6.3	7.2	450 J0
Ethyl Benzene	100-41-4	0.48	3.3	4.1	Not Detected
Freon 11	75-69-4	1.0	4.3	5.4	2.0 J
Freon 113	76-13-1	1.4	5.8	7.3	Not Detected
Freon 114	76-14-2	0.74	5.3	6.7	Not Detected
Freon 12	75-71-8	1.4	3.8	4.7	2.6 J
Heptane	142-82-5	1.9	3.1	3.9	Not Detected
Hexachlorobutadiene	87-68-3	8.0	30	41	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	SV10819CM003	Date/Time Analyzed:	10/15/19 11:46 PM
Lab ID:	1910306-03A	Dilution Factor:	1.91
Date/Time Collected:	10/8/19 01:55 PM	Instrument/Filename:	msdj.i / j101528
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	1.6	2.7	3.4	2.3 J
m,p-Xylene	108-38-3	1.1	3.3	4.1	Not Detected
Methyl tert-butyl ether	1634-04-4	1.8	10	14	Not Detected
Methylene Chloride	75-09-2	2.2	10	33	Not Detected
o-Xylene	95-47-6	1.7	3.3	4.1	Not Detected
Propylbenzene	103-65-1	2.1	3.8	4.7	Not Detected
Styrene	100-42-5	0.87	3.2	4.1	Not Detected
Tetrachloroethene	127-18-4	1.7	5.2	6.5	4.6 J
Tetrahydrofuran	109-99-9	1.1	2.2	2.8	Not Detected
Toluene	108-88-3	2.4	2.9	3.6	Not Detected
trans-1,2-Dichloroethene	156-60-5	2.2	3.0	3.8	Not Detected
trans-1,3-Dichloropropene	10061-02-6	1.3	3.5	4.3	Not Detected
Trichloroethene	79-01-6	1.9	4.1	5.1	Not Detected
Vinyl Chloride	75-01-4	1.7	2.0	2.4	Not Detected

J = Estimated value.

J0 = Estimated value due to bias in the CCV.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	114
4-Bromofluorobenzene	460-00-4	70-130	107
Toluene-d8	2037-26-5	70-130	90

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	SV10819CM004	Date/Time Analyzed:	10/16/19 12:12 AM
Lab ID:	1910306-04A	Dilution Factor:	1.68
Date/Time Collected:	10/8/19 02:02 PM	Instrument/Filename:	msdj.i / j101529
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	1.1	3.7	4.6	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.97	4.6	5.8	Not Detected
1,1,2-Trichloroethane	79-00-5	1.7	3.7	4.6	Not Detected
1,1-Dichloroethane	75-34-3	0.60	2.7	3.4	Not Detected
1,1-Dichloroethene	75-35-4	0.99	2.7	3.3	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.3	19	25	Not Detected
1,2,4-Trimethylbenzene	95-63-6	3.1	3.3	4.1	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.72	5.2	6.4	Not Detected
1,2-Dichlorobenzene	95-50-1	0.84	4.0	5.0	Not Detected
1,2-Dichloroethane	107-06-2	1.1	2.7	3.4	Not Detected
1,2-Dichloropropane	78-87-5	1.6	3.1	3.9	Not Detected
1,3,5-Trimethylbenzene	108-67-8	2.5	3.3	4.1	Not Detected
1,3-Butadiene	106-99-0	0.89	1.5	1.8	Not Detected
1,3-Dichlorobenzene	541-73-1	1.0	4.0	5.0	Not Detected
1,4-Dichlorobenzene	106-46-7	0.86	4.0	5.0	Not Detected
1,4-Dioxane	123-91-1	2.6	9.1	12	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.85	3.1	3.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	4.9	7.4	9.9	Not Detected
2-Hexanone	591-78-6	3.1	10	14	Not Detected
2-Propanol	67-63-0	1.4	6.2	8.2	14
3-Chloropropene	107-05-1	3.4	7.9	10	Not Detected
4-Ethyltoluene	622-96-8	1.6	3.3	4.1	Not Detected
4-Methyl-2-pentanone	108-10-1	1.3	2.8	3.4	Not Detected
Acetone	67-64-1	6.1	7.0	20	110

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	SV10819CM004	Date/Time Analyzed:	10/16/19 12:12 AM
Lab ID:	1910306-04A	Dilution Factor:	1.68
Date/Time Collected:	10/8/19 02:02 PM	Instrument/Filename:	msdj.i / j101529
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.89	3.5	4.3	Not Detected
Benzene	71-43-2	0.71	2.1	2.7	Not Detected
Bromodichloromethane	75-27-4	2.1	4.5	5.6	Not Detected
Bromoform	75-25-2	1.9	6.9	8.7	Not Detected
Bromomethane	74-83-9	7.9	9.8	33	Not Detected
Carbon Disulfide	75-15-0	2.3	7.8	10	3.6 J
Carbon Tetrachloride	56-23-5	0.80	4.2	5.3	Not Detected
Chlorobenzene	108-90-7	0.97	3.1	3.9	Not Detected
Chloroethane	75-00-3	3.4	6.6	8.9	Not Detected
Chloroform	67-66-3	0.87	3.3	4.1	Not Detected
Chloromethane	74-87-3	1.1	5.2	17	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.5	2.7	3.3	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.76	3.0	3.8	Not Detected
Cumene	98-82-8	1.1	3.3	4.1	Not Detected
Cyclohexane	110-82-7	0.85	2.3	2.9	Not Detected
Dibromochloromethane	124-48-1	0.87	5.7	7.2	Not Detected
Ethanol	64-17-5	4.9	5.5	6.3	500 J0
Ethyl Benzene	100-41-4	0.42	2.9	3.6	Not Detected
Freon 11	75-69-4	0.91	3.8	4.7	2.8 J
Freon 113	76-13-1	1.2	5.2	6.4	Not Detected
Freon 114	76-14-2	0.65	4.7	5.9	Not Detected
Freon 12	75-71-8	1.2	3.3	4.2	4.4
Heptane	142-82-5	1.6	2.8	3.4	Not Detected
Hexachlorobutadiene	87-68-3	7.1	27	36	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	SV10819CM004	Date/Time Analyzed:	10/16/19 12:12 AM
Lab ID:	1910306-04A	Dilution Factor:	1.68
Date/Time Collected:	10/8/19 02:02 PM	Instrument/Filename:	msdj.i / j101529
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	1.4	2.4	3.0	2.1 J
m,p-Xylene	108-38-3	0.99	2.9	3.6	Not Detected
Methyl tert-butyl ether	1634-04-4	1.6	9.1	12	Not Detected
Methylene Chloride	75-09-2	1.9	8.8	29	Not Detected
o-Xylene	95-47-6	1.5	2.9	3.6	Not Detected
Propylbenzene	103-65-1	1.8	3.3	4.1	Not Detected
Styrene	100-42-5	0.76	2.9	3.6	Not Detected
Tetrachloroethene	127-18-4	1.5	4.6	5.7	2.7 J
Tetrahydrofuran	109-99-9	0.99	2.0	2.5	Not Detected
Toluene	108-88-3	2.1	2.5	3.2	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.9	2.7	3.3	Not Detected
trans-1,3-Dichloropropene	10061-02-6	1.1	3.0	3.8	Not Detected
Trichloroethene	79-01-6	1.7	3.6	4.5	Not Detected
Vinyl Chloride	75-01-4	1.5	1.7	2.1	Not Detected

J = Estimated value.

J0 = Estimated value due to bias in the CCV.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	123
4-Bromofluorobenzene	460-00-4	70-130	113
Toluene-d8	2037-26-5	70-130	86

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	SV10819CM005	Date/Time Analyzed:	10/16/19 12:39 AM
Lab ID:	1910306-05A	Dilution Factor:	1.71
Date/Time Collected:	10/8/19 02:17 PM	Instrument/Filename:	msdj.i / j101530
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	1.1	3.7	4.7	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.99	4.7	5.9	Not Detected
1,1,2-Trichloroethane	79-00-5	1.7	3.7	4.7	Not Detected
1,1-Dichloroethane	75-34-3	0.61	2.8	3.5	Not Detected
1,1-Dichloroethene	75-35-4	1.0	2.7	3.4	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.4	19	25	Not Detected
1,2,4-Trimethylbenzene	95-63-6	3.1	3.4	4.2	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.74	5.2	6.6	Not Detected
1,2-Dichlorobenzene	95-50-1	0.86	4.1	5.1	Not Detected
1,2-Dichloroethane	107-06-2	1.1	2.8	3.5	Not Detected
1,2-Dichloropropane	78-87-5	1.6	3.2	4.0	Not Detected
1,3,5-Trimethylbenzene	108-67-8	2.6	3.4	4.2	Not Detected
1,3-Butadiene	106-99-0	0.91	1.5	1.9	Not Detected
1,3-Dichlorobenzene	541-73-1	1.0	4.1	5.1	Not Detected
1,4-Dichlorobenzene	106-46-7	0.88	4.1	5.1	Not Detected
1,4-Dioxane	123-91-1	2.7	9.2	12	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.87	3.2	4.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	4.9	7.6	10	Not Detected
2-Hexanone	591-78-6	3.2	10	14	Not Detected
2-Propanol	67-63-0	1.4	6.3	8.4	16
3-Chloropropene	107-05-1	3.5	8.0	11	Not Detected
4-Ethyltoluene	622-96-8	1.6	3.4	4.2	Not Detected
4-Methyl-2-pentanone	108-10-1	1.3	2.8	3.5	Not Detected
Acetone	67-64-1	6.2	7.1	20	99

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	SV10819CM005	Date/Time Analyzed:	10/16/19 12:39 AM
Lab ID:	1910306-05A	Dilution Factor:	1.71
Date/Time Collected:	10/8/19 02:17 PM	Instrument/File Name:	msdj.i / j101530
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.90	3.5	4.4	Not Detected
Benzene	71-43-2	0.73	2.2	2.7	3.1
Bromodichloromethane	75-27-4	2.1	4.6	5.7	Not Detected
Bromoform	75-25-2	2.0	7.1	8.8	Not Detected
Bromomethane	74-83-9	8.1	10	33	Not Detected
Carbon Disulfide	75-15-0	2.3	8.0	11	Not Detected
Carbon Tetrachloride	56-23-5	0.81	4.3	5.4	Not Detected
Chlorobenzene	108-90-7	0.98	3.1	3.9	Not Detected
Chloroethane	75-00-3	3.5	6.8	9.0	Not Detected
Chloroform	67-66-3	0.89	3.3	4.2	Not Detected
Chloromethane	74-87-3	1.1	5.3	18	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.5	2.7	3.4	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.77	3.1	3.9	Not Detected
Cumene	98-82-8	1.1	3.4	4.2	Not Detected
Cyclohexane	110-82-7	0.87	2.4	2.9	Not Detected
Dibromochloromethane	124-48-1	0.88	5.8	7.3	Not Detected
Ethanol	64-17-5	5.0	5.6	6.4	530 J0
Ethyl Benzene	100-41-4	0.42	3.0	3.7	Not Detected
Freon 11	75-69-4	0.92	3.8	4.8	2.3 J
Freon 113	76-13-1	1.2	5.2	6.6	Not Detected
Freon 114	76-14-2	0.66	4.8	6.0	Not Detected
Freon 12	75-71-8	1.2	3.4	4.2	3.0 J
Heptane	142-82-5	1.7	2.8	3.5	Not Detected
Hexachlorobutadiene	87-68-3	7.2	27	36	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	SV10819CM005	Date/Time Analyzed:	10/16/19 12:39 AM
Lab ID:	1910306-05A	Dilution Factor:	1.71
Date/Time Collected:	10/8/19 02:17 PM	Instrument/Filename:	msdj.i / j101530
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	1.5	2.4	3.0	Not Detected
m,p-Xylene	108-38-3	1.0	3.0	3.7	Not Detected
Methyl tert-butyl ether	1634-04-4	1.6	9.2	12	Not Detected
Methylene Chloride	75-09-2	1.9	8.9	30	Not Detected
o-Xylene	95-47-6	1.5	3.0	3.7	Not Detected
Propylbenzene	103-65-1	1.8	3.4	4.2	Not Detected
Styrene	100-42-5	0.78	2.9	3.6	Not Detected
Tetrachloroethene	127-18-4	1.6	4.6	5.8	1.9 J
Tetrahydrofuran	109-99-9	1.0	2.0	2.5	Not Detected
Toluene	108-88-3	2.1	2.6	3.2	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.9	2.7	3.4	Not Detected
trans-1,3-Dichloropropene	10061-02-6	1.2	3.1	3.9	Not Detected
Trichloroethene	79-01-6	1.7	3.7	4.6	Not Detected
Vinyl Chloride	75-01-4	1.6	1.7	2.2	Not Detected

J = Estimated value.

J0 = Estimated value due to bias in the CCV.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	112
4-Bromofluorobenzene	460-00-4	70-130	117
Toluene-d8	2037-26-5	70-130	92

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	SV10819CM006	Date/Time Analyzed:	10/16/19 01:05 AM
Lab ID:	1910306-06A	Dilution Factor:	1.79
Date/Time Collected:	10/8/19 02:38 PM	Instrument/Filename:	msdj.i / j101531
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	1.2	3.9	4.9	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	1.0	4.9	6.1	Not Detected
1,1,2-Trichloroethane	79-00-5	1.8	3.9	4.9	Not Detected
1,1-Dichloroethane	75-34-3	0.64	2.9	3.6	Not Detected
1,1-Dichloroethene	75-35-4	1.0	2.8	3.5	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.5	20	26	Not Detected
1,2,4-Trimethylbenzene	95-63-6	3.3	3.5	4.4	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.77	5.5	6.9	Not Detected
1,2-Dichlorobenzene	95-50-1	0.90	4.3	5.4	Not Detected
1,2-Dichloroethane	107-06-2	1.2	2.9	3.6	Not Detected
1,2-Dichloropropane	78-87-5	1.7	3.3	4.1	Not Detected
1,3,5-Trimethylbenzene	108-67-8	2.7	3.5	4.4	Not Detected
1,3-Butadiene	106-99-0	0.95	1.6	2.0	Not Detected
1,3-Dichlorobenzene	541-73-1	1.1	4.3	5.4	Not Detected
1,4-Dichlorobenzene	106-46-7	0.92	4.3	5.4	Not Detected
1,4-Dioxane	123-91-1	2.8	9.7	13	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.91	3.3	4.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	5.2	7.9	10	Not Detected
2-Hexanone	591-78-6	3.3	11	15	Not Detected
2-Propanol	67-63-0	1.5	6.6	8.8	11
3-Chloropropene	107-05-1	3.6	8.4	11	Not Detected
4-Ethyltoluene	622-96-8	1.6	3.5	4.4	Not Detected
4-Methyl-2-pentanone	108-10-1	1.4	2.9	3.7	Not Detected
Acetone	67-64-1	6.5	7.4	21	48

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	SV10819CM006	Date/Time Analyzed:	10/16/19 01:05 AM
Lab ID:	1910306-06A	Dilution Factor:	1.79
Date/Time Collected:	10/8/19 02:38 PM	Instrument/File Name:	msdj.i / j101531
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.95	3.7	4.6	Not Detected
Benzene	71-43-2	0.76	2.3	2.8	2.5 J
Bromodichloromethane	75-27-4	2.2	4.8	6.0	Not Detected
Bromoform	75-25-2	2.0	7.4	9.2	Not Detected
Bromomethane	74-83-9	8.4	10	35	Not Detected
Carbon Disulfide	75-15-0	2.4	8.4	11	Not Detected
Carbon Tetrachloride	56-23-5	0.85	4.5	5.6	Not Detected
Chlorobenzene	108-90-7	1.0	3.3	4.1	Not Detected
Chloroethane	75-00-3	3.6	7.1	9.4	Not Detected
Chloroform	67-66-3	0.93	3.5	4.4	Not Detected
Chloromethane	74-87-3	1.2	5.5	18	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.6	2.8	3.5	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.81	3.2	4.1	Not Detected
Cumene	98-82-8	1.2	3.5	4.4	Not Detected
Cyclohexane	110-82-7	0.91	2.5	3.1	Not Detected
Dibromochloromethane	124-48-1	0.92	6.1	7.6	Not Detected
Ethanol	64-17-5	5.2	5.9	6.7	180 J0
Ethyl Benzene	100-41-4	0.44	3.1	3.9	Not Detected
Freon 11	75-69-4	0.97	4.0	5.0	3.1 J
Freon 113	76-13-1	1.3	5.5	6.8	Not Detected
Freon 114	76-14-2	0.70	5.0	6.2	Not Detected
Freon 12	75-71-8	1.3	3.5	4.4	3.6 J
Heptane	142-82-5	1.7	2.9	3.7	Not Detected
Hexachlorobutadiene	87-68-3	7.5	29	38	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	SV10819CM006	Date/Time Analyzed:	10/16/19 01:05 AM
Lab ID:	1910306-06A	Dilution Factor:	1.79
Date/Time Collected:	10/8/19 02:38 PM	Instrument/Filename:	msdj.i / j101531
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	1.5	2.5	3.2	4.0
m,p-Xylene	108-38-3	1.0	3.1	3.9	Not Detected
Methyl tert-butyl ether	1634-04-4	1.7	9.7	13	Not Detected
Methylene Chloride	75-09-2	2.0	9.3	31	Not Detected
o-Xylene	95-47-6	1.6	3.1	3.9	Not Detected
Propylbenzene	103-65-1	1.9	3.5	4.4	Not Detected
Styrene	100-42-5	0.82	3.0	3.8	Not Detected
Tetrachloroethene	127-18-4	1.6	4.8	6.1	2.1 J
Tetrahydrofuran	109-99-9	1.0	2.1	2.6	Not Detected
Toluene	108-88-3	2.2	2.7	3.4	Not Detected
trans-1,2-Dichloroethene	156-60-5	2.0	2.8	3.5	Not Detected
trans-1,3-Dichloropropene	10061-02-6	1.2	3.2	4.1	Not Detected
Trichloroethene	79-01-6	1.8	3.8	4.8	Not Detected
Vinyl Chloride	75-01-4	1.6	1.8	2.3	Not Detected

J = Estimated value.

J0 = Estimated value due to bias in the CCV.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	123
4-Bromofluorobenzene	460-00-4	70-130	106
Toluene-d8	2037-26-5	70-130	97

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	Lab Blank	Date/Time Analyzed:	10/15/19 11:27 AM
Lab ID:	1910306-07A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j101507c
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.65	2.2	2.7	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.58	2.7	3.4	Not Detected
1,1,2-Trichloroethane	79-00-5	1.0	2.2	2.7	Not Detected
1,1-Dichloroethane	75-34-3	0.36	1.6	2.0	Not Detected
1,1-Dichloroethene	75-35-4	0.59	1.6	2.0	Not Detected
1,2,4-Trichlorobenzene	120-82-1	2.0	11	15	Not Detected
1,2,4-Trimethylbenzene	95-63-6	1.8	2.0	2.4	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.43	3.1	3.8	Not Detected
1,2-Dichlorobenzene	95-50-1	0.50	2.4	3.0	Not Detected
1,2-Dichloroethane	107-06-2	0.67	1.6	2.0	Not Detected
1,2-Dichloropropane	78-87-5	0.95	1.8	2.3	Not Detected
1,3,5-Trimethylbenzene	108-67-8	1.5	2.0	2.4	Not Detected
1,3-Butadiene	106-99-0	0.53	0.88	1.1	Not Detected
1,3-Dichlorobenzene	541-73-1	0.61	2.4	3.0	Not Detected
1,4-Dichlorobenzene	106-46-7	0.51	2.4	3.0	Not Detected
1,4-Dioxane	123-91-1	1.6	5.4	7.2	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.51	1.9	2.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	2.9	4.4	5.9	Not Detected
2-Hexanone	591-78-6	1.9	6.1	8.2	Not Detected
2-Propanol	67-63-0	0.82	3.7	4.9	Not Detected
3-Chloropropene	107-05-1	2.0	4.7	6.3	Not Detected
4-Ethyltoluene	622-96-8	0.92	2.0	2.4	Not Detected
4-Methyl-2-pentanone	108-10-1	0.78	1.6	2.0	Not Detected
Acetone	67-64-1	3.6	4.2	12	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	Lab Blank	Date/Time Analyzed:	10/15/19 11:27 AM
Lab ID:	1910306-07A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j101507c
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.53	2.1	2.6	Not Detected
Benzene	71-43-2	0.42	1.3	1.6	Not Detected
Bromodichloromethane	75-27-4	1.2	2.7	3.4	Not Detected
Bromoform	75-25-2	1.1	4.1	5.2	Not Detected
Bromomethane	74-83-9	4.7	5.8	19	Not Detected
Carbon Disulfide	75-15-0	1.4	4.7	6.2	Not Detected
Carbon Tetrachloride	56-23-5	0.48	2.5	3.1	Not Detected
Chlorobenzene	108-90-7	0.58	1.8	2.3	Not Detected
Chloroethane	75-00-3	2.0	4.0	5.3	Not Detected
Chloroform	67-66-3	0.52	2.0	2.4	Not Detected
Chloromethane	74-87-3	0.67	3.1	10	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.90	1.6	2.0	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.45	1.8	2.3	Not Detected
Cumene	98-82-8	0.64	2.0	2.4	Not Detected
Cyclohexane	110-82-7	0.51	1.4	1.7	Not Detected
Dibromochloromethane	124-48-1	0.52	3.4	4.2	Not Detected
Ethanol	64-17-5	2.9	3.3	3.8	Not Detected UJ
Ethyl Benzene	100-41-4	0.25	1.7	2.2	Not Detected
Freon 11	75-69-4	0.54	2.2	2.8	Not Detected
Freon 113	76-13-1	0.72	3.1	3.8	Not Detected
Freon 114	76-14-2	0.39	2.8	3.5	Not Detected
Freon 12	75-71-8	0.72	2.0	2.5	Not Detected
Heptane	142-82-5	0.97	1.6	2.0	Not Detected
Hexachlorobutadiene	87-68-3	4.2	16	21	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	Lab Blank	Date/Time Analyzed:	10/15/19 11:27 AM
Lab ID:	1910306-07A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j101507c
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.86	1.4	1.8	Not Detected
m,p-Xylene	108-38-3	0.59	1.7	2.2	Not Detected
Methyl tert-butyl ether	1634-04-4	0.94	5.4	7.2	Not Detected
Methylene Chloride	75-09-2	1.1	5.2	17	Not Detected
o-Xylene	95-47-6	0.90	1.7	2.2	Not Detected
Propylbenzene	103-65-1	1.1	2.0	2.4	Not Detected
Styrene	100-42-5	0.46	1.7	2.1	Not Detected
Tetrachloroethene	127-18-4	0.91	2.7	3.4	Not Detected
Tetrahydrofuran	109-99-9	0.59	1.2	1.5	Not Detected
Toluene	108-88-3	1.2	1.5	1.9	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.1	1.6	2.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.68	1.8	2.3	Not Detected
Trichloroethene	79-01-6	1.0	2.1	2.7	Not Detected
Vinyl Chloride	75-01-4	0.91	1.0	1.3	Not Detected

UJ = Analyte associated with low bias in the CCV.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	116
4-Bromofluorobenzene	460-00-4	70-130	97
Toluene-d8	2037-26-5	70-130	94

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	CCV	Date/Time Analyzed:	10/15/19 08:34 AM
Lab ID:	1910306-08A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j101502
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	111
1,1,2,2-Tetrachloroethane	79-34-5	75
1,1,2-Trichloroethane	79-00-5	84
1,1-Dichloroethane	75-34-3	90
1,1-Dichloroethene	75-35-4	93
1,2,4-Trichlorobenzene	120-82-1	95
1,2,4-Trimethylbenzene	95-63-6	102
1,2-Dibromoethane (EDB)	106-93-4	91
1,2-Dichlorobenzene	95-50-1	100
1,2-Dichloroethane	107-06-2	108
1,2-Dichloropropane	78-87-5	75
1,3,5-Trimethylbenzene	108-67-8	103
1,3-Butadiene	106-99-0	78
1,3-Dichlorobenzene	541-73-1	98
1,4-Dichlorobenzene	106-46-7	102
1,4-Dioxane	123-91-1	87
2,2,4-Trimethylpentane	540-84-1	88
2-Butanone (Methyl Ethyl Ketone)	78-93-3	84
2-Hexanone	591-78-6	79
2-Propanol	67-63-0	77
3-Chloropropene	107-05-1	83
4-Ethyltoluene	622-96-8	102
4-Methyl-2-pentanone	108-10-1	80
Acetone	67-64-1	76

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	CCV	Date/Time Analyzed:	10/15/19 08:34 AM
Lab ID:	1910306-08A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j101502
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	100
Benzene	71-43-2	79
Bromodichloromethane	75-27-4	99
Bromoform	75-25-2	105
Bromomethane	74-83-9	93
Carbon Disulfide	75-15-0	87
Carbon Tetrachloride	56-23-5	103
Chlorobenzene	108-90-7	89
Chloroethane	75-00-3	80
Chloroform	67-66-3	103
Chloromethane	74-87-3	83
cis-1,2-Dichloroethene	156-59-2	96
cis-1,3-Dichloropropene	10061-01-5	87
Cumene	98-82-8	108
Cyclohexane	110-82-7	88
Dibromochloromethane	124-48-1	99
Ethanol	64-17-5	65 Q
Ethyl Benzene	100-41-4	95
Freon 11	75-69-4	118
Freon 113	76-13-1	104
Freon 114	76-14-2	107
Freon 12	75-71-8	119
Heptane	142-82-5	84
Hexachlorobutadiene	87-68-3	112

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	CCV	Date/Time Analyzed:	10/15/19 08:34 AM
Lab ID:	1910306-08A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j101502
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	82
m,p-Xylene	108-38-3	101
Methyl tert-butyl ether	1634-04-4	99
Methylene Chloride	75-09-2	86
o-Xylene	95-47-6	101
Propylbenzene	103-65-1	100
Styrene	100-42-5	104
Tetrachloroethene	127-18-4	103
Tetrahydrofuran	109-99-9	75
Toluene	108-88-3	83
trans-1,2-Dichloroethene	156-60-5	92
trans-1,3-Dichloropropene	10061-02-6	99
Trichloroethene	79-01-6	90
Vinyl Chloride	75-01-4	77

Q = Exceeds Quality Control limits.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	115
4-Bromofluorobenzene	460-00-4	70-130	117
Toluene-d8	2037-26-5	70-130	98

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	LCS	Date/Time Analyzed:	10/15/19 08:59 AM
Lab ID:	1910306-09A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j101503
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	109
1,1,2,2-Tetrachloroethane	79-34-5	78
1,1,2-Trichloroethane	79-00-5	86
1,1-Dichloroethane	75-34-3	83
1,1-Dichloroethene	75-35-4	89
1,2,4-Trichlorobenzene	120-82-1	97
1,2,4-Trimethylbenzene	95-63-6	106
1,2-Dibromoethane (EDB)	106-93-4	89
1,2-Dichlorobenzene	95-50-1	100
1,2-Dichloroethane	107-06-2	103
1,2-Dichloropropane	78-87-5	72
1,3,5-Trimethylbenzene	108-67-8	104
1,3-Butadiene	106-99-0	77
1,3-Dichlorobenzene	541-73-1	97
1,4-Dichlorobenzene	106-46-7	101
1,4-Dioxane	123-91-1	85
2,2,4-Trimethylpentane	540-84-1	81
2-Butanone (Methyl Ethyl Ketone)	78-93-3	77
2-Hexanone	591-78-6	81
2-Propanol	67-63-0	79
3-Chloropropene	107-05-1	83
4-Ethyltoluene	622-96-8	104
4-Methyl-2-pentanone	108-10-1	83
Acetone	67-64-1	66 Q

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	LCS	Date/Time Analyzed:	10/15/19 08:59 AM
Lab ID:	1910306-09A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j101503
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	106
Benzene	71-43-2	81
Bromodichloromethane	75-27-4	98
Bromoform	75-25-2	108
Bromomethane	74-83-9	92
Carbon Disulfide	75-15-0	84
Carbon Tetrachloride	56-23-5	100
Chlorobenzene	108-90-7	90
Chloroethane	75-00-3	81
Chloroform	67-66-3	95
Chloromethane	74-87-3	82
cis-1,2-Dichloroethene	156-59-2	79
cis-1,3-Dichloropropene	10061-01-5	91
Cumene	98-82-8	108
Cyclohexane	110-82-7	87
Dibromochloromethane	124-48-1	100
Ethanol	64-17-5	65 Q
Ethyl Benzene	100-41-4	95
Freon 11	75-69-4	108
Freon 113	76-13-1	98
Freon 114	76-14-2	102
Freon 12	75-71-8	111
Heptane	142-82-5	87
Hexachlorobutadiene	87-68-3	111

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	LCS	Date/Time Analyzed:	10/15/19 08:59 AM
Lab ID:	1910306-09A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j101503
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	83
m,p-Xylene	108-38-3	105
Methyl tert-butyl ether	1634-04-4	93
Methylene Chloride	75-09-2	79
o-Xylene	95-47-6	102
Propylbenzene	103-65-1	101
Styrene	100-42-5	112
Tetrachloroethene	127-18-4	100
Tetrahydrofuran	109-99-9	71
Toluene	108-88-3	84
trans-1,2-Dichloroethene	156-60-5	97
trans-1,3-Dichloropropene	10061-02-6	99
Trichloroethene	79-01-6	90
Vinyl Chloride	75-01-4	80

Q = Exceeds Quality Control limits.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	112
4-Bromofluorobenzene	460-00-4	70-130	116
Toluene-d8	2037-26-5	70-130	96

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	LCSD	Date/Time Analyzed:	10/15/19 09:23 AM
Lab ID:	1910306-09AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j101504
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	114
1,1,2,2-Tetrachloroethane	79-34-5	76
1,1,2-Trichloroethane	79-00-5	81
1,1-Dichloroethane	75-34-3	91
1,1-Dichloroethene	75-35-4	93
1,2,4-Trichlorobenzene	120-82-1	97
1,2,4-Trimethylbenzene	95-63-6	105
1,2-Dibromoethane (EDB)	106-93-4	88
1,2-Dichlorobenzene	95-50-1	97
1,2-Dichloroethane	107-06-2	106
1,2-Dichloropropane	78-87-5	76
1,3,5-Trimethylbenzene	108-67-8	102
1,3-Butadiene	106-99-0	76
1,3-Dichlorobenzene	541-73-1	96
1,4-Dichlorobenzene	106-46-7	98
1,4-Dioxane	123-91-1	87
2,2,4-Trimethylpentane	540-84-1	86
2-Butanone (Methyl Ethyl Ketone)	78-93-3	86
2-Hexanone	591-78-6	82
2-Propanol	67-63-0	88
3-Chloropropene	107-05-1	92
4-Ethyltoluene	622-96-8	121
4-Methyl-2-pentanone	108-10-1	84
Acetone	67-64-1	72

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	LCSD	Date/Time Analyzed:	10/15/19 09:23 AM
Lab ID:	1910306-09AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j101504
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	102
Benzene	71-43-2	84
Bromodichloromethane	75-27-4	101
Bromoform	75-25-2	103
Bromomethane	74-83-9	99
Carbon Disulfide	75-15-0	91
Carbon Tetrachloride	56-23-5	106
Chlorobenzene	108-90-7	87
Chloroethane	75-00-3	86
Chloroform	67-66-3	102
Chloromethane	74-87-3	85
cis-1,2-Dichloroethene	156-59-2	83
cis-1,3-Dichloropropene	10061-01-5	96
Cumene	98-82-8	106
Cyclohexane	110-82-7	93
Dibromochloromethane	124-48-1	98
Ethanol	64-17-5	67 Q
Ethyl Benzene	100-41-4	91
Freon 11	75-69-4	117
Freon 113	76-13-1	105
Freon 114	76-14-2	106
Freon 12	75-71-8	118
Heptane	142-82-5	93
Hexachlorobutadiene	87-68-3	112

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville - Enterprise

Client ID:	LCSD	Date/Time Analyzed:	10/15/19 09:23 AM
Lab ID:	1910306-09AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdj.i / j101504
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	94
m,p-Xylene	108-38-3	101
Methyl tert-butyl ether	1634-04-4	106
Methylene Chloride	75-09-2	85
o-Xylene	95-47-6	100
Propylbenzene	103-65-1	100
Styrene	100-42-5	109
Tetrachloroethene	127-18-4	98
Tetrahydrofuran	109-99-9	77
Toluene	108-88-3	88
trans-1,2-Dichloroethene	156-60-5	103
trans-1,3-Dichloropropene	10061-02-6	93
Trichloroethene	79-01-6	92
Vinyl Chloride	75-01-4	86

Q = Exceeds Quality Control limits.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	122
4-Bromofluorobenzene	460-00-4	70-130	115
Toluene-d8	2037-26-5	70-130	97

* % Recovery is calculated using unrounded analytical results.

1/2/2020

Michelle Kukta

GHD

2055 Niagara Falls Blvd.

Suite Three

Niagara Falls NY 14304

Project Name: Hicksville-Enterprise

Project #: 6883DM

Workorder #: 1912605A

Dear Michelle Kukta

The following report includes the data for the above referenced project for sample(s) received on 12/23/2019 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Ausha Scott

Project Manager

WORK ORDER #: 1912605A

Work Order Summary

CLIENT:	Michelle Kukta GHD 2055 Niagara Falls Blvd. Suite Three Niagara Falls, NY 14304	BILL TO:	Accounts Payable OxyChem/Glenn Springs Holdings PO Box 2148 Houston, TX 77252
PHONE:	716-297-6150	P.O. #	4502566400
FAX:	716-297-6296	PROJECT #	6883DM Hicksville-Enterprise
DATE RECEIVED:	12/23/2019	CONTACT:	Ausha Scott
DATE COMPLETED:	01/02/2020		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SV121919CM001	TO-15	1.5 "Hg	5 psi
02A	SV121919CM002	TO-15	1.5 "Hg	5 psi
03A	SV121919CM003	TO-15	3.0 "Hg	5 psi
04A	SV121919CM004	TO-15	1.5 "Hg	5 psi
05A	SV121919CM005	TO-15	1.2 psi	5 psi
06A	SV121919CM006	TO-15	2.5 "Hg	5 psi
07A	SV121919CM007	TO-15	4.5 "Hg	5 psi
08A	SV121919CM008	TO-15	3.0 "Hg	5 psi
09A	SV121919CM009	TO-15	2.0 "Hg	5 psi
10A	Lab Blank	TO-15	NA	NA
11A	CCV	TO-15	NA	NA
12A	LCS	TO-15	NA	NA
12AA	LCSD	TO-15	NA	NA

CERTIFIED BY:



Technical Director

DATE: 01/02/20

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005-011, Effective date: 10/18/2019, Expiration date: 10/17/2020.

