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August 7, 2023

Franziska Landes
Oregon Department of Environmental Quality
Northwest Region
700 NE Multnomah Street, Suite 600
Portland, OR 97232

Subject: Final Site Investigation Report, PCB Areawide – N. Bradford Street Right-of-Way, Portland, Oregon (ECSI No. 6480)

Dear Franziska:

On behalf of Union Pacific Railroad, Jacobs has prepared the final Site Investigation Report for the Union Pacific Railroad site at N. Bradford Street Right-of-Way, Portland, Oregon. The report was revised in response to comments received from the Oregon Department of Environmental Quality on June 26, 2023.[1] Responses to comments are provided in Attachment 1. The final Site Investigation Report is provided in Attachment 2.

Please contact me at (510) 316-2323 or by email at david.hodson@jacobs.com if you have any questions.

Regards,

David Hodson
Project Manager/Jacobs

Copies to: John DeJong/UPRR

Enclosures:
Attachment 1. Response to Comments
Attachment 2. Site Investigation Report

[1] Oregon Department of Environmental Quality. 2023. PCB Areawide – N Bradford St. ROW, Portland, Oregon, Union Pacific Railroad, ECSI ID# 6480. June 26.

Attachment 1
Response to Comments

Response to Comments Regarding the
Site Investigation Report, PCB Areawide – N. Bradford Street Right-of-Way, Portland, Oregon

Dated March 2023
from
Oregon Department of Environmental Quality (ODEQ)

No.	Section	Comments	Responses
Franziska Landes, Project Manager ODEQ Comments, dated June 23, 2023			
General Comments			
1		Oregon Revised Statute 465.200 et seq. states that ""Owner or operator" means any person who owned, leased, operated, controlled or exercised significant control over the operation of a facility." Given the current and historical operations of UPRR on the railroad along N. Bradford St., DEQ considers UPRR to be an operator at this site. While DEQ is not requesting that UPRR conduct remediation at this time, as an operator, UPRR may be responsible for future investigation and/or remedial action costs required to remediate releases or threats of release hazardous substances from this Facility (Oregon Revised Statute 465.200 et seq.). Owner and operator liability is not limited to releases from the facility that stayed within the current property or ROW boundary.	Comment noted. No revisions to the Site Investigation Report are necessary in response to the comment.
Specific Comments			
1	Section 1.2.	The description of property ownership and limitations of the agreement differs from DEQ's understanding. a) Historical Sanborn maps and Aerial images show UPRR operated a second spur of the railroad track that would extend beyond the one foot of the currently visible outer rail (see Attachment 1). b) The attached City ordinances provide UPRR or its predecessor a permit or ROW to a wider portion of the N. Bradford St. ROW (see Attachments 2 and 3).	The Site Investigation Report has been revised to acknowledge that the City of Portland issued limited right-of-use to Union Pacific Railroad (UPRR) in 1917 and 1938 to accommodate additional railroad track and spur beyond the limited right-of-use that was issued in 1901. However, these limited right-of-use areas did not include the area with the highest levels of polychlorinated biphenyls in surface soil between the railroad tracks and Peninsula Iron Works, Inc.
2	Section 1.2	Add the OERS numbers to facilitate cross-referencing information on the January 2023 oil spills. Include a figure showing soil removal location and discuss how the removal might impact sample results discussed in this report.	The Site Investigation Report has been revised to include Oregon Emergency Response System numbers for the releases and to discuss how the removal action may have affected sample results discussed in the report. Figure 1-2 has been revised to show the soil removal locations.

Response to Comments Regarding the
Site Investigation Report, PCB Areawide – N. Bradford Street Right-of-Way, Portland, Oregon

Dated March 2023
from
Oregon Department of Environmental Quality (ODEQ)

No.	Section	Comments	Responses
3	Section 2.1	This section states that samples were obtained from the "public ROW." Please clarify that this is the N. Bradford St. ROW.	The Site Investigation Report has been revised to clarify that samples were obtained from the N. Bradford Street right-of-way.
4	Section 2.3	a) This section says that samples were located 10-15 feet from the centerline of the UPRR railroad track. Based on the photos in the report and DEQ's site visit, it appears that these borings were closer to 15-25 feet from the centerline. Please verify and correct as appropriate. b) Please discuss areas where ISM samples and sample borings had to remove more than ~0.5 inch of surface gravel, such as locations with a large amount of railroad rock ballast, such SB-01, SB-02, SB-03, and ISM-01, and ISM-02.	a) The Site Investigation Report has been revised to clarify that samples were located 10 to 25 feet from the centerline of the UPRR railroad track. b) The Site Investigation Report has been revised to identify sample locations within railroad ballast and gravel. The report was clarified to state that fine-grained material was collected within the sample location as opposed to first removing surface material, because the ballast and gravel typically extended to the bottom depth of the boring.
5	Section 2.6	This section should mention the field variance of ISM-01 where the roll-off container required moving increments.	The Site Investigation Report has been revised to include the field variance of ISM-01 where the roll-off container required moving increments.
6		There are several typos in the document. Recommend another copy editing (e.g. sit vs. site). a) In particular, Table 3-2 is missing a decimal point for Total PCBs in ISM06.	The Site Investigation Report was reviewed and revised to address typos.
7	Attached Photographs	Please provide the photographs in a higher resolution and mark the location of the soil boring on the photos where the flag is not visible.	The Site Investigation Report has been revised to include higher resolution photographs and to mark the location of the soil borings on the photographs.

Attachment 2
Site Investigation Report

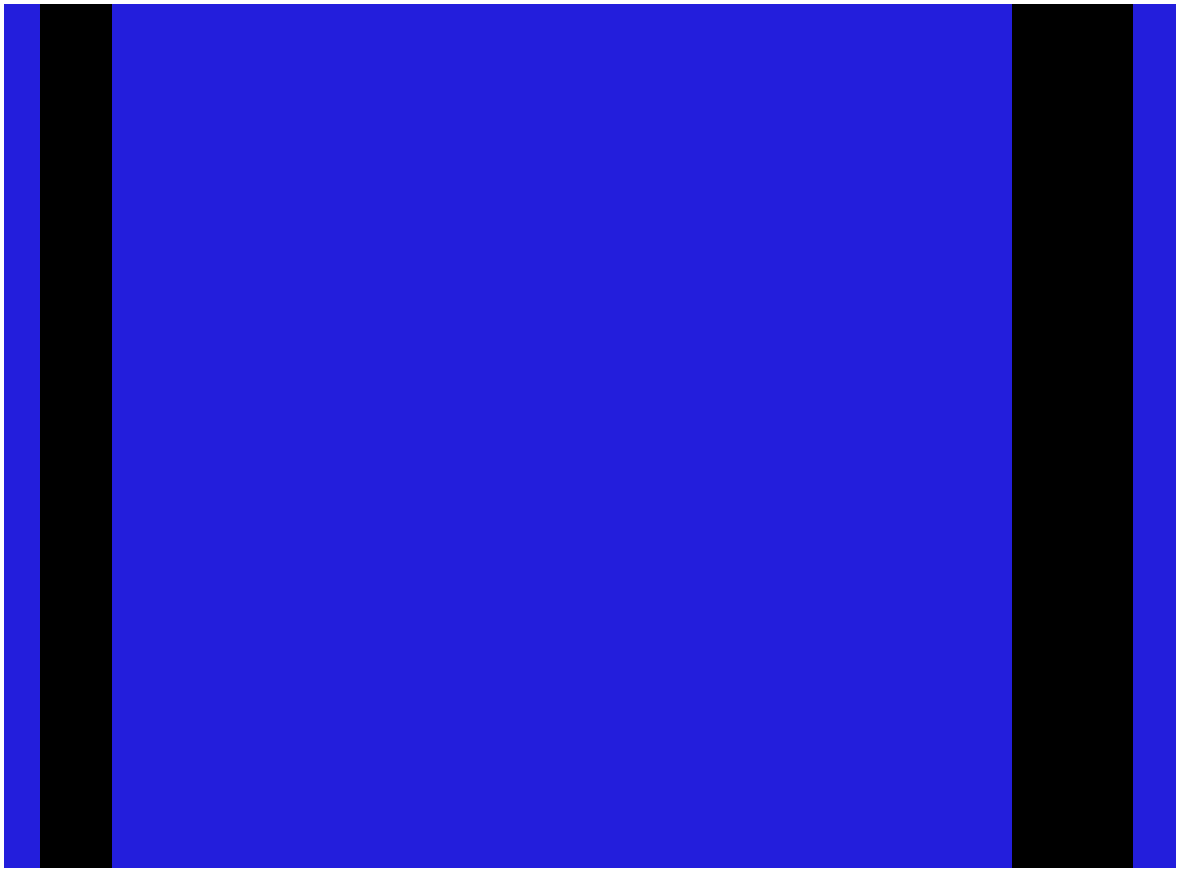
Jacobs

Site Investigation Report

Document no: 230216161638_003f5365
Revision no: Final

Union Pacific Railroad

PCB Areawide – N. Bradford Street Right-of-Way, Portland, Oregon
August 2023



Site Investigation Report

Client name:	Union Pacific Railroad		
Project name:	PCB Areawide – N. Bradford Street Right-of-Way, Portland, Oregon		
Project no:	UPSROR16		
Document no:	230216161638_003f5365	**Project manager:**	David Hodson
Revision no:	Final	**Prepared by:**	David Hodson
Date:	August 2023		

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Acronyms and Abbreviations

bgs	below ground surface
DU	decision unit
EPA	U.S. Environmental Protection Agency
ISM	incremental sampling methodology
mg/kg	milligram(s) per kilogram
mm	millimeter(s)
ODEQ	Oregon Department of Environmental Quality
PCB	polychlorinated biphenyl
PIW	Peninsula Iron Works, Inc.
QA/QC	quality assurance/quality control
ROW	right-of-way
RPD	relative percent difference
UPRR	Union Pacific Railroad
VCP	Voluntary Cleanup Program

1. Introduction

On behalf of Union Pacific Railroad (UPRR), Jacobs has prepared this Site Investigation Report (report) to document the activities and results associated with a 2022 site investigation conducted at the N. Bradford Street right-of-way (ROW) in Portland, Oregon (site) (Figure 1-1). UPRR operates within a narrow limited right-of-use within the site (Section 1.2). The purpose of the investigation was to evaluate the current concentrations of polychlorinated biphenyls (PCBs) in surface and shallow subsurface soil. Site investigation activities were conducted in accordance with the Revised Investigation Work Plan (JSI 2022a) and Response to Comments on the Revised Investigation Work Plan (JSI 2022b). The Oregon Department of Environmental Quality (ODEQ) approved the Revised Investigation Work Plan on June 17, 2022 (ODEQ 2022a).

1.1 Site Location

The site (that is, the investigation area) is the N. Bradford Street ROW in north Portland, Oregon approximately 500 feet from the east bank of the Willamette River. It is bounded to the north by N. Baltimore Avenue and to the south by N. Pittsburg Avenue. The site, including active railroad tracks, is approximately 65 feet wide and located along N. Bradford Street ROW, which separates Peninsula Iron Works, Inc. (PIW) to the east from Cathedral Park to the west (Figure 1-2). The investigation area is referred to as the site in this report for ease of reference. The extent of PCBs in this area has not been fully characterized. PIW has operated as a foundry and machining shop at this location for more than 100 years (City of Portland 2011).

1.2 Site Background

The City of Portland (City) owns the portion of the N. Bradford Street ROW that falls within the site and allows UPRR to operate along the railroad tracks under a limited right-of-use within the wider public ROW pursuant to a Memorandum of Agreement dated June 1901 (County of Multnomah 1901) and as amended by Ordinance No. 33086 in 1917 and Ordinance No. 71713 in 1938. The 1901 agreement providing the limited right-of-use to UPRR, which was transferred to the City when it became the owner of the public ROW, is a limited and defined grant that only allows UPRR to perpetually "construct and maintain the main line of its proposed branch" (County of Multnomah 1901) along the centerline of N. Bradford Street. Under this agreement, UPRR maintains the responsibility for maintenance only of the railroad area "between the tracks, between the rails, and for a distance of one foot outside of the outer rail" (County of Multnomah 1901). The 1917 and 1938 ordinances expanded the width of the limited right-of-use to UPRR north of N. Alta Street and PIW to accommodate additional railroad lines and spurs. Other than the constructed railroad transportation line, there have been no known additional railroad activities conducted within the site.

The City investigated PCB contamination at the site in 2011 as part of its source tracing activities for Outfall Basin 52 design and construction. During the 2011 investigation, composite and discrete surface soil samples were collected along N. Bradford Street and areas within Cathedral Park. Subsurface soil samples were collected from soil borings under pavement in a City-owned parking lot directly southeast of PIW, adjacent to the site (Figure 1-2). Total PCB aroclor concentrations in surface soil ranged from 0.147 milligram per kilogram (mg/kg) to 21.7 mg/kg, and concentrations in soil borings ranged from nondetect to 1.05 mg/kg. PCBs were also detected in catch basin, manhole, and inline solids at concentrations ranging from 0.011 to 8.16 mg/kg. Accumulated solids were subsequently removed from stormwater conveyance lines along N. Bradford Street between N. Baltimore Avenue and N. Alta Avenue.

On October 11, 2021, ODEQ issued a letter to UPRR outlining options related to PCB contamination in soil along N. Bradford Street and identified UPRR as a potential responsible party for historical and/or ongoing releases of hazardous substances at the site (ODEQ 2011). Options included (1) to conduct a site investigation and remedial action under the ODEQ Voluntary Cleanup Program (VCP), or (2) wait for ODEQ to place UPRR under an enforcement order. In the letter, ODEQ assigned the site as high priority for further investigation and remedial action. As a proactive and cooperative step, UPRR entered into the VCP (ECSI No. 6480) on January 18, 2022 (ODEQ 2022b) and performed sampling in October and November 2022.

On January 13 and 31, 2023 (Oregon Emergency Response System Nos. 2023-0110 and 2023-0249, respectively), two unrelated petroleum releases occurred from railroad locomotives along the railroad tracks within and extending from the site. The releases resulted in stained surface material immediately adjacent to the railroad tracks. These incidents, which occurred after the 2022 site investigation, are being evaluated as separate, unrelated spill cases in accordance with the ODEQ emergency response program. In response to the incidents and at the request of ODEQ, stained surface ballast was removed and replaced with new ballast in February 2023 in selected areas as shown on Figure 1-2. Ballast was removed between the outside tracks and extending out approximately 2 feet, and to a depth of approximately 2 inches below ground surface (bgs). A discussion of how the incident and incident response may have affected the 2022 site investigation results is presented in Section 3.

2. Field Investigation Activities

This section presents the site investigation activities conducted in October and November 2022. Work was performed in general accordance with the Revised Investigation Work Plan as approved by ODEQ (JSI 2022a) including sampling procedures, sample handling, and subsequent analysis, except as noted in Section 2.6. Appendix A includes site photographs of sampling locations.

2.1 Scope of Work

The scope of work included the following:

- Soil borings at 16 locations to 3 feet bgs for soil sampling at 0-, 1-, and 2.5-foot bgs depth intervals (Figure 2-1). There are a total of 48 discrete sample locations. All samples were obtained from within the N. Bradford Street ROW.
- Incremental sampling methodology (ISM) conducted adjacent to the UPRR tracks within the N. Bradford Street ROW from N. Baltimore Avenue to N. Pittsburg Avenue (Figure 2-2). Fifty incremental soil subsamples were collected from within each of the eight decision units (DUs) and composited to create one sample representative of each respective DU. A total of eight composite ISM samples was obtained.

2.2 Preparation Activities

The following activities were completed before fieldwork began:

- Updated the site-specific health and safety plan to identify the chemical and physical hazards associated with the field activities and present methods for maintaining worker safety
- Contacted Oregon Utility Notification Center for utility clearance ticket (Ticket No. 22287737)
- Contacted the UPRR fiber-optic hotline to complete UPRR fiber-optic notifications (Ticket No. 20220928070)
- Conducted a subsurface utility survey to identify and mark underground utilities near the proposed locations
- Coordinated with Pace Analytical Services, LLC, for laboratory analysis and sample bottles

Field team members were appropriately chartered before mobilization to ensure their readiness and understanding of the scope and objectives.

2.3 Soil Boring Sampling

Soil sampling was conducted as follows:

- Samples were collected using a hand-auger at 16 soil sampling locations generally spaced at 60-foot intervals along 2 parallel transects along the eastern and western sides of the UPRR tracks (Figure 2-1). Nine samples were located along the eastern transect and seven samples were located along the western transect.
- Samples were collected from soil boring locations adjacent to the tracks from N. Baltimore Avenue at the north end and to N. Pittsburg Avenue at the southern extent. Samples were located 10 to 25 feet away from the centerline of the UPRR tracks and within the N. Bradford Steet ROW.
- At each boring location, grab soil samples were collected from specific depth intervals (0.0 to 0.5 foot bgs, 1 to 1.5 feet bgs, and 2.5 to 3 feet bgs). Grab sample locations were designated SB1-XX (XX = depth interval) through SB-16-XX.

- Railroad ballast or gravel was present at several locations (for example, soil borings SB-03, SB-08, SB-09, and SB-10; ISM-01; and all ISM locations). Target material was collected while taking care to avoid larger ballast and rocks (that is, material consisting primarily of fine-grained particles and 2 millimeters [mm] or less in diameter).
- Following sampling activities, the soil borings were backfilled with the removed material.

2.4 Incremental Sampling Methodology Sampling

The ISM method is a composite sampling technique that addresses heterogeneous soil contamination, increases sample representativeness, and reduces data variability (EPA 2019). A well-homogenized composite sample obtained from each DU provides a reasonably unbiased estimate of mean contaminant concentrations representative of a volume of soil targeted for sampling. Figure 2-2 shows the DUs evaluated in this investigation. Each DU was approximately 100 feet long and 20 feet wide. Eight DUs were investigated and the composited ISM samples from each DU were designated as ISM-01 through ISM-08.

2.4.1 Sampling Procedures

Sampling procedures were carried out as follows:

1. A systematic evenly spaced sampling grid (10 feet by 4 feet) was established within each DU to identify 50 subsampling (increment) locations. The DUs were 100 feet long by 20 feet wide.
2. The placement of the initial increment in the first grid was a random location. That same location within the grid was used within all subsequent grids to collect subsamples. Approximate 30-gram increment samples were collected from 0 to 2 inches bgs using a hand trowel and placed in new double-zip type bags. A scale was used to measure the initial increment sample to estimate the final mass of the total number of increments needed to achieve 1 kilogram (as close to 1 kilogram as possible based on site conditions).
3. Duplicate and triplicate quality assurance/quality control (QA/QC) samples were collected from one of the eight DUs. Increment locations were identified within each grid, ensuring that they were located no closer than 3 feet from the original increment locations. The systematic random collection approach was maintained over the collection of the duplicate and triplicate QA/QC samples.

2.4.2 Laboratory Procedures

Laboratory procedures were carried out as follows:

1. The weight of each DU sample was recorded by the laboratory upon sample receipt to confirm at least 1 kg of soil was collected.
2. The contents of each sample bag were emptied onto a drying tray and spread evenly into a “sheet cake” shape for efficient and uniform drying.
3. Once dried, samples were sieved using a No. 10 sieve (less than 2 mm) to create the final sample fraction.
4. The final sample fraction was composed of less than 2 mm soil particles. No grinding or milling was conducted.
5. The final sample fraction was laid out in a cake slab shape on a tray and dried. The tray of soil was divided into 50 equal grids. Fifty sieved increments were collected from the slab cake. The mass of each increment was approximately equal and sized to allow for the final mass needed by the laboratory for the analysis of the PCB method.
6. Samples were analyzed for PCBs in accordance with U.S. Environmental Protection Agency (EPA) Method 8082.

2.5 Laboratory Analysis and Data Validation

Soil samples collected from the 16 soil boring locations and the 8 ISM locations were placed in a cooler with ice and shipped to Pace Analytical Services, LLC, of Mount Juliet, Tennessee, under chain-of-custody documentation. The samples were analyzed for the following:

- PCBs by EPA Method 8082, expressed as concentrations as specific aroclors (1016, 1221, 1232, 1242, 1248, 1254, and 1260) and total PCBs
- PCB congeners by EPA Method 1668 for six soil borings; two soil boring samples each at the high, medium, and low range of detected total PCBs as determined by EPA Method 8082

Data validation was provided by GHD Services Inc. Appendix B includes data quality assessment and validation memorandums. The following is a summary of the data validation qualifiers:

- Samples were prepared and analyzed within the required holding times.
- All method blank results were nondetect, indicating that laboratory contamination was not a factor for this investigation, with the exception of two analytes present at low concentrations. The associated sample results with concentrations similar to the blanks were qualified as nondetect because of contamination as evidenced by the blanks.
- Surrogate recoveries were assessed against the control limits. All surrogate recoveries met the associated criteria.
- All laboratory control sample and laboratory control sample duplicate recoveries and relative percent differences (RPDs) were within associated control limits, thus demonstrating acceptable analytical accuracy and precision (where applicable).
- All equipment blank results were nondetect for the analytes of interest.
- All duplicate analyses performed were acceptable, demonstrating acceptable analytical precision with two exceptions. The associated sample results and their duplicates were qualified as estimated due to variability.
- The matrix spike/matrix spike duplicate samples were spiked with the analytes of interest. All percent recoveries and RPD values were within the associated control limits, demonstrating acceptable analytical accuracy and precision, with the exception of two high recoveries of PCB 114 (2,3,4,4′,5-pentachlorobiphenyl). The associated sample result was qualified as estimated because of the implied high bias.

2.6 Field Variances

Deviations from the approved Revised Investigation Work Plan (JSI 2022a) included the following:

- Soil boring SB08 was moved approximately 5 feet southwest to avoid the asphalt surface.
- ISM-01 increments were moved because of the presence of a roll-off container obstructing a portion of the ISM location.

2.7 Waste Management

Waste generated during this investigation consisted primarily of decontamination water, personal protective equipment, and disposable materials used for sample collection and processing. Soil from boreholes was placed back into the boreholes following approval from ODEQ (Landes, pers. comm. 2022). Containerized liquid waste was placed in a labeled steel 55-gallon drum. Following completion of the investigation, waste containers were placed in the waste staging area of the UPRR Albina railyard. Liquid waste was disposed of at the Hillsboro Landfill as nonhazardous waste. Personal protective equipment and disposable sampling materials were placed into containers and disposed of as municipal waste.

3. Site Investigation Results

Tables 3-1 and 3-2 present the PCB results (aroclor and total) for samples collected from soil boring and ISM locations, respectively. The only aroclor detected was Aroclor-1260. Figures 2-1 and 2-2 present total PCB results for samples collected from soil boring and ISM locations, respectively. In addition, historical site data reported by others from 2008 to 2011 are included for reference.

PCBs were detected in almost all grab samples (more than 95 percent) and all ISM composite samples (100 percent) collected during the investigation. The higher total PCB concentrations are from soil boring samples obtained immediately adjacent to PIW. The highest total PCB concentration (124 mg/kg from 0 to 0.5 foot bgs at SB10) was from a sample collected from the closest non-paved surface adjacent to PIW nearest the solvent tank and machine pit. Total PCB concentrations generally decrease with depth and distance from PIW. One exception is at sample locations SB01 and SB02, where total PCB concentrations from 0 to 0.5 foot bgs were up to 18.9 and 11.5 mg/kg, respectively. These sample locations are adjacent to the former Portland Woolen Mills operation.

Similar to the grab soil sample results, the highest total PCB concentrations from ISM samples are from samples adjacent to PIW with the highest total PCB concentration (12.6 mg/kg) from ISM03. Additionally, total PCB concentrations are more elevated on the northeastern (topographically upgradient) side of the railroad tracks than samples obtained from the south side of the railroad tracks within the N. Bradford Street ROW. Total PCB concentrations from ISM samples decrease with distance from PIW.

As presented in Section 1.2, surface ballast was removed in February 2023 in response to two unrelated petroleum releases from railroad locomotives that occurred in January 2023. This removal action was not conducted at any of the soil boring locations. However, this removal action was conducted at some of the increment sample locations. Because the limits of the removal action only extended approximately 2 feet from the railroad tracks, it is anticipated that less than 20 percent (10 of 50) of the increment locations may have been within the removal action area. Therefore, it is likely that the 2022 site investigation results still represent site conditions following the limited removal action.

Table 3-3 provides a comparison of the total PCB congener and total PCB aroclor results for the six soil boring samples analyzed using both methods. The total PCB congener results in 5 of the 6 samples were lower than the PCB aroclor results (16 to 35 RPD). The sixth sample had a total PCB congener result that was 4 percent higher than the reported value for total PCB aroclors. The PCB congener analyses on the subset of samples were performed at the request of ODEQ. The PCB aroclor data were used to characterize the site (Section 4).

Appendix B includes laboratory reports and data validation reports.

4. Source Evaluation

This section includes a discussion of the potential sources of PCBs detected at and surrounding the site. This evaluation included a review of historical records to identity operations that may have used or lead to releases of PCB-containing materials.

4.1 Railroad Sources

The UPRR review of available historical records for its operations at the site and in the Portland area indicates that there was no known storage or use of PCBs that could have resulted in releases at the site of a magnitude that would result in the widespread PCB contamination observed to date. Dielectric and hydraulic oils containing PCBs have not been used on UPRR locomotives operating on the West Coast. Furthermore, UPRR has not historically operated fueling, locomotive maintenance, or car repair facilities in this area that could lead to high volume, long-term releases. UPRR records also do not indicate that the staging of electric locomotives occurred in this area.

In addition to no PCB sources associated with documented UPRR activities in the area, there are also no records of historical derailments, spills, or leaks of PCBs from UPRR trains. According to UPRR records, no derailments occurred in this area prior to the 2022 sampling activities. In addition, UPRR and ODEQ records do not list any environmental releases from locomotives or rail cars in this area prior to 2023. The PCB concentrations observed in the N. Bradford Street ROW are not common on UPRR properties and rarely observed along railroad tracks. There continues to be no direct or archival records evidence of any potential PCB sources correlated with UPRR operations or activities in the area.

PIW asserted UPRR's use of lube oil on a rail switch near PIW was a source of PCBs in a letter dated November 17, 2021, submitted by its consultant EVREN Northwest, Inc. An email dated January 7, 2022 from UPRR's counsel Tod Gold to Franziska Landes with ODEQ explained that the assertion was unfounded because it was unlikely UPRR used lubricating oils containing PCBs and that historical aerial photos indicate the switch near PIW was removed prior to construction of the St. John's Bridge in the late 1920s, well before PCBs became widely used in commercial products such as lubricating oils.

4.2 Probable Sources

Based on the data collected and surface topography in this area (Figure 4-1), PCB impacts in soil decrease with depth, indicating that sources can be related to surface spills or stormwater transport mechanisms. The following indicate there is one likely primary and potentially one other upland source to the observed PCB contamination:

- The direction of stormwater sheet flow from the east toward N. Bradford Street
- Historical uses of upland properties
- Contaminant concentration patterns observed within the N. Bradford Street ROW.

In 2011, the City also concluded that PIW is a likely current and/or historical source of PCBs detected in the Basin 52 conveyance system (City of Portland 2011).

4.2.1 Peninsula Iron Works

The most elevated PCB concentrations are adjacent to PIW, and at a significant margin from a sample collected nearest to the solvent tank and machine pit. PIW has a long history (approximately 100 years) of industrial activities that likely involved the use of PCBs (Table 4-1). Records indicate that operations also extended onto other parcels adjacent to the N. Bradford Street ROW (City of Portland 2011). Potential sources of PCB releases by PIW are as follows:

- **Foundry**: PIW is known to have operated a foundry and machining operations. Foundry operations are well known sources associated with PCBs. The City identified two foundry sites[1] in Portland investigated under the ODEQ Cleanup Program oversight that identified PCBs onsite at concentrations warranting control (City of Portland 2011).
- **Lubrication of machinery**: PIW currently uses four types of petroleum-based oils and coolants in its machining operations: water soluble coolant, machine oil, "way" oil, and hydraulic oil. According to EPA (1995), the process wastewater and solid wastes generated from machining operations likely contained hazardous substances in cutting oils, degreasing and cleaning solvents, waste oils, and heavy metals. PCBs were widely used in industrial and commercial applications within the United States from 1929 until 1979 when their manufacture was banned by EPA. PCBs were often found in items such as lubricants, hydraulic fluids, paint, and electrical equipment such as transformers, capacitors, regulators, and switches. It is likely that historical spills of these materials occurred at PIW. Additionally, equipment or product "washdown can produce metal-bearing wastewaters" including lubricating oil.
- **Cutting and welding**: New equipment or repair work on parts occurred at the facility. Historically, metalworking fluids are used to control the temperature of tools and machinery, aid in lubrication, and inhibit corrosion or surface oxidation. Metal forming and cutting operations are well known to historically use PCB-containing cutting oils to reduce heat and friction during machining processes.

Topography, historical imagery, and site observations indicate significant ponding of stormwater runoff from the PIW since the development of the property in 1911. PIW has disputed that any of their processes could have contained PCBs in the *Letter Response – Summary of Findings, PCB Areawide N Bradford Street ROW, Portland, Oregon* (letter report) (EVREN 2021). However, Jacobs' review of the claims indicates that several conclusions presented in the letter report are overly broad and under-supported by direct evidence of PCB sources on PIW and within the N. Bradford Street ROW. Thus, many claims are considered unsubstantiated and inconclusive. Furthermore, the letter report does not fully consider other potential sources of PCBs (ODEQ 2003) from the PIW facility or other offsite sources, such as the following:

- Components common in industrial settings such as machinery and electrical systems containing hydraulic fluids
- Machinery gear oils
- Cutting oils
- Gaskets
- Casting waxes
- Insulation
- Ballasts
- Capacitors
- Switch gears
- Caulking (up to 40 percent PCBs by weight).

In addition, pole-mounted transformers are located in the immediate area of the PIW site.

The elevated PCB levels found adjacent to PIW facilities by ODEQ and UPRR along with other lines of evidence establish that either PIW facilities substantially contributed to PCB loads in the Outfall Basin 52 area in general and within the N. Bradford Street ROW specifically.

[1] PECO, Inc. (ECSI No. 1973) and SFI Property (ECSI No. 5103).

4.2.2 Former Portland Woolen Mills

North of PIW, near sample locations SB01 and SB02, elevated PCBs were observed adjacent to the location where the former Portland Woolen Mills operated from 1905 through approximately 1960 (Figure 1-2). A large fire in 1916 damaged much of the mill, but it was rebuilt soon after. The mill operation included the following processes:

- Sorting and mixing
- Scouring (washing) and carbonizing to remove wool grease and organic matter
- Drying
- Picking and oiling
- Dyeing
- Carding and burling
- Washing to remove the spinning oil

A large electrical transformer was located outside the main structure near the southwestern corner of the facility. Transformers are known to have used dielectric fluids containing PCBs. During World War II, the United States government granted the Portland Woolen Mills contracts for wool blankets. Wool felt containing PCBs has been known to be used by the U.S. Navy (EPA 2012). It is unknown whether these products were produced by the former Portland Woolen Mills. Former site features that may have contained PBC oils include a machine shop, a boiler house, and a fuel house (Figure 1-2).

4.2.3 Other Sources

Given the long history of industrial activities in the site vicinity, there are likely other contributing offsite sources (Figure 1-2) and potentially unrecognized sources in addition to PIW. While there is significant evidence that the source of PCBs is associated with PIW, other potential sources may include:

- Dust control oil used on dirt streets
- Staging foundry products and debris within the N. Bradford Street ROW
- Staging construction material and debris from St. Johns bridge construction
- Local industrial complexes (Portland Woolen Mills complex and St. Johns ship building yards to the north, northeast, and east)

In addition, the Willamette River has a history of flooding in this area and is a suspected source of PCBs in debris and soils left after the flooding resends (EVREN 2021).

Building products (for example, paints, roofing, siding, coatings, and Galbestos) could also have contained PCBs that weathered and were dispersed to surrounding ground surfaces by atmospheric deposition (wind and rain) and transported by open stormwater sheet flow to surface soil, and the existing stormwater collection system and catch basins.

4.3 Contaminant Transport from Offsite Sources

The most likely transport mechanism for such contamination is stormwater sheet flow, with pooling and subsequent settling of solids and infiltration adjacent to the railroad tracks. Review of topography surrounding the site indicates that the railroad tracks and N. Bradford Street ROW in the site area are in a low spot in Outfall Basin 52 and subject to stormwater accumulation (Figure 4-1). Stormwater sheet flow from PIW and surrounding asphalt paved streets and parking areas moves toward the railroad tracks from the east on both sides of the PIW building. Significant pooling has been observed as evidenced by the photographs included in the 2012 City of Portland *Industrial Source Control Memo* (City of Portland 2012) (Photograph 1).

Photograph 1: Extensive Ponding Adjacent to the West Side of the PIW Building and along the N. Bradford Street ROW, circa 2012

Source: City of Portland 2012

The railroad tracks and ballast reduce stormwater sheet flow from the northeast side to the southwest side of the tracks, causing stormwater to pool beside the tracks. The stormwater observed in the 2012 event was noted to have infiltrated into the N. Bradford Street ROW. Stormwater ponding has been observed at times of heavy rainfall since the development of the PIW property, as documented in aerial photography dating from 1956 and by recollection of facility owners (EVREN 2021). Some stormwater sheet flow is captured by catch basins and manholes from the PIW property and properties to the northeast including paved parking lots and streets and routed through the N. Bradford Street ROW and eventually discharged to the Willamette River.

The highest PCB concentration observed in this sampling report was collected near the middle-right portion of this photograph.

5. Conclusions

The 2022 site investigation identified elevated levels of PCBs within shallow soil within the N. Bradford Street ROW portion of the site. The highest concentrations are adjacent to PIW and generally decrease with depth and distance from PIW, with the exception of two sample locations adjacent to the former Portland Woolen Mills industrial complex. The investigation and source evaluation presented in this report demonstrate that elevated PCB concentrations at the site are likely associated with offsite releases from former and/or current PIW operations and other potential offsite sources. There is no evidence that UPRR is the source based on historical records (including spill/release history), current UPRR operations, and lack of PCBs use in historic UPRR locomotives. Specifically, the highest PCB concentrations are directly adjacent to PIW and the former Portland Woolen Mills (formerly located one block north of PIW). Both facilities likely generated and released PCBs during their long histories of industrial activities. If not connected, these two "hot-spot" areas suggest the PCBs are not associated with UPRR operations and are likely the result of industrial activities conducted outside of the N. Bradford Street ROW. Based on surface topography in this area and field observations during rain events, it is highly likely that observed stormwater sheet flow is the predominant contaminant transport mechanism onto the N. Bradford Street ROW. Some stormwater sheet flow is captured from PIW and upland properties including parking lots and streets into catch basins and manholes.

The N. Bradford Street ROW is not owned by UPRR. The City of Portland owns N. Bradford Street within this area, including the area where soil samples were collected, and allows UPRR to operate railroad tracks within the ROW under a limited right-of-use. Accordingly, given the extent of PCBs detected outside the limited right-of-use corridor and the source evaluation presented, UPRR is not a responsible party to conduct further investigation or cleanup, if warranted.

PIW conducted a focused surface soil investigation at the site from November 2022 through January 2023 to further characterize and delineate PCBs in surface soil in areas adjacent to PIW, as well as areas underlying the southern portion of their building. The results of the investigation (EVREN 2023) indicate elevated levels of PCBs in shallow soil adjacent to and beneath the PIW building, which suggests that the source of PCBs at the site may be related to releases from historical operations conducted by PIW.

On May 22, 2023, ODEQ issued a Consent on Order (ODEQ 2023) to PIW that requires remedial action at the site to address PCBs in soil. Following issuance of the Consent on Order to PIW, UPRR's enrollment in the VCP (ECSI No. 6480) was terminated on June 29, 2023.

6. References

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Tables

Table 3-1. Analytical Results, Soil Borings

PCB Areawide – N. Bradford Street Right-of-Way, Portland, Oregon

Location:	SB01			SB02				SB03				
Sample Name:	SB01-0.0-0.5-1022	SB01-1.0-1.5-1022	SB01-2.5-3.0-1022	SB02-0.0-0.5-1022	SB02D-0.0-0.5-1022	SB02-1.0-1.5-1022	SB02-2.5-3.0-1022	SB03-0.0-0.5-1022	SB03D-0.0-0.5-1022	SB03-1.0-1.5-1022	SB03-2.5-3.0-1022	SB04-0.0-0.5-1022
Sample Date:	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022
Sample Depth (feet bgs):	0-0.5	1-1.5	2.5-3	0-0.5	0-0.5	1-1.5	2.5-3	0-0.5	0-0.5	1-1.5	2.5-3	0-0.5
PCB Aroclors (mg/kg)												
Aroclor-1016	0.0202 U	0.0210 U	0.0211 U	0.0211 U	0.0206 U	0.0211 U	0.0210 U	0.0211 U	0.0206 U	0.0210 U	0.0208 U	0.0207 U
Aroclor-1221	0.0330 U	0.0342 U	0.0344 U	0.0344 U	0.0336 U	0.0344 U	0.0342 U	0.0344 U	0.0335 U	0.0343 U	0.0339 U	0.0337 U
Aroclor-1232	0.0282 U	0.0293 U	0.0294 U	0.0295 U	0.0287 U	0.0295 U	0.0293 U	0.0295 U	0.0287 U	0.0293 U	0.0290 U	0.0289 U
Aroclor-1242	0.0295 U	0.0306 U	0.0308 U	0.0308 U	0.0301 U	0.0308 U	0.0307 U	0.0308 U	0.0300 U	0.0307 U	0.0304 U	0.0302 U
Aroclor-1248	0.0244 U	0.0253 U	0.0254 U	0.0254 U	0.0248 U	0.0254 U	0.0253 U	0.0254 U	0.0248 U	0.0253 U	0.0250 U	0.0249 U
Aroclor-1254	0.0238 U	0.0247 U	0.0248 U	0.0248 U	0.0242 U	0.0248 U	0.0247 U	0.0248 U	0.0242 U	0.0247 U	0.0175 U	0.0243 U
Aroclor-1260	18.9	2.44	0.073	11.5 J	6.74	1.12	0.477	0.161	0.262	0.250	0.0175 U	0.433 J
Aroclor-1262	0.0314 U	0.0326 U	0.0327 U	0.0328 U	0.0320 U	0.0328 U	0.0326 U	0.0328 U	0.0319 U	0.0326 U	0.0323 U	0.0321 U
Aroclor-1268	0.0229 U	0.0238 U	0.0239 U	0.0239 U	0.0233 U	0.0239 U	0.0238 U	0.0239 U	0.0233 U	0.0238 U	0.0236 U	0.0234 U
Total PCBs[a]	18.9	2.44	0.073	11.5 J	6.74	1.12	0.477	0.161	0.262	0.250	0.0339 U	0.433 J

[a] Total PCBs is the sum of all detected PCB aroclors. Nondetect results are not included in the sum.

Bold = detected concentrations

bgs = below ground surface

J = estimated result

mg/kg = milligram(s) per kilogram

PCB = polychlorinated biphenyl

U = Detected result is above the indicated laboratory reporting limit.

Table 3-1. Analytical Results, Soil Borings

PCB Areawide – N. Bradford Street Right-of-W

Location:	SB04				SB05		SB06			SB07			
Sample Name:	SB04D-0.0-0.5-1022	SB04-1.0-1.5-1022	SB04-2.5-3.0-1022	SB05-0.0-0.5-1022	SB05-1.0-1.5-1022	SB05-2.5-3.0-1022	SB06-0.0-0.5-1022	SB06-1.0-1.5-1022	SB06-2.5-3.0-1022	SB07-0.0-0.5-1022	SB07-1.0-1.5-1022	SB07-2.5-3.0-1022	SB08-0.5-110322
Sample Date:	10/17/2022	10/17/2022	10/17/2022	10/18/2022	10/18/2022	10/18/2022	10/17/2022	10/17/2022	10/17/2022	10/18/2022	10/18/2022	10/18/2022	11/3/2022
Sample Depth (feet bgs):	0-0.5	1-1.5	2.5-3	0-0.5	1-1.5	2.5-3	0-0.5	1-1.5	2.5-3	0-0.5	1-1.5	2.5-3	0-0.5
PCB Aroclors (mg/kg)													
Aroclor-1016	0.0210U	0.0211U	0.0206U	0.0211 U	0.0211 U	0.0210 U	0.0212U	0.0209U	0.0211U	0.0210 U	0.0204 U	0.0210 U	0.0207 U
Aroclor-1221	0.0342U	0.0344U	0.0336U	0.0344 U	0.0344 U	0.0342 U	0.0345U	0.0337U	0.0344U	0.0342 U	0.0333 U	0.0343 U	0.0338 U
Aroclor-1232	0.0293U	0.0295U	0.0288U	0.0294 U	0.0294 U	0.0293 U	0.0296U	0.0288U	0.0294U	0.0293 U	0.0285 U	0.0294 U	0.0289 U
Aroclor-1242	0.0307U	0.0308U	0.0301U	0.0308 U	0.0308 U	0.0306 U	0.0309U	0.0301U	0.0308U	0.0307 U	0.0298 U	0.0307 U	0.0302 U
Aroclor-1248	0.0253U	0.0254U	0.0249U	0.0254 U	0.0254 U	0.0253 U	0.0255U	0.0249U	0.0254U	0.0253 U	0.0246 U	0.0253 U	0.0250 U
Aroclor-1254	0.0247U	0.0249U	0.0243U	0.0248 U	0.0248 U	0.0247 U	0.0249U	0.0243U	0.0248U	0.0247 U	0.0240 U	0.0248 U	0.0244 U
Aroclor-1260	0.244	2.66	0.434	0.920	0.335	0.0177 U	4.67	10.5	0.199	1.85	0.178	0.0341 J	15.2
Aroclor-1262	0.0326U	0.0328U	0.0320U	0.0327 U	0.0327 U	0.0326 U	0.0328U	0.0320U	0.0327U	0.0326 U	0.0317 U	0.0327 U	0.0321 U
Aroclor-1268	0.0238U	0.0240U	0.0234U	0.0239 U	0.0239 U	0.0238 U	0.0240U	0.0234U	0.0239U	0.0238 U	0.0231 U	0.0239 U	0.0235 U
Total PCBs[a]	0.244	2.66	0.434	0.920	0.335	0.0342 U	4.67	10.5	0.199	1.85	0.178	0.0341 J	15.2

[a] Total PCBs is the sum of all detected PCB aroclors. Non

Bold = detected concentrations

bgs = below ground surface

J = estimated result

mg/kg = milligram(s) per kilogram

PCB = polychlorinated biphenyl

U = Detected result is above the indicated laboratory rep

Table 3-1. Analytical Results, Soil Borings

PCB Areawide – N. Bradford Street Right-of-W

Location:	SB08		SB09			SB10			SB11				
Sample Name:	SB08-1-110322	SB08-2.5-110322	SB09-0.0-0.5-1022	SB09-1.0-1.5-1022	SB09-2.5-3.0-1022	SB10-0.0-0.5-1022	SB10-1.0-1.5-1022	SB10-2.5-3.0-1022	SB11-0.0-0.5-1022	SB11D-0.0-0.5-1022	SB11-1.0-1.5-1022	SB11-2.5-3.0-1022	SB12-0.0-0.5-1022
Sample Date:	11/3/2022	11/3/2022	10/18/2022	10/18/2022	10/18/2022	10/18/2022	10/18/2022	10/18/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/18/2022
Sample Depth (feet bgs):	1-1.5	2.5-3	0-0.5	1-1.5	2.5-3	0-0.5	1-1.5	2.5-3	0-0.5	0-0.5	1-1.5	2.5-3	0-0.5
PCB Aroclors (mg/kg)													
Aroclor-1016	0.0212 U	0.0210 U	0.0210 U	0.0211 U	0.0210 U	0.0204 U	0.0211 U	0.0207 U	0.0208 U	0.0209 U	0.0205 U	0.0207 U	0.0211 U
Aroclor-1221	0.0345 U	0.0343 U	0.0343 U	0.0344 U	0.0342 U	0.0332 U	0.0344 U	0.0338 U	0.0340 U	0.0342 U	0.0335 U	0.0338 U	0.0345 U
Aroclor-1232	0.0296 U	0.0294 U	0.0294 U	0.0295 U	0.0293 U	0.0284 U	0.0295 U	0.0289 U	0.0291 U	0.0293 U	0.0287 U	0.0290 U	0.0295 U
Aroclor-1242	0.0309 U	0.0307 U	0.0307 U	0.0308 U	0.0307 U	0.0297 U	0.0308 U	0.0303 U	0.0304 U	0.0306 U	0.0300 U	0.0303 U	0.0309 U
Aroclor-1248	0.0255 U	0.0253 U	0.0253 U	0.0254 U	0.0253 U	0.0245 U	0.0254 U	0.0250 U	0.0251 U	0.0252 U	0.0247 U	0.0250 U	0.0255 U
Aroclor-1254	0.0249 U	0.0248 U	0.0248 U	0.0248 U	0.0247 U	0.0240 U	0.0248 U	0.0244 U	0.0245 U	0.0247 U	0.0242 U	0.0244 U	0.0249 U
Aroclor-1260	4.55	0.29	9.44	0.893	0.226	124	35.1	0.305	4.11	3.21	0.482	0.103	30.8
Aroclor-1262	0.0328 U	0.0327 U	0.0327 U	0.0328 U	0.0326 U	0.0316 U	0.0328 U	0.0322 U	0.0323 U	0.0325 U	0.0319 U	0.0322 U	0.0328 U
Aroclor-1268	0.0240 U	0.0239 U	0.0239 U	0.0239 U	0.0238 U	0.0231 U	0.0239 U	0.0235 U	0.0236 U	0.0238 U	0.0233 U	0.0235 U	0.0240 U
Total PCBs[a]	4.55	0.29	9.44	0.893	0.226	124	35.1	0.305	4.11	3.21	0.482	0.103	30.8

[a] Total PCBs is the sum of all detected PCB aroclors. Non

Bold = detected concentrations

bgs = below ground surface

J = estimated result

mg/kg = milligram(s) per kilogram

PCB = polychlorinated biphenyl

U = Detected result is above the indicated laboratory rep

Table 3-1. Analytical Results, Soil Borings

PCB Areawide – N. Bradford Street Right-of-W

Location:	SB12			SB13				SB14		SB15			
Sample Name:	SB12D-0.0-0.5-1022	SB12-1.0-1.5-1022	SB12-2.5-3.0-1022	SB13-0.0-0.5-1022	SB13-1.0-1.5-1022	SB13-2.5-3.0-1022	SB14-0.0-0.5-1022	SB14-1.0-1.5-1022	SB14-2.5-3.0-1022	SB15-0.0-0.5-1022	SB15-1.0-1.5-1022	SB15-2.5-3.0-1022	SB16-0.0-0.5-1022
Sample Date:	10/18/2022	10/18/2022	10/18/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022
Sample Depth (feet bgs):	0-0.5	1-1.5	2.5-3	0-0.5	1-1.5	2.5-3	0-0.5	1-1.5	2.5-3	0-0.5	1-1.5	2.5-3	0-0.5
PCB Aroclors (mg/kg)													
Aroclor-1016	0.0208 U	0.0207 U	0.0210 U	0.0211 U	0.0208 U	0.0210 U	0.0206 U	0.0211 U	0.0208 U	0.0209 U	0.0204 U	0.0210 U	0.0201U
Aroclor-1221	0.0339 U	0.0338 U	0.0343 U	0.0344 U	0.0340 U	0.0343 U	0.0336 U	0.0344 U	0.0339 U	0.0342 U	0.0333 U	0.0342 U	0.0329U
Aroclor-1232	0.0290 U	0.0289 U	0.0294 U	0.0295 U	0.0291 U	0.0294 U	0.0288 U	0.0294 U	0.0290 U	0.0293 U	0.0285 U	0.0293 U	0.0281U
Aroclor-1242	0.0303 U	0.0303 U	0.0307 U	0.0308 U	0.0304 U	0.0307 U	0.0301 U	0.0308 U	0.0303 U	0.0306 U	0.0298 U	0.0307 U	0.0294U
Aroclor-1248	0.0250 U	0.0250 U	0.0254 U	0.0254 U	0.0251 U	0.0254 U	0.0248 U	0.0254 U	0.0250 U	0.0252 U	0.0246 U	0.0253 U	0.0243U
Aroclor-1254	0.0244 U	0.0244 U	0.0248 U	0.0249 U	0.0245 U	0.0248 U	0.0242 U	0.0248 U	0.0244 U	0.0247 U	0.0240 U	0.0247 U	0.0237U
Aroclor-1260	38.6	2.81	0.162	0.224	0.0526	0.0193 J	0.296	0.124	0.163	0.339	0.0652 J	0.175	0.260
Aroclor-1262	0.0322 U	0.0322 U	0.0327 U	0.0328 U	0.0323 U	0.0327 U	0.0320 U	0.0327 U	0.0322 U	0.0325 U	0.0317 U	0.0326 U	0.0313U
Aroclor-1268	0.0236 U	0.0235 U	0.0239 U	0.0240 U	0.0236 U	0.0239 U	0.0234 U	0.0239 U	0.0236 U	0.0238 U	0.0231 U	0.0238 U	0.0229U
Total PCBs[a]	38.6	2.81	0.162	0.224	0.0526	0.0193 J	0.296	0.124	0.163	0.339	0.0652 J	0.175	0.260

[a] Total PCBs is the sum of all detected PCB aroclors. Non

Bold = detected concentrations

bgs = below ground surface

J = estimated result

mg/kg = milligram(s) per kilogram

PCB = polychlorinated biphenyl

U = Detected result is above the indicated laboratory rep

Table 3-1. Analytical Results, Soil Borings

PCB Areawide – N. Bradford Street Right-of-W

Location:	SB16	
Sample Name:	SB16-1.0-1.5-1022	SB16-2.5-3.0-1022
Sample Date:	10/19/2022	10/19/2022
Sample Depth (feet bgs):	1-1.5	2.5-3
PCB Aroclors (mg/kg)		
Aroclor-1016	0.0208U	0.0209U
Aroclor-1221	0.0339U	0.0341U
Aroclor-1232	0.0290U	0.0292U
Aroclor-1242	0.0304U	0.0305U
Aroclor-1248	0.0250U	0.0252U
Aroclor-1254	0.0245U	0.0246U
Aroclor-1260	0.104	0.389
Aroclor-1262	0.0323U	0.0324U
Aroclor-1268	0.0236U	0.0237U
Total PCBs[a]	0.104	0.389

[a] Total PCBs is the sum of all detected PCB aroclors. Non

Bold = detected concentrations

bgs = below ground surface

J = estimated result

mg/kg = milligram(s) per kilogram

PCB = polychlorinated biphenyl

U = Detected result is above the indicated laboratory rep

Table 3-2. Analytical Results, Incremental Sampling Methodology Samples

PCB Areawide – N. Bradford Street Right-of-Way, Portland, Oregon

Location:	ISM01	ISM02	ISM03	ISM04	ISM05	ISM06	ISM07			ISM08
Sample Name:	ISM01-0.0-0.2-1022	ISM02-0.0-0.2-1022	ISM03-0.0-0.2-1022	ISM04-0.0-0.2-1022	ISM05-0.0-0.2-1022	ISM06-0.0-0.2-1022	ISM07-0.0-0.2-1022	ISM07T-0.0-0.2-1022	ISM07TT-0.0-0.2-1022	ISM08-0.0-0.2-1022
Sample Date:	10/17/2022	10/19/2022	10/17/2022	10/18/2022	10/18/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/20/2022
Sample Depth (inches bgs):	0-2	0-2	0-2	0-2	0-2	0-2	0-2	0-2	0-2	0-2
PCB Aroclors (mg/kg)										
Aroclor-1016	0.0210U	0.0205U	0.0208U	0.0210 U	0.0211 U	0.0209U	0.0206U	0.0210U	0.0208U	0.0211 U
Aroclor-1221	0.0342U	0.0334U	0.0340U	0.0343 U	0.0344 U	0.0341U	0.0336U	0.0343U	0.0340U	0.0344 U
Aroclor-1232	0.0293U	0.0286U	0.0291U	0.0294 U	0.0295 U	0.0292U	0.0287U	0.0293U	0.0291U	0.0295 U
Aroclor-1242	0.0306U	0.0299U	0.0304U	0.0307 U	0.0308 U	0.0305U	0.0301U	0.0307U	0.0304U	0.0308 U
Aroclor-1248	0.0253U	0.0247U	0.0251U	0.0254 U	0.0254 U	0.0252U	0.0248U	0.0253U	0.0251U	0.0254 U
Aroclor-1254	0.0247U	0.0241U	0.0245U	0.0248 U	0.0248 U	0.0246U	0.0242U	0.0247U	0.0245U	0.0249 U
Aroclor-1260	5.73	0.267	12.6	11.1	5.88	0.631	0.189	0.179	0.185	0.122
Aroclor-1262	0.0326U	0.0318U	0.0324U	0.0327 U	0.0328 U	0.0324U	0.0320U	0.0326U	0.0323U	0.0328 U
Aroclor-1268	0.0238U	0.0233U	0.0236U	0.0239 U	0.0239 U	0.0237U	0.0233U	0.0238U	0.0236U	0.0240 U
Total PCBs[a]	5.73	0.267	12.6	11.1	5.88	0.631	0.189	0.179	0.185	0.122

[a] Total PCBs is the sum of all detected PCB aroclors. Nondetect results are not included in the sum.

Bold = detected concentrations

bgs = below ground surface

ISM = incremental sampling methodology

mg/kg = milligram(s) per kilogram

PCB = polychlorinated biphenyl

U = Detected result is above the indicated laboratory reporting limit.

Table 3-3. Total PCB Congener Results and Corresponding Total PCB Aroclor Results

PCB Areawide – N. Bradford Street Right-of-Way, Portland, Oregon

Sample Name	Total PCB Congeners (mg/kg)	Total PCB Aroclors (mg/kg)
SB10-0.0-0.5-1022	104	124
SB12-0.0-0.5-1022	20.1	30.8
SB08-0.5-110322	12.8	15.2
SB06-1.0-1.5-1022	6.21	10.5
SB13-0.0-0.5-1022	0.234	0.224
SB14-1.0-1.5-1022	0.0961	0.124

Total PCB congeners is the sum of all detected PCB congener groups reported by the laboratory. Nondetect results are not included in the sum.

Total PCB aroclors is the sum of all detected PCB aroclors. Nondetect results are not included in the sum.

mg/kg = milligram(s) per kilogram

PCB = polychlorinated biphenyl

Table 4-1. Peninsula Iron Works Historical Land Use Narrative

PCB Areawide – N. Bradford Street Right-of-Way, Portland, Oregon

Period	Land Use / Activity Summary
Pre-1910	Vacant except horse stable. Portland Woolen Mills complex one block north.
1910s	PIW initially developed with foundry, machine shop, blacksmith shop. Shipbuilding industry appears to north and northwest.
1920s	PIW expansion/built out over entire site adding machine shops, air compressor, oil house, coke ovens, and parts and manufacturing operations, including expansion of PIW facilities to adjacent property to the south. Wood working facility developed further to the south.
1930s	PIW pattern storage building, other facilities on adjacent southeastern parcel removed, now vacant with grass cover. Woolen mill complex developed to north, timber facility to the south.
1940s	PIW foundry casting noted in high production mode supporting cast items for World War II.
1950s	Foundry/machine shop remains active. Large city sanitary sewage station located across the UPRR tracks to west, still present today. Shipbuilding facilities expanded nearby. Woolen mill complex and timber facility no longer present.
1960s	Open storage of materials and debris noted onsite and adjacent parcel to south where current parking lot for Cathedral Park is located. Paint and oil storage shed noted to south, adjacent to UPRR ROW. Scattered debris and refuse, and autos noted in the areas between the UPRR track and the Willamette River.
1970s	PIW extensively remodeled to present day footprint. Open storage areas placed under roof. Many industrial activities have ceased in the surrounding areas.

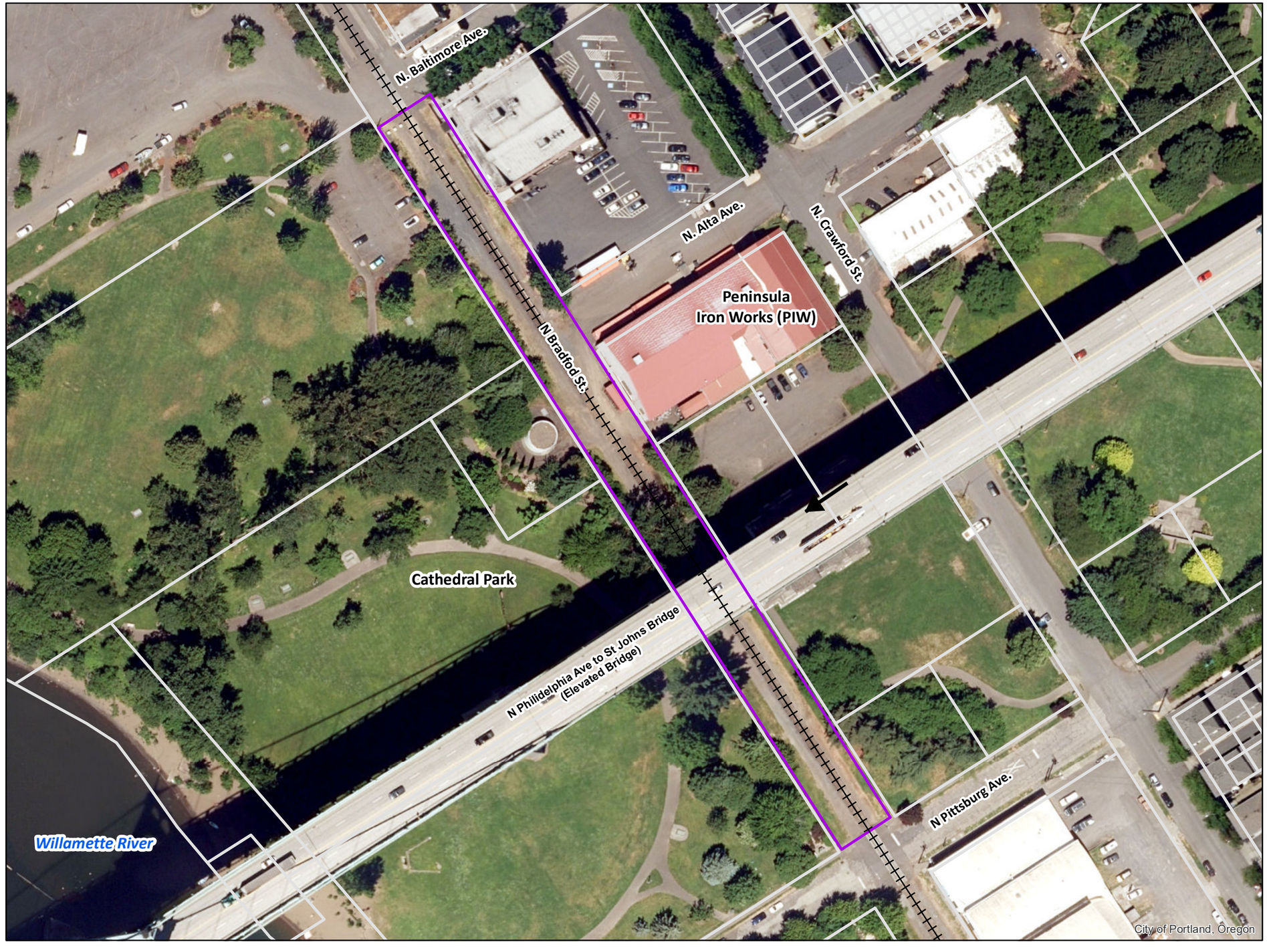
Summary compiled from information presented in the *Letter Response – Summary of Findings PCB Areawide N. Bradford Street ROW, Portland, Oregon* (EVREN 2021).

PIW = Peninsula Iron Works

ROW = right-of-way

UPRR = Union Pacific Railroad

Figures



Legend

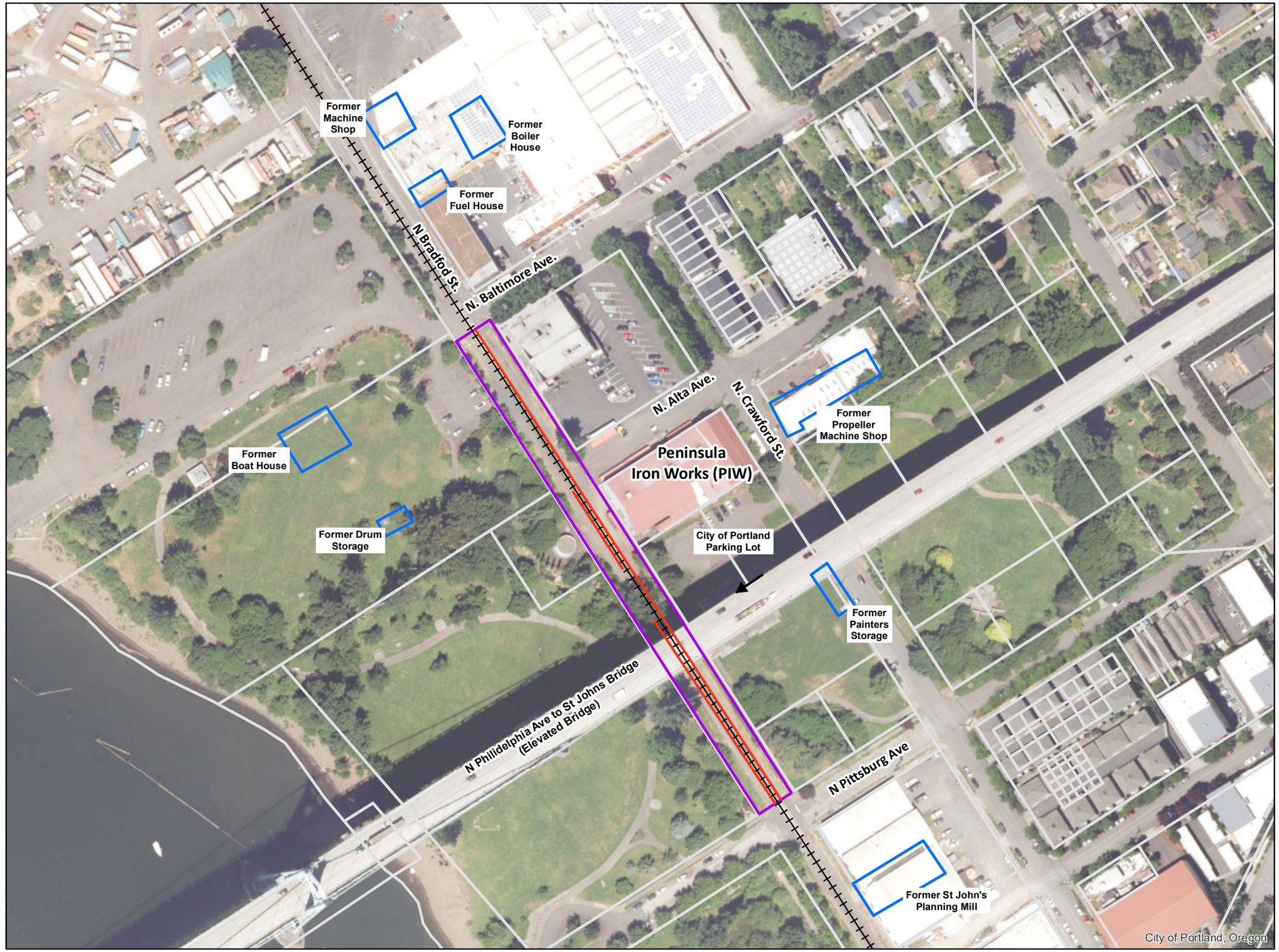
- Investigation Area
- Railroad Tracks
- Taxlot

N

0 50 100 200 Ft

Figure 1-1
Project Area
N. Bradford Street Right-of-Way
Portland, Oregon

\\dc1vs01\GISProj\U\UPRR\UPRR_Peninsula_Iron_Works\GIS\Mapfiles\Report\2023\Site_Investigation\Fig1-1_SampleArea.mxd gmoon 2/27/2023 7:39:42 PM



Legend

- Investigation Area
- 2023 Surface (2 inches) Ballast Removal Area
- Former Features of Interest
- Railroad Tracks
- Taxlot

Notes:

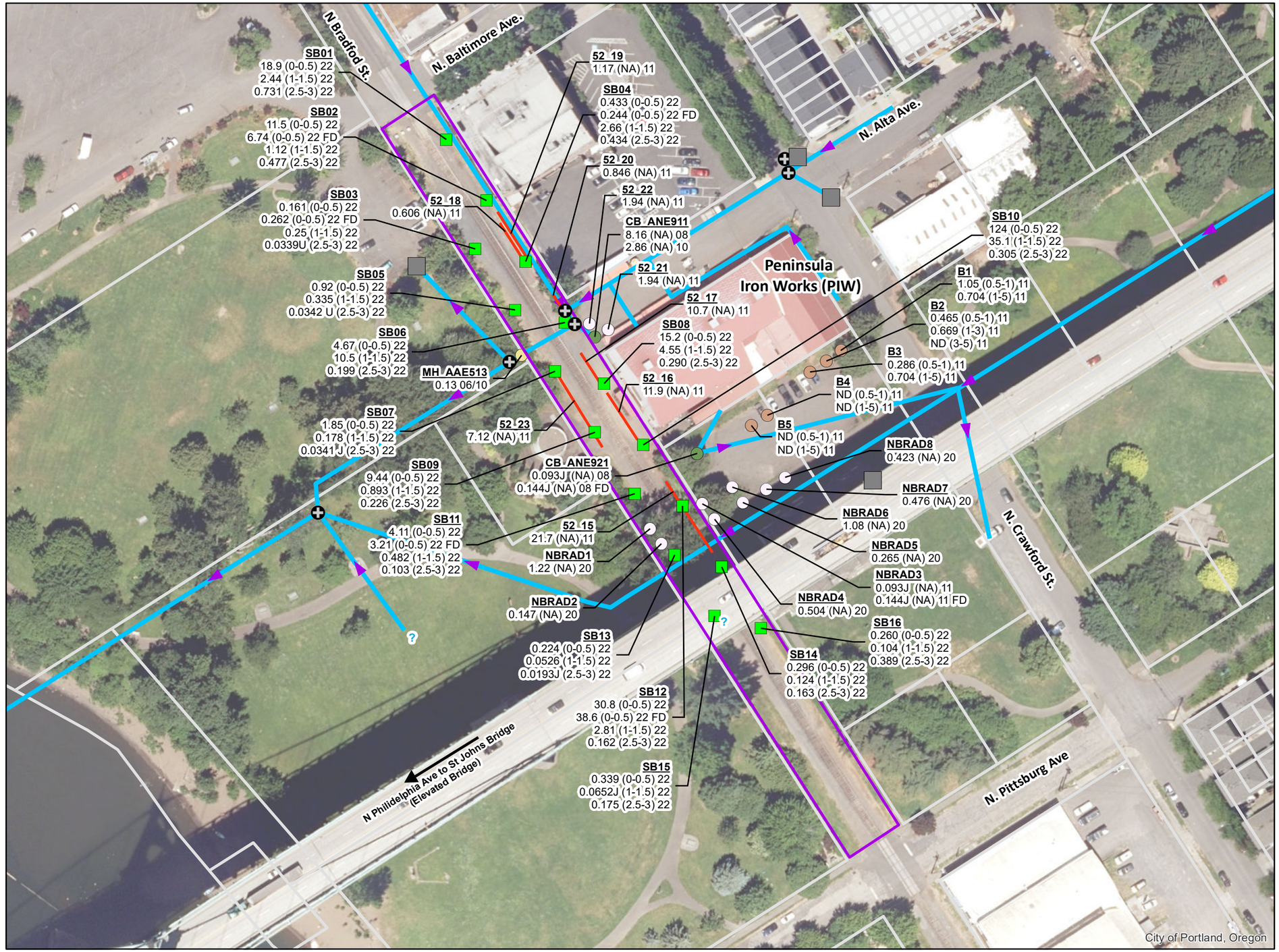
1. All buildings, street and feature locations are approximate
2. Symbols respresent location and do not always represent exact shape, sise or orientation
3. Historical features presented in EVREN Northwest, Inc. 2021. Letter Response – Summary of Findings, PCB Areawide – N Bradford St ROW, Portland, Oregon. November 17.

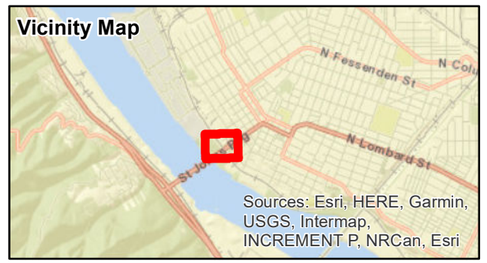
N

0 80 160 320 Ft

Figure 1-2
Features of Interest
N. Bradford Street Right-of-Way
Portland, Oregon

\\dc1vs01\GISProj\U\UPRR\UPRR_Peninsula_Iron_Works\GIS\Mapfiles\Report\2023\Site_Investigation\Fig1-2_Historical_POIs.mxd gmoon 7/7/2023 2:53:17 PM





Legend

- Investigation Area
- Catch Basin
- Manhole
- Storm Line
- Taxlot

Sample Locations (2022)

- Subsurface Soil Sample

Sample Locations (2008 -2011)

- Inline Solids Sample
- Sediment Trap Sample
- Subsurface Soil Sample
- Surface Soil Sample
- Composite Surface Soil Sample

Location ID — **SB11**
PCBT Concentration (mg/kg) — 3.21 (0-0.5) 22 FD
Sample Depth (ft)
Sample Date (year)
Field Duplicate

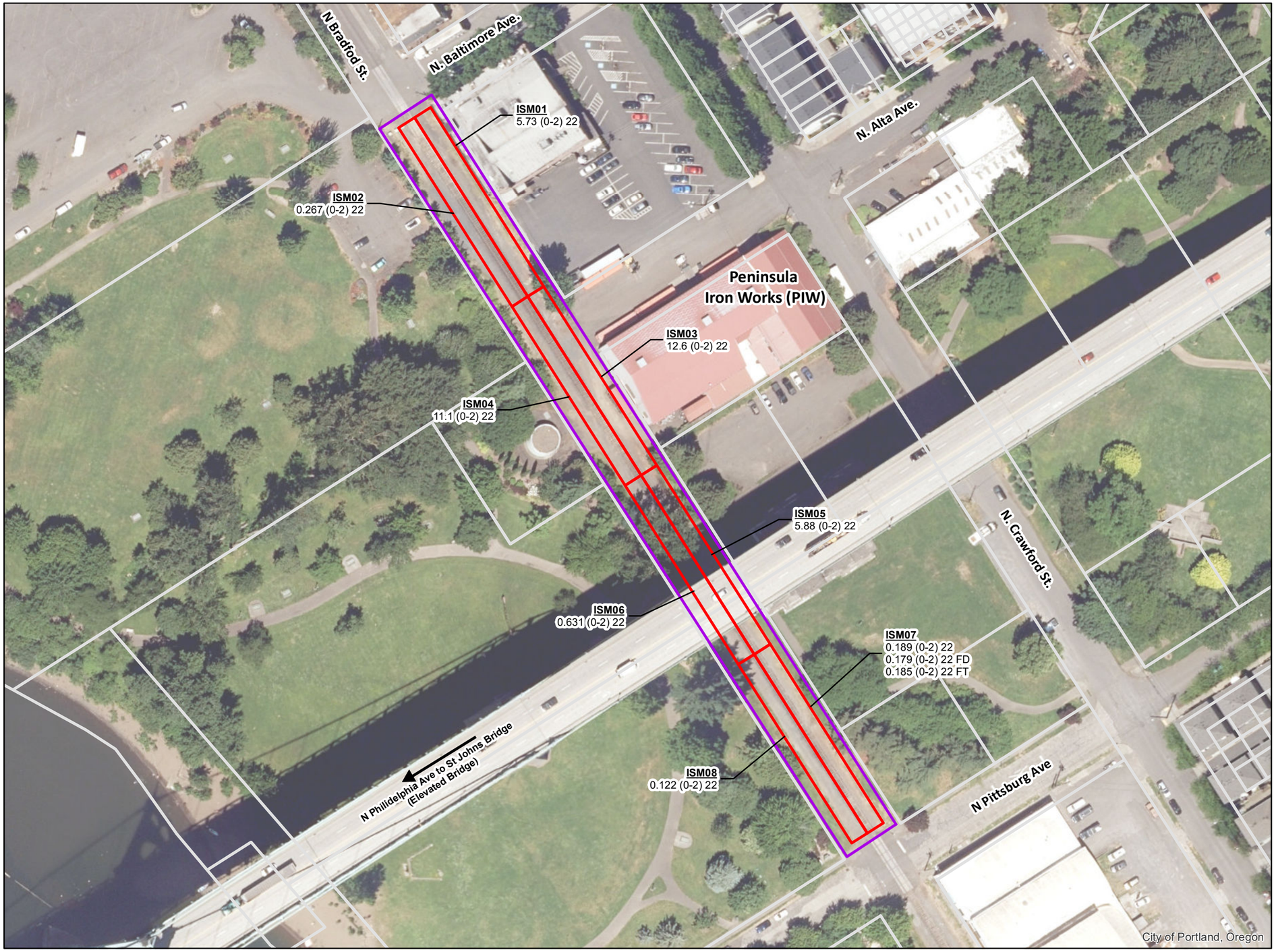
Notes:
mg/kg = milligrams per kilogram
FD = Field Duplicate
ft = feet
J = estimated result
NA = not available
ND = not detected
PCBT = Total Polychlorinated Biphenyls (PCBs)
U = not detected above the indicated reporting limit

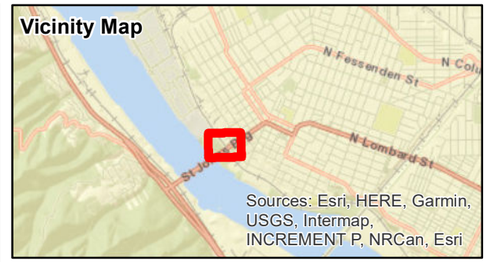
N

0 40 80 160 Ft

Figure 2-1
Total PCB Concentrations in Soil and Sediment Samples
N. Bradford Street Right-of-Way
Portland, Oregon

\\dc1vs01\GISProj\U\UPRR\UPRR_Peninsula_Iron_Works\GIS\Mapfiles\Report\2023\Site_Investigation\Fig2-1_PCBT_Soil_Sed_MG.mxd gmoon 3/1/2023 10:07:30 AM





Legend

- Investigation Area
- Incremental Sampling Methodology Locations
- Taxlot

Location ID — **ISM07**
PCBT Concentration (mg/kg) — 0.185 (0-2) 22 FT
Sample Depth (in)
Sample Date (year)
Sample Duplicate/Triplicate

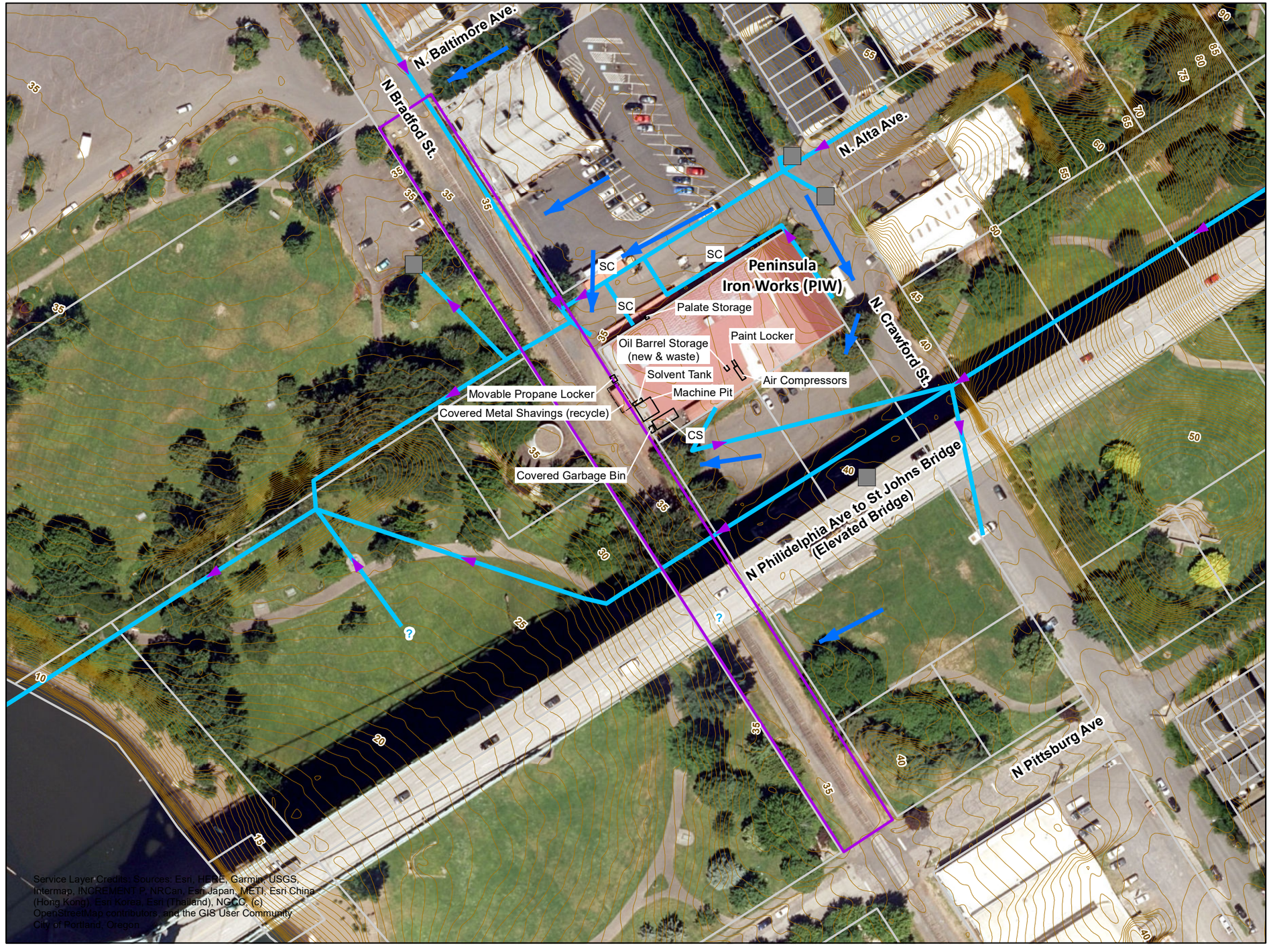
Notes:
in = inches
FD = Field Duplicate
FT = Field Triplicate
mg/kg = milligrams per kilogram
PCBT = Total Polychlorinated Biphenyls (PCBs)

N

0 40 80 160 Ft

Figure 2-2
Total PCB Concentrations in Incremental Sampling Methodology Samples
N. Bradford Street Right-of-Way
Portland, Oregon

\\dc1vs01\GISProj\U\UPRR\UPRR_Peninsula_Iron_Works\GIS\Mapfiles\Report\2023\Site_Investigation\Fig3-1_PCBT_ISM_MG.mxd gmoon 2/28/2023 2:57:51 PM



Legend

- Investigation Area
- CS
- Other
- Metal Recycle
- Catch Basin

Storm Line For Legend

LEGEND

- Storm Line

Storm Line

- Inferred Storm Line
- Direction of Slope
- 0.5ft Elevation Contour
- Taxlot

Notes:
CS = covered storage area used for machine fixtures, raw steel and trash bins.
SC = Shipping container used for storage or steel parts

1. All buildings, street and feature locations are approximate
2. Symbols respresent location and do not always represent exact shape, sise or orientation
3. Elevation contoursed are based on DOGAMI Lidar data using 10ft PAEK smoothing.
4. Site features provided in Evrennorthwest, Inc., 2021. Letter Response - Summary of Findings, PCB Areawide - N Bradford St ROW, Portland, Oregon. November 17.

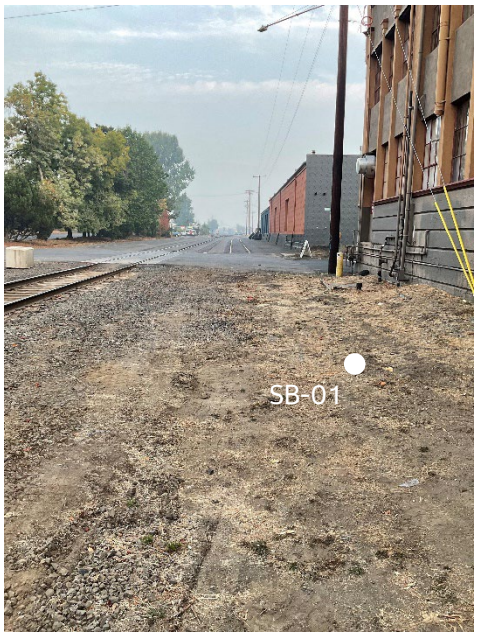
N
0 50 100 200 Ft

Figure 4-1
Topography and Relevant Site Features
N. Bradford Street Right-of-Way
Portland, Oregon

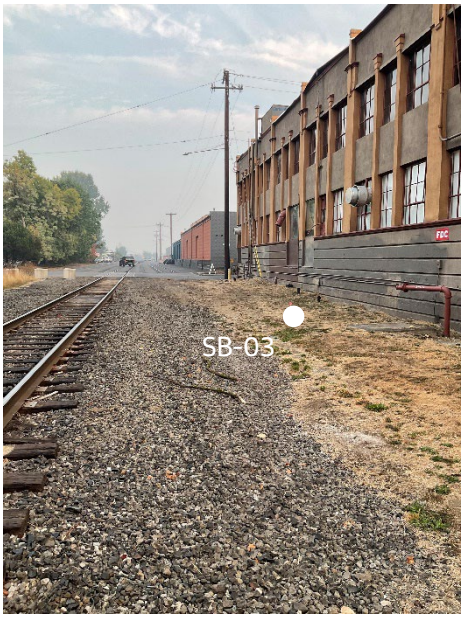
\\dc1vs01\GISProj\U\UPRR\UPRR_Peninsula_Iron_Works\GIS\Mapfiles\Report\2023\Site_Investigation\Fig4-1_Topography_and_StormwaterFlow.mxd gmoon 3/1/2023 10:07:08 AM

Appendix A
Photographs

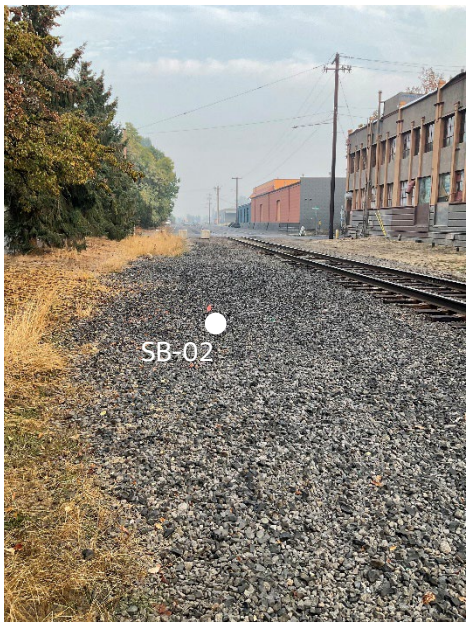
Project Title: **PCB Areawide – N. Bradford Street Right-of-Way, Portland, Oregon**



Photograph 1: SB-01



Photograph 2: SB-02



Photograph 3: SB-03

Photograph 4: SB-04

Photograph 5: SB-05

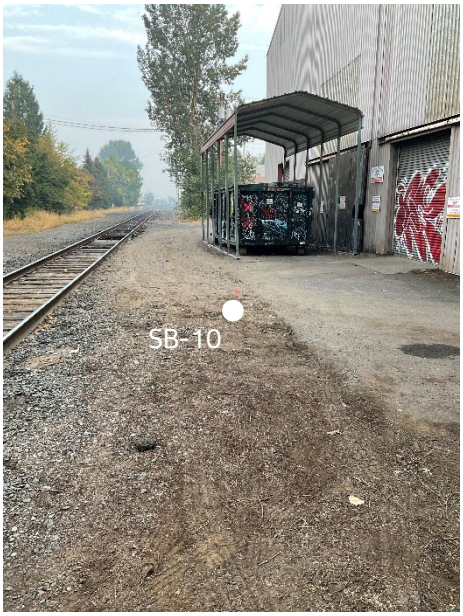
Photograph 7: SB-07

Photograph 6: SB-06

Photograph 8: SB-08

Photograph 9: SB-09

Photograph 11: SB-11



Photograph 10: SB-10

Photograph 12: SB-12

Photograph 13: SB-13

Photograph 15: SB-15

Photograph 14: SB-14

Photograph 16: SB-16

Photograph 17: ISM-01

Photograph 18: ISM-02

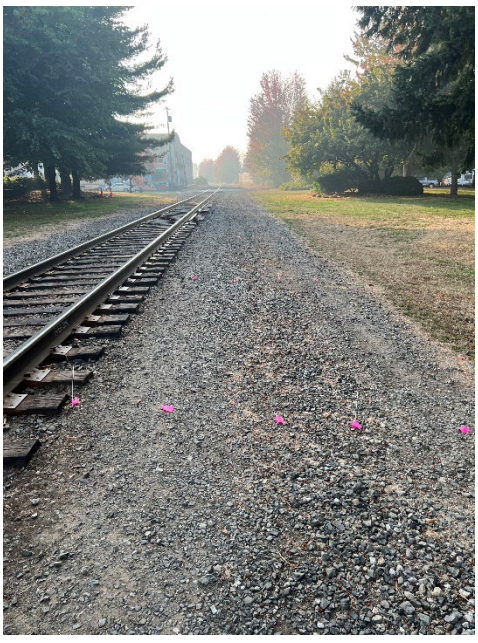
Photograph 19: ISM-03

Photograph 20: ISM-04

Photograph 21: ISM-05

Photograph 23: ISM-07

Photograph 22: ISM-06



Photograph 24: ISM-08

Appendix B
Analytical Laboratory Reports and Data Validation Memorandum

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

November 08, 2022

David Hodson
Jacobs
2020 SW 4th Avenue
Suite 300
Portland, OR 97201

RE: Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630317

Dear David Hodson:

Enclosed are the analytical results for sample(s) received by the laboratory on October 19, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: UPRR-Sysdat@ghd.com, UPRR

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630317

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab
A2LA Certification #: 2926.01*
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240*
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification (A2LA) #: R-036
North Dakota Certification (MN) #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Ohio VAP Certification (1800) #: CL110*
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563*
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
*Please Note: Applicable air certifications are denoted with an asterisk (*).

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630317

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10630317001	**ISM04-0.0-0.2-1022**	Solid	10/18/22 09:45	10/19/22 10:00
10630317002	**ISM05-0.0-0.2-1022**	Solid	10/18/22 12:05	10/19/22 10:00
10630317003	**SB10-0.0-0.5-1022**	Solid	10/18/22 11:15	10/19/22 10:00
10630317004	**SB10-1.0-1.5-1022**	Solid	10/18/22 11:20	10/19/22 10:00
10630317005	**SB10-2.5-3.0-1022**	Solid	10/18/22 11:25	10/19/22 10:00
10630317006	**SB09-0.0-0.5-1022**	Solid	10/18/22 10:30	10/19/22 10:00
10630317007	**SB09-1.0-1.5-1022**	Solid	10/18/22 10:35	10/19/22 10:00
10630317008	**SB09-2.5-3.0-1022**	Solid	10/18/22 10:40	10/19/22 10:00
10630317009	**SB07-0.0-0.5-1022**	Solid	10/18/22 09:00	10/19/22 10:00
10630317010	**SB07-1.0-1.5-1022**	Solid	10/18/22 09:05	10/19/22 10:00
10630317011	**SB07-2.5-3.0-1022**	Solid	10/18/22 09:10	10/19/22 10:00
10630317012	**SB05-0.0-0.5-1022**	Solid	10/18/22 08:30	10/19/22 10:00
10630317013	**SB05-1.0-1.5-1022**	Solid	10/18/22 08:35	10/19/22 10:00
10630317014	**SB05-2.5-3.0-1022**	Solid	10/18/22 08:40	10/19/22 10:00
10630317015	**SB12-0.0-0.5-1022**	Solid	10/18/22 12:30	10/19/22 10:00
10630317016	**SB12D-0.0-0.5-1022**	Solid	10/18/22 12:35	10/19/22 10:00
10630317017	**SB12-1.0-1.5-1022**	Solid	10/18/22 12:40	10/19/22 10:00
10630317018	**SB12-2.5-3.0-1022**	Solid	10/18/22 12:45	10/19/22 10:00

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630317

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10630317001	**ISM04-0.0-0.2-1022**	EPA 8082A	RAG	11	PASI-M
10630317002	**ISM05-0.0-0.2-1022**	EPA 8082A	RAG	11	PASI-M
10630317003	**SB10-0.0-0.5-1022**	EPA 8082A	RAG	11	PASI-M
10630317004	**SB10-1.0-1.5-1022**	EPA 8082A	RAG	11	PASI-M
10630317005	**SB10-2.5-3.0-1022**	EPA 8082A	RAG	11	PASI-M
10630317006	**SB09-0.0-0.5-1022**	EPA 8082A	RAG	11	PASI-M
10630317007	**SB09-1.0-1.5-1022**	EPA 8082A	RAG	11	PASI-M
10630317008	**SB09-2.5-3.0-1022**	EPA 8082A	RAG	11	PASI-M
10630317009	**SB07-0.0-0.5-1022**	EPA 8082A	RAG	11	PASI-M
10630317010	**SB07-1.0-1.5-1022**	EPA 8082A	RAG	11	PASI-M
10630317011	**SB07-2.5-3.0-1022**	EPA 8082A	RAG	11	PASI-M
10630317012	**SB05-0.0-0.5-1022**	EPA 8082A	RAG	11	PASI-M
10630317013	**SB05-1.0-1.5-1022**	EPA 8082A	RAG	11	PASI-M
10630317014	**SB05-2.5-3.0-1022**	EPA 8082A	RAG	11	PASI-M
10630317015	**SB12-0.0-0.5-1022**	EPA 8082A	RAG	11	PASI-M
10630317016	**SB12D-0.0-0.5-1022**	EPA 8082A	RAG	11	PASI-M
10630317017	**SB12-1.0-1.5-1022**	EPA 8082A	RAG	11	PASI-M
10630317018	**SB12-2.5-3.0-1022**	EPA 8082A	RAG	11	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SUMMARY OF DETECTION

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630317

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10630317001	**ISM04-0.0-0.2-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	11100	ug/kg	497	11/07/22 10:38	P6
10630317002	**ISM05-0.0-0.2-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	5880	ug/kg	249	11/08/22 07:37	
10630317003	**SB10-0.0-0.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	124000	ug/kg	4810	11/07/22 11:41	
10630317004	**SB10-1.0-1.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	35100	ug/kg	2490	11/07/22 11:57	
10630317005	**SB10-2.5-3.0-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	305	ug/kg	48.9	11/04/22 17:23	
10630317006	**SB09-0.0-0.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	9440	ug/kg	497	11/07/22 12:12	
10630317007	**SB09-1.0-1.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	893	ug/kg	49.8	11/04/22 17:55	
10630317008	**SB09-2.5-3.0-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	226	ug/kg	49.6	11/04/22 18:11	
10630317009	**SB07-0.0-0.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	1850	ug/kg	49.6	11/04/22 15:01	
10630317010	**SB07-1.0-1.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	178	ug/kg	48.2	11/04/22 18:58	
10630317011	**SB07-2.5-3.0-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	34.1J	ug/kg	49.7	11/04/22 19:14	
10630317012	**SB05-0.0-0.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	920	ug/kg	49.8	11/04/22 19:30	
10630317013	**SB05-1.0-1.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	335	ug/kg	49.8	11/04/22 19:45	
10630317015	**SB12-0.0-0.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	30800	ug/kg	2500	11/07/22 11:09	P6
10630317016	**SB12D-0.0-0.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	38600	ug/kg	2450	11/07/22 12:28	
10630317017	**SB12-1.0-1.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	2810	ug/kg	245	11/07/22 12:44	
10630317018	**SB12-2.5-3.0-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	162	ug/kg	49.7	11/04/22 20:48	

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

PROJECT NARRATIVE

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630317

Method: **EPA 8082A**
Description: 8082A GCS PCB
Client: UPRR_Jacobs
Date: November 08, 2022

General Information:
18 samples were analyzed for EPA 8082A by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 851301

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s):
10630317001,10630317009,10630317015

P6: Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

- MS (Lab ID: 4501642)
  - PCB-1260 (Aroclor 1260)
- MS (Lab ID: 4501646)
  - PCB-1260 (Aroclor 1260)
- MSD (Lab ID: 4501643)
  - PCB-1260 (Aroclor 1260)
- MSD (Lab ID: 4501647)
  - PCB-1260 (Aroclor 1260)

Additional Comments:

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PROJECT NARRATIVE

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630317

Method: **EPA 8082A**
Description: 8082A GCS PCB
Client: UPRR_Jacobs
Date: November 08, 2022

Analyte Comments:

QC Batch: 851301

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 4501642)
  - PCB-1260 (Aroclor 1260)
- MS (Lab ID: 4501644)
  - PCB-1260 (Aroclor 1260)
- MS (Lab ID: 4501646)
  - PCB-1260 (Aroclor 1260)
- MSD (Lab ID: 4501643)
  - PCB-1260 (Aroclor 1260)
- MSD (Lab ID: 4501645)
  - PCB-1260 (Aroclor 1260)
- MSD (Lab ID: 4501647)
  - PCB-1260 (Aroclor 1260)

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630317

Sample: ISM04-0.0-0.2-1022 **Lab ID: 10630317001** Collected: 10/18/22 09:45 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.0**	ug/kg	49.7	21.0	1	11/03/22 13:44	11/04/22 14:14	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.3**	ug/kg	49.7	34.3	1	11/03/22 13:44	11/04/22 14:14	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.4**	ug/kg	49.7	29.4	1	11/03/22 13:44	11/04/22 14:14	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.7**	ug/kg	49.7	30.7	1	11/03/22 13:44	11/04/22 14:14	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.4**	ug/kg	49.7	25.4	1	11/03/22 13:44	11/04/22 14:14	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.8**	ug/kg	49.7	24.8	1	11/03/22 13:44	11/04/22 14:14	11097-69-1	
PCB-1260 (Aroclor 1260)	**11100**	ug/kg	497	178	10	11/03/22 13:44	11/07/22 10:38	11096-82-5	P6
PCB-1262 (Aroclor 1262)	**<32.7**	ug/kg	49.7	32.7	1	11/03/22 13:44	11/04/22 14:14	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.9**	ug/kg	49.7	23.9	1	11/03/22 13:44	11/04/22 14:14	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	100	%.	53-125		1	11/03/22 13:44	11/04/22 14:14	877-09-8	
Decachlorobiphenyl (S)	78	%.	41-125		1	11/03/22 13:44	11/04/22 14:14	2051-24-3	

Sample: ISM05-0.0-0.2-1022 **Lab ID: 10630317002** Collected: 10/18/22 12:05 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.1**	ug/kg	49.8	21.1	1	11/03/22 13:44	11/04/22 16:36	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.4**	ug/kg	49.8	34.4	1	11/03/22 13:44	11/04/22 16:36	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.5**	ug/kg	49.8	29.5	1	11/03/22 13:44	11/04/22 16:36	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.8**	ug/kg	49.8	30.8	1	11/03/22 13:44	11/04/22 16:36	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.4**	ug/kg	49.8	25.4	1	11/03/22 13:44	11/04/22 16:36	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.8**	ug/kg	49.8	24.8	1	11/03/22 13:44	11/04/22 16:36	11097-69-1	
PCB-1260 (Aroclor 1260)	**5880**	ug/kg	249	89.0	5	11/03/22 13:44	11/08/22 07:37	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.8**	ug/kg	49.8	32.8	1	11/03/22 13:44	11/04/22 16:36	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.9**	ug/kg	49.8	23.9	1	11/03/22 13:44	11/04/22 16:36	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	101	%.	53-125		1	11/03/22 13:44	11/04/22 16:36	877-09-8	
Decachlorobiphenyl (S)	93	%.	41-125		1	11/03/22 13:44	11/04/22 16:36	2051-24-3	

Sample: SB10-0.0-0.5-1022 **Lab ID: 10630317003** Collected: 10/18/22 11:15 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.4**	ug/kg	48.1	20.4	1	11/03/22 13:44	11/04/22 16:52	12674-11-2	

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(612)607-1700

ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630317

Sample: SB10-0.0-0.5-1022 **Lab ID: 10630317003** Collected: 10/18/22 11:15 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1221 (Aroclor 1221)	**<33.2**	ug/kg	48.1	33.2	1	11/03/22 13:44	11/04/22 16:52	11104-28-2	
PCB-1232 (Aroclor 1232)	**<28.4**	ug/kg	48.1	28.4	1	11/03/22 13:44	11/04/22 16:52	11141-16-5	
PCB-1242 (Aroclor 1242)	**<29.7**	ug/kg	48.1	29.7	1	11/03/22 13:44	11/04/22 16:52	53469-21-9	
PCB-1248 (Aroclor 1248)	**<24.5**	ug/kg	48.1	24.5	1	11/03/22 13:44	11/04/22 16:52	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.0**	ug/kg	48.1	24.0	1	11/03/22 13:44	11/04/22 16:52	11097-69-1	
PCB-1260 (Aroclor 1260)	**124000**	ug/kg	4810	1720	100	11/03/22 13:44	11/07/22 11:41	11096-82-5	
PCB-1262 (Aroclor 1262)	**<31.6**	ug/kg	48.1	31.6	1	11/03/22 13:44	11/04/22 16:52	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.1**	ug/kg	48.1	23.1	1	11/03/22 13:44	11/04/22 16:52	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	98	%.	53-125		1	11/03/22 13:44	11/04/22 16:52	877-09-8	
Decachlorobiphenyl (S)	94	%.	41-125		1	11/03/22 13:44	11/04/22 16:52	2051-24-3	

Sample: SB10-1.0-1.5-1022 **Lab ID: 10630317004** Collected: 10/18/22 11:20 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.1**	ug/kg	49.8	21.1	1	11/03/22 13:44	11/04/22 17:08	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.4**	ug/kg	49.8	34.4	1	11/03/22 13:44	11/04/22 17:08	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.5**	ug/kg	49.8	29.5	1	11/03/22 13:44	11/04/22 17:08	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.8**	ug/kg	49.8	30.8	1	11/03/22 13:44	11/04/22 17:08	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.4**	ug/kg	49.8	25.4	1	11/03/22 13:44	11/04/22 17:08	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.8**	ug/kg	49.8	24.8	1	11/03/22 13:44	11/04/22 17:08	11097-69-1	
PCB-1260 (Aroclor 1260)	**35100**	ug/kg	2490	890	50	11/03/22 13:44	11/07/22 11:57	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.8**	ug/kg	49.8	32.8	1	11/03/22 13:44	11/04/22 17:08	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.9**	ug/kg	49.8	23.9	1	11/03/22 13:44	11/04/22 17:08	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	102	%.	53-125		1	11/03/22 13:44	11/04/22 17:08	877-09-8	
Decachlorobiphenyl (S)	112	%.	41-125		1	11/03/22 13:44	11/04/22 17:08	2051-24-3	

Sample: SB10-2.5-3.0-1022 **Lab ID: 10630317005** Collected: 10/18/22 11:25 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.7**	ug/kg	48.9	20.7	1	11/03/22 13:44	11/04/22 17:23	12674-11-2	
PCB-1221 (Aroclor 1221)	**<33.8**	ug/kg	48.9	33.8	1	11/03/22 13:44	11/04/22 17:23	11104-28-2	

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630317

Sample: SB10-2.5-3.0-1022 **Lab ID: 10630317005** Collected: 10/18/22 11:25 Received: 10/19/22 10:00 Matrix: Solid
Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1232 (Aroclor 1232)	**<28.9**	ug/kg	48.9	28.9	1	11/03/22 13:44	11/04/22 17:23	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.3**	ug/kg	48.9	30.3	1	11/03/22 13:44	11/04/22 17:23	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.0**	ug/kg	48.9	25.0	1	11/03/22 13:44	11/04/22 17:23	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.4**	ug/kg	48.9	24.4	1	11/03/22 13:44	11/04/22 17:23	11097-69-1	
PCB-1260 (Aroclor 1260)	**305**	ug/kg	48.9	17.5	1	11/03/22 13:44	11/04/22 17:23	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.2**	ug/kg	48.9	32.2	1	11/03/22 13:44	11/04/22 17:23	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.5**	ug/kg	48.9	23.5	1	11/03/22 13:44	11/04/22 17:23	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	104	%.	53-125		1	11/03/22 13:44	11/04/22 17:23	877-09-8	
Decachlorobiphenyl (S)	85	%.	41-125		1	11/03/22 13:44	11/04/22 17:23	2051-24-3	

Sample: SB09-0.0-0.5-1022 **Lab ID: 10630317006** Collected: 10/18/22 10:30 Received: 10/19/22 10:00 Matrix: Solid
Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.0**	ug/kg	49.7	21.0	1	11/03/22 13:44	11/04/22 17:39	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.3**	ug/kg	49.7	34.3	1	11/03/22 13:44	11/04/22 17:39	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.4**	ug/kg	49.7	29.4	1	11/03/22 13:44	11/04/22 17:39	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.7**	ug/kg	49.7	30.7	1	11/03/22 13:44	11/04/22 17:39	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.3**	ug/kg	49.7	25.3	1	11/03/22 13:44	11/04/22 17:39	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.8**	ug/kg	49.7	24.8	1	11/03/22 13:44	11/04/22 17:39	11097-69-1	
PCB-1260 (Aroclor 1260)	**9440**	ug/kg	497	177	10	11/03/22 13:44	11/07/22 12:12	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.7**	ug/kg	49.7	32.7	1	11/03/22 13:44	11/04/22 17:39	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.9**	ug/kg	49.7	23.9	1	11/03/22 13:44	11/04/22 17:39	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	106	%.	53-125		1	11/03/22 13:44	11/04/22 17:39	877-09-8	
Decachlorobiphenyl (S)	98	%.	41-125		1	11/03/22 13:44	11/04/22 17:39	2051-24-3	

Sample: SB09-1.0-1.5-1022 **Lab ID: 10630317007** Collected: 10/18/22 10:35 Received: 10/19/22 10:00 Matrix: Solid
Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.1**	ug/kg	49.8	21.1	1	11/03/22 13:44	11/04/22 17:55	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.4**	ug/kg	49.8	34.4	1	11/03/22 13:44	11/04/22 17:55	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.5**	ug/kg	49.8	29.5	1	11/03/22 13:44	11/04/22 17:55	11141-16-5	

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630317

Sample: SB09-1.0-1.5-1022 **Lab ID: 10630317007** Collected: 10/18/22 10:35 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1242 (Aroclor 1242)	**<30.8**	ug/kg	49.8	30.8	1	11/03/22 13:44	11/04/22 17:55	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.4**	ug/kg	49.8	25.4	1	11/03/22 13:44	11/04/22 17:55	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.8**	ug/kg	49.8	24.8	1	11/03/22 13:44	11/04/22 17:55	11097-69-1	
PCB-1260 (Aroclor 1260)	**893**	ug/kg	49.8	17.8	1	11/03/22 13:44	11/04/22 17:55	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.8**	ug/kg	49.8	32.8	1	11/03/22 13:44	11/04/22 17:55	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.9**	ug/kg	49.8	23.9	1	11/03/22 13:44	11/04/22 17:55	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	101	%.	53-125		1	11/03/22 13:44	11/04/22 17:55	877-09-8	
Decachlorobiphenyl (S)	95	%.	41-125		1	11/03/22 13:44	11/04/22 17:55	2051-24-3	

Sample: SB09-2.5-3.0-1022 **Lab ID: 10630317008** Collected: 10/18/22 10:40 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.0**	ug/kg	49.6	21.0	1	11/03/22 13:44	11/04/22 18:11	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.2**	ug/kg	49.6	34.2	1	11/03/22 13:44	11/04/22 18:11	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.3**	ug/kg	49.6	29.3	1	11/03/22 13:44	11/04/22 18:11	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.7**	ug/kg	49.6	30.7	1	11/03/22 13:44	11/04/22 18:11	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.3**	ug/kg	49.6	25.3	1	11/03/22 13:44	11/04/22 18:11	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.7**	ug/kg	49.6	24.7	1	11/03/22 13:44	11/04/22 18:11	11097-69-1	
PCB-1260 (Aroclor 1260)	**226**	ug/kg	49.6	17.7	1	11/03/22 13:44	11/04/22 18:11	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.6**	ug/kg	49.6	32.6	1	11/03/22 13:44	11/04/22 18:11	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.8**	ug/kg	49.6	23.8	1	11/03/22 13:44	11/04/22 18:11	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	97	%.	53-125		1	11/03/22 13:44	11/04/22 18:11	877-09-8	
Decachlorobiphenyl (S)	90	%.	41-125		1	11/03/22 13:44	11/04/22 18:11	2051-24-3	

Sample: SB07-0.0-0.5-1022 **Lab ID: 10630317009** Collected: 10/18/22 09:00 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.0**	ug/kg	49.6	21.0	1	11/03/22 13:44	11/04/22 15:01	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.2**	ug/kg	49.6	34.2	1	11/03/22 13:44	11/04/22 15:01	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.3**	ug/kg	49.6	29.3	1	11/03/22 13:44	11/04/22 15:01	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.7**	ug/kg	49.6	30.7	1	11/03/22 13:44	11/04/22 15:01	53469-21-9	

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(612)607-1700

ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630317

Sample: SB07-0.0-0.5-1022 **Lab ID: 10630317009** Collected: 10/18/22 09:00 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1248 (Aroclor 1248)	**<25.3**	ug/kg	49.6	25.3	1	11/03/22 13:44	11/04/22 15:01	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.7**	ug/kg	49.6	24.7	1	11/03/22 13:44	11/04/22 15:01	11097-69-1	
PCB-1260 (Aroclor 1260)	**1850**	ug/kg	49.6	17.7	1	11/03/22 13:44	11/04/22 15:01	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.6**	ug/kg	49.6	32.6	1	11/03/22 13:44	11/04/22 15:01	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.8**	ug/kg	49.6	23.8	1	11/03/22 13:44	11/04/22 15:01	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	101	%.	53-125		1	11/03/22 13:44	11/04/22 15:01	877-09-8	
Decachlorobiphenyl (S)	101	%.	41-125		1	11/03/22 13:44	11/04/22 15:01	2051-24-3	

Sample: SB07-1.0-1.5-1022 **Lab ID: 10630317010** Collected: 10/18/22 09:05 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.4**	ug/kg	48.2	20.4	1	11/03/22 13:44	11/04/22 18:58	12674-11-2	
PCB-1221 (Aroclor 1221)	**<33.3**	ug/kg	48.2	33.3	1	11/03/22 13:44	11/04/22 18:58	11104-28-2	
PCB-1232 (Aroclor 1232)	**<28.5**	ug/kg	48.2	28.5	1	11/03/22 13:44	11/04/22 18:58	11141-16-5	
PCB-1242 (Aroclor 1242)	**<29.8**	ug/kg	48.2	29.8	1	11/03/22 13:44	11/04/22 18:58	53469-21-9	
PCB-1248 (Aroclor 1248)	**<24.6**	ug/kg	48.2	24.6	1	11/03/22 13:44	11/04/22 18:58	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.0**	ug/kg	48.2	24.0	1	11/03/22 13:44	11/04/22 18:58	11097-69-1	
PCB-1260 (Aroclor 1260)	**178**	ug/kg	48.2	17.2	1	11/03/22 13:44	11/04/22 18:58	11096-82-5	
PCB-1262 (Aroclor 1262)	**<31.7**	ug/kg	48.2	31.7	1	11/03/22 13:44	11/04/22 18:58	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.1**	ug/kg	48.2	23.1	1	11/03/22 13:44	11/04/22 18:58	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	95	%.	53-125		1	11/03/22 13:44	11/04/22 18:58	877-09-8	
Decachlorobiphenyl (S)	96	%.	41-125		1	11/03/22 13:44	11/04/22 18:58	2051-24-3	

Sample: SB07-2.5-3.0-1022 **Lab ID: 10630317011** Collected: 10/18/22 09:10 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.0**	ug/kg	49.7	21.0	1	11/03/22 13:44	11/04/22 19:14	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.3**	ug/kg	49.7	34.3	1	11/03/22 13:44	11/04/22 19:14	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.4**	ug/kg	49.7	29.4	1	11/03/22 13:44	11/04/22 19:14	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.7**	ug/kg	49.7	30.7	1	11/03/22 13:44	11/04/22 19:14	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.3**	ug/kg	49.7	25.3	1	11/03/22 13:44	11/04/22 19:14	12672-29-6	

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630317

Sample: SB07-2.5-3.0-1022 **Lab ID: 10630317011** Collected: 10/18/22 09:10 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1254 (Aroclor 1254)	**<24.8**	ug/kg	49.7	24.8	1	11/03/22 13:44	11/04/22 19:14	11097-69-1	
PCB-1260 (Aroclor 1260)	**34.1J**	ug/kg	49.7	17.7	1	11/03/22 13:44	11/04/22 19:14	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.7**	ug/kg	49.7	32.7	1	11/03/22 13:44	11/04/22 19:14	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.9**	ug/kg	49.7	23.9	1	11/03/22 13:44	11/04/22 19:14	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	98	%.	53-125		1	11/03/22 13:44	11/04/22 19:14	877-09-8	
Decachlorobiphenyl (S)	102	%.	41-125		1	11/03/22 13:44	11/04/22 19:14	2051-24-3	

Sample: SB05-0.0-0.5-1022 **Lab ID: 10630317012** Collected: 10/18/22 08:30 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.1**	ug/kg	49.8	21.1	1	11/03/22 13:44	11/04/22 19:30	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.4**	ug/kg	49.8	34.4	1	11/03/22 13:44	11/04/22 19:30	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.4**	ug/kg	49.8	29.4	1	11/03/22 13:44	11/04/22 19:30	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.8**	ug/kg	49.8	30.8	1	11/03/22 13:44	11/04/22 19:30	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.4**	ug/kg	49.8	25.4	1	11/03/22 13:44	11/04/22 19:30	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.8**	ug/kg	49.8	24.8	1	11/03/22 13:44	11/04/22 19:30	11097-69-1	
PCB-1260 (Aroclor 1260)	**920**	ug/kg	49.8	17.8	1	11/03/22 13:44	11/04/22 19:30	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.7**	ug/kg	49.8	32.7	1	11/03/22 13:44	11/04/22 19:30	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.9**	ug/kg	49.8	23.9	1	11/03/22 13:44	11/04/22 19:30	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	102	%.	53-125		1	11/03/22 13:44	11/04/22 19:30	877-09-8	
Decachlorobiphenyl (S)	95	%.	41-125		1	11/03/22 13:44	11/04/22 19:30	2051-24-3	

Sample: SB05-1.0-1.5-1022 **Lab ID: 10630317013** Collected: 10/18/22 08:35 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.1**	ug/kg	49.8	21.1	1	11/03/22 13:44	11/04/22 19:45	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.4**	ug/kg	49.8	34.4	1	11/03/22 13:44	11/04/22 19:45	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.4**	ug/kg	49.8	29.4	1	11/03/22 13:44	11/04/22 19:45	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.8**	ug/kg	49.8	30.8	1	11/03/22 13:44	11/04/22 19:45	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.4**	ug/kg	49.8	25.4	1	11/03/22 13:44	11/04/22 19:45	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.8**	ug/kg	49.8	24.8	1	11/03/22 13:44	11/04/22 19:45	11097-69-1	

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630317

Sample: SB05-1.0-1.5-1022 **Lab ID: 10630317013** Collected: 10/18/22 08:35 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1260 (Aroclor 1260)	**335**	ug/kg	49.8	17.8	1	11/03/22 13:44	11/04/22 19:45	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.7**	ug/kg	49.8	32.7	1	11/03/22 13:44	11/04/22 19:45	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.9**	ug/kg	49.8	23.9	1	11/03/22 13:44	11/04/22 19:45	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	98	%.	53-125		1	11/03/22 13:44	11/04/22 19:45	877-09-8	
Decachlorobiphenyl (S)	96	%.	41-125		1	11/03/22 13:44	11/04/22 19:45	2051-24-3	

Sample: SB05-2.5-3.0-1022 **Lab ID: 10630317014** Collected: 10/18/22 08:40 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.0**	ug/kg	49.5	21.0	1	11/03/22 13:44	11/04/22 20:01	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.2**	ug/kg	49.5	34.2	1	11/03/22 13:44	11/04/22 20:01	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.3**	ug/kg	49.5	29.3	1	11/03/22 13:44	11/04/22 20:01	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.6**	ug/kg	49.5	30.6	1	11/03/22 13:44	11/04/22 20:01	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.3**	ug/kg	49.5	25.3	1	11/03/22 13:44	11/04/22 20:01	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.7**	ug/kg	49.5	24.7	1	11/03/22 13:44	11/04/22 20:01	11097-69-1	
PCB-1260 (Aroclor 1260)	**<17.7**	ug/kg	49.5	17.7	1	11/03/22 13:44	11/04/22 20:01	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.6**	ug/kg	49.5	32.6	1	11/03/22 13:44	11/04/22 20:01	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.8**	ug/kg	49.5	23.8	1	11/03/22 13:44	11/04/22 20:01	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	83	%.	53-125		1	11/03/22 13:44	11/04/22 20:01	877-09-8	
Decachlorobiphenyl (S)	84	%.	41-125		1	11/03/22 13:44	11/04/22 20:01	2051-24-3	

Sample: SB12-0.0-0.5-1022 **Lab ID: 10630317015** Collected: 10/18/22 12:30 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.1**	ug/kg	49.9	21.1	1	11/03/22 13:44	11/04/22 15:49	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.5**	ug/kg	49.9	34.5	1	11/03/22 13:44	11/04/22 15:49	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.5**	ug/kg	49.9	29.5	1	11/03/22 13:44	11/04/22 15:49	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.9**	ug/kg	49.9	30.9	1	11/03/22 13:44	11/04/22 15:49	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.5**	ug/kg	49.9	25.5	1	11/03/22 13:44	11/04/22 15:49	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.9**	ug/kg	49.9	24.9	1	11/03/22 13:44	11/04/22 15:49	11097-69-1	
PCB-1260 (Aroclor 1260)	**30800**	ug/kg	2500	892	50	11/03/22 13:44	11/07/22 11:09	11096-82-5	P6

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630317

Sample: SB12-0.0-0.5-1022 **Lab ID: 10630317015** Collected: 10/18/22 12:30 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1262 (Aroclor 1262)	**<32.8**	ug/kg	49.9	32.8	1	11/03/22 13:44	11/04/22 15:49	37324-23-5	
PCB-1268 (Aroclor 1268)	**<24.0**	ug/kg	49.9	24.0	1	11/03/22 13:44	11/04/22 15:49	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	88	%.	53-125		1	11/03/22 13:44	11/04/22 15:49	877-09-8	
Decachlorobiphenyl (S)	91	%.	41-125		1	11/03/22 13:44	11/04/22 15:49	2051-24-3	

Sample: SB12D-0.0-0.5-1022 **Lab ID: 10630317016** Collected: 10/18/22 12:35 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.8**	ug/kg	49.0	20.8	1	11/03/22 13:44	11/04/22 20:17	12674-11-2	
PCB-1221 (Aroclor 1221)	**<33.9**	ug/kg	49.0	33.9	1	11/03/22 13:44	11/04/22 20:17	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.0**	ug/kg	49.0	29.0	1	11/03/22 13:44	11/04/22 20:17	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.3**	ug/kg	49.0	30.3	1	11/03/22 13:44	11/04/22 20:17	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.0**	ug/kg	49.0	25.0	1	11/03/22 13:44	11/04/22 20:17	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.4**	ug/kg	49.0	24.4	1	11/03/22 13:44	11/04/22 20:17	11097-69-1	
PCB-1260 (Aroclor 1260)	**38600**	ug/kg	2450	876	50	11/03/22 13:44	11/07/22 12:28	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.2**	ug/kg	49.0	32.2	1	11/03/22 13:44	11/04/22 20:17	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.6**	ug/kg	49.0	23.6	1	11/03/22 13:44	11/04/22 20:17	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	95	%.	53-125		1	11/03/22 13:44	11/04/22 20:17	877-09-8	
Decachlorobiphenyl (S)	98	%.	41-125		1	11/03/22 13:44	11/04/22 20:17	2051-24-3	

Sample: SB12-1.0-1.5-1022 **Lab ID: 10630317017** Collected: 10/18/22 12:40 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.7**	ug/kg	48.9	20.7	1	11/03/22 13:44	11/04/22 20:33	12674-11-2	
PCB-1221 (Aroclor 1221)	**<33.8**	ug/kg	48.9	33.8	1	11/03/22 13:44	11/04/22 20:33	11104-28-2	
PCB-1232 (Aroclor 1232)	**<28.9**	ug/kg	48.9	28.9	1	11/03/22 13:44	11/04/22 20:33	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.3**	ug/kg	48.9	30.3	1	11/03/22 13:44	11/04/22 20:33	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.0**	ug/kg	48.9	25.0	1	11/03/22 13:44	11/04/22 20:33	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.4**	ug/kg	48.9	24.4	1	11/03/22 13:44	11/04/22 20:33	11097-69-1	
PCB-1260 (Aroclor 1260)	**2810**	ug/kg	245	87.4	5	11/03/22 13:44	11/07/22 12:44	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.2**	ug/kg	48.9	32.2	1	11/03/22 13:44	11/04/22 20:33	37324-23-5	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630317

Sample: SB12-1.0-1.5-1022 **Lab ID: 10630317017** Collected: 10/18/22 12:40 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1268 (Aroclor 1268)	**<23.5**	ug/kg	48.9	23.5	1	11/03/22 13:44	11/04/22 20:33	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	88	%.	53-125		1	11/03/22 13:44	11/04/22 20:33	877-09-8	
Decachlorobiphenyl (S)	98	%.	41-125		1	11/03/22 13:44	11/04/22 20:33	2051-24-3	

Sample: SB12-2.5-3.0-1022 **Lab ID: 10630317018** Collected: 10/18/22 12:45 Received: 10/19/22 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.0**	ug/kg	49.7	21.0	1	11/03/22 13:44	11/04/22 20:48	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.3**	ug/kg	49.7	34.3	1	11/03/22 13:44	11/04/22 20:48	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.4**	ug/kg	49.7	29.4	1	11/03/22 13:44	11/04/22 20:48	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.7**	ug/kg	49.7	30.7	1	11/03/22 13:44	11/04/22 20:48	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.4**	ug/kg	49.7	25.4	1	11/03/22 13:44	11/04/22 20:48	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.8**	ug/kg	49.7	24.8	1	11/03/22 13:44	11/04/22 20:48	11097-69-1	
PCB-1260 (Aroclor 1260)	**162**	ug/kg	49.7	17.8	1	11/03/22 13:44	11/04/22 20:48	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.7**	ug/kg	49.7	32.7	1	11/03/22 13:44	11/04/22 20:48	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.9**	ug/kg	49.7	23.9	1	11/03/22 13:44	11/04/22 20:48	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	83	%.	53-125		1	11/03/22 13:44	11/04/22 20:48	877-09-8	
Decachlorobiphenyl (S)	90	%.	41-125		1	11/03/22 13:44	11/04/22 20:48	2051-24-3	

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630317

QC Batch: 851301
QC Batch Method: EPA 3546
Analysis Method: EPA 8082A
Analysis Description: 8082A GCS PCB
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10630317001, 10630317002, 10630317003, 10630317004, 10630317005, 10630317006, 10630317007, 10630317008, 10630317009, 10630317010, 10630317011, 10630317012, 10630317013, 10630317014, 10630317015, 10630317016, 10630317017, 10630317018

METHOD BLANK: 4501640 Matrix: Solid
Associated Lab Samples: 10630317001, 10630317002, 10630317003, 10630317004, 10630317005, 10630317006, 10630317007, 10630317008, 10630317009, 10630317010, 10630317011, 10630317012, 10630317013, 10630317014, 10630317015, 10630317016, 10630317017, 10630317018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<21.2	50.0	21.2	11/04/22 13:43	
PCB-1221 (Aroclor 1221)	ug/kg	<34.5	50.0	34.5	11/04/22 13:43	
PCB-1232 (Aroclor 1232)	ug/kg	<29.6	50.0	29.6	11/04/22 13:43	
PCB-1242 (Aroclor 1242)	ug/kg	<30.9	50.0	30.9	11/04/22 13:43	
PCB-1248 (Aroclor 1248)	ug/kg	<25.5	50.0	25.5	11/04/22 13:43	
PCB-1254 (Aroclor 1254)	ug/kg	<24.9	50.0	24.9	11/04/22 13:43	
PCB-1260 (Aroclor 1260)	ug/kg	<17.8	50.0	17.8	11/04/22 13:43	
PCB-1262 (Aroclor 1262)	ug/kg	<32.8	50.0	32.8	11/04/22 13:43	
PCB-1268 (Aroclor 1268)	ug/kg	<24.0	50.0	24.0	11/04/22 13:43	
Decachlorobiphenyl (S)	%.	105	41-125		11/04/22 13:43	
Tetrachloro-m-xylene (S)	%.	99	53-125		11/04/22 13:43	

LABORATORY CONTROL SAMPLE: 4501641

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	1000	1020	102	68-125	
PCB-1260 (Aroclor 1260)	ug/kg	1000	1030	103	70-125	
Decachlorobiphenyl (S)	%.			108	41-125	
Tetrachloro-m-xylene (S)	%.			96	53-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4501642 4501643

Parameter	Units	10630317001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<21.0	997	993	1060	1040	106	104	53-125	2	30	
PCB-1260 (Aroclor 1260)	ug/kg	11100	997	993	9580	8450	-156	-271	30-143	13	30	E,P6
Decachlorobiphenyl (S)	%.						82	80	41-125			
Tetrachloro-m-xylene (S)	%.						108	104	53-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630317

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4501644 4501645

Parameter	Units	10630317009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<21.0	960	1000	1040	1040	108	104	53-125	1	30	
PCB-1260 (Aroclor 1260)	ug/kg	1850	960	1000	2600	2680	79	84	30-143	3	30	E
Decachlorobiphenyl (S)	%.						103	102	41-125			
Tetrachloro-m-xylene (S)	%.						102	103	53-125			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4501646 4501647

Parameter	Units	10630317015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<21.1	985	996	924	1020	94	102	53-125	10	30	
PCB-1260 (Aroclor 1260)	ug/kg	30800	985	996	25700	26100	-523	-471	30-143	2	30	E,P6
Decachlorobiphenyl (S)	%.						91	92	41-125			
Tetrachloro-m-xylene (S)	%.						88	91	53-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630317

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630317

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10630317001	**ISM04-0.0-0.2-1022**	EPA 3546	851301	EPA 8082A	851450
10630317002	**ISM05-0.0-0.2-1022**	EPA 3546	851301	EPA 8082A	851450
10630317003	**SB10-0.0-0.5-1022**	EPA 3546	851301	EPA 8082A	851450
10630317004	**SB10-1.0-1.5-1022**	EPA 3546	851301	EPA 8082A	851450
10630317005	**SB10-2.5-3.0-1022**	EPA 3546	851301	EPA 8082A	851450
10630317006	**SB09-0.0-0.5-1022**	EPA 3546	851301	EPA 8082A	851450
10630317007	**SB09-1.0-1.5-1022**	EPA 3546	851301	EPA 8082A	851450
10630317008	**SB09-2.5-3.0-1022**	EPA 3546	851301	EPA 8082A	851450
10630317009	**SB07-0.0-0.5-1022**	EPA 3546	851301	EPA 8082A	851450
10630317010	**SB07-1.0-1.5-1022**	EPA 3546	851301	EPA 8082A	851450
10630317011	**SB07-2.5-3.0-1022**	EPA 3546	851301	EPA 8082A	851450
10630317012	**SB05-0.0-0.5-1022**	EPA 3546	851301	EPA 8082A	851450
10630317013	**SB05-1.0-1.5-1022**	EPA 3546	851301	EPA 8082A	851450
10630317014	**SB05-2.5-3.0-1022**	EPA 3546	851301	EPA 8082A	851450
10630317015	**SB12-0.0-0.5-1022**	EPA 3546	851301	EPA 8082A	851450
10630317016	**SB12D-0.0-0.5-1022**	EPA 3546	851301	EPA 8082A	851450
10630317017	**SB12-1.0-1.5-1022**	EPA 3546	851301	EPA 8082A	851450
10630317018	**SB12-2.5-3.0-1022**	EPA 3546	851301	EPA 8082A	851450

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Pace

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

L#253359

Page : 1 Of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Jacobs for UPRR	Report To:	Hodson, David	Attention:	John DeJong
Address:	2020 SW 4th Avenue, Suite 300	Copy To:		Company Name:	UPRR
	Portland, OR 97201			Address:	4315 E Sprague Ave, Spokane Valley, WA 99212
Email:	david.hodson@jacobs.com	Purchase Order #:	2903-01	Pace Quote:	4700001441 (MA-000166-2022)
Phone:	(510)316-2323 Fax:	Project Name:	Portland OR-Peninsula Iron Works	Pace Project Manager:	jennifer.gross@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	45173

Regulatory Agency: State / Location: OR / Portland - Multnomah County

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	ISM04-0.0-0.2-1022			10/18/22	945				1	X									X		X									*MS/SD
2	ISM05-0.0-0.2-1022			10/18/22	1205				1	X									X		X									
3	SB10-0.0-0.5-1022			10/18/22	1115				1	X									X	X	X									
4	SB10-1.0-1.5-1022			"	1120				1	X									X	X	X									
5	SB10-2.5-3.0-1022			"	1125				1	X									X	X	X									
6	SB09-0.0-0.5-1022			"	1030				1	X										X	X									
7	SB09-1.0-1.5-1022			"	1035				1	X										X	X									
8	SB09-2.5-3.0-1022			"	1040				1	X										X	X									
9	SB07-0.0-0.5-1022			"	900				1	X										X	X								*MS/SD	
10	SB07-1.0-1.5-1022			"	905				1	X										X	X									
11	SB07-2.5-3.0-1022			"	910				1	X										X	X									
12	SB05-0.0-0.5-1022			"	830				1	X										X	X									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Include 1262 & 1268	Jadyn Warren / Jacobs	10/18/22	1460				
Methods 8082 & 1668 - Require chromatograms	Fedex	10/19/22	1000	Sam Spaeth	10/19/22	1000	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jadyn Warren

SIGNATURE of SAMPLER: DATE Signed: 10/18/22

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

LHO53359

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Jacobs for UPRR	Report To:	Hodson, David	Attention:	John DeJong
Address:	2020 SW 4th Avenue, Suite 300	Copy To:		Company Name:	UPRR
	Portland, OR 97201			Address:	4315 E Sprague Ave, Spokane Valley, WA 99212
Email:	david.hodson@jacobs.com	Purchase Order #:	2903-01	Pace Quote:	4700001441 (MA-000166-2022)
Phone:	(510)316-2323 Fax:	Project Name:	Portland OR-Peninsula Iron Works	Pace Project Manager:	jennifer.gross@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	45173

Regulatory Agency

State / Location: OR / Portland - Multnomah County

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	SB05-1.0-1.5-1022			10/18/22	835				1	X										X	X								
2	SB05-2.5-3.0-1022			"	840				1	X										X	X								
3	SB12-0.0-0.5-1022			"	1230				1	X										X	X								MS/MSD
4	SB12D-0.0-0.5-1022			"	1235				1	X										X	X								
5	SB12-1.0-1.5-1022			"	1240				1	X										X	X								
6	SB12-2.5-3.0-1022			"	1245				1	X										X	X								
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Include 1262 & 1268	Jadyn Warren / Jacobs	10/19/22	1400				
Methods 8082 & 1668 - Require chromatograms	Fedex	10/19/22	1000	[signature]	10/19/22	1000	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jadyn Warren

SIGNATURE of SAMPLER: [signature] DATE Signed: 10/18/22

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Client Name: Pace MN

Sample Preservation Receipt Form

Project # L1053359

All containers needing preservation have been checked and noted below: ☐Yes ☐No ☑N/A

Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

Initial when completed:

Date/ Time:

Pace Lab #	Glass							Plastic						Vials						Jars				General				VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2							
001																									1								2.5 / 5
002																									1								2.5 / 5
003																									1								2.5 / 5
004																									1								2.5 / 5
005																									1								2.5 / 5
006																									1								2.5 / 5
007																									1								2.5 / 5
008																									1								2.5 / 5
009																									2								2.5 / 5
010																									1								2.5 / 5
011																									1								2.5 / 5
012																									1								2.5 / 5
013																									1								2.5 / 5
014																									1								2.5 / 5
015																									2								2.5 / 5
016																									1								2.5 / 5
017																									1								2.5 / 5
018																									1								2.5 / 5
019																																	2.5 / 5
020										6/19/22 SC																							2.5 / 5

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other:

Headspace in VOA Vials (>6mm) : ☐Yes ☐No ☑N/A ***If yes look in headspace column**

AG1U	1 liter amber glass
BG1U	1 liter clear glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP3U	250 mL plastic unpres
BP3B	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4
BP2Z	500 mL plastic NaOH + Zn

VG9C	40 mL clear ascorbic w/ HCl
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI

JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN 1	
GN 2	

Page 1 of 3

Sample Condition Upon Receipt Form (SCUR)

Client Name: PACE mn Project # LM2533359

Additional Comments/Resolution:

(1) SB-10-1.0-1.5-1022

SB-10-2.5-3.0-1022

SB12-0.0-0.5-1022

SB12-1.0-1.5-1022

SB12D-0.0-0.5-1022

SB10-0.0-0.5-1022

(1) Samples have melt water in them

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40253359

40253359

Client Name: Pace MN

Courier: ☐ CS Logistics ☑ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco
☐ Client ☐ Pace Other:

Tracking #: 5923 7141 9830 (1)

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used SR - 9 **Type of Ice:** (Wet) Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: 3 /Corr: 3.5 (2)

Temp Blank Present: ☑ yes ☐ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Person examining contents:
Date: 10/19/22 /Initials: SG
Labeled By Initials: NK

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☐No ☑N/A	4. IRND 10/19/22 SG
Samples Arrived within Hold Time:	☑Yes ☐No	5.
- DI VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☑Yes ☐No MS/MSD: ☑Yes ☐No ☐N/A		8.
Correct Containers Used: Correct Type: Pace Green Bay, Pace IR, Non-Pace	☑Yes ☐No	9.
Containers Intact:	☐Yes ☑No	10. See other SCUR page 10/19/22 SG
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: S	☑Yes ☐No ☐N/A	12.
Trip Blank Present:	☐Yes ☐No ☑N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: David Hodson Date/Time: 10/19/22

Comments/ Resolution: (1) other tracking #s 5923 7141 9829, 5923 7141 9807, 5923 7141 9818 (2) other temps noted according to ID: 2.5→3, 0.5→1, 1→1.5

Client notified of samples received with holes in the bags and ice melt in the samples. Lab instructed to proceed with prep and analysis on all samples. JMG

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logi

Page 2 of 3

40253359

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

[x] Samples Pre-Logged into eCOC.

State Of Origin: OR
Cert. Needed: [ ] Yes [ ] No

Workorder: 10630317 **Workorder Name:** Portland OR-Peninsula Iron Wor

Owner Received Date: 10/19/2022 **Results Requested By:** 10/28/2022

Report To

Jennifer Gross
Pace Analytical Minnesota
1700 Elm Street
Minneapolis, MN 55414
Phone (612)607-1700

Subcontract To

Pace Analytical Green Bay
1241 Bellevue Street
Suite 9
Green Bay, WI 54302
Phone (920)469-2436

Requested Analysis

WO#: 10630317

10630317

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Preserved Containers: ZPLU	MISC / ISM (50 Increments) (PACE-	MISC / Sieving (<2mm) (PACE-GB)	LAB USE ONLY
1	ISM04-0.0-0.2-1022	RQS	10/18/2022 09:45	10630317001	Solid	1		X		001
2	ISM05-0.0-0.2-1022	PS	10/18/2022 12:05	10630317002	Solid	1		X		002
3	SB10-0.0-0.5-1022	PS	10/18/2022 11:15	10630317003	Solid	1			X	003
4	SB10-1.0-1.5-1022	PS	10/18/2022 11:20	10630317004	Solid	1			X	004
5	SB10-2.5-3.0-1022	PS	10/18/2022 11:25	10630317005	Solid	1			X	005
6	SB09-0.0-0.5-1022	PS	10/18/2022 10:30	10630317006	Solid	1			X	006
7	SB09-1.0-1.5-1022	PS	10/18/2022 10:35	10630317007	Solid	1			X	007
8	SB09-2.5-3.0-1022	PS	10/18/2022 10:40	10630317008	Solid	1			X	008
9	SB07-0.0-0.5-1022	RQS	10/18/2022 09:00	10630317009	Solid	1			X	009
10	SB07-1.0-1.5-1022	PS	10/18/2022 09:05	10630317010	Solid	1			X	010
11	SB07-2.5-3.0-1022	PS	10/18/2022 09:10	10630317011	Solid	1			X	011
12	SB05-0.0-0.5-1022	PS	10/18/2022 08:30	10630317012	Solid	1			X	012
13	SB05-1.0-1.5-1022	PS	10/18/2022 08:35	10630317013	Solid	1			X	013
14	SB05-2.5-3.0-1022	PS	10/18/2022 08:40	10630317014	Solid	1			X	014
15	SB12-0.0-0.5-1022	RQS	10/18/2022 12:30	10630317015	Solid	1			X	015
16	SB12D-0.0-0.5-1022	PS	10/18/2022 12:35	10630317016	Solid	1			X	016
17	SB12-1.0-1.5-1022	PS	10/18/2022 12:40	10630317017	Solid	1			X	017
18	SB12-2.5-3.0-1022	PS	10/18/2022 12:45	10630317018	Solid	1			X	018

4025 3359

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	Fedex Tampa Airport	10/19/22 1000	Sample Pace	10/19/22 1000	Forward prepped volume to Pace Mnpls, methods 8082 & possibly 1668.
2		11/11/22 1700			Hold all additional volume for six months.
3					

Cooler Temperature on Receipt 3.5, 2.5 °C	Custody Seal (Y) or N	Received on Ice (Y) or N	Samples Intact Y or (N)

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

0.4, 1.4, 2.2, 0.9
Mf Pace
15:30
10/19/22

Forwarding all Volume that was Sieved.
ISM Samples in 4/03 jars.
CAS 11/1/22

Sample Condition Upon Receipt

Client Name: Pace Green Bay

Project #: **WO# : 10630317**

PM: JMG **Due Date: 11/16/22**

CLIENT: UPRR_Jacobs

Courier: ☐ FedEx ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☒ Commercial Walfco

Tracking Number: _____ ☐ See Exceptions ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No

Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other

Temp Blank? ☒ Yes ☐ No

Thermometer: ☐ T1 (0461) ☐ T2 (1336) ☒ T3 (0459) ☐ T4 (0254) ☐ T5 (0178) ☐ T6 (0235) ☐ T7 (0042) ☐ T8 (0775) ☐ 01339252/1710

Type of Ice: ☒ Wet ☐ Blue ☐ Dry ☐ None ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☐ No **Were All Container Temps Taken?** ☐ Yes ☐ No ☐ N/A

Temp should be above freezing to 6 °C **Cooler temp Read w/Temp Blank:** 0.1, 1.4, 2.2°C ±0.4

Correction Factor: TNW **Cooler Temp Corrected w/temp blank:** 0.1, 1.4, 2.2, 0.8°C

Average Corrected Temp (no temp blank only): _____ °C

☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: (☐ N/A, water sample/other: _____)

Date/Initials of Person Examining Contents: 11/2/22 M

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? ☐ Yes ☒ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): ☐ Duluth ☒ Minneapolis ☐ Virginia

				COMMENTS
Chain of Custody Present and Filled Out?	☒ Yes	☐ No		1.
Chain of Custody Relinquished?	☒ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☐ Yes	☐ No	☒ N/A	3.
Samples Arrived within Hold Time?	☒ Yes	☐ No		4. If fecal: ☐ <8 hrs ☐ >8 hr, <24 ☐ No
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E.coli ☐ BOD/cBOD ☐ Hex Chrom ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other
Rush Turn Around Time Requested?	☒ Yes	☐ No		6. Lam
Sufficient Sample Volume?	☒ Yes	☐ No		7.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	8.
-Pace Containers Used?	☐ Yes	☒ No		
Containers Intact?	☒ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☒ Yes	☐ No		11. **If no, write ID/Date/Time of container below:** ☐ See Exceptions ENV-FRM-MIN4-0142
Matrix: ☐ Water ☒ Soil ☐ Oil ☐ Other				
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐ Yes	☐ No	☒ N/A	☐ NaOH ☐ HNO3 ☐ H2SO4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)	☐ Yes	☐ No	☒ N/A	Positive for Residual Chlorine? ☐ Yes ☐ No ☐ See Exceptions ENV-FRM-MIN4-0142
				pH Paper Lot #
				Residual Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in Methyl Mercury Container?	☐ Yes	☐ No	☒ N/A	13.
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☒ N/A	14. ☐ See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☒ N/A	
3 Trip Blanks Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

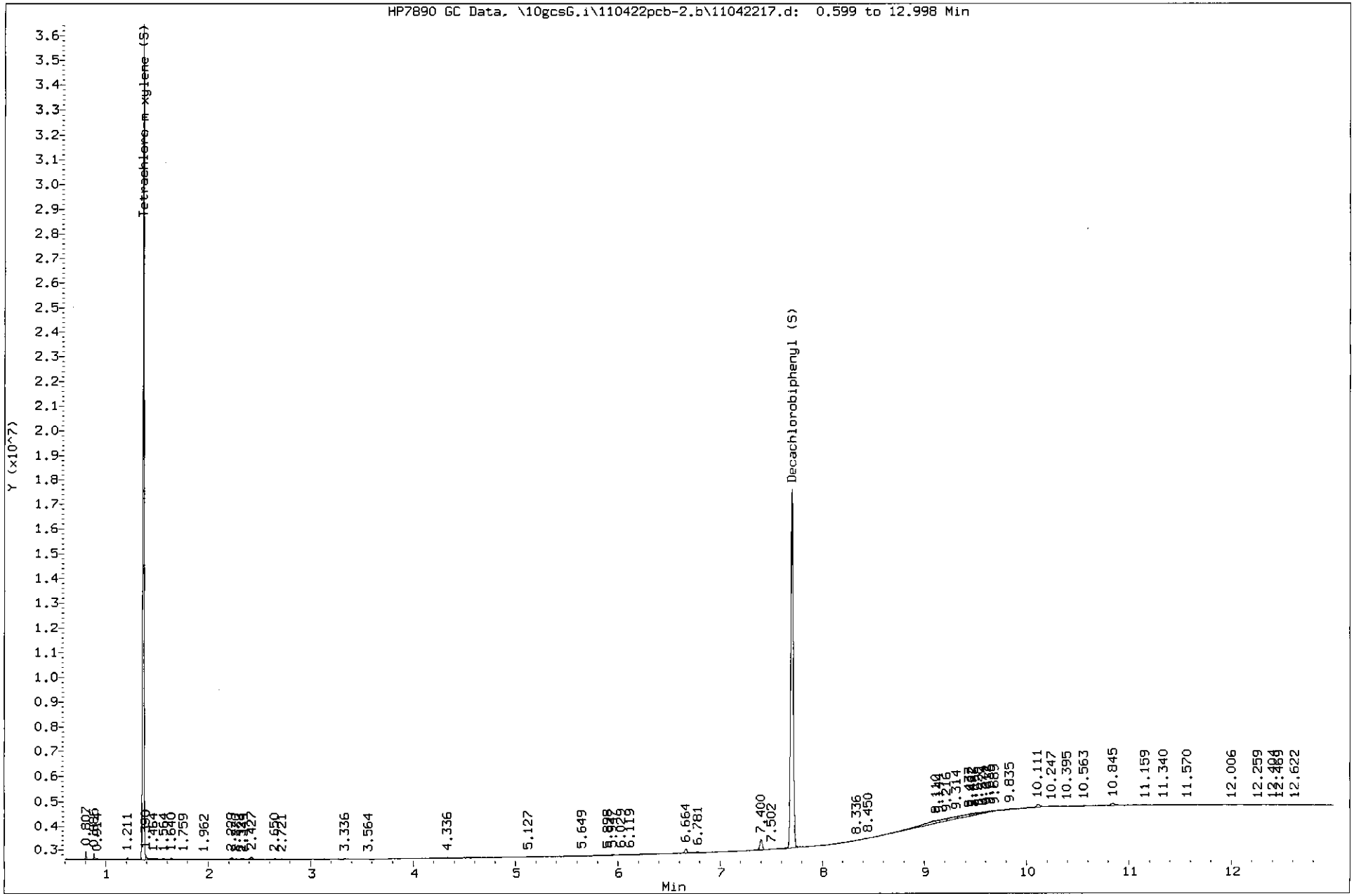
Project Manager Review: Jenni Gross **Date:** 11/2/22

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: NF **Line:** 3

Data File: \\v10wintarget\chem\10gcsG.i\110422pcb-2.b\11042217.d
Injection Date: 04-NOV-2022 13:43
Instrument: 10gcsG.i
Client Sample ID: MB

Batch 40935-851450
Blank 4501640



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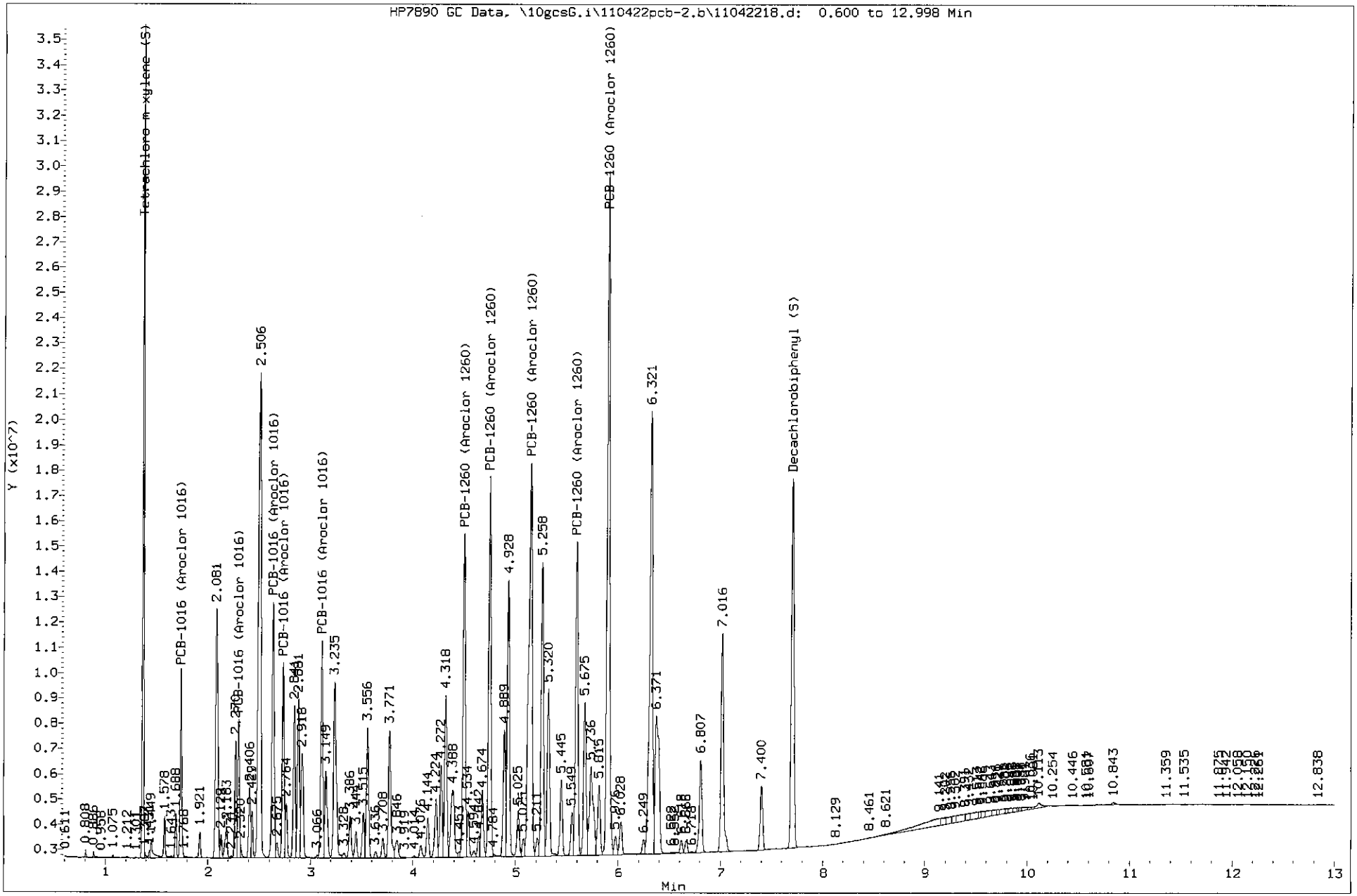
Instrument: 10gcsG.i
Client Sample ID: MBLCS

Batch 40935-851450
LCS 4501641



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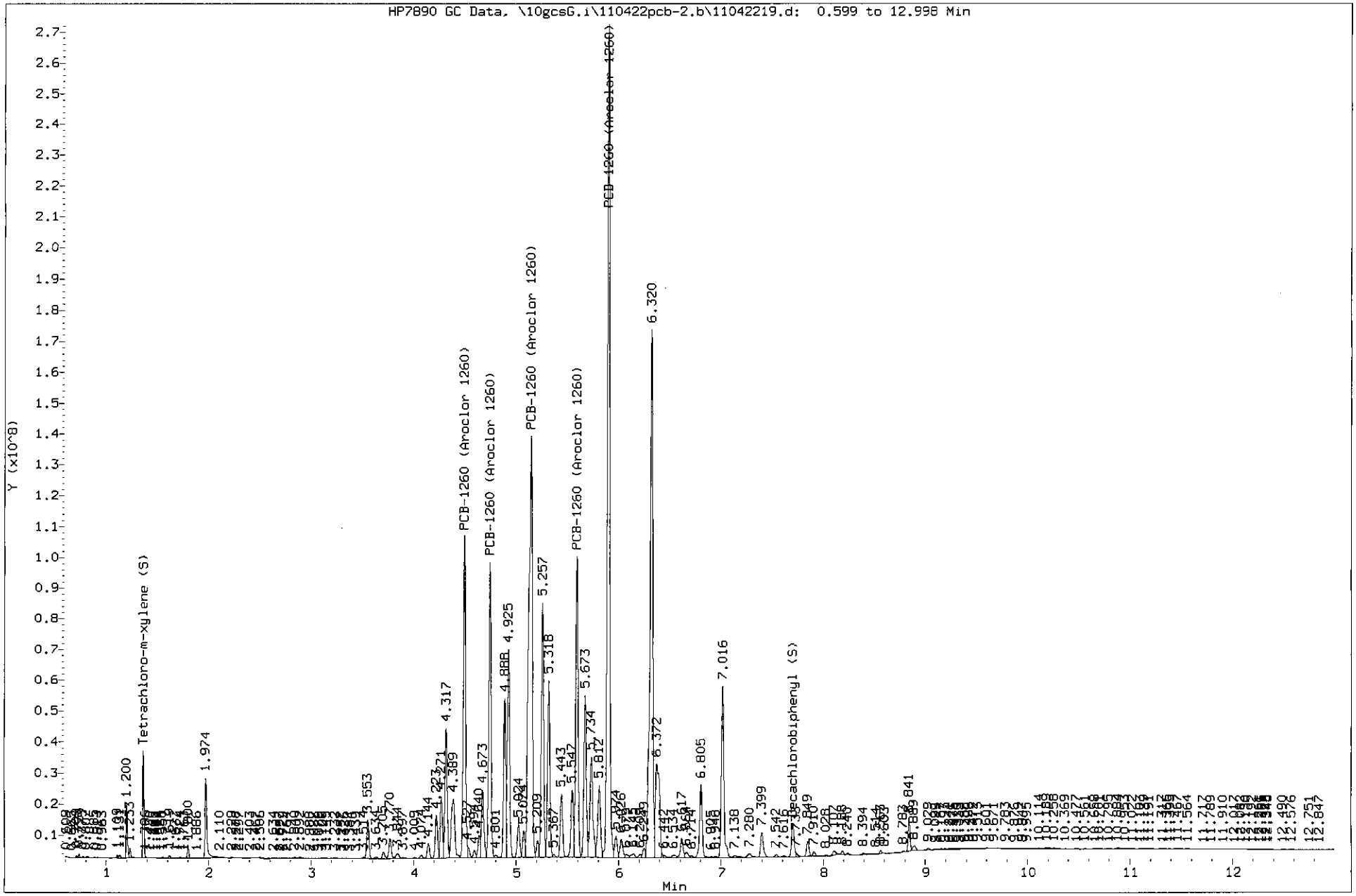
Instrument: 10gcsG.i
Client Sample ID: ISM04-0.0-0.2-1022

Batch 40935-851450
10630317-001



Batch 40935-851450
10630317-001
Dilution: 10X

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Instrument: 10gcsG.i
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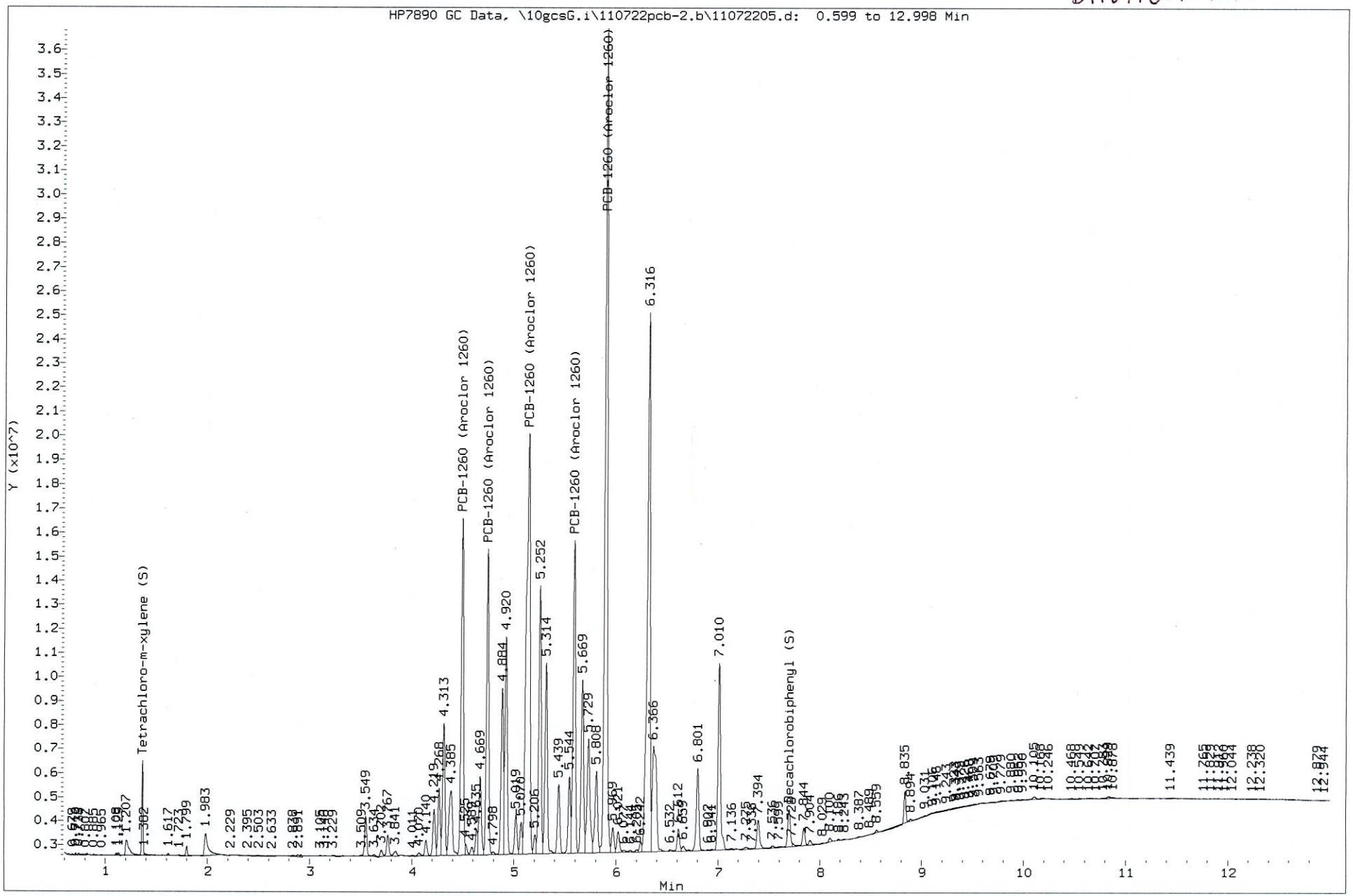

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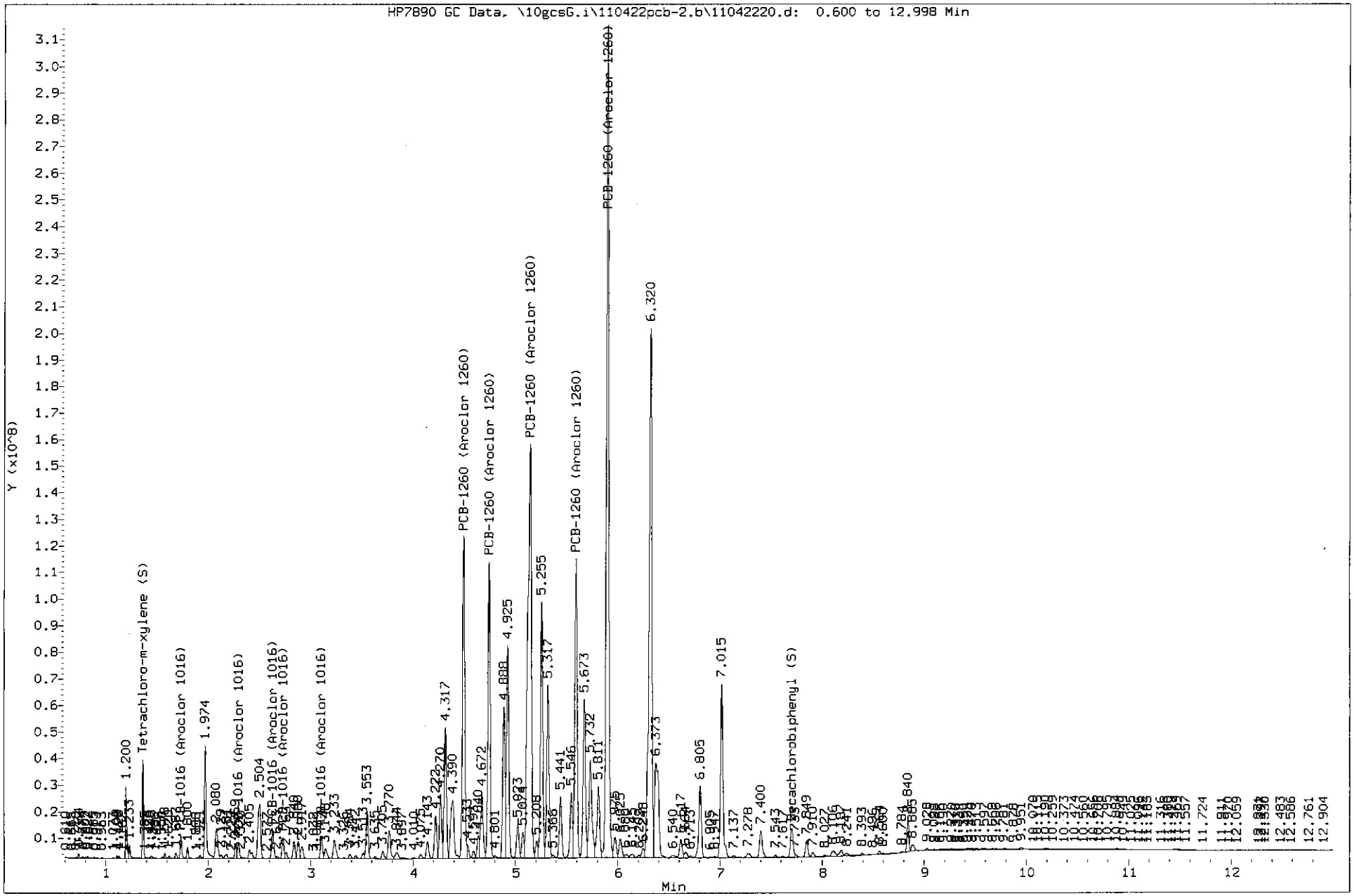
Injection Date: 04-NOV-2022 14:30
Instrument: 10gcsG.i
Client Sample ID: ISM04-0.0-0.2-1022M