Eurofins Air Toxics, LLC certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, LLC.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279

LABORATORY NARRATIVE
EPA Method TO-15
GHD
Workorder# 1912605A

Nine 6 Liter Summa Canister samples were received on December 23, 2019. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

Receiving Notes

The Chain of Custody (COC) information for sample SV121919CM006 did not match the entry on the sample tag with regard to sample identification. The information on the COC was used to process and report the sample.

The Chain of Custody (COC) information for sample SV121919CM009 did not match the information on the canister with regard to canister barcode. The sample labeled 0607 on the COC is labeled as 9238 on the canister. The client was notified of the discrepancy and the information on the canister was used to process and report the sample.

Despite the use of flow controllers for sample collection, the final canister vacuum for sample SV121919CM005 was measured at ambient pressure at the laboratory.

Analytical Notes

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified may be false positives.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM001	Date/Time Analyzed:	12/27/19 03:07 PM
Lab ID:	1912605A-01A	Dilution Factor:	1.41
Date/Time Collected:	12/19/19 12:31 PM	Instrument/Filename:	msda.i / a122709
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.54	3.1	3.8	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.77	3.9	4.8	Not Detected
1,1,2-Trichloroethane	79-00-5	0.77	3.1	3.8	Not Detected
1,1-Dichloroethane	75-34-3	0.63	2.3	2.8	Not Detected
1,1-Dichloroethene	75-35-4	0.84	2.2	2.8	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.2	16	21	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.42	2.8	3.5	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.65	4.3	5.4	Not Detected
1,2-Dichlorobenzene	95-50-1	0.51	3.4	4.2	Not Detected
1,2-Dichloroethane	107-06-2	1.0	2.3	2.8	Not Detected
1,2-Dichloropropane	78-87-5	0.85	2.6	3.2	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.42	2.8	3.5	Not Detected
1,3-Butadiene	106-99-0	0.34	1.2	1.6	Not Detected
1,3-Dichlorobenzene	541-73-1	0.50	3.4	4.2	Not Detected
1,4-Dichlorobenzene	106-46-7	0.51	3.4	4.2	Not Detected
1,4-Dioxane	123-91-1	1.5	7.6	10	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.66	2.6	3.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	2.0	6.2	8.3	Not Detected
2-Hexanone	591-78-6	1.3	8.7	12	Not Detected
2-Propanol	67-63-0	1.0	5.2	6.9	Not Detected
3-Chloropropene	107-05-1	1.7	6.6	8.8	Not Detected
4-Ethyltoluene	622-96-8	0.55	2.8	3.5	Not Detected
4-Methyl-2-pentanone	108-10-1	1.2	2.3	2.9	Not Detected
Acetone	67-64-1	2.7	5.0	17	4.7 J

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM001	Date/Time Analyzed:	12/27/19 03:07 PM
Lab ID:	1912605A-01A	Dilution Factor:	1.41
Date/Time Collected:	12/19/19 12:31 PM	Instrument/Filename:	msda.i / a122709
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.22	2.9	3.6	Not Detected
Benzene	71-43-2	0.40	1.8	2.2	0.53 J
Bromodichloromethane	75-27-4	0.57	3.8	4.7	Not Detected
Bromoform	75-25-2	0.87	5.8	7.3	Not Detected
Bromomethane	74-83-9	1.8	8.2	27	Not Detected
Carbon Disulfide	75-15-0	1.3	6.6	8.8	Not Detected
Carbon Tetrachloride	56-23-5	0.62	3.5	4.4	Not Detected
Chlorobenzene	108-90-7	0.32	2.6	3.2	Not Detected
Chloroethane	75-00-3	0.89	5.6	7.4	Not Detected
Chloroform	67-66-3	0.48	2.8	3.4	Not Detected
Chloromethane	74-87-3	0.93	4.4	14	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.56	2.2	2.8	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.64	2.6	3.2	Not Detected
Cumene	98-82-8	0.35	2.8	3.5	Not Detected
Cyclohexane	110-82-7	0.39	1.9	2.4	Not Detected
Dibromochloromethane	124-48-1	1.2	4.8	6.0	Not Detected
Ethanol	64-17-5	1.4	4.0	5.3	9.9
Ethyl Benzene	100-41-4	0.61	2.4	3.1	Not Detected
Freon 11	75-69-4	0.32	3.2	4.0	0.91 J
Freon 113	76-13-1	0.76	4.3	5.4	Not Detected
Freon 114	76-14-2	0.89	3.9	4.9	Not Detected
Freon 12	75-71-8	0.49	2.8	3.5	3.1 J
Heptane	142-82-5	0.75	2.3	2.9	Not Detected
Hexachlorobutadiene	87-68-3	5.6	22	30	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM001	Date/Time Analyzed:	12/27/19 03:07 PM
Lab ID:	1912605A-01A	Dilution Factor:	1.41
Date/Time Collected:	12/19/19 12:31 PM	Instrument/Filename:	msda.i / a122709
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.25	2.0	2.5	0.73 J
m,p-Xylene	108-38-3	0.37	2.4	3.1	Not Detected
Methyl tert-butyl ether	1634-04-4	1.3	7.6	10	Not Detected
Methylene Chloride	75-09-2	1.7	7.3	24	Not Detected
o-Xylene	95-47-6	0.67	2.4	3.1	Not Detected
Propylbenzene	103-65-1	0.28	2.8	3.5	Not Detected
Styrene	100-42-5	0.54	2.4	3.0	Not Detected
Tetrachloroethene	127-18-4	0.57	3.8	4.8	Not Detected
Tetrahydrofuran	109-99-9	0.75	1.7	2.1	Not Detected
Toluene	108-88-3	0.26	2.1	2.6	1.7 J
trans-1,2-Dichloroethene	156-60-5	1.1	2.2	2.8	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.51	2.6	3.2	Not Detected
Trichloroethene	79-01-6	0.38	3.0	3.8	Not Detected
Vinyl Chloride	75-01-4	0.36	1.4	1.8	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	92
4-Bromofluorobenzene	460-00-4	70-130	102
Toluene-d8	2037-26-5	70-130	102

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM002	Date/Time Analyzed:	12/27/19 03:34 PM
Lab ID:	1912605A-02A	Dilution Factor:	1.41
Date/Time Collected:	12/19/19 12:27 PM	Instrument/File name:	msda.i / a122710
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.54	3.1	3.8	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.77	3.9	4.8	Not Detected
1,1,2-Trichloroethane	79-00-5	0.77	3.1	3.8	Not Detected
1,1-Dichloroethane	75-34-3	0.63	2.3	2.8	Not Detected
1,1-Dichloroethene	75-35-4	0.84	2.2	2.8	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.2	16	21	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.42	2.8	3.5	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.65	4.3	5.4	Not Detected
1,2-Dichlorobenzene	95-50-1	0.51	3.4	4.2	Not Detected
1,2-Dichloroethane	107-06-2	1.0	2.3	2.8	Not Detected
1,2-Dichloropropane	78-87-5	0.85	2.6	3.2	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.42	2.8	3.5	Not Detected
1,3-Butadiene	106-99-0	0.34	1.2	1.6	Not Detected
1,3-Dichlorobenzene	541-73-1	0.50	3.4	4.2	Not Detected
1,4-Dichlorobenzene	106-46-7	0.51	3.4	4.2	Not Detected
1,4-Dioxane	123-91-1	1.5	7.6	10	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.66	2.6	3.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	2.0	6.2	8.3	Not Detected
2-Hexanone	591-78-6	1.3	8.7	12	Not Detected
2-Propanol	67-63-0	1.0	5.2	6.9	Not Detected
3-Chloropropene	107-05-1	1.7	6.6	8.8	Not Detected
4-Ethyltoluene	622-96-8	0.55	2.8	3.5	Not Detected
4-Methyl-2-pentanone	108-10-1	1.2	2.3	2.9	Not Detected
Acetone	67-64-1	2.7	5.0	17	6.0 J

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM002	Date/Time Analyzed:	12/27/19 03:34 PM
Lab ID:	1912605A-02A	Dilution Factor:	1.41
Date/Time Collected:	12/19/19 12:27 PM	Instrument/Filename:	msda.i / a122710
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.22	2.9	3.6	Not Detected
Benzene	71-43-2	0.40	1.8	2.2	Not Detected
Bromodichloromethane	75-27-4	0.57	3.8	4.7	Not Detected
Bromoform	75-25-2	0.87	5.8	7.3	Not Detected
Bromomethane	74-83-9	1.8	8.2	27	Not Detected
Carbon Disulfide	75-15-0	1.3	6.6	8.8	Not Detected
Carbon Tetrachloride	56-23-5	0.62	3.5	4.4	Not Detected
Chlorobenzene	108-90-7	0.32	2.6	3.2	Not Detected
Chloroethane	75-00-3	0.89	5.6	7.4	Not Detected
Chloroform	67-66-3	0.48	2.8	3.4	Not Detected
Chloromethane	74-87-3	0.93	4.4	14	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.56	2.2	2.8	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.64	2.6	3.2	Not Detected
Cumene	98-82-8	0.35	2.8	3.5	Not Detected
Cyclohexane	110-82-7	0.39	1.9	2.4	Not Detected
Dibromochloromethane	124-48-1	1.2	4.8	6.0	Not Detected
Ethanol	64-17-5	1.4	4.0	5.3	14
Ethyl Benzene	100-41-4	0.61	2.4	3.1	Not Detected
Freon 11	75-69-4	0.32	3.2	4.0	0.93 J
Freon 113	76-13-1	0.76	4.3	5.4	Not Detected
Freon 114	76-14-2	0.89	3.9	4.9	Not Detected
Freon 12	75-71-8	0.49	2.8	3.5	2.6 J
Heptane	142-82-5	0.75	2.3	2.9	Not Detected
Hexachlorobutadiene	87-68-3	5.6	22	30	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM002	Date/Time Analyzed:	12/27/19 03:34 PM
Lab ID:	1912605A-02A	Dilution Factor:	1.41
Date/Time Collected:	12/19/19 12:27 PM	Instrument/Filename:	msda.i / a122710
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.25	2.0	2.5	0.31 J
m,p-Xylene	108-38-3	0.37	2.4	3.1	Not Detected
Methyl tert-butyl ether	1634-04-4	1.3	7.6	10	Not Detected
Methylene Chloride	75-09-2	1.7	7.3	24	Not Detected
o-Xylene	95-47-6	0.67	2.4	3.1	Not Detected
Propylbenzene	103-65-1	0.28	2.8	3.5	Not Detected
Styrene	100-42-5	0.54	2.4	3.0	Not Detected
Tetrachloroethene	127-18-4	0.57	3.8	4.8	Not Detected
Tetrahydrofuran	109-99-9	0.75	1.7	2.1	Not Detected
Toluene	108-88-3	0.26	2.1	2.6	0.33 J
trans-1,2-Dichloroethene	156-60-5	1.1	2.2	2.8	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.51	2.6	3.2	Not Detected
Trichloroethene	79-01-6	0.38	3.0	3.8	Not Detected
Vinyl Chloride	75-01-4	0.36	1.4	1.8	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	91
4-Bromofluorobenzene	460-00-4	70-130	102
Toluene-d8	2037-26-5	70-130	102

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM003	Date/Time Analyzed:	12/27/19 04:00 PM
Lab ID:	1912605A-03A	Dilution Factor:	1.49
Date/Time Collected:	12/19/19 11:35 AM	Instrument/Filename:	msda.i / a122711
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.57	3.2	4.1	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.82	4.1	5.1	Not Detected
1,1,2-Trichloroethane	79-00-5	0.81	3.2	4.1	Not Detected
1,1-Dichloroethane	75-34-3	0.66	2.4	3.0	Not Detected
1,1-Dichloroethene	75-35-4	0.89	2.4	3.0	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.4	16	22	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.44	2.9	3.7	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.69	4.6	5.7	Not Detected
1,2-Dichlorobenzene	95-50-1	0.54	3.6	4.5	Not Detected
1,2-Dichloroethane	107-06-2	1.1	2.4	3.0	Not Detected
1,2-Dichloropropane	78-87-5	0.90	2.8	3.4	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.44	2.9	3.7	Not Detected
1,3-Butadiene	106-99-0	0.36	1.3	1.6	Not Detected
1,3-Dichlorobenzene	541-73-1	0.53	3.6	4.5	Not Detected
1,4-Dichlorobenzene	106-46-7	0.54	3.6	4.5	Not Detected
1,4-Dioxane	123-91-1	1.6	8.0	11	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.70	2.8	3.5	0.86 J
2-Butanone (Methyl Ethyl Ketone)	78-93-3	2.1	6.6	8.8	Not Detected
2-Hexanone	591-78-6	1.3	9.2	12	Not Detected
2-Propanol	67-63-0	1.1	5.5	7.3	Not Detected
3-Chloropropene	107-05-1	1.8	7.0	9.3	Not Detected
4-Ethyltoluene	622-96-8	0.59	2.9	3.7	Not Detected
4-Methyl-2-pentanone	108-10-1	1.2	2.4	3.0	Not Detected
Acetone	67-64-1	2.8	5.3	18	6.0 J

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM003	Date/Time Analyzed:	12/27/19 04:00 PM
Lab ID:	1912605A-03A	Dilution Factor:	1.49
Date/Time Collected:	12/19/19 11:35 AM	Instrument/File Name:	msda.i / a122711
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.23	3.1	3.8	Not Detected
Benzene	71-43-2	0.43	1.9	2.4	0.76 J
Bromodichloromethane	75-27-4	0.60	4.0	5.0	Not Detected
Bromoform	75-25-2	0.92	6.2	7.7	Not Detected
Bromomethane	74-83-9	1.9	8.7	29	Not Detected
Carbon Disulfide	75-15-0	1.4	7.0	9.3	Not Detected
Carbon Tetrachloride	56-23-5	0.66	3.8	4.7	Not Detected
Chlorobenzene	108-90-7	0.34	2.7	3.4	Not Detected
Chloroethane	75-00-3	0.94	5.9	7.9	Not Detected
Chloroform	67-66-3	0.51	2.9	3.6	Not Detected
Chloromethane	74-87-3	0.98	4.6	15	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.59	2.4	3.0	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.68	2.7	3.4	Not Detected
Cumene	98-82-8	0.37	2.9	3.7	Not Detected
Cyclohexane	110-82-7	0.41	2.0	2.6	0.52 J
Dibromochloromethane	124-48-1	1.3	5.1	6.3	Not Detected
Ethanol	64-17-5	1.5	4.2	5.6	17
Ethyl Benzene	100-41-4	0.65	2.6	3.2	Not Detected
Freon 11	75-69-4	0.33	3.3	4.2	1.2 J
Freon 113	76-13-1	0.80	4.6	5.7	Not Detected
Freon 114	76-14-2	0.94	4.2	5.2	Not Detected
Freon 12	75-71-8	0.52	2.9	3.7	2.8 J
Heptane	142-82-5	0.79	2.4	3.0	Not Detected
Hexachlorobutadiene	87-68-3	5.9	24	32	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM003	Date/Time Analyzed:	12/27/19 04:00 PM
Lab ID:	1912605A-03A	Dilution Factor:	1.49
Date/Time Collected:	12/19/19 11:35 AM	Instrument/Filename:	msda.i / a122711
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.26	2.1	2.6	1.1 J
m,p-Xylene	108-38-3	0.39	2.6	3.2	0.41 J
Methyl tert-butyl ether	1634-04-4	1.4	8.0	11	Not Detected
Methylene Chloride	75-09-2	1.8	7.8	26	Not Detected
o-Xylene	95-47-6	0.71	2.6	3.2	Not Detected
Propylbenzene	103-65-1	0.29	2.9	3.7	Not Detected
Styrene	100-42-5	0.57	2.5	3.2	Not Detected
Tetrachloroethene	127-18-4	0.61	4.0	5.0	Not Detected
Tetrahydrofuran	109-99-9	0.79	1.8	2.2	Not Detected
Toluene	108-88-3	0.28	2.2	2.8	1.1 J
trans-1,2-Dichloroethene	156-60-5	1.1	2.4	3.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.54	2.7	3.4	Not Detected
Trichloroethene	79-01-6	0.40	3.2	4.0	Not Detected
Vinyl Chloride	75-01-4	0.38	1.5	1.9	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	90
4-Bromofluorobenzene	460-00-4	70-130	100
Toluene-d8	2037-26-5	70-130	99

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM004	Date/Time Analyzed:	12/27/19 10:21 PM
Lab ID:	1912605A-04A	Dilution Factor:	1.41
Date/Time Collected:	12/19/19 11:25 AM	Instrument/Filename:	msda.i / a122719
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.54	3.1	3.8	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.77	3.9	4.8	Not Detected
1,1,2-Trichloroethane	79-00-5	0.77	3.1	3.8	Not Detected
1,1-Dichloroethane	75-34-3	0.63	2.3	2.8	Not Detected
1,1-Dichloroethene	75-35-4	0.84	2.2	2.8	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.2	16	21	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.42	2.8	3.5	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.65	4.3	5.4	Not Detected
1,2-Dichlorobenzene	95-50-1	0.51	3.4	4.2	Not Detected
1,2-Dichloroethane	107-06-2	1.0	2.3	2.8	Not Detected
1,2-Dichloropropane	78-87-5	0.85	2.6	3.2	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.42	2.8	3.5	Not Detected
1,3-Butadiene	106-99-0	0.34	1.2	1.6	Not Detected
1,3-Dichlorobenzene	541-73-1	0.50	3.4	4.2	Not Detected
1,4-Dichlorobenzene	106-46-7	0.51	3.4	4.2	Not Detected
1,4-Dioxane	123-91-1	1.5	7.6	10	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.66	2.6	3.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	2.0	6.2	8.3	Not Detected
2-Hexanone	591-78-6	1.3	8.7	12	Not Detected
2-Propanol	67-63-0	1.0	5.2	6.9	Not Detected
3-Chloropropene	107-05-1	1.7	6.6	8.8	Not Detected
4-Ethyltoluene	622-96-8	0.55	2.8	3.5	Not Detected
4-Methyl-2-pentanone	108-10-1	1.2	2.3	2.9	Not Detected
Acetone	67-64-1	2.7	5.0	17	7.1 J

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM004	Date/Time Analyzed:	12/27/19 10:21 PM
Lab ID:	1912605A-04A	Dilution Factor:	1.41
Date/Time Collected:	12/19/19 11:25 AM	Instrument/File Name:	msda.i / a122719
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.22	2.9	3.6	Not Detected
Benzene	71-43-2	0.40	1.8	2.2	Not Detected
Bromodichloromethane	75-27-4	0.57	3.8	4.7	Not Detected
Bromoform	75-25-2	0.87	5.8	7.3	Not Detected
Bromomethane	74-83-9	1.8	8.2	27	Not Detected
Carbon Disulfide	75-15-0	1.3	6.6	8.8	Not Detected
Carbon Tetrachloride	56-23-5	0.62	3.5	4.4	Not Detected
Chlorobenzene	108-90-7	0.32	2.6	3.2	Not Detected
Chloroethane	75-00-3	0.89	5.6	7.4	Not Detected
Chloroform	67-66-3	0.48	2.8	3.4	Not Detected
Chloromethane	74-87-3	0.93	4.4	14	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.56	2.2	2.8	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.64	2.6	3.2	Not Detected
Cumene	98-82-8	0.35	2.8	3.5	Not Detected
Cyclohexane	110-82-7	0.39	1.9	2.4	Not Detected
Dibromochloromethane	124-48-1	1.2	4.8	6.0	Not Detected
Ethanol	64-17-5	1.4	4.0	5.3	16
Ethyl Benzene	100-41-4	0.61	2.4	3.1	Not Detected
Freon 11	75-69-4	0.32	3.2	4.0	1.7 J
Freon 113	76-13-1	0.76	4.3	5.4	Not Detected
Freon 114	76-14-2	0.89	3.9	4.9	Not Detected
Freon 12	75-71-8	0.49	2.8	3.5	2.6 J
Heptane	142-82-5	0.75	2.3	2.9	Not Detected
Hexachlorobutadiene	87-68-3	5.6	22	30	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM004	Date/Time Analyzed:	12/27/19 10:21 PM
Lab ID:	1912605A-04A	Dilution Factor:	1.41
Date/Time Collected:	12/19/19 11:25 AM	Instrument/Filename:	msda.i / a122719
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.25	2.0	2.5	0.36 J
m,p-Xylene	108-38-3	0.37	2.4	3.1	Not Detected
Methyl tert-butyl ether	1634-04-4	1.3	7.6	10	Not Detected
Methylene Chloride	75-09-2	1.7	7.3	24	Not Detected
o-Xylene	95-47-6	0.67	2.4	3.1	Not Detected
Propylbenzene	103-65-1	0.28	2.8	3.5	Not Detected
Styrene	100-42-5	0.54	2.4	3.0	Not Detected
Tetrachloroethene	127-18-4	0.57	3.8	4.8	Not Detected
Tetrahydrofuran	109-99-9	0.75	1.7	2.1	Not Detected
Toluene	108-88-3	0.26	2.1	2.6	0.68 J
trans-1,2-Dichloroethene	156-60-5	1.1	2.2	2.8	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.51	2.6	3.2	Not Detected
Trichloroethene	79-01-6	0.38	3.0	3.8	Not Detected
Vinyl Chloride	75-01-4	0.36	1.4	1.8	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	92
4-Bromofluorobenzene	460-00-4	70-130	102
Toluene-d8	2037-26-5	70-130	102

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM005	Date/Time Analyzed:	12/27/19 02:14 PM
Lab ID:	1912605A-05A	Dilution Factor:	1.24
Date/Time Collected:	12/19/19 10:59 AM	Instrument/Filename:	msda.i / a122707
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.47	2.7	3.4	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.68	3.4	4.2	Not Detected
1,1,2-Trichloroethane	79-00-5	0.68	2.7	3.4	Not Detected
1,1-Dichloroethane	75-34-3	0.55	2.0	2.5	Not Detected
1,1-Dichloroethene	75-35-4	0.74	2.0	2.4	Not Detected
1,2,4-Trichlorobenzene	120-82-1	2.8	14	18	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.36	2.4	3.0	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.57	3.8	4.8	Not Detected
1,2-Dichlorobenzene	95-50-1	0.45	3.0	3.7	Not Detected
1,2-Dichloroethane	107-06-2	0.90	2.0	2.5	Not Detected
1,2-Dichloropropane	78-87-5	0.74	2.3	2.9	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.36	2.4	3.0	Not Detected
1,3-Butadiene	106-99-0	0.30	1.1	1.4	Not Detected
1,3-Dichlorobenzene	541-73-1	0.44	3.0	3.7	Not Detected
1,4-Dichlorobenzene	106-46-7	0.45	3.0	3.7	Not Detected
1,4-Dioxane	123-91-1	1.3	6.7	8.9	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.58	2.3	2.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	1.7	5.5	7.3	Not Detected
2-Hexanone	591-78-6	1.1	7.6	10	Not Detected
2-Propanol	67-63-0	0.88	4.6	6.1	Not Detected
3-Chloropropene	107-05-1	1.5	5.8	7.8	Not Detected
4-Ethyltoluene	622-96-8	0.49	2.4	3.0	Not Detected
4-Methyl-2-pentanone	108-10-1	1.0	2.0	2.5	Not Detected
Acetone	67-64-1	2.4	4.4	15	4.7 J

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM005	Date/Time Analyzed:	12/27/19 02:14 PM
Lab ID:	1912605A-05A	Dilution Factor:	1.24
Date/Time Collected:	12/19/19 10:59 AM	Instrument/Filename:	msda.i / a122707
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.19	2.6	3.2	Not Detected
Benzene	71-43-2	0.36	1.6	2.0	0.52 J
Bromodichloromethane	75-27-4	0.50	3.3	4.2	Not Detected
Bromoform	75-25-2	0.77	5.1	6.4	Not Detected
Bromomethane	74-83-9	1.6	7.2	24	Not Detected
Carbon Disulfide	75-15-0	1.2	5.8	7.7	Not Detected
Carbon Tetrachloride	56-23-5	0.55	3.1	3.9	Not Detected
Chlorobenzene	108-90-7	0.28	2.3	2.8	Not Detected
Chloroethane	75-00-3	0.78	4.9	6.5	Not Detected
Chloroform	67-66-3	0.42	2.4	3.0	Not Detected
Chloromethane	74-87-3	0.82	3.8	13	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.49	2.0	2.4	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.56	2.2	2.8	Not Detected
Cumene	98-82-8	0.30	2.4	3.0	Not Detected
Cyclohexane	110-82-7	0.34	1.7	2.1	Not Detected
Dibromochloromethane	124-48-1	1.0	4.2	5.3	Not Detected
Ethanol	64-17-5	1.3	3.5	4.7	7.3
Ethyl Benzene	100-41-4	0.54	2.2	2.7	Not Detected
Freon 11	75-69-4	0.28	2.8	3.5	0.93 J
Freon 113	76-13-1	0.66	3.8	4.8	Not Detected
Freon 114	76-14-2	0.78	3.5	4.3	Not Detected
Freon 12	75-71-8	0.43	2.4	3.1	2.9 J
Heptane	142-82-5	0.66	2.0	2.5	Not Detected
Hexachlorobutadiene	87-68-3	4.9	20	26	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM005	Date/Time Analyzed:	12/27/19 02:14 PM
Lab ID:	1912605A-05A	Dilution Factor:	1.24
Date/Time Collected:	12/19/19 10:59 AM	Instrument/Filename:	msda.i / a122707
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.22	1.7	2.2	0.70 J
m,p-Xylene	108-38-3	0.32	2.2	2.7	Not Detected
Methyl tert-butyl ether	1634-04-4	1.2	6.7	8.9	Not Detected
Methylene Chloride	75-09-2	1.5	6.5	22	Not Detected
o-Xylene	95-47-6	0.59	2.2	2.7	Not Detected
Propylbenzene	103-65-1	0.24	2.4	3.0	Not Detected
Styrene	100-42-5	0.48	2.1	2.6	Not Detected
Tetrachloroethene	127-18-4	0.50	3.4	4.2	Not Detected
Tetrahydrofuran	109-99-9	0.66	1.5	1.8	Not Detected
Toluene	108-88-3	0.23	1.9	2.3	0.32 J
trans-1,2-Dichloroethene	156-60-5	0.93	2.0	2.4	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.45	2.2	2.8	Not Detected
Trichloroethene	79-01-6	0.33	2.7	3.3	Not Detected
Vinyl Chloride	75-01-4	0.32	1.3	1.6	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	94
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	98

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM006	Date/Time Analyzed:	12/27/19 11:14 PM
Lab ID:	1912605A-06A	Dilution Factor:	1.46
Date/Time Collected:	12/19/19 11:05 AM	Instrument/File name:	msda.i / a122721
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.56	3.2	4.0	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.80	4.0	5.0	Not Detected
1,1,2-Trichloroethane	79-00-5	0.80	3.2	4.0	Not Detected
1,1-Dichloroethane	75-34-3	0.65	2.4	3.0	Not Detected
1,1-Dichloroethene	75-35-4	0.87	2.3	2.9	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.4	16	22	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.43	2.9	3.6	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.67	4.5	5.6	Not Detected
1,2-Dichlorobenzene	95-50-1	0.53	3.5	4.4	Not Detected
1,2-Dichloroethane	107-06-2	1.1	2.4	3.0	Not Detected
1,2-Dichloropropane	78-87-5	0.88	2.7	3.4	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.43	2.9	3.6	Not Detected
1,3-Butadiene	106-99-0	0.36	1.3	1.6	Not Detected
1,3-Dichlorobenzene	541-73-1	0.52	3.5	4.4	Not Detected
1,4-Dichlorobenzene	106-46-7	0.53	3.5	4.4	Not Detected
1,4-Dioxane	123-91-1	1.5	7.9	10	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.68	2.7	3.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	2.0	6.4	8.6	Not Detected
2-Hexanone	591-78-6	1.3	9.0	12	Not Detected
2-Propanol	67-63-0	1.0	5.4	7.2	Not Detected
3-Chloropropene	107-05-1	1.7	6.8	9.1	Not Detected
4-Ethyltoluene	622-96-8	0.57	2.9	3.6	Not Detected
4-Methyl-2-pentanone	108-10-1	1.2	2.4	3.0	Not Detected
Acetone	67-64-1	2.8	5.2	17	8.8 J

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM006	Date/Time Analyzed:	12/27/19 11:14 PM
Lab ID:	1912605A-06A	Dilution Factor:	1.46
Date/Time Collected:	12/19/19 11:05 AM	Instrument/Filename:	msda.i / a122721
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.23	3.0	3.8	Not Detected
Benzene	71-43-2	0.42	1.9	2.3	Not Detected
Bromodichloromethane	75-27-4	0.59	3.9	4.9	Not Detected
Bromoform	75-25-2	0.90	6.0	7.5	Not Detected
Bromomethane	74-83-9	1.9	8.5	28	Not Detected
Carbon Disulfide	75-15-0	1.4	6.8	9.1	Not Detected
Carbon Tetrachloride	56-23-5	0.64	3.7	4.6	Not Detected
Chlorobenzene	108-90-7	0.34	2.7	3.4	Not Detected
Chloroethane	75-00-3	0.92	5.8	7.7	Not Detected
Chloroform	67-66-3	0.50	2.8	3.6	Not Detected
Chloromethane	74-87-3	0.96	4.5	15	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.58	2.3	2.9	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.66	2.6	3.3	Not Detected
Cumene	98-82-8	0.36	2.9	3.6	Not Detected
Cyclohexane	110-82-7	0.40	2.0	2.5	0.42 J
Dibromochloromethane	124-48-1	1.2	5.0	6.2	Not Detected
Ethanol	64-17-5	1.5	4.1	5.5	7.4
Ethyl Benzene	100-41-4	0.63	2.5	3.2	Not Detected
Freon 11	75-69-4	0.33	3.3	4.1	1.7 J
Freon 113	76-13-1	0.78	4.5	5.6	Not Detected
Freon 114	76-14-2	0.92	4.1	5.1	Not Detected
Freon 12	75-71-8	0.50	2.9	3.6	3.3 J
Heptane	142-82-5	0.78	2.4	3.0	Not Detected
Hexachlorobutadiene	87-68-3	5.8	23	31	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM006	Date/Time Analyzed:	12/27/19 11:14 PM
Lab ID:	1912605A-06A	Dilution Factor:	1.46
Date/Time Collected:	12/19/19 11:05 AM	Instrument/File name:	msda.i / a122721
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.26	2.0	2.6	Not Detected
m,p-Xylene	108-38-3	0.38	2.5	3.2	Not Detected
Methyl tert-butyl ether	1634-04-4	1.4	7.9	10	Not Detected
Methylene Chloride	75-09-2	1.7	7.6	25	2.3 J
o-Xylene	95-47-6	0.70	2.5	3.2	Not Detected
Propylbenzene	103-65-1	0.29	2.9	3.6	Not Detected
Styrene	100-42-5	0.56	2.5	3.1	Not Detected
Tetrachloroethene	127-18-4	0.59	4.0	5.0	Not Detected
Tetrahydrofuran	109-99-9	0.77	1.7	2.2	Not Detected
Toluene	108-88-3	0.28	2.2	2.8	1.1 J
trans-1,2-Dichloroethene	156-60-5	1.1	2.3	2.9	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.53	2.6	3.3	Not Detected
Trichloroethene	79-01-6	0.39	3.1	3.9	Not Detected
Vinyl Chloride	75-01-4	0.37	1.5	1.9	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	96
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	100

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM007	Date/Time Analyzed:	12/27/19 02:41 PM
Lab ID:	1912605A-07A	Dilution Factor:	1.58
Date/Time Collected:	12/19/19 11:15 AM	Instrument/Filename:	msda.i / a122708
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.60	3.4	4.3	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.87	4.3	5.4	Not Detected
1,1,2-Trichloroethane	79-00-5	0.86	3.4	4.3	Not Detected
1,1-Dichloroethane	75-34-3	0.70	2.6	3.2	Not Detected
1,1-Dichloroethene	75-35-4	0.94	2.5	3.1	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.6	18	23	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.47	3.1	3.9	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.73	4.8	6.1	Not Detected
1,2-Dichlorobenzene	95-50-1	0.57	3.8	4.7	Not Detected
1,2-Dichloroethane	107-06-2	1.2	2.6	3.2	Not Detected
1,2-Dichloropropane	78-87-5	0.95	2.9	3.6	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.47	3.1	3.9	Not Detected
1,3-Butadiene	106-99-0	0.38	1.4	1.7	Not Detected
1,3-Dichlorobenzene	541-73-1	0.56	3.8	4.8	Not Detected
1,4-Dichlorobenzene	106-46-7	0.57	3.8	4.8	Not Detected
1,4-Dioxane	123-91-1	1.6	8.5	11	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.74	3.0	3.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	2.2	7.0	9.3	Not Detected
2-Hexanone	591-78-6	1.4	9.7	13	Not Detected
2-Propanol	67-63-0	1.1	5.8	7.8	Not Detected
3-Chloropropene	107-05-1	1.9	7.4	9.9	Not Detected
4-Ethyltoluene	622-96-8	0.62	3.1	3.9	Not Detected
4-Methyl-2-pentanone	108-10-1	1.3	2.6	3.2	Not Detected
Acetone	67-64-1	3.0	5.6	19	3.7 J

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM007	Date/Time Analyzed:	12/27/19 02:41 PM
Lab ID:	1912605A-07A	Dilution Factor:	1.58
Date/Time Collected:	12/19/19 11:15 AM	Instrument/Filename:	msda.i / a122708
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.24	3.3	4.1	Not Detected
Benzene	71-43-2	0.45	2.0	2.5	0.78 J
Bromodichloromethane	75-27-4	0.64	4.2	5.3	Not Detected
Bromoform	75-25-2	0.98	6.5	8.2	Not Detected
Bromomethane	74-83-9	2.0	9.2	31	Not Detected
Carbon Disulfide	75-15-0	1.5	7.4	9.8	Not Detected
Carbon Tetrachloride	56-23-5	0.70	4.0	5.0	Not Detected
Chlorobenzene	108-90-7	0.36	2.9	3.6	Not Detected
Chloroethane	75-00-3	1.0	6.2	8.3	Not Detected
Chloroform	67-66-3	0.54	3.1	3.8	Not Detected
Chloromethane	74-87-3	1.0	4.9	16	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.63	2.5	3.1	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.72	2.9	3.6	Not Detected
Cumene	98-82-8	0.39	3.1	3.9	Not Detected
Cyclohexane	110-82-7	0.44	2.2	2.7	Not Detected
Dibromochloromethane	124-48-1	1.3	5.4	6.7	Not Detected
Ethanol	64-17-5	1.6	4.5	6.0	Not Detected
Ethyl Benzene	100-41-4	0.69	2.7	3.4	Not Detected
Freon 11	75-69-4	0.36	3.6	4.4	1.4 J
Freon 113	76-13-1	0.85	4.8	6.0	Not Detected
Freon 114	76-14-2	0.99	4.4	5.5	Not Detected
Freon 12	75-71-8	0.55	3.1	3.9	2.4 J
Heptane	142-82-5	0.84	2.6	3.2	Not Detected
Hexachlorobutadiene	87-68-3	6.2	25	34	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM007	Date/Time Analyzed:	12/27/19 02:41 PM
Lab ID:	1912605A-07A	Dilution Factor:	1.58
Date/Time Collected:	12/19/19 11:15 AM	Instrument/Filename:	msda.i / a122708
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.28	2.2	2.8	0.47 J
m,p-Xylene	108-38-3	0.41	2.7	3.4	Not Detected
Methyl tert-butyl ether	1634-04-4	1.5	8.5	11	Not Detected
Methylene Chloride	75-09-2	1.9	8.2	27	Not Detected
o-Xylene	95-47-6	0.75	2.7	3.4	Not Detected
Propylbenzene	103-65-1	0.31	3.1	3.9	Not Detected
Styrene	100-42-5	0.60	2.7	3.4	Not Detected
Tetrachloroethene	127-18-4	0.64	4.3	5.4	Not Detected
Tetrahydrofuran	109-99-9	0.84	1.9	2.3	Not Detected
Toluene	108-88-3	0.30	2.4	3.0	1.0 J
trans-1,2-Dichloroethene	156-60-5	1.2	2.5	3.1	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.57	2.9	3.6	Not Detected
Trichloroethene	79-01-6	0.42	3.4	4.2	Not Detected
Vinyl Chloride	75-01-4	0.40	1.6	2.0	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	95
4-Bromofluorobenzene	460-00-4	70-130	98
Toluene-d8	2037-26-5	70-130	102

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM008	Date/Time Analyzed:	12/27/19 11:41 PM
Lab ID:	1912605A-08A	Dilution Factor:	1.49
Date/Time Collected:	12/19/19 11:40 AM	Instrument/Filename:	msda.i / a122722
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.57	3.2	4.1	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.82	4.1	5.1	Not Detected
1,1,2-Trichloroethane	79-00-5	0.81	3.2	4.1	Not Detected
1,1-Dichloroethane	75-34-3	0.66	2.4	3.0	Not Detected
1,1-Dichloroethene	75-35-4	0.89	2.4	3.0	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.4	16	22	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.44	2.9	3.7	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.69	4.6	5.7	Not Detected
1,2-Dichlorobenzene	95-50-1	0.54	3.6	4.5	Not Detected
1,2-Dichloroethane	107-06-2	1.1	2.4	3.0	Not Detected
1,2-Dichloropropane	78-87-5	0.90	2.8	3.4	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.44	2.9	3.7	Not Detected
1,3-Butadiene	106-99-0	0.36	1.3	1.6	Not Detected
1,3-Dichlorobenzene	541-73-1	0.53	3.6	4.5	Not Detected
1,4-Dichlorobenzene	106-46-7	0.54	3.6	4.5	Not Detected
1,4-Dioxane	123-91-1	1.6	8.0	11	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.70	2.8	3.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	2.1	6.6	8.8	Not Detected
2-Hexanone	591-78-6	1.3	9.2	12	Not Detected
2-Propanol	67-63-0	1.1	5.5	7.3	Not Detected
3-Chloropropene	107-05-1	1.8	7.0	9.3	Not Detected
4-Ethyltoluene	622-96-8	0.59	2.9	3.7	Not Detected
4-Methyl-2-pentanone	108-10-1	1.2	2.4	3.0	Not Detected
Acetone	67-64-1	2.8	5.3	18	3.6 J

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM008	Date/Time Analyzed:	12/27/19 11:41 PM
Lab ID:	1912605A-08A	Dilution Factor:	1.49
Date/Time Collected:	12/19/19 11:40 AM	Instrument/File Name:	msda.i / a122722
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.23	3.1	3.8	Not Detected
Benzene	71-43-2	0.43	1.9	2.4	1.0 J
Bromodichloromethane	75-27-4	0.60	4.0	5.0	Not Detected
Bromoform	75-25-2	0.92	6.2	7.7	Not Detected
Bromomethane	74-83-9	1.9	8.7	29	Not Detected
Carbon Disulfide	75-15-0	1.4	7.0	9.3	Not Detected
Carbon Tetrachloride	56-23-5	0.66	3.8	4.7	Not Detected
Chlorobenzene	108-90-7	0.34	2.7	3.4	Not Detected
Chloroethane	75-00-3	0.94	5.9	7.9	Not Detected
Chloroform	67-66-3	0.51	2.9	3.6	Not Detected
Chloromethane	74-87-3	0.98	4.6	15	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.59	2.4	3.0	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.68	2.7	3.4	Not Detected
Cumene	98-82-8	0.37	2.9	3.7	Not Detected
Cyclohexane	110-82-7	0.41	2.0	2.6	Not Detected
Dibromochloromethane	124-48-1	1.3	5.1	6.3	Not Detected
Ethanol	64-17-5	1.5	4.2	5.6	Not Detected
Ethyl Benzene	100-41-4	0.65	2.6	3.2	Not Detected
Freon 11	75-69-4	0.33	3.3	4.2	1.0 J
Freon 113	76-13-1	0.80	4.6	5.7	Not Detected
Freon 114	76-14-2	0.94	4.2	5.2	Not Detected
Freon 12	75-71-8	0.52	2.9	3.7	2.8 J
Heptane	142-82-5	0.79	2.4	3.0	Not Detected
Hexachlorobutadiene	87-68-3	5.9	24	32	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM008	Date/Time Analyzed:	12/27/19 11:41 PM
Lab ID:	1912605A-08A	Dilution Factor:	1.49
Date/Time Collected:	12/19/19 11:40 AM	Instrument/Filename:	msda.i / a122722
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.26	2.1	2.6	0.66 J
m,p-Xylene	108-38-3	0.39	2.6	3.2	Not Detected
Methyl tert-butyl ether	1634-04-4	1.4	8.0	11	Not Detected
Methylene Chloride	75-09-2	1.8	7.8	26	Not Detected
o-Xylene	95-47-6	0.71	2.6	3.2	Not Detected
Propylbenzene	103-65-1	0.29	2.9	3.7	Not Detected
Styrene	100-42-5	0.57	2.5	3.2	Not Detected
Tetrachloroethene	127-18-4	0.61	4.0	5.0	Not Detected
Tetrahydrofuran	109-99-9	0.79	1.8	2.2	Not Detected
Toluene	108-88-3	0.28	2.2	2.8	1.2 J
trans-1,2-Dichloroethene	156-60-5	1.1	2.4	3.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.54	2.7	3.4	Not Detected
Trichloroethene	79-01-6	0.40	3.2	4.0	Not Detected
Vinyl Chloride	75-01-4	0.38	1.5	1.9	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	92
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	104

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM009	Date/Time Analyzed:	12/28/19 12:07 AM
Lab ID:	1912605A-09A	Dilution Factor:	1.44
Date/Time Collected:	12/19/19 02:04 AM	Instrument/Filename:	msda.i / a122723
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.55	3.1	3.9	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.79	4.0	4.9	Not Detected
1,1,2-Trichloroethane	79-00-5	0.78	3.1	3.9	Not Detected
1,1-Dichloroethane	75-34-3	0.64	2.3	2.9	Not Detected
1,1-Dichloroethene	75-35-4	0.86	2.3	2.8	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.3	16	21	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.42	2.8	3.5	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.66	4.4	5.5	Not Detected
1,2-Dichlorobenzene	95-50-1	0.52	3.5	4.3	Not Detected
1,2-Dichloroethane	107-06-2	1.0	2.3	2.9	Not Detected
1,2-Dichloropropane	78-87-5	0.86	2.7	3.3	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.42	2.8	3.5	Not Detected
1,3-Butadiene	106-99-0	0.35	1.3	1.6	Not Detected
1,3-Dichlorobenzene	541-73-1	0.52	3.5	4.3	Not Detected
1,4-Dichlorobenzene	106-46-7	0.52	3.5	4.3	Not Detected
1,4-Dioxane	123-91-1	1.5	7.8	10	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.67	2.7	3.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	2.0	6.4	8.5	Not Detected
2-Hexanone	591-78-6	1.3	8.8	12	Not Detected
2-Propanol	67-63-0	1.0	5.3	7.1	Not Detected
3-Chloropropene	107-05-1	1.7	6.8	9.0	Not Detected
4-Ethyltoluene	622-96-8	0.57	2.8	3.5	Not Detected
4-Methyl-2-pentanone	108-10-1	1.2	2.4	2.9	Not Detected
Acetone	67-64-1	2.7	5.1	17	3.3 J

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM009	Date/Time Analyzed:	12/28/19 12:07 AM
Lab ID:	1912605A-09A	Dilution Factor:	1.44
Date/Time Collected:	12/19/19 02:04 AM	Instrument/File Name:	msda.i / a122723
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.22	3.0	3.7	Not Detected
Benzene	71-43-2	0.41	1.8	2.3	0.95 J
Bromodichloromethane	75-27-4	0.58	3.8	4.8	Not Detected
Bromoform	75-25-2	0.89	6.0	7.4	Not Detected
Bromomethane	74-83-9	1.8	8.4	28	Not Detected
Carbon Disulfide	75-15-0	1.3	6.7	9.0	Not Detected
Carbon Tetrachloride	56-23-5	0.63	3.6	4.5	1.1 J
Chlorobenzene	108-90-7	0.33	2.6	3.3	Not Detected
Chloroethane	75-00-3	0.91	5.7	7.6	Not Detected
Chloroform	67-66-3	0.49	2.8	3.5	Not Detected
Chloromethane	74-87-3	0.95	4.5	15	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.57	2.3	2.8	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.65	2.6	3.3	Not Detected
Cumene	98-82-8	0.35	2.8	3.5	Not Detected
Cyclohexane	110-82-7	0.40	2.0	2.5	Not Detected
Dibromochloromethane	124-48-1	1.2	4.9	6.1	Not Detected
Ethanol	64-17-5	1.5	4.1	5.4	Not Detected
Ethyl Benzene	100-41-4	0.62	2.5	3.1	Not Detected
Freon 11	75-69-4	0.32	3.2	4.0	1.0 J
Freon 113	76-13-1	0.77	4.4	5.5	Not Detected
Freon 114	76-14-2	0.91	4.0	5.0	Not Detected
Freon 12	75-71-8	0.50	2.8	3.6	2.7 J
Heptane	142-82-5	0.77	2.4	3.0	Not Detected
Hexachlorobutadiene	87-68-3	5.7	23	31	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	SV121919CM009	Date/Time Analyzed:	12/28/19 12:07 AM
Lab ID:	1912605A-09A	Dilution Factor:	1.44
Date/Time Collected:	12/19/19 02:04 AM	Instrument/Filename:	msda.i / a122723
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.25	2.0	2.5	0.59 J
m,p-Xylene	108-38-3	0.38	2.5	3.1	Not Detected
Methyl tert-butyl ether	1634-04-4	1.3	7.8	10	Not Detected
Methylene Chloride	75-09-2	1.7	7.5	25	Not Detected
o-Xylene	95-47-6	0.69	2.5	3.1	Not Detected
Propylbenzene	103-65-1	0.28	2.8	3.5	Not Detected
Styrene	100-42-5	0.55	2.4	3.1	Not Detected
Tetrachloroethene	127-18-4	0.59	3.9	4.9	20
Tetrahydrofuran	109-99-9	0.76	1.7	2.1	Not Detected
Toluene	108-88-3	0.27	2.2	2.7	0.92 J
trans-1,2-Dichloroethene	156-60-5	1.1	2.3	2.8	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.52	2.6	3.3	Not Detected
Trichloroethene	79-01-6	0.39	3.1	3.9	0.76 J
Vinyl Chloride	75-01-4	0.37	1.5	1.8	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	95
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	102

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	Lab Blank	Date/Time Analyzed:	12/27/19 11:55 AM
Lab ID:	1912605A-10A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msda.i / a122706c
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.38	2.2	2.7	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.55	2.7	3.4	Not Detected
1,1,2-Trichloroethane	79-00-5	0.54	2.2	2.7	Not Detected
1,1-Dichloroethane	75-34-3	0.44	1.6	2.0	Not Detected
1,1-Dichloroethene	75-35-4	0.59	1.6	2.0	Not Detected
1,2,4-Trichlorobenzene	120-82-1	2.3	11	15	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.29	2.0	2.4	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.46	3.1	3.8	Not Detected
1,2-Dichlorobenzene	95-50-1	0.36	2.4	3.0	Not Detected
1,2-Dichloroethane	107-06-2	0.73	1.6	2.0	Not Detected
1,2-Dichloropropane	78-87-5	0.60	1.8	2.3	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.29	2.0	2.4	Not Detected
1,3-Butadiene	106-99-0	0.24	0.88	1.1	Not Detected
1,3-Dichlorobenzene	541-73-1	0.36	2.4	3.0	Not Detected
1,4-Dichlorobenzene	106-46-7	0.36	2.4	3.0	Not Detected
1,4-Dioxane	123-91-1	1.0	5.4	7.2	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.47	1.9	2.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	1.4	4.4	5.9	Not Detected
2-Hexanone	591-78-6	0.90	6.1	8.2	Not Detected
2-Propanol	67-63-0	0.71	3.7	4.9	Not Detected
3-Chloropropene	107-05-1	1.2	4.7	6.3	Not Detected
4-Ethyltoluene	622-96-8	0.39	2.0	2.4	Not Detected
4-Methyl-2-pentanone	108-10-1	0.82	1.6	2.0	Not Detected
Acetone	67-64-1	1.9	3.6	12	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	Lab Blank	Date/Time Analyzed:	12/27/19 11:55 AM
Lab ID:	1912605A-10A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/File Name:	msda.i / a122706c
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
alpha-Chlorotoluene	100-44-7	0.16	2.1	2.6	Not Detected
Benzene	71-43-2	0.29	1.3	1.6	Not Detected
Bromodichloromethane	75-27-4	0.40	2.7	3.4	Not Detected
Bromoform	75-25-2	0.62	4.1	5.2	Not Detected
Bromomethane	74-83-9	1.3	5.8	19	Not Detected
Carbon Disulfide	75-15-0	0.93	4.7	6.2	Not Detected
Carbon Tetrachloride	56-23-5	0.44	2.5	3.1	Not Detected
Chlorobenzene	108-90-7	0.23	1.8	2.3	Not Detected
Chloroethane	75-00-3	0.63	4.0	5.3	Not Detected
Chloroform	67-66-3	0.34	2.0	2.4	Not Detected
Chloromethane	74-87-3	0.66	3.1	10	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.40	1.6	2.0	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.45	1.8	2.3	Not Detected
Cumene	98-82-8	0.24	2.0	2.4	Not Detected
Cyclohexane	110-82-7	0.28	1.4	1.7	Not Detected
Dibromochloromethane	124-48-1	0.85	3.4	4.2	Not Detected
Ethanol	64-17-5	1.0	2.8	3.8	Not Detected
Ethyl Benzene	100-41-4	0.43	1.7	2.2	Not Detected
Freon 11	75-69-4	0.22	2.2	2.8	Not Detected
Freon 113	76-13-1	0.54	3.1	3.8	Not Detected
Freon 114	76-14-2	0.63	2.8	3.5	Not Detected
Freon 12	75-71-8	0.35	2.0	2.5	Not Detected
Heptane	142-82-5	0.53	1.6	2.0	Not Detected
Hexachlorobutadiene	87-68-3	3.9	16	21	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	Lab Blank	Date/Time Analyzed:	12/27/19 11:55 AM
Lab ID:	1912605A-10A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msda.i / a122706c
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110-54-3	0.18	1.4	1.8	Not Detected
m,p-Xylene	108-38-3	0.26	1.7	2.2	Not Detected
Methyl tert-butyl ether	1634-04-4	0.94	5.4	7.2	Not Detected
Methylene Chloride	75-09-2	1.2	5.2	17	Not Detected
o-Xylene	95-47-6	0.48	1.7	2.2	Not Detected
Propylbenzene	103-65-1	0.20	2.0	2.4	Not Detected
Styrene	100-42-5	0.38	1.7	2.1	Not Detected
Tetrachloroethene	127-18-4	0.41	2.7	3.4	Not Detected
Tetrahydrofuran	109-99-9	0.53	1.2	1.5	Not Detected
Toluene	108-88-3	0.19	1.5	1.9	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.75	1.6	2.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.36	1.8	2.3	Not Detected
Trichloroethene	79-01-6	0.27	2.1	2.7	Not Detected
Vinyl Chloride	75-01-4	0.26	1.0	1.3	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	92
4-Bromofluorobenzene	460-00-4	70-130	102
Toluene-d8	2037-26-5	70-130	102

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	CCV	Date/Time Analyzed:	12/27/19 09:54 AM
Lab ID:	1912605A-11A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msda.i / a122702
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	99
1,1,2,2-Tetrachloroethane	79-34-5	103
1,1,2-Trichloroethane	79-00-5	104
1,1-Dichloroethane	75-34-3	108
1,1-Dichloroethene	75-35-4	111
1,2,4-Trichlorobenzene	120-82-1	107
1,2,4-Trimethylbenzene	95-63-6	102
1,2-Dibromoethane (EDB)	106-93-4	104
1,2-Dichlorobenzene	95-50-1	103
1,2-Dichloroethane	107-06-2	100
1,2-Dichloropropane	78-87-5	106
1,3,5-Trimethylbenzene	108-67-8	102
1,3-Butadiene	106-99-0	105
1,3-Dichlorobenzene	541-73-1	101
1,4-Dichlorobenzene	106-46-7	99
1,4-Dioxane	123-91-1	92
2,2,4-Trimethylpentane	540-84-1	114
2-Butanone (Methyl Ethyl Ketone)	78-93-3	109
2-Hexanone	591-78-6	83
2-Propanol	67-63-0	96
3-Chloropropene	107-05-1	100
4-Ethyltoluene	622-96-8	101
4-Methyl-2-pentanone	108-10-1	94
Acetone	67-64-1	101

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	CCV	Date/Time Analyzed:	12/27/19 09:54 AM
Lab ID:	1912605A-11A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msda.i / a122702
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	86
Benzene	71-43-2	107
Bromodichloromethane	75-27-4	103
Bromoform	75-25-2	103
Bromomethane	74-83-9	100
Carbon Disulfide	75-15-0	109
Carbon Tetrachloride	56-23-5	101
Chlorobenzene	108-90-7	101
Chloroethane	75-00-3	101
Chloroform	67-66-3	104
Chloromethane	74-87-3	99
cis-1,2-Dichloroethene	156-59-2	110
cis-1,3-Dichloropropene	10061-01-5	104
Cumene	98-82-8	102
Cyclohexane	110-82-7	113
Dibromochloromethane	124-48-1	104
Ethanol	64-17-5	94
Ethyl Benzene	100-41-4	103
Freon 11	75-69-4	103
Freon 113	76-13-1	101
Freon 114	76-14-2	108
Freon 12	75-71-8	107
Heptane	142-82-5	110
Hexachlorobutadiene	87-68-3	104

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	CCV	Date/Time Analyzed:	12/27/19 09:54 AM
Lab ID:	1912605A-11A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msda.i / a122702
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	105
m,p-Xylene	108-38-3	105
Methyl tert-butyl ether	1634-04-4	101
Methylene Chloride	75-09-2	109
o-Xylene	95-47-6	102
Propylbenzene	103-65-1	98
Styrene	100-42-5	95
Tetrachloroethene	127-18-4	98
Tetrahydrofuran	109-99-9	106
Toluene	108-88-3	107
trans-1,2-Dichloroethene	156-60-5	109
trans-1,3-Dichloropropene	10061-02-6	104
Trichloroethene	79-01-6	104
Vinyl Chloride	75-01-4	110

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	95
4-Bromofluorobenzene	460-00-4	70-130	103
Toluene-d8	2037-26-5	70-130	102

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	LCS	Date/Time Analyzed:	12/27/19 10:21 AM
Lab ID:	1912605A-12A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msda.i / a122703
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	96
1,1,2,2-Tetrachloroethane	79-34-5	99
1,1,2-Trichloroethane	79-00-5	104
1,1-Dichloroethane	75-34-3	101
1,1-Dichloroethene	75-35-4	107
1,2,4-Trichlorobenzene	120-82-1	103
1,2,4-Trimethylbenzene	95-63-6	104
1,2-Dibromoethane (EDB)	106-93-4	102
1,2-Dichlorobenzene	95-50-1	102
1,2-Dichloroethane	107-06-2	96
1,2-Dichloropropane	78-87-5	104
1,3,5-Trimethylbenzene	108-67-8	104
1,3-Butadiene	106-99-0	94
1,3-Dichlorobenzene	541-73-1	99
1,4-Dichlorobenzene	106-46-7	100
1,4-Dioxane	123-91-1	101
2,2,4-Trimethylpentane	540-84-1	112
2-Butanone (Methyl Ethyl Ketone)	78-93-3	101
2-Hexanone	591-78-6	98
2-Propanol	67-63-0	97
3-Chloropropene	107-05-1	104
4-Ethyltoluene	622-96-8	103
4-Methyl-2-pentanone	108-10-1	101
Acetone	67-64-1	93

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	LCS	Date/Time Analyzed:	12/27/19 10:21 AM
Lab ID:	1912605A-12A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msda.i / a122703
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	87
Benzene	71-43-2	106
Bromodichloromethane	75-27-4	103
Bromoform	75-25-2	106
Bromomethane	74-83-9	92
Carbon Disulfide	75-15-0	103
Carbon Tetrachloride	56-23-5	95
Chlorobenzene	108-90-7	98
Chloroethane	75-00-3	101
Chloroform	67-66-3	96
Chloromethane	74-87-3	91
cis-1,2-Dichloroethene	156-59-2	96
cis-1,3-Dichloropropene	10061-01-5	107
Cumene	98-82-8	102
Cyclohexane	110-82-7	106
Dibromochloromethane	124-48-1	104
Ethanol	64-17-5	87
Ethyl Benzene	100-41-4	101
Freon 11	75-69-4	98
Freon 113	76-13-1	94
Freon 114	76-14-2	104
Freon 12	75-71-8	101
Heptane	142-82-5	109
Hexachlorobutadiene	87-68-3	103

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	LCS	Date/Time Analyzed:	12/27/19 10:21 AM
Lab ID:	1912605A-12A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msda.i / a122703
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	101
m,p-Xylene	108-38-3	103
Methyl tert-butyl ether	1634-04-4	96
Methylene Chloride	75-09-2	101
o-Xylene	95-47-6	102
Propylbenzene	103-65-1	99
Styrene	100-42-5	107
Tetrachloroethene	127-18-4	97
Tetrahydrofuran	109-99-9	100
Toluene	108-88-3	104
trans-1,2-Dichloroethene	156-60-5	112
trans-1,3-Dichloropropene	10061-02-6	99
Trichloroethene	79-01-6	104
Vinyl Chloride	75-01-4	104

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	89
4-Bromofluorobenzene	460-00-4	70-130	103
Toluene-d8	2037-26-5	70-130	103

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	LCSD	Date/Time Analyzed:	12/27/19 10:48 AM
Lab ID:	1912605A-12AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msda.i / a122704
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	97
1,1,2,2-Tetrachloroethane	79-34-5	104
1,1,2-Trichloroethane	79-00-5	104
1,1-Dichloroethane	75-34-3	102
1,1-Dichloroethene	75-35-4	106
1,2,4-Trichlorobenzene	120-82-1	112
1,2,4-Trimethylbenzene	95-63-6	105
1,2-Dibromoethane (EDB)	106-93-4	102
1,2-Dichlorobenzene	95-50-1	105
1,2-Dichloroethane	107-06-2	99
1,2-Dichloropropane	78-87-5	106
1,3,5-Trimethylbenzene	108-67-8	105
1,3-Butadiene	106-99-0	95
1,3-Dichlorobenzene	541-73-1	102
1,4-Dichlorobenzene	106-46-7	102
1,4-Dioxane	123-91-1	104
2,2,4-Trimethylpentane	540-84-1	113
2-Butanone (Methyl Ethyl Ketone)	78-93-3	109
2-Hexanone	591-78-6	104
2-Propanol	67-63-0	98
3-Chloropropene	107-05-1	98
4-Ethyltoluene	622-96-8	107
4-Methyl-2-pentanone	108-10-1	102
Acetone	67-64-1	93

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	LCSD	Date/Time Analyzed:	12/27/19 10:48 AM
Lab ID:	1912605A-12AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msda.i / a122704
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
alpha-Chlorotoluene	100-44-7	99
Benzene	71-43-2	107
Bromodichloromethane	75-27-4	106
Bromoform	75-25-2	107
Bromomethane	74-83-9	97
Carbon Disulfide	75-15-0	105
Carbon Tetrachloride	56-23-5	96
Chlorobenzene	108-90-7	100
Chloroethane	75-00-3	101
Chloroform	67-66-3	98
Chloromethane	74-87-3	92
cis-1,2-Dichloroethene	156-59-2	94
cis-1,3-Dichloropropene	10061-01-5	109
Cumene	98-82-8	105
Cyclohexane	110-82-7	107
Dibromochloromethane	124-48-1	106
Ethanol	64-17-5	88
Ethyl Benzene	100-41-4	103
Freon 11	75-69-4	99
Freon 113	76-13-1	94
Freon 114	76-14-2	102
Freon 12	75-71-8	101
Heptane	142-82-5	109
Hexachlorobutadiene	87-68-3	110

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Hicksville-Enterprise

Client ID:	LCSD	Date/Time Analyzed:	12/27/19 10:48 AM
Lab ID:	1912605A-12AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msda.i / a122704
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Hexane	110-54-3	104
m,p-Xylene	108-38-3	105
Methyl tert-butyl ether	1634-04-4	99
Methylene Chloride	75-09-2	99
o-Xylene	95-47-6	105
Propylbenzene	103-65-1	102
Styrene	100-42-5	108
Tetrachloroethene	127-18-4	98
Tetrahydrofuran	109-99-9	103
Toluene	108-88-3	105
trans-1,2-Dichloroethene	156-60-5	114
trans-1,3-Dichloropropene	10061-02-6	102
Trichloroethene	79-01-6	104
Vinyl Chloride	75-01-4	104

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	92
4-Bromofluorobenzene	460-00-4	70-130	104
Toluene-d8	2037-26-5	70-130	103

* % Recovery is calculated using unrounded analytical results.

1/2/2020

Michelle Kukta

GHD

2055 Niagara Falls Blvd.

Suite Three

Niagara Falls NY 14304

Project Name: Hicksville-Enterprise

Project #: 6883DM

Workorder #: 1912605B

Dear Michelle Kukta

The following report includes the data for the above referenced project for sample(s) received on 12/23/2019 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Ausha Scott

Project Manager

WORK ORDER #: 1912605B

Work Order Summary

CLIENT:	Michelle Kukta GHD 2055 Niagara Falls Blvd. Suite Three Niagara Falls, NY 14304	BILL TO:	Accounts Payable OxyChem/Glenn Springs Holdings PO Box 2148 Houston, TX 77252
PHONE:	716-297-6150	P.O. #	4502566400
FAX:	716-297-6296	PROJECT #	6883DM Hicksville-Enterprise
DATE RECEIVED:	12/23/2019	CONTACT:	Ausha Scott
DATE COMPLETED:	01/02/2020		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
07A	SV121919CM007	Modified ASTM D-1946	4.5 "Hg	5 psi
08A	SV121919CM008	Modified ASTM D-1946	3.0 "Hg	5 psi
09A	SV121919CM009	Modified ASTM D-1946	2.0 "Hg	5 psi
10A	Lab Blank	Modified ASTM D-1946	NA	NA
11A	LCS	Modified ASTM D-1946	NA	NA
11AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY:



Technical Director

DATE: 01/02/20

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005-011, Effective date: 10/18/2019, Expiration date: 10/17/2020.

Eurofins Air Toxics, LLC certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, LLC.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279

LABORATORY NARRATIVE
Modified ASTM D-1946
GHD
Workorder# 1912605B

Three 6 Liter Summa Canister samples were received on December 23, 2019. The laboratory performed analysis via Modified ASTM Method D-1946 for Helium in air using GC/TCD. The method involves direct injection of 1.0 mL of sample.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the EATL modifications.

Requirement	ASTM D-1946	ATL Modifications
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A minimum of 5-point calibration curve is performed. Quantitation is based on average Response Factor.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections > 5 X's the RL.

Receiving Notes

The Chain of Custody (COC) information for sample SV121919CM009 did not match the information on the canister with regard to canister barcode. The sample labeled 0607 on the COC is labeled as 9238 on the canister. The client was notified of the discrepancy and the information on the canister was used to process and report the sample.

Analytical Notes

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the detection limit.

M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946
Hicksville-Enterprise

Client ID:	SV121919CM007	Date/Time Analyzed:	12/28/19 11:38 AM
Lab ID:	1912605B-07A	Dilution Factor:	1.58
Date/Time Collected:	12/19/19 11:15 AM	Instrument/Filename:	gc10.i / 10122817c
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (%)	LOD (%)	Rpt. Limit (%)	Amount (%)
Helium	7440-59-7	0.0026	0.0098	0.079	Not Detected

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946
 Hicksville-Enterprise

Client ID:	SV121919CM008	Date/Time Analyzed:	12/28/19 12:20 PM
Lab ID:	1912605B-08A	Dilution Factor:	1.49
Date/Time Collected:	12/19/19 11:40 AM	Instrument/Filename:	gc10.i / 10122818c
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (%)	LOD (%)	Rpt. Limit (%)	Amount (%)
Helium	7440-59-7	0.0024	0.0092	0.074	Not Detected

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946
Hicksville-Enterprise

Client ID:	SV121919CM009	Date/Time Analyzed:	12/28/19 12:57 PM
Lab ID:	1912605B-09A	Dilution Factor:	1.44
Date/Time Collected:	12/19/19 02:04 AM	Instrument/Filename:	gc10.i / 10122819c
Media:	6 Liter Summa Canister		

Compound	CAS#	MDL (%)	LOD (%)	Rpt. Limit (%)	Amount (%)
Helium	7440-59-7	0.0023	0.0089	0.072	0.014 J

J = Estimated value.

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946
Hicksville-Enterprise

Client ID:	Lab Blank	Date/Time Analyzed:	12/27/19 10:47 PM
Lab ID:	1912605B-10A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	gc10.i / 10122804c
Media:	NA - Not Applicable		

Compound	CAS#	MDL (%)	LOD (%)	Rpt. Limit (%)	Amount (%)
Helium	7440-59-7	0.0016	0.0062	0.050	Not Detected

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946
 Hicksville-Enterprise

Client ID:	LCS	Date/Time Analyzed:	12/27/19 09:44 PM
Lab ID:	1912605B-11A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	gc10.i / 10122802c
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Helium	7440-59-7	98

* % Recovery is calculated using unrounded analytical results.

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946
Hicksville-Enterprise

Client ID:	LCSD	Date/Time Analyzed:	12/28/19 06:23 PM
Lab ID:	1912605B-11AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	gc10.i / 10122831c
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Helium	7440-59-7	98

* % Recovery is calculated using unrounded analytical results.

Attachment E

Data Validation Memorandums



Memorandum

April 3, 2019

To: John Pentilchuk

Ref. No.: 006883

From: Kathy Willy/adh/23

Tel: 716-205-1942

**Subject: Analytical Results and Full Validation
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
February 2019**

1. Introduction

This document details a validation of analytical results for air samples collected in support of the Soil Gas Sampling at the Hicksville site during February 2019. Samples were submitted to Eurofins Air Toxics located in Folsom, California. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Full Contract Laboratory Program (CLP) equivalent raw data deliverables were provided by the laboratory. Evaluation of the data was based on information obtained from the finished data sheets, raw data, chain of custody forms, calibration data, blank data, and recovery data from surrogate spikes/laboratory control samples (LCS). The assessment of analytical and in-house data included checks for data consistency (by observing comparability of duplicate analyses), adherence to accuracy and precision criteria, and transmittal errors.

The Quality Assurance/Quality Control (QA/QC) criteria by which these data have been assessed are outlined in the analytical method referenced in Table 3 and applicable guidance from the document entitled "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review", United States Environmental Protection Agency (USEPA) 540-R-08-01, June 2008, which will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 3. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

All samples were properly delivered and stored by the laboratory at the required temperature (0-6°C).



3. Gas Chromatography/Mass Spectrometry (GC/MS) – Tuning and Mass Calibration (Instrument Performance Check)

Prior to volatile organic compound (VOC) analysis, GC/MS instrumentation is tuned to ensure optimization over the mass range of interest. To evaluate instrument tuning, the method requires the analysis of specific tuning compound bromofluorobenzene (BFB). The resulting spectra must meet the criteria cited in the method before analysis is initiated. Analysis of the tuning compound must then be repeated every 24 hours throughout sample analysis to ensure the continued optimization of the instrument.