Batch 40935-851450
MS 4501642



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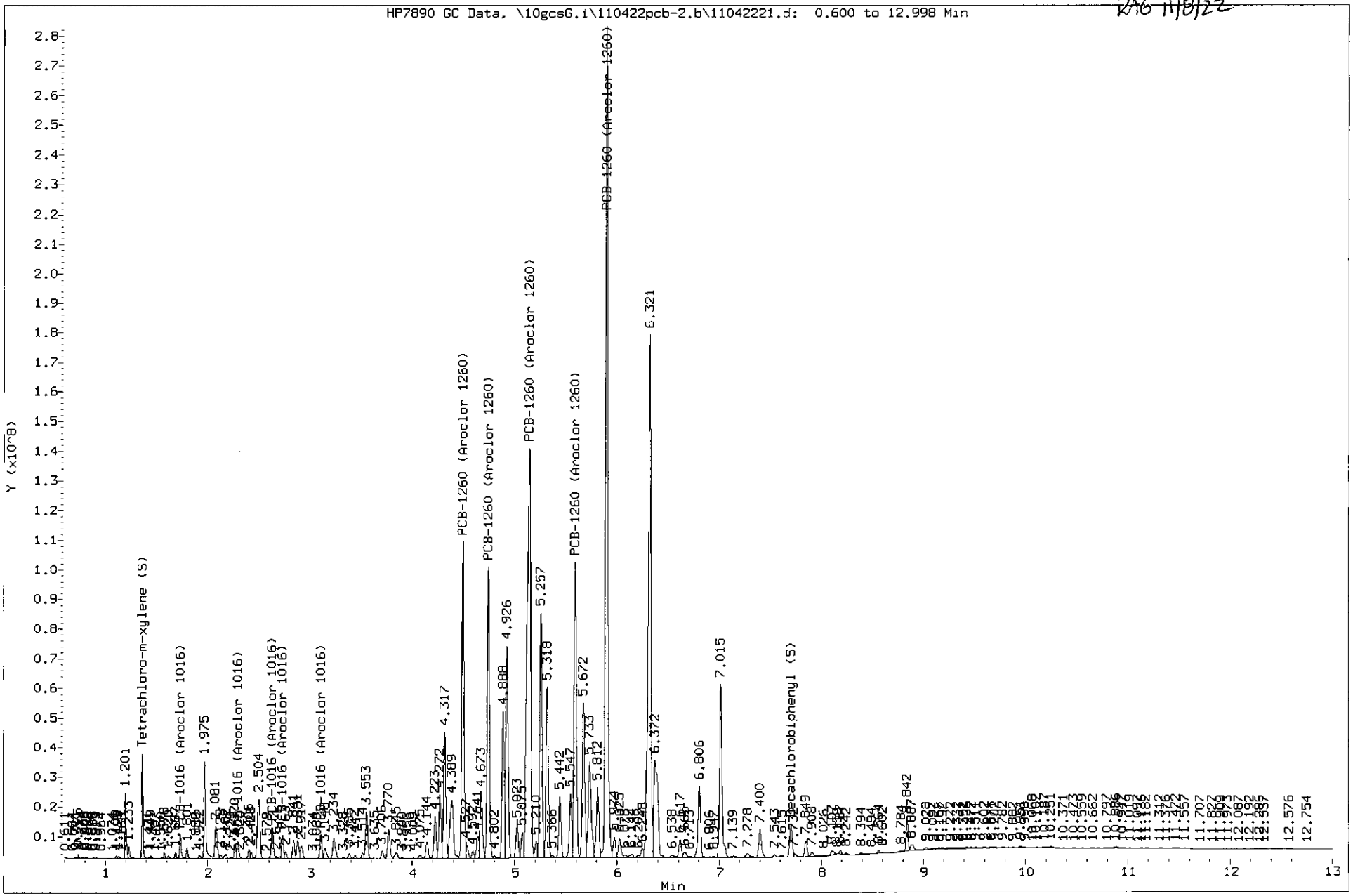
Instrument: 10gcsG.i
Client Sample ID: ISM04-0.0-0.2-1022M

Batch 40935-851450
MSD 40 4501643
~~246~~ 11/8/22



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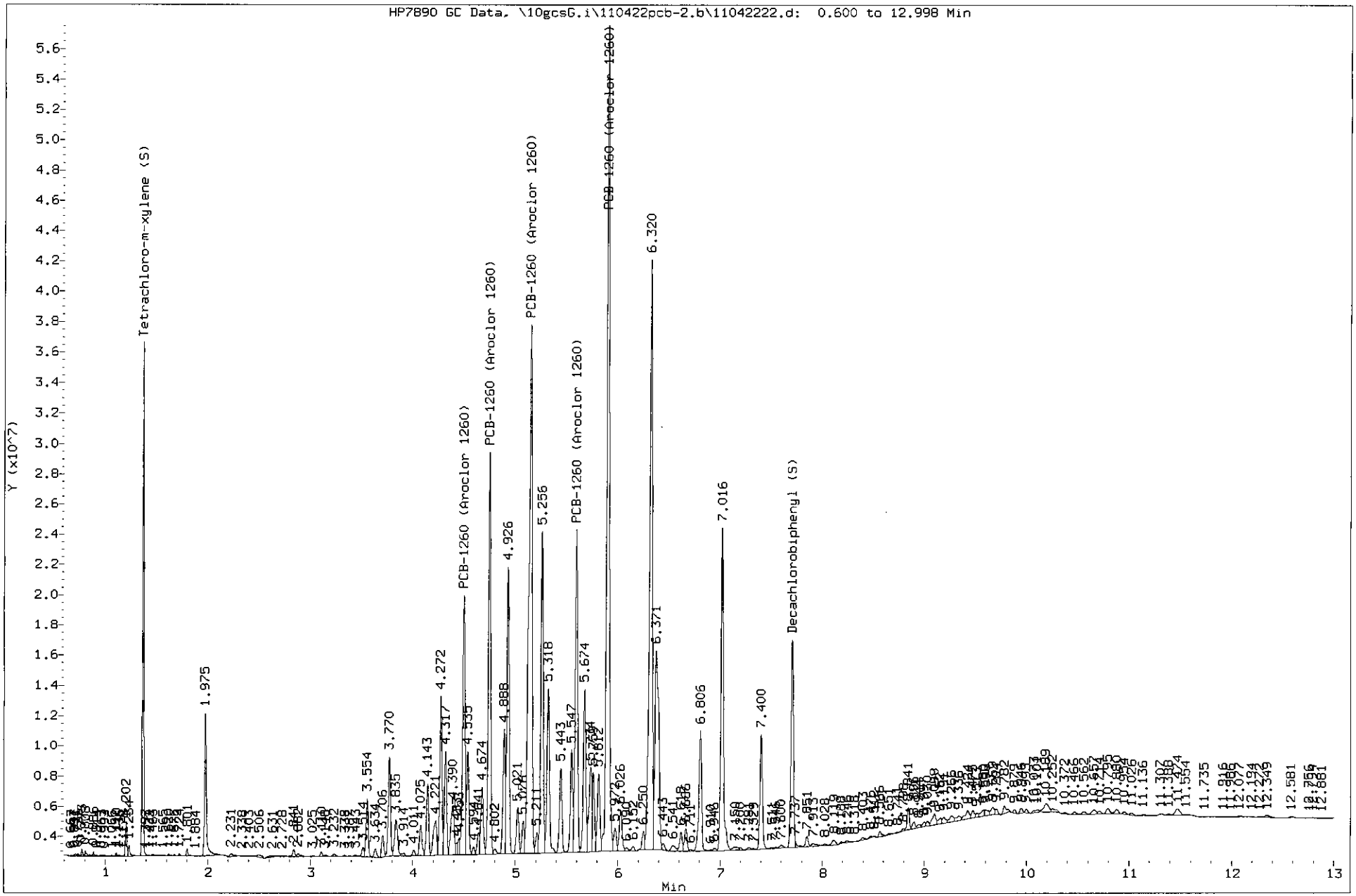
Injection Date: 04-NOV-2022 15:01
Instrument: 10gcsG.i
Client Sample ID: SB07-0.0-0.5-1022

Batch 40935-851450
10630317-009



Batch 40935-851450
MS 4501644

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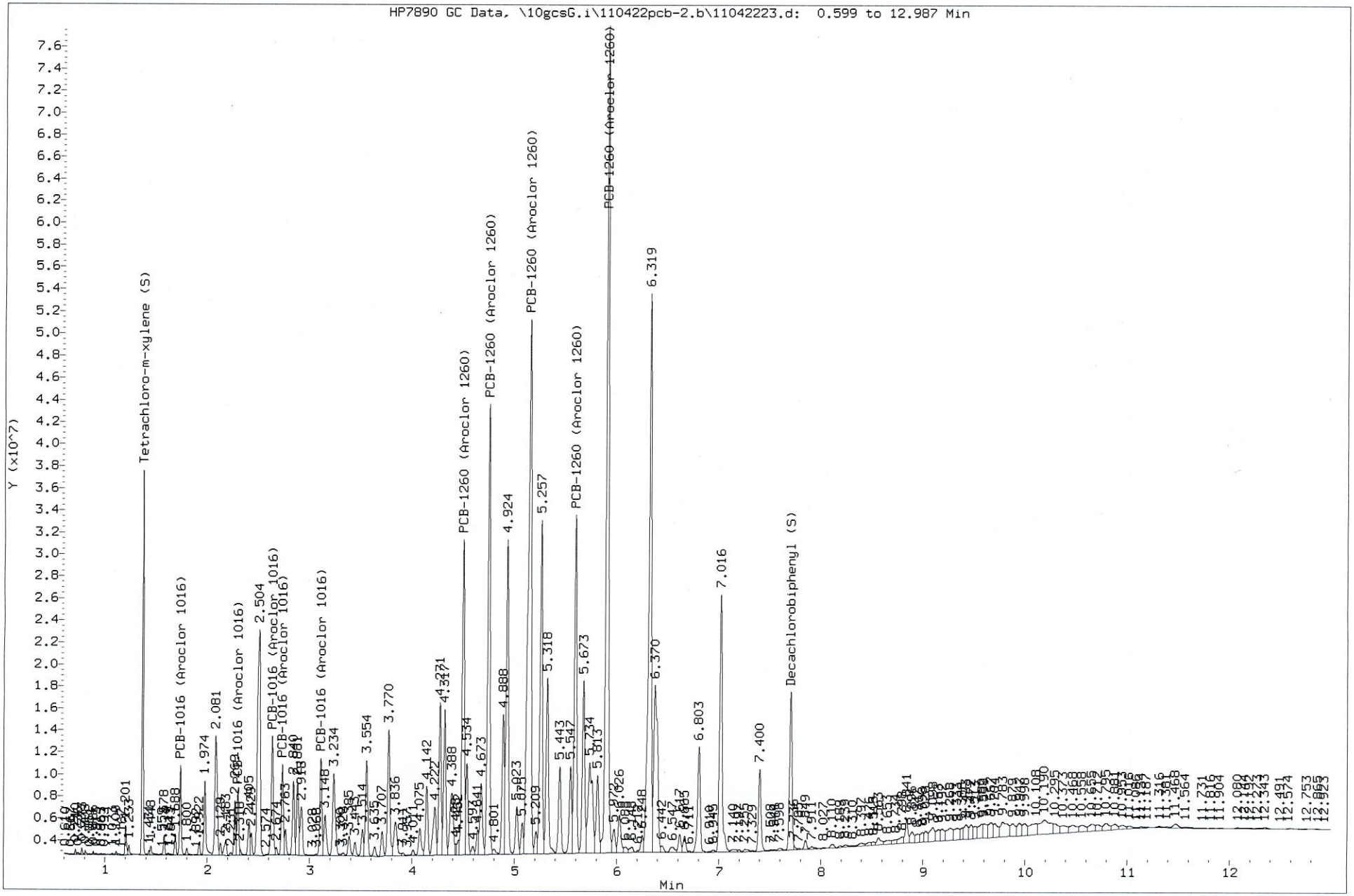
Instrument: 10gcsG.i
Client Sample ID: SB07-0.0-0.5-1022MS



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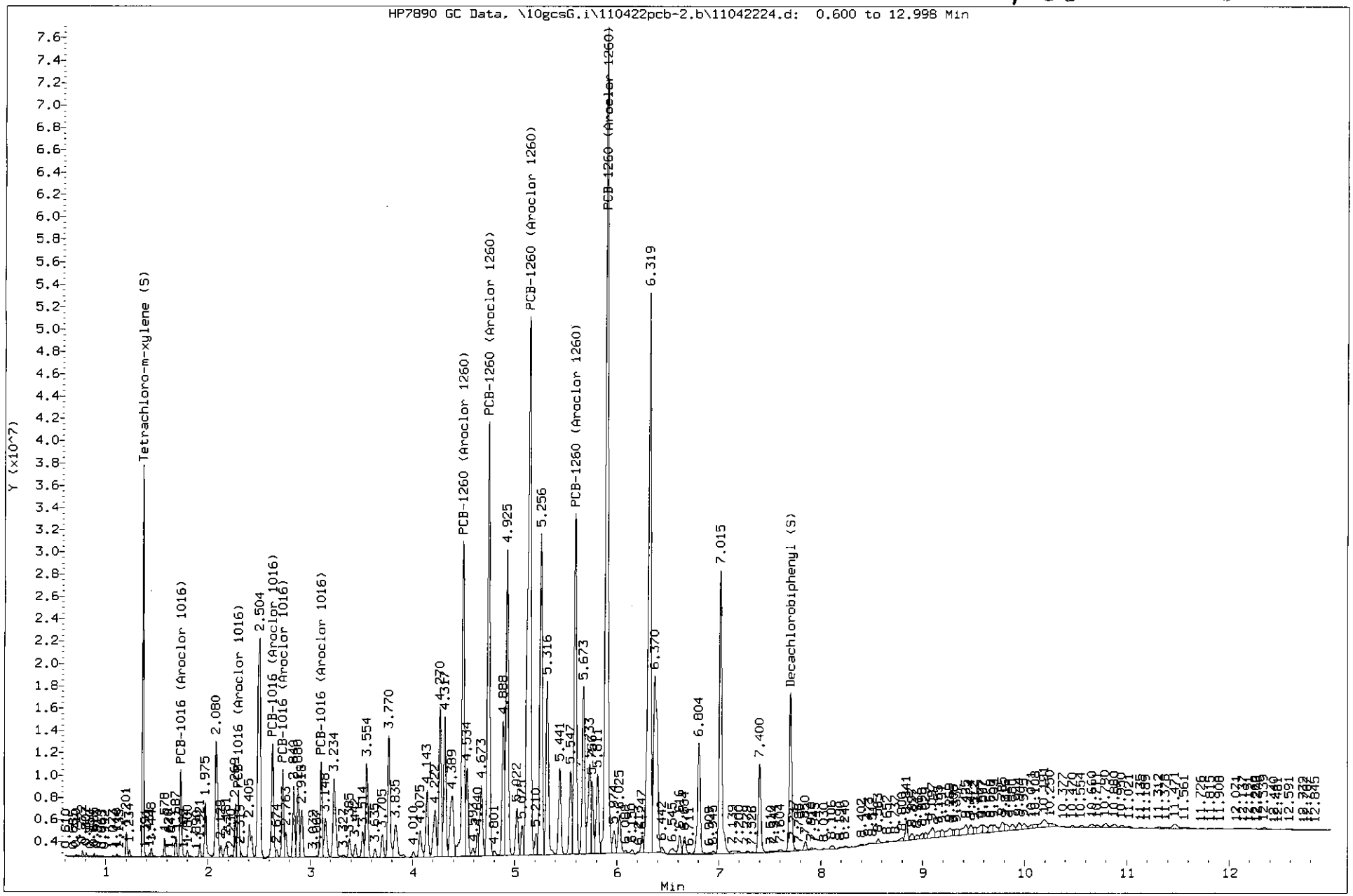
Instrument: 10gcsG.i
Client Sample ID: SB07-0.0-0.5-1022MS

Batch 40935-851450
MSD 4501645



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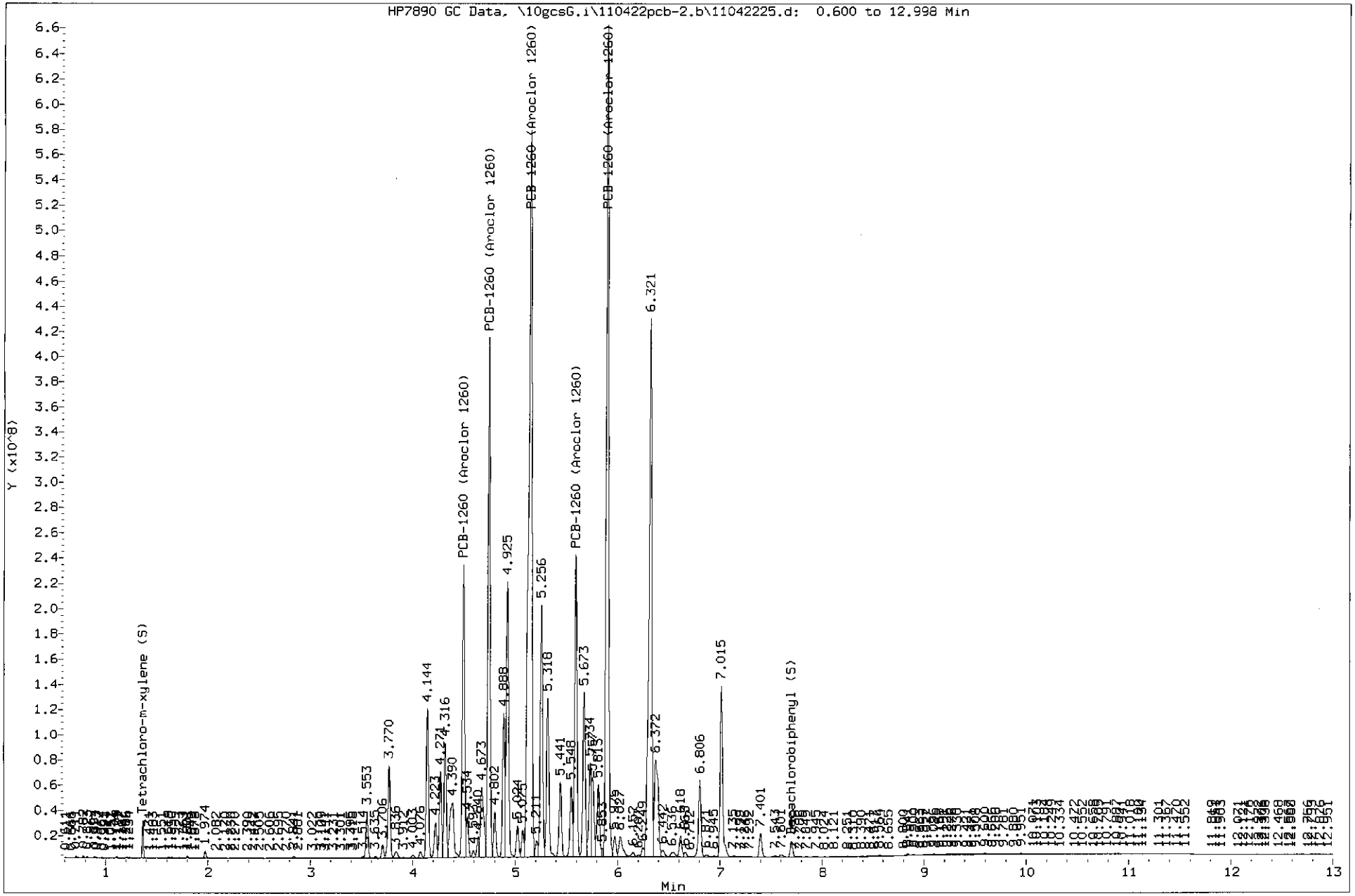
Injection Date: 04-NOV-2022 15:49
Instrument: 10gcsG.i
Client Sample ID: SB12-0.0-0.5-1022

Batch 40935-851450
10630317-015



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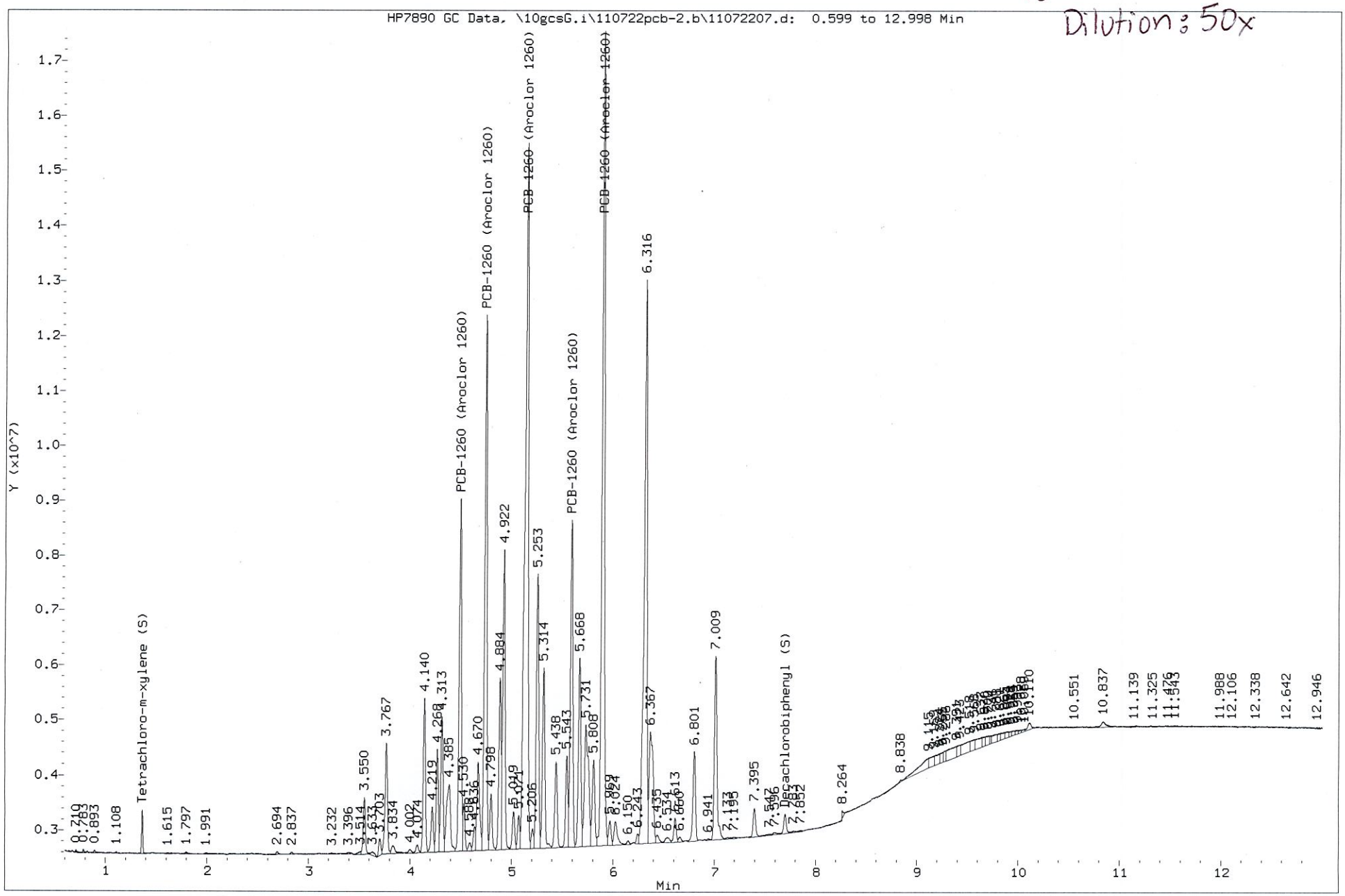
Instrument: 10gcsG.i
Client Sample ID: SB12-0.0-0.5-1022

Batch 40935-851450
10630317-015
Dilution: 50x



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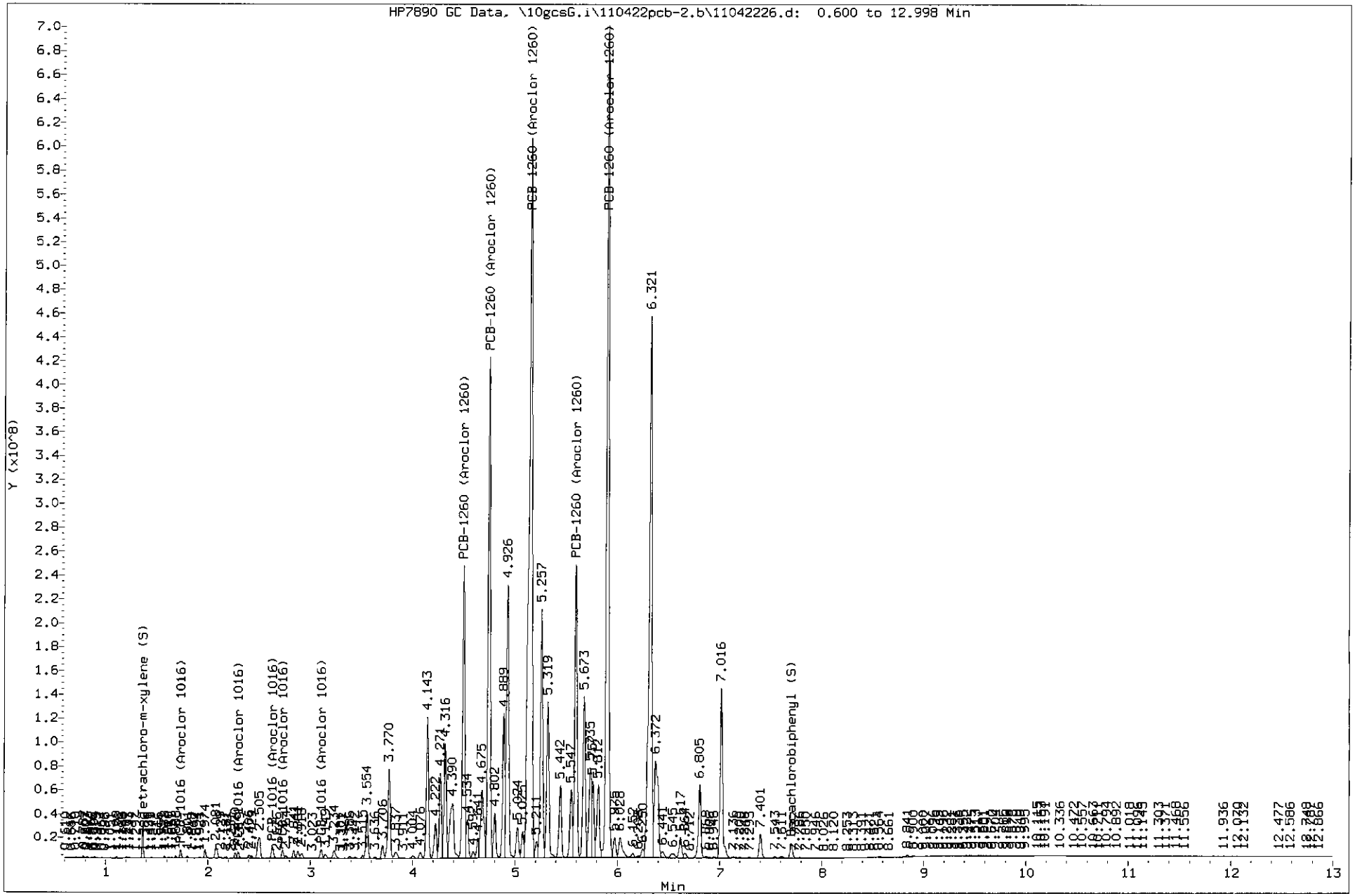
Instrument: 10gcsG.i
Client Sample ID: SB12-0.0-0.5-1022MS

Batch 40935-851450
MS 45016446



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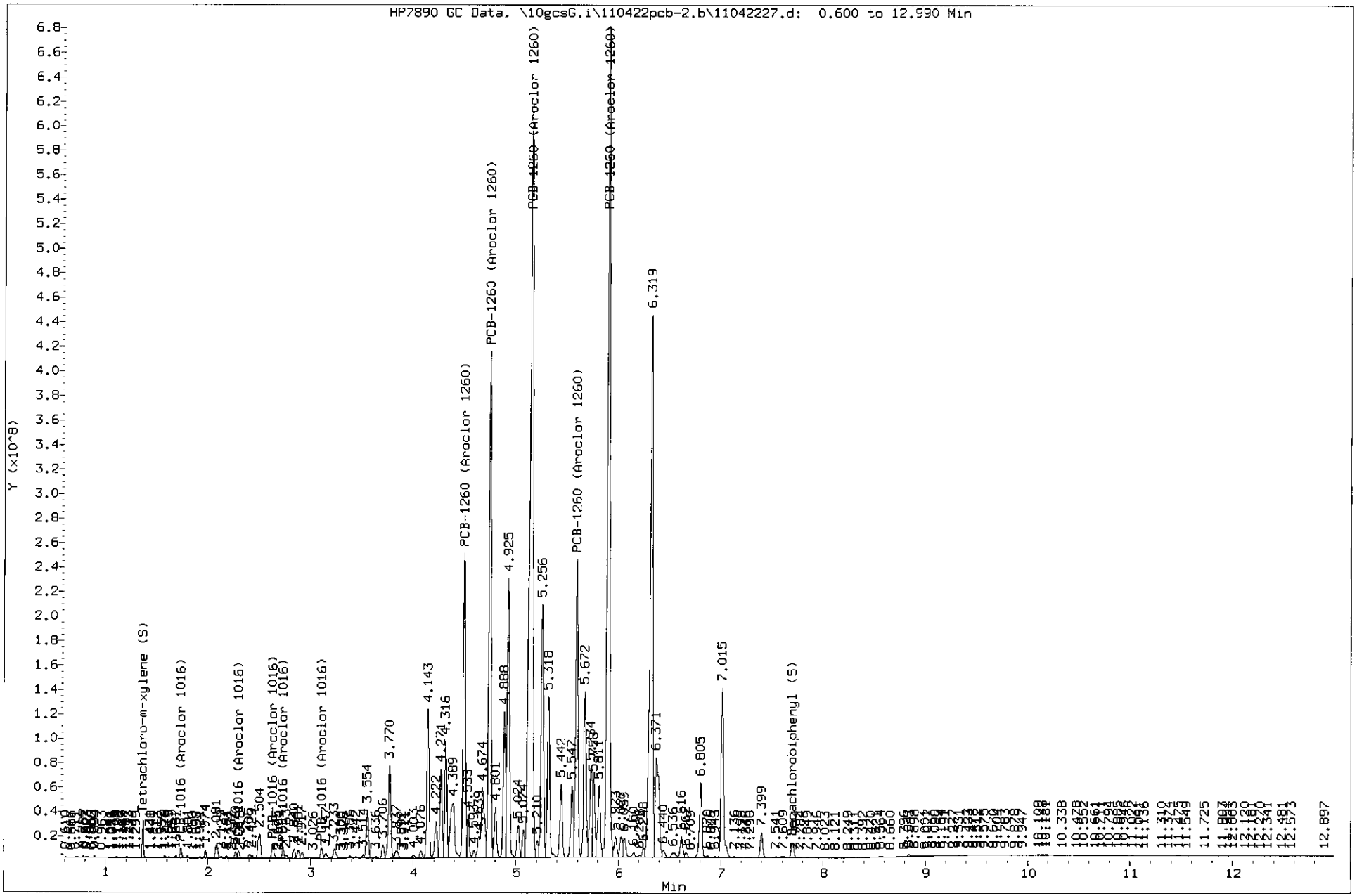
Instrument: 10gcsG.i
Client Sample ID: SB12-0.0-0.5-1022MS

Batch 40935-851450
MSD 4501647



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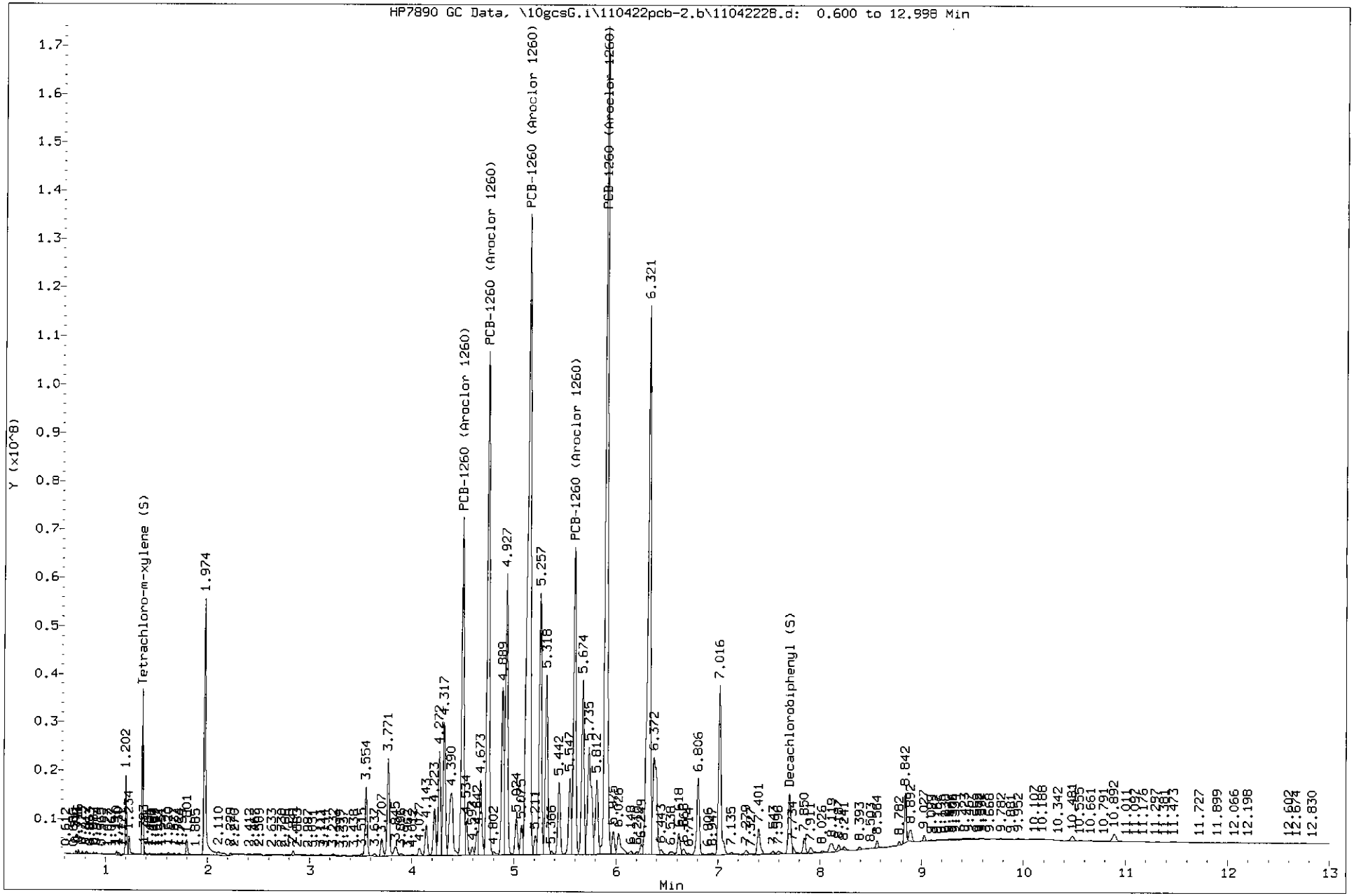
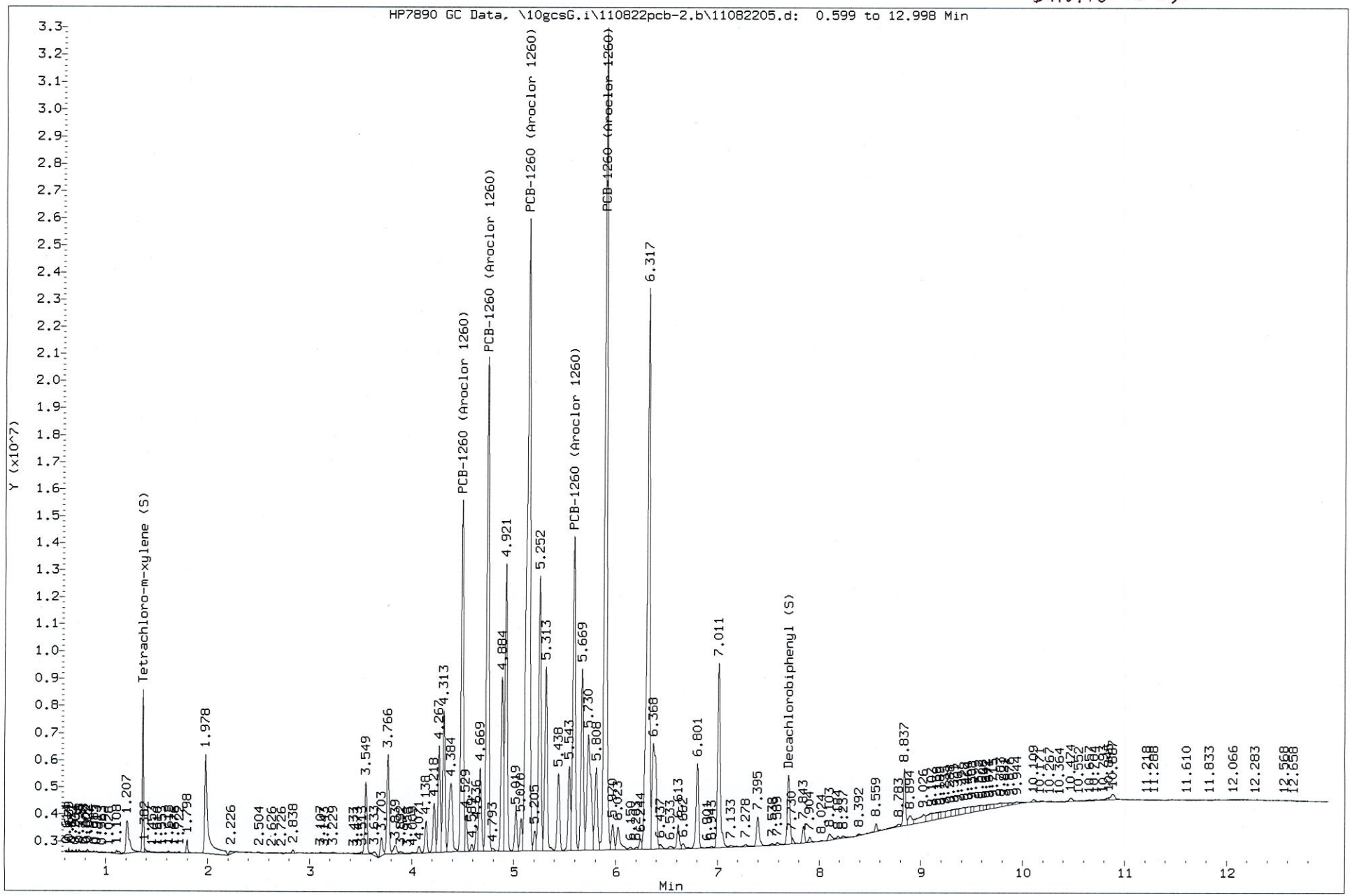
Instrument: 10gcsG.i
Client Sample ID: ISM05-0.0-0.2-1022

Batch 40935-851450
10630317-002



Data File: \\v10wintarget\chem\10gcsG.i\110822pcb-2.b\11082205.d
Injection Date: 08-NOV-2022 07:37
Instrument: 10gcsG.i
Client Sample ID: ISM05-0.0-0.2-1022

Batch 40935-851450
10630317-002
Dilution: 5x



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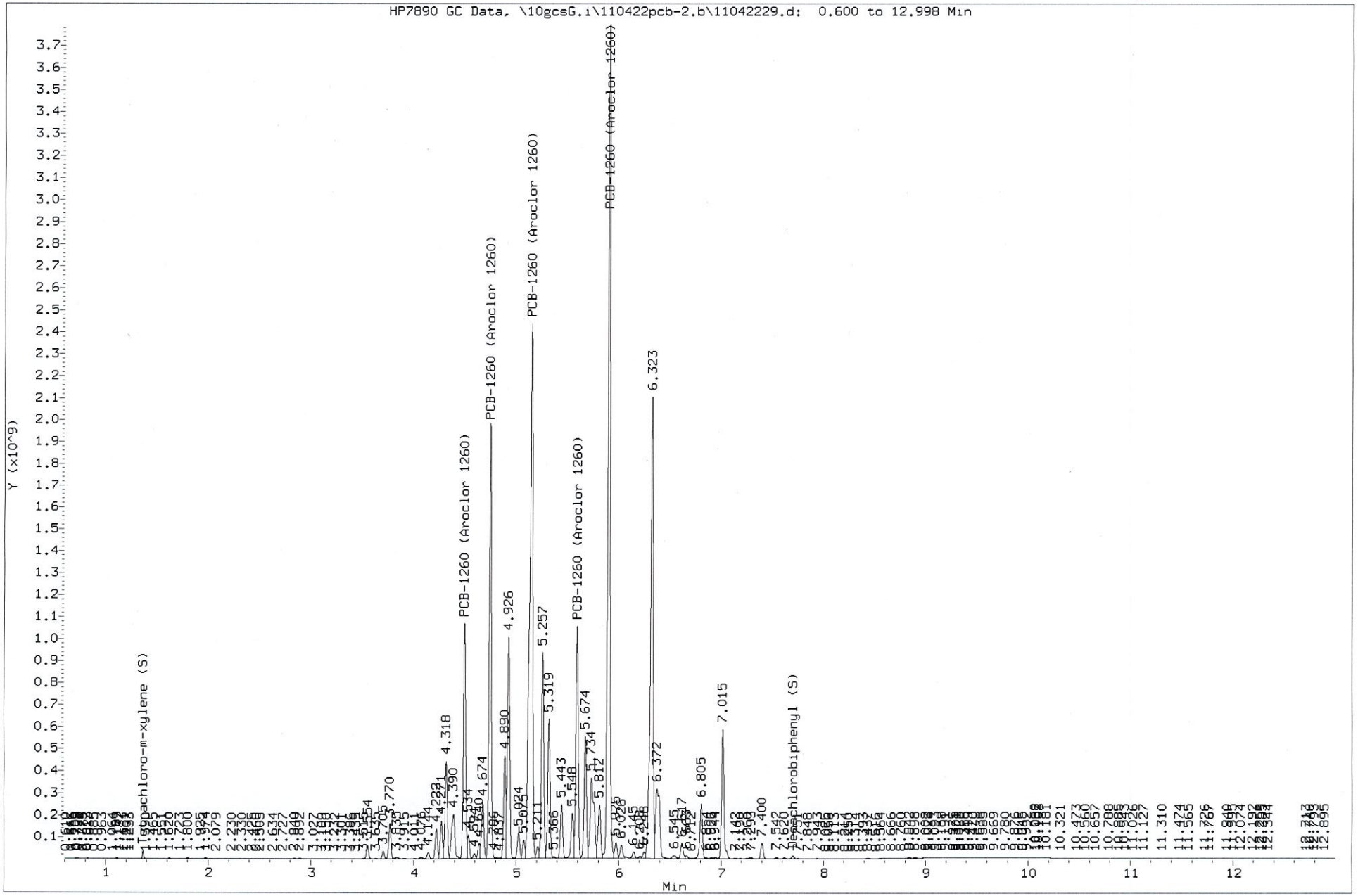
Injection Date: 04-NOV-2022 16:52
Instrument: 10gcsG.i
Client Sample ID: SB10-0.0-0.5-1022

Batch 40935-851450
10630317-003



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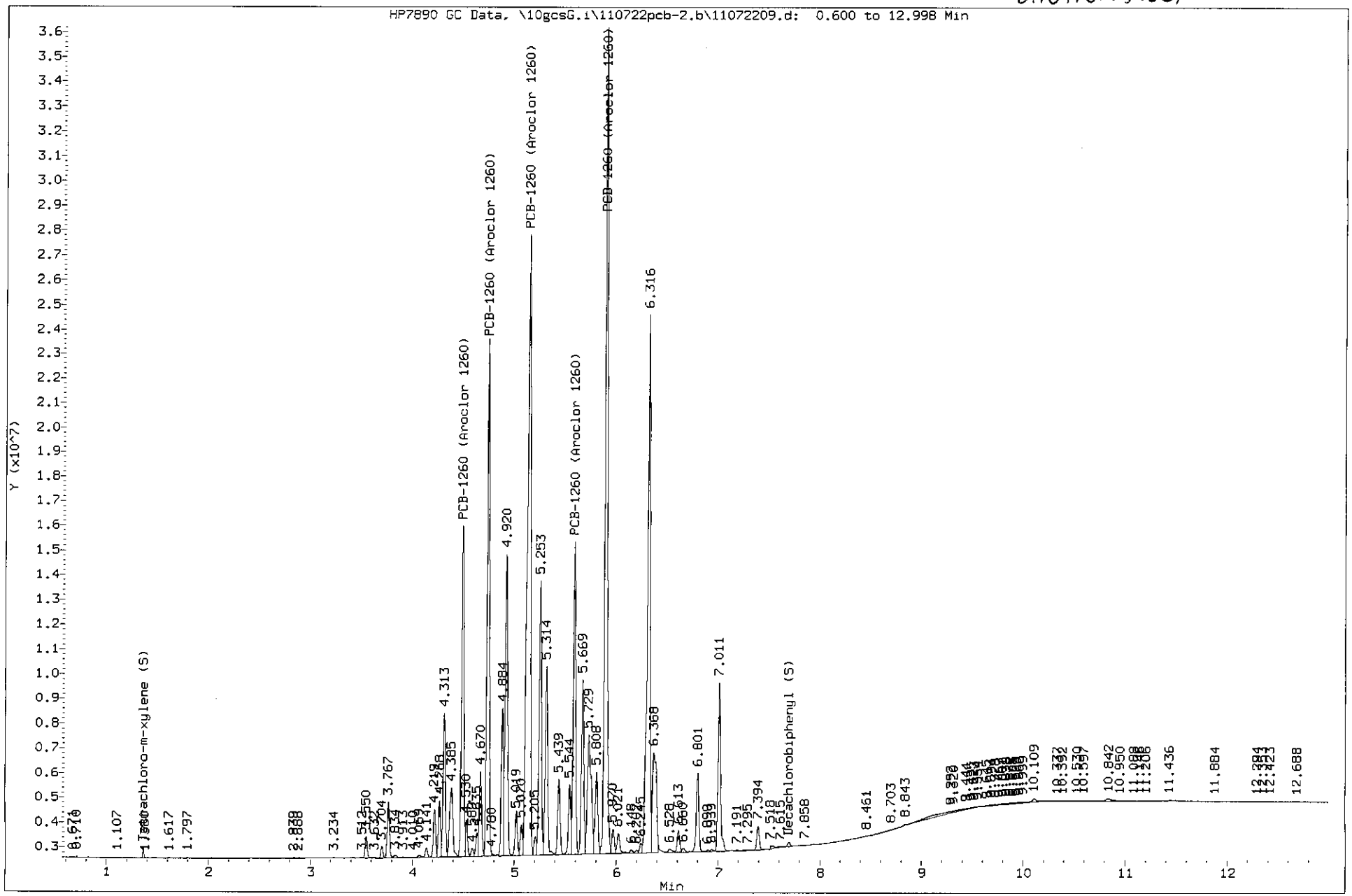
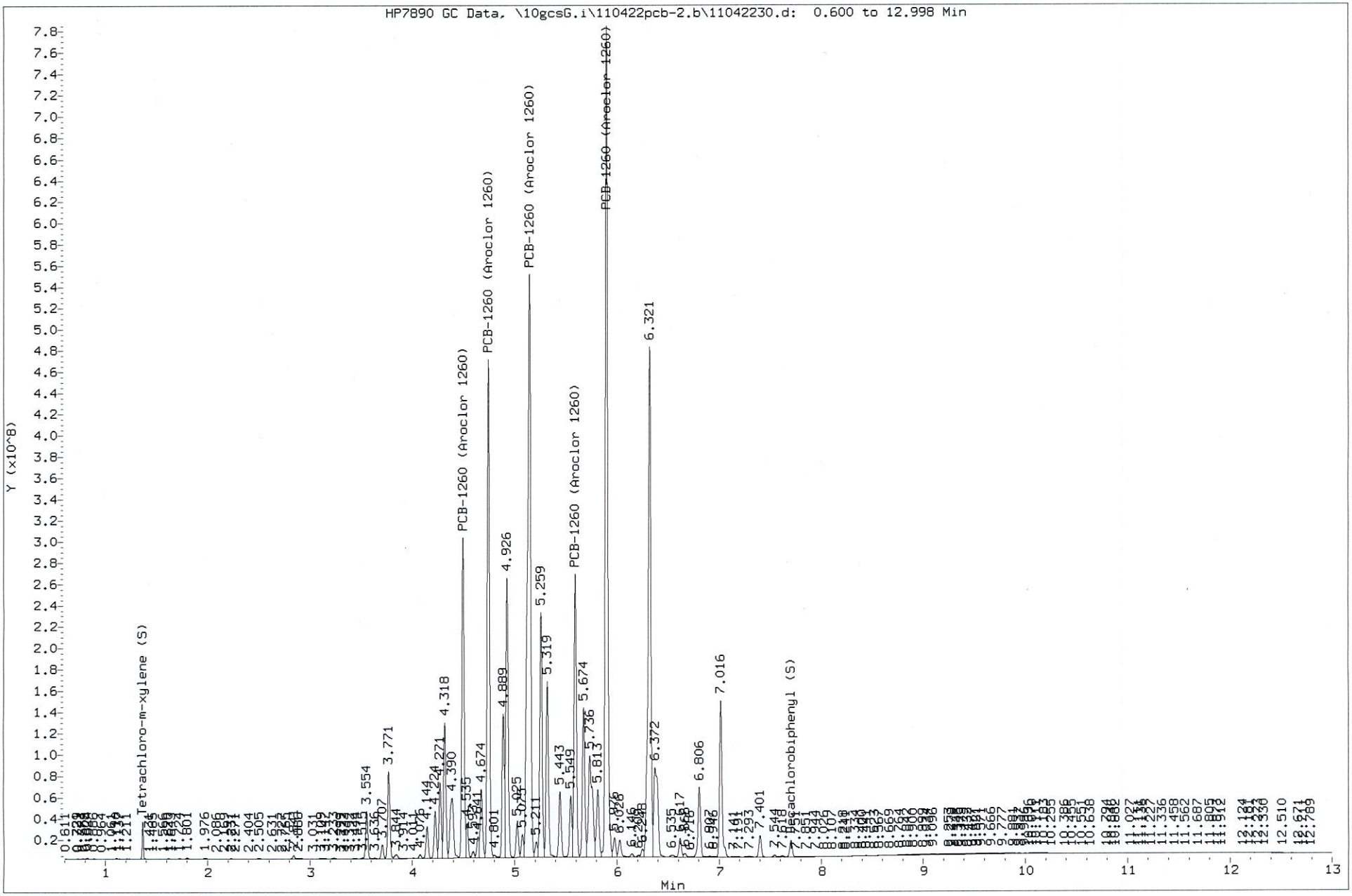
Injection Date: 07-NOV-2022 11:41
Instrument: 10gcsG.i
Client Sample ID: SB10-0.0-0.5-1022

Batch 40935-851450
10630317-003
Dilution: 100X



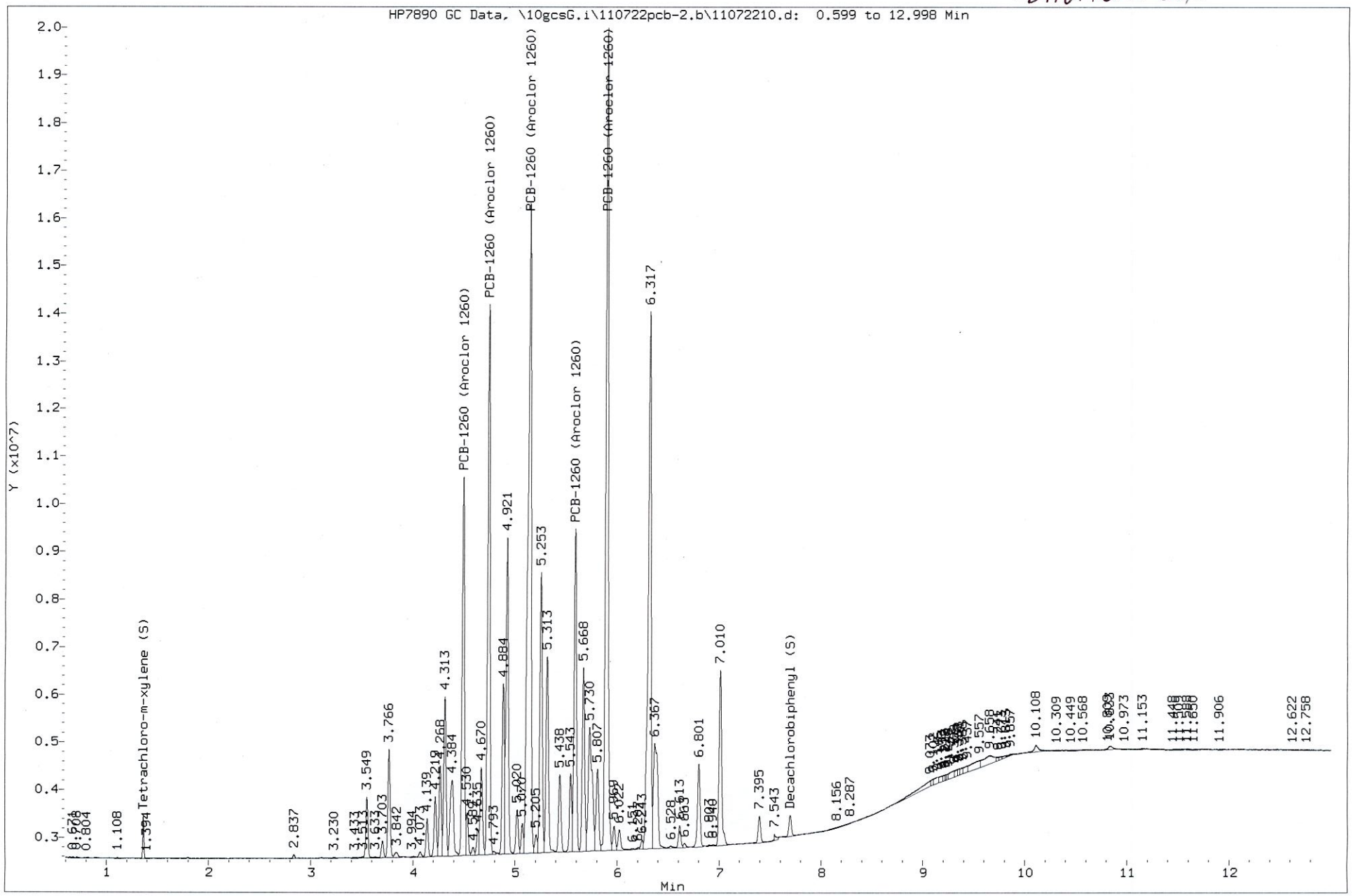
Batch 40935-851450
10630317-004

Data File: \\v10wintarget\chem\10gcsG.i\110422pcb-2.b\11042230.d
Injection Date: 04-NOV-2022 17:08
Instrument: 10gcsG.i
Client Sample ID: SB10-1.0-1.5-1022



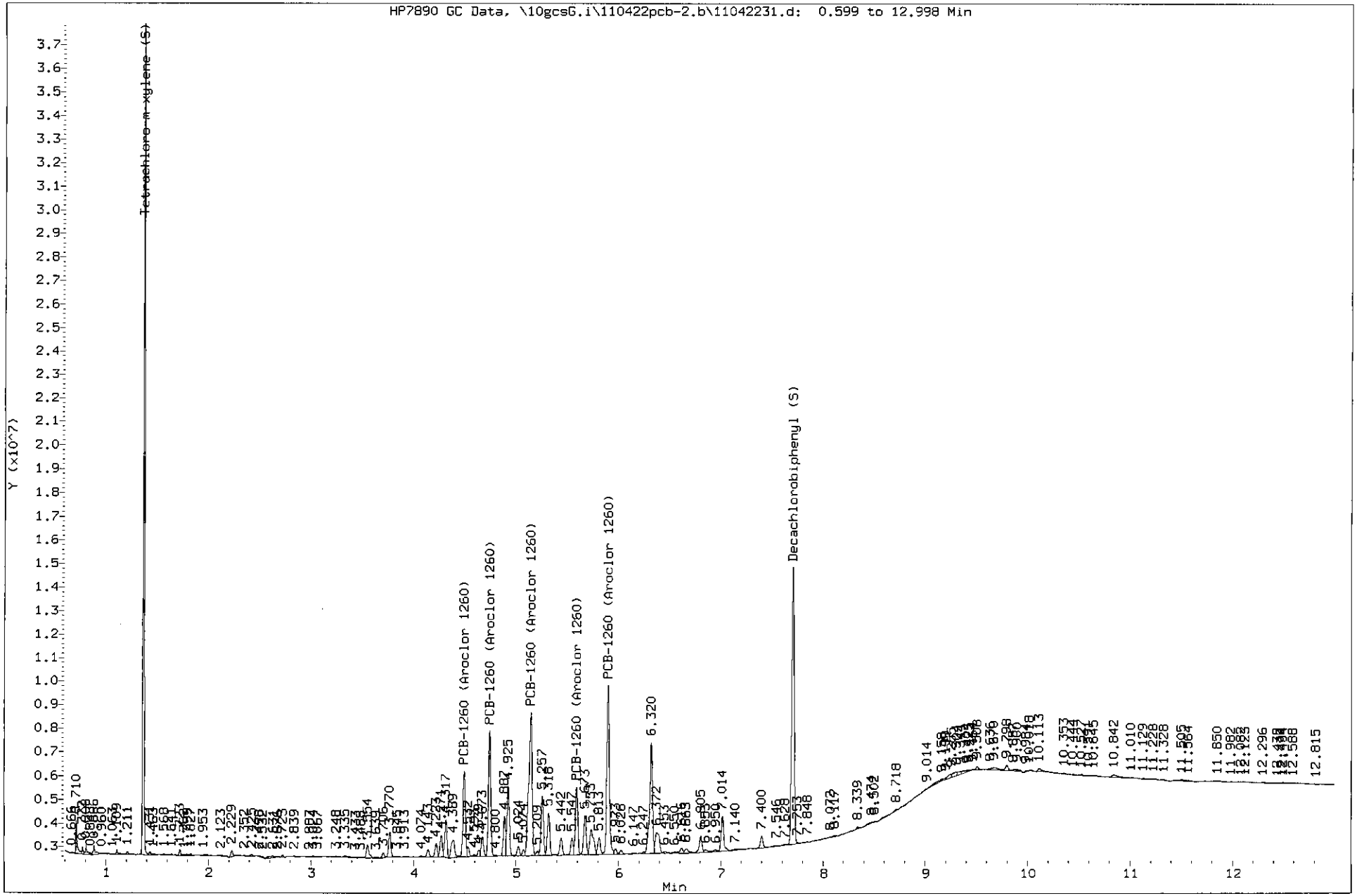
Data File: \\v10wintarget\chem\10gcsG.i\110722pcb-2.b\11072210.d
Injection Date: 07-NOV-2022 11:57
Instrument: 10gcsG.i
Client Sample ID: SB10-1.0-1.5-1022

Batch 40935-851450
10630317-004
Dilution: 50x



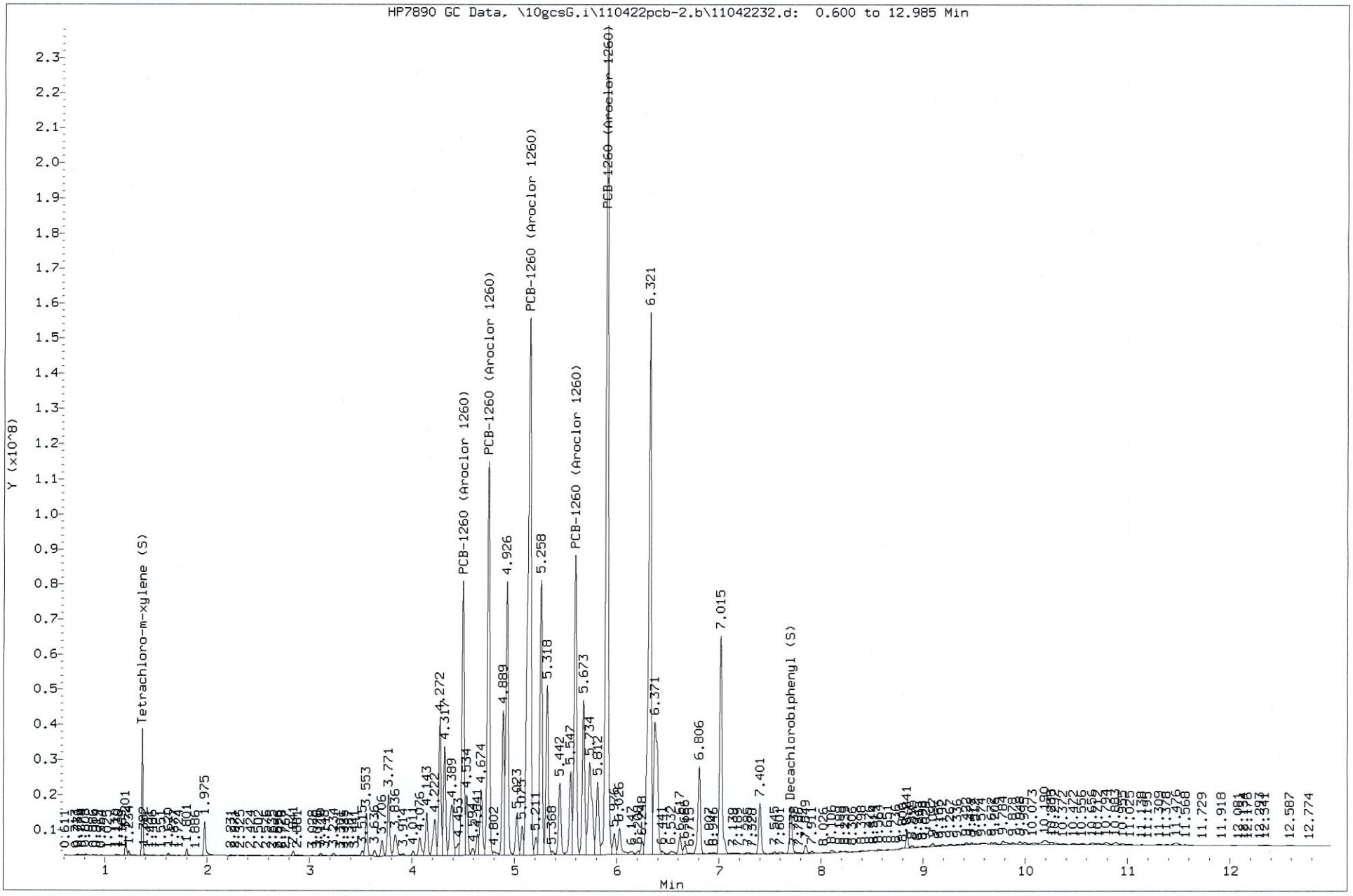
Data File: \\v10wintarget\chem\10gcsG.i\110422pcb-2.b\11042231.d
Injection Date: 04-NOV-2022 17:23
Instrument: 10gcsG.i
Client Sample ID: SB10-2.5-3.0-1022

Batch 40935-85145 ⊙
10630317-005



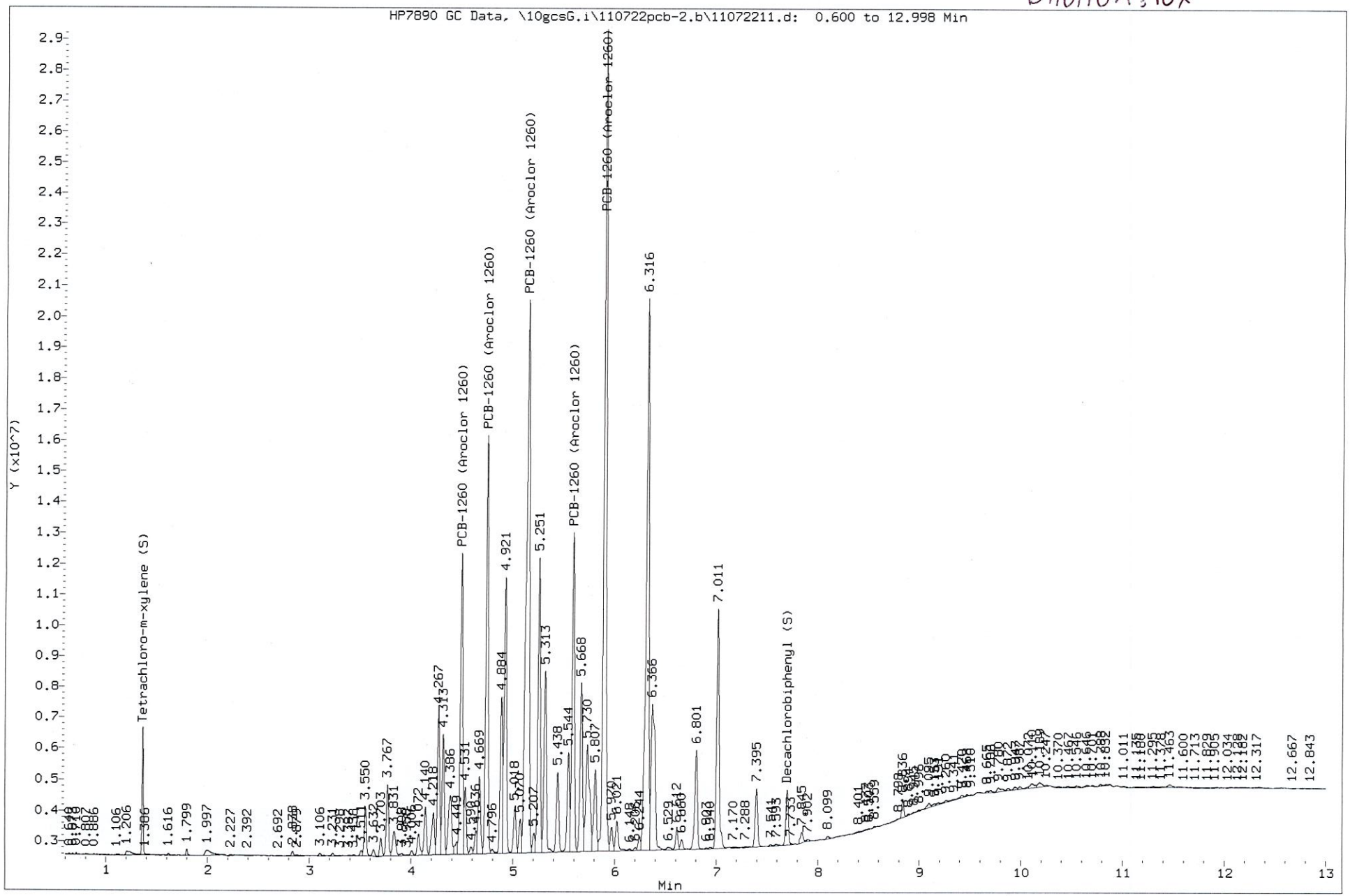
Data File: \\v10wintarget\chem\10gcsG.i\110422pcb-2.b\11042232.d
Injection Date: 04-NOV-2022 17:39
Instrument: 10gcsG.i
Client Sample ID: SB09-0.0-0.5-1022

Batch 40935-851450
10630317-006



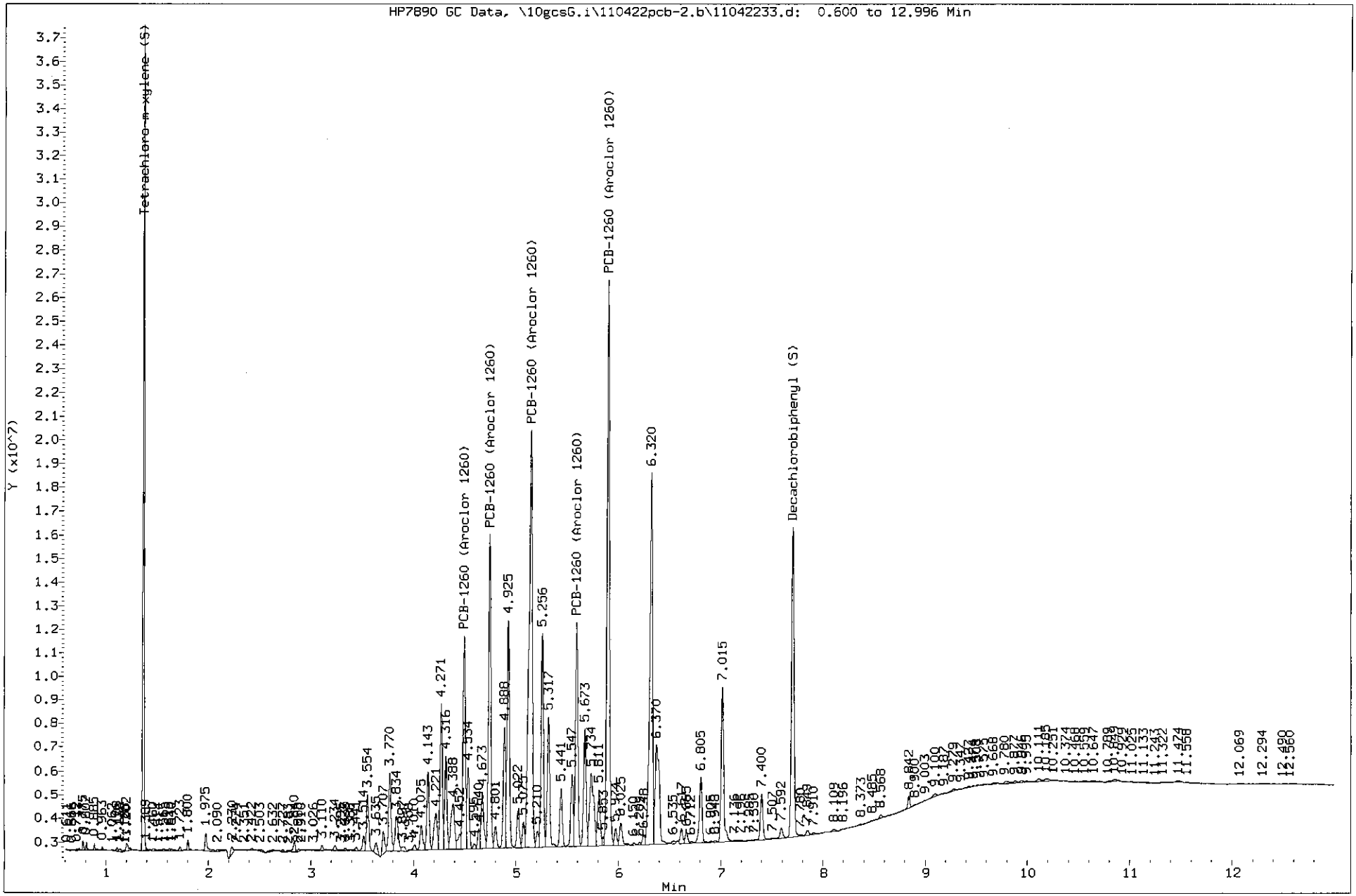
Data File: \\v10wintarget\chem\10gcsG.i\110722pcb-2.b\11072211.d
Injection Date: 07-NOV-2022 12:12
Instrument: 10gcsG.i
Client Sample ID: SB09-0.0-0.5-1022

Batch 40935-851450
10630317-006
Dilution: 10x



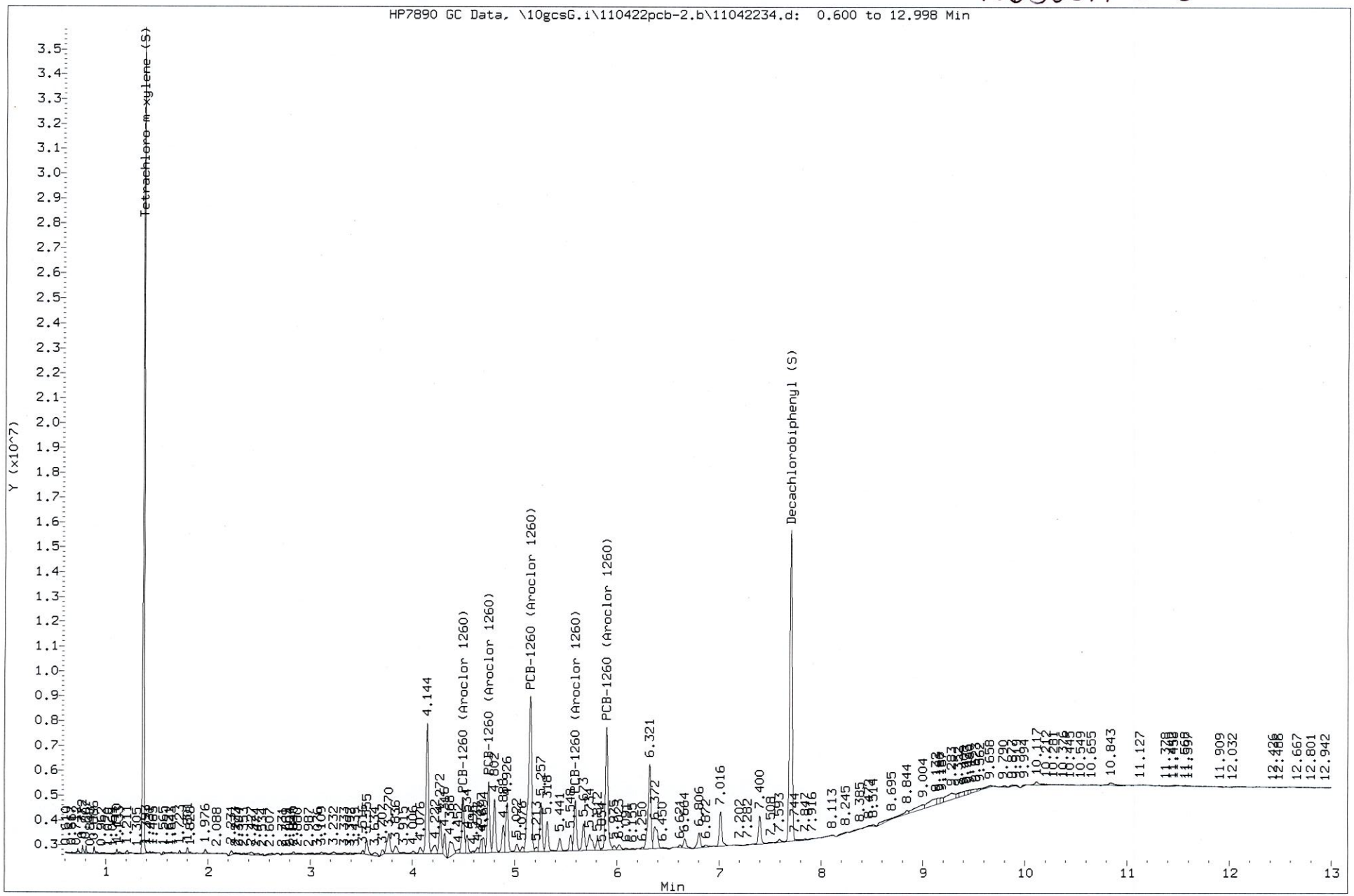
Data File: \\v10wintarget\chem\10gcsG.i\110422pcb-2.b\11042233.d
Injection Date: 04-NOV-2022 17:55
Instrument: 10gcsG.i
Client Sample ID: SB09-1.0-1.5-1022

Batch 40935-851450
10630317-007



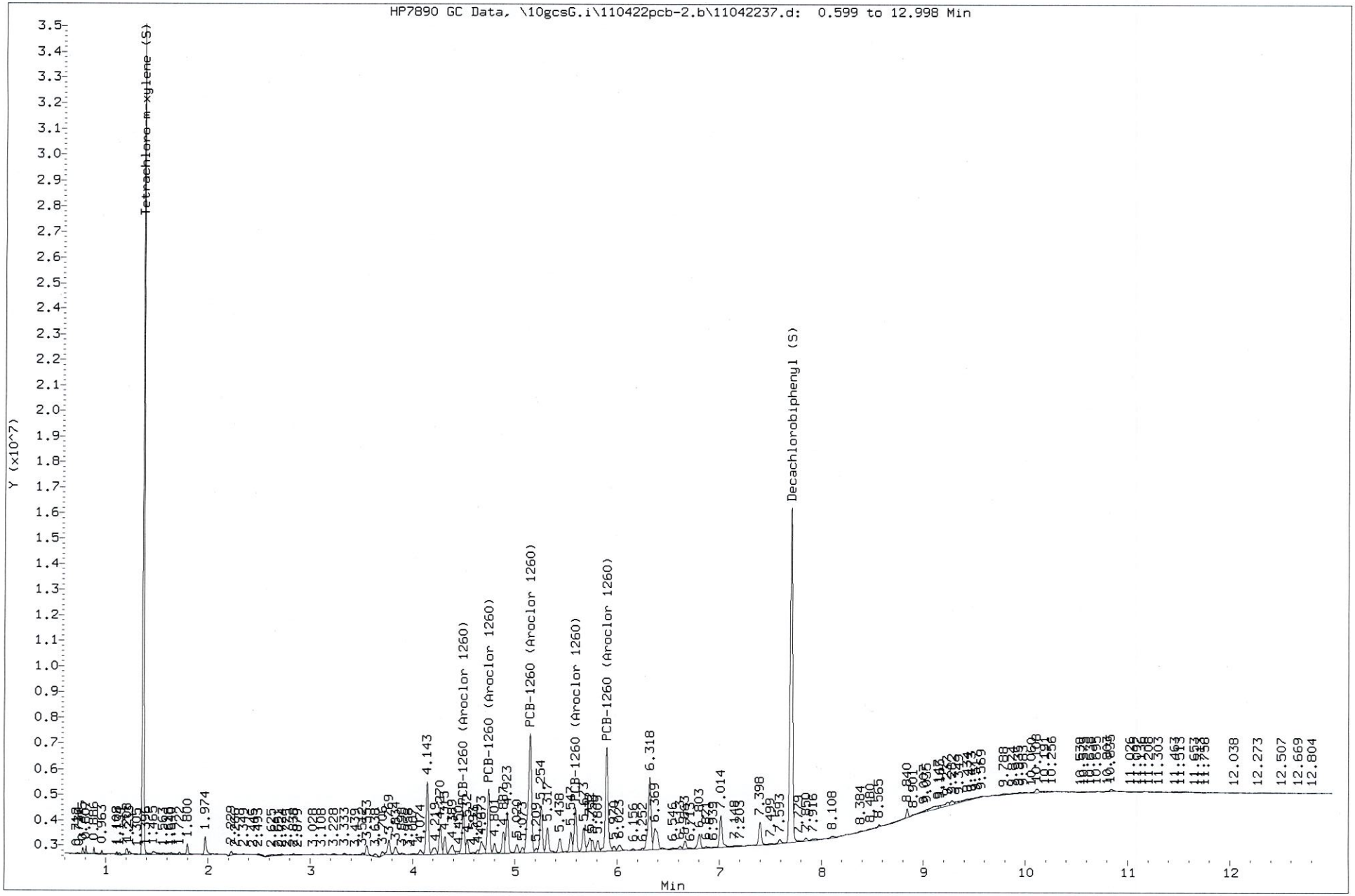
Data File: \\v10wintarget\chem\10gcsG.i\110422pcb-2.b\11042234.d
Injection Date: 04-NOV-2022 18:11
Instrument: 10gcsG.i
Client Sample ID: SB09-2.5-3.0-1022

Batch 40935-851450
10630317-008



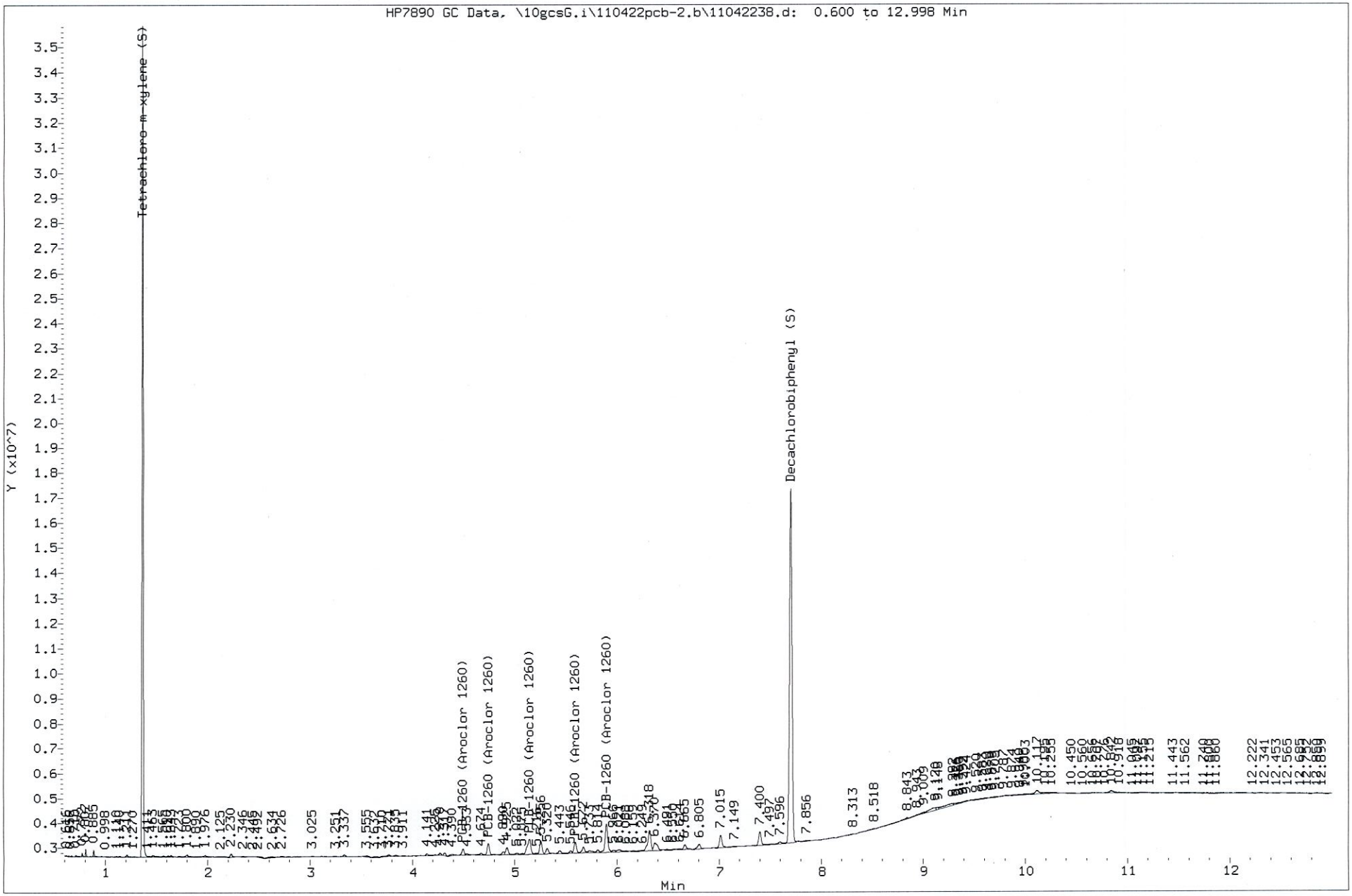
Batch 40935-851450
10630317-010

Data File: \\v10wintarget\chem\10gcsG.i\110422pcb-2.b\11042237.d
Injection Date: 04-NOV-2022 18:58
Instrument: 10gcsG.i
Client Sample ID: SB07-1.0-1.5-1022



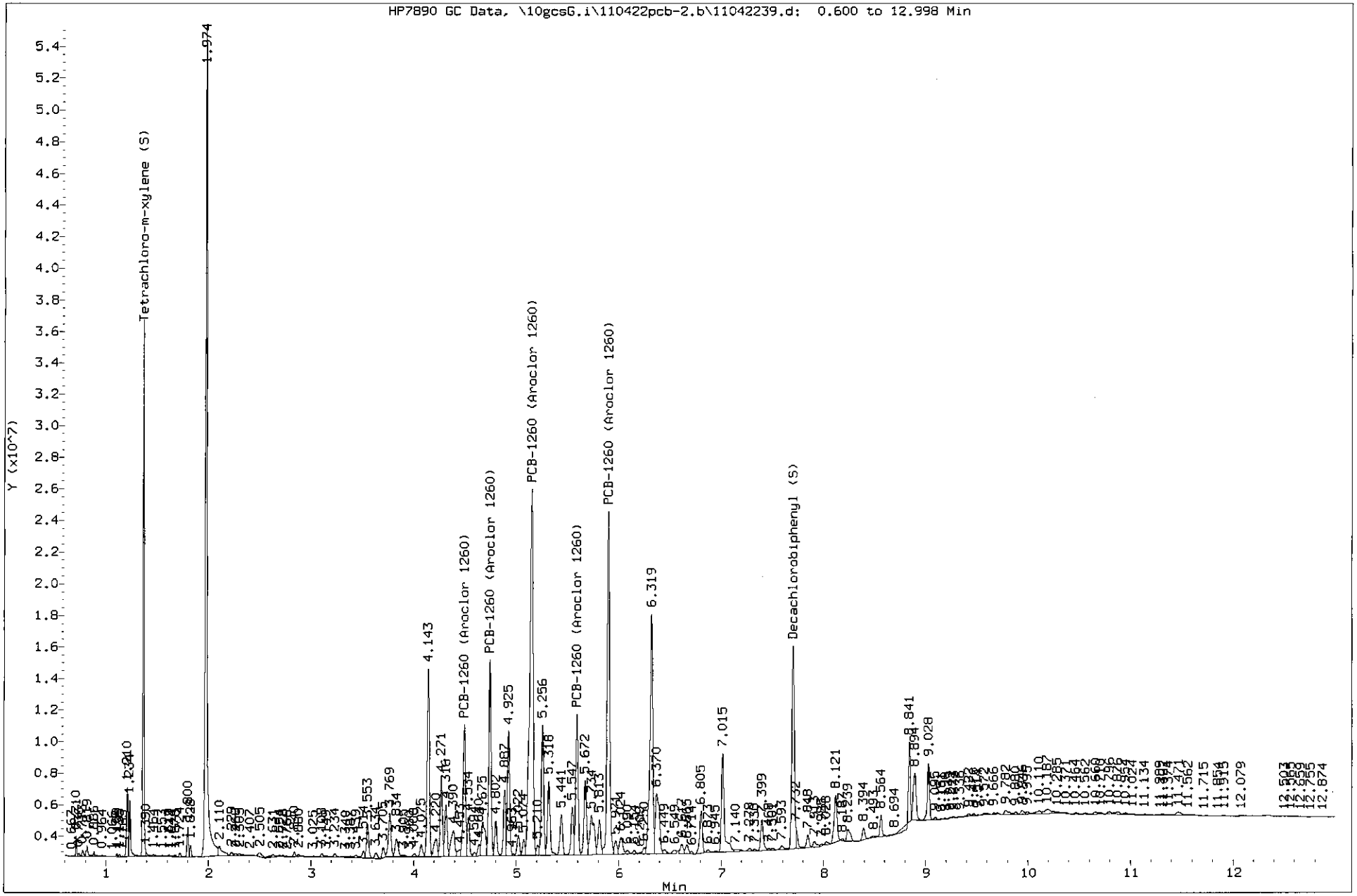
Batch 40935-851450
10630317-011

Data File: \\v10wintarget\chem\10gcsG.i\110422pcb-2.b\11042238.d
Injection Date: 04-NOV-2022 19:14
Instrument: 10gcsG.i
Client Sample ID: SB07-2.5-3.0-1022



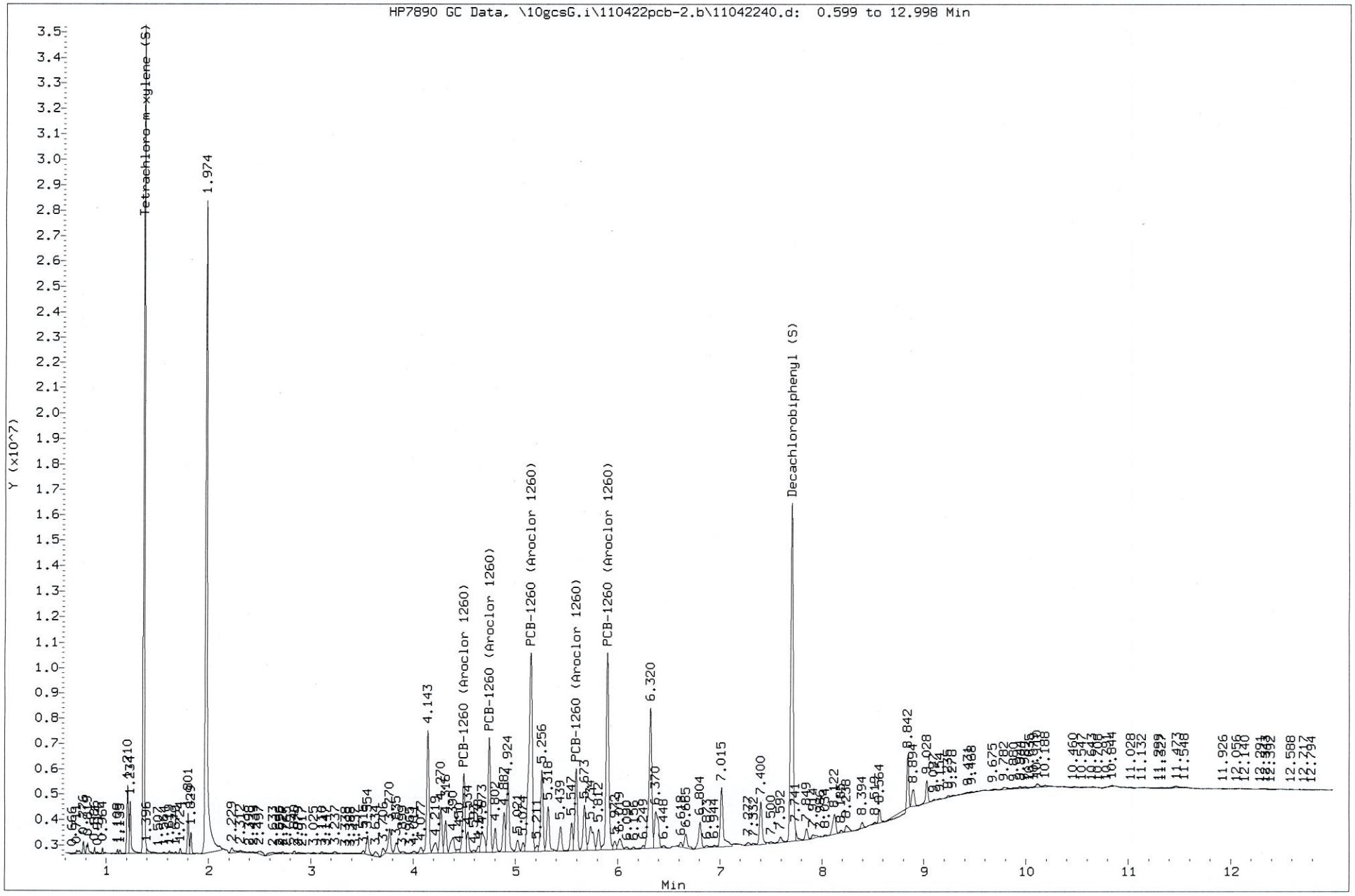
Data File: \\v10wintarget\chem\10gcsG.i\110422pcb-2.b\11042239.d
Injection Date: 04-NOV-2022 19:30
Instrument: 10gcsG.i
Client Sample ID: SB05-0.0-0.5-1022

Batch 40935-851450
10030317-012



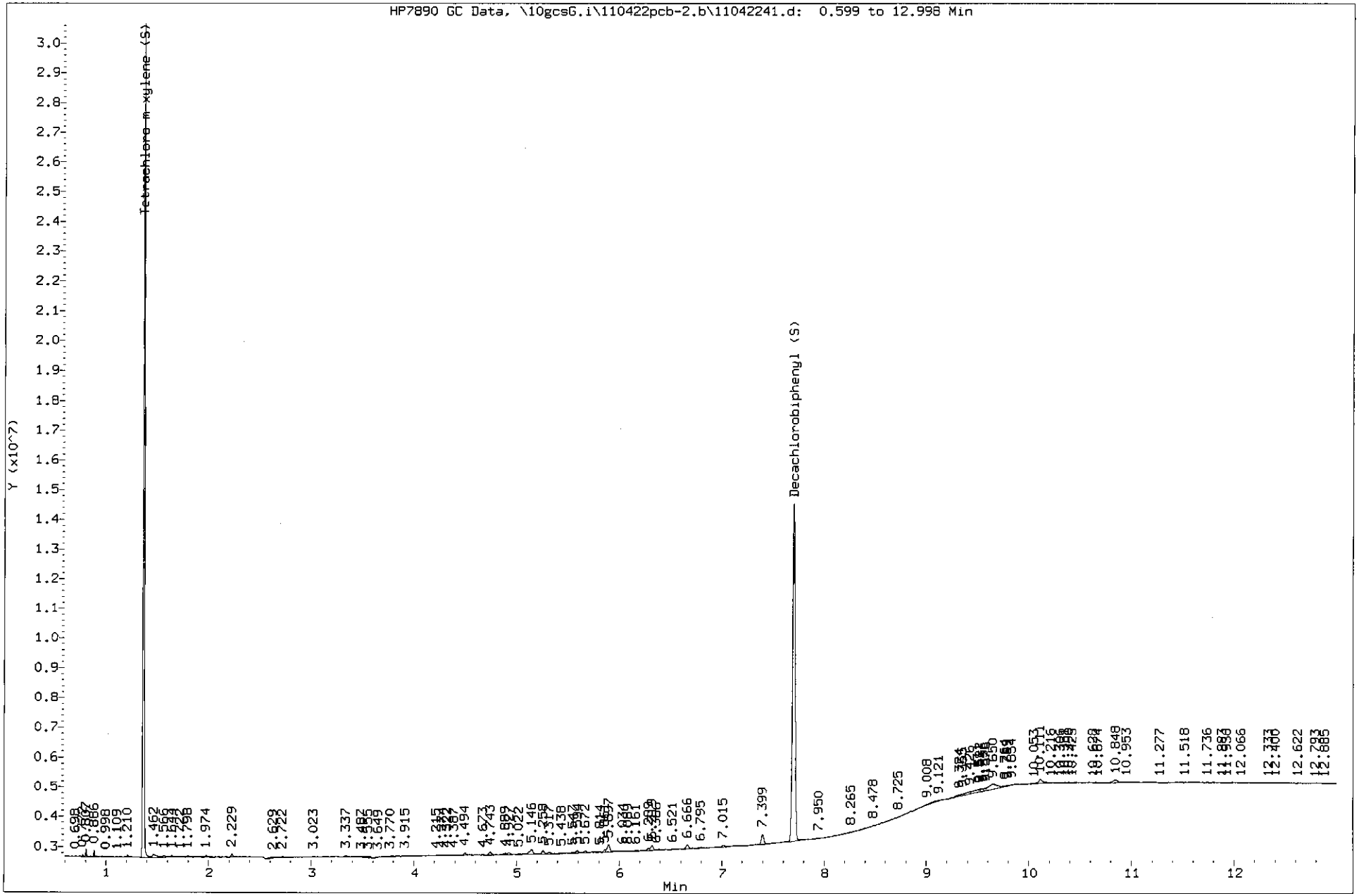
Data File: \\v10wintarget\chem\10gcsG.i\110422pcb-2.b\11042240.d
Injection Date: 04-NOV-2022 19:45
Instrument: 10gcsG.i
Client Sample ID: SB05-1.0-1.5-1022

Batch 40935-851450
10630317-013



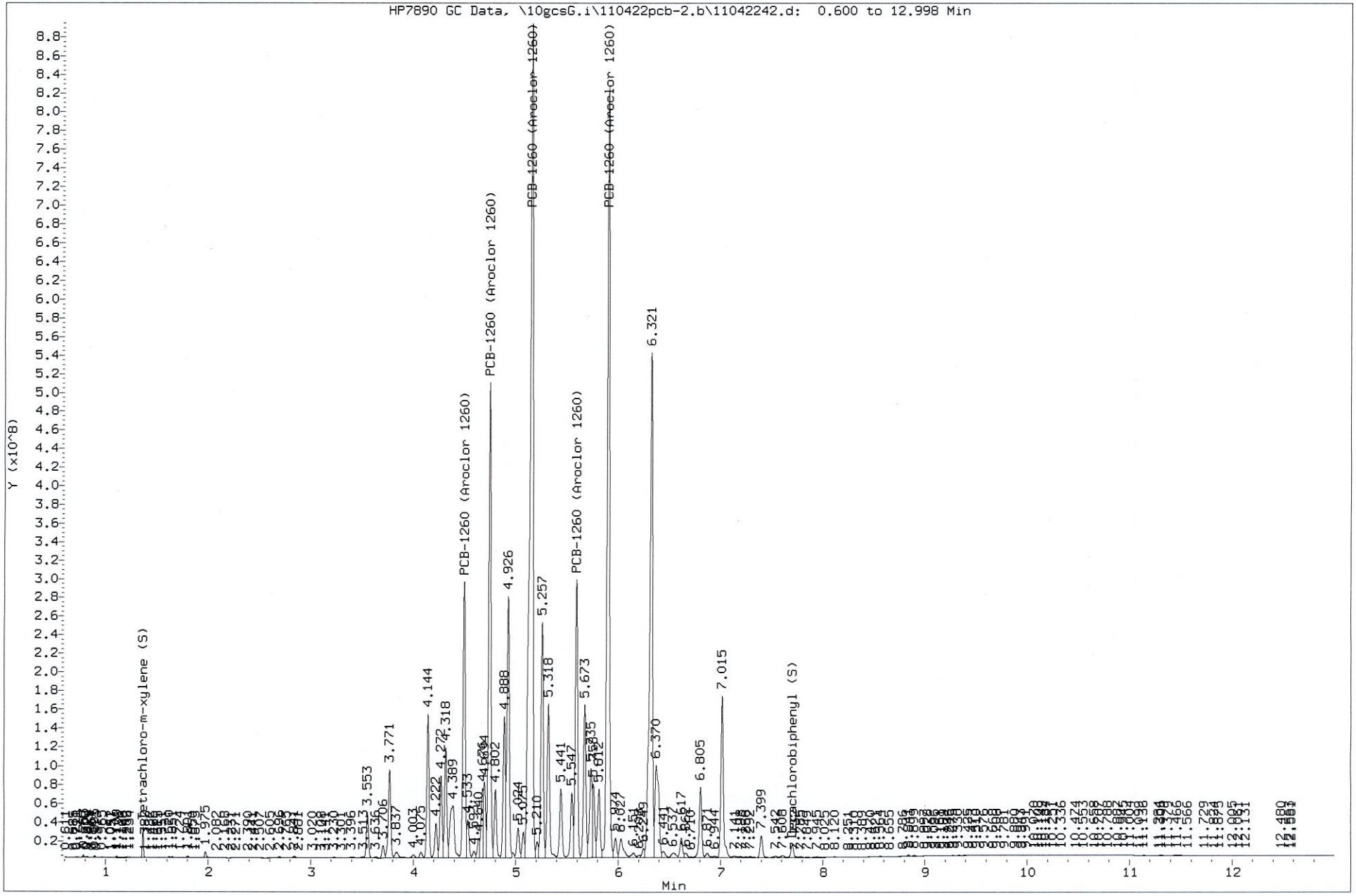
Data File: \\v10wintarget\chem\10gcsG.i\110422pcb-2.b\11042241.d
Injection Date: 04-NOV-2022 20:01
Instrument: 10gcsG.i
Client Sample ID: SB05-2.5-3.0-1022

Batch 40935-851450
10630317-014



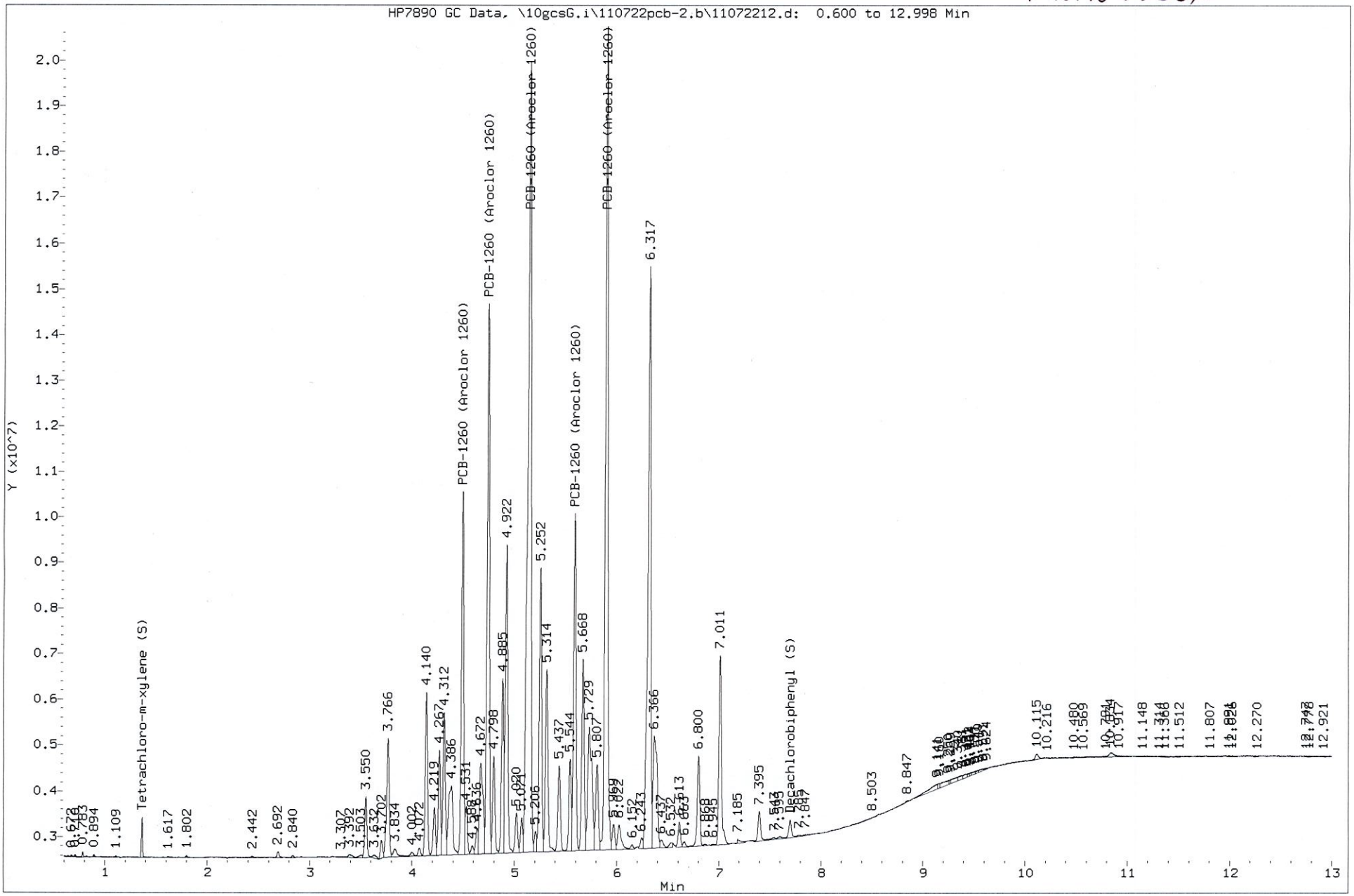
Data File: \\v10wintarget\chem\10gcsG.i\110422pcb-2.b\11042242.d
Injection Date: 04-NOV-2022 20:17
Instrument: 10gcsG.i
Client Sample ID: SB12D-0.0-0.5-1022

Batch 40935-851450
10630317-016



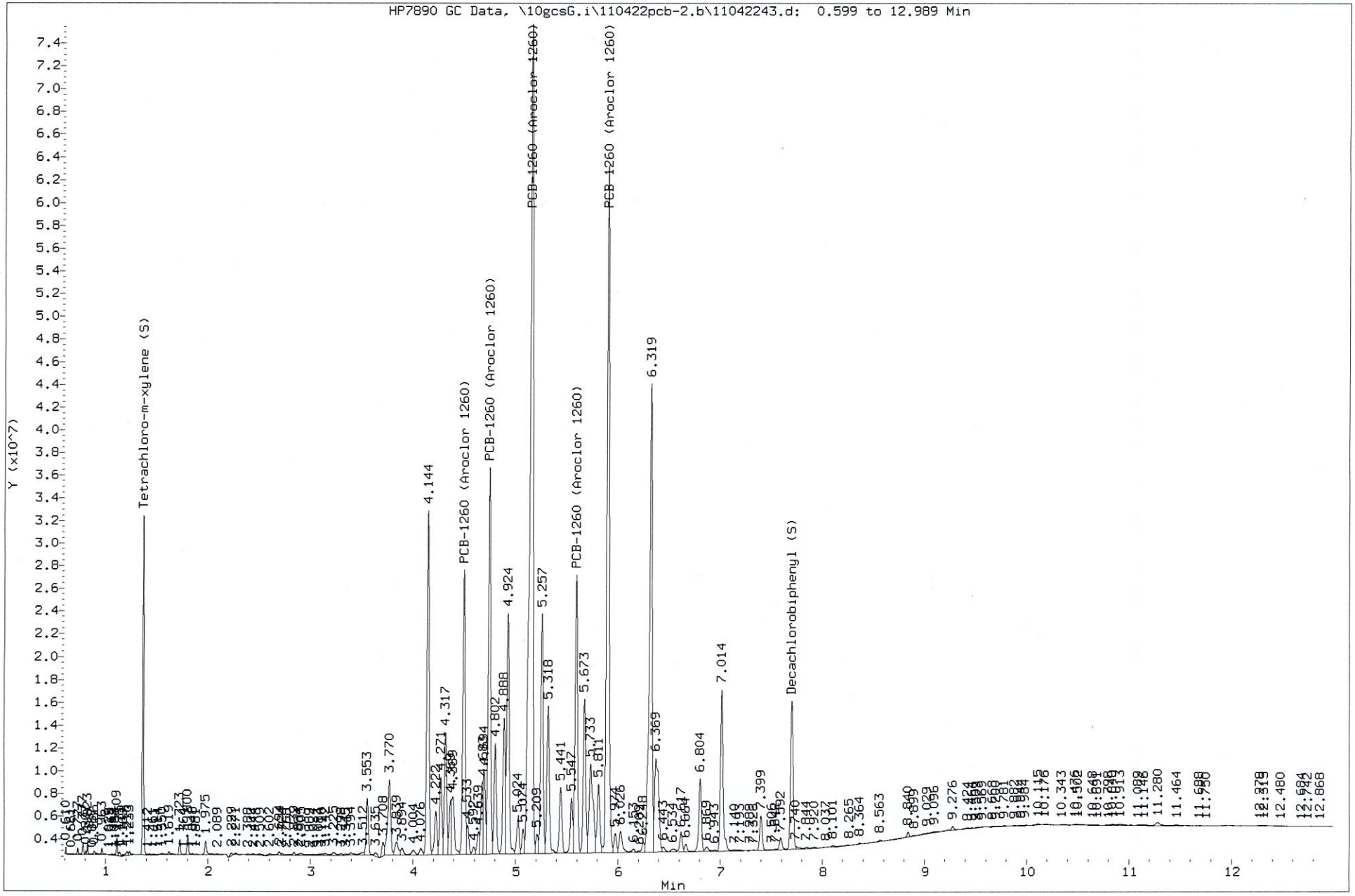
Data File: \\v10wintarget\chem\10gcsG.i\110722pcb-2.b\11072212.d
Injection Date: 07-NOV-2022 12:28
Instrument: 10gcsG.i
Client Sample ID: SB12D-0.0-0.5-1022

Batch 40935-851450
10630317-016
Dilution: 50x



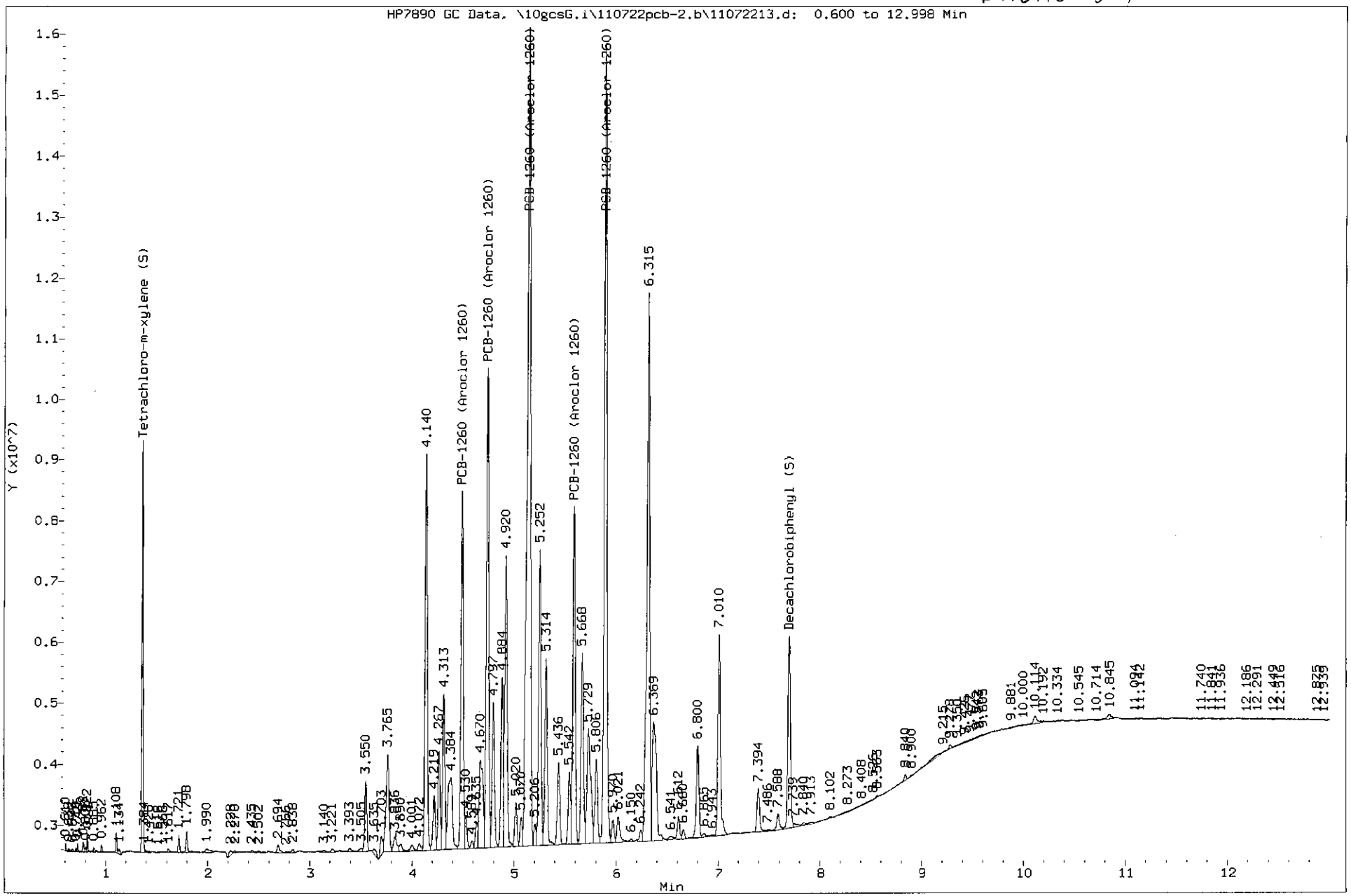
Data File: \\v10wintarget\chem\10gcsG.i\110422pcb-2.b\11042243.d
Injection Date: 04-NOV-2022 20:33
Instrument: 10gcsG.i
Client Sample ID: SB12-1.0-1.5-1022

Batch 40935-851450
10630317-017



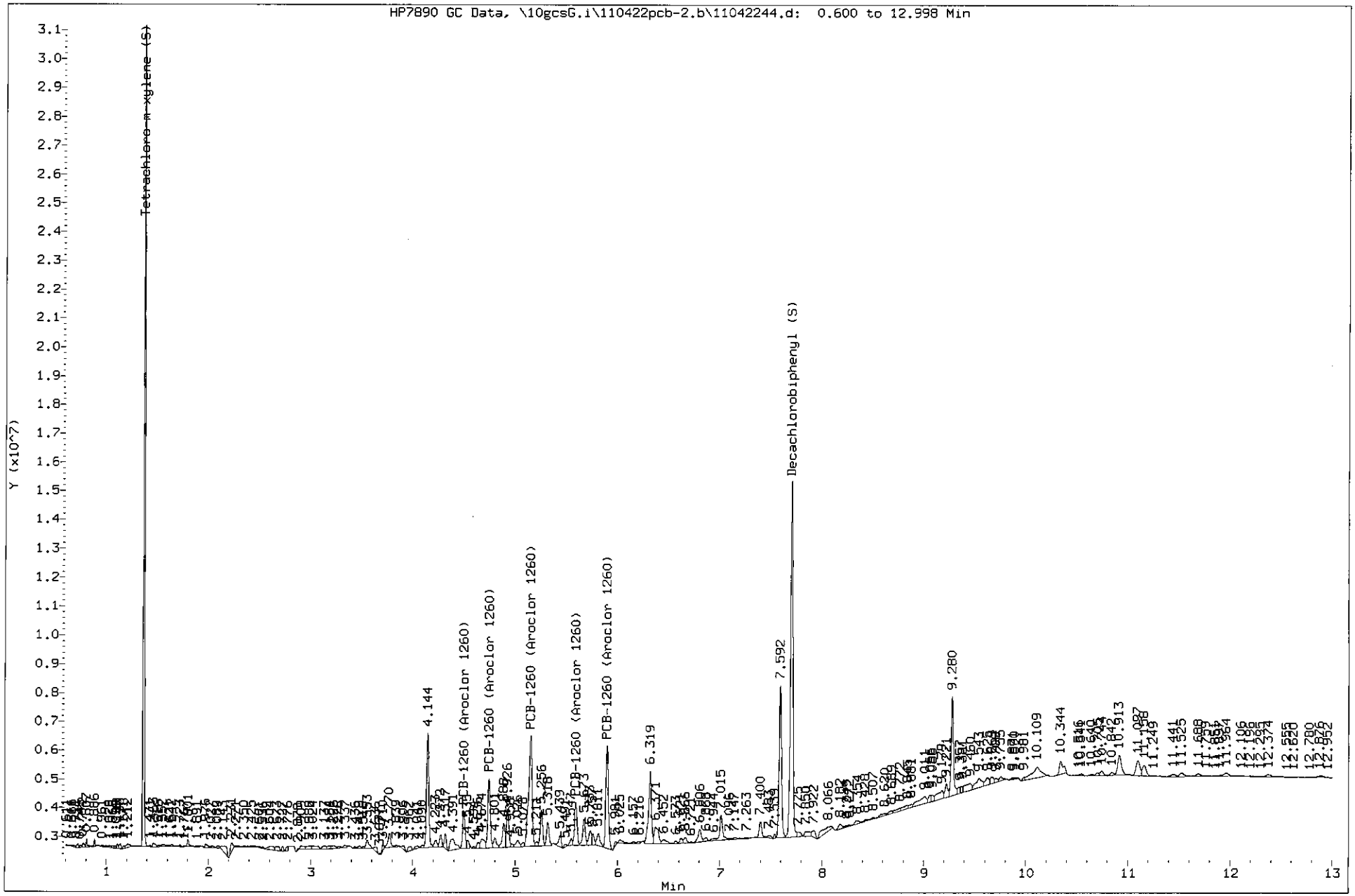
Data File: \\v10wintarget\chem\10gcsG.i\110722pcb-2.b\11072213.d
Injection Date: 07-NOV-2022 12:44
Instrument: 10gcsG.i
Client Sample ID: SB12-1.0-1.5-1022

Batch 40935-851450
10630317-017
Dilution: 5X



Data File: \\v10wintarget\chem\10gcsG.i\110422pcb-2.b\11042244.d
Injection Date: 04-NOV-2022 20:48
Instrument: 10gcsG.i
Client Sample ID: SB12-2.5-3.0-1022

Batch 40935-851450
10630317-018



Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

December 21, 2022

David Hodson
Jacobs
2020 SW 4th Avenue
Suite 300
Portland, OR 97201

RE: Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

Dear David Hodson:

Enclosed are the analytical results for sample(s) received by the laboratory on October 18, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: UPRR-Sysdat@ghd.com, UPRR

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

Pace Analytical Services, LLC - Minneapolis MN
1700 Elm Street SE, Minneapolis, MN 55414
A2LA Certification #: 2926.01*
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
GMP+ Certification #: GMP050884
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240*
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification (A2LA) #: R-036
North Dakota Certification (MN) #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Ohio VAP Certification (1800) #: CL110*
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
*Please Note: Applicable air certifications are denoted with an asterisk (*).

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Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10630039001	**SB06-0.0-0.5-1022**	Solid	10/17/22 15:15	10/18/22 09:45
10630039002	**SB06-1.0-1.5-1022**	Solid	10/17/22 15:20	10/18/22 09:45
10630039003	**SB06-2.5-3.0-1022**	Solid	10/17/22 15:25	10/18/22 09:45
10630039004	**SB04-0.0-0.5-1022**	Solid	10/17/22 14:30	10/18/22 09:45
10630039005	**SB04D-0.0-0.5-1022**	Solid	10/17/22 14:35	10/18/22 09:45
10630039006	**SB04-1.0-1.5-1022**	Solid	10/17/22 14:40	10/18/22 09:45
10630039007	**SB04-2.5-3.0-1022**	Solid	10/17/22 14:45	10/18/22 09:45
10630039008	**SB01-0.0-0.5-1022**	Solid	10/17/22 11:00	10/18/22 09:45
10630039009	**SB01-1.0-1.5-1022**	Solid	10/17/22 11:05	10/18/22 09:45
10630039010	**SB01-2.5-3.0-1022**	Solid	10/17/22 11:10	10/18/22 09:45
10630039011	**SB03-0.0-0.5-1022**	Solid	10/17/22 12:00	10/18/22 09:45
10630039012	**SB03D-0.0-0.5-1022**	Solid	10/17/22 12:05	10/18/22 09:45
10630039013	**SB03-1.0-1.5-1022**	Solid	10/17/22 12:10	10/18/22 09:45
10630039014	**ISM01-0.0-0.2-1022**	Solid	10/17/22 12:15	10/18/22 09:45
10630039015	**ISM03-0.0-0.2-1022**	Solid	10/17/22 12:28	10/18/22 09:45
10630039016	**SB02-0.0-0.5-1022**	Solid	10/17/22 13:45	10/18/22 09:45
10630039017	**SB02D-0.0-0.5-1022**	Solid	10/17/22 13:50	10/18/22 09:45
10630039018	**SB02-1-1.5-1022**	Solid	10/17/22 13:55	10/18/22 09:45
10630039019	**SB02-2.5-3.0-1022**	Solid	10/17/22 14:00	10/18/22 09:45
10630039020	**SB03-2.5-3.0-1022**	Solid	10/17/22 12:15	10/18/22 09:45

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10630039001	**SB06-0.0-0.5-1022**	EPA 8082A	RAG	11	PASI-M
10630039002	**SB06-1.0-1.5-1022**	EPA 8082A	RAG	11	PASI-M
10630039003	**SB06-2.5-3.0-1022**	EPA 8082A	RAG	11	PASI-M
10630039004	**SB04-0.0-0.5-1022**	EPA 8082A	RAG	11	PASI-M
10630039005	**SB04D-0.0-0.5-1022**	EPA 8082A	RAG	11	PASI-M
10630039006	**SB04-1.0-1.5-1022**	EPA 8082A	RAG	11	PASI-M
10630039007	**SB04-2.5-3.0-1022**	EPA 8082A	RAG	11	PASI-M
10630039008	**SB01-0.0-0.5-1022**	EPA 8082A	RAG	11	PASI-M
10630039009	**SB01-1.0-1.5-1022**	EPA 8082A	RAG	11	PASI-M
10630039010	**SB01-2.5-3.0-1022**	EPA 8082A	RAG	11	PASI-M
10630039011	**SB03-0.0-0.5-1022**	EPA 8082A	RAG	11	PASI-M
10630039012	**SB03D-0.0-0.5-1022**	EPA 8082A	RAG	11	PASI-M
10630039013	**SB03-1.0-1.5-1022**	EPA 8082A	RAG	11	PASI-M
10630039014	**ISM01-0.0-0.2-1022**	EPA 8082A	RAG	11	PASI-M
10630039015	**ISM03-0.0-0.2-1022**	EPA 8082A	RAG	11	PASI-M
10630039016	**SB02-0.0-0.5-1022**	EPA 8082A	RAG	11	PASI-M
10630039017	**SB02D-0.0-0.5-1022**	EPA 8082A	RAG	11	PASI-M
10630039018	**SB02-1-1.5-1022**	EPA 8082A	RAG	11	PASI-M
10630039019	**SB02-2.5-3.0-1022**	EPA 8082A	RAG	11	PASI-M
10630039020	**SB03-2.5-3.0-1022**	EPA 8082A	RAG	11	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SUMMARY OF DETECTION

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10630039001	**SB06-0.0-0.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	4670	ug/kg	250	12/19/22 07:58	M1
10630039002	**SB06-1.0-1.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	10500	ug/kg	487	12/19/22 08:13	
10630039003	**SB06-2.5-3.0-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	199	ug/kg	49.8	12/16/22 17:30	
10630039004	**SB04-0.0-0.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	433	ug/kg	48.8	12/16/22 17:45	
10630039005	**SB04D-0.0-0.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	244	ug/kg	49.6	12/16/22 18:01	
10630039006	**SB04-1.0-1.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	2660	ug/kg	99.7	12/19/22 08:29	
10630039007	**SB04-2.5-3.0-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	434	ug/kg	48.7	12/16/22 18:33	
10630039008	**SB01-0.0-0.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	18900	ug/kg	477	12/19/22 08:45	
10630039009	**SB01-1.0-1.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	2440	ug/kg	99.0	12/19/22 09:01	
10630039010	**SB01-2.5-3.0-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	73.1	ug/kg	49.8	12/16/22 19:20	
10630039011	**SB03-0.0-0.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	161	ug/kg	49.8	12/16/22 19:36	
10630039012	**SB03D-0.0-0.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	262	ug/kg	48.5	12/16/22 19:52	
10630039013	**SB03-1.0-1.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	250	ug/kg	49.6	12/16/22 20:08	
10630039014	**ISM01-0.0-0.2-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	5730	ug/kg	248	12/19/22 11:07	
10630039015	**ISM03-0.0-0.2-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	12600	ug/kg	492	12/19/22 11:23	
10630039016	**SB02-0.0-0.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	11500	ug/kg	498	12/19/22 11:39	
10630039017	**SB02D-0.0-0.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	6740	ug/kg	243	12/19/22 11:55	
10630039018	**SB02-1-1.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	1120	ug/kg	49.8	12/19/22 10:20	

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SUMMARY OF DETECTION

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10630039019	**SB02-2.5-3.0-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	477	ug/kg	49.6	12/19/22 10:36	

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PROJECT NARRATIVE

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

Method: **EPA 8082A**
Description: 8082A GCS PCB
Client: UPRR_Jacobs
Date: December 21, 2022

General Information:
20 samples were analyzed for EPA 8082A by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

QC Batch: 858753

S0: Surrogate recovery outside laboratory control limits.

- SB01-0.0-0.5-1022 (Lab ID: 10630039008)
  - Decachlorobiphenyl (S)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 858753

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10630039001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 4538140)
  - PCB-1260 (Aroclor 1260)

Additional Comments:

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PROJECT NARRATIVE

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

Method: **EPA 8082A**
Description: 8082A GCS PCB
Client: UPRR_Jacobs
Date: December 21, 2022

Analyte Comments:

QC Batch: 858753

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 4538140)
  - PCB-1260 (Aroclor 1260)
- MSD (Lab ID: 4538141)
  - PCB-1260 (Aroclor 1260)

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

Sample: SB06-0.0-0.5-1022 **Lab ID: 10630039001** Collected: 10/17/22 15:15 Received: 10/18/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.2**	ug/kg	50.0	21.2	1	12/15/22 14:57	12/16/22 16:26	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.5**	ug/kg	50.0	34.5	1	12/15/22 14:57	12/16/22 16:26	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.6**	ug/kg	50.0	29.6	1	12/15/22 14:57	12/16/22 16:26	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.9**	ug/kg	50.0	30.9	1	12/15/22 14:57	12/16/22 16:26	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.5**	ug/kg	50.0	25.5	1	12/15/22 14:57	12/16/22 16:26	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.9**	ug/kg	50.0	24.9	1	12/15/22 14:57	12/16/22 16:26	11097-69-1	
PCB-1260 (Aroclor 1260)	**4670**	ug/kg	250	89.2	5	12/15/22 14:57	12/19/22 07:58	11096-82-5	M1
PCB-1262 (Aroclor 1262)	**<32.8**	ug/kg	50.0	32.8	1	12/15/22 14:57	12/16/22 16:26	37324-23-5	
PCB-1268 (Aroclor 1268)	**<24.0**	ug/kg	50.0	24.0	1	12/15/22 14:57	12/16/22 16:26	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	84	%.	53-125		1	12/15/22 14:57	12/16/22 16:26	877-09-8	
Decachlorobiphenyl (S)	82	%.	41-125		1	12/15/22 14:57	12/16/22 16:26	2051-24-3	

Sample: SB06-1.0-1.5-1022 **Lab ID: 10630039002** Collected: 10/17/22 15:20 Received: 10/18/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.6**	ug/kg	48.7	20.6	1	12/15/22 14:57	12/16/22 17:14	12674-11-2	
PCB-1221 (Aroclor 1221)	**<33.7**	ug/kg	48.7	33.7	1	12/15/22 14:57	12/16/22 17:14	11104-28-2	
PCB-1232 (Aroclor 1232)	**<28.8**	ug/kg	48.7	28.8	1	12/15/22 14:57	12/16/22 17:14	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.1**	ug/kg	48.7	30.1	1	12/15/22 14:57	12/16/22 17:14	53469-21-9	
PCB-1248 (Aroclor 1248)	**<24.9**	ug/kg	48.7	24.9	1	12/15/22 14:57	12/16/22 17:14	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.3**	ug/kg	48.7	24.3	1	12/15/22 14:57	12/16/22 17:14	11097-69-1	
PCB-1260 (Aroclor 1260)	**10500**	ug/kg	487	174	10	12/15/22 14:57	12/19/22 08:13	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.0**	ug/kg	48.7	32.0	1	12/15/22 14:57	12/16/22 17:14	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.4**	ug/kg	48.7	23.4	1	12/15/22 14:57	12/16/22 17:14	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	98	%.	53-125		1	12/15/22 14:57	12/16/22 17:14	877-09-8	
Decachlorobiphenyl (S)	105	%.	41-125		1	12/15/22 14:57	12/16/22 17:14	2051-24-3	

Sample: SB06-2.5-3.0-1022 **Lab ID: 10630039003** Collected: 10/17/22 15:25 Received: 10/18/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.1**	ug/kg	49.8	21.1	1	12/15/22 14:57	12/16/22 17:30	12674-11-2	

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

Sample: SB06-2.5-3.0-1022 **Lab ID: 10630039003** Collected: 10/17/22 15:25 Received: 10/18/22 09:45 Matrix: Solid
Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1221 (Aroclor 1221)	**<34.4**	ug/kg	49.8	34.4	1	12/15/22 14:57	12/16/22 17:30	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.4**	ug/kg	49.8	29.4	1	12/15/22 14:57	12/16/22 17:30	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.8**	ug/kg	49.8	30.8	1	12/15/22 14:57	12/16/22 17:30	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.4**	ug/kg	49.8	25.4	1	12/15/22 14:57	12/16/22 17:30	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.8**	ug/kg	49.8	24.8	1	12/15/22 14:57	12/16/22 17:30	11097-69-1	
PCB-1260 (Aroclor 1260)	**199**	ug/kg	49.8	17.8	1	12/15/22 14:57	12/16/22 17:30	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.7**	ug/kg	49.8	32.7	1	12/15/22 14:57	12/16/22 17:30	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.9**	ug/kg	49.8	23.9	1	12/15/22 14:57	12/16/22 17:30	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	94	%.	53-125		1	12/15/22 14:57	12/16/22 17:30	877-09-8	
Decachlorobiphenyl (S)	106	%.	41-125		1	12/15/22 14:57	12/16/22 17:30	2051-24-3	

Sample: SB04-0.0-0.5-1022 **Lab ID: 10630039004** Collected: 10/17/22 14:30 Received: 10/18/22 09:45 Matrix: Solid
Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.7**	ug/kg	48.8	20.7	1	12/15/22 14:57	12/16/22 17:45	12674-11-2	
PCB-1221 (Aroclor 1221)	**<33.7**	ug/kg	48.8	33.7	1	12/15/22 14:57	12/16/22 17:45	11104-28-2	
PCB-1232 (Aroclor 1232)	**<28.9**	ug/kg	48.8	28.9	1	12/15/22 14:57	12/16/22 17:45	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.2**	ug/kg	48.8	30.2	1	12/15/22 14:57	12/16/22 17:45	53469-21-9	
PCB-1248 (Aroclor 1248)	**<24.9**	ug/kg	48.8	24.9	1	12/15/22 14:57	12/16/22 17:45	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.3**	ug/kg	48.8	24.3	1	12/15/22 14:57	12/16/22 17:45	11097-69-1	
PCB-1260 (Aroclor 1260)	**433**	ug/kg	48.8	17.4	1	12/15/22 14:57	12/16/22 17:45	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.1**	ug/kg	48.8	32.1	1	12/15/22 14:57	12/16/22 17:45	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.4**	ug/kg	48.8	23.4	1	12/15/22 14:57	12/16/22 17:45	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	99	%.	53-125		1	12/15/22 14:57	12/16/22 17:45	877-09-8	
Decachlorobiphenyl (S)	105	%.	41-125		1	12/15/22 14:57	12/16/22 17:45	2051-24-3	

Sample: SB04D-0.0-0.5-1022 **Lab ID: 10630039005** Collected: 10/17/22 14:35 Received: 10/18/22 09:45 Matrix: Solid
Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.0**	ug/kg	49.6	21.0	1	12/15/22 14:57	12/16/22 18:01	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.2**	ug/kg	49.6	34.2	1	12/15/22 14:57	12/16/22 18:01	11104-28-2	

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

Sample: SB04D-0.0-0.5-1022 **Lab ID: 10630039005** Collected: 10/17/22 14:35 Received: 10/18/22 09:45 Matrix: Solid
Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1232 (Aroclor 1232)	**<29.3**	ug/kg	49.6	29.3	1	12/15/22 14:57	12/16/22 18:01	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.7**	ug/kg	49.6	30.7	1	12/15/22 14:57	12/16/22 18:01	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.3**	ug/kg	49.6	25.3	1	12/15/22 14:57	12/16/22 18:01	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.7**	ug/kg	49.6	24.7	1	12/15/22 14:57	12/16/22 18:01	11097-69-1	
PCB-1260 (Aroclor 1260)	**244**	ug/kg	49.6	17.7	1	12/15/22 14:57	12/16/22 18:01	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.6**	ug/kg	49.6	32.6	1	12/15/22 14:57	12/16/22 18:01	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.8**	ug/kg	49.6	23.8	1	12/15/22 14:57	12/16/22 18:01	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	93	%.	53-125		1	12/15/22 14:57	12/16/22 18:01	877-09-8	
Decachlorobiphenyl (S)	102	%.	41-125		1	12/15/22 14:57	12/16/22 18:01	2051-24-3	

Sample: SB04-1.0-1.5-1022 **Lab ID: 10630039006** Collected: 10/17/22 14:40 Received: 10/18/22 09:45 Matrix: Solid
Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.1**	ug/kg	49.9	21.1	1	12/15/22 14:57	12/16/22 18:17	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.4**	ug/kg	49.9	34.4	1	12/15/22 14:57	12/16/22 18:17	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.5**	ug/kg	49.9	29.5	1	12/15/22 14:57	12/16/22 18:17	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.8**	ug/kg	49.9	30.8	1	12/15/22 14:57	12/16/22 18:17	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.4**	ug/kg	49.9	25.4	1	12/15/22 14:57	12/16/22 18:17	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.9**	ug/kg	49.9	24.9	1	12/15/22 14:57	12/16/22 18:17	11097-69-1	
PCB-1260 (Aroclor 1260)	**2660**	ug/kg	99.7	35.6	2	12/15/22 14:57	12/19/22 08:29	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.8**	ug/kg	49.9	32.8	1	12/15/22 14:57	12/16/22 18:17	37324-23-5	
PCB-1268 (Aroclor 1268)	**<24.0**	ug/kg	49.9	24.0	1	12/15/22 14:57	12/16/22 18:17	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	86	%.	53-125		1	12/15/22 14:57	12/16/22 18:17	877-09-8	
Decachlorobiphenyl (S)	105	%.	41-125		1	12/15/22 14:57	12/16/22 18:17	2051-24-3	

Sample: SB04-2.5-3.0-1022 **Lab ID: 10630039007** Collected: 10/17/22 14:45 Received: 10/18/22 09:45 Matrix: Solid
Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.6**	ug/kg	48.7	20.6	1	12/15/22 14:57	12/16/22 18:33	12674-11-2	
PCB-1221 (Aroclor 1221)	**<33.6**	ug/kg	48.7	33.6	1	12/15/22 14:57	12/16/22 18:33	11104-28-2	
PCB-1232 (Aroclor 1232)	**<28.8**	ug/kg	48.7	28.8	1	12/15/22 14:57	12/16/22 18:33	11141-16-5	

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

Sample: SB04-2.5-3.0-1022 **Lab ID: 10630039007** Collected: 10/17/22 14:45 Received: 10/18/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1242 (Aroclor 1242)	**<30.1**	ug/kg	48.7	30.1	1	12/15/22 14:57	12/16/22 18:33	53469-21-9	
PCB-1248 (Aroclor 1248)	**<24.9**	ug/kg	48.7	24.9	1	12/15/22 14:57	12/16/22 18:33	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.3**	ug/kg	48.7	24.3	1	12/15/22 14:57	12/16/22 18:33	11097-69-1	
PCB-1260 (Aroclor 1260)	**434**	ug/kg	48.7	17.4	1	12/15/22 14:57	12/16/22 18:33	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.0**	ug/kg	48.7	32.0	1	12/15/22 14:57	12/16/22 18:33	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.4**	ug/kg	48.7	23.4	1	12/15/22 14:57	12/16/22 18:33	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	64	%.	53-125		1	12/15/22 14:57	12/16/22 18:33	877-09-8	
Decachlorobiphenyl (S)	76	%.	41-125		1	12/15/22 14:57	12/16/22 18:33	2051-24-3	

Sample: SB01-0.0-0.5-1022 **Lab ID: 10630039008** Collected: 10/17/22 11:00 Received: 10/18/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.2**	ug/kg	47.7	20.2	1	12/15/22 14:57	12/16/22 18:49	12674-11-2	
PCB-1221 (Aroclor 1221)	**<33.0**	ug/kg	47.7	33.0	1	12/15/22 14:57	12/16/22 18:49	11104-28-2	
PCB-1232 (Aroclor 1232)	**<28.2**	ug/kg	47.7	28.2	1	12/15/22 14:57	12/16/22 18:49	11141-16-5	
PCB-1242 (Aroclor 1242)	**<29.5**	ug/kg	47.7	29.5	1	12/15/22 14:57	12/16/22 18:49	53469-21-9	
PCB-1248 (Aroclor 1248)	**<24.4**	ug/kg	47.7	24.4	1	12/15/22 14:57	12/16/22 18:49	12672-29-6	
PCB-1254 (Aroclor 1254)	**<23.8**	ug/kg	47.7	23.8	1	12/15/22 14:57	12/16/22 18:49	11097-69-1	
PCB-1260 (Aroclor 1260)	**18900**	ug/kg	477	170	10	12/15/22 14:57	12/19/22 08:45	11096-82-5	
PCB-1262 (Aroclor 1262)	**<31.4**	ug/kg	47.7	31.4	1	12/15/22 14:57	12/16/22 18:49	37324-23-5	
PCB-1268 (Aroclor 1268)	**<22.9**	ug/kg	47.7	22.9	1	12/15/22 14:57	12/16/22 18:49	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	89	%.	53-125		1	12/15/22 14:57	12/16/22 18:49	877-09-8	
Decachlorobiphenyl (S)	139	%.	41-125		1	12/15/22 14:57	12/16/22 18:49	2051-24-3	S0

Sample: SB01-1.0-1.5-1022 **Lab ID: 10630039009** Collected: 10/17/22 11:05 Received: 10/18/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.0**	ug/kg	49.5	21.0	1	12/15/22 14:57	12/16/22 19:04	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.2**	ug/kg	49.5	34.2	1	12/15/22 14:57	12/16/22 19:04	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.3**	ug/kg	49.5	29.3	1	12/15/22 14:57	12/16/22 19:04	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.6**	ug/kg	49.5	30.6	1	12/15/22 14:57	12/16/22 19:04	53469-21-9	

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

Sample: SB01-1.0-1.5-1022 **Lab ID: 10630039009** Collected: 10/17/22 11:05 Received: 10/18/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1248 (Aroclor 1248)	**<25.3**	ug/kg	49.5	25.3	1	12/15/22 14:57	12/16/22 19:04	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.7**	ug/kg	49.5	24.7	1	12/15/22 14:57	12/16/22 19:04	11097-69-1	
PCB-1260 (Aroclor 1260)	**2440**	ug/kg	99.0	35.4	2	12/15/22 14:57	12/19/22 09:01	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.6**	ug/kg	49.5	32.6	1	12/15/22 14:57	12/16/22 19:04	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.8**	ug/kg	49.5	23.8	1	12/15/22 14:57	12/16/22 19:04	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	59	%.	53-125		1	12/15/22 14:57	12/16/22 19:04	877-09-8	
Decachlorobiphenyl (S)	67	%.	41-125		1	12/15/22 14:57	12/16/22 19:04	2051-24-3	

Sample: SB01-2.5-3.0-1022 **Lab ID: 10630039010** Collected: 10/17/22 11:10 Received: 10/18/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.1**	ug/kg	49.8	21.1	1	12/15/22 14:57	12/16/22 19:20	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.4**	ug/kg	49.8	34.4	1	12/15/22 14:57	12/16/22 19:20	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.4**	ug/kg	49.8	29.4	1	12/15/22 14:57	12/16/22 19:20	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.8**	ug/kg	49.8	30.8	1	12/15/22 14:57	12/16/22 19:20	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.4**	ug/kg	49.8	25.4	1	12/15/22 14:57	12/16/22 19:20	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.8**	ug/kg	49.8	24.8	1	12/15/22 14:57	12/16/22 19:20	11097-69-1	
PCB-1260 (Aroclor 1260)	**73.1**	ug/kg	49.8	17.8	1	12/15/22 14:57	12/16/22 19:20	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.7**	ug/kg	49.8	32.7	1	12/15/22 14:57	12/16/22 19:20	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.9**	ug/kg	49.8	23.9	1	12/15/22 14:57	12/16/22 19:20	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	93	%.	53-125		1	12/15/22 14:57	12/16/22 19:20	877-09-8	
Decachlorobiphenyl (S)	108	%.	41-125		1	12/15/22 14:57	12/16/22 19:20	2051-24-3	

Sample: SB03-0.0-0.5-1022 **Lab ID: 10630039011** Collected: 10/17/22 12:00 Received: 10/18/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.1**	ug/kg	49.8	21.1	1	12/15/22 14:57	12/16/22 19:36	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.4**	ug/kg	49.8	34.4	1	12/15/22 14:57	12/16/22 19:36	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.5**	ug/kg	49.8	29.5	1	12/15/22 14:57	12/16/22 19:36	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.8**	ug/kg	49.8	30.8	1	12/15/22 14:57	12/16/22 19:36	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.4**	ug/kg	49.8	25.4	1	12/15/22 14:57	12/16/22 19:36	12672-29-6	

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

Sample: SB03-0.0-0.5-1022 **Lab ID: 10630039011** Collected: 10/17/22 12:00 Received: 10/18/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1254 (Aroclor 1254)	**<24.8**	ug/kg	49.8	24.8	1	12/15/22 14:57	12/16/22 19:36	11097-69-1	
PCB-1260 (Aroclor 1260)	**161**	ug/kg	49.8	17.8	1	12/15/22 14:57	12/16/22 19:36	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.8**	ug/kg	49.8	32.8	1	12/15/22 14:57	12/16/22 19:36	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.9**	ug/kg	49.8	23.9	1	12/15/22 14:57	12/16/22 19:36	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	81	%.	53-125		1	12/15/22 14:57	12/16/22 19:36	877-09-8	
Decachlorobiphenyl (S)	88	%.	41-125		1	12/15/22 14:57	12/16/22 19:36	2051-24-3	

Sample: SB03D-0.0-0.5-1022 **Lab ID: 10630039012** Collected: 10/17/22 12:05 Received: 10/18/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.6**	ug/kg	48.5	20.6	1	12/15/22 14:57	12/16/22 19:52	12674-11-2	
PCB-1221 (Aroclor 1221)	**<33.5**	ug/kg	48.5	33.5	1	12/15/22 14:57	12/16/22 19:52	11104-28-2	
PCB-1232 (Aroclor 1232)	**<28.7**	ug/kg	48.5	28.7	1	12/15/22 14:57	12/16/22 19:52	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.0**	ug/kg	48.5	30.0	1	12/15/22 14:57	12/16/22 19:52	53469-21-9	
PCB-1248 (Aroclor 1248)	**<24.8**	ug/kg	48.5	24.8	1	12/15/22 14:57	12/16/22 19:52	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.2**	ug/kg	48.5	24.2	1	12/15/22 14:57	12/16/22 19:52	11097-69-1	
PCB-1260 (Aroclor 1260)	**262**	ug/kg	48.5	17.3	1	12/15/22 14:57	12/16/22 19:52	11096-82-5	
PCB-1262 (Aroclor 1262)	**<31.9**	ug/kg	48.5	31.9	1	12/15/22 14:57	12/16/22 19:52	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.3**	ug/kg	48.5	23.3	1	12/15/22 14:57	12/16/22 19:52	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	100	%.	53-125		1	12/15/22 14:57	12/16/22 19:52	877-09-8	
Decachlorobiphenyl (S)	105	%.	41-125		1	12/15/22 14:57	12/16/22 19:52	2051-24-3	

Sample: SB03-1.0-1.5-1022 **Lab ID: 10630039013** Collected: 10/17/22 12:10 Received: 10/18/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.0**	ug/kg	49.6	21.0	1	12/15/22 14:57	12/16/22 20:08	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.3**	ug/kg	49.6	34.3	1	12/15/22 14:57	12/16/22 20:08	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.3**	ug/kg	49.6	29.3	1	12/15/22 14:57	12/16/22 20:08	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.7**	ug/kg	49.6	30.7	1	12/15/22 14:57	12/16/22 20:08	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.3**	ug/kg	49.6	25.3	1	12/15/22 14:57	12/16/22 20:08	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.7**	ug/kg	49.6	24.7	1	12/15/22 14:57	12/16/22 20:08	11097-69-1	

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

Sample: SB03-1.0-1.5-1022 **Lab ID: 10630039013** Collected: 10/17/22 12:10 Received: 10/18/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1260 (Aroclor 1260)	**250**	ug/kg	49.6	17.7	1	12/15/22 14:57	12/16/22 20:08	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.6**	ug/kg	49.6	32.6	1	12/15/22 14:57	12/16/22 20:08	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.8**	ug/kg	49.6	23.8	1	12/15/22 14:57	12/16/22 20:08	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	89	%.	53-125		1	12/15/22 14:57	12/16/22 20:08	877-09-8	
Decachlorobiphenyl (S)	106	%.	41-125		1	12/15/22 14:57	12/16/22 20:08	2051-24-3	

Sample: ISM01-0.0-0.2-1022 **Lab ID: 10630039014** Collected: 10/17/22 12:15 Received: 10/18/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.0**	ug/kg	49.5	21.0	1	12/15/22 14:57	12/19/22 09:17	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.2**	ug/kg	49.5	34.2	1	12/15/22 14:57	12/19/22 09:17	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.3**	ug/kg	49.5	29.3	1	12/15/22 14:57	12/19/22 09:17	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.6**	ug/kg	49.5	30.6	1	12/15/22 14:57	12/19/22 09:17	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.3**	ug/kg	49.5	25.3	1	12/15/22 14:57	12/19/22 09:17	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.7**	ug/kg	49.5	24.7	1	12/15/22 14:57	12/19/22 09:17	11097-69-1	
PCB-1260 (Aroclor 1260)	**5730**	ug/kg	248	88.5	5	12/15/22 14:57	12/19/22 11:07	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.6**	ug/kg	49.5	32.6	1	12/15/22 14:57	12/19/22 09:17	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.8**	ug/kg	49.5	23.8	1	12/15/22 14:57	12/19/22 09:17	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	96	%.	53-125		1	12/15/22 14:57	12/19/22 09:17	877-09-8	
Decachlorobiphenyl (S)	115	%.	41-125		1	12/15/22 14:57	12/19/22 09:17	2051-24-3	

Sample: ISM03-0.0-0.2-1022 **Lab ID: 10630039015** Collected: 10/17/22 12:28 Received: 10/18/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.8**	ug/kg	49.2	20.8	1	12/15/22 14:57	12/19/22 09:33	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.0**	ug/kg	49.2	34.0	1	12/15/22 14:57	12/19/22 09:33	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.1**	ug/kg	49.2	29.1	1	12/15/22 14:57	12/19/22 09:33	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.4**	ug/kg	49.2	30.4	1	12/15/22 14:57	12/19/22 09:33	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.1**	ug/kg	49.2	25.1	1	12/15/22 14:57	12/19/22 09:33	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.5**	ug/kg	49.2	24.5	1	12/15/22 14:57	12/19/22 09:33	11097-69-1	
PCB-1260 (Aroclor 1260)	**12600**	ug/kg	492	176	10	12/15/22 14:57	12/19/22 11:23	11096-82-5	

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

Sample: ISM03-0.0-0.2-1022 **Lab ID: 10630039015** Collected: 10/17/22 12:28 Received: 10/18/22 09:45 Matrix: Solid
Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1262 (Aroclor 1262)	**<32.4**	ug/kg	49.2	32.4	1	12/15/22 14:57	12/19/22 09:33	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.6**	ug/kg	49.2	23.6	1	12/15/22 14:57	12/19/22 09:33	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	104	%.	53-125		1	12/15/22 14:57	12/19/22 09:33	877-09-8	
Decachlorobiphenyl (S)	111	%.	41-125		1	12/15/22 14:57	12/19/22 09:33	2051-24-3	

Sample: SB02-0.0-0.5-1022 **Lab ID: 10630039016** Collected: 10/17/22 13:45 Received: 10/18/22 09:45 Matrix: Solid
Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.1**	ug/kg	49.8	21.1	1	12/15/22 14:57	12/19/22 09:48	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.4**	ug/kg	49.8	34.4	1	12/15/22 14:57	12/19/22 09:48	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.5**	ug/kg	49.8	29.5	1	12/15/22 14:57	12/19/22 09:48	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.8**	ug/kg	49.8	30.8	1	12/15/22 14:57	12/19/22 09:48	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.4**	ug/kg	49.8	25.4	1	12/15/22 14:57	12/19/22 09:48	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.8**	ug/kg	49.8	24.8	1	12/15/22 14:57	12/19/22 09:48	11097-69-1	
PCB-1260 (Aroclor 1260)	**11500**	ug/kg	498	178	10	12/15/22 14:57	12/19/22 11:39	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.8**	ug/kg	49.8	32.8	1	12/15/22 14:57	12/19/22 09:48	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.9**	ug/kg	49.8	23.9	1	12/15/22 14:57	12/19/22 09:48	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	99	%.	53-125		1	12/15/22 14:57	12/19/22 09:48	877-09-8	
Decachlorobiphenyl (S)	116	%.	41-125		1	12/15/22 14:57	12/19/22 09:48	2051-24-3	

Sample: SB02D-0.0-0.5-1022 **Lab ID: 10630039017** Collected: 10/17/22 13:50 Received: 10/18/22 09:45 Matrix: Solid
Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.6**	ug/kg	48.6	20.6	1	12/15/22 14:57	12/19/22 10:04	12674-11-2	
PCB-1221 (Aroclor 1221)	**<33.6**	ug/kg	48.6	33.6	1	12/15/22 14:57	12/19/22 10:04	11104-28-2	
PCB-1232 (Aroclor 1232)	**<28.7**	ug/kg	48.6	28.7	1	12/15/22 14:57	12/19/22 10:04	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.1**	ug/kg	48.6	30.1	1	12/15/22 14:57	12/19/22 10:04	53469-21-9	
PCB-1248 (Aroclor 1248)	**<24.8**	ug/kg	48.6	24.8	1	12/15/22 14:57	12/19/22 10:04	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.2**	ug/kg	48.6	24.2	1	12/15/22 14:57	12/19/22 10:04	11097-69-1	
PCB-1260 (Aroclor 1260)	**6740**	ug/kg	243	86.8	5	12/15/22 14:57	12/19/22 11:55	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.0**	ug/kg	48.6	32.0	1	12/15/22 14:57	12/19/22 10:04	37324-23-5	

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Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

Sample: SB02D-0.0-0.5-1022 **Lab ID: 10630039017** Collected: 10/17/22 13:50 Received: 10/18/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1268 (Aroclor 1268)	**<23.3**	ug/kg	48.6	23.3	1	12/15/22 14:57	12/19/22 10:04	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	97	%.	53-125		1	12/15/22 14:57	12/19/22 10:04	877-09-8	
Decachlorobiphenyl (S)	125	%.	41-125		1	12/15/22 14:57	12/19/22 10:04	2051-24-3	

Sample: SB02-1-1.5-1022 **Lab ID: 10630039018** Collected: 10/17/22 13:55 Received: 10/18/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.1**	ug/kg	49.8	21.1	1	12/15/22 14:57	12/19/22 10:20	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.4**	ug/kg	49.8	34.4	1	12/15/22 14:57	12/19/22 10:20	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.5**	ug/kg	49.8	29.5	1	12/15/22 14:57	12/19/22 10:20	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.8**	ug/kg	49.8	30.8	1	12/15/22 14:57	12/19/22 10:20	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.4**	ug/kg	49.8	25.4	1	12/15/22 14:57	12/19/22 10:20	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.8**	ug/kg	49.8	24.8	1	12/15/22 14:57	12/19/22 10:20	11097-69-1	
PCB-1260 (Aroclor 1260)	**1120**	ug/kg	49.8	17.8	1	12/15/22 14:57	12/19/22 10:20	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.8**	ug/kg	49.8	32.8	1	12/15/22 14:57	12/19/22 10:20	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.9**	ug/kg	49.8	23.9	1	12/15/22 14:57	12/19/22 10:20	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	91	%.	53-125		1	12/15/22 14:57	12/19/22 10:20	877-09-8	
Decachlorobiphenyl (S)	106	%.	41-125		1	12/15/22 14:57	12/19/22 10:20	2051-24-3	

Sample: SB02-2.5-3.0-1022 **Lab ID: 10630039019** Collected: 10/17/22 14:00 Received: 10/18/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.0**	ug/kg	49.6	21.0	1	12/15/22 14:57	12/19/22 10:36	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.2**	ug/kg	49.6	34.2	1	12/15/22 14:57	12/19/22 10:36	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.3**	ug/kg	49.6	29.3	1	12/15/22 14:57	12/19/22 10:36	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.7**	ug/kg	49.6	30.7	1	12/15/22 14:57	12/19/22 10:36	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.3**	ug/kg	49.6	25.3	1	12/15/22 14:57	12/19/22 10:36	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.7**	ug/kg	49.6	24.7	1	12/15/22 14:57	12/19/22 10:36	11097-69-1	
PCB-1260 (Aroclor 1260)	**477**	ug/kg	49.6	17.7	1	12/15/22 14:57	12/19/22 10:36	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.6**	ug/kg	49.6	32.6	1	12/15/22 14:57	12/19/22 10:36	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.8**	ug/kg	49.6	23.8	1	12/15/22 14:57	12/19/22 10:36	11100-14-4	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

Sample: SB02-2.5-3.0-1022 **Lab ID: 10630039019** Collected: 10/17/22 14:00 Received: 10/18/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
Surrogates									
Tetrachloro-m-xylene (S)	94	%.	53-125		1	12/15/22 14:57	12/19/22 10:36	877-09-8	
Decachlorobiphenyl (S)	102	%.	41-125		1	12/15/22 14:57	12/19/22 10:36	2051-24-3	

Sample: SB03-2.5-3.0-1022 **Lab ID: 10630039020** Collected: 10/17/22 12:15 Received: 10/18/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.8**	ug/kg	49.1	20.8	1	12/15/22 14:57	12/19/22 10:52	12674-11-2	
PCB-1221 (Aroclor 1221)	**<33.9**	ug/kg	49.1	33.9	1	12/15/22 14:57	12/19/22 10:52	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.0**	ug/kg	49.1	29.0	1	12/15/22 14:57	12/19/22 10:52	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.4**	ug/kg	49.1	30.4	1	12/15/22 14:57	12/19/22 10:52	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.0**	ug/kg	49.1	25.0	1	12/15/22 14:57	12/19/22 10:52	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.5**	ug/kg	49.1	24.5	1	12/15/22 14:57	12/19/22 10:52	11097-69-1	
PCB-1260 (Aroclor 1260)	**<17.5**	ug/kg	49.1	17.5	1	12/15/22 14:57	12/19/22 10:52	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.3**	ug/kg	49.1	32.3	1	12/15/22 14:57	12/19/22 10:52	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.6**	ug/kg	49.1	23.6	1	12/15/22 14:57	12/19/22 10:52	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	77	%.	53-125		1	12/15/22 14:57	12/19/22 10:52	877-09-8	
Decachlorobiphenyl (S)	94	%.	41-125		1	12/15/22 14:57	12/19/22 10:52	2051-24-3	

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Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

QC Batch: 858753
QC Batch Method: EPA 3546
Analysis Method: EPA 8082A
Analysis Description: 8082A GCS PCB
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10630039001, 10630039002, 10630039003, 10630039004, 10630039005, 10630039006, 10630039007, 10630039008, 10630039009, 10630039010, 10630039011, 10630039012, 10630039013, 10630039014, 10630039015, 10630039016, 10630039017, 10630039018, 10630039019, 10630039020

METHOD BLANK: 4538138 Matrix: Solid
Associated Lab Samples: 10630039001, 10630039002, 10630039003, 10630039004, 10630039005, 10630039006, 10630039007, 10630039008, 10630039009, 10630039010, 10630039011, 10630039012, 10630039013, 10630039014, 10630039015, 10630039016, 10630039017, 10630039018, 10630039019, 10630039020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<21.2	50.0	21.2	12/16/22 15:55	
PCB-1221 (Aroclor 1221)	ug/kg	<34.5	50.0	34.5	12/16/22 15:55	
PCB-1232 (Aroclor 1232)	ug/kg	<29.6	50.0	29.6	12/16/22 15:55	
PCB-1242 (Aroclor 1242)	ug/kg	<30.9	50.0	30.9	12/16/22 15:55	
PCB-1248 (Aroclor 1248)	ug/kg	<25.5	50.0	25.5	12/16/22 15:55	
PCB-1254 (Aroclor 1254)	ug/kg	<24.9	50.0	24.9	12/16/22 15:55	
PCB-1260 (Aroclor 1260)	ug/kg	<17.8	50.0	17.8	12/16/22 15:55	
PCB-1262 (Aroclor 1262)	ug/kg	<32.8	50.0	32.8	12/16/22 15:55	
PCB-1268 (Aroclor 1268)	ug/kg	<24.0	50.0	24.0	12/16/22 15:55	
Decachlorobiphenyl (S)	%.	116	41-125		12/16/22 15:55	
Tetrachloro-m-xylene (S)	%.	95	53-125		12/16/22 15:55	

LABORATORY CONTROL SAMPLE: 4538139

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	1000	1030	103	68-125	
PCB-1260 (Aroclor 1260)	ug/kg	1000	1050	105	70-125	
Decachlorobiphenyl (S)	%.			118	41-125	
Tetrachloro-m-xylene (S)	%.			108	53-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4538140 4538141

Parameter	Units	10630039001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<21.2	981	996	779	887	79	89	53-125	13	30	
PCB-1260 (Aroclor 1260)	ug/kg	4670	981	996	4680	5200	1	53	30-143	10	30	E,M1
Decachlorobiphenyl (S)	%.						88	94	41-125			
Tetrachloro-m-xylene (S)	%.						90	96	53-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
S0	Surrogate recovery outside laboratory control limits.

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630039

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10630039001	**SB06-0.0-0.5-1022**	EPA 3546	858753	EPA 8082A	858854
10630039002	**SB06-1.0-1.5-1022**	EPA 3546	858753	EPA 8082A	858854
10630039003	**SB06-2.5-3.0-1022**	EPA 3546	858753	EPA 8082A	858854
10630039004	**SB04-0.0-0.5-1022**	EPA 3546	858753	EPA 8082A	858854
10630039005	**SB04D-0.0-0.5-1022**	EPA 3546	858753	EPA 8082A	858854
10630039006	**SB04-1.0-1.5-1022**	EPA 3546	858753	EPA 8082A	858854
10630039007	**SB04-2.5-3.0-1022**	EPA 3546	858753	EPA 8082A	858854
10630039008	**SB01-0.0-0.5-1022**	EPA 3546	858753	EPA 8082A	858854
10630039009	**SB01-1.0-1.5-1022**	EPA 3546	858753	EPA 8082A	858854
10630039010	**SB01-2.5-3.0-1022**	EPA 3546	858753	EPA 8082A	858854
10630039011	**SB03-0.0-0.5-1022**	EPA 3546	858753	EPA 8082A	858854
10630039012	**SB03D-0.0-0.5-1022**	EPA 3546	858753	EPA 8082A	858854
10630039013	**SB03-1.0-1.5-1022**	EPA 3546	858753	EPA 8082A	858854
10630039014	**ISM01-0.0-0.2-1022**	EPA 3546	858753	EPA 8082A	858854
10630039015	**ISM03-0.0-0.2-1022**	EPA 3546	858753	EPA 8082A	858854
10630039016	**SB02-0.0-0.5-1022**	EPA 3546	858753	EPA 8082A	858854
10630039017	**SB02D-0.0-0.5-1022**	EPA 3546	858753	EPA 8082A	858854
10630039018	**SB02-1-1.5-1022**	EPA 3546	858753	EPA 8082A	858854
10630039019	**SB02-2.5-3.0-1022**	EPA 3546	858753	EPA 8082A	858854
10630039020	**SB03-2.5-3.0-1022**	EPA 3546	858753	EPA 8082A	858854

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Internal Transfer Chain of Custody

40253331

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[X] Samples Pre-Logged into eCOC.