Tuning compounds were analyzed at the required frequency throughout VOC analysis periods. All tuning criteria were met indicating that proper optimization of the instrumentation was achieved.

4. Initial Calibration - Organic Analyses

To quantify VOCs of interest in samples, calibration of the GC/MS over a specific concentration range must be performed. Initially, a five-point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each analyte over a specific concentration range. Linearity of the calibration curve and instrument sensitivity are evaluated against the following criteria:

- i) All relative response factors (RRFs) must be greater than or equal to 0.05.
- ii) The percent relative standard deviation (RSD) values must not exceed 30.0 percent.

The initial calibration data for VOCs were reviewed. All compounds met the above criteria for sensitivity and linearity.

5. Continuing Calibration - Organic Analyses

To ensure that instrument calibration for VOC analyses is acceptable throughout the sample analysis period, continuing calibration standards must be analyzed and compared to the initial calibration curve every 24 hours.

The following criteria were employed to evaluate continuing calibration data:

- i) All RRF values must be greater than or equal to 0.05.
- ii) Percent difference (%D) values must not exceed 30.0 percent.

Calibration standards were analyzed at the required frequency, and all results met the above criteria for instrument sensitivity and stability.

6. Laboratory Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.



For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect with the exception of a low concentration of isopropyl alcohol, indicating a potential for laboratory contamination. All associated samples with concentrations similar to that found in the method blank were assumed to be a reflection of laboratory contamination and were qualified non-detect. A summary of qualified results is presented in Table 4.

7. Surrogate Spike Recoveries

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for TO-15 determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met the laboratory criteria.

8. Internal Standards (IS) Analyses

IS data were evaluated for all VOC sample analyses.

To ensure that changes in the GC/MS sensitivity and response do not affect sample analysis results, IS compounds are added to each sample prior to analysis. All results are then calculated as a ratio of the IS responses.

The sample IS results were evaluated against the following criteria:

- i) The retention time of the IS must not vary more than ± 30 seconds from the associated calibration standard.
- ii) IS area counts must not vary by more than ± 40 percent from the associated calibration standard.

All VOC IS recoveries and retention times met the above criteria.

9. Laboratory Control Sample Analyses

LCS and laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

For this study, LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.



The LCS/LCSD contained all compounds of interest. All LCS recoveries and RPDs were within the laboratory control limits demonstrating acceptable analytical accuracy and precision.

10. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the distillation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

No MS/MSD analyses were performed on these investigative samples.

11. Field QA/QC Samples

Field QA/QC samples were not submitted with investigative samples from this event.

12. Analyte Reporting

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the practical quantitation limit (PQL) but greater than the MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the reporting limit (RL) in Table 2.

13. Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to the identification criteria established by the methods. The samples identified in Table 1 were reviewed. The organic compounds reported adhered to the specified identification criteria.

14. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable with the specific qualifications noted herein.

Table 1

Sample Collection and Analysis Summary
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
February 2019

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	<u>Analysis/Parameters</u>	
					VOCs	Helium
IA-1	IA-1	Soil Gas	02/22/2019	14:00	x	
IA-2	IA-2	Soil Gas	02/22/2019	13:45	x	
IA-3	IA-3	Soil Gas	02/22/2019	13:30	x	
OA-1	OA-1	Soil Gas	02/22/2019	13:35	x	
SSDS Leg	SSD-LEG	Soil Gas	02/22/2019	09:20	x	
SV-1	SV-1	Soil Gas	02/22/2019	09:30	x	x

Notes:

VOCs - Volatile Organic Compounds

Table 2

**Analytical Results Summary
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
February 2019**

	Location ID:	IA-1	IA-2	IA-3	OA-1	SSD-LEG	SV-1
	Sample Name:	IA-1	IA-2	IA-3	OA-1	SSDS Leg	SV-1
	Sample Date:	02/22/2019	02/22/2019	02/22/2019	02/22/2019	02/22/2019	02/22/2019
Parameters	Unit						
Volatile Organic Compounds							
Helium	%	-	-	-	-	-	0.074 U
1,1,1-Trichloroethane	µg/m3	3.8 U	3.8 U	4.1 U	3.7 U	3.8 U	2.1 J
1,1,2,2-Tetrachloroethane	µg/m3	4.8 U	4.8 U	5.1 U	4.7 U	4.8 U	5.1 U
1,1,2-Trichloroethane	µg/m3	3.8 U	3.8 U	4.1 U	3.7 U	3.8 U	4.1 U
1,1-Dichloroethane	µg/m3	2.8 U	2.8 U	3.0 U	2.8 U	2.8 U	3.0 U
1,1-Dichloroethene	µg/m3	2.8 U	2.8 U	3.0 U	2.7 U	2.8 U	3.0 U
1,2,4-Trichlorobenzene	µg/m3	21 U	21 U	22 U	20 U	21 U	22 U
1,2,4-Trimethylbenzene	µg/m3	3.5 U	3.5 U	3.7 U	3.2 J	3.4 U	4.3
1,2-Dibromoethane (Ethylene dibromide)	µg/m3	5.4 U	5.4 U	5.7 U	5.2 U	5.3 U	5.7 U
1,2-Dichlorobenzene	µg/m3	4.2 U	4.2 U	4.5 U	4.1 U	4.2 U	4.5 U
1,2-Dichloroethane	µg/m3	2.8 U	2.8 U	3.0 U	2.8 U	2.8 U	3.0 U
1,2-Dichloropropane	µg/m3	3.2 U	3.2 U	3.4 U	3.1 U	3.2 U	3.4 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m3	4.9 U	4.9 U	5.2 U	4.8 U	4.8 U	5.2 U
1,3,5-Trimethylbenzene	µg/m3	3.5 U	3.5 U	3.7 U	1.3 J	3.4 U	1.7 J
1,3-Butadiene	µg/m3	1.6 U	1.6 U	1.6 U	1.5 U	1.5 U	1.6 U
1,3-Dichlorobenzene	µg/m3	4.2 U	4.2 U	4.5 U	4.1 U	4.2 U	4.5 U
1,4-Dichlorobenzene	µg/m3	4.2 U	4.2 U	4.5 U	4.1 U	4.2 U	4.5 U
1,4-Dioxane	µg/m3	10 U	10 U	11 U	9.8 U	10 U	11 U
2,2,4-Trimethylpentane	µg/m3	3.3 U	6.1	3.5 U	3.2 U	5.5	6.6
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m3	2.0 J	1.2 J	5.9 J	8.0 U	8.2 U	4.8 J
2-Hexanone	µg/m3	12 U	12 U	12 U	11 U	11 U	12 U
4-Ethyl toluene	µg/m3	3.5 U	3.7	3.7 U	2.4 J	1.7 J	4.2
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m3	2.9 U	2.9 U	3.0 U	2.8 U	2.8 U	3.0 U
Acetone	µg/m3	9.2 J	12 J	10 J	5.6 J	15 J	54
Allyl chloride	µg/m3	8.8 U	8.8 U	9.3 U	8.5 U	8.7 U	9.3 U
Benzene	µg/m3	0.71 J	1.6 J	0.62 J	0.59 J	3.0	4.1
Benzyl chloride	µg/m3	3.6 U	3.6 U	3.8 U	3.5 U	3.6 U	3.8 U
Bromodichloromethane	µg/m3	4.7 U	4.7 U	5.0 U	4.6 U	4.6 U	5.0 U
Bromoform	µg/m3	7.3 U	7.3 U	7.7 U	7.0 U	7.2 U	7.7 U
Bromomethane (Methyl bromide)	µg/m3	27 U	27 U	29 U	26 U	27 U	29 U
Carbon disulfide	µg/m3	8.8 U	8.8 U	9.3 U	8.5 U	8.6 U	9.3 U
Carbon tetrachloride	µg/m3	4.4 U	4.4 U	4.7 U	4.3 U	4.4 U	0.64 J
Chlorobenzene	µg/m3	3.2 U	3.2 U	3.4 U	3.1 U	3.2 U	3.4 U
Chloroethane	µg/m3	7.4 U	7.4 U	7.9 U	7.2 U	7.3 U	7.9 U
Chloroform (Trichloromethane)	µg/m3	3.4 U	3.4 U	3.6 U	3.3 U	3.4 U	0.52 J

Table 2

**Analytical Results Summary
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
February 2019**

	Location ID:	IA-1	IA-2	IA-3	OA-1	SSD-LEG	SV-1
	Sample Name:	IA-1	IA-2	IA-3	OA-1	SSDS Leg	SV-1
	Sample Date:	02/22/2019	02/22/2019	02/22/2019	02/22/2019	02/22/2019	02/22/2019
Parameters	Unit						
Volatile Organic Compounds							
Chloromethane (Methyl chloride)	µg/m3	14 U	14 U	15 U	14 U	14 U	15 U
cis-1,2-Dichloroethene	µg/m3	2.8 U	2.8 U	3.0 U	2.7 U	2.8 U	3.0 U
cis-1,3-Dichloropropene	µg/m3	3.2 U	3.2 U	3.4 U	3.1 U	3.2 U	3.4 U
Cyclohexane	µg/m3	2.4 U	0.78 J	2.6 U	2.3 U	1.8 J	1.8 J
Dibromochloromethane	µg/m3	6.0 U	6.0 U	6.3 U	5.8 U	5.9 U	6.3 U
Dichlorodifluoromethane (CFC-12)	µg/m3	2.9 J	2.6 J	2.7 J	2.7 J	2.8 J	2.9 J
Ethanol	µg/m3	5.4	5.5	5.0 J	3.4 J	48	290
Ethylbenzene	µg/m3	0.72 J	12	2.1 J	3.0 U	1.7 J	3.1 J
Hexachlorobutadiene	µg/m3	30 U	30 U	32 U	29 U	30 U	32 U
Hexane	µg/m3	2.5 U	6.3	2.6 U	2.4 U	4.5	3.7
Isopropyl alcohol	µg/m3	6.9 U	6.9 U	7.3 U	6.7 U	6.8 U	7.3 U
Isopropyl benzene	µg/m3	3.5 U	3.5 U	3.7 U	3.3 U	3.4 U	3.7 U
m&p-Xylenes	µg/m3	1.4 J	52	7.4	2.2 J	4.9	10
Methyl tert butyl ether (MTBE)	µg/m3	10 U	10 U	11 U	9.8 U	10 U	11 U
Methylene chloride	µg/m3	24 U	24 U	26 U	24 U	5.4 J	26 U
N-Heptane	µg/m3	2.9 U	5.4	3.0 U	2.8 U	1.9 J	3.1
N-Propylbenzene	µg/m3	3.5 U	3.5 U	3.7 U	3.3 U	3.4 U	3.7 U
o-Xylene	µg/m3	3.1 U	23	2.1 J	3.0 U	1.9 J	4.4
Styrene	µg/m3	0.83 J	1.3 J	0.81 J	2.9 U	3.0 U	3.2 U
Tetrachloroethene	µg/m3	4.8 U	4.8 U	5.0 U	4.6 U	1.2 J	59
Tetrahydrofuran	µg/m3	0.81 J	1.5 J	0.70 J	2.0 U	2.3	9.4
Toluene	µg/m3	5.2	27	4.5	1.4 J	9.3	13
trans-1,2-Dichloroethene	µg/m3	2.8 U	2.8 U	3.0 U	2.7 U	2.8 U	3.0 U
trans-1,3-Dichloropropene	µg/m3	3.2 U	3.2 U	3.4 U	3.1 U	3.2 U	3.4 U
Trichloroethene	µg/m3	3.8 U	3.8 U	4.0 U	3.6 U	0.60 J	6.9
Trichlorofluoromethane (CFC-11)	µg/m3	1.2 J	1.4 J	1.1 J	1.3 J	1.1 J	2.1 J
Trifluorotrichloroethane (CFC-113)	µg/m3	5.4 U	5.4 U	5.7 U	5.2 U	5.3 U	1.4 J
Vinyl chloride	µg/m3	1.8 U	1.8 U	1.9 U	1.7 U	1.8 U	1.9 U

Notes:

- J - Estimated concentration
- U - Not detected at the associated reporting limit
- - Not applicable

Table 3

**Analytical Methods and Holding Time Criteria
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
February 2019**

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
Volatile Organic Compounds (VOCs)	TO-15 ¹	Air	-	30
Helium	ASTM 1946 ²	Air	-	7

Notes:

- ¹ - "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999
- ² - Annual Book of ASTM Standards, American Society for Testing Materials, Section 5 and Section 11
- - Not applicable

Table 4

Qualified Sample Results Due to Analyte Concentrations in the Method Blanks
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
February 2019

Parameter	Analyte	Analysis Date (mm/dd/yyyy)	Blank Result *	Sample ID	Original Result	Qualified Result	Units
VOCs	Isopropyl alcohol	03/04/2019	0.93 J	IA-1	1.2 J	6.9 U	µg/m ³
				IA-3	1.3 J	7.3 U	µg/m ³
				SSDS Leg	2.8 J	6.8 U	µg/m ³
				SV-1	5.8 J	7.3 U	µg/m ³

Notes:

- * - Blank result adjusted for sample factors where applicable
- U - Not detected at the associated reporting limit
- J - Estimated concentration
- VOCs - Volatile Organic Compounds



Memorandum

July 22, 2019

To: John Pentilchuk

Ref. No.: 6883DM

From: Kathy Willy/adh/25

Tel: 716-205-1942

**Subject: Analytical Results and Full Validation
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
June 2019**

1. Introduction

This document details a validation of analytical results for air samples collected in support of the Soil Gas Sampling at the Hicksville site during June 2019. Samples were submitted to Eurofins Air Toxics located in Folsom, California. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Full Contract Laboratory Program (CLP) equivalent raw data deliverables were provided by the laboratory. Evaluation of the data was based on information obtained from the finished data sheets, raw data, chain of custody forms, calibration data, blank data, and recovery data from surrogate spikes/laboratory control samples (LCS). The assessment of analytical and in-house data included checks for data consistency (by observing comparability of duplicate analyses), adherence to accuracy and precision criteria, and transmittal errors.

The Quality Assurance/Quality Control (QA/QC) criteria by which these data have been assessed are outlined in the analytical method referenced in Table 3 and applicable guidance from the document entitled "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review", United States Environmental Protection Agency (USEPA) 540-R-08-01, June 2008, which will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 3. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

All samples were properly delivered and stored by the laboratory at the required temperature (0-6°C).



3. Gas Chromatography/Mass Spectrometry (GC/MS) – Tuning and Mass Calibration (Instrument Performance Check)

Prior to volatile organic compound (VOC) analysis, GC/MS instrumentation is tuned to ensure optimization over the mass range of interest. To evaluate instrument tuning, the method requires the analysis of specific tuning compound bromofluorobenzene (BFB). The resulting spectra must meet the criteria cited in the method before analysis is initiated. Analysis of the tuning compound must then be repeated every 24 hours throughout sample analysis to ensure the continued optimization of the instrument.

Tuning compounds were analyzed at the required frequency throughout VOC analysis periods. All tuning criteria were met, indicating that proper optimization of the instrumentation was achieved.

4. Initial Calibration - Organic Analyses

To quantify VOCs of interest in samples, calibration of the GC/MS over a specific concentration range must be performed. Initially, a five-point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each analyte over a specific concentration range. Linearity of the calibration curve and instrument sensitivity are evaluated against the following criteria:

- i) All relative response factors (RRFs) must be greater than or equal to 0.05.
- ii) The percent relative standard deviation (RSD) values must not exceed 30.0 percent.

The initial calibration data for VOCs were reviewed. All compounds met the above criteria for sensitivity and linearity.

5. Continuing Calibration - Organic Analyses

To ensure that instrument calibration for VOC analyses is acceptable throughout the sample analysis period, continuing calibration standards must be analyzed and compared to the initial calibration curve every 24 hours.

The following criteria were employed to evaluate continuing calibration data:

- i) All RRF values must be greater than or equal to 0.05.
- ii) Percent difference (%D) values must not exceed 30.0 percent.

Calibration standards were analyzed at the required frequency, and all results met the above criteria for instrument sensitivity and stability.

6. Laboratory Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.



For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect with the exception of a low concentration of 1,4-dichlorobenzene, indicating a potential for laboratory contamination. All associated samples were non-detect; no qualification of the data was required.

7. Surrogate Spike Recoveries

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for TO-15 determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met the laboratory criteria.

8. Internal Standards (IS) Analyses

IS data were evaluated for all VOC sample analyses.

To ensure that changes in the GC/MS sensitivity and response do not affect sample analysis results, IS compounds are added to each sample prior to analysis. All results are then calculated as a ratio of the IS responses.

The sample IS results were evaluated against the following criteria:

- i) The retention time of the IS must not vary more than ± 30 seconds from the associated calibration standard.
- ii) IS area counts must not vary by more than ± 40 percent from the associated calibration standard.

All VOC IS recoveries and retention times met the above criteria.

9. Laboratory Control Sample Analyses

LCS and laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

For this study, LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.



The LCS/LCSD contained all compounds of interest. All LCS recoveries and RPDs were within the laboratory control limits demonstrating acceptable analytical accuracy and precision.

10. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the distillation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

No MS/MSD analyses were performed on these investigative samples.

11. Field QA/QC Samples

Field QA/QC samples were not submitted with investigative samples from this event.

12. Analyte Reporting

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the practical quantitation limit (PQL) but greater than the MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the reporting limit (RL) in Table 2.

13. Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to the identification criteria established by the methods. The samples identified in Table 1 were reviewed. The organic compounds reported adhered to the specified identification criteria.

14. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable without qualification.

Table 1

Sample Collection and Analysis Summary
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
June 2019

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	<u>Analysis/Parameters</u>
					VOCs
SV6419VW005	SSD-LEG-1	Soil Gas	06/04/2019	14:05	x
SV61119CM006	SSD-LEG-1	Soil Gas	06/11/2019	11:46	x
SV6419VW004	SSD-LEG-2	Soil Gas	06/04/2019	13:57	x
SV61119CM007	SSD-LEG-2	Soil Gas	06/11/2019	12:01	x
SV6419VW003	SSD-LEG-3	Soil Gas	06/04/2019	13:55	x
SV61119CM008	SSD-LEG-3	Soil Gas	06/11/2019	12:10	x
SV6419VW002	SSD-LEG-4	Soil Gas	06/04/2019	14:00	x
SV61119CM009	SSD-LEG-4	Soil Gas	06/11/2019	12:31	x
SV61119CM010	SSD-LEG-5	Soil Gas	06/11/2019	12:35	x
SV6419VW001	SSD-LEG-6	Soil Gas	06/04/2019	13:50	x
SV61119CM011	SSD-LEG-6	Soil Gas	06/11/2019	13:35	x

Table 2

**Analytical Results Summary
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
June 2019**

Location ID: Sample Name: Sample Date:		SSD-LEG-1 SV6419VW005 06/04/2019	SSD-LEG-1 SV61119CM006 06/11/2019	SSD-LEG-2 SV6419VW004 06/04/2019	SSD-LEG-2 SV61119CM007 06/11/2019	SSD-LEG-3 SV6419VW003 06/04/2019	SSD-LEG-3 SV61119CM008 06/11/2019
Parameters	Unit						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/m3	4.2 U	4.4 U	4.0 U	5.6 U	4.1 U	5.4 U
1,1,2,2-Tetrachloroethane	µg/m3	5.4 U	5.6 U	5.1 U	7.1 U	5.2 U	6.8 U
1,1,2-Trichloroethane	µg/m3	4.2 U	4.4 U	4.0 U	5.6 U	4.1 U	5.4 U
1,1-Dichloroethane	µg/m3	3.2 U	3.3 U	3.0 U	4.2 U	3.1 U	4.0 U
1,1-Dichloroethene	µg/m3	3.1 U	3.2 U	2.9 U	4.1 U	3.0 U	3.9 U
1,2,4-Trichlorobenzene	µg/m3	23 U	24 U	22 U	31 U	22 U	30 U
1,2,4-Trimethylbenzene	µg/m3	3.8 U	4.0 U	3.6 U	5.1 U	3.7 U	4.9 U
1,2-Dibromoethane (Ethylene dibromide)	µg/m3	6.0 U	6.2 U	5.7 U	8.0 U	5.8 U	7.6 U
1,2-Dichlorobenzene	µg/m3	4.7 U	4.9 U	4.4 U	6.2 U	4.6 U	6.0 U
1,2-Dichloroethane	µg/m3	3.2 U	3.3 U	3.0 U	4.2 U	3.1 U	4.0 U
1,2-Dichloropropane	µg/m3	3.6 U	3.7 U	3.4 U	4.8 U	3.5 U	4.6 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m3	5.4 U	5.7 U	5.2 U	7.2 U	5.3 U	7.0 U
1,3,5-Trimethylbenzene	µg/m3	3.8 U	4.0 U	3.6 U	5.1 U	3.7 U	4.9 U
1,3-Butadiene	µg/m3	1.7 U	1.8 U	1.6 U	2.3 U	1.7 U	2.2 U
1,3-Dichlorobenzene	µg/m3	20	2.4 J	22	4.5 J	20	3.9 J
1,4-Dichlorobenzene	µg/m3	4.7 U	4.9 U	4.4 U	6.2 U	4.6 U	6.0 U
1,4-Dioxane	µg/m3	11 U	12 U	11 U	15 U	11 U	14 U
2,2,4-Trimethylpentane	µg/m3	0.81 J	3.8 U	0.70 J	14	0.67 J	4.6 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m3	15	15	17	15	14	17
2-Hexanone	µg/m3	13 U	13 U	12 U	17 U	12 U	16 U
4-Ethyl toluene	µg/m3	3.8 U	4.0 U	3.6 U	5.1 U	3.7 U	4.9 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m3	2.2 J	2.4 J	2.0 J	2.7 J	2.1 J	2.4 J
Acetone	µg/m3	86	120	140	130	100	130
Allyl chloride	µg/m3	9.8 U	10 U	9.3 U	13 U	9.5 U	12 U
Benzene	µg/m3	5.0	2.3 J	6.8	1.5 J	5.3	1.0 J
Benzyl chloride	µg/m3	4.0 U	4.2 U	3.8 U	5.4 U	3.9 U	5.2 U
Bromodichloromethane	µg/m3	5.2 U	5.4 U	5.0 U	6.9 U	5.1 U	6.7 U
Bromoform	µg/m3	8.1 U	8.4 U	7.6 U	11 U	7.8 U	10 U
Bromomethane (Methyl bromide)	µg/m3	30 U	31 U	29 U	40 U	30 U	39 U
Carbon disulfide	µg/m3	2.2 J	3.9 J	2.0 J	8.6 J	2.0 J	4.2 J
Carbon tetrachloride	µg/m3	4.9 U	5.1 U	4.6 U	6.5 U	4.8 U	6.3 U
Chlorobenzene	µg/m3	0.75 J	3.7 U	0.84 J	4.8 U	0.83 J	4.6 U
Chloroethane	µg/m3	8.2 U	8.5 U	7.8 U	11 U	8.0 U	10 U
Chloroform (Trichloromethane)	µg/m3	3.8 U	4.0 U	3.6 U	5.0 U	3.7 U	4.8 U

Table 2

**Analytical Results Summary
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
June 2019**

Location ID: Sample Name: Sample Date:		SSD-LEG-1 SV6419VW005 06/04/2019	SSD-LEG-1 SV61119CM006 06/11/2019	SSD-LEG-2 SV6419VW004 06/04/2019	SSD-LEG-2 SV61119CM007 06/11/2019	SSD-LEG-3 SV6419VW003 06/04/2019	SSD-LEG-3 SV61119CM008 06/11/2019
Parameters	Unit						
Volatile Organic Compounds							
Chloromethane (Methyl chloride)	µg/m3	16 U	17 U	15 U	2.8 J	16 U	20 U
cis-1,2-Dichloroethene	µg/m3	3.1 U	3.2 U	2.9 U	4.1 U	3.0 U	3.9 U
cis-1,3-Dichloropropene	µg/m3	3.5 U	3.7 U	3.4 U	4.7 U	3.4 U	4.5 U
Cyclohexane	µg/m3	2.7 U	2.8 U	2.5 U	3.6 U	2.6 U	3.4 U
Dibromochloromethane	µg/m3	6.6 U	6.9 U	6.3 U	8.8 U	6.5 U	8.5 U
Dichlorodifluoromethane (CFC-12)	µg/m3	2.6 J	2.8 J	2.6 J	2.8 J	2.6 J	2.4 J
Ethanol	µg/m3	200	380	310	460	260	470
Ethylbenzene	µg/m3	0.84 J	3.5 U	3.2 U	4.5 U	3.3 U	4.3 U
Hexachlorobutadiene	µg/m3	33 U	34 U	32 U	44 U	32 U	42 U
Hexane	µg/m3	8.3	8.0	8.4	9.4	5.5	9.2
Isopropyl alcohol	µg/m3	55	37	49	31	40	32
Isopropyl benzene	µg/m3	3.8 U	4.0 U	3.6 U	5.1 U	3.7 U	4.9 U
m&p-Xylenes	µg/m3	3.7	3.5 U	1.9 J	4.5 U	2.1 J	4.3 U
Methyl tert butyl ether (MTBE)	µg/m3	11 U	12 U	11 U	15 U	11 U	14 U
Methylene chloride	µg/m3	27 U	28 U	26 U	36 U	26 U	34 U
N-Heptane	µg/m3	0.94 J	3.3 U	1.0 J	4.2 U	1.3 J	4.1 U
N-Propylbenzene	µg/m3	3.8 U	4.0 U	3.6 U	5.1 U	3.7 U	4.9 U
o-Xylene	µg/m3	1.0 J	3.5 U	3.2 U	4.5 U	3.3 U	4.3 U
Styrene	µg/m3	1.2 J	3.4 U	0.54 J	4.4 U	0.69 J	4.2 U
Tetrachloroethene	µg/m3	5.3 U	11	5.0 U	19	5.2 U	31
Tetrahydrofuran	µg/m3	2.3 U	4.0	2.2 U	3.1	2.2 U	2.1 J
Toluene	µg/m3	57	2.7 J	40	4.8	46	3.2 J
trans-1,2-Dichloroethene	µg/m3	3.1 U	3.2 U	2.9 U	4.1 U	3.0 U	3.9 U
trans-1,3-Dichloropropene	µg/m3	3.5 U	3.7 U	3.4 U	4.7 U	3.4 U	4.5 U
Trichloroethene	µg/m3	4.2 U	2.6 J	4.0 U	2.2 J	4.1 U	3.1 J
Trichlorofluoromethane (CFC-11)	µg/m3	1.4 J	2.1 J	1.4 J	1.5 J	1.2 J	1.9 J
Trifluorotrichloroethane (CFC-113)	µg/m3	6.0 U	6.2 U	5.7 U	7.9 U	5.8 U	7.6 U
Vinyl chloride	µg/m3	0.88 J	2.1 U	1.9 U	2.6 U	0.67 J	2.5 U

Table 2

**Analytical Results Summary
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
June 2019**

Location ID: Sample Name: Sample Date:		SSD-LEG-4 SV6419VW002 06/04/2019	SSD-LEG-4 SV61119CM009 06/11/2019	SSD-LEG-5 SV61119CM010 06/11/2019	SSD-LEG-6 SV6419VW001 06/04/2019	SSD-LEG-6 SV61119CM011 06/11/2019
Parameters	Unit					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/m3	3.8 U	4.1 U	4.3 U	4.2 U	4.5 U
1,1,2,2-Tetrachloroethane	µg/m3	4.8 U	5.2 U	5.4 U	5.2 U	5.7 U
1,1,2-Trichloroethane	µg/m3	3.8 U	4.1 U	4.3 U	4.2 U	4.5 U
1,1-Dichloroethane	µg/m3	2.8 U	3.0 U	3.2 U	3.1 U	3.3 U
1,1-Dichloroethene	µg/m3	2.8 U	3.0 U	3.1 U	3.0 U	3.3 U
1,2,4-Trichlorobenzene	µg/m3	21 U	22 U	23 U	23 U	24 U
1,2,4-Trimethylbenzene	µg/m3	3.5 U	3.7 U	3.8 U	3.8 U	4.0 U
1,2-Dibromoethane (Ethylene dibromide)	µg/m3	5.4 U	5.8 U	6.0 U	5.9 U	6.3 U
1,2-Dichlorobenzene	µg/m3	4.2 U	4.5 U	4.7 U	4.6 U	5.0 U
1,2-Dichloroethane	µg/m3	2.8 U	3.0 U	3.2 U	3.1 U	3.3 U
1,2-Dichloropropane	µg/m3	3.2 U	3.5 U	3.6 U	3.5 U	3.8 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m3	4.9 U	5.3 U	5.5 U	5.3 U	5.8 U
1,3,5-Trimethylbenzene	µg/m3	3.5 U	3.7 U	3.8 U	3.8 U	4.0 U
1,3-Butadiene	µg/m3	1.6 U	1.7 U	1.7 U	1.7 U	1.8 U
1,3-Dichlorobenzene	µg/m3	20	2.3 J	4.5 J	19	6.0
1,4-Dichlorobenzene	µg/m3	4.2 U	4.5 U	4.7 U	4.6 U	5.0 U
1,4-Dioxane	µg/m3	10 U	11 U	11 U	11 U	12 U
2,2,4-Trimethylpentane	µg/m3	0.64 J	0.79 J	3.7 U	3.6 U	3.8 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m3	28	24	16	16	22
2-Hexanone	µg/m3	12 U	12 U	13 U	12 U	14 U
4-Ethyl toluene	µg/m3	3.5 U	3.7 U	3.8 U	3.8 U	4.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m3	2.7 J	3.4	2.7 J	3.0 J	3.2 J
Acetone	µg/m3	170	130	130	90	160
Allyl chloride	µg/m3	8.8 U	9.4 U	9.8 U	9.6 U	10 U
Benzene	µg/m3	7.7	0.86 J	1.2 J	11	2.1 J
Benzyl chloride	µg/m3	3.6 U	3.9 U	4.1 U	4.0 U	4.3 U
Bromodichloromethane	µg/m3	4.7 U	5.0 U	5.2 U	5.1 U	5.5 U
Bromoform	µg/m3	7.3 U	7.8 U	8.1 U	7.9 U	8.5 U
Bromomethane (Methyl bromide)	µg/m3	27 U	29 U	30 U	30 U	32 U
Carbon disulfide	µg/m3	1.5 J	2.4 J	6.1 J	1.8 J	2.6 J
Carbon tetrachloride	µg/m3	4.4 U	4.8 U	4.9 U	4.8 U	5.2 U
Chlorobenzene	µg/m3	0.70 J	3.5 U	3.6 U	0.61 J	3.8 U
Chloroethane	µg/m3	7.4 U	8.0 U	8.3 U	8.1 U	8.7 U
Chloroform (Trichloromethane)	µg/m3	3.4 U	3.7 U	1.2 J	1.4 J	1.9 J

Table 2

**Analytical Results Summary
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
June 2019**

Location ID: Sample Name: Sample Date:		SSD-LEG-4 SV6419VW002 06/04/2019	SSD-LEG-4 SV61119CM009 06/11/2019	SSD-LEG-5 SV61119CM010 06/11/2019	SSD-LEG-6 SV6419VW001 06/04/2019	SSD-LEG-6 SV61119CM011 06/11/2019
Parameters	Unit					
Volatile Organic Compounds						
Chloromethane (Methyl chloride)	µg/m3	14 U	16 U	16 U	16 U	1.6 J
cis-1,2-Dichloroethene	µg/m3	2.8 U	3.0 U	3.1 U	3.0 U	3.3 U
cis-1,3-Dichloropropene	µg/m3	3.2 U	3.4 U	3.6 U	3.5 U	3.7 U
Cyclohexane	µg/m3	2.4 U	2.6 U	2.7 U	2.6 U	2.8 U
Dibromochloromethane	µg/m3	6.0 U	6.4 U	6.7 U	6.5 U	7.0 U
Dichlorodifluoromethane (CFC-12)	µg/m3	2.6 J	2.7 J	3.3 J	2.8 J	3.2 J
Ethanol	µg/m3	250	430	400	220	470
Ethylbenzene	µg/m3	3.1 U	3.3 U	3.4 U	3.3 U	3.6 U
Hexachlorobutadiene	µg/m3	30 U	32 U	33 U	33 U	35 U
Hexane	µg/m3	7.9	14	2.1 J	4.5	5.6
Isopropyl alcohol	µg/m3	42	39	43	24	36
Isopropyl benzene	µg/m3	3.5 U	3.7 U	3.8 U	3.8 U	4.0 U
m&p-Xylenes	µg/m3	2.4 J	3.3 U	3.4 U	2.7 J	3.6 U
Methyl tert butyl ether (MTBE)	µg/m3	10 U	11 U	11 U	11 U	12 U
Methylene chloride	µg/m3	86	45	3.3 J	1.2 J	29 U
N-Heptane	µg/m3	1.0 J	3.1 U	3.2 U	1.2 J	3.4 U
N-Propylbenzene	µg/m3	3.5 U	3.7 U	3.8 U	3.8 U	4.0 U
o-Xylene	µg/m3	0.96 J	3.3 U	3.4 U	3.3 U	3.6 U
Styrene	µg/m3	0.77 J	3.2 U	3.3 U	1.1 J	3.5 U
Tetrachloroethene	µg/m3	3.5 J	24	13	5.2 U	19
Tetrahydrofuran	µg/m3	21	24	2.0 J	1.6 J	5.0
Toluene	µg/m3	60	2.1 J	5.5	57	2.5 J
trans-1,2-Dichloroethene	µg/m3	2.8 U	3.0 U	3.1 U	3.0 U	3.3 U
trans-1,3-Dichloropropene	µg/m3	3.2 U	3.4 U	3.6 U	3.5 U	3.7 U
Trichloroethene	µg/m3	0.81 J	4.5	6.6	1.7 J	5.6
Trichlorofluoromethane (CFC-11)	µg/m3	1.5 J	1.9 J	2.4 J	2.1 J	2.8 J
Trifluorotrichloroethane (CFC-113)	µg/m3	5.4 U	5.8 U	6.0 U	5.9 U	6.3 U
Vinyl chloride	µg/m3	1.8 U	1.9 U	2.0 U	2.0 U	2.1 U

Notes:

- J - Estimated concentration
U - Not detected at the associated reporting limit

Table 3

**Analytical Methods and Holding Time Criteria
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
June 2019**

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
Volatile Organic Compounds (VOCs)	TO-15 ¹	Air	-	30

Notes:

- ¹ - "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999
 - - Not applicable



Memorandum

September 18, 2019

To: John Pentilchuk

Ref. No.: 006883

JP

From: Linda Waters/cas/26-NF

Tel: 315-679-5792

Cc: Kathy Willy

**Subject: Analytical Results and Full Validation
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
July 2019**

1. Introduction

This document details a validation of analytical results for an air sample collected in support of the Soil Gas Sampling at the Hicksville site during July 2019. The sample was submitted to Eurofins Air Toxics located in Folsom, California. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Full Contract Laboratory Program (CLP) equivalent raw data deliverables were provided by the laboratory. Evaluation of the data was based on information obtained from the finished data sheets, raw data, chain of custody forms, calibration data, blank data, and recovery data from surrogate spikes/laboratory control samples (LCS). The assessment of analytical and in-house data included checks for data consistency (by observing comparability of duplicate analyses), adherence to accuracy and precision criteria, and transmittal errors.

The Quality Assurance/Quality Control (QA/QC) criteria by which these data have been assessed are outlined in the analytical method referenced in Table 3 and applicable guidance from the document entitled "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review", United States Environmental Protection Agency (USEPA) 540-R-08-01, June 2008, which will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 3. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

All samples were properly delivered and stored by the laboratory at the required temperature (0-6°C).



3. Gas Chromatography/Mass Spectrometry (GC/MS) – Tuning and Mass Calibration (Instrument Performance Check)

Prior to volatile organic compound (VOC) analysis, GC/MS instrumentation is tuned to ensure optimization over the mass range of interest. To evaluate instrument tuning, the method requires the analysis of specific tuning compound bromofluorobenzene (BFB). The resulting spectra must meet the criteria cited in the method before analysis is initiated. Analysis of the tuning compound must then be repeated every 24 hours throughout sample analysis to ensure the continued optimization of the instrument.

Tuning compounds were analyzed at the required frequency throughout VOC analysis periods. All tuning criteria were met indicating that proper optimization of the instrumentation was achieved.

4. Initial Calibration - Organic Analyses

To quantify VOCs of interest in samples, calibration of the GC/MS over a specific concentration range must be performed. Initially, a five-point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each analyte over a specific concentration range. Linearity of the calibration curve and instrument sensitivity are evaluated against the following criteria:

- i) All relative response factors (RRFs) must be greater than or equal to 0.05.
- ii) The percent relative standard deviation (RSD) values must not exceed 30.0 percent.

The initial calibration data for VOCs were reviewed. All compounds met the above criteria for sensitivity and linearity.

5. Continuing Calibration - Organic Analyses

To ensure that instrument calibration for VOC analyses is acceptable throughout the sample analysis period, continuing calibration standards must be analyzed and compared to the initial calibration curve every 24 hours.

The following criteria were employed to evaluate continuing calibration data:

- i) All RRF values must be greater than or equal to 0.05.
- ii) Percent difference (%D) values must not exceed 30.0 percent.

Calibration standards were analyzed at the required frequency, and all results met the above criteria for instrument sensitivity and stability.

6. Laboratory Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.



For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect with the exception of a low concentration of acetone, indicating a potential for laboratory contamination. The associated sample result was significantly higher than the method blank and was reported without qualification.

7. Surrogate Spike Recoveries

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for Toxic Organic Compounds in Air (TO-15) determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met the laboratory criteria.

8. Internal Standards (IS) Analyses

IS data were evaluated for all VOC sample analyses.

To ensure that changes in the GC/MS sensitivity and response do not affect sample analysis results, IS compounds are added to each sample prior to analysis. All results are then calculated as a ratio of the IS responses.

The sample IS results were evaluated against the following criteria:

- i) The retention time of the IS must not vary more than ± 30 seconds from the associated calibration standard.
- ii) IS area counts must not vary by more than ± 40 percent from the associated calibration standard.

All VOC IS recoveries and retention times met the above criteria.

9. Laboratory Control Sample Analyses

LCS and laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

For this study, LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.



The LCS/LCSD contained all compounds of interest. All LCS recoveries and RPDs were within the laboratory control limits demonstrating acceptable analytical accuracy and precision.

10. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the distillation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

No MS/MSD analyses were performed on these investigative samples.

11. Field QA/QC Samples

Field QA/QC samples were not submitted with investigative samples from this event.

12. Analyte Reporting

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the practical quantitation limit (PQL) but greater than the MDL were qualified as estimated concentration (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the reporting limit (RL) in Table 2.

13. Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to the identification criteria established by the methods. The samples identified in Table 1 were reviewed. The organic compounds reported adhered to the specified identification criteria.

14. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable without qualification.

Table 1

**Sample Collection and Analysis Summary
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
July 2019**

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	<u>Analysis/Parameters</u>	
					VOCs	Helium
SV72619VW001	VP-42R	Soil Gas	07/26/2019	09:25	X	X

Notes:

VOCs - Volatile Organic Compounds

Analytical Results Summary
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
July 2019

Location ID:
Sample Name:
Sample Date:
Depth:

VP-42R
SV72619VW001
07/26/2019

Parameters	Unit	
Volatile Organic Compounds		
Helium	%	0.0024 J
1,1,1-Trichloroethane	µg/m3	4.0 U
1,1,2,2-Tetrachloroethane	µg/m3	5.0 U
1,1,2-Trichloroethane	µg/m3	4.0 U
1,1-Dichloroethane	µg/m3	3.0 U
1,1-Dichloroethene	µg/m3	2.9 U
1,2,4-Trichlorobenzene	µg/m3	22 U
1,2,4-Trimethylbenzene	µg/m3	1.6 J
1,2-Dibromoethane (Ethylene dibromide)	µg/m3	5.6 U
1,2-Dichlorobenzene	µg/m3	4.4 U
1,2-Dichloroethane	µg/m3	3.0 U
1,2-Dichloropropane	µg/m3	3.4 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m3	5.1 U
1,3,5-Trimethylbenzene	µg/m3	3.6 U
1,3-Butadiene	µg/m3	1.6 U
1,3-Dichlorobenzene	µg/m3	2.7 J
1,4-Dichlorobenzene	µg/m3	4.4 U
1,4-Dioxane	µg/m3	10 U
2,2,4-Trimethylpentane	µg/m3	2.7 J
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m3	7.8 J
2-Hexanone	µg/m3	12 U
4-Ethyl toluene	µg/m3	1.6 J
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m3	4.8
Acetone	µg/m3	36
Allyl chloride	µg/m3	9.2 U
Benzene	µg/m3	2.7
Benzyl chloride	µg/m3	3.8 U
Bromodichloromethane	µg/m3	4.9 U
Bromoform	µg/m3	7.6 U
Bromomethane (Methyl bromide)	µg/m3	28 U
Carbon disulfide	µg/m3	3.3 J
Carbon tetrachloride	µg/m3	4.6 U
Chlorobenzene	µg/m3	3.4 U
Chloroethane	µg/m3	7.8 U
Chloroform (Trichloromethane)	µg/m3	3.6 U
Chloromethane (Methyl chloride)	µg/m3	15 U
cis-1,2-Dichloroethene	µg/m3	2.9 U
cis-1,3-Dichloropropene	µg/m3	3.3 U
Cyclohexane	µg/m3	1.4 J
Dibromochloromethane	µg/m3	6.3 U
Dichlorodifluoromethane (CFC-12)	µg/m3	2.8 J
Ethanol	µg/m3	180
Ethylbenzene	µg/m3	2.5 J
Hexachlorobutadiene	µg/m3	31 U
Hexane	µg/m3	3.4
Isopropyl alcohol	µg/m3	280
Isopropyl benzene	µg/m3	3.6 U
m&p-Xylenes	µg/m3	7.1
Methyl tert butyl ether (MTBE)	µg/m3	10 U
Methylene chloride	µg/m3	2.5 J
N-Heptane	µg/m3	1.7 J

**Analytical Results Summary
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
July 2019**

Location ID:
Sample Name:
Sample Date:
Depth:

**VP-42R
SV72619VW001
07/26/2019**

Parameters	Unit	
N-Propylbenzene	µg/m3	3.6 U
o-Xylene	µg/m3	2.0 J
Styrene	µg/m3	1.4 J
Tetrachloroethene	µg/m3	2.9 J
Tetrahydrofuran	µg/m3	2.2 U
Toluene	µg/m3	30
trans-1,2-Dichloroethene	µg/m3	2.9 U
trans-1,3-Dichloropropene	µg/m3	3.3 U
Trichloroethene	µg/m3	4.0 U
Trichlorofluoromethane (CFC-11)	µg/m3	1.9 J
Trifluorotrichloroethane (CFC-113)	µg/m3	5.6 U
Vinyl chloride	µg/m3	1.9 U

Notes:

J- Estimated concentration

U- Not detected at the associated reporting limit

Table 3

**Analytical Methods and Holding Time Criteria
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
July 2019**

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
Volatile Organic Compounds (VOCs)	TO-15 ¹	Air	-	30
Helium	ASTM 1946 ²	Air	-	7

Notes:

- ¹ - "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999
- ² - Annual Book of ASTM Standards, American Society for Testing Materials, Section 5 and Section 11
- - Not applicable



Memorandum

November 25, 2019

To: John Pentilchuk

Ref. No.: 006883

cc: Kathy Willy/adh/27

Tel: 716-205-1942

**Subject: Analytical Results and Full Validation
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
October 2019**

1. Introduction

This document details a validation of analytical results for air samples collected in support of the Soil Gas Sampling at the Hicksville site during October 2019. The samples were submitted to Eurofins Air Toxics located in Folsom, California. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Full Contract Laboratory Program (CLP) equivalent raw data deliverables were provided by the laboratory. Evaluation of the data was based on information obtained from the finished data sheets, raw data, chain of custody forms, calibration data, blank data, and recovery data from surrogate spikes/laboratory control samples (LCS). The assessment of analytical and in-house data included checks for data consistency (by observing comparability of duplicate analyses), adherence to accuracy and precision criteria, and transmittal errors.

The Quality Assurance/Quality Control (QA/QC) criteria by which these data have been assessed are outlined in the analytical method referenced in Table 3 and applicable guidance from the document entitled "Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review", United States Environmental Protection Agency (USEPA) 540-R-08-01, June 2008, which will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 3. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

All samples were properly delivered and stored by the laboratory.



3. Gas Chromatography/Mass Spectrometry (GC/MS) – Tuning and Mass Calibration (Instrument Performance Check)

Prior to volatile organic compound (VOC) analysis, GC/MS instrumentation is tuned to ensure optimization over the mass range of interest. To evaluate instrument tuning, the method requires the analysis of the specific tuning compound bromofluorobenzene (BFB). The resulting spectra must meet the criteria cited in the method before analysis is initiated. Analysis of the tuning compound must then be repeated every 24 hours throughout sample analysis to ensure the continued optimization of the instrument.

The tuning compound was analyzed at the required frequency throughout VOC analysis periods. All tuning criteria were met, indicating that proper optimization of the instrumentation was achieved.

4. Initial Calibration - Organic Analyses

To quantify VOCs of interest in samples, calibration of the GC/MS over a specific concentration range must be performed. Initially, a five-point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each analyte over a specific concentration range. Linearity of the calibration curve and instrument sensitivity are evaluated against the following criteria:

- i) All relative response factors (RRFs) must be greater than or equal to 0.05.
- ii) The percent relative standard deviation (RSD) values must not exceed 30.0 percent.

The initial calibration data for VOCs were reviewed. All compounds met the above criteria for sensitivity and linearity.

5. Continuing Calibration - Organic Analyses

To ensure that instrument calibration for VOC analyses is acceptable throughout the sample analysis period, continuing calibration standards must be analyzed and compared to the initial calibration curve every 24 hours.

The following criteria were employed to evaluate continuing calibration data:

- i) All RRF values must be greater than or equal to 0.05.
- ii) Percent difference (%D) values must not exceed 30.0 percent.

Calibration standards were analyzed at the required frequency, and all results met the above criteria for instrument sensitivity and stability with the exception of ethanol which showed some variability from the initial calibration. All associated sample results were qualified as estimated. A summary of qualified results is presented in Table 4.



6. Laboratory Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

7. Surrogate Spike Recoveries

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for Toxic Organic Compounds in Air (TO-15) determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met the laboratory criteria.

8. Internal Standards (IS) Analyses

IS data were evaluated for all VOC sample analyses.

To ensure that changes in the GC/MS sensitivity and response do not affect sample analysis results, IS compounds are added to each sample prior to analysis. All results are then calculated as a ratio of the IS responses.

The sample IS results were evaluated against the following criteria:

- i) The retention time of the IS must not vary more than ± 30 seconds from the associated calibration standard.
- ii) IS area counts must not vary by more than ± 40 percent from the associated calibration standard.

All VOC IS recoveries and retention times met the above criteria.

9. Laboratory Control Sample Analyses

LCS and laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.



For this study, LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS/LCSD contained all compounds of interest. All LCS recoveries and RPDs were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision with the exception of low recoveries for acetone and ethanol. Associated sample results were qualified as estimated to reflect the implied low bias. A summary of qualified results is presented in Table 5.

10. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the distillation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

No MS/MSD analyses were performed on these investigative samples.

11. Field QA/QC Samples

Field QA/QC samples were not submitted with investigative samples from this event.

12. Analyte Reporting

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the practical quantitation limit (PQL) but greater than the MDL were qualified as estimated concentration (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the reporting limit (RL) in Table 2.

13. Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to the identification criteria established by the methods. The samples identified in Table 1 were reviewed. The organic compounds reported adhered to the specified identification criteria.

14. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable with the specific qualifications noted herein.

Table 1

Sample Collection and Analysis Summary
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
October 2019

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	<u>Analysis/Parameter</u>
					VOCs
SV10819CM006	SSD-LEG-1	Soil Gas	10/08/2019	14:38	X
SV10819CM005	SSD-LEG-2	Soil Gas	10/08/2019	14:17	X
SV10819CM004	SSD-LEG-3	Soil Gas	10/08/2019	14:02	X
SV10819CM003	SSD-LEG-4	Soil Gas	10/08/2019	13:55	X
SV10819CM002	SSD-LEG-5	Soil Gas	10/08/2019	13:11	X
SV10819CM001	SSD-LEG-6	Soil Gas	10/08/2019	13:00	X

Notes:

VOCs - Volatile Organic Compounds

Table 2

**Analytical Results Summary
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
October 2019**

Location ID:	SSD-LEG-1	SSD-LEG-2	SSD-LEG-3	SSD-LEG-4	SSD-LEG-5	SSD-LEG-6
Sample Name:	SV10819CM006	SV10819CM005	SV10819CM004	SV10819CM003	SV10819CM002	SV10819CM001
Sample Date:	10/08/2019	10/08/2019	10/08/2019	10/08/2019	10/08/2019	10/08/2019

Parameters	Unit						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/m3	4.9 U	4.7 U	4.6 U	5.2 U	5.2 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/m3	6.1 U	5.9 U	5.8 U	6.6 U	6.6 U	6.3 U
1,1,2-Trichloroethane	µg/m3	4.9 U	4.7 U	4.6 U	5.2 U	5.2 U	5.0 U
1,1-Dichloroethane	µg/m3	3.6 U	3.5 U	3.4 U	3.9 U	3.9 U	3.7 U
1,1-Dichloroethene	µg/m3	3.5 U	3.4 U	3.3 U	3.8 U	3.8 U	3.6 U
1,2,4-Trichlorobenzene	µg/m3	26 U	25 U	25 U	28 U	28 U	27 U
1,2,4-Trimethylbenzene	µg/m3	4.4 U	4.2 U	4.1 U	4.7 U	4.7 U	4.5 U
1,2-Dibromoethane (Ethylene dibromide)	µg/m3	6.9 U	6.6 U	6.4 U	7.3 U	7.3 U	7.0 U
1,2-Dichlorobenzene	µg/m3	5.4 U	5.1 U	5.0 U	5.7 U	5.7 U	5.5 U
1,2-Dichloroethane	µg/m3	3.6 U	3.5 U	3.4 U	3.9 U	3.9 U	3.7 U
1,2-Dichloropropane	µg/m3	4.1 U	4.0 U	3.9 U	4.4 U	4.4 U	4.2 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m3	6.2 U	6.0 U	5.9 U	6.7 U	6.7 U	6.4 U
1,3,5-Trimethylbenzene	µg/m3	4.4 U	4.2 U	4.1 U	4.7 U	4.7 U	4.5 U
1,3-Butadiene	µg/m3	2.0 U	1.9 U	1.8 U	2.1 U	2.1 U	2.0 U
1,3-Dichlorobenzene	µg/m3	5.4 U	5.1 U	5.0 U	5.7 U	5.7 U	5.5 U
1,4-Dichlorobenzene	µg/m3	5.4 U	5.1 U	5.0 U	5.7 U	5.7 U	5.5 U
1,4-Dioxane	µg/m3	13 U	12 U	12 U	14 U	14 U	13 U
2,2,4-Trimethylpentane	µg/m3	4.2 U	4.0 U	3.9 U	4.5 U	4.5 U	4.3 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m3	10 U	10 U	9.9 U	11 U	11 U	11 U
2-Hexanone	µg/m3	15 U	14 U	14 U	16 U	16 U	15 U
4-Ethyl toluene	µg/m3	4.4 U	4.2 U	4.1 U	4.7 U	4.7 U	4.5 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m3	3.7 U	3.5 U	3.4 U	3.9 U	3.9 U	3.7 U
Acetone	µg/m3	48 J	99 J	110 J	76 J	86 J	73 J
Allyl chloride	µg/m3	11 U	11 U	10 U	12 U	12 U	11 U
Benzene	µg/m3	2.5 J	3.1	2.7 U	2.4 J	0.96 J	13
Benzyl chloride	µg/m3	4.6 U	4.4 U	4.3 U	4.9 U	4.9 U	4.7 U
Bromodichloromethane	µg/m3	6.0 U	5.7 U	5.6 U	6.4 U	6.4 U	6.1 U
Bromoform	µg/m3	9.2 U	8.8 U	8.7 U	9.9 U	9.9 U	9.4 U
Bromomethane (Methyl bromide)	µg/m3	35 U	33 U	33 U	37 U	37 U	36 U
Carbon disulfide	µg/m3	11 U	11 U	3.6 J	12 U	12 U	11 U
Carbon tetrachloride	µg/m3	5.6 U	5.4 U	5.3 U	6.0 U	6.0 U	5.8 U
Chlorobenzene	µg/m3	4.1 U	3.9 U	3.9 U	4.4 U	4.4 U	4.2 U
Chloroethane	µg/m3	9.4 U	9.0 U	8.9 U	10 U	10 U	9.6 U
Chloroform (Trichloromethane)	µg/m3	4.4 U	4.2 U	4.1 U	4.7 U	4.7 U	1.8 J

Table 2

**Analytical Results Summary
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
October 2019**

Location ID:	SSD-LEG-1	SSD-LEG-2	SSD-LEG-3	SSD-LEG-4	SSD-LEG-5	SSD-LEG-6
Sample Name:	SV10819CM006	SV10819CM005	SV10819CM004	SV10819CM003	SV10819CM002	SV10819CM001
Sample Date:	10/08/2019	10/08/2019	10/08/2019	10/08/2019	10/08/2019	10/08/2019

Parameters	Unit						
Volatile Organic Compounds							
Chloromethane (Methyl chloride)	µg/m3	18 U	18 U	17 U	20 U	20 U	19 U
cis-1,2-Dichloroethene	µg/m3	3.5 U	3.4 U	3.3 U	3.8 U	3.8 U	3.6 U
cis-1,3-Dichloropropene	µg/m3	4.1 U	3.9 U	3.8 U	4.3 U	4.3 U	4.2 U
Cyclohexane	µg/m3	3.1 U	2.9 U	2.9 U	3.3 U	3.3 U	3.1 U
Dibromochloromethane	µg/m3	7.6 U	7.3 U	7.2 U	8.1 U	8.1 U	7.8 U
Dichlorodifluoromethane (CFC-12)	µg/m3	3.6 J	3.0 J	4.4	2.6 J	3.4 J	3.9 J
Ethanol	µg/m3	180 J	530 J	500 J	450 J	360 J	200 J
Ethylbenzene	µg/m3	3.9 U	3.7 U	3.6 U	4.1 U	4.1 U	4.0 U
Hexachlorobutadiene	µg/m3	38 U	36 U	36 U	41 U	41 U	39 U
Hexane	µg/m3	4.0	3.0 U	2.1 J	2.3 J	3.4 U	2.0 J
Isopropyl alcohol	µg/m3	11	16	14	15	13	12
Isopropyl benzene	µg/m3	4.4 U	4.2 U	4.1 U	4.7 U	4.7 U	4.5 U
m&p-Xylenes	µg/m3	3.9 U	3.7 U	3.6 U	4.1 U	4.1 U	4.0 U
Methyl tert butyl ether (MTBE)	µg/m3	13 U	12 U	12 U	14 U	14 U	13 U
Methylene chloride	µg/m3	31 U	30 U	29 U	33 U	33 U	32 U
N-Heptane	µg/m3	3.7 U	3.5 U	3.4 U	3.9 U	3.9 U	3.7 U
N-Propylbenzene	µg/m3	4.4 U	4.2 U	4.1 U	4.7 U	4.7 U	4.5 U
o-Xylene	µg/m3	3.9 U	3.7 U	3.6 U	4.1 U	4.1 U	4.0 U
Styrene	µg/m3	3.8 U	3.6 U	3.6 U	4.1 U	4.1 U	3.9 U
Tetrachloroethene	µg/m3	2.1 J	1.9 J	2.7 J	4.6 J	3.2 J	3.0 J
Tetrahydrofuran	µg/m3	2.6 U	2.5 U	2.5 U	2.8 U	2.8 U	2.7 U
Toluene	µg/m3	3.4 U	3.2 U	3.2 U	3.6 U	3.6 U	3.4 U
trans-1,2-Dichloroethene	µg/m3	3.5 U	3.4 U	3.3 U	3.8 U	3.8 U	3.6 U
trans-1,3-Dichloropropene	µg/m3	4.1 U	3.9 U	3.8 U	4.3 U	4.3 U	4.2 U
Trichloroethene	µg/m3	4.8 U	4.6 U	4.5 U	5.1 U	5.1 U	4.9 U
Trichlorofluoromethane (CFC-11)	µg/m3	3.1 J	2.3 J	2.8 J	2.0 J	3.2 J	4.8 J
Trifluorotrichloroethane (CFC-113)	µg/m3	6.8 U	6.6 U	6.4 U	7.3 U	7.3 U	7.0 U
Vinyl chloride	µg/m3	2.3 U	2.2 U	2.1 U	2.4 U	2.4 U	2.3 U

Notes:

J - Estimated concentration

U - Not detected at the associated reporting limit

Table 3

**Analytical Methods and Holding Time Criteria
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
October 2019**

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
Volatile Organic Compounds (VOCs)	TO-15 ¹	Air	-	30

Notes:

- ¹ - "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air",
EPA-625/R-96/010b, January 1999
- - Not applicable

Table 4

Qualified Sample Results Due to Outlying Continuing Calibration Results
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
October 2019

Parameter	Analyte	Calibration Date (mm/dd/yyyy)	%D	Associated Sample ID	Qualified Result	Units
VOCs	Ethanol	10/15/2019	34.7	SV10819CM001	200 J	µg/m3
				SV10819CM002	360 J	µg/m3
				SV10819CM003	450 J	µg/m3
				SV10819CM004	500 J	µg/m3
				SV10819CM005	530 J	µg/m3
				SV10819CM006	180 J	µg/m3

Notes:

%D - Percent difference
J - Estimated concentration
VOCs - Volatile Organic Compounds

Table 5

Qualified Sample Results Due to Outlying LCS/LCSD Results
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
October 2019

Parameter	Analyte	LCS Date (mm/dd/yyyy)	LCS % Recovery	LCSD % Recovery	RPD (percent)	Control Limits		Associated Sample ID	Qualified Result	Units
						% Recovery	RPD			
VOCs	Acetone	1015/2019	66	72	8.7	70-130	25	SV10819CM001	73 J	µg/m3
								SV10819CM002	86 J	µg/m3
								SV10819CM003	76 J	µg/m3
								SV10819CM004	110 J	µg/m3
								SV10819CM005	99 J	µg/m3
								SV10819CM006	48 J	µg/m3
VOCs	Ethanol	1015/2019	65	67	3.0	70-130	25	SV10819CM001	200 J	µg/m3
								SV10819CM002	360 J	µg/m3
								SV10819CM003	450 J	µg/m3
								SV10819CM004	500 J	µg/m3
								SV10819CM005	530 J	µg/m3
								SV10819CM006	180 J	µg/m3

Notes:

- LCS - Laboratory Control Sample
- LCSD - Laboratory Control Sample Duplicate
- RPD - Relative Percent Difference
- J - Estimated concentration
- VOCs - Volatile Organic Compounds



Memorandum

February 11, 2020

To: John Pentilchuk

Ref. No.: 006883

cc: Michelle Kukta/eew/29

Tel: 716-205-1990

**Subject: Analytical Results and Full Validation
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
December 2019**

1. Introduction

This document details a validation of analytical results for air samples collected in support of the Soil Gas Sampling at the Hicksville site during December 2019. The samples were submitted to Eurofins Air Toxics located in Folsom, California. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Full Contract Laboratory Program (CLP) equivalent raw data deliverables were provided by the laboratory. Evaluation of the data was based on information obtained from the finished data sheets, raw data, chain of custody forms, calibration data, blank data, and recovery data from surrogate spikes and laboratory control samples (LCS). The assessment of analytical and in-house data included checks for data consistency (by observing comparability of duplicate analyses), adherence to accuracy and precision criteria, and transmittal errors.

The Quality Assurance/Quality Control (QA/QC) criteria by which these data have been assessed are outlined in the analytical method referenced in Table 3 and applicable guidance from the document entitled:

- i.) "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review", USEPA 540-R-2016-002, September 2016

Items i) will subsequently be referred to as the "Guidelines" in this Memorandum

2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 3. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

All samples were properly delivered and stored by the laboratory at the required temperature. One sample canister measured at slightly positive pressure (1.2 psi) upon receipt at the laboratory. The sample canister



passed the system leak check therefore analysis proceeded. Sample results have been qualified as estimated (see Table 4).

3. Gas Chromatography/Mass Spectrometry (GC/MS) – Tuning and Mass Calibration (Instrument Performance Check)

Prior to volatile organic compound (VOC) analysis, GC/MS instrumentation is tuned to ensure optimization over the mass range of interest. To evaluate instrument tuning, the method requires the analysis of specific tuning compound bromofluorobenzene (BFB). The resulting spectra must meet the criteria cited in the method before analysis is initiated. Analysis of the tuning compound must then be repeated every 24 hours throughout sample analysis to ensure the continued optimization of the instrument.

Tuning compounds were analyzed at the required frequency throughout VOC analysis periods. All tuning criteria were met indicating that proper optimization of the instrumentation was achieved.

4. Initial Calibration - Organic Analyses

To quantify VOCs of interest in samples, calibration of the GC/MS over a specific concentration range must be performed. Initially, a five-point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each analyte over a specific concentration range. Linearity of the calibration curve and instrument sensitivity are evaluated against the following criteria:

- i) All relative response factors (RRFs) must be greater than or equal to 0.05 (greater than or equal to 0.010 for compounds that exhibit poor response).
- ii) The percent relative standard deviation (%RSD) values must not exceed 30.0 percent.

The initial calibration data for VOCs was reviewed. All compounds met the above criteria for sensitivity and linearity.

5. Continuing Calibration - Organic Analyses

To ensure that instrument calibration for VOC analyses is acceptable throughout the sample analysis period, continuing calibration standards must be analyzed and compared to the initial calibration curve every 24 hours.

The following criteria were employed to evaluate continuing calibration data:

- i) All RRF values must be greater than or equal to 0.05 (greater than or equal to 0.010 for compounds that exhibit poor response).
- ii) Percent difference (%D) values must not exceed 30.0 percent.

Calibration standards were analyzed at the required frequency, and the results met the above criteria for instrument sensitivity and stability.



6. Laboratory Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

7. Surrogate Spike Recoveries

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for Toxic Organic Compounds in Air (TO-15) determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met the laboratory criteria.

8. Internal Standards (IS) Analyses

IS data were evaluated for all VOC sample analyses.

To ensure that changes in the GC/MS sensitivity and response do not affect sample analysis results, IS compounds are added to each sample prior to analysis. All results are then calculated as a ratio of the IS responses.

The sample IS results were evaluated against the following criteria:

- i) The retention time of the IS must not vary more than ± 30 seconds from the associated calibration standard.
- ii) IS area counts must not vary by more than ± 40 percent from the associated calibration standard.

All VOC IS recoveries and retention times met the above criteria.

9. Laboratory Control Sample Analyses

LCS and laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.



For this study, LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS/LCSD contained all compounds of interest. All LCS recoveries and RPDs were within the laboratory control limits demonstrating acceptable analytical accuracy and precision.

10. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the distillation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

No MS/MSD analyses were performed on these investigative samples.

11. Field QA/QC Samples

Field QA/QC samples were not submitted with investigative samples from this event.

12. Analyte Reporting

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the reporting limit (RL) but greater than the MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the reporting limit (RL) in Table 2.

13. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable with the specific qualifications noted herein.