State Of Origin: OR
Cert. Needed: [ ] Yes [ ] No

Workorder: 10630039 **Workorder Name:** Portland OR-Peninsula Iron Wor

Owner Received Date: 10/18/2022 **Results Requested By:** 10/27/2022

Report To	Subcontract To
Jennifer Gross Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612)607-1700	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved						Requested Analysis: MISC / ISM (50 Increments) (PACE-	MISC / Sieving (<2mm) (PACE-GB)											LAB USE ONLY
1	SB06-0.0-0.5-1022	PS	10/17/2022 15:15	10630039001	Solid	1							X											001
2	SB06-1.0-1.5-1022	PS	10/17/2022 15:20	10630039002	Solid	1							X											002
3	SB06-2.5-3.0-1022	PS	10/17/2022 15:25	10630039003	Solid	1							X											003
4	SB04-0.0-0.5-1022	PS	10/17/2022 14:30	10630039004	Solid	1							X											004
5	SB04D-0.0-0.5-1022	PS	10/17/2022 14:35	10630039005	Solid	1							X											005
6	SB04-1.0-1.5-1022	PS	10/17/2022 14:40	10630039006	Solid	1							X											006
7	SB04-2.5-3.0-1022	PS	10/17/2022 14:45	10630039007	Solid	1							X											007
8	SB01-0.0-0.5-1022	PS	10/17/2022 11:00	10630039008	Solid	1							X											008
9	SB01-1.0-1.5-1022	PS	10/17/2022 11:05	10630039009	Solid	1							X											009
10	SB01-2.5-3.0-1022	PS	10/17/2022 11:10	10630039010	Solid	1							X											010
11	SB03-0.0-0.5-1022	PS	10/17/2022 12:00	10630039011	Solid	1							X											011
12	SB03D-0.0-0.5-1022	PS	10/17/2022 12:05	10630039012	Solid	1							X											012
13	SB03-1.0-1.5-1022	PS	10/17/2022 12:10	10630039013	Solid	1							X											013
14	ISM01-0.0-0.2-1022	PS	10/17/2022 12:15	10630039014	Solid	1						X												014
15	ISM03-0.0-0.2-1022	PS	10/17/2022 12:28	10630039015	Solid	1						X												015
16	SB02-0.0-0.5-1022	PS	10/17/2022 13:45	10630039016	Solid	1							X											016
17	SB02D-0.0-0.5-1022	PS	10/17/2022 13:50	10630039017	Solid	1							X											017
18	SB02-1-1.5-1022	PS	10/17/2022 13:55	10630039018	Solid	1							X											018
19	SB02-2.5-3.0-1022	PS	10/17/2022 14:00	10630039019	Solid	1							X											019

Internal Transfer Chain of Custody

40253331

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www.pacelabs.com

[X] Samples Pre-Logged into eCOC.

State Of Origin: OR
Cert. Needed: [ ] Yes [ ] No

Workorder: 10630039 Workorder Name: Portland OR-Peninsula Iron Wor

Owner Received Date: 10/18/2022 Results Requested By: 10/27/2022

Report To	Subcontract To
Jennifer Gross Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612)607-1700	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	2PLU	MISC / ISM (50 Increments) (PACE-)	MISC / Sieving (<2mm) (PACE-GB)	LAB USE ONLY
20	SB03-2.5-3.0-1022	PS	10/17/2022 12:15	10630039020	Solid	1			X	0ZO
21										
22										
23										
24										

Transfers	Released By	Date/Time	Received By	Date/Time
1	Fedex	10/18/22 945	Morgan Koopman	10/18/22 945
2				
3				

Comments

Forward prepped volume to Pace Mnpls, methods 8082 & possibly 1668.

Hold all additional volume for six months.

Cooler Temperature on Receipt _____ °C | Custody Seal (Y) or N | Received on Ice (Y) or N | Samples Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.

40253331

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Page : 1 Of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Jacobs for UPRR	Report To:	Hodson, David	Attention:	John DeJong
Address:	2020 SW 4th Avenue, Suite 300	Copy To:		Company Name:	UPRR
	Portland, OR 97201			Address:	4315 E Sprague Ave, Spokane Valley, WA 99212
Email:	david.hodson@jacobs.com	Purchase Order #:	2903-01	Pace Quote:	4700001441 (MA-000166-2022)
Phone:	(510)316-2323 Fax:	Project Name:	Portland OR-Peninsula Iron Works	Pace Project Manager:	jennifer.gross@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	45173

Regulatory Agency: State / Loc: OR / Portland - Multnomah County

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test (Y/N)	ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	SB06-0.0-0.5-1022	SL	C	10/17/22	1515	—	—	—	1	X										X	X												001
2	SB06-1.0-1.5-1022			10/17/22	1520																												002
3	SB06-2.5-3.0-1022			"	1530	"	1535																										003
4	SB04-0.0-0.5-1022			"	1430																												004
5	SB04D-0.0-0.5-1022			"	1435																												005
6	SB04-1.0-1.5-1022			"	1440																												006
7	SB04-2.5-3.0-1022			"	1445																												007
8	SB01-0.0-0.5-1022			"	1100																												008
9	SB01-1.0-1.5-1022			"	1105																												009
10	SB01-2.5-3.0-1022			"	1110																												010
11	SB03-0.0-0.5-1022			"	1200																												011
12	SB030-0.0-0.5-1022			"	1205																												012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Include 1262 & 1268	Jacobs	10/17/22	1600				
Methods 8082 & 1668 - Require chromatograms	Fedex	10/18/22	945		10/18/22	945	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jaclyn Warren

SIGNATURE of SAMPLER: DATE Signed: 10/17/22

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

40253331

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Jacobs for UPRR	Report To:	Hodson, David	Attention:	John DeJong
Address:	2020 SW 4th Avenue, Suite 300	Copy To:		Company Name:	UPRR
	Portland, OR 97201			Address:	4315 E Sprague Ave, Spokane Valley, WA 99212
Email:	david.hodson@jacobs.com	Purchase Order #:	2903-01	Pace Quote:	4700001441 (MA-000166-2022)
Phone:	(510)316-2323 Fax:	Project Name:	Portland OR-Peninsula Iron Works	Pace Project Manager:	jennifer.gross@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	45173

Regulatory Agency: —

State / Location: OR / Portland - Multnomah County

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE (2022)	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	SB03-1.0-1.5-1022	SL	C	10/17	1210	—	—	↓	1	X										X	X											013
2	SB03-2.5-3.0-1022	↓	↓	↓	1215	↓	↓	↓	↓	↓										↓	↓											014
3	ISM01-0.0-0.2-1022	↓	↓	↓	1228	↓	↓		↓	↓									X		X											015
4	ISM02-0.0-0.2-1022	↓	↓	↓	1415	↓	↓		↓	↓									X		X											016
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Include 1262 & 1268	Jacobs	10/17/22	1100				
Methods 8082 & 1668 - Require chromatograms	FedEx	10/18/22	945	[signature] Pace	10/18/22	945	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jaclyn Warren

SIGNATURE of SAMPLER: [signature] DATE Signed: 10/17/22

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Client Name: Jacobs / Pace MN

Sample Preservation Receipt Form

Project # 40253331

All containers needing preservation have been checked and noted below: ☐Yes ☐No ☐N/A

Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

Initial when completed:

Date/ Time:

Pace Lab #	Glass							Plastic						Vials						Jars				General				VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2							
001																									1								2.5 / 5
002																									1								2.5 / 5
003																									1								2.5 / 5
004																									1								2.5 / 5
005																									1								2.5 / 5
006																									1								2.5 / 5
007																									1								2.5 / 5
008																									1								2.5 / 5
009																									1								2.5 / 5
010																									1								2.5 / 5
011																									1								2.5 / 5
012																									1								2.5 / 5
013																									1								2.5 / 5
014																									1								2.5 / 5
015																									1								2.5 / 5
016																									1								2.5 / 5
017																									1								2.5 / 5
018																									1								2.5 / 5
019																									1								2.5 / 5
020																									1								2.5 / 5

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other:

Headspace in VOA Vials (>6mm) : ☐Yes ☐No ☒N/A ***If yes look in headspace column**

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	VG9C	40 mL clear ascorbic w/ HCl	JGFU	4 oz amber jar unpres
BG1U	1 liter clear glass	BP3U	250 mL plastic unpres	DG9T	40 mL amber Na Thio	JG9U	9 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP3B	250 mL plastic NaOH	VG9U	40 mL clear vial unpres	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9H	40 mL clear vial HCL	WPFU	4 oz plastic jar unpres
AG5U	100 mL amber glass unpres	BP3S	250 mL plastic H2SO4	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH + Zn	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres					GN 1	
						GN 2	

Page 1 of 4

10/19/22 N.P

Sample Condition Upon Receipt Form (SCUR)

Client Name: Pace MN Project # 40253331

Additional Comments/Resolution:

① SB03-2.5

10/19/22 mp ~~SB03-2.5~~ - 3.0 - 1022 10/17/22 1215

① ~~ISM02-0.0-0.2-1022 10/17/22 1425~~ 10/19/22 mp

① Samples not listed on COC

~~did not receive "ISMA03-0.0-0.2-1022"~~ 10/19/22 mp

10/19/22 mp

Page 2 of 3

Sample Condition Upon Receipt Form (SCUR)

Client Name: _____ Project # 4025333|

Additional Comments/Resolution: Therm 110 No corr.

5923 7141 9678 /2°

5923 7141 9645 /0°

5923 7141 9667 /0°

5923 7141 9656 /0° Sediment in cooler 10/18/22 mp

(1) SB02-0.0-0.5-1022 10/17/22 1345

SB02D-0.0-0.5 1022 10/17/22 1350

SB02-0-1.5-1022 10/17/22 1355

SB02-2.5-3.0-1022 10/17/22 1400

(1) samples not listed on COC

SB03D-0.0-0.5-1022 + SB02-0.0-0.5-1022 received with holes in bags 10/18/22 mp

both samples have water in bag containing the sample + the outer bag.

Both samples in same cooler.

~~SB03-2.5-3.0-1022, sample not listed on COC~~

IsM02-0.0-0.2 ~~1022~~ 10/19/22 mp 10/19/22 mp

10/19/22 mp

3

Page 4 of 4

10/19/22 mp

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO#: 40253331

40253331

Client Name: Jacobs / Pace MN

Courier: ☐ CS Logistics ☒ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☐ Client ☐ Pace Other: _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other _____

Thermometer Used SR - 110 **Type of Ice:** Wet Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: — /Corr: See additional

Temp Blank Present: ☐ yes ☒ no Comments **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Person examining contents:
Date: 10/19/22 Initials: MP
Labeled By Initials: MH

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☒No ☐N/A	2. proj# 10/19/22 MP
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No	5.
- DI VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☒No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume: For Analysis: ☒Yes ☐No MS/MSD: ☐Yes ☒No ☐N/A		8.
Correct Containers Used:	☒Yes ☐No	9.
Correct Type: Pace Green Bay, Pace IR, Non-Pace		
Containers Intact:	☐Yes ☒No	10. See additional comments 10/19/22 MP
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: S	☐Yes ☒No ☐N/A	12. 015" ISM02-0.0-0.2-1022 10/17/22 14:25" per client 10/19/22 MP
Trip Blank Present:	☐Yes ☐No ☒N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: If checked, see attached form for additional comments ☒

Person Contacted: David Hodson Date/Time: 10/19/22

Comments/ Resolution: Client notified of additional samples received but not listed on the coc and samples received with holes in the bags and ice melt in the samples. Lab instructed to proceed with prep and analysis on all samples.

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logi

Page 2 of 2
4 of 4 10/19/22 MP

Internal Transfer Chain of Custody

40253331

Pace Analytical®
www.pacelabs.com

[X] Samples Pre-Logged into eCOC.

State Of Origin: OR

Cert. Needed: [ ] Yes [ ] No

Workorder: 10630039 **Workorder Name:** Portland OR-Peninsula Iron Wor

Owner Received Date: 10/18/2022 **Results Requested By:** 10/27/2022

Report To

Jennifer Gross
Pace Analytical Minnesota
1700 Elm Street
Minneapolis, MN 55414
Phone (612)607-1700

Subcontract To

Pace Analytical Green Bay
1241 Bellevue Street
Suite 9
Green Bay, WI 54302
Phone (920)469-2436

Requested Analysis

WO# : 10630039

10630039

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: UPRD	MISC / ISM (50 Increments) (PACE-	MISC / Sieving (<2mm) (PACE-GB)	LAB USE ONLY
1	SB06-0.0-0.5-1022	PS	10/17/2022 15:15	10630039001	Solid	1		X	001
2	SB06-1.0-1.5-1022	PS	10/17/2022 15:20	10630039002	Solid	1		X	002
3	SB06-2.5-3.0-1022	PS	10/17/2022 15:25	10630039003	Solid	1		X	003
4	SB04-0.0-0.5-1022	PS	10/17/2022 14:30	10630039004	Solid	1		X	004
5	SB04D-0.0-0.5-1022	PS	10/17/2022 14:35	10630039005	Solid	1		X	005
6	SB04-1.0-1.5-1022	PS	10/17/2022 14:40	10630039006	Solid	1		X	006
7	SB04-2.5-3.0-1022	PS	10/17/2022 14:45	10630039007	Solid	1		X	007
8	SB01-0.0-0.5-1022	PS	10/17/2022 11:00	10630039008	Solid	1		X	008
9	SB01-1.0-1.5-1022	PS	10/17/2022 11:05	10630039009	Solid	1		X	009
10	SB01-2.5-3.0-1022	PS	10/17/2022 11:10	10630039010	Solid	1		X	010
11	SB03-0.0-0.5-1022	PS	10/17/2022 12:00	10630039011	Solid	1		X	011
12	SB03D-0.0-0.5-1022	PS	10/17/2022 12:05	10630039012	Solid	1		X	012
13	SB03-1.0-1.5-1022	PS	10/17/2022 12:10	10630039013	Solid	1		X	013
14	ISM01-0.0-0.2-1022	PS	10/17/2022 12:15	10630039014	Solid	1	X		014
15	ISM03-0.0-0.2-1022	PS	10/17/2022 12:28	10630039015	Solid	1	X		015
16	SB02-0.0-0.5-1022	PS	10/17/2022 13:45	10630039016	Solid	1		X	016
17	SB02D-0.0-0.5-1022	PS	10/17/2022 13:50	10630039017	Solid	1		X	017
18	SB02-1-1.5-1022	PS	10/17/2022 13:55	10630039018	Solid	1		X	018
19	SB02-2.5-3.0-1022	PS	10/17/2022 14:00	10630039019	Solid	1		X	019

Internal Transfer Chain of Custody

40253331

Pace Analytical®
www.pacelabs.com

[X] Samples Pre-Logged into eCOC.

State Of Origin: OR
Cert. Needed: [ ] Yes [ ] No
Owner Received Date: 10/18/2022 Results Requested By: 10/27/2022

Workorder: 10630039 **Workorder Name:** Portland OR-Peninsula Iron Wor

Report To	Subcontract To
Jennifer Gross Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612)607-1700	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Preserved Containers: 2 HCL	Preserved Containers:	Preserved Containers:	Preserved Containers:	Preserved Containers:	Requested Analysis: MISC / ISM (50 Increments) (PACE-)	Requested Analysis: MISC / Sieving (<2mm) (PACE-GB)	Requested Analysis:	Requested Analysis:	Requested Analysis:	Requested Analysis:	Requested Analysis:	Requested Analysis:	Requested Analysis:	Requested Analysis:	Requested Analysis:	Requested Analysis:	LAB USE ONLY
20	SB03-2.5-3.0-1022	PS	10/17/2022 12:15	10630039020	Solid	1							X											020
21																								
22																								
23																								
24																								

Transfers	Released By	Date/Time	Received By	Date/Time
1	FedEx	10/18/22 945	Mon Pace	10/18/22 945
2	Matt VanLoon Pace	12/13/22 1300	Pace	12/14/22 14:35
3				

Comments: Forward prepped volume to Pace Mnpls, methods 8082 & possibly 1668.
Hold all additional volume for six months.

Cooler Temperature on Receipt NA °C | **Custody Seal** (Y) or N | **Received on Ice** (Y) or N | **Samples Intact** (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

Sample Condition Upon Receipt

Client Name: Pace Green Bay

Project #: WO#: 10630039

PM: JMG Due Date: 12/16/22
CLIENT: UPRR_Jacobs

Courier: ☐ FedEx ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☑ Commercial

Tracking Number: _____ ☐ See Exceptions ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other **Temp Blank?** ☐ Yes ☑ No

Thermometer: ☐ T1 (0461) ☐ T2 (1336) ☐ T3 (0459) ☐ T4 (0254) ☐ T5 (0178) ☐ T6 (0235) ☑ T7 (0042) ☐ T8 (0775) ☐ T9(0727) ☐ 01339252/1710 **Type of Ice:** ☐ Wet ☐ Blue ☐ Dry ☑ None ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☑ No **Were All Container Temps Taken?** ☐ Yes ☐ No ☑ N/A

Temp should be above freezing to 6 °C

Cooler temp Read w/Temp Blank: Amb °C

Correction Factor: add 0.1

Cooler Temp Corrected w/temp blank: Amb °C

Average Corrected Temp (no temp blank only): _____ °C ☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: (☐ N/A, water sample/other: _____)

Date/Initials of Person Examining Contents: 12/14/22 ADC

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): ☐ Duluth ☑ Minneapolis ☐ Virginia

				COMMENTS
Chain of Custody Present and Filled Out?	☑ Yes	☐ No		1.
Chain of Custody Relinquished?	☑ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☐ Yes	☐ No	☑ N/A	3.
Samples Arrived within Hold Time?	☑ Yes	☐ No		4. If fecal: ☐ <8 hrs ☐ >8 hr, ≤24 ☐ No
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E.coli ☐ BOD/cBOD ☐ Hex Chrom ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other
Rush Turn Around Time Requested?	☐ Yes	☑ No		6.
Sufficient Sample Volume?	☑ Yes	☐ No		7.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	8.
-Pace Containers Used?	☐ Yes	☑ No		
Containers Intact?	☑ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☑ Yes	☐ No		11. **If no, write ID/Date/Time of container below:** ☐ See Exceptions ENV-FRM-MIN4-0142
Matrix: ☐ Water ☑ Soil ☐ Oil ☐ Other				
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☑ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐ Yes	☐ No	☑ N/A	☐ NaOH ☐ HNO3 ☐ H2SO4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)	☐ Yes	☐ No	☑ N/A	Positive for Residual Chlorine? ☐ Yes ☐ No ☐ See Exceptions ENV-FRM-MIN4-0142
				pH Paper Lot #
				Residual Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in Methyl Mercury Container?	☐ Yes	☐ No	☑ N/A	13.
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☑ N/A	14. ☐ See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☑ N/A	
Trip Blanks Present?	☐ Yes	☐ No	☑ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

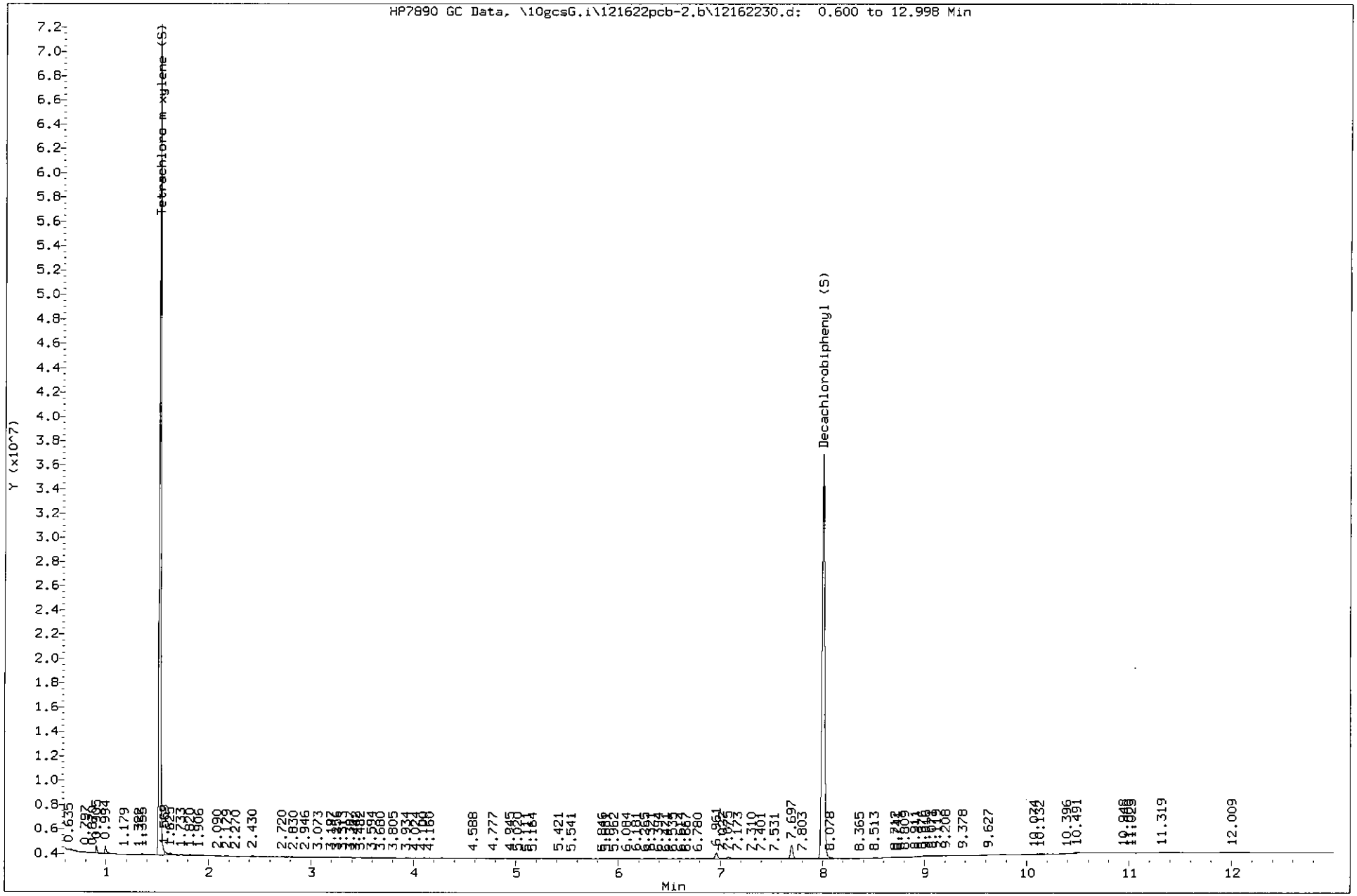
Project Manager Review: Jenni Gross **Date:** 12/14/22

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: ADC **Line:** 2

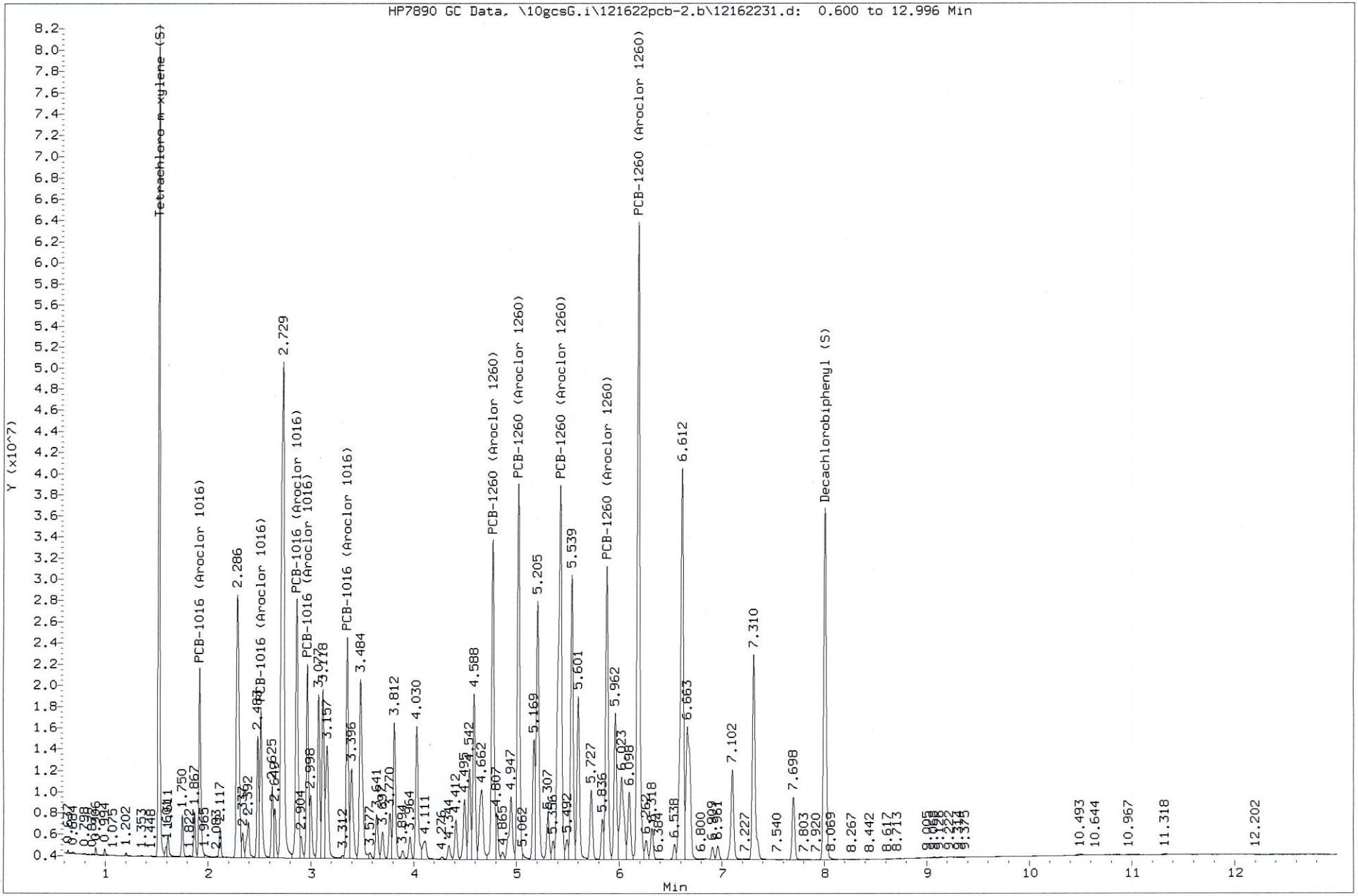
Batch 41272-858851
Blank 4538138

Data File: \\v10wintarget\chem\10gcsG.i\121622pcb-2.b\12162230.d
Injection Date: 16-DEC-2022 15:55
Instrument: 10gcsG.i
Client Sample ID: MB



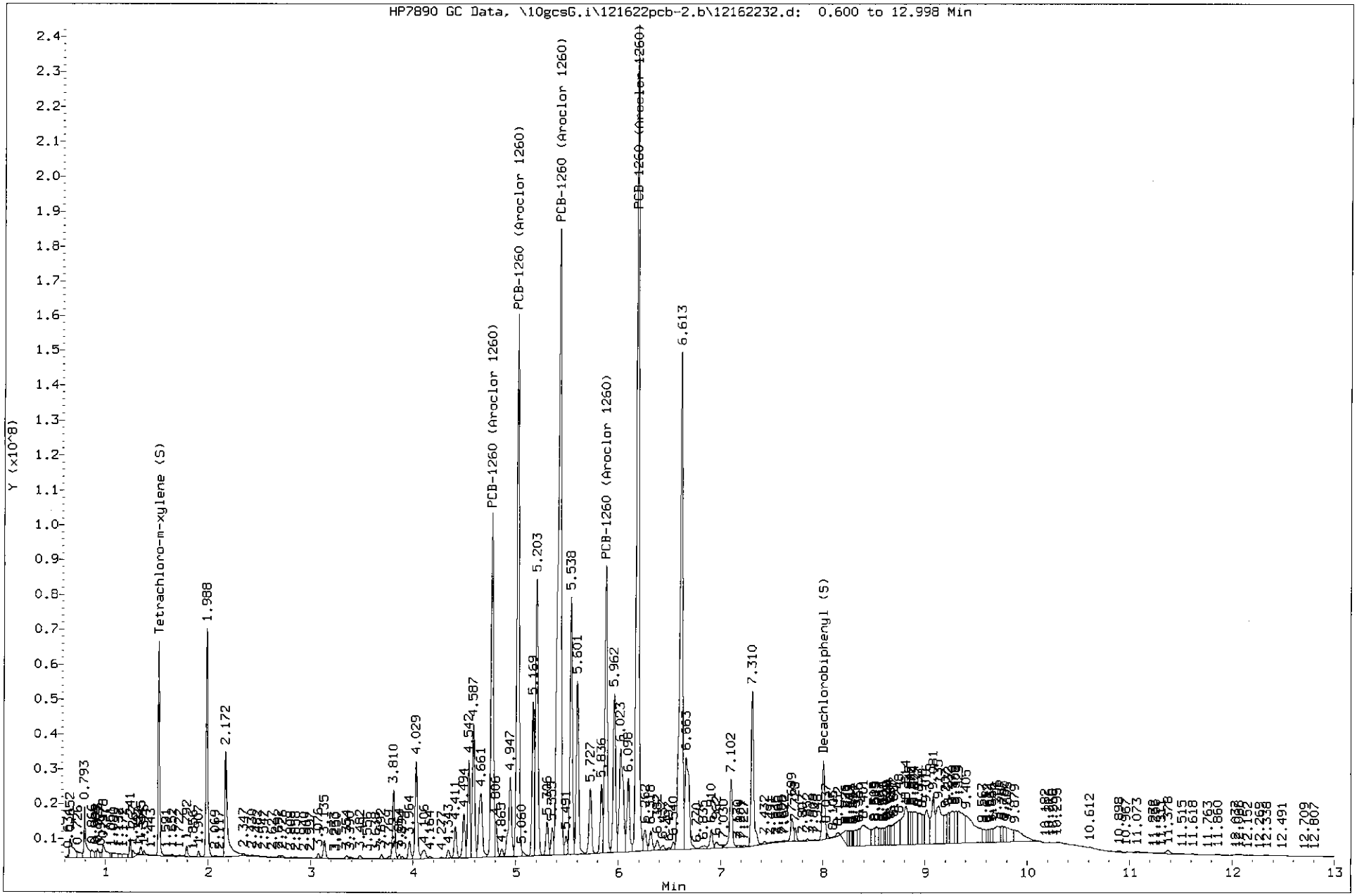
Batch 41272-858854
LCS 4538139

Data File: \\v10wintarget\chem\10gcsG.i\121622pcb-2.b\12162231.d
Injection Date: 16-DEC-2022 16:11
Instrument: 10gcsG.i
Client Sample ID: MBLCS



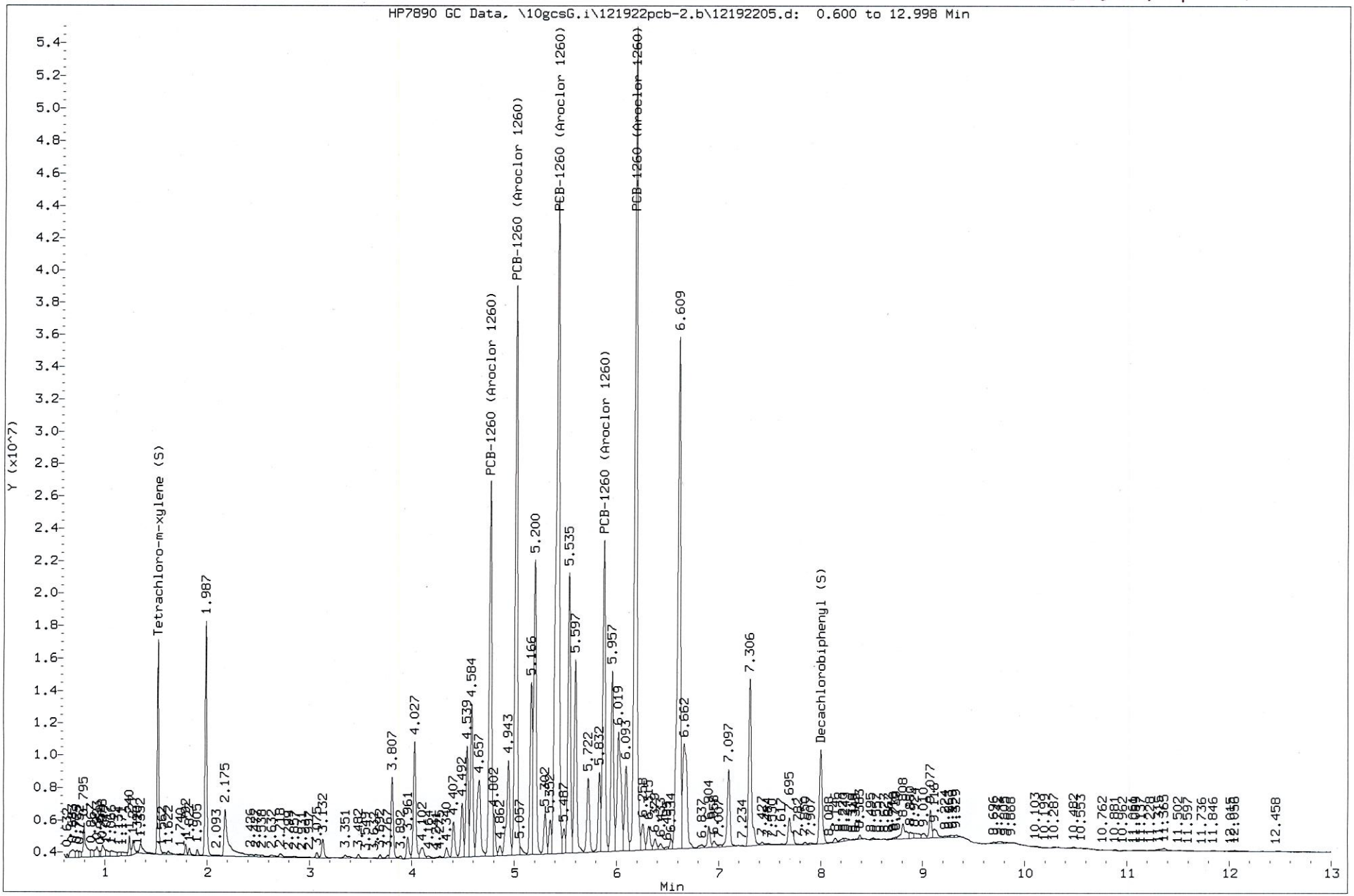
Batch 41272-858854
106300039-1

Data File: \\v10wintarget\chem\10gcsG.i\121622pcb-2.b\12162232.d
Injection Date: 16-DEC-2022 16:26
Instrument: 10gcsG.i
Client Sample ID: SB06-0.0-0.5-1022



Batch 41272-958854
106360039-1 Dilution: 5x

Data File: \\v10wintarget\chem\10gcsG.i\121922pcb-2.b\12192205.d
Injection Date: 19-DEC-2022 07:58
Instrument: 10gcsG.i
Client Sample ID: SB06-0.0-0.5-1022



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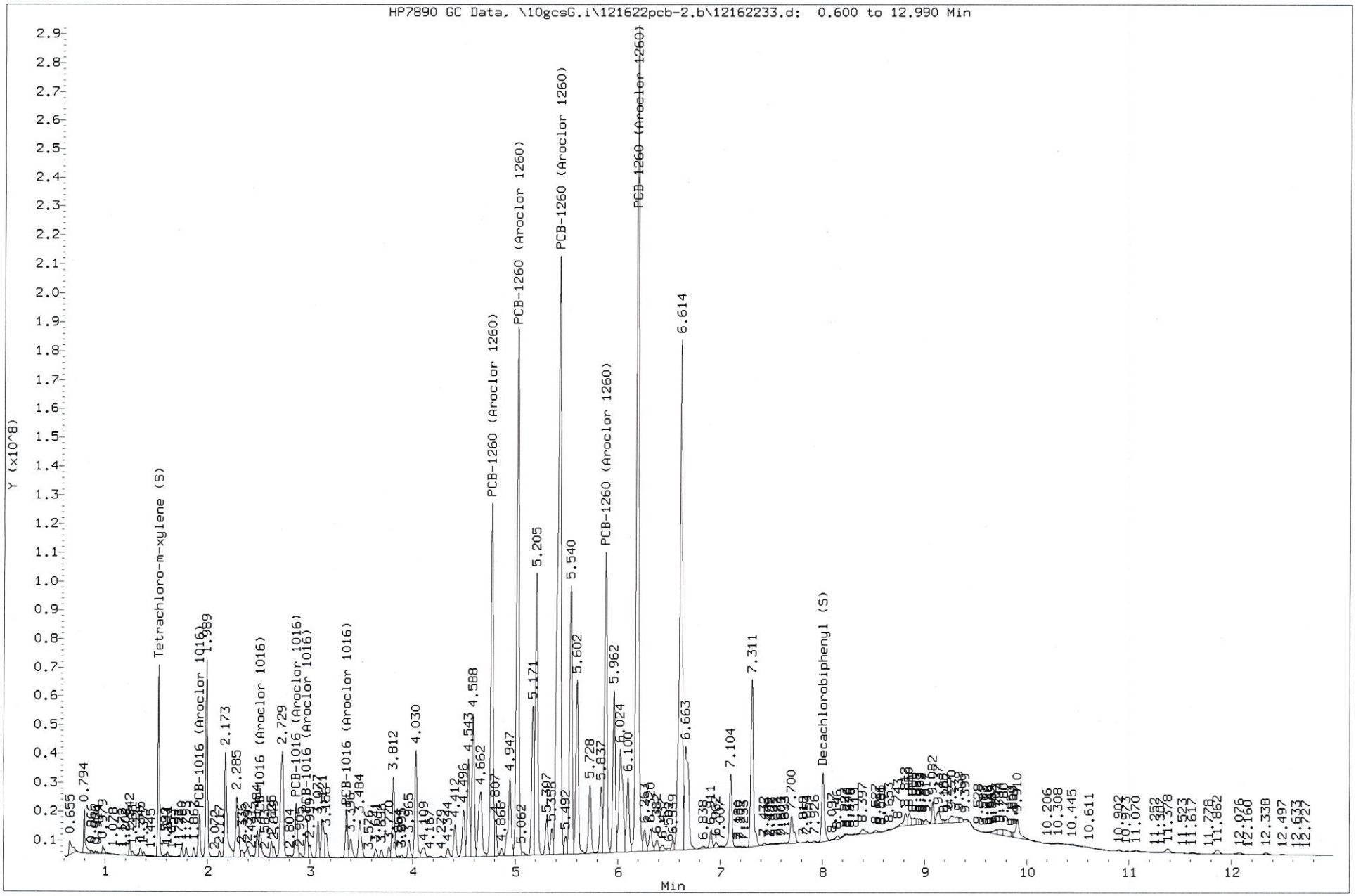
Injection Date: 16-DEC-2022 16:42
Instrument: 10gcsG.i
Client Sample ID: SB06-0.0-0.5-1022MS

RAG 12/20/22 Batch ~~Blank~~ 41272-858854 MS 4538140



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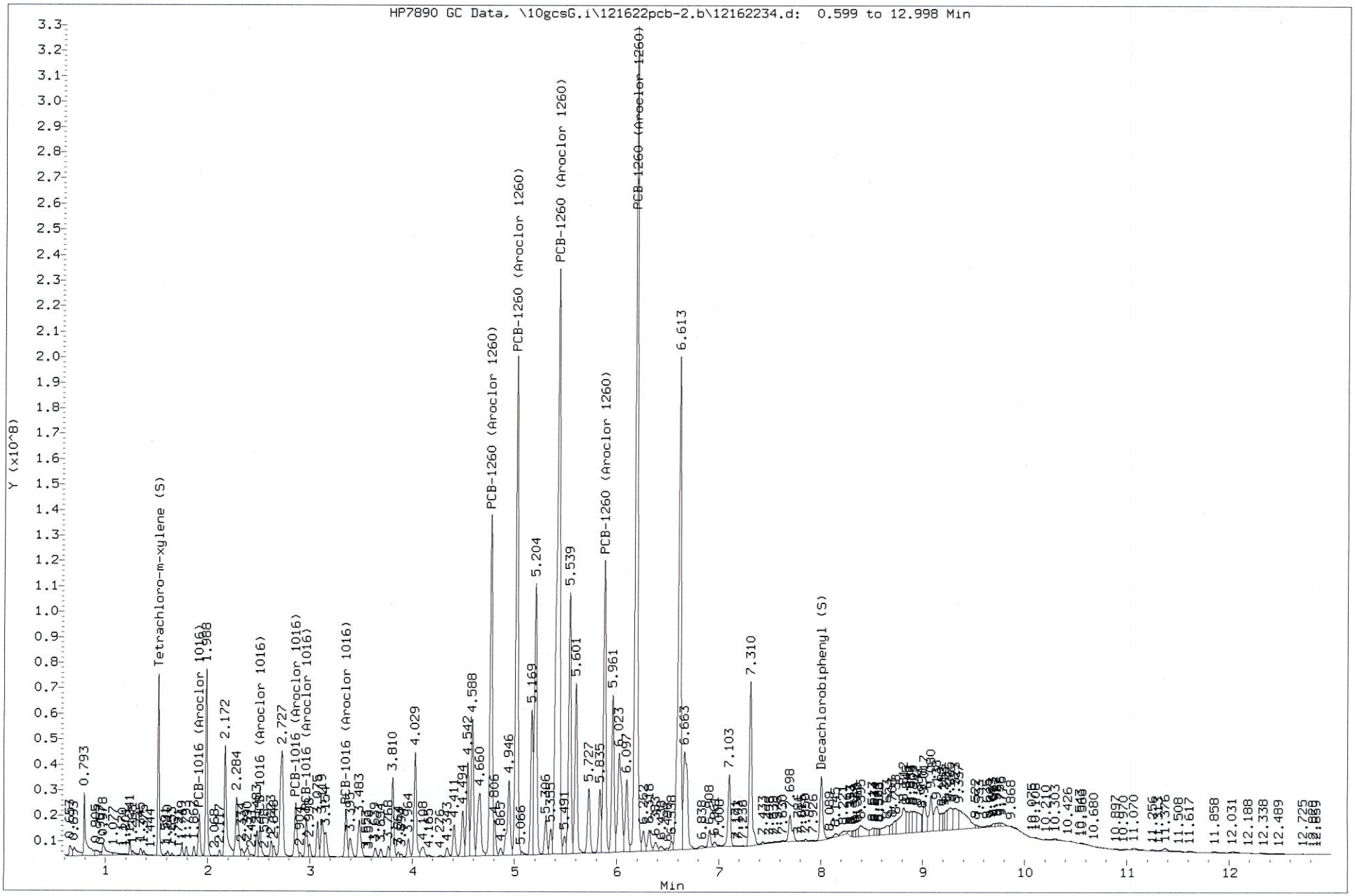
Client Sample ID: SB06-0.0-0.5-1022MS

Batch 41272-858854
MSD 4538141



Batch 41272-958854

10630039-2

Data File: \\v10wintarget\chem\10gcsG.i\121622pcb-2.b\12162235.d
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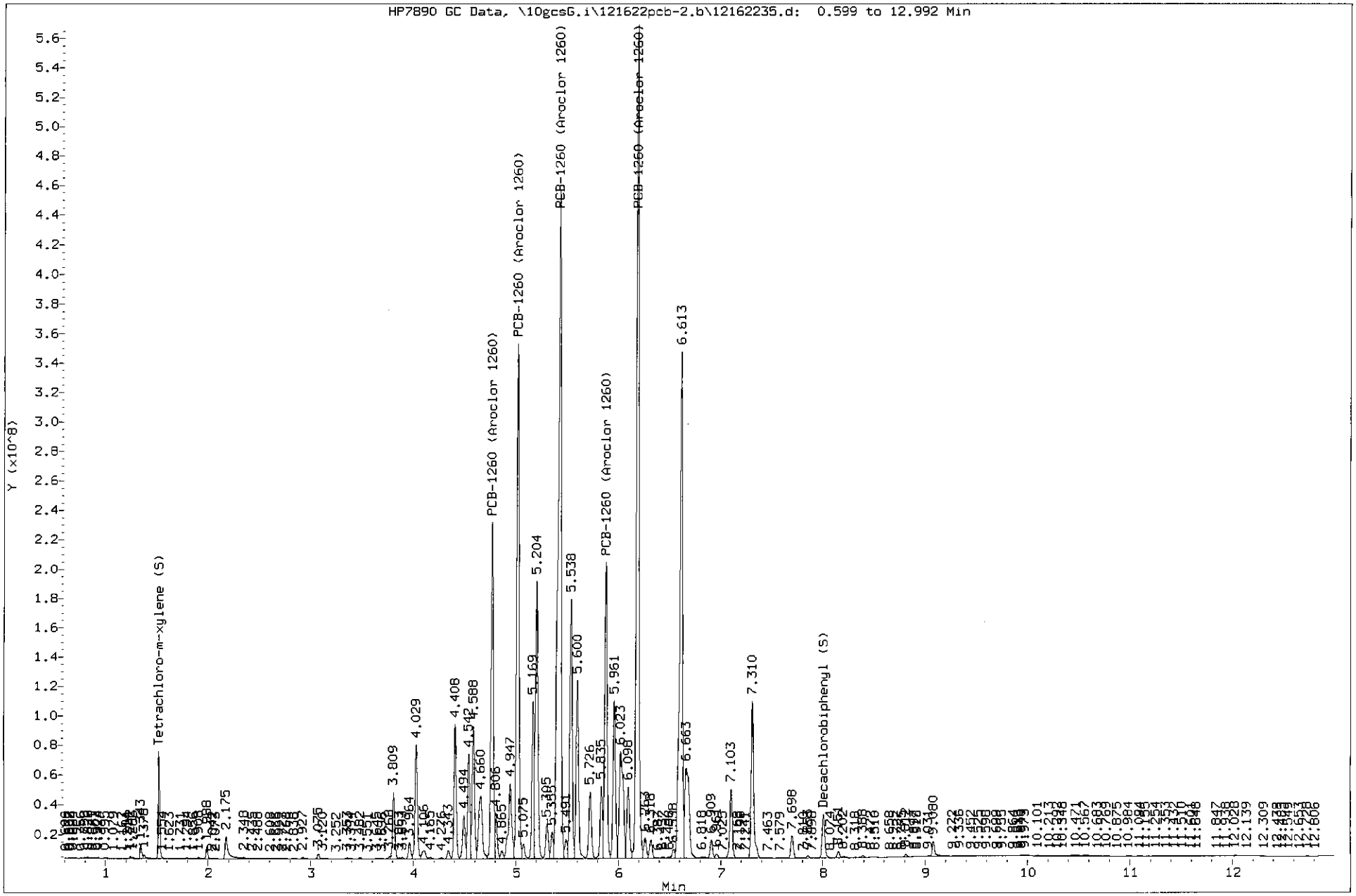
Instrument: 10gcsG.i
Client Sample ID: SB06-1.0-1.5-1022



Batch-41272-8558864
10630039-2 Dilution: 10X

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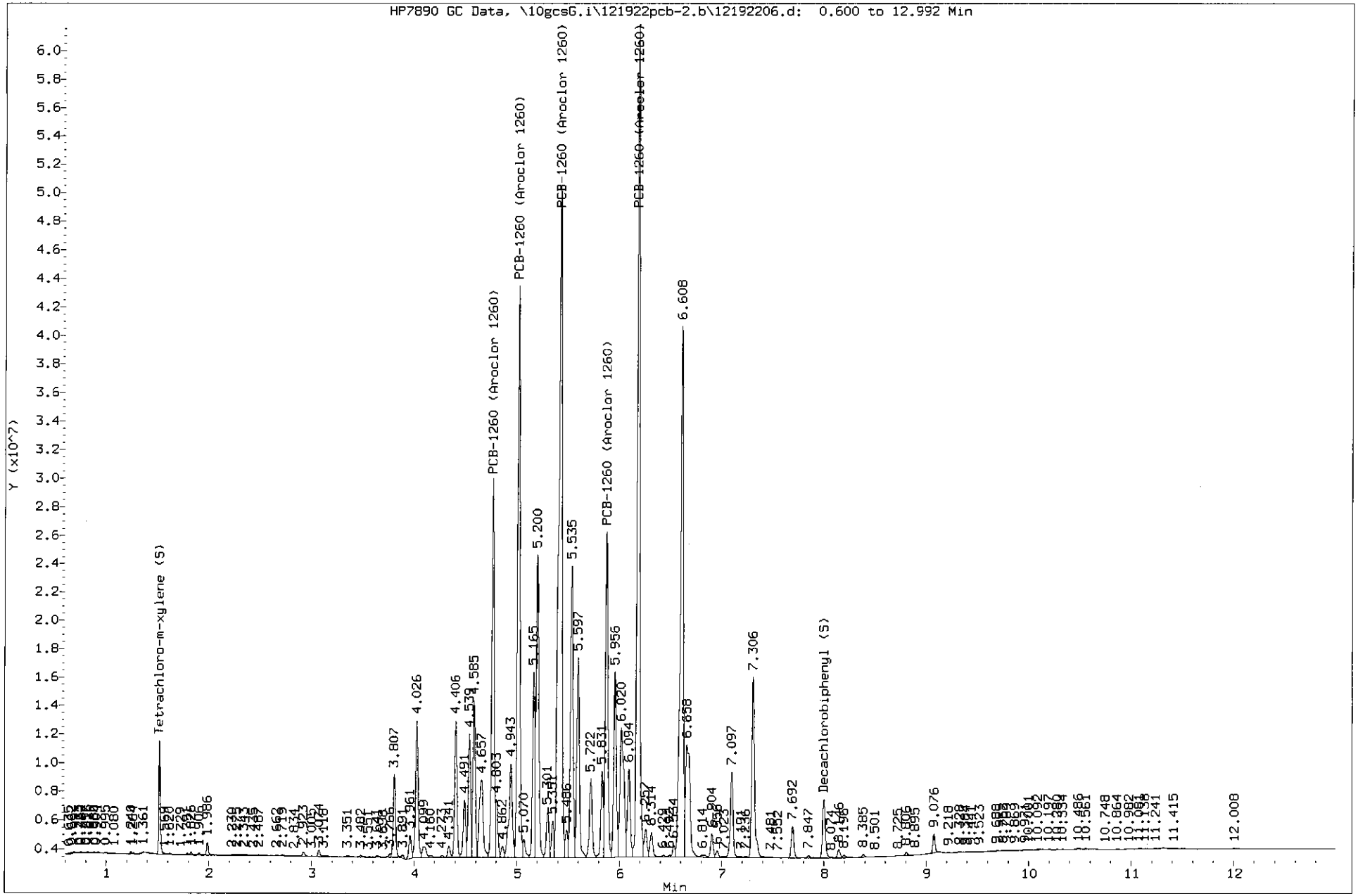
Instrument: 10gcsG.i
Client Sample ID: SB06-1.0-1.5-1022



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Injection Date: 16-DEC-2022 17:30
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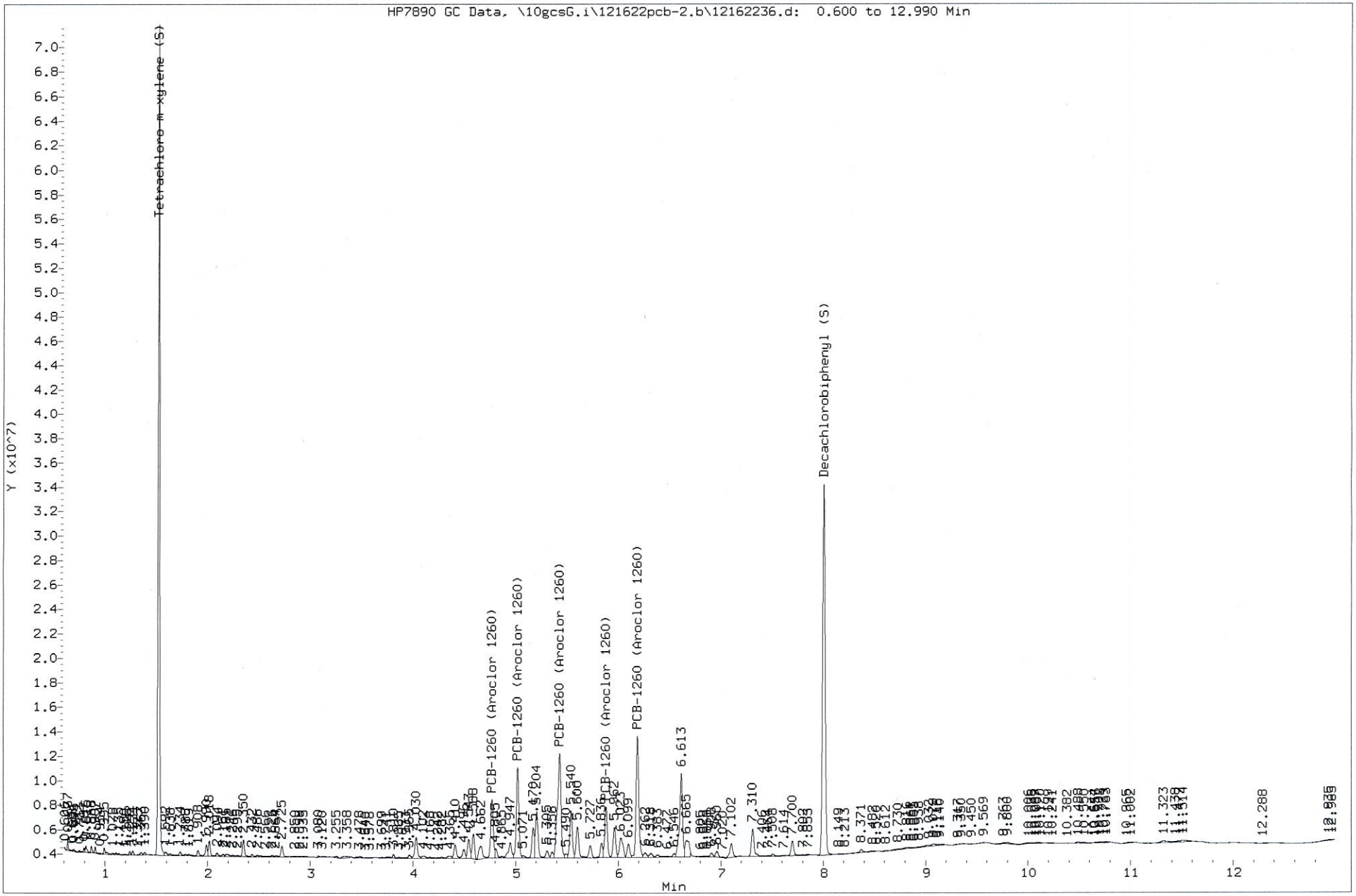
Client Sample ID: SB06-2.5-3.0-1022

RAG 12/20/22
Batch 41272 - 8585854
10630039-3



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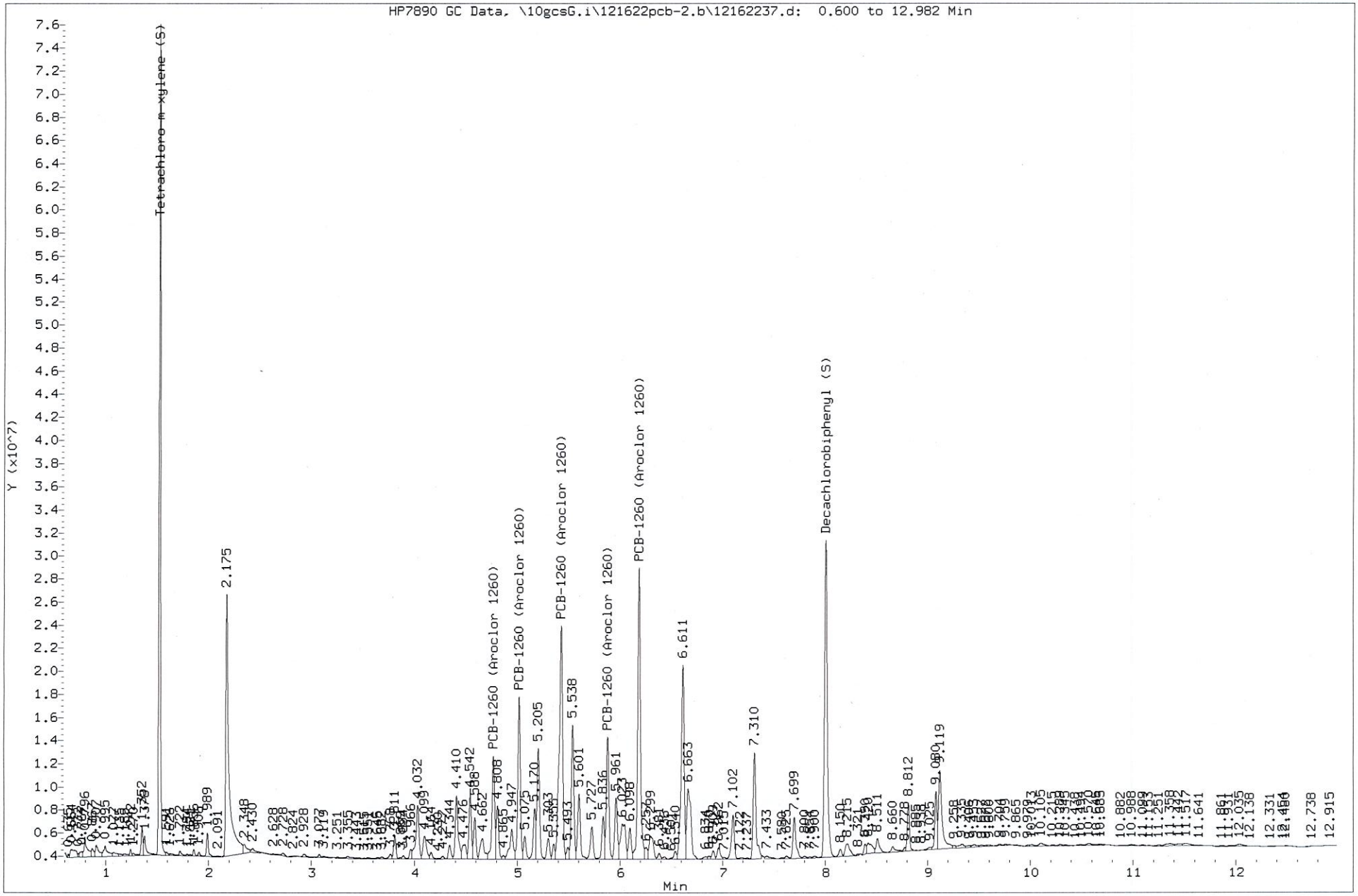
Instrument: 10gcsG.i
Client Sample ID: SB04-0.0-0.5-1022

Batch 41272-858854
10630039-4



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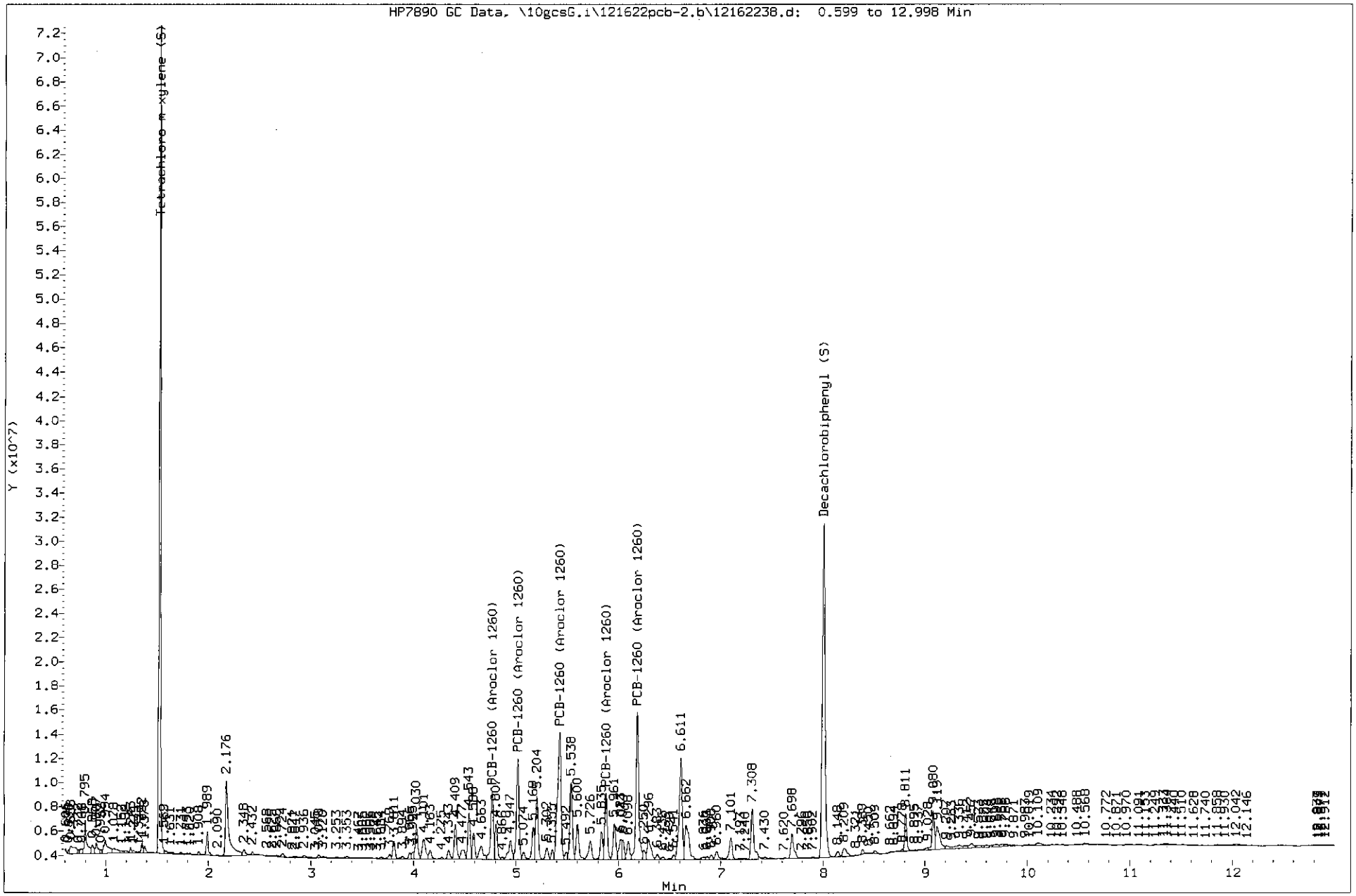
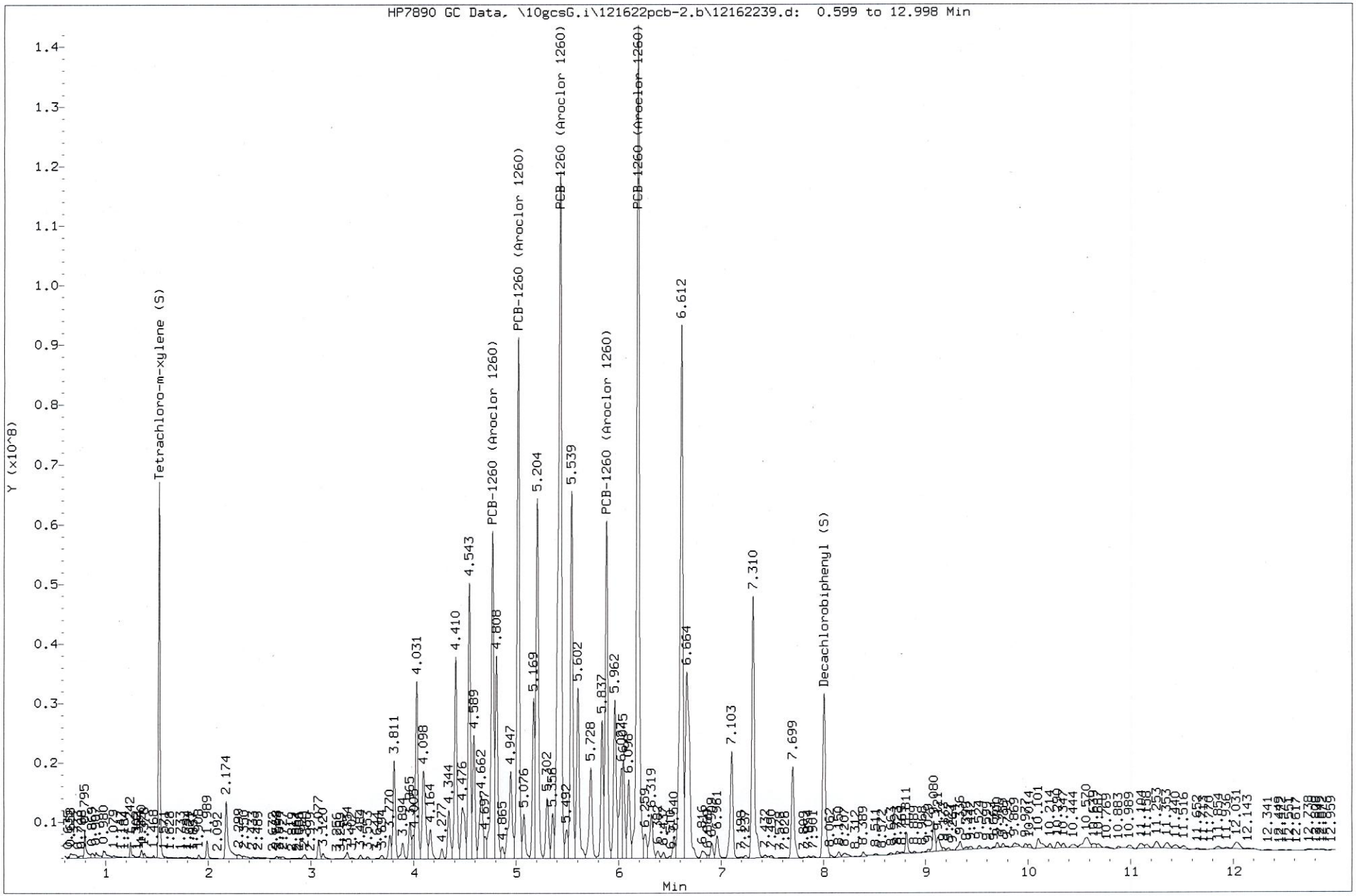
Instrument: 10gcsG.i
Client Sample ID: SB04D-0.0-0.5-1022

Batch 41272-8588541
10630039-5



Batch 41272-8588854
10630039-6

Data File: \\v10wintarget\chem\10gcsG.i\121622pcb-2.b\12162239.d
Injection Date: 16-DEC-2022 18:17
Instrument: 10gcsG.i
Client Sample ID: SB04-1.0-1.5-1022



Batch 41272-958954
10630039-6 Dilution: 2x

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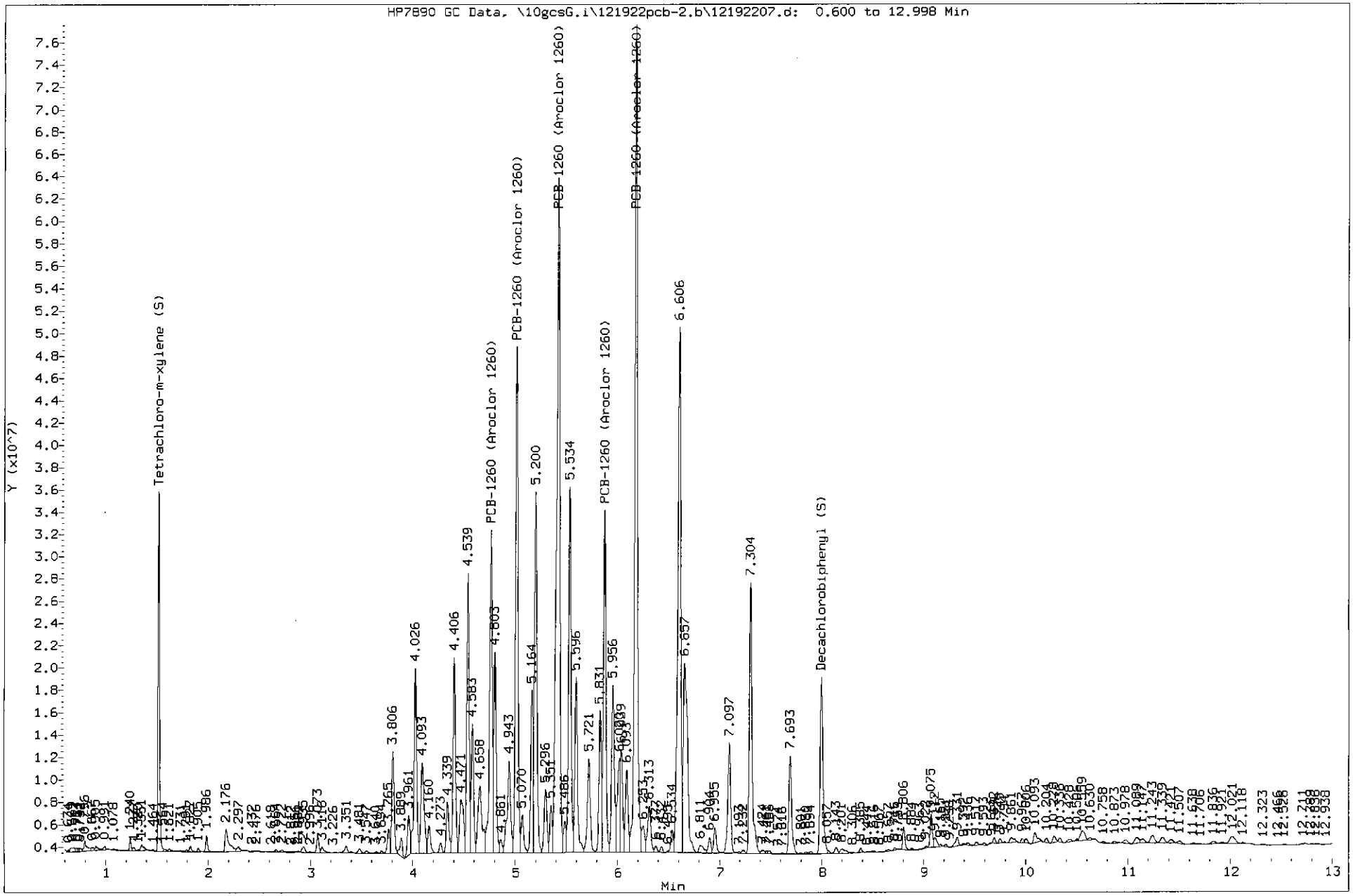
Injection Date: 19-DEC-2022 08:29
Instrument: 10gcsG.i
Client Sample ID: SB04-1.0-1.5-1022



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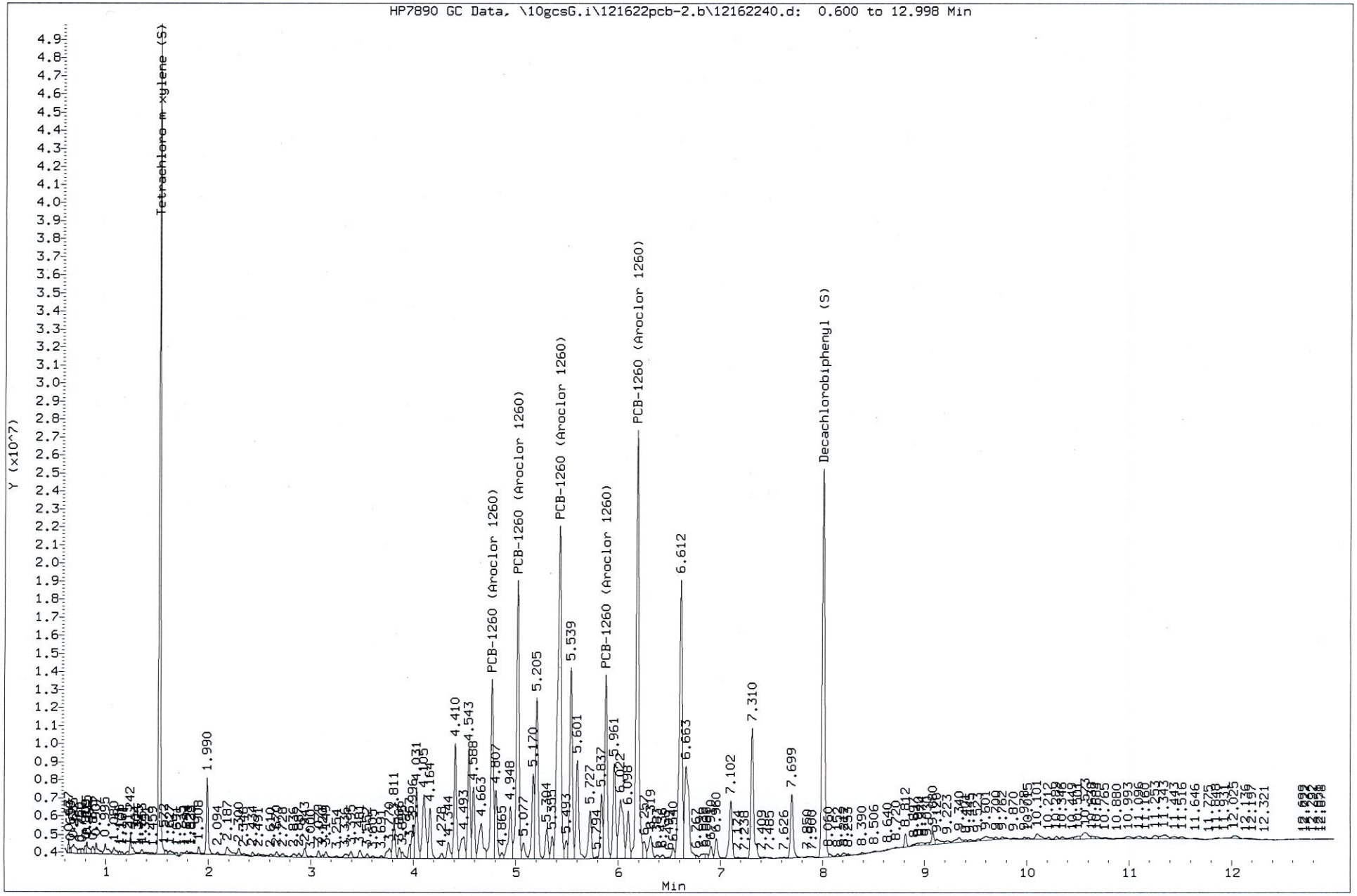
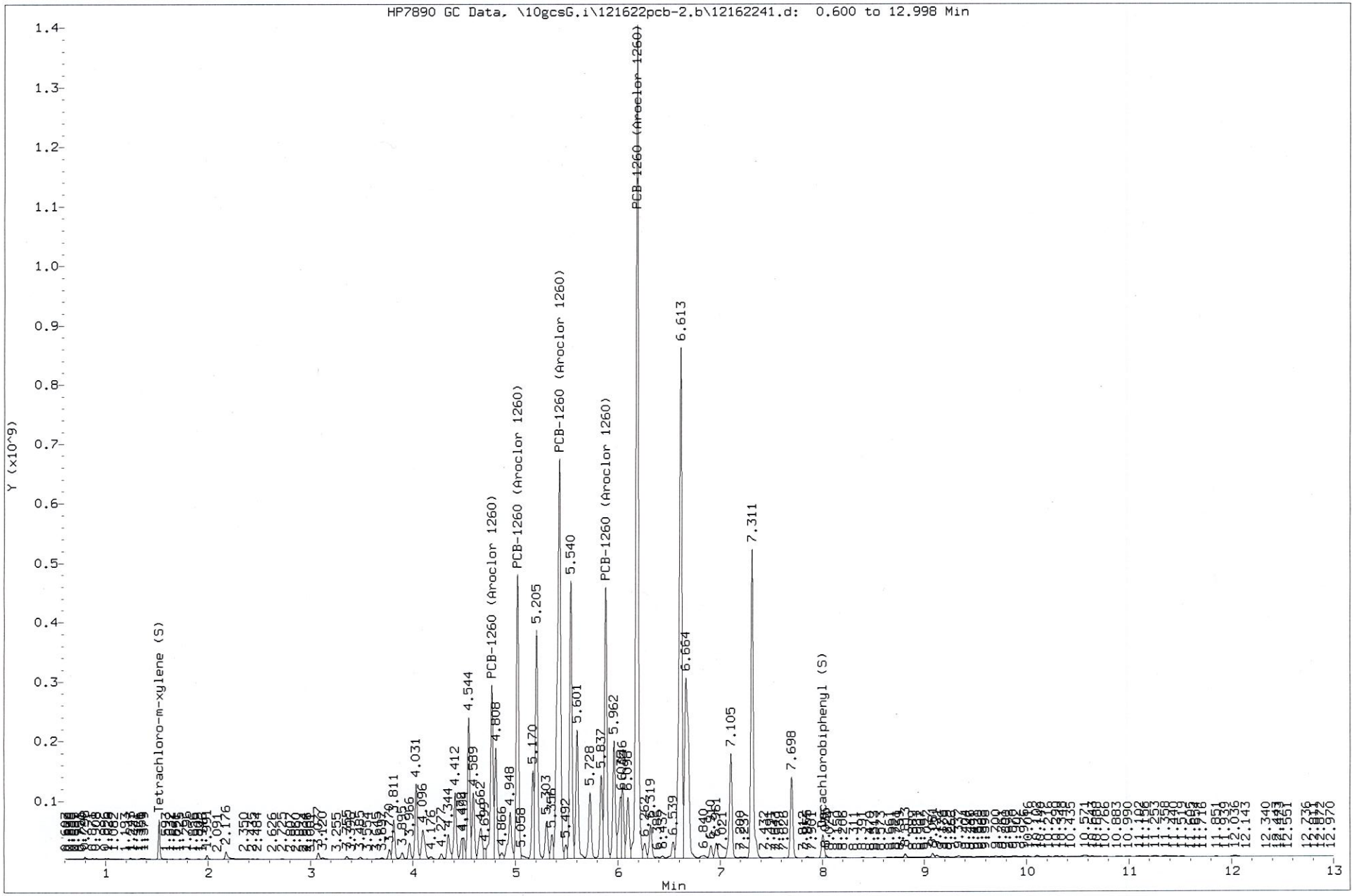
Injection Date: 16-DEC-2022 18:33
Instrument: 10gcsG.i
Client Sample ID: SB04-2.5-3.0-1022

Batch 41272-858854
10630039-7



Batch 41272-858854
10630039-8

Data File: \\v10wintarget\chem\10gcsG.i\121622pcb-2.b\12162241.d
Injection Date: 16-DEC-2022 18:49
Instrument: 10gcsG.i
Client Sample ID: SB01-0.0-0.5-1022



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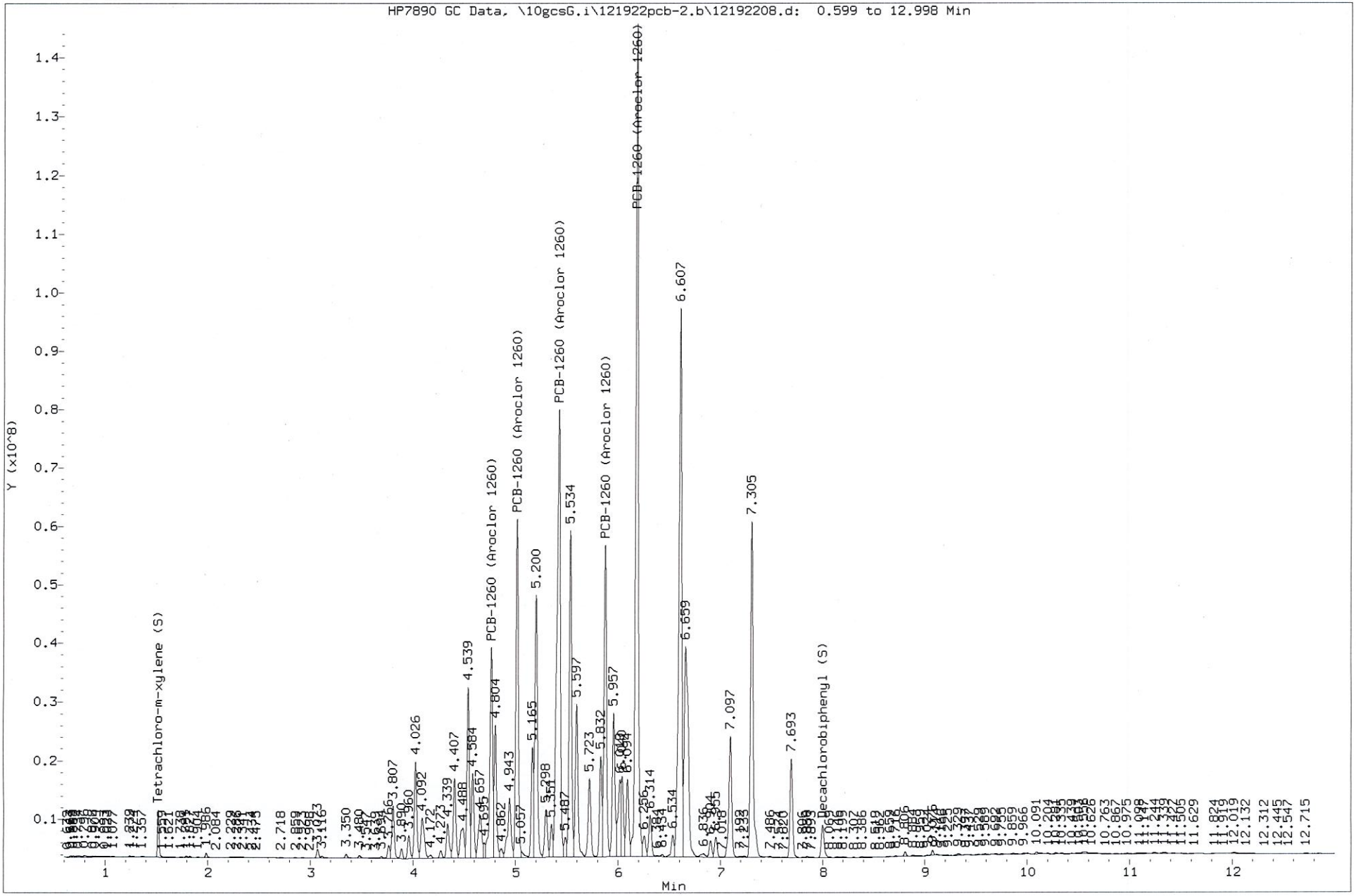
Instrument: 10gcsG.i
Client Sample ID: SB01-0.0-0.5-1022

Batch 41272-858854
10630039-8 Dilution: 10x



Batch 41272-8588854

10630039-9

Data File: \\v10wintarget\chem\10gcsG.i\121622pcb-2.b\12162242.d
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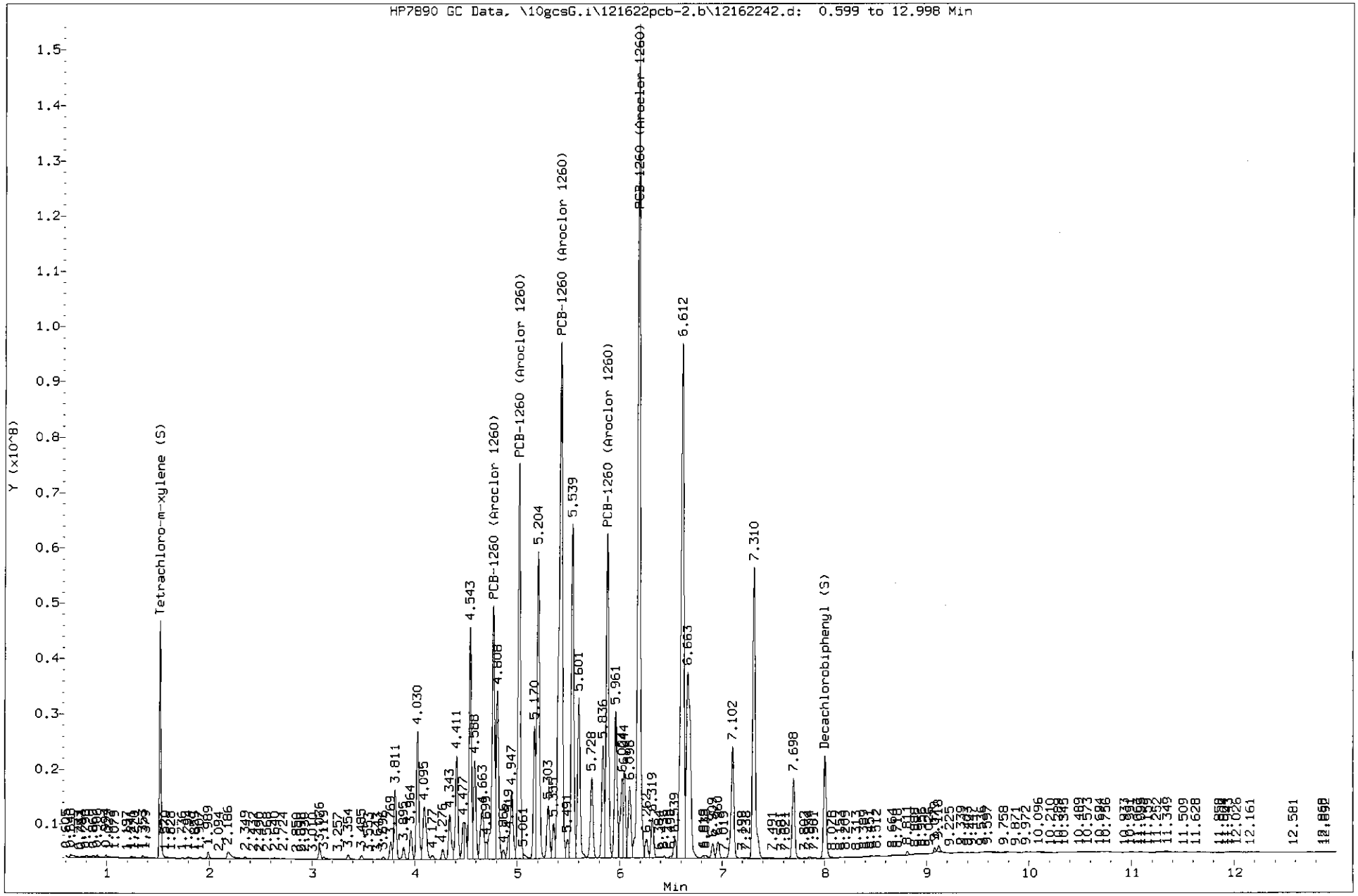
Instrument: 10gcsG.i
Client Sample ID: SB01-1.0-1.5-1022



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Injection Date: 19-DEC-2022 09:01
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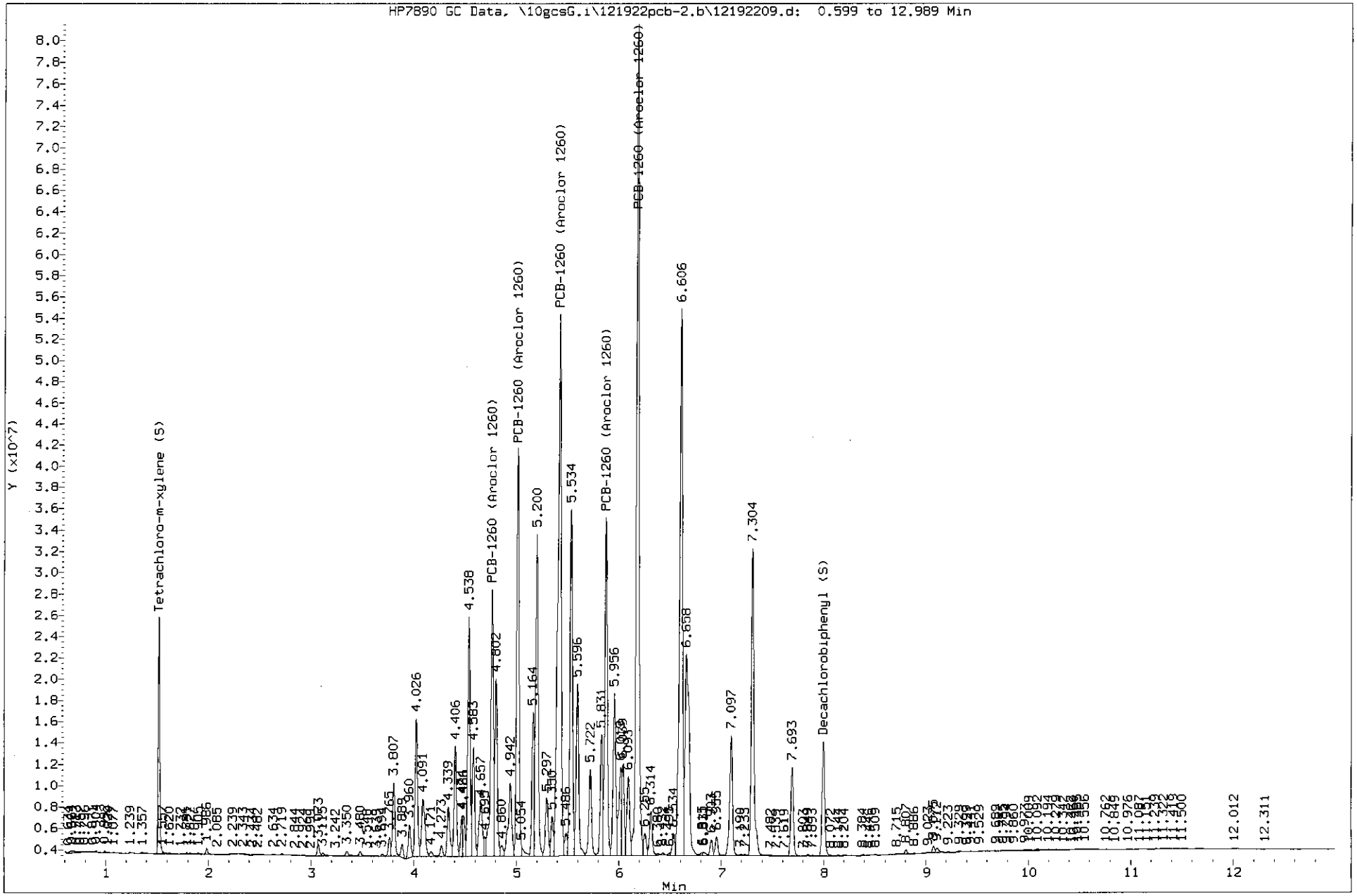
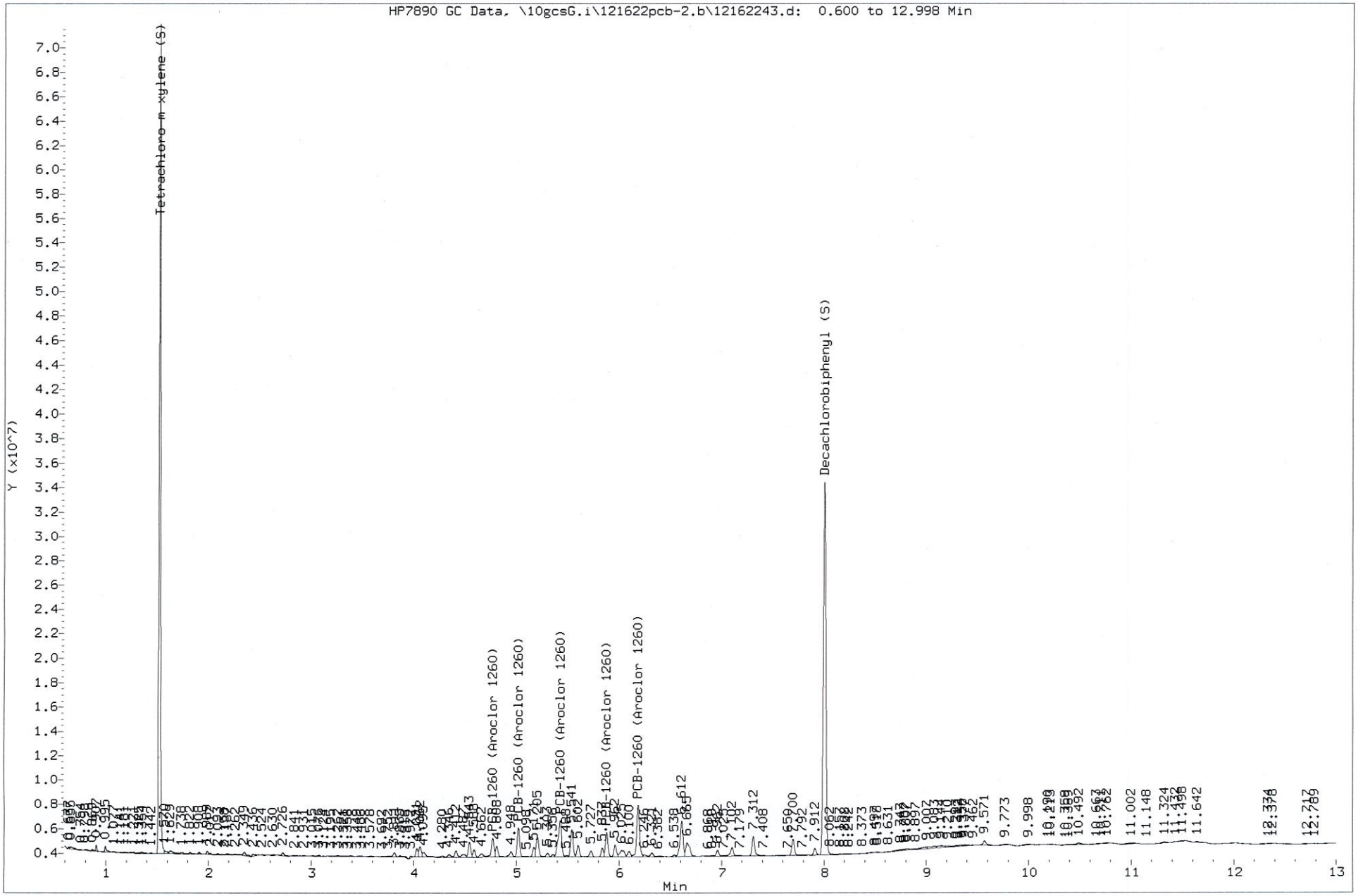
Client Sample ID: SB01-1.0-1.5-1022

Batch 41272-858854
10630039-9 Dilution: 2x



Batch 41272-858854
10630039-10

Data File: \\v10wintarget\chem\10gcsG.i\121622pcb-2.b\12162243.d
Injection Date: 16-DEC-2022 19:20
Instrument: 10gcsG.i
Client Sample ID: SB01-2.5-3.0-1022



Batch 41272-858854
106300039-11

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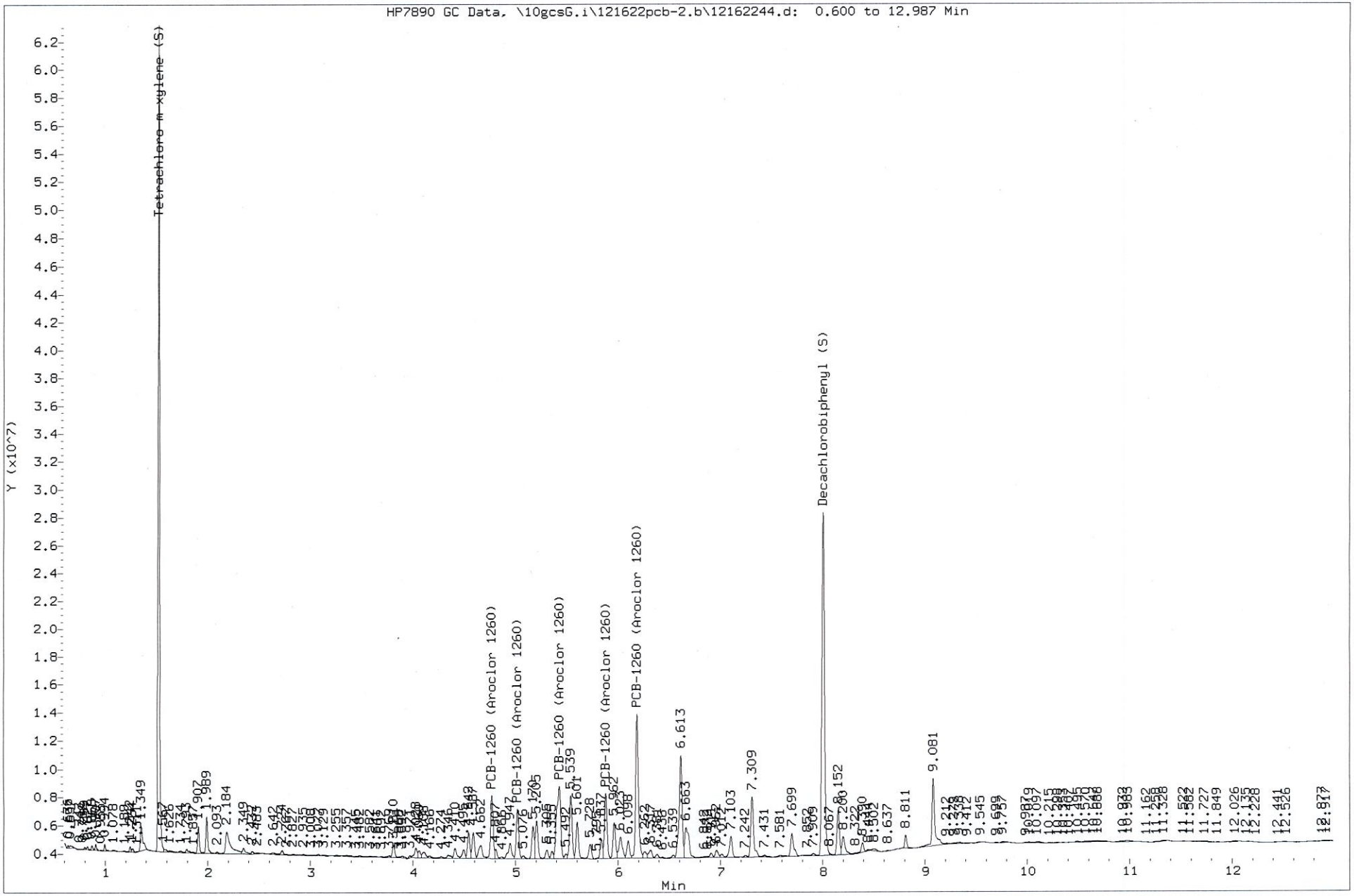
Injection Date: 16-DEC-2022 19:36
Instrument: 10gcsG.i
Client Sample ID: SB03-0.0-0.5-1022



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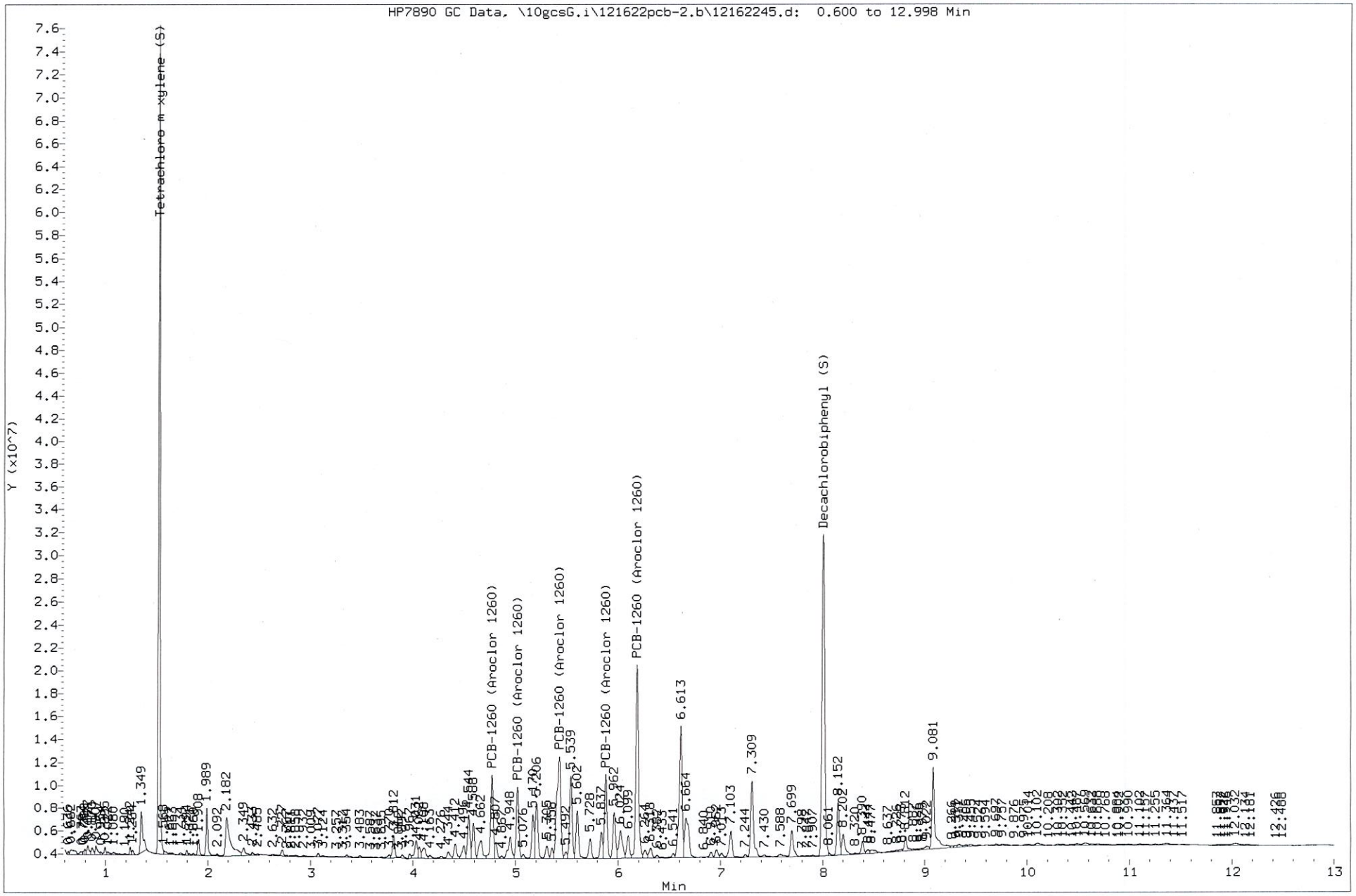
Injection Date: 16-DEC-2022 19:52
Instrument: 10gcsG.i
Client Sample ID: SB03D-0.0-0.5-1022

Batch 41272-858854
106300391-12



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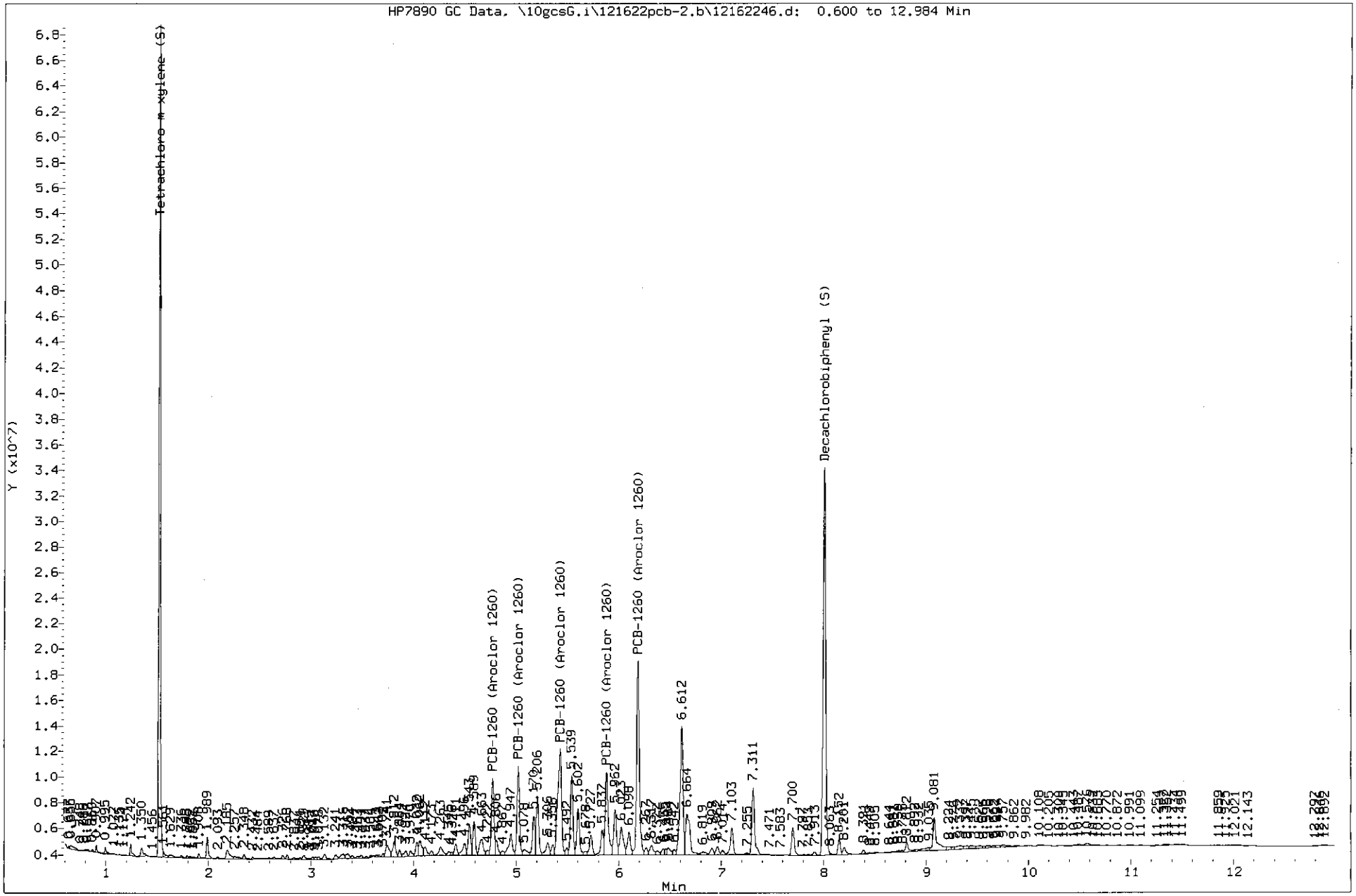
Injection Date: 16-DEC-2022 20:08
Instrument: 10gcsG.i
Client Sample ID: SB03-1.0-1.5-1022

Batch 41272-858854
10630039-13



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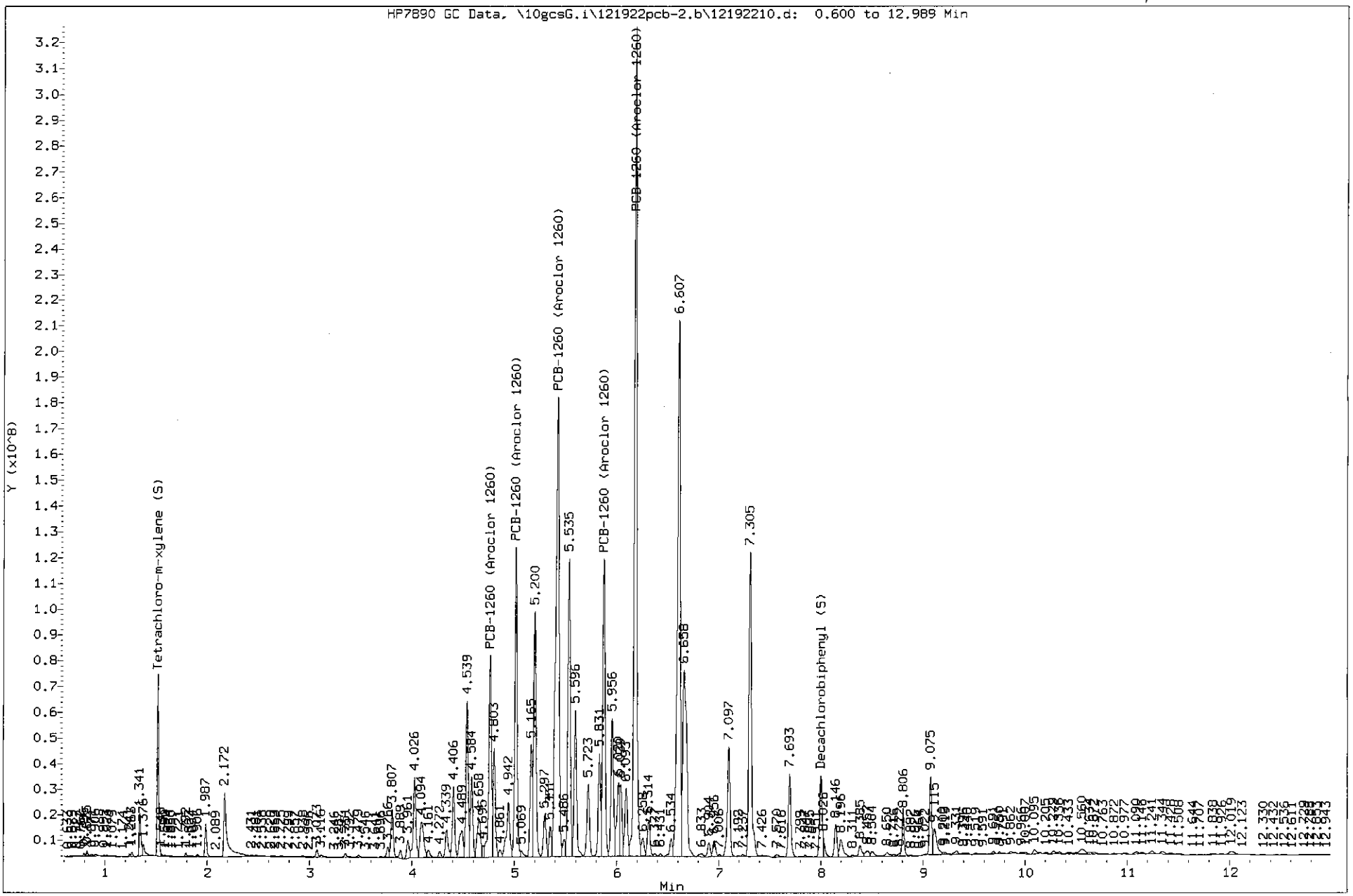
Client Sample ID: ISM01-0.0-0.2-1022

Batch 41272-8588854
106300039-14



Batch 41272-858854
106300039-14 Dilution 5x

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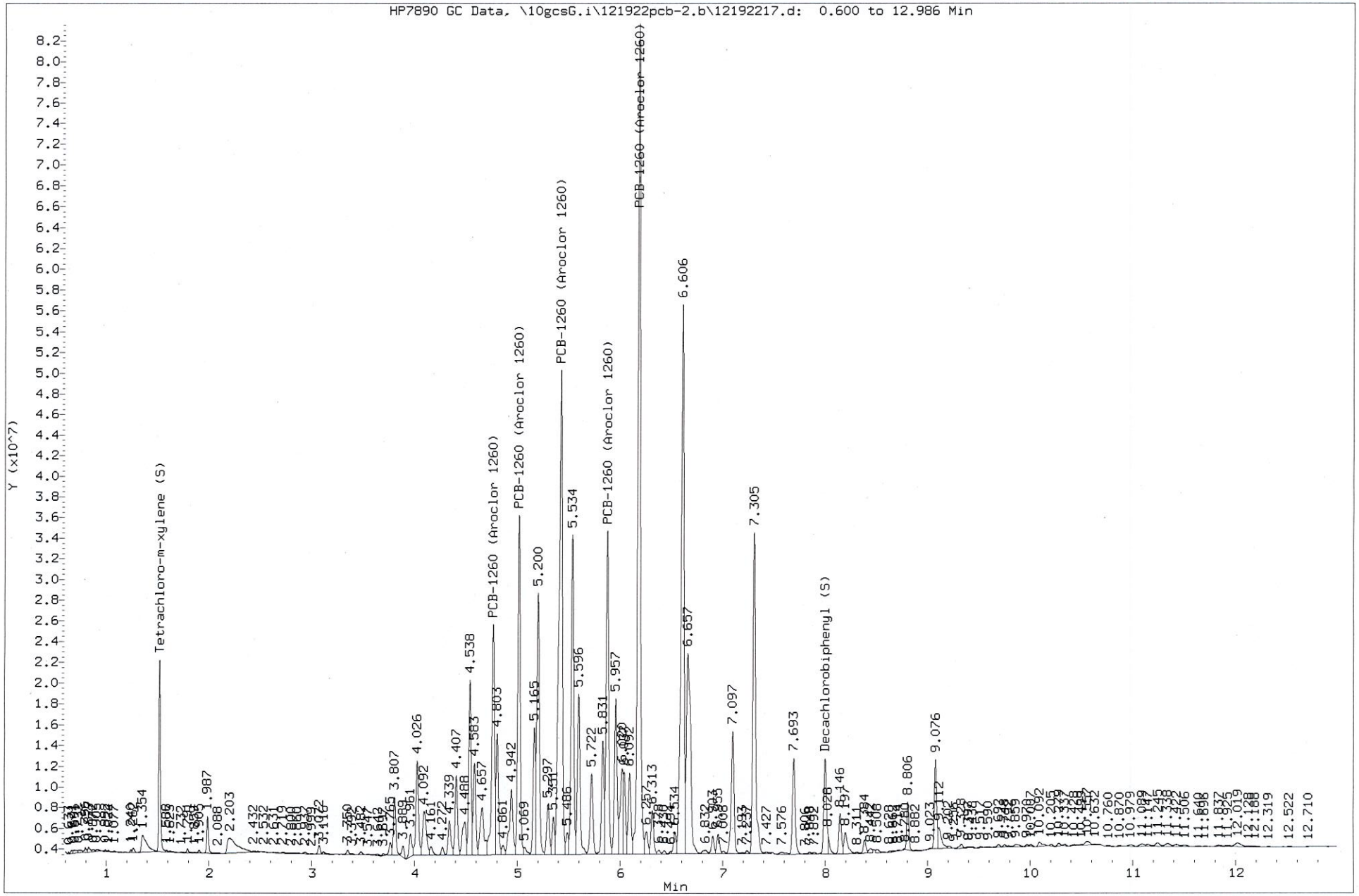
Client Sample ID: ISM01-0.0-0.2-1022



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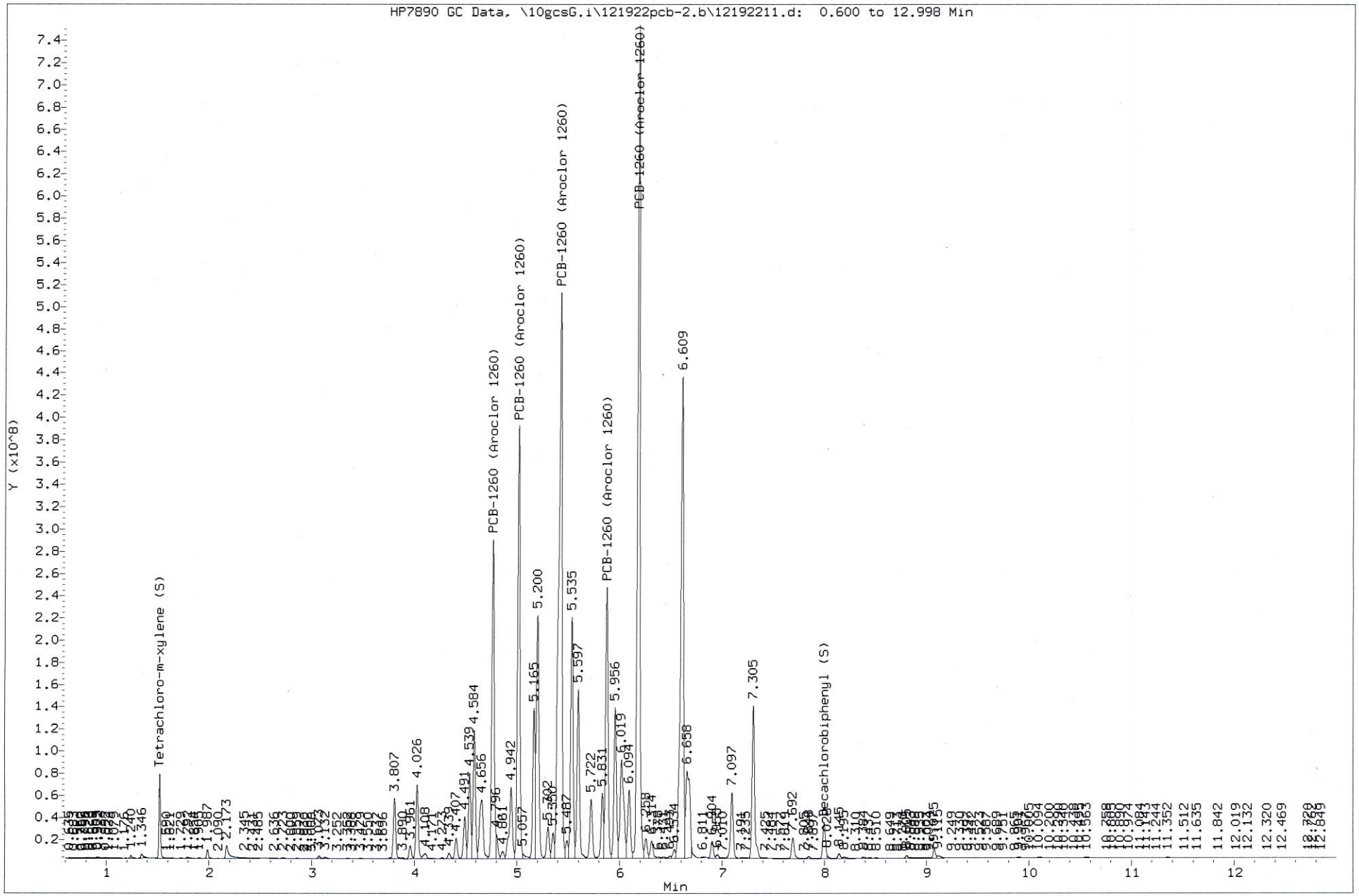
Instrument: 10gcsG.i
Client Sample ID: ISM03-0.0-0.2-1022

Batch 41272-859854
106300039-15



Batch 41272-858854
10630039-15 Dilution: 10x

Data File: \\v10wintarget\chem\10gcsG.i\121922pcb-2.b\12192218.d
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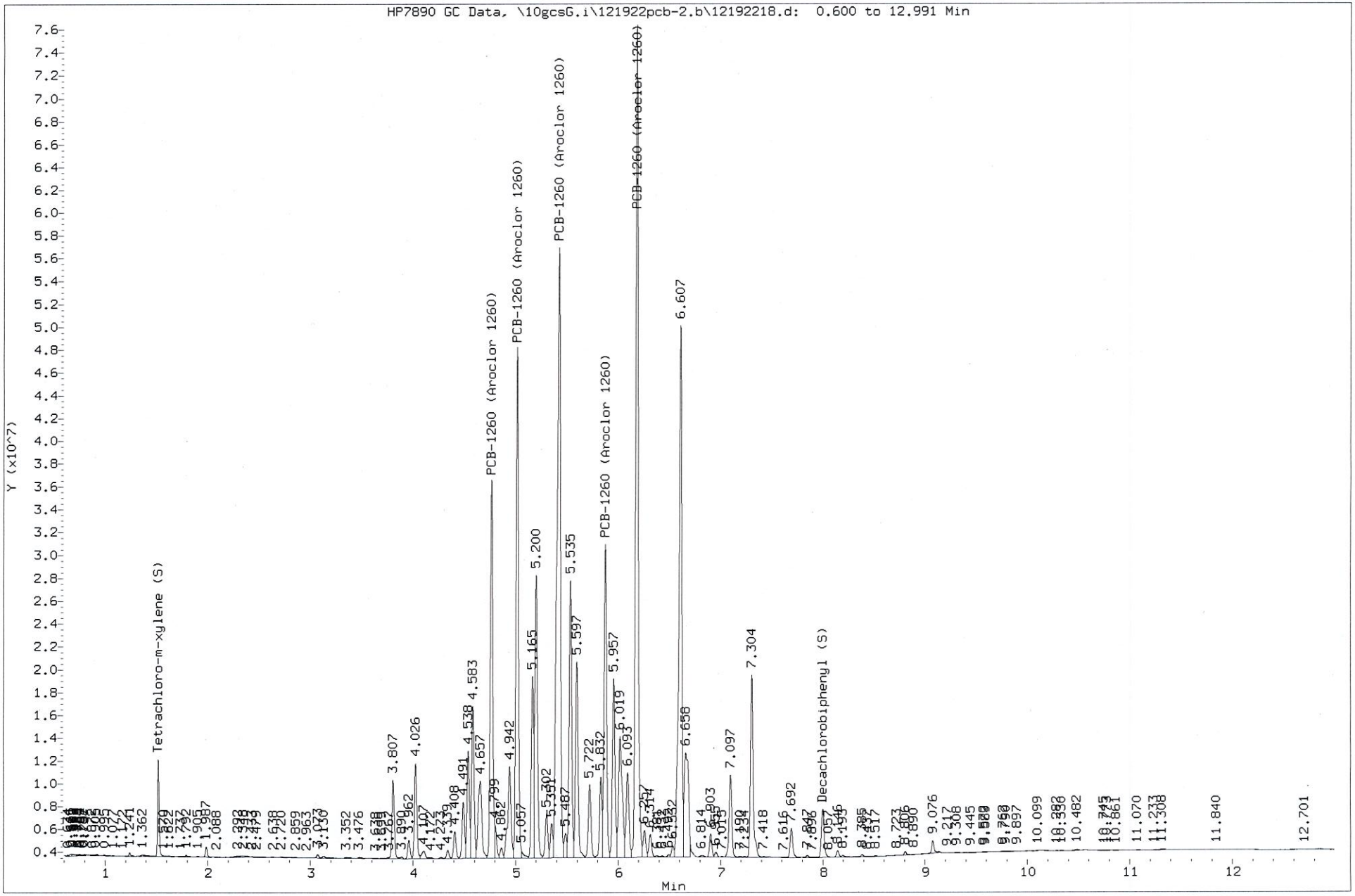

Batch 41272-858854
10630039-16

Data File: \\v10wintarget\chem\10gcsG.i\121922pcb-2.b\12192212.d
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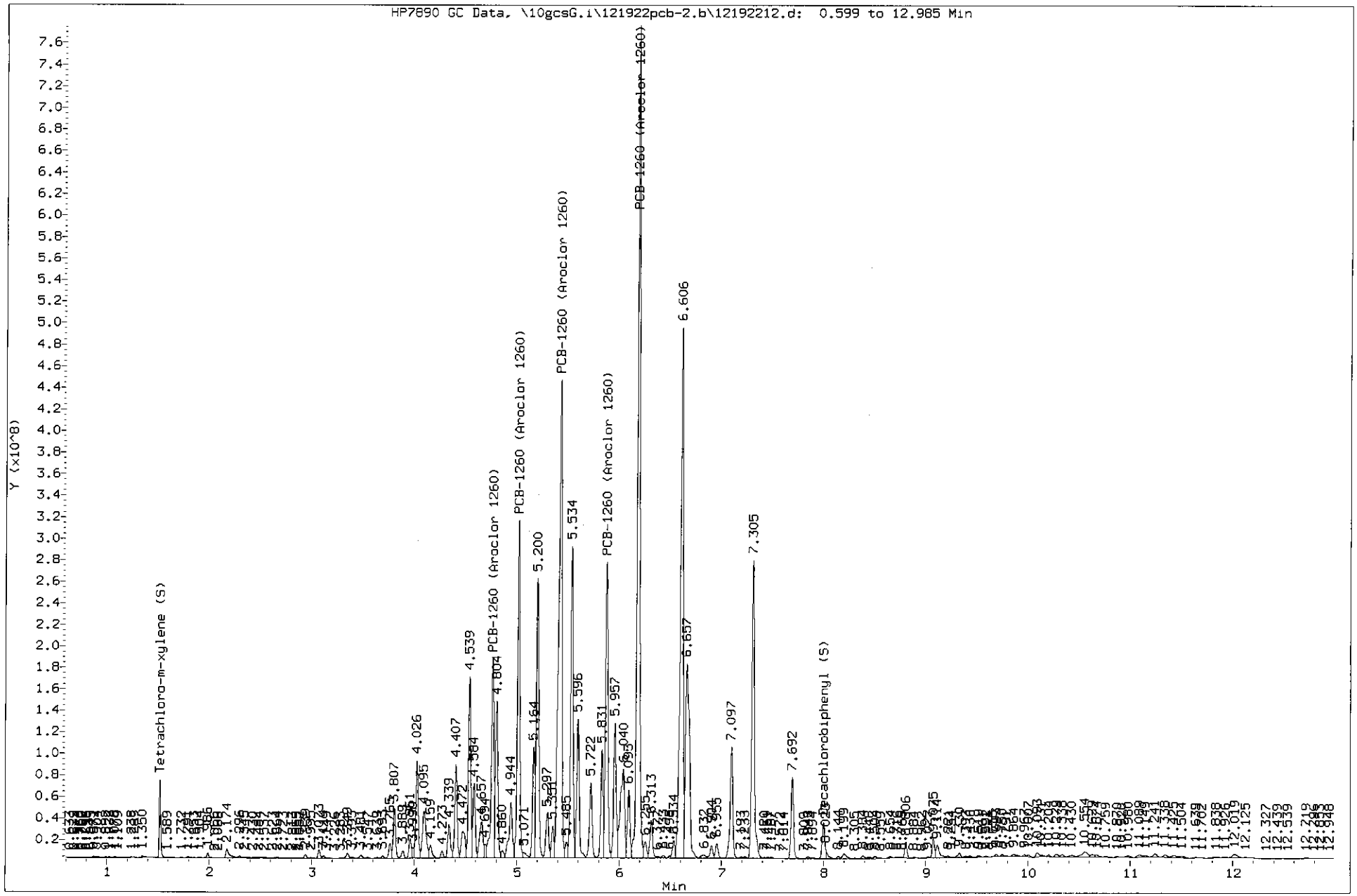
Client Sample ID: SB02-0.0-0.5-1022



Batch 41272-858854
10630039-16 Dilution: 10X

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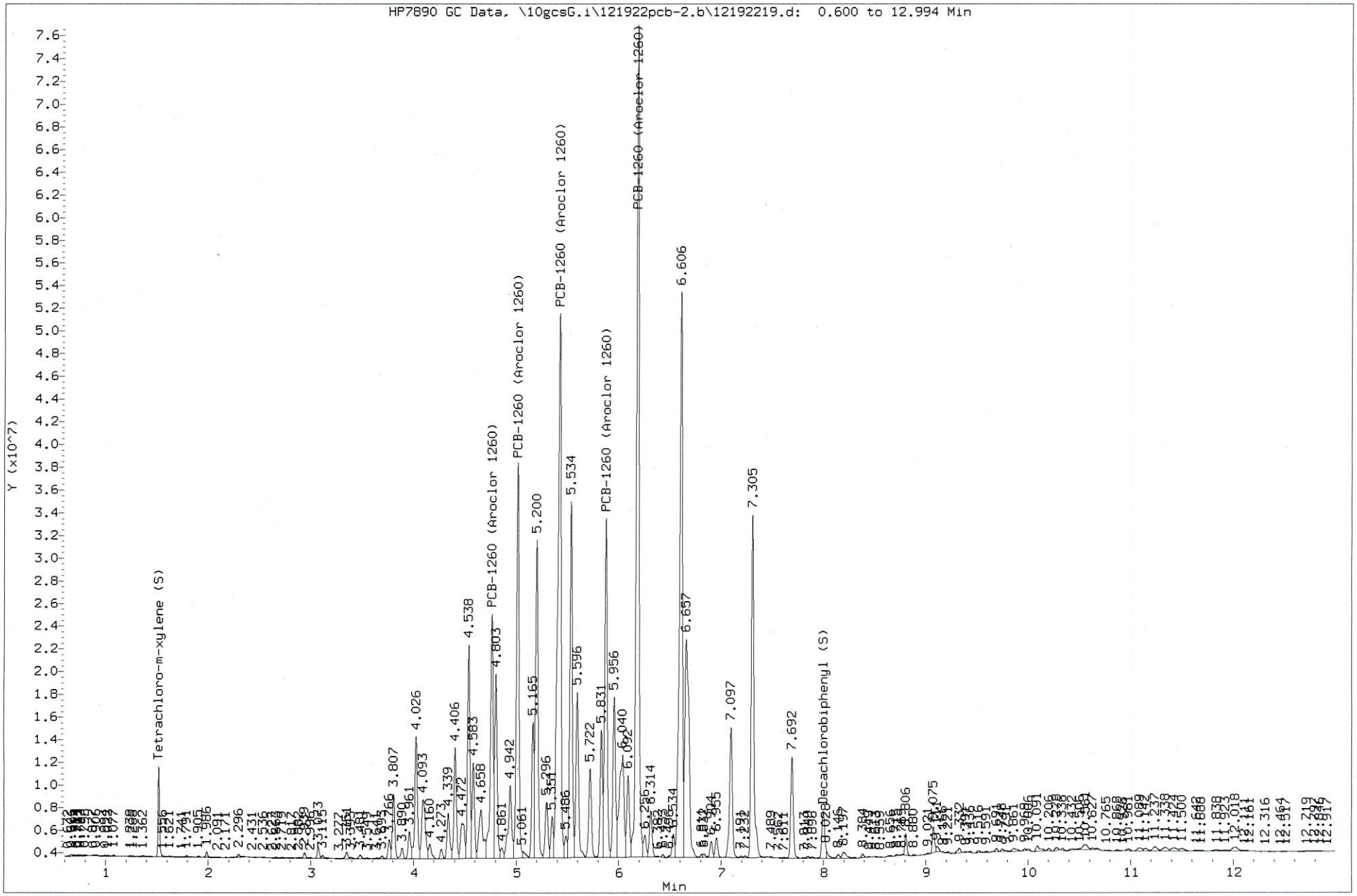

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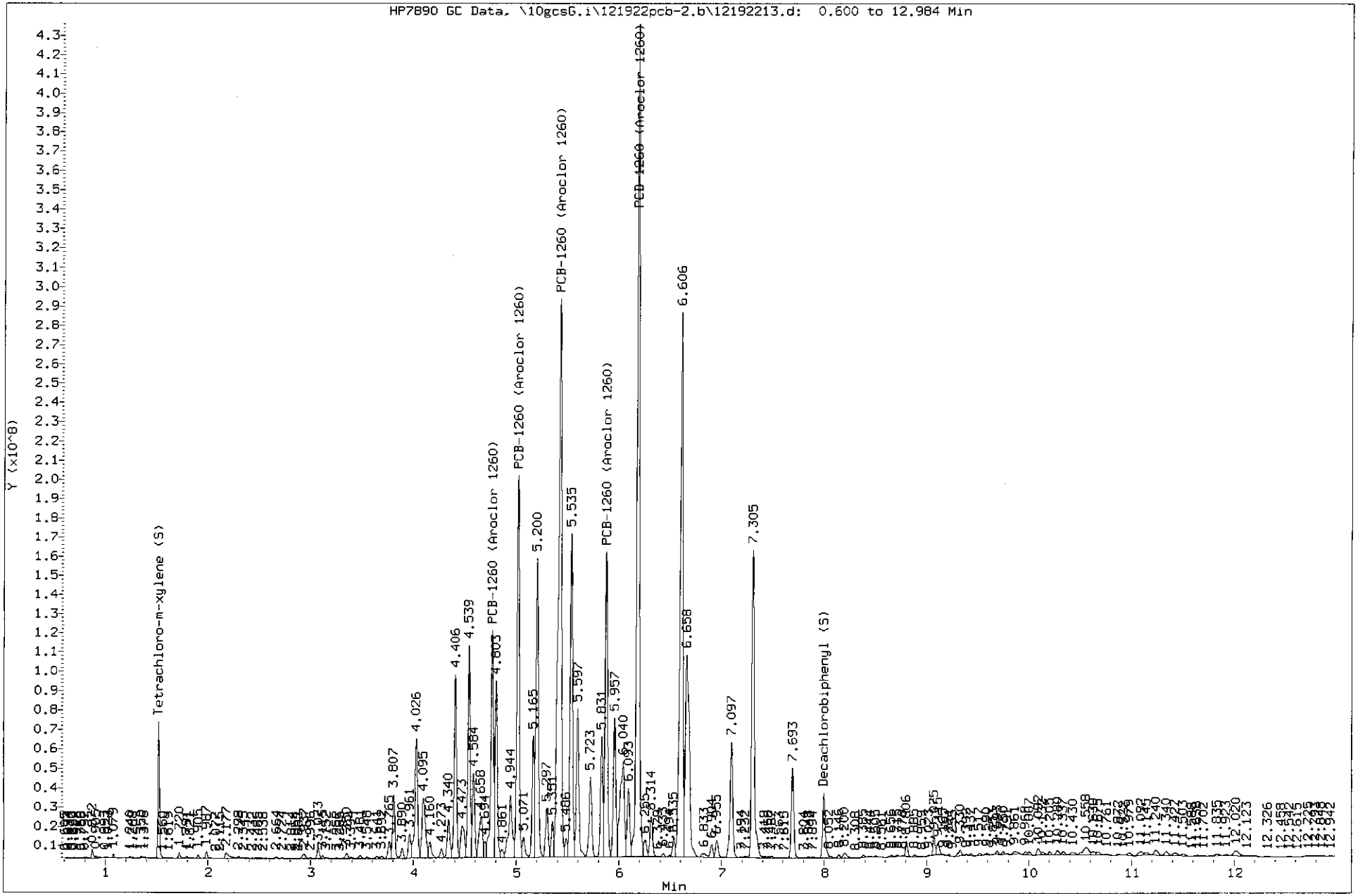
Instrument: 10gcsG.i
Client Sample ID: SB02D-0.0-0.5-1022

Batch 41272-858854
106300039-17



Batch 41272-858854
10630039-17 Dilution: 5X

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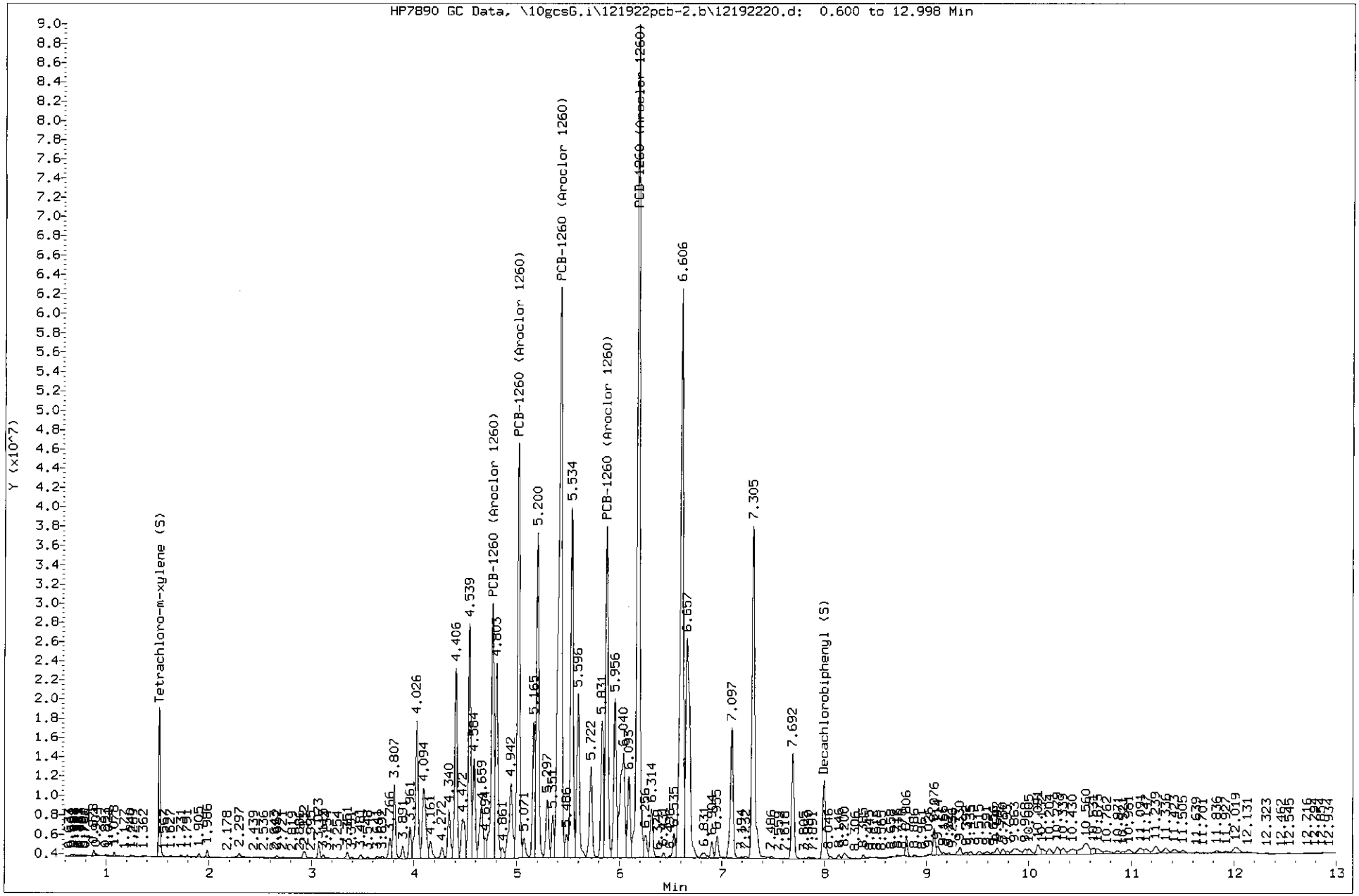

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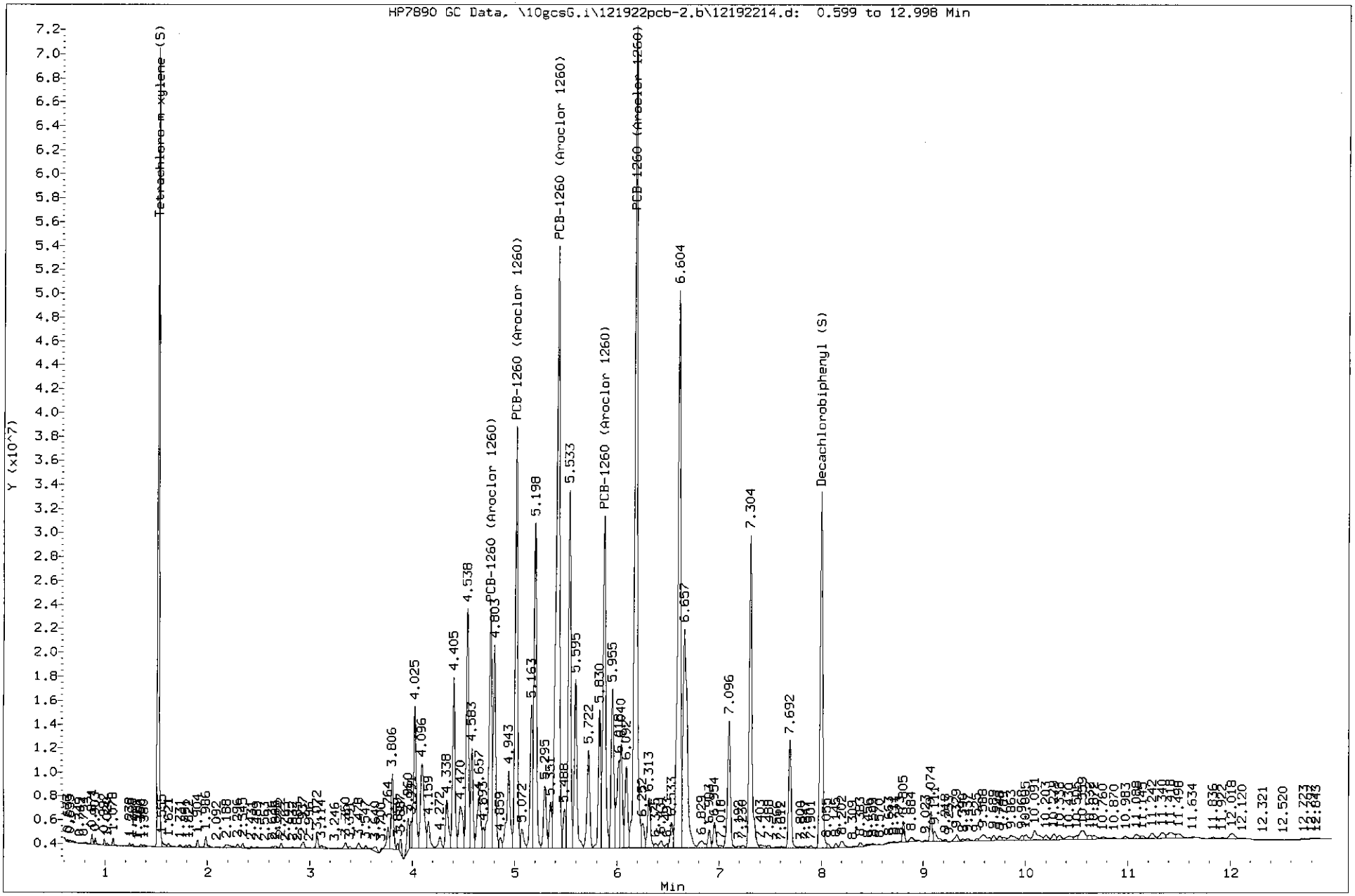
Client Sample ID: SB02-1-1.5-1022

Batch 41272-858854
10630039-18



Data File: \\v10wintarget\chem\10gcsG.i\121922pcb-2.b\12192215.d
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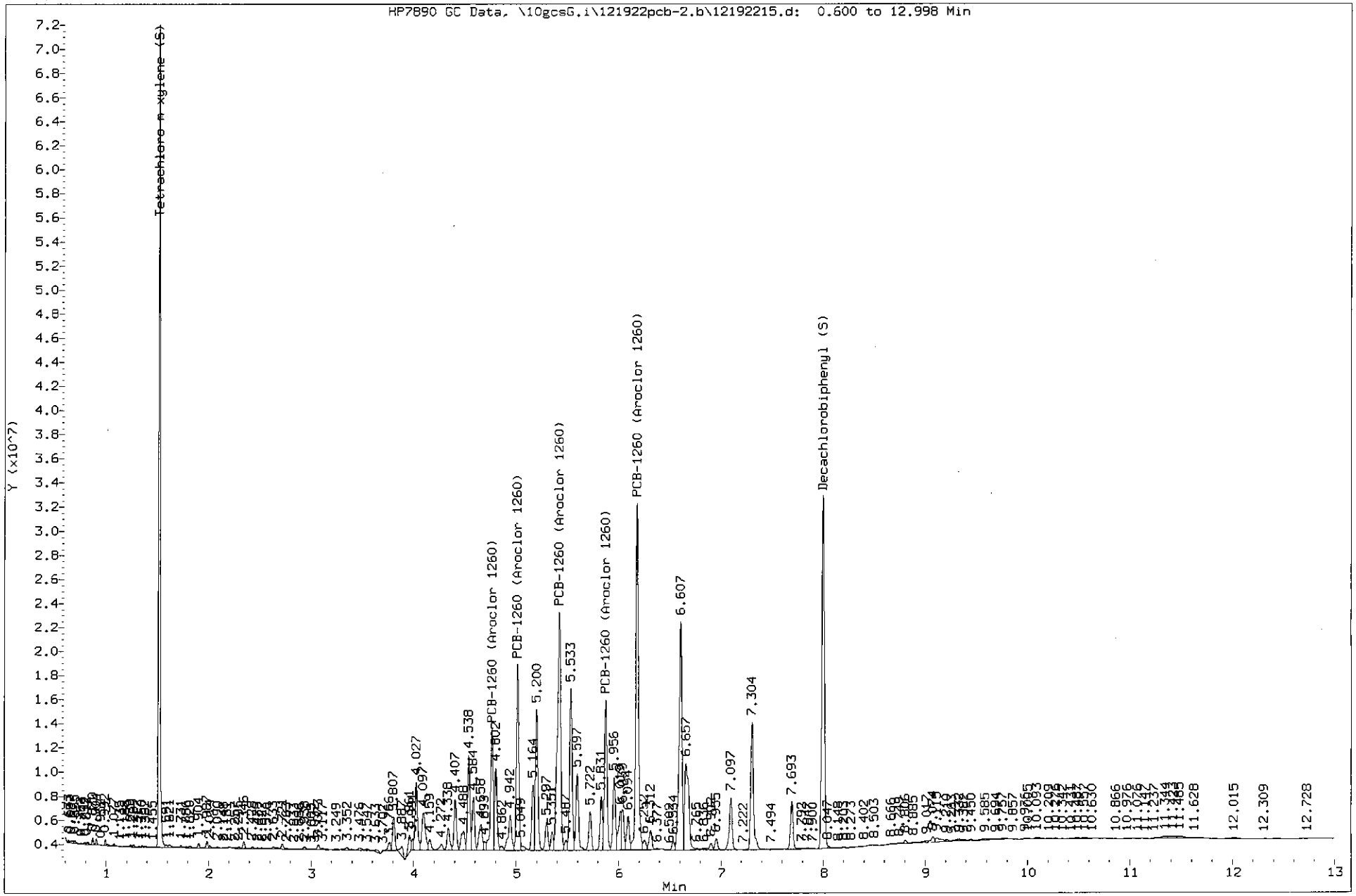
Instrument: 10gcsG.i
Client Sample ID: SB02-2.5-3.0-1022

Batch 41272-858854
10630039-19



Batch 41272-858854
106300391-20

Data File: \\v10wintarget\chem\10gcsG.i\121922pcb-2.b\12192216.d
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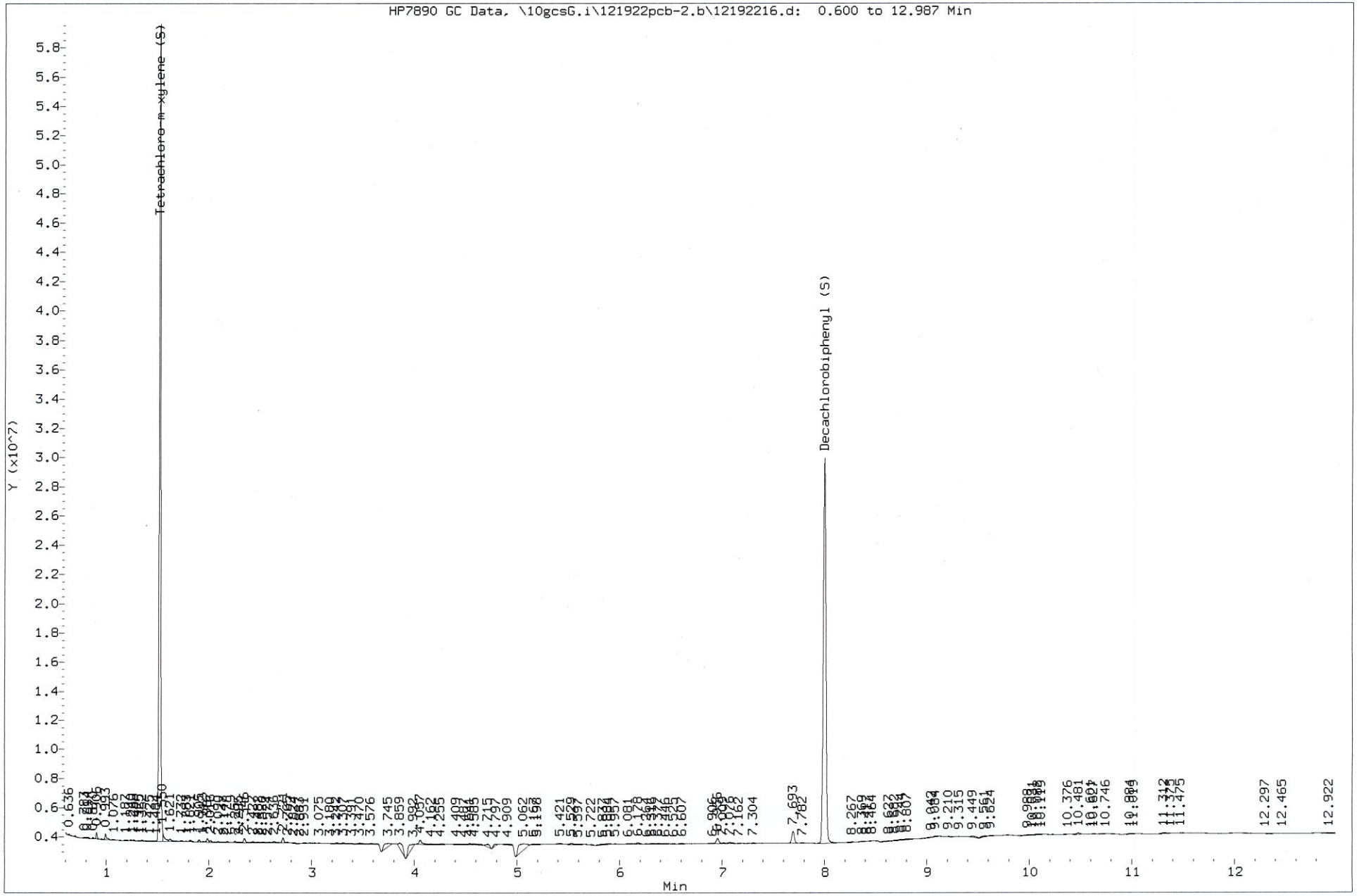
Instrument: 10gcsG.i
Client Sample ID: SB03-2.5-3.0-1022



Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

December 21, 2022

David Hodson
Jacobs
2020 SW 4th Avenue
Suite 300
Portland, OR 97201

RE: Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

Dear David Hodson:

Enclosed are the analytical results for sample(s) received by the laboratory on October 20, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: UPRR-Sysdat@ghd.com, UPRR

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
A2LA Certification #: 2926.01*
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
GMP+ Certification #: GMP050884
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240*
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification (A2LA) #: R-036
North Dakota Certification (MN) #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Ohio VAP Certification (1800) #: CL110*
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
*Please Note: Applicable air certifications are denoted with an asterisk (*).