Table 1

Sample Collection and Analysis Summary
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
December 2019

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	<u>Parameters</u>	
					VOC	Helium
SV121919CM001	SSD-LEG-1	Soil Gas	12/19/19	12:31	X	
SV121919CM002	SSD-LEG-2	Soil Gas	12/19/19	12:27	X	
SV121919CM003	SSD-LEG-3	Soil Gas	12/19/19	11:35	X	
SV121919CM004	SSD-LEG-4	Soil Gas	12/19/19	11:25	X	
SV121919CM005	SSD-LEG-5	Soil Gas	12/19/19	10:59	X	
SV121919CM006	SSD-LEG-6	Soil Gas	12/19/19	11:05	X	
SV121919CM007	VP-42	Soil Gas	12/19/19	11:15	X	X
SV121919CM008	VP-41	Soil Gas	12/19/19	11:40	X	X
SV121919CM009	VP-46	Soil Gas	12/19/19	2:04	X	X

Notes:

VOC - Volatile Organic Compounds

Table 2

**Analytical Results Summary
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
December 2019**

Location ID:	SSD-LEG-1	SSD-LEG-2	SSD-LEG-3	SSD-LEG-4	SSD-LEG-5	SSD-LEG-6	VP-41	VP-42	VP-46
Sample Name:	SV121919CM001	SV121919CM002	SV121919CM003	SV121919CM004	SV121919CM005	SV121919CM006	SV121919CM008	SV121919CM007	SV121919CM009
Sample Date:	12/19/2019	12/19/2019	12/19/2019	12/19/2019	12/19/2019	12/19/2019	12/19/2019	12/19/2019	12/19/2019
Parameters	Unit								
Volatile Organic Compounds									
Helium	%	--	--	--	--	--	0.074 U	0.079 U	0.014 J
1,1,1-Trichloroethane	µg/m3	3.8 U	3.8 U	4.1 U	3.8 U	3.4 UJ	4.0 U	4.1 U	3.9 U
1,1,2,2-Tetrachloroethane	µg/m3	4.8 U	4.8 U	5.1 U	4.8 U	4.2 UJ	5.0 U	5.1 U	4.9 U
1,1,2-Trichloroethane	µg/m3	3.8 U	3.8 U	4.1 U	3.8 U	3.4 UJ	4.0 U	4.1 U	3.9 U
1,1-Dichloroethane	µg/m3	2.8 U	2.8 U	3.0 U	2.8 U	2.5 UJ	3.0 U	3.0 U	2.9 U
1,1-Dichloroethene	µg/m3	2.8 U	2.8 U	3.0 U	2.8 U	2.4 UJ	2.9 U	3.0 U	2.8 U
1,2,4-Trichlorobenzene	µg/m3	21 U	21 U	22 U	21 U	18 UJ	22 U	22 U	21 U
1,2,4-Trimethylbenzene	µg/m3	3.5 U	3.5 U	3.7 U	3.5 U	3.0 UJ	3.6 U	3.7 U	3.5 U
1,2-Dibromoethane (Ethylene dibromide)	µg/m3	5.4 U	5.4 U	5.7 U	5.4 U	4.8 UJ	5.6 U	5.7 U	5.5 U
1,2-Dichlorobenzene	µg/m3	4.2 U	4.2 U	4.5 U	4.2 U	3.7 UJ	4.4 U	4.5 U	4.3 U
1,2-Dichloroethane	µg/m3	2.8 U	2.8 U	3.0 U	2.8 U	2.5 UJ	3.0 U	3.0 U	2.9 U
1,2-Dichloropropane	µg/m3	3.2 U	3.2 U	3.4 U	3.2 U	2.9 UJ	3.4 U	3.4 U	3.3 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m3	4.9 U	4.9 U	5.2 U	4.9 U	4.3 UJ	5.1 U	5.2 U	5.0 U
1,3,5-Trimethylbenzene	µg/m3	3.5 U	3.5 U	3.7 U	3.5 U	3.0 UJ	3.6 U	3.7 U	3.5 U
1,3-Butadiene	µg/m3	1.6 U	1.6 U	1.6 U	1.6 U	1.4 UJ	1.6 U	1.6 U	1.6 U
1,3-Dichlorobenzene	µg/m3	4.2 U	4.2 U	4.5 U	4.2 U	3.7 UJ	4.4 U	4.5 U	4.3 U
1,4-Dichlorobenzene	µg/m3	4.2 U	4.2 U	4.5 U	4.2 U	3.7 UJ	4.4 U	4.5 U	4.3 U
1,4-Dioxane	µg/m3	10 U	10 U	11 U	10 U	8.9 UJ	10 U	11 U	10 U
2,2,4-Trimethylpentane	µg/m3	3.3 U	3.3 U	0.86 J	3.3 U	2.9 UJ	3.4 U	3.5 U	3.4 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m3	8.3 U	8.3 U	8.8 U	8.3 U	7.3 UJ	8.6 U	8.8 U	8.5 U
2-Hexanone	µg/m3	12 U	12 U	12 U	12 U	10 UJ	12 U	12 U	12 U
4-Ethyl toluene	µg/m3	3.5 U	3.5 U	3.7 U	3.5 U	3.0 UJ	3.6 U	3.7 U	3.5 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m3	2.9 U	2.9 U	3.0 U	2.9 U	2.5 UJ	3.0 U	3.0 U	2.9 U
Acetone	µg/m3	4.7 J	6.0 J	6.0 J	7.1 J	4.7 J	8.8 J	3.6 J	3.7 J
Allyl chloride	µg/m3	8.8 U	8.8 U	9.3 U	8.8 U	7.8 UJ	9.1 U	9.3 U	9.0 U
Benzene	µg/m3	0.53 J	2.2 U	0.76 J	2.2 U	0.52 J	2.3 U	1.0 J	0.78 J
Benzyl chloride	µg/m3	3.6 U	3.6 U	3.8 U	3.6 U	3.2 UJ	3.8 U	3.8 U	3.7 U
Bromodichloromethane	µg/m3	4.7 U	4.7 U	5.0 U	4.7 U	4.2 UJ	4.9 U	5.0 U	4.8 U
Bromoform	µg/m3	7.3 U	7.3 U	7.7 U	7.3 U	6.4 UJ	7.5 U	7.7 U	7.4 U
Bromomethane (Methyl bromide)	µg/m3	27 U	27 U	29 U	27 U	24 UJ	28 U	29 U	28 U
Carbon disulfide	µg/m3	8.8 U	8.8 U	9.3 U	8.8 U	7.7 UJ	9.1 U	9.3 U	9.0 U
Carbon tetrachloride	µg/m3	4.4 U	4.4 U	4.7 U	4.4 U	3.9 UJ	4.6 U	4.7 U	1.1 J
Chlorobenzene	µg/m3	3.2 U	3.2 U	3.4 U	3.2 U	2.8 UJ	3.4 U	3.4 U	3.3 U
Chloroethane	µg/m3	7.4 U	7.4 U	7.9 U	7.4 U	6.5 UJ	7.7 U	7.9 U	7.6 U
Chloroform (Trichloromethane)	µg/m3	3.4 U	3.4 U	3.6 U	3.4 U	3.0 UJ	3.6 U	3.6 U	3.5 U
Chloromethane (Methyl chloride)	µg/m3	14 U	14 U	15 U	14 U	13 UJ	15 U	15 U	15 U
cis-1,2-Dichloroethene	µg/m3	2.8 U	2.8 U	3.0 U	2.8 U	2.4 UJ	2.9 U	3.0 U	2.8 U
cis-1,3-Dichloropropene	µg/m3	3.2 U	3.2 U	3.4 U	3.2 U	2.8 UJ	3.3 U	3.4 U	3.3 U

Table 2

Analytical Results Summary
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
December 2019

	Location ID:	SSD-LEG-1	SSD-LEG-2	SSD-LEG-3	SSD-LEG-4	SSD-LEG-5	SSD-LEG-6	VP-41	VP-42	VP-46
	Sample Name:	SV121919CM001	SV121919CM002	SV121919CM003	SV121919CM004	SV121919CM005	SV121919CM006	SV121919CM008	SV121919CM007	SV121919CM009
	Sample Date:	12/19/2019	12/19/2019	12/19/2019	12/19/2019	12/19/2019	12/19/2019	12/19/2019	12/19/2019	12/19/2019
Parameters	Unit									
Volatile Organic Compounds (Continued)										
Cyclohexane	µg/m3	2.4 U	2.4 U	0.52 J	2.4 U	2.1 UJ	0.42 J	2.6 U	2.7 U	2.5 U
Dibromochloromethane	µg/m3	6.0 U	6.0 U	6.3 U	6.0 U	5.3 UJ	6.2 U	6.3 U	6.7 U	6.1 U
Dichlorodifluoromethane (CFC-12)	µg/m3	3.1 J	2.6 J	2.8 J	2.6 J	2.9 J	3.3 J	2.8 J	2.4 J	2.7 J
Ethanol	µg/m3	9.9	14	17	16	7.3 J	7.4	5.6 U	6.0 U	5.4 U
Ethylbenzene	µg/m3	3.1 U	3.1 U	3.2 U	3.1 U	2.7 UJ	3.2 U	3.2 U	3.4 U	3.1 U
Hexachlorobutadiene	µg/m3	30 U	30 U	32 U	30 U	26 UJ	31 U	32 U	34 U	31 U
Hexane	µg/m3	0.73 J	0.31 J	1.1 J	0.36 J	0.70 J	2.6 U	0.66 J	0.47 J	0.59 J
Isopropyl alcohol	µg/m3	6.9 U	6.9 U	7.3 U	6.9 U	6.1 UJ	7.2 U	7.3 U	7.8 U	7.1 U
Isopropyl benzene	µg/m3	3.5 U	3.5 U	3.7 U	3.5 U	3.0 UJ	3.6 U	3.7 U	3.9 U	3.5 U
m&p-Xylenes	µg/m3	3.1 U	3.1 U	0.41 J	3.1 U	2.7 UJ	3.2 U	3.2 U	3.4 U	3.1 U
Methyl tert butyl ether (MTBE)	µg/m3	10 U	10 U	11 U	10 U	8.9 UJ	10 U	11 U	11 U	10 U
Methylene chloride	µg/m3	24 U	24 U	26 U	24 U	22 UJ	2.3 J	26 U	27 U	25 U
N-Heptane	µg/m3	2.9 U	2.9 U	3.0 U	2.9 U	2.5 UJ	3.0 U	3.0 U	3.2 U	3.0 U
N-Propylbenzene	µg/m3	3.5 U	3.5 U	3.7 U	3.5 U	3.0 UJ	3.6 U	3.7 U	3.9 U	3.5 U
o-Xylene	µg/m3	3.1 U	3.1 U	3.2 U	3.1 U	2.7 UJ	3.2 U	3.2 U	3.4 U	3.1 U
Styrene	µg/m3	3.0 U	3.0 U	3.2 U	3.0 U	2.6 UJ	3.1 U	3.2 U	3.4 U	3.1 U
Tetrachloroethene	µg/m3	4.8 U	4.8 U	5.0 U	4.8 U	4.2 UJ	5.0 U	5.0 U	5.4 U	20
Tetrahydrofuran	µg/m3	2.1 U	2.1 U	2.2 U	2.1 U	1.8 UJ	2.2 U	2.2 U	2.3 U	2.1 U
Toluene	µg/m3	1.7 J	0.33 J	1.1 J	0.68 J	0.32 J	1.1 J	1.2 J	1.0 J	0.92 J
trans-1,2-Dichloroethene	µg/m3	2.8 U	2.8 U	3.0 U	2.8 U	2.4 UJ	2.9 U	3.0 U	3.1 U	2.8 U
trans-1,3-Dichloropropene	µg/m3	3.2 U	3.2 U	3.4 U	3.2 U	2.8 UJ	3.3 U	3.4 U	3.6 U	3.3 U
Trichloroethene	µg/m3	3.8 U	3.8 U	4.0 U	3.8 U	3.3 UJ	3.9 U	4.0 U	4.2 U	0.76 J
Trichlorofluoromethane (CFC-11)	µg/m3	0.91 J	0.93 J	1.2 J	1.7 J	0.93 J	1.7 J	1.0 J	1.4 J	1.0 J
Trifluorotrichloroethane (CFC-113)	µg/m3	5.4 U	5.4 U	5.7 U	5.4 U	4.8 UJ	5.6 U	5.7 U	6.0 U	5.5 U
Vinyl chloride	µg/m3	1.8 U	1.8 U	1.9 U	1.8 U	1.6 UJ	1.9 U	1.9 U	2.0 U	1.8 U

Notes:

"--" - Not analyzed

J - Estimated concentration

U - Not detected at the associated reporting limit

UJ - Not detected; associated reporting limit is estimated

Table 3

Analytical Methods
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
December 2019

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
Volatile Organic Compounds (VOCs)	TO-15 ¹	Air	--	30
Helium	ASTM D1946 ²	Air	--	7

Notes:

Method References:

¹ - "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air",
EPA-625/R-96/010b, January 1999

² - Annual Book of ASTM Standards, American Society for Testing Materials, Section 5 and Section 11

"--" - Not applicable

Table 4

Qualified Sample Data Due to Improper Canister Pressure Upon Receipt at Lab
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
December 2019

Parameter	Sample ID	Analyte	Qualified Result	Units
VOCs	SV121919CM005	1,1,1-Trichloroethane	3.4 UJ	µg/m3
		1,1,2,2-Tetrachloroethane	4.2 UJ	µg/m3
		1,1,2-Trichloroethane	3.4 UJ	µg/m3
		1,1-Dichloroethane	2.5 UJ	µg/m3
		1,1-Dichloroethene	2.4 UJ	µg/m3
		1,2,4-Trichlorobenzene	18 UJ	µg/m3
		1,2,4-Trimethylbenzene	3.0 UJ	µg/m3
		1,2-Dibromoethane (Ethylene dibromide)	4.8 UJ	µg/m3
		1,2-Dichlorobenzene	3.7 UJ	µg/m3
		1,2-Dichloroethane	2.5 UJ	µg/m3
		1,2-Dichloropropane	2.9 UJ	µg/m3
		1,2-Dichlorotetrafluoroethane (CFC 114)	4.3 UJ	µg/m3
		1,3,5-Trimethylbenzene	3.0 UJ	µg/m3
		1,3-Butadiene	1.4 UJ	µg/m3
		1,3-Dichlorobenzene	3.7 UJ	µg/m3
		1,4-Dichlorobenzene	3.7 UJ	µg/m3
		1,4-Dioxane	8.9 UJ	µg/m3
		2,2,4-Trimethylpentane	2.9 UJ	µg/m3
		2-Butanone (Methyl ethyl ketone) (MEK)	7.3 UJ	µg/m3
		2-Hexanone	10 UJ	µg/m3
		4-Ethyl toluene	3.0 UJ	µg/m3
		4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	2.5 UJ	µg/m3
		Acetone	4.7 J	µg/m3
		Allyl chloride	7.8 UJ	µg/m3
		Benzene	0.52 J	µg/m3
		Benzyl chloride	3.2 UJ	µg/m3
		Bromodichloromethane	4.2 UJ	µg/m3
		Bromoform	6.4 UJ	µg/m3
		Bromomethane (Methyl bromide)	24 UJ	µg/m3
		Carbon disulfide	7.7 UJ	µg/m3
		Carbon tetrachloride	3.9 UJ	µg/m3
		Chlorobenzene	2.8 UJ	µg/m3
		Chloroethane	6.5 UJ	µg/m3
		Chloroform (Trichloromethane)	3.0 UJ	µg/m3

Table 4

Qualified Sample Data Due to Improper Canister Pressure Upon Receipt at Lab
Soil Gas Sampling
Glenn Springs Holdings, Inc.
Hicksville, New York
December 2019

Parameter	Sample ID	Analyte	Qualified Result	Units
VOCs	SV121919CM005	Chloromethane (Methyl chloride)	13 UJ	µg/m3
		cis-1,2-Dichloroethene	2.4 UJ	µg/m3
		cis-1,3-Dichloropropene	2.8 UJ	µg/m3
		Cyclohexane	2.1 UJ	µg/m3
		Dibromochloromethane	5.3 UJ	µg/m3
		Dichlorodifluoromethane (CFC-12)	2.9 J	µg/m3
		Ethanol	7.3 J	µg/m3
		Ethylbenzene	2.7 UJ	µg/m3
		Hexachlorobutadiene	26 UJ	µg/m3
		Hexane	0.70 J	µg/m3
		Isopropyl alcohol	6.1 UJ	µg/m3
		Isopropyl benzene	3.0 UJ	µg/m3
		m&p-Xylenes	2.7 UJ	µg/m3
		Methyl tert butyl ether (MTBE)	8.9 UJ	µg/m3
		Methylene chloride	22 UJ	µg/m3
		N-Heptane	2.5 UJ	µg/m3
		N-Propylbenzene	3.0 UJ	µg/m3
		o-Xylene	2.7 UJ	µg/m3
		Styrene	2.6 UJ	µg/m3
		Tetrachloroethene	4.2 UJ	µg/m3
		Tetrahydrofuran	1.8 UJ	µg/m3
		Toluene	0.32 J	µg/m3
		trans-1,2-Dichloroethene	2.4 UJ	µg/m3
		trans-1,3-Dichloropropene	2.8 UJ	µg/m3
		Trichloroethene	3.3 UJ	µg/m3
		Trichlorofluoromethane (CFC-11)	0.93 J	µg/m3
		Trifluorotrchloroethane (CFC-113)	4.8 UJ	µg/m3
		Vinyl chloride	1.6 UJ	µg/m3

Notes:

J - Estimated concentration

UJ - Not detected; associated reporting limit is estimated

Attachment F

Air Emission Evaluation

Air Quality Analysis
Sub-Slab Depressurization Systems
RUCO Polymer Corp. Site
Hicksville, New York

1. Introduction

An air quality analysis was prepared to assess the impacts of potential emissions of volatile organic compounds (VOC) from the six sub-slab depressurization systems (SSDS) underneath the Simone Enterprises building at the RUCO Polymer Corporation site in Hicksville, New York. The SSDS's were installed to mitigate the potential for migration of residual sub-slab soil vapors located beneath the building slab into the Simone Enterprises building. Vapors from the SSDS's are drawn through riser piping and released to the atmosphere by a wind-powered rotary turbine equipped on top of the SSDS vent.

Air quality impacts of individual VOCs were evaluated using the United States Environmental Protection Agency (USEPA)'s AERSCREEN air dispersion model. The ambient VOC concentrations estimated using the model were compared to corresponding short-term guideline concentrations (SGCs) and annual guideline concentrations (AGCs) established by the New York State Department of Environmental Conservation (NYSDEC) for use in air quality assessment and permitting.

2. Model Input

Air dispersion modeling analysis was conducted with USEPA's AERSCREEN screening level air quality model. The input parameters for the AERSCREEN model are discussed below and summarized in Table 1 and Table 2.

2.1 Air Pollutants

The air pollutants included in the air quality analysis included any VOC that was detected above the associated reporting limit in the analytical laboratory analysis of SSDS vapor and detected above the corresponding SGC or AGC for the pollutant. Sampling of the SSDS's occurred on 6/18/2019. SSDS-5 was also sampled prior to the installation of the remaining five SSDS's on 7/11/2018 and 7/18/2018.

The following six VOCs met this criteria and were included in the analysis:

- trichloroethylene (TCE);
- perchloroethylene (PCE);
- 1,2,4-trimethylbenzene;
- 1,3,5-trimethylbenzene;
- benzene; and
- carbon tetrachloride.

The pollutants of concern during site remediation were TCE and PCE.

2.2 Emission Rates

The AERSCREEN model was run using a unit emission rate of 1 pound per hour (lb/hr). The model results were then scaled using the emission rate for each pollutant.

The emission rates for each pollutant were estimated using the pollutant concentration of SSDS vapor sampled and the maximum flowrate measured (see discussion in Section 2.3).

2.3 Stack Parameters

The height and diameter of the SSDS vents are based on design specifications. Exhaust flow rates were estimated based on weekly instantaneous flow readings that were collected during from 6/4/2019 to 7/2/2019.

The SSDS vents are equipped with a wind turbine to draw vapor from the system. As a conservative approach, it was assumed that the maximum flow recorded occurs continuously (24 hours per day x 365 days per year).

2.4 Building Parameters

The height, width, and height of the Simone Enterprises building was input into the model to account for building downwash.

3. Modeling Results

The modeling results indicate that VOC emissions from the six SSDS vents will not have a significant impact on ambient air quality surrounding the site. A comparison of the estimated maximum pollutant impacts to the corresponding SGC and AGC is presented in Table 3. The results show that maximum impacts are well below the NYSDEC guideline concentrations. All short-term impacts are less than 0.2% of the corresponding SGCs. All annual impacts are less than 2% of the corresponding AGCs. Thus, any fluctuations in pollutant concentrations or SSDS vent flows are also expected to result in impacts well below guideline concentrations.

A copy of the AERSCREEN output file is included with this analysis.

Table 1
Emissions Calculations for SSDS Vent
Air Quality Analysis
SSDS System - RUCO Polymer Corp. Site - Hicksville, New York

Parameter	Source ID	Value ¹
Flow (cfm)	SSDS1	103
	SSDS2	70
	SSDS3	111
	SSDS4	53
	SSDS5	151
	SSDS6	100

Pollutant	Cas No	MW (lb/lbmole)	Concentration ²											
			SSDS 1		SSDS 2		SSDS 3		SSDS 4		SSDS 5		SSDS 6	
			µg/m ³	ppmv	µg/m ³	ppmv	µg/m ³	ppmv	µg/m ³	ppmv	µg/m ³	ppmv	µg/m ³	ppmv
1,2,4-Trimethylbenzene	95-63-6	120.19	-	-	-	-	-	-	-	-	33	0.0066	-	-
1,3,5-Trimethylbenzene	108-67-8	120.19	-	-	-	-	-	-	-	-	10	0.0020	-	-
Benzene	71-43-2	78.11	2.3	0.0007	1.5	0.0005	1	0.0003	0.86	0.0003	15	0.0046	2.1	0.0006
Carbon Tetrachloride	56-23-5	153.81	-	-	-	-	-	-	-	-	0.82	0.0001	-	-
Perchloroethylene (PCE)	127-18-4	165.82	11	0.0016	19	0.0028	31	0.0045	24	0.0035	380	0.0553	19	0.0028
TCE (Trichloroethene)	79-01-6	131.4	2.6	0.0005	2.2	0.0004	3.1	0.0006	4.5	0.0008	14	0.0026	5.6	0.0010

Pollutant	Cas No	Hourly Emission Rate					
		SSDS-1 (lb/hr)	SSDS-2 (lb/hr)	SSDS-3 (lb/hr)	SSDS-4 (lb/hr)	SSDS-5 (lb/hr)	SSDS-6 (lb/hr)
1,2,4-Trimethylbenzene	95-63-6	-	-	-	-	1.86E-05	-
1,3,5-Trimethylbenzene	108-67-8	-	-	-	-	5.65E-06	-
Benzene	71-43-2	8.86E-07	3.93E-07	4.15E-07	1.70E-07	8.47E-06	7.85E-07
Carbon Tetrachloride	56-23-5	-	-	-	-	4.63E-07	-
Perchloroethylene (PCE)	127-18-4	4.24E-06	4.97E-06	1.29E-05	4.76E-06	2.15E-04	7.11E-06
TCE (Trichloroethene)	79-01-6	1.00E-06	5.76E-07	1.29E-06	8.92E-07	7.91E-06	2.09E-06

Notes:

1. To be conservative, the largest flow reading taken during sampling events were used.
2. Concentration data for SSDS 5 was based on three SSDS vent samples taken on 7/11/2018, 7/18/2018, and 6/18/19. The maximum contaminant concentration of the samples was used. Concentration data for SSDS 1-4 and SSDS 6 were based on SSDS vent sampling taken on 6/18/19.

Table 2
Model Input Parameters
Air Quality Analysis
SSDS System - RUCO Polymer Corp. Site - Hicksville, New York

Input Type	Parameter	Units	Value
Building Parameters	Building	-	1
	SW Corner Coordinates (E/W)	m	626426.87
	SW Corner Coordinates (N/S)	m	4512776.94
	Width	feet	200
	Length	feet	1100
	Height	feet	20
Run Parameters	Dispersion Options	-	Rural
	Unit Emission Rate	1	lb/hr
	Building Downwash	-	Yes
	Surface Characteristics	-	AERMET Seasonal
	Land Use	-	Urban
	Terrian Effects	-	No
	Flag Pole Receptors	-	No

Source Parameters

Emission Point ID	Building	Stack Height (feet)	Exit Temperature (°F)	Inside Stack Diameter (inches)	Gas Exit Velocity (feet/sec)	Exhaust Flow Rate (ACFM)	UTM E (m)	UTM N (m)	Distance to fenceline (feet)
SSDS 1	1	23	Ambient	6	8.81	104	4512826	626424	30.5
SSDS 2	1	23	Ambient	6	5.94	70	4512855	626424	30.5
SSDS 3	1	23	Ambient	6	9.35	110	4512885	626424	30.5
SSDS 4	1	23	Ambient	6	4.5	53	4512916	626424	30.5
SSDS 5	1	23	Ambient	6	12.8	150	4512946	626424	30.5
SSDS 6	1	23	Ambient	6	8.45	100	4512973	626424	30.5

Table 3
Model Results Summary
Air Quality Analysis
SSDS System - RUCO Polymer Corp. Site - Hicksville, New York

Model Run No.	Model Emission Rate ⁽¹⁾ (lb/hr)	Max 1-Hr Ambient Concentration (µg/m ³)	Maximum Annual Ambient Concentration (µg/m ³)
SSDS 1	1	1045.0	104.50
SSDS 2	1	3078.0	307.80
SSDS 3	1	2760.0	276.00
SSDS 4	1	2484.0	248.40
SSDS 5	1	1688.0	168.80
SSDS 6	1	2174.0	217.40

Pollutant	Emission Point ID	Hourly PTE Emission Rate (lb/hr) ⁽¹⁾	Maximum 1-Hour Ambient Concentration (µg/m ³)	SGC (µg/m ³)	Fraction of SGC (%)	Maximum Annual Ambient Concentration (µg/m ³)	AGC (µg/m ³)	Fraction of AGC (%)
1,2,4-Trimethylbenzene	SSDS 5	1.86E-05	-	-	-	0.003	-	
	Total	-	-	-	-	0.003	6	0.05%
1,3,5-Trimethylbenzene	SSDS 5	5.65E-06	-	-	-	0.001	-	
	Total	-	-	-	-	0.001	6	0.02%
Benzene	SSDS 1	8.86E-07	0.001	-		0.0001	-	
	SSDS 2	3.93E-07	0.001	-		0.0001	-	
	SSDS 3	4.15E-07	0.001	-		0.0001	-	
	SSDS 4	1.70E-07	0.0004	-		0.00004	-	
	SSDS 5	8.47E-06	0.014	-		0.001	-	
	SSDS 6	7.85E-07	0.002	-		0.0002	-	
	Total	-	0.02	1300	0.002%	0.002	0.13	1.5%
Carbon Tetrachloride	SSDS 5	4.63E-07	0.00078	-		0.0001	-	
	Total	-	0.00078	1900	0.00004%	0.0001	0.17	0.05%
Perchloroethylene (PCE)	SSDS 1	4.24E-06	0.004	-		0.0004	-	
	SSDS 2	4.97E-06	0.02	-		0.002	-	
	SSDS 3	1.29E-05	0.04	-		0.004	-	
	SSDS 4	4.76E-06	0.01	-		0.001	-	
	SSDS 5	2.15E-04	0.36	-		0.04	-	
	SSDS 6	7.11E-06	0.02	-		0.002	-	
	Total	-	0.44	300	0.15%	0.04	4	1.1%
TCE (Trichloroethene)	SSDS 1	1.00E-06	0.001	-		0.0001	-	
	SSDS 2	5.76E-07	0.002	-		0.0002	-	
	SSDS 3	1.29E-06	0.004	-		0.0004	-	
	SSDS 4	8.92E-07	0.002	-		0.0002	-	
	SSDS 5	7.91E-06	0.01	-		0.001	-	
	SSDS 6	2.09E-06	0.005	-		0.0005	-	
	Total	-	0.03	20	0.13%	0.003	0.20	1.3%

Notes:

1. The AERSCREEN model was ran using a unit emission rate of 1 lb/hr. The AERSCREEN model results were then scaled to the pollutant potential to emit (PTE) emissions.

TITLE: SSDS 1

***** STACK PARAMETERS *****

SOURCE EMISSION RATE: 0.1260 g/s 1.000 lb/hr
 STACK HEIGHT: 7.01 meters 23.00 feet
 STACK INNER DIAMETER: 0.152 meters 6.00 inches
 PLUME EXIT TEMPERATURE: Ambient
 PLUME EXIT VELOCITY: 2.686 m/s 8.81 ft/s
 STACK AIR FLOW RATE: 104 ACFM
 RURAL OR URBAN: RURAL

INITIAL PROBE DISTANCE = 10000. meters 32808. feet

***** BUILDING DOWNWASH PARAMETERS *****

USER DEFINED BPIPRM INPUT FILE: AERSCREEN.BPI

MAXIMUM BUILDING HEIGHT: 6.1 meters 20.0 feet

MAXIMUM BUILDING LENGTH: 340.8 meters 1118.0 feet

MINIMUM BUILDING WIDTH: 61.0 meters 200.0 feet

***** FLOW SECTOR ANALYSIS *****

25 meter receptor spacing: 9. meters - 5000. meters

50 meter receptor spacing: 5050. meters - 10000. meters

FLOW SECTOR	BUILD WIDTH	BUILD LENGTH	XBADJ	YBADJ	MAX 1-HR CONC	DIST (m)	TEMPORAL PERIOD
10	118.25	340.77	-47.42	-12.18	116.1	300.0	WIN
20	171.96	335.91	-44.74	9.35	156.7	300.0	WIN
30	220.43	320.84	-40.71	30.61	252.8	300.0	WIN
40	262.21	296.02	-35.43	50.93	261.8	275.0	WIN
50	296.02	262.21	-29.08	69.71	270.7	250.0	WIN
60	320.84	220.43	-21.84	86.36	302.1	200.0	WIN
70	335.91	171.96	-13.95	100.40	359.2	175.0	WIN
80	340.77	118.25	-5.62	111.38	536.1	125.0	WIN
90*	335.28	60.96	2.87	118.98	1042.	75.0	WIN
100	340.77	118.25	-46.94	122.96	466.5	75.0	WIN
110	335.91	171.96	-95.33	123.21	260.1	100.0	WIN
120	320.84	220.43	-140.82	119.71	207.4	100.0	WIN
130	296.02	262.21	-182.04	112.58	187.2	100.0	WIN
140	262.21	296.02	-217.72	102.03	182.2	100.0	WIN
150	220.43	320.84	-246.79	88.37	212.3	75.0	WIN
160	171.96	335.91	-268.35	72.03	227.0	75.0	WIN
170	118.25	340.77	-281.77	53.50	265.3	75.0	WIN
180	60.96	335.28	-286.62	33.35	551.9	25.0	WIN
190	118.25	340.77	-293.35	12.18	600.8	50.0	WIN
200	171.96	335.91	-291.17	-9.35	799.1	50.0	WIN
210	220.43	320.84	-280.14	-30.61	770.7	50.0	WIN
220	262.21	296.02	-260.59	-50.93	985.4	50.0	WIN
230	296.02	262.21	-233.13	-69.71	956.3	50.0	WIN
240	320.84	220.43	-198.59	-86.36	961.7	25.0	WIN

250	335.91	171.96	-158.01	-100.40	874.6	25.0	WIN
260	340.77	118.25	-112.63	-111.38	678.9	25.0	WIN
270	335.28	60.96	-63.83	-118.98	569.6	50.0	WIN
280	340.77	118.25	-71.31	-122.96	557.3	50.0	WIN
290	335.91	171.96	-76.62	-123.21	259.5	100.0	WIN
300	320.84	220.43	-79.61	-119.71	185.7	150.0	WIN
310	296.02	262.21	-80.17	-112.58	153.6	200.0	WIN
320	262.21	296.02	-78.30	-102.03	144.7	225.0	WIN
330	220.43	320.84	-74.06	-88.37	143.4	250.0	WIN
340	171.96	335.91	-67.56	-72.03	146.8	275.0	WIN
350	118.25	340.77	-59.00	-53.50	150.9	300.0	WIN
360	60.96	335.28	-48.66	-33.35	405.8	75.0	WIN

* = worst case flow sector

***** MAKEMET METEOROLOGY PARAMETERS *****

MIN/MAX TEMPERATURE: 250.0 / 310.0 (K)

MINIMUM WIND SPEED: 0.5 m/s

ANEMOMETER HEIGHT: 10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
 DOMINANT CLIMATE TYPE: Average Moisture
 DOMINANT SEASON: Winter

ALBEDO: 0.35
 BOWEN RATIO: 1.50
 ROUGHNESS LENGTH: 1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADJUSTED

 METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT

YR MO DY JDY HR

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10 01 29 29 01

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-0	LEN	Z0	BOWEN	ALBEDO	REF	WS
-0.92	0.043	-9.000	0.020	-999.	104.		8.5	1.000	1.50	0.35		0.50

HT	REF	TA	HT
10.0	310.0		2.0

WIND SPEED AT STACK HEIGHT (non-downwash): 0.5 m/s
 STACK-TIP DOWNWASH ADJUSTED STACK HEIGHT: 7.0 meters
 ESTIMATED FINAL PLUME RISE (non-downwash): 0.0 meters
 ESTIMATED FINAL PLUME HEIGHT (non-downwash): 7.0 meters

 METEOROLOGY CONDITIONS USED TO PREDICT AMBIENT BOUNDARY IMPACT

YR MO DY JDY HR

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10 01 01 29 01

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-0	LEN	Z0	BOWEN	ALBEDO	REF	WS
-1.16	0.043	-9.000	0.020	-999.	21.		5.4	1.000	1.50	0.35		0.50

HT	REF TA	HT
10.0	250.0	2.0

WIND SPEED AT STACK HEIGHT (non-downwash): 0.7 m/s
 STACK-TIP DOWNWASH ADJUSTED STACK HEIGHT: 7.0 meters
 ESTIMATED FINAL PLUME RISE (non-downwash): 0.0 meters
 ESTIMATED FINAL PLUME HEIGHT (non-downwash): 7.0 meters

***** AERSCREEN AUTOMATED DISTANCES *****
 OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE

DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	DIST (m)	MAXIMUM 1-HR CONC (ug/m3)
9.30	714.8	3775.00	1.866
25.00	961.7	3800.00	1.857
50.00	985.4	3825.00	1.847
75.00	1042.	3850.00	1.838
100.00	423.6	3875.00	1.829
125.00	536.1	3900.00	1.819
150.00	306.4	3925.00	1.810
175.00	359.2	3950.00	1.801
200.00	302.1	3975.00	1.792
225.00	285.8	4000.00	1.784
250.00	270.7	4025.00	1.775
275.00	261.8	4050.00	1.766
300.00	252.8	4075.00	1.758
325.00	156.3	4100.00	1.749
350.00	147.5	4125.00	1.741
375.00	138.5	4150.00	1.733
400.00	129.1	4175.00	1.724
425.00	119.6	4200.00	1.716
450.00	110.1	4225.00	1.708
475.00	102.2	4250.00	1.700
500.00	95.87	4275.00	1.692
525.00	89.54	4300.00	1.685
550.00	83.24	4325.00	1.677
575.00	78.53	4350.00	1.669
600.00	74.39	4375.00	1.662
625.00	70.37	4400.00	1.654
650.00	66.49	4425.00	1.647
675.00	62.74	4450.00	1.639
700.00	59.12	4475.00	1.632
725.00	55.63	4500.00	1.625
750.00	52.62	4525.00	1.618
775.00	50.48	4550.00	1.611
800.00	48.34	4575.00	1.604
825.00	46.26	4600.00	1.597
850.00	44.24	4625.00	1.590
875.00	42.25	4650.00	1.583
900.00	40.29	4675.00	1.576
925.00	38.35	4700.00	1.569
950.00	36.44	4725.00	1.563
975.00	34.58	4750.00	1.556
1000.00	32.75	4775.00	1.550
1025.00	30.98	4800.00	1.543
1050.00	29.25	4825.00	1.537
1075.00	27.57	4850.00	1.530
1100.00	25.95	4875.00	1.524
1125.00	24.38	4900.00	1.518
1150.00	22.87	4925.00	1.512
1175.00	21.42	4950.00	1.505
1200.00	20.03	4975.00	1.499
1225.00	18.71	5000.00	1.493

1250.00	17.44	5050.00	1.481
1275.00	16.24	5100.00	1.470
1300.00	15.11	5150.00	1.458
1325.00	14.04	5200.00	1.447
1350.00	13.03	5250.00	1.436
1375.00	12.07	5300.00	1.425
1400.00	11.17	5350.00	1.414
1425.00	10.33	5400.00	1.403
1450.00	9.540	5450.00	1.393
1475.00	8.799	5500.00	1.382
1500.00	8.108	5550.00	1.372
1525.00	7.465	5600.00	1.362
1550.00	6.866	5650.00	1.352
1575.00	6.311	5700.00	1.342
1600.00	5.797	5750.00	1.333
1625.00	5.322	5800.00	1.323
1650.00	4.968	5850.00	1.314
1675.00	4.785	5900.00	1.305
1700.00	4.616	5950.00	1.296
1725.00	4.460	6000.00	1.287
1750.00	4.317	6050.00	1.278
1775.00	4.184	6100.00	1.270
1800.00	4.061	6150.00	1.261
1825.00	3.946	6200.00	1.253
1850.00	3.840	6250.00	1.244
1875.00	3.741	6300.00	1.236
1900.00	3.648	6350.00	1.228
1925.00	3.562	6400.00	1.220
1950.00	3.480	6450.00	1.212
1975.00	3.404	6500.00	1.204
2000.00	3.331	6550.00	1.197
2025.00	3.263	6600.00	1.189
2050.00	3.198	6650.00	1.182
2075.00	3.136	6700.00	1.174
2100.00	3.077	6750.00	1.167
2125.00	3.021	6800.00	1.160
2150.00	2.967	6850.00	1.152
2175.00	2.915	6900.00	1.145
2200.00	2.865	6950.00	1.138
2225.00	2.817	7000.00	1.132
2250.00	2.777	7050.00	1.125
2275.00	2.754	7100.00	1.118
2300.00	2.731	7150.00	1.112
2325.00	2.709	7200.00	1.105
2350.00	2.687	7250.00	1.098
2375.00	2.665	7300.00	1.092
2400.00	2.644	7350.00	1.086
2425.00	2.624	7400.00	1.079
2450.00	2.603	7450.00	1.073
2475.00	2.583	7500.00	1.067
2500.00	2.564	7550.00	1.061
2525.00	2.544	7600.00	1.055
2550.00	2.525	7650.00	1.049
2575.00	2.507	7700.00	1.043
2600.00	2.488	7750.00	1.038
2625.00	2.470	7800.00	1.032
2650.00	2.453	7850.00	1.026
2675.00	2.435	7900.00	1.021
2700.00	2.418	7950.00	1.015
2725.00	2.401	8000.00	1.010
2750.00	2.384	8050.00	1.004
2775.00	2.368	8100.00	0.9988
2800.00	2.352	8150.00	0.9935
2825.00	2.336	8200.00	0.9883
2850.00	2.320	8250.00	0.9830
2875.00	2.304	8300.00	0.9779
2900.00	2.289	8350.00	0.9728
2925.00	2.274	8400.00	0.9677
2950.00	2.259	8450.00	0.9627
2975.00	2.245	8500.00	0.9578
3000.00	2.230	8550.00	0.9529

3025.00	2.216	8600.00	0.9480
3050.00	2.202	8650.00	0.9432
3075.00	2.188	8700.00	0.9385
3100.00	2.175	8750.00	0.9338
3125.00	2.161	8800.00	0.9291
3150.00	2.148	8850.00	0.9245
3175.00	2.135	8900.00	0.9199
3200.00	2.122	8950.00	0.9154
3225.00	2.110	9000.00	0.9109
3250.00	2.097	9050.00	0.9064
3275.00	2.085	9100.00	0.9020
3300.00	2.072	9150.00	0.8976
3325.00	2.060	9200.00	0.8933
3350.00	2.048	9250.00	0.8890
3375.00	2.037	9300.00	0.8848
3400.00	2.025	9350.00	0.8805
3425.00	2.014	9400.00	0.8764
3450.00	2.002	9450.00	0.8722
3475.00	1.991	9500.00	0.8681
3500.00	1.980	9550.00	0.8641
3525.00	1.969	9600.00	0.8600
3550.00	1.958	9650.00	0.8560
3575.00	1.948	9700.00	0.8521
3600.00	1.937	9750.00	0.8482
3625.00	1.927	9800.00	0.8443
3650.00	1.916	9850.00	0.8404
3675.00	1.906	9900.00	0.8366
3700.00	1.896	9950.00	0.8328
3725.00	1.886	10000.00	0.8290
3750.00	1.876		

***** AERSCREEN MAXIMUM IMPACT SUMMARY *****

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	1045.	1045.	940.6	627.1	104.5

DISTANCE FROM SOURCE 73.00 meters directed toward 90 degrees

IMPACT AT THE AMBIENT BOUNDARY	714.8	714.8	643.3	428.9	71.48

DISTANCE FROM SOURCE 9.30 meters directed toward 200 degrees

TITLE: SSDS 2

***** STACK PARAMETERS *****

SOURCE EMISSION RATE: 0.1260 g/s 1.000 lb/hr
 STACK HEIGHT: 7.01 meters 23.00 feet
 STACK INNER DIAMETER: 0.152 meters 6.00 inches
 PLUME EXIT TEMPERATURE: Ambient
 PLUME EXIT VELOCITY: 1.809 m/s 5.94 ft/s
 STACK AIR FLOW RATE: 70 ACFM
 RURAL OR URBAN: RURAL

INITIAL PROBE DISTANCE = 10000. meters 32808. feet

***** BUILDING DOWNWASH PARAMETERS *****

USER DEFINED BPIPPRM INPUT FILE: AERSCREEN.BPI

MAXIMUM BUILDING HEIGHT: 6.1 meters 20.0 feet

MAXIMUM BUILDING LENGTH: 340.8 meters 1118.0 feet

MINIMUM BUILDING WIDTH: 61.0 meters 200.0 feet

***** FLOW SECTOR ANALYSIS *****

25 meter receptor spacing: 9. meters - 5000. meters
 50 meter receptor spacing: 5050. meters - 10000. meters

FLOW SECTOR	BUILD WIDTH	BUILD LENGTH	XBADJ	YBADJ	MAX 1-HR CONC	DIST (m)	TEMPORAL PERIOD
10	118.25	340.77	-76.25	-17.27	121.4	275.0	WIN
20	171.96	335.91	-72.25	-0.66	172.5	275.0	WIN
30	220.43	320.84	-66.05	15.97	208.9	275.0	WIN
40	262.21	296.02	-57.85	32.12	233.0	250.0	WIN
50	296.02	262.21	-47.89	47.28	258.5	225.0	WIN
60	320.84	220.43	-36.48	61.02	409.9	200.0	WIN
70	335.91	171.96	-23.96	72.89	490.3	175.0	WIN
80	340.77	118.25	-10.71	82.56	801.0	125.0	WIN
90	335.28	60.96	2.87	89.71	1043.	75.0	WIN
100	340.77	118.25	-41.86	94.14	764.6	100.0	WIN
110	335.91	171.96	-85.32	95.71	458.6	100.0	WIN
120	320.84	220.43	-126.19	94.37	328.1	100.0	WIN
130	296.02	262.21	-163.22	90.16	268.8	100.0	WIN
140	262.21	296.02	-195.30	83.21	226.4	125.0	WIN
150	220.43	320.84	-221.44	73.74	235.1	100.0	WIN
160	171.96	335.91	-240.85	62.02	238.7	100.0	WIN
170	118.25	340.77	-252.94	48.42	256.3	100.0	WIN
180	60.96	335.28	-257.35	33.35	625.6	25.0	WIN
190	118.25	340.77	-264.52	17.27	452.9	100.0	WIN
200	171.96	335.91	-263.66	0.66	501.9	75.0	WIN
210	220.43	320.84	-254.79	-15.97	570.0	75.0	WIN
220	262.21	296.02	-238.17	-32.12	624.4	75.0	WIN
230	296.02	262.21	-214.32	-47.28	835.8	75.0	WIN
240	320.84	220.43	-183.95	-61.02	1261.	50.0	WIN

250	335.91	171.96	-148.00	-72.89	2112.	50.0	WIN
260*	340.77	118.25	-107.55	-82.56	2539.	25.0	WIN
270	335.28	60.96	-63.83	-89.71	891.7	25.0	WIN
280	340.77	118.25	-76.39	-94.14	971.1	50.0	WIN
290	335.91	171.96	-86.63	-95.71	462.7	100.0	WIN
300	320.84	220.43	-94.24	-94.37	281.7	150.0	WIN
310	296.02	262.21	-98.99	-90.16	218.6	175.0	WIN
320	262.21	296.02	-100.73	-83.21	188.9	200.0	WIN
330	220.43	320.84	-99.40	-73.74	174.6	225.0	WIN
340	171.96	335.91	-95.06	-62.02	167.0	250.0	WIN
350	118.25	340.77	-87.83	-48.42	166.0	275.0	WIN
360	60.96	335.28	-77.93	-33.35	611.5	25.0	AUT

* = worst case flow sector

***** MAKEMET METEOROLOGY PARAMETERS *****

MIN/MAX TEMPERATURE: 250.0 / 310.0 (K)

MINIMUM WIND SPEED: 0.5 m/s

ANEMOMETER HEIGHT: 10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
 DOMINANT CLIMATE TYPE: Average Moisture
 DOMINANT SEASON: Winter

ALBEDO: 0.35
 BOWEN RATIO: 1.50
 ROUGHNESS LENGTH: 1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADJUSTED

 METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT

YR MO DY JDY HR

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 10 01 01 1 01

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O	LEN	Z0	BOWEN	ALBEDO	REF	WS
-1.16	0.043	-9.000	0.020	-999.	21.		5.4	1.000	1.50	0.35		0.50

HT	REF	TA	HT
10.0	250.0		2.0

WIND SPEED AT STACK HEIGHT (non-downwash): 0.7 m/s
 STACK-TIP DOWNWASH ADJUSTED STACK HEIGHT: 7.0 meters
 ESTIMATED FINAL PLUME RISE (non-downwash): 0.0 meters
 ESTIMATED FINAL PLUME HEIGHT (non-downwash): 7.0 meters

 METEOROLOGY CONDITIONS USED TO PREDICT AMBIENT BOUNDARY IMPACT

YR MO DY JDY HR

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 10 01 03 1 01

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O	LEN	Z0	BOWEN	ALBEDO	REF	WS
-1.16	0.043	-9.000	0.020	-999.	208.		5.4	1.000	1.50	0.35		0.50

HT	REF TA	HT
10.0	250.0	2.0

WIND SPEED AT STACK HEIGHT (non-downwash): 0.7 m/s
 STACK-TIP DOWNWASH ADJUSTED STACK HEIGHT: 7.0 meters
 ESTIMATED FINAL PLUME RISE (non-downwash): 0.0 meters
 ESTIMATED FINAL PLUME HEIGHT (non-downwash): 7.0 meters

***** AERSCREEN AUTOMATED DISTANCES *****
 OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE

DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	DIST (m)	MAXIMUM 1-HR CONC (ug/m3)
9.30	2509.	3775.00	1.867
25.00	2539.	3800.00	1.857
50.00	2112.	3825.00	1.847
75.00	1043.	3850.00	1.838
100.00	764.6	3875.00	1.829
125.00	801.0	3900.00	1.819
150.00	396.2	3925.00	1.810
175.00	490.3	3950.00	1.801
200.00	409.9	3975.00	1.792
225.00	258.5	4000.00	1.784
250.00	234.8	4025.00	1.775
275.00	218.3	4050.00	1.766
300.00	202.8	4075.00	1.758
325.00	188.0	4100.00	1.749
350.00	173.9	4125.00	1.741
375.00	160.5	4150.00	1.733
400.00	147.6	4175.00	1.724
425.00	135.4	4200.00	1.716
450.00	124.9	4225.00	1.708
475.00	115.9	4250.00	1.700
500.00	107.3	4275.00	1.692
525.00	99.52	4300.00	1.685
550.00	92.50	4325.00	1.677
575.00	85.57	4350.00	1.669
600.00	78.79	4375.00	1.662
625.00	72.21	4400.00	1.654
650.00	67.16	4425.00	1.647
675.00	62.81	4450.00	1.639
700.00	59.30	4475.00	1.632
725.00	56.25	4500.00	1.625
750.00	53.46	4525.00	1.618
775.00	50.98	4550.00	1.611
800.00	48.55	4575.00	1.604
825.00	46.33	4600.00	1.597
850.00	44.13	4625.00	1.590
875.00	41.96	4650.00	1.583
900.00	39.83	4675.00	1.576
925.00	37.80	4700.00	1.569
950.00	35.84	4725.00	1.563
975.00	33.94	4750.00	1.556
1000.00	32.08	4775.00	1.550
1025.00	30.28	4800.00	1.543
1050.00	28.53	4825.00	1.537
1075.00	26.84	4850.00	1.530
1100.00	25.20	4875.00	1.524
1125.00	23.63	4900.00	1.518
1150.00	22.13	4925.00	1.512
1175.00	20.68	4950.00	1.505
1200.00	19.30	4975.00	1.499
1225.00	17.99	5000.00	1.493

1250.00	16.74	5050.00	1.481
1275.00	15.56	5100.00	1.470
1300.00	14.43	5150.00	1.458
1325.00	13.37	5200.00	1.447
1350.00	12.38	5250.00	1.436
1375.00	11.44	5300.00	1.425
1400.00	10.56	5350.00	1.414
1425.00	9.733	5400.00	1.403
1450.00	8.964	5450.00	1.393
1475.00	8.248	5500.00	1.382
1500.00	7.590	5550.00	1.372
1525.00	6.979	5600.00	1.362
1550.00	6.413	5650.00	1.352
1575.00	5.888	5700.00	1.343
1600.00	5.404	5750.00	1.333
1625.00	5.046	5800.00	1.323
1650.00	4.862	5850.00	1.314
1675.00	4.691	5900.00	1.305
1700.00	4.534	5950.00	1.296
1725.00	4.389	6000.00	1.287
1750.00	4.254	6050.00	1.278
1775.00	4.129	6100.00	1.270
1800.00	4.014	6150.00	1.261
1825.00	3.906	6200.00	1.253
1850.00	3.805	6250.00	1.244
1875.00	3.711	6300.00	1.236
1900.00	3.622	6350.00	1.228
1925.00	3.539	6400.00	1.220
1950.00	3.461	6450.00	1.212
1975.00	3.387	6500.00	1.204
2000.00	3.317	6550.00	1.197
2025.00	3.251	6600.00	1.189
2050.00	3.188	6650.00	1.182
2075.00	3.128	6700.00	1.174
2100.00	3.070	6750.00	1.167
2125.00	3.015	6800.00	1.160
2150.00	2.962	6850.00	1.153
2175.00	2.911	6900.00	1.145
2200.00	2.862	6950.00	1.139
2225.00	2.814	7000.00	1.132
2250.00	2.777	7050.00	1.125
2275.00	2.754	7100.00	1.118
2300.00	2.731	7150.00	1.112
2325.00	2.709	7200.00	1.105
2350.00	2.687	7250.00	1.099
2375.00	2.666	7300.00	1.092
2400.00	2.645	7350.00	1.086
2425.00	2.624	7400.00	1.080
2450.00	2.604	7450.00	1.073
2475.00	2.584	7500.00	1.067
2500.00	2.564	7550.00	1.061
2525.00	2.545	7600.00	1.055
2550.00	2.526	7650.00	1.049
2575.00	2.507	7700.00	1.043
2600.00	2.489	7750.00	1.038
2625.00	2.470	7800.00	1.032
2650.00	2.453	7850.00	1.026
2675.00	2.435	7900.00	1.021
2700.00	2.418	7950.00	1.015
2725.00	2.401	8000.00	1.010
2750.00	2.384	8050.00	1.004
2775.00	2.368	8100.00	0.9989
2800.00	2.352	8150.00	0.9935
2825.00	2.336	8200.00	0.9883
2850.00	2.320	8250.00	0.9831
2875.00	2.305	8300.00	0.9779
2900.00	2.289	8350.00	0.9728
2925.00	2.274	8400.00	0.9678
2950.00	2.260	8450.00	0.9628
2975.00	2.245	8500.00	0.9578
3000.00	2.231	8550.00	0.9529

3025.00	2.216	8600.00	0.9481
3050.00	2.202	8650.00	0.9433
3075.00	2.189	8700.00	0.9385
3100.00	2.175	8750.00	0.9338
3125.00	2.162	8800.00	0.9291
3150.00	2.148	8850.00	0.9245
3175.00	2.135	8900.00	0.9199
3200.00	2.122	8950.00	0.9154
3225.00	2.110	9000.00	0.9109
3250.00	2.097	9050.00	0.9064
3275.00	2.085	9100.00	0.9020
3300.00	2.073	9150.00	0.8977
3325.00	2.060	9200.00	0.8933
3350.00	2.049	9250.00	0.8890
3375.00	2.037	9300.00	0.8848
3400.00	2.025	9350.00	0.8806
3425.00	2.014	9400.00	0.8764
3450.00	2.002	9450.00	0.8723
3475.00	1.991	9500.00	0.8682
3500.00	1.980	9550.00	0.8641
3525.00	1.969	9600.00	0.8601
3550.00	1.958	9650.00	0.8561
3575.00	1.948	9700.00	0.8521
3600.00	1.937	9750.00	0.8482
3625.00	1.927	9800.00	0.8443
3650.00	1.916	9850.00	0.8404
3675.00	1.906	9900.00	0.8366
3700.00	1.896	9950.00	0.8328
3725.00	1.886	10000.00	0.8290
3750.00	1.876		

***** AERSCREEN MAXIMUM IMPACT SUMMARY *****

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	3078.	3078.	2770.	1847.	307.8

DISTANCE FROM SOURCE 27.00 meters directed toward 260 degrees

IMPACT AT THE AMBIENT BOUNDARY	2509.	2509.	2258.	1505.	250.9

DISTANCE FROM SOURCE 9.30 meters directed toward 260 degrees

TITLE: SSDS 3

***** STACK PARAMETERS *****

SOURCE EMISSION RATE: 0.1260 g/s 1.000 lb/hr
 STACK HEIGHT: 7.01 meters 23.00 feet
 STACK INNER DIAMETER: 0.152 meters 6.00 inches
 PLUME EXIT TEMPERATURE: Ambient
 PLUME EXIT VELOCITY: 2.851 m/s 9.35 ft/s
 STACK AIR FLOW RATE: 110 ACFM
 RURAL OR URBAN: RURAL

INITIAL PROBE DISTANCE = 10000. meters 32808. feet

***** BUILDING DOWNWASH PARAMETERS *****

USER DEFINED BPIPRM INPUT FILE: AERSCREEN.BPI

MAXIMUM BUILDING HEIGHT: 6.1 meters 20.0 feet

MAXIMUM BUILDING LENGTH: 340.8 meters 1118.0 feet

MINIMUM BUILDING WIDTH: 61.0 meters 200.0 feet

***** FLOW SECTOR ANALYSIS *****

25 meter receptor spacing: 9. meters - 5000. meters

50 meter receptor spacing: 5050. meters - 10000. meters

FLOW SECTOR	BUILD WIDTH	BUILD LENGTH	XBADJ	YBADJ	MAX 1-HR CONC	DIST (m)	TEMPORAL PERIOD
10	118.25	340.77	-105.51	-22.42	198.8	250.0	WIN
20	171.96	335.91	-100.17	-10.82	168.0	250.0	WIN
30	220.43	320.84	-91.78	1.12	216.5	250.0	WIN
40	262.21	296.02	-80.61	13.02	258.8	225.0	WIN
50	296.02	262.21	-66.99	24.53	305.0	200.0	WIN
60	320.84	220.43	-51.33	35.29	369.5	175.0	WIN
70	335.91	171.96	-34.12	44.98	480.8	150.0	WIN
80	340.77	118.25	-15.87	53.30	703.3	125.0	WIN
90	335.28	60.96	2.87	60.00	1016.	75.0	WIN
100	340.77	118.25	-36.70	64.88	719.1	100.0	WIN
110	335.91	171.96	-75.16	67.79	503.0	125.0	WIN
120	320.84	220.43	-111.33	68.64	430.4	125.0	WIN
130	296.02	262.21	-144.13	67.40	338.3	125.0	WIN
140	262.21	296.02	-172.54	64.11	286.6	125.0	WIN
150	220.43	320.84	-195.71	58.88	243.8	150.0	WIN
160	171.96	335.91	-212.93	51.86	239.2	125.0	WIN
170	118.25	340.77	-223.68	43.26	231.5	125.0	WIN
180	60.96	335.28	-227.64	33.35	539.5	25.0	WIN
190	118.25	340.77	-235.27	22.42	324.4	125.0	WIN
200	171.96	335.91	-235.74	10.82	326.1	100.0	WIN
210	220.43	320.84	-229.06	-1.12	423.0	100.0	WIN
220	262.21	296.02	-215.41	-13.02	499.3	100.0	WIN
230	296.02	262.21	-195.22	-24.53	603.3	75.0	WIN
240	320.84	220.43	-169.10	-35.29	795.7	75.0	WIN

250	335.91	171.96	-137.84	-44.98	1235.	50.0	WIN
260*	340.77	118.25	-102.39	-53.30	2392.	25.0	WIN
270	335.28	60.96	-63.83	-60.00	771.9	25.0	WIN
280	340.77	118.25	-81.55	-64.88	1234.	50.0	WIN
290	335.91	171.96	-96.80	-67.79	694.9	100.0	WIN
300	320.84	220.43	-109.10	-68.64	426.6	125.0	WIN
310	296.02	262.21	-118.09	-67.40	306.5	150.0	WIN
320	262.21	296.02	-123.49	-64.11	243.9	175.0	WIN
330	220.43	320.84	-125.13	-58.88	208.0	200.0	WIN
340	171.96	335.91	-122.98	-51.86	184.7	225.0	WIN
350	118.25	340.77	-117.09	-43.26	173.5	225.0	WIN
360	60.96	335.28	-107.64	-33.35	585.6	9.3	WIN

* = worst case flow sector

***** MAKEMET METEOROLOGY PARAMETERS *****

MIN/MAX TEMPERATURE: 250.0 / 310.0 (K)

MINIMUM WIND SPEED: 0.5 m/s

ANEMOMETER HEIGHT: 10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
 DOMINANT CLIMATE TYPE: Average Moisture
 DOMINANT SEASON: Winter

ALBEDO: 0.35
 BOWEN RATIO: 1.50
 ROUGHNESS LENGTH: 1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADJUSTED

 METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT

YR MO DY JDY HR

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H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O	LEN	Z0	BOWEN	ALBEDO	REF	WS
-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50		

HT	REF	TA	HT
10.0	310.0	2.0	

WIND SPEED AT STACK HEIGHT (non-downwash): 0.6 m/s
 STACK-TIP DOWNWASH ADJUSTED STACK HEIGHT: 7.0 meters
 ESTIMATED FINAL PLUME RISE (non-downwash): 0.0 meters
 ESTIMATED FINAL PLUME HEIGHT (non-downwash): 7.0 meters

 METEOROLOGY CONDITIONS USED TO PREDICT AMBIENT BOUNDARY IMPACT

YR MO DY JDY HR

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10 01 12 10 01

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O	LEN	Z0	BOWEN	ALBEDO	REF	WS
-1.30	0.043	-9.000	0.020	-999.	208.	6.0	1.000	1.50	0.35	0.50		

HT	REF TA	HT
10.0	310.0	2.0

WIND SPEED AT STACK HEIGHT (non-downwash): 0.6 m/s
 STACK-TIP DOWNWASH ADJUSTED STACK HEIGHT: 7.0 meters
 ESTIMATED FINAL PLUME RISE (non-downwash): 0.0 meters
 ESTIMATED FINAL PLUME HEIGHT (non-downwash): 7.0 meters

***** AERSCREEN AUTOMATED DISTANCES *****
 OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE

DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	DIST (m)	MAXIMUM 1-HR CONC (ug/m3)
9.30	2260.	3775.00	1.866
25.00	2392.	3800.00	1.857
50.00	1235.	3825.00	1.847
75.00	1016.	3850.00	1.838
100.00	719.1	3875.00	1.829
125.00	703.3	3900.00	1.819
150.00	480.8	3925.00	1.810
175.00	369.5	3950.00	1.801
200.00	305.6	3975.00	1.792
225.00	283.2	4000.00	1.784
250.00	217.0	4025.00	1.775
275.00	202.4	4050.00	1.766
300.00	188.5	4075.00	1.758
325.00	175.4	4100.00	1.749
350.00	162.7	4125.00	1.741
375.00	150.6	4150.00	1.733
400.00	139.0	4175.00	1.724
425.00	127.9	4200.00	1.716
450.00	117.2	4225.00	1.708
475.00	109.0	4250.00	1.700
500.00	102.2	4275.00	1.692
525.00	95.34	4300.00	1.685
550.00	88.57	4325.00	1.677
575.00	81.89	4350.00	1.669
600.00	75.36	4375.00	1.662
625.00	69.30	4400.00	1.654
650.00	64.75	4425.00	1.647
675.00	60.29	4450.00	1.639
700.00	56.38	4475.00	1.632
725.00	53.00	4500.00	1.625
750.00	50.19	4525.00	1.618
775.00	47.46	4550.00	1.611
800.00	44.88	4575.00	1.604
825.00	42.56	4600.00	1.597
850.00	40.28	4625.00	1.590
875.00	38.08	4650.00	1.583
900.00	36.07	4675.00	1.576
925.00	34.12	4700.00	1.569
950.00	32.21	4725.00	1.563
975.00	30.36	4750.00	1.556
1000.00	28.57	4775.00	1.550
1025.00	26.84	4800.00	1.543
1050.00	25.22	4825.00	1.537
1075.00	23.69	4850.00	1.530
1100.00	22.21	4875.00	1.524
1125.00	20.79	4900.00	1.518
1150.00	19.44	4925.00	1.512
1175.00	18.14	4950.00	1.505
1200.00	16.91	4975.00	1.499
1225.00	15.74	5000.00	1.493

1250.00	14.63	5050.00	1.481
1275.00	13.57	5100.00	1.470
1300.00	12.58	5150.00	1.458
1325.00	11.65	5200.00	1.447
1350.00	10.77	5250.00	1.436
1375.00	9.944	5300.00	1.425
1400.00	9.173	5350.00	1.414
1425.00	8.453	5400.00	1.403
1450.00	7.782	5450.00	1.393
1475.00	7.158	5500.00	1.382
1500.00	6.580	5550.00	1.372
1525.00	6.044	5600.00	1.362
1550.00	5.550	5650.00	1.352
1575.00	5.263	5700.00	1.342
1600.00	5.070	5750.00	1.333
1625.00	4.892	5800.00	1.323
1650.00	4.727	5850.00	1.314
1675.00	4.574	5900.00	1.305
1700.00	4.432	5950.00	1.296
1725.00	4.300	6000.00	1.287
1750.00	4.178	6050.00	1.278
1775.00	4.064	6100.00	1.270
1800.00	3.957	6150.00	1.261
1825.00	3.857	6200.00	1.253
1850.00	3.763	6250.00	1.244
1875.00	3.675	6300.00	1.236
1900.00	3.592	6350.00	1.228
1925.00	3.514	6400.00	1.220
1950.00	3.440	6450.00	1.212
1975.00	3.369	6500.00	1.204
2000.00	3.302	6550.00	1.197
2025.00	3.238	6600.00	1.189
2050.00	3.177	6650.00	1.182
2075.00	3.119	6700.00	1.174
2100.00	3.063	6750.00	1.167
2125.00	3.009	6800.00	1.160
2150.00	2.957	6850.00	1.152
2175.00	2.907	6900.00	1.145
2200.00	2.858	6950.00	1.138
2225.00	2.811	7000.00	1.132
2250.00	2.777	7050.00	1.125
2275.00	2.754	7100.00	1.118
2300.00	2.731	7150.00	1.111
2325.00	2.709	7200.00	1.105
2350.00	2.687	7250.00	1.098
2375.00	2.665	7300.00	1.092
2400.00	2.644	7350.00	1.086
2425.00	2.624	7400.00	1.079
2450.00	2.603	7450.00	1.073
2475.00	2.583	7500.00	1.067
2500.00	2.564	7550.00	1.061
2525.00	2.544	7600.00	1.055
2550.00	2.525	7650.00	1.049
2575.00	2.507	7700.00	1.043
2600.00	2.488	7750.00	1.038
2625.00	2.470	7800.00	1.032
2650.00	2.453	7850.00	1.026
2675.00	2.435	7900.00	1.021
2700.00	2.418	7950.00	1.015
2725.00	2.401	8000.00	1.010
2750.00	2.384	8050.00	1.004
2775.00	2.368	8100.00	0.9988
2800.00	2.352	8150.00	0.9935
2825.00	2.336	8200.00	0.9882
2850.00	2.320	8250.00	0.9830
2875.00	2.304	8300.00	0.9779
2900.00	2.289	8350.00	0.9728
2925.00	2.274	8400.00	0.9677
2950.00	2.259	8450.00	0.9627
2975.00	2.245	8500.00	0.9578
3000.00	2.230	8550.00	0.9529

3025.00	2.216	8600.00	0.9480
3050.00	2.202	8650.00	0.9432
3075.00	2.188	8700.00	0.9385
3100.00	2.175	8750.00	0.9338
3125.00	2.161	8800.00	0.9291
3150.00	2.148	8850.00	0.9245
3175.00	2.135	8900.00	0.9199
3200.00	2.122	8950.00	0.9154
3225.00	2.110	9000.00	0.9109
3250.00	2.097	9050.00	0.9064
3275.00	2.085	9100.00	0.9020
3300.00	2.072	9150.00	0.8976
3325.00	2.060	9200.00	0.8933
3350.00	2.048	9250.00	0.8890
3375.00	2.037	9300.00	0.8848
3400.00	2.025	9350.00	0.8805
3425.00	2.014	9400.00	0.8764
3450.00	2.002	9450.00	0.8722
3475.00	1.991	9500.00	0.8681
3500.00	1.980	9550.00	0.8641
3525.00	1.969	9600.00	0.8600
3550.00	1.958	9650.00	0.8560
3575.00	1.948	9700.00	0.8521
3600.00	1.937	9750.00	0.8482
3625.00	1.927	9800.00	0.8443
3650.00	1.916	9850.00	0.8404
3675.00	1.906	9900.00	0.8366
3700.00	1.896	9950.00	0.8328
3725.00	1.886	10000.00	0.8290
3750.00	1.876		

***** AERSCREEN MAXIMUM IMPACT SUMMARY *****

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	2760.	2760.	2484.	1656.	276.0

DISTANCE FROM SOURCE 40.00 meters directed toward 260 degrees

IMPACT AT THE AMBIENT BOUNDARY	2260.	2260.	2034.	1356.	226.0

DISTANCE FROM SOURCE 9.30 meters directed toward 260 degrees

TITLE: SSDS 4

***** STACK PARAMETERS *****

SOURCE EMISSION RATE: 0.1260 g/s 1.000 lb/hr
 STACK HEIGHT: 7.01 meters 23.00 feet
 STACK INNER DIAMETER: 0.152 meters 6.00 inches
 PLUME EXIT TEMPERATURE: Ambient
 PLUME EXIT VELOCITY: 1.370 m/s 4.50 ft/s
 STACK AIR FLOW RATE: 53 ACFM
 RURAL OR URBAN: RURAL

INITIAL PROBE DISTANCE = 10000. meters 32808. feet

***** BUILDING DOWNWASH PARAMETERS *****

USER DEFINED BPIPRM INPUT FILE: AERSCREEN.BPI

MAXIMUM BUILDING HEIGHT: 6.1 meters 20.0 feet

MAXIMUM BUILDING LENGTH: 340.8 meters 1118.0 feet

MINIMUM BUILDING WIDTH: 61.0 meters 200.0 feet

***** FLOW SECTOR ANALYSIS *****

25 meter receptor spacing: 9. meters - 5000. meters

50 meter receptor spacing: 5050. meters - 10000. meters

FLOW SECTOR	BUILD WIDTH	BUILD LENGTH	XBADJ	YBADJ	MAX 1-HR CONC	DIST (m)	TEMPORAL PERIOD
10	118.25	340.77	-136.87	-27.96	215.8	225.0	WIN
20	171.96	335.91	-130.10	-21.71	263.7	225.0	WIN
30	220.43	320.84	-119.37	-14.81	234.8	225.0	WIN
40	262.21	296.02	-105.01	-7.45	292.6	200.0	WIN
50	296.02	262.21	-87.46	0.13	357.6	175.0	WIN
60	320.84	220.43	-67.26	7.70	435.1	175.0	WIN
70	335.91	171.96	-45.01	15.05	553.9	150.0	WIN
80	340.77	118.25	-21.40	21.93	771.1	100.0	WIN
90	335.28	60.96	2.87	28.15	1100.	75.0	WIN
100	340.77	118.25	-31.17	33.51	786.2	100.0	WIN
110	335.91	171.96	-64.27	37.86	563.5	125.0	WIN
120	320.84	220.43	-95.41	41.05	534.4	150.0	WIN
130	296.02	262.21	-123.65	43.00	317.6	150.0	WIN
140	262.21	296.02	-148.14	43.64	308.1	175.0	WIN
150	220.43	320.84	-168.12	42.96	291.0	175.0	WIN
160	171.96	335.91	-183.00	40.97	254.3	175.0	WIN
170	118.25	340.77	-192.32	37.73	235.1	150.0	WIN
180	60.96	335.28	-195.79	33.35	666.2	25.0	WIN
190	118.25	340.77	-203.90	27.96	271.8	150.0	WIN
200	171.96	335.91	-205.81	21.71	350.1	150.0	WIN
210	220.43	320.84	-201.47	14.81	340.5	125.0	WIN
220	262.21	296.02	-191.01	7.45	436.8	125.0	WIN
230	296.02	262.21	-174.75	-0.13	541.3	100.0	WIN
240	320.84	220.43	-153.17	-7.70	696.2	75.0	WIN

250	335.91	171.96	-126.94	-15.05	1033.	50.0	WIN
260*	340.77	118.25	-96.86	-21.93	2484.	25.0	WIN
270	335.28	60.96	-63.83	-28.15	926.2	9.3	WIN
280	340.77	118.25	-87.08	-33.51	1618.	50.0	WIN
290	335.91	171.96	-107.69	-37.86	764.1	75.0	WIN
300	320.84	220.43	-125.02	-41.05	499.2	100.0	WIN
310	296.02	262.21	-138.56	-43.00	431.6	150.0	WIN
320	262.21	296.02	-147.88	-43.64	313.4	175.0	WIN
330	220.43	320.84	-152.72	-42.96	280.0	175.0	WIN
340	171.96	335.91	-152.91	-40.97	232.1	200.0	WIN
350	118.25	340.77	-148.45	-37.73	204.6	200.0	WIN
360	60.96	335.28	-139.49	-33.35	728.9	9.3	WIN

* = worst case flow sector

***** MAKEMET METEOROLOGY PARAMETERS *****

MIN/MAX TEMPERATURE: 250.0 / 310.0 (K)

MINIMUM WIND SPEED: 0.5 m/s

ANEMOMETER HEIGHT: 10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
 DOMINANT CLIMATE TYPE: Average Moisture
 DOMINANT SEASON: Winter

ALBEDO: 0.35
 BOWEN RATIO: 1.50
 ROUGHNESS LENGTH: 1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADJUSTED

 METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT

YR MO DY JDY HR

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H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O	LEN	Z0	BOWEN	ALBEDO	REF	WS
-1.16	0.043	-9.000	0.020	-999.	104.		5.4	1.000	1.50	0.35		0.50

HT	REF	TA	HT
10.0	250.0		2.0

WIND SPEED AT STACK HEIGHT (non-downwash): 0.7 m/s
 STACK-TIP DOWNWASH ADJUSTED STACK HEIGHT: 7.0 meters
 ESTIMATED FINAL PLUME RISE (non-downwash): 0.0 meters
 ESTIMATED FINAL PLUME HEIGHT (non-downwash): 7.0 meters