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10630481001	**SB14-0.0-0.5-1022**	Solid	10/19/22 08:00	10/20/22 10:30
10630481002	**SB14-1.0-1.5-1022**	Solid	10/19/22 08:05	10/20/22 10:30
10630481003	**SB14-2.5-3.0-1022**	Solid	10/19/22 09:10	10/20/22 10:30
10630481004	**SB13-0.0-0.5-1022**	Solid	10/19/22 10:00	10/20/22 10:30
10630481005	**SB13-1.0-1.5-1022**	Solid	10/19/22 10:05	10/20/22 10:30
10630481006	**SB13-2.5-3.0-1022**	Solid	10/19/22 10:10	10/20/22 10:30
10630481007	**SB11-0.0-0.5-1022**	Solid	10/19/22 11:00	10/20/22 10:30
10630481008	**SB11D-0.0-0.5-1022**	Solid	10/19/22 11:05	10/20/22 10:30
10630481009	**SB11-1.0-1.5-1022**	Solid	10/19/22 11:10	10/20/22 10:30
10630481010	**SB11-2.5-3.0-1022**	Solid	10/19/22 11:15	10/20/22 10:30
10630481011	**SB15-0.0-0.5-1022**	Solid	10/19/22 12:00	10/20/22 10:30
10630481012	**SB15-1.0-1.5-1022**	Solid	10/19/22 12:05	10/20/22 10:30
10630481013	**SB15-2.5-3.0-1022**	Solid	10/19/22 12:10	10/20/22 10:30
10630481014	**SB16-0.0-0.5-1022**	Solid	10/19/22 13:00	10/20/22 10:30
10630481015	**SB16-1.0-1.5-1022**	Solid	10/19/22 13:05	10/20/22 10:30
10630481016	**SB16-2.5-3.0-1022**	Solid	10/19/22 13:10	10/20/22 10:30
10630481017	**ISM02-0.0-0.2-1022**	Solid	10/19/22 14:00	10/20/22 10:30
10630481018	**ISM07-0.0-0.2-1022**	Solid	10/19/22 11:25	10/20/22 10:30
10630481019	**ISM07T-0.0-0.2-1022**	Solid	10/19/22 11:30	10/20/22 10:30
10630481020	**ISM07TT-0.0-0.2-1022**	Solid	10/19/22 11:35	10/20/22 10:30
10630481021	**ISM06-0.0-0.2-1022**	Solid	10/19/22 09:25	10/20/22 10:30

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SAMPLE ANALYTE COUNT

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10630481001	SB14-0.0-0.5-1022	EPA 8082A	RAG	11	PASI-M
10630481002	SB14-1.0-1.5-1022	EPA 8082A	RAG	11	PASI-M
10630481003	SB14-2.5-3.0-1022	EPA 8082A	RAG	11	PASI-M
10630481004	SB13-0.0-0.5-1022	EPA 8082A	RAG	11	PASI-M
10630481005	SB13-1.0-1.5-1022	EPA 8082A	RAG	11	PASI-M
10630481006	SB13-2.5-3.0-1022	EPA 8082A	RAG	11	PASI-M
10630481007	SB11-0.0-0.5-1022	EPA 8082A	RAG	11	PASI-M
10630481008	SB11D-0.0-0.5-1022	EPA 8082A	RAG	11	PASI-M
10630481009	SB11-1.0-1.5-1022	EPA 8082A	RAG	11	PASI-M
10630481010	SB11-2.5-3.0-1022	EPA 8082A	RAG	11	PASI-M
10630481011	SB15-0.0-0.5-1022	EPA 8082A	RAG	11	PASI-M
10630481012	SB15-1.0-1.5-1022	EPA 8082A	RAG	11	PASI-M
10630481013	SB15-2.5-3.0-1022	EPA 8082A	RAG	11	PASI-M
10630481014	SB16-0.0-0.5-1022	EPA 8082A	RAG	11	PASI-M
10630481015	SB16-1.0-1.5-1022	EPA 8082A	RAG	11	PASI-M
10630481016	SB16-2.5-3.0-1022	EPA 8082A	RAG	11	PASI-M
10630481017	ISM02-0.0-0.2-1022	EPA 8082A	RAG	11	PASI-M
10630481018	ISM07-0.0-0.2-1022	EPA 8082A	RAG	11	PASI-M
10630481019	ISM07T-0.0-0.2-1022	EPA 8082A	RAG	11	PASI-M
10630481020	ISM07TT-0.0-0.2-1022	EPA 8082A	RAG	11	PASI-M
10630481021	ISM06-0.0-0.2-1022	EPA 8082A	RAG	11	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SUMMARY OF DETECTION

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10630481001	**SB14-0.0-0.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	296	ug/kg	48.6	12/20/22 15:50	
10630481002	**SB14-1.0-1.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	124	ug/kg	49.8	12/20/22 16:06	
10630481003	**SB14-2.5-3.0-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	163	ug/kg	49.0	12/20/22 16:22	
10630481004	**SB13-0.0-0.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	224	ug/kg	49.9	12/20/22 16:37	
10630481005	**SB13-1.0-1.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	52.6	ug/kg	49.2	12/20/22 16:53	
10630481006	**SB13-2.5-3.0-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	19.3J	ug/kg	49.7	12/20/22 17:09	
10630481007	**SB11-0.0-0.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	4110	ug/kg	246	12/21/22 07:46	M1
10630481008	**SB11D-0.0-0.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	3210	ug/kg	98.9	12/21/22 08:02	
10630481009	**SB11-1.0-1.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	482	ug/kg	48.4	12/20/22 17:40	
10630481010	**SB11-2.5-3.0-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	103	ug/kg	49.0	12/20/22 17:56	
10630481011	**SB15-0.0-0.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	339	ug/kg	49.5	12/20/22 18:12	
10630481012	**SB15-1.0-1.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	65.2	ug/kg	48.2	12/20/22 18:28	
10630481013	**SB15-2.5-3.0-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	175	ug/kg	49.6	12/20/22 18:44	
10630481014	**SB16-0.0-0.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	260	ug/kg	47.6	12/20/22 19:00	
10630481015	**SB16-1.0-1.5-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	104	ug/kg	49.1	12/20/22 19:48	
10630481016	**SB16-2.5-3.0-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	389	ug/kg	49.3	12/20/22 20:04	
10630481017	**ISM02-0.0-0.2-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	267	ug/kg	48.4	12/20/22 20:20	
10630481018	**ISM07-0.0-0.2-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	189	ug/kg	48.6	12/20/22 20:36	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SUMMARY OF DETECTION

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10630481019	**ISM07T-0.0-0.2-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	179	ug/kg	49.6	12/20/22 20:52	
10630481020	**ISM07TT-0.0-0.2-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	185	ug/kg	49.2	12/20/22 21:08	
10630481021	**ISM06-0.0-0.2-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	631	ug/kg	49.3	12/20/22 22:59	

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PROJECT NARRATIVE

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

Method: **EPA 8082A**
Description: 8082A GCS PCB
Client: UPRR_Jacobs
Date: December 21, 2022

General Information:
21 samples were analyzed for EPA 8082A by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 859359

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10630481007

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 4541297)
  - PCB-1260 (Aroclor 1260)
- MSD (Lab ID: 4541298)
  - PCB-1260 (Aroclor 1260)

QC Batch: 859363

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10632522001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 4541336)
  - PCB-1260 (Aroclor 1260)

Additional Comments:

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PROJECT NARRATIVE

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

Method: **EPA 8082A**
Description: 8082A GCS PCB
Client: UPRR_Jacobs
Date: December 21, 2022

Analyte Comments:

QC Batch: 859359

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 4541297)
  - PCB-1260 (Aroclor 1260)
- MSD (Lab ID: 4541298)
  - PCB-1260 (Aroclor 1260)

QC Batch: 859363

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 4541336)
  - PCB-1260 (Aroclor 1260)
- MSD (Lab ID: 4541337)
  - PCB-1260 (Aroclor 1260)

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

Sample: SB14-0.0-0.5-1022 **Lab ID: 10630481001** Collected: 10/19/22 08:00 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.6**	ug/kg	48.6	20.6	1	12/20/22 07:44	12/20/22 15:50	12674-11-2	
PCB-1221 (Aroclor 1221)	**<33.6**	ug/kg	48.6	33.6	1	12/20/22 07:44	12/20/22 15:50	11104-28-2	
PCB-1232 (Aroclor 1232)	**<28.8**	ug/kg	48.6	28.8	1	12/20/22 07:44	12/20/22 15:50	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.1**	ug/kg	48.6	30.1	1	12/20/22 07:44	12/20/22 15:50	53469-21-9	
PCB-1248 (Aroclor 1248)	**<24.8**	ug/kg	48.6	24.8	1	12/20/22 07:44	12/20/22 15:50	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.2**	ug/kg	48.6	24.2	1	12/20/22 07:44	12/20/22 15:50	11097-69-1	
PCB-1260 (Aroclor 1260)	**296**	ug/kg	48.6	17.4	1	12/20/22 07:44	12/20/22 15:50	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.0**	ug/kg	48.6	32.0	1	12/20/22 07:44	12/20/22 15:50	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.4**	ug/kg	48.6	23.4	1	12/20/22 07:44	12/20/22 15:50	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	70	%.	53-125		1	12/20/22 07:44	12/20/22 15:50	877-09-8	
Decachlorobiphenyl (S)	92	%.	41-125		1	12/20/22 07:44	12/20/22 15:50	2051-24-3	

Sample: SB14-1.0-1.5-1022 **Lab ID: 10630481002** Collected: 10/19/22 08:05 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.1**	ug/kg	49.8	21.1	1	12/20/22 07:44	12/20/22 16:06	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.4**	ug/kg	49.8	34.4	1	12/20/22 07:44	12/20/22 16:06	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.4**	ug/kg	49.8	29.4	1	12/20/22 07:44	12/20/22 16:06	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.8**	ug/kg	49.8	30.8	1	12/20/22 07:44	12/20/22 16:06	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.4**	ug/kg	49.8	25.4	1	12/20/22 07:44	12/20/22 16:06	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.8**	ug/kg	49.8	24.8	1	12/20/22 07:44	12/20/22 16:06	11097-69-1	
PCB-1260 (Aroclor 1260)	**124**	ug/kg	49.8	17.8	1	12/20/22 07:44	12/20/22 16:06	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.7**	ug/kg	49.8	32.7	1	12/20/22 07:44	12/20/22 16:06	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.9**	ug/kg	49.8	23.9	1	12/20/22 07:44	12/20/22 16:06	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	73	%.	53-125		1	12/20/22 07:44	12/20/22 16:06	877-09-8	
Decachlorobiphenyl (S)	100	%.	41-125		1	12/20/22 07:44	12/20/22 16:06	2051-24-3	

Sample: SB14-2.5-3.0-1022 **Lab ID: 10630481003** Collected: 10/19/22 09:10 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.8**	ug/kg	49.0	20.8	1	12/20/22 07:44	12/20/22 16:22	12674-11-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

Sample: SB14-2.5-3.0-1022 **Lab ID: 10630481003** Collected: 10/19/22 09:10 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1221 (Aroclor 1221)	**<33.9**	ug/kg	49.0	33.9	1	12/20/22 07:44	12/20/22 16:22	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.0**	ug/kg	49.0	29.0	1	12/20/22 07:44	12/20/22 16:22	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.3**	ug/kg	49.0	30.3	1	12/20/22 07:44	12/20/22 16:22	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.0**	ug/kg	49.0	25.0	1	12/20/22 07:44	12/20/22 16:22	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.4**	ug/kg	49.0	24.4	1	12/20/22 07:44	12/20/22 16:22	11097-69-1	
PCB-1260 (Aroclor 1260)	**163**	ug/kg	49.0	17.5	1	12/20/22 07:44	12/20/22 16:22	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.2**	ug/kg	49.0	32.2	1	12/20/22 07:44	12/20/22 16:22	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.6**	ug/kg	49.0	23.6	1	12/20/22 07:44	12/20/22 16:22	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	77	%.	53-125		1	12/20/22 07:44	12/20/22 16:22	877-09-8	
Decachlorobiphenyl (S)	104	%.	41-125		1	12/20/22 07:44	12/20/22 16:22	2051-24-3	

Sample: SB13-0.0-0.5-1022 **Lab ID: 10630481004** Collected: 10/19/22 10:00 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.1**	ug/kg	49.9	21.1	1	12/20/22 07:44	12/20/22 16:37	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.4**	ug/kg	49.9	34.4	1	12/20/22 07:44	12/20/22 16:37	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.5**	ug/kg	49.9	29.5	1	12/20/22 07:44	12/20/22 16:37	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.8**	ug/kg	49.9	30.8	1	12/20/22 07:44	12/20/22 16:37	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.4**	ug/kg	49.9	25.4	1	12/20/22 07:44	12/20/22 16:37	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.9**	ug/kg	49.9	24.9	1	12/20/22 07:44	12/20/22 16:37	11097-69-1	
PCB-1260 (Aroclor 1260)	**224**	ug/kg	49.9	17.8	1	12/20/22 07:44	12/20/22 16:37	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.8**	ug/kg	49.9	32.8	1	12/20/22 07:44	12/20/22 16:37	37324-23-5	
PCB-1268 (Aroclor 1268)	**<24.0**	ug/kg	49.9	24.0	1	12/20/22 07:44	12/20/22 16:37	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	65	%.	53-125		1	12/20/22 07:44	12/20/22 16:37	877-09-8	
Decachlorobiphenyl (S)	95	%.	41-125		1	12/20/22 07:44	12/20/22 16:37	2051-24-3	

Sample: SB13-1.0-1.5-1022 **Lab ID: 10630481005** Collected: 10/19/22 10:05 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.8**	ug/kg	49.2	20.8	1	12/20/22 07:44	12/20/22 16:53	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.0**	ug/kg	49.2	34.0	1	12/20/22 07:44	12/20/22 16:53	11104-28-2	

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(612)607-1700

ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

Sample: SB13-1.0-1.5-1022 **Lab ID: 10630481005** Collected: 10/19/22 10:05 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1232 (Aroclor 1232)	**<29.1**	ug/kg	49.2	29.1	1	12/20/22 07:44	12/20/22 16:53	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.4**	ug/kg	49.2	30.4	1	12/20/22 07:44	12/20/22 16:53	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.1**	ug/kg	49.2	25.1	1	12/20/22 07:44	12/20/22 16:53	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.5**	ug/kg	49.2	24.5	1	12/20/22 07:44	12/20/22 16:53	11097-69-1	
PCB-1260 (Aroclor 1260)	**52.6**	ug/kg	49.2	17.6	1	12/20/22 07:44	12/20/22 16:53	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.3**	ug/kg	49.2	32.3	1	12/20/22 07:44	12/20/22 16:53	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.6**	ug/kg	49.2	23.6	1	12/20/22 07:44	12/20/22 16:53	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	86	%.	53-125		1	12/20/22 07:44	12/20/22 16:53	877-09-8	
Decachlorobiphenyl (S)	103	%.	41-125		1	12/20/22 07:44	12/20/22 16:53	2051-24-3	

Sample: SB13-2.5-3.0-1022 **Lab ID: 10630481006** Collected: 10/19/22 10:10 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.0**	ug/kg	49.7	21.0	1	12/20/22 07:44	12/20/22 17:09	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.3**	ug/kg	49.7	34.3	1	12/20/22 07:44	12/20/22 17:09	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.4**	ug/kg	49.7	29.4	1	12/20/22 07:44	12/20/22 17:09	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.7**	ug/kg	49.7	30.7	1	12/20/22 07:44	12/20/22 17:09	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.4**	ug/kg	49.7	25.4	1	12/20/22 07:44	12/20/22 17:09	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.8**	ug/kg	49.7	24.8	1	12/20/22 07:44	12/20/22 17:09	11097-69-1	
PCB-1260 (Aroclor 1260)	**19.3J**	ug/kg	49.7	17.8	1	12/20/22 07:44	12/20/22 17:09	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.7**	ug/kg	49.7	32.7	1	12/20/22 07:44	12/20/22 17:09	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.9**	ug/kg	49.7	23.9	1	12/20/22 07:44	12/20/22 17:09	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	80	%.	53-125		1	12/20/22 07:44	12/20/22 17:09	877-09-8	
Decachlorobiphenyl (S)	97	%.	41-125		1	12/20/22 07:44	12/20/22 17:09	2051-24-3	

Sample: SB11-0.0-0.5-1022 **Lab ID: 10630481007** Collected: 10/19/22 11:00 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.8**	ug/kg	49.2	20.8	1	12/20/22 07:44	12/20/22 15:02	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.0**	ug/kg	49.2	34.0	1	12/20/22 07:44	12/20/22 15:02	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.1**	ug/kg	49.2	29.1	1	12/20/22 07:44	12/20/22 15:02	11141-16-5	

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

Sample: SB11-0.0-0.5-1022 **Lab ID: 10630481007** Collected: 10/19/22 11:00 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1242 (Aroclor 1242)	**<30.4**	ug/kg	49.2	30.4	1	12/20/22 07:44	12/20/22 15:02	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.1**	ug/kg	49.2	25.1	1	12/20/22 07:44	12/20/22 15:02	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.5**	ug/kg	49.2	24.5	1	12/20/22 07:44	12/20/22 15:02	11097-69-1	
PCB-1260 (Aroclor 1260)	**4110**	ug/kg	246	87.8	5	12/20/22 07:44	12/21/22 07:46	11096-82-5	M1
PCB-1262 (Aroclor 1262)	**<32.3**	ug/kg	49.2	32.3	1	12/20/22 07:44	12/20/22 15:02	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.6**	ug/kg	49.2	23.6	1	12/20/22 07:44	12/20/22 15:02	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	72	%.	53-125		1	12/20/22 07:44	12/20/22 15:02	877-09-8	
Decachlorobiphenyl (S)	94	%.	41-125		1	12/20/22 07:44	12/20/22 15:02	2051-24-3	

Sample: SB11D-0.0-0.5-1022 **Lab ID: 10630481008** Collected: 10/19/22 11:05 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.9**	ug/kg	49.5	20.9	1	12/20/22 07:44	12/20/22 17:25	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.2**	ug/kg	49.5	34.2	1	12/20/22 07:44	12/20/22 17:25	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.3**	ug/kg	49.5	29.3	1	12/20/22 07:44	12/20/22 17:25	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.6**	ug/kg	49.5	30.6	1	12/20/22 07:44	12/20/22 17:25	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.2**	ug/kg	49.5	25.2	1	12/20/22 07:44	12/20/22 17:25	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.7**	ug/kg	49.5	24.7	1	12/20/22 07:44	12/20/22 17:25	11097-69-1	
PCB-1260 (Aroclor 1260)	**3210**	ug/kg	98.9	35.3	2	12/20/22 07:44	12/21/22 08:02	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.5**	ug/kg	49.5	32.5	1	12/20/22 07:44	12/20/22 17:25	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.8**	ug/kg	49.5	23.8	1	12/20/22 07:44	12/20/22 17:25	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	66	%.	53-125		1	12/20/22 07:44	12/20/22 17:25	877-09-8	
Decachlorobiphenyl (S)	88	%.	41-125		1	12/20/22 07:44	12/20/22 17:25	2051-24-3	

Sample: SB11-1.0-1.5-1022 **Lab ID: 10630481009** Collected: 10/19/22 11:10 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.5**	ug/kg	48.4	20.5	1	12/20/22 07:44	12/20/22 17:40	12674-11-2	
PCB-1221 (Aroclor 1221)	**<33.5**	ug/kg	48.4	33.5	1	12/20/22 07:44	12/20/22 17:40	11104-28-2	
PCB-1232 (Aroclor 1232)	**<28.7**	ug/kg	48.4	28.7	1	12/20/22 07:44	12/20/22 17:40	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.0**	ug/kg	48.4	30.0	1	12/20/22 07:44	12/20/22 17:40	53469-21-9	

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

Sample: SB11-1.0-1.5-1022 **Lab ID: 10630481009** Collected: 10/19/22 11:10 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1248 (Aroclor 1248)	**<24.7**	ug/kg	48.4	24.7	1	12/20/22 07:44	12/20/22 17:40	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.2**	ug/kg	48.4	24.2	1	12/20/22 07:44	12/20/22 17:40	11097-69-1	
PCB-1260 (Aroclor 1260)	**482**	ug/kg	48.4	17.3	1	12/20/22 07:44	12/20/22 17:40	11096-82-5	
PCB-1262 (Aroclor 1262)	**<31.9**	ug/kg	48.4	31.9	1	12/20/22 07:44	12/20/22 17:40	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.3**	ug/kg	48.4	23.3	1	12/20/22 07:44	12/20/22 17:40	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	79	%.	53-125		1	12/20/22 07:44	12/20/22 17:40	877-09-8	
Decachlorobiphenyl (S)	90	%.	41-125		1	12/20/22 07:44	12/20/22 17:40	2051-24-3	

Sample: SB11-2.5-3.0-1022 **Lab ID: 10630481010** Collected: 10/19/22 11:15 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.7**	ug/kg	49.0	20.7	1	12/20/22 07:44	12/20/22 17:56	12674-11-2	
PCB-1221 (Aroclor 1221)	**<33.8**	ug/kg	49.0	33.8	1	12/20/22 07:44	12/20/22 17:56	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.0**	ug/kg	49.0	29.0	1	12/20/22 07:44	12/20/22 17:56	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.3**	ug/kg	49.0	30.3	1	12/20/22 07:44	12/20/22 17:56	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.0**	ug/kg	49.0	25.0	1	12/20/22 07:44	12/20/22 17:56	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.4**	ug/kg	49.0	24.4	1	12/20/22 07:44	12/20/22 17:56	11097-69-1	
PCB-1260 (Aroclor 1260)	**103**	ug/kg	49.0	17.5	1	12/20/22 07:44	12/20/22 17:56	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.2**	ug/kg	49.0	32.2	1	12/20/22 07:44	12/20/22 17:56	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.5**	ug/kg	49.0	23.5	1	12/20/22 07:44	12/20/22 17:56	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	64	%.	53-125		1	12/20/22 07:44	12/20/22 17:56	877-09-8	
Decachlorobiphenyl (S)	71	%.	41-125		1	12/20/22 07:44	12/20/22 17:56	2051-24-3	

Sample: SB15-0.0-0.5-1022 **Lab ID: 10630481011** Collected: 10/19/22 12:00 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.9**	ug/kg	49.5	20.9	1	12/20/22 07:44	12/20/22 18:12	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.2**	ug/kg	49.5	34.2	1	12/20/22 07:44	12/20/22 18:12	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.3**	ug/kg	49.5	29.3	1	12/20/22 07:44	12/20/22 18:12	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.6**	ug/kg	49.5	30.6	1	12/20/22 07:44	12/20/22 18:12	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.2**	ug/kg	49.5	25.2	1	12/20/22 07:44	12/20/22 18:12	12672-29-6	

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

Sample: SB15-0.0-0.5-1022 **Lab ID: 10630481011** Collected: 10/19/22 12:00 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1254 (Aroclor 1254)	**<24.7**	ug/kg	49.5	24.7	1	12/20/22 07:44	12/20/22 18:12	11097-69-1	
PCB-1260 (Aroclor 1260)	**339**	ug/kg	49.5	17.7	1	12/20/22 07:44	12/20/22 18:12	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.5**	ug/kg	49.5	32.5	1	12/20/22 07:44	12/20/22 18:12	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.8**	ug/kg	49.5	23.8	1	12/20/22 07:44	12/20/22 18:12	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	75	%.	53-125		1	12/20/22 07:44	12/20/22 18:12	877-09-8	
Decachlorobiphenyl (S)	94	%.	41-125		1	12/20/22 07:44	12/20/22 18:12	2051-24-3	

Sample: SB15-1.0-1.5-1022 **Lab ID: 10630481012** Collected: 10/19/22 12:05 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.4**	ug/kg	48.2	20.4	1	12/20/22 07:44	12/20/22 18:28	12674-11-2	
PCB-1221 (Aroclor 1221)	**<33.3**	ug/kg	48.2	33.3	1	12/20/22 07:44	12/20/22 18:28	11104-28-2	
PCB-1232 (Aroclor 1232)	**<28.5**	ug/kg	48.2	28.5	1	12/20/22 07:44	12/20/22 18:28	11141-16-5	
PCB-1242 (Aroclor 1242)	**<29.8**	ug/kg	48.2	29.8	1	12/20/22 07:44	12/20/22 18:28	53469-21-9	
PCB-1248 (Aroclor 1248)	**<24.6**	ug/kg	48.2	24.6	1	12/20/22 07:44	12/20/22 18:28	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.0**	ug/kg	48.2	24.0	1	12/20/22 07:44	12/20/22 18:28	11097-69-1	
PCB-1260 (Aroclor 1260)	**65.2**	ug/kg	48.2	17.2	1	12/20/22 07:44	12/20/22 18:28	11096-82-5	
PCB-1262 (Aroclor 1262)	**<31.7**	ug/kg	48.2	31.7	1	12/20/22 07:44	12/20/22 18:28	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.1**	ug/kg	48.2	23.1	1	12/20/22 07:44	12/20/22 18:28	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	85	%.	53-125		1	12/20/22 07:44	12/20/22 18:28	877-09-8	
Decachlorobiphenyl (S)	99	%.	41-125		1	12/20/22 07:44	12/20/22 18:28	2051-24-3	

Sample: SB15-2.5-3.0-1022 **Lab ID: 10630481013** Collected: 10/19/22 12:10 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.0**	ug/kg	49.6	21.0	1	12/20/22 07:44	12/20/22 18:44	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.2**	ug/kg	49.6	34.2	1	12/20/22 07:44	12/20/22 18:44	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.3**	ug/kg	49.6	29.3	1	12/20/22 07:44	12/20/22 18:44	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.7**	ug/kg	49.6	30.7	1	12/20/22 07:44	12/20/22 18:44	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.3**	ug/kg	49.6	25.3	1	12/20/22 07:44	12/20/22 18:44	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.7**	ug/kg	49.6	24.7	1	12/20/22 07:44	12/20/22 18:44	11097-69-1	

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

Sample: SB15-2.5-3.0-1022 **Lab ID: 10630481013** Collected: 10/19/22 12:10 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1260 (Aroclor 1260)	**175**	ug/kg	49.6	17.7	1	12/20/22 07:44	12/20/22 18:44	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.6**	ug/kg	49.6	32.6	1	12/20/22 07:44	12/20/22 18:44	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.8**	ug/kg	49.6	23.8	1	12/20/22 07:44	12/20/22 18:44	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	73	%.	53-125		1	12/20/22 07:44	12/20/22 18:44	877-09-8	
Decachlorobiphenyl (S)	103	%.	41-125		1	12/20/22 07:44	12/20/22 18:44	2051-24-3	

Sample: SB16-0.0-0.5-1022 **Lab ID: 10630481014** Collected: 10/19/22 13:00 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.1**	ug/kg	47.6	20.1	1	12/20/22 07:44	12/20/22 19:00	12674-11-2	
PCB-1221 (Aroclor 1221)	**<32.9**	ug/kg	47.6	32.9	1	12/20/22 07:44	12/20/22 19:00	11104-28-2	
PCB-1232 (Aroclor 1232)	**<28.1**	ug/kg	47.6	28.1	1	12/20/22 07:44	12/20/22 19:00	11141-16-5	
PCB-1242 (Aroclor 1242)	**<29.4**	ug/kg	47.6	29.4	1	12/20/22 07:44	12/20/22 19:00	53469-21-9	
PCB-1248 (Aroclor 1248)	**<24.3**	ug/kg	47.6	24.3	1	12/20/22 07:44	12/20/22 19:00	12672-29-6	
PCB-1254 (Aroclor 1254)	**<23.7**	ug/kg	47.6	23.7	1	12/20/22 07:44	12/20/22 19:00	11097-69-1	
PCB-1260 (Aroclor 1260)	**260**	ug/kg	47.6	17.0	1	12/20/22 07:44	12/20/22 19:00	11096-82-5	
PCB-1262 (Aroclor 1262)	**<31.3**	ug/kg	47.6	31.3	1	12/20/22 07:44	12/20/22 19:00	37324-23-5	
PCB-1268 (Aroclor 1268)	**<22.9**	ug/kg	47.6	22.9	1	12/20/22 07:44	12/20/22 19:00	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	70	%.	53-125		1	12/20/22 07:44	12/20/22 19:00	877-09-8	
Decachlorobiphenyl (S)	88	%.	41-125		1	12/20/22 07:44	12/20/22 19:00	2051-24-3	

Sample: SB16-1.0-1.5-1022 **Lab ID: 10630481015** Collected: 10/19/22 13:05 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.8**	ug/kg	49.1	20.8	1	12/20/22 07:44	12/20/22 19:48	12674-11-2	
PCB-1221 (Aroclor 1221)	**<33.9**	ug/kg	49.1	33.9	1	12/20/22 07:44	12/20/22 19:48	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.0**	ug/kg	49.1	29.0	1	12/20/22 07:44	12/20/22 19:48	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.4**	ug/kg	49.1	30.4	1	12/20/22 07:44	12/20/22 19:48	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.0**	ug/kg	49.1	25.0	1	12/20/22 07:44	12/20/22 19:48	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.5**	ug/kg	49.1	24.5	1	12/20/22 07:44	12/20/22 19:48	11097-69-1	
PCB-1260 (Aroclor 1260)	**104**	ug/kg	49.1	17.5	1	12/20/22 07:44	12/20/22 19:48	11096-82-5	

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

Sample: SB16-1.0-1.5-1022 **Lab ID: 10630481015** Collected: 10/19/22 13:05 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1262 (Aroclor 1262)	**<32.3**	ug/kg	49.1	32.3	1	12/20/22 07:44	12/20/22 19:48	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.6**	ug/kg	49.1	23.6	1	12/20/22 07:44	12/20/22 19:48	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	77	%.	53-125		1	12/20/22 07:44	12/20/22 19:48	877-09-8	
Decachlorobiphenyl (S)	99	%.	41-125		1	12/20/22 07:44	12/20/22 19:48	2051-24-3	

Sample: SB16-2.5-3.0-1022 **Lab ID: 10630481016** Collected: 10/19/22 13:10 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.9**	ug/kg	49.3	20.9	1	12/20/22 07:44	12/20/22 20:04	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.1**	ug/kg	49.3	34.1	1	12/20/22 07:44	12/20/22 20:04	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.2**	ug/kg	49.3	29.2	1	12/20/22 07:44	12/20/22 20:04	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.5**	ug/kg	49.3	30.5	1	12/20/22 07:44	12/20/22 20:04	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.2**	ug/kg	49.3	25.2	1	12/20/22 07:44	12/20/22 20:04	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.6**	ug/kg	49.3	24.6	1	12/20/22 07:44	12/20/22 20:04	11097-69-1	
PCB-1260 (Aroclor 1260)	**389**	ug/kg	49.3	17.6	1	12/20/22 07:44	12/20/22 20:04	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.4**	ug/kg	49.3	32.4	1	12/20/22 07:44	12/20/22 20:04	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.7**	ug/kg	49.3	23.7	1	12/20/22 07:44	12/20/22 20:04	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	70	%.	53-125		1	12/20/22 07:44	12/20/22 20:04	877-09-8	
Decachlorobiphenyl (S)	98	%.	41-125		1	12/20/22 07:44	12/20/22 20:04	2051-24-3	

Sample: ISM02-0.0-0.2-1022 **Lab ID: 10630481017** Collected: 10/19/22 14:00 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.5**	ug/kg	48.4	20.5	1	12/20/22 07:44	12/20/22 20:20	12674-11-2	
PCB-1221 (Aroclor 1221)	**<33.4**	ug/kg	48.4	33.4	1	12/20/22 07:44	12/20/22 20:20	11104-28-2	
PCB-1232 (Aroclor 1232)	**<28.6**	ug/kg	48.4	28.6	1	12/20/22 07:44	12/20/22 20:20	11141-16-5	
PCB-1242 (Aroclor 1242)	**<29.9**	ug/kg	48.4	29.9	1	12/20/22 07:44	12/20/22 20:20	53469-21-9	
PCB-1248 (Aroclor 1248)	**<24.7**	ug/kg	48.4	24.7	1	12/20/22 07:44	12/20/22 20:20	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.1**	ug/kg	48.4	24.1	1	12/20/22 07:44	12/20/22 20:20	11097-69-1	
PCB-1260 (Aroclor 1260)	**267**	ug/kg	48.4	17.3	1	12/20/22 07:44	12/20/22 20:20	11096-82-5	
PCB-1262 (Aroclor 1262)	**<31.8**	ug/kg	48.4	31.8	1	12/20/22 07:44	12/20/22 20:20	37324-23-5	

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

Sample: ISM02-0.0-0.2-1022 **Lab ID: 10630481017** Collected: 10/19/22 14:00 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1268 (Aroclor 1268)	**<23.3**	ug/kg	48.4	23.3	1	12/20/22 07:44	12/20/22 20:20	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	82	%.	53-125		1	12/20/22 07:44	12/20/22 20:20	877-09-8	
Decachlorobiphenyl (S)	89	%.	41-125		1	12/20/22 07:44	12/20/22 20:20	2051-24-3	

Sample: ISM07-0.0-0.2-1022 **Lab ID: 10630481018** Collected: 10/19/22 11:25 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.6**	ug/kg	48.6	20.6	1	12/20/22 07:44	12/20/22 20:36	12674-11-2	
PCB-1221 (Aroclor 1221)	**<33.6**	ug/kg	48.6	33.6	1	12/20/22 07:44	12/20/22 20:36	11104-28-2	
PCB-1232 (Aroclor 1232)	**<28.7**	ug/kg	48.6	28.7	1	12/20/22 07:44	12/20/22 20:36	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.1**	ug/kg	48.6	30.1	1	12/20/22 07:44	12/20/22 20:36	53469-21-9	
PCB-1248 (Aroclor 1248)	**<24.8**	ug/kg	48.6	24.8	1	12/20/22 07:44	12/20/22 20:36	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.2**	ug/kg	48.6	24.2	1	12/20/22 07:44	12/20/22 20:36	11097-69-1	
PCB-1260 (Aroclor 1260)	**189**	ug/kg	48.6	17.4	1	12/20/22 07:44	12/20/22 20:36	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.0**	ug/kg	48.6	32.0	1	12/20/22 07:44	12/20/22 20:36	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.3**	ug/kg	48.6	23.3	1	12/20/22 07:44	12/20/22 20:36	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	83	%.	53-125		1	12/20/22 07:44	12/20/22 20:36	877-09-8	
Decachlorobiphenyl (S)	93	%.	41-125		1	12/20/22 07:44	12/20/22 20:36	2051-24-3	

Sample: ISM07T-0.0-0.2-1022 **Lab ID: 10630481019** Collected: 10/19/22 11:30 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.0**	ug/kg	49.6	21.0	1	12/20/22 07:44	12/20/22 20:52	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.3**	ug/kg	49.6	34.3	1	12/20/22 07:44	12/20/22 20:52	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.3**	ug/kg	49.6	29.3	1	12/20/22 07:44	12/20/22 20:52	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.7**	ug/kg	49.6	30.7	1	12/20/22 07:44	12/20/22 20:52	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.3**	ug/kg	49.6	25.3	1	12/20/22 07:44	12/20/22 20:52	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.7**	ug/kg	49.6	24.7	1	12/20/22 07:44	12/20/22 20:52	11097-69-1	
PCB-1260 (Aroclor 1260)	**179**	ug/kg	49.6	17.7	1	12/20/22 07:44	12/20/22 20:52	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.6**	ug/kg	49.6	32.6	1	12/20/22 07:44	12/20/22 20:52	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.8**	ug/kg	49.6	23.8	1	12/20/22 07:44	12/20/22 20:52	11100-14-4	

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

Sample: ISM07T-0.0-0.2-1022 **Lab ID: 10630481019** Collected: 10/19/22 11:30 Received: 10/20/22 10:30 Matrix: Solid
Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
Surrogates									
Tetrachloro-m-xylene (S)	76	%.	53-125		1	12/20/22 07:44	12/20/22 20:52	877-09-8	
Decachlorobiphenyl (S)	86	%.	41-125		1	12/20/22 07:44	12/20/22 20:52	2051-24-3	

Sample: ISM07TT-0.0-0.2-1022 **Lab ID: 10630481020** Collected: 10/19/22 11:35 Received: 10/20/22 10:30 Matrix: Solid
Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.8**	ug/kg	49.2	20.8	1	12/20/22 07:44	12/20/22 21:08	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.0**	ug/kg	49.2	34.0	1	12/20/22 07:44	12/20/22 21:08	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.1**	ug/kg	49.2	29.1	1	12/20/22 07:44	12/20/22 21:08	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.4**	ug/kg	49.2	30.4	1	12/20/22 07:44	12/20/22 21:08	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.1**	ug/kg	49.2	25.1	1	12/20/22 07:44	12/20/22 21:08	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.5**	ug/kg	49.2	24.5	1	12/20/22 07:44	12/20/22 21:08	11097-69-1	
PCB-1260 (Aroclor 1260)	**185**	ug/kg	49.2	17.6	1	12/20/22 07:44	12/20/22 21:08	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.3**	ug/kg	49.2	32.3	1	12/20/22 07:44	12/20/22 21:08	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.6**	ug/kg	49.2	23.6	1	12/20/22 07:44	12/20/22 21:08	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	79	%.	53-125		1	12/20/22 07:44	12/20/22 21:08	877-09-8	
Decachlorobiphenyl (S)	88	%.	41-125		1	12/20/22 07:44	12/20/22 21:08	2051-24-3	

Sample: ISM06-0.0-0.2-1022 **Lab ID: 10630481021** Collected: 10/19/22 09:25 Received: 10/20/22 10:30 Matrix: Solid
Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.9**	ug/kg	49.3	20.9	1	12/20/22 08:07	12/20/22 22:59	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.1**	ug/kg	49.3	34.1	1	12/20/22 08:07	12/20/22 22:59	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.2**	ug/kg	49.3	29.2	1	12/20/22 08:07	12/20/22 22:59	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.5**	ug/kg	49.3	30.5	1	12/20/22 08:07	12/20/22 22:59	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.2**	ug/kg	49.3	25.2	1	12/20/22 08:07	12/20/22 22:59	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.6**	ug/kg	49.3	24.6	1	12/20/22 08:07	12/20/22 22:59	11097-69-1	
PCB-1260 (Aroclor 1260)	**631**	ug/kg	49.3	17.6	1	12/20/22 08:07	12/20/22 22:59	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.4**	ug/kg	49.3	32.4	1	12/20/22 08:07	12/20/22 22:59	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.7**	ug/kg	49.3	23.7	1	12/20/22 08:07	12/20/22 22:59	11100-14-4	

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

Sample: ISM06-0.0-0.2-1022 **Lab ID: 10630481021** Collected: 10/19/22 09:25 Received: 10/20/22 10:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
Surrogates									
Tetrachloro-m-xylene (S)	76	%.	53-125		1	12/20/22 08:07	12/20/22 22:59	877-09-8	
Decachlorobiphenyl (S)	79	%.	41-125		1	12/20/22 08:07	12/20/22 22:59	2051-24-3	

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QUALITY CONTROL DATA

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

QC Batch: 859359
QC Batch Method: EPA 3546
Analysis Method: EPA 8082A
Analysis Description: 8082A GCS PCB
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10630481001, 10630481002, 10630481003, 10630481004, 10630481005, 10630481006, 10630481007, 10630481008, 10630481009, 10630481010, 10630481011, 10630481012, 10630481013, 10630481014, 10630481015, 10630481016, 10630481017, 10630481018, 10630481019, 10630481020

METHOD BLANK: 4541295 Matrix: Solid
Associated Lab Samples: 10630481001, 10630481002, 10630481003, 10630481004, 10630481005, 10630481006, 10630481007, 10630481008, 10630481009, 10630481010, 10630481011, 10630481012, 10630481013, 10630481014, 10630481015, 10630481016, 10630481017, 10630481018, 10630481019, 10630481020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<21.2	50.0	21.2	12/20/22 14:30	
PCB-1221 (Aroclor 1221)	ug/kg	<34.5	50.0	34.5	12/20/22 14:30	
PCB-1232 (Aroclor 1232)	ug/kg	<29.6	50.0	29.6	12/20/22 14:30	
PCB-1242 (Aroclor 1242)	ug/kg	<30.9	50.0	30.9	12/20/22 14:30	
PCB-1248 (Aroclor 1248)	ug/kg	<25.5	50.0	25.5	12/20/22 14:30	
PCB-1254 (Aroclor 1254)	ug/kg	<24.9	50.0	24.9	12/20/22 14:30	
PCB-1260 (Aroclor 1260)	ug/kg	<17.8	50.0	17.8	12/20/22 14:30	
PCB-1262 (Aroclor 1262)	ug/kg	<32.8	50.0	32.8	12/20/22 14:30	
PCB-1268 (Aroclor 1268)	ug/kg	<24.0	50.0	24.0	12/20/22 14:30	
Decachlorobiphenyl (S)	%.	103	41-125		12/20/22 14:30	
Tetrachloro-m-xylene (S)	%.	87	53-125		12/20/22 14:30	

LABORATORY CONTROL SAMPLE: 4541296

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	1000	822	82	68-125	
PCB-1260 (Aroclor 1260)	ug/kg	1000	871	87	70-125	
Decachlorobiphenyl (S)	%.			101	41-125	
Tetrachloro-m-xylene (S)	%.			86	53-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4541297 4541298

Parameter	Units	10630481007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<20.8	996	986	842	781	85	79	53-125	8	30	
PCB-1260 (Aroclor 1260)	ug/kg	4110	996	986	4310	3940	21	-17	30-143	9	30	E,M1
Decachlorobiphenyl (S)	%.						99	90	41-125			
Tetrachloro-m-xylene (S)	%.						77	70	53-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

QC Batch: 859363
QC Batch Method: EPA 3546
Analysis Method: EPA 8082A
Analysis Description: 8082A GCS PCB
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10630481021

METHOD BLANK: 4541303 Matrix: Solid
Associated Lab Samples: 10630481021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<21.2	50.0	21.2	12/20/22 21:39	
PCB-1221 (Aroclor 1221)	ug/kg	<34.5	50.0	34.5	12/20/22 21:39	
PCB-1232 (Aroclor 1232)	ug/kg	<29.6	50.0	29.6	12/20/22 21:39	
PCB-1242 (Aroclor 1242)	ug/kg	<30.9	50.0	30.9	12/20/22 21:39	
PCB-1248 (Aroclor 1248)	ug/kg	<25.5	50.0	25.5	12/20/22 21:39	
PCB-1254 (Aroclor 1254)	ug/kg	<24.9	50.0	24.9	12/20/22 21:39	
PCB-1260 (Aroclor 1260)	ug/kg	<17.8	50.0	17.8	12/20/22 21:39	
PCB-1262 (Aroclor 1262)	ug/kg	<32.8	50.0	32.8	12/20/22 21:39	
PCB-1268 (Aroclor 1268)	ug/kg	<24.0	50.0	24.0	12/20/22 21:39	
Decachlorobiphenyl (S)	%.	95	41-125		12/20/22 21:39	
Tetrachloro-m-xylene (S)	%.	85	53-125		12/20/22 21:39	

LABORATORY CONTROL SAMPLE: 4541304

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	1000	928	93	68-125	
PCB-1260 (Aroclor 1260)	ug/kg	1000	947	95	70-125	
Decachlorobiphenyl (S)	%.			104	41-125	
Tetrachloro-m-xylene (S)	%.			94	53-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4541336 4541337

Parameter	Units	10632522001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<20.7	995	982	894	892	90	91	53-125	0	30	
PCB-1260 (Aroclor 1260)	ug/kg	15200	995	982	15300	15500	7	30	30-143	1	30	E,M1
Decachlorobiphenyl (S)	%.						97	102	41-125			
Tetrachloro-m-xylene (S)	%.						88	91	53-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10630481

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10630481001	**SB14-0.0-0.5-1022**	EPA 3546	859359	EPA 8082A	859556
10630481002	**SB14-1.0-1.5-1022**	EPA 3546	859359	EPA 8082A	859556
10630481003	**SB14-2.5-3.0-1022**	EPA 3546	859359	EPA 8082A	859556
10630481004	**SB13-0.0-0.5-1022**	EPA 3546	859359	EPA 8082A	859556
10630481005	**SB13-1.0-1.5-1022**	EPA 3546	859359	EPA 8082A	859556
10630481006	**SB13-2.5-3.0-1022**	EPA 3546	859359	EPA 8082A	859556
10630481007	**SB11-0.0-0.5-1022**	EPA 3546	859359	EPA 8082A	859556
10630481008	**SB11D-0.0-0.5-1022**	EPA 3546	859359	EPA 8082A	859556
10630481009	**SB11-1.0-1.5-1022**	EPA 3546	859359	EPA 8082A	859556
10630481010	**SB11-2.5-3.0-1022**	EPA 3546	859359	EPA 8082A	859556
10630481011	**SB15-0.0-0.5-1022**	EPA 3546	859359	EPA 8082A	859556
10630481012	**SB15-1.0-1.5-1022**	EPA 3546	859359	EPA 8082A	859556
10630481013	**SB15-2.5-3.0-1022**	EPA 3546	859359	EPA 8082A	859556
10630481014	**SB16-0.0-0.5-1022**	EPA 3546	859359	EPA 8082A	859556
10630481015	**SB16-1.0-1.5-1022**	EPA 3546	859359	EPA 8082A	859556
10630481016	**SB16-2.5-3.0-1022**	EPA 3546	859359	EPA 8082A	859556
10630481017	**ISM02-0.0-0.2-1022**	EPA 3546	859359	EPA 8082A	859556
10630481018	**ISM07-0.0-0.2-1022**	EPA 3546	859359	EPA 8082A	859556
10630481019	**ISM07T-0.0-0.2-1022**	EPA 3546	859359	EPA 8082A	859556
10630481020	**ISM07TT-0.0-0.2-1022**	EPA 3546	859359	EPA 8082A	859556
10630481021	**ISM06-0.0-0.2-1022**	EPA 3546	859363	EPA 8082A	859557

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L402 53455

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

[X] Samples Pre-Logged into eCOC.

State Of Origin: OR
Cert. Needed: [ ] Yes [ ] No

Workorder: 10630481 Workorder Name: Portland OR-Peninsula Iron Wor

Owner Received Date: 10/20/2022 Results Requested By: 10/31/2022

Report To	Subcontract To
Jennifer Gross Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612)607-1700	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved 4oz Amber						Requested Analysis: MISC / ISM (50 Increments) (PACE-	MISC / Sieving (<2mm) (PACE-GB)											LAB USE ONLY
1	SB14-0.0-0.5-1022	PS	10/19/2022 08:00	10630481001	Solid	1							X											001
2	SB14-1.0-1.5-1022	PS	10/19/2022 08:05	10630481002	Solid	1							X											002
3	SB14-2.5-3.0-1022	PS	10/19/2022 09:10	10630481003	Solid	1							X											003
4	SB13-0.0-0.5-1022	PS	10/19/2022 10:00	10630481004	Solid	1							X											004
5	SB13-1.0-1.5-1022	PS	10/19/2022 10:05	10630481005	Solid	1							X											005
6	SB13-2.5-3.0-1022	PS	10/19/2022 10:10	10630481006	Solid	1							X											006
7	SB11-0.0-0.5-1022	RQS	10/19/2022 11:00	10630481007	Solid	1							X											007
8	SB11D-0.0-0.5-1022	PS	10/19/2022 11:05	10630481008	Solid	1							X											008
9	SB11-1.0-1.5-1022	PS	10/19/2022 11:10	10630481009	Solid	1							X											009
10	SB11-2.5-3.0-1022	PS	10/19/2022 11:15	10630481010	Solid	1							X											010
11	SB15-0.0-0.5-1022	PS	10/19/2022 12:00	10630481011	Solid	1							X											011
12	SB15-1.0-1.5-1022	PS	10/19/2022 12:05	10630481012	Solid	1							X											012
13	SB15-2.5-3.0-1022	PS	10/19/2022 12:10	10630481013	Solid	1							X											013
14	SB16-0.0-0.5-1022	PS	10/19/2022 13:00	10630481014	Solid	1							X											014
15	SB16-1.0-1.5-1022	PS	10/19/2022 13:05	10630481015	Solid	1							X											015
16	SB16-2.5-3.0-1022	PS	10/19/2022 13:10	10630481016	Solid	1							X											016
17	ISM02-0.0-0.2-1022	PS	10/19/2022 14:00	10630481017	Solid	1						X													017
18	ISM07-0.0-0.2-1022	PS	10/19/2022 11:25	10630481018	Solid	1						X													018
19	ISM07T-0.0-0.2-1022	PS	10/19/2022 11:30	10630481019	Solid	1						X													019

40253455

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

[X] Samples Pre-Logged into eCOC.

State Of Origin: OR
Cert. Needed: [ ] Yes [ ] No

Workorder: 10630481 Workorder Name: Portland OR-Peninsula Iron Wor

Owner Received Date: 10/20/2022 Results Requested By: 10/31/2022

Report To	Subcontract To
Jennifer Gross Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612)607-1700	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	2 PLU	MISC / ISM (50 Increments) (PACE-	MISC / Sieving (<2mm) (PACE-GB)	LAB USE ONLY
20	ISM07TT-0.0-0.2-1022	PS	10/19/2022 11:35	10630481020	Solid	1		X		020
21	ISM06-0.0-0.2-1022	PS	10/19/2022 09:25	10630481021	Solid	1		X		021
22										
23										
24										

Transfers	Released By	Date/Time	Received By	Date/Time
1	Fedex	10/20/22 1030	Sample Receipt	10/20/22 1030
2				
3				

Comments

Forward prepped volume to Pace Mnpls, methods 8082 & possibly 1668.

Hold all additional volume for six months.

Cooler Temperature on Receipt 5.5/3.5 °C	Custody Seal (Y) or N	Received on Ice (Y) or N	Samples Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.

Pace

4025345S

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Page : 1 Of 2

Section A	Section B	Section C
Required Client Information:	**Required Project Information:**	**Invoice Information:**
Company: Jacobs for UPRR	Report To: Hodson, David	Attention: John DeJong
Address: 2020 SW 4th Avenue, Suite 300	Copy To:	Company Name: UPRR
Portland, OR 97201		Address: 4315 E Sprague Ave, Spokane Valley, WA 99212
Email: david.hodson@jacobs.com	Purchase Order #: 2903-01	Pace Quote: 4700001441 (MA-000166-2022)
Phone: (510)316-2323 Fax:	Project Name: Portland OR-Peninsula Iron Works	Pace Project Manager: jennifer.gross@pacelabs.com,
Requested Due Date:	Project #:	Pace Profile #: 45173

Regulatory Agency: State / Location: OR / Portland - Multnomah County

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	SB14-0.0-0.5-1022			10/11	0900				1	X										X	X										001
2	SB14-1.0-1.5-1022			10/11	0905				1	X										X	X										002
3	SB14-2.5-3.0-1022			10/11	0910				1	X										X	X										003
4	SB13-0.0-0.5-1022			10/11	1000				1	X	X									X	X	X									004
5	SB13-1.0-1.5-1022			10/11	1005				1	X											X	X									005
6	SB13-2.5-3.0-1022			10/11	1010				1	X											X	X									006
7	SB11-0.0-0.5-1022			10/11	1100				1	X											X	X									007
8	SB11D-0.0-0.5-1022			10/11	1105				1	X											X	X									~~008~~ MS/SD
9	SB11-1.0-1.5-1022			10/11	1110				1	X											X	X									009
10	SB11-2.5-3.0-1022			10/11	1115				1	X											X	X									010
11	SB15-0.0-0.5-1022			10/11	1200				1	X												X	X								011
12	SB15-1.0-1.5-1022			10/11	1205				1	X												X	X								012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Include 1262 & 1268	Jaclyn Warren	10/19/22	1500				
Methods 8082 & 1668 - Require chromatograms							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jaclyn Warren

SIGNATURE of SAMPLER: [signature] DATE Signed: 10/19/22

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Pace

4053455

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Page : 2 Of 2

Section A – Required Client Information:	Section B – Required Project Information:	Section C – Invoice Information:
Company: Jacobs for UPRR	Report To: Hodson, David	Attention: John DeJong
Address: 2020 SW 4th Avenue, Suite 300	Copy To:	Company Name: UPRR
Portland, OR 97201		Address: 4315 E Sprague Ave, Spokane Valley, WA 99212
Email: david.hodson@jacobs.com	Purchase Order #: 2903-01	Pace Quote: 4700001441 (MA-000166-2022)
Phone: (510)316-2323 Fax:	Project Name: Portland OR-Peninsula Iron Works	Pace Project Manager: jennifer.gross@pacelabs.com,
Requested Due Date:	Project #:	Pace Profile #: 45173

Regulatory Agency

State / Location: OR / Portland - Multnomah County

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Y/N	Analyses Test: ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	SB15-2.5-3.0-1022			10/19/22	1210				1	X										X	X										013
2	SB16-0.0-0.5-1022			"	1300				1	X										X	X										014
3	SB16-1.0-1.5-1022			"	1305				1	X										X	X										015
4	B16-2.5-3.0-1022			"	1310				1	X										X	X										016
5	SM02-0.0-0.2-1022			"	1400				1	X										X	X										017
6	SM07-0.0-0.2-1022			"	1425				1	X										X	X										018
7	SM07T-0.0-0.2-1022			"	1130				1	X										X	X										019
8	SM07TT-0.0-0.2-1022			"	1135				1	X										X	X										020
9	SM06-0.0-0.2-1022			"	945				1	X										X	X										021
10	EB01-101922-HADS			"	1420				2	X	X										X										022
11	EB01-101922-HTISM			"	1430				2	X	X										X										023
12	EB01-101922-HTDS			"	1440				2	X	X										X										024

Hand Auger DS

Hand trowel ISM

Hand trowel DS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Include 1262 & 1268	Jaclyn Warren / Jacobs	10/19/22	500				
Methods 8082 & 1668 - Require chromatograms							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jaclyn Warren

SIGNATURE of SAMPLER: [signature] DATE Signed: 10/19/22

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Sample Preservation Receipt Form

Client Name: Pace MN Project # LIMS 53455

All containers needing preservation have been checked and noted below: ☐Yes ☐No ☑N/A Initial when completed: Date/ Time:

Lab Lot# of pH paper: Lab Std #ID of preservation (if pH adjusted):

Pace Lab #	Glass							Plastic						Vials						Jars				General				VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2							
001																									1									2.5 / 5
002																									1									2.5 / 5
003																									1									2.5 / 5
004																									1									2.5 / 5
005																									1									2.5 / 5
006																									1									2.5 / 5
007																									2									2.5 / 5
008																									1									2.5 / 5
009																									1									2.5 / 5
010																									1									2.5 / 5
011																									1									2.5 / 5
012																									1									2.5 / 5
013																									1									2.5 / 5
014																									1									2.5 / 5
015																									1									2.5 / 5
016																									1									2.5 / 5
017																									1									2.5 / 5
018																									1									2.5 / 5
019																									1									2.5 / 5
020																									1									2.5 / 5

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other:_____ Headspace in VOA Vials (>6mm) : ☐Yes ☐No ☑N/A ***If yes look in headspace column**

AG1U	1 liter amber glass
BG1U	1 liter clear glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP3U	250 mL plastic unpres
BP3B	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4
BP2Z	500 mL plastic NaOH + Zn

VG9C	40 mL clear ascorbic w/ HCl
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI

JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN 1	
GN 2	

Page 1 of ____

Client Name: Pace MN

Sample Preservation Receipt Form

Project #: LIR253455

Pace Lab #	Glass							Plastic						Vials						Jars				General				VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2							
021																									1								2.5 / 5
022																																	2.5 / 5
023																																	2.5 / 5
024																																	2.5 / 5
025																																	2.5 / 5
026																																	2.5 / 5
027																																	2.5 / 5
028																																	2.5 / 5
029																																	2.5 / 5
030																																	2.5 / 5
031																																	2.5 / 5
032																																	2.5 / 5
033																																	2.5 / 5
034																																	2.5 / 5
035																																	2.5 / 5
036																																	2.5 / 5
037																																	2.5 / 5
038																																	2.5 / 5
039																																	2.5 / 5
040																																	2.5 / 5
041																																	2.5 / 5
042																																	2.5 / 5
043																																	2.5 / 5
044																																	2.5 / 5
045																																	2.5 / 5
046																																	2.5 / 5
047																																	2.5 / 5
048																																	2.5 / 5

U 1/20/22 SC

Page 2 of 4

Sample Condition Upon Receipt Form (SCUR)

Client Name: Pace MN Project # 40253455

Additional Comments/Resolution: ① 5923 7141 9760, 5923 7141 9770
5923 7141 9792

② ~~SR-9~~ 3 → 3.5, ~~SR-9~~ 3.5 → 4, ~~SR-9~~ 3 → 3.5

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40253455

40253455

Client Name: Pace MN

Courier: ☐ CS Logistics ☑ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco
☐ Client ☐ Pace Other:

Tracking #: 5923 7141 9781 (1)

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used SR - 9 **Type of Ice:** (Wet) Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: 5 /Corr: 5.5 (2)

Temp Blank Present: ☑ yes ☐ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Person examining contents:
Date: 10/20/22 Initials: SG

Labeled By Initials: MP

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished: 10/20/22 SG	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☐No ☑N/A	4. IRWO 10/20/22 SG
Samples Arrived within Hold Time:	☑Yes ☐No	5.
- DI VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☑Yes ☐No MS/MSD: ☑Yes ☐No ☐N/A		8.
Correct Containers Used:	☑Yes ☐No	9.
Correct Type: Pace Green Bay, Pace IR, (Non-Pace)		
Containers Intact:	☑Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: S	☐Yes ☑No ☐N/A	12. IRWO coc 001 Time "0800", client coc matches Sample time "0900" IRWO coc 002 time "0505" client coc matches
Trip Blank Present:	☐Yes ☐No ☑N/A	13. sample time "0405" 10/20/22 SG
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample login

10/20/22 SG

Page 2 of 3

3 of 4

L4025 3455

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

[X] Samples Pre-Logged into eCOC.

State Of Origin: OR

Cert. Needed: [ ] Yes [ ] No

Workorder: 10630481 **Workorder Name:** Portland OR-Peninsula Iron Wor

Owner Received Date: 10/20/2022 **Results Requested By:** 10/31/2022

WO# : 10630481

10630481

Report To	Subcontract To
Jennifer Gross Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612)607-1700	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved						MISC / ISM (50 Increments) (PACE-	MISC / Sieving (<2mm) (PACE-GB)													LAB USE ONLY
1	SB14-0.0-0.5-1022	PS	10/19/2022 08:00	10630481001	Solid	1							X													001
2	SB14-1.0-1.5-1022	PS	10/19/2022 08:05	10630481002	Solid	1							X													002
3	SB14-2.5-3.0-1022	PS	10/19/2022 09:10	10630481003	Solid	1							X													003
4	SB13-0.0-0.5-1022	PS	10/19/2022 10:00	10630481004	Solid	1							X													004
5	SB13-1.0-1.5-1022	PS	10/19/2022 10:05	10630481005	Solid	1							X													005
6	SB13-2.5-3.0-1022	PS	10/19/2022 10:10	10630481006	Solid	1							X													006
7	SB11-0.0-0.5-1022	RQS	10/19/2022 11:00	10630481007	Solid	1							X													007
8	SB11D-0.0-0.5-1022	PS	10/19/2022 11:05	10630481008	Solid	1							X													008
9	SB11-1.0-1.5-1022	PS	10/19/2022 11:10	10630481009	Solid	1							X													009
10	SB11-2.5-3.0-1022	PS	10/19/2022 11:15	10630481010	Solid	1							X													010
11	SB15-0.0-0.5-1022	PS	10/19/2022 12:00	10630481011	Solid	1							X													011
12	SB15-1.0-1.5-1022	PS	10/19/2022 12:05	10630481012	Solid	1							X													012
13	SB15-2.5-3.0-1022	PS	10/19/2022 12:10	10630481013	Solid	1							X													013
14	SB16-0.0-0.5-1022	PS	10/19/2022 13:00	10630481014	Solid	1							X													014
15	SB16-1.0-1.5-1022	PS	10/19/2022 13:05	10630481015	Solid	1							X													015
16	SB16-2.5-3.0-1022	PS	10/19/2022 13:10	10630481016	Solid	1							X													016
17	ISM02-0.0-0.2-1022	PS	10/19/2022 14:00	10630481017	Solid	1						X														017
18	ISM07-0.0-0.2-1022	PS	10/19/2022 11:25	10630481018	Solid	1						X														018
19	ISM07T-0.0-0.2-1022	PS	10/19/2022 11:30	10630481019	Solid	1						X														019

40253455

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

[X] Samples Pre-Logged into eCOC.

State Of Origin: OR
Cert. Needed: [ ] Yes [ ] No

Workorder: 10630481 **Workorder Name:** Portland OR-Peninsula Iron Wor

Owner Received Date: 10/20/2022 **Results Requested By:** 10/31/2022

Report To	Subcontract To
Jennifer Gross Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612)607-1700	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Preserved Containers: ZPLU	Requested Analysis: MISC / ISM (50 Increments) (PACE-	Requested Analysis: MISC / Sieving (<2mm) (PACE-GB)	LAB USE ONLY
20	ISM07TT-0.0-0.2-1022	PS	10/19/2022 11:35	10630481020	Solid	1		X		620
21	ISM06-0.0-0.2-1022	PS	10/19/2022 09:25	10630481021	Solid	1		X		621
22										
23										
24										

Transfers	Released By	Date/Time	Received By	Date/Time
1	Fedex	10/20/22 1032	Sampace	10/20/22 1032
2	Margaret Pace	12/16/22 1700		
3				

Comments

Forward prepped volume to Pace Mnpls, methods 8082 & possibly 1668.

Hold all additional volume for six months.

Cooler Temperature on Receipt 5.5 3.5 °C **Custody Seal** (Y) or N **Received on Ice** (Y) or N **Samples Intact** (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

Sample Condition Upon Receipt

Client Name: Pace Green Bay

Project # WO#: 10630481

PM: JMG Due Date: 02/17/23

CLIENT: UPRR_Jacobs

Courier: ☐ FedEx ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☑ Commercial Cal HCO ☐ See Exceptions ENV-FRM-MIN4-0142

Tracking Number:

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other **Temp Blank?** ☑ Yes ☐ No

Thermometer: ☐ T1 (0461) ☐ T2 (1336) ☐ T3 (0459) ☐ T4 (0254) ☐ T5 (0178) ☐ T6 (0235) ☑ T7 (0042) ☐ T8 (0775) ☐ T9(0727) ☐ 01339252/1710

Type of Ice: ☑ ~~Wet~~ ☐ Blue ☐ Dry ☑ None ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☒ No JMG 12/19/22 **Were All Container Temps Taken?** ☐ Yes ☐ No ☒ N/A JMG 12/19/22

Temp should be above freezing to 6 °C **Cooler temp Read w/Temp Blank:** 2.5 2.4 2.5 13.6

Correction Factor: +.1 **Cooler Temp Corrected w/temp blank:** 2.6 2.5 2.8 °C 3.7

Average Corrected Temp (no temp blank only): ____ °C ☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: (☐ N/A, water sample/other: ____) **Date/Initials of Person Examining Contents:** 12/19/22

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): ☐ Duluth ☑ Minneapolis ☐ Virginia

				COMMENTS
Chain of Custody Present and Filled Out?	☑ Yes	☐ No		1.
Chain of Custody Relinquished?	☑ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☐ Yes	☑ No	☐ N/A	3.
Samples Arrived within Hold Time?	☑ Yes	☐ No		4. If fecal: ☐ <8 hrs ☐ >8 hr, <24 ☐ No
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E.coli ☐ BOD/cBOD ☐ Hex Chrom ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other
Rush Turn Around Time Requested?	☑ Yes	☐ No		6. Lasc
Sufficient Sample Volume?	☑ Yes	☐ No		7.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	8.
-Pace Containers Used?	☐ Yes	☑ No		
Containers Intact?	☑ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☑ Yes	☐ No		11. **If no, write ID/Date/Time of container below:** 6N containers added to coc/NO ☐ See Exceptions ENV-FRM-MIN4-0142
Matrix: ☐ Water ☑ Soil ☐ Oil ☐ Other				
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☑ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐ Yes	☐ No	☑ N/A	☐ NaOH ☐ HNO3 ☐ H2SO4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)	☐ Yes	☐ No	☑ N/A	Positive for Residual Chlorine? ☐ Yes ☐ No ☐ See Exceptions ENV-FRM-MIN4-0142 **pH Paper Lot #** Residual Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in Methyl Mercury Container?	☐ Yes	☐ No	☑ N/A	13.
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☑ N/A	14. ☐ See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☑ N/A	
3 Trip Blanks Present?	☐ Yes	☐ No	☑ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	Pace Trip Blank Lot # (if purchased):

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: ____ Date/Time: ____

Comments/Resolution: ____

Project Manager Review: Jenni Gross **Date:** 12/19/22

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: NR **Line:** 7

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-MIN4-0142 v02_Sample Condition Upon Receipt (SCUR) Exception Form
	Effective Date: 09/22/2022

Workorder #: _____

No Temp Blank		
Read Temp	Corrected Temp	Average temp

PM Notified of Out of Temp Cooler? ☐ Yes ☐ No

If yes, indicate who was contacted, date and time.
If no, indicate reason why.

_____

Multiple Cooler Project? ☐ Yes ☐ No

If anything is OVER 6.0° C, you MUST document containers in this section HERE

Tracking Number	Temperature
34247946-4	8.9
34247946-5	11.3
34247946-2	8.7
34247946-1	11.2

Out of Temp Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples										
Sample ID	Type Of Preserve	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance After Addition?		Initials
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	

Comments:

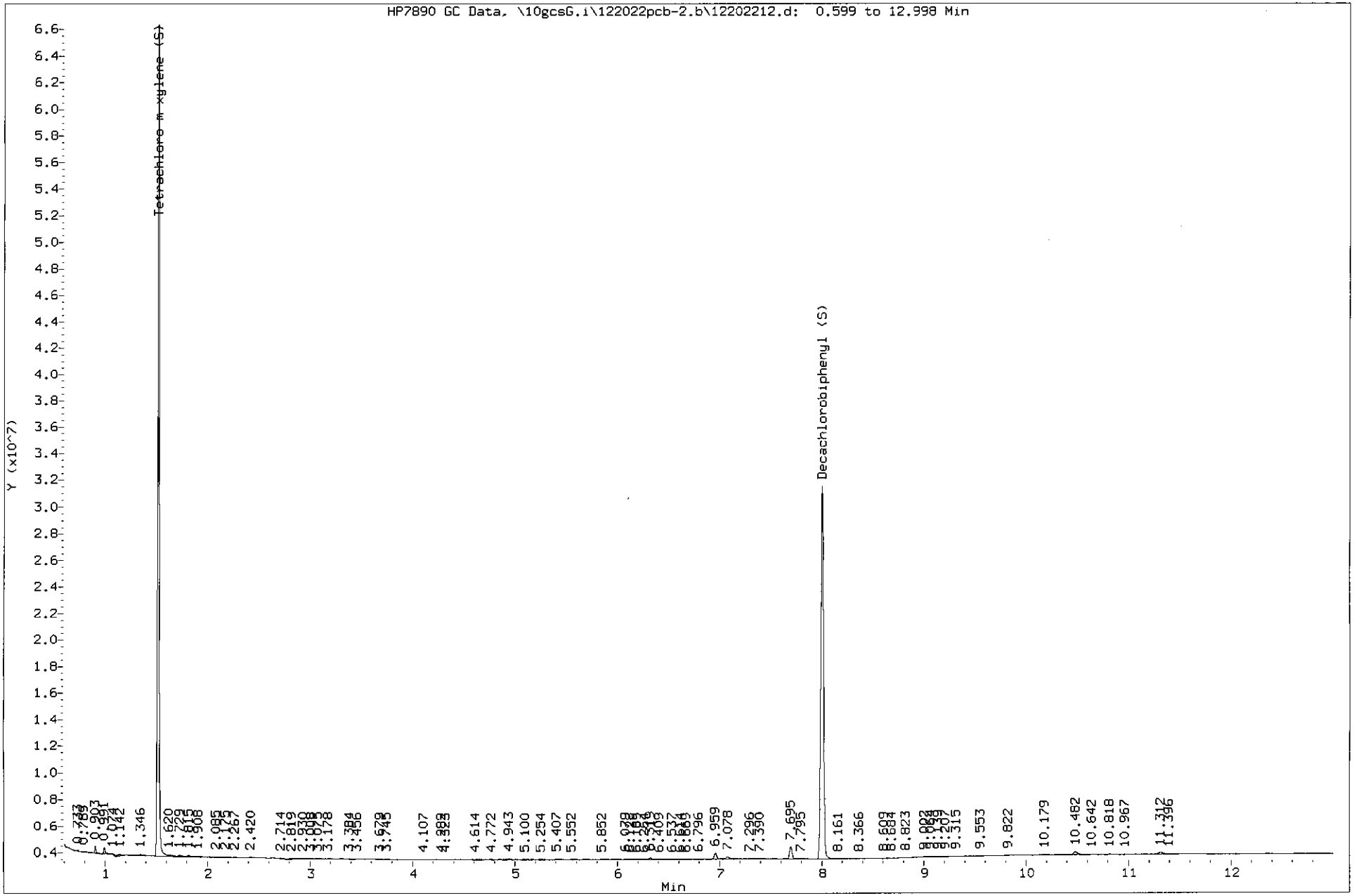
_____

_____

_____

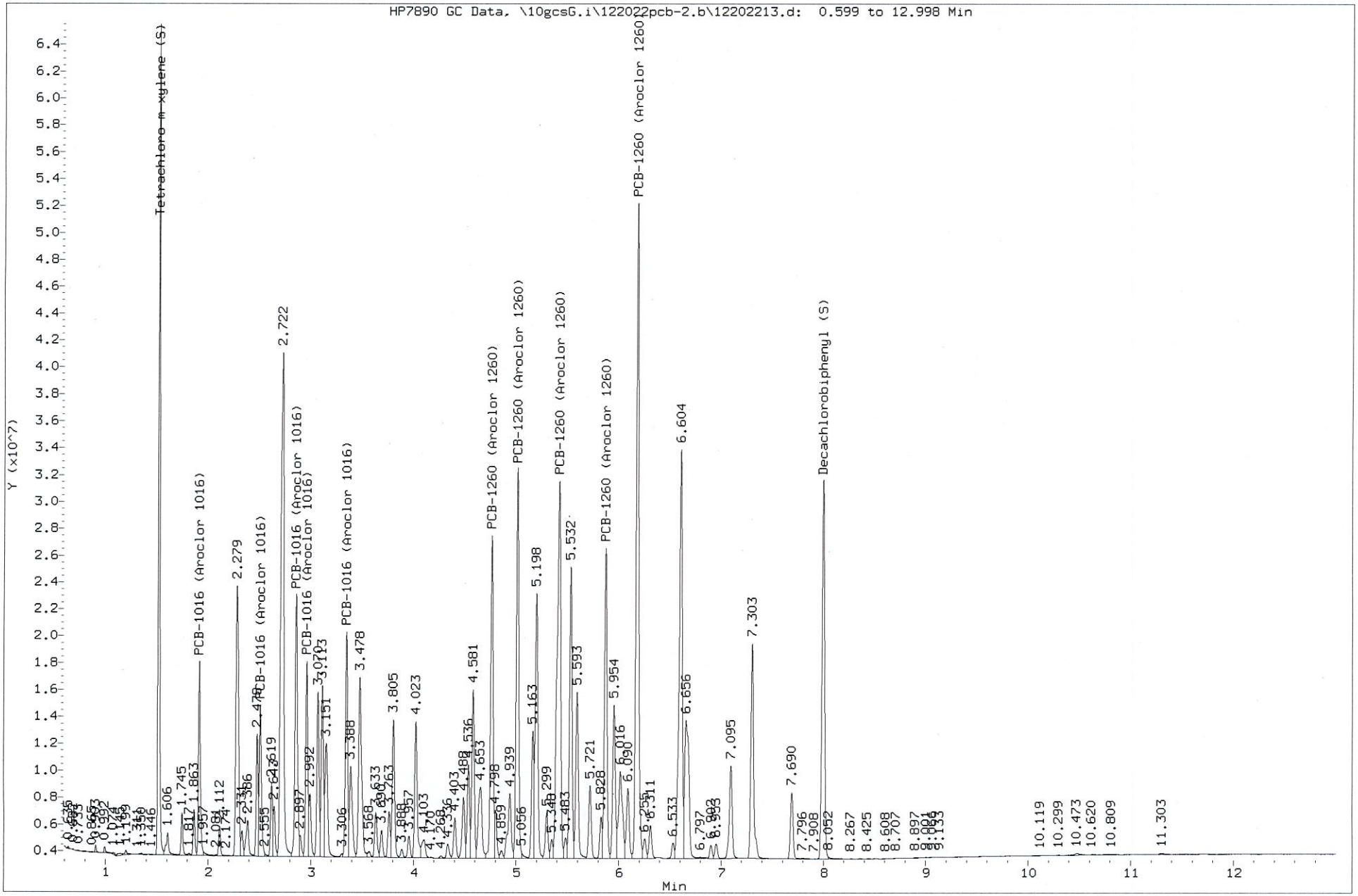
Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202212.d
Injection Date: 20-DEC-2022 14:30
Instrument: 10gcsG.i
Client Sample ID: MB

Batch 41306-859556
Blank 4541295



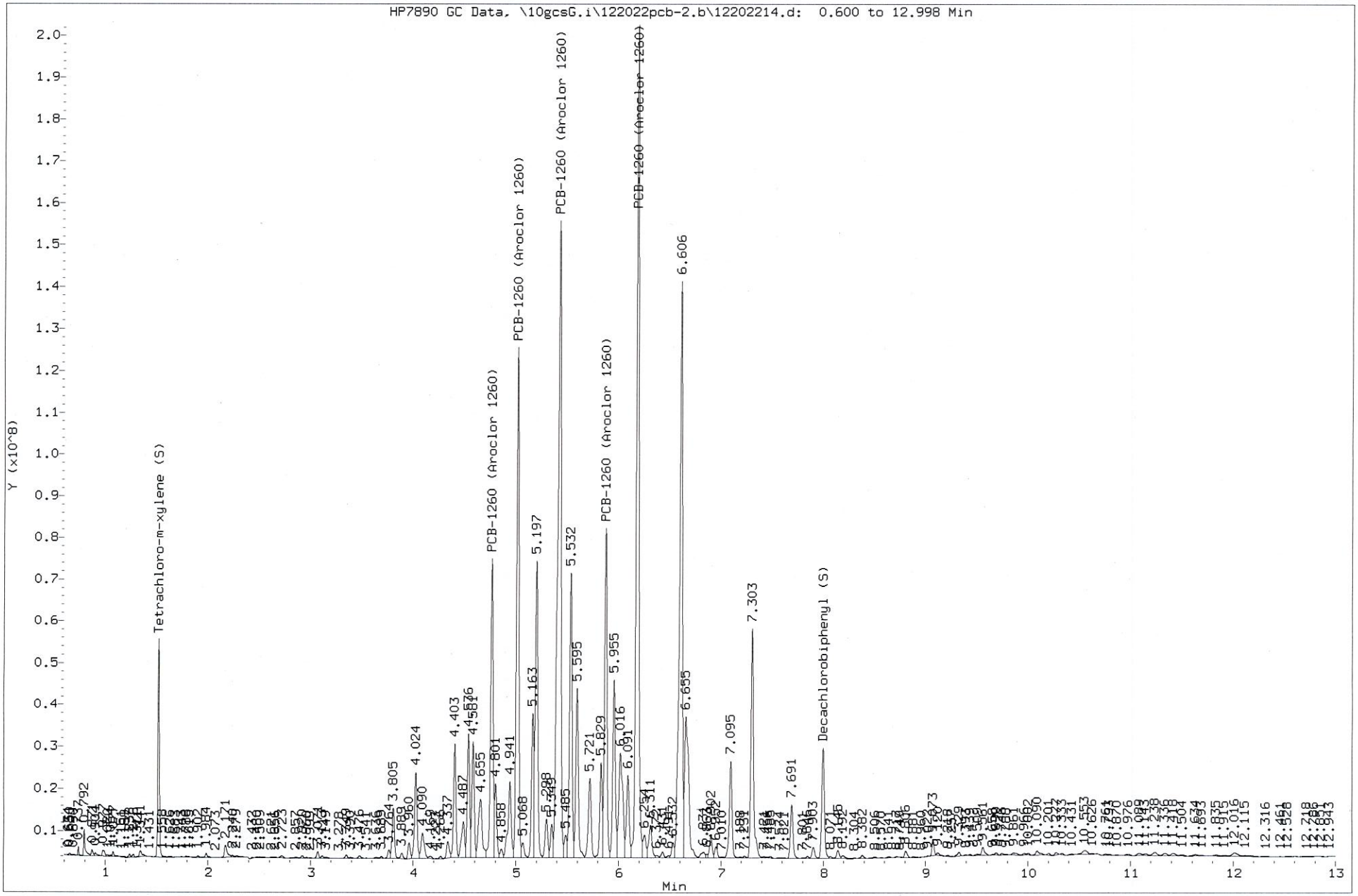
Batch 41306-859556
LCS 4541296

Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202213.d
Injection Date: 20-DEC-2022 14:46
Instrument: 10gcsG.i
Client Sample ID: MBLCS



Batch 41306-859556
10630481-7

Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202214.d
Injection Date: 20-DEC-2022 15:02
Instrument: 10gcsG.i
Client Sample ID: SB11-0.0-0.5-1022



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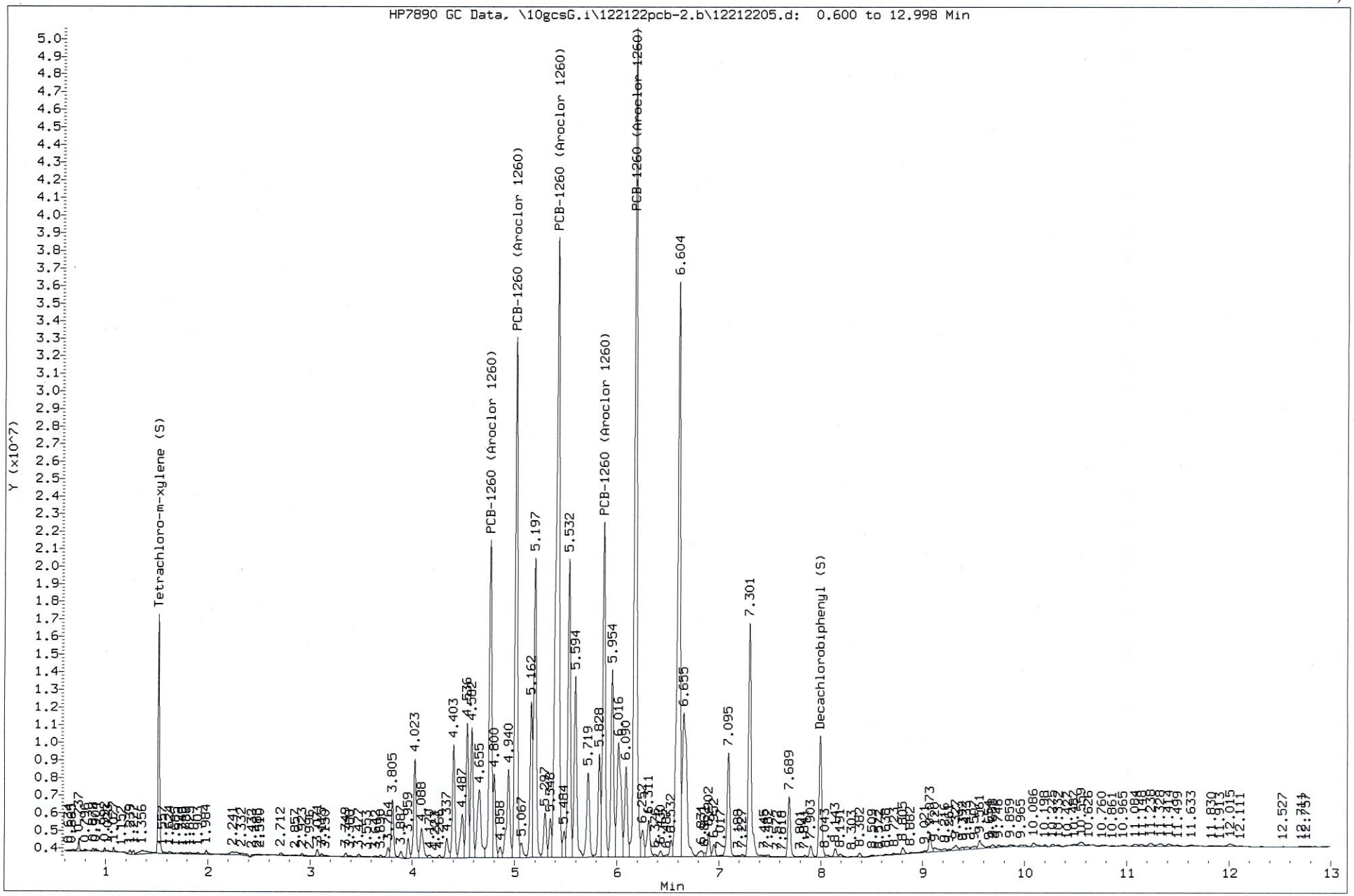
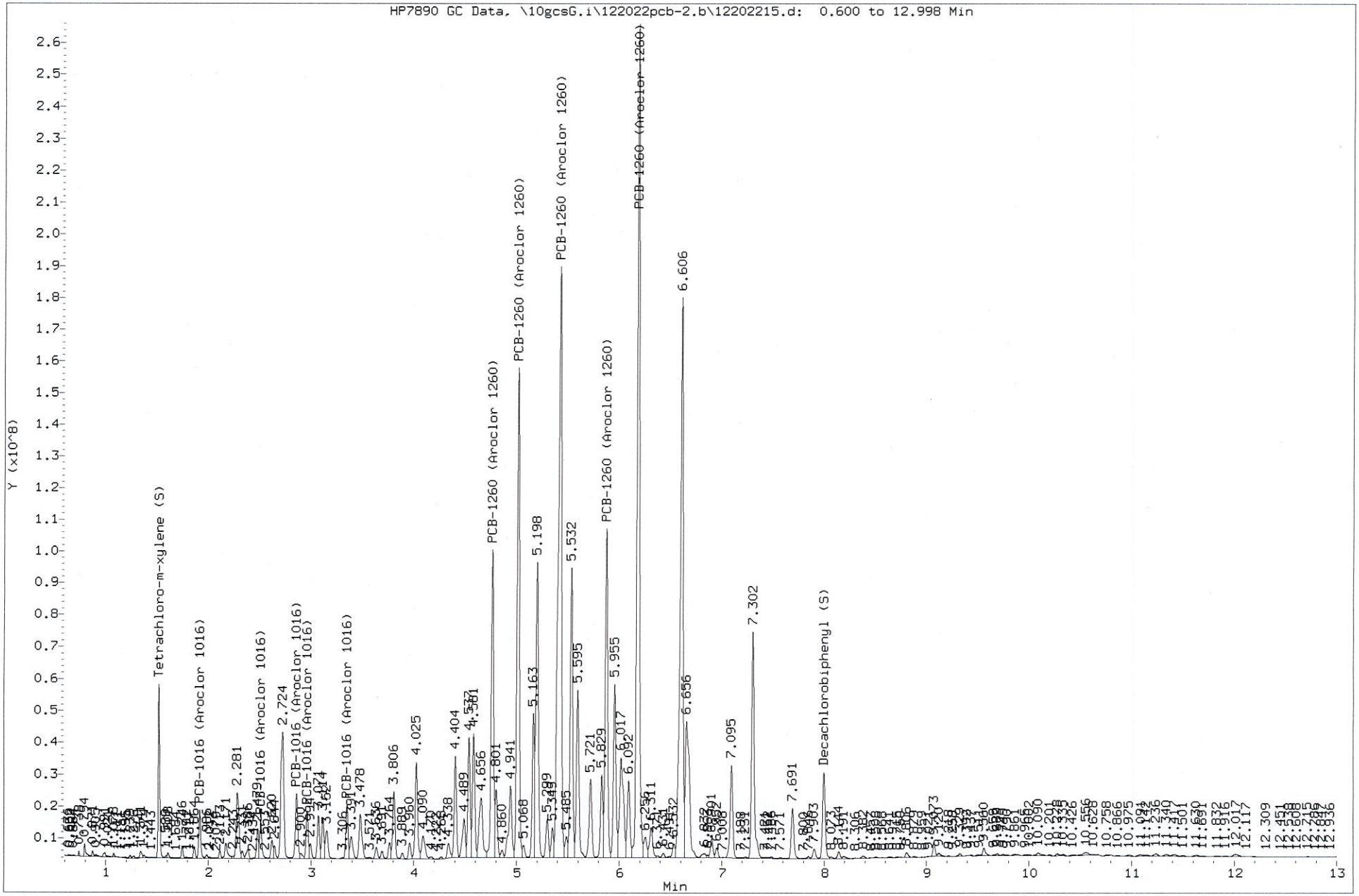
Injection Date: 21-DEC-2022 07:46
Instrument: 10gcsG.i
Client Sample ID: SB11-0.0-0.5-1022

Batch 413O6-859556
10630481-7 Dilution: 5X



Batch 41306-859556
MS 4541297

Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202215.d
Injection Date: 20-DEC-2022 15:18
Instrument: 10gcsG.i
Client Sample ID: SB11-0.0-0.5-1022MS



Batch 41306-859556
MSD 4541298

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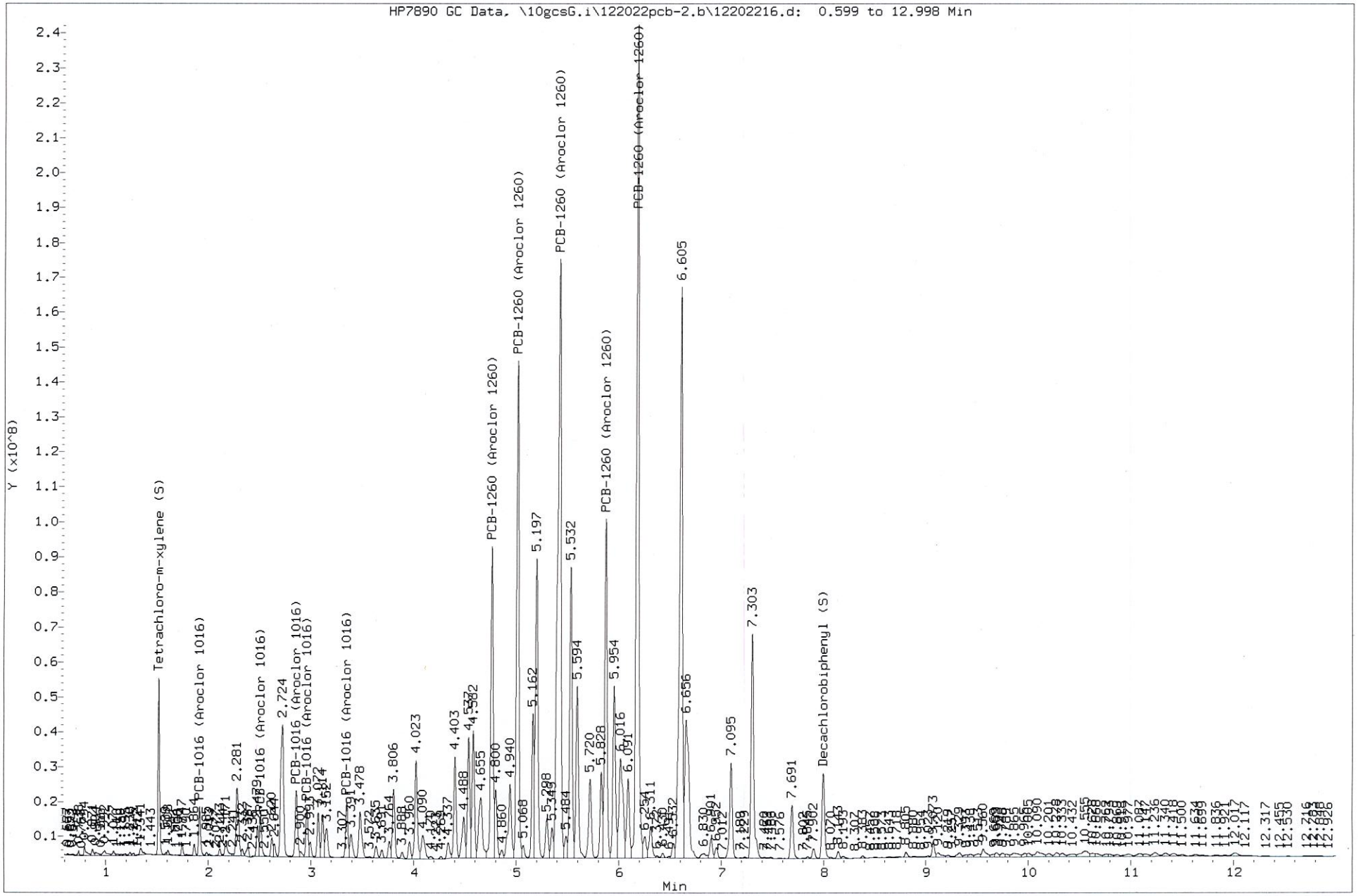
Injection Date: 20-DEC-2022 15:34
Instrument: 10gcsG.i
Client Sample ID: SB11-0.0-0.5-1022MS



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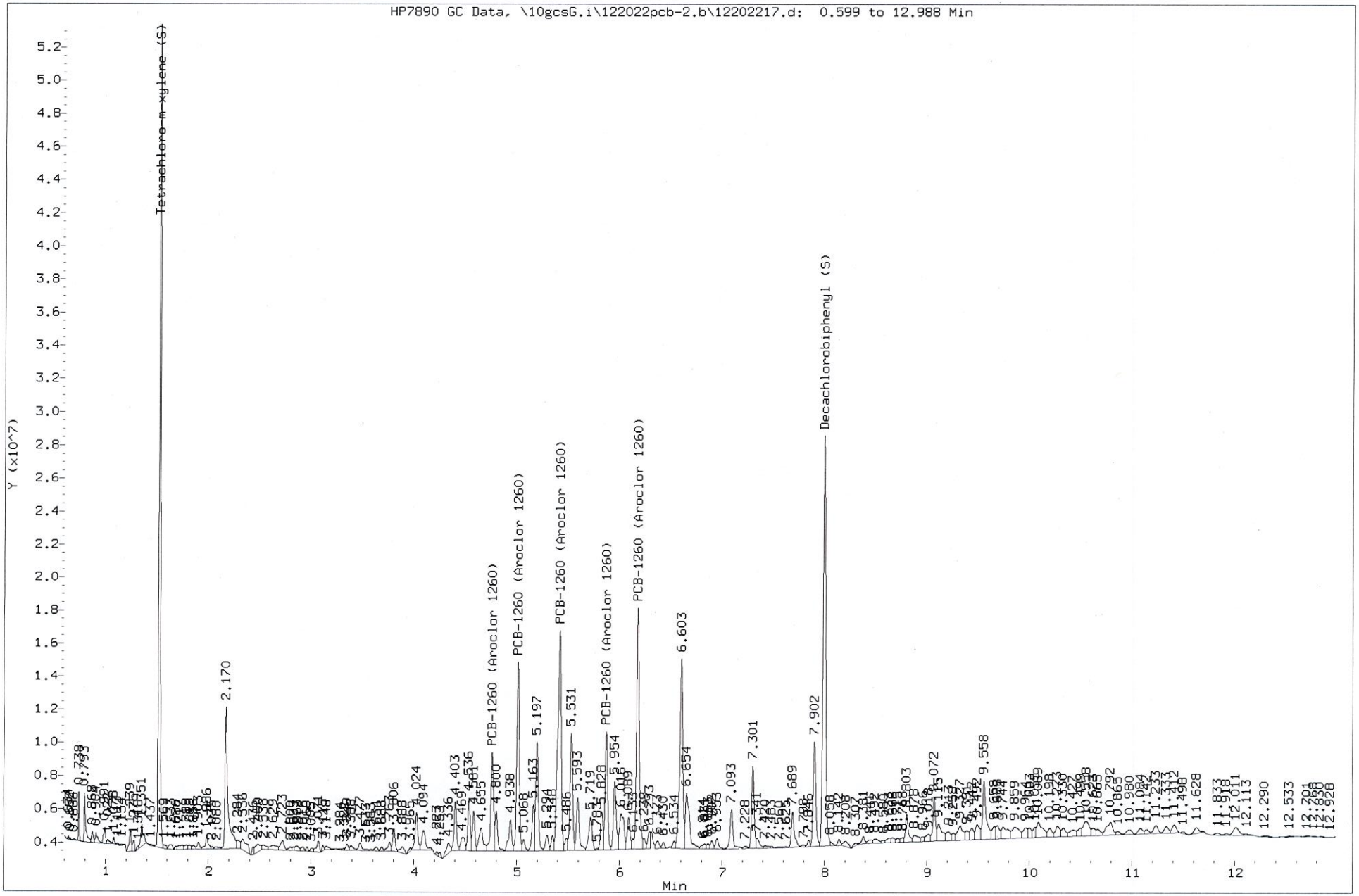
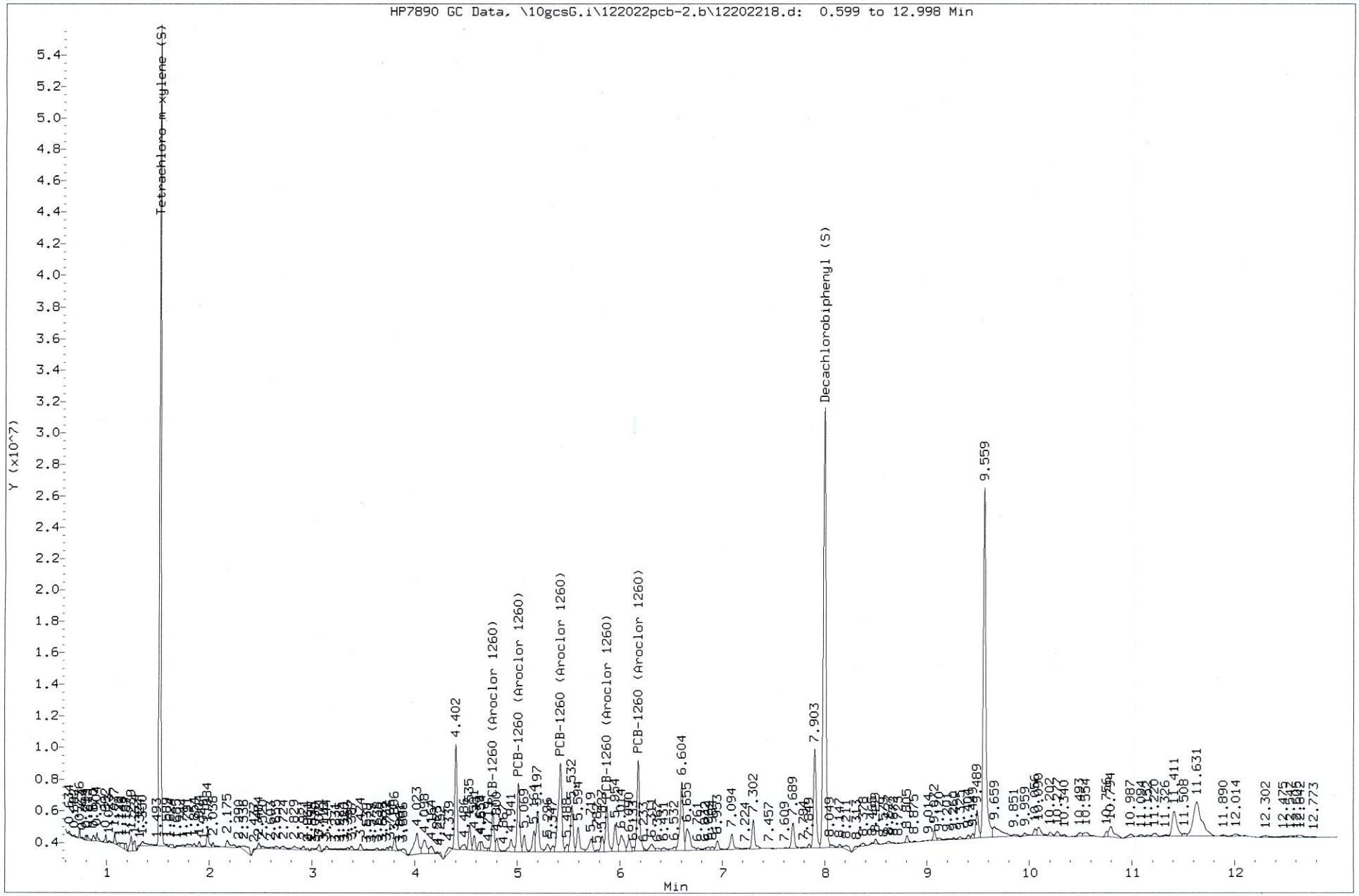
Injection Date: 20-DEC-2022 15:50
Instrument: 10gcsG.i
Client Sample ID: SB14-0.0-0.5-1022

Batch 413306-859556
10630481-1



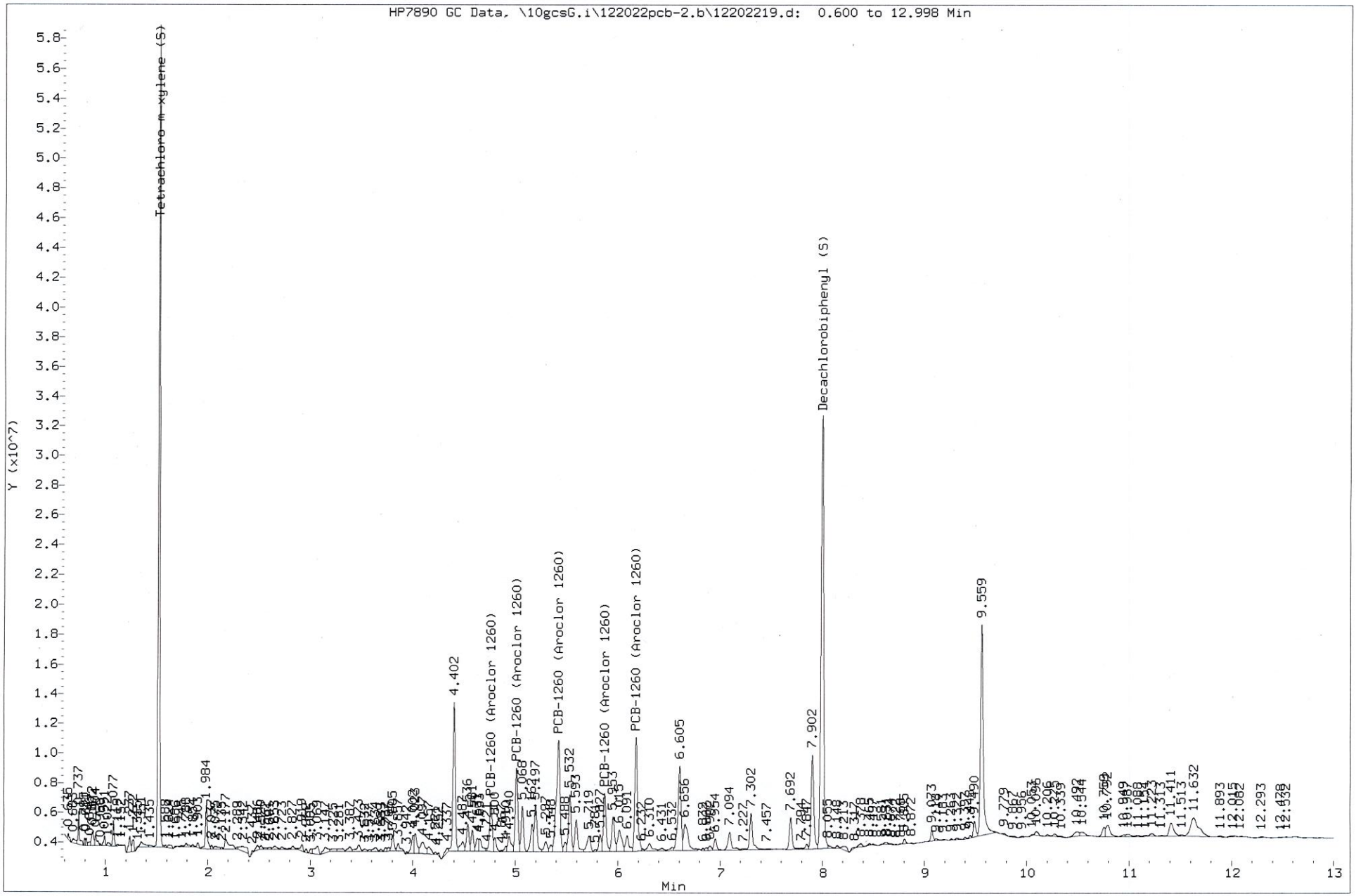
Batch 41306-859556
10630481-2

Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202218.d
Injection Date: 20-DEC-2022 16:06
Instrument: 10gcsG.i
Client Sample ID: SB14-1.0-1.5-1022



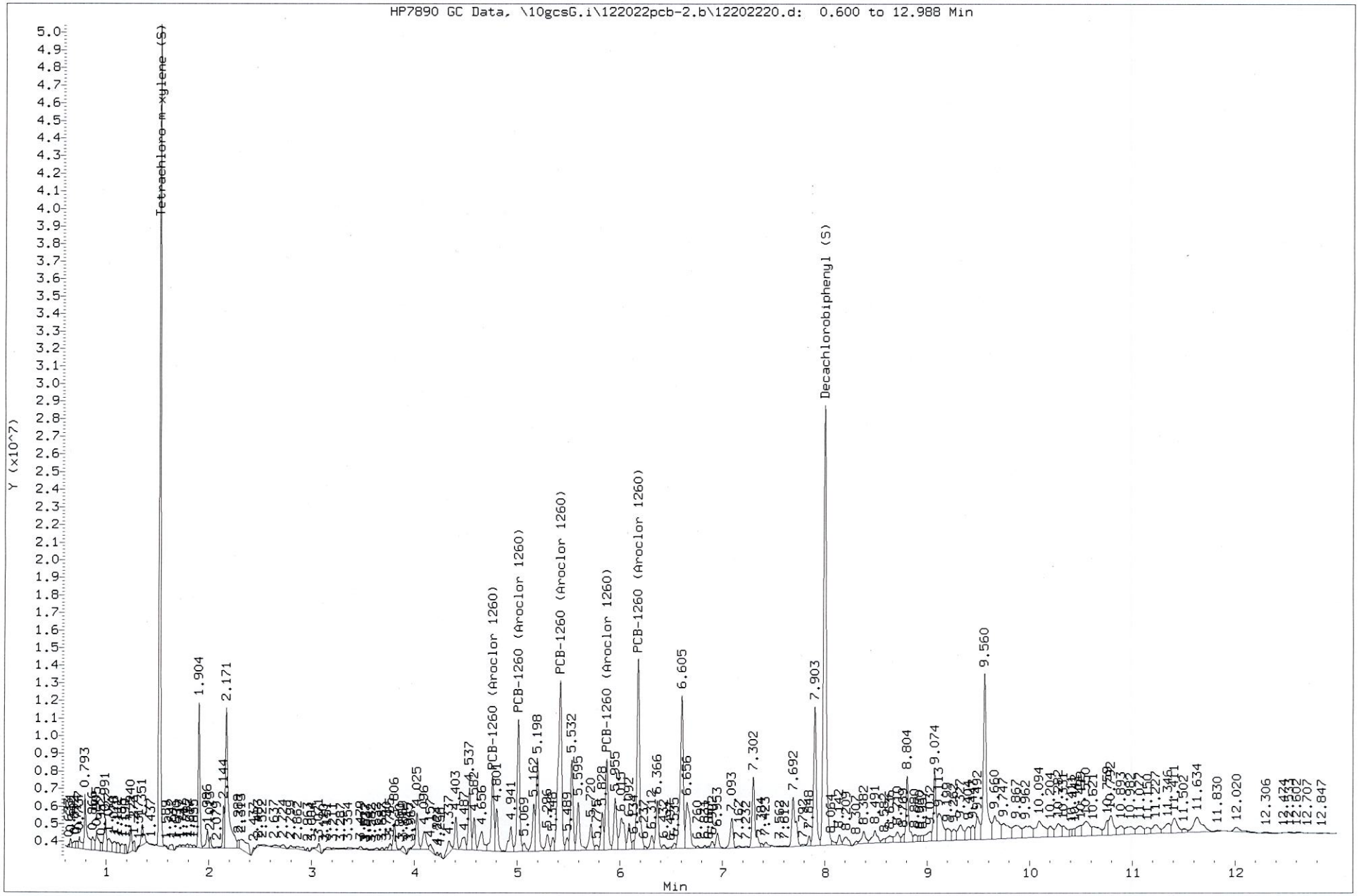
Batch 41306-859556
10630481-3

Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202219.d
Injection Date: 20-DEC-2022 16:22
Instrument: 10gcsG.i
Client Sample ID: SB14-2.5-3.0-1022



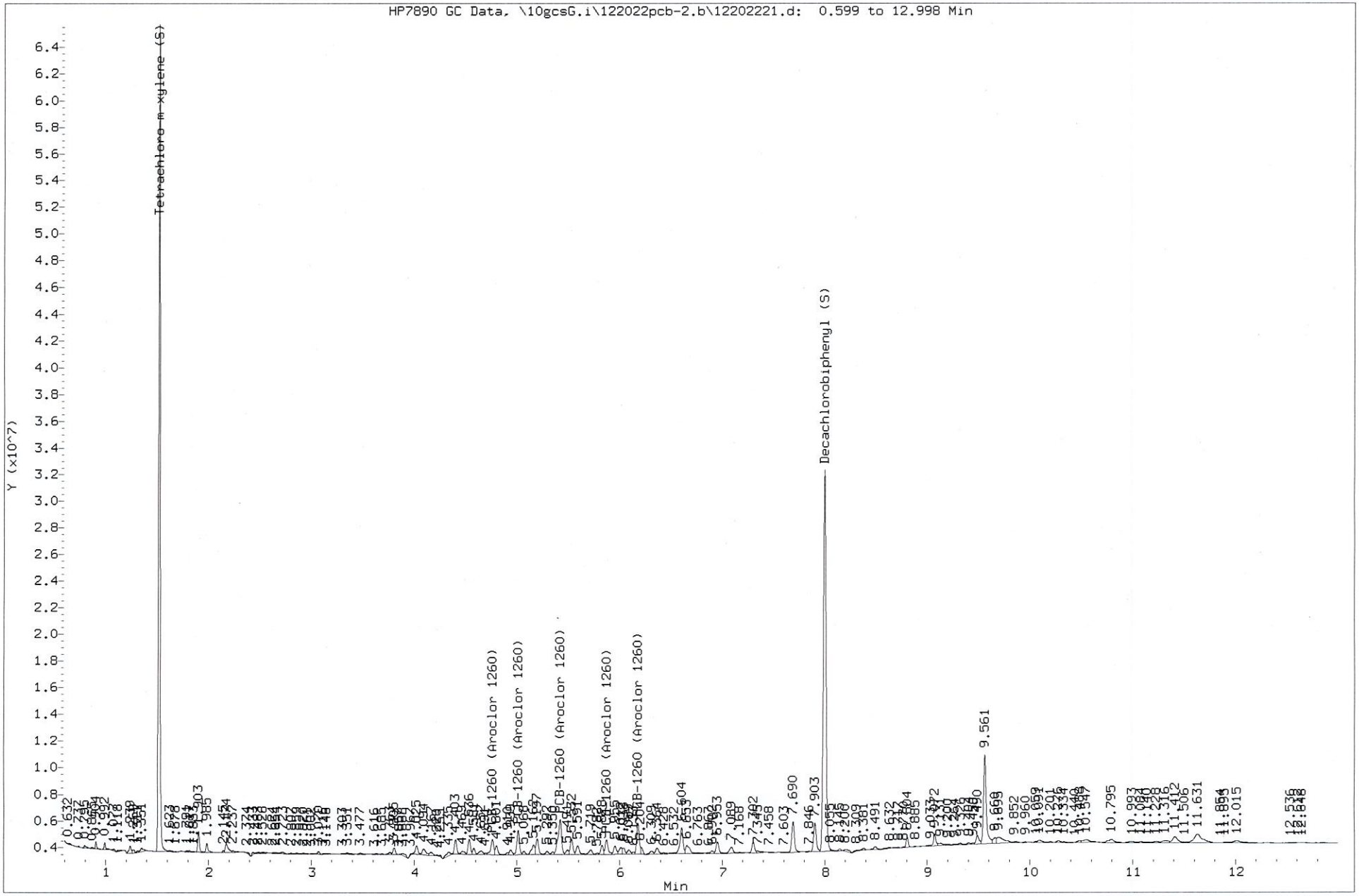
Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202220.d
Injection Date: 20-DEC-2022 16:37
Instrument: 10gcsG.i
Client Sample ID: SB13-0.0-0.5-1022

Batch 41306-859556
10630481-4



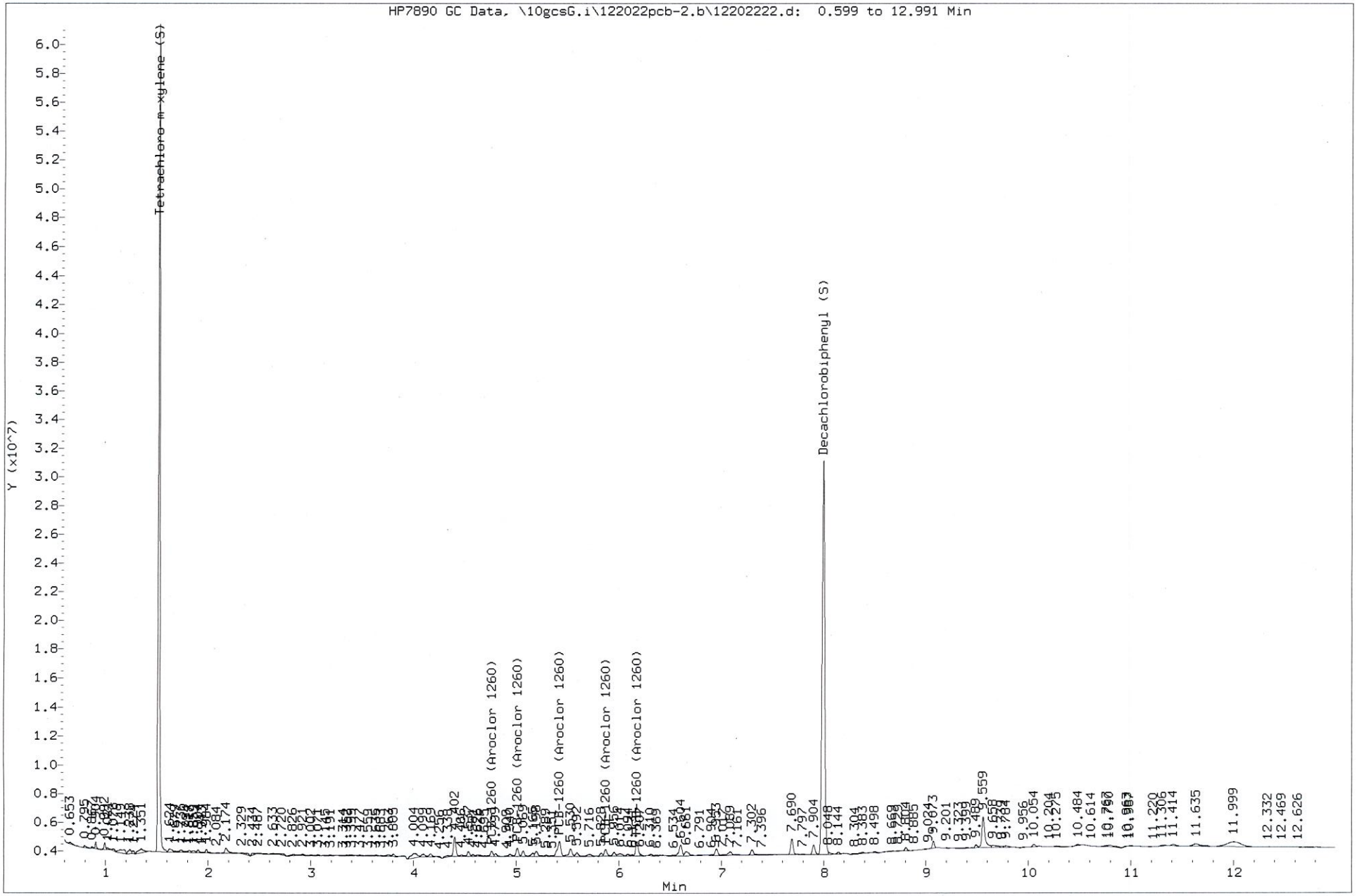
Batch 41306-859556
10630481-5

Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202221.d
Injection Date: 20-DEC-2022 16:53
Instrument: 10gcsG.i
Client Sample ID: SB13-1.0-1.5-1022



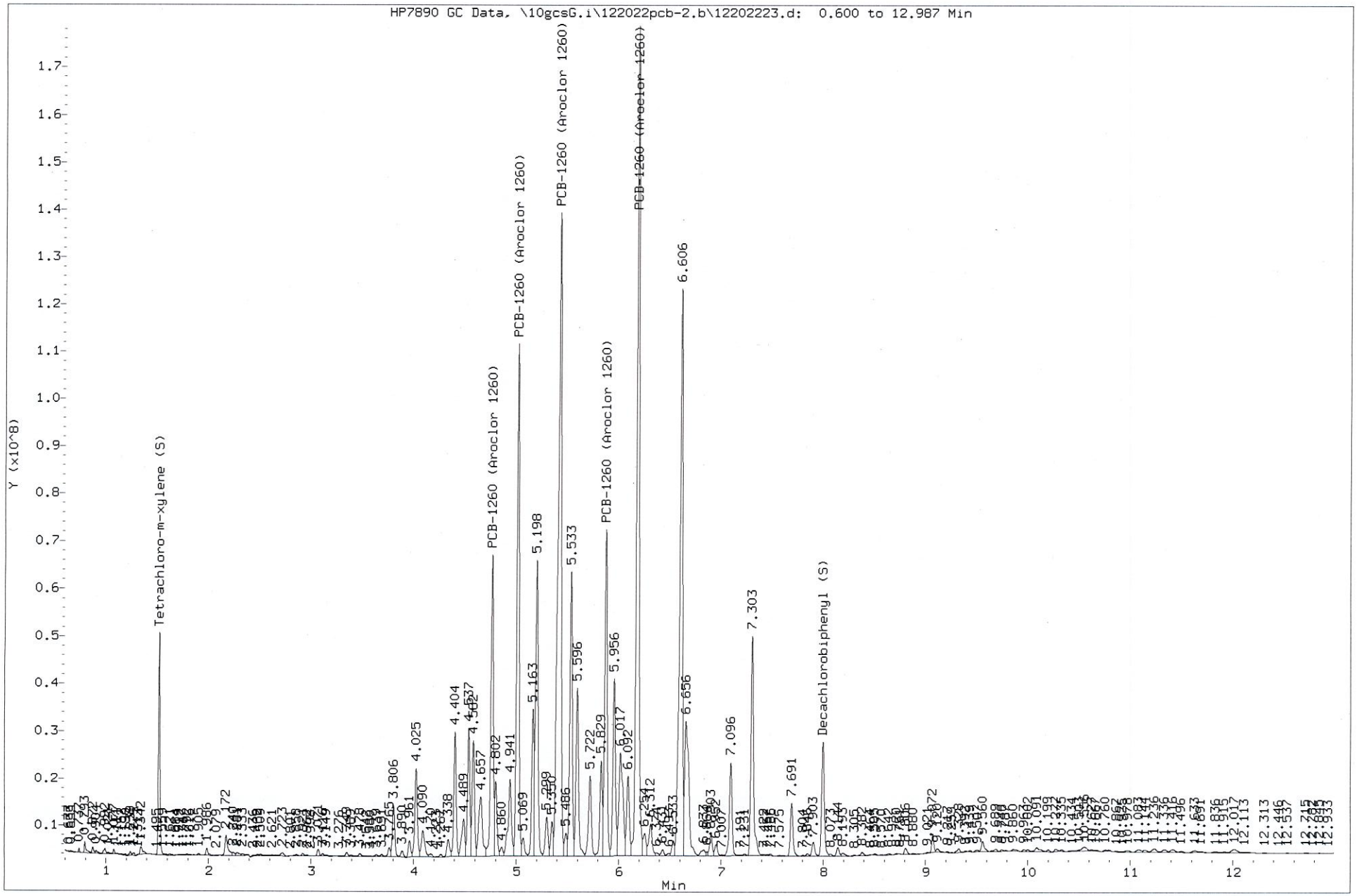
Batch 41306-859556
10630481-6

Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202222.d
Injection Date: 20-DEC-2022 17:09
Instrument: 10gcsG.i
Client Sample ID: SB13-2.5-3.0-1022



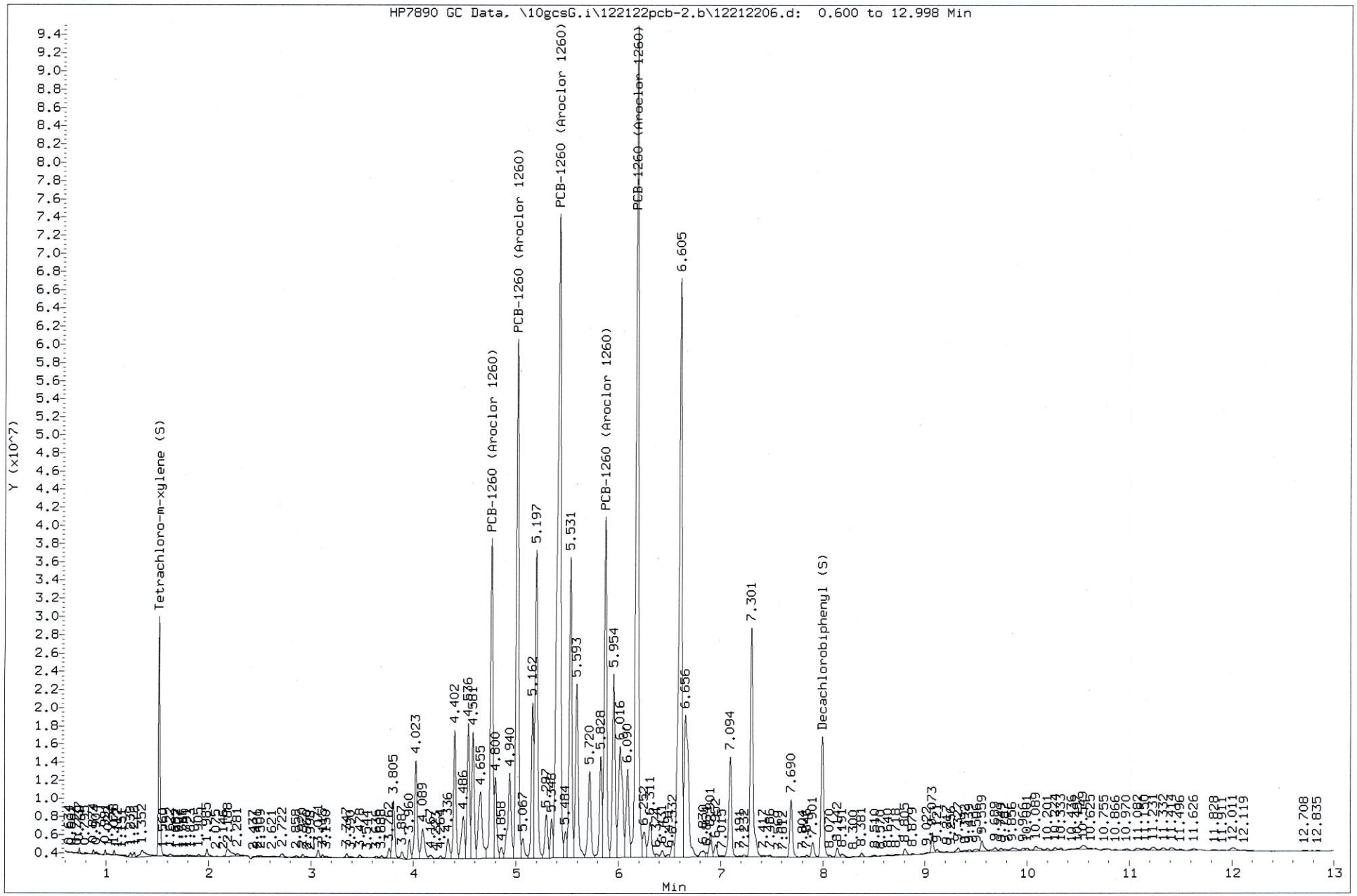
Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202223.d
Injection Date: 20-DEC-2022 17:25
Instrument: 10gcsG.i
Client Sample ID: SB11D-0.0-0.5-1022

Batch 41306-859556
10630481-8



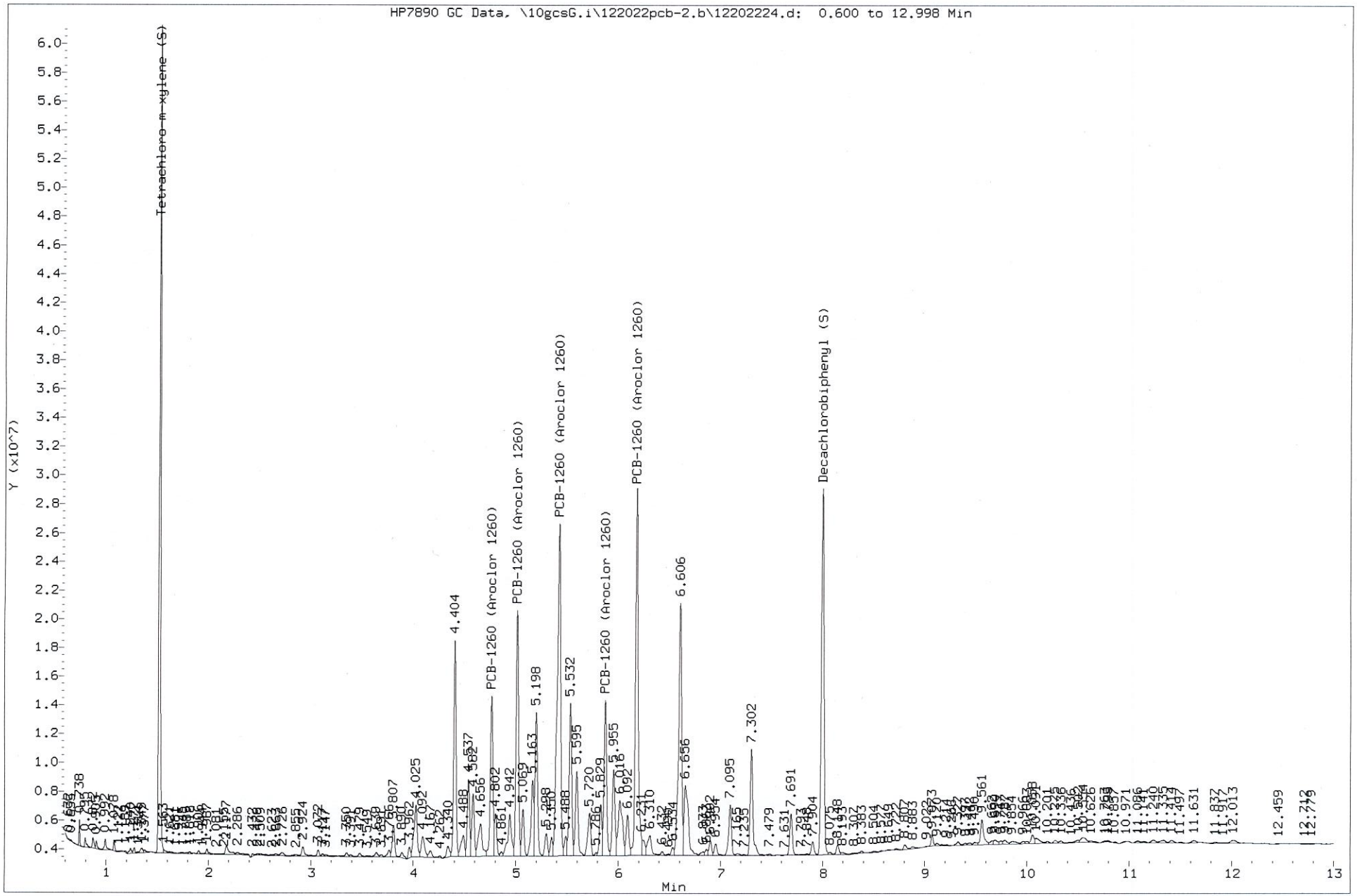
Batch 41306-859556
10630481-8 Dilution: 2x

Data File: \\v10wintarget\chem\10gcsG.i\122122pcb-2.b\12212206.d
Injection Date: 21-DEC-2022 08:02
Instrument: 10gcsG.i
Client Sample ID: SB11D-0.0-0.5-1022



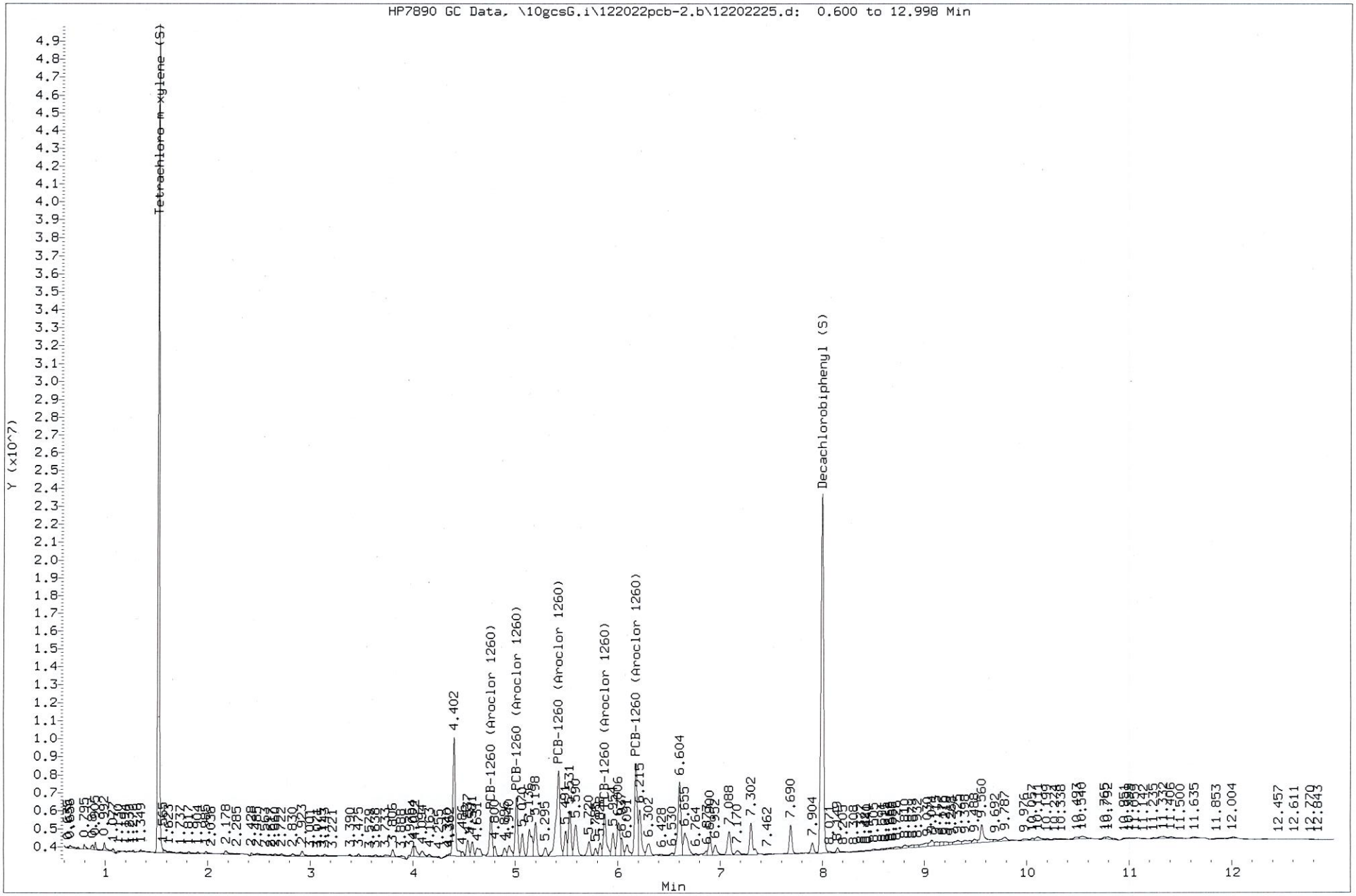
Batch 41306-859556
10630481-9

Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202224.d
Injection Date: 20-DEC-2022 17:40
Instrument: 10gcsG.i
Client Sample ID: SB11-1.0-1.5-1022



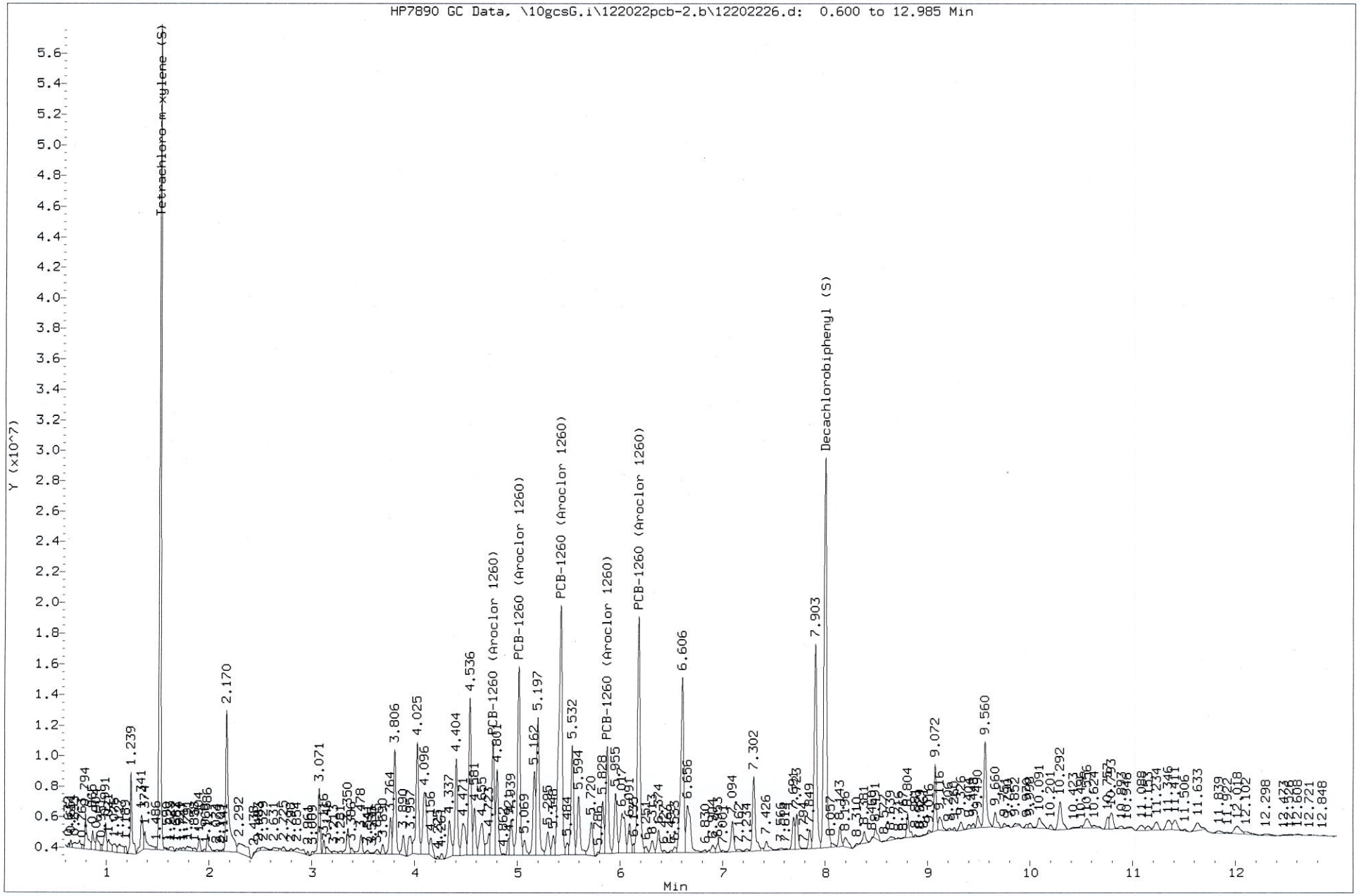
Batch 413O6-859556
10630481-10

Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202225.d
Injection Date: 20-DEC-2022 17:56
Instrument: 10gcsG.i
Client Sample ID: SB11-2.5-3.0-1022



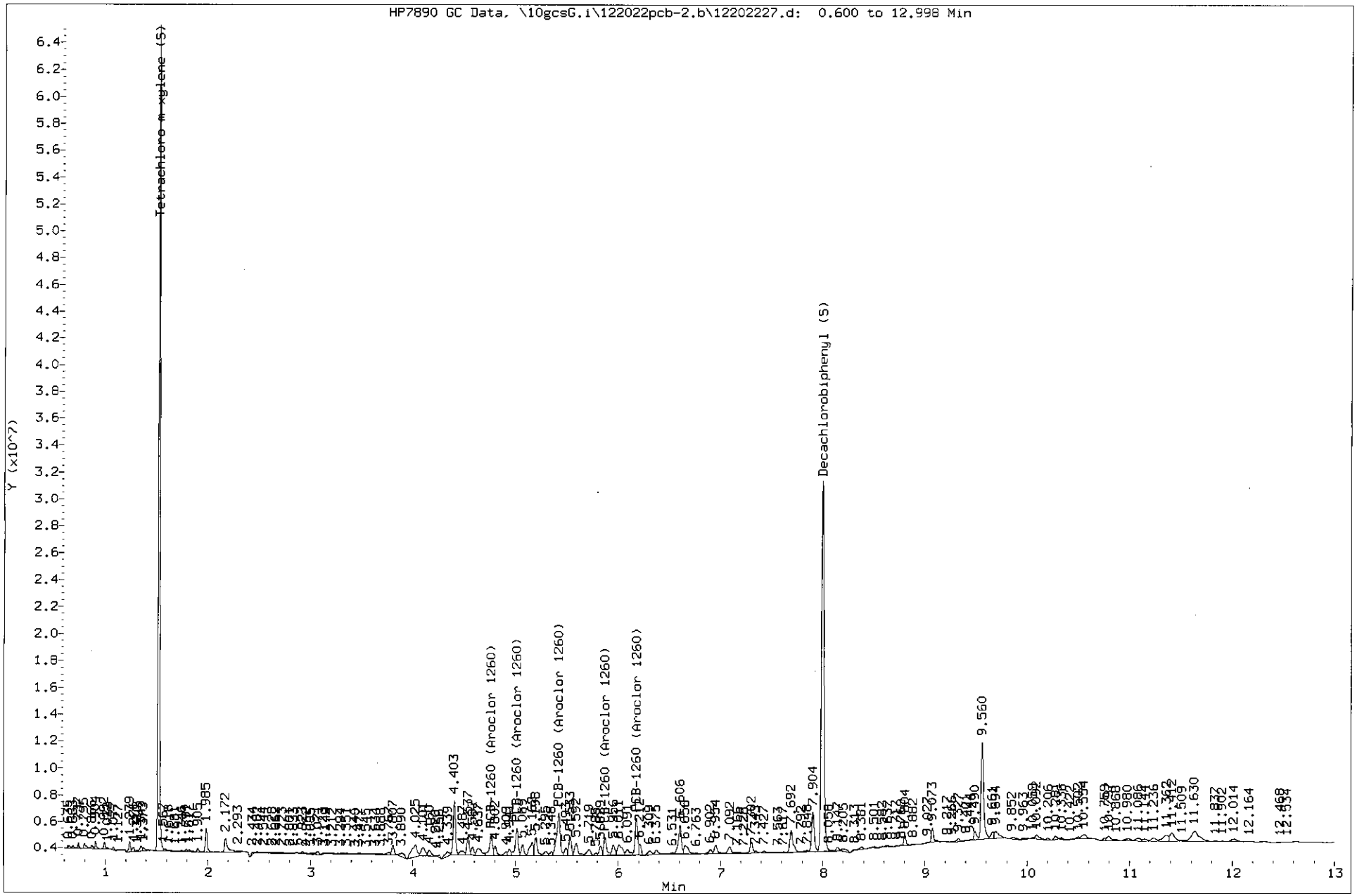
Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202226.d
Injection Date: 20-DEC-2022 18:12
Instrument: 10gcsG.i
Client Sample ID: SB15-0.0-0.5-1022

Batch 413306-859556
10630481-11



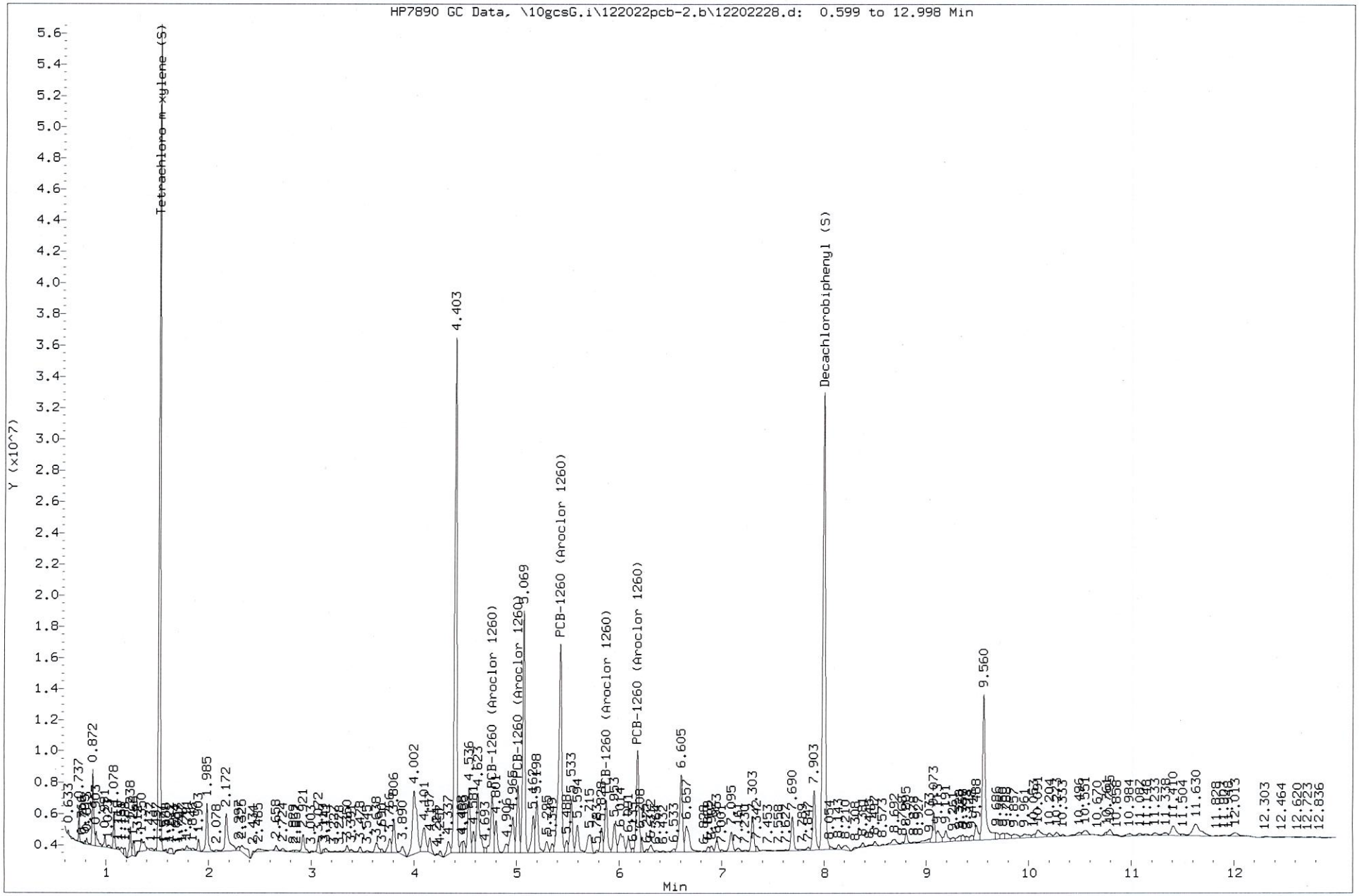
Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202227.d
Injection Date: 20-DEC-2022 18:28
Instrument: 10gcsG.i
Client Sample ID: SB15-1.0-1.5-1022

Batch 41306-859556
10630481-12



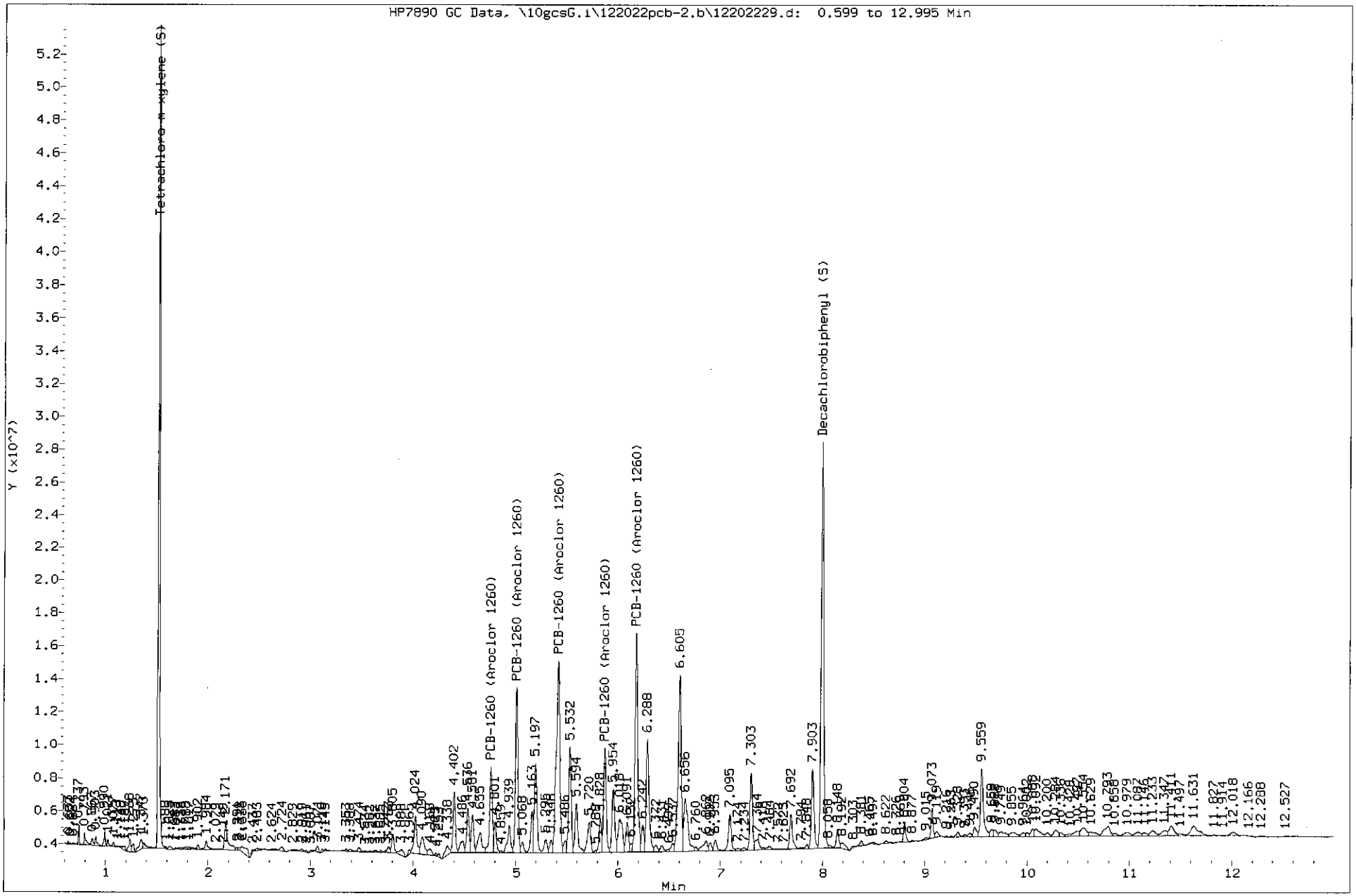
Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202228.d
Injection Date: 20-DEC-2022 18:44
Instrument: 10gcsG.i
Client Sample ID: SB15-2.5-3.0-1022

Batch 41306-859556
10630481-13



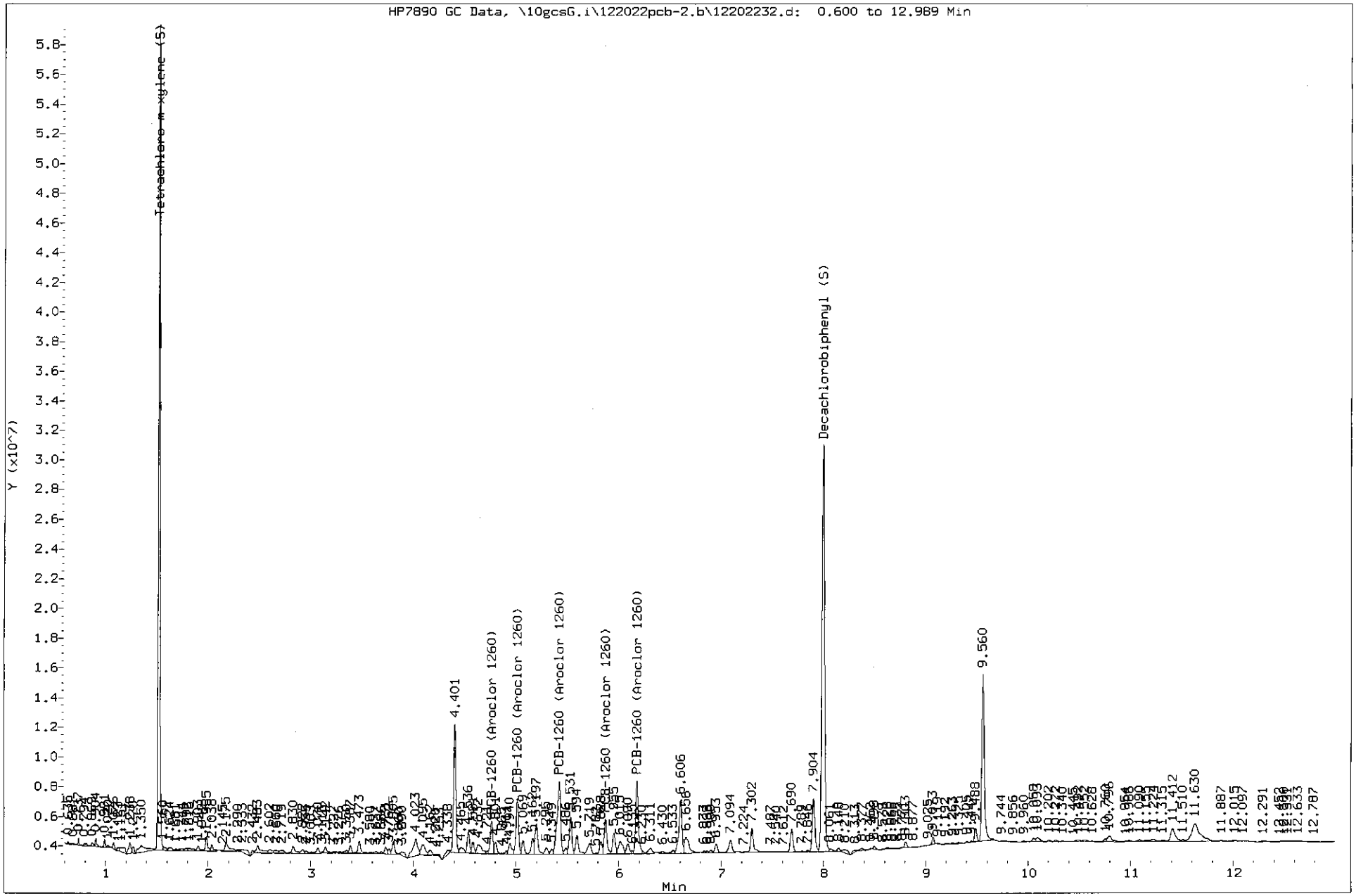
Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202229.d
Injection Date: 20-DEC-2022 19:00
Instrument: 10gcsG.i
Client Sample ID: SB16-0.0-0.5-1022

Batch 413O6-859556
10630481-14



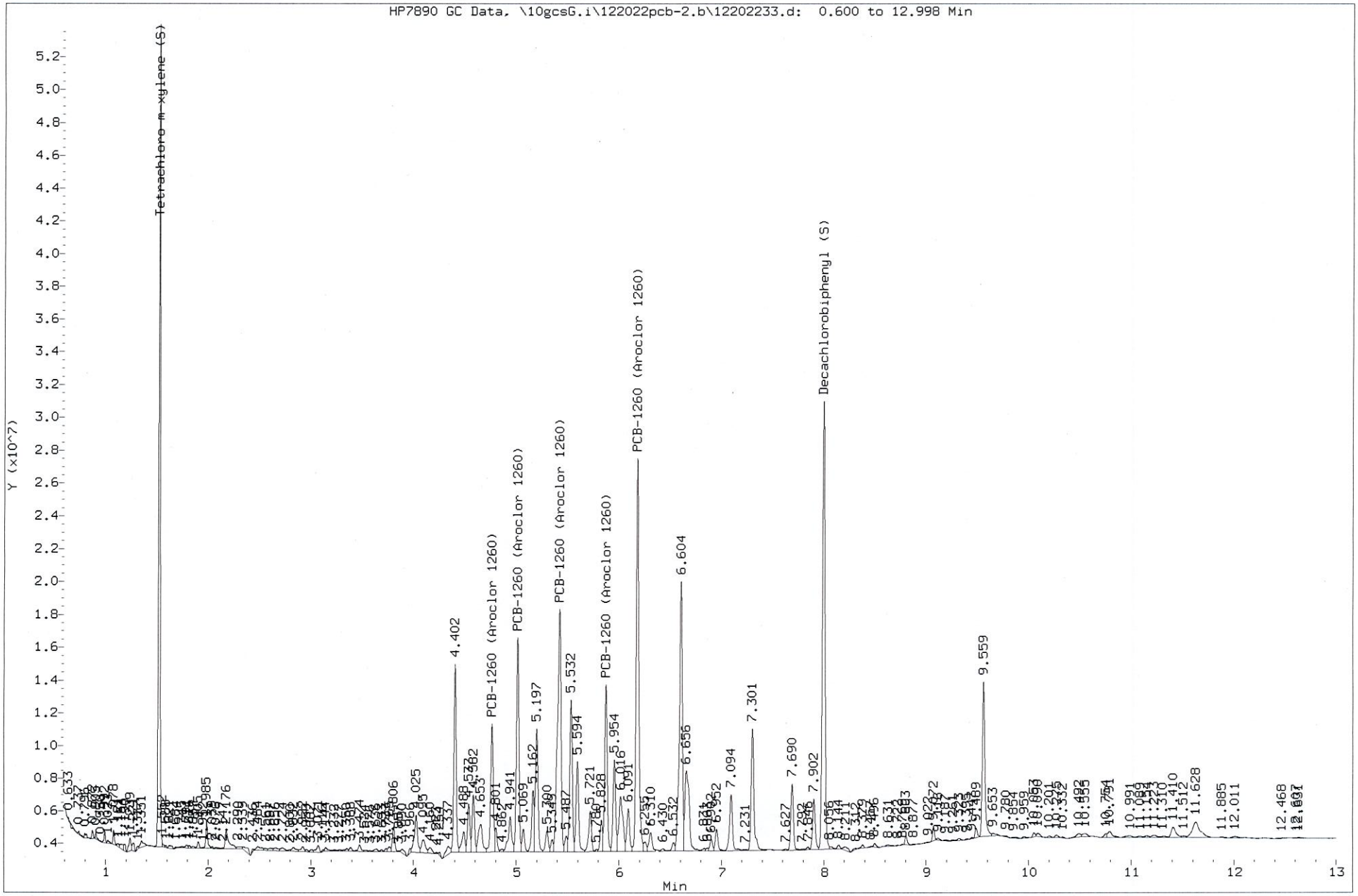
Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202232.d
Injection Date: 20-DEC-2022 19:48
Instrument: 10gcsG.i
Client Sample ID: SB16-1.0-1.5-1022

Batch 413O6-859556
10630481-15



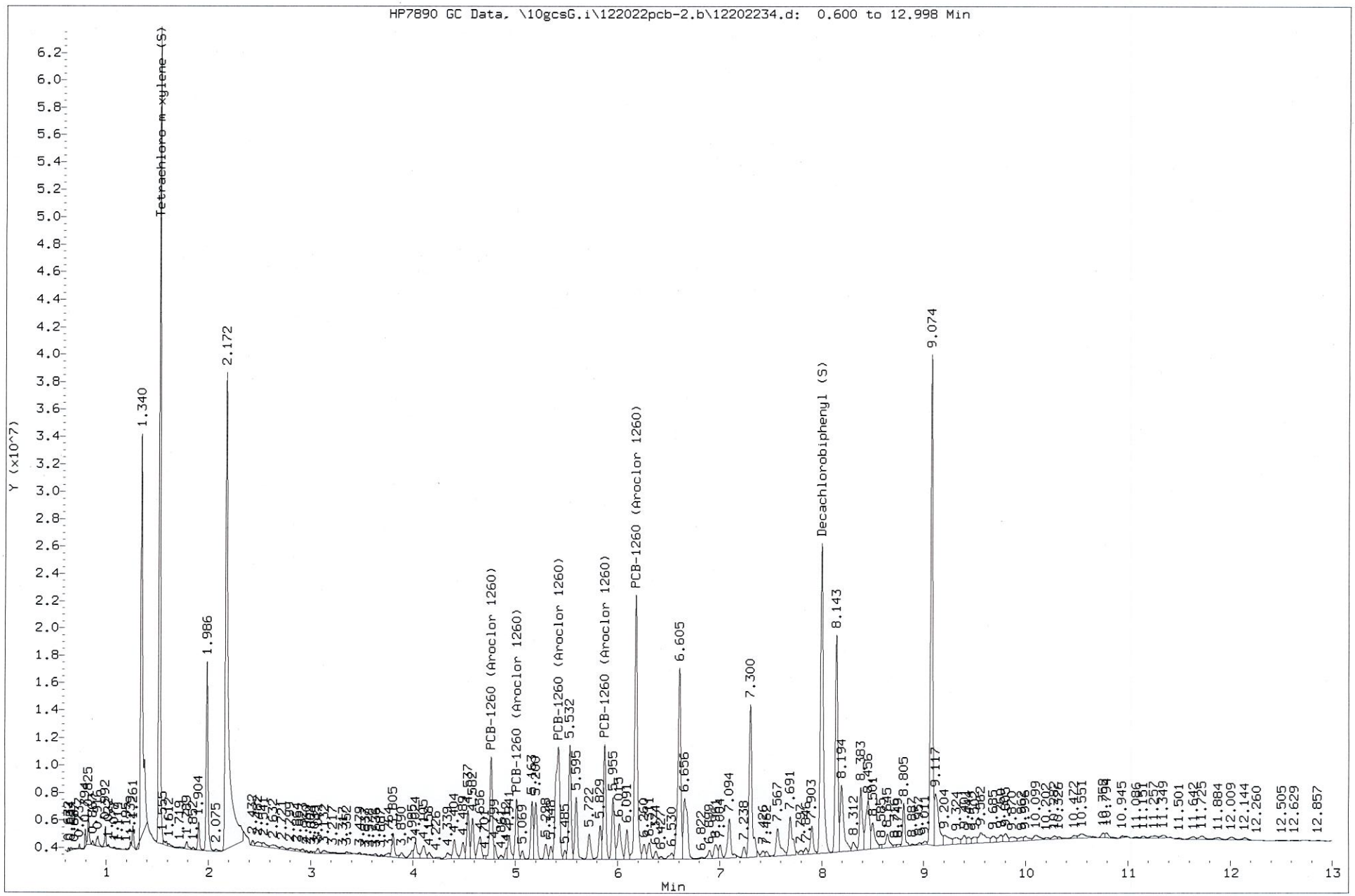
Batch 41306-859556
10630481-16

Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202233.d
Injection Date: 20-DEC-2022 20:04
Instrument: 10gcsG.i
Client Sample ID: SB16-2.5-3.0-1022



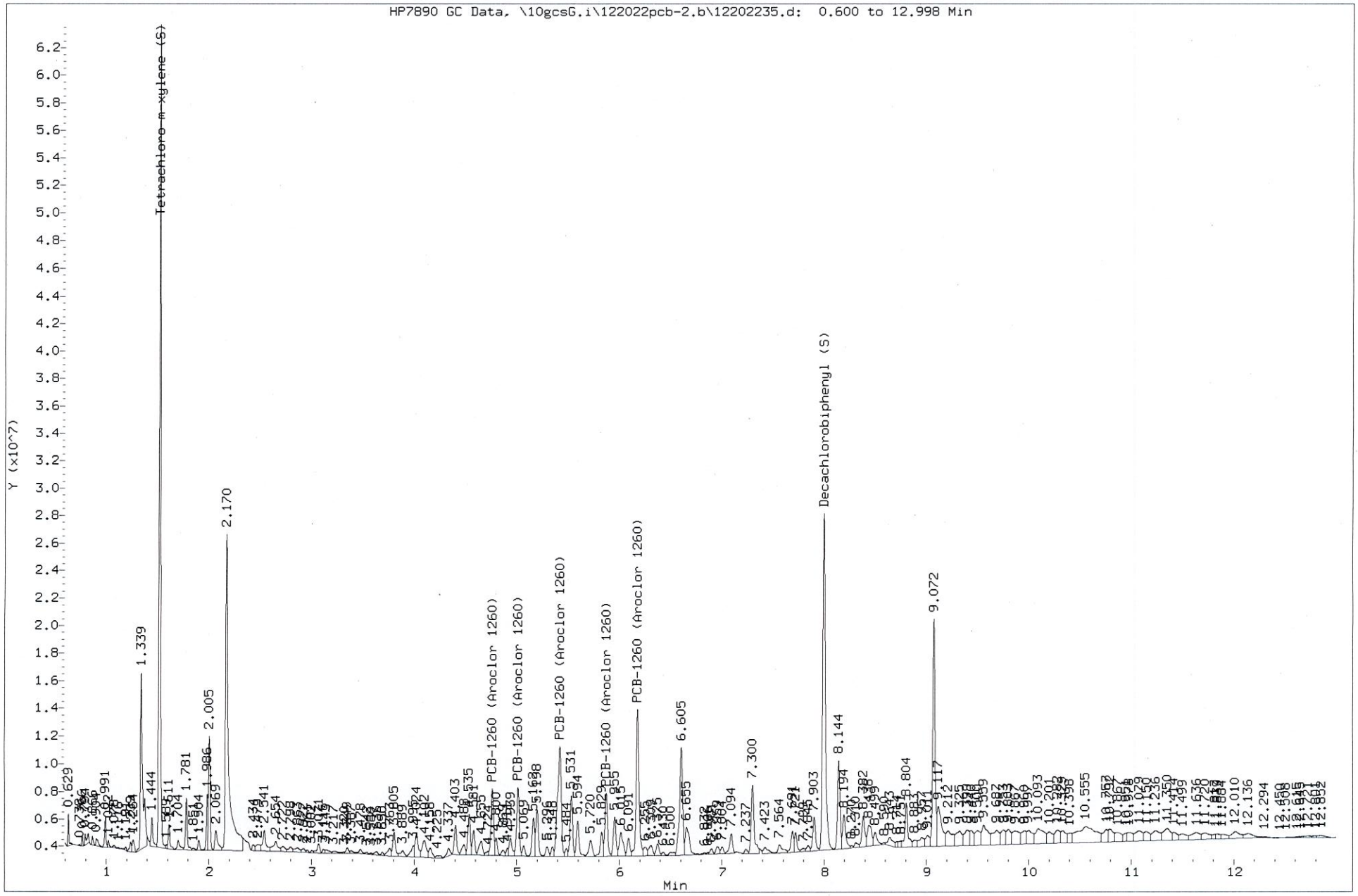
Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202234.d
Injection Date: 20-DEC-2022 20:20
Instrument: 10gcsG.i
Client Sample ID: ISM02-0.0-0.2-1022

Batch 41306-859556
10630481-17



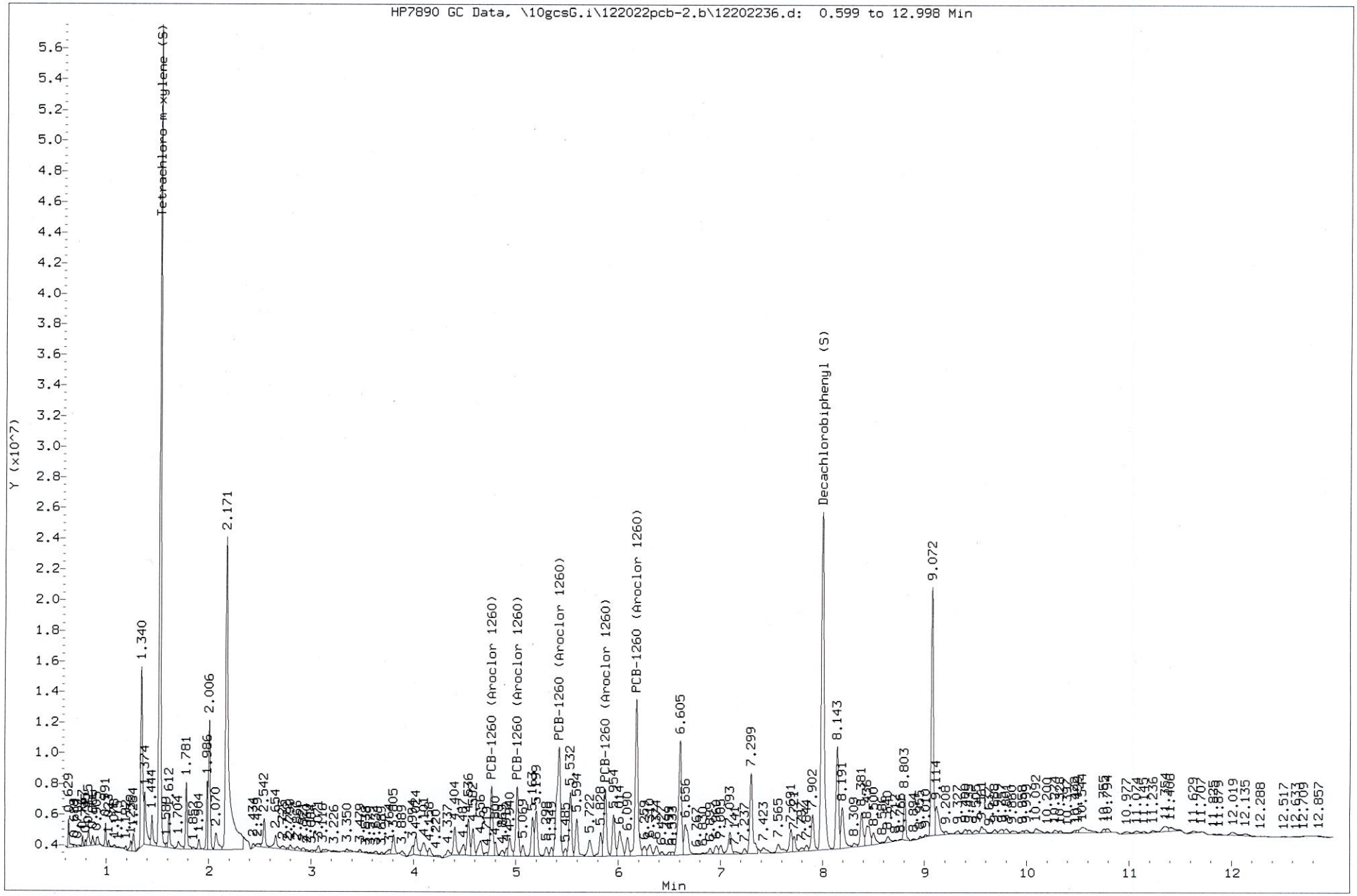
Batch 41306-859556
10630481-18

Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202235.d
Injection Date: 20-DEC-2022 20:36
Instrument: 10gcsG.i
Client Sample ID: ISM07-0.0-0.2-1022



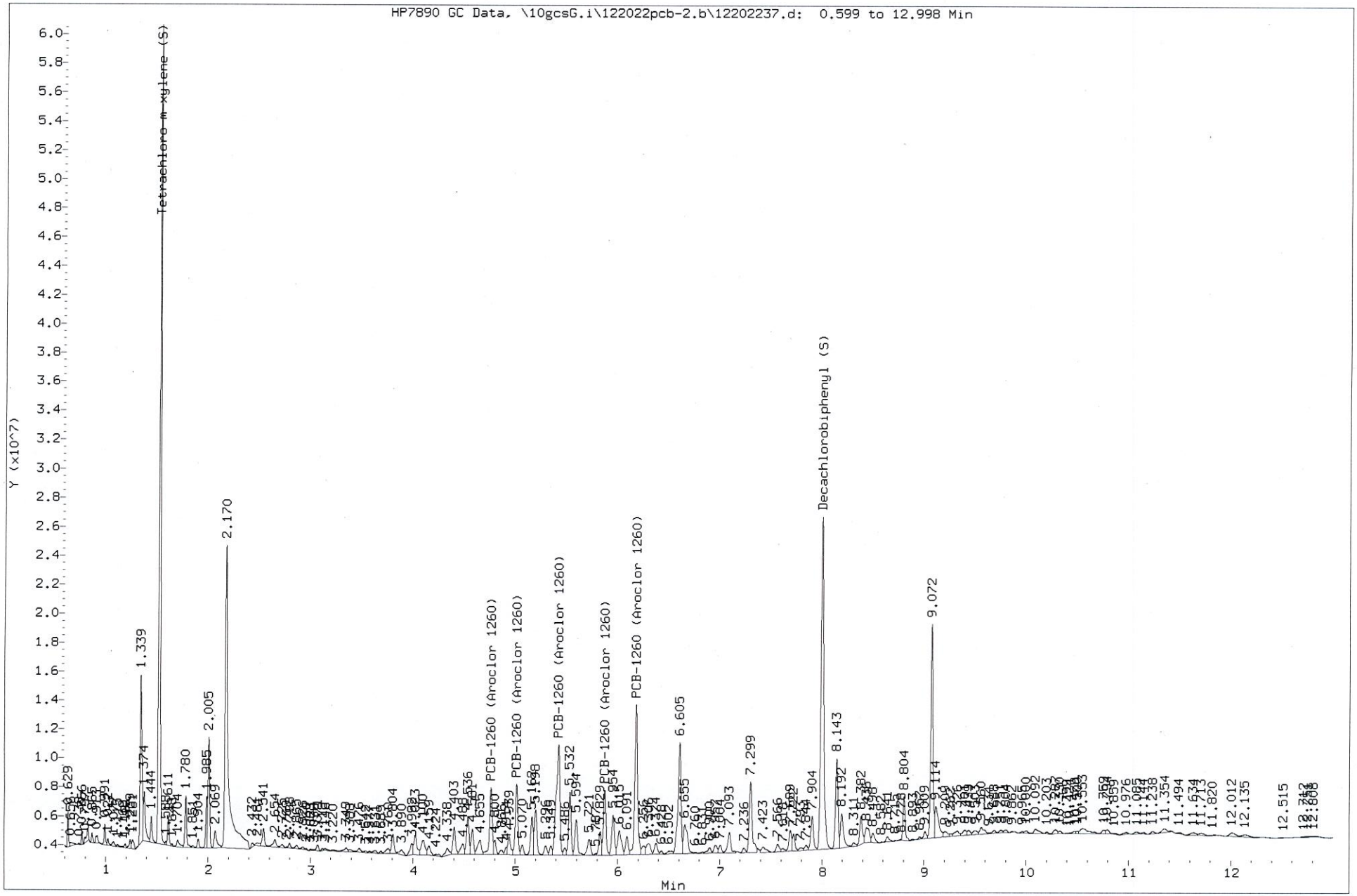
Batch 41306-859556
10630481-19

Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202236.d
Injection Date: 20-DEC-2022 20:52
Instrument: 10gcsG.i
Client Sample ID: ISM07T-0.0-0.2-1022



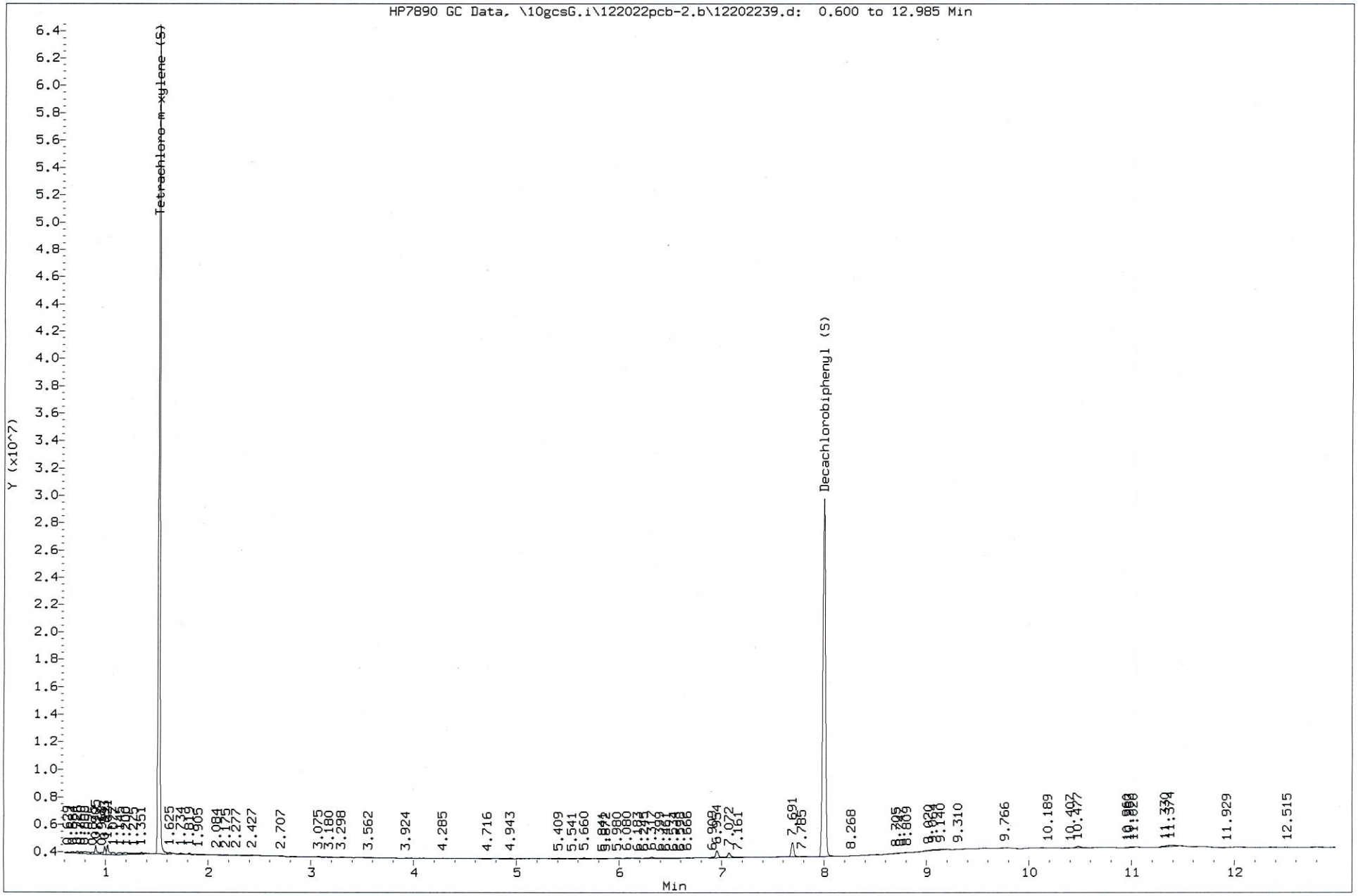
Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202237.d
Injection Date: 20-DEC-2022 21:08
Instrument: 10gcsG.i
Client Sample ID: ISM07TT-0.0-0.2-102

Batch 41306-859556
10630481-20



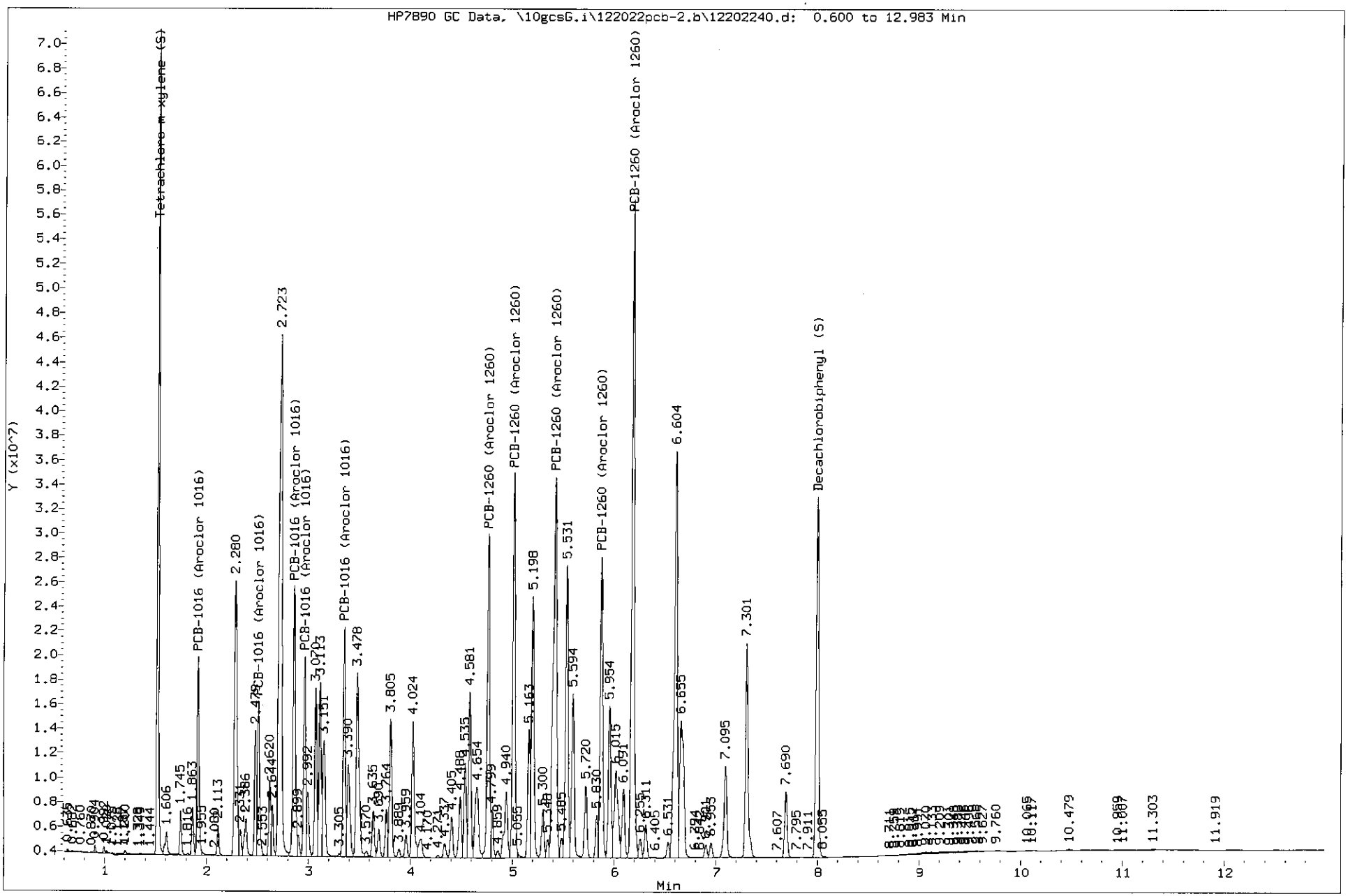
Batch 41307-859557
Blank 4541303

Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202239.d
Injection Date: 20-DEC-2022 21:39
Instrument: 10gcsG.i
Client Sample ID: MB



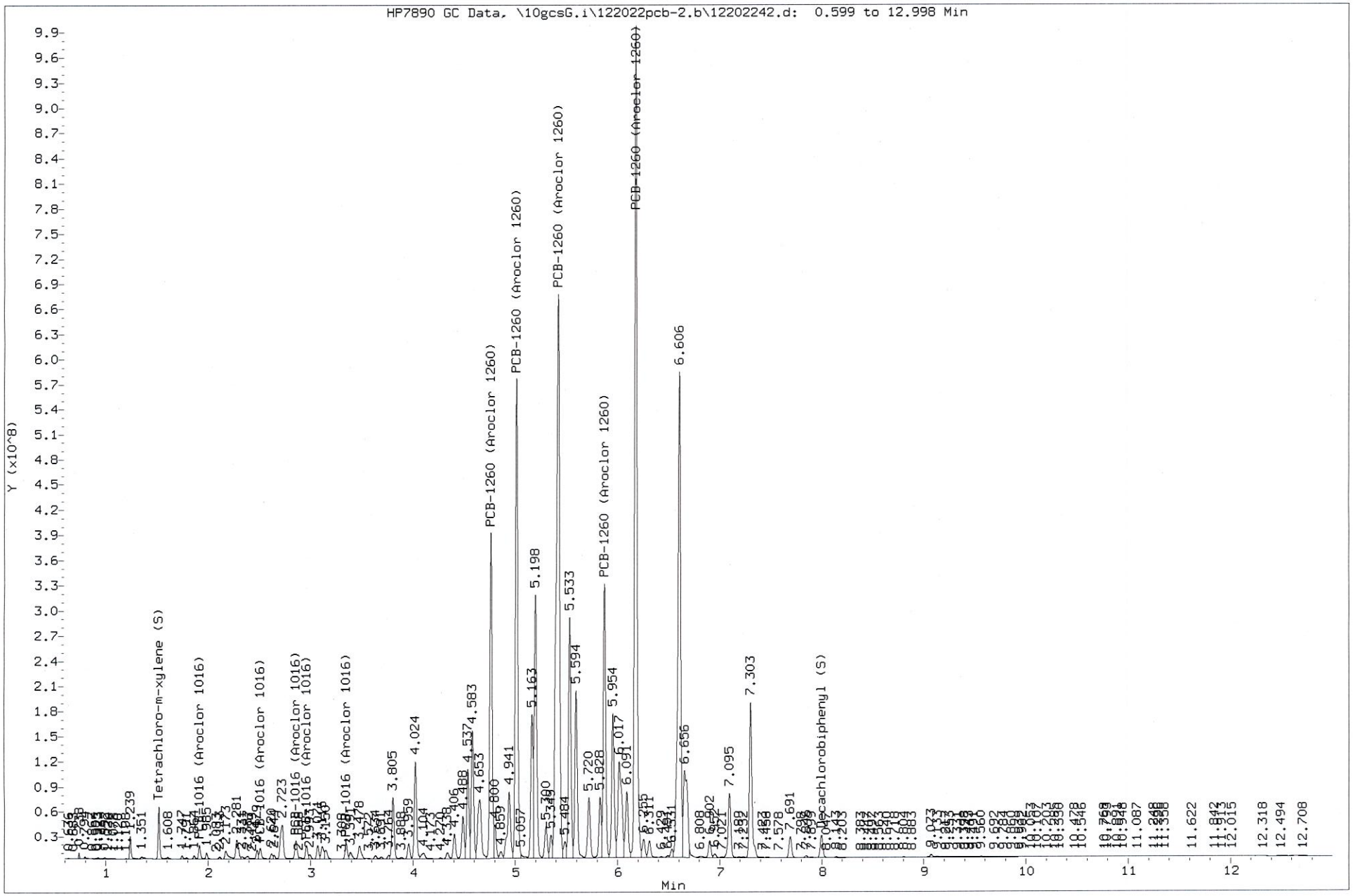
Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202240.d
Injection Date: 20-DEC-2022 21:55
Instrument: 10gcsG.i
Client Sample ID: MBLCS

Batch 41307-859557
LCS 4541304



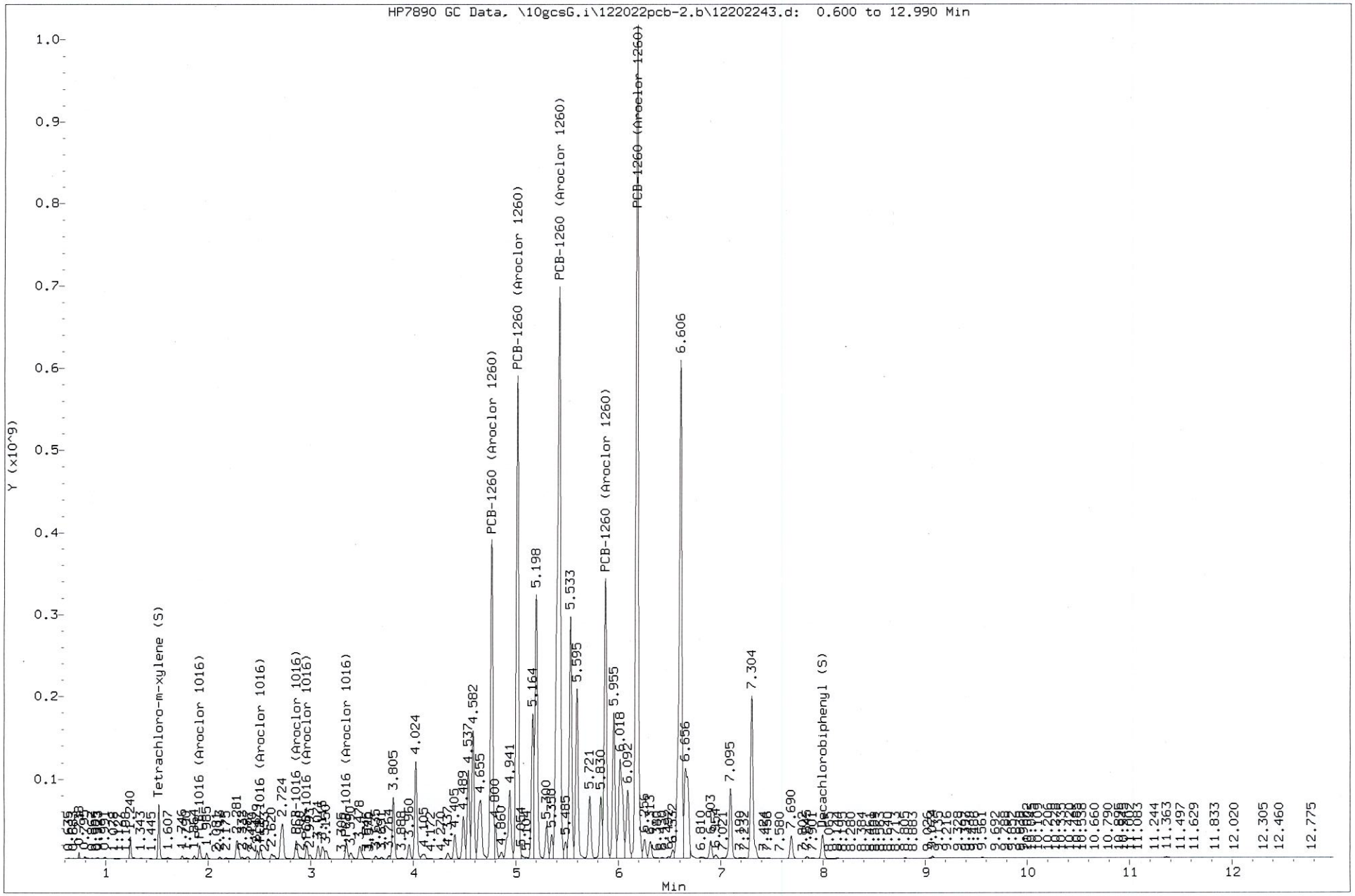
Batch 41307-859557
MS 4541336

Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202242.d
Injection Date: 20-DEC-2022 22:27
Instrument: 10gcsG.i
Client Sample ID: SB08-0.5-110322MS



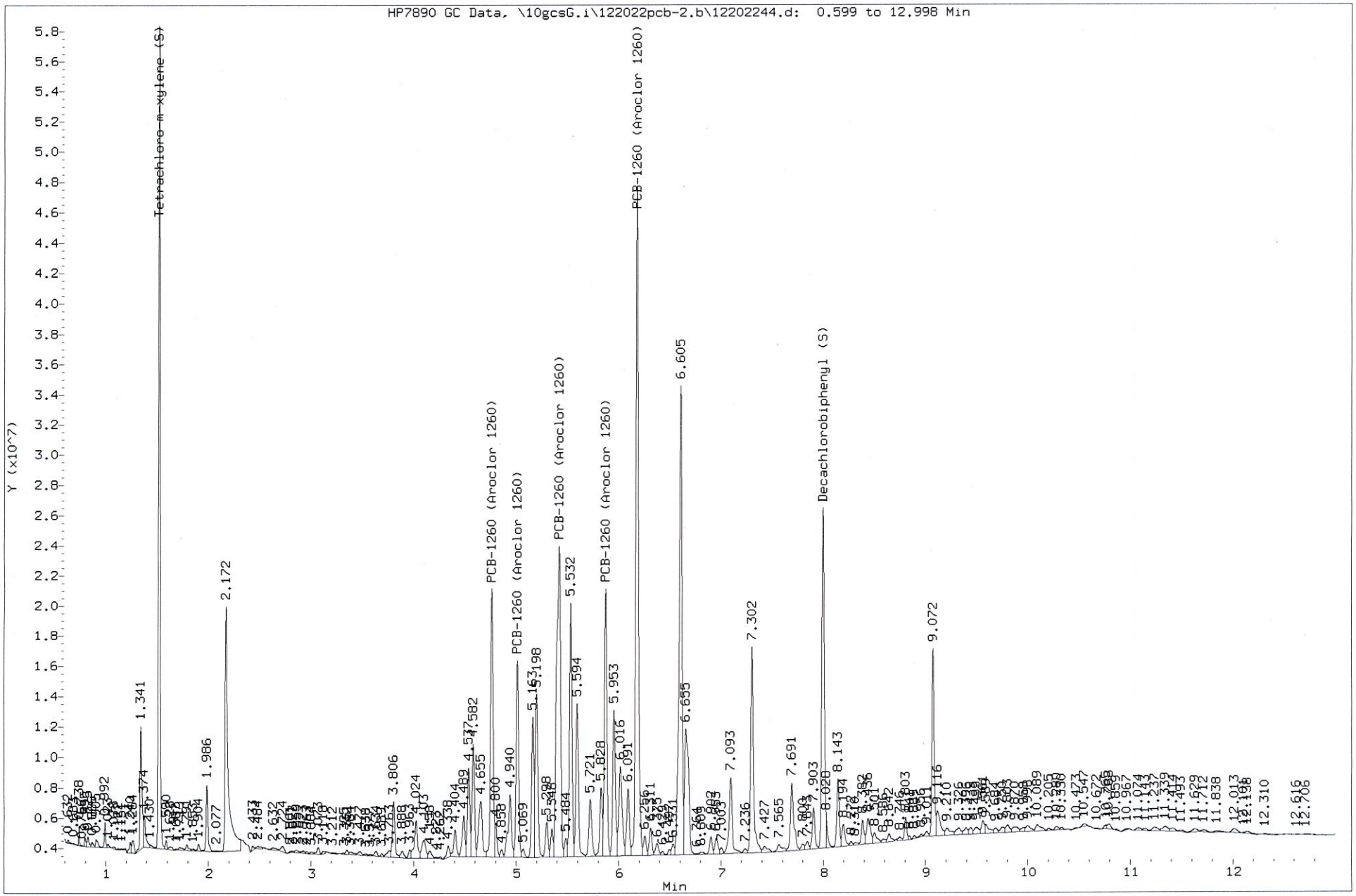
Batch 41307-859557
MSD 4541337

Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202243.d
Injection Date: 20-DEC-2022 22:43
Instrument: 10gcsG.i
Client Sample ID: SB08-0.5-110322MSD



Batch 41307-859557
10630481-21

Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202244.d
Injection Date: 20-DEC-2022 22:59
Instrument: 10gcsG.i
Client Sample ID: ISM06-0.0-0.2-1022



Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

December 21, 2022

David Hodson
Jacobs
2020 SW 4th Avenue
Suite 300
Portland, OR 97201

RE: Project: Portland OR-Peninsula Iron Wor-Revised Report
Pace Project No.: 10630729

Dear David Hodson:

Enclosed are the analytical results for sample(s) received by the laboratory on October 21, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

This report was revised on December 21, 2022, to update the client sample ID for Pace sample 10630729001.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: UPRR-Sysdat@ghd.com, UPRR

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Minneapolis, MN 55414
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CERTIFICATIONS

Project: Portland OR-Peninsula Iron Wor-Revised Report
Pace Project No.: 10630729

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
A2LA Certification #: 2926.01*
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
GMP+ Certification #: GMP050884
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240*
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification (A2LA) #: R-036
North Dakota Certification (MN) #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Ohio VAP Certification (1800) #: CL110*
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
*Please Note: Applicable air certifications are denoted with an asterisk (*).

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SAMPLE SUMMARY

Project: Portland OR-Peninsula Iron Wor-Revised Report
Pace Project No.: 10630729

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10630729001	**ISM08-0.0-0.2-1022**	Solid	10/20/22 10:00	10/21/22 10:10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Portland OR-Peninsula Iron Wor-Revised Report
Pace Project No.: 10630729

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10630729001	**ISM08-0.0-0.2-1022**	EPA 8082A	RAG	11	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Portland OR-Peninsula Iron Wor-Revised Report
Pace Project No.: 10630729

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10630729001	**ISM08-0.0-0.2-1022**					
EPA 8082A	PCB-1260 (Aroclor 1260)	122	ug/kg	49.9	11/04/22 22:23	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Portland OR-Peninsula Iron Wor-Revised Report
Pace Project No.: 10630729

Method: **EPA 8082A**
Description: 8082A GCS PCB
Client: UPRR_Jacobs
Date: December 21, 2022

General Information:
1 sample was analyzed for EPA 8082A by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor-Revised Report
Pace Project No.: 10630729

Sample: ISM08-0.0-0.2-1022 **Lab ID: 10630729001** Collected: 10/20/22 10:00 Received: 10/21/22 10:10 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.1**	ug/kg	49.9	21.1	1	11/03/22 13:46	11/04/22 22:23	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.4**	ug/kg	49.9	34.4	1	11/03/22 13:46	11/04/22 22:23	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.5**	ug/kg	49.9	29.5	1	11/03/22 13:46	11/04/22 22:23	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.8**	ug/kg	49.9	30.8	1	11/03/22 13:46	11/04/22 22:23	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.4**	ug/kg	49.9	25.4	1	11/03/22 13:46	11/04/22 22:23	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.9**	ug/kg	49.9	24.9	1	11/03/22 13:46	11/04/22 22:23	11097-69-1	
PCB-1260 (Aroclor 1260)	**122**	ug/kg	49.9	17.8	1	11/03/22 13:46	11/04/22 22:23	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.8**	ug/kg	49.9	32.8	1	11/03/22 13:46	11/04/22 22:23	37324-23-5	
PCB-1268 (Aroclor 1268)	**<24.0**	ug/kg	49.9	24.0	1	11/03/22 13:46	11/04/22 22:23	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	108	%.	53-125		1	11/03/22 13:46	11/04/22 22:23	877-09-8	
Decachlorobiphenyl (S)	90	%.	41-125		1	11/03/22 13:46	11/04/22 22:23	2051-24-3	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Portland OR-Peninsula Iron Wor-Revised Report
Pace Project No.: 10630729

QC Batch: 851304
QC Batch Method: EPA 3546
Analysis Method: EPA 8082A
Analysis Description: 8082A GCS PCB
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10630729001

METHOD BLANK: 4501653 Matrix: Solid
Associated Lab Samples: 10630729001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<21.2	50.0	21.2	11/04/22 21:20	
PCB-1221 (Aroclor 1221)	ug/kg	<34.5	50.0	34.5	11/04/22 21:20	
PCB-1232 (Aroclor 1232)	ug/kg	<29.6	50.0	29.6	11/04/22 21:20	
PCB-1242 (Aroclor 1242)	ug/kg	<30.9	50.0	30.9	11/04/22 21:20	
PCB-1248 (Aroclor 1248)	ug/kg	<25.5	50.0	25.5	11/04/22 21:20	
PCB-1254 (Aroclor 1254)	ug/kg	<24.9	50.0	24.9	11/04/22 21:20	
PCB-1260 (Aroclor 1260)	ug/kg	<17.8	50.0	17.8	11/04/22 21:20	
PCB-1262 (Aroclor 1262)	ug/kg	<32.8	50.0	32.8	11/04/22 21:20	
PCB-1268 (Aroclor 1268)	ug/kg	<24.0	50.0	24.0	11/04/22 21:20	
Decachlorobiphenyl (S)	%.	118	41-125		11/04/22 21:20	
Tetrachloro-m-xylene (S)	%.	86	53-125		11/04/22 21:20	

LABORATORY CONTROL SAMPLE: 4501654

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	1000	982	98	68-125	
PCB-1260 (Aroclor 1260)	ug/kg	1000	1140	114	70-125	
Decachlorobiphenyl (S)	%.			120	41-125	
Tetrachloro-m-xylene (S)	%.			86	53-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4501655 4501656

Parameter	Units	10630729001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<21.1	982	998	1110	1140	113	114	53-125	2	30	
PCB-1260 (Aroclor 1260)	ug/kg	122	982	998	1000	1020	90	90	30-143	1	30	
Decachlorobiphenyl (S)	%.						91	95	41-125			
Tetrachloro-m-xylene (S)	%.						114	116	53-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: Portland OR-Peninsula Iron Wor-Revised Report
Pace Project No.: 10630729

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Portland OR-Peninsula Iron Wor-Revised Report
Pace Project No.: 10630729

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10630729001	**ISM08-0.0-0.2-1022**	EPA 3546	851304	EPA 8082A	851451

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40253760

Pace

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Jacobs for UPRR	Report To:	Hodson, David	Attention:	John DeJong
Address:	2020 SW 4th Avenue, Suite 300	Copy To:		Company Name:	UPRR
	Portland, OR 97201			Address:	4315 E Sprague Ave, Spokane Valley, WA 99212
Email:	david.hodson@jacobs.com	Purchase Order #:	2903-01	Pace Quote:	4700001441 (MA-000166-2022)
Phone:	(510)316-2323 Fax:	Project Name:	Portland OR-Peninsula Iron Works	Pace Project Manager:	jennifer.gross@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	45173

Regulatory Agency

State / Location: OR / Portland - Multnomah County

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	ISM03-0.0-0.2-1022	SL	G	10/20/22	1000				X	X									X		X									001
2																															
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*Include 1262 & 1268	Jadyn Warren / Jacobs	10/20/22	1400				4.9	4	4	4
Methods 8082 & 1668 - Require chromatograms	Fedex	10/21/22	1010	A. Imobert Pace	10/21/22	1010				

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Jadyn Warren					
SIGNATURE of SAMPLER:		DATE Signed: 10/20/22				

Client Name: Jacobs for UPRR

Sample Preservation Receipt Form

Project # 40253560

All containers needing preservation have been checked and noted below: ☐Yes ☐No ☒N/A

Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

Pace Lab #	Glass							Plastic						Vials						Jars				General				VOA Vials (>6mm) *	Initial when completed: H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	Date/ Time: pH after adjusted	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2							
001																									1								2.5 / 5
002																																	2.5 / 5
003																																	2.5 / 5
004																																	2.5 / 5
005																																	2.5 / 5
006																																	2.5 / 5
007																																	2.5 / 5
008																																	2.5 / 5
009																																	2.5 / 5
010																																	2.5 / 5
011																																	2.5 / 5
012																									10/21/22								2.5 / 5
013																									PSB								2.5 / 5
014																																	2.5 / 5
015																																	2.5 / 5
016																																	2.5 / 5
017																																	2.5 / 5
018																																	2.5 / 5
019																																	2.5 / 5
020																																	2.5 / 5

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : ☐Yes ☐No ☒N/A *If yes look in headspace column

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	VG9C	40 mL clear ascorbic w/ HCl	JGFU	4 oz amber jar unpres
BG1U	1 liter clear glass	BP3U	250 mL plastic unpres	DG9T	40 mL amber Na Thio	JG9U	9 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP3B	250 mL plastic NaOH	VG9U	40 mL clear vial unpres	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9H	40 mL clear vial HCL	WPFU	4 oz plastic jar unpres
AG5U	100 mL amber glass unpres	BP3S	250 mL plastic H2SO4	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH + Zn	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres					GN 1	
						GN 2	

Page 1 of 2

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40253560

40253560

Client Name: Jacobs for UPRR

Courier: ☐ CS Logistics ☑ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco
☐ Client ☐ Pace Other:

Tracking #: 5923 7141 9759

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other Ziploc

Thermometer Used SR - 125 **Type of Ice:** (Wet) Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: 5 /Corr: 4.9

Temp Blank Present: ☑ yes ☐ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Person examining contents:
Date: 10/21/22 Initials: RJB
Labeled By Initials: MP

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No	5.
- DI VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☑Yes ☐No MS/MSD: ☐Yes ☑No ☐N/A		8.
Correct Containers Used:	☑Yes ☐No	9.
Correct Type: Pace Green Bay, Pace IR, Non-Pace		
Containers Intact:	☑Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: S	☑Yes ☐No ☐N/A	12.
Trip Blank Present:	☐Yes ☑No ☐N/A	13.
Trip Blank Custody Seals Present	☐Yes ☑No ☐N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐
Person Contacted: Date/Time:
Comments/ Resolution:

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logi

Page 2 of 2

Internal Transfer Chain of Custody

40253560

Pace Analytical®
www.pacelabs.com

[X] Samples Pre-Logged into eCOC.

State Of Origin: OR
Cert. Needed: [ ] Yes [ ] No

Workorder: 10630729 **Workorder Name:** Portland OR-Peninsula Iron Wor

Owner Received Date: 10/21/2022 **Results Requested By:** 11/1/2022

Report To	Subcontract To
Jennifer Gross Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612)607-1700	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

WO# : 10630729

10630729

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Preserved Containers: 2	Preserved Containers:	Preserved Containers:	Preserved Containers:	Preserved Containers:	Requested Analysis: MISC / ISM (50 Increments) (PACE-)	LAB USE ONLY
1	ISM03-0.0-0.2-1022	PS	10/20/2022 10:00	10630729001	Solid	1						X	001
2													
3													
4													
5													

Transfers	Released By	Date/Time	Received By	Date/Time
1	FedEx	10/21/22	[illegible]	10/21/22
2	[illegible]	[illegible]		[illegible]
3				

Comments

Forward prepped volume to Pace Mnpls, methods 8082 & possibly 1668.

Hold all additional volume for six months.

Cooler Temperature on Receipt 4.9 °C | **Custody Seal** (Y) or N | **Received on Ice** (Y) or N | **Samples Intact** (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

22 [illegible] 15:30 [illegible]

FORWARD to PACE MN

43 - ISM SAMPLE

CW 11/1/22

Sample Condition Upon Receipt

Client Name: Pace Greenbay

Project #: WO#: 10630729

PM: JMG Due Date: 11/16/22
CLIENT: UPRR_Jacobs

Courier: ☐ FedEx ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☑ Commercial will call

Tracking Number: _____ ☐ See Exceptions ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other **Temp Blank?** ☑ Yes ☐ No

Thermometer: ☐ T1 (0461) ☐ T2 (1336) ☑ T3 (0459) ☐ T4 (0254) ☐ T5 (0178) ☐ T6 (0235) ☐ T7 (0042) ☐ T8 (0775) ☐ 01339252/1710

Type of Ice: ☑ Wet ☐ Blue ☐ Dry ☐ None ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☒ No **Were All Container Temps Taken?** ☐ Yes ☐ No ☑ N/A

Temp should be above freezing to 6 °C **Cooler temp Read w/Temp Blank:** 2.2 °C

Correction Factor: True **Cooler Temp Corrected w/temp blank:** 2.2 °C

Average Corrected Temp (no temp blank only): _____ °C ☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: (☐ N/A, water sample/other: _____) **Date/Initials of Person Examining Contents:** JMG 11/2/22

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): ☐ Duluth ☑ Minneapolis ☐ Virginia				**COMMENTS**
Chain of Custody Present and Filled Out?	☑ Yes	☐ No		1.
Chain of Custody Relinquished?	☑ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☐ Yes	☐ No	☑ N/A	3.
Samples Arrived within Hold Time?	☑ Yes	☐ No		4. If fecal: ☐ <8 hrs ☐ >8 hr, <24 ☐ No
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E.coli ☐ BOD/cBOD ☐ Hex Chrom ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other _____
Rush Turn Around Time Requested?	~~☑ Yes~~	☒ No		6. Late
Sufficient Sample Volume?	☑ Yes	☐ No		7.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	8.
-Pace Containers Used?	☐ Yes	☑ No		
Containers Intact?	☑ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☑ Yes	☐ No		11. **If no, write ID/Date/Time of container below:** ☐ See Exceptions ENV-FRM-MIN4-0142
Matrix: ☐ Water ☑ Soil ☐ Oil ☐ Other				
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☑ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐ Yes	☐ No	☑ N/A	☐ NaOH ☐ HNO3 ☐ H2SO4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)	☐ Yes	☐ No	☑ N/A	Positive for Residual Chlorine? ☐ Yes ☐ No ☐ See Exceptions ENV-FRM-MIN4-0142
				pH Paper Lot #
				Residual Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in Methyl Mercury Container?	☐ Yes	☐ No	☑ N/A	13.
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☑ N/A	14. ☐ See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☑ N/A	
3 Trip Blanks Present?	☐ Yes	☐ No	☑ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

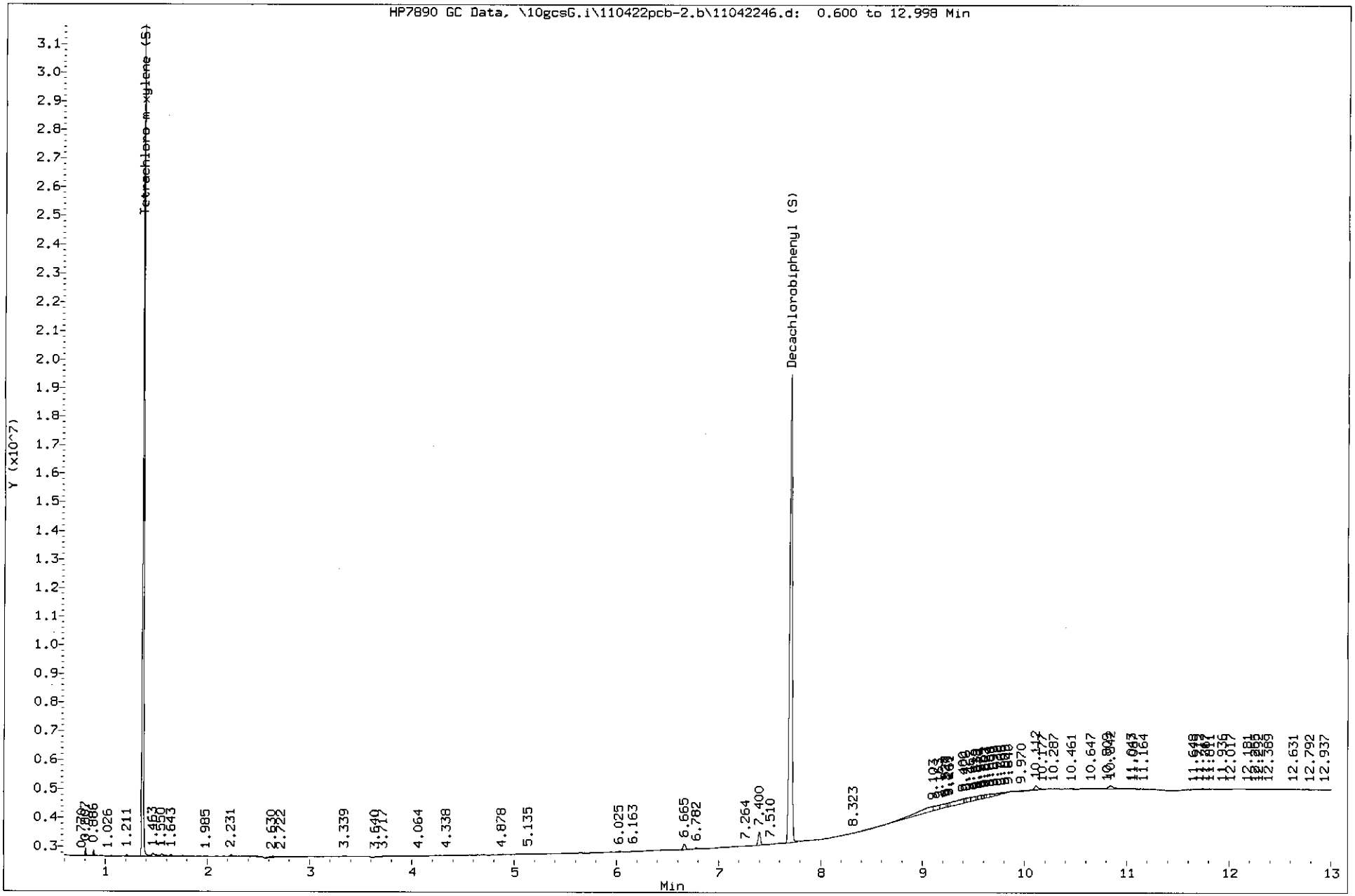
Project Manager Review: Jenni Gross **Date:** 11/2/22

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: NF **Line:** 12

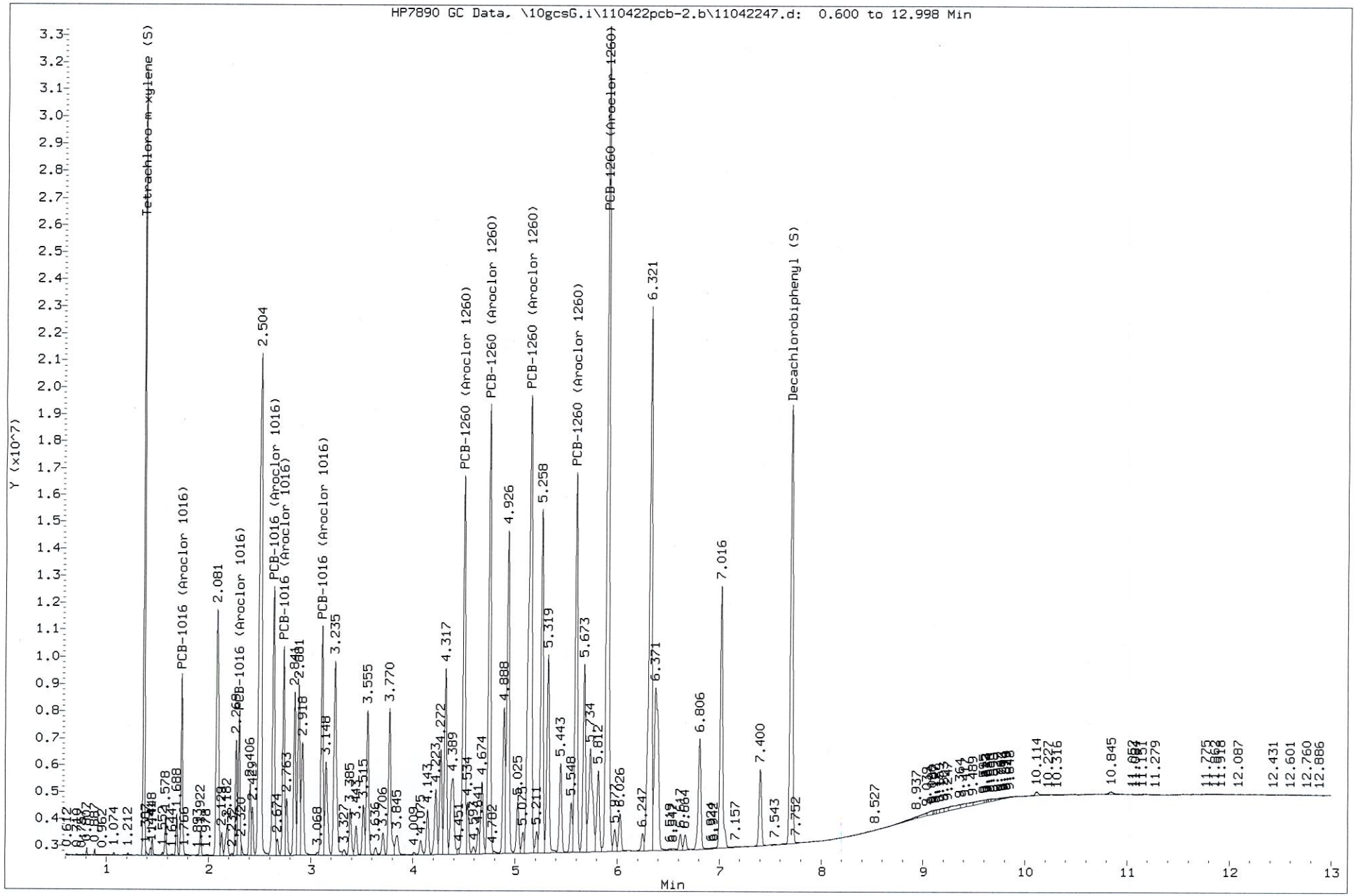
Data File: \\v10wintarget\chem\10gcsG.i\110422pcb-2.b\11042246.d
Injection Date: 04-NOV-2022 21:20
Instrument: 10gcsG.i
Client Sample ID: MB

Batch 40936-851451
Blank 4501653



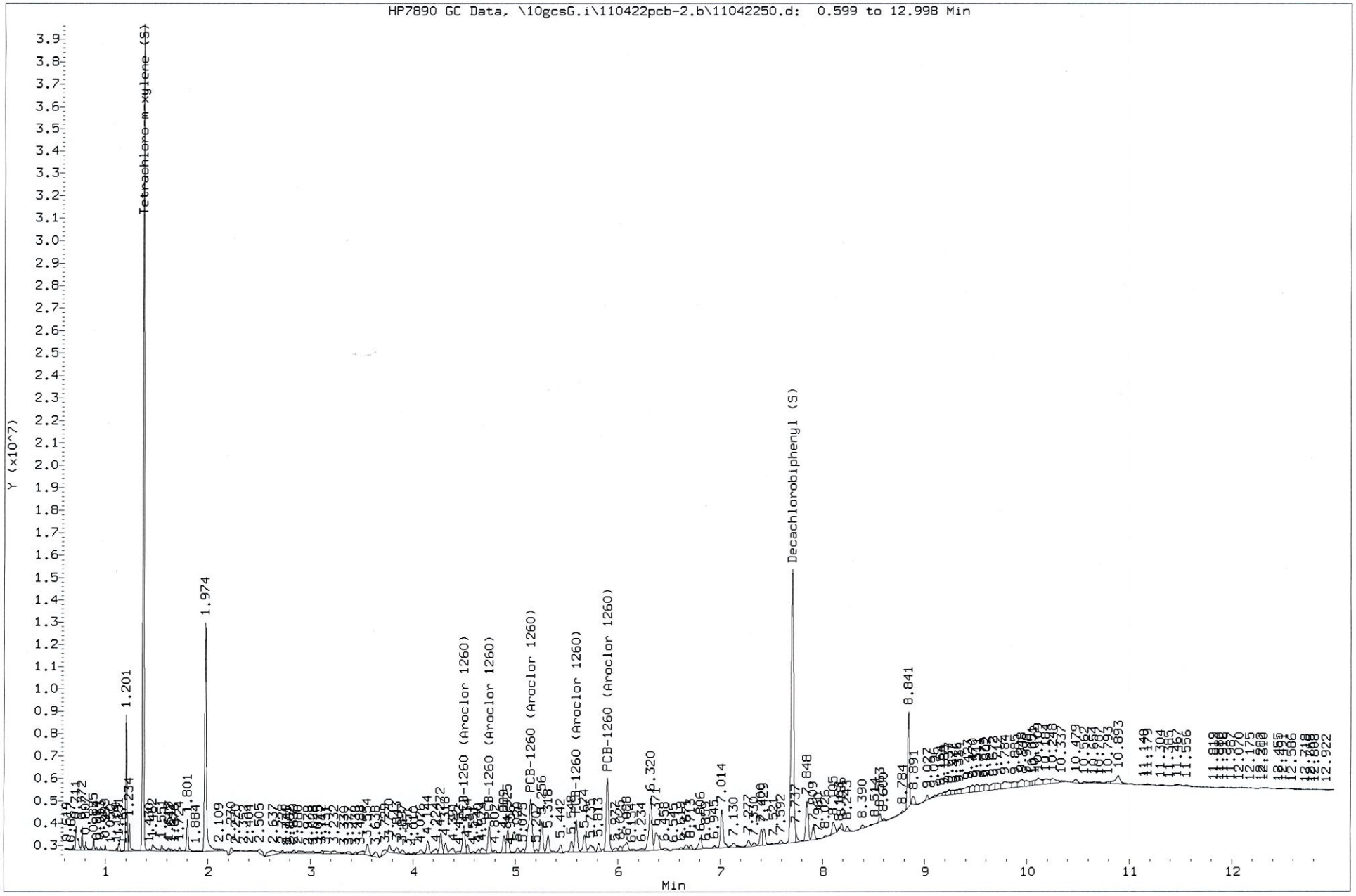
Data File: \\v10wintarget\chem\10gcsG.i\110422pcb-2.b\11042247.d
Injection Date: 04-NOV-2022 21:36
Instrument: 10gcsG.i
Client Sample ID: MBLCS

Batch 40936-851451
LCS 4501654



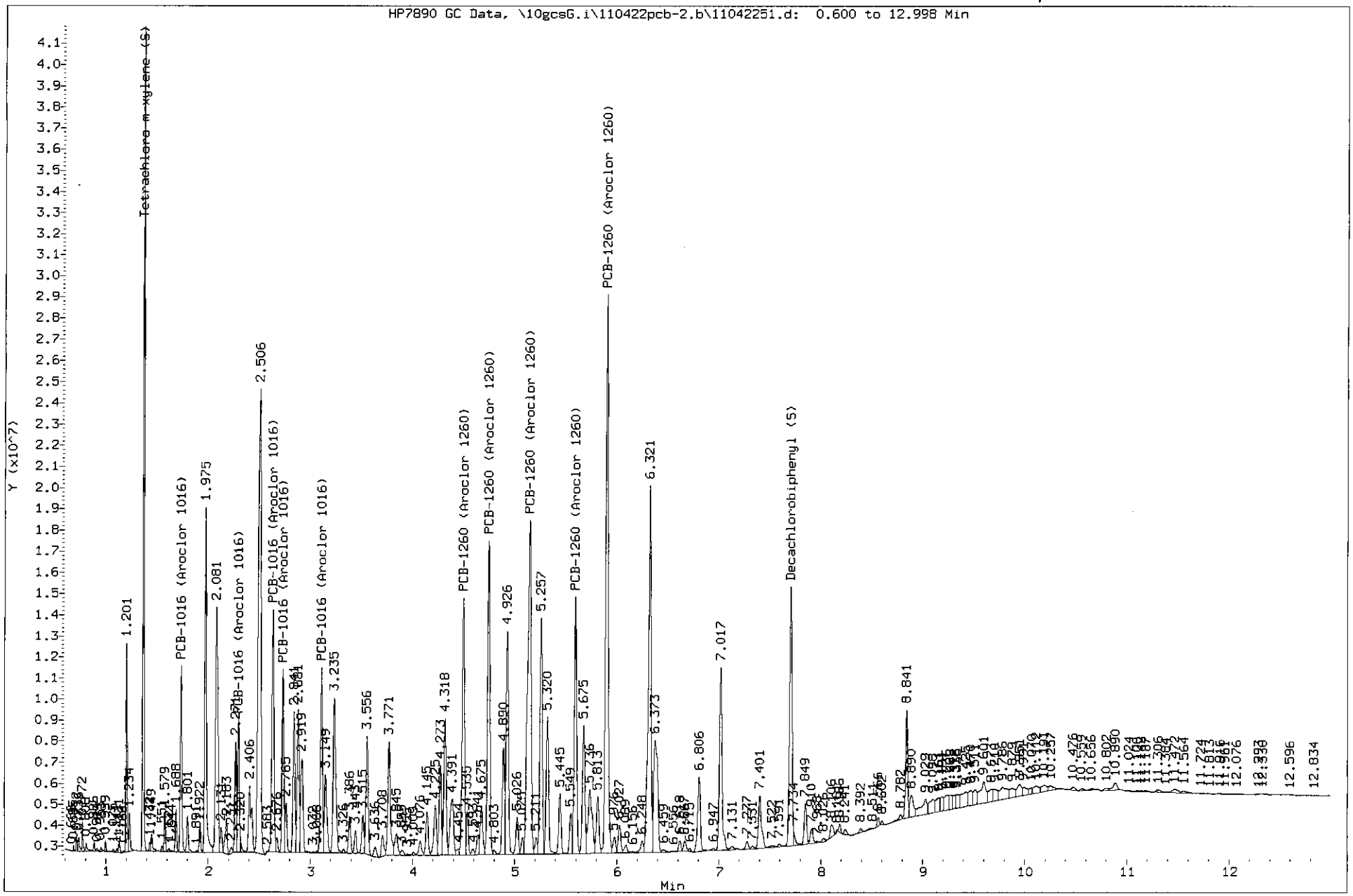
Data File: \\v10wintarget\chem\10gcsG.i\110422pcb-2.b\11042250.d
Injection Date: 04-NOV-2022 22:23
Instrument: 10gcsG.i
Client Sample ID: ISM03-0.0-0.2-1022

Batch 40936-851452
10630729-001



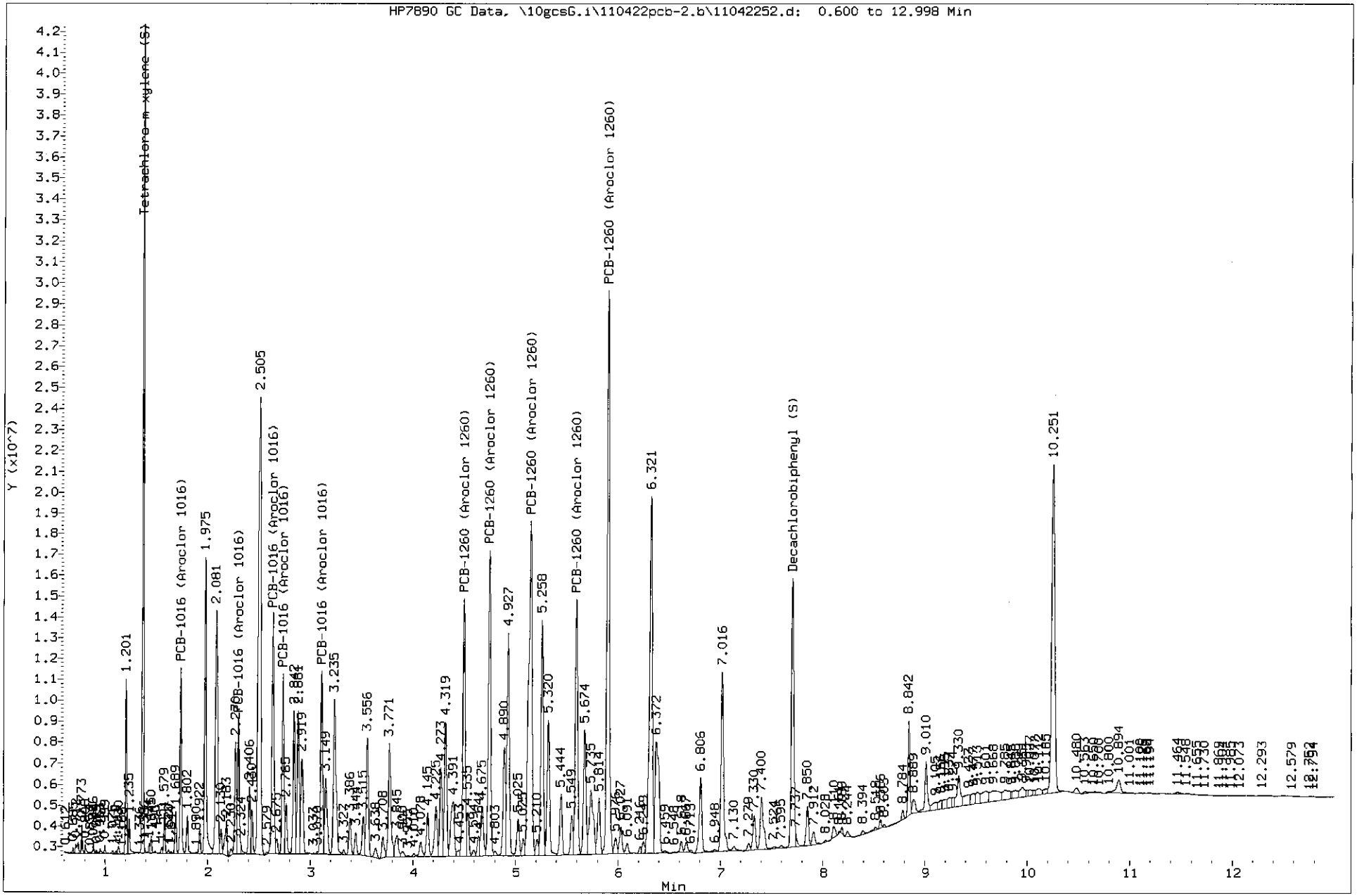
Data File: \\v10wintarget\chem\10gcsG.i\110422pcb-2.b\11042251.d
Injection Date: 04-NOV-2022 22:39
Instrument: 10gcsG.i
Client Sample ID: ISM03-0.0-0.2-1022M

Batch 40936-851451
MS 4501655



Data File: \\v10wintarget\chem\10gcsG.i\110422pcb-2.b\11042252.d
Injection Date: 04-NOV-2022 22:55
Instrument: 10gcsG.i
Client Sample ID: ISM03-0.0-0.2-1022M

Batch 40936-851451
MSD 4501656



Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

December 21, 2022

David Hodson
Jacobs
2020 SW 4th Avenue
Suite 300
Portland, OR 97201

RE: Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10632522

Dear David Hodson:

Enclosed are the analytical results for sample(s) received by the laboratory on November 04, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: UPRR-Sysdat@ghd.com, UPRR

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10632522

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
A2LA Certification #: 2926.01*
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
GMP+ Certification #: GMP050884
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240*
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification (A2LA) #: R-036
North Dakota Certification (MN) #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Ohio VAP Certification (1800) #: CL110*
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
*Please Note: Applicable air certifications are denoted with an asterisk (*).

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10632522

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10632522001	**SB08-0.5-110322**	Solid	11/03/22 08:45	11/04/22 09:45
10632522002	**SB08-1-110322**	Solid	11/03/22 09:10	11/04/22 09:45
10632522003	**SB08-2.5-110322**	Solid	11/03/22 09:20	11/04/22 09:45

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SAMPLE ANALYTE COUNT

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10632522

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10632522001	**SB08-0.5-110322**	EPA 8082A	RAG	11	PASI-M
10632522002	**SB08-1-110322**	EPA 8082A	RAG	11	PASI-M
10632522003	**SB08-2.5-110322**	EPA 8082A	RAG	11	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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SUMMARY OF DETECTION

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10632522

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10632522001	**SB08-0.5-110322**					
EPA 8082A	PCB-1260 (Aroclor 1260)	15200	ug/kg	489	12/21/22 08:18	M1
10632522002	**SB08-1-110322**					
EPA 8082A	PCB-1260 (Aroclor 1260)	4550	ug/kg	250	12/21/22 08:33	
10632522003	**SB08-2.5-110322**					
EPA 8082A	PCB-1260 (Aroclor 1260)	290	ug/kg	49.7	12/20/22 23:31	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10632522

Method: **EPA 8082A**
Description: 8082A GCS PCB
Client: UPRR_Jacobs
Date: December 21, 2022

General Information:
3 samples were analyzed for EPA 8082A by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 859363

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10632522001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 4541336)
  - PCB-1260 (Aroclor 1260)

Additional Comments:

Analyte Comments:

QC Batch: 859363

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 4541336)
  - PCB-1260 (Aroclor 1260)
- MSD (Lab ID: 4541337)
  - PCB-1260 (Aroclor 1260)

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PROJECT NARRATIVE

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10632522

Method: **EPA 8082A**
Description: 8082A GCS PCB
Client: UPRR_Jacobs
Date: December 21, 2022

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10632522

Sample: SB08-0.5-110322 **Lab ID: 10632522001** Collected: 11/03/22 08:45 Received: 11/04/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<20.7**	ug/kg	48.9	20.7	1	12/20/22 08:07	12/20/22 22:12	12674-11-2	
PCB-1221 (Aroclor 1221)	**<33.8**	ug/kg	48.9	33.8	1	12/20/22 08:07	12/20/22 22:12	11104-28-2	
PCB-1232 (Aroclor 1232)	**<28.9**	ug/kg	48.9	28.9	1	12/20/22 08:07	12/20/22 22:12	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.2**	ug/kg	48.9	30.2	1	12/20/22 08:07	12/20/22 22:12	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.0**	ug/kg	48.9	25.0	1	12/20/22 08:07	12/20/22 22:12	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.4**	ug/kg	48.9	24.4	1	12/20/22 08:07	12/20/22 22:12	11097-69-1	
PCB-1260 (Aroclor 1260)	**15200**	ug/kg	489	175	10	12/20/22 08:07	12/21/22 08:18	11096-82-5	M1
PCB-1262 (Aroclor 1262)	**<32.1**	ug/kg	48.9	32.1	1	12/20/22 08:07	12/20/22 22:12	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.5**	ug/kg	48.9	23.5	1	12/20/22 08:07	12/20/22 22:12	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	92	%.	53-125		1	12/20/22 08:07	12/20/22 22:12	877-09-8	
Decachlorobiphenyl (S)	102	%.	41-125		1	12/20/22 08:07	12/20/22 22:12	2051-24-3	

Sample: SB08-1-110322 **Lab ID: 10632522002** Collected: 11/03/22 09:10 Received: 11/04/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.2**	ug/kg	50.0	21.2	1	12/20/22 08:07	12/20/22 23:15	12674-11-2	
PCB-1221 (Aroclor 1221)	**<34.5**	ug/kg	50.0	34.5	1	12/20/22 08:07	12/20/22 23:15	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.6**	ug/kg	50.0	29.6	1	12/20/22 08:07	12/20/22 23:15	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.9**	ug/kg	50.0	30.9	1	12/20/22 08:07	12/20/22 23:15	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.5**	ug/kg	50.0	25.5	1	12/20/22 08:07	12/20/22 23:15	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.9**	ug/kg	50.0	24.9	1	12/20/22 08:07	12/20/22 23:15	11097-69-1	
PCB-1260 (Aroclor 1260)	**4550**	ug/kg	250	89.2	5	12/20/22 08:07	12/21/22 08:33	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.8**	ug/kg	50.0	32.8	1	12/20/22 08:07	12/20/22 23:15	37324-23-5	
PCB-1268 (Aroclor 1268)	**<24.0**	ug/kg	50.0	24.0	1	12/20/22 08:07	12/20/22 23:15	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	87	%.	53-125		1	12/20/22 08:07	12/20/22 23:15	877-09-8	
Decachlorobiphenyl (S)	98	%.	41-125		1	12/20/22 08:07	12/20/22 23:15	2051-24-3	

Sample: SB08-2.5-110322 **Lab ID: 10632522003** Collected: 11/03/22 09:20 Received: 11/04/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1016 (Aroclor 1016)	**<21.0**	ug/kg	49.7	21.0	1	12/20/22 08:07	12/20/22 23:31	12674-11-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10632522

Sample: SB08-2.5-110322 **Lab ID: 10632522003** Collected: 11/03/22 09:20 Received: 11/04/22 09:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
PCB-1221 (Aroclor 1221)	**<34.3**	ug/kg	49.7	34.3	1	12/20/22 08:07	12/20/22 23:31	11104-28-2	
PCB-1232 (Aroclor 1232)	**<29.4**	ug/kg	49.7	29.4	1	12/20/22 08:07	12/20/22 23:31	11141-16-5	
PCB-1242 (Aroclor 1242)	**<30.7**	ug/kg	49.7	30.7	1	12/20/22 08:07	12/20/22 23:31	53469-21-9	
PCB-1248 (Aroclor 1248)	**<25.3**	ug/kg	49.7	25.3	1	12/20/22 08:07	12/20/22 23:31	12672-29-6	
PCB-1254 (Aroclor 1254)	**<24.8**	ug/kg	49.7	24.8	1	12/20/22 08:07	12/20/22 23:31	11097-69-1	
PCB-1260 (Aroclor 1260)	**290**	ug/kg	49.7	17.7	1	12/20/22 08:07	12/20/22 23:31	11096-82-5	
PCB-1262 (Aroclor 1262)	**<32.7**	ug/kg	49.7	32.7	1	12/20/22 08:07	12/20/22 23:31	37324-23-5	
PCB-1268 (Aroclor 1268)	**<23.9**	ug/kg	49.7	23.9	1	12/20/22 08:07	12/20/22 23:31	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	78	%.	53-125		1	12/20/22 08:07	12/20/22 23:31	877-09-8	
Decachlorobiphenyl (S)	92	%.	41-125		1	12/20/22 08:07	12/20/22 23:31	2051-24-3	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10632522

QC Batch: 859363
QC Batch Method: EPA 3546
Analysis Method: EPA 8082A
Analysis Description: 8082A GCS PCB
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10632522001, 10632522002, 10632522003

METHOD BLANK: 4541303 Matrix: Solid
Associated Lab Samples: 10632522001, 10632522002, 10632522003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<21.2	50.0	21.2	12/20/22 21:39	
PCB-1221 (Aroclor 1221)	ug/kg	<34.5	50.0	34.5	12/20/22 21:39	
PCB-1232 (Aroclor 1232)	ug/kg	<29.6	50.0	29.6	12/20/22 21:39	
PCB-1242 (Aroclor 1242)	ug/kg	<30.9	50.0	30.9	12/20/22 21:39	
PCB-1248 (Aroclor 1248)	ug/kg	<25.5	50.0	25.5	12/20/22 21:39	
PCB-1254 (Aroclor 1254)	ug/kg	<24.9	50.0	24.9	12/20/22 21:39	
PCB-1260 (Aroclor 1260)	ug/kg	<17.8	50.0	17.8	12/20/22 21:39	
PCB-1262 (Aroclor 1262)	ug/kg	<32.8	50.0	32.8	12/20/22 21:39	
PCB-1268 (Aroclor 1268)	ug/kg	<24.0	50.0	24.0	12/20/22 21:39	
Decachlorobiphenyl (S)	%.	95	41-125		12/20/22 21:39	
Tetrachloro-m-xylene (S)	%.	85	53-125		12/20/22 21:39	

LABORATORY CONTROL SAMPLE: 4541304

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	1000	928	93	68-125	
PCB-1260 (Aroclor 1260)	ug/kg	1000	947	95	70-125	
Decachlorobiphenyl (S)	%.			104	41-125	
Tetrachloro-m-xylene (S)	%.			94	53-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4541336 4541337

Parameter	Units	10632522001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<20.7	995	982	894	892	90	91	53-125	0	30	
PCB-1260 (Aroclor 1260)	ug/kg	15200	995	982	15300	15500	7	30	30-143	1	30	E,M1
Decachlorobiphenyl (S)	%.						97	102	41-125			
Tetrachloro-m-xylene (S)	%.						88	91	53-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10632522

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10632522

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10632522001	**SB08-0.5-110322**	EPA 3546	859363	EPA 8082A	859557
10632522002	**SB08-1-110322**	EPA 3546	859363	EPA 8082A	859557
10632522003	**SB08-2.5-110322**	EPA 3546	859363	EPA 8082A	859557

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4025420S

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company	Jacobs for UPRR	Report To.	Hodson, David	Attention	John DeJong
Address:	2020 SW 4th Avenue, Suite 300	Copy To		Company Name.	UPRR
	Portland, OR 97201			Address	4315 E Sprague Ave, Spokane Valley, WA 99212
Email	david hodson@jacobs com	Purchase Order #	2903-01	Pace Quote	4700001441 (MA-000166-2022)
Phone	(510)316-2323 Fax.	Project Name.	Portland OR-Peninsula Iron Works	Pace Project Manager	jennifer gross@pacelabs com,
Requested Due Date		Project #.		Pace Profile #:	45173

Regulatory Agency

State / Location: OR / Portland - Multnomah County

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	SB08-0.5-110322	SL	G	11/3/22	845															X	X											001
2	SB08-1-110322	SL	G	11/3/22	910															X	X											002
3	SB08-2.5-110322	SL	G	11/3/22	920															X	X											003
4	TB110322																				X											004
5																																11/4/22 MP
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*Include 1262 & 1268	Dad Hodson	11/3/22	1100							
Methods 8082 & 1668 - Require chromatograms	Fedex	11/4/22	0945	Mary Kay Pace	11/4/22	0945	0°	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: DAVID HODSON

SIGNATURE of SAMPLER: [signature] DATE Signed: 11/3/22

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Sample Preservation Receipt Form

Client Name: Jacobs Project # 40254308

All containers needing preservation have been checked and noted below ☐Yes ☐No ☒N/A Initial when completed Date/ Time

Lab Lot# of pH paper Lab Std #ID of preservation (if pH adjusted).

Pace Lab #	Glass: AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	Plastic: BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	Vials: VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	Jars: JGFU	JG9U	WGFU	WPFU	General: SP5T	ZPLC	GN 1	GN 2	VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
001																									1									2.5 / 5
002																									1									2.5 / 5
003																									1									2.5 / 5
004																																		2.5 / 5
005																																		2.5 / 5
006																																		2.5 / 5
007																																		2.5 / 5
008																																		2.5 / 5
009																																		2.5 / 5
010																																		2.5 / 5
011																																		2.5 / 5
012																																		2.5 / 5
013																																		2.5 / 5
014																				1/1/4/22														2.5 / 5
015																																		2.5 / 5
016																																		2.5 / 5
017																																		2.5 / 5
018																								22	20									2.5 / 5
019																																		2.5 / 5
020																																		2.5 / 5

Exceptions to preservation check VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other_____ Headspace in VOA Vials (>6mm) ☐Yes ☐No ☒N/A *If yes look in headspace column

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	VG9C	40 mL clear ascorbic w/ HCl	JGFU	4 oz amber jar unpres
BG1U	1 liter clear glass	BP3U	250 mL plastic unpres	DG9T	40 mL amber Na Thio	JG9U	9 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP3B	250 mL plastic NaOH	VG9U	40 mL clear vial unpres	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9H	40 mL clear vial HCL	WPFU	4 oz plastic jar unpres
AG5U	100 mL amber glass unpres	BP3S	250 mL plastic H2SO4	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH + Zn	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres					GN 1	
						GN 2	

Page 1 of 2

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40254308

40254308

Client Name: Jacobs

Courier: ☐ CS Logistics ☒ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☐ Client ☐ Pace Other.

Tracking #: 5923 7141 9689

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other

Thermometer Used SR - 110 **Type of Ice:** (Wet) Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: — /Corr: 0°

Temp Blank Present: ☐ yes ☒ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice

Person examining contents:
Date: 11/4/22 Initials: mp
Labeled By Initials: MH

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☒No ☐N/A	2. proj#, 11/4/22 mp
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time	☒Yes ☐No	5.
- DI VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time
Short Hold Time Analysis (<72hr):	☐Yes ☒No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume: For Analysis: ☒Yes ☐No MS/MSD ☐Yes ☒No ☐N/A		8.
Correct Containers Used:	☒Yes ☐No	9.
Correct Type: (Pace Green Bay) Pace IR, Non-Pace		
Containers Intact:	☒Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☐Yes ☒No ☐N/A	12. No collect date or time 11/4/22 mp
-Includes date/time/ID/Analysis Matrix: S		
Trip Blank Present:	☐Yes ☐No ☒N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time

Comments/ Resolution:

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logi

Page 2 of 2

Internal Transfer Chain of Custody

4025438

Pace Analytical
www.pacelabs.com

[X] Samples Pre-Logged into eCOC.

State Of Origin: OR
Cert. Needed: [ ] Yes [ ] No
Owner Received Date: 11/4/2022 Results Requested By: 11/15/2022

Workorder: 10632522 Workorder Name: Portland OR-Peninsula Iron Wor

Report To	Subcontract To
Jennifer Gross Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612)607-1700	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

WO# : 10632522

10632522

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	MISC / Sieving (<2mm) (PACE-GB)	LAB USE ONLY
1	SB08-0.5-110322	PS	11/3/2022 08:45	10632522001	Solid	1	X	001
2	SB08-1-110322	PS	11/3/2022 09:10	10632522002	Solid	1	X	002
3	SB08-2 5-110322	PS	11/3/2022 09:20	10632522003	Solid	1	X	003
4								
5								

Transfers	Released By	Date/Time	Received By	Date/Time
1	Fedex	11/4/22 0945	[illegible]	11/4/22 0945
2	[illegible]	12/16/22 1700	[illegible]	12/17/22 10:50
3				

Comments

Forward prepped volume to Pace Mnpls, methods 8082 & possibly 1668.
Hold all additional volume for six months.

mh 11/7/22

Cooler Temperature on Receipt 0 °C | Custody Seal (Y) or N | Received on Ice (Y) or (N) | Samples Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

0.9, 11.3, 8.7

2.6, 2.5, 2.8, 3.7

Sample Condition Upon Receipt

Client Name: Pace Green Bay

Project #: WO#: 10632522

PM: JMG Due Date: 02/12/23
CLIENT: UPRR_Jacobs

Courier: ☐ FedEx ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☒ Commercial Gal HD

Tracking Number: _____ ☐ See Exceptions ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other **Temp Blank?** ☒ Yes ☐ No

Thermometer: ☐ T1 (0461) ☐ T2 (1336) ☐ T3 (0459) ☐ T4 (0254) ☐ T5 (0178) ☐ T6 (0235) ☒ T7 (0042) ☐ T8 (0775) ☐ T9(0727) ☐ 01339252/1710

Type of Ice: ☒ Wet ☐ Blue ☐ Dry ☒ None ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☒ No JMG 12/19/22 **Were All Container Temps Taken?** ☐ Yes ☐ No ☒ N/A JMG 12/19/22

Temp should be above freezing to 6 °C **Cooler temp Read w/Temp Blank:** 3.5 2.4, 2.8 3.6

Correction Factor: +.1 **Cooler Temp Corrected w/temp blank:** 2.6, 2.5, 2.8 °C 3.7

Average Corrected Temp (no temp blank only): _____ °C ☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: (☐ N/A, water sample/other: _____)

Date/Initials of Person Examining Contents: 12/19/22 JMG

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? ☐ Yes ☒ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): ☐ Duluth ☒ Minneapolis ☐ Virginia

				COMMENTS
Chain of Custody Present and Filled Out?	☒ Yes	☐ No		1.
Chain of Custody Relinquished?	☒ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☐ Yes	☒ No	☐ N/A	3.
Samples Arrived within Hold Time?	☒ Yes	☐ No		4. If fecal: ☐ <8 hrs ☐ >8 hr, <24 ☐ No
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E.coli ☐ BOD/cBOD ☐ Hex Chrom ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other
Rush Turn Around Time Requested?	☒ Yes	☐ No		6. Late
Sufficient Sample Volume?	☒ Yes	☐ No		7.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	8.
-Pace Containers Used?	☐ Yes	☒ No		
Containers Intact?	☒ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☒ Yes	☐ No		11. **If no, write ID/Date/Time of container below:** GN containers added to WOs ☐ See Exceptions ENV-FRM-MIN4-0142
Matrix: ☐ Water ☒ Soil ☐ Oil ☐ Other				
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐ Yes	☐ No	☒ N/A	☐ NaOH ☐ HNO3 ☐ H2SO4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)	☐ Yes	☐ No	☒ N/A	Positive for Residual Chlorine? ☐ Yes ☐ No ☐ See Exceptions ENV-FRM-MIN4-0142
				pH Paper Lot #
				Residual Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in Methyl Mercury Container?	☐ Yes	☐ No	☒ N/A	13.
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☒ N/A	14. ☐ See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☒ N/A	
3 Trip Blanks Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Jenni Gross **Date:** 12/19/22

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: NE **Line:** 1

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-MIN4-0142 v02_Sample Condition Upon Receipt (SCUR) Exception Form
	Effective Date: 09/22/2022

Workorder #: _____

No Temp Blank		
Read Temp	Corrected Temp	Average temp

PM Notified of Out of Temp Cooler? ☐ Yes ☐ No

If yes, indicate who was contacted, date and time.
If no, indicate reason why.

_____

Multiple Cooler Project? ☐ Yes ☐ No

If anything is OVER 6.0° C, you MUST document containers in this section HERE

Tracking Number	Temperature
34247961-4	8.9
34297961-5	11.3
34207961-2	8.7
34297961-1	11.2

Out of Temp Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples										
Sample ID	Type Of Preserve	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance After Addition?		Initials
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	

Comments:

_____

_____

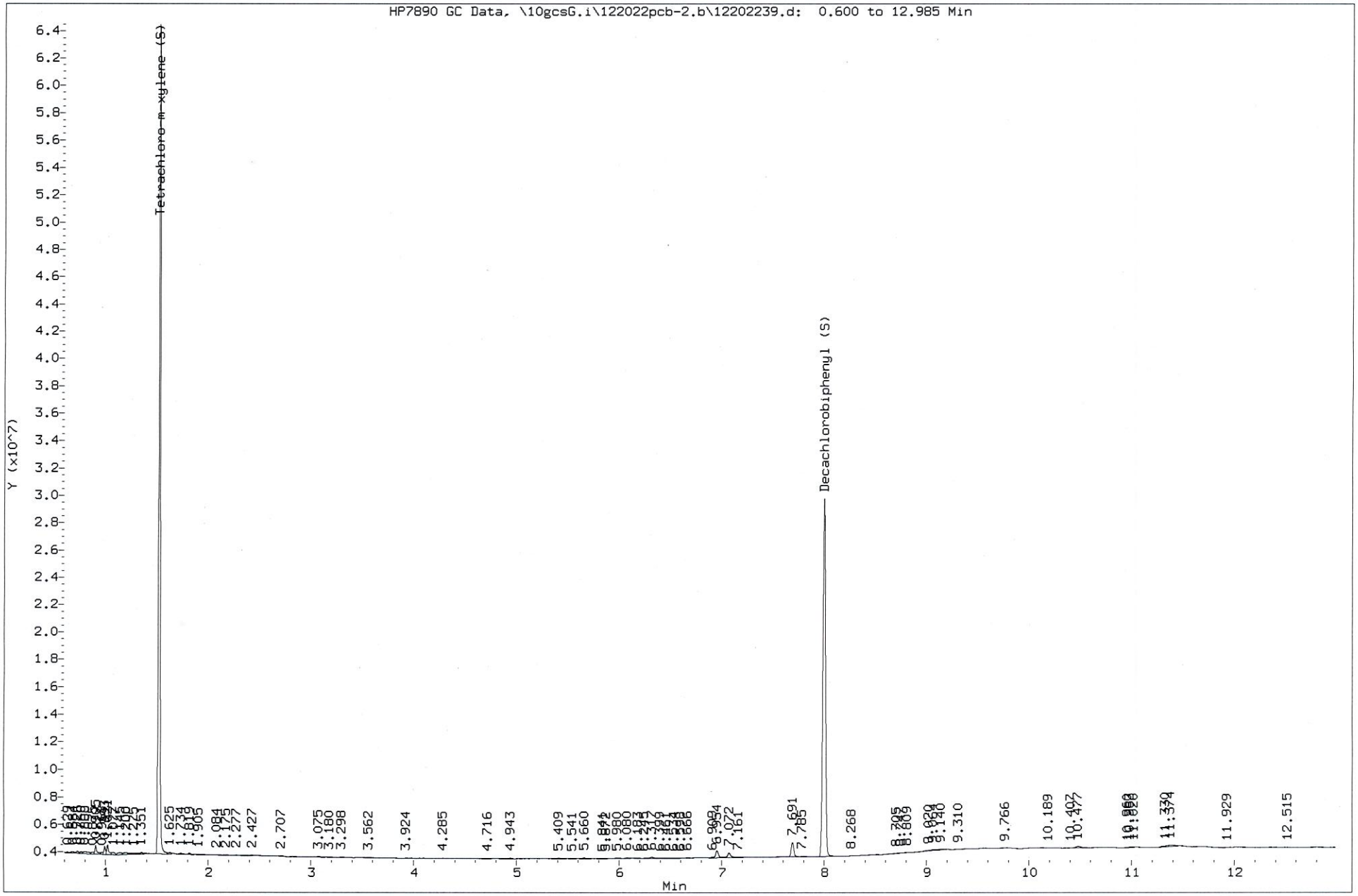
_____

Qualtrax ID: 52763

Page 1 of 1

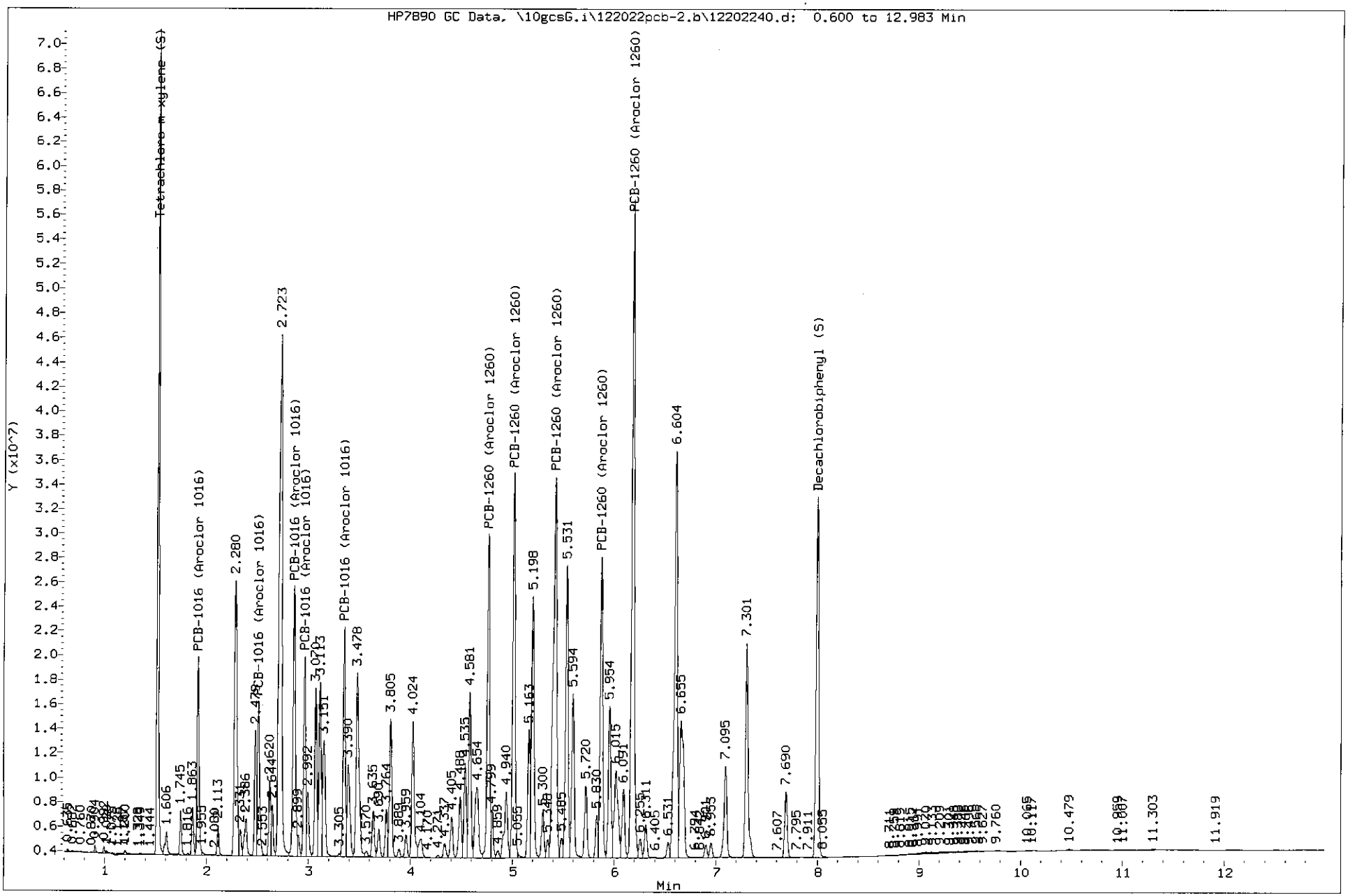
Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202239.d
Injection Date: 20-DEC-2022 21:39
Instrument: 10gcsG.i
Client Sample ID: MB

Batch 41307-859557
Blank 4541303



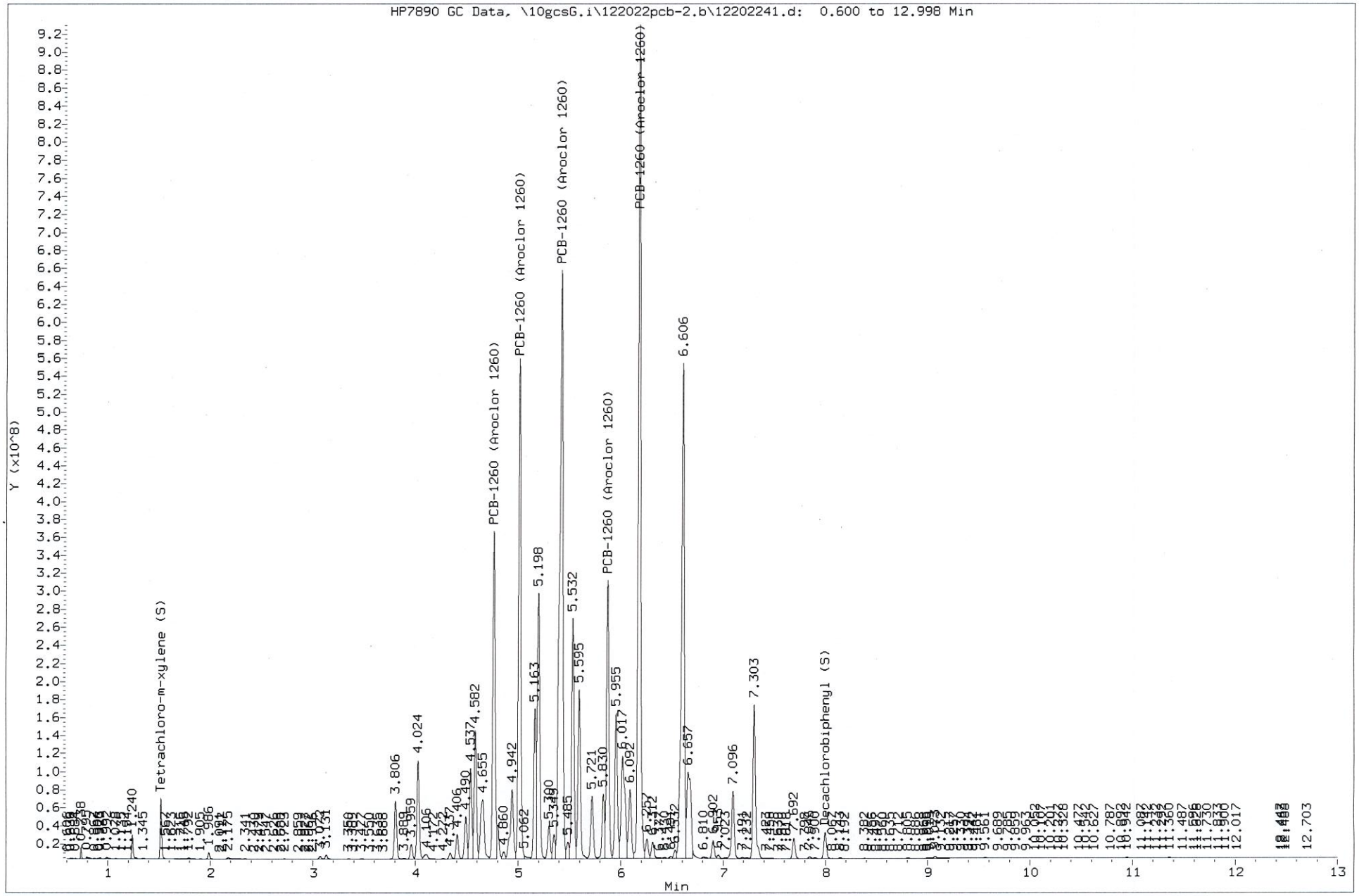
Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202240.d
Injection Date: 20-DEC-2022 21:55
Instrument: 10gcsG.i
Client Sample ID: MBLCS

Batch 41307-859557
LCS 4541304



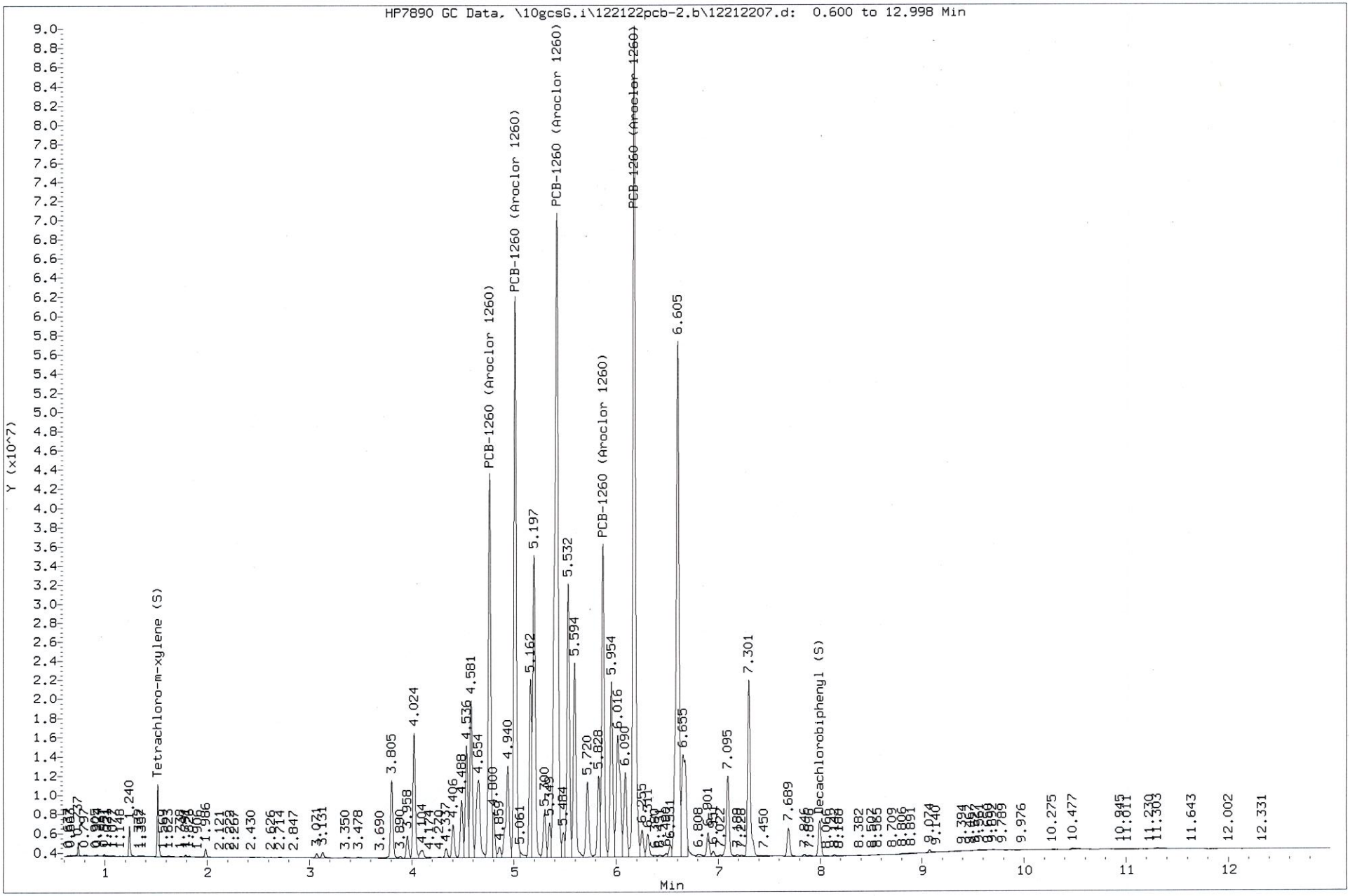
Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202241.d
Injection Date: 20-DEC-2022 22:12
Instrument: 10gcsG.i
Client Sample ID: SB08-0.5-110322

Batch 41307-859557
10632522-1



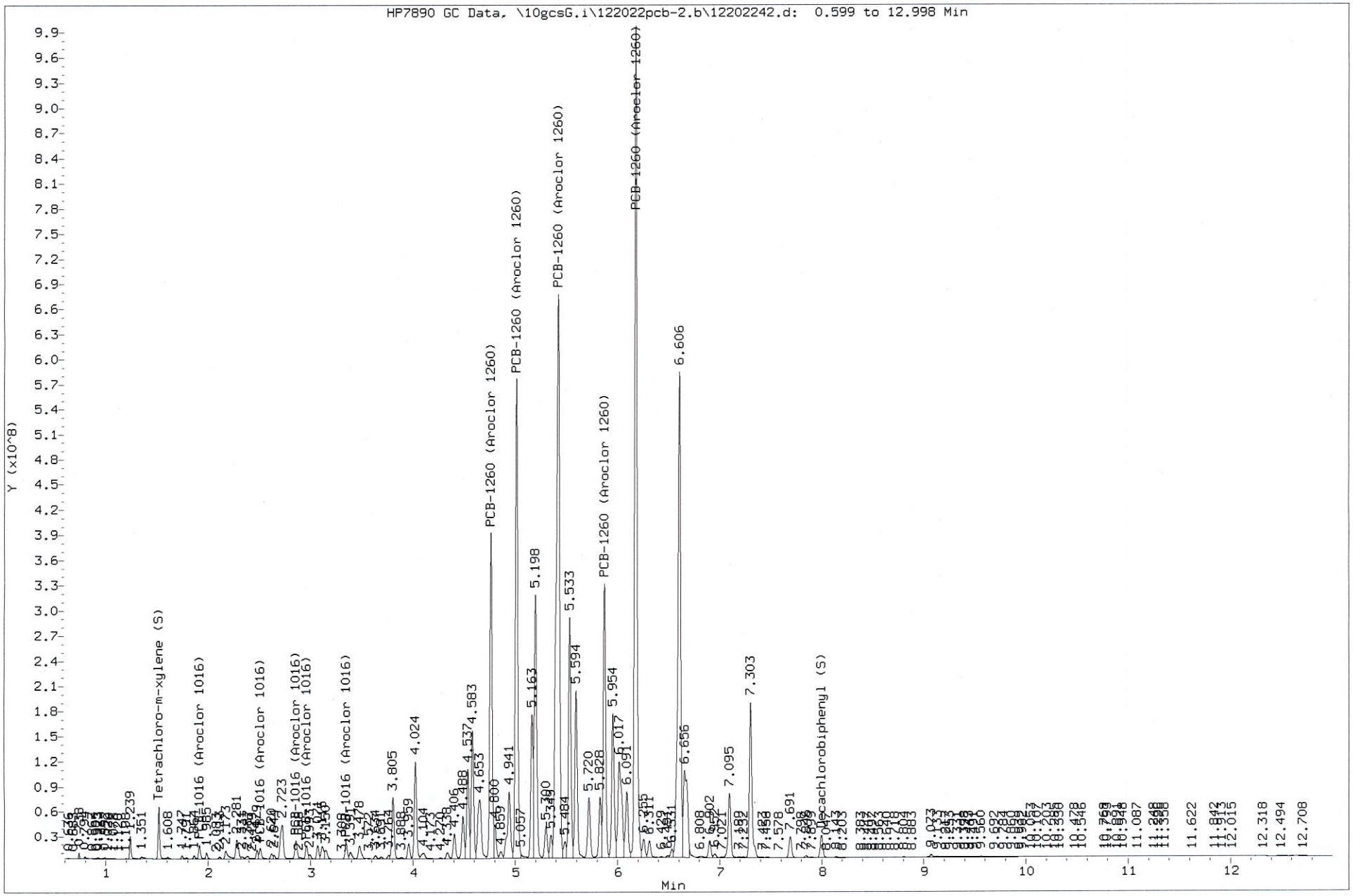
Batch 41307-859557
10632522-1 Dilution: 10X

Data File: \\v10wintarget\chem\10gcsG.i\122122pcb-2.b\12212207.d
Injection Date: 21-DEC-2022 08:18
Instrument: 10gcsG.i
Client Sample ID: SB08-0.5-110322



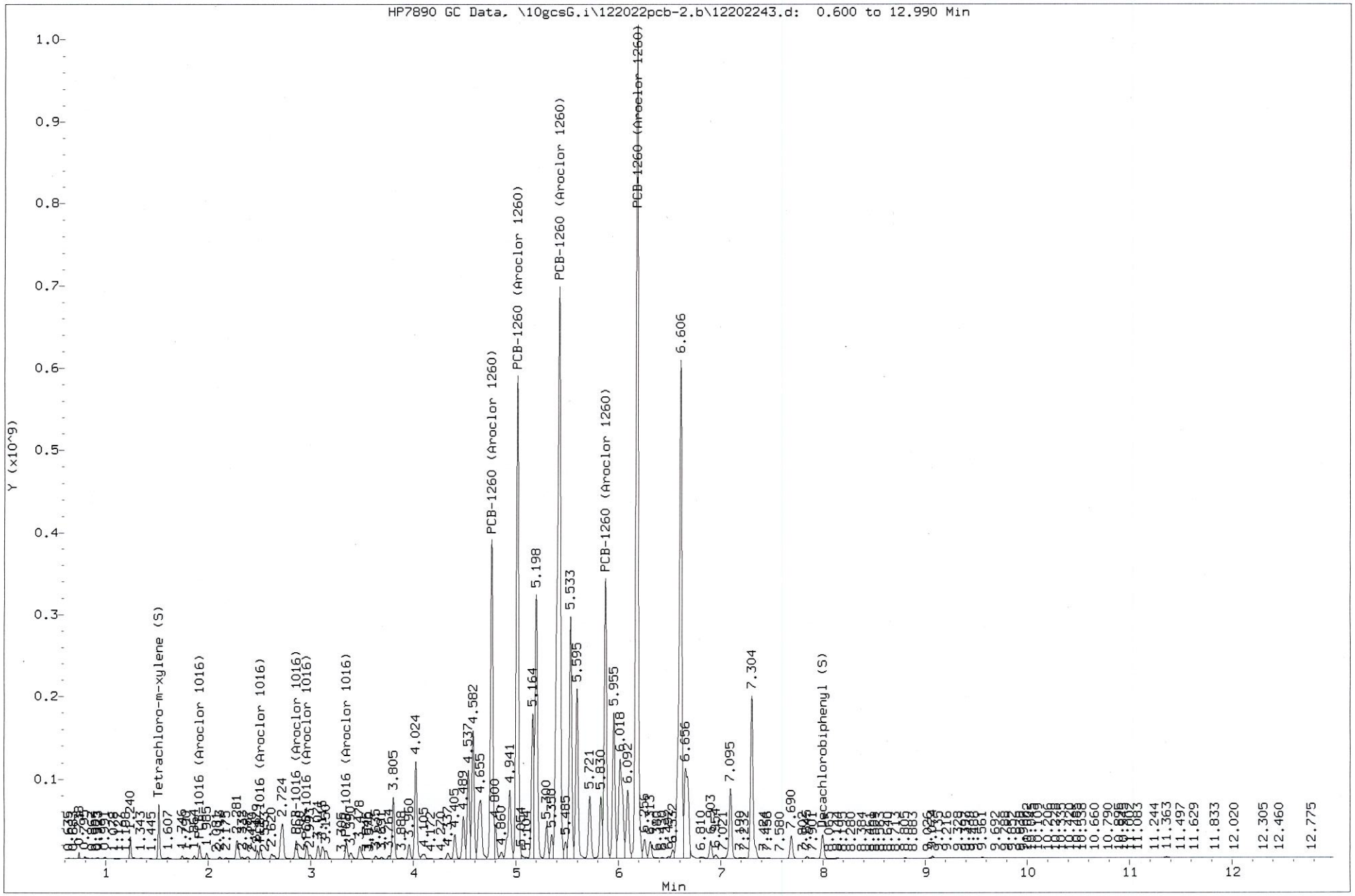
Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202242.d
Injection Date: 20-DEC-2022 22:27
Instrument: 10gcsG.i
Client Sample ID: SB08-0.5-110322MS

Batch 41307-859557
MS 4541336



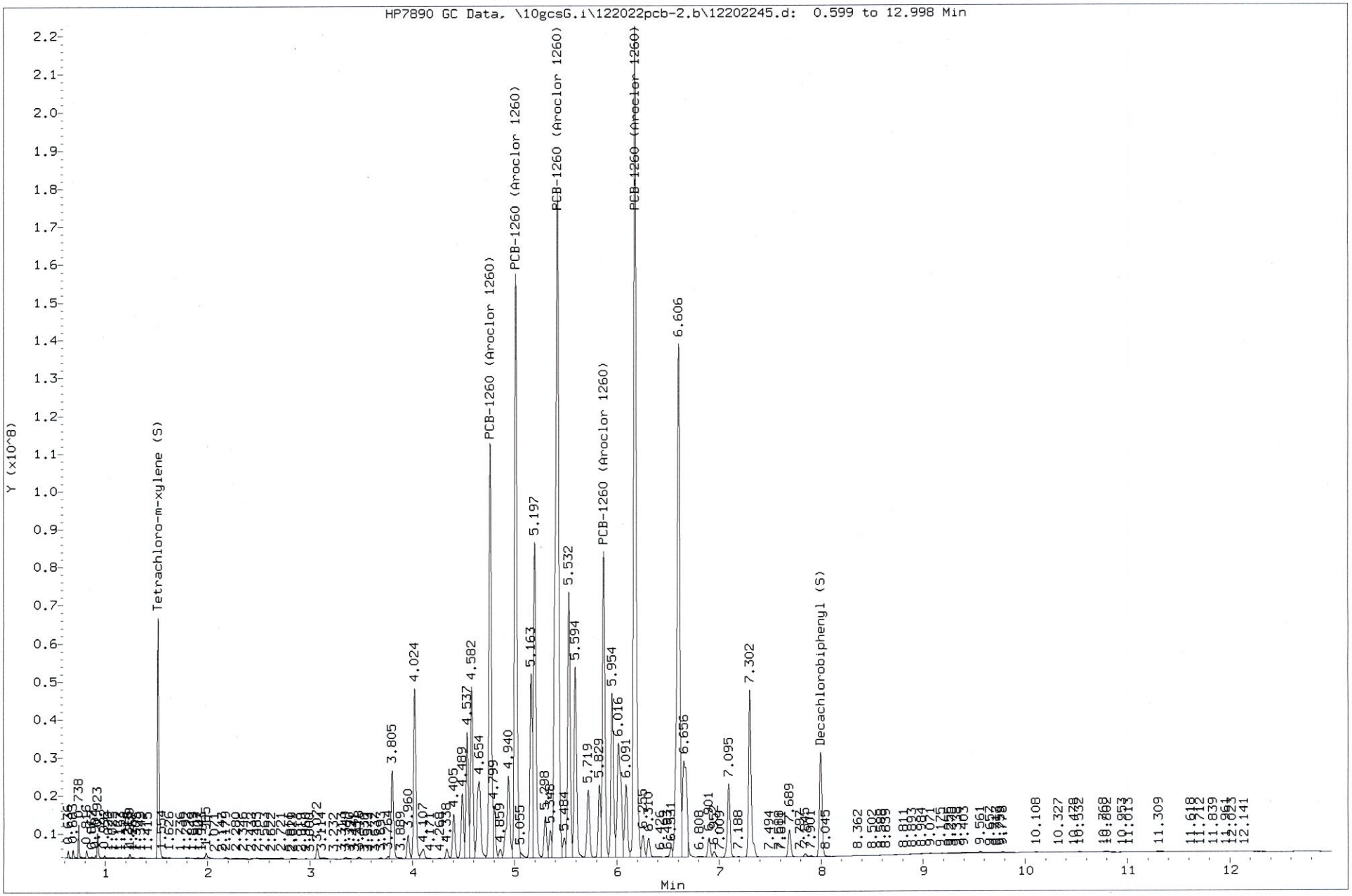
Batch 41307-859557
MSD 4541337

Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202243.d
Injection Date: 20-DEC-2022 22:43
Instrument: 10gcsG.i
Client Sample ID: SB08-0.5-110322MSD



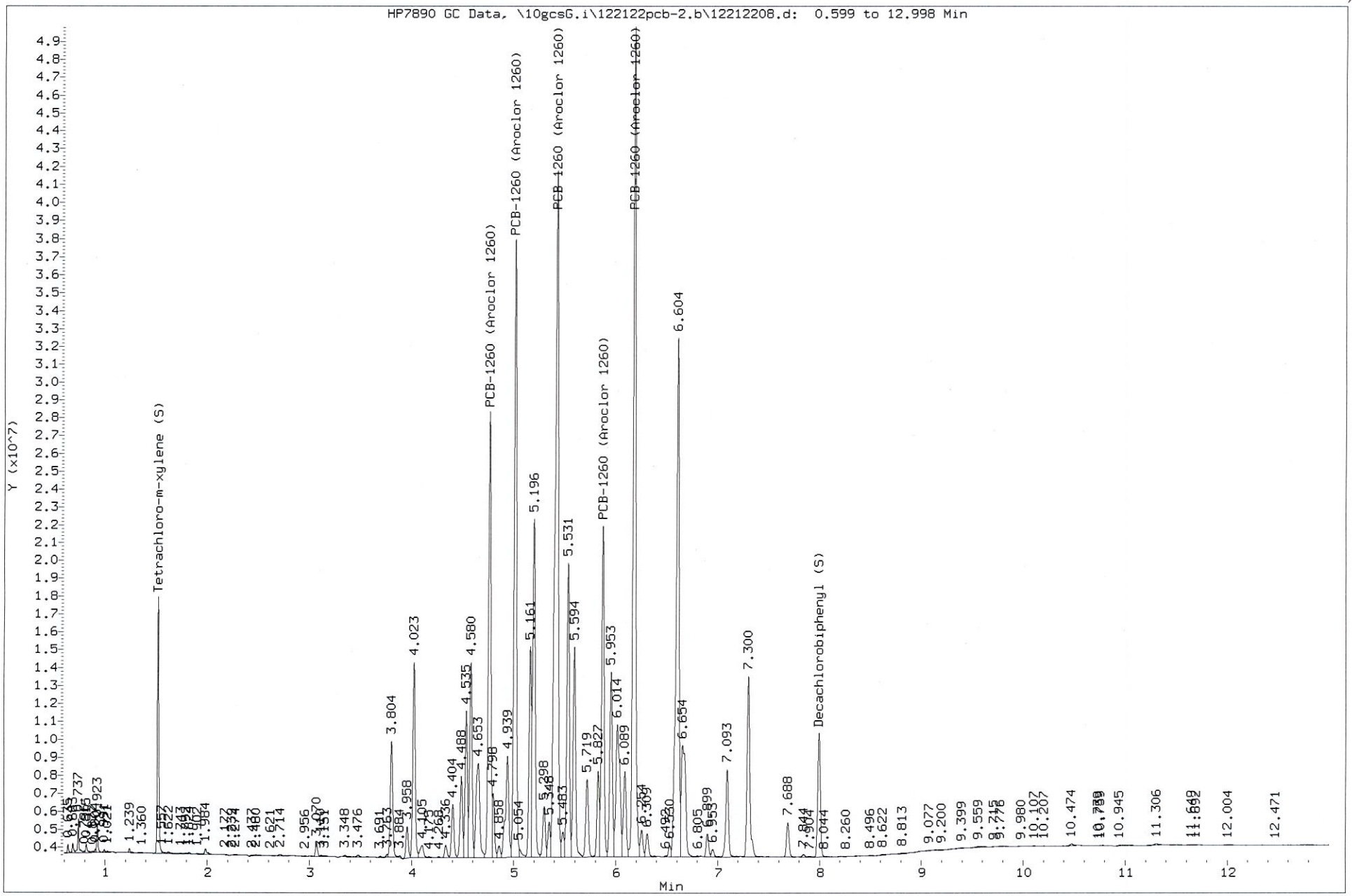
Batch 41307-859557
10632522-2

Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202245.d
Injection Date: 20-DEC-2022 23:15
Instrument: 10gcsG.i
Client Sample ID: SB08-1-110322



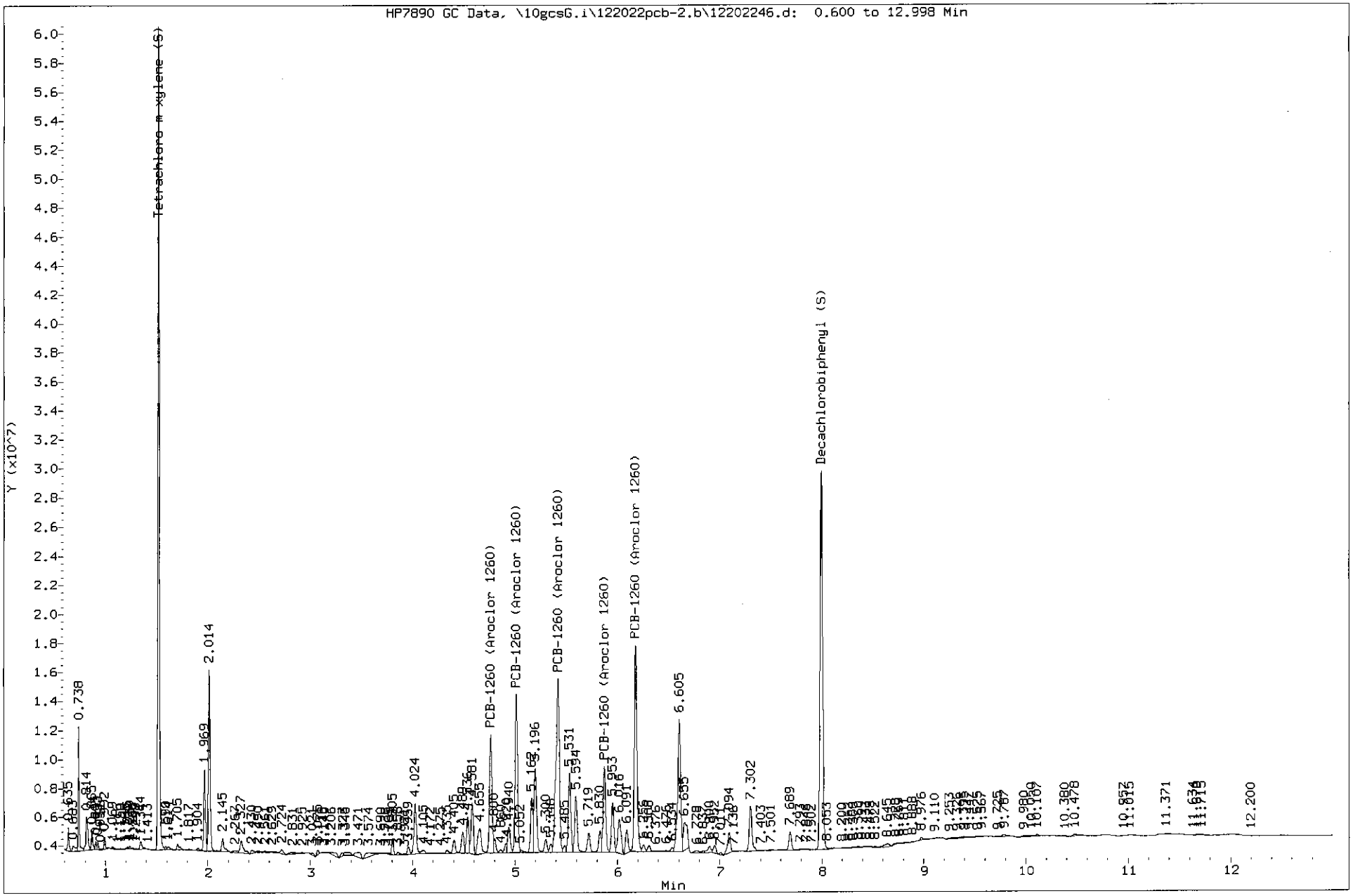
Data File: \\v10wintarget\chem\10gcsG.i\122122pcb-2.b\12212208.d
Injection Date: 21-DEC-2022 08:33
Instrument: 10gcsG.i
Client Sample ID: SB08-1-110322

Batch 41307-859557
106032522-2 Dilution: 5x



Batch 41307-859557
10032522-3

Data File: \\v10wintarget\chem\10gcsG.i\122022pcb-2.b\12202246.d
Injection Date: 20-DEC-2022 23:31
Instrument: 10gcsG.i
Client Sample ID: SB08-2.5-110322



Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

January 26, 2023

David Hodson
Jacobs
2020 SW 4th Avenue
Suite 300
Portland, OR 97201

RE: Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10638496

Dear David Hodson:

Enclosed are the analytical results for sample(s) received by the laboratory between October 18, 2022 and November 04, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: UPRR-Sysdat@ghd.com, UPRR

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: Portland OR-Peninsula Iron Wor
Pace Project No.: 10638496

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10638496001	**SB06-1.0-1.5-1022**	Solid	10/17/22 15:20	10/18/22 09:45
10638496002	**SB08-0.5-110322**	Solid	11/03/22 08:45	11/04/22 09:45
10638496003	**SB10-0.0-0.5-1022**	Solid	10/18/22 11:15	10/19/22 10:00
10638496004	**SB12-0.0-0.5-1022**	Solid	10/18/22 12:30	10/19/22 10:00
10638496005	**SB13-0.0-0.5-1022**	Solid	10/19/22 10:00	10/20/22 10:30
10638496006	**SB14-1.0-1.5-1022**	Solid	10/19/22 08:05	10/20/22 10:30

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

PROJECT NARRATIVE

Project:
Pace Project No.:

Method:
Description:
Client:
Date:

This data package has been reviewed for quality and completeness and is approved for release.

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From: Hodson, David
To: Jennifer Gross
Subject: RE: [EXTERNAL] Portland OR-Peninsula Iron Wor (Pace Project # 10632522)
Date: Friday, December 23, 2022 9:44:07 AM
Attachments: image001.png

CAUTION: This email originated from outside Pace Analytical. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Jenni,

Can you have the following samples analyzed by EPA Method 1668 (PCB congeners)?

- SB06-1.0-1.5-1022
- SB08-0.5-110322
- SB10-0.0-0.5-1022
- SB12-0.0-0.5-1022
- SB13-0.0-0.5-1022
- SB14-1.0-1.5-1022

David J Hodson, P.E. * | Jacobs | Senior Project Manager
M: 1 510 316 2323 | david.hodson@jacobs.com
2020 SW 4th Avenue, Suite 300 | Portland, OR 97201

** Registered in CA, OR, and WA*

From: Paceport Email Notification <jennifer.gross@pacelabs.com>
Sent: Wednesday, December 21, 2022 3:06 PM
To: Jennifer Gross <jennifer.gross@pacelabs.com>; uprr-sysdat@ghd.com; Hodson, David <David.Hodson@jacobs.com>
Subject: [EXTERNAL] Portland OR-Peninsula Iron Wor (Pace Project # 10632522)

Paceport Login

Pace Automated Email Notification

This email contains EDDs and Reports generated by Paceport's automated deliverable service. The attached files have been authorized to be sent to you due to the completion of project 10632522. Your Pace project manager has been CC'ed on this email so that you may request any further assistance.

To access this project's page in paceport click on the following link.
http://paceport.pacelabs.com/ClientPortal/mvc/projectDetails/modelAndView?projectID=10632522&systemID=lims10

Pace Analytical is pleased to announce that we are now accepting samples for analysis of waste

40253331

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Jacobs for UPRR	Report To:	Hodson, David	Attention:	John DeJong
Address:	2020 SW 4th Avenue, Suite 300	Copy To:		Company Name:	UPRR
	Portland, OR 97201			Address:	4315 E Sprague Ave, Spokane Valley, WA 99212
Email:	david.hodson@jacobs.com	Purchase Order #:	2903-01	Pace Quote:	4700001441 (MA-000166-2022)
Phone:	(510)316-2323 Fax:	Project Name:	Portland OR-Peninsula Iron Works	Pace Project Manager:	jennifer.gross@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	45173

Regulatory Agency: State / Loc: OR / Portland - Multnomah County

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
Requested Analysis Filtered (Y/N)																																
1	SB06-0.0-0.5-1022	SL	C	10/17/22	1515	—	—	—	1	X										X	X												001
2	SB06-1.0-1.5-1022			10/17/22	1520																											002
3	SB06-2.5-3.0-1022			"	1430		1525																									003
4	SB04-0.0-0.5-1022			"	1430																											004
5	SB04D-0.0-0.5-1022			"	1435																											005
6	SB04-1.0-1.5-1022			"	1440																											006
7	SB04-2.5-3.0-1022			"	1445																											007
8	SB01-0.0-0.5-1022			"	1100																											008
9	SB01-1.0-1.5-1022			"	1105																											009
10	SB01-2.5-3.0-1022			"	1110																											010
11	SB03-0.0-0.5-1022			"	1200																											011
12	SB030-0.0-0.5-1022			"	1205																											012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Include 1262 & 1268	Jacobs	10/17/22	1600				
Methods 8082 & 1668 - Require chromatograms	Fedex	10/18/22	945		10/18/22	945	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jaclyn Warren

SIGNATURE of SAMPLER: DATE Signed: 10/17/22

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

40253331

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Jacobs for UPRR	Report To:	Hodson, David	Attention:	John DeJong
Address:	2020 SW 4th Avenue, Suite 300	Copy To:		Company Name:	UPRR
	Portland, OR 97201			Address:	4315 E Sprague Ave, Spokane Valley, WA 99212
Email:	david.hodson@jacobs.com	Purchase Order #:	2903-01	Pace Quote:	4700001441 (MA-000166-2022)
Phone:	(510)316-2323 Fax:	Project Name:	Portland OR-Peninsula Iron Works	Pace Project Manager:	jennifer.gross@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	45173

Regulatory Agency: State / Location: OR / Portland - Multnomah County

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	SB03-1.0-1.5-1022	SL	C	10/17/2022	1210	—	—	1	1	X										X	X									013
2	SB03-2.5-3.0-1022	↓	↓	↓	1215	↓	↓	↓	↓	↓										↓	↓									014
3	ISM01-0.0-0.2-1022				1228														X		X									015
4	ISM02-0.0-0.2-1022	↓	↓	↓	1425				↓	↓									X		X									016
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Include 1262 & 1268	Jacobs	10/17/22	1100				
Methods 8082 & 1668 - Require chromatograms	Fedex	10/18/22	945	Pace	10/18/22	945	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jaclyn Warren

SIGNATURE of SAMPLER: DATE Signed: 10/17/22

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Client Name: Jacobs / Pace MN

Sample Preservation Receipt Form

Project # 40253331

All containers needing preservation have been checked and noted below: ☐Yes ☐No ☐N/A

Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

Initial when completed:

Date/ Time:

Pace Lab #	Glass							Plastic						Vials						Jars				General				VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2							
001																									1								2.5 / 5
002																									1								2.5 / 5
003																									1								2.5 / 5
004																									1								2.5 / 5
005																									1								2.5 / 5
006																									1								2.5 / 5
007																									1								2.5 / 5
008																									1								2.5 / 5
009																									1								2.5 / 5
010																									1								2.5 / 5
011																									1								2.5 / 5
012																									1								2.5 / 5
013																									1								2.5 / 5
014																									1								2.5 / 5
015																									1								2.5 / 5
016																									1								2.5 / 5
017																									1								2.5 / 5
018																									1								2.5 / 5
019																									1								2.5 / 5
020																									1								2.5 / 5

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other:

Headspace in VOA Vials (>6mm) : ☐Yes ☐No ☒N/A ***If yes look in headspace column**

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	VG9C	40 mL clear ascorbic w/ HCl	JGFU	4 oz amber jar unpres
BG1U	1 liter clear glass	BP3U	250 mL plastic unpres	DG9T	40 mL amber Na Thio	JG9U	9 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP3B	250 mL plastic NaOH	VG9U	40 mL clear vial unpres	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9H	40 mL clear vial HCL	WPFU	4 oz plastic jar unpres
AG5U	100 mL amber glass unpres	BP3S	250 mL plastic H2SO4	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH + Zn	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres					GN 1	
						GN 2	

Sample Condition Upon Receipt Form (SCUR)

Client Name: Pace MN Project # 40253331

Additional Comments/Resolution:

① SB03-2.5

10/19/22 mp ~~SB03-2.5~~ - 3.0 - 1022 10/17/22 1215

① ~~ISM02-0.0-0.2-1022 10/17/22 1425~~ 10/19/22 mp

① Samples not listed on COC

~~did not receive "ISM03-0.0-0.2-1022"~~ 10/19/22 mp

10/19/22 mp

Page 2 of 3

Sample Condition Upon Receipt Form (SCUR)

Client Name: _____ Project # 4025333|

Additional Comments/Resolution: Therm 110 No corr.

5923 7141 9678 /2°

5923 7141 9645 /0°

5923 7141 9667 /0°

5923 7141 9656 /0° Sediment in cooler 10/18/22 mp

(1) SB02-0.0-0.5-1022 10/17/22 1345

SB02D-0.0-0.5 1022 10/17/22 1350

SB02-0-1.5-1022 10/17/22 1355

SB02-2.5-3.0-1022 10/17/22 1400

(1) samples not listed on COC

SB03D-0.0-0.5-1022 + SB02-0.0-0.5-1022 received with holes in bags 10/18/22 mp

both samples have water in bag containing the sample + the outer bag.

Both samples in same cooler.

~~SB03-2.5-3.0-1022, sample not listed on COC~~

IsM02-0.0-0.2 1022 10/19/22 mp

10/19/22 mp

10/19/22 mp

3

Page 4 of 4

10/19/22 mp

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO#: 40253331

40253331

Client Name: Jacobs / Pace MN

Courier: ☐ CS Logistics ☒ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco
☐ Client ☐ Pace Other: _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other _____

Thermometer Used SR - 110 **Type of Ice:** Wet Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: — /Corr: See additional

Temp Blank Present: ☐ yes ☒ no Comments **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Person examining contents:
Date: 10/19/22 Initials: MP
Labeled By Initials: MH

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☒No ☐N/A	2. proj# 10/19/22 MP
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No	5.
- DI VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☒No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume:		8.
For Analysis: ☒Yes ☐No MS/MSD:	☐Yes ☒No ☐N/A	
Correct Containers Used:	☒Yes ☐No	9.
Correct Type: Pace Green Bay, Pace IR, Non-Pace		
Containers Intact:	☐Yes ☒No	10. See additional comments 10/19/22 MP
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☐Yes ☒No ☐N/A	12. 015" ISM02-0.0-0.2-1022
-Includes date/time/ID/Analysis Matrix: S		10/17/22 14:25" per client 10/19/22 MP
Trip Blank Present:	☐Yes ☐No ☒N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: If checked, see attached form for additional comments ☒

Person Contacted: David Hodson Date/Time: 10/19/22

Comments/ Resolution: Client notified of additional samples received but not listed on the coc and samples received with holes in the bags and ice melt in the samples. Lab instructed to proceed with prep and analysis on all samples.

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logi

Page 2 of 2
4 of 4 10/19/22 MP

Internal Transfer Chain of Custody

40253331

Pace Analytical®
www.pacelabs.com

[X] Samples Pre-Logged into eCOC.

State Of Origin: OR

Cert. Needed: [ ] Yes [ ] No

Workorder: 10630039 **Workorder Name:** Portland OR-Peninsula Iron Wor

Owner Received Date: 10/18/2022 **Results Requested By:** 10/27/2022

Report To

Jennifer Gross
Pace Analytical Minnesota
1700 Elm Street
Minneapolis, MN 55414
Phone (612)607-1700

Subcontract To

Pace Analytical Green Bay
1241 Bellevue Street
Suite 9
Green Bay, WI 54302
Phone (920)469-2436

Requested Analysis

WO# : 10630039

10630039

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: UPRES	MISC / ISM (50 Increments) (PACE-	MISC / Sieving (<2mm) (PACE-GB)	LAB USE ONLY
1	SB06-0.0-0.5-1022	PS	10/17/2022 15:15	10630039001	Solid	1		X	001
2	SB06-1.0-1.5-1022	PS	10/17/2022 15:20	10630039002	Solid	1		X	002
3	SB06-2.5-3.0-1022	PS	10/17/2022 15:25	10630039003	Solid	1		X	003
4	SB04-0.0-0.5-1022	PS	10/17/2022 14:30	10630039004	Solid	1		X	004
5	SB04D-0.0-0.5-1022	PS	10/17/2022 14:35	10630039005	Solid	1		X	005
6	SB04-1.0-1.5-1022	PS	10/17/2022 14:40	10630039006	Solid	1		X	006
7	SB04-2.5-3.0-1022	PS	10/17/2022 14:45	10630039007	Solid	1		X	007
8	SB01-0.0-0.5-1022	PS	10/17/2022 11:00	10630039008	Solid	1		X	008
9	SB01-1.0-1.5-1022	PS	10/17/2022 11:05	10630039009	Solid	1		X	009
10	SB01-2.5-3.0-1022	PS	10/17/2022 11:10	10630039010	Solid	1		X	010
11	SB03-0.0-0.5-1022	PS	10/17/2022 12:00	10630039011	Solid	1		X	011
12	SB03D-0.0-0.5-1022	PS	10/17/2022 12:05	10630039012	Solid	1		X	012
13	SB03-1.0-1.5-1022	PS	10/17/2022 12:10	10630039013	Solid	1		X	013
14	ISM01-0.0-0.2-1022	PS	10/17/2022 12:15	10630039014	Solid	1	X		014
15	ISM03-0.0-0.2-1022	PS	10/17/2022 12:28	10630039015	Solid	1	X		015
16	SB02-0.0-0.5-1022	PS	10/17/2022 13:45	10630039016	Solid	1		X	016
17	SB02D-0.0-0.5-1022	PS	10/17/2022 13:50	10630039017	Solid	1		X	017
18	SB02-1-1.5-1022	PS	10/17/2022 13:55	10630039018	Solid	1		X	018
19	SB02-2.5-3.0-1022	PS	10/17/2022 14:00	10630039019	Solid	1		X	019

Internal Transfer Chain of Custody

40253331

Pace Analytical®
www.pacelabs.com

[X] Samples Pre-Logged into eCOC.

State Of Origin: OR
Cert. Needed: [ ] Yes [ ] No
Owner Received Date: 10/18/2022 Results Requested By: 10/27/2022

Workorder: 10630039 **Workorder Name:** Portland OR-Peninsula Iron Wor

Report To	Subcontract To
Jennifer Gross Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612)607-1700	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Preserved Containers: 2 HCL	Preserved Containers:	Preserved Containers:	Preserved Containers:	Preserved Containers:	Requested Analysis: MISC / ISM (50 Increments) (PACE-	Requested Analysis: MISC / Sieving (<2mm) (PACE-GB)	Requested Analysis:	Requested Analysis:	Requested Analysis:	Requested Analysis:	Requested Analysis:	Requested Analysis:	Requested Analysis:	Requested Analysis:	Requested Analysis:	Requested Analysis:	LAB USE ONLY
20	SB03-2.5-3.0-1022	PS	10/17/2022 12:15	10630039020	Solid	1							X											020
21																								
22																								
23																								
24																								

Transfers	Released By	Date/Time	Received By	Date/Time
1	Fedex	10/18/22 945	Mon: ARDOpace	10/18/22 945
2	Matt VanLoon Pace	12/13/22 1300	Pace	12/14/22 14:35
3				

Comments: Forward prepped volume to Pace Mnpls, methods 8082 & possibly 1668. Hold all additional volume for six months.

Cooler Temperature on Receipt NA °C | **Custody Seal** (Y) or N | **Received on Ice** (Y) or N | **Samples Intact** (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

DC#_Title: ENV-FRM-MIN4-0150 v11_Sample Condition Upon Receipt (SCUR)
Effective Date: 11/16/2022

Sample Condition Upon Receipt | **Client Name:** Pace Green Bay | **Project #:** WO#: 10630039

PM: JMG Due Date: 12/16/22
CLIENT: UPRR_Jacobs

Courier: ☐ FedEx ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☑ Commercial

Tracking Number: _____ ☐ See Exceptions ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other **Temp Blank?** ☐ Yes ☑ No

Thermometer: ☐ T1 (0461) ☐ T2 (1336) ☐ T3 (0459) ☐ T4 (0254) ☐ T5 (0178) ☐ T6 (0235) ☑ T7 (0042) ☐ T8 (0775) ☐ T9(0727) ☐ 01339252/1710 **Type of Ice:** ☐ Wet ☐ Blue ☐ Dry ☑ None ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☑ No **Were All Container Temps Taken?** ☐ Yes ☐ No ☑ N/A

Temp should be above freezing to 6 °C **Cooler temp Read w/Temp Blank:** Amb °C **Average Corrected Temp (no temp blank only):** _____ °C

Correction Factor: add 0.1 **Cooler Temp Corrected w/temp blank:** Amb °C ☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: (☐ N/A, water sample/other: _____) **Date/Initials of Person Examining Contents:** 12/14/22 ADC

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): ☐ Duluth ☑ Minneapolis ☐ Virginia

				COMMENTS
Chain of Custody Present and Filled Out?	☑ Yes	☐ No		1.
Chain of Custody Relinquished?	☑ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☐ Yes	☐ No	☑ N/A	3.
Samples Arrived within Hold Time?	☑ Yes	☐ No		4. If fecal: ☐ <8 hrs ☐ >8 hr, ≤24 ☐ No
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E.coli ☐ BOD/cBOD ☐ Hex Chrom ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other
Rush Turn Around Time Requested?	☐ Yes	☑ No		6.
Sufficient Sample Volume?	☑ Yes	☐ No		7.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	8.
-Pace Containers Used?	☐ Yes	☑ No		
Containers Intact?	☑ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☑ Yes	☐ No		11. **If no, write ID/Date/Time of container below:** ☐ See Exceptions ENV-FRM-MIN4-0142
Matrix: ☐ Water ☑ Soil ☐ Oil ☐ Other				
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☑ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐ Yes	☐ No	☑ N/A	☐ NaOH ☐ HNO3 ☐ H2SO4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)	☐ Yes	☐ No	☑ N/A	Positive for Residual Chlorine? ☐ Yes ☐ No ☐ See Exceptions ENV-FRM-MIN4-0142
				pH Paper Lot #
				Residual Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in Methyl Mercury Container?	☐ Yes	☐ No	☑ N/A	13.
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☑ N/A	14. ☐ See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☑ N/A	
Trip Blanks Present?	☐ Yes	☐ No	☑ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Jenni Gross **Date:** 12/14/22

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: ADC **Line:** 2

CHAIN-OF-CUSTODY / Analytical Request Document

4025420S

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company	Jacobs for UPRR	Report To.	Hodson, David	Attention	John DeJong
Address:	2020 SW 4th Avenue, Suite 300	Copy To		Company Name.	UPRR
	Portland, OR 97201			Address	4315 E Sprague Ave, Spokane Valley, WA 99212
Email	david hodson@jacobs com	Purchase Order #	2903-01	Pace Quote	4700001441 (MA-000166-2022)
Phone	(510)316-2323 Fax.	Project Name.	Portland OR-Peninsula Iron Works	Pace Project Manager	jennifer gross@pacelabs com,
Requested Due Date		Project #.		Pace Profile #:	45173

Regulatory Agency

State / Location: OR / Portland - Multnomah County

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	SB08-0.5-110322	SL	G	11/3/22	845															X	X										001
2	SB08-1-110322	SL	G	11/3/22	910															X	X										002
3	SB08-2.5-110322	SL	G	11/3/22	920															X	X										003
4	TB110322																				X										004
5																															11/4/22 MP
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*Include 1262 & 1268	David Hodson	11/3/22	1100							
Methods 8082 & 1668 - Require chromatograms	Fedex	11/4/22	0945	Mary Kay Pace	11/4/22	0945	0°	Y	Y	Y
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: DAVID HODSON

SIGNATURE of SAMPLER: [signature] DATE Signed: 11/3/22

Sample Preservation Receipt Form

Client Name: Jacobs

Project # 40254308

All containers needing preservation have been checked and noted below ☐Yes ☐No ☒N/A

Lab Lot# of pH paper

Lab Std #ID of preservation (if pH adjusted).

Pace Lab #	Glass: AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	Plastic: BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	Vials: VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	Jars: JGFU	JG9U	WGFU	WPFU	General: SP5T	ZPLC	GN 1	GN 2	VOA Vials (>6mm) *	Initial when completed: H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	Date/Time: pH after adjusted	Volume (mL)
001																									1									2.5 / 5
002																									1									2.5 / 5
003																									1									2.5 / 5
004																																		2.5 / 5
005																																		2.5 / 5
006																																		2.5 / 5
007																																		2.5 / 5
008																																		2.5 / 5
009																																		2.5 / 5
010																																		2.5 / 5
011																																		2.5 / 5
012																																		2.5 / 5
013																																		2.5 / 5
014																					1/1/4/2													2.5 / 5
015																																		2.5 / 5
016																																		2.5 / 5
017																																		2.5 / 5
018																									2 2 4 0									2.5 / 5
019																																		2.5 / 5
020																																		2.5 / 5

Exceptions to preservation check VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other_____ Headspace in VOA Vials (>6mm) ☐Yes ☐No ☒N/A *If yes look in headspace column

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	VG9C	40 mL clear ascorbic w/ HCl	JGFU	4 oz amber jar unpres
BG1U	1 liter clear glass	BP3U	250 mL plastic unpres	DG9T	40 mL amber Na Thio	JG9U	9 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP3B	250 mL plastic NaOH	VG9U	40 mL clear vial unpres	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9H	40 mL clear vial HCL	WPFU	4 oz plastic jar unpres
AG5U	100 mL amber glass unpres	BP3S	250 mL plastic H2SO4	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH + Zn	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres					GN 1	
						GN 2	

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40254308

40254308

Client Name: Jacobs

Courier: ☐ CS Logistics ☒ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☐ Client ☐ Pace Other.

Tracking #: 5923 7141 9689

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other

Thermometer Used SR - 110 **Type of Ice:** (Wet) Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: — /Corr: 0°

Temp Blank Present: ☐ yes ☒ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice

Person examining contents:
Date: 11/4/22 Initials: mp
Labeled By Initials: MH

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☒No ☐N/A	2. proj#, 11/4/22 mp
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time	☒Yes ☐No	5.
- DI VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time
Short Hold Time Analysis (<72hr):	☐Yes ☒No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume: For Analysis: ☒Yes ☐No MS/MSD ☐Yes ☒No ☐N/A		8.
Correct Containers Used:	☒Yes ☐No	9.
Correct Type: (Pace Green Bay) Pace IR, Non-Pace		
Containers Intact:	☒Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☐Yes ☒No ☐N/A	12. No collect date or time 11/4/22 mp
-Includes date/time/ID/Analysis Matrix: S		
Trip Blank Present:	☐Yes ☐No ☒N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time

Comments/ Resolution:

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logi

Page 2 of 2

Internal Transfer Chain of Custody

4025438

Pace Analytical
www.pacelabs.com

[X] Samples Pre-Logged into eCOC.

State Of Origin: OR
Cert. Needed: [ ] Yes [ ] No
Owner Received Date: 11/4/2022 Results Requested By: 11/15/2022

Workorder: 10632522 Workorder Name: Portland OR-Peninsula Iron Wor

Report To	Subcontract To
Jennifer Gross Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612)607-1700	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

WO# : 10632522

10632522

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	MISC / Sieving (<2mm) (PACE-GB)	LAB USE ONLY
1	SB08-0.5-110322	PS	11/3/2022 08:45	10632522001	Solid	1	X	001
2	SB08-1-110322	PS	11/3/2022 09:10	10632522002	Solid	1	X	002
3	SB08-2 5-110322	PS	11/3/2022 09:20	10632522003	Solid	1	X	003
4								
5								

Transfers	Released By	Date/Time	Received By	Date/Time
1	Fedex	11/4/22 0945	[illegible]	11/4/22 0945
2	[illegible]	12/16/22 1700	[illegible]	12/17/22 10:50
3				

Comments

Forward prepped volume to Pace Mnpls, methods 8082 & possibly 1668.
Hold all additional volume for six months.

mh 11/7/22

Cooler Temperature on Receipt 0 °C | Custody Seal (Y) or N | Received on Ice (Y) or (N) | Samples Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

0.9, 11.3, 8.7

2.6, 2.5, 2.8, 3.7

DC#_Title: ENV-FRM-MIN4-0150 v11_Sample Condition Upon Receipt (SCUR)
Effective Date: 11/16/2022

Sample Condition Upon Receipt

Client Name: Pace Green Bay

Project #: WO#: 10632522

PM: JMG Due Date: 02/12/23
CLIENT: UPRR_Jacobs

Courier: ☐ FedEx ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☒ CommercialGalHO

Tracking Number: _____ ☐ See Exceptions ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No Seals Intact? ☒ Yes ☐ No Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other Temp Blank? ☒ Yes ☐ No

Thermometer: ☐ T1 (0461) ☐ T2 (1336) ☐ T3 (0459) ☐ T4 (0254) ☐ T5 (0178) ☐ T6 (0235) ☒ T7 (0042) ☐ T8 (0775) ☐ T9(0727) ☐ 01339252/1710

Type of Ice: ☒ ~~Wet~~ ☐ Blue ☐ Dry ☒ None ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☒ No JMG 12/19/22 Were All Container Temps Taken? ☐ Yes ☐ No ☒ N/A JMG 12/19/22

Temp should be above freezing to 6 °C Cooler temp Read w/Temp Blank: 3.5 2.4, 3.8 3.6

Correction Factor: +.1 Cooler Temp Corrected w/temp blank: 3.6, 2.5, 2.8 °C 3.7

Average Corrected Temp (no temp blank only): _____ °C ☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: (☐ N/A, water sample/other: _____) Date/Initials of Person Examining Contents: 12/19/22 JMG

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? ☐ Yes ☒ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): ☐ Duluth ☒ Minneapolis ☐ Virginia

		COMMENTS
Chain of Custody Present and Filled Out?	☒ Yes ☐ No	1.
Chain of Custody Relinquished?	☒ Yes ☐ No	2.
Sampler Name and/or Signature on COC?	☐ Yes ☒ No ☐ N/A	3.
Samples Arrived within Hold Time?	☒ Yes ☐ No	4. If fecal: ☐ <8 hrs ☐ >8 hr, <24 ☐ No
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No	5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E.coli ☐ BOD/cBOD ☐ Hex Chrom ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other
Rush Turn Around Time Requested?	☒ Yes ☐ No	6. Rush
Sufficient Sample Volume?	☒ Yes ☐ No	7.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	8.
-Pace Containers Used?	☐ Yes ☒ No	
Containers Intact?	☒ Yes ☐ No	9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes ☐ No ☒ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☒ Yes ☐ No	11. **If no, write ID/Date/Time of container below:** GN containers added to WOs ☐ See Exceptions ENV-FRM-MIN4-0142
Matrix: ☐ Water ☒ Soil ☐ Oil ☐ Other		
All containers needing acid/base preservation have been checked?	☐ Yes ☐ No ☒ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐ Yes ☐ No ☒ N/A	☐ NaOH ☐ HNO3 ☐ H2SO4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)	☐ Yes ☐ No ☒ N/A	Positive for Residual Chlorine? ☐ Yes ☐ No ☐ See Exceptions ENV-FRM-MIN4-0142
		pH Paper Lot # — Residual Chlorine: 0-6 Roll / 0-6 Strip / 0-14 Strip
Headspace in Methyl Mercury Container?	☐ Yes ☐ No ☒ N/A	13.
Extra labels present on soil VOA or WIDRO containers?	☐ Yes ☐ No ☒ N/A	14. ☐ See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	☐ Yes ☐ No ☒ N/A	
3 Trip Blanks Present?	☐ Yes ☐ No ☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes ☐ No ☒ N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Jenni Gross **Date:** 12/19/22

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: NE **Line:** 1

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-MIN4-0142 v02_Sample Condition Upon Receipt (SCUR) Exception Form
	Effective Date: 09/22/2022

Workorder #: _____

No Temp Blank		
Read Temp	Corrected Temp	Average temp

PM Notified of Out of Temp Cooler? ☐ Yes ☐ No

If yes, indicate who was contacted, date and time.
If no, indicate reason why.

_____

Multiple Cooler Project? ☐ Yes ☐ No

If anything is OVER 6.0° C, you MUST document containers in this section HERE

Tracking Number	Temperature
34247961-4	8.9
34297961-5	11.3
34207961-2	8.7
34297961-1	11.2

Out of Temp Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples										
Sample ID	Type Of Preserve	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance After Addition?		Initials
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	

Comments:

_____

_____

_____

Qualtrax ID: 52763

Pace

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

L#253359

Page : 1 Of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Jacobs for UPRR	Report To:	Hodson, David	Attention:	John DeJong
Address:	2020 SW 4th Avenue, Suite 300	Copy To:		Company Name:	UPRR
	Portland, OR 97201			Address:	4315 E Sprague Ave, Spokane Valley, WA 99212
Email:	david.hodson@jacobs.com	Purchase Order #:	2903-01	Pace Quote:	4700001441 (MA-000166-2022)
Phone:	(510)316-2323 Fax:	Project Name:	Portland OR-Peninsula Iron Works	Pace Project Manager:	jennifer.gross@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	45173

Regulatory Agency: State / Location: OR / Portland - Multnomah County

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	ISM04-0.0-0.2-1022			10/18/22	945				1	X									X		X								*MS/SD
2	ISM05-0.0-0.2-1022			10/18/22	1205				1	X									X		X								
3	SB10-0.0-0.5-1022			10/18/22	1115				1	X									X	X	X								
4	SB10-1.0-1.5-1022			"	1120				1	X								CIN	X	X	X								
5	SB10-2.5-3.0-1022			"	1125				1	X									X	X	X								
6	SB09-0.0-0.5-1022			"	1030				1	X										X	X								
7	SB09-1.0-1.5-1022			"	1035				1	X										X	X								
8	SB09-2.5-3.0-1022			"	1040				1	X										X	X								
9	SB07-0.0-0.5-1022			"	900				1	X										X	X								*MS/SD
10	SB07-1.0-1.5-1022			"	905				1	X										X	X								
11	SB07-2.5-3.0-1022			"	910				1	X										X	X								
12	SB05-0.0-0.5-1022			"	830				1	X										X	X								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Include 1262 & 1268	Jadyn Warren / Jacobs	10/18/22	1460				
Methods 8082 & 1668 - Require chromatograms	Fedex	10/19/22	1000	Sam Spaeth	10/19/22	1000	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jadyn Warren

SIGNATURE of SAMPLER: DATE Signed: 10/18/22

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

LHD53359

CHAIN-OF-CUSTODY / Analytical Request Document

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Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Jacobs for UPRR	Report To:	Hodson, David	Attention:	John DeJong
Address:	2020 SW 4th Avenue, Suite 300	Copy To:		Company Name:	UPRR
	Portland, OR 97201			Address:	4315 E Sprague Ave, Spokane Valley, WA 99212
Email:	david.hodson@jacobs.com	Purchase Order #:	2903-01	Pace Quote:	4700001441 (MA-000166-2022)
Phone:	(510)316-2323 Fax:	Project Name:	Portland OR-Peninsula Iron Works	Pace Project Manager:	jennifer.gross@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	45173

Regulatory Agency:

State / Location: OR / Portland - Multnomah County

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	SB05-1.0-1.5-1022			10/18/22	835				1	X									X	X									
2	SB05-2.5-3.0-1022			"	840				1	X									X	X									
3	SB12-0.0-0.5-1022			"	1230				1	X									X	X									MS/SD
4	SB12D-0.0-0.5-1022			"	1235				1	X									X	X									
5	SB12-1.0-1.5-1022			"	1240				1	X									X	X									
6	SB12-2.5-3.0-1022			"	1245				1	X									X	X									
7																													
8																													
9																													
10																													
11																													
12																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Include 1262 & 1268	Jadyn Warren / Jacobs	10/19/22	1400				
Methods 8082 & 1668 - Require chromatograms	Fedex	10/19/22	1000	[signature]	10/19/22	1000	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jadyn Warren

SIGNATURE of SAMPLER: [signature] DATE Signed: 10/18/22

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Client Name: Pace MN

Sample Preservation Receipt Form

Project # L1053359

All containers needing preservation have been checked and noted below: ☐Yes ☐No ☑N/A

Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

Initial when completed:

Date/ Time:

	Glass							Plastic						Vials						Jars				General				VOA Vials (>6mm) *						
Pace Lab #	AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2		H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
001																									1									2.5 / 5
002																									1									2.5 / 5
003																									1									2.5 / 5
004																									1									2.5 / 5
005																									1									2.5 / 5
006																									1									2.5 / 5
007																									1									2.5 / 5
008																									1									2.5 / 5
009																									2									2.5 / 5
010																									1									2.5 / 5
011																									1									2.5 / 5
012																									1									2.5 / 5
013																									1									2.5 / 5
014																									1									2.5 / 5
015																									2									2.5 / 5
016																									1									2.5 / 5
017																									1									2.5 / 5
018																									1									2.5 / 5
019																																		2.5 / 5
020										6/19/22 SC																								2.5 / 5

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other:

Headspace in VOA Vials (>6mm) : ☐Yes ☐No ☑N/A ***If yes look in headspace column**

AG1U	1 liter amber glass
BG1U	1 liter clear glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP3U	250 mL plastic unpres
BP3B	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4
BP2Z	500 mL plastic NaOH + Zn

VG9C	40 mL clear ascorbic w/ HCl
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI

JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN 1	
GN 2	

Page 1 of 3

Sample Condition Upon Receipt Form (SCUR)

Client Name: PACE mn Project # LIMS3359

Additional Comments/Resolution:

(1) SB-10-1.0-1.5-1022

SB-10-2.5-3.0-1022

SB12-0.0-0.5-1022

SB12-1.0-1.5-1022

SB12D-0.0-0.5-1022

SB10-0.0-0.5-1022

(1) Samples have melt water in them

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40253359

40253359

Client Name: Pace MN

Courier: ☐ CS Logistics ☑ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☐ Client ☐ Pace Other:

Tracking #: 5923 7141 9830 (1)

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used SR - 9 **Type of Ice:** (Wet) Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: 3 /Corr: 3.5 (2)

Temp Blank Present: ☑ yes ☐ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Person examining contents:
Date: 10/19/22 /Initials: SG
Labeled By Initials: NK

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☐No ☑N/A	4. IRW 10/19/22 SG
Samples Arrived within Hold Time:	☑Yes ☐No	5.
- DI VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☑Yes ☐No MS/MSD: ☑Yes ☐No ☐N/A		8.
Correct Containers Used: Correct Type: Pace Green Bay, Pace IR, Non-Pace	☑Yes ☐No	9.
Containers Intact:	☐Yes ☑No	10. See other SCUR page 10/19/22 SG
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: S	☑Yes ☐No ☐N/A	12.
Trip Blank Present:	☐Yes ☐No ☑N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: David Hodson Date/Time: 10/19/22

Comments/ Resolution: (1) other tracking #s 5923 7141 9829, 5923 7141 9807, 5923 7141 9818 (2) other temps noted according to (1): 2.5→3, 0.5→1, 1→1.5

Client notified of samples received with holes in the bags and ice melt in the samples. Lab instructed to proceed with prep and analysis on all samples. JMG

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logi

Page 2 of 3

40253359

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

[x] Samples Pre-Logged into eCOC.

State Of Origin: OR
Cert. Needed: [ ] Yes [ ] No

Workorder: 10630317 **Workorder Name:** Portland OR-Peninsula Iron Wor

Owner Received Date: 10/19/2022 **Results Requested By:** 10/28/2022

Report To

Jennifer Gross
Pace Analytical Minnesota
1700 Elm Street
Minneapolis, MN 55414
Phone (612)607-1700

Subcontract To

Pace Analytical Green Bay
1241 Bellevue Street
Suite 9
Green Bay, WI 54302
Phone (920)469-2436

Requested Analysis

WO#: 10630317

10630317

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Preserved Containers: ZPLU	MISC / ISM (50 Increments) (PACE-	MISC / Sieving (<2mm) (PACE-GB)	LAB USE ONLY
1	ISM04-0.0-0.2-1022	RQS	10/18/2022 09:45	10630317001	Solid	1		X		001
2	ISM05-0.0-0.2-1022	PS	10/18/2022 12:05	10630317002	Solid	1		X		002
3	SB10-0.0-0.5-1022	PS	10/18/2022 11:15	10630317003	Solid	1			X	003
4	SB10-1.0-1.5-1022	PS	10/18/2022 11:20	10630317004	Solid	1			X	004
5	SB10-2.5-3.0-1022	PS	10/18/2022 11:25	10630317005	Solid	1			X	005
6	SB09-0.0-0.5-1022	PS	10/18/2022 10:30	10630317006	Solid	1			X	006
7	SB09-1.0-1.5-1022	PS	10/18/2022 10:35	10630317007	Solid	1			X	007
8	SB09-2.5-3.0-1022	PS	10/18/2022 10:40	10630317008	Solid	1			X	008
9	SB07-0.0-0.5-1022	RQS	10/18/2022 09:00	10630317009	Solid	1			X	009
10	SB07-1.0-1.5-1022	PS	10/18/2022 09:05	10630317010	Solid	1			X	010
11	SB07-2.5-3.0-1022	PS	10/18/2022 09:10	10630317011	Solid	1			X	011
12	SB05-0.0-0.5-1022	PS	10/18/2022 08:30	10630317012	Solid	1			X	012
13	SB05-1.0-1.5-1022	PS	10/18/2022 08:35	10630317013	Solid	1			X	013
14	SB05-2.5-3.0-1022	PS	10/18/2022 08:40	10630317014	Solid	1			X	014
15	SB12-0.0-0.5-1022	RQS	10/18/2022 12:30	10630317015	Solid	1			X	015
16	SB12D-0.0-0.5-1022	PS	10/18/2022 12:35	10630317016	Solid	1			X	016
17	SB12-1.0-1.5-1022	PS	10/18/2022 12:40	10630317017	Solid	1			X	017
18	SB12-2.5-3.0-1022	PS	10/18/2022 12:45	10630317018	Solid	1			X	018

4025 3359

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	Fedex Tampa Prime	10/19/22 1000	[illegible]	10/19/22 1000	Forward prepped volume to Pace Mnpls, methods 8082 & possibly 1668.
2		11/11/22 1700			Hold all additional volume for six months.
3					

Cooler Temperature on Receipt 3.5, 2.5 °C	Custody Seal (Y) or N	Received on Ice (Y) or N	Samples Intact Y or (N)

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

0.4, 1.4, 2.2, 0.9
MP Rec
15:30
WPIP

Forwarding all Volume that was Sieved.
ISM Samples in COC jars.
CAS 11/1/22

DC#_Title: ENV-FRM-MIN4-0150 v10_Sample Condition Upon Receipt (SCUR)
Effective Date:

Sample Condition Upon Receipt

Client Name: Pace Green Bay

Project #: **WO# : 10630317**

PM: JMG **Due Date: 11/16/22**

CLIENT: UPRR_Jacobs

Courier: ☐ FedEx ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☒ Commercial Walfco

Tracking Number: _____ ☐ See Exceptions ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No

Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other

Temp Blank? ☒ Yes ☐ No

Thermometer: ☐ T1 (0461) ☐ T2 (1336) ☒ T3 (0459) ☐ T4 (0254) ☐ T5 (0178) ☐ T6 (0235) ☐ T7 (0042) ☐ T8 (0775) ☐ 01339252/1710

Type of Ice: ☒ Wet ☐ Blue ☐ Dry ☐ None ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☐ No **Were All Container Temps Taken?** ☐ Yes ☐ No ☐ N/A

Temp should be above freezing to 6 °C **Cooler temp Read w/Temp Blank:** 0.4,1.4,2.2°C ±0.4

Correction Factor: TNW **Cooler Temp Corrected w/temp blank:** 0.4,1.4,2.2°C ±0.4

Average Corrected Temp (no temp blank only): _____ °C ☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: (☐ N/A, water sample/other: _____)

Date/Initials of Person Examining Contents: 11/2/22 M

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? ☐ Yes ☒ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): ☐ Duluth ☒ Minneapolis ☐ Virginia

				COMMENTS
Chain of Custody Present and Filled Out?	☒ Yes	☐ No		1.
Chain of Custody Relinquished?	☒ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☐ Yes	☐ No	☒ N/A	3.
Samples Arrived within Hold Time?	☒ Yes	☐ No		4. If fecal: ☐ <8 hrs ☐ >8 hr, <24 ☐ No
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E.coli ☐ BOD/cBOD ☐ Hex Chrom ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other
Rush Turn Around Time Requested?	☒ Yes	☐ No		6. Lam
Sufficient Sample Volume?	☒ Yes	☐ No		7.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	8.
-Pace Containers Used?	☐ Yes	☒ No		
Containers Intact?	☒ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC? Matrix: ☐ Water ☒ Soil ☐ Oil ☐ Other	☒ Yes	☐ No		11. **If no, write ID/Date/Time of container below:** ☐ See Exceptions ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	12. Sample # ☐ NaOH ☐ HNO3 ☐ H2SO4 ☐ Zinc Acetate
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐ Yes	☐ No	☒ N/A	
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)	☐ Yes	☐ No	☒ N/A	Positive for Residual Chlorine? ☐ Yes ☐ No ☐ See Exceptions ENV-FRM-MIN4-0142 **pH Paper Lot #**
				Residual Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in Methyl Mercury Container?	☐ Yes	☐ No	☒ N/A	13.
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☒ N/A	14. ☐ See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☒ N/A	
3 Trip Blanks Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Jenni Gross **Date:** 11/2/22

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: NF **Line:** 8

Pace

4025345S

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Page : 1 Of 2

Section A – Required Client Information:		Section B – Required Project Information:		Section C – Invoice Information:	
Company:	Jacobs for UPRR	Report To:	Hodson, David	Attention:	John DeJong
Address:	2020 SW 4th Avenue, Suite 300	Copy To:		Company Name:	UPRR
	Portland, OR 97201			Address:	4315 E Sprague Ave, Spokane Valley, WA 99212
Email:	david.hodson@jacobs.com	Purchase Order #:	2903-01	Pace Quote:	4700001441 (MA-000166-2022)
Phone:	(510)316-2323 Fax:	Project Name:	Portland OR-Peninsula Iron Works	Pace Project Manager:	jennifer.gross@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	45173

Regulatory Agency: —

State / Location: OR / Portland - Multnomah County

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	SB14-0.0-0.5-1022			10/11	0945				1	X										X	X									001
2	SB14-1.0-1.5-1022			10/11	0950																									002
3	SB14-2.5-3.0-1022			10/11	0955				1	X										X	X									003
4	SB13-0.0-0.5-1022			10/11	1000				1	X	X									X	X	X								004
5	SB13-1.0-1.5-1022			10/11	1005				1	X											X	X								005
6	SB13-2.5-3.0-1022			10/11	1010				1	X											X	X								006
7	SB11-0.0-0.5-1022			10/11	1100				1	X											X	X								007
8	SB10-0.0-0.5-1022			10/11	1105				1	X											X	X								008
9	SB11-1.0-1.5-1022			10/11	1110					X											X	X								009
10	SB11-2.5-3.0-1022			10/11	1115				1	X											X	X								010
11	SB15-0.0-0.5-1022			10/11	1200																	X	X							011
12	SB15-1.0-1.5-1022			10/11	1205					X												X	X							012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Include 1262 & 1268	Jaclyn Warren	10/19/22	1500				
Methods 8082 & 1668 - Require chromatograms							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jaclyn Warren

SIGNATURE of SAMPLER: [signature] DATE Signed: 10/19/22

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

4025345S

Pace

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A – Required Client Information:		Section B – Required Project Information:		Section C – Invoice Information:	
Company:	Jacobs for UPRR	Report To:	Hodson, David	Attention:	John DeJong
Address:	2020 SW 4th Avenue, Suite 300	Copy To:		Company Name:	UPRR
	Portland, OR 97201			Address:	4315 E Sprague Ave, Spokane Valley, WA 99212
Email:	david.hodson@jacobs.com	Purchase Order #:	2903-01	Pace Quote:	4700001441 (MA-000166-2022)
Phone:	(510)316-2323 Fax:	Project Name:	Portland OR-Peninsula Iron Works	Pace Project Manager:	jennifer.gross@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	45173

Regulatory Agency: —

State / Location: OR / Portland - Multnomah County

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Y/N	Analyses Test: ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	SB15-2.5-3.0-1022			10/19/22	1210				1	X										X	X										013
2	SB16-0.0-0.5-1022			"	1300				1	X										X	X										014
3	SB16-1.0-1.5-1022			"	1305				1	X										X	X										015
4	SB16-2.5-3.0-1022			"	1310				1	X										X	X										016
5	SM02-0.0-0.2-1022			"	1400				1	X										X	X										017
6	SM07-0.0-0.2-1022			"	1425				1	X										X	X										018
7	SM07T-0.0-0.2-1022			"	1130				1	X										X	X										019
8	SM07TT-0.0-0.2-1022			"	1125				1	X										X	X										020
9	SM06-0.0-0.2-1022			"	945				1	X										X	X										021 Hand Auger DS
10	EB01-101922-HADS			"	1420				2	X	X										X											Hand/Trowel DS
11	EB01-101922-HTISM			"	1430				2	X	X										X											Hand Trowel DS SM
12	EB01-101922-HTDS			"	1440				2	X	X										X											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Include 1262 & 1268	Jaclyn Warren / Jacobs	10/19/22	500				
Methods 8082 & 1668 - Require chromatograms							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jaclyn Warren

SIGNATURE of SAMPLER: [signature] DATE Signed: 10/19/22

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Client Name: Pace MN

Sample Preservation Receipt Form

Project # LIMS 53455

All containers needing preservation have been checked and noted below: ☐Yes ☐No ☑N/A

Lab Lot# of pH paper: Lab Std #ID of preservation (if pH adjusted): Initial when completed: Date/ Time:

Pace Lab #	Glass							Plastic						Vials						Jars				General				VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2							
001																									1								2.5 / 5
002																									1								2.5 / 5
003																									1								2.5 / 5
004																									1								2.5 / 5
005																									1								2.5 / 5
006																									1								2.5 / 5
007																									2								2.5 / 5
008																									1								2.5 / 5
009																									1								2.5 / 5
010																									1								2.5 / 5
011																									1								2.5 / 5
012																									1								2.5 / 5
013																									1								2.5 / 5
014																									1								2.5 / 5
015																									1								2.5 / 5
016																									1								2.5 / 5
017																									1								2.5 / 5
018																									1								2.5 / 5
019																									1								2.5 / 5
020																									1								2.5 / 5

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : ☐Yes ☐No ☑N/A ***If yes look in headspace column**

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	VG9C	40 mL clear ascorbic w/ HCl	JGFU	4 oz amber jar unpres
BG1U	1 liter clear glass	BP3U	250 mL plastic unpres	DG9T	40 mL amber Na Thio	JG9U	9 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP3B	250 mL plastic NaOH	VG9U	40 mL clear vial unpres	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9H	40 mL clear vial HCL	WPFU	4 oz plastic jar unpres
AG5U	100 mL amber glass unpres	BP3S	250 mL plastic H2SO4	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH + Zn	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres					GN 1	
						GN 2	

Page 1 of ____

Client Name: Pace MN

Sample Preservation Receipt Form

Project #: LIR253455

Pace Lab #	Glass							Plastic						Vials						Jars				General				VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2							
021																									1								2.5 / 5
022																																	2.5 / 5
023																																	2.5 / 5
024																																	2.5 / 5
025																																	2.5 / 5
026																																	2.5 / 5
027																																	2.5 / 5
028																																	2.5 / 5
029																																	2.5 / 5
030																																	2.5 / 5
031																																	2.5 / 5
032																																	2.5 / 5
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036																																	2.5 / 5
037																																	2.5 / 5
038																																	2.5 / 5
039																																	2.5 / 5
040																																	2.5 / 5
041																																	2.5 / 5
042																																	2.5 / 5
043																																	2.5 / 5
044																																	2.5 / 5
045																																	2.5 / 5
046																																	2.5 / 5
047																																	2.5 / 5
048																																	2.5 / 5

Page 2 of 4

Sample Condition Upon Receipt Form (SCUR)

Client Name: Pace MN Project # 40253455

Additional Comments/Resolution: ① 5923 7141 9760, 5923 7141 9770
5923 7141 9792

② ~~SR-9~~ 3 → 3.5, ~~SR-9~~ 3.5 → 4, ~~SR-9~~ 3 → 3.5

L1025 3455

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

[X] Samples Pre-Logged into eCOC.