 METEOROLOGY CONDITIONS USED TO PREDICT AMBIENT BOUNDARY IMPACT

YR MO DY JDY HR

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10 01 02 2 01

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O	LEN	Z0	BOWEN	ALBEDO	REF	WS
-1.16	0.043	-9.000	0.020	-999.	104.		5.4	1.000	1.50	0.35		0.50

HT	REF TA	HT
10.0	250.0	2.0

WIND SPEED AT STACK HEIGHT (non-downwash): 0.7 m/s
 STACK-TIP DOWNWASH ADJUSTED STACK HEIGHT: 7.0 meters
 ESTIMATED FINAL PLUME RISE (non-downwash): 0.0 meters
 ESTIMATED FINAL PLUME HEIGHT (non-downwash): 7.0 meters

***** AERSCREEN AUTOMATED DISTANCES *****
 OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE

DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	DIST (m)	MAXIMUM 1-HR CONC (ug/m3)
9.30	2230.	3775.00	1.867
25.00	2484.	3800.00	1.857
50.00	1911.	3825.00	1.847
75.00	1100.	3850.00	1.838
100.00	786.2	3875.00	1.829
125.00	630.8	3900.00	1.820
150.00	553.9	3925.00	1.810
175.00	435.1	3950.00	1.801
200.00	357.6	3975.00	1.793
225.00	278.0	4000.00	1.784
250.00	255.0	4025.00	1.775
275.00	233.6	4050.00	1.766
300.00	213.5	4075.00	1.758
325.00	194.4	4100.00	1.749
350.00	178.2	4125.00	1.741
375.00	165.5	4150.00	1.733
400.00	153.3	4175.00	1.724
425.00	141.5	4200.00	1.716
450.00	130.1	4225.00	1.708
475.00	119.2	4250.00	1.700
500.00	108.8	4275.00	1.692
525.00	99.28	4300.00	1.685
550.00	92.10	4325.00	1.677
575.00	85.05	4350.00	1.669
600.00	78.16	4375.00	1.662
625.00	71.88	4400.00	1.654
650.00	67.04	4425.00	1.647
675.00	62.97	4450.00	1.639
700.00	59.23	4475.00	1.632
725.00	55.56	4500.00	1.625
750.00	51.98	4525.00	1.618
775.00	49.03	4550.00	1.611
800.00	46.31	4575.00	1.604
825.00	43.80	4600.00	1.597
850.00	41.35	4625.00	1.590
875.00	38.97	4650.00	1.583
900.00	36.65	4675.00	1.576
925.00	34.40	4700.00	1.569
950.00	32.34	4725.00	1.563
975.00	30.41	4750.00	1.556
1000.00	28.54	4775.00	1.550
1025.00	26.75	4800.00	1.543
1050.00	25.02	4825.00	1.537
1075.00	23.37	4850.00	1.530
1100.00	21.81	4875.00	1.524
1125.00	20.38	4900.00	1.518
1150.00	19.00	4925.00	1.512
1175.00	17.70	4950.00	1.506
1200.00	16.46	4975.00	1.499
1225.00	15.28	5000.00	1.493

1250.00	14.17	5050.00	1.481
1275.00	13.13	5100.00	1.470
1300.00	12.14	5150.00	1.458
1325.00	11.22	5200.00	1.447
1350.00	10.35	5250.00	1.436
1375.00	9.542	5300.00	1.425
1400.00	8.786	5350.00	1.414
1425.00	8.083	5400.00	1.403
1450.00	7.429	5450.00	1.393
1475.00	6.824	5500.00	1.382
1500.00	6.265	5550.00	1.372
1525.00	5.749	5600.00	1.362
1550.00	5.365	5650.00	1.352
1575.00	5.168	5700.00	1.343
1600.00	4.985	5750.00	1.333
1625.00	4.817	5800.00	1.324
1650.00	4.660	5850.00	1.314
1675.00	4.516	5900.00	1.305
1700.00	4.381	5950.00	1.296
1725.00	4.256	6000.00	1.287
1750.00	4.139	6050.00	1.278
1775.00	4.030	6100.00	1.270
1800.00	3.928	6150.00	1.261
1825.00	3.832	6200.00	1.253
1850.00	3.742	6250.00	1.244
1875.00	3.657	6300.00	1.236
1900.00	3.577	6350.00	1.228
1925.00	3.500	6400.00	1.220
1950.00	3.428	6450.00	1.212
1975.00	3.359	6500.00	1.204
2000.00	3.294	6550.00	1.197
2025.00	3.231	6600.00	1.189
2050.00	3.171	6650.00	1.182
2075.00	3.114	6700.00	1.174
2100.00	3.058	6750.00	1.167
2125.00	3.005	6800.00	1.160
2150.00	2.954	6850.00	1.153
2175.00	2.904	6900.00	1.145
2200.00	2.856	6950.00	1.139
2225.00	2.810	7000.00	1.132
2250.00	2.777	7050.00	1.125
2275.00	2.754	7100.00	1.118
2300.00	2.731	7150.00	1.112
2325.00	2.709	7200.00	1.105
2350.00	2.687	7250.00	1.099
2375.00	2.666	7300.00	1.092
2400.00	2.645	7350.00	1.086
2425.00	2.624	7400.00	1.080
2450.00	2.604	7450.00	1.073
2475.00	2.584	7500.00	1.067
2500.00	2.564	7550.00	1.061
2525.00	2.545	7600.00	1.055
2550.00	2.526	7650.00	1.049
2575.00	2.507	7700.00	1.043
2600.00	2.489	7750.00	1.038
2625.00	2.471	7800.00	1.032
2650.00	2.453	7850.00	1.026
2675.00	2.435	7900.00	1.021
2700.00	2.418	7950.00	1.015
2725.00	2.401	8000.00	1.010
2750.00	2.384	8050.00	1.004
2775.00	2.368	8100.00	0.9989
2800.00	2.352	8150.00	0.9936
2825.00	2.336	8200.00	0.9883
2850.00	2.320	8250.00	0.9831
2875.00	2.305	8300.00	0.9779
2900.00	2.289	8350.00	0.9728
2925.00	2.274	8400.00	0.9678
2950.00	2.260	8450.00	0.9628
2975.00	2.245	8500.00	0.9578
3000.00	2.231	8550.00	0.9529

3025.00	2.216	8600.00	0.9481
3050.00	2.202	8650.00	0.9433
3075.00	2.189	8700.00	0.9385
3100.00	2.175	8750.00	0.9338
3125.00	2.162	8800.00	0.9291
3150.00	2.148	8850.00	0.9245
3175.00	2.135	8900.00	0.9199
3200.00	2.122	8950.00	0.9154
3225.00	2.110	9000.00	0.9109
3250.00	2.097	9050.00	0.9064
3275.00	2.085	9100.00	0.9020
3300.00	2.073	9150.00	0.8977
3325.00	2.060	9200.00	0.8933
3350.00	2.049	9250.00	0.8890
3375.00	2.037	9300.00	0.8848
3400.00	2.025	9350.00	0.8806
3425.00	2.014	9400.00	0.8764
3450.00	2.002	9450.00	0.8723
3475.00	1.991	9500.00	0.8682
3500.00	1.980	9550.00	0.8641
3525.00	1.969	9600.00	0.8601
3550.00	1.958	9650.00	0.8561
3575.00	1.948	9700.00	0.8521
3600.00	1.937	9750.00	0.8482
3625.00	1.927	9800.00	0.8443
3650.00	1.916	9850.00	0.8404
3675.00	1.906	9900.00	0.8366
3700.00	1.896	9950.00	0.8328
3725.00	1.886	10000.00	0.8291
3750.00	1.876		

***** AERSCREEN MAXIMUM IMPACT SUMMARY *****

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	2484.	2484.	2236.	1490.	248.4

DISTANCE FROM SOURCE 22.00 meters directed toward 260 degrees

IMPACT AT THE AMBIENT BOUNDARY	2230.	2230.	2007.	1338.	223.0

DISTANCE FROM SOURCE 9.30 meters directed toward 260 degrees

TITLE: SSDS 5

***** STACK PARAMETERS *****

SOURCE EMISSION RATE: 0.1260 g/s 1.000 lb/hr
 STACK HEIGHT: 7.01 meters 23.00 feet
 STACK INNER DIAMETER: 0.152 meters 6.00 inches
 PLUME EXIT TEMPERATURE: Ambient
 PLUME EXIT VELOCITY: 3.892 m/s 12.77 ft/s
 STACK AIR FLOW RATE: 150 ACFM
 RURAL OR URBAN: RURAL

INITIAL PROBE DISTANCE = 10000. meters 32808. feet

***** BUILDING DOWNWASH PARAMETERS *****

USER DEFINED BPIPRM INPUT FILE: AERSCREEN.BPI

MAXIMUM BUILDING HEIGHT: 6.1 meters 20.0 feet

MAXIMUM BUILDING LENGTH: 340.8 meters 1118.0 feet

MINIMUM BUILDING WIDTH: 61.0 meters 200.0 feet

***** FLOW SECTOR ANALYSIS *****

25 meter receptor spacing: 9. meters - 5000. meters

50 meter receptor spacing: 5050. meters - 10000. meters

FLOW SECTOR	BUILD WIDTH	BUILD LENGTH	XBADJ	YBADJ	MAX 1-HR CONC	DIST (m)	TEMPORAL PERIOD
10	118.25	340.77	-165.99	-33.09	205.5	175.0	WIN
20	171.96	335.91	-157.88	-31.82	235.2	200.0	WIN
30	220.43	320.84	-144.98	-29.59	279.4	200.0	WIN
40	262.21	296.02	-127.66	-26.46	254.3	175.0	WIN
50	296.02	262.21	-106.47	-22.52	318.8	175.0	WIN
60	320.84	220.43	-82.04	-17.90	401.7	150.0	WIN
70	335.91	171.96	-55.12	-12.74	512.9	125.0	WIN
80	340.77	118.25	-26.53	-7.19	698.2	100.0	WIN
90	335.28	60.96	2.87	-1.42	970.0	75.0	WIN
100	340.77	118.25	-26.04	4.39	699.3	100.0	WIN
110	335.91	171.96	-54.15	10.07	513.8	125.0	WIN
120	320.84	220.43	-80.62	15.45	404.7	150.0	WIN
130	296.02	262.21	-104.65	20.35	320.0	175.0	WIN
140	262.21	296.02	-125.49	24.63	256.1	175.0	WIN
150	220.43	320.84	-142.52	28.17	280.8	200.0	WIN
160	171.96	335.91	-155.21	30.85	235.6	200.0	WIN
170	118.25	340.77	-163.20	32.60	197.6	200.0	WIN
180	60.96	335.28	-166.22	33.35	411.0	50.0	WIN
190	118.25	340.77	-174.78	33.09	207.9	175.0	WIN
200	171.96	335.91	-178.03	31.82	253.8	175.0	WIN
210	220.43	320.84	-175.87	29.59	227.0	150.0	WIN
220	262.21	296.02	-168.36	26.46	305.1	150.0	WIN
230	296.02	262.21	-155.74	22.52	405.4	125.0	WIN
240	320.84	220.43	-138.39	17.90	541.1	100.0	WIN

250	335.91	171.96	-116.83	12.74	774.1	75.0	WIN
260	340.77	118.25	-91.72	7.19	1581.	50.0	WIN
270	335.28	60.96	-63.83	1.42	511.1	50.0	WIN
280*	340.77	118.25	-92.22	-4.39	1688.	50.0	WIN
290	335.91	171.96	-117.80	-10.07	792.0	75.0	WIN
300	320.84	220.43	-139.81	-15.45	549.3	100.0	WIN
310	296.02	262.21	-157.57	-20.35	414.3	125.0	WIN
320	262.21	296.02	-170.54	-24.63	313.7	150.0	WIN
330	220.43	320.84	-178.33	-28.17	233.9	150.0	WIN
340	171.96	335.91	-180.70	-30.85	257.9	175.0	WIN
350	118.25	340.77	-177.58	-32.60	209.9	175.0	WIN
360	60.96	335.28	-169.06	-33.35	410.4	50.0	WIN

* = worst case flow sector

***** MAKEMET METEOROLOGY PARAMETERS *****

MIN/MAX TEMPERATURE: 250.0 / 310.0 (K)

MINIMUM WIND SPEED: 0.5 m/s

ANEMOMETER HEIGHT: 10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
 DOMINANT CLIMATE TYPE: Average Moisture
 DOMINANT SEASON: Winter

ALBEDO: 0.35
 BOWEN RATIO: 1.50
 ROUGHNESS LENGTH: 1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADJUSTED

 METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT

YR MO DY JDY HR

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 10 01 02 2 01

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-0	LEN	Z0	BOWEN	ALBEDO	REF	WS
-1.16	0.043	-9.000	0.020	-999.	104.		5.4	1.000	1.50	0.35		0.50

HT	REF	TA	HT
10.0	250.0		2.0

WIND SPEED AT STACK HEIGHT (non-downwash): 0.7 m/s
 STACK-TIP DOWNWASH ADJUSTED STACK HEIGHT: 7.0 meters
 ESTIMATED FINAL PLUME RISE (non-downwash): 0.0 meters
 ESTIMATED FINAL PLUME HEIGHT (non-downwash): 7.0 meters

 METEOROLOGY CONDITIONS USED TO PREDICT AMBIENT BOUNDARY IMPACT

YR MO DY JDY HR

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 10 01 02 2 01

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-0	LEN	Z0	BOWEN	ALBEDO	REF	WS
-1.16	0.043	-9.000	0.020	-999.	104.		5.4	1.000	1.50	0.35		0.50

HT	REF TA	HT
10.0	250.0	2.0

WIND SPEED AT STACK HEIGHT (non-downwash): 0.7 m/s
 STACK-TIP DOWNWASH ADJUSTED STACK HEIGHT: 7.0 meters
 ESTIMATED FINAL PLUME RISE (non-downwash): 0.0 meters
 ESTIMATED FINAL PLUME HEIGHT (non-downwash): 7.0 meters

***** AERSCREEN AUTOMATED DISTANCES *****
 OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE

DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	DIST (m)	MAXIMUM 1-HR CONC (ug/m3)
9.30	1449.	3775.00	1.866
25.00	1673.	3800.00	1.857
50.00	1688.	3825.00	1.847
75.00	970.0	3850.00	1.838
100.00	699.3	3875.00	1.828
125.00	513.8	3900.00	1.819
150.00	404.7	3925.00	1.810
175.00	320.0	3950.00	1.801
200.00	280.8	3975.00	1.792
225.00	210.5	4000.00	1.783
250.00	194.5	4025.00	1.775
275.00	183.3	4050.00	1.766
300.00	172.4	4075.00	1.758
325.00	161.6	4100.00	1.749
350.00	151.1	4125.00	1.741
375.00	140.9	4150.00	1.732
400.00	130.8	4175.00	1.724
425.00	121.1	4200.00	1.716
450.00	111.6	4225.00	1.708
475.00	102.4	4250.00	1.700
500.00	94.08	4275.00	1.692
525.00	87.61	4300.00	1.684
550.00	81.22	4325.00	1.677
575.00	74.95	4350.00	1.669
600.00	68.84	4375.00	1.661
625.00	63.56	4400.00	1.654
650.00	59.20	4425.00	1.647
675.00	54.95	4450.00	1.639
700.00	51.22	4475.00	1.632
725.00	47.99	4500.00	1.625
750.00	44.89	4525.00	1.618
775.00	42.28	4550.00	1.610
800.00	39.73	4575.00	1.603
825.00	37.26	4600.00	1.596
850.00	34.87	4625.00	1.590
875.00	32.77	4650.00	1.583
900.00	30.78	4675.00	1.576
925.00	28.86	4700.00	1.569
950.00	27.05	4725.00	1.563
975.00	25.40	4750.00	1.556
1000.00	23.81	4775.00	1.549
1025.00	22.29	4800.00	1.543
1050.00	20.83	4825.00	1.537
1075.00	19.44	4850.00	1.530
1100.00	18.15	4875.00	1.524
1125.00	16.94	4900.00	1.518
1150.00	15.78	4925.00	1.511
1175.00	14.69	4950.00	1.505
1200.00	13.65	4975.00	1.499
1225.00	12.67	5000.00	1.493

1250.00	11.75	5050.00	1.481
1275.00	10.88	5100.00	1.470
1300.00	10.06	5150.00	1.458
1325.00	9.298	5200.00	1.447
1350.00	8.583	5250.00	1.435
1375.00	7.916	5300.00	1.424
1400.00	7.295	5350.00	1.414
1425.00	6.718	5400.00	1.403
1450.00	6.182	5450.00	1.392
1475.00	5.800	5500.00	1.382
1500.00	5.581	5550.00	1.372
1525.00	5.377	5600.00	1.362
1550.00	5.189	5650.00	1.352
1575.00	5.014	5700.00	1.342
1600.00	4.851	5750.00	1.333
1625.00	4.700	5800.00	1.323
1650.00	4.560	5850.00	1.314
1675.00	4.429	5900.00	1.305
1700.00	4.306	5950.00	1.296
1725.00	4.191	6000.00	1.287
1750.00	4.084	6050.00	1.278
1775.00	3.983	6100.00	1.269
1800.00	3.888	6150.00	1.261
1825.00	3.798	6200.00	1.253
1850.00	3.713	6250.00	1.244
1875.00	3.632	6300.00	1.236
1900.00	3.556	6350.00	1.228
1925.00	3.483	6400.00	1.220
1950.00	3.414	6450.00	1.212
1975.00	3.348	6500.00	1.204
2000.00	3.284	6550.00	1.197
2025.00	3.223	6600.00	1.189
2050.00	3.165	6650.00	1.181
2075.00	3.108	6700.00	1.174
2100.00	3.054	6750.00	1.167
2125.00	3.001	6800.00	1.160
2150.00	2.951	6850.00	1.152
2175.00	2.902	6900.00	1.145
2200.00	2.854	6950.00	1.138
2225.00	2.808	7000.00	1.132
2250.00	2.776	7050.00	1.125
2275.00	2.753	7100.00	1.118
2300.00	2.731	7150.00	1.111
2325.00	2.708	7200.00	1.105
2350.00	2.687	7250.00	1.098
2375.00	2.665	7300.00	1.092
2400.00	2.644	7350.00	1.086
2425.00	2.623	7400.00	1.079
2450.00	2.603	7450.00	1.073
2475.00	2.583	7500.00	1.067
2500.00	2.563	7550.00	1.061
2525.00	2.544	7600.00	1.055
2550.00	2.525	7650.00	1.049
2575.00	2.507	7700.00	1.043
2600.00	2.488	7750.00	1.038
2625.00	2.470	7800.00	1.032
2650.00	2.452	7850.00	1.026
2675.00	2.435	7900.00	1.021
2700.00	2.418	7950.00	1.015
2725.00	2.401	8000.00	1.010
2750.00	2.384	8050.00	1.004
2775.00	2.368	8100.00	0.9988
2800.00	2.351	8150.00	0.9935
2825.00	2.335	8200.00	0.9882
2850.00	2.320	8250.00	0.9830
2875.00	2.304	8300.00	0.9779
2900.00	2.289	8350.00	0.9728
2925.00	2.274	8400.00	0.9677
2950.00	2.259	8450.00	0.9627
2975.00	2.245	8500.00	0.9578
3000.00	2.230	8550.00	0.9529

3025.00	2.216	8600.00	0.9480
3050.00	2.202	8650.00	0.9432
3075.00	2.188	8700.00	0.9384
3100.00	2.175	8750.00	0.9337
3125.00	2.161	8800.00	0.9291
3150.00	2.148	8850.00	0.9244
3175.00	2.135	8900.00	0.9199
3200.00	2.122	8950.00	0.9153
3225.00	2.109	9000.00	0.9108
3250.00	2.097	9050.00	0.9064
3275.00	2.084	9100.00	0.9020
3300.00	2.072	9150.00	0.8976
3325.00	2.060	9200.00	0.8933
3350.00	2.048	9250.00	0.8890
3375.00	2.036	9300.00	0.8847
3400.00	2.025	9350.00	0.8805
3425.00	2.013	9400.00	0.8763
3450.00	2.002	9450.00	0.8722
3475.00	1.991	9500.00	0.8681
3500.00	1.980	9550.00	0.8640
3525.00	1.969	9600.00	0.8600
3550.00	1.958	9650.00	0.8560
3575.00	1.947	9700.00	0.8521
3600.00	1.937	9750.00	0.8481
3625.00	1.926	9800.00	0.8442
3650.00	1.916	9850.00	0.8404
3675.00	1.906	9900.00	0.8365
3700.00	1.896	9950.00	0.8328
3725.00	1.886	10000.00	0.8290
3750.00	1.876		

***** AERSCREEN MAXIMUM IMPACT SUMMARY *****

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	1688.	1688.	1519.	1013.	168.8

DISTANCE FROM SOURCE 27.00 meters directed toward 280 degrees

IMPACT AT THE AMBIENT BOUNDARY	1449.	1449.	1304.	869.5	144.9

DISTANCE FROM SOURCE 9.30 meters directed toward 280 degrees

TITLE: SSDS 6

***** STACK PARAMETERS *****

SOURCE EMISSION RATE: 0.1260 g/s 1.000 lb/hr
 STACK HEIGHT: 7.01 meters 23.00 feet
 STACK INNER DIAMETER: 0.152 meters 6.00 inches
 PLUME EXIT TEMPERATURE: Ambient
 PLUME EXIT VELOCITY: 2.576 m/s 8.45 ft/s
 STACK AIR FLOW RATE: 100 ACFM
 RURAL OR URBAN: RURAL

INITIAL PROBE DISTANCE = 10000. meters 32808. feet

***** BUILDING DOWNWASH PARAMETERS *****

USER DEFINED BPIPPRM INPUT FILE: AERSCREEN.BPI

MAXIMUM BUILDING HEIGHT: 6.1 meters 20.0 feet

MAXIMUM BUILDING LENGTH: 340.8 meters 1118.0 feet

MINIMUM BUILDING WIDTH: 61.0 meters 200.0 feet

***** FLOW SECTOR ANALYSIS *****

25 meter receptor spacing: 9. meters - 5000. meters

50 meter receptor spacing: 5050. meters - 10000. meters

FLOW SECTOR	BUILD WIDTH	BUILD LENGTH	XBADJ	YBADJ	MAX 1-HR CONC	DIST (m)	TEMPORAL PERIOD
10	118.25	340.77	-192.11	-37.70	224.0	150.0	WIN
20	171.96	335.91	-182.80	-40.89	242.8	175.0	WIN
30	220.43	320.84	-167.94	-42.85	278.2	175.0	WIN
40	262.21	296.02	-147.98	-43.51	297.6	175.0	WIN
50	296.02	262.21	-123.52	-42.84	303.3	150.0	WIN
60	320.84	220.43	-95.30	-40.87	501.7	150.0	WIN
70	335.91	171.96	-64.20	-37.66	535.9	125.0	WIN
80	340.77	118.25	-31.14	-33.31	743.3	100.0	WIN
90	335.28	60.96	2.87	-27.94	1023.	75.0	WIN
100	340.77	118.25	-21.43	-21.72	727.8	100.0	WIN
110	335.91	171.96	-45.08	-14.85	526.1	150.0	WIN
120	320.84	220.43	-67.36	-7.52	415.9	175.0	WIN
130	296.02	262.21	-87.60	0.03	340.4	175.0	WIN
140	262.21	296.02	-105.17	7.59	279.0	200.0	WIN
150	220.43	320.84	-119.55	14.91	222.4	225.0	WIN
160	171.96	335.91	-130.29	21.78	246.9	225.0	WIN
170	118.25	340.77	-137.08	27.99	200.7	225.0	WIN
180	60.96	335.28	-139.70	33.35	514.7	9.3	SUM
190	118.25	340.77	-148.66	37.70	192.9	200.0	WIN
200	171.96	335.91	-153.11	40.89	222.0	200.0	WIN
210	220.43	320.84	-152.90	42.85	268.5	175.0	WIN
220	262.21	296.02	-148.05	43.51	296.2	175.0	WIN
230	296.02	262.21	-138.69	42.84	408.2	150.0	WIN
240	320.84	220.43	-125.13	40.87	474.2	100.0	WIN

250	335.91	171.96	-107.76	37.66	722.8	75.0	WIN
260	340.77	118.25	-87.12	33.31	1485.	50.0	WIN
270	335.28	60.96	-63.83	27.94	646.2	50.0	WIN
280*	340.77	118.25	-96.82	21.72	2174.	25.0	WIN
290	335.91	171.96	-126.87	14.85	962.0	50.0	WIN
300	320.84	220.43	-153.07	7.52	657.4	75.0	WIN
310	296.02	262.21	-174.61	-0.03	511.3	100.0	WIN
320	262.21	296.02	-190.85	-7.59	413.0	125.0	WIN
330	220.43	320.84	-201.29	-14.91	320.9	125.0	WIN
340	171.96	335.91	-205.62	-21.78	331.3	150.0	WIN
350	118.25	340.77	-203.69	-27.99	257.2	150.0	WIN
360	60.96	335.28	-195.58	-33.35	540.3	25.0	WIN

* = worst case flow sector

***** MAKEMET METEOROLOGY PARAMETERS *****

MIN/MAX TEMPERATURE: 250.0 / 310.0 (K)

MINIMUM WIND SPEED: 0.5 m/s

ANEMOMETER HEIGHT: 10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
 DOMINANT CLIMATE TYPE: Average Moisture
 DOMINANT SEASON: Winter

ALBEDO: 0.35
 BOWEN RATIO: 1.50
 ROUGHNESS LENGTH: 1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADJUSTED

 METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT

YR MO DY JDY HR

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10 01 02 2 01

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-0	LEN	Z0	BOWEN	ALBEDO	REF	WS
-1.16	0.043	-9.000	0.020	-999.	104.		5.4	1.000	1.50	0.35		0.50

HT	REF	TA	HT
10.0	250.0		2.0

WIND SPEED AT STACK HEIGHT (non-downwash): 0.7 m/s
 STACK-TIP DOWNWASH ADJUSTED STACK HEIGHT: 7.0 meters
 ESTIMATED FINAL PLUME RISE (non-downwash): 0.0 meters
 ESTIMATED FINAL PLUME HEIGHT (non-downwash): 7.0 meters

 METEOROLOGY CONDITIONS USED TO PREDICT AMBIENT BOUNDARY IMPACT

YR MO DY JDY HR

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10 01 02 2 01

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-0	LEN	Z0	BOWEN	ALBEDO	REF	WS
-1.16	0.043	-9.000	0.020	-999.	104.		5.4	1.000	1.50	0.35		0.50

HT	REF TA	HT
10.0	250.0	2.0

WIND SPEED AT STACK HEIGHT (non-downwash): 0.7 m/s
 STACK-TIP DOWNWASH ADJUSTED STACK HEIGHT: 7.0 meters
 ESTIMATED FINAL PLUME RISE (non-downwash): 0.0 meters
 ESTIMATED FINAL PLUME HEIGHT (non-downwash): 7.0 meters

***** AERSCREEN AUTOMATED DISTANCES *****
 OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE

DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	DIST (m)	MAXIMUM 1-HR CONC (ug/m3)
9.30	1951.	3775.00	1.866
25.00	2174.	3800.00	1.857
50.00	1671.	3825.00	1.847
75.00	1023.	3850.00	1.838
100.00	743.3	3875.00	1.829
125.00	594.3	3900.00	1.819
150.00	526.1	3925.00	1.810
175.00	415.9	3950.00	1.801
200.00	340.4	3975.00	1.792
225.00	246.9	4000.00	1.784
250.00	218.5	4025.00	1.775
275.00	200.2	4050.00	1.766
300.00	187.3	4075.00	1.758
325.00	174.9	4100.00	1.749
350.00	162.8	4125.00	1.741
375.00	151.1	4150.00	1.733
400.00	139.8	4175.00	1.724
425.00	128.9	4200.00	1.716
450.00	118.4	4225.00	1.708
475.00	108.5	4250.00	1.700
500.00	101.1	4275.00	1.692
525.00	94.20	4300.00	1.685
550.00	87.41	4325.00	1.677
575.00	80.73	4350.00	1.669
600.00	74.21	4375.00	1.662
625.00	68.25	4400.00	1.654
650.00	63.66	4425.00	1.647
675.00	59.25	4450.00	1.639
700.00	55.74	4475.00	1.632
725.00	52.30	4500.00	1.625
750.00	49.34	4525.00	1.618
775.00	46.55	4550.00	1.611
800.00	43.82	4575.00	1.604
825.00	41.17	4600.00	1.597
850.00	38.88	4625.00	1.590
875.00	36.65	4650.00	1.583
900.00	34.47	4675.00	1.576
925.00	32.37	4700.00	1.569
950.00	30.44	4725.00	1.563
975.00	28.63	4750.00	1.556
1000.00	26.88	4775.00	1.550
1025.00	25.20	4800.00	1.543
1050.00	23.58	4825.00	1.537
1075.00	22.03	4850.00	1.530
1100.00	20.55	4875.00	1.524
1125.00	19.14	4900.00	1.518
1150.00	17.80	4925.00	1.512
1175.00	16.52	4950.00	1.505
1200.00	15.37	4975.00	1.499
1225.00	14.28	5000.00	1.493

1250.00	13.25	5050.00	1.481
1275.00	12.28	5100.00	1.470
1300.00	11.37	5150.00	1.458
1325.00	10.51	5200.00	1.447
1350.00	9.708	5250.00	1.436
1375.00	8.956	5300.00	1.425
1400.00	8.255	5350.00	1.414
1425.00	7.601	5400.00	1.403
1450.00	6.995	5450.00	1.393
1475.00	6.432	5500.00	1.382
1500.00	5.911	5550.00	1.372
1525.00	5.531	5600.00	1.362
1550.00	5.324	5650.00	1.352
1575.00	5.132	5700.00	1.342
1600.00	4.955	5750.00	1.333
1625.00	4.790	5800.00	1.323
1650.00	4.638	5850.00	1.314
1675.00	4.496	5900.00	1.305
1700.00	4.365	5950.00	1.296
1725.00	4.242	6000.00	1.287
1750.00	4.127	6050.00	1.278
1775.00	4.020	6100.00	1.270
1800.00	3.919	6150.00	1.261
1825.00	3.825	6200.00	1.253
1850.00	3.736	6250.00	1.244
1875.00	3.652	6300.00	1.236
1900.00	3.572	6350.00	1.228
1925.00	3.497	6400.00	1.220
1950.00	3.425	6450.00	1.212
1975.00	3.357	6500.00	1.204
2000.00	3.292	6550.00	1.197
2025.00	3.230	6600.00	1.189
2050.00	3.170	6650.00	1.182
2075.00	3.113	6700.00	1.174
2100.00	3.058	6750.00	1.167
2125.00	3.004	6800.00	1.160
2150.00	2.953	6850.00	1.152
2175.00	2.904	6900.00	1.145
2200.00	2.856	6950.00	1.138
2225.00	2.810	7000.00	1.132
2250.00	2.777	7050.00	1.125
2275.00	2.754	7100.00	1.118
2300.00	2.731	7150.00	1.112
2325.00	2.709	7200.00	1.105
2350.00	2.687	7250.00	1.098
2375.00	2.665	7300.00	1.092
2400.00	2.644	7350.00	1.086
2425.00	2.624	7400.00	1.079
2450.00	2.603	7450.00	1.073
2475.00	2.583	7500.00	1.067
2500.00	2.564	7550.00	1.061
2525.00	2.544	7600.00	1.055
2550.00	2.525	7650.00	1.049
2575.00	2.507	7700.00	1.043
2600.00	2.488	7750.00	1.038
2625.00	2.470	7800.00	1.032
2650.00	2.453	7850.00	1.026
2675.00	2.435	7900.00	1.021
2700.00	2.418	7950.00	1.015
2725.00	2.401	8000.00	1.010
2750.00	2.384	8050.00	1.004
2775.00	2.368	8100.00	0.9988
2800.00	2.352	8150.00	0.9935
2825.00	2.336	8200.00	0.9883
2850.00	2.320	8250.00	0.9831
2875.00	2.305	8300.00	0.9779
2900.00	2.289	8350.00	0.9728
2925.00	2.274	8400.00	0.9678
2950.00	2.259	8450.00	0.9628
2975.00	2.245	8500.00	0.9578
3000.00	2.230	8550.00	0.9529

3025.00	2.216	8600.00	0.9480
3050.00	2.202	8650.00	0.9432
3075.00	2.189	8700.00	0.9385
3100.00	2.175	8750.00	0.9338
3125.00	2.161	8800.00	0.9291
3150.00	2.148	8850.00	0.9245
3175.00	2.135	8900.00	0.9199
3200.00	2.122	8950.00	0.9154
3225.00	2.110	9000.00	0.9109
3250.00	2.097	9050.00	0.9064
3275.00	2.085	9100.00	0.9020
3300.00	2.072	9150.00	0.8976
3325.00	2.060	9200.00	0.8933
3350.00	2.048	9250.00	0.8890
3375.00	2.037	9300.00	0.8848
3400.00	2.025	9350.00	0.8806
3425.00	2.014	9400.00	0.8764
3450.00	2.002	9450.00	0.8722
3475.00	1.991	9500.00	0.8681
3500.00	1.980	9550.00	0.8641
3525.00	1.969	9600.00	0.8600
3550.00	1.958	9650.00	0.8560
3575.00	1.948	9700.00	0.8521
3600.00	1.937	9750.00	0.8482
3625.00	1.927	9800.00	0.8443
3650.00	1.916	9850.00	0.8404
3675.00	1.906	9900.00	0.8366
3700.00	1.896	9950.00	0.8328
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CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	2174.	2174.	1956.	1304.	217.4

DISTANCE FROM SOURCE 22.00 meters directed toward 280 degrees

IMPACT AT THE AMBIENT BOUNDARY	1951.	1951.	1756.	1171.	195.1

DISTANCE FROM SOURCE 9.30 meters directed toward 280 degrees