State Of Origin: OR

Cert. Needed: [ ] Yes [ ] No

Workorder: 10630481 **Workorder Name:** Portland OR-Peninsula Iron Wor

Owner Received Date: 10/20/2022 **Results Requested By:** 10/31/2022

Report To	Subcontract To
Jennifer Gross Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612)607-1700	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

WO# : 10630481

10630481

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved						MISC / ISM (50 Increments) (PACE-	MISC / Sieving (<2mm) (PACE-GB)											LAB USE ONLY
1	SB14-0.0-0.5-1022	PS	10/19/2022 08:00	10630481001	Solid	1							X											001
2	SB14-1.0-1.5-1022	PS	10/19/2022 08:05	10630481002	Solid	1							X											002
3	SB14-2.5-3.0-1022	PS	10/19/2022 09:10	10630481003	Solid	1							X											003
4	SB13-0.0-0.5-1022	PS	10/19/2022 10:00	10630481004	Solid	1							X											004
5	SB13-1.0-1.5-1022	PS	10/19/2022 10:05	10630481005	Solid	1							X											005
6	SB13-2.5-3.0-1022	PS	10/19/2022 10:10	10630481006	Solid	1							X											006
7	SB11-0.0-0.5-1022	RQS	10/19/2022 11:00	10630481007	Solid	1							X											007
8	SB11D-0.0-0.5-1022	PS	10/19/2022 11:05	10630481008	Solid	1							X											008
9	SB11-1.0-1.5-1022	PS	10/19/2022 11:10	10630481009	Solid	1							X											009
10	SB11-2.5-3.0-1022	PS	10/19/2022 11:15	10630481010	Solid	1							X											010
11	SB15-0.0-0.5-1022	PS	10/19/2022 12:00	10630481011	Solid	1							X											011
12	SB15-1.0-1.5-1022	PS	10/19/2022 12:05	10630481012	Solid	1							X											012
13	SB15-2.5-3.0-1022	PS	10/19/2022 12:10	10630481013	Solid	1							X											013
14	SB16-0.0-0.5-1022	PS	10/19/2022 13:00	10630481014	Solid	1							X											014
15	SB16-1.0-1.5-1022	PS	10/19/2022 13:05	10630481015	Solid	1							X											015
16	SB16-2.5-3.0-1022	PS	10/19/2022 13:10	10630481016	Solid	1							X											016
17	ISM02-0.0-0.2-1022	PS	10/19/2022 14:00	10630481017	Solid	1						X													017
18	ISM07-0.0-0.2-1022	PS	10/19/2022 11:25	10630481018	Solid	1						X													018
19	ISM07T-0.0-0.2-1022	PS	10/19/2022 11:30	10630481019	Solid	1						X													019

40253455

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

[X] Samples Pre-Logged into eCOC.

State Of Origin: OR
Cert. Needed: [ ] Yes [ ] No
Owner Received Date: 10/20/2022 Results Requested By: 10/31/2022

Workorder: 10630481 **Workorder Name:** Portland OR-Peninsula Iron Wor

Report To	Subcontract To
Jennifer Gross Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612)607-1700	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Preserved Containers: ZPLU	Requested Analysis: MISC / ISM (50 Increments) (PACE-	Requested Analysis: MISC / Sieving (<2mm) (PACE-GB)	LAB USE ONLY
20	ISM07TT-0.0-0.2-1022	PS	10/19/2022 11:35	10630481020	Solid	1		X		620
21	ISM06-0.0-0.2-1022	PS	10/19/2022 09:25	10630481021	Solid	1		X		621
22										
23										
24										

Transfers	Released By	Date/Time	Received By	Date/Time
1	Fedex	10/20/22 1032	Sampace	10/20/22 1032
2	Morgan Pace	12/16/22 1700		
3				

Comments

Forward prepped volume to Pace Mnpls, methods 8082 & possibly 1668.

Hold all additional volume for six months.

Cooler Temperature on Receipt 5.5 3.5 °C **Custody Seal** (Y) or N **Received on Ice** (Y) or N **Samples Intact** (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.*
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Condition Upon Receipt

Client Name: Pace Green Bay

Project # WO#: 10630481

PM: JMG Due Date: 02/17/23

CLIENT: UPRR_Jacobs

Courier: ☐ FedEx ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☑ Commercial Cal HCO ☐ See Exceptions ENV-FRM-MIN4-0142

Tracking Number: _____

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other **Temp Blank?** ☑ Yes ☐ No

Thermometer: ☐ T1 (0461) ☐ T2 (1336) ☐ T3 (0459) ☐ T4 (0254) ☐ T5 (0178) ☐ T6 (0235) ☑ T7 (0042) ☐ T8 (0775) ☐ T9(0727) ☐ 01339252/1710

Type of Ice: ☑ ~~Wet~~ ☐ Blue ☐ Dry ☑ None ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☒ No JMG 12/19/22 **Were All Container Temps Taken?** ☐ Yes ☐ No ☒ N/A JMG 12/19/22

Temp should be above freezing to 6 °C **Cooler temp Read w/Temp Blank:** 2.5 2.4 2.5 13.6

Correction Factor: +.1 **Cooler Temp Corrected w/temp blank:** 2.6 2.5 2.8 °C 3.7

Average Corrected Temp (no temp blank only): _____ °C ☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: (☐ N/A, water sample/other: _____) **Date/Initials of Person Examining Contents:** 12/19/22

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): ☐ Duluth ☑ Minneapolis ☐ Virginia

				COMMENTS
Chain of Custody Present and Filled Out?	☑ Yes	☐ No		1.
Chain of Custody Relinquished?	☑ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☐ Yes	☑ No	☐ N/A	3.
Samples Arrived within Hold Time?	☑ Yes	☐ No		4. If fecal: ☐ <8 hrs ☐ >8 hr, <24 ☐ No
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E.coli ☐ BOD/cBOD ☐ Hex Chrom ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other _____
Rush Turn Around Time Requested?	☑ Yes	☐ No		6. Late
Sufficient Sample Volume?	☑ Yes	☐ No		7.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	8.
-Pace Containers Used?	☐ Yes	☑ No		
Containers Intact?	☑ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☑ Yes	☐ No		11. **If no, write ID/Date/Time of container below:** 6N containers added to coc/NO ☐ See Exceptions ENV-FRM-MIN4-0142
Matrix: ☐ Water ☑ Soil ☐ Oil ☐ Other				
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☑ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐ Yes	☐ No	☑ N/A	☐ NaOH ☐ HNO3 ☐ H2SO4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)	☐ Yes	☐ No	☑ N/A	Positive for Residual Chlorine? ☐ Yes ☐ No ☐ See Exceptions ENV-FRM-MIN4-0142 **pH Paper Lot #** Residual Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in Methyl Mercury Container?	☐ Yes	☐ No	☑ N/A	13.
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☑ N/A	14. ☐ See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☑ N/A	
3 Trip Blanks Present?	☐ Yes	☐ No	☑ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Jenni Gross **Date:** 12/19/22

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: NR **Line:** 7

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-MIN4-0142 v02_Sample Condition Upon Receipt (SCUR) Exception Form
	Effective Date: 09/22/2022

Workorder #: _____

No Temp Blank		
Read Temp	Corrected Temp	Average temp

PM Notified of Out of Temp Cooler? ☐ Yes ☐ No

If yes, indicate who was contacted, date and time.
If no, indicate reason why.

_____

Multiple Cooler Project? ☐ Yes ☐ No

If anything is OVER 6.0° C, you MUST document containers in this section HERE

Tracking Number	Temperature
34247961-4	8.9
34297961-5	11.3
34297961-2	8.7
34297961-1	11.2

Out of Temp Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples										
Sample ID	Type Of Preserve	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance After Addition?		Initials
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	

Comments:

_____

_____

_____

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40253455

40253455

Client Name: Pace MN

Courier: ☐ CS Logistics ☑ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco
☐ Client ☐ Pace Other:

Tracking #: 5923 7141 9781 (1)

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used SR - 9 **Type of Ice:** (Wet) Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: 5 /Corr: 5.5 (2)

Temp Blank Present: ☑ yes ☐ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Person examining contents:
Date: 10/20/22 Initials: SG

Labeled By Initials: MP

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished: 10/20/22 SG	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☐No ☑N/A	4. IRWO 10/20/22 SG
Samples Arrived within Hold Time:	☑Yes ☐No	5.
- DI VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☑Yes ☐No MS/MSD: ☑Yes ☐No ☐N/A		8.
Correct Containers Used:	☑Yes ☐No	9.
Correct Type: Pace Green Bay, Pace IR, (Non-Pace)		
Containers Intact:	☑Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: S	☐Yes ☑No ☐N/A	12. IRWO coc 001 time "0800", client coc matches sample time "0900" IRWO coc 002 time "0505" client coc matches sample time "0605" 10/20/22 SG
Trip Blank Present:	☐Yes ☐No ☑N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample login

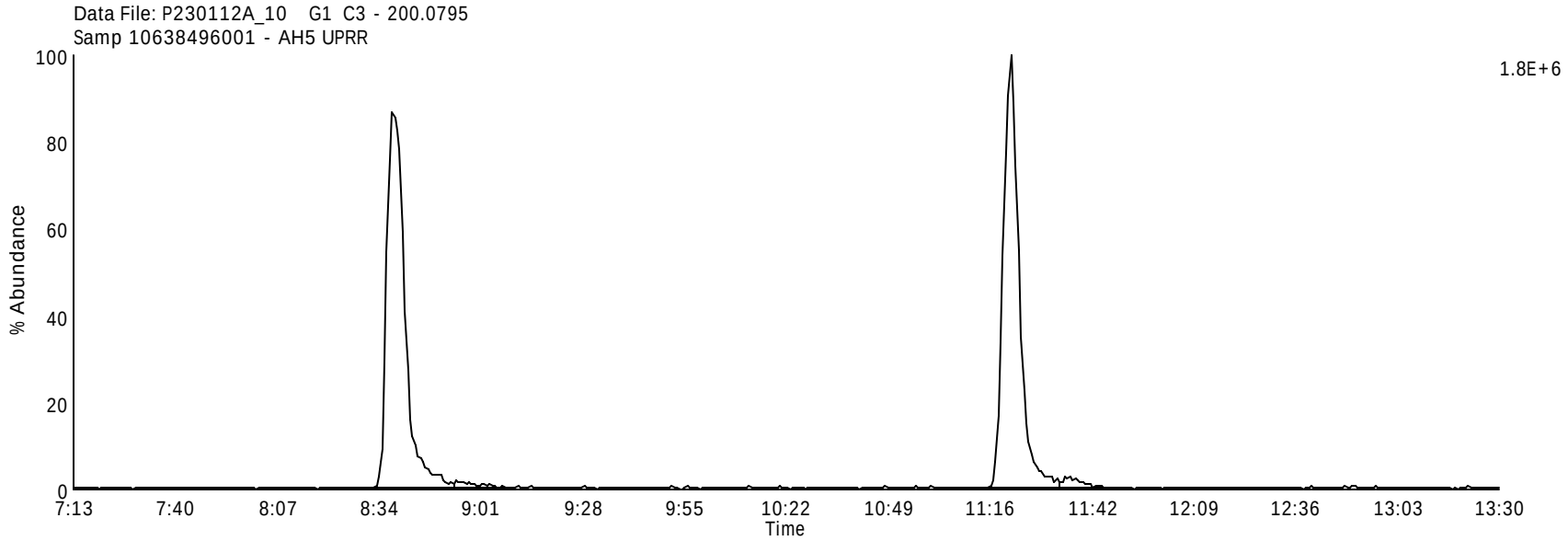
10/20/22 SG

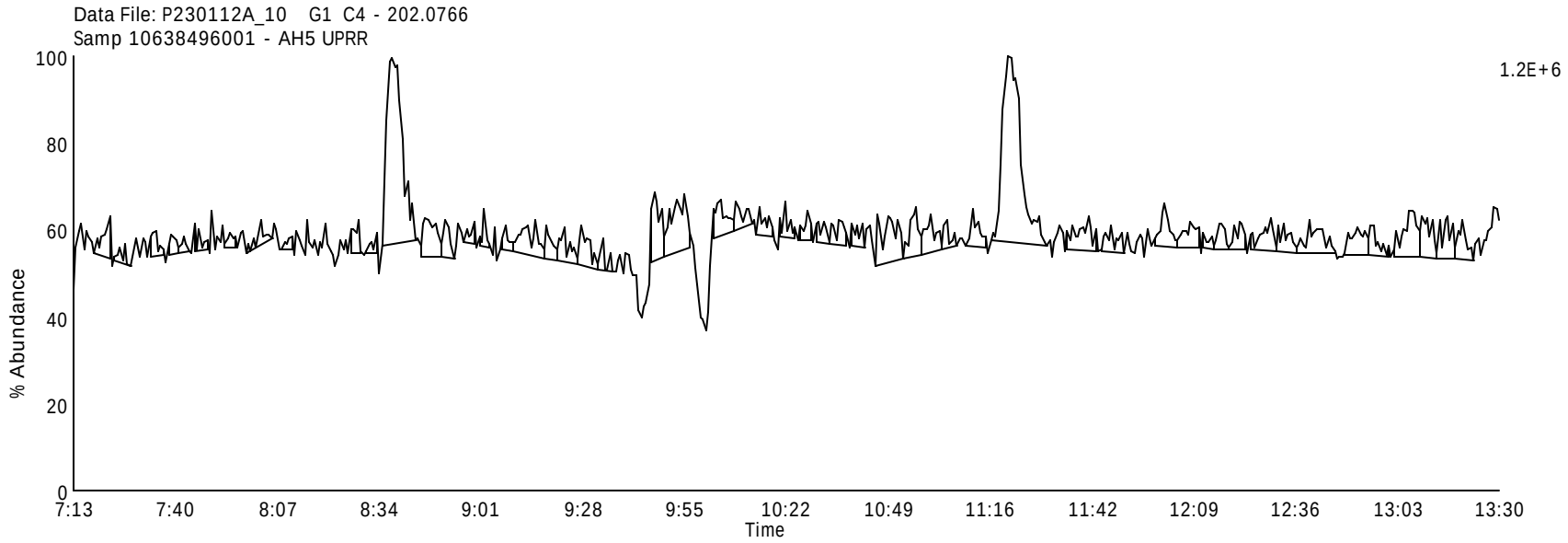
Page 2 of 3

3 of 4

Labeled Mono Chlorinated Biphenyls

Data File Name: P230112A_10	Lab Sample ID: 10638496001
Date Acquired: 1/12/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR	Client Sample ID: SB06-1.0-1.5-1022

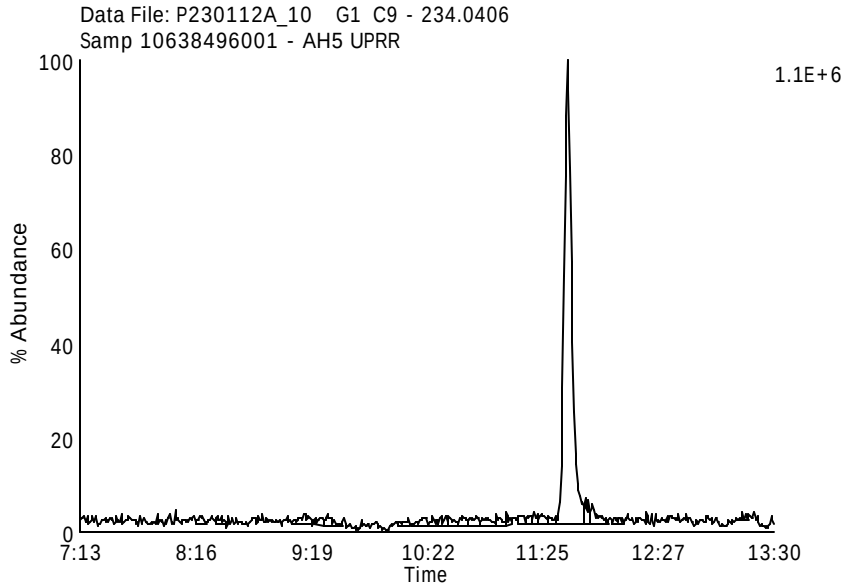


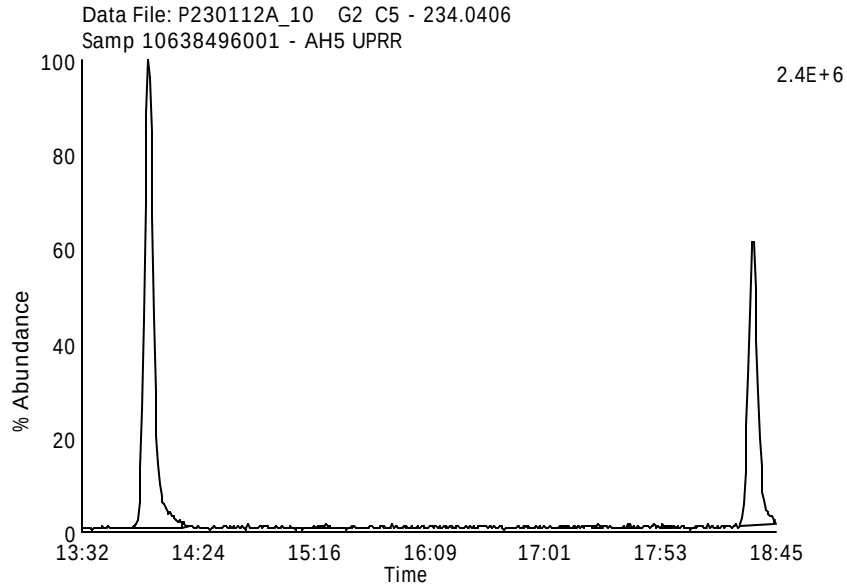


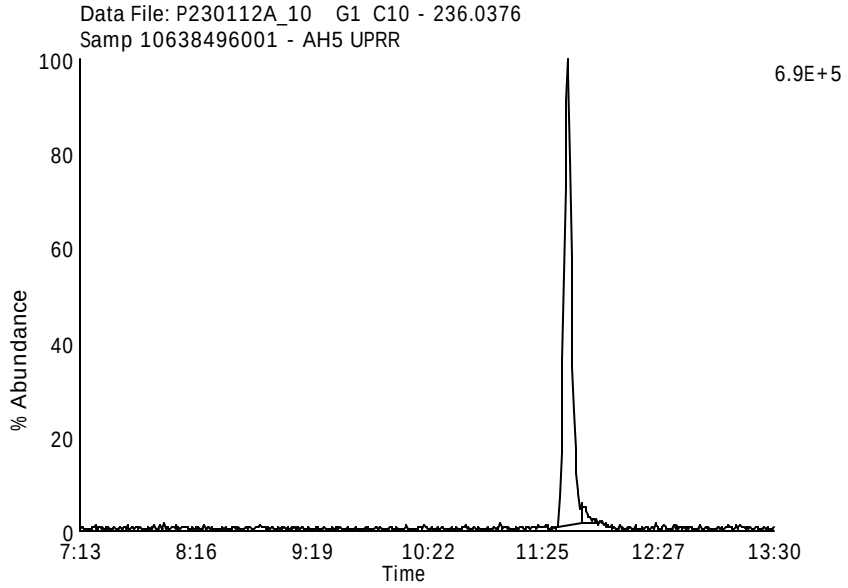
Labeled Di Chlorinated Biphenyls

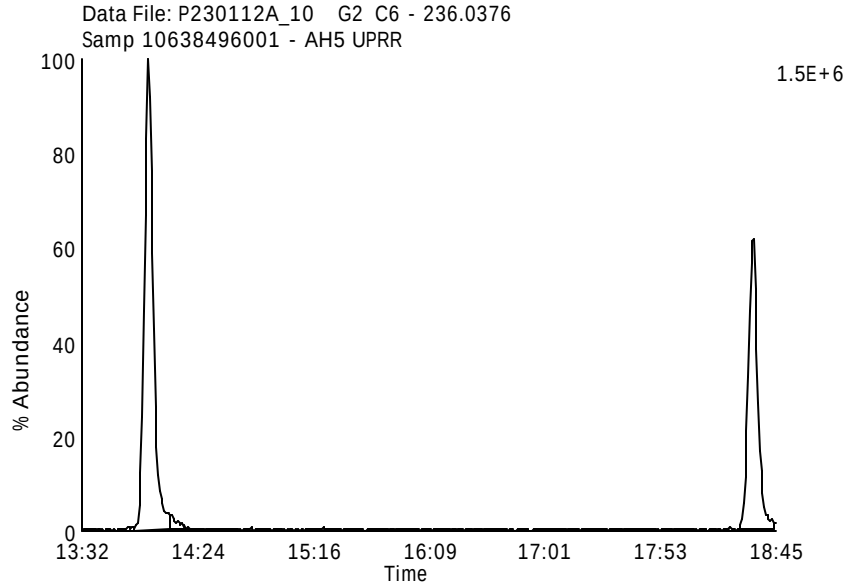
Data File Name: P230112A_10
Date Acquired: 1/12/2023
Sample Description: Samp 10638496001 - AH5 UPRR

Lab Sample ID: 10638496001
Instrument: 10MSHR09 (P)
Client Sample ID: SB06-1.0-1.5-1022



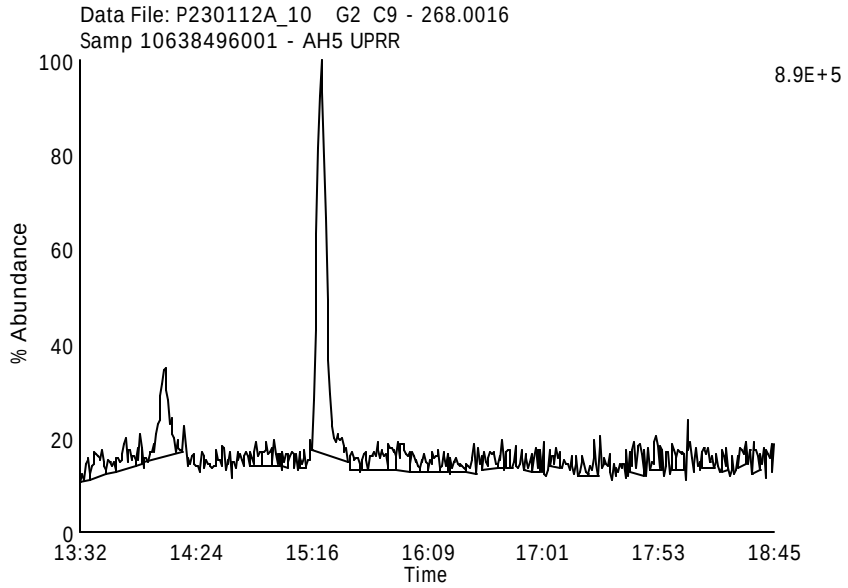


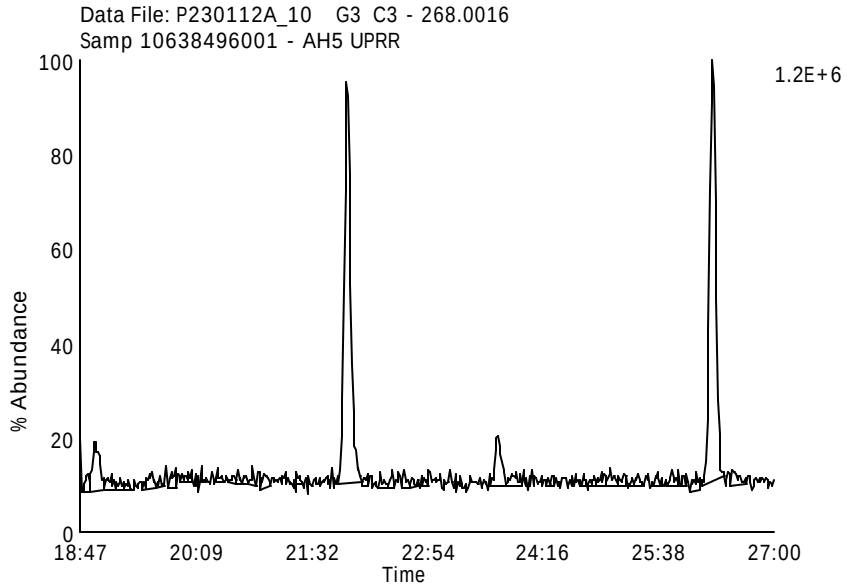


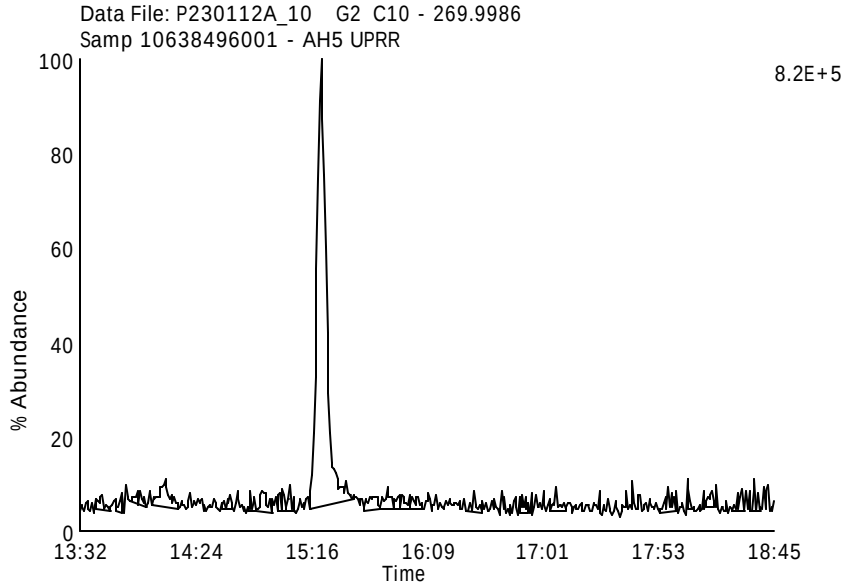


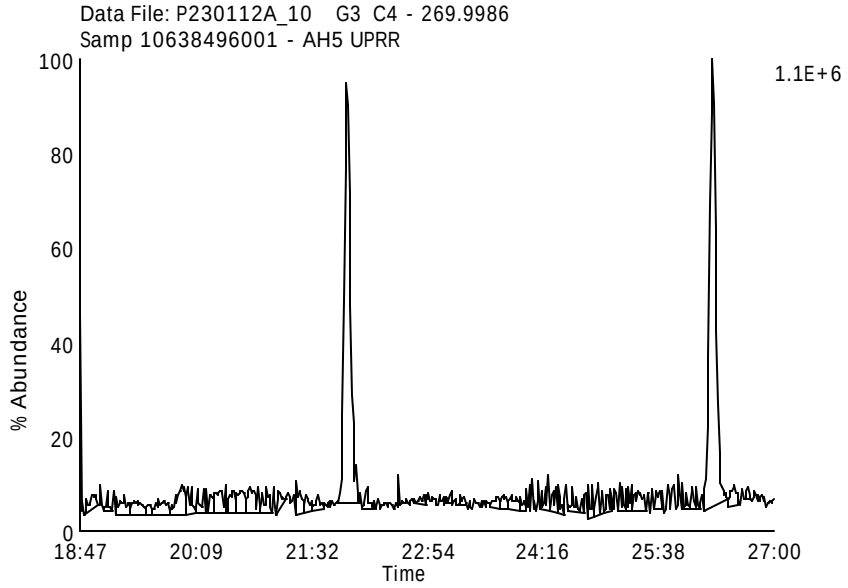
Labeled Tri Chlorinated Biphenyls

Data File Name: P230112A_10
Lab Sample ID: 10638496001
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022



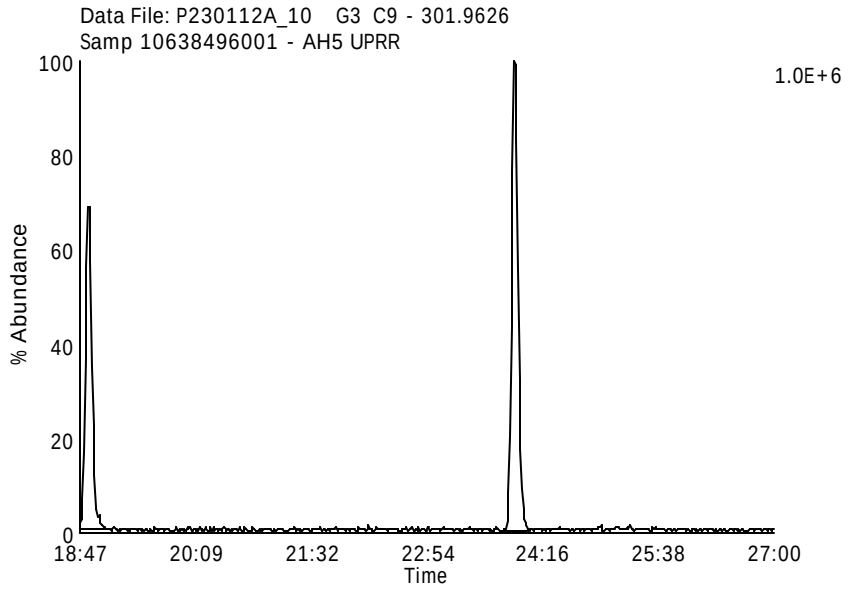


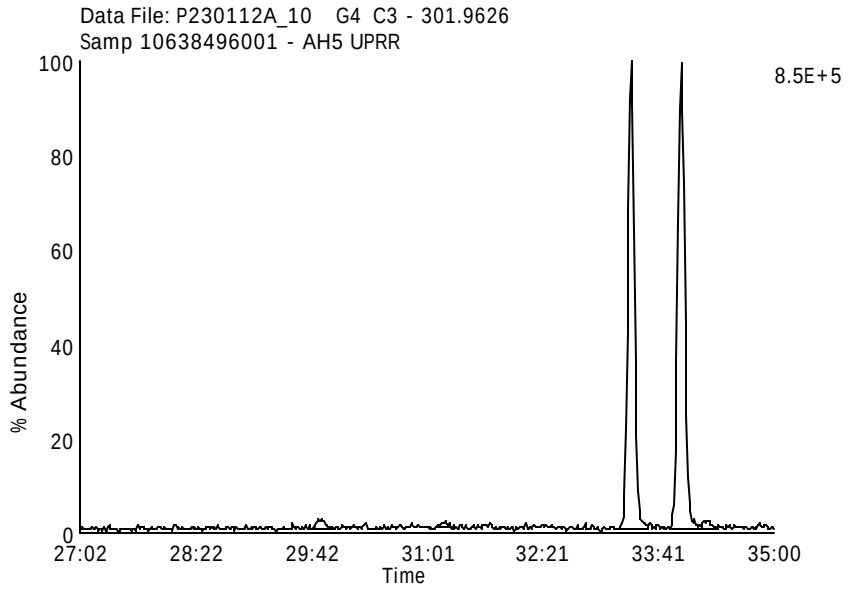


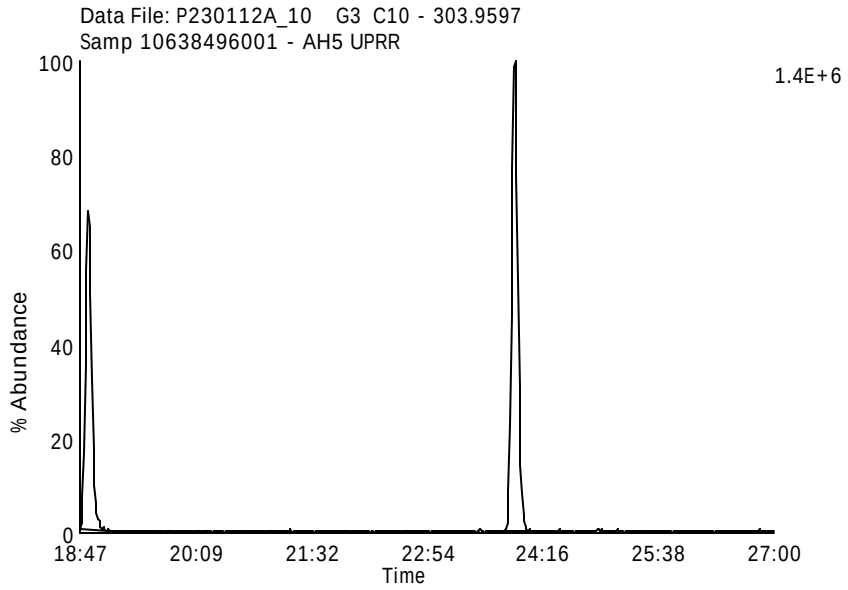


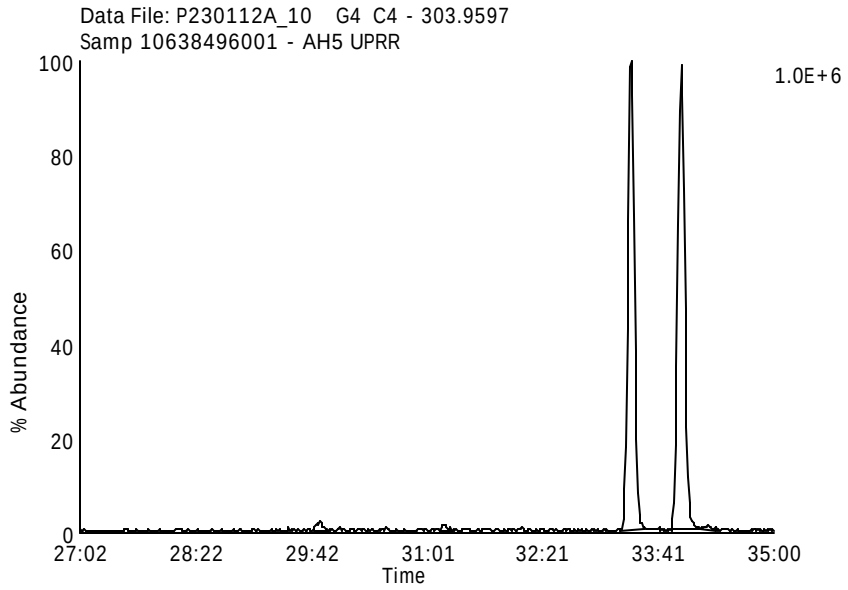
Labeled Tetra Chlorinated Biphenyls

Data File Name: P230112A_10
Lab Sample ID: 10638496001
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022



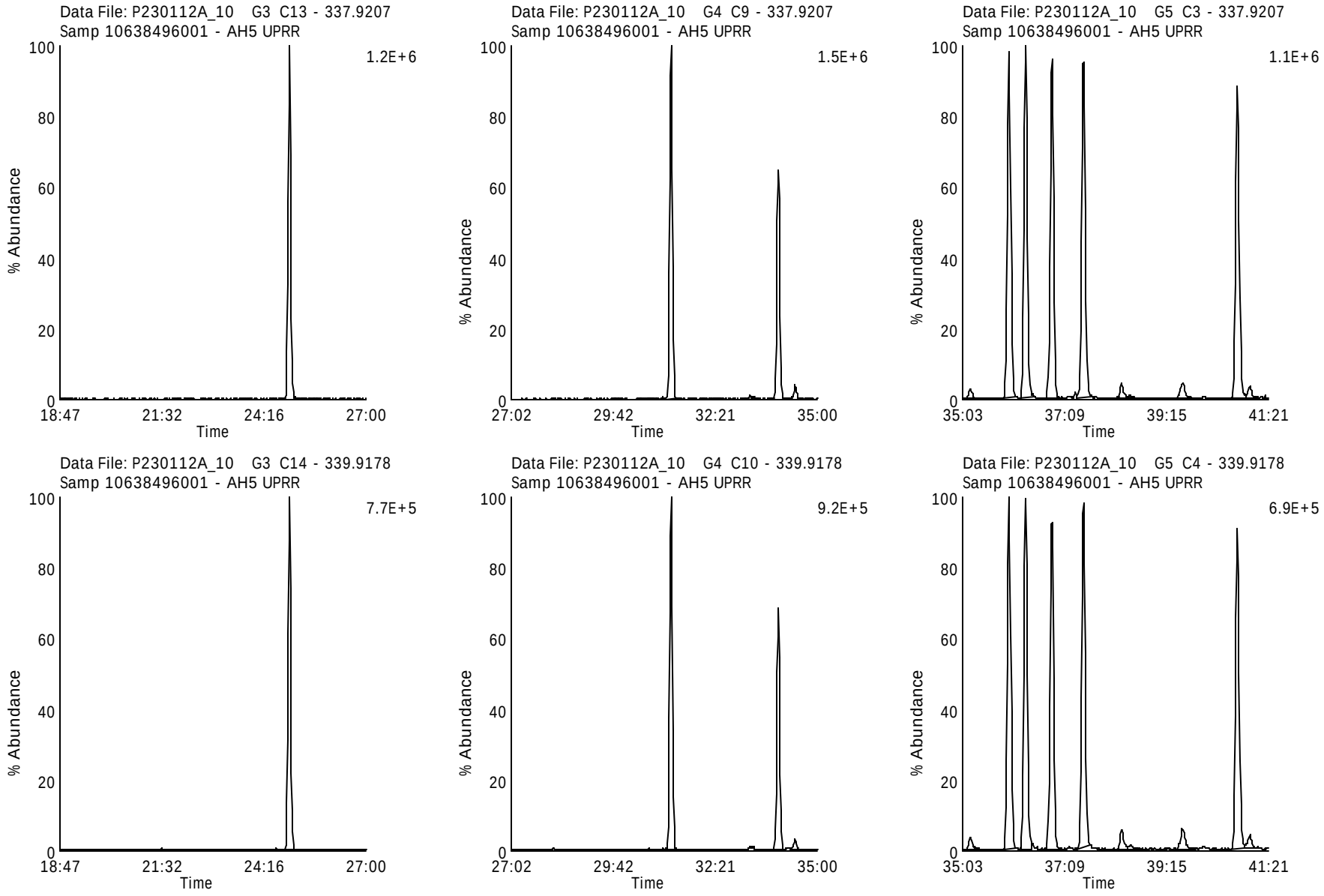






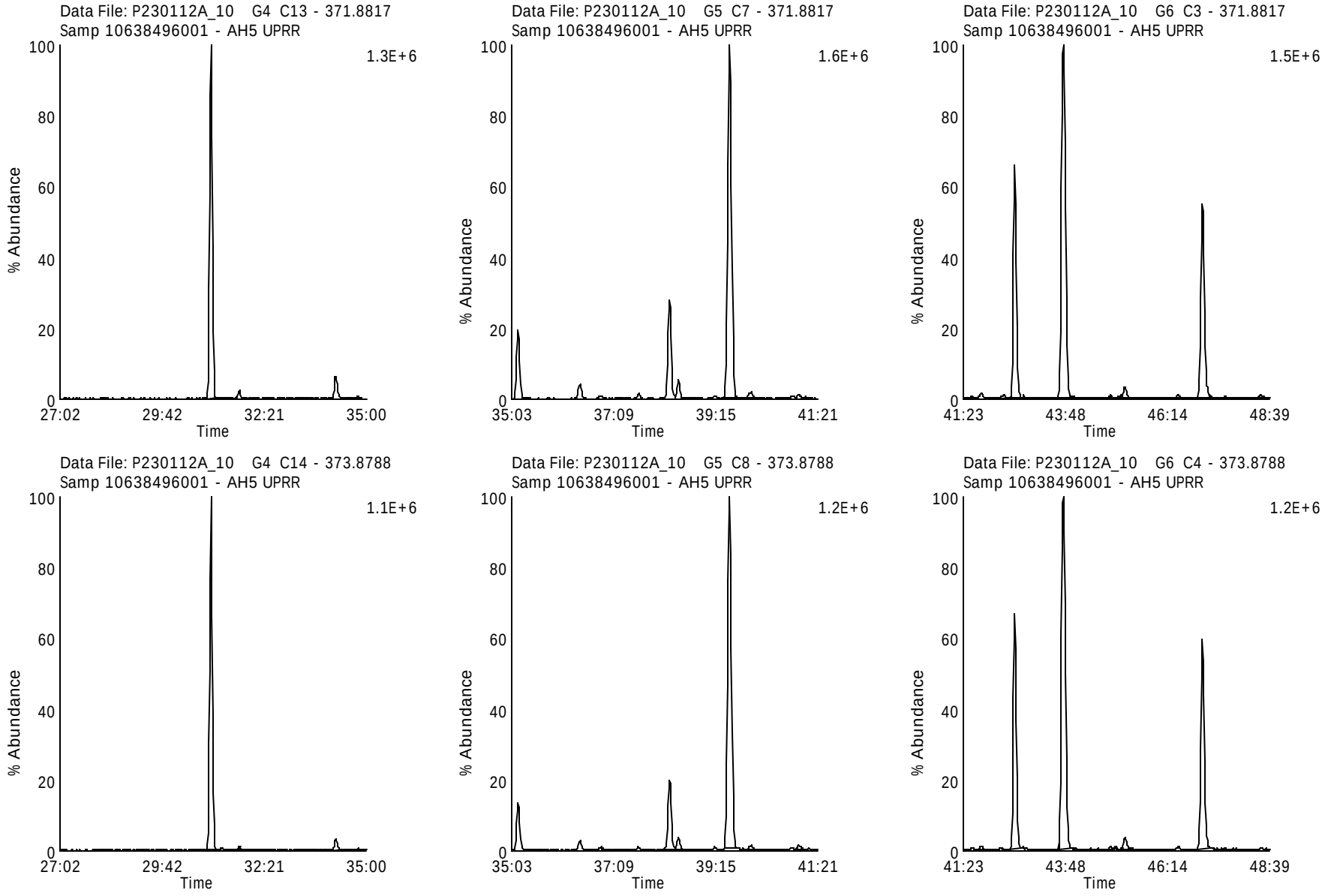
Labeled Penta Chlorinated Biphenyls

Data File Name: P230112A_10
Lab Sample ID: 10638496001
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022



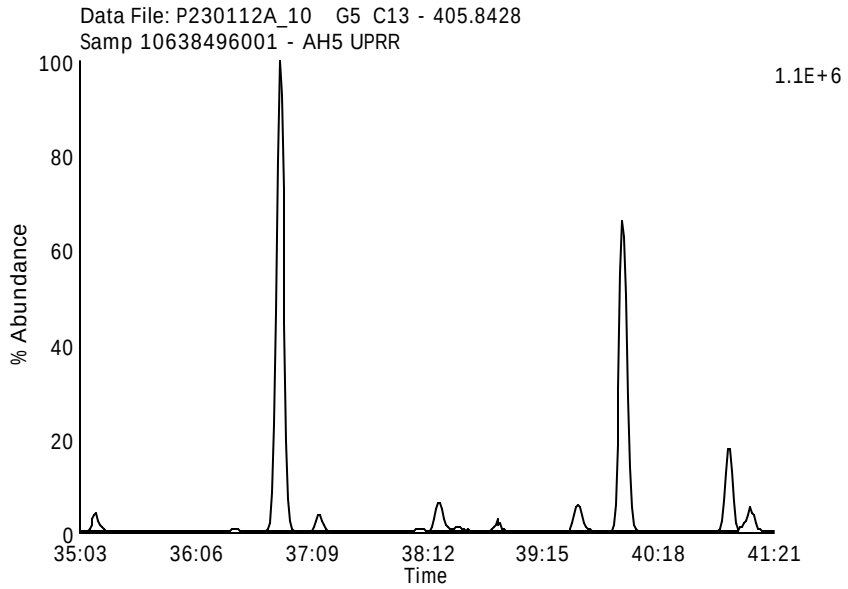
Labeled Hexa Chlorinated Biphenyls

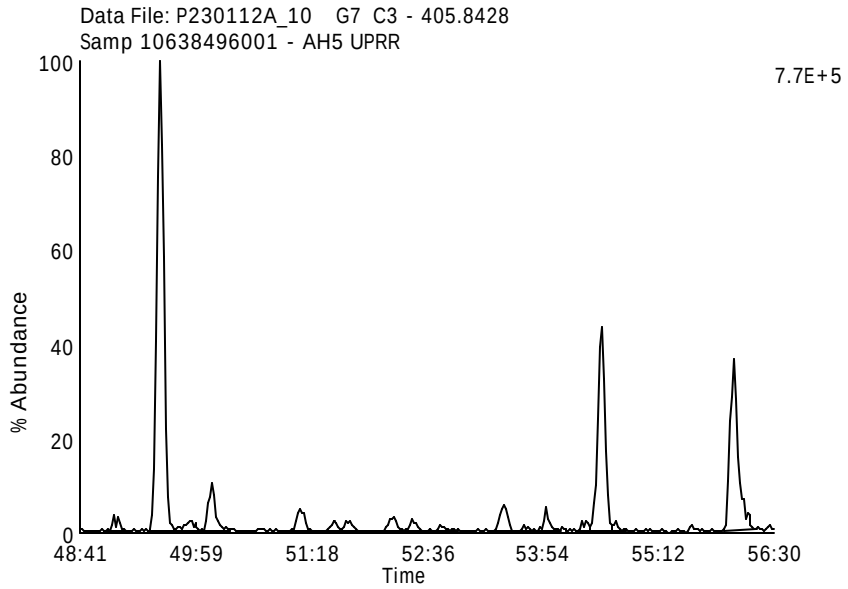
Data File Name: P230112A_10
Lab Sample ID: 10638496001
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022

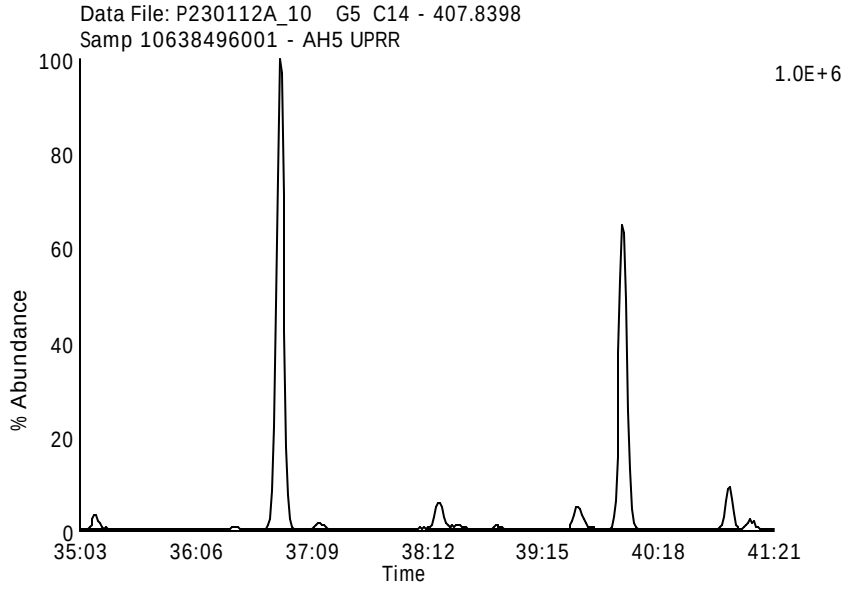


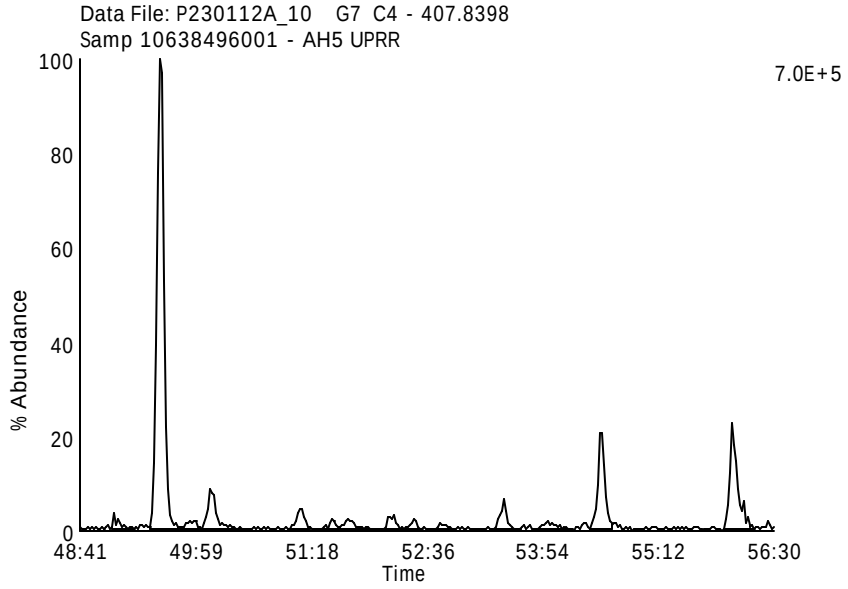
Labeled Hepta Chlorinated Biphenyls

Data File Name: P230112A_10
Lab Sample ID: 10638496001
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022



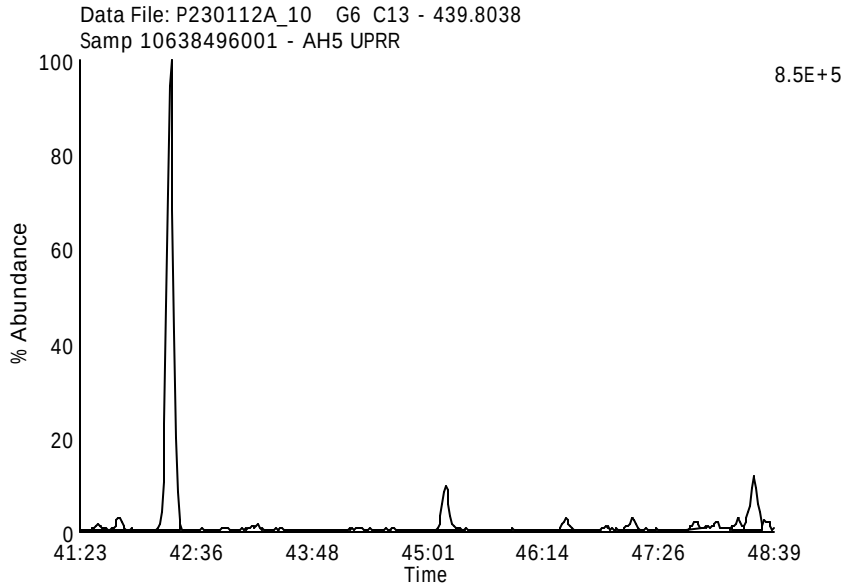


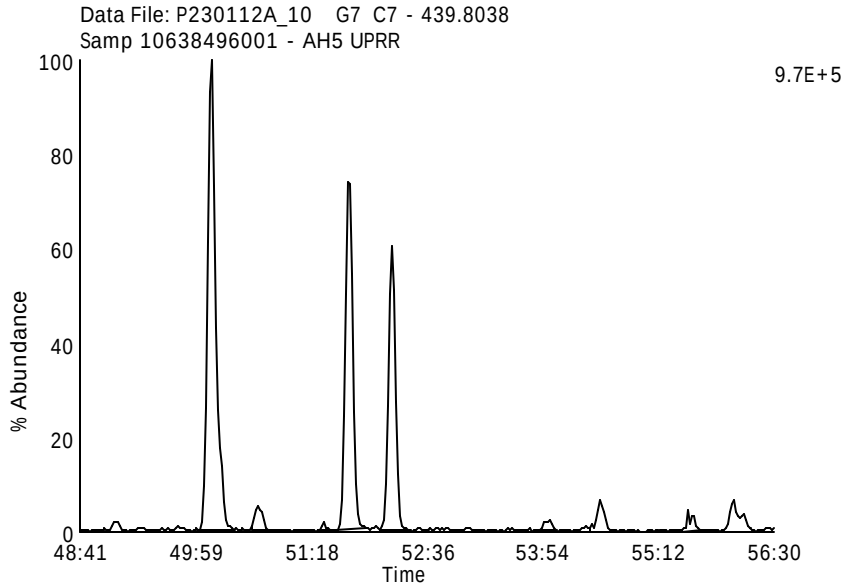


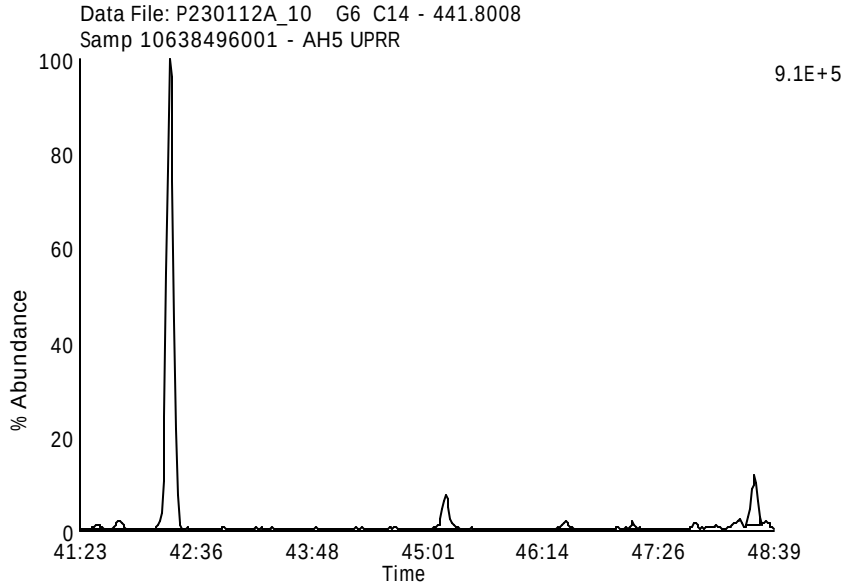


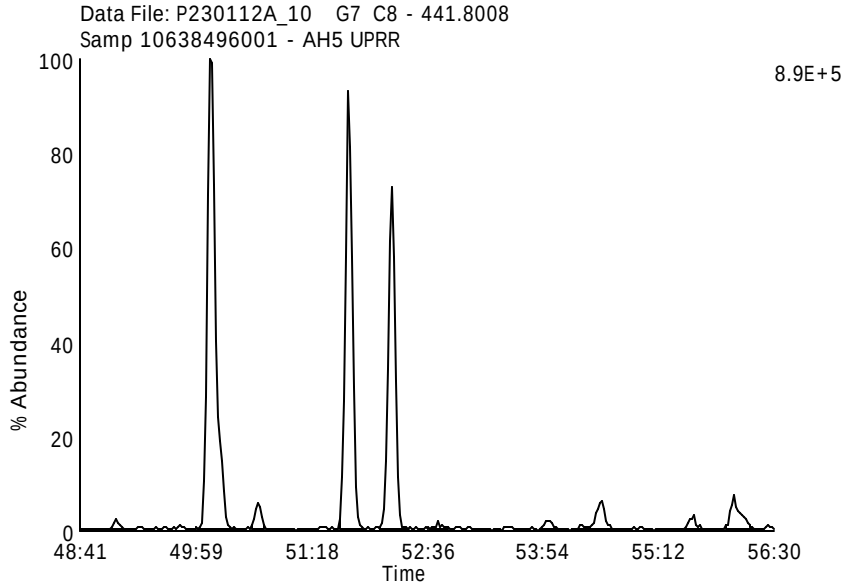
Labeled Octa Chlorinated Biphenyls

Data File Name: P230112A_10
Lab Sample ID: 10638496001
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022



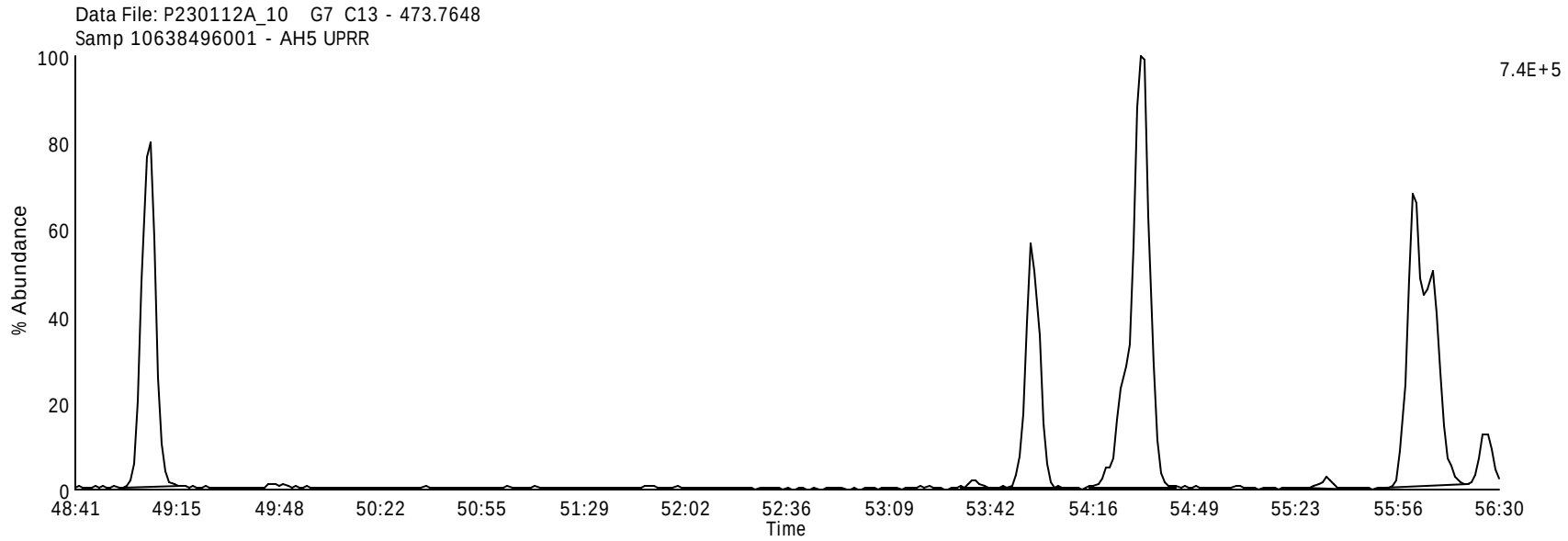


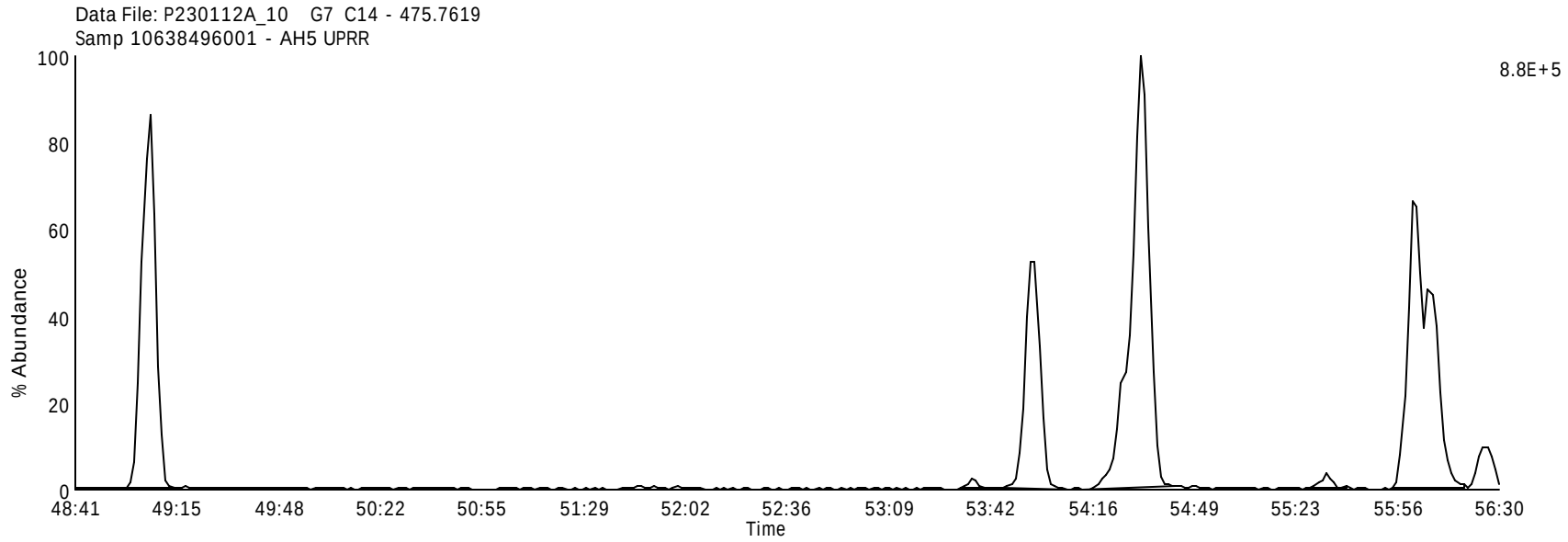




Labeled Nona Chlorinated Biphenyls

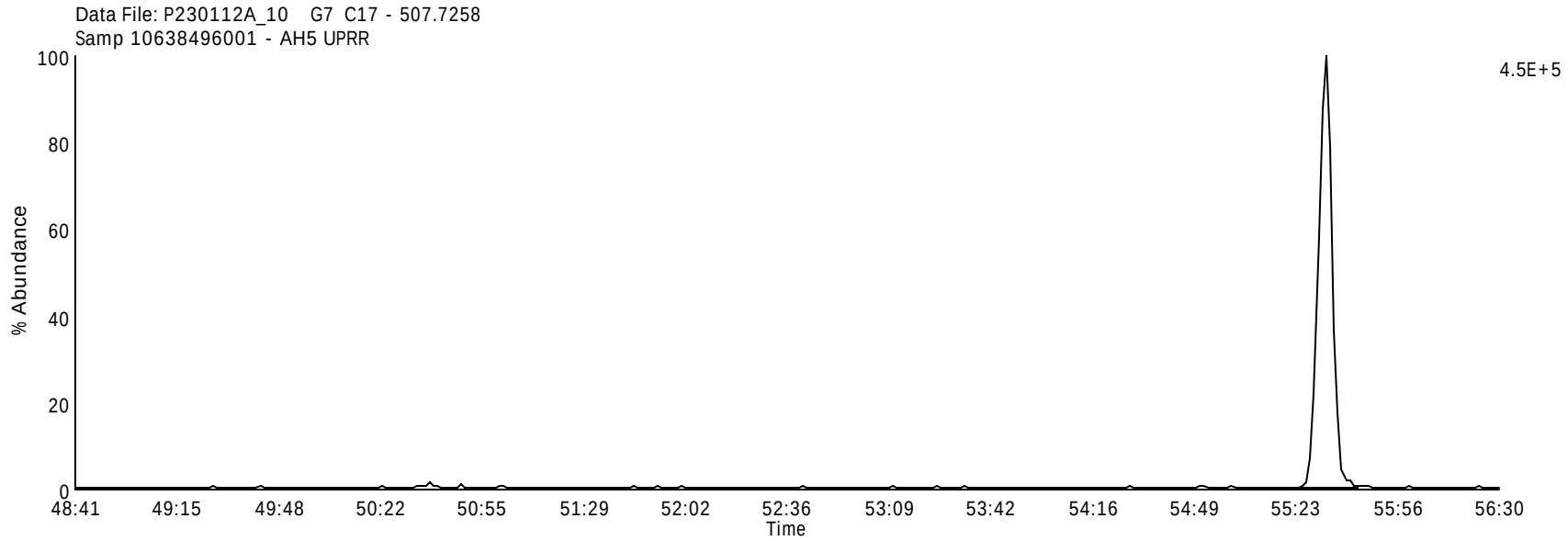
Data File Name: P230112A_10
Lab Sample ID: 10638496001
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022

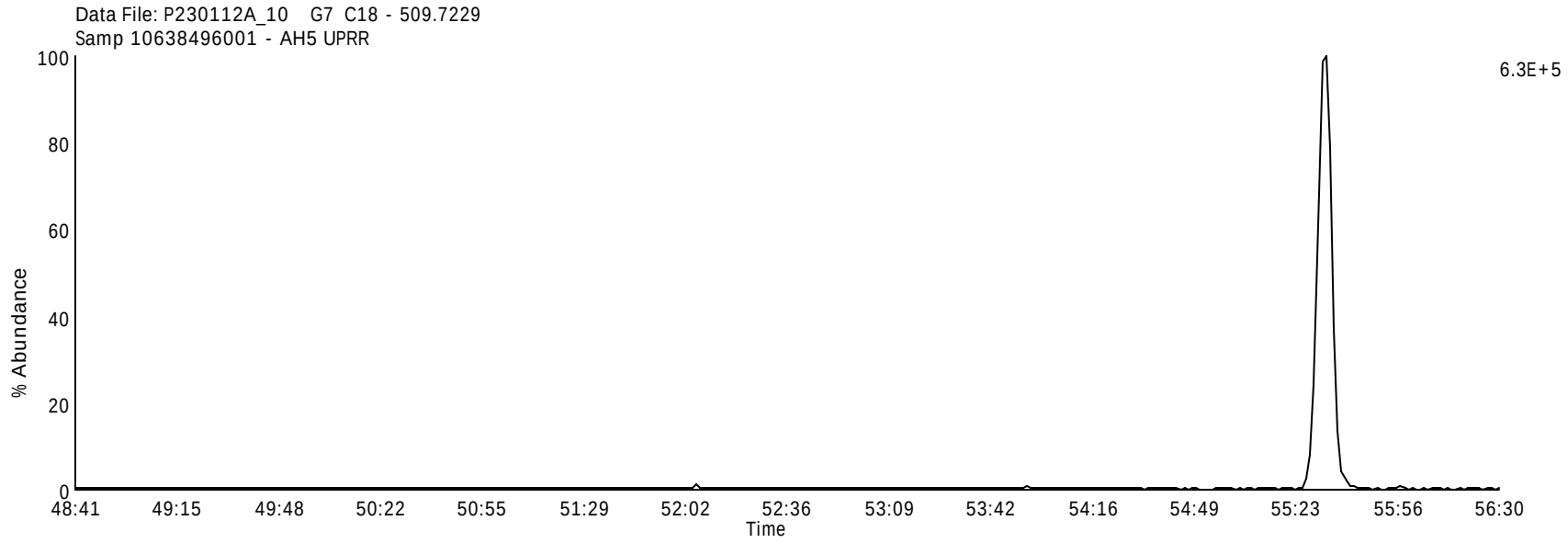




Labeled Deca Chlorinated Biphenyl

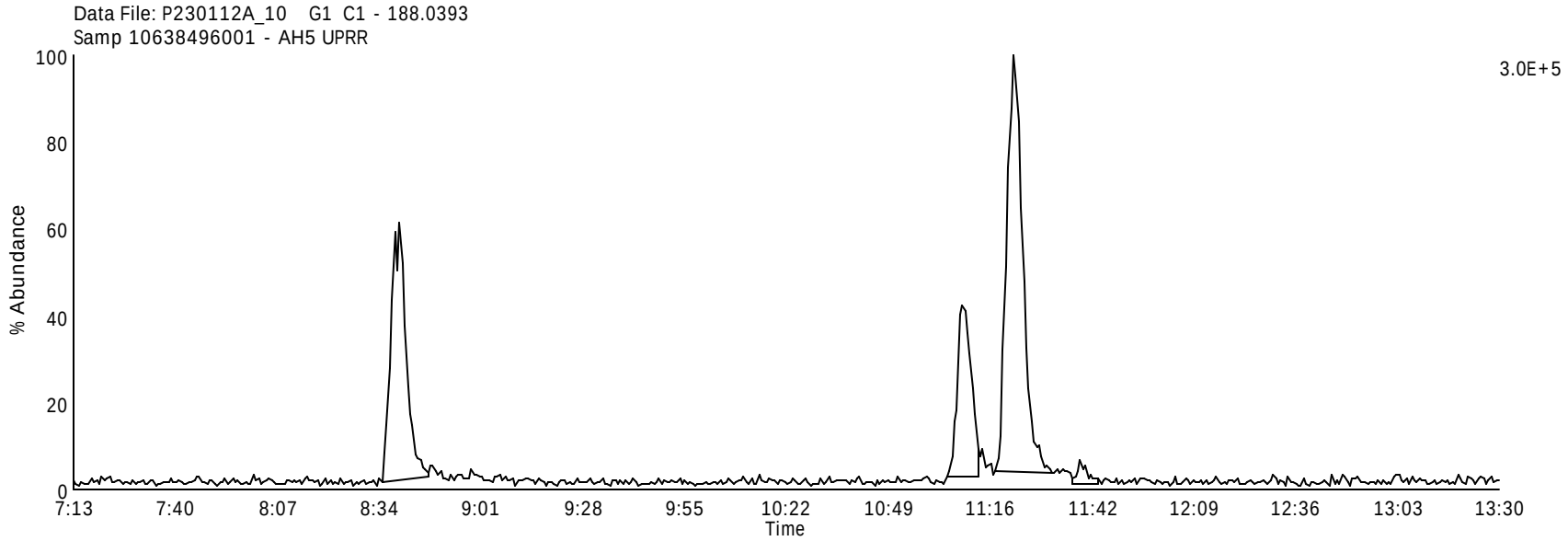
Data File Name: P230112A_10
Lab Sample ID: 10638496001
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022

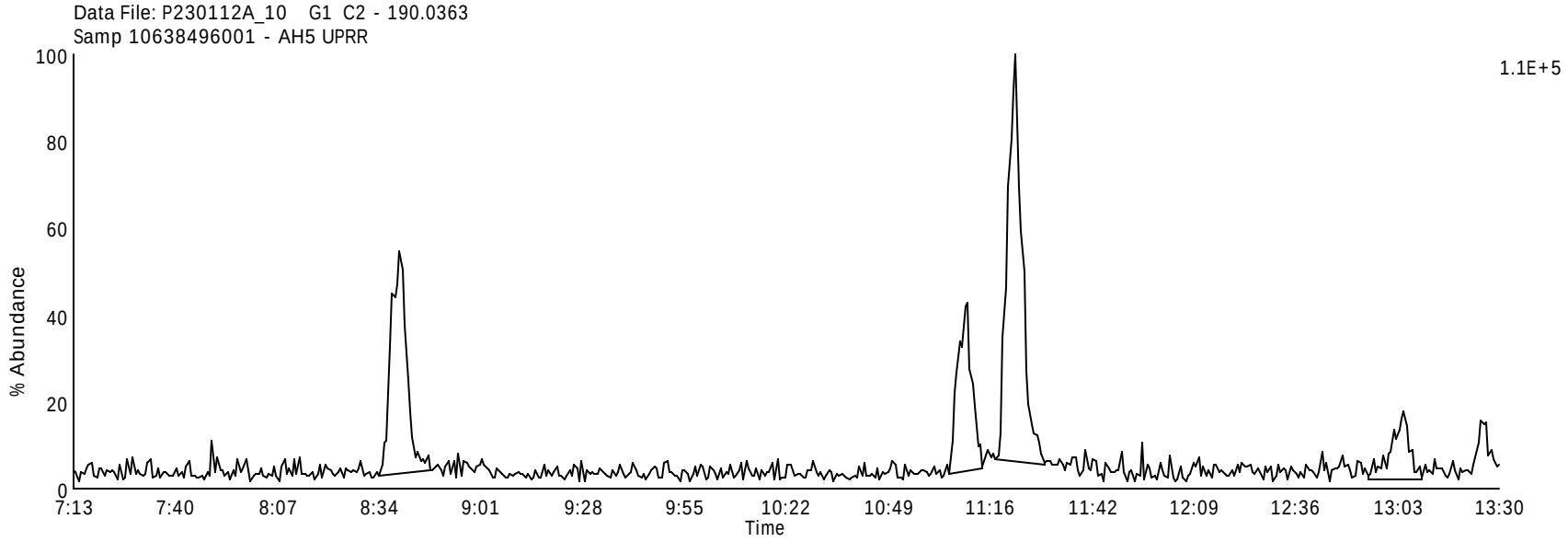




Mono Chlorinated Biphenyls

Data File Name: P230112A_10
Lab Sample ID: 10638496001
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022

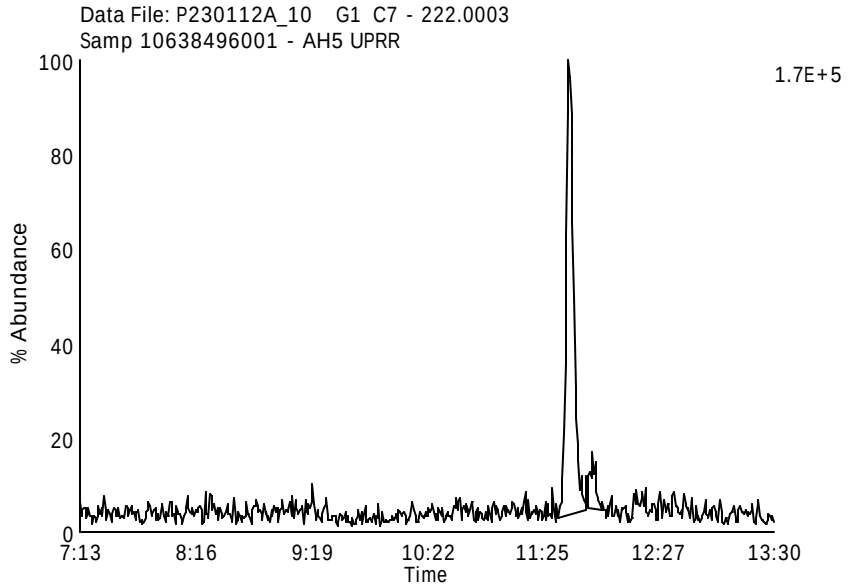


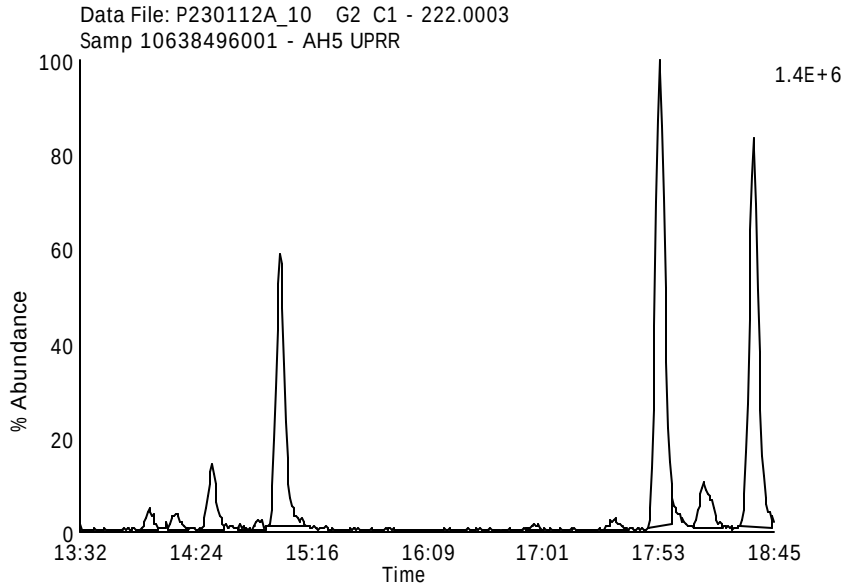


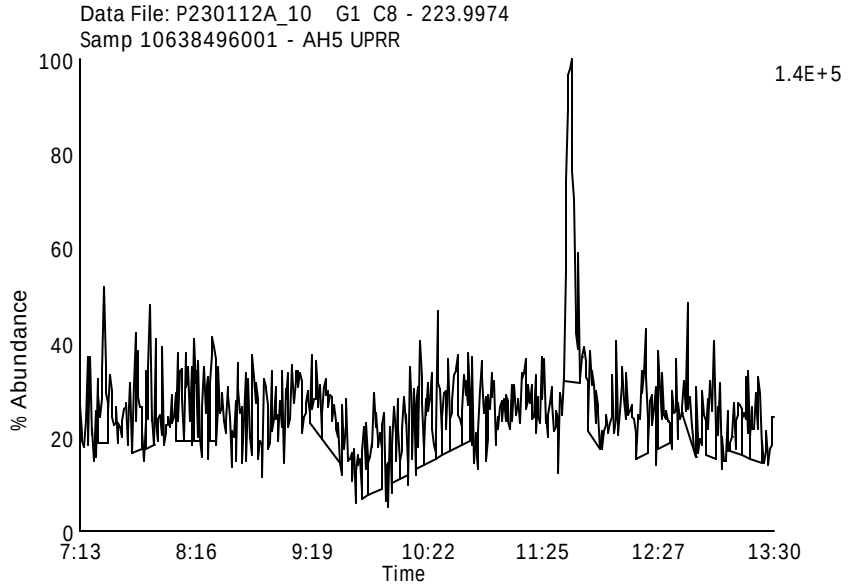
Di Chlorinated Biphenyls

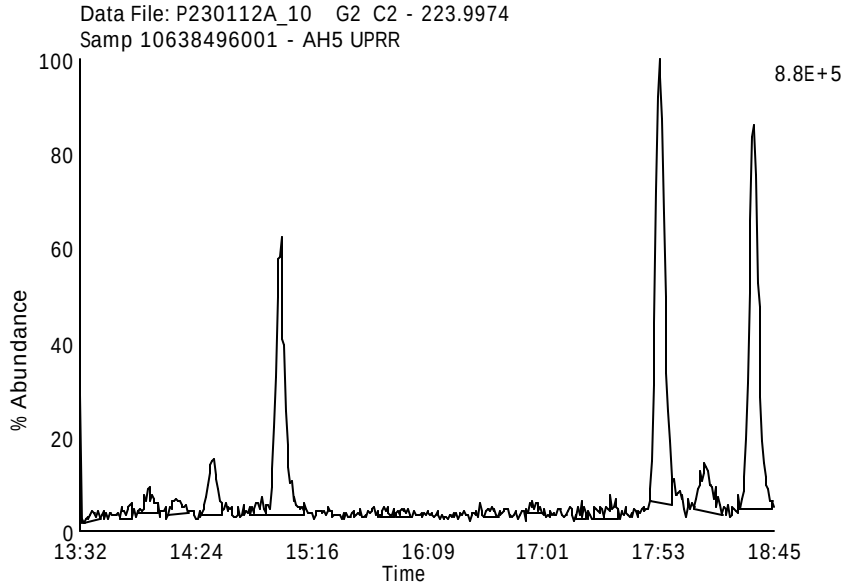
Data File Name: P230112A_10
Date Acquired: 1/12/2023
Sample Description: Samp 10638496001 - AH5 UPRR

Lab Sample ID: 10638496001
Instrument: 10MSHR09 (P)
Client Sample ID: SB06-1.0-1.5-1022



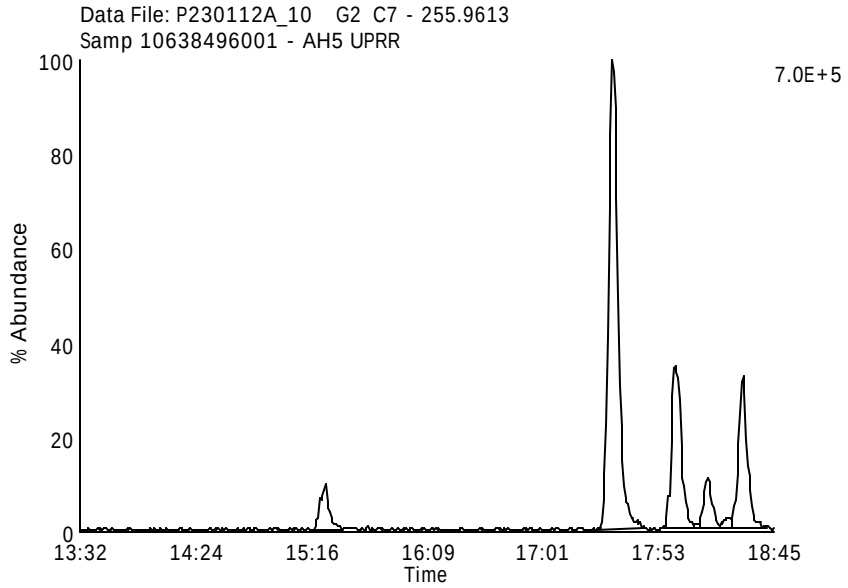


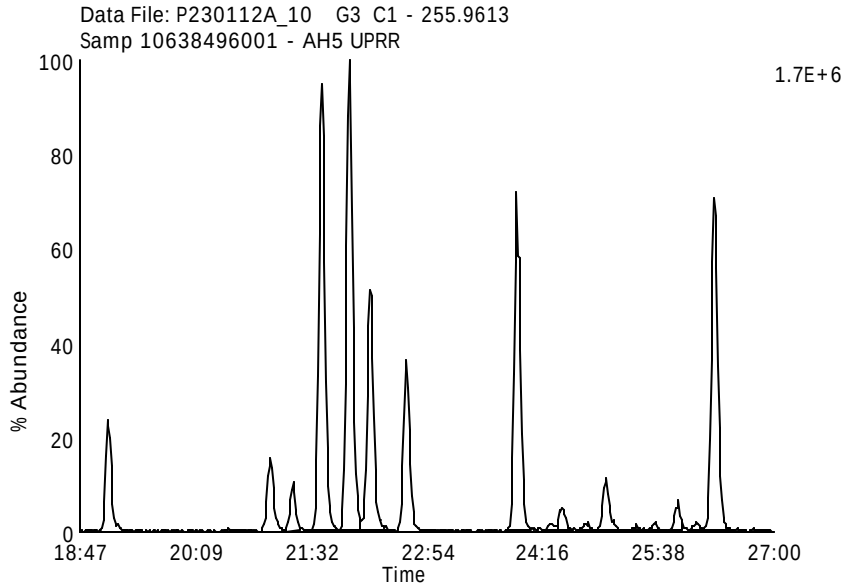


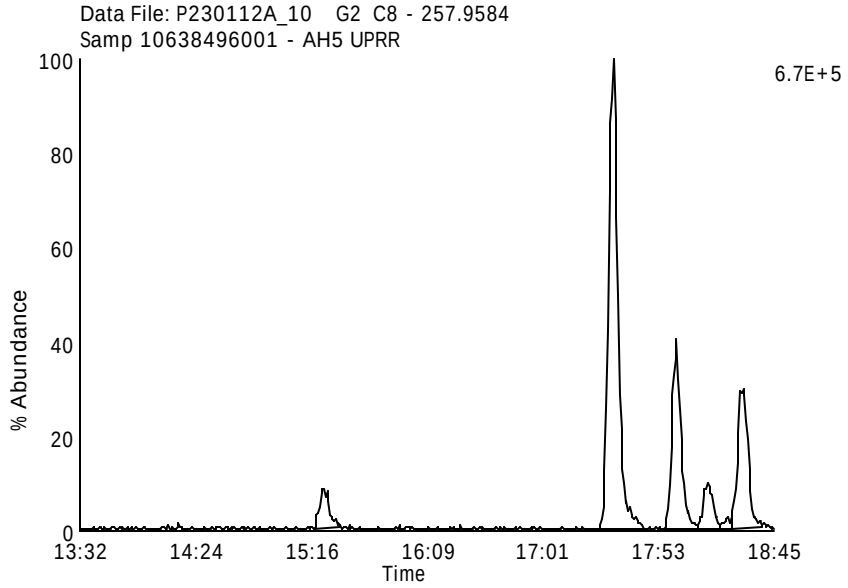


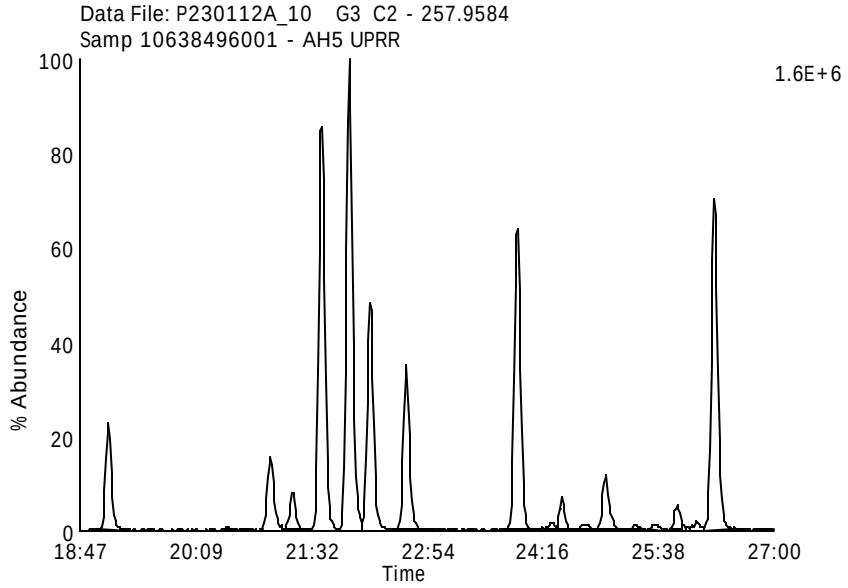
Tri Chlorinated Biphenyls

Data File Name: P230112A_10
Lab Sample ID: 10638496001
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022



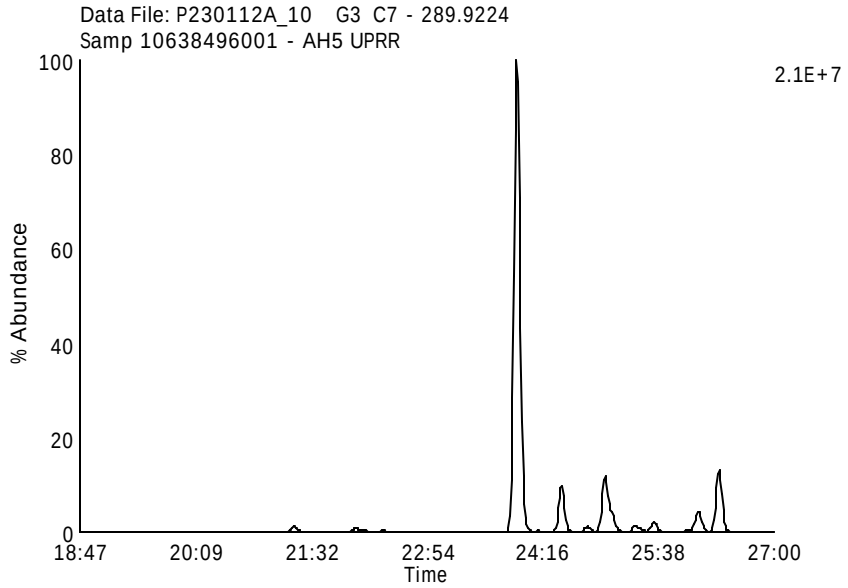


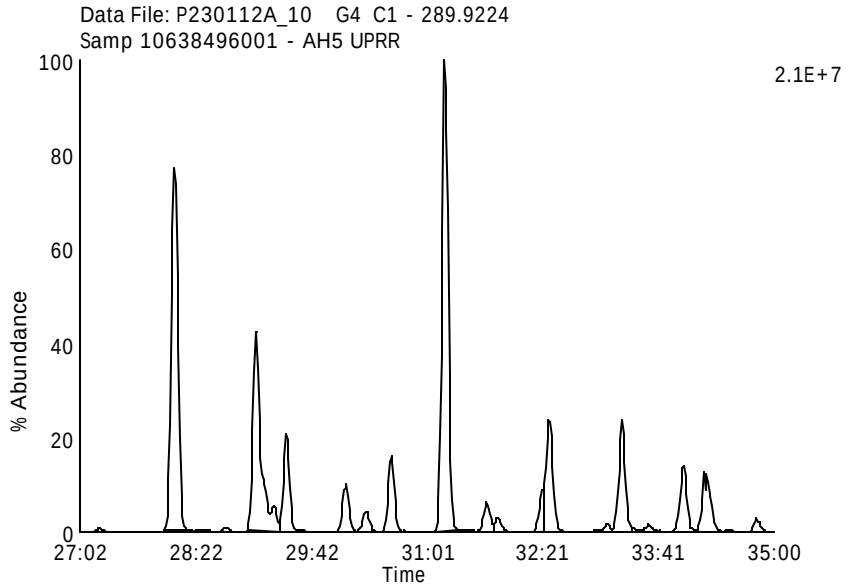


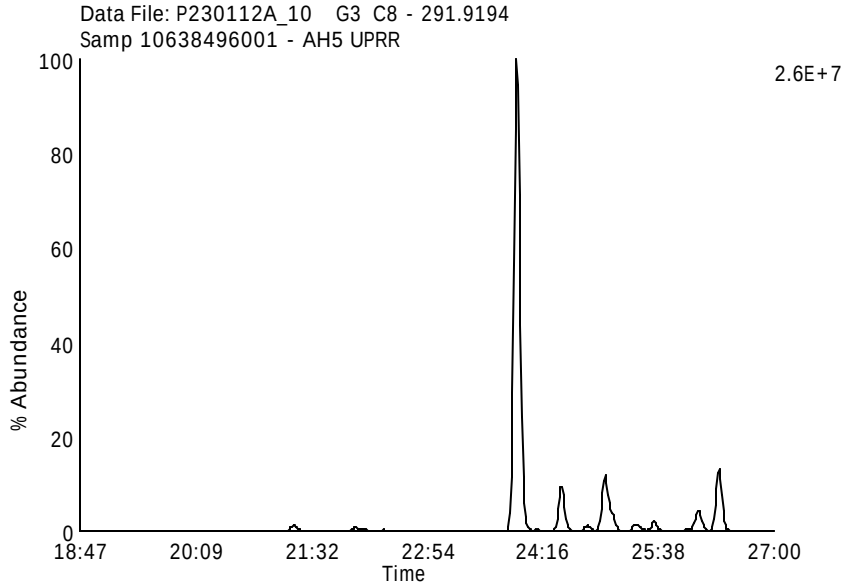


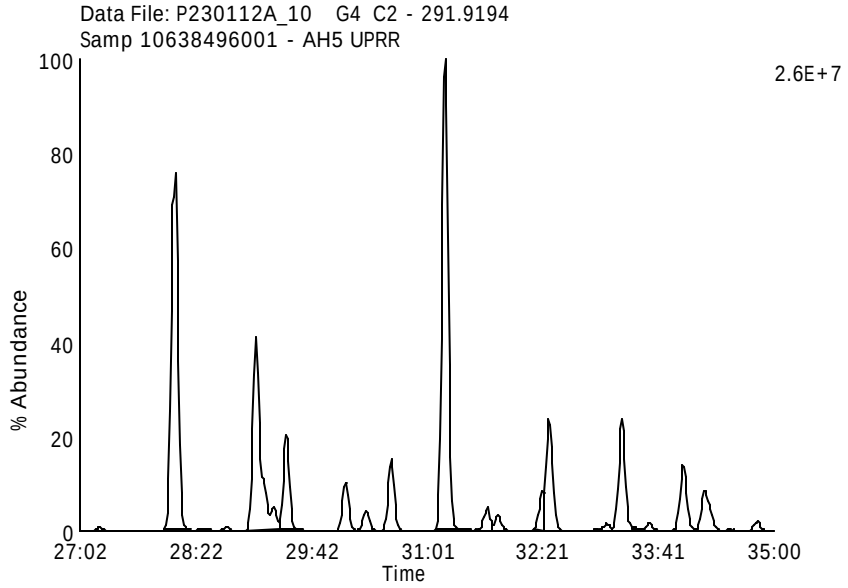
Tetra Chlorinated Biphenyls

Data File Name: P230112A_10
Lab Sample ID: 10638496001
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022



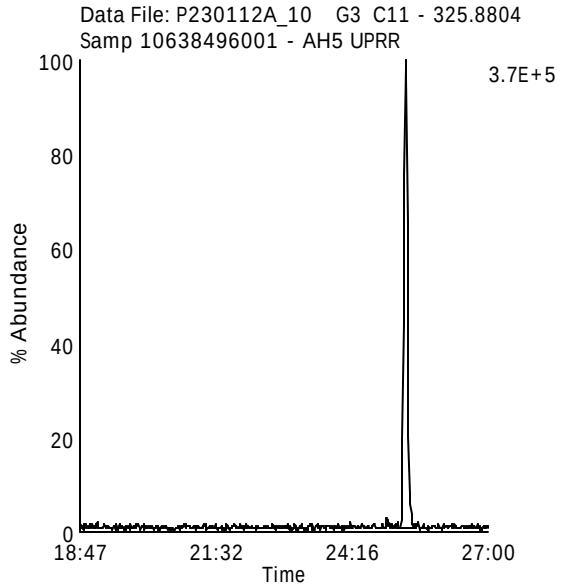


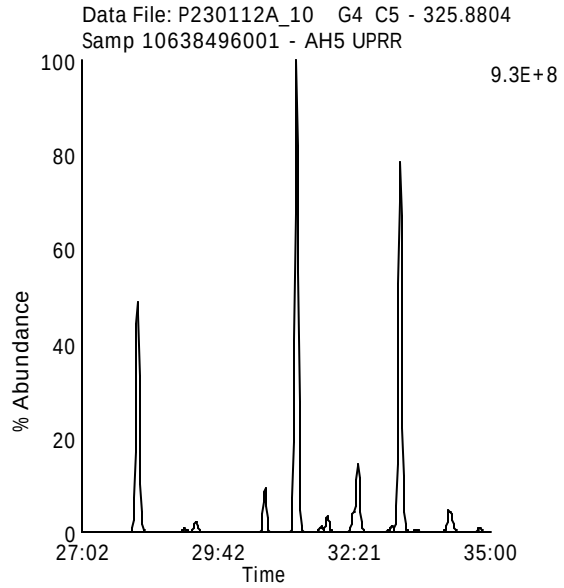


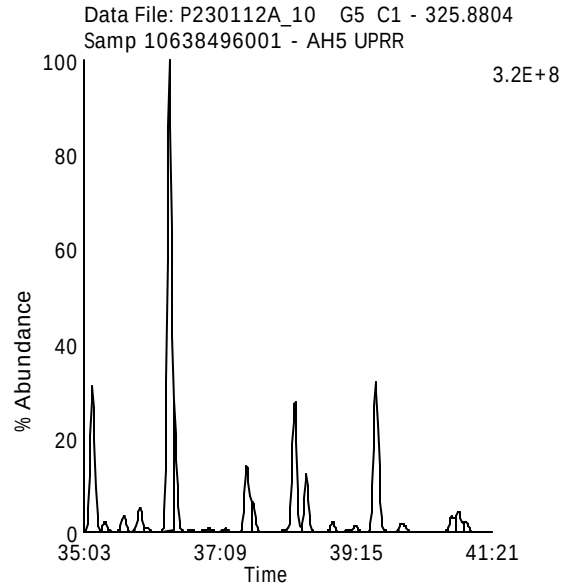


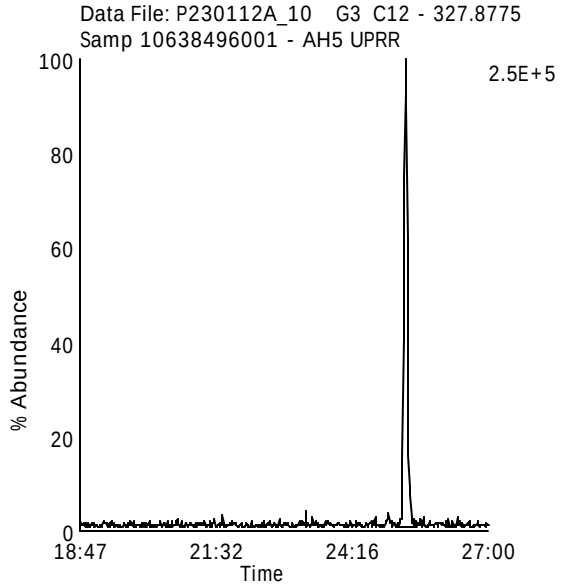
Penta Chlorinated Biphenyls

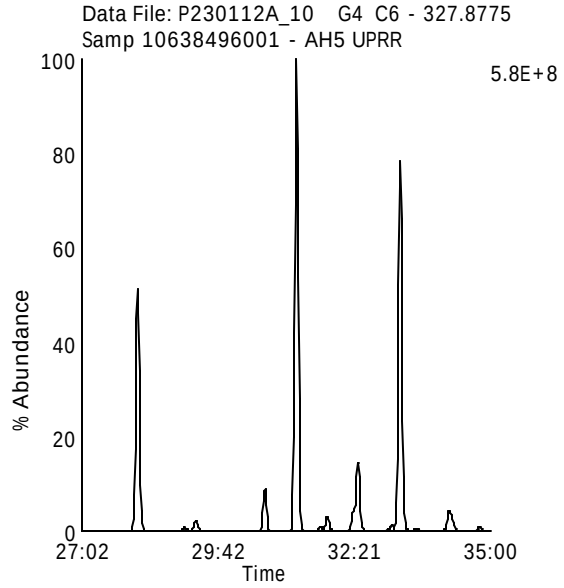
Data File Name: P230112A_10
Lab Sample ID: 10638496001
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022

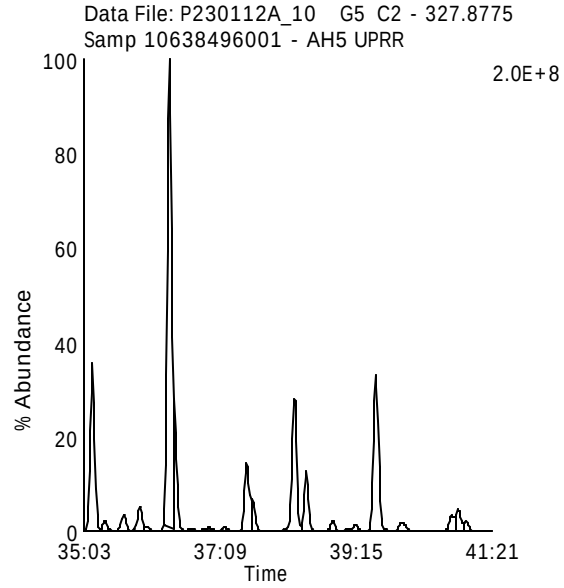






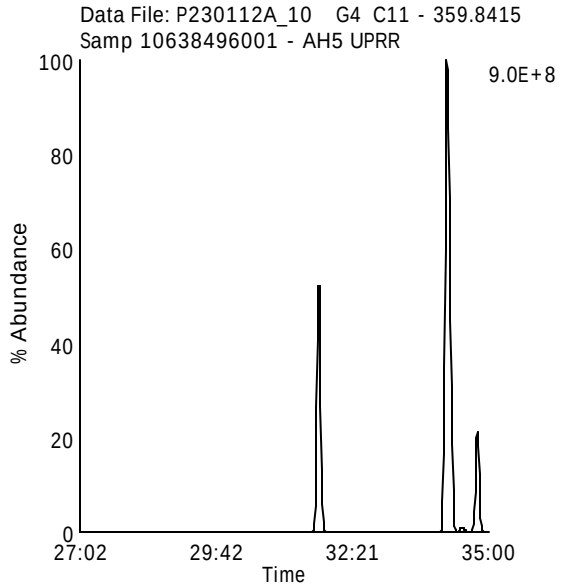


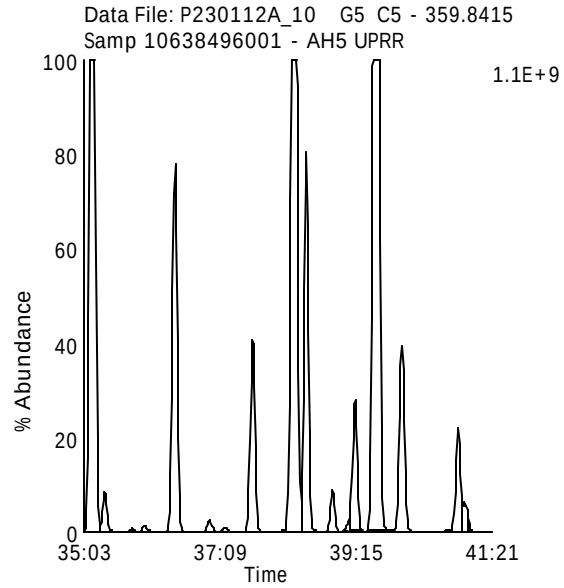


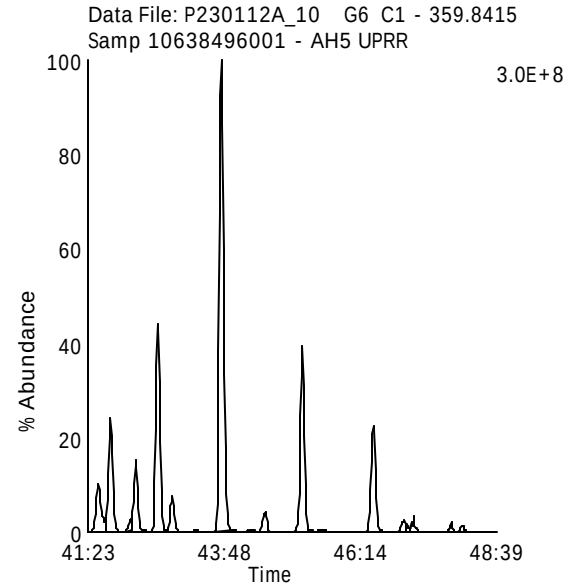


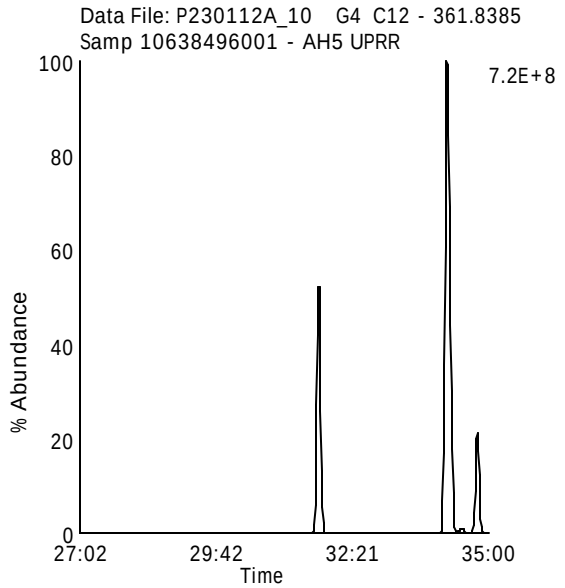
Hexa Chlorinated Biphenyls

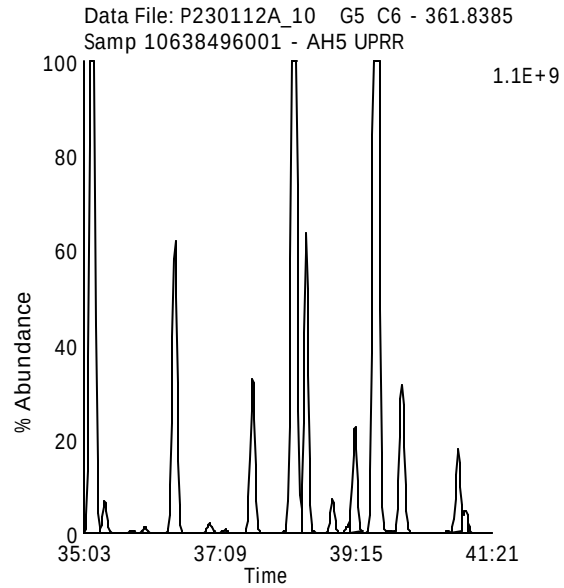
Data File Name: P230112A_10
Lab Sample ID: 10638496001
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022

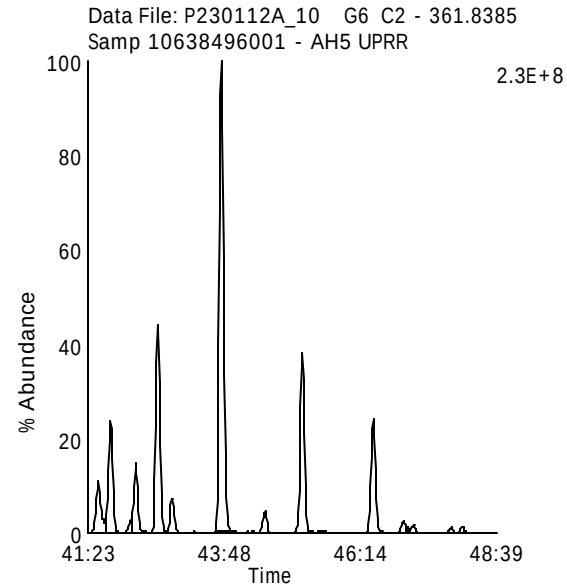






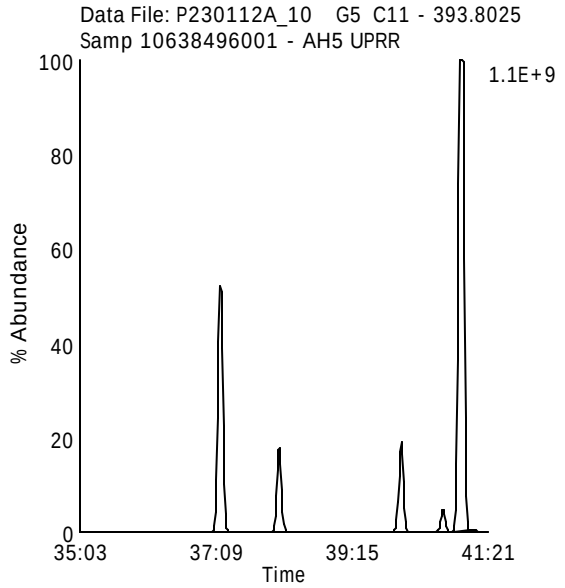


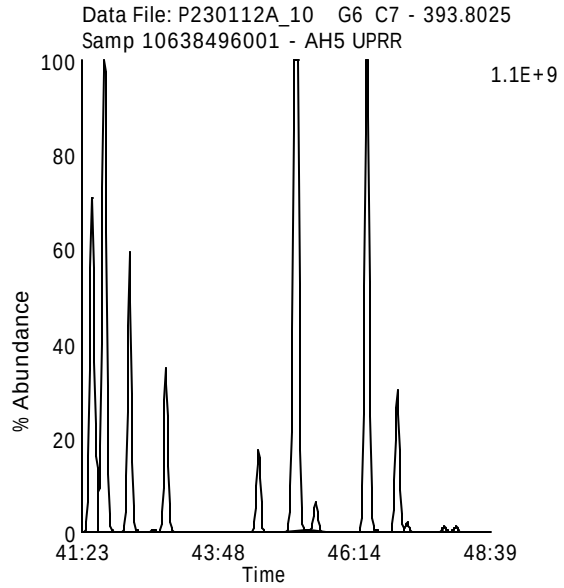


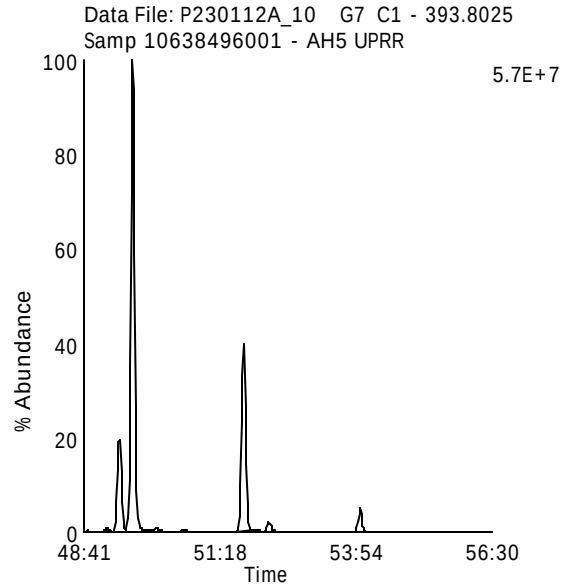


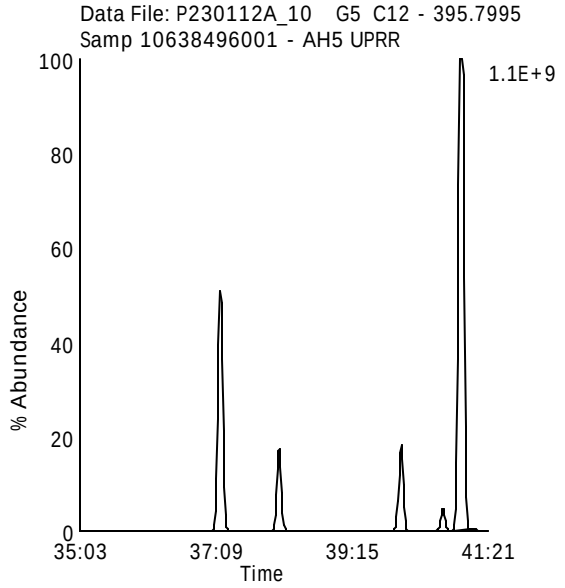
Hepta Chlorinated Biphenyls

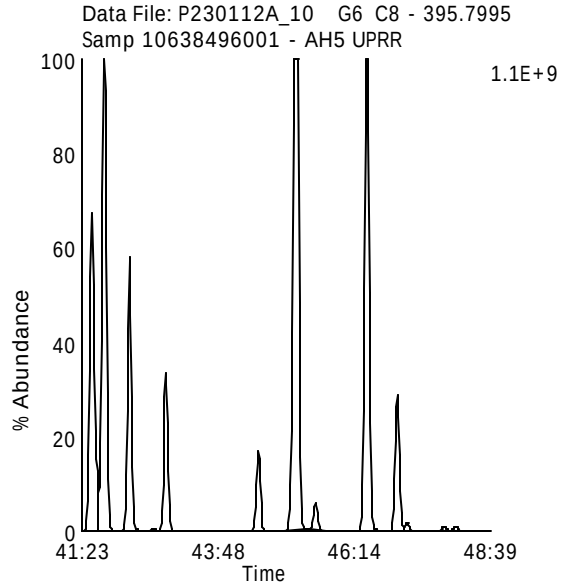
Data File Name: P230112A_10
Lab Sample ID: 10638496001
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022

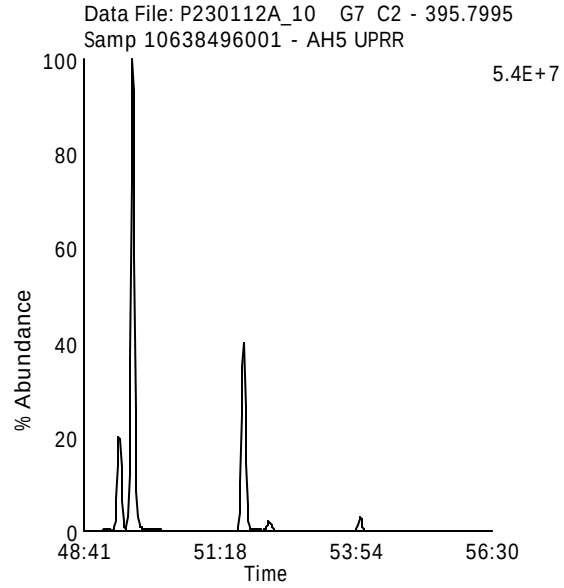






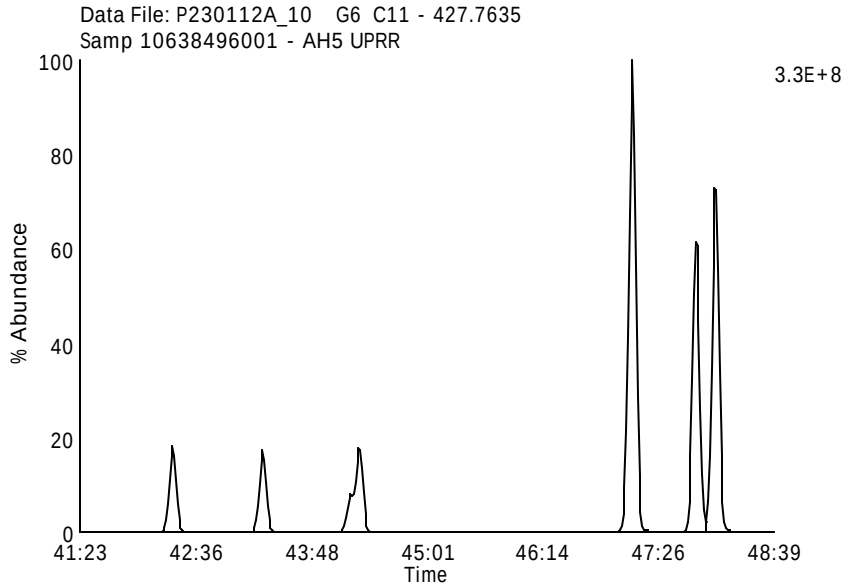


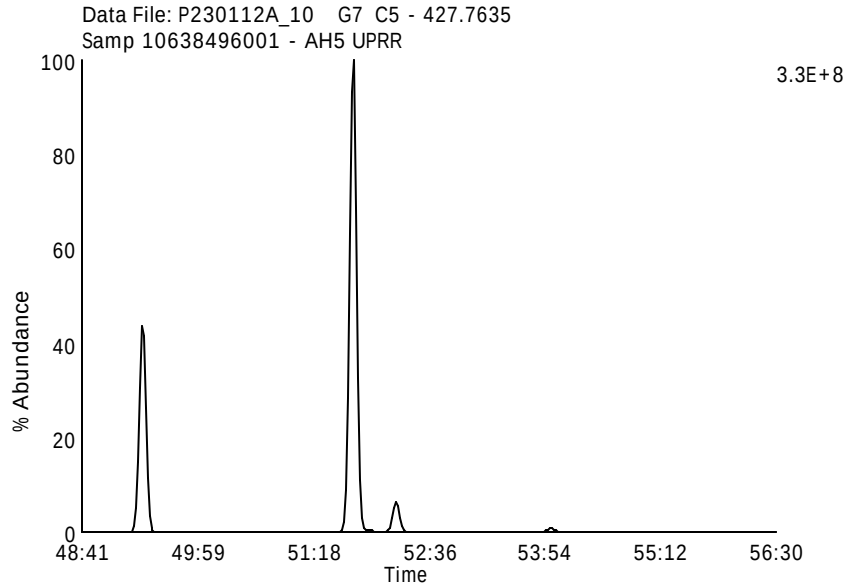


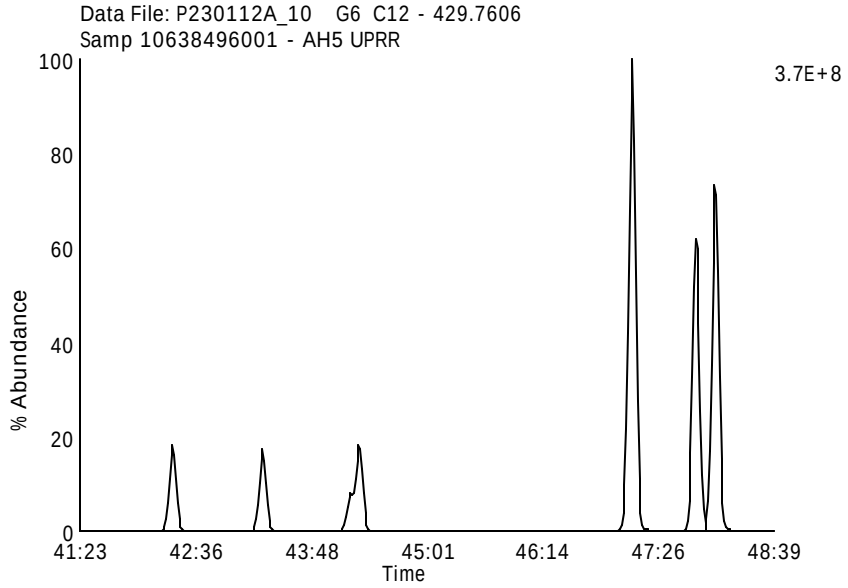


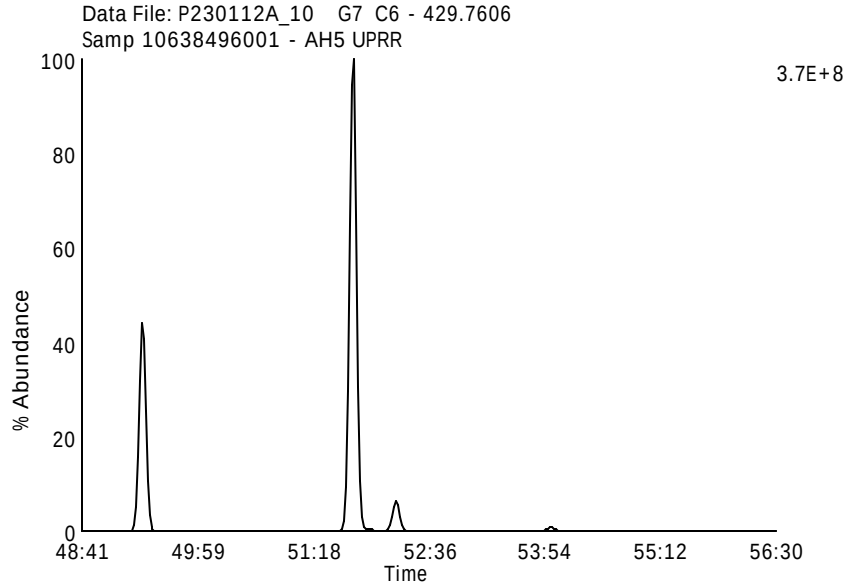
Octa Chlorinated Biphenyls

Data File Name: P230112A_10
Lab Sample ID: 10638496001
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022



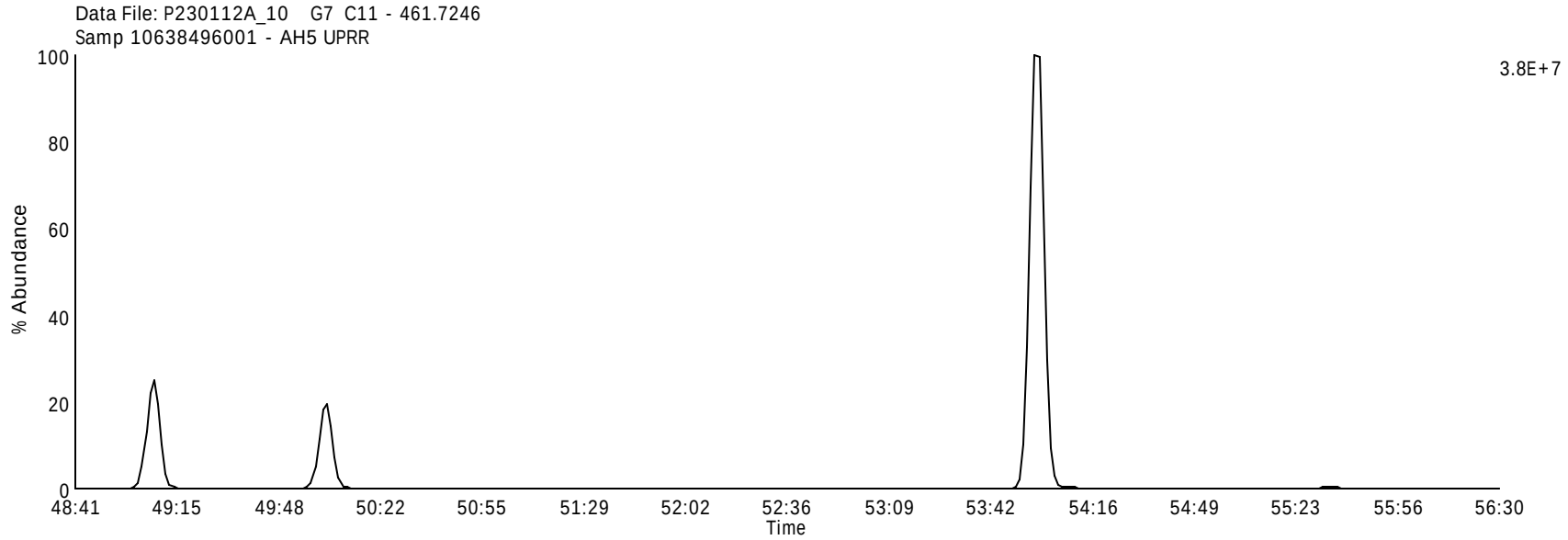


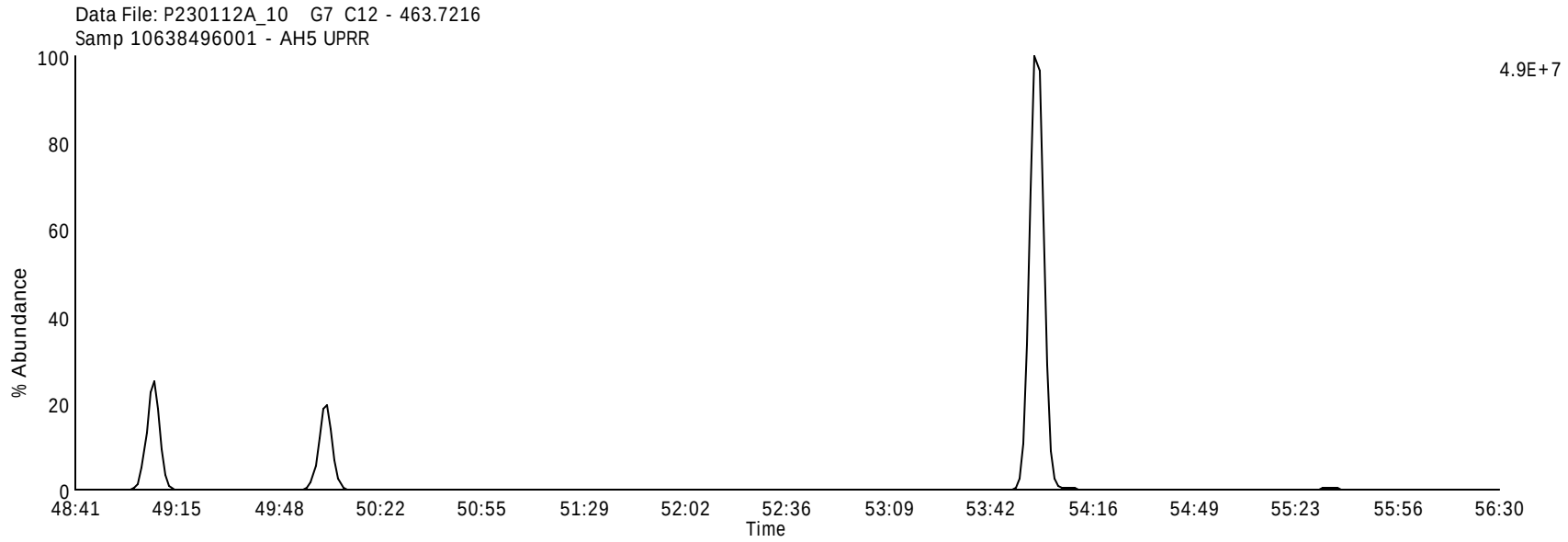




Nona Chlorinated Biphenyls

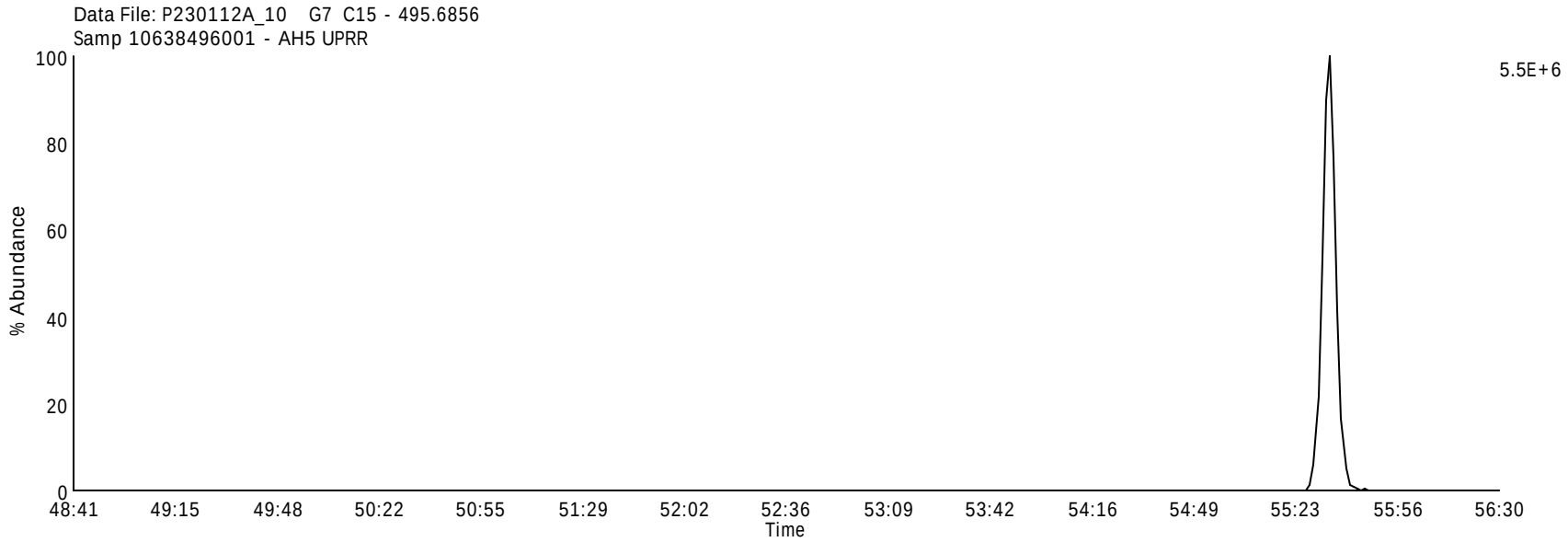
Data File Name: P230112A_10
Lab Sample ID: 10638496001
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022

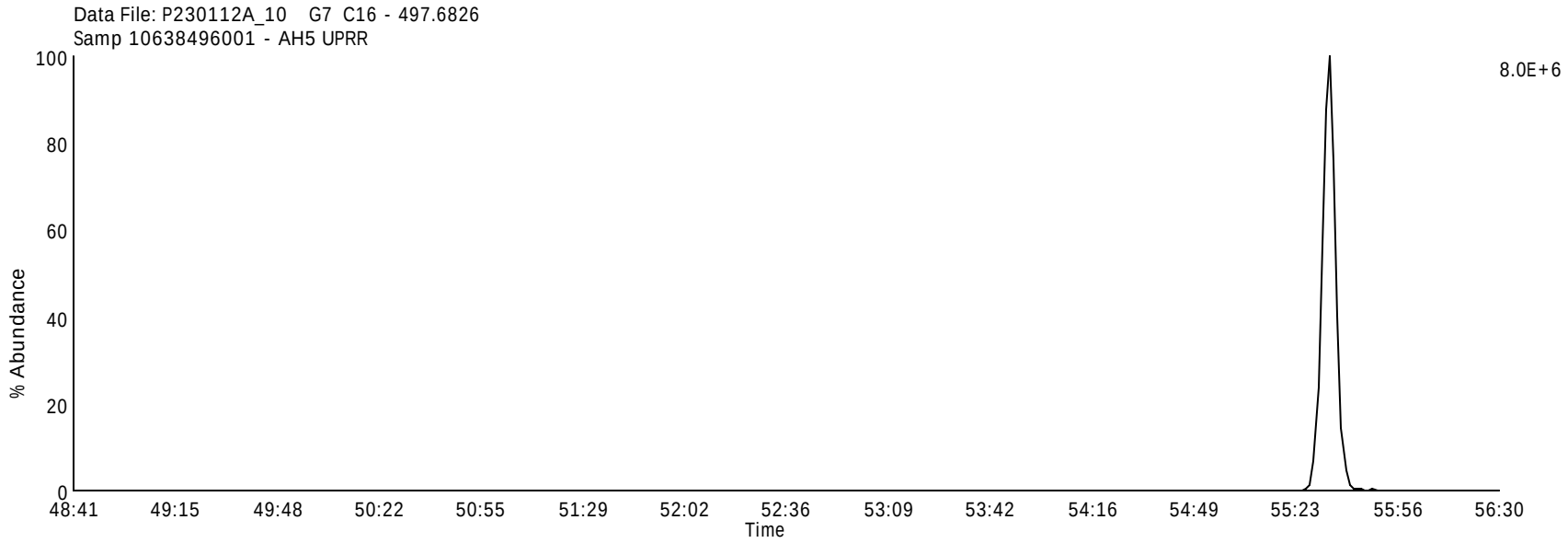




Deca Chlorinated Biphenyl

Data File Name: P230112A_10
Lab Sample ID: 10638496001
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022

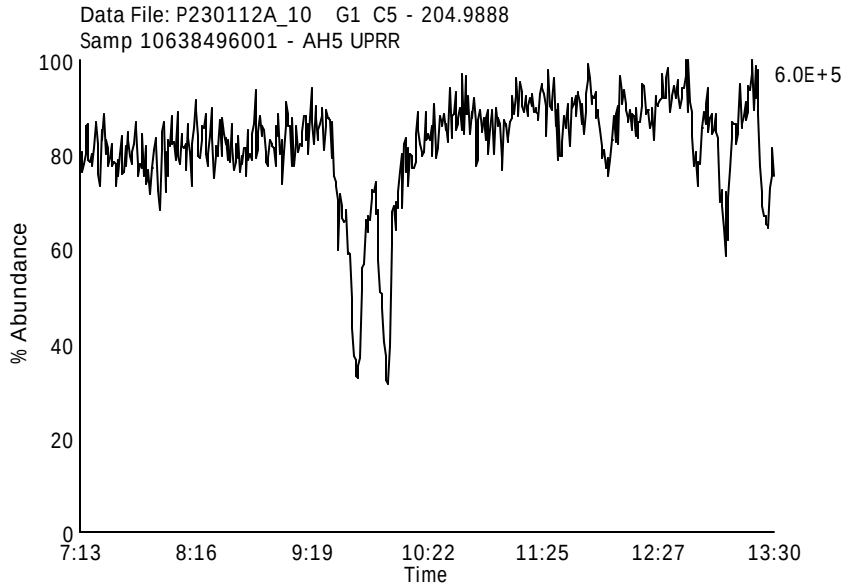


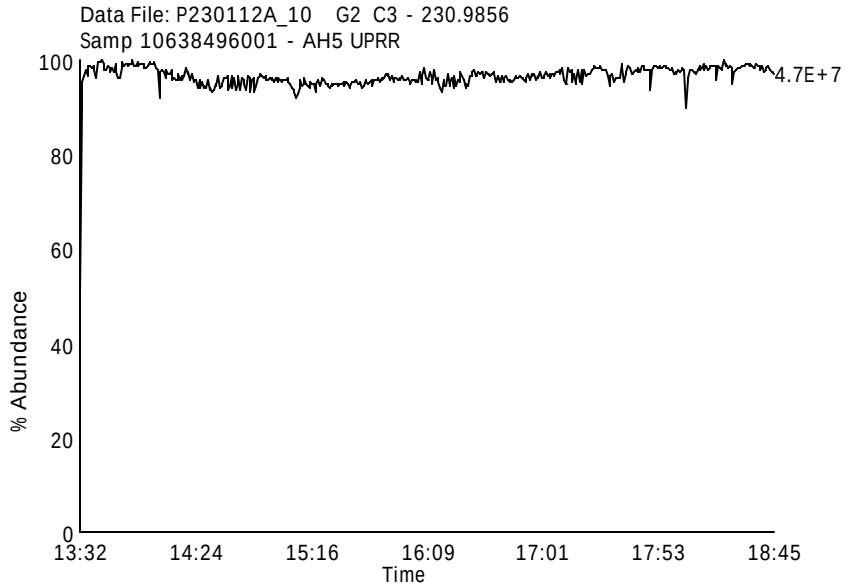


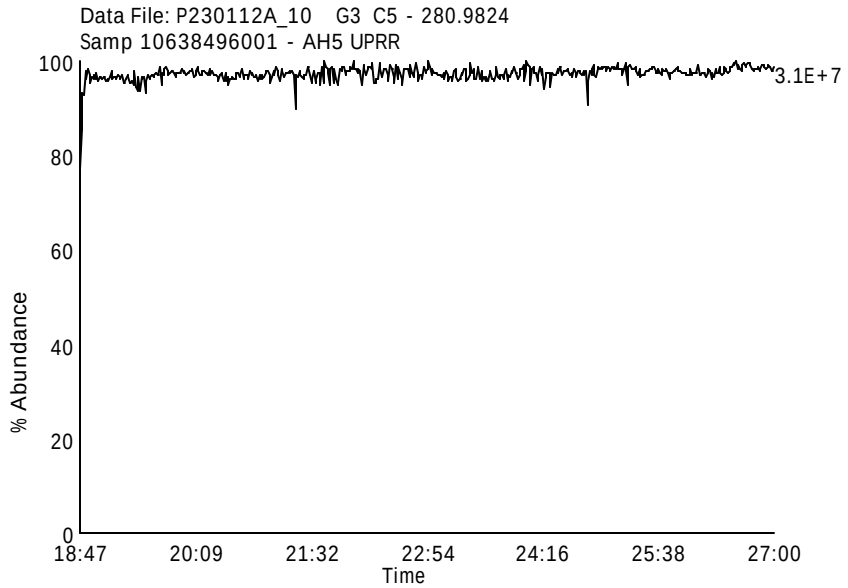
Group 1 - 4 Lock mass

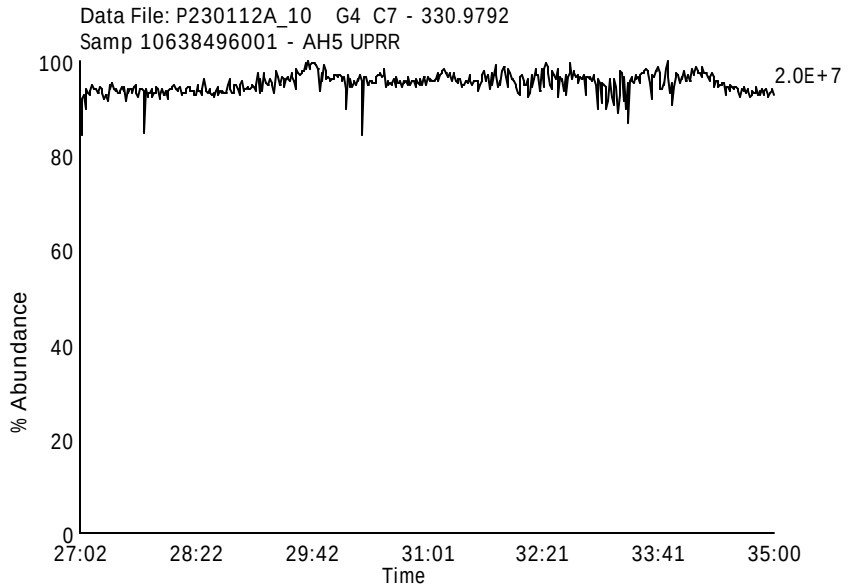
Data File Name: P230112A_10
Date Acquired: 1/12/2023
Sample Description: Samp 10638496001 - AH5 UPRR

Lab Sample ID: 10638496001
Instrument: 10MSHR09 (P)
Client Sample ID: SB06-1.0-1.5-1022





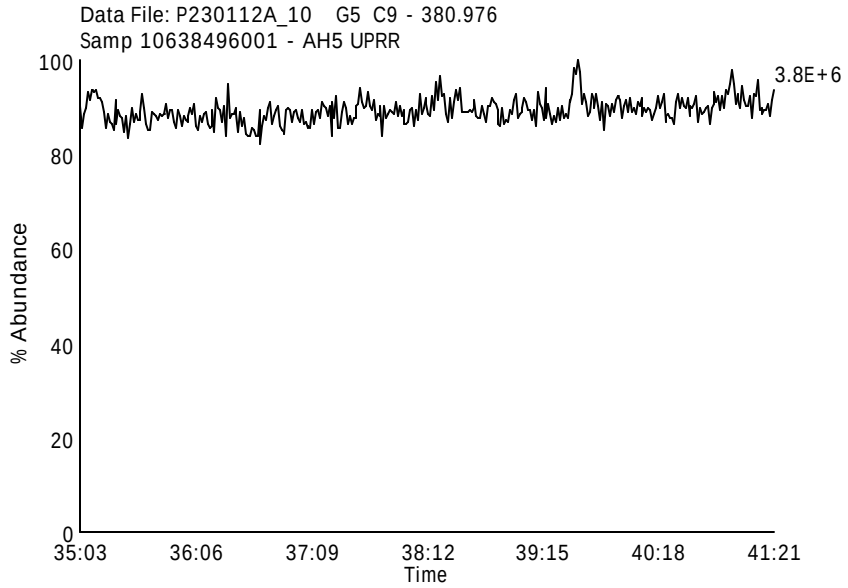


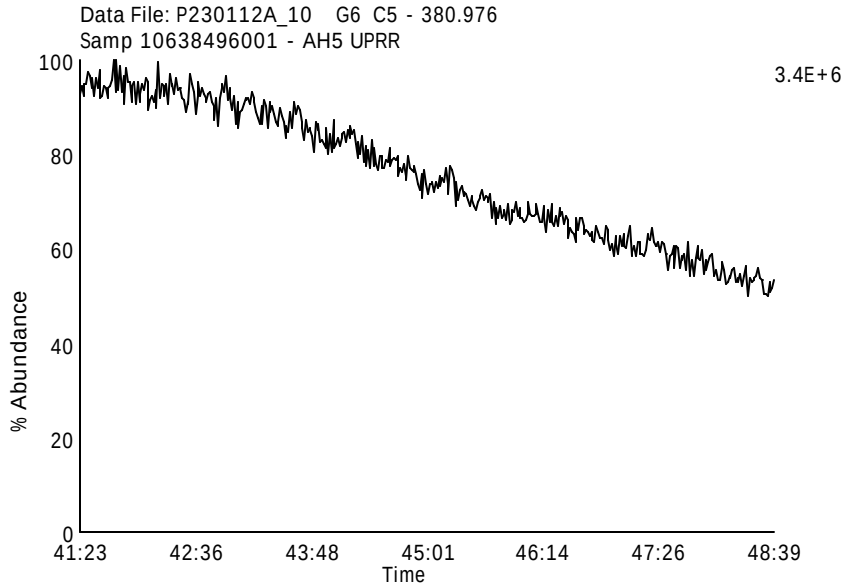


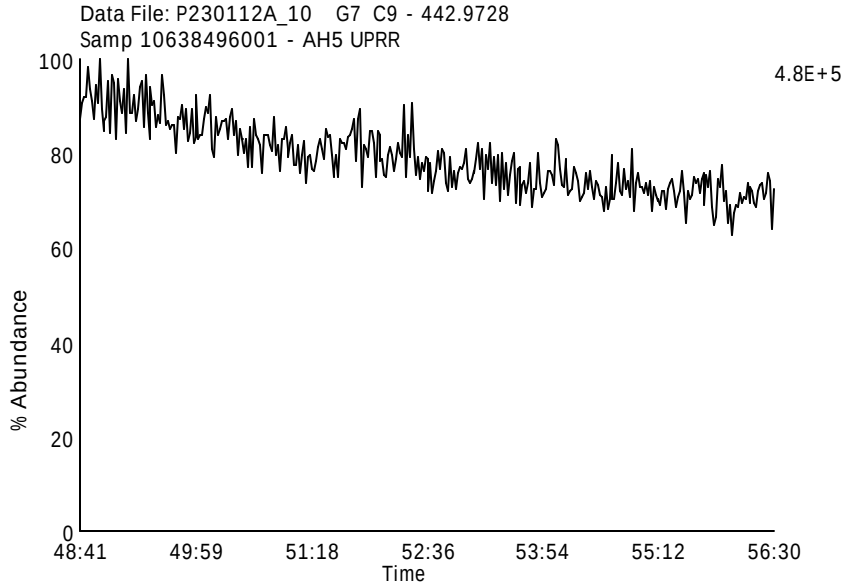
Group 5 - 7 Lock mass

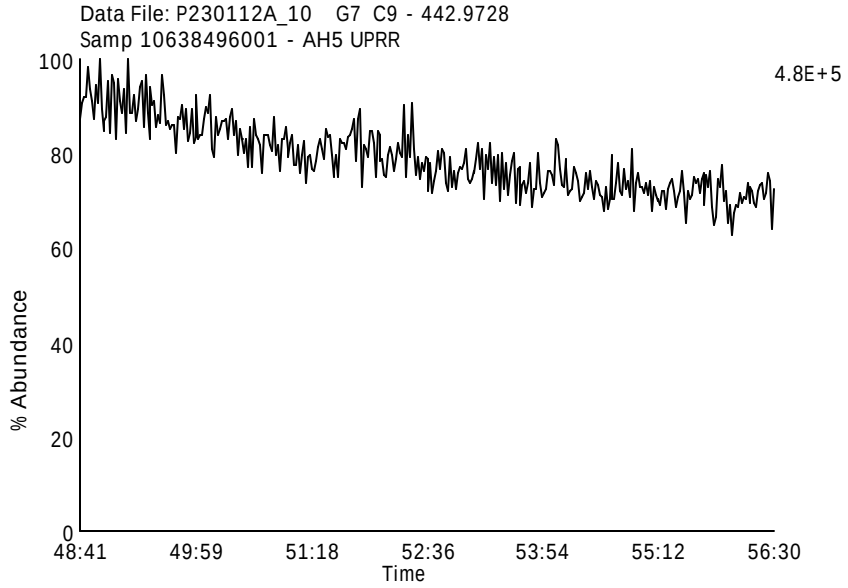
Data File Name: P230112A_10
Date Acquired: 1/12/2023
Sample Description: Samp 10638496001 - AH5 UPRR

Lab Sample ID: 10638496001
Instrument: 10MSHR09 (P)
Client Sample ID: SB06-1.0-1.5-1022







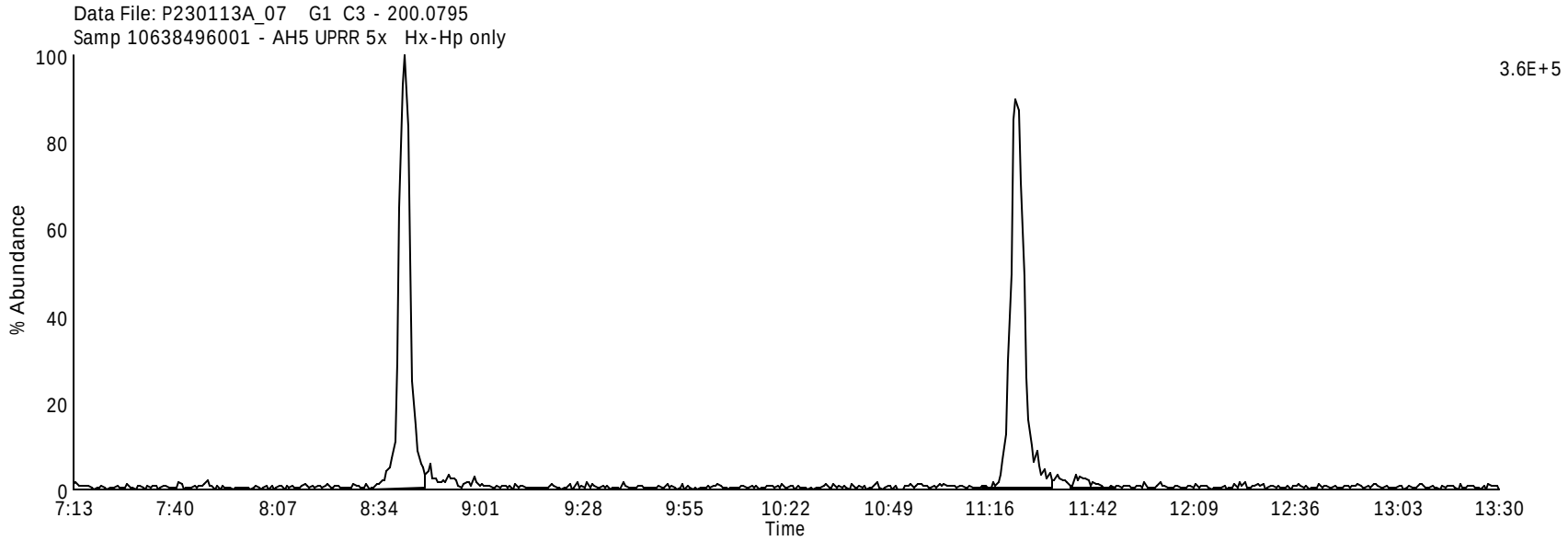


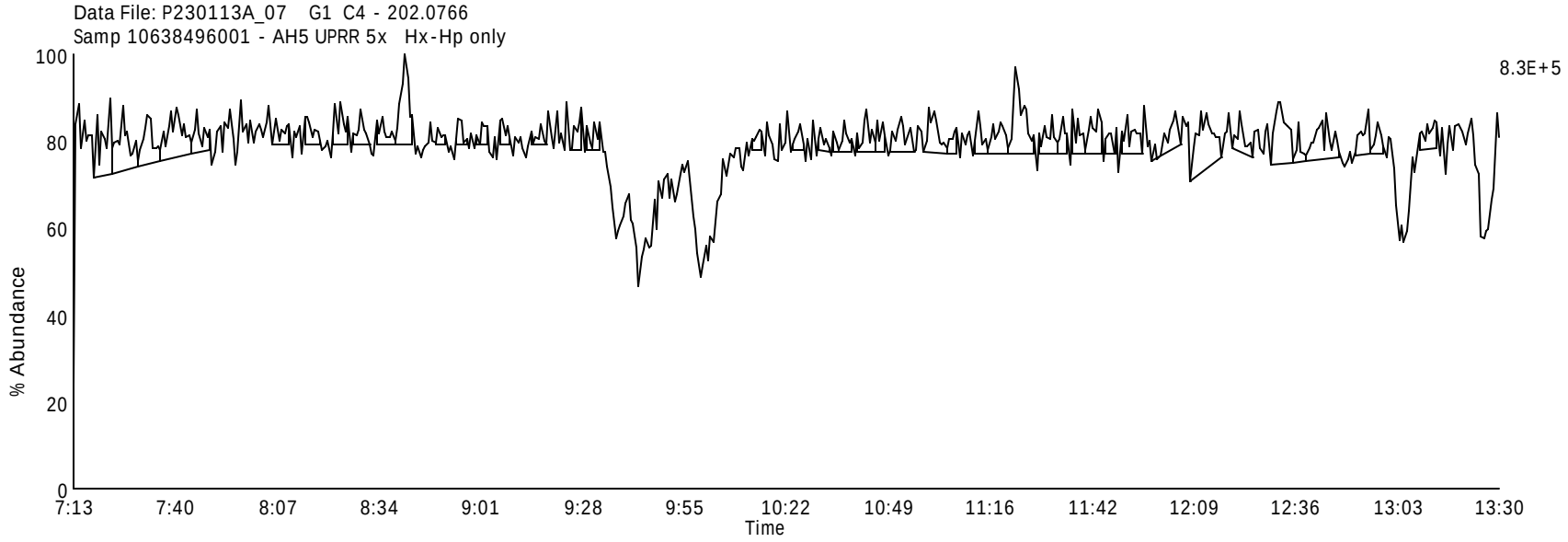
Labeled Mono Chlorinated Biphenyls

Data File Name: P230113A_07 | Lab Sample ID: 10638496001

Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only | Client Sample ID: SB06-1.0-1.5-1022

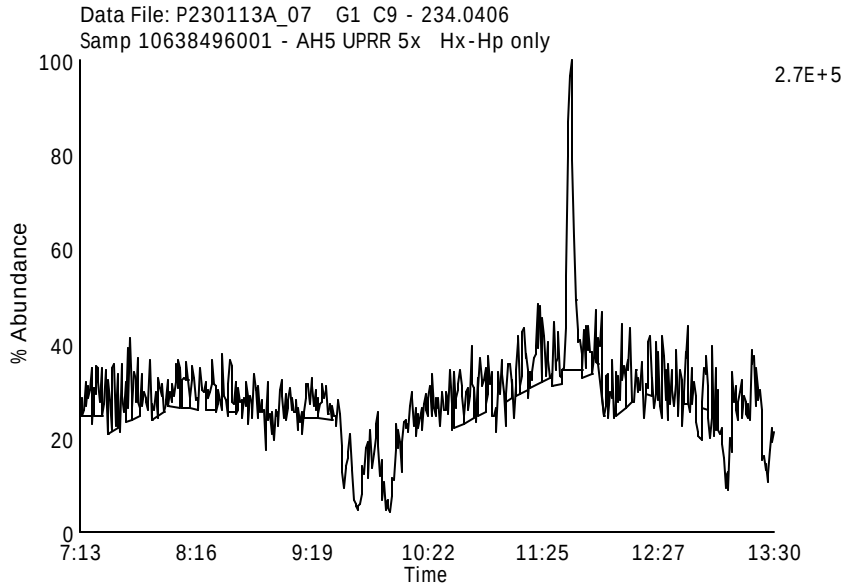


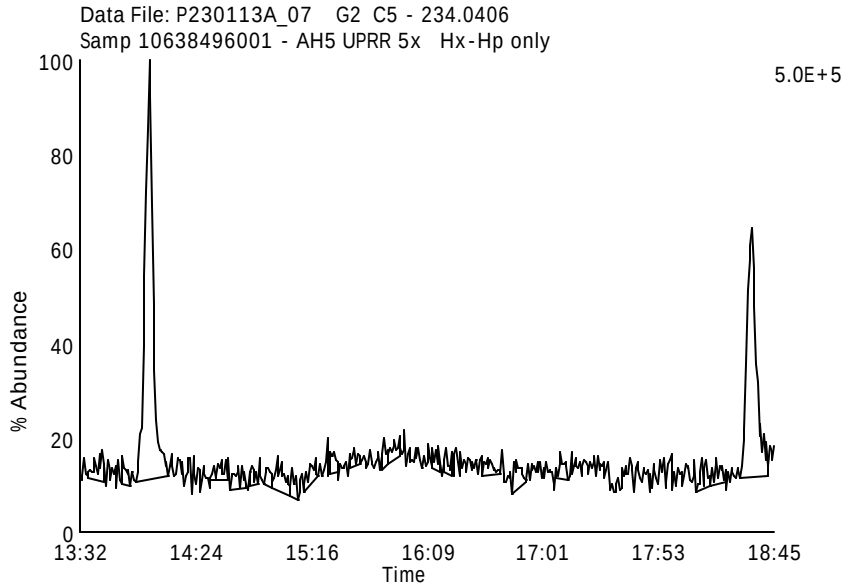


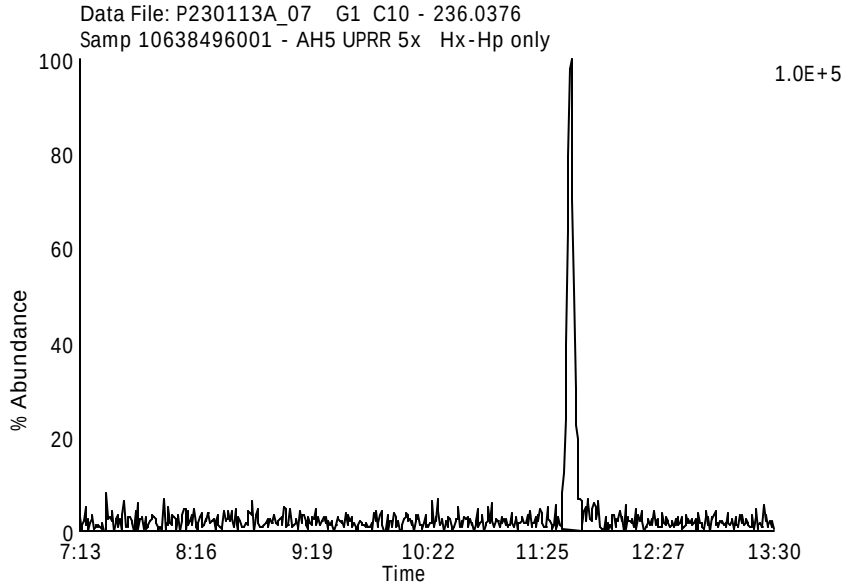
Labeled Di Chlorinated Biphenyls

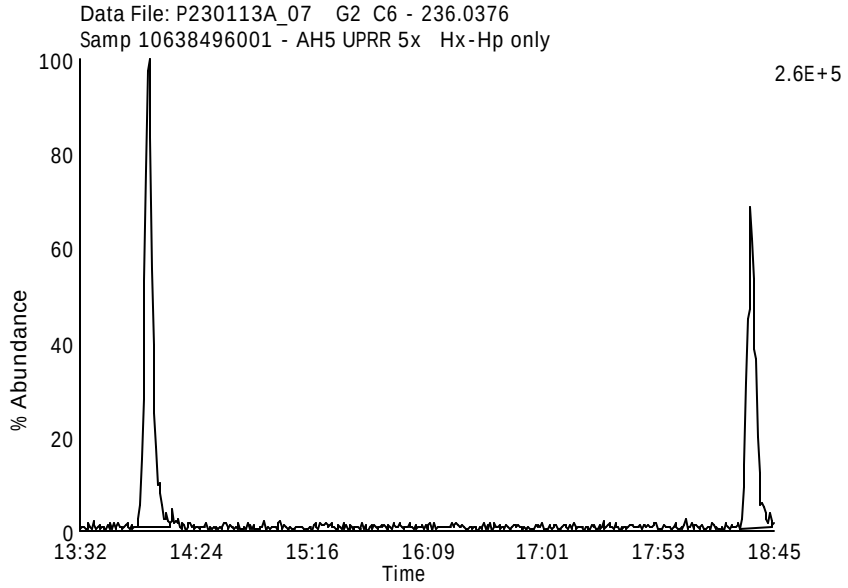
Data File Name: P230113A_07
Date Acquired: 1/13/2023
Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only

Lab Sample ID: 10638496001
Instrument: 10MSHR09 (P)
Client Sample ID: SB06-1.0-1.5-1022



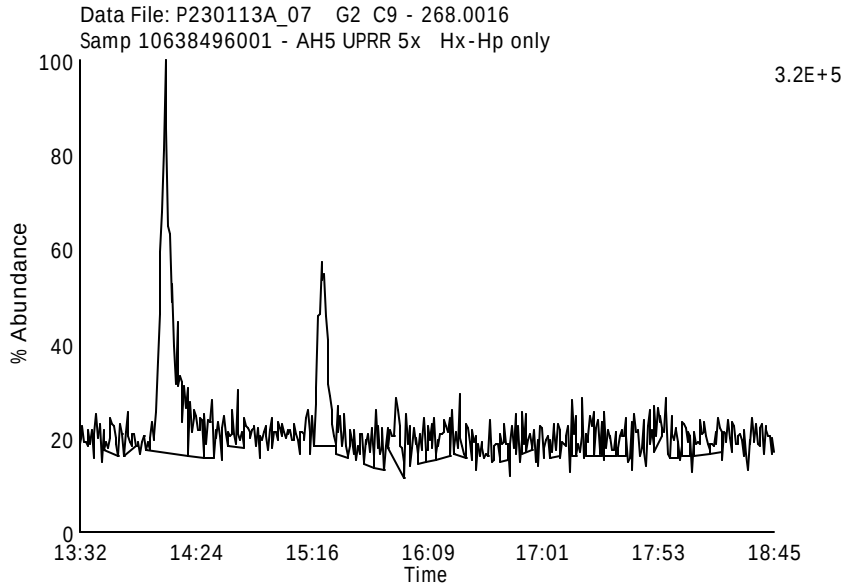


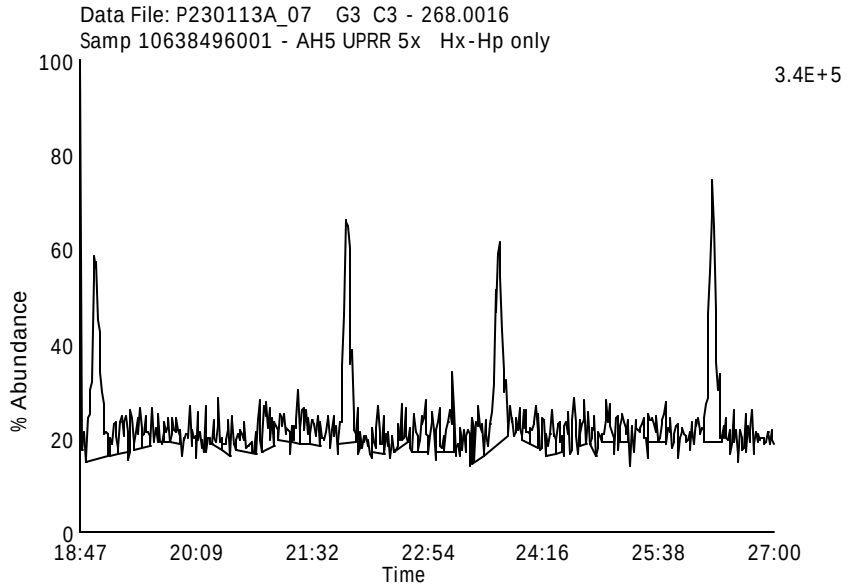


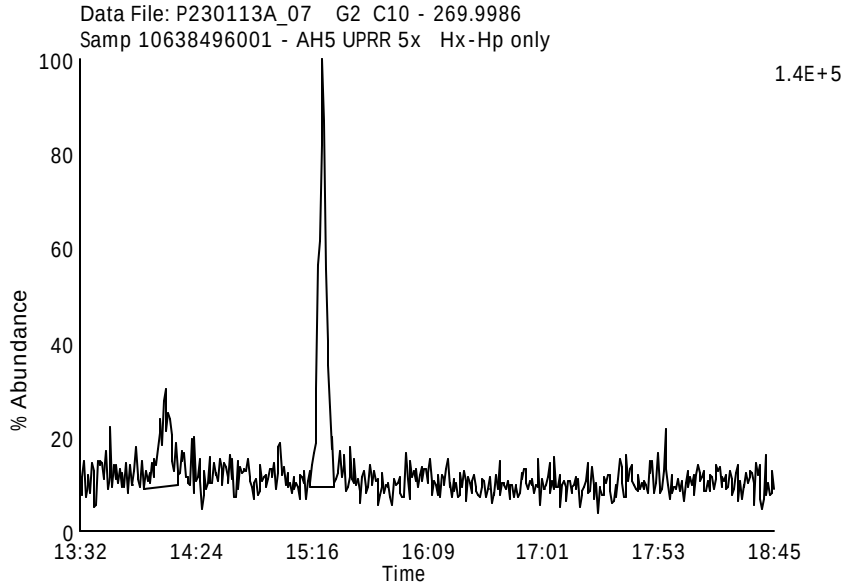


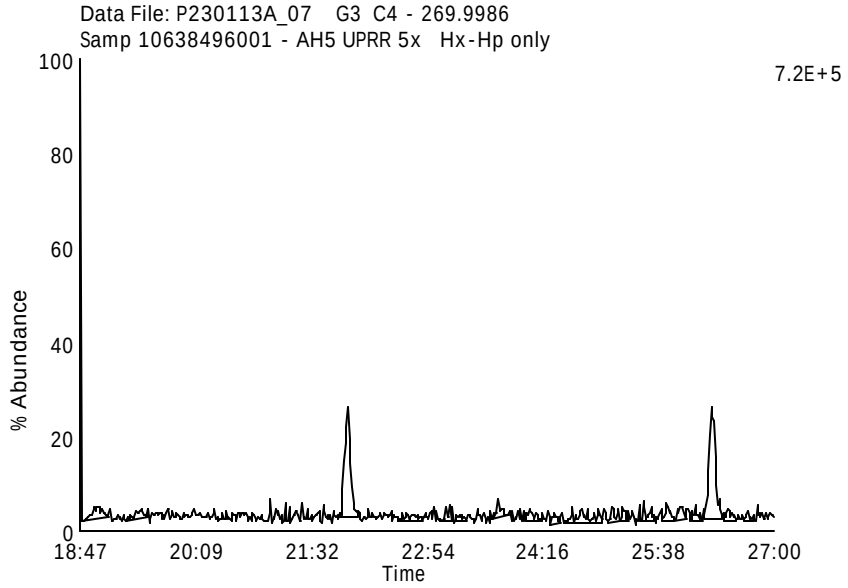
Labeled Tri Chlorinated Biphenyls

Data File Name: P230113A_07
Lab Sample ID: 10638496001
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only
Client Sample ID: SB06-1.0-1.5-1022



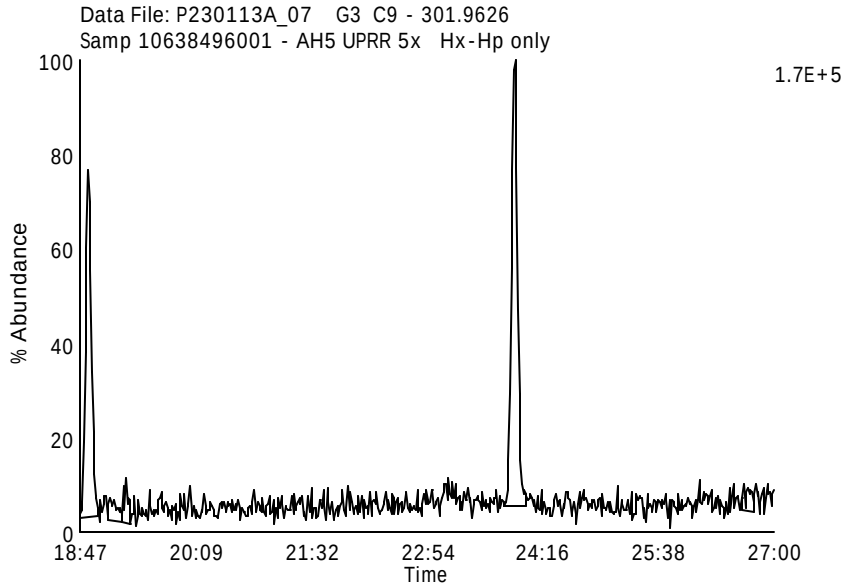


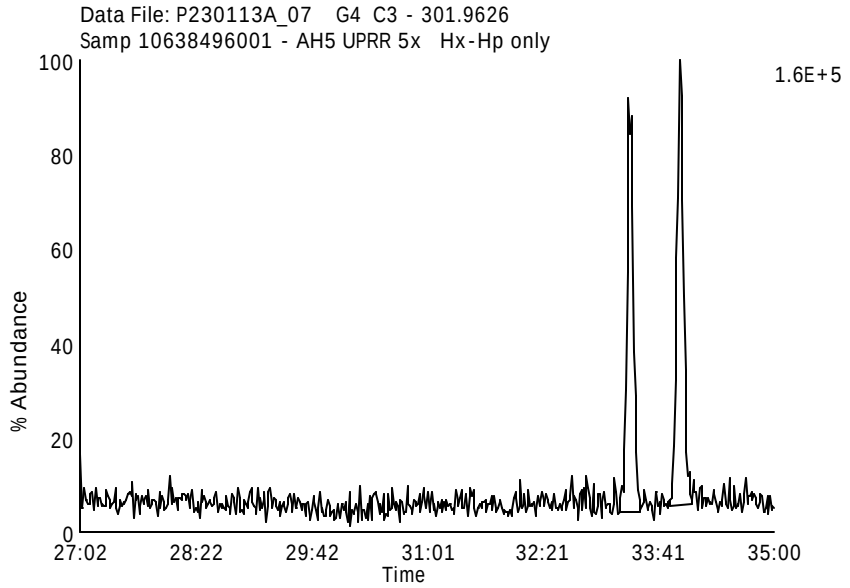


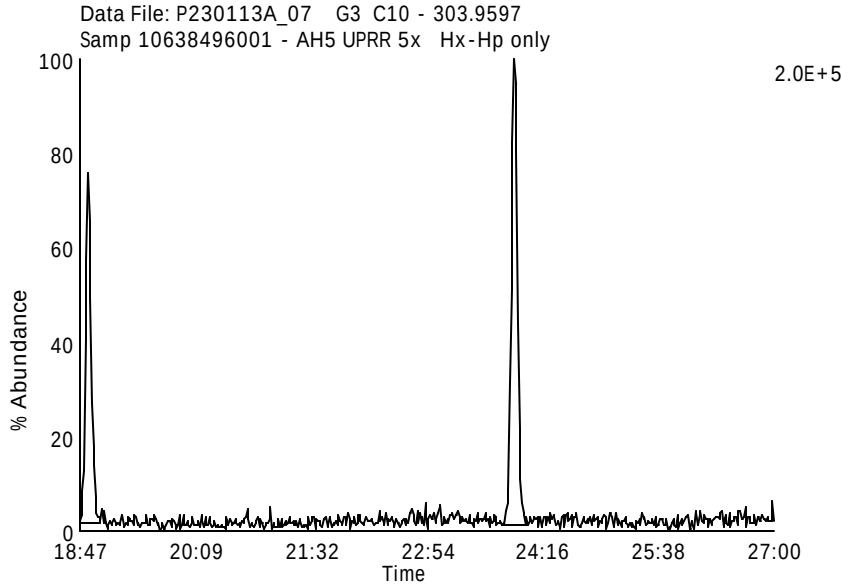


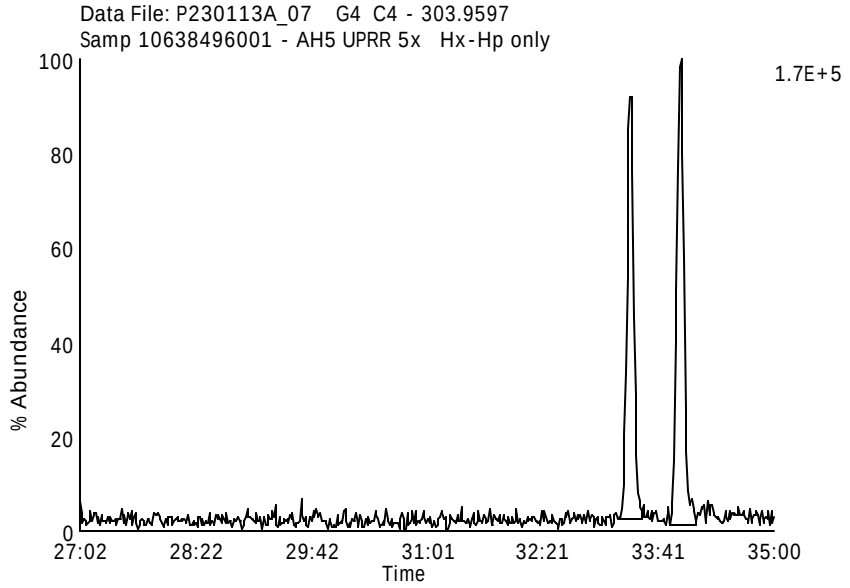
Labeled Tetra Chlorinated Biphenyls

Data File Name: P230113A_07
Lab Sample ID: 10638496001
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only
Client Sample ID: SB06-1.0-1.5-1022



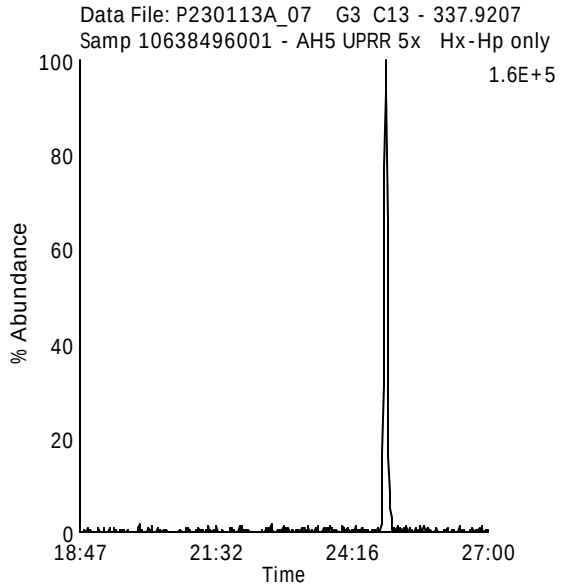


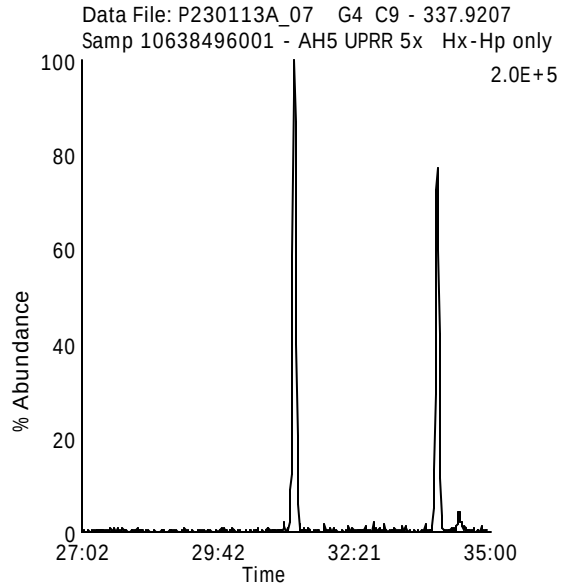


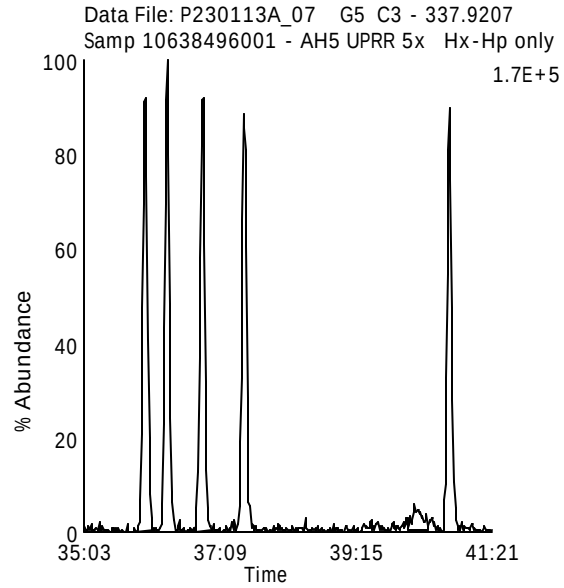


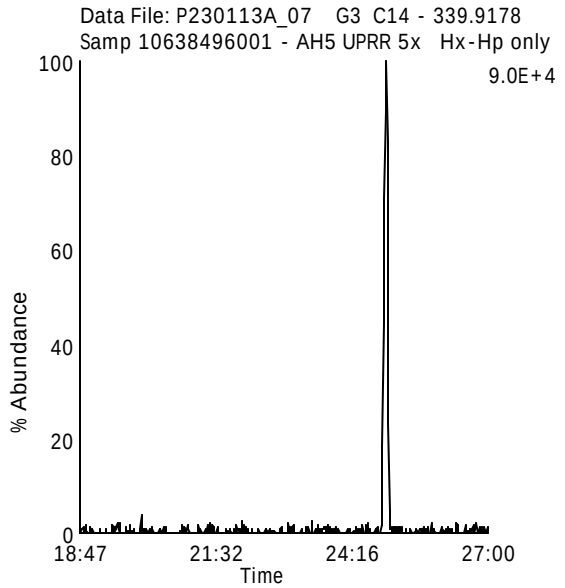
Labeled Penta Chlorinated Biphenyls

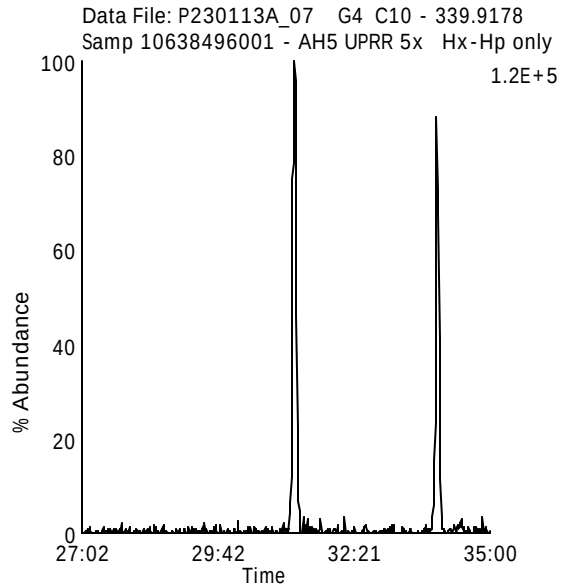
Data File Name: P230113A_07 | Lab Sample ID: 10638496001
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only | Client Sample ID: SB06-1.0-1.5-1022

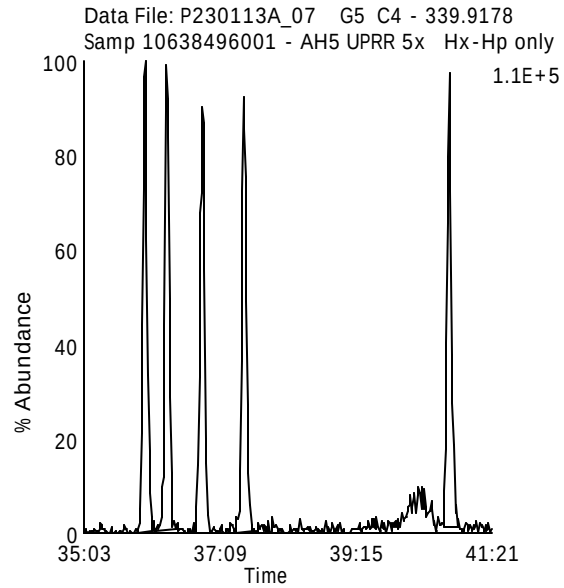










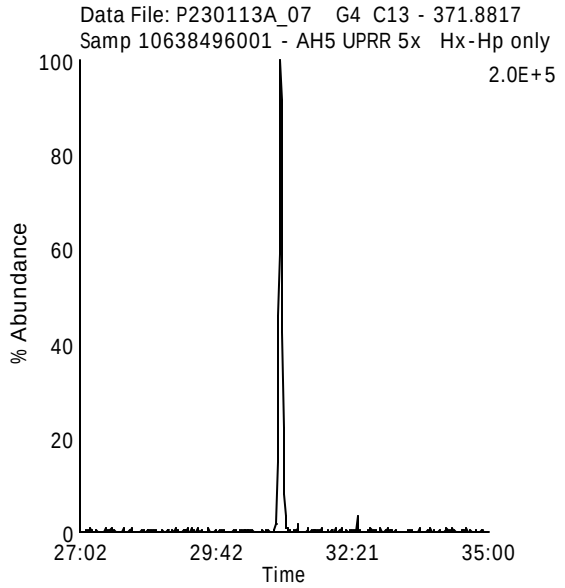


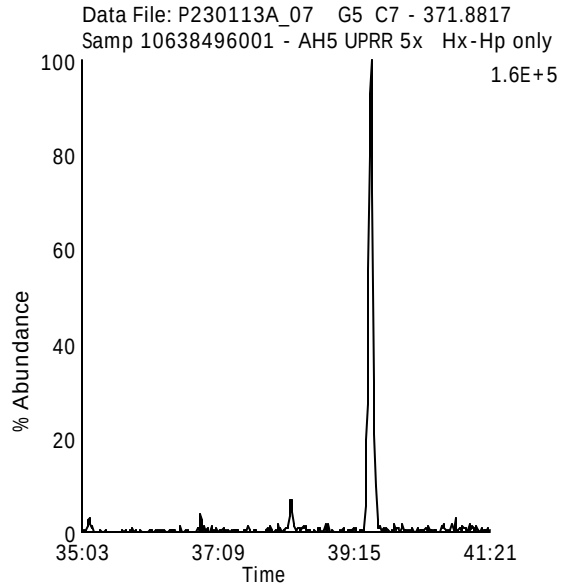
Labeled Hexa Chlorinated Biphenyls

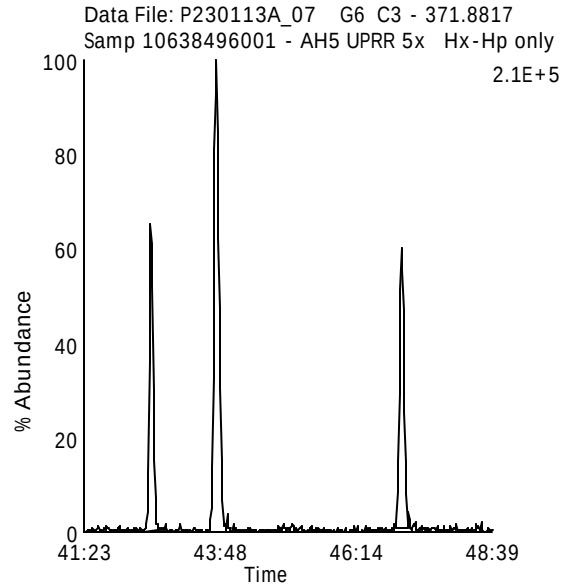
Data File Name: P230113A_07 | Lab Sample ID: 10638496001

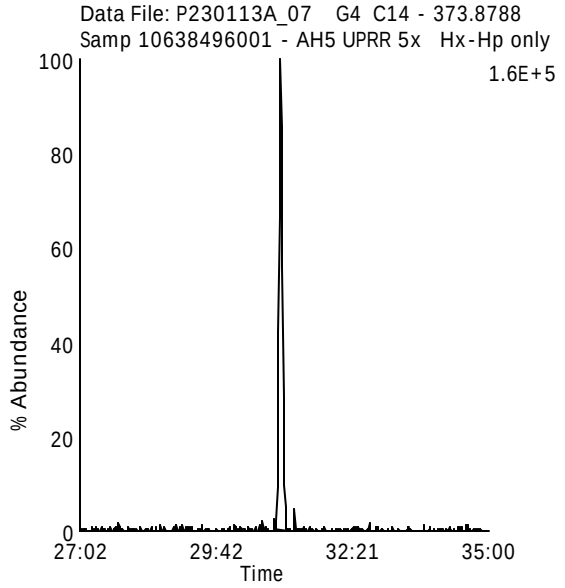
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

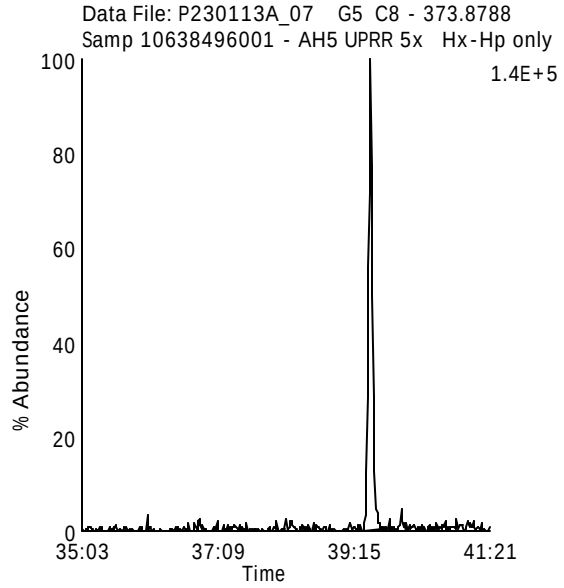
Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only | Client Sample ID: SB06-1.0-1.5-1022

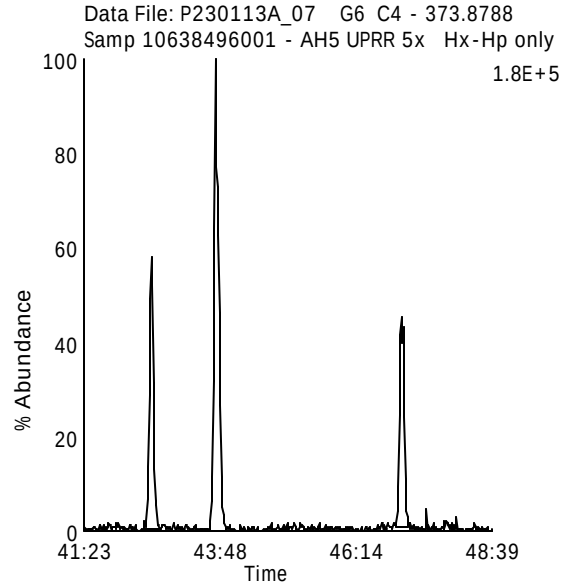






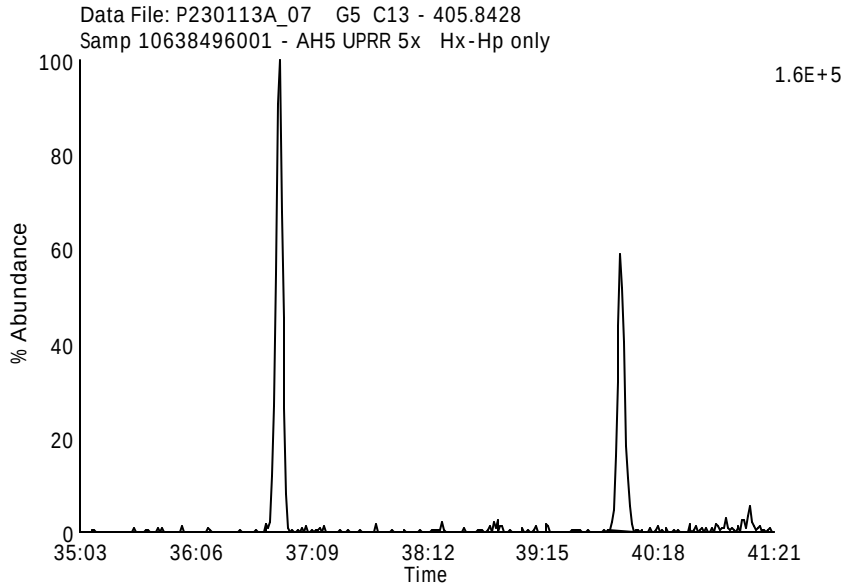


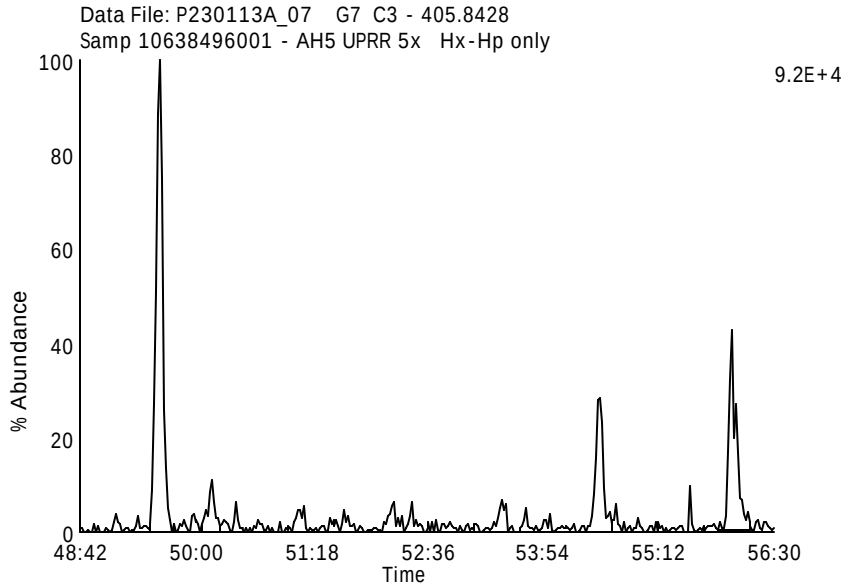


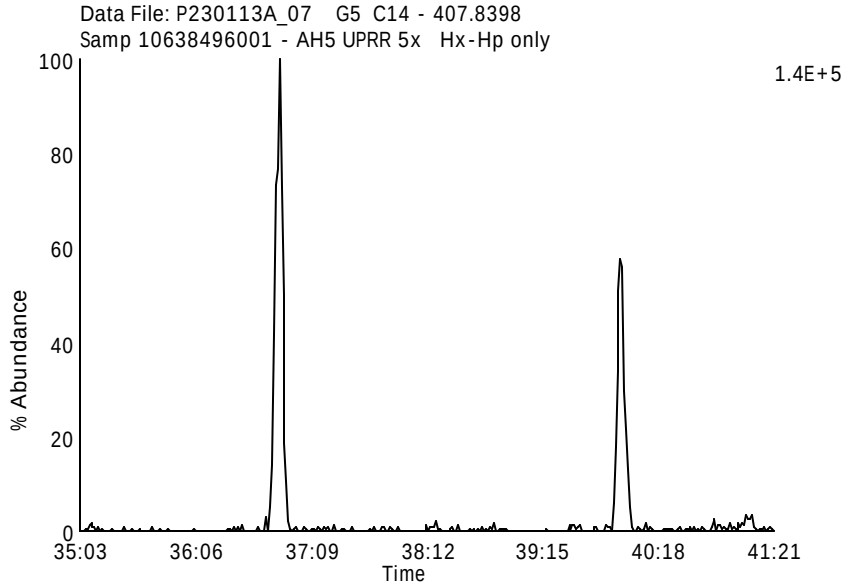


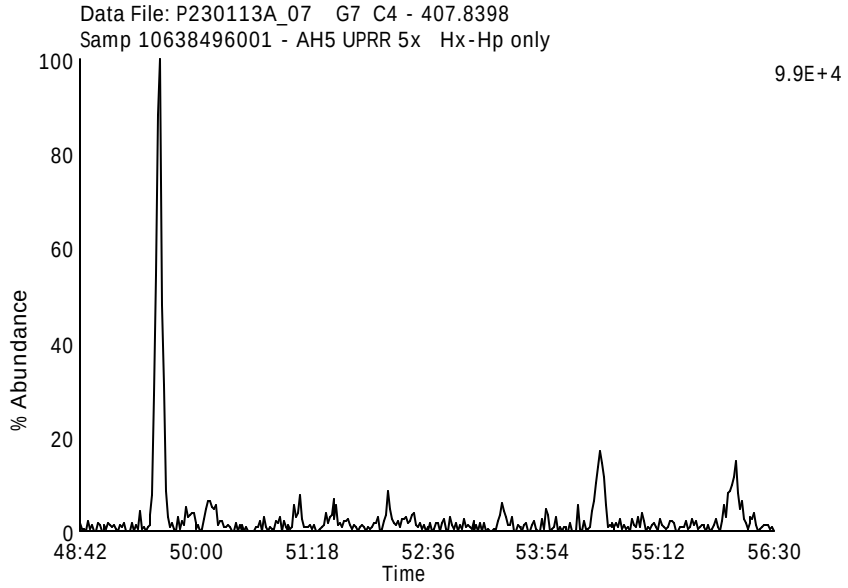
Labeled Hepta Chlorinated Biphenyls

Data File Name: P230113A_07
Lab Sample ID: 10638496001
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only
Client Sample ID: SB06-1.0-1.5-1022



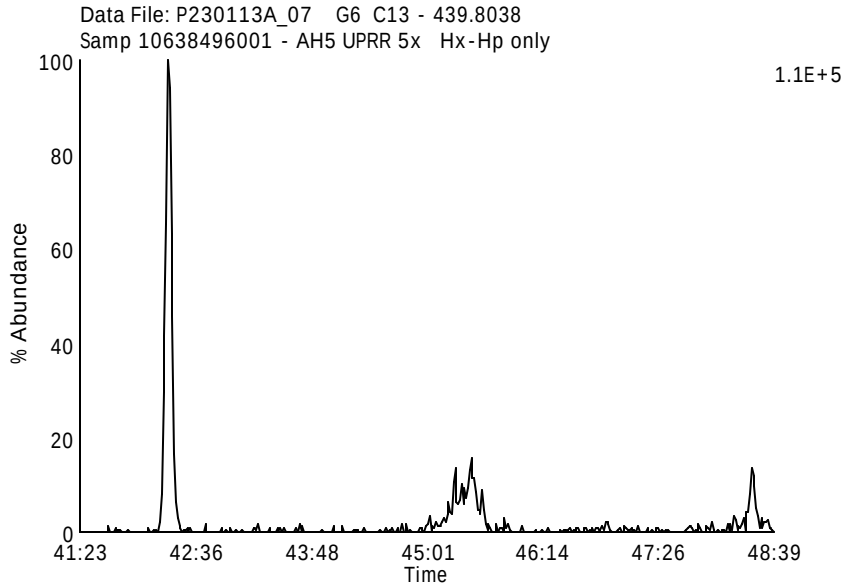


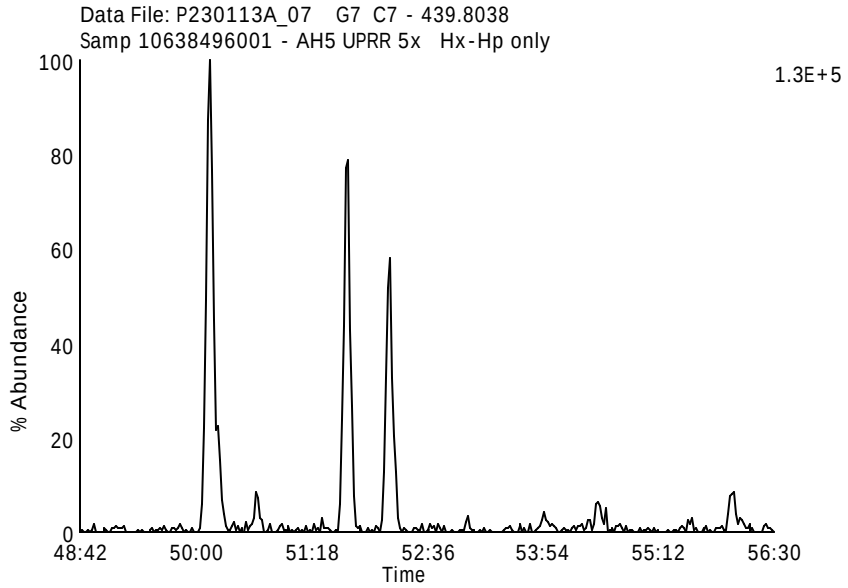


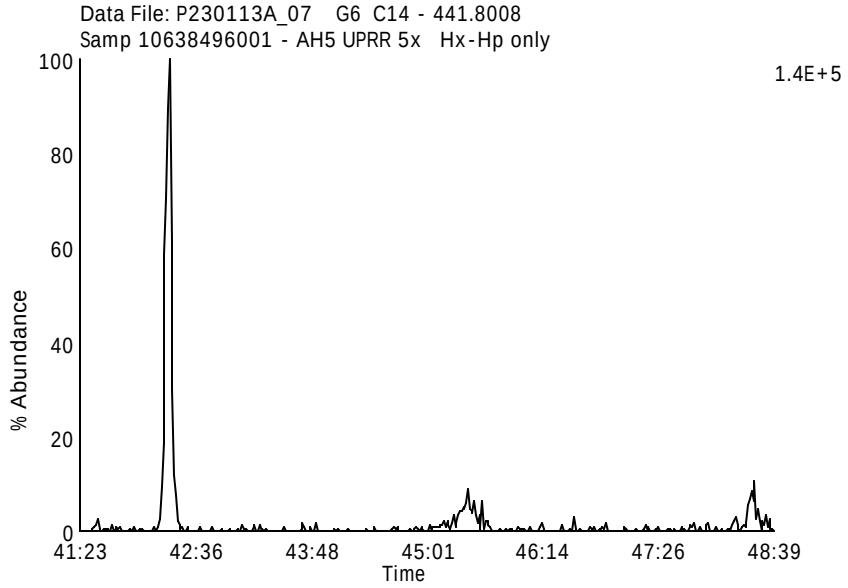


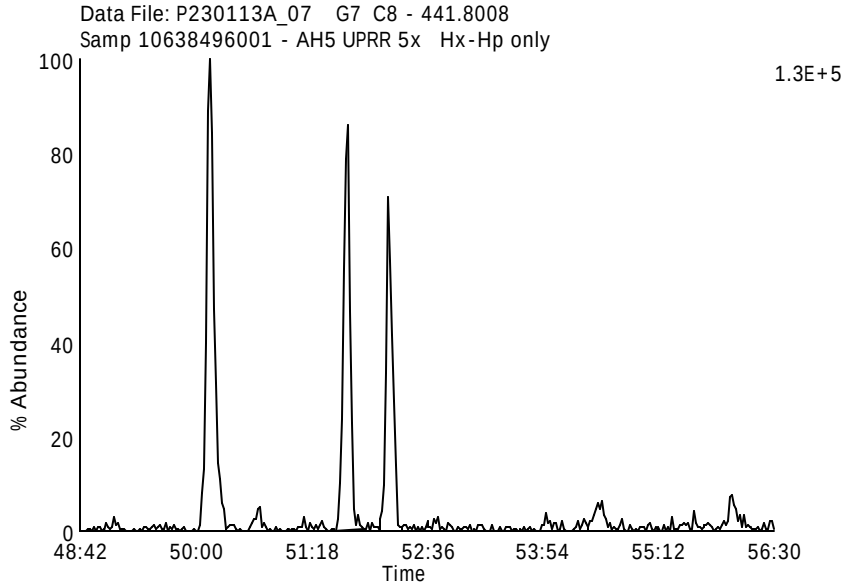
Labeled Octa Chlorinated Biphenyls

Data File Name: P230113A_07
Lab Sample ID: 10638496001
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only
Client Sample ID: SB06-1.0-1.5-1022



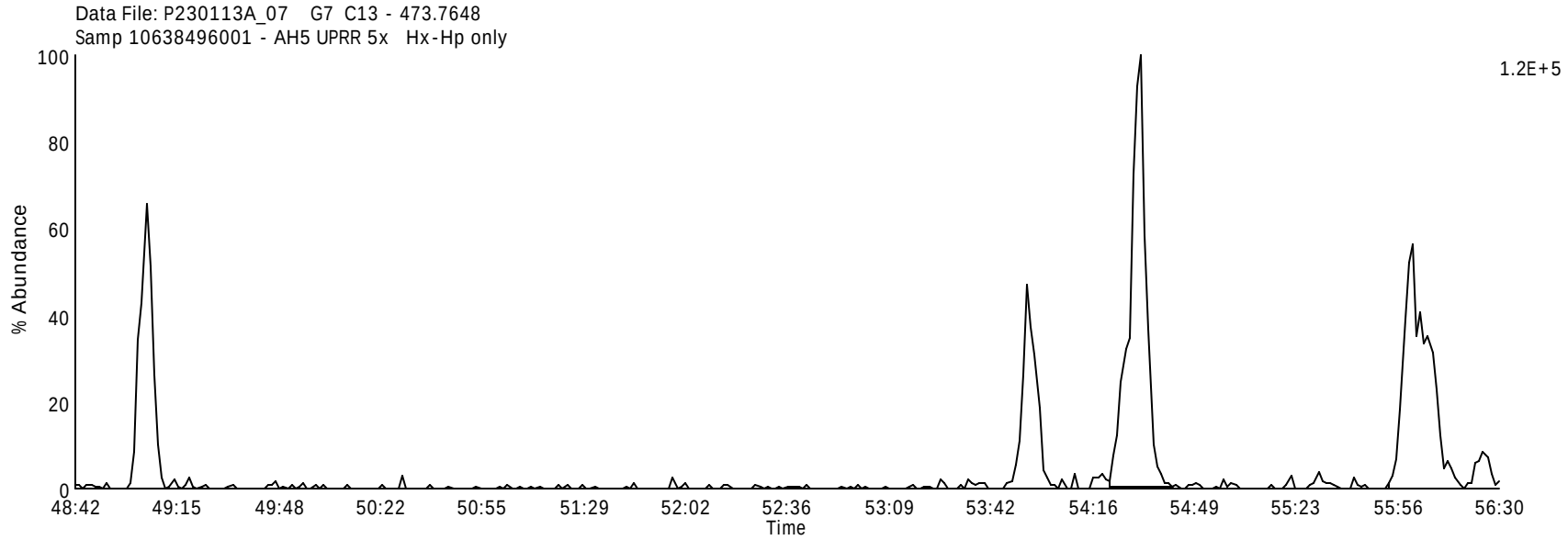


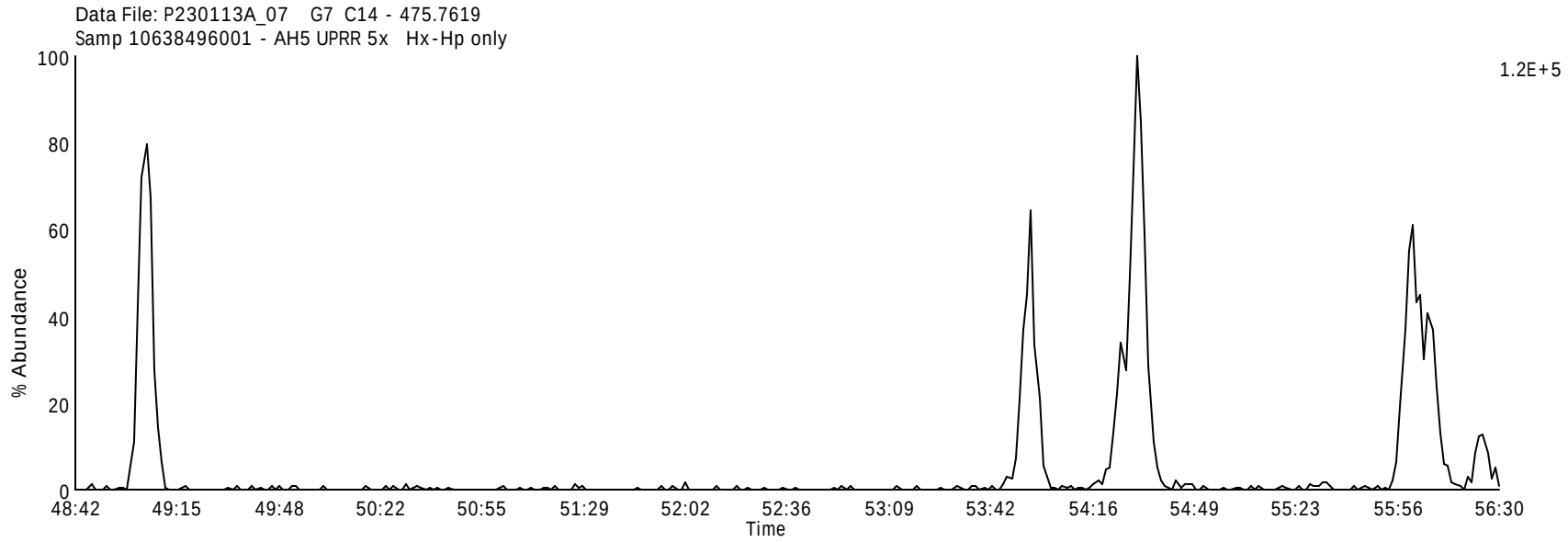




Labeled Nona Chlorinated Biphenyls

Data File Name: P230113A_07	Lab Sample ID: 10638496001
Date Acquired: 1/13/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only	Client Sample ID: SB06-1.0-1.5-1022



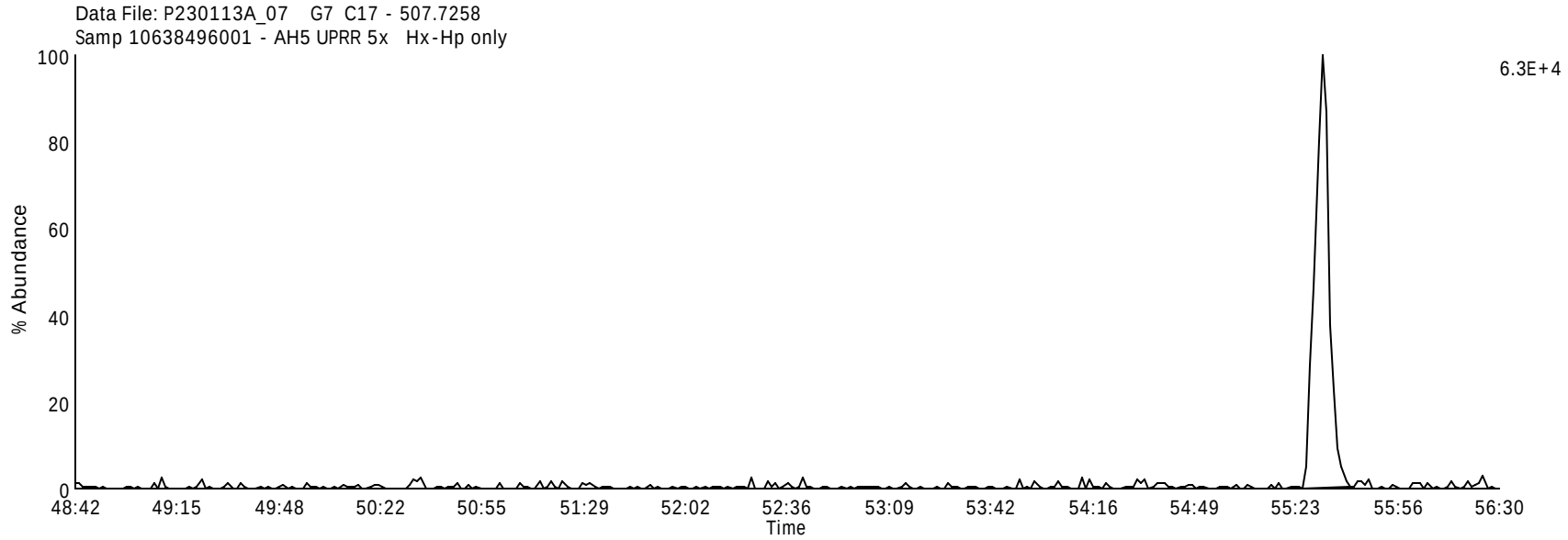


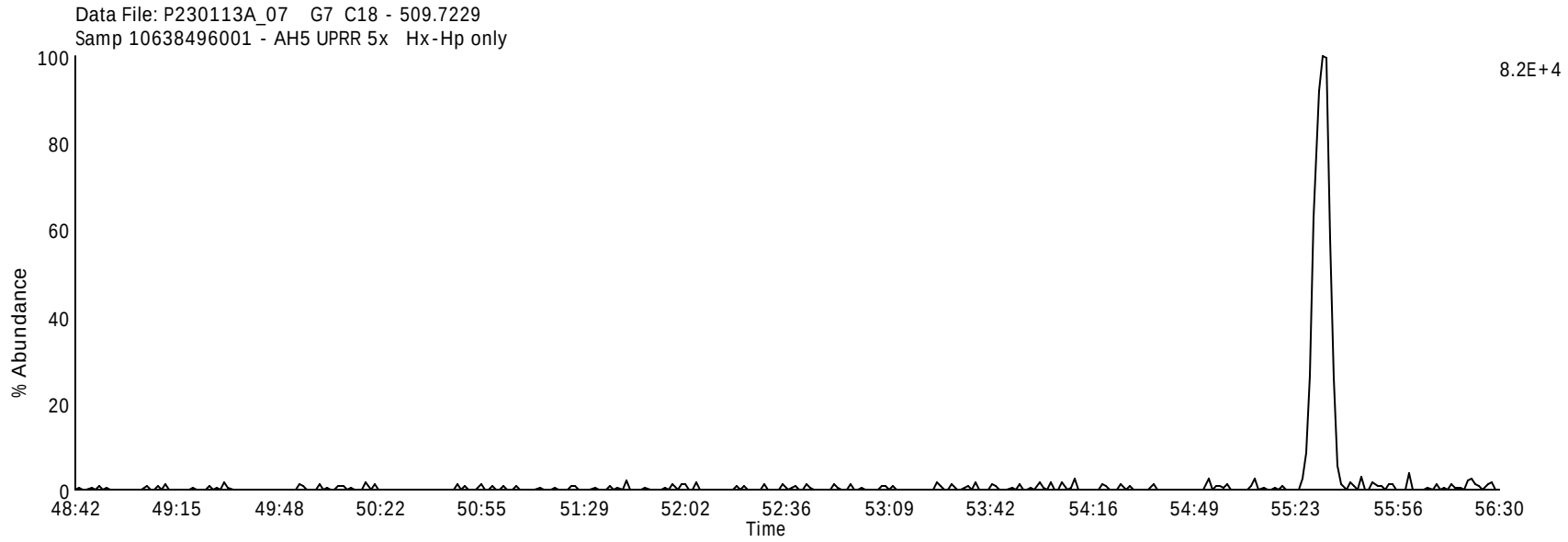
Labeled Deca Chlorinated Biphenyl

Data File Name: P230113A_07 | Lab Sample ID: 10638496001

Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only | Client Sample ID: SB06-1.0-1.5-1022



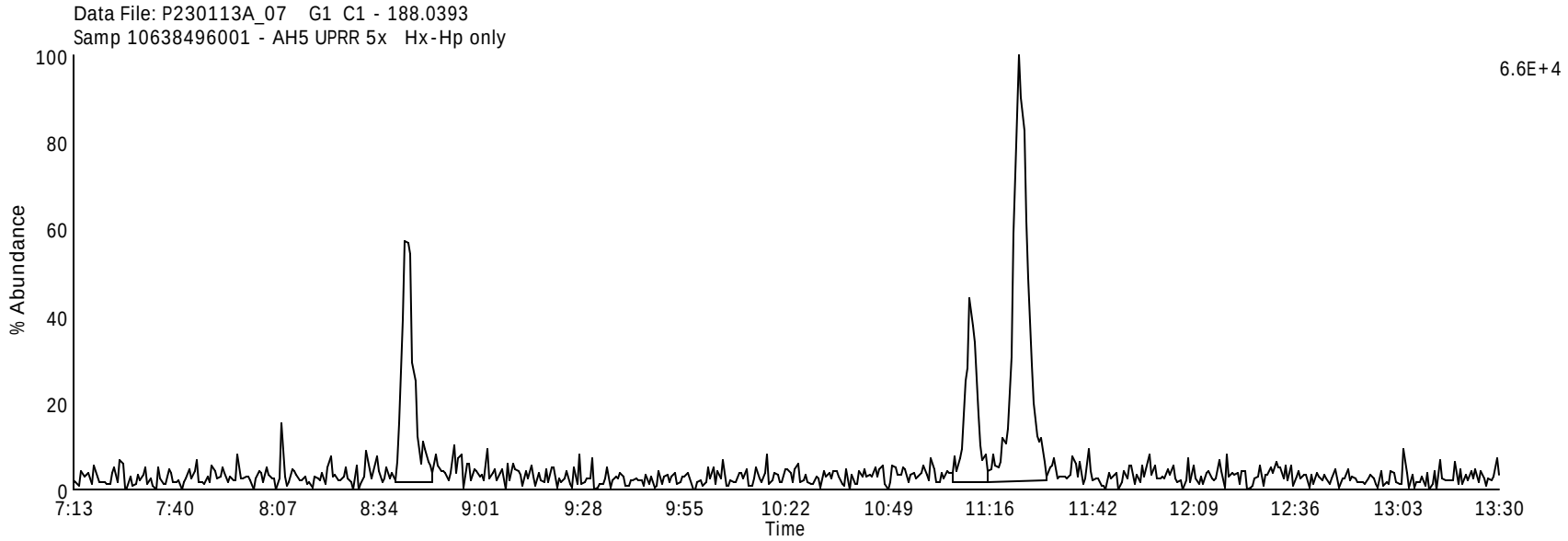


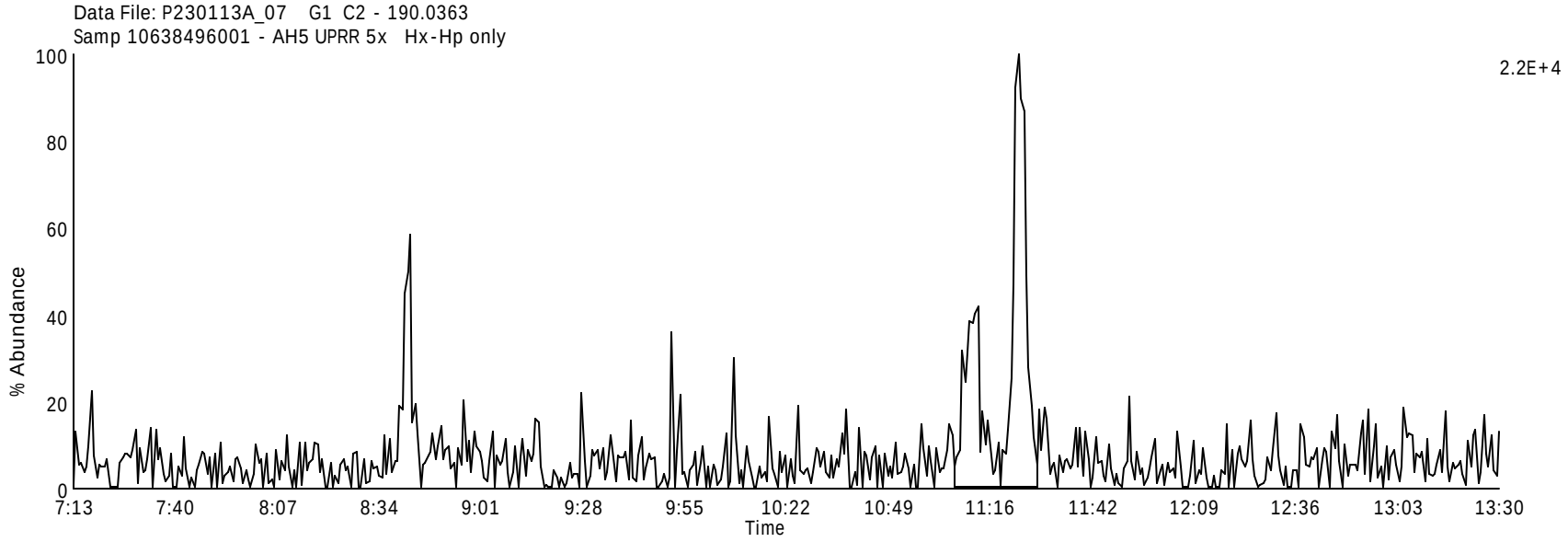
Mono Chlorinated Biphenyls

Data File Name: P230113A_07 | Lab Sample ID: 10638496001

Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

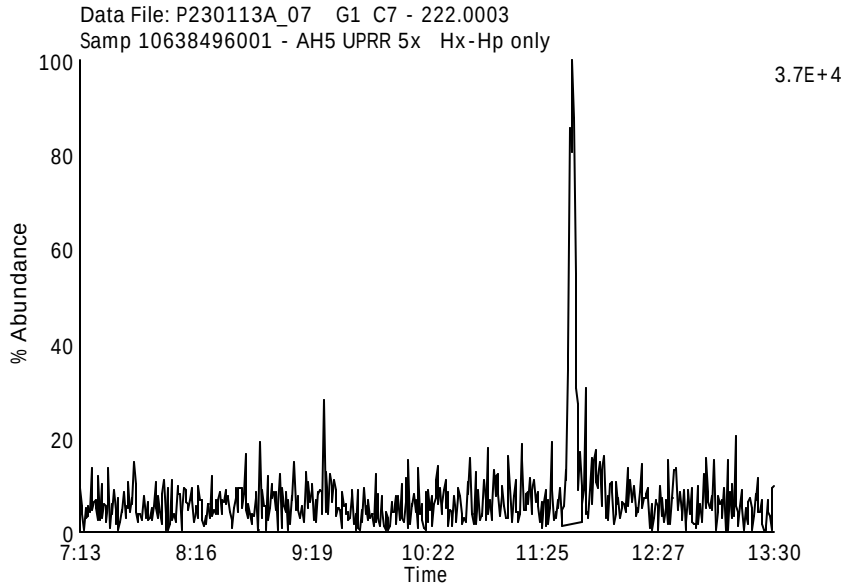
Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only | Client Sample ID: SB06-1.0-1.5-1022

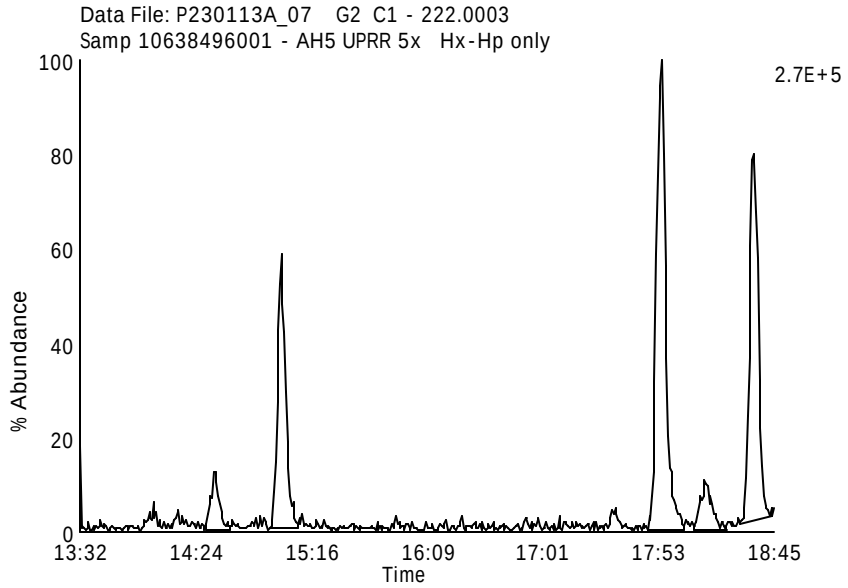


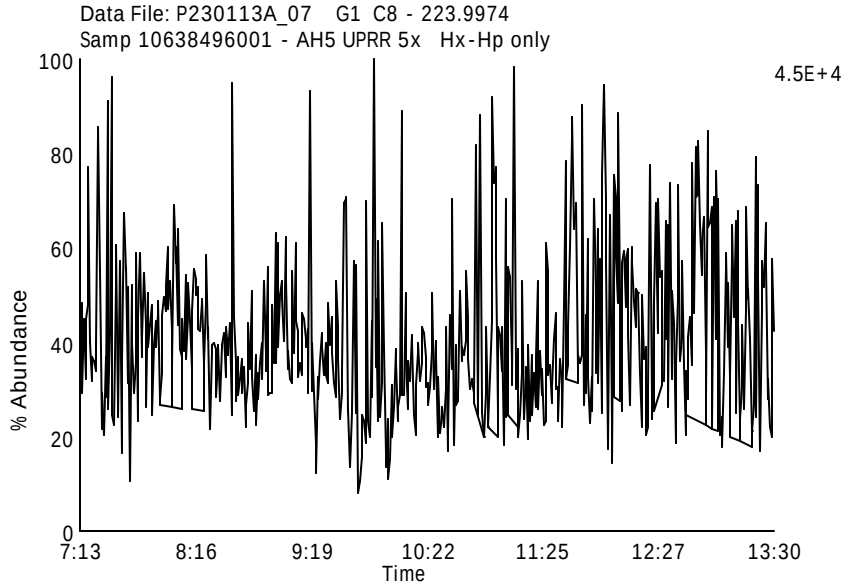


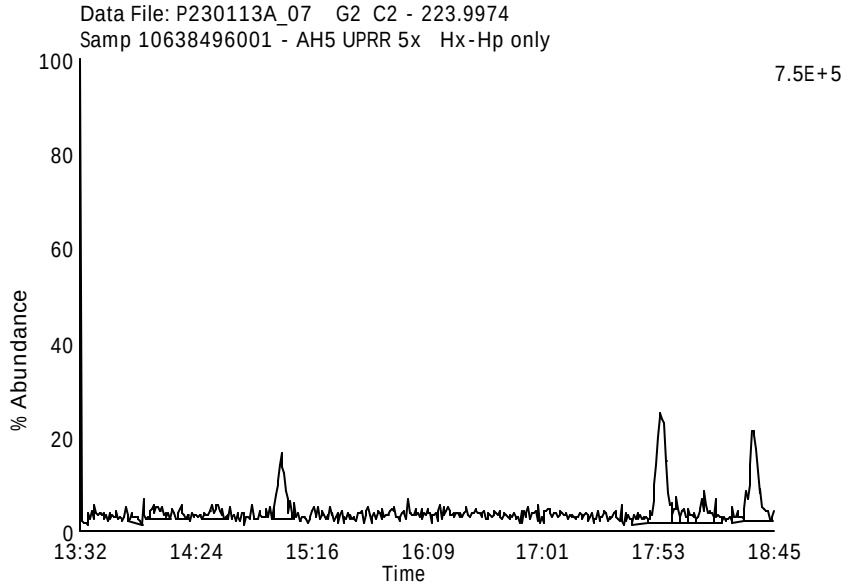
Di Chlorinated Biphenyls

Data File Name: P230113A_07
Lab Sample ID: 10638496001
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only
Client Sample ID: SB06-1.0-1.5-1022



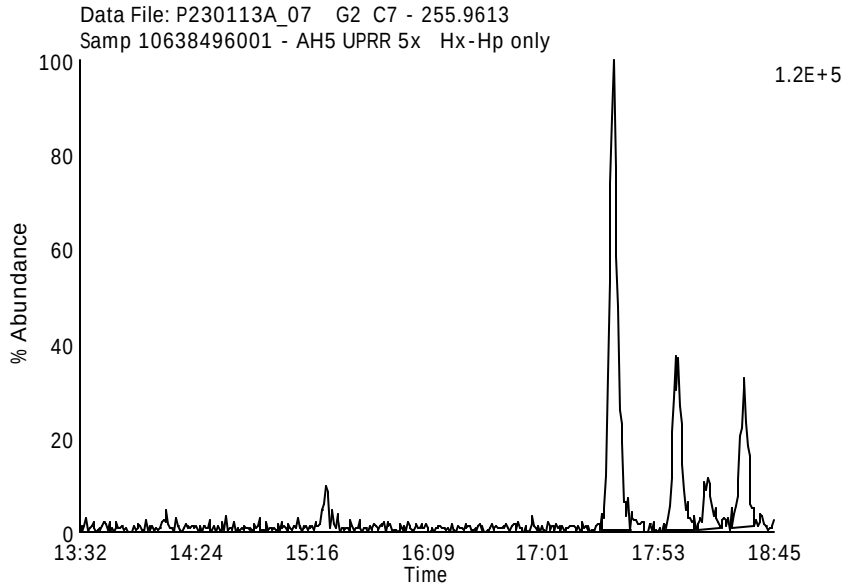


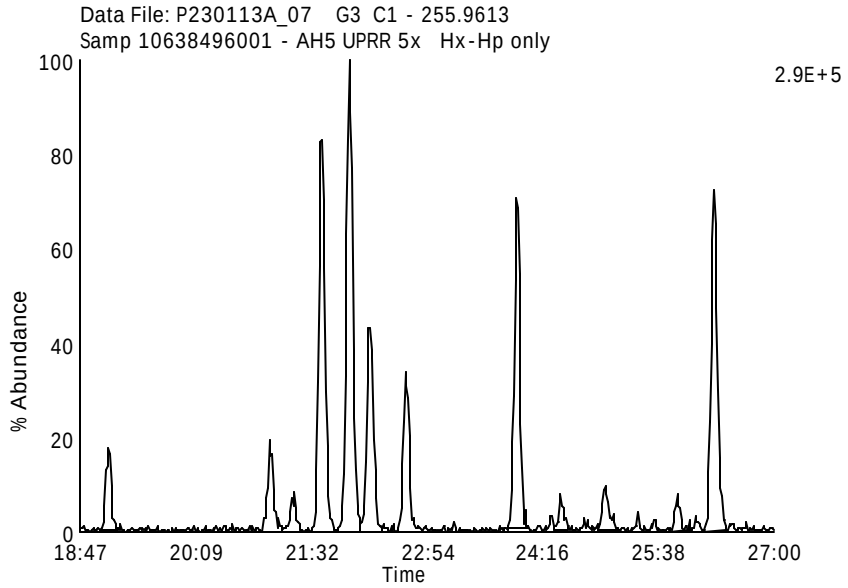


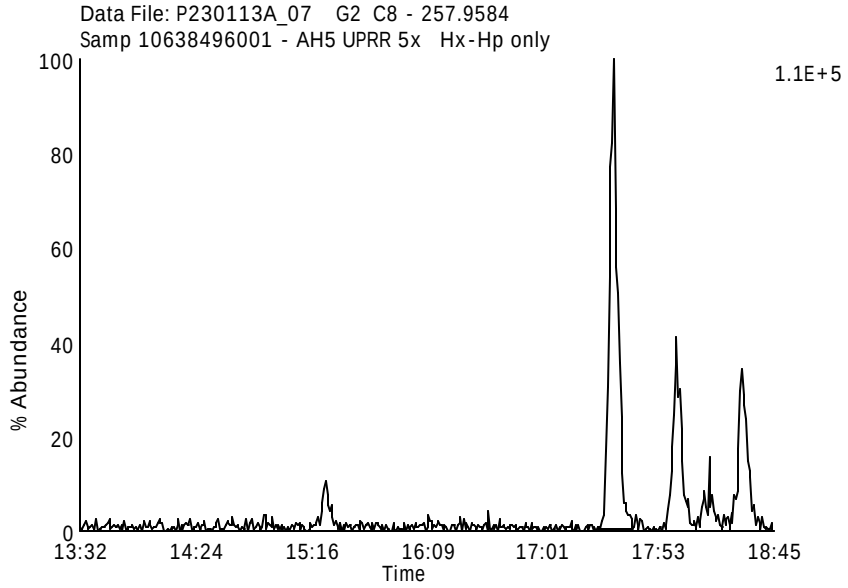


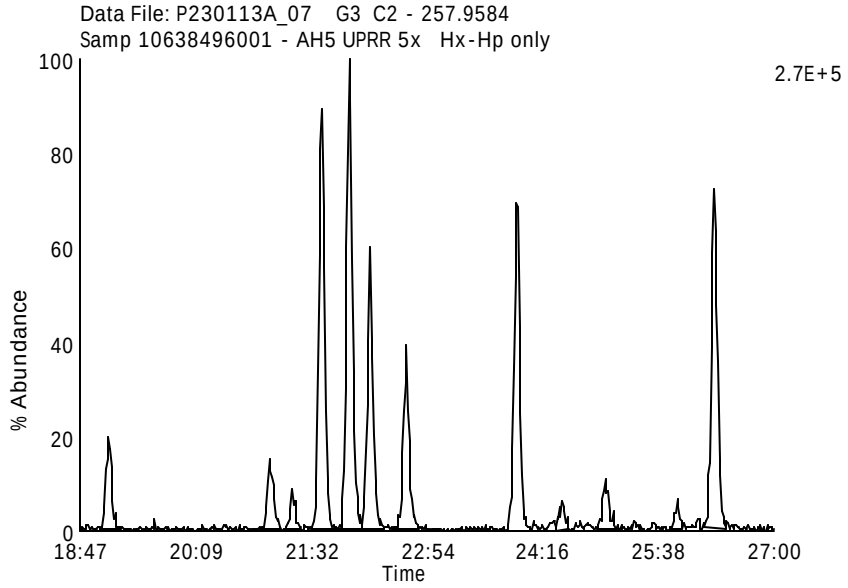
Tri Chlorinated Biphenyls

Data File Name: P230113A_07
Lab Sample ID: 10638496001
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only
Client Sample ID: SB06-1.0-1.5-1022



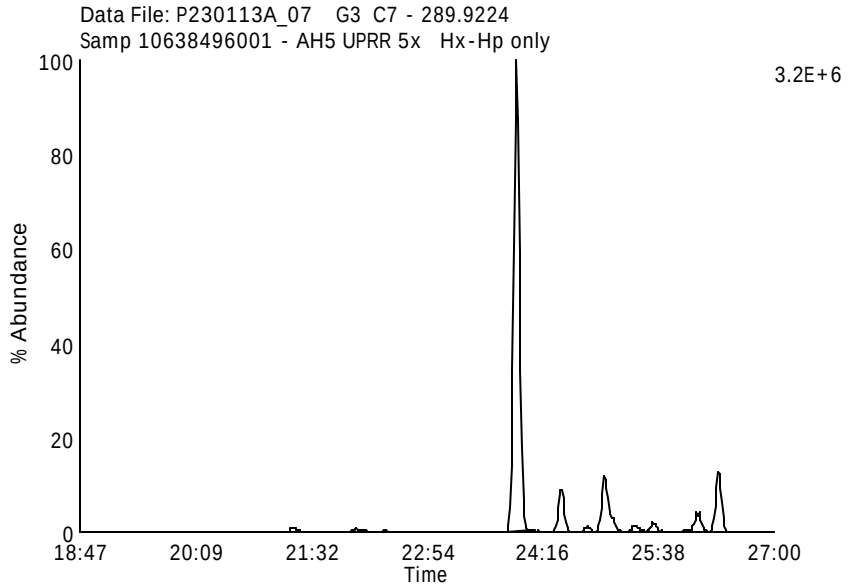


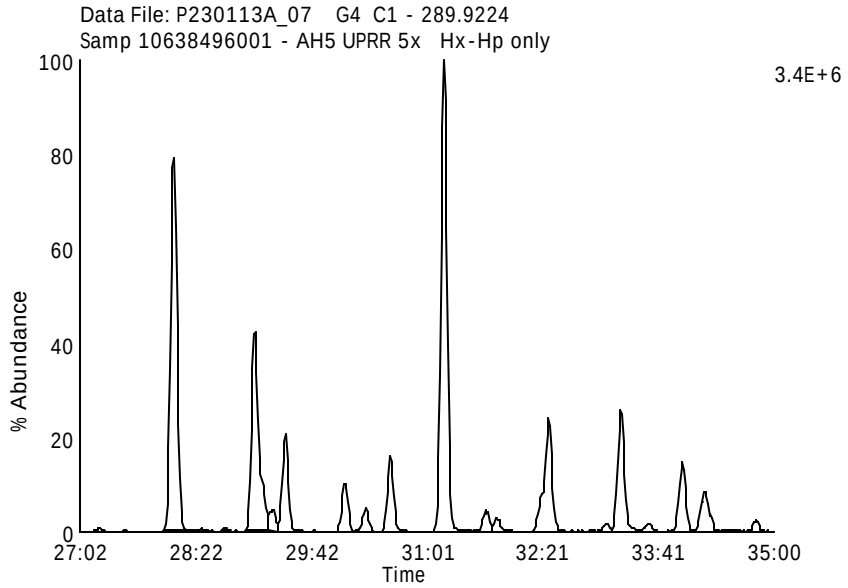


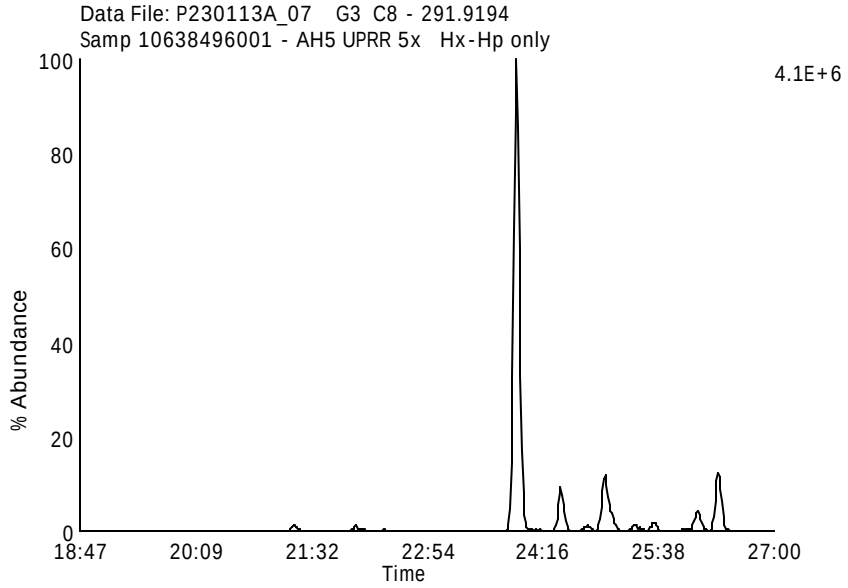


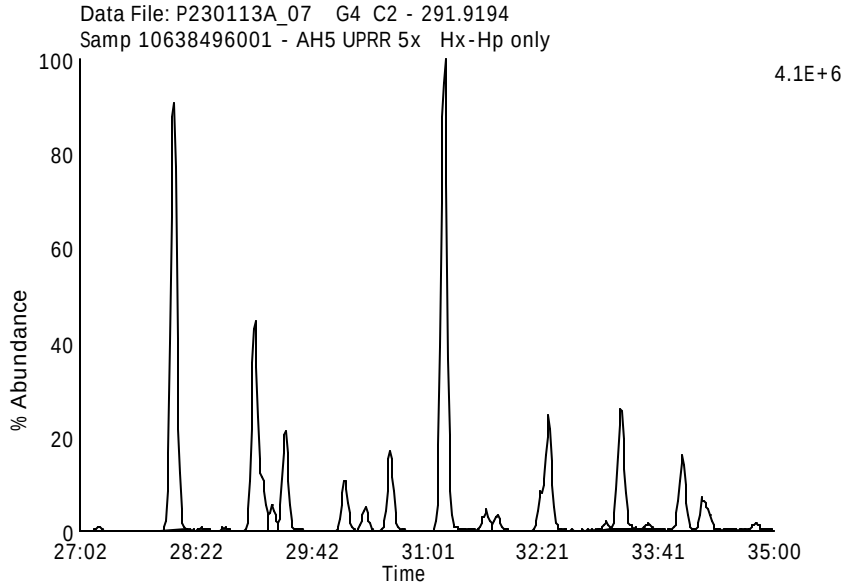
Tetra Chlorinated Biphenyls

Data File Name: P230113A_07
Lab Sample ID: 10638496001
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only
Client Sample ID: SB06-1.0-1.5-1022



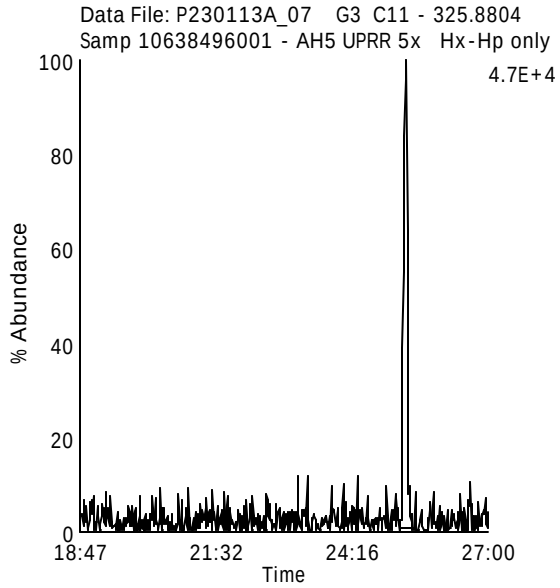


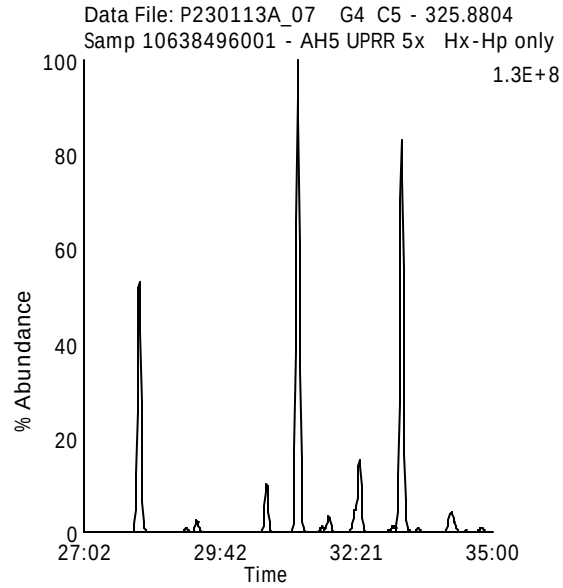


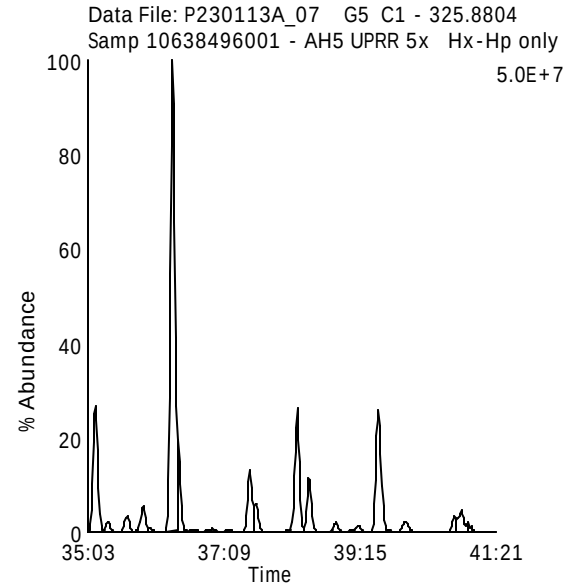


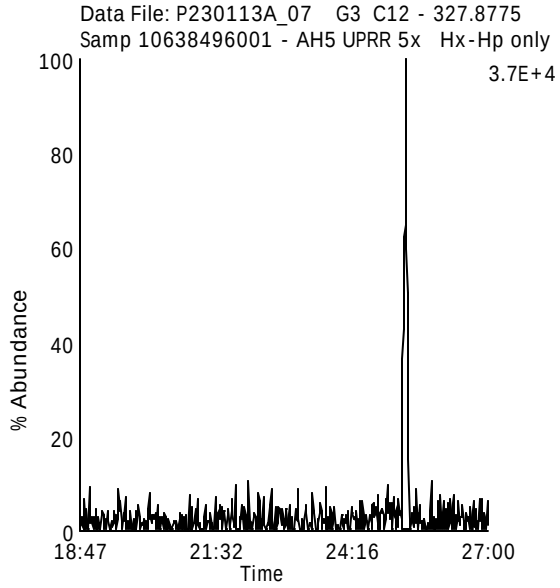
Penta Chlorinated Biphenyls

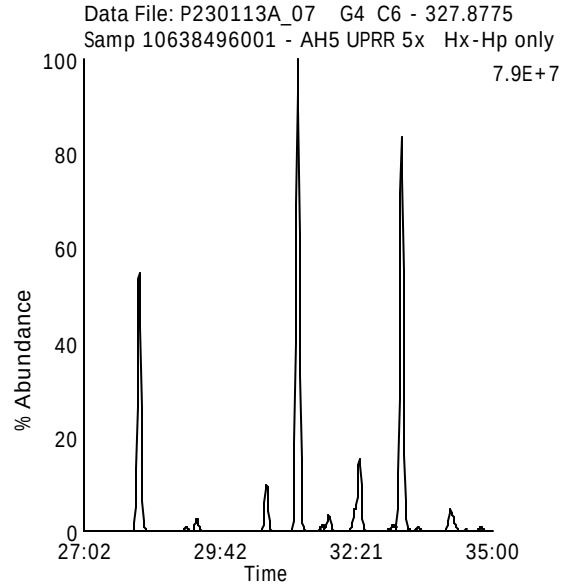
Data File Name: P230113A_07 | Lab Sample ID: 10638496001
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only | Client Sample ID: SB06-1.0-1.5-1022

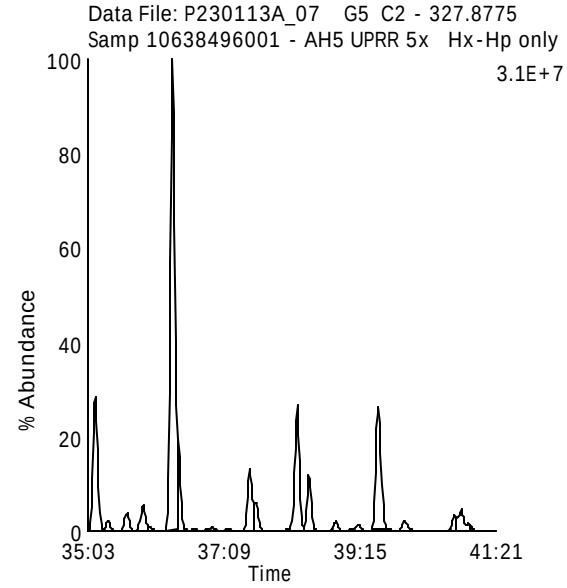










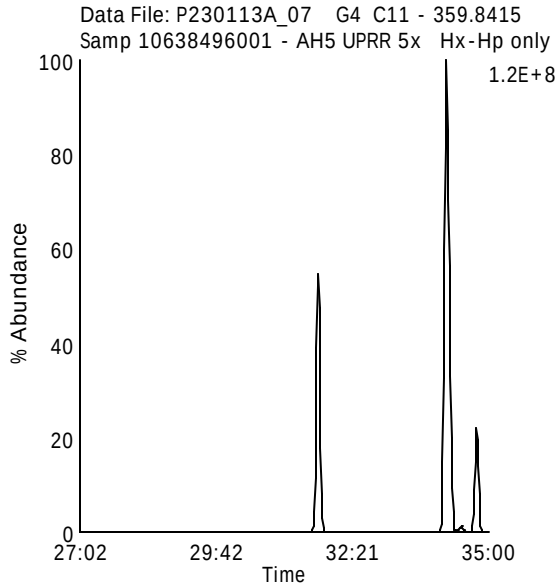


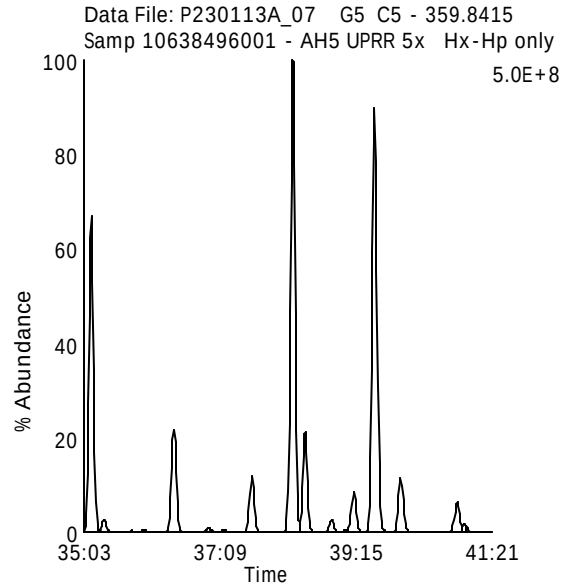
Hexa Chlorinated Biphenyls

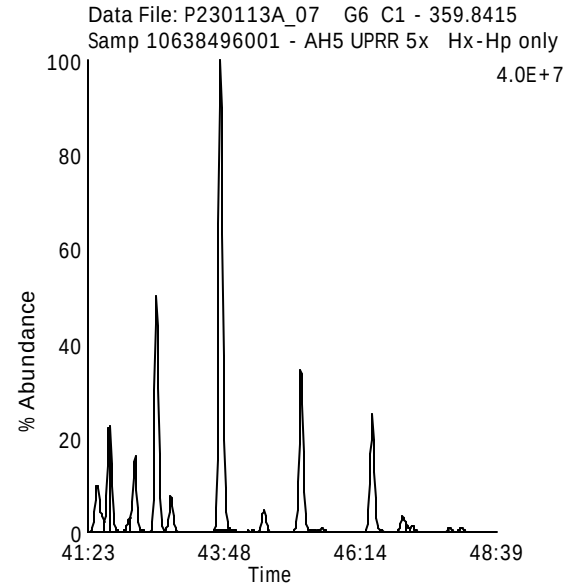
Data File Name: P230113A_07 | Lab Sample ID: 10638496001

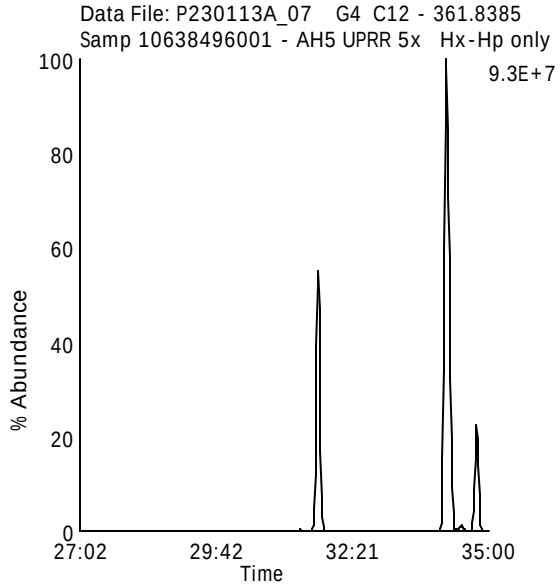
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

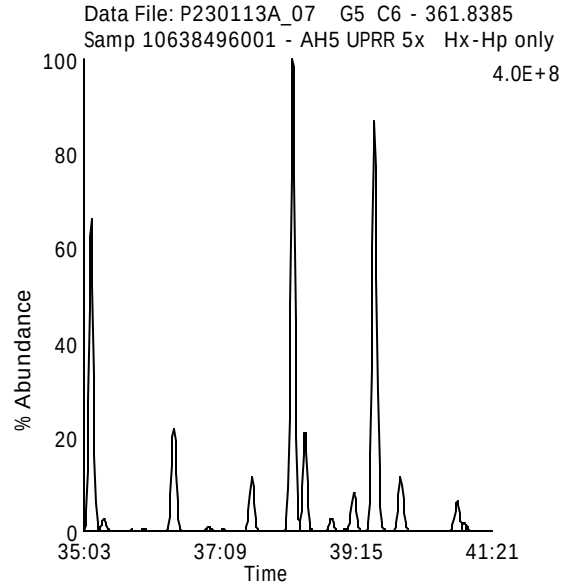
Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only | Client Sample ID: SB06-1.0-1.5-1022

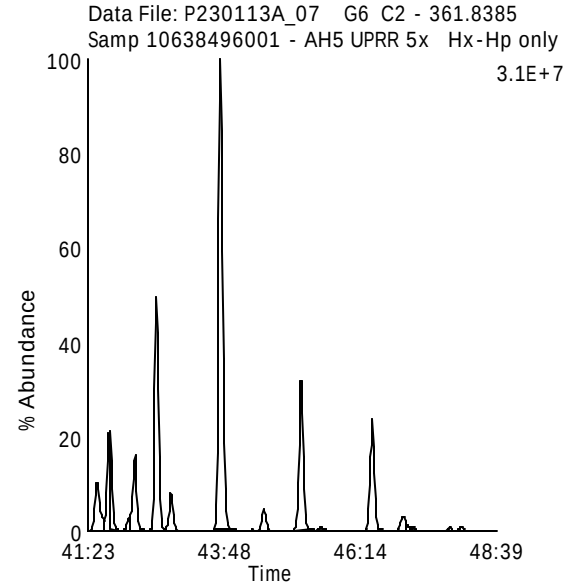






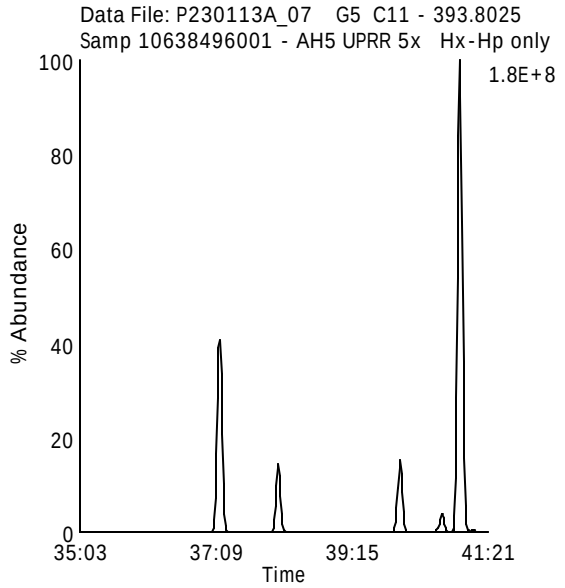


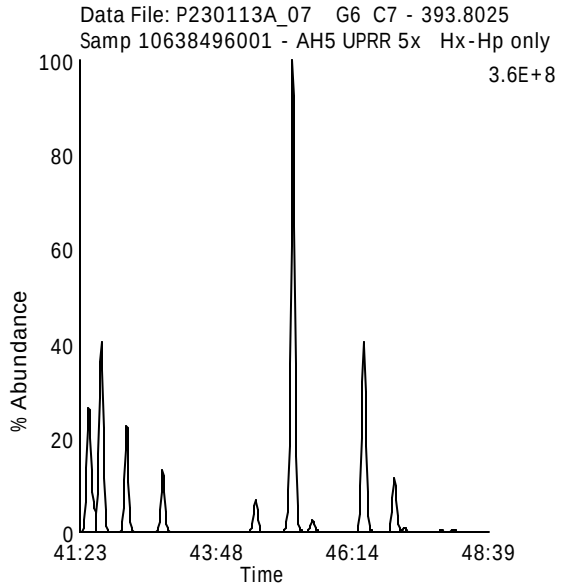


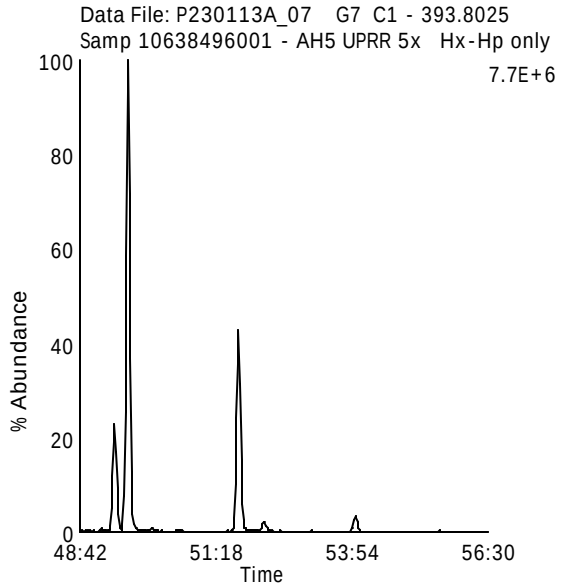


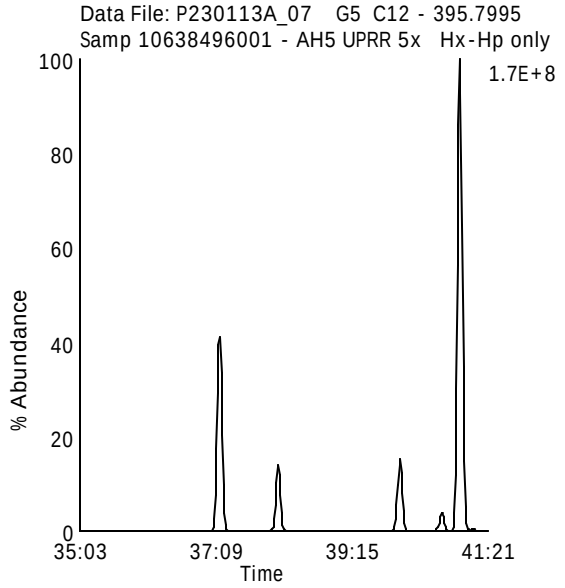
Hepta Chlorinated Biphenyls

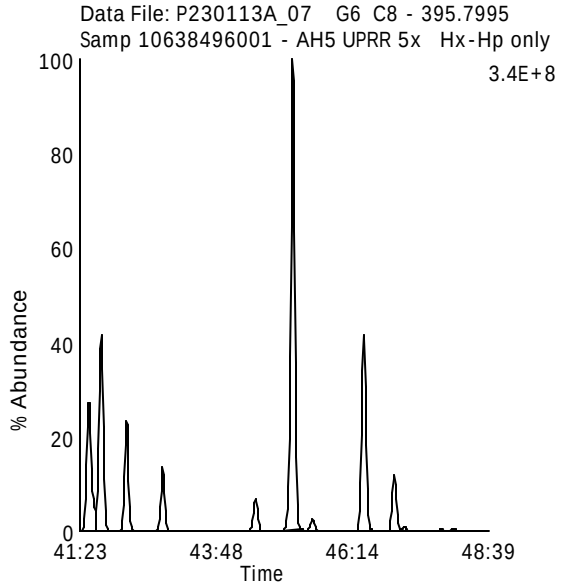
Data File Name: P230113A_07
Lab Sample ID: 10638496001
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only
Client Sample ID: SB06-1.0-1.5-1022

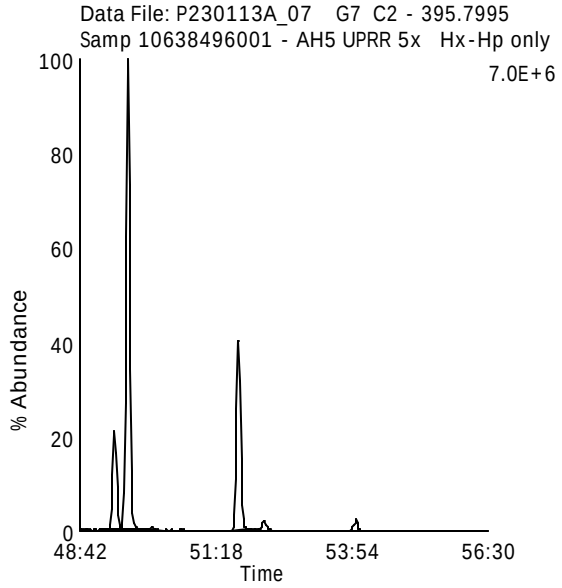






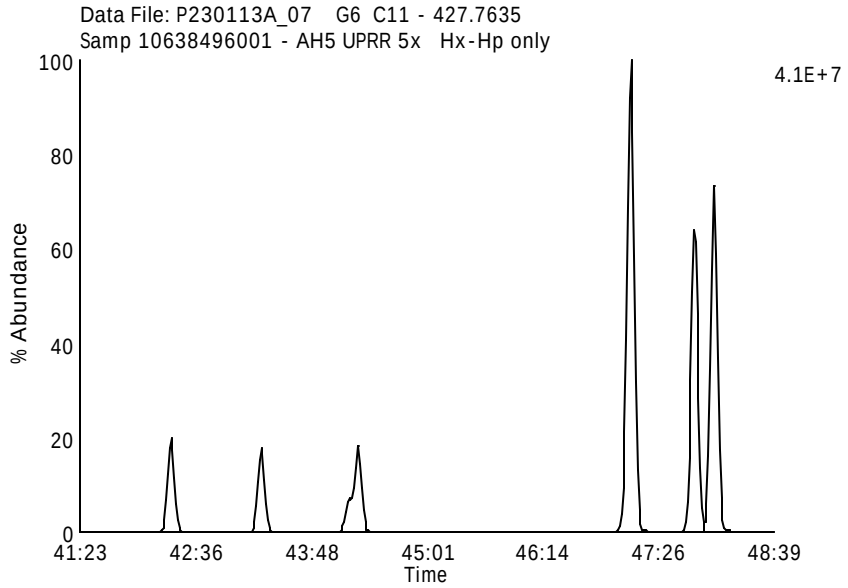


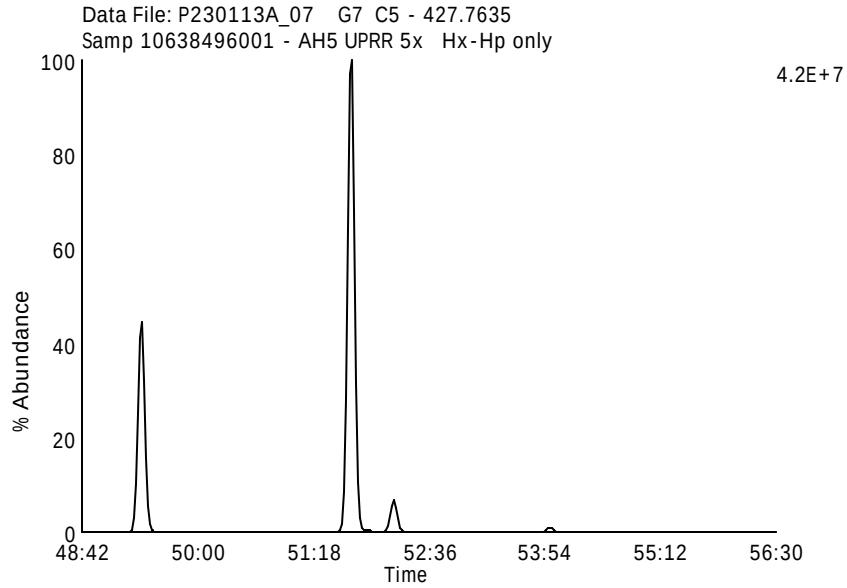


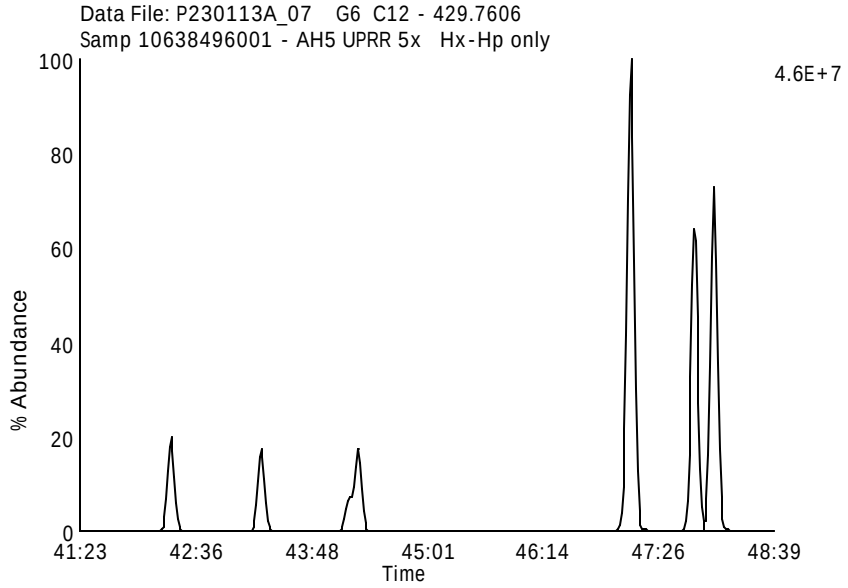


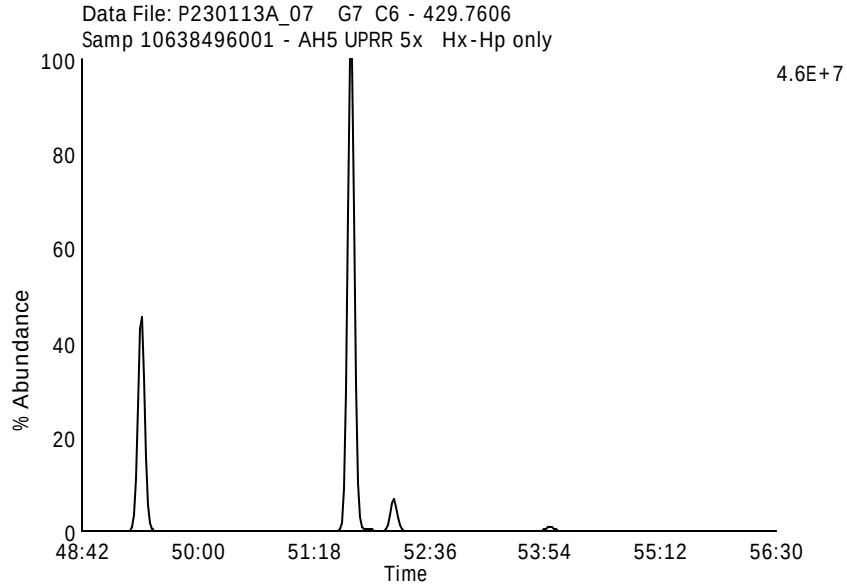
Octa Chlorinated Biphenyls

Data File Name: P230113A_07
Lab Sample ID: 10638496001
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only
Client Sample ID: SB06-1.0-1.5-1022







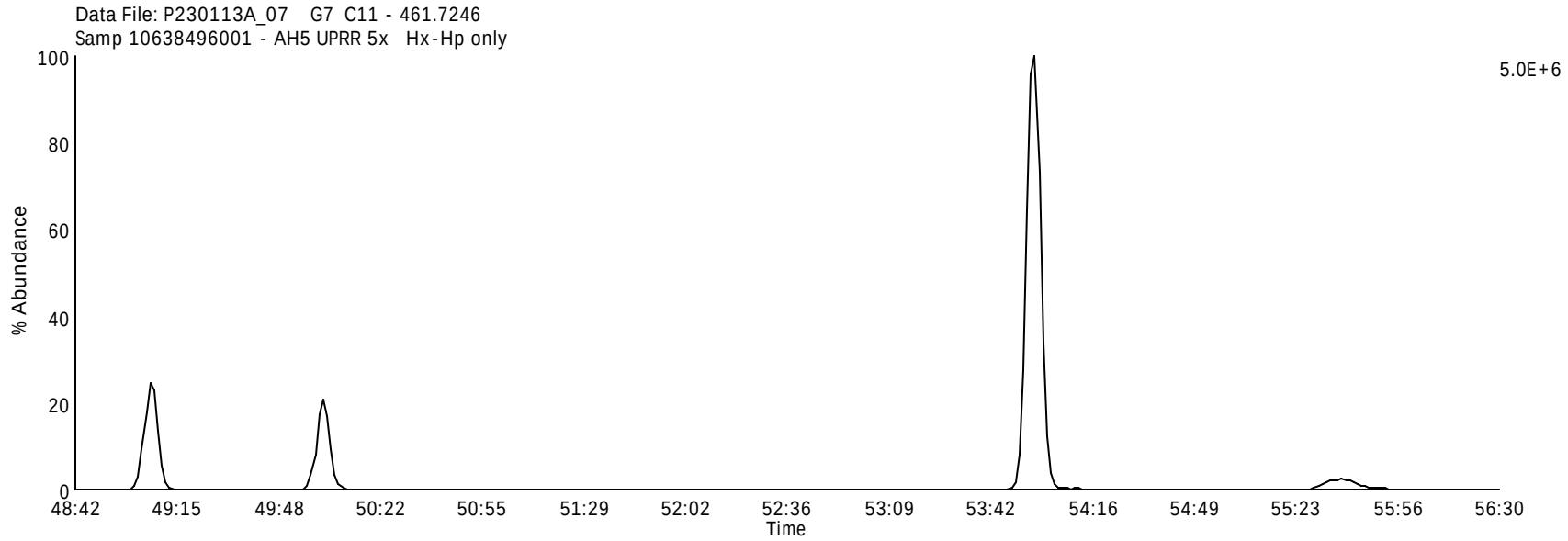


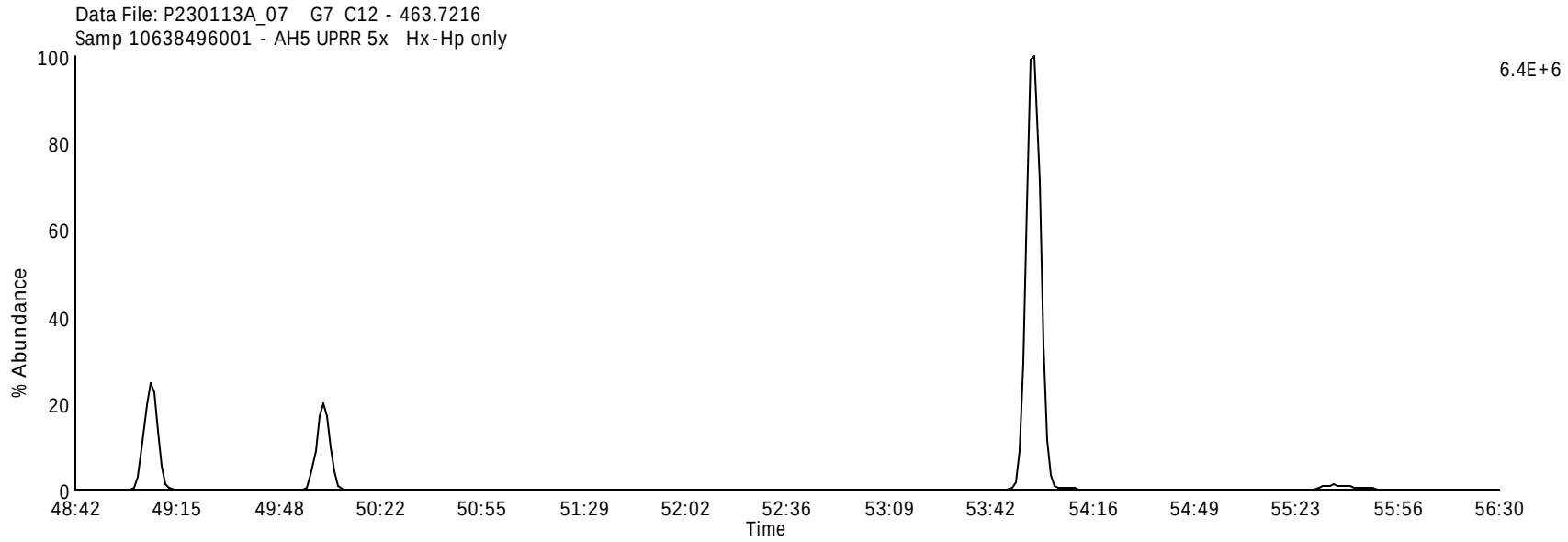
Nona Chlorinated Biphenyls

Data File Name: P230113A_07 | Lab Sample ID: 10638496001

Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

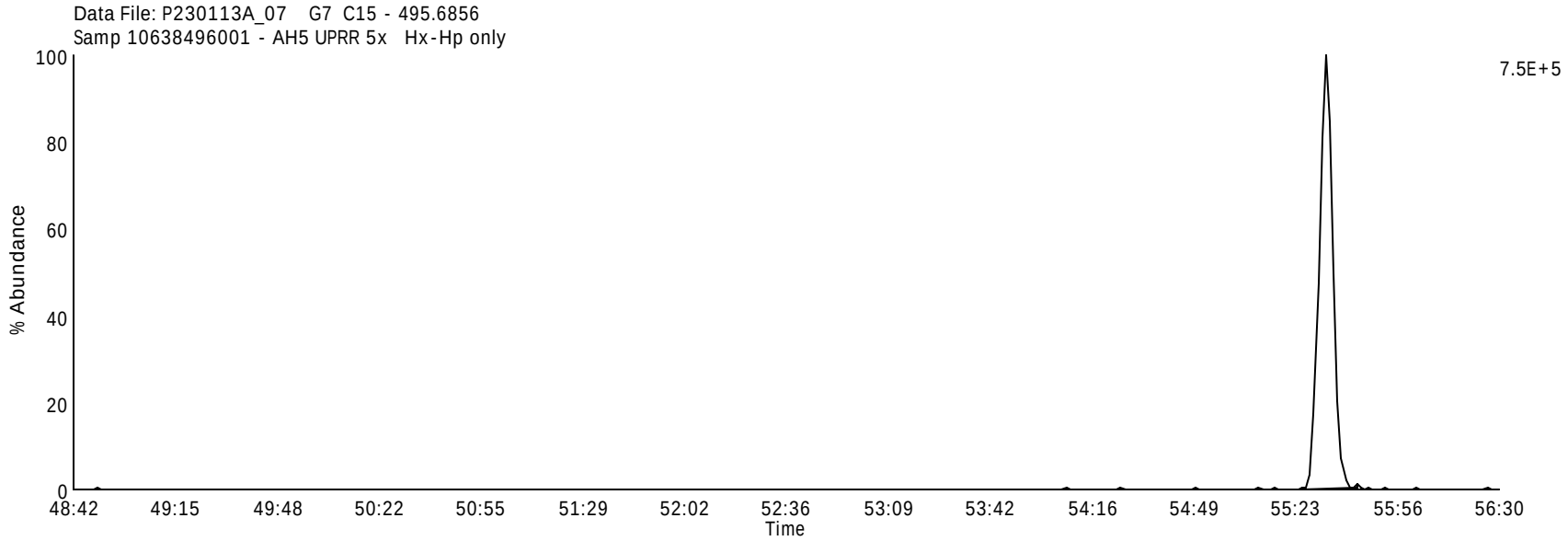
Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only | Client Sample ID: SB06-1.0-1.5-1022

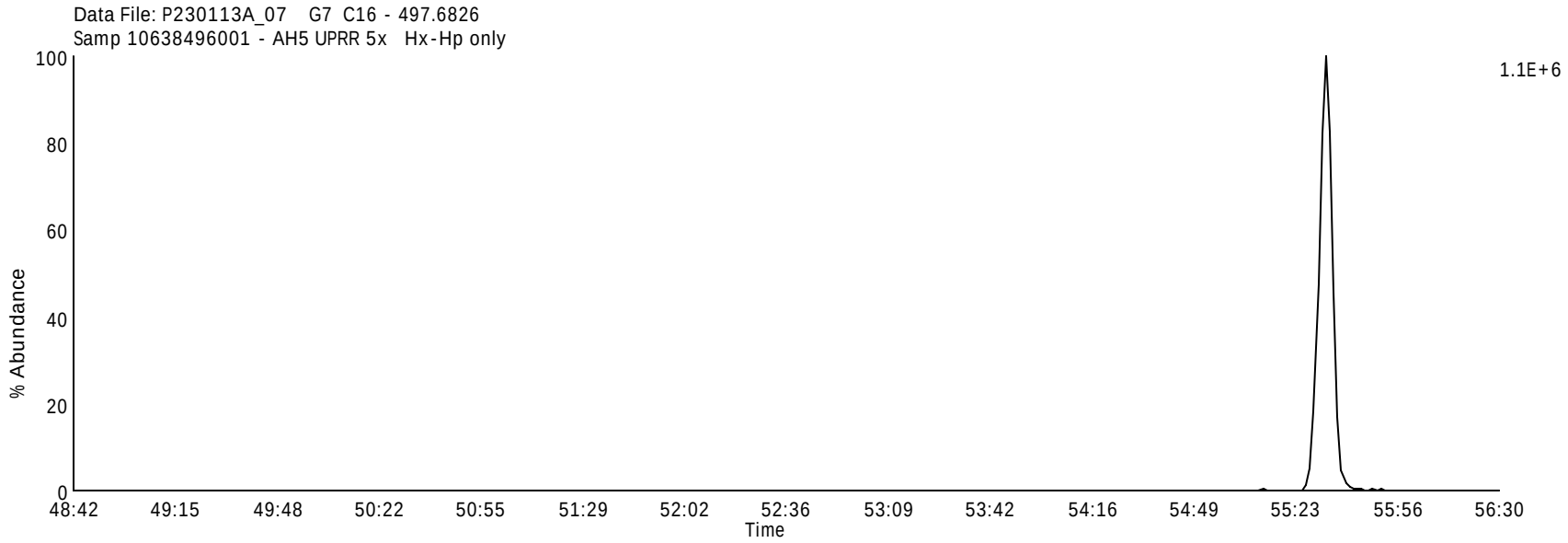




Deca Chlorinated Biphenyl

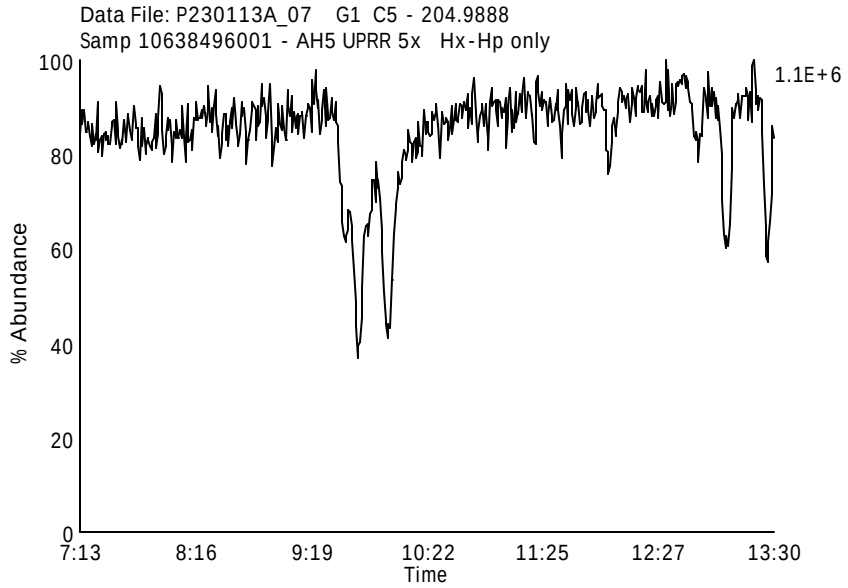
Data File Name: P230113A_07	Lab Sample ID: 10638496001
Date Acquired: 1/13/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only	Client Sample ID: SB06-1.0-1.5-1022

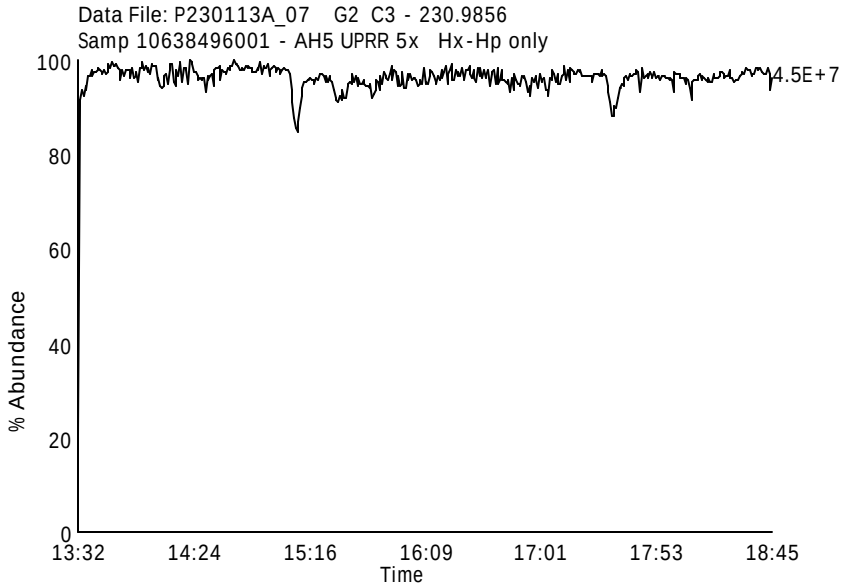


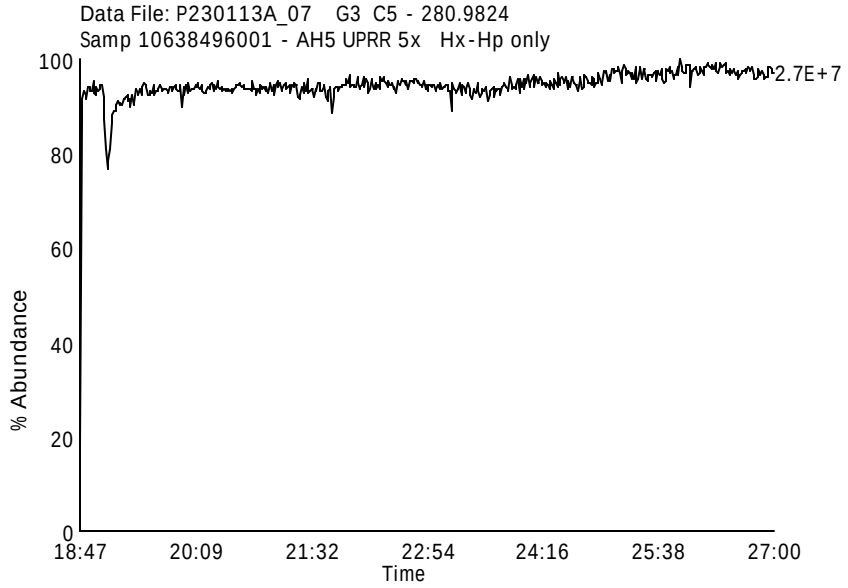


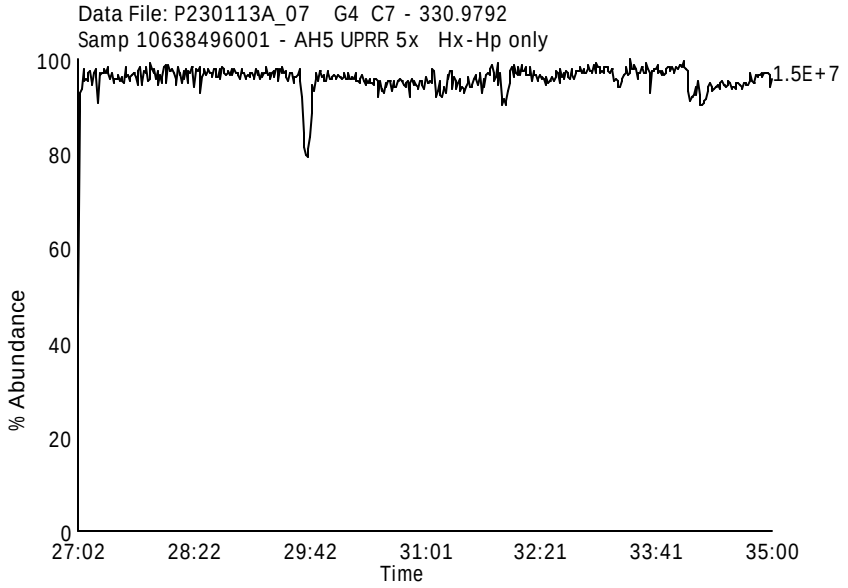
Group 1 - 4 Lock mass

Data File Name: P230113A_07
Lab Sample ID: 10638496001
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only
Client Sample ID: SB06-1.0-1.5-1022



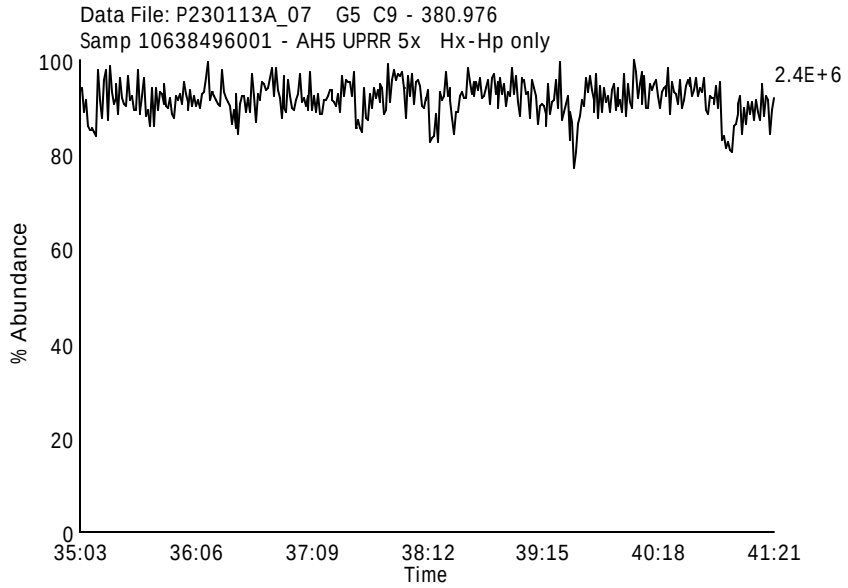


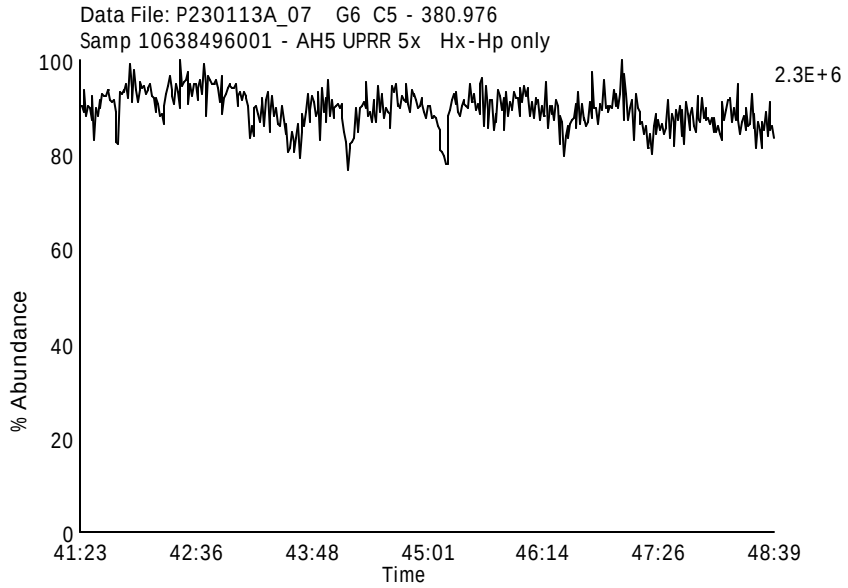


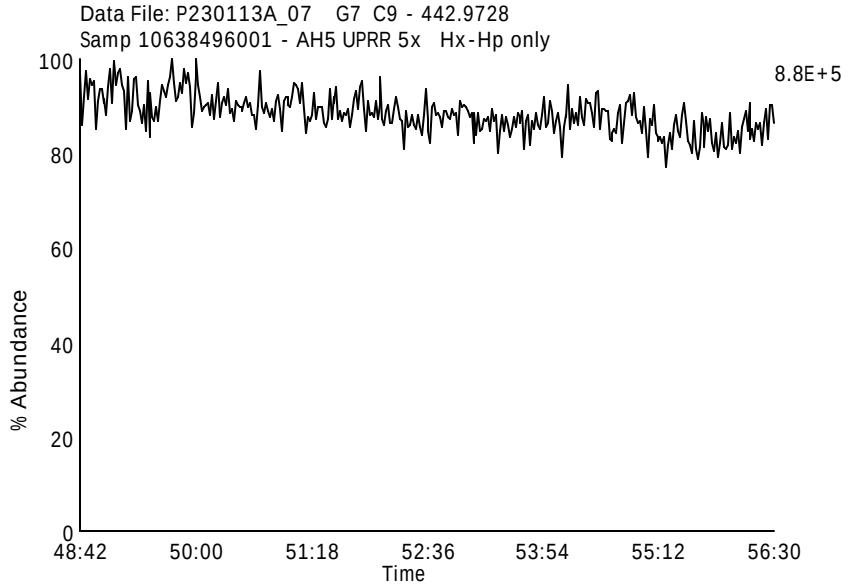


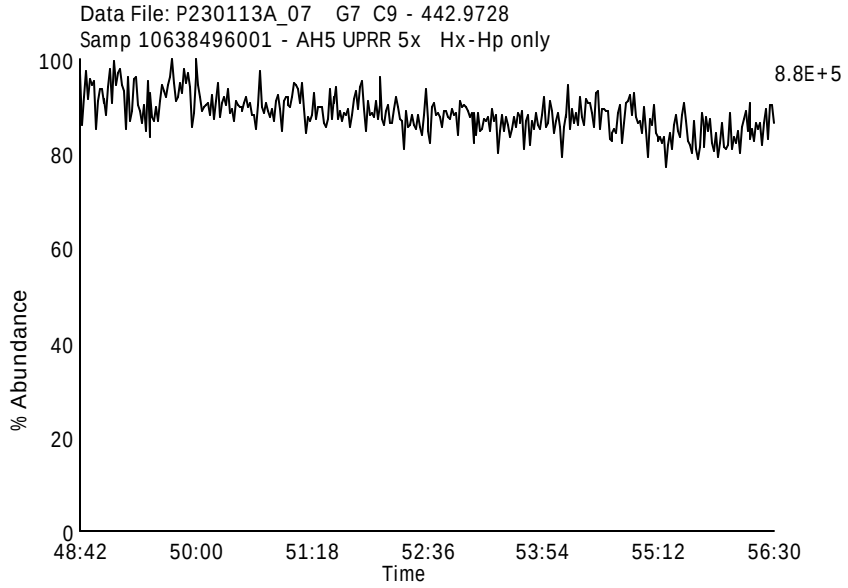
Group 5 - 7 Lock mass

Data File Name: P230113A_07
Lab Sample ID: 10638496001
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001 - AH5 UPRR 5x Hx-Hp only
Client Sample ID: SB06-1.0-1.5-1022



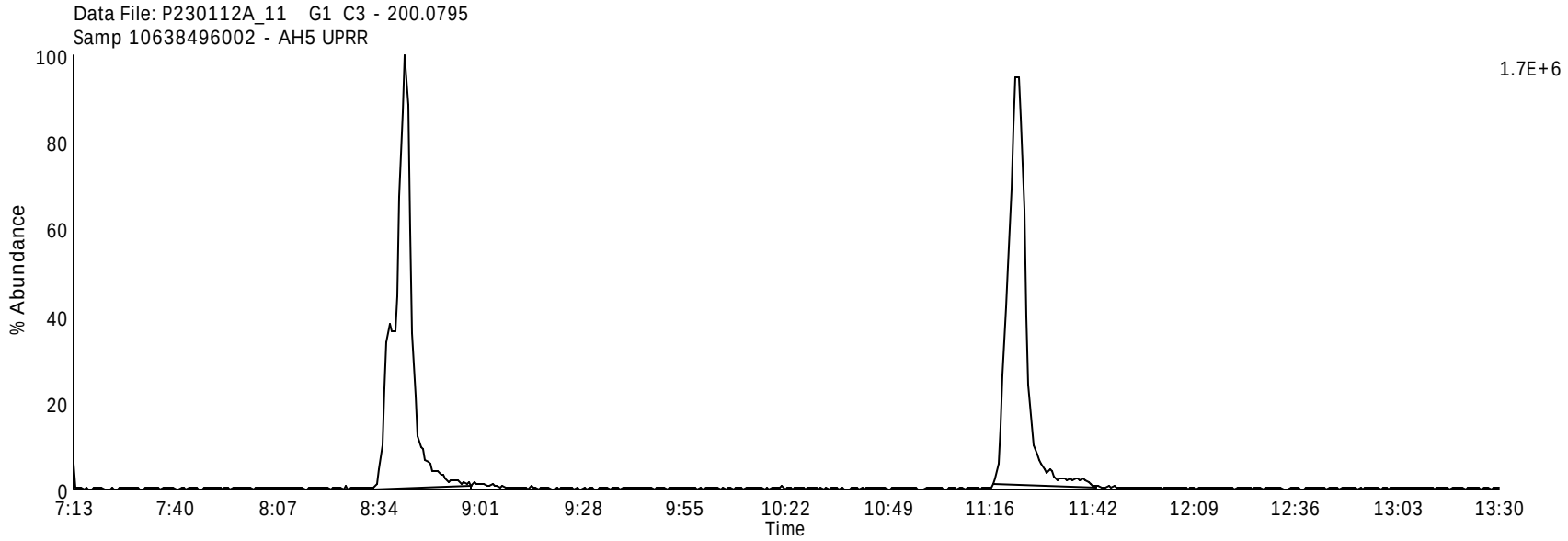


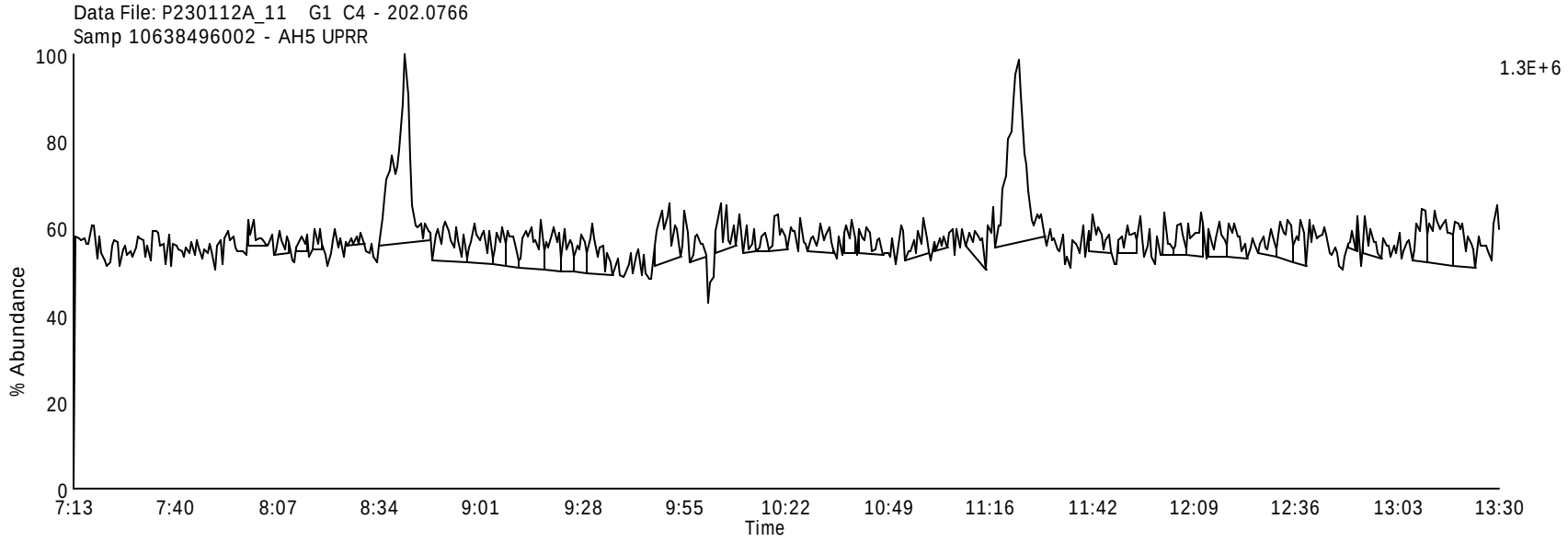




Labeled Mono Chlorinated Biphenyls

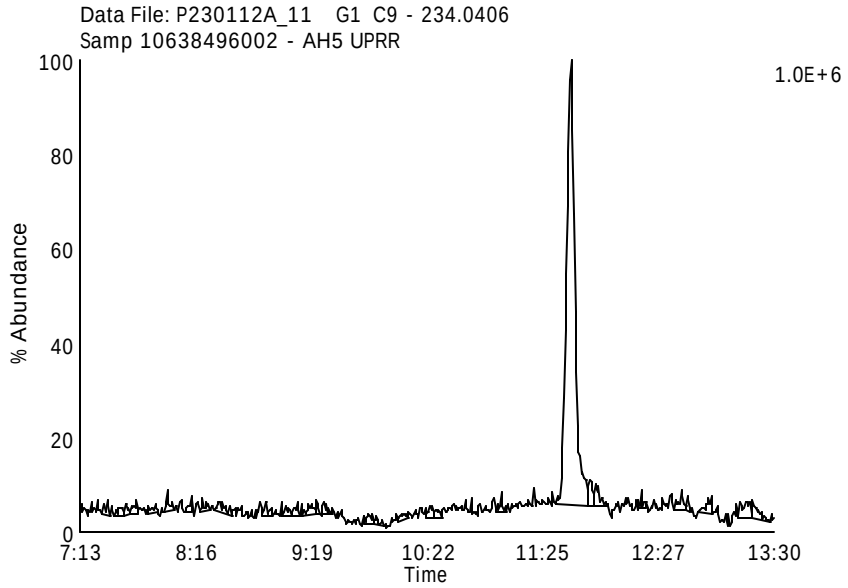
Data File Name: P230112A_11	Lab Sample ID: 10638496002
Date Acquired: 1/12/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR	Client Sample ID: SB08-0.5-110322

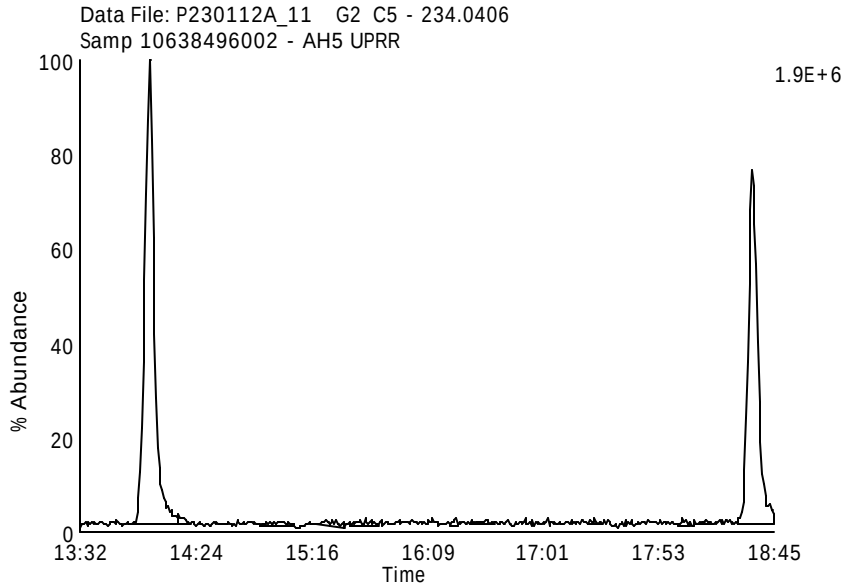


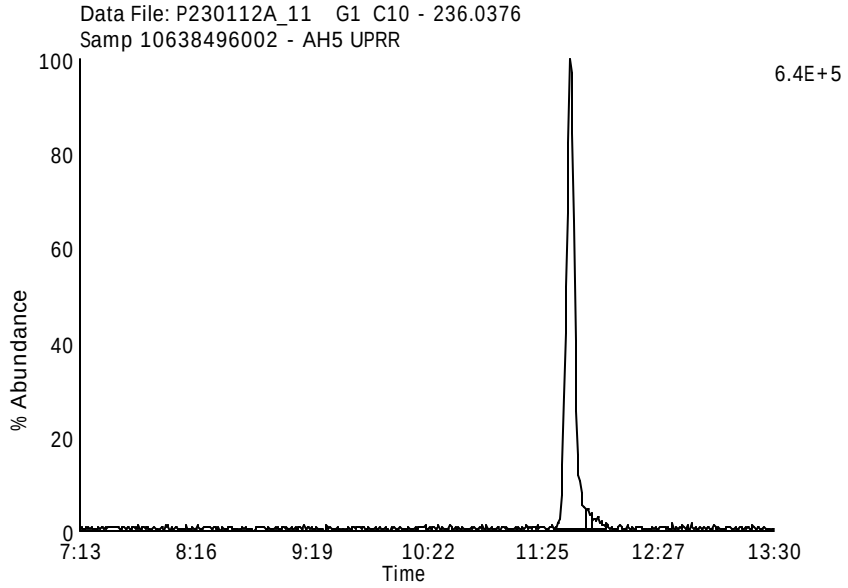


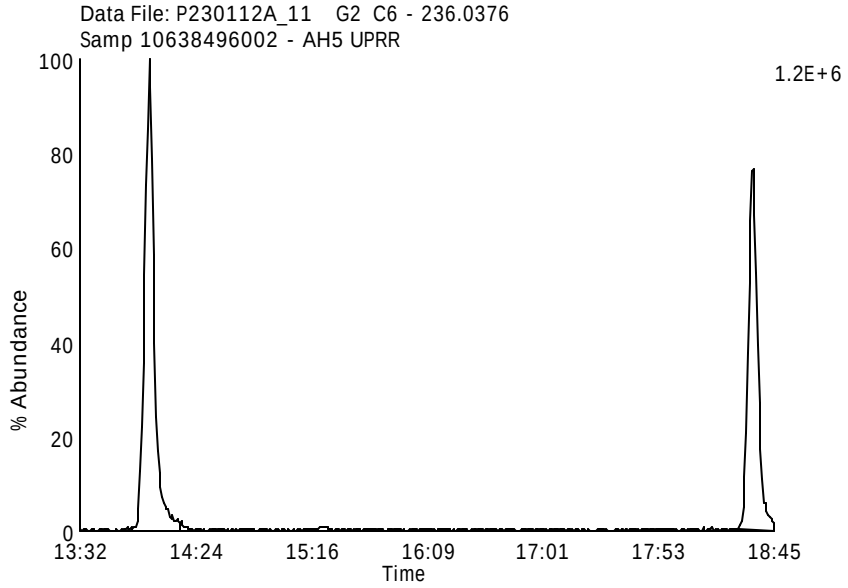
Labeled Di Chlorinated Biphenyls

Data File Name: P230112A_11
Lab Sample ID: 10638496002
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR
Client Sample ID: SB08-0.5-110322



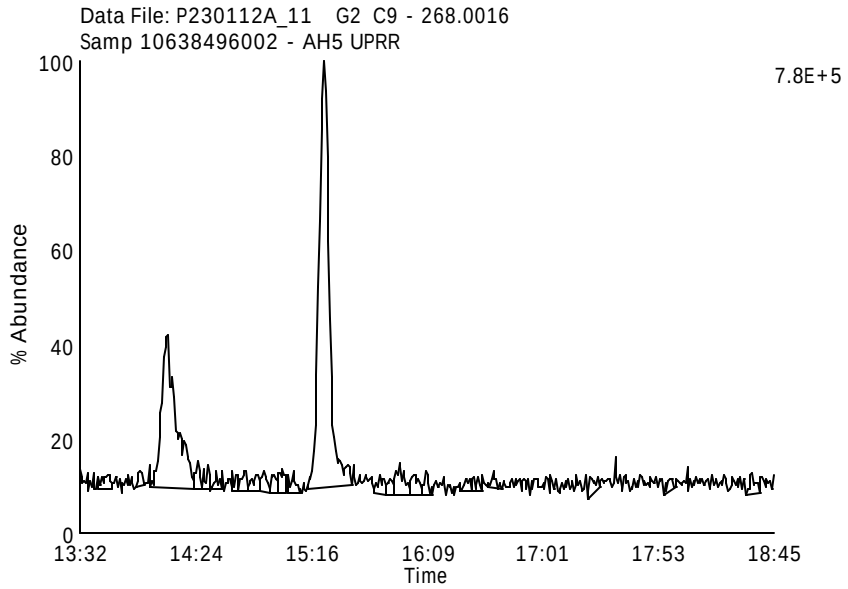


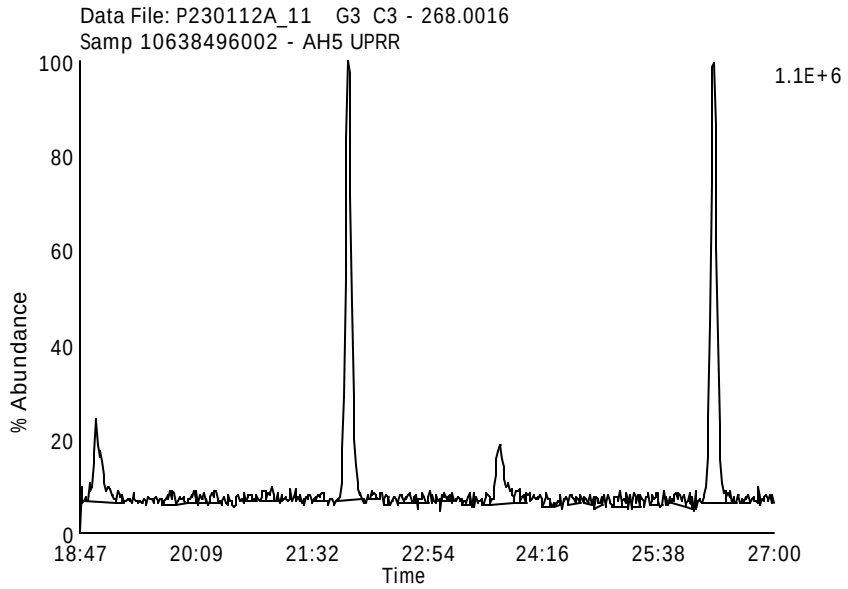


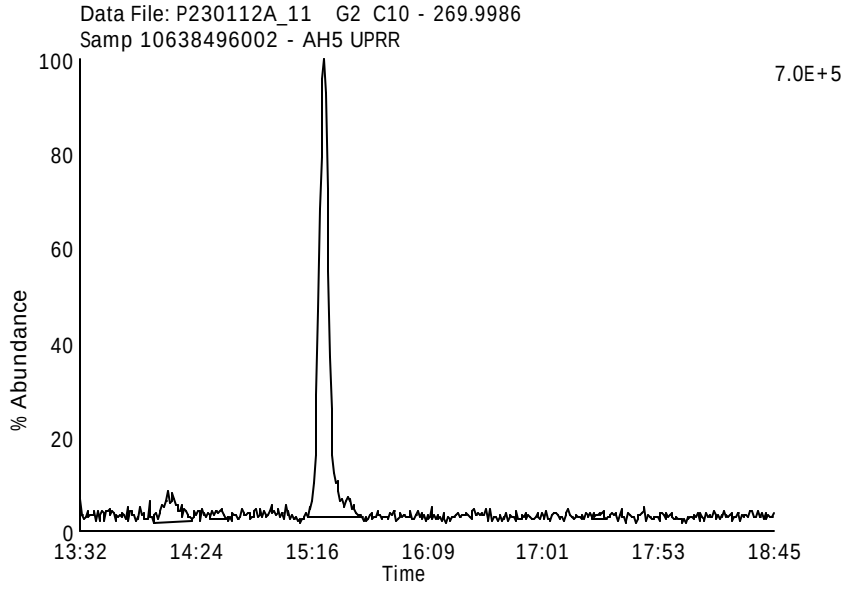


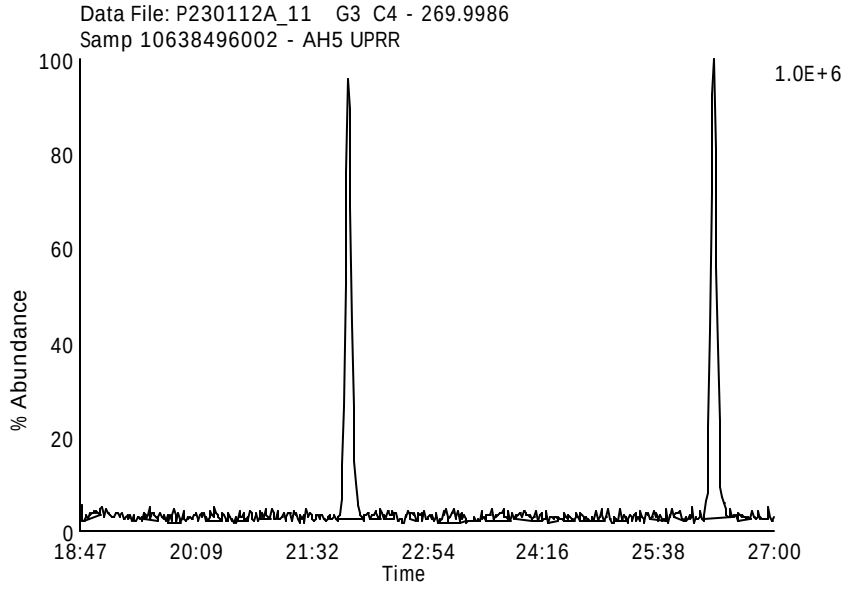
Labeled Tri Chlorinated Biphenyls

Data File Name: P230112A_11
Lab Sample ID: 10638496002
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR
Client Sample ID: SB08-0.5-110322



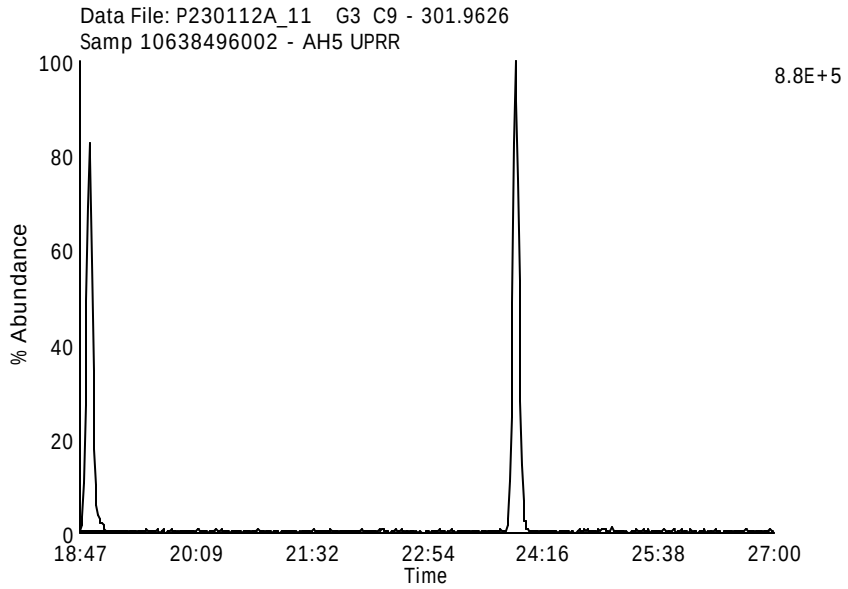


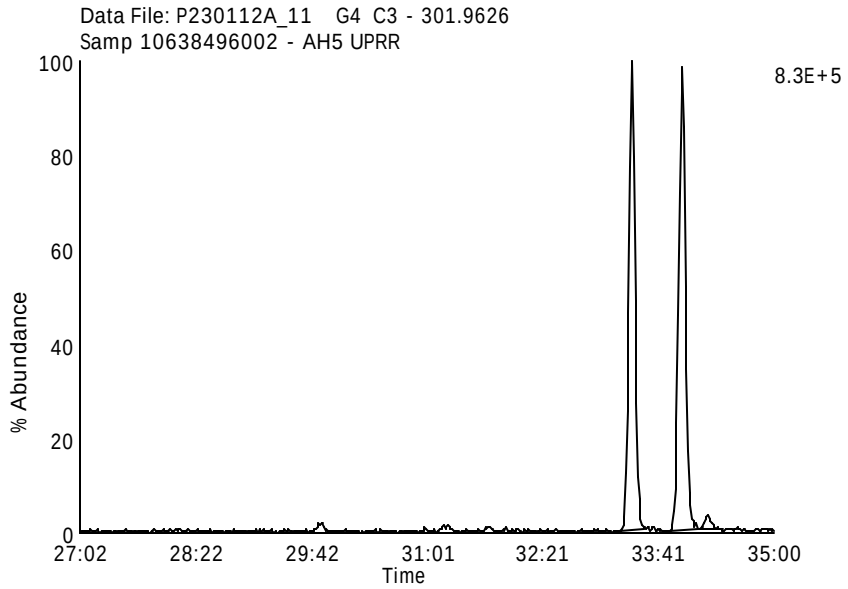


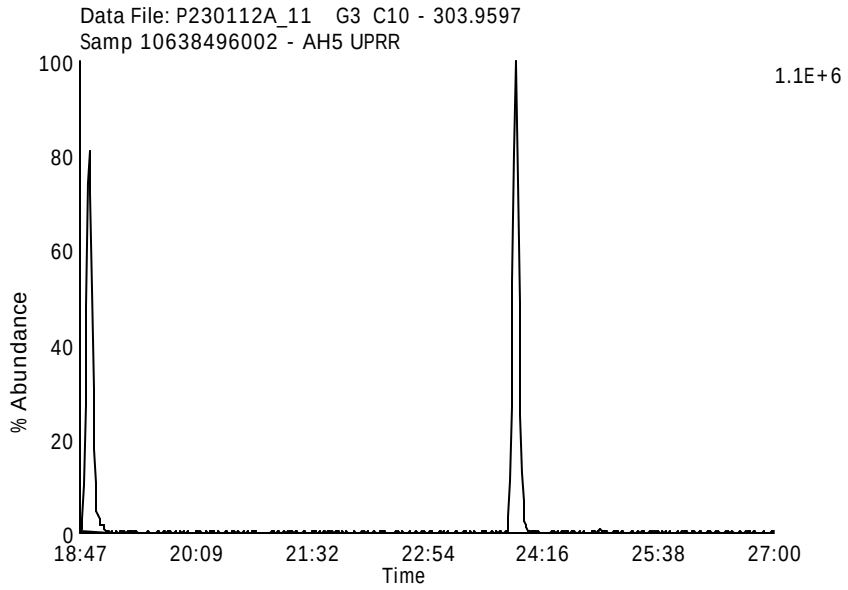


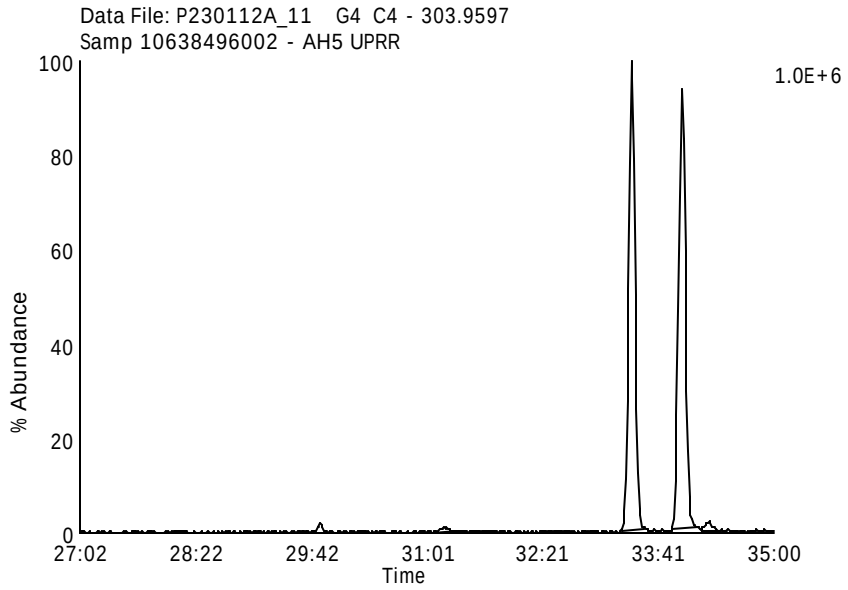
Labeled Tetra Chlorinated Biphenyls

Data File Name: P230112A_11
Lab Sample ID: 10638496002
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR
Client Sample ID: SB08-0.5-110322



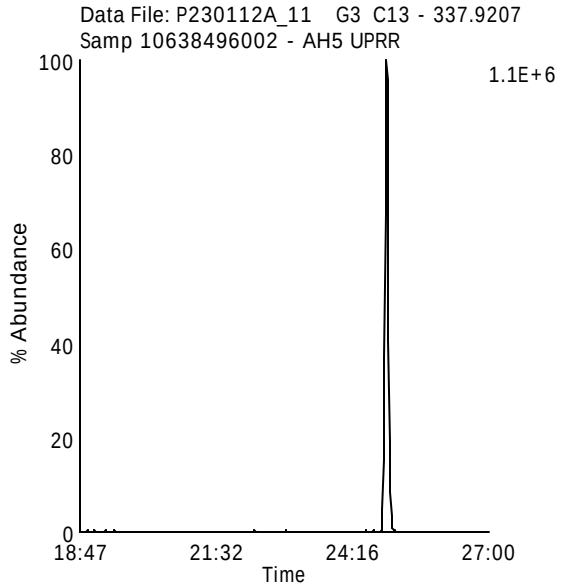


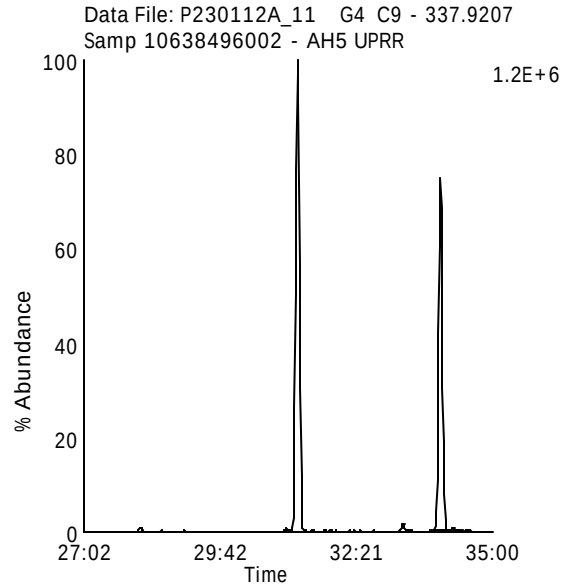


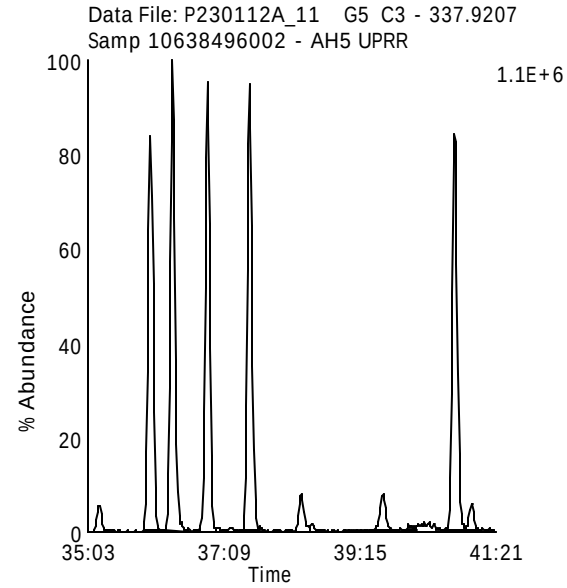


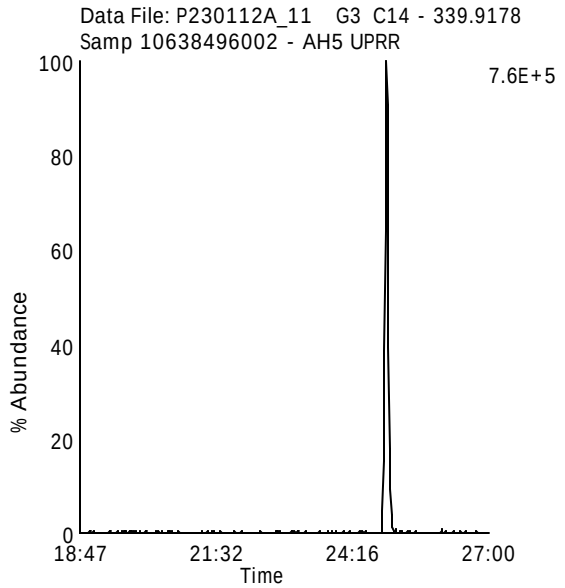
Labeled Penta Chlorinated Biphenyls

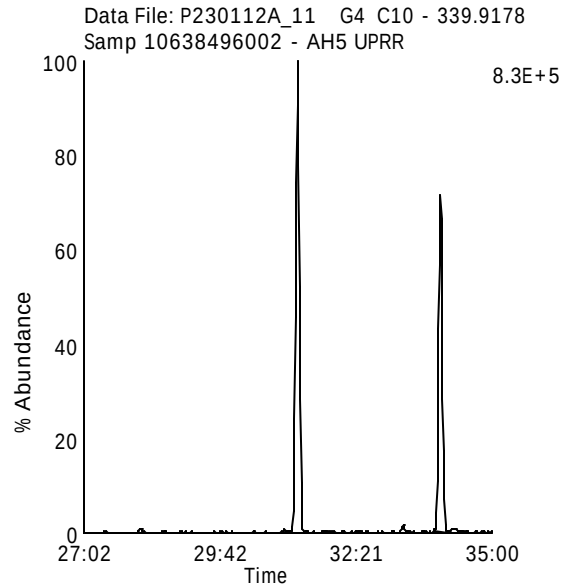
Data File Name: P230112A_11
Lab Sample ID: 10638496002
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR
Client Sample ID: SB08-0.5-110322

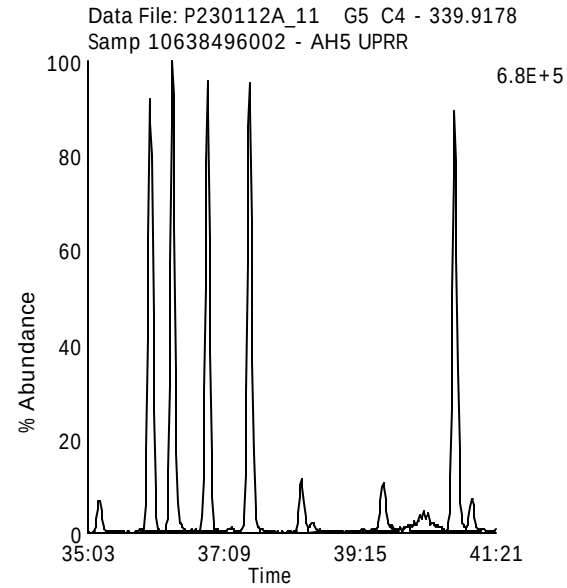






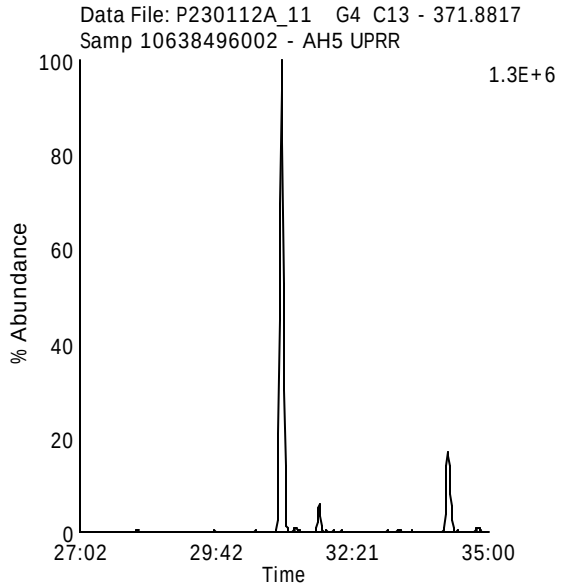


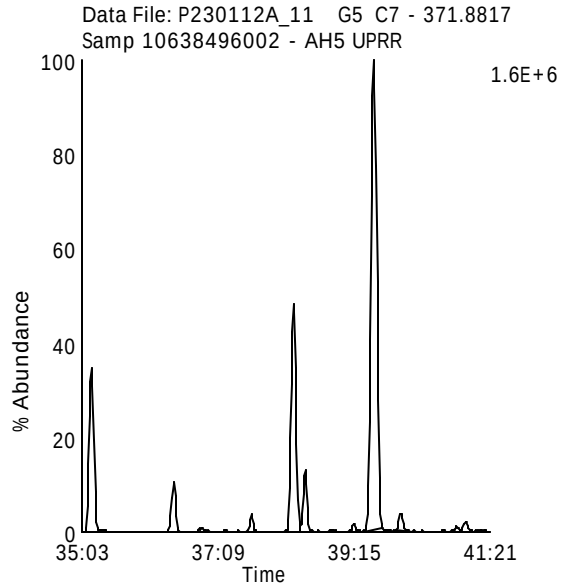


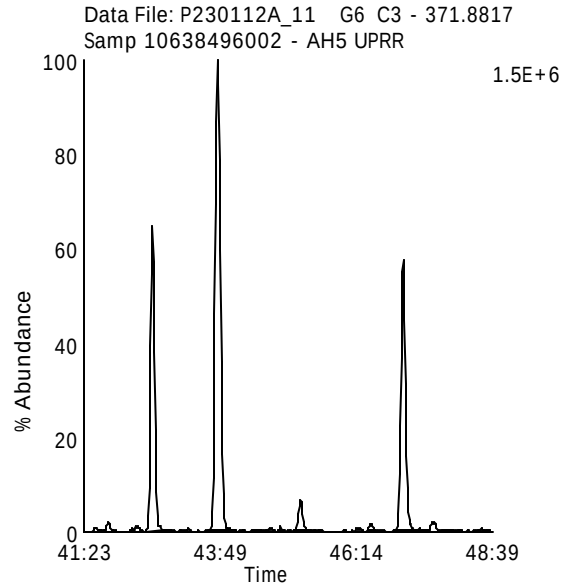


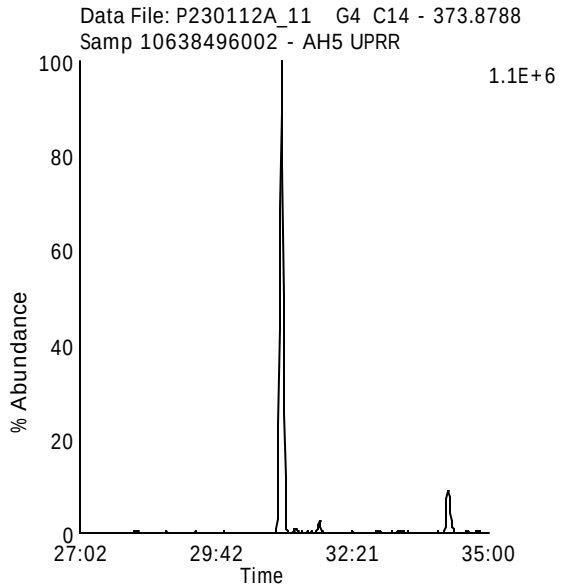
Labeled Hexa Chlorinated Biphenyls

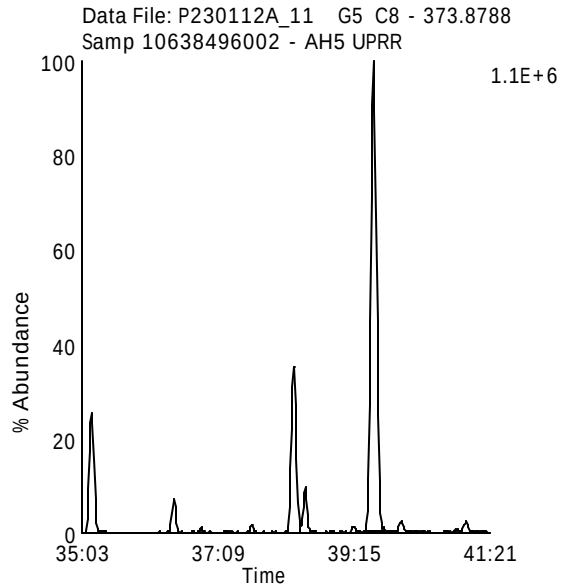
Data File Name: P230112A_11
Lab Sample ID: 10638496002
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR
Client Sample ID: SB08-0.5-110322

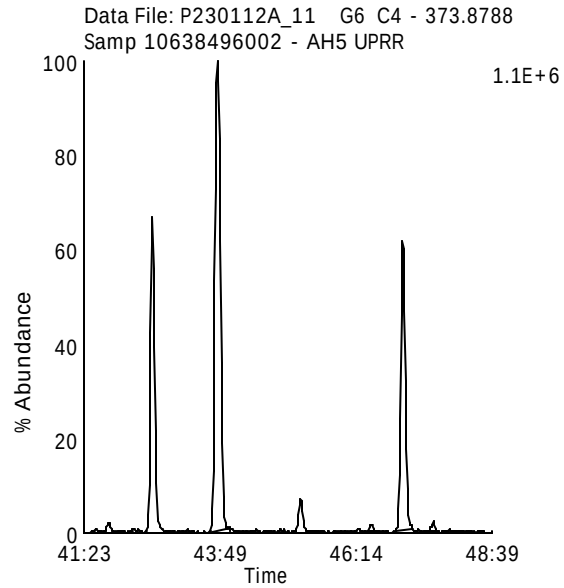






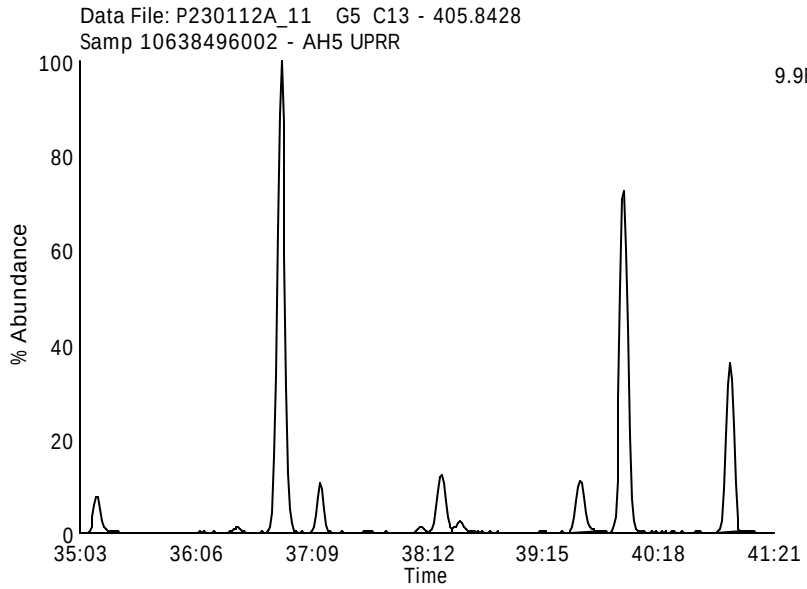


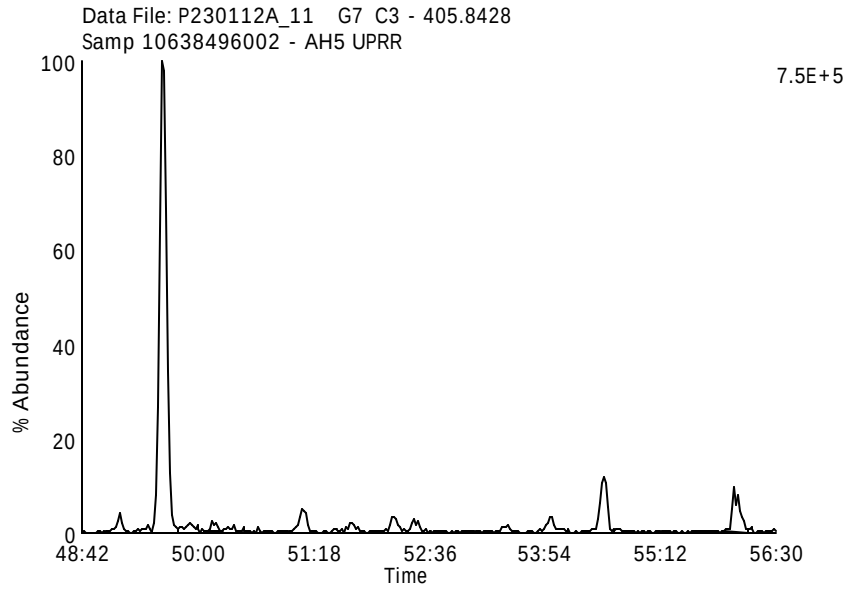


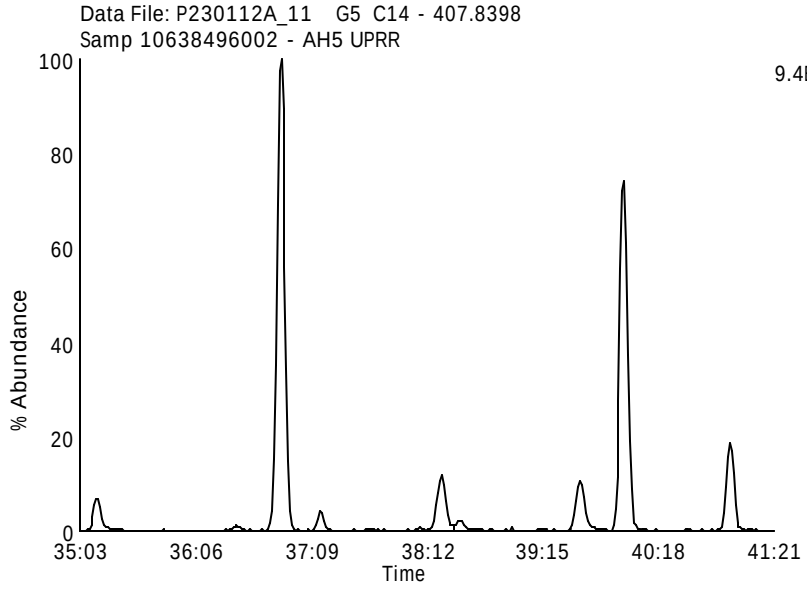


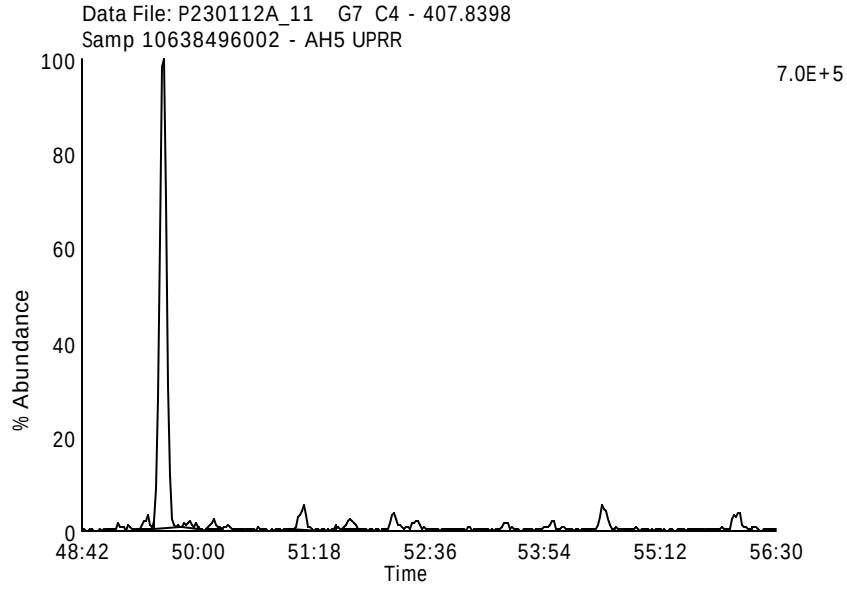
Labeled Hepta Chlorinated Biphenyls

Data File Name: P230112A_11
Lab Sample ID: 10638496002
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR
Client Sample ID: SB08-0.5-110322



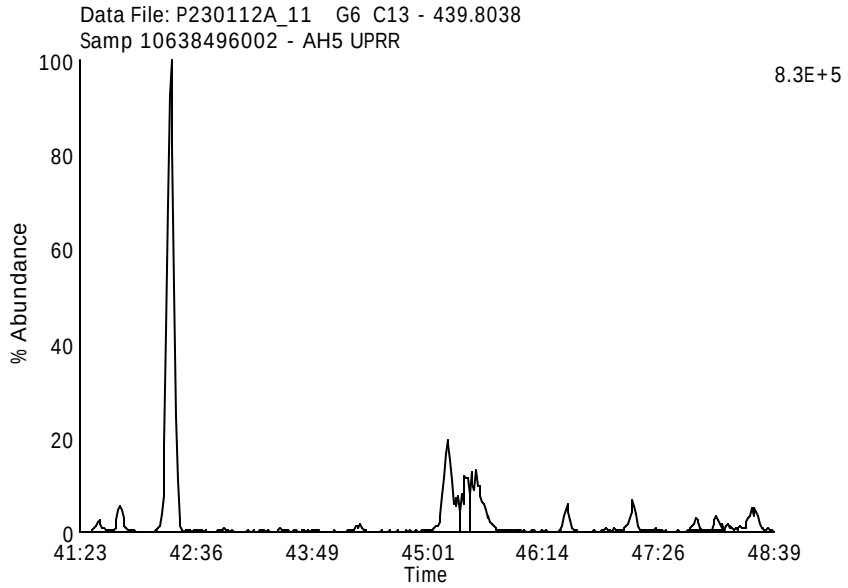


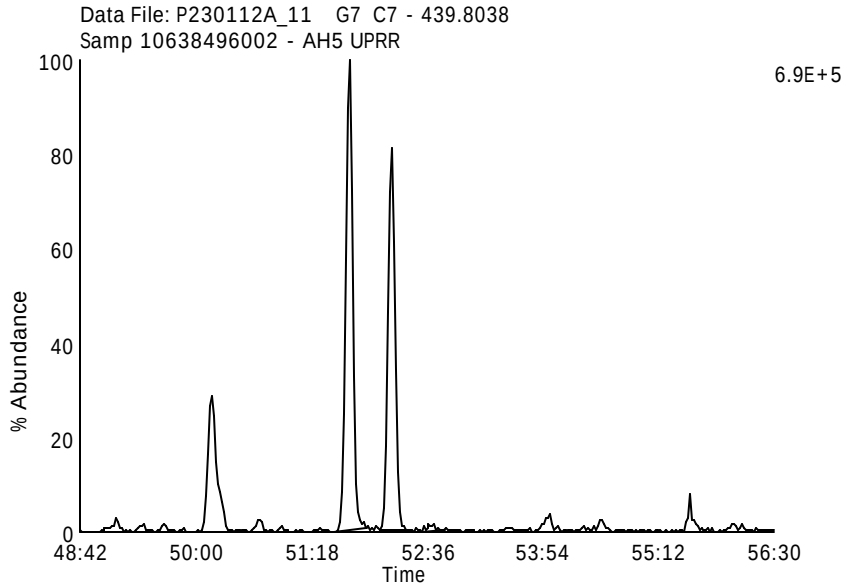


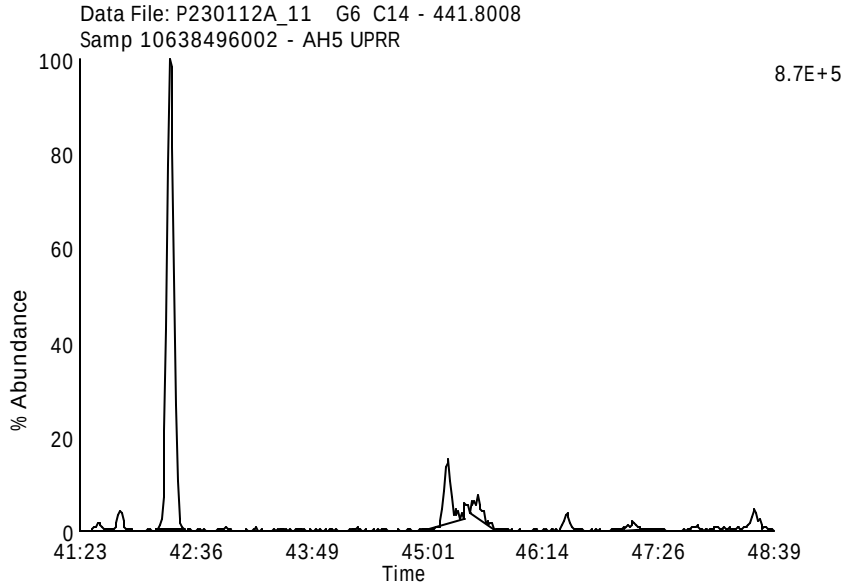


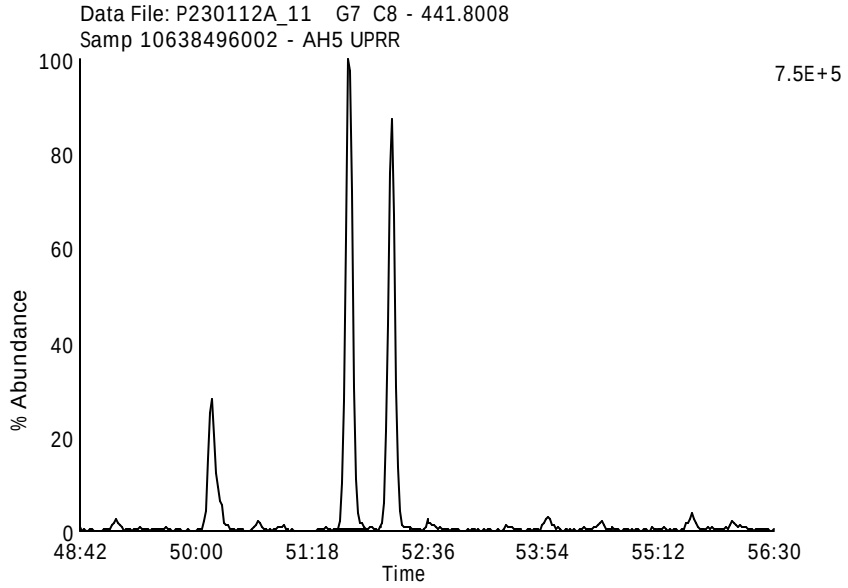
Labeled Octa Chlorinated Biphenyls

Data File Name: P230112A_11
Lab Sample ID: 10638496002
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR
Client Sample ID: SB08-0.5-110322



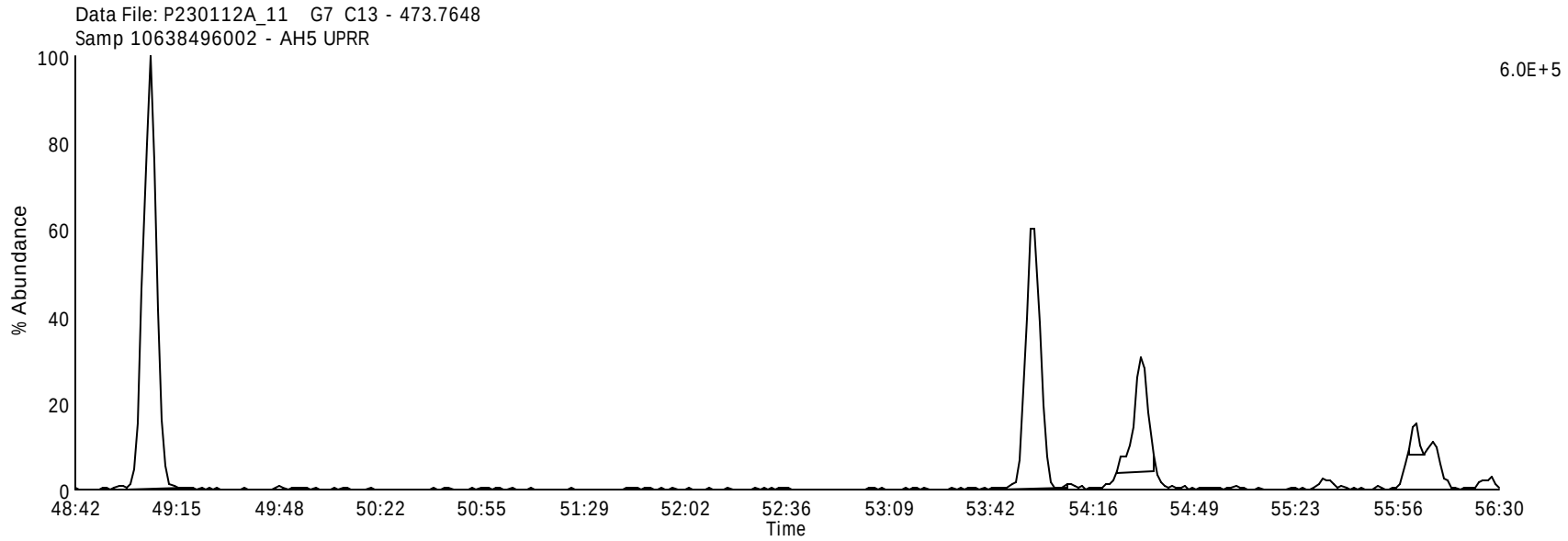


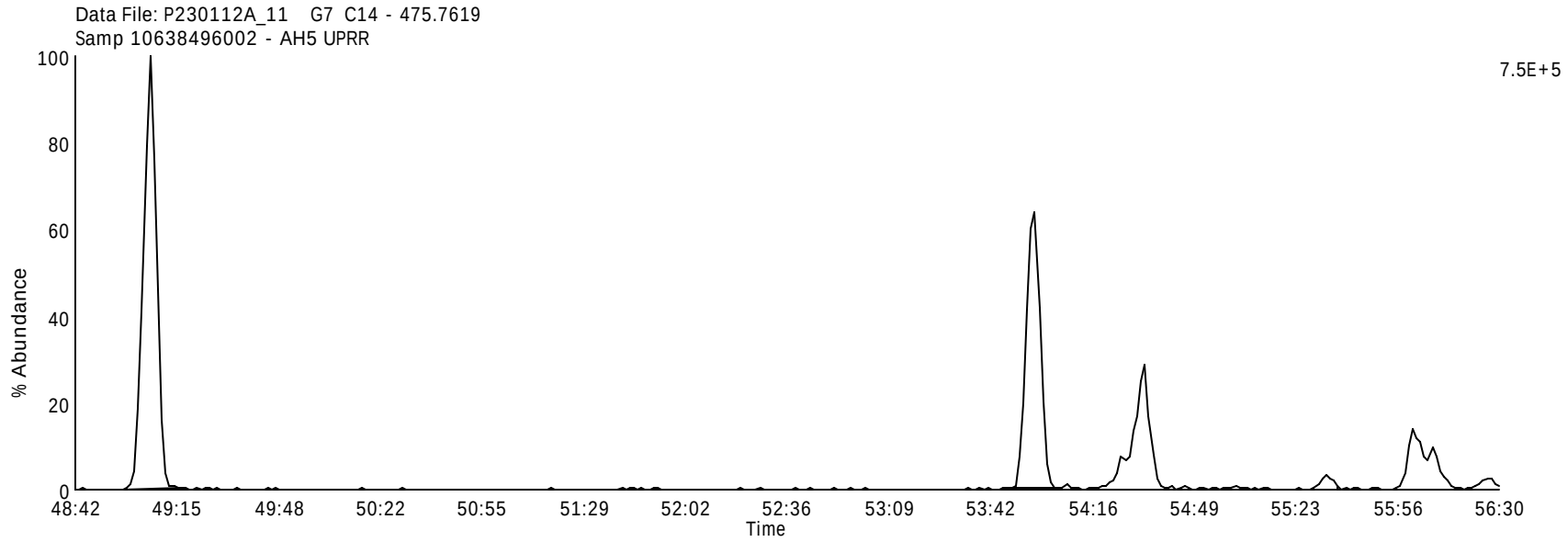




Labeled Nona Chlorinated Biphenyls

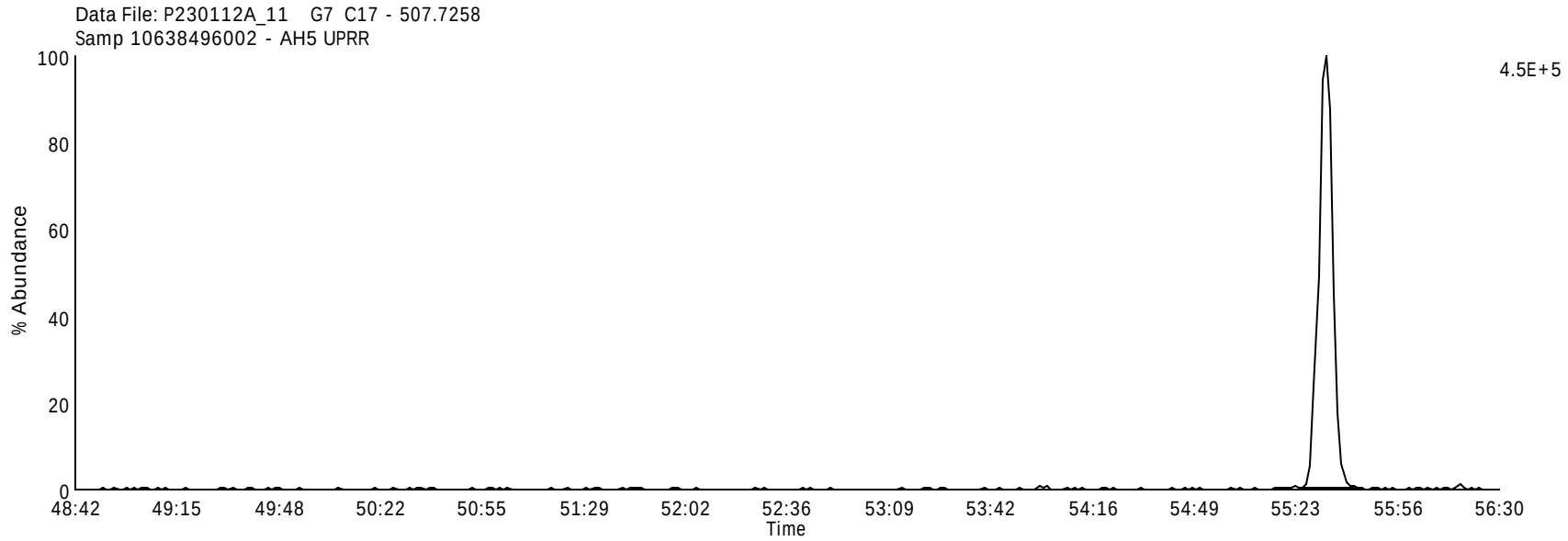
Data File Name: P230112A_11
Lab Sample ID: 10638496002
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR
Client Sample ID: SB08-0.5-110322

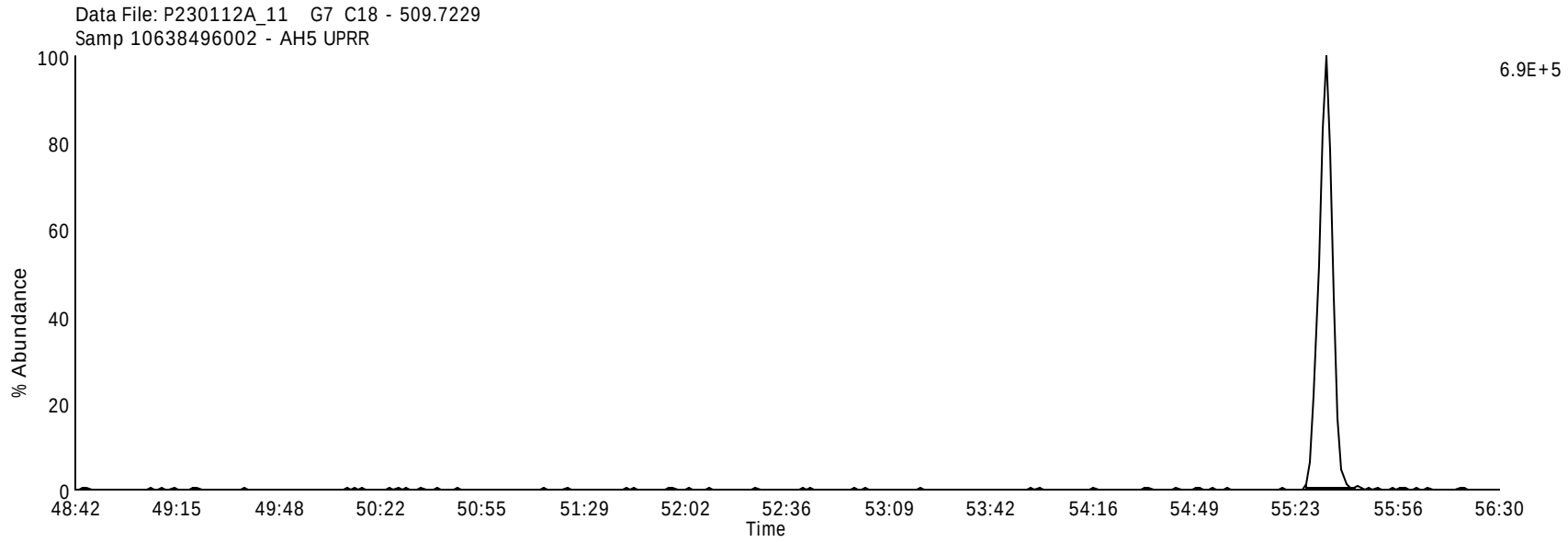




Labeled Deca Chlorinated Biphenyl

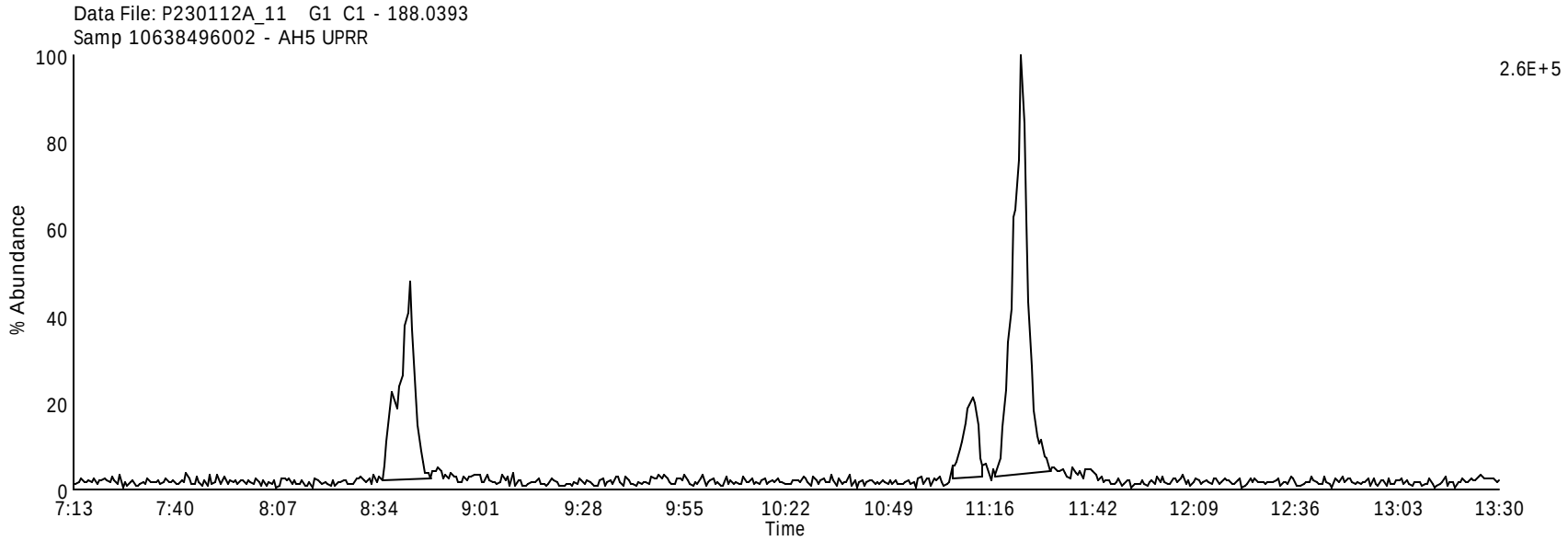
Data File Name: P230112A_11 | Lab Sample ID: 10638496002
Date Acquired: 1/12/2023 | Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR | Client Sample ID: SB08-0.5-110322

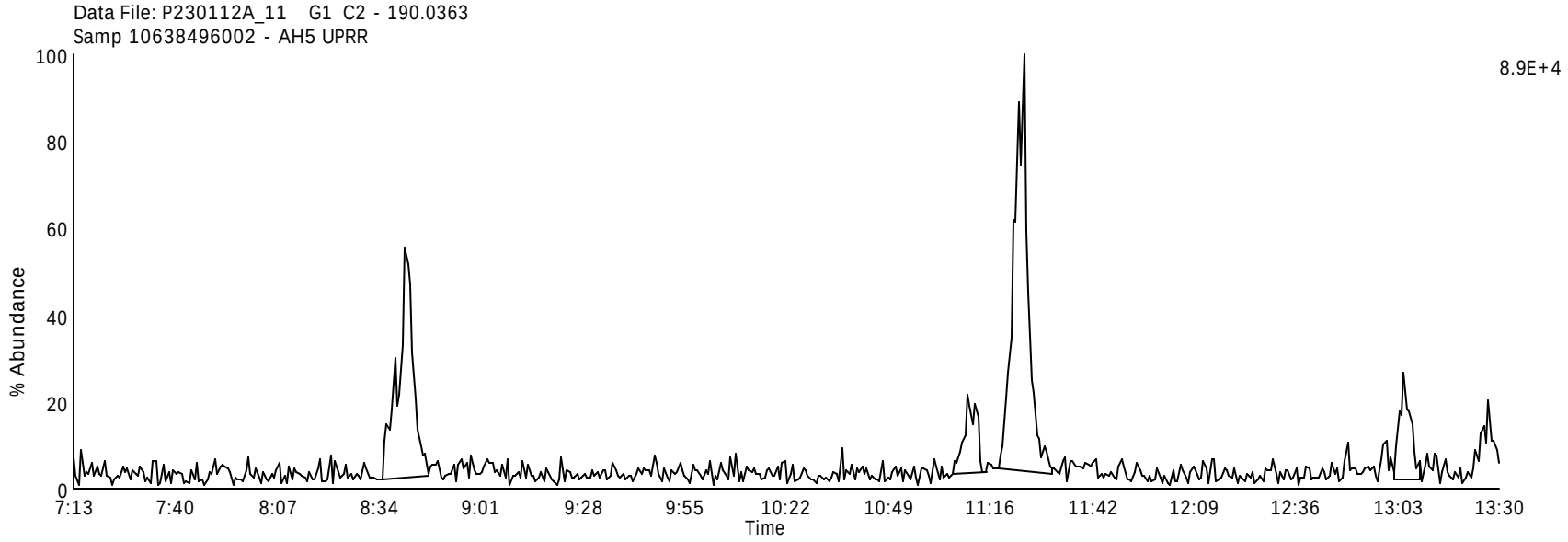




Mono Chlorinated Biphenyls

Data File Name: P230112A_11	Lab Sample ID: 10638496002
Date Acquired: 1/12/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR	Client Sample ID: SB08-0.5-110322

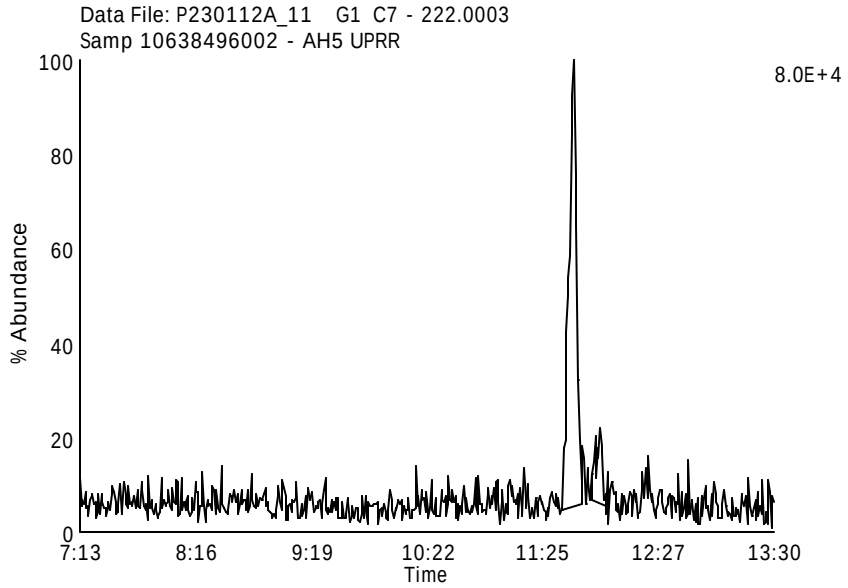


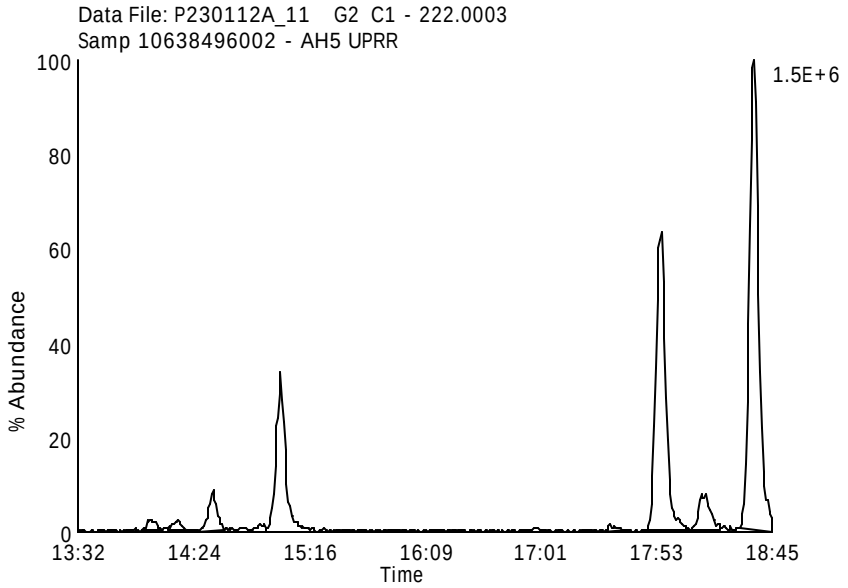


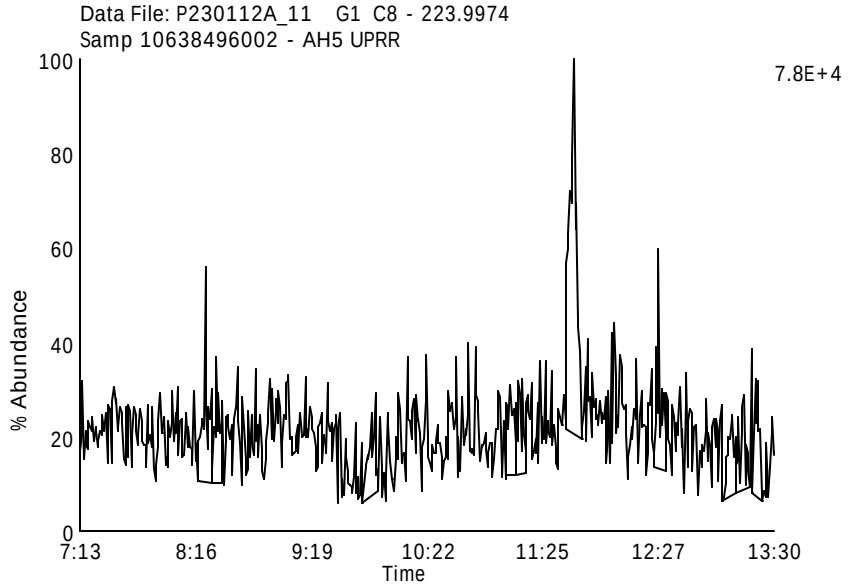
Di Chlorinated Biphenyls

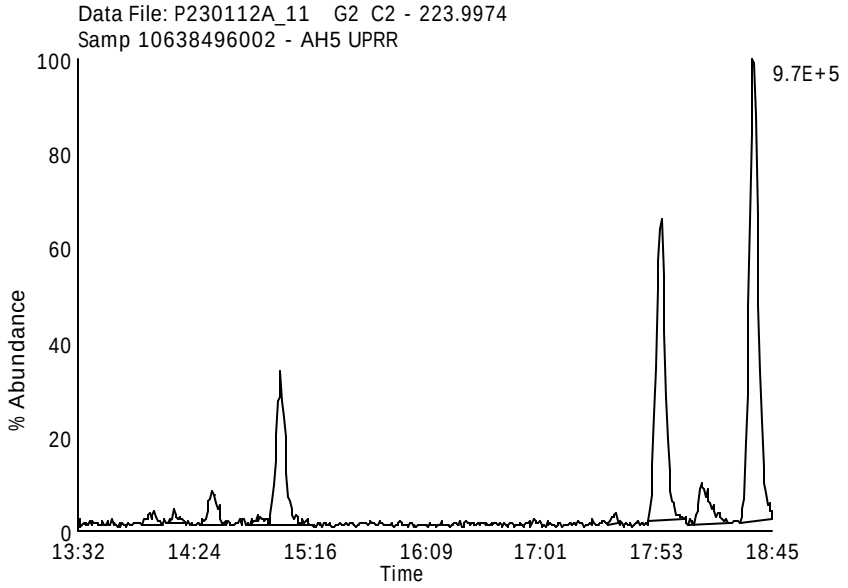
Data File Name: P230112A_11
Date Acquired: 1/12/2023
Sample Description: Samp 10638496002 - AH5 UPRR

Lab Sample ID: 10638496002
Instrument: 10MSHR09 (P)
Client Sample ID: SB08-0.5-110322





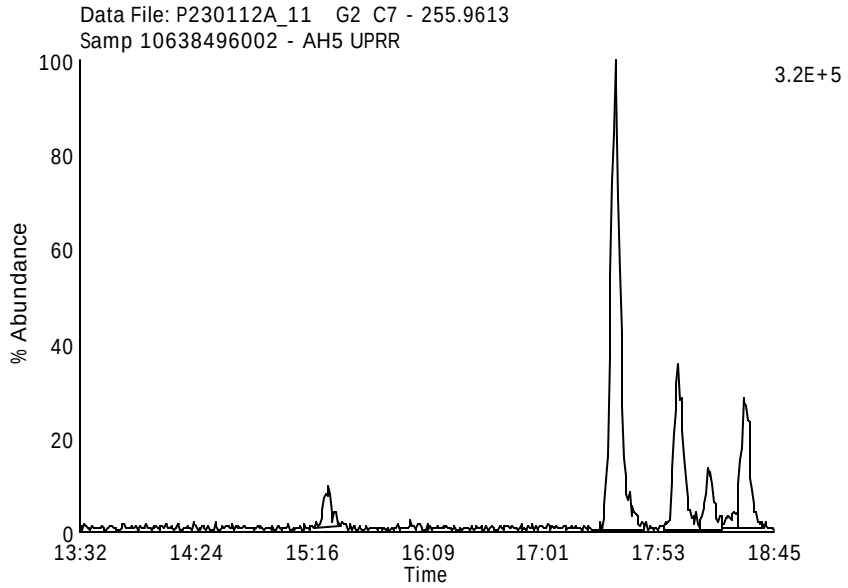


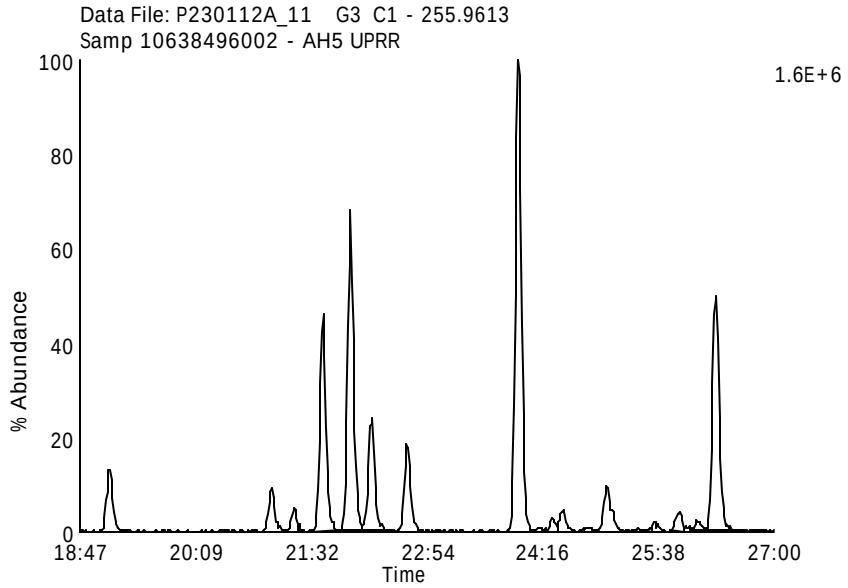


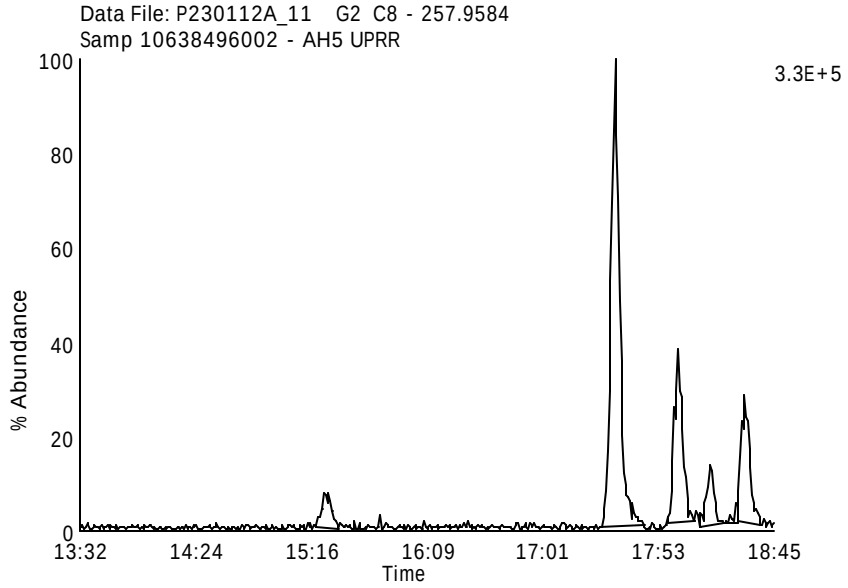
Tri Chlorinated Biphenyls

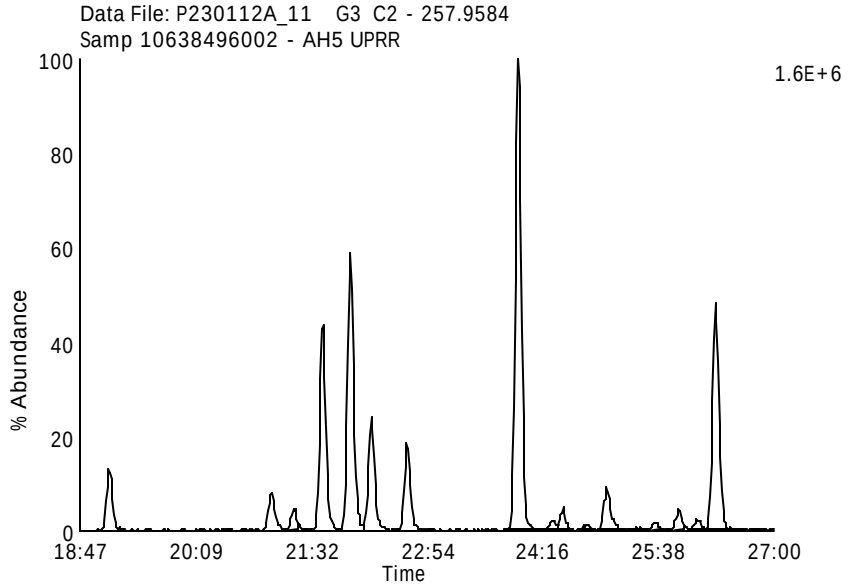
Data File Name: P230112A_11
Date Acquired: 1/12/2023
Sample Description: Samp 10638496002 - AH5 UPRR

Lab Sample ID: 10638496002
Instrument: 10MSHR09 (P)
Client Sample ID: SB08-0.5-110322



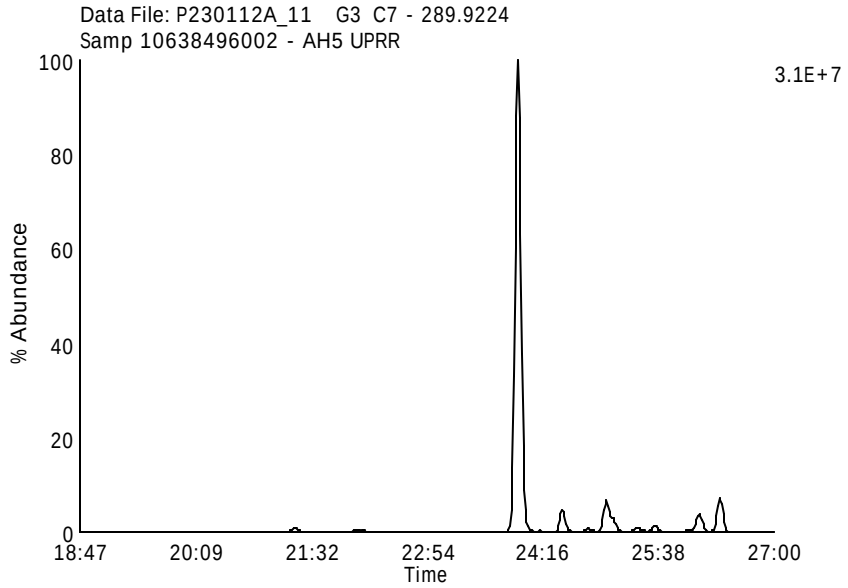


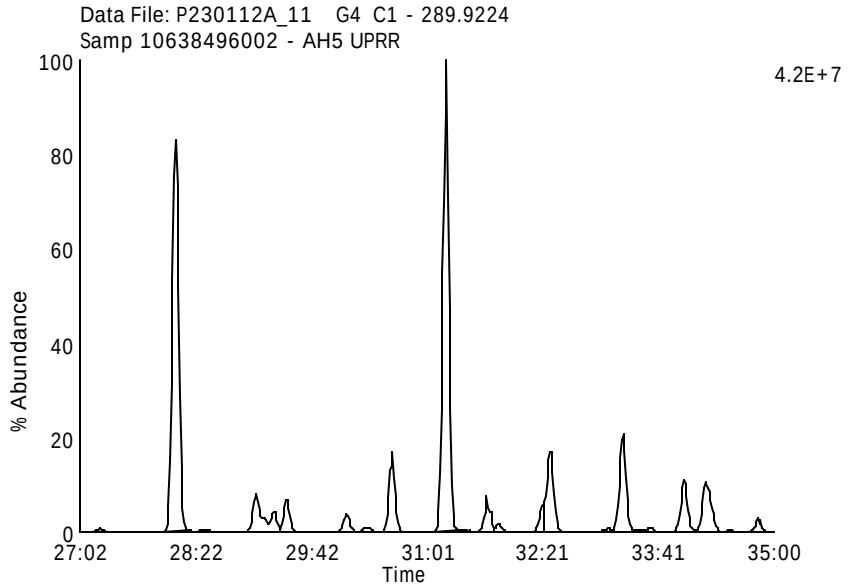


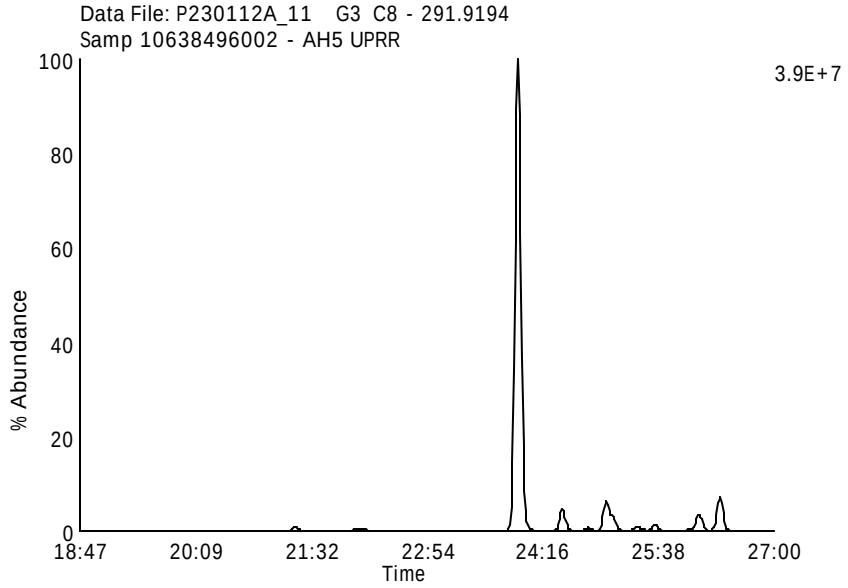


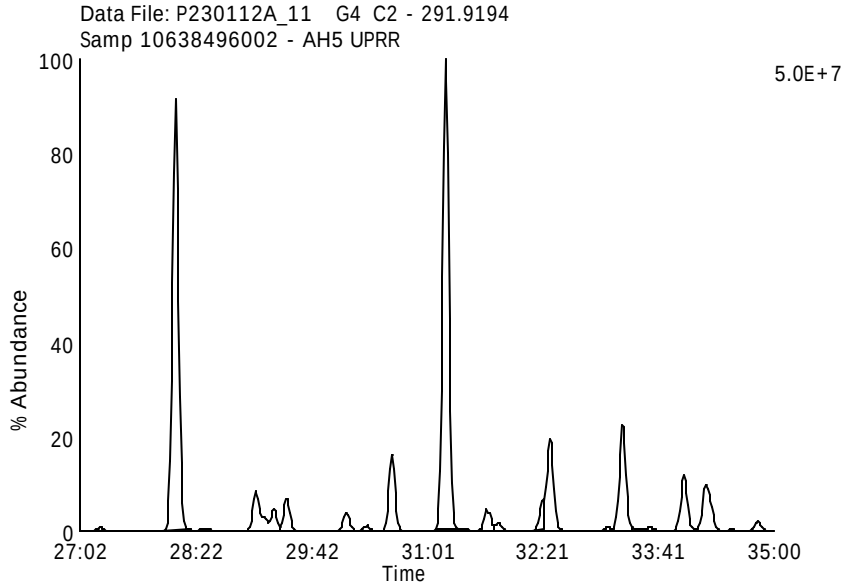
Tetra Chlorinated Biphenyls

Data File Name: P230112A_11
Lab Sample ID: 10638496002
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR
Client Sample ID: SB08-0.5-110322



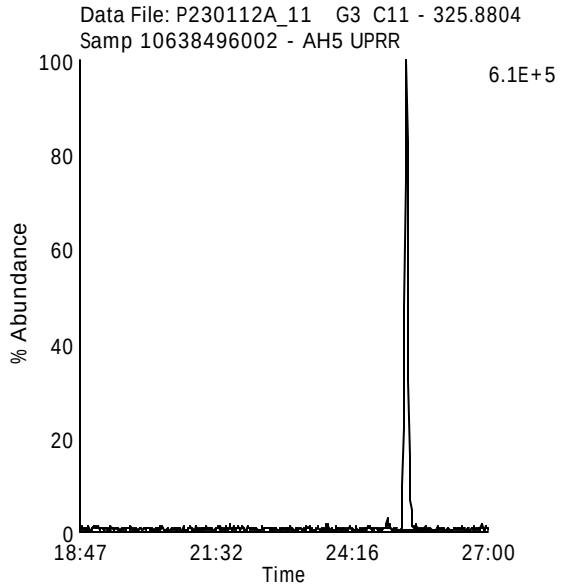


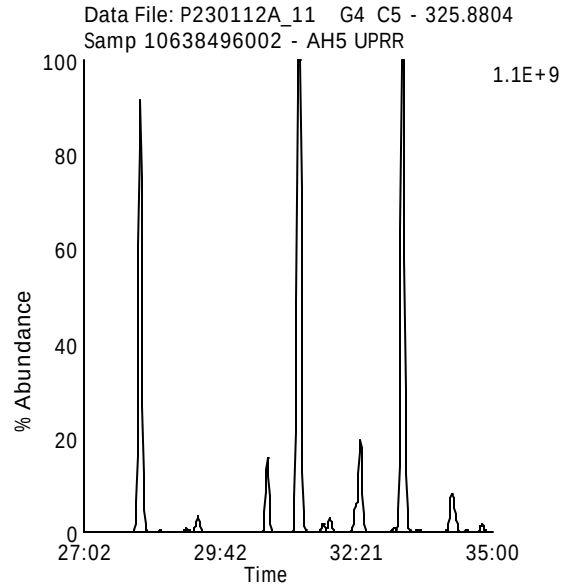


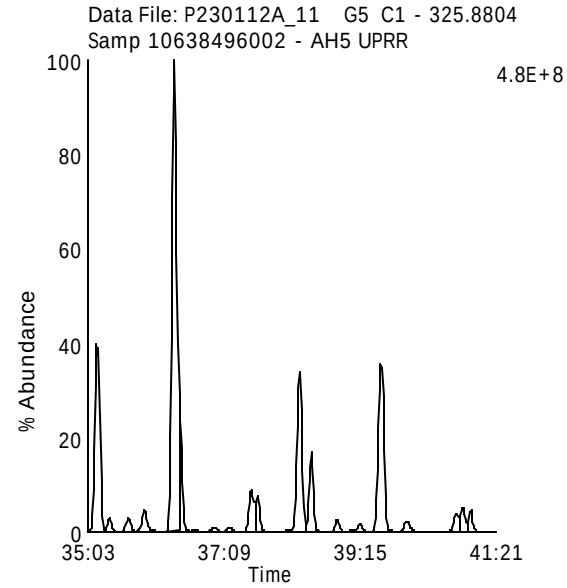


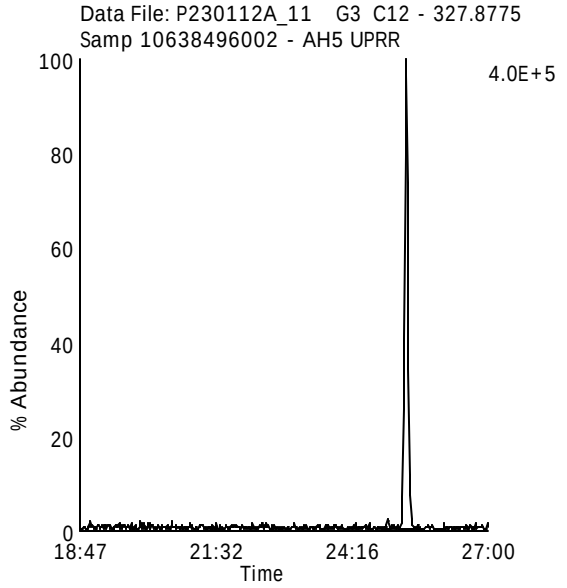
Penta Chlorinated Biphenyls

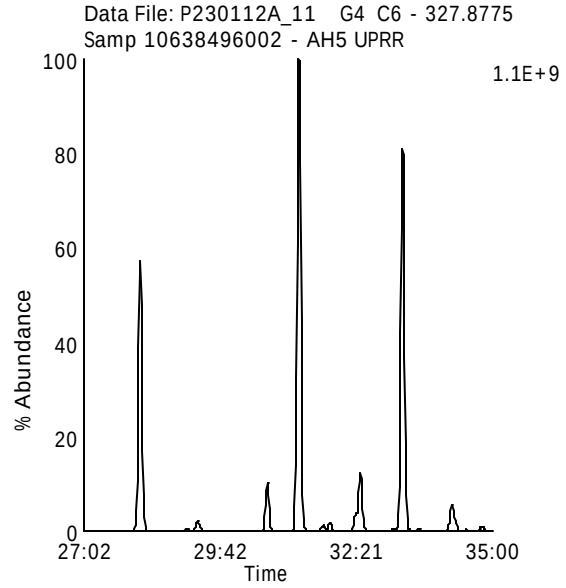
Data File Name: P230112A_11
Lab Sample ID: 10638496002
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR
Client Sample ID: SB08-0.5-110322

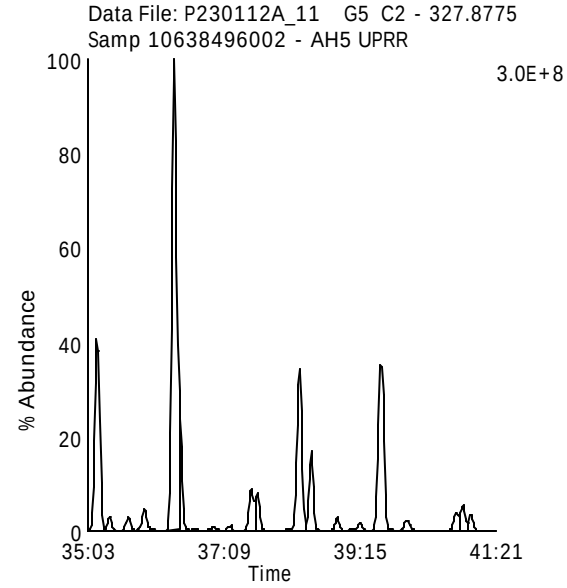








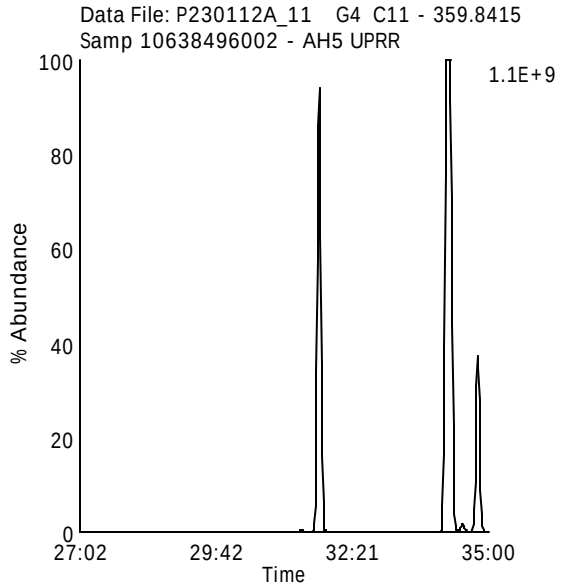


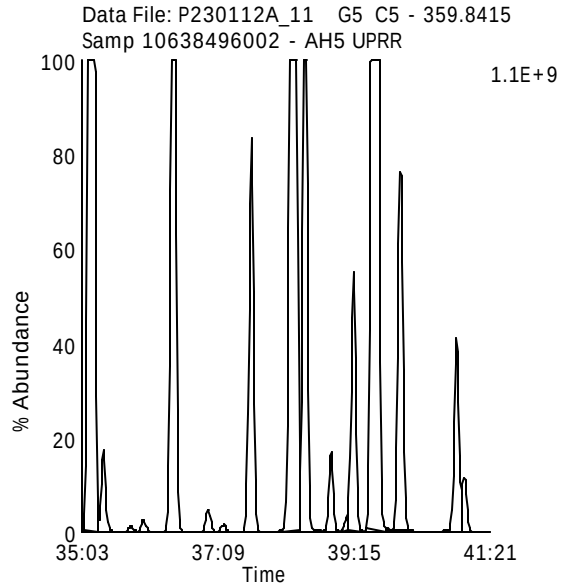


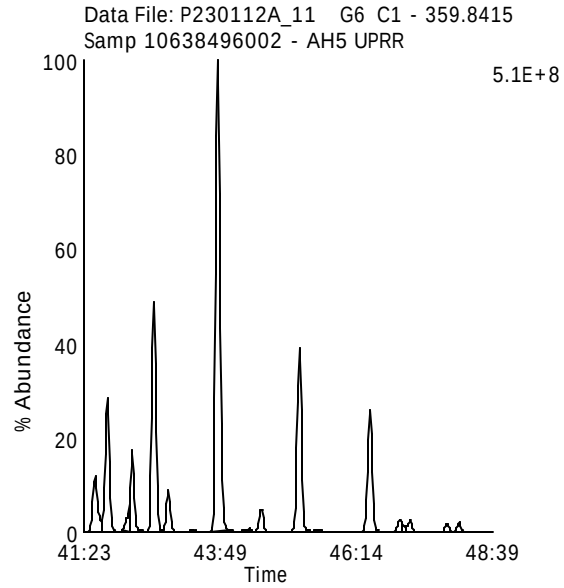
Hexa Chlorinated Biphenyls

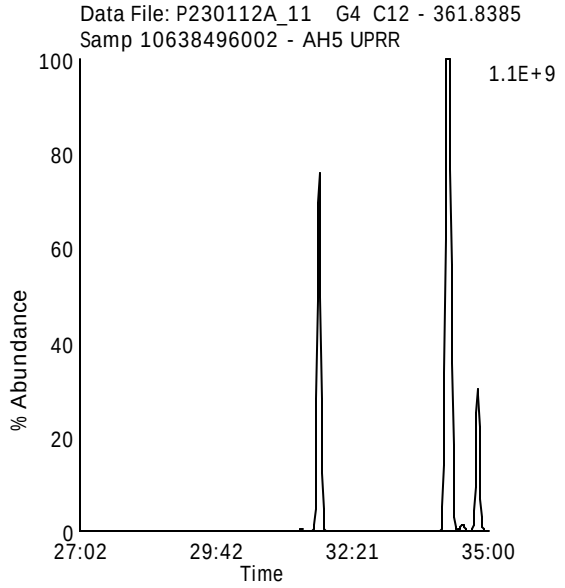
Data File Name: P230112A_11
Date Acquired: 1/12/2023
Sample Description: Samp 10638496002 - AH5 UPRR

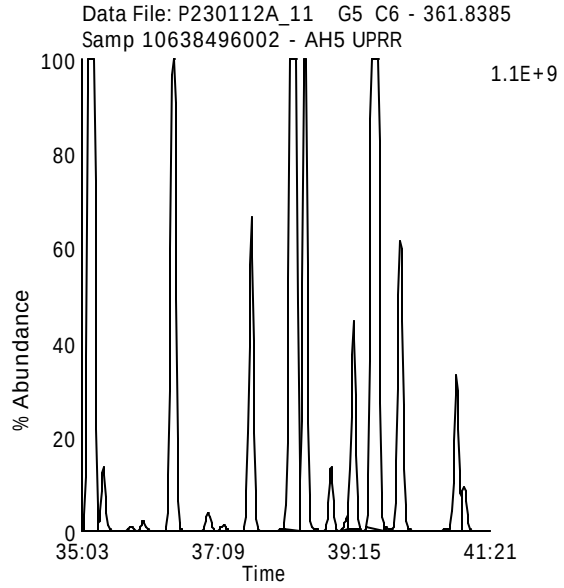
Lab Sample ID: 10638496002
Instrument: 10MSHR09 (P)
Client Sample ID: SB08-0.5-110322

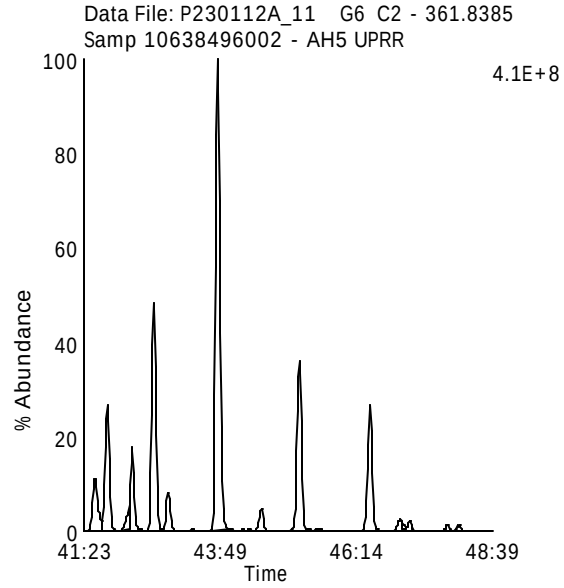






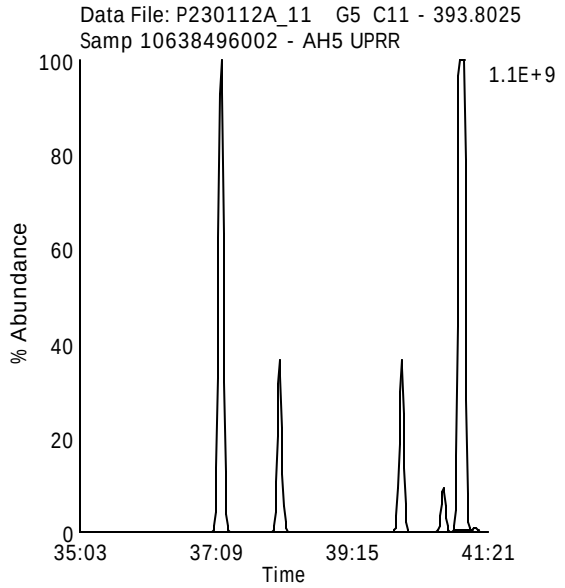


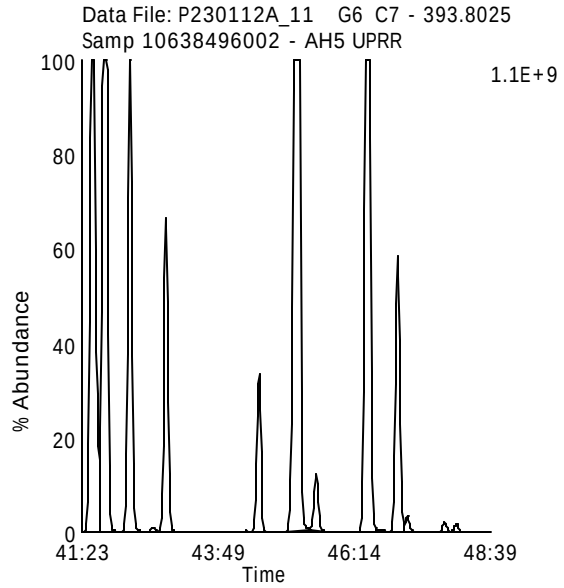


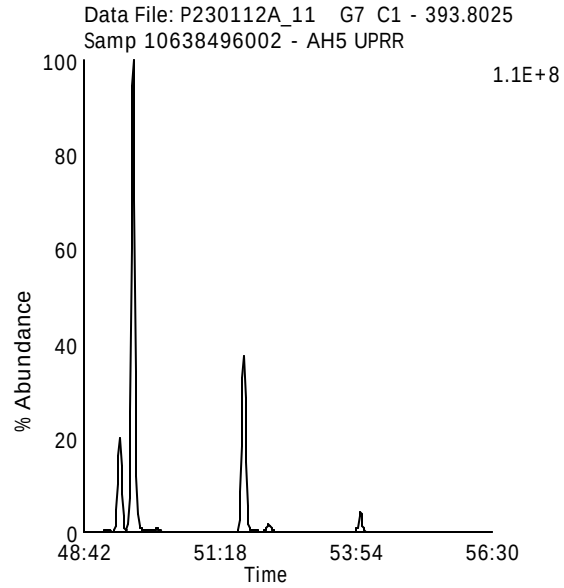


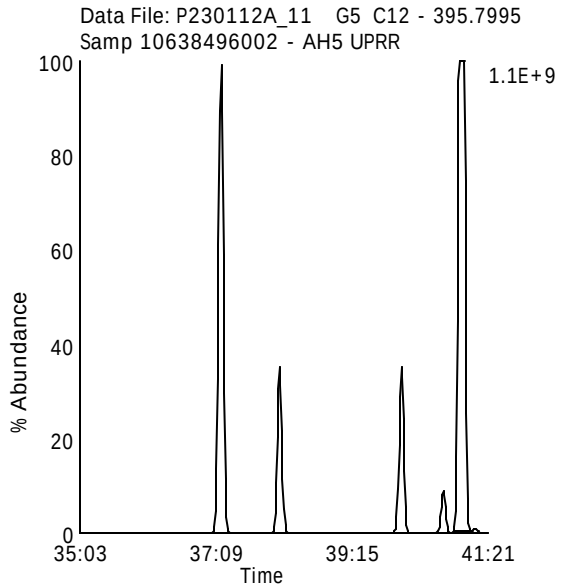
Hepta Chlorinated Biphenyls

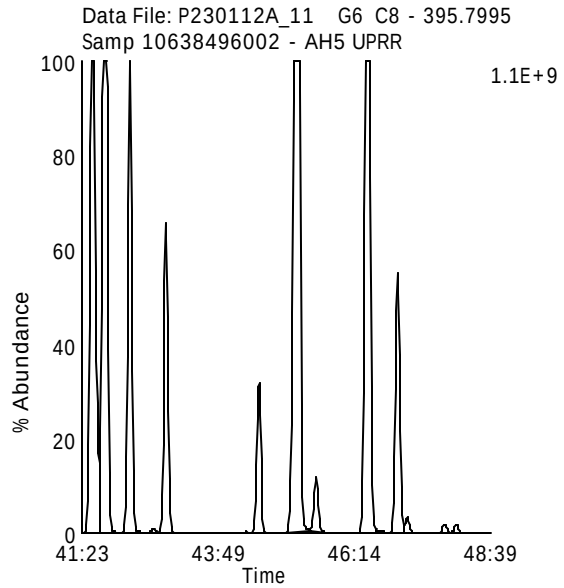
Data File Name: P230112A_11
Lab Sample ID: 10638496002
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR
Client Sample ID: SB08-0.5-110322

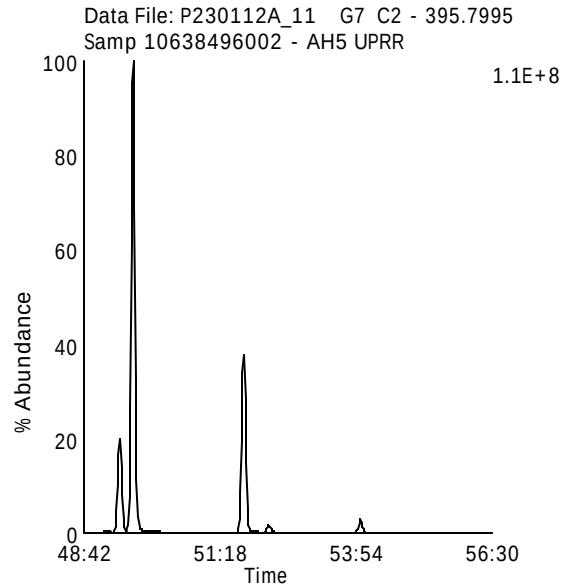






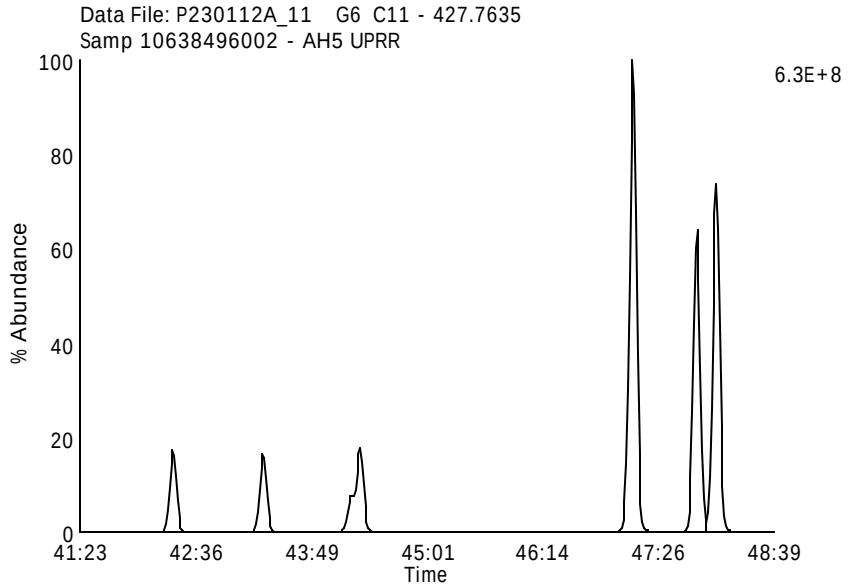


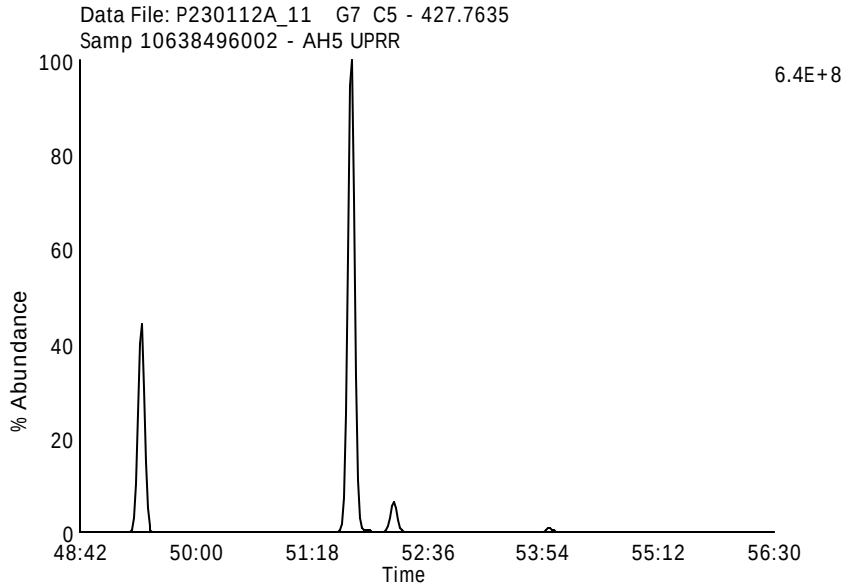


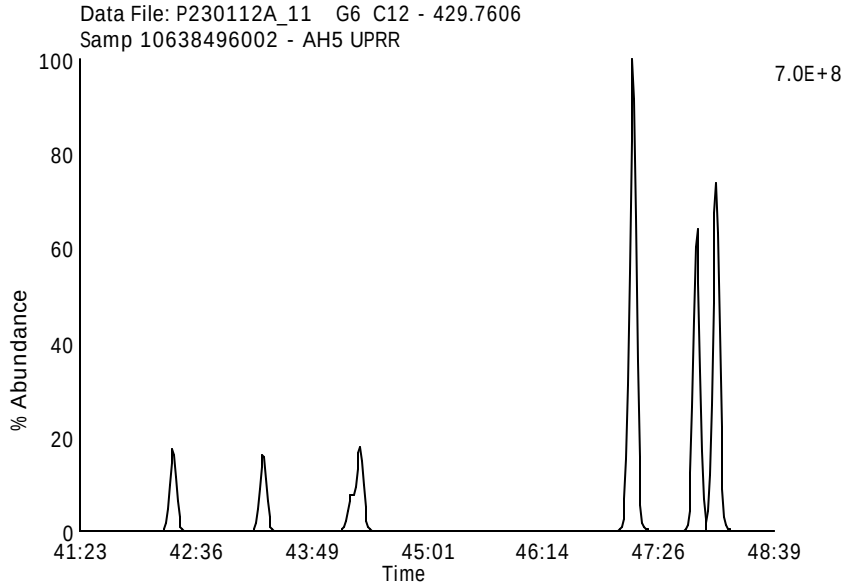


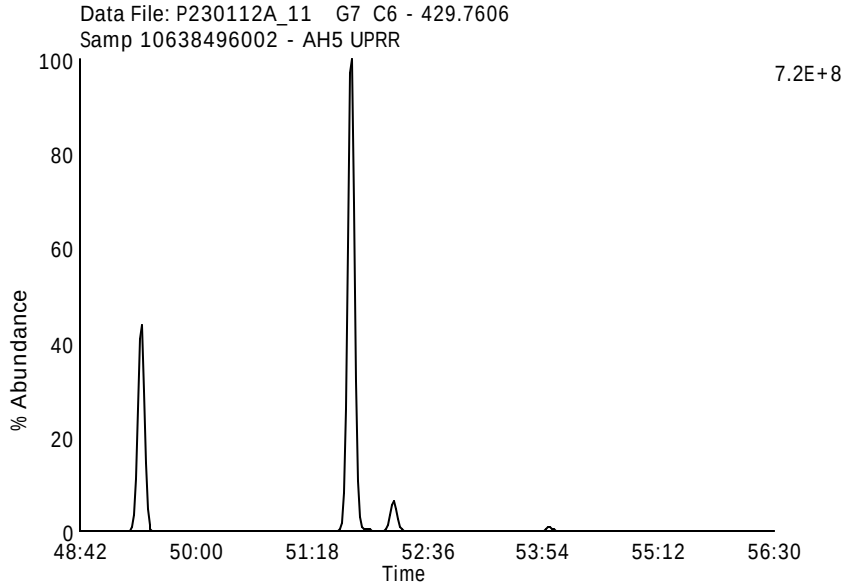
Octa Chlorinated Biphenyls

Data File Name: P230112A_11
Lab Sample ID: 10638496002
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR
Client Sample ID: SB08-0.5-110322



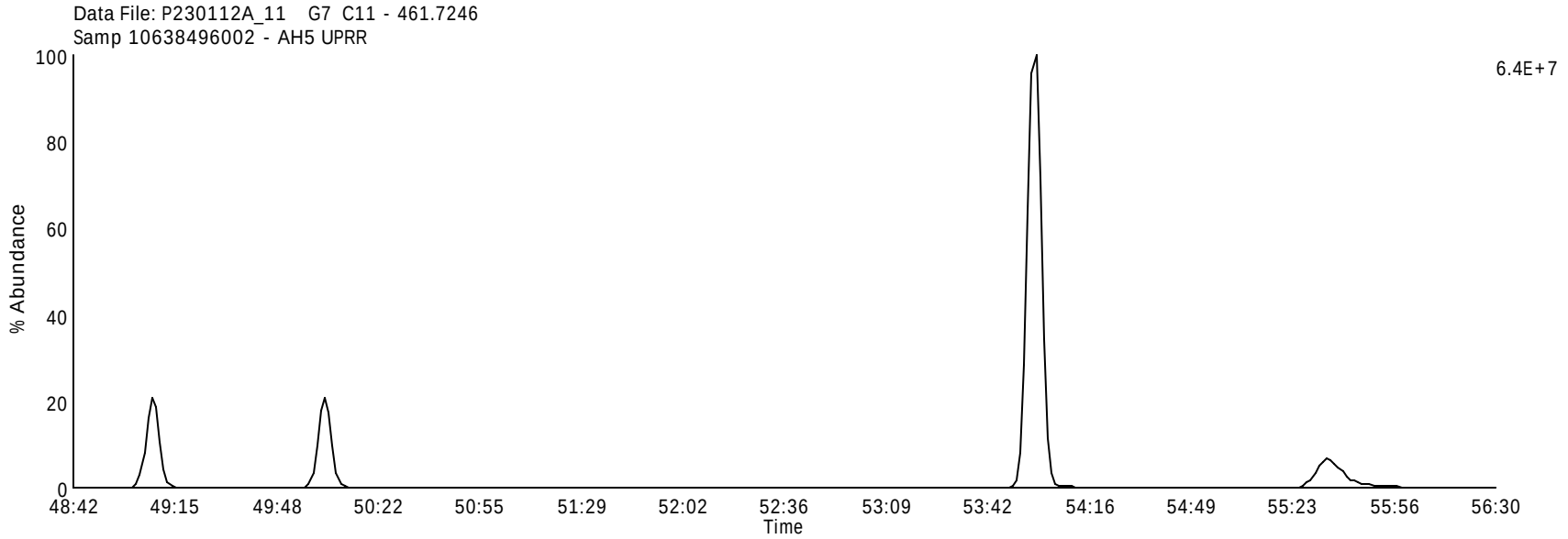


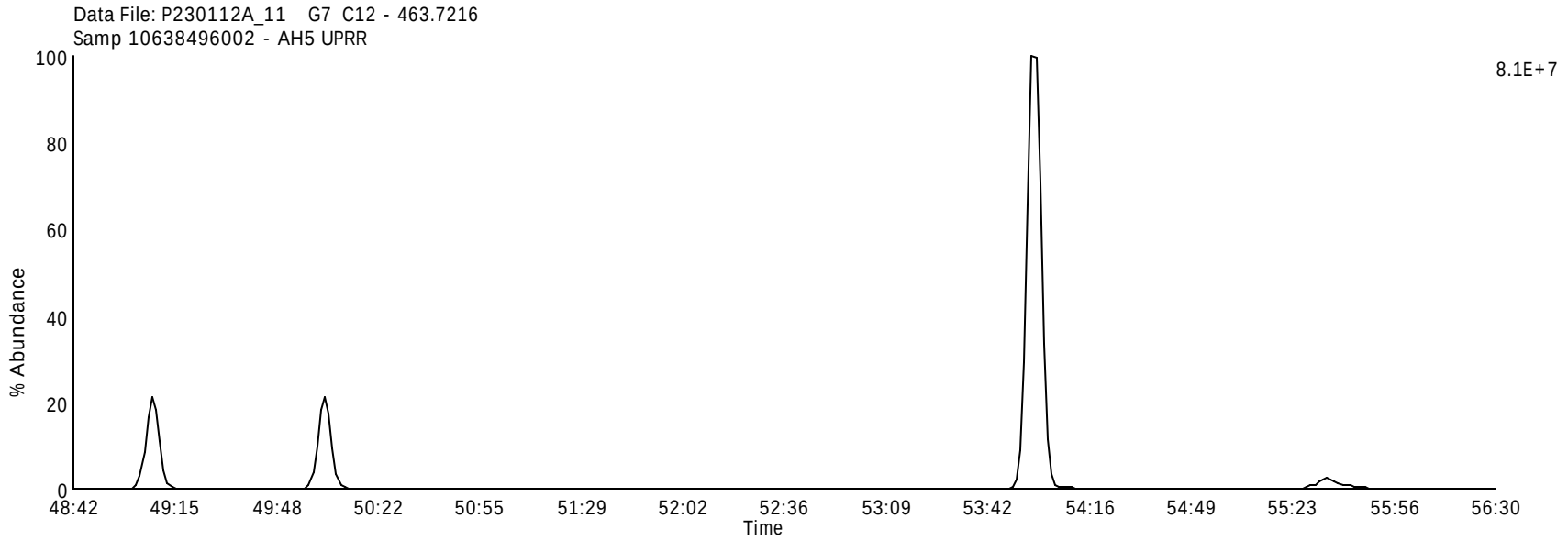




Nona Chlorinated Biphenyls

Data File Name: P230112A_11	Lab Sample ID: 10638496002
Date Acquired: 1/12/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR	Client Sample ID: SB08-0.5-110322



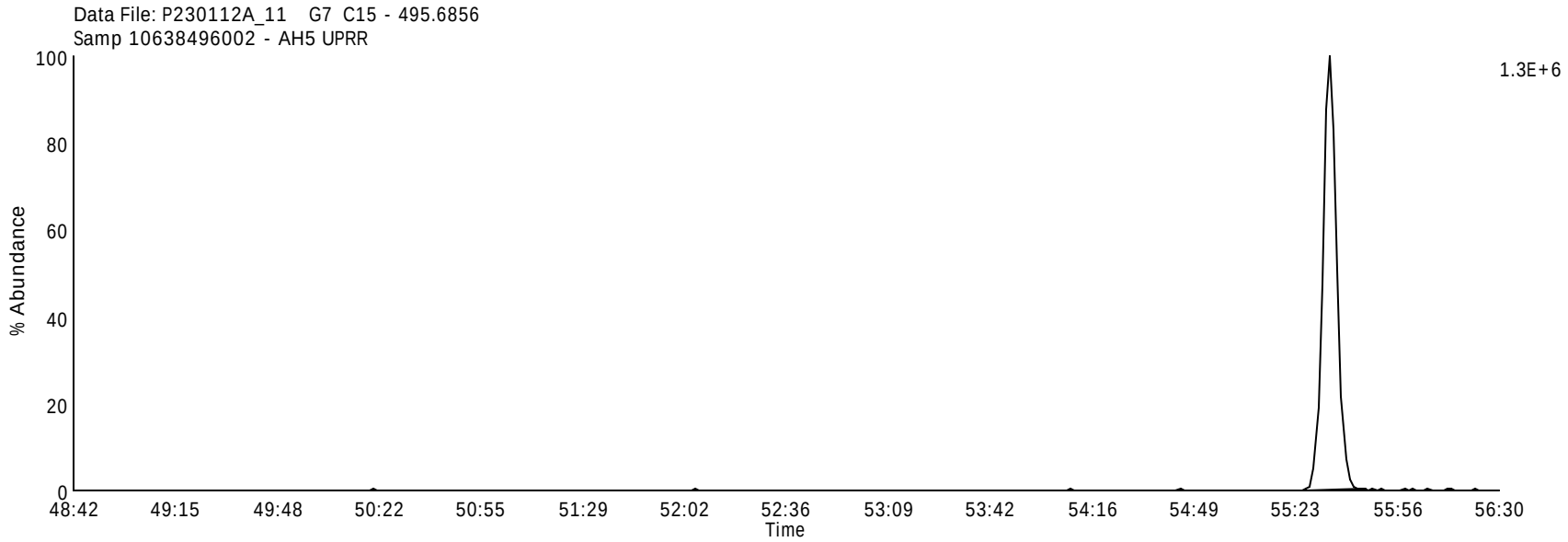


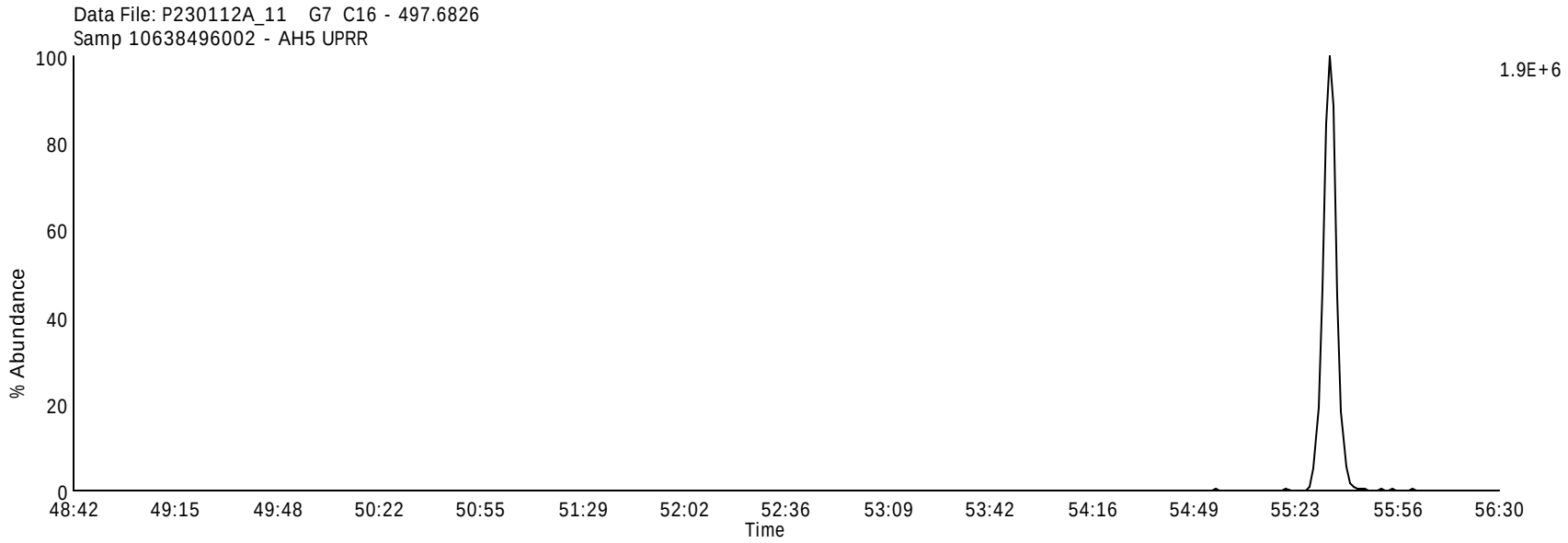
Deca Chlorinated Biphenyl

Data File Name: P230112A_11 | Lab Sample ID: 10638496002

Date Acquired: 1/12/2023 | Instrument: 10MSHR09 (P)

Sample Description: Samp 10638496002 - AH5 UPRR | Client Sample ID: SB08-0.5-110322

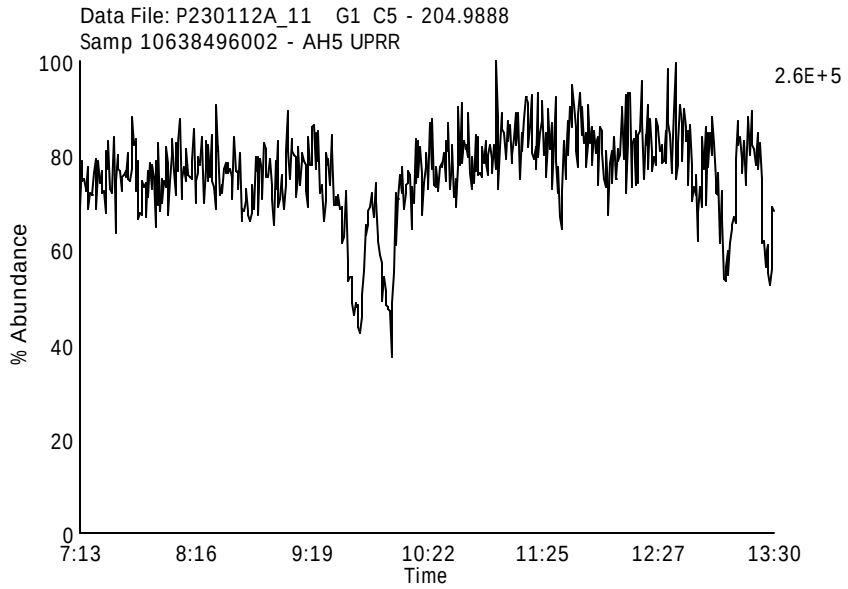


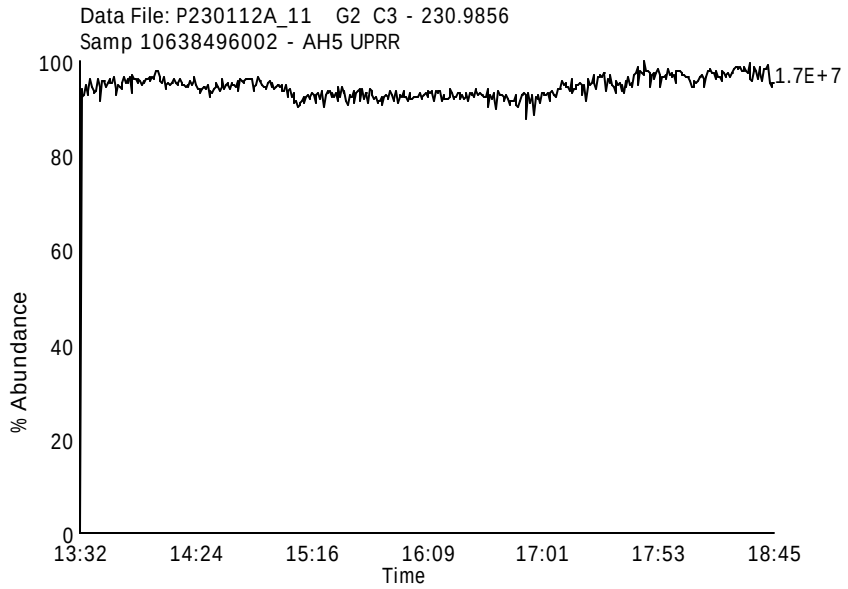


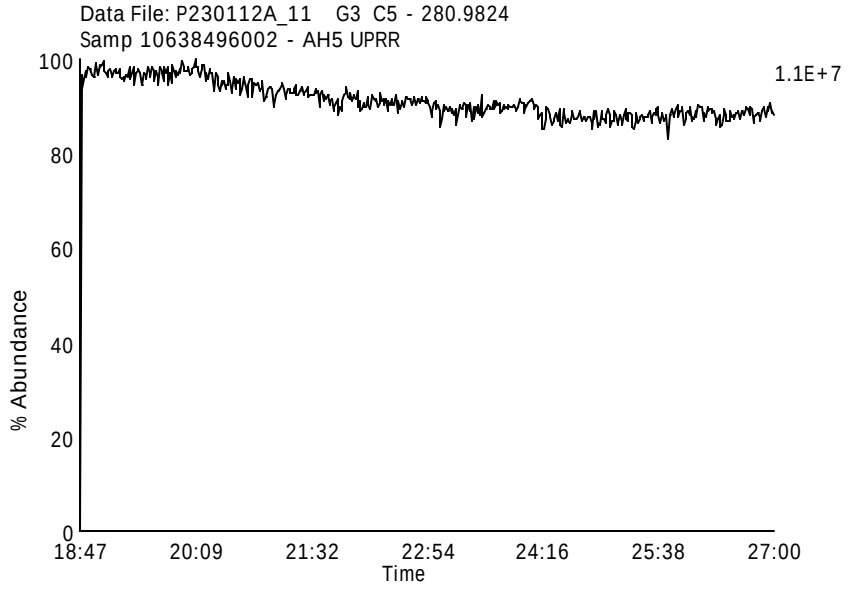
Group 1 - 4 Lock mass

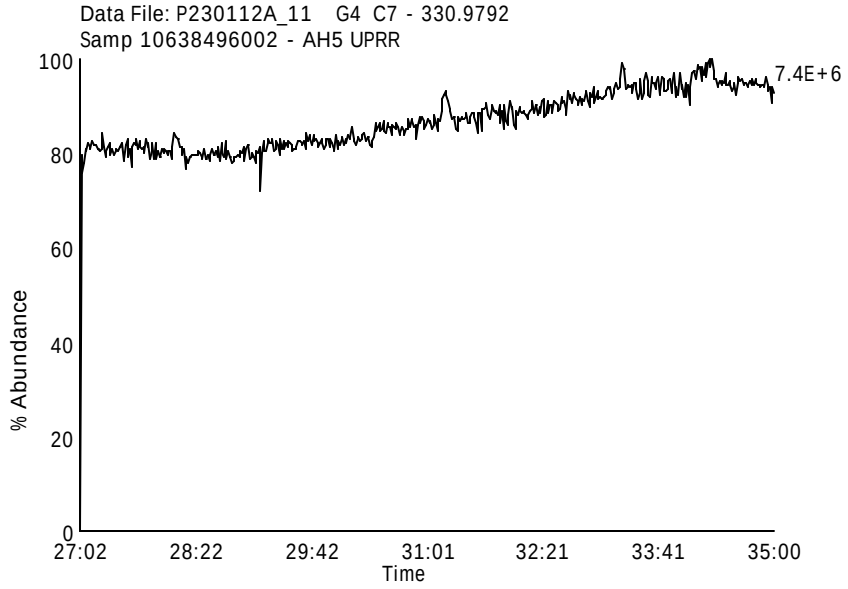
Data File Name: P230112A_11
Date Acquired: 1/12/2023
Sample Description: Samp 10638496002 - AH5 UPRR

Lab Sample ID: 10638496002
Instrument: 10MSHR09 (P)
Client Sample ID: SB08-0.5-110322





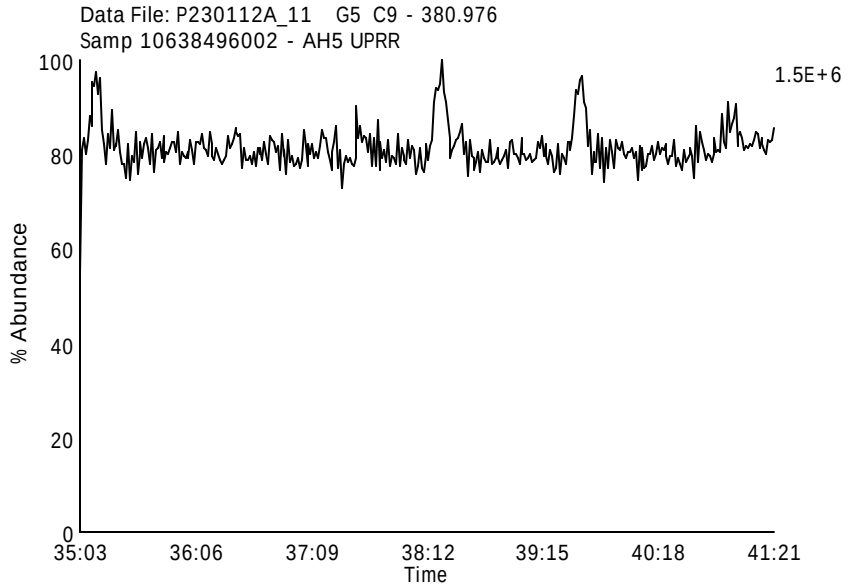


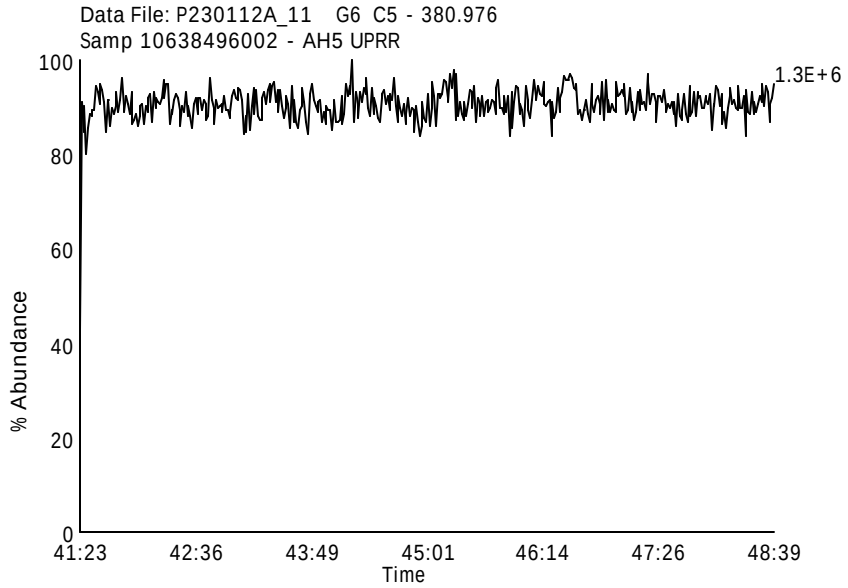


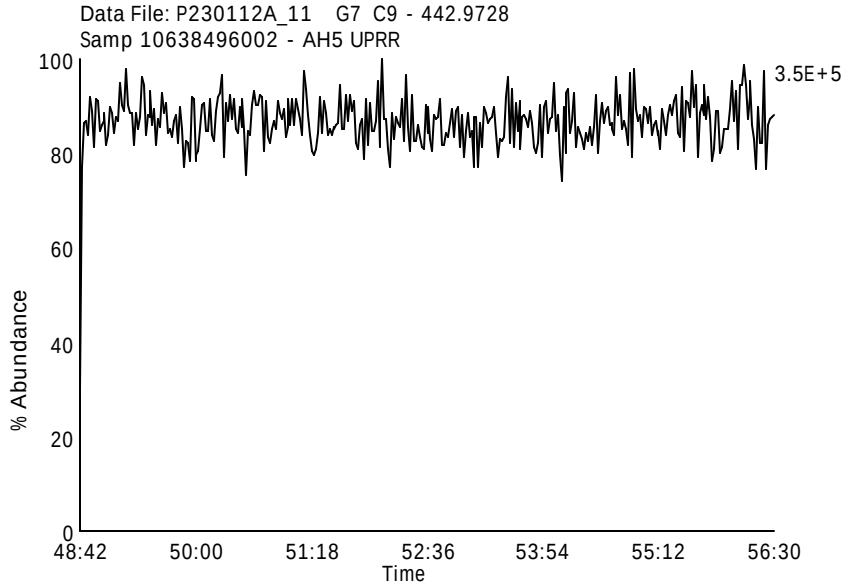
Group 5 - 7 Lock mass

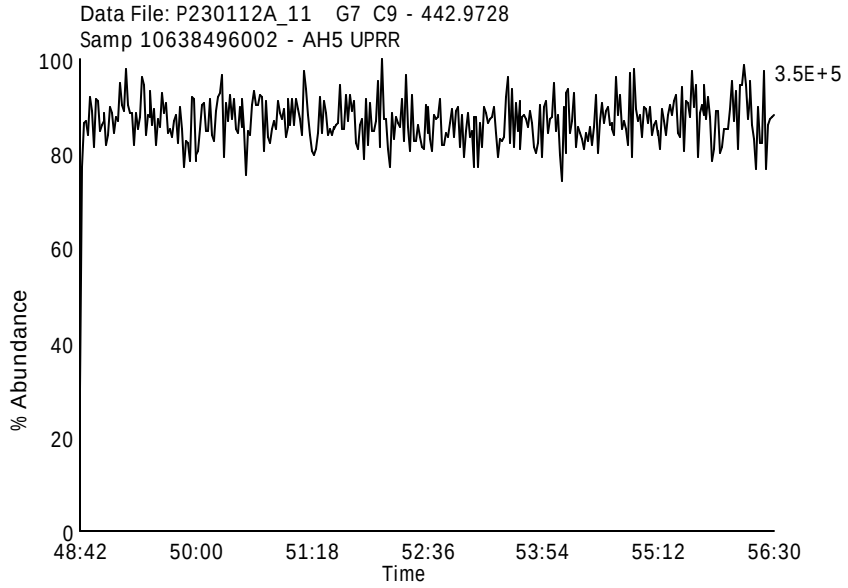
Data File Name: P230112A_11
Date Acquired: 1/12/2023
Sample Description: Samp 10638496002 - AH5 UPRR

Lab Sample ID: 10638496002
Instrument: 10MSHR09 (P)
Client Sample ID: SB08-0.5-110322



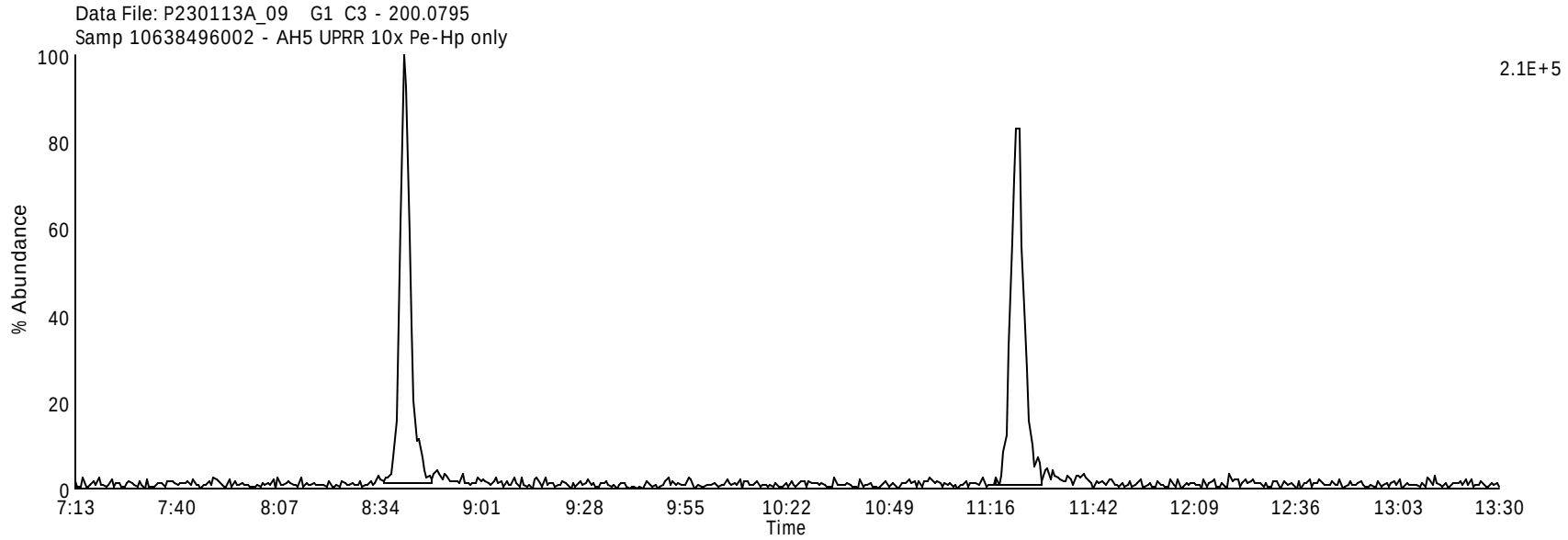


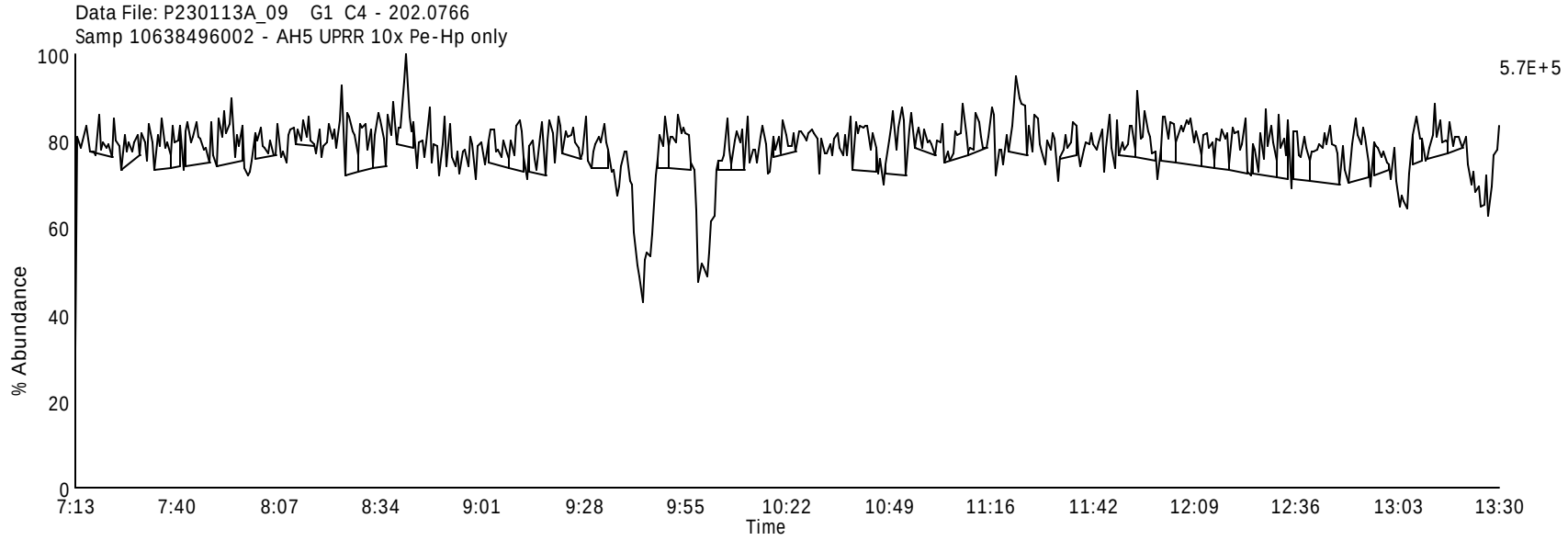




Labeled Mono Chlorinated Biphenyls

Data File Name: P230113A_09	Lab Sample ID: 10638496002
Date Acquired: 1/13/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only	Client Sample ID: SB08-0.5-110322

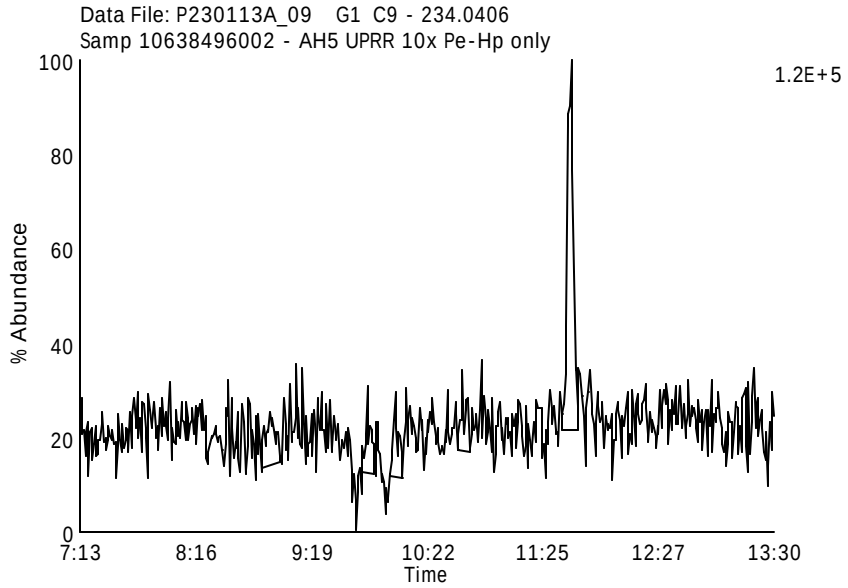


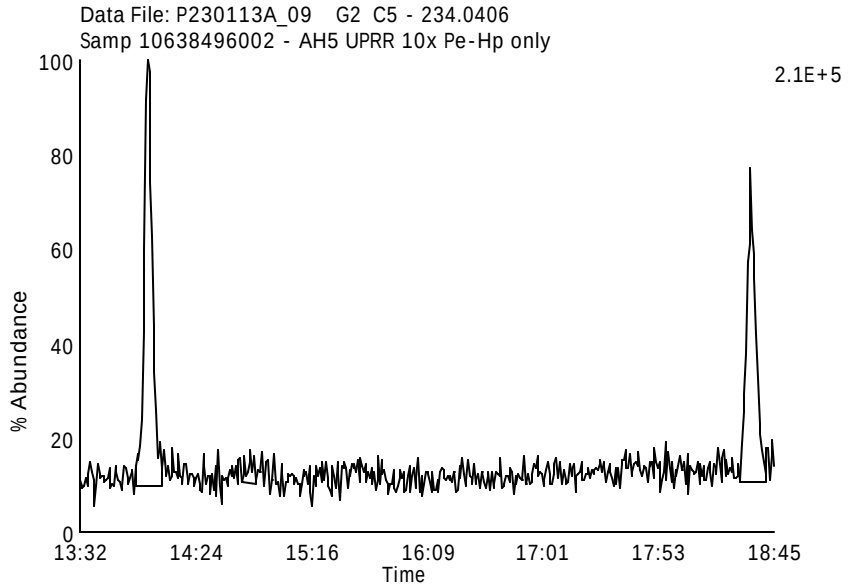


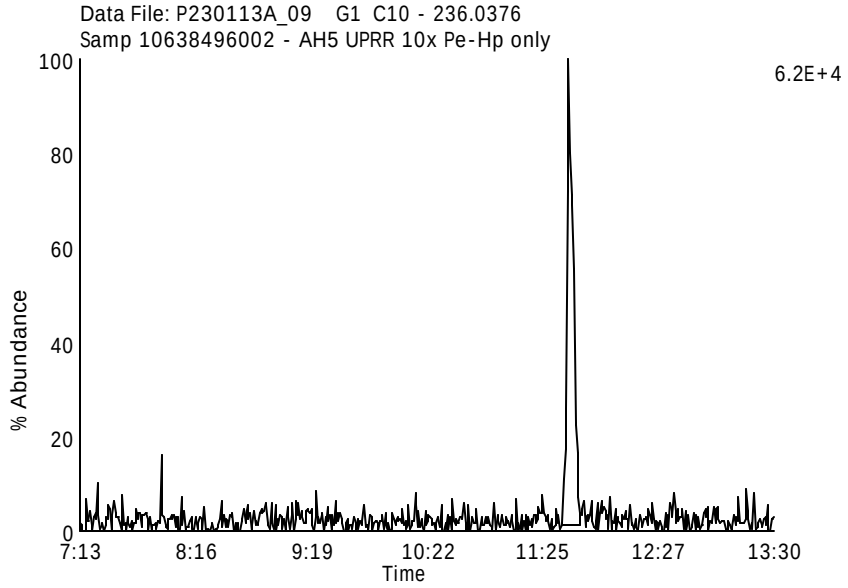
Labeled Di Chlorinated Biphenyls

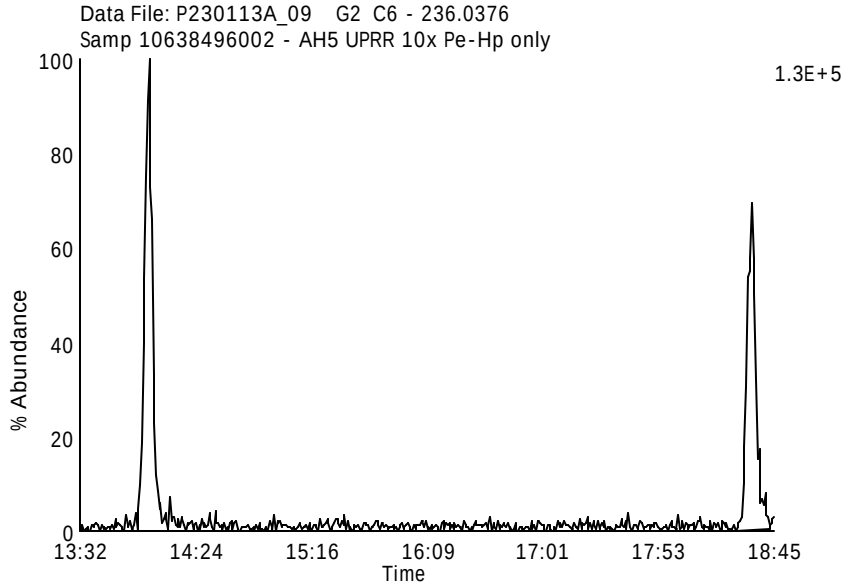
Data File Name: P230113A_09
Date Acquired: 1/13/2023
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only

Lab Sample ID: 10638496002
Instrument: 10MSHR09 (P)
Client Sample ID: SB08-0.5-110322



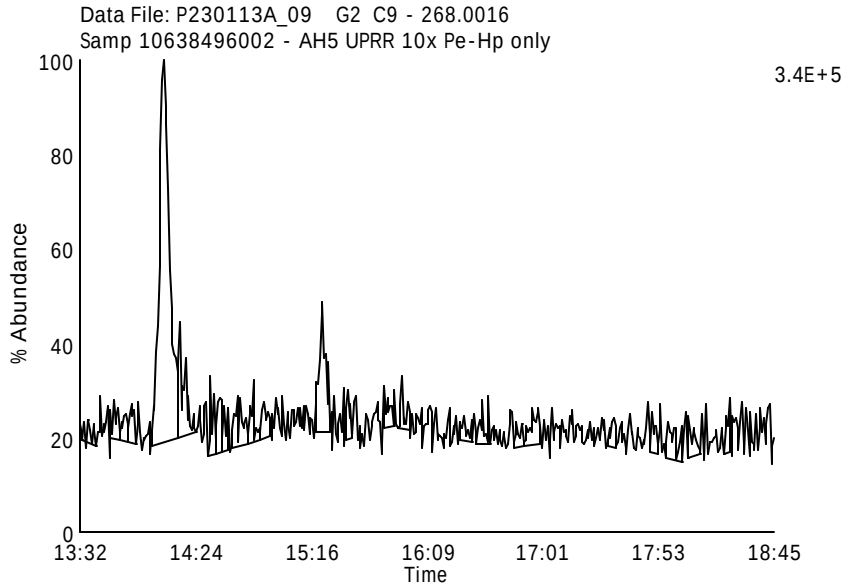


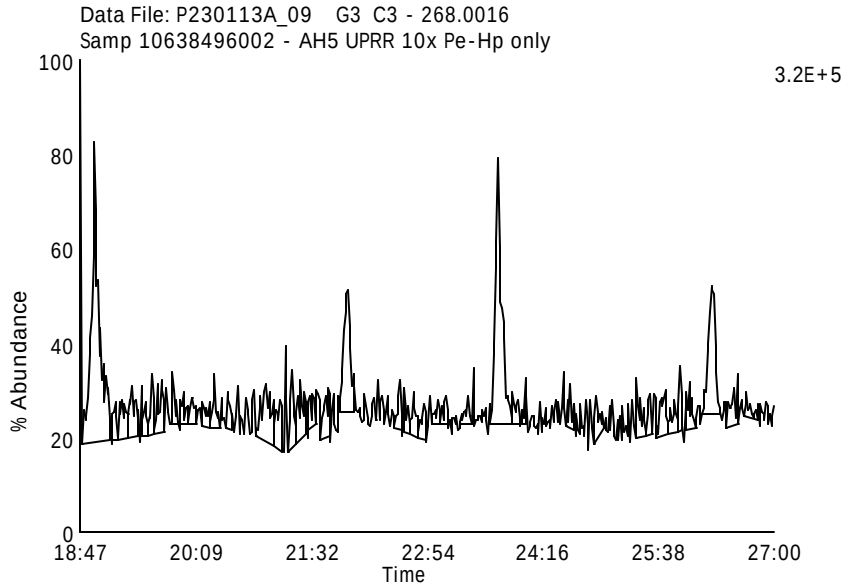


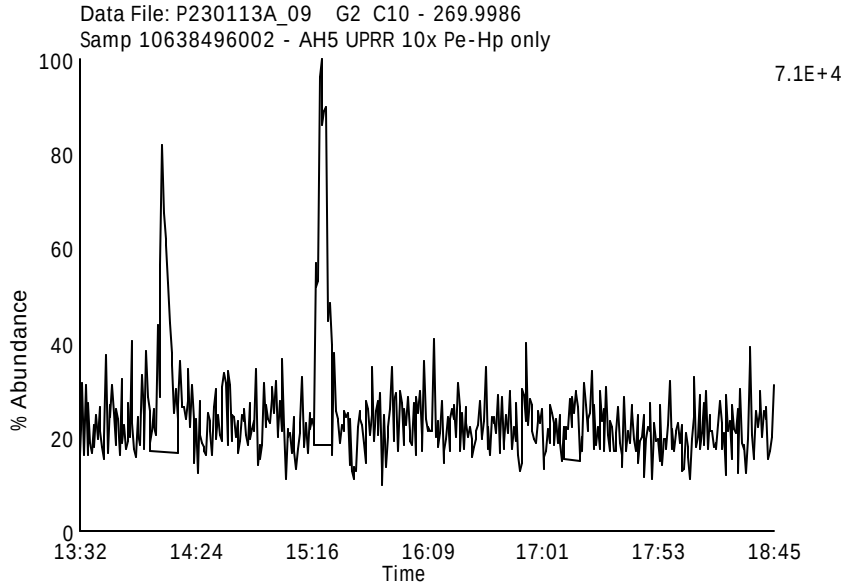


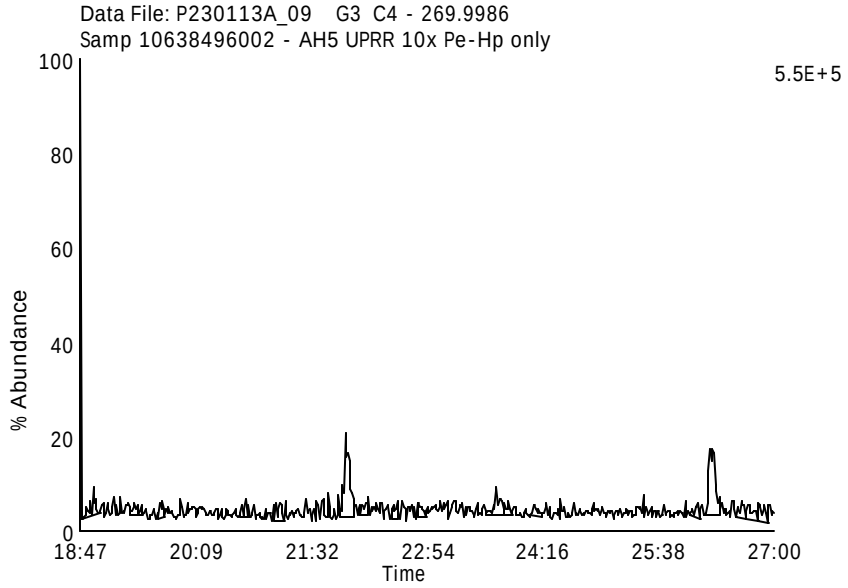
Labeled Tri Chlorinated Biphenyls

Data File Name: P230113A_09
Lab Sample ID: 10638496002
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only
Client Sample ID: SB08-0.5-110322



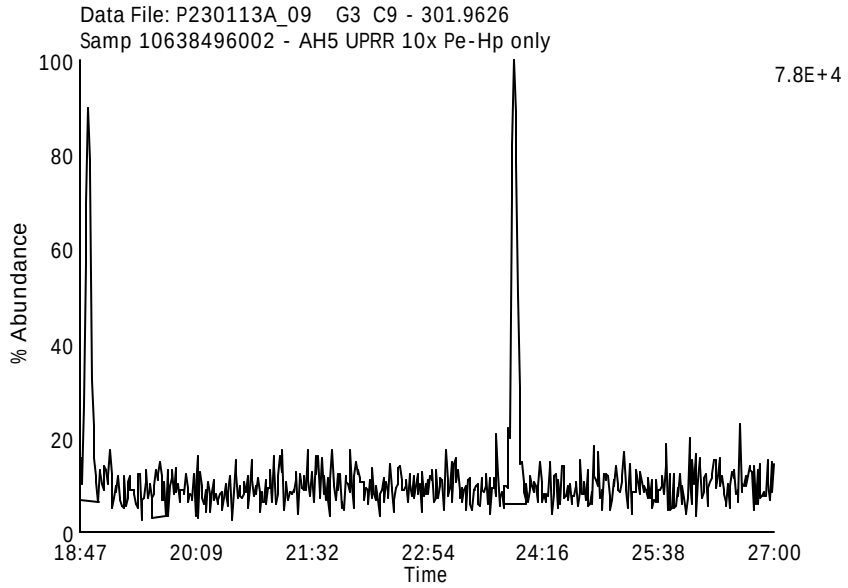


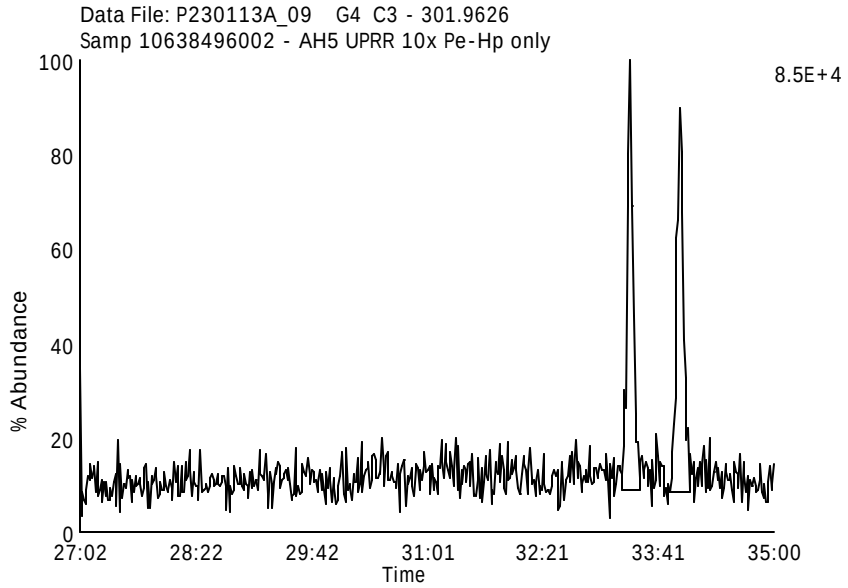


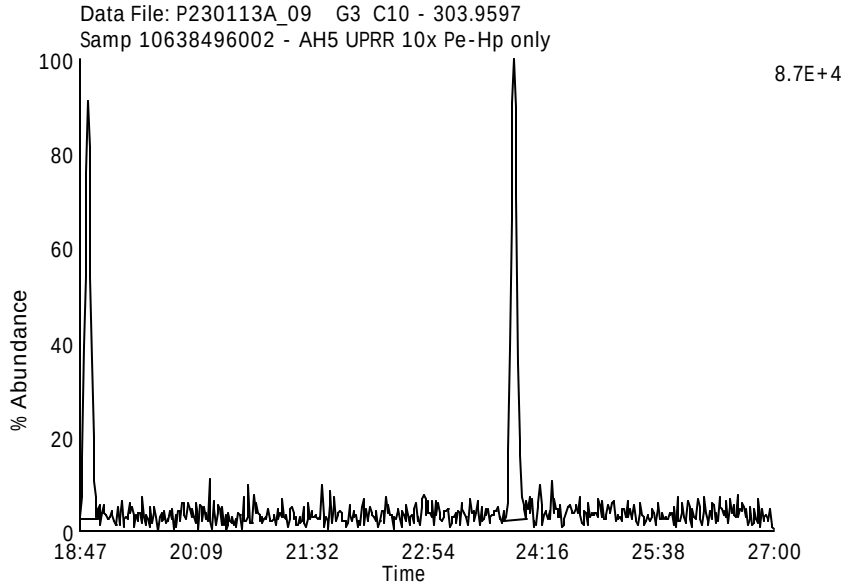


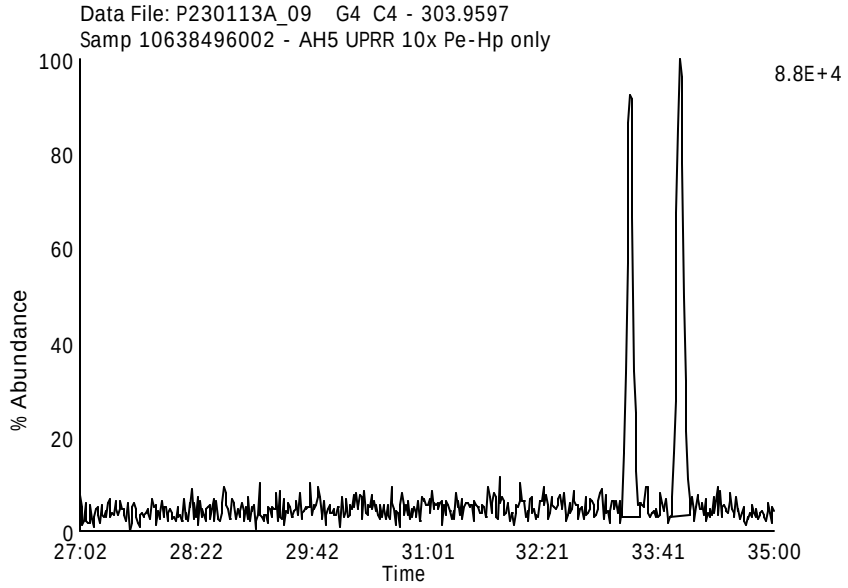
Labeled Tetra Chlorinated Biphenyls

Data File Name: P230113A_09
Lab Sample ID: 10638496002
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only
Client Sample ID: SB08-0.5-110322



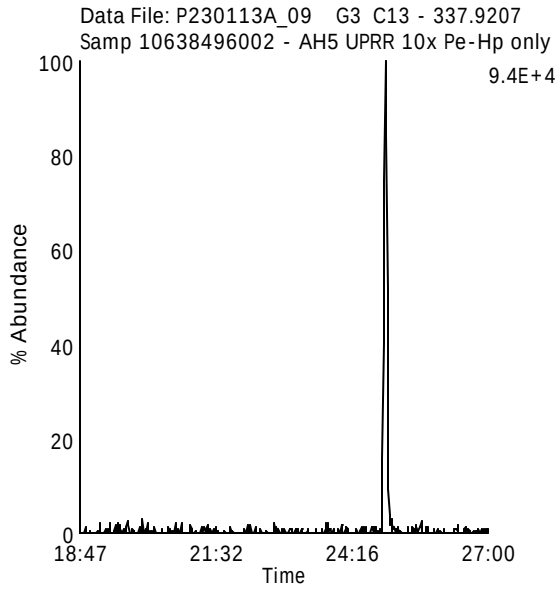


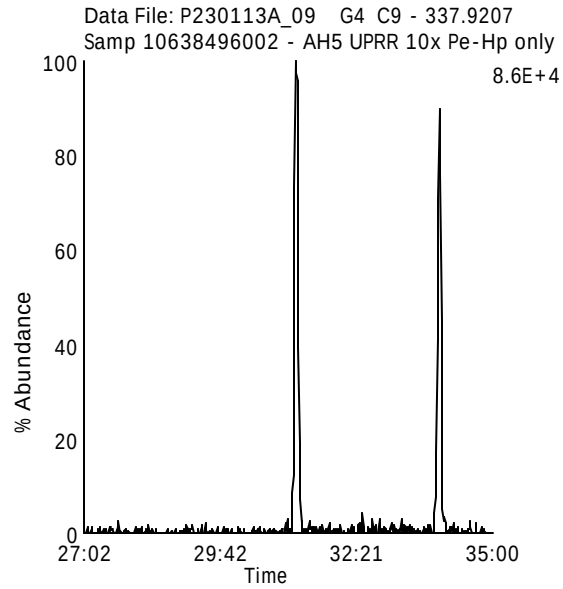


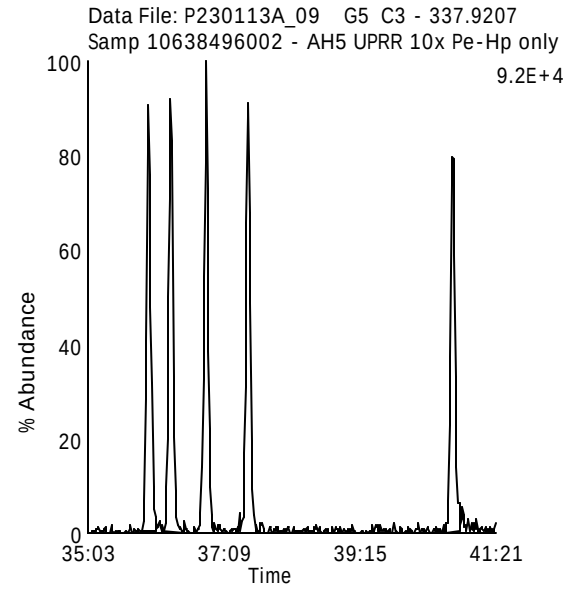


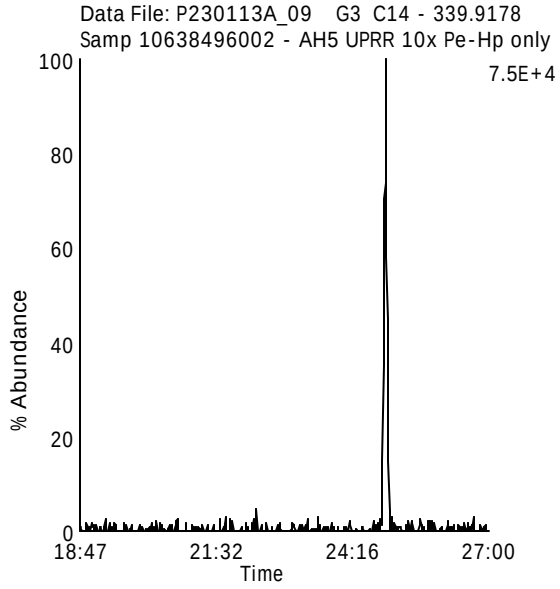
Labeled Penta Chlorinated Biphenyls

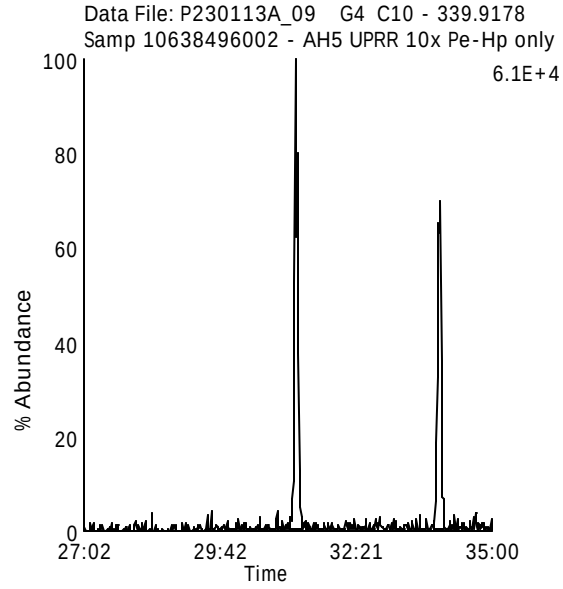
Data File Name: P230113A_09 | Lab Sample ID: 10638496002
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only | Client Sample ID: SB08-0.5-110322

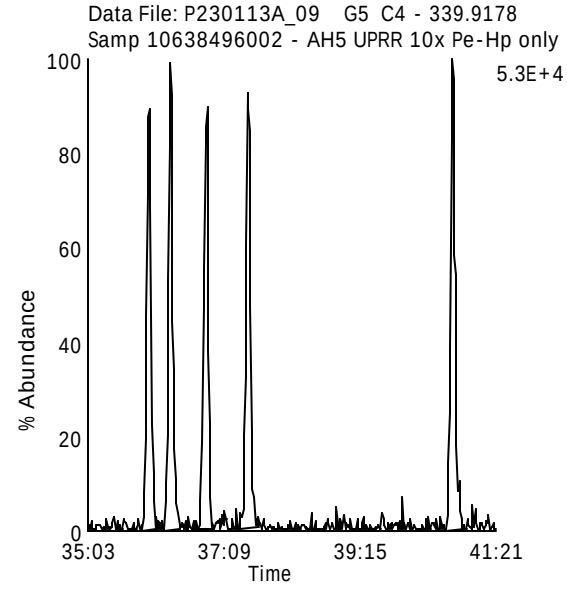










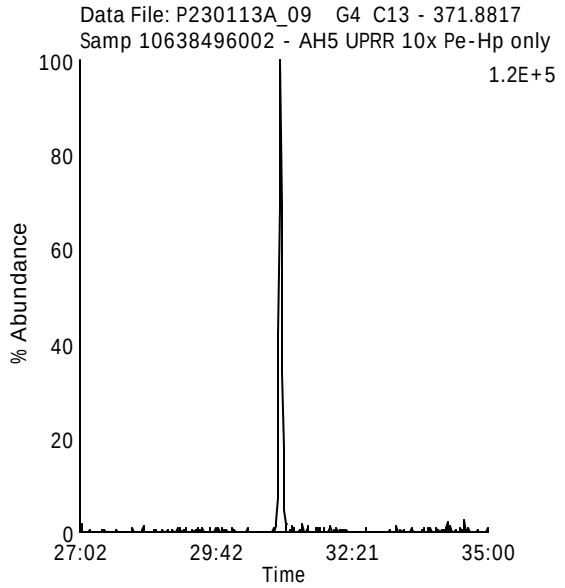


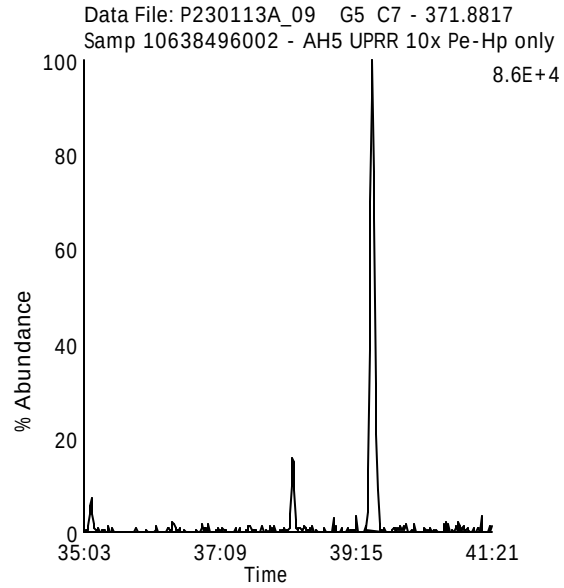
Labeled Hexa Chlorinated Biphenyls

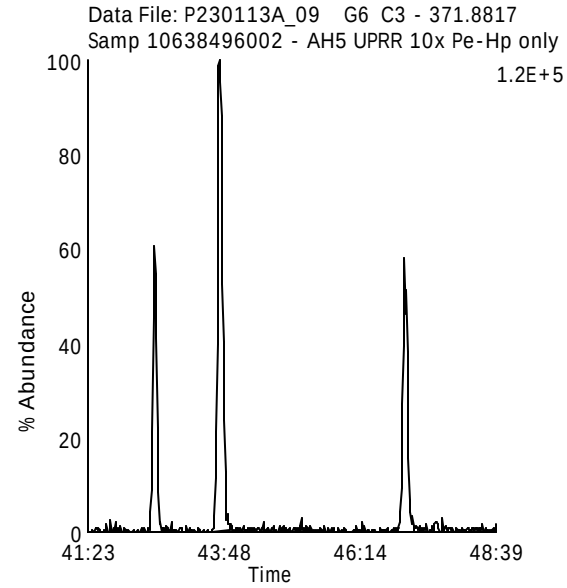
Data File Name: P230113A_09 | Lab Sample ID: 10638496002

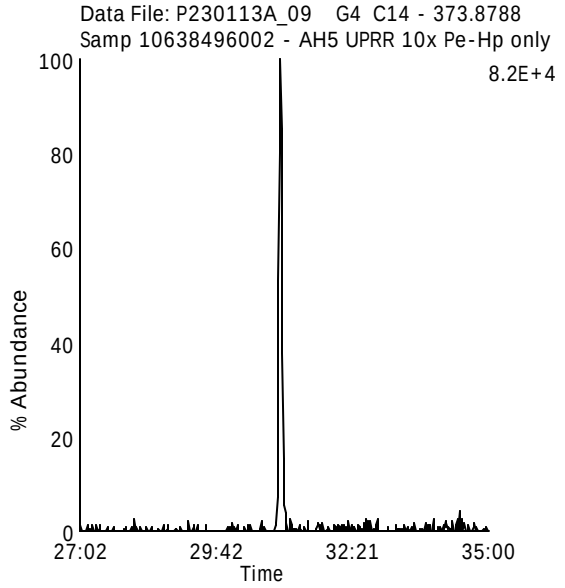
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

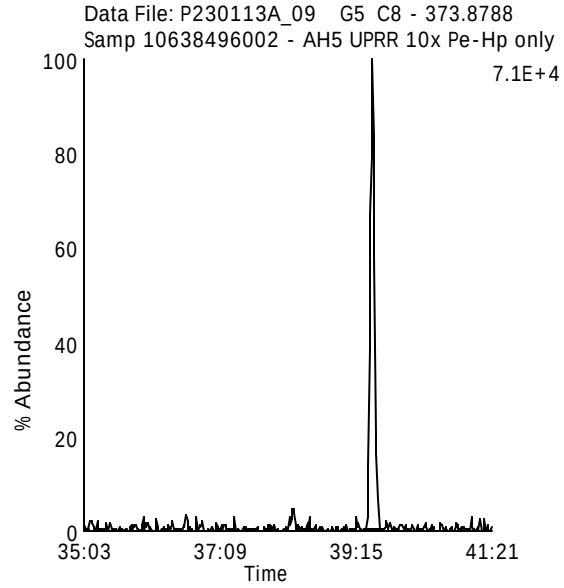
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only | Client Sample ID: SB08-0.5-110322

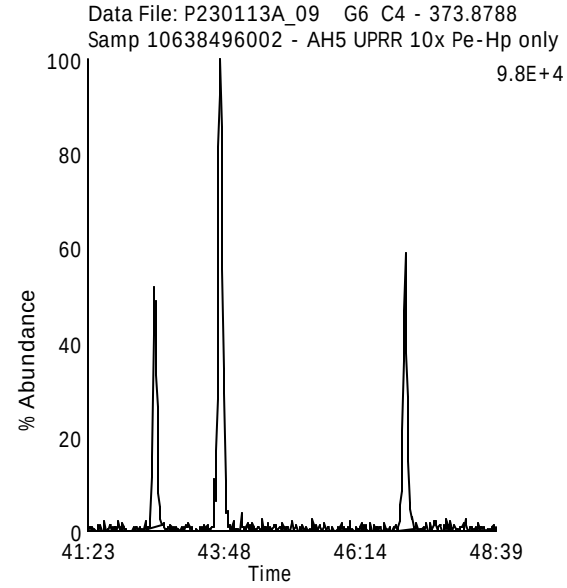






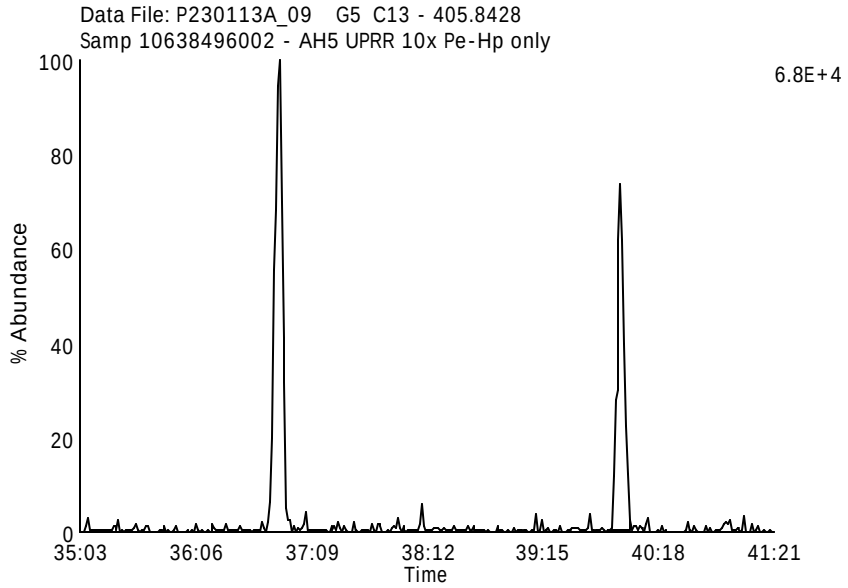


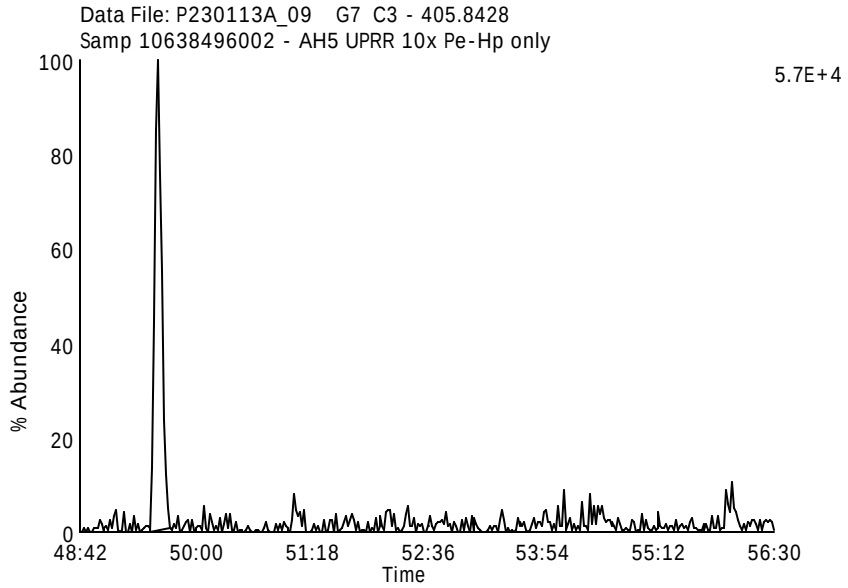


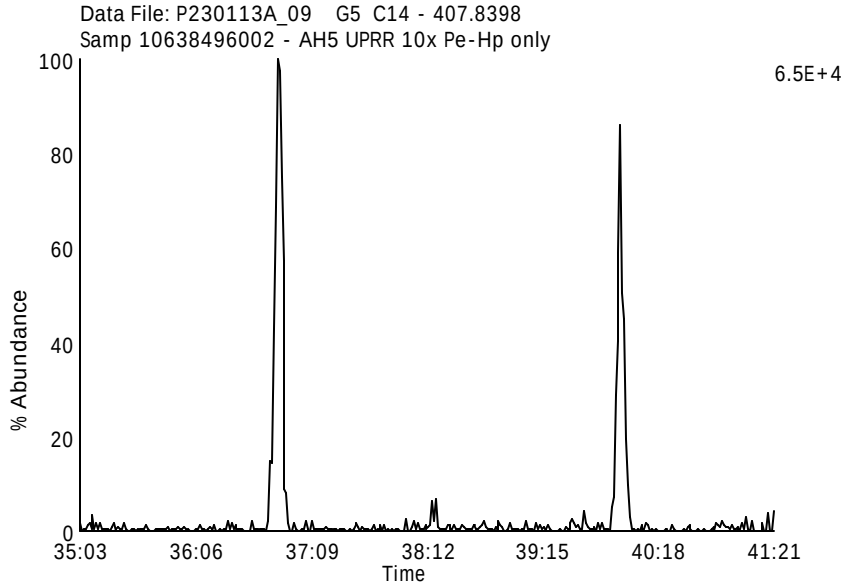


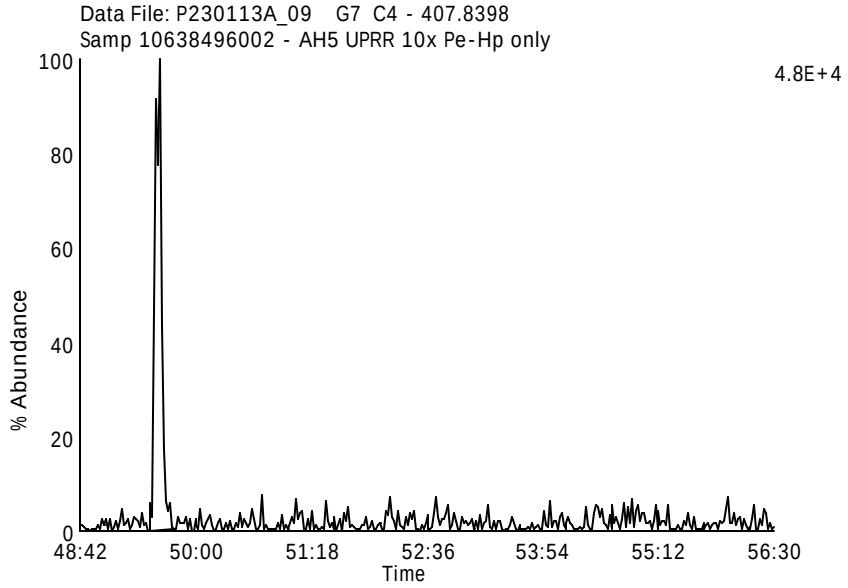
Labeled Hepta Chlorinated Biphenyls

Data File Name: P230113A_09
Lab Sample ID: 10638496002
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only
Client Sample ID: SB08-0.5-110322



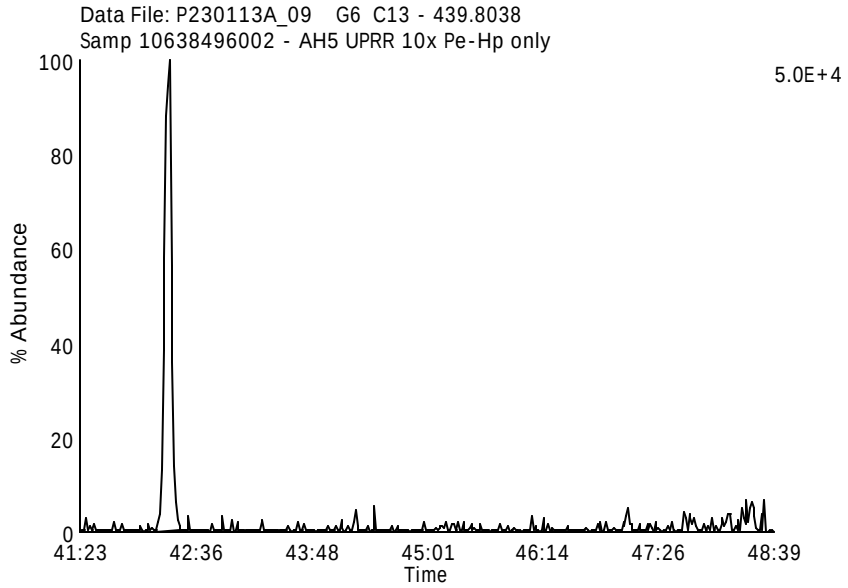


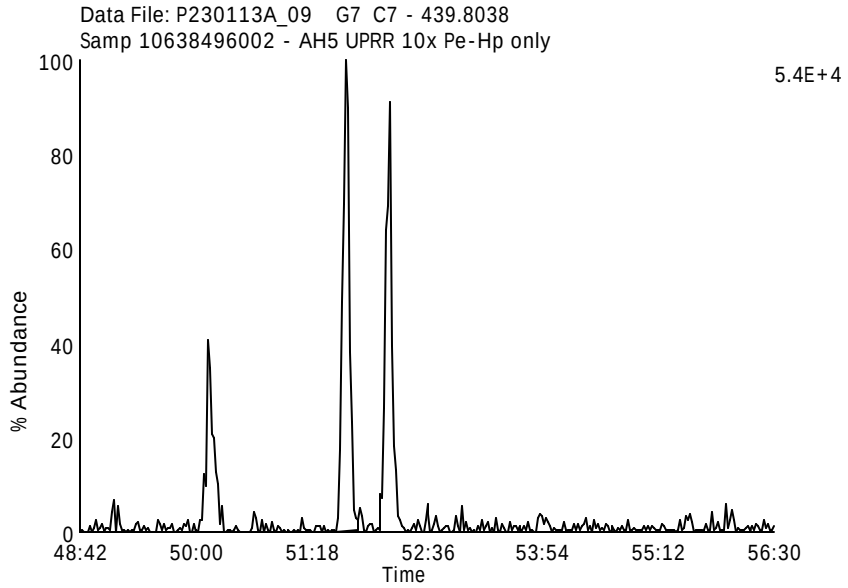


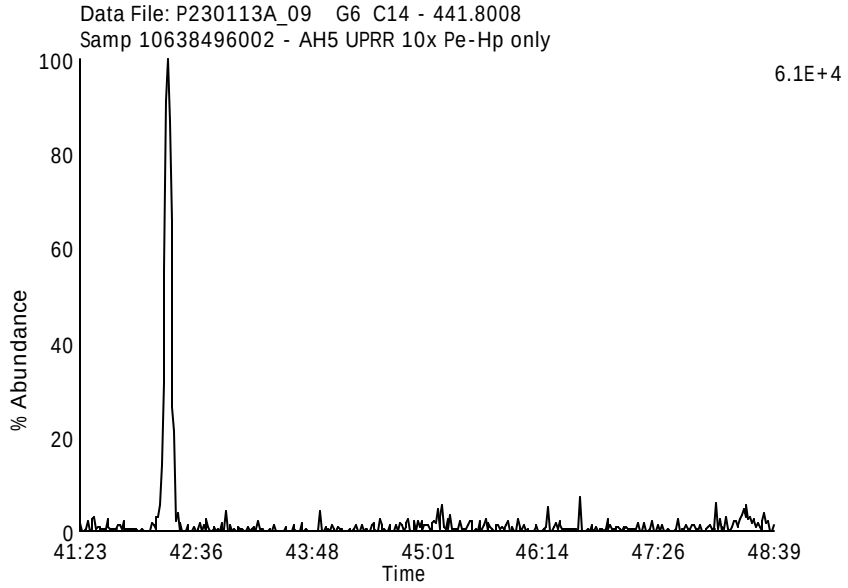


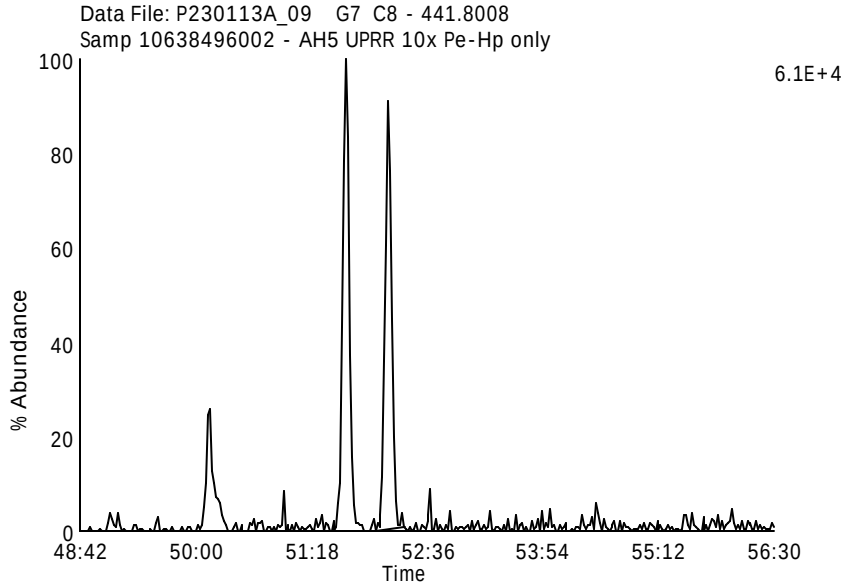
Labeled Octa Chlorinated Biphenyls

Data File Name: P230113A_09 | Lab Sample ID: 10638496002
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only | Client Sample ID: SB08-0.5-110322



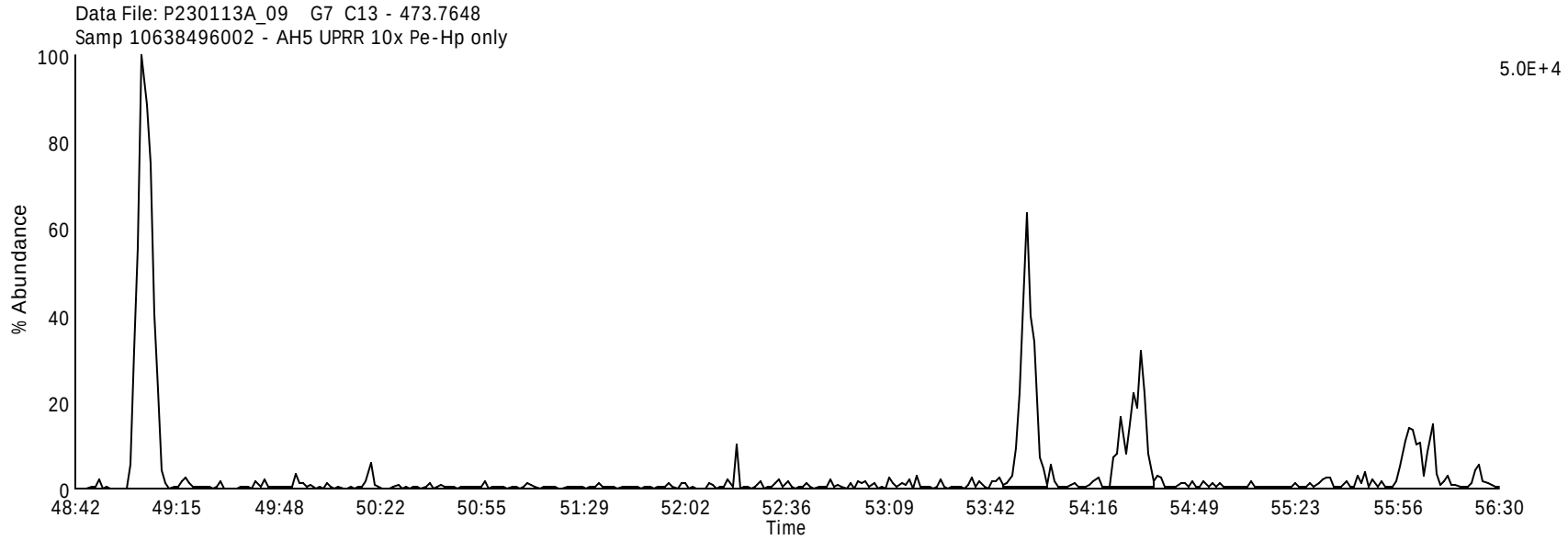


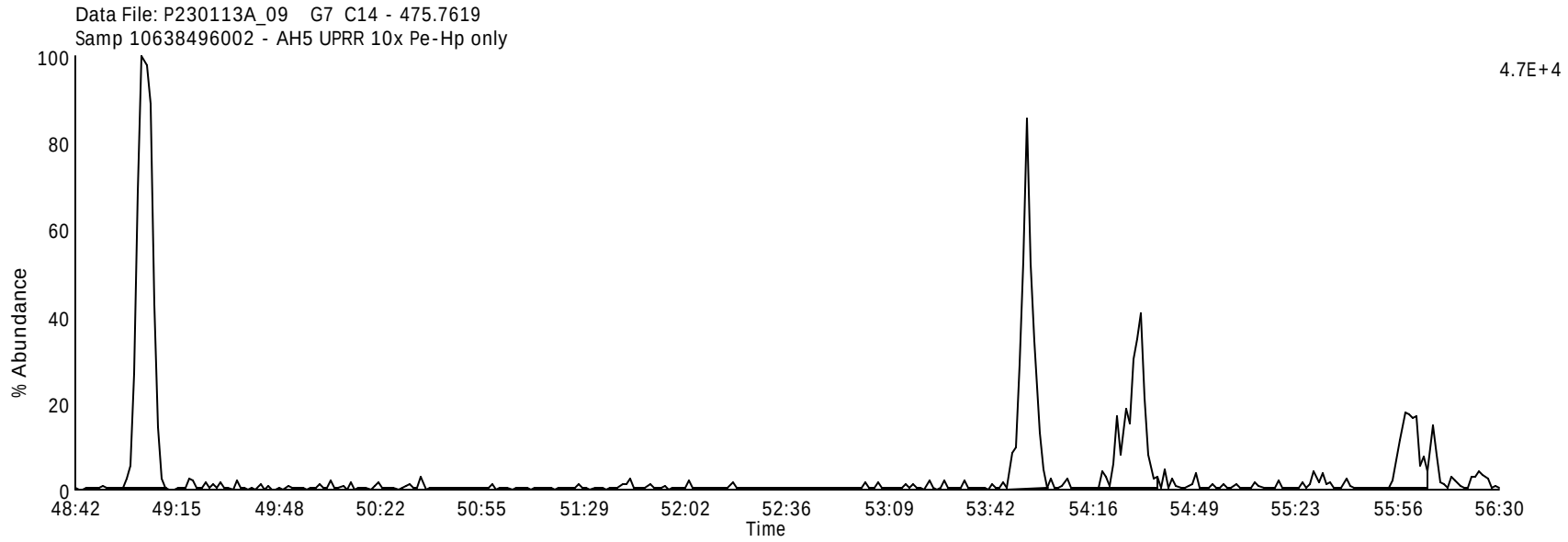




Labeled Nona Chlorinated Biphenyls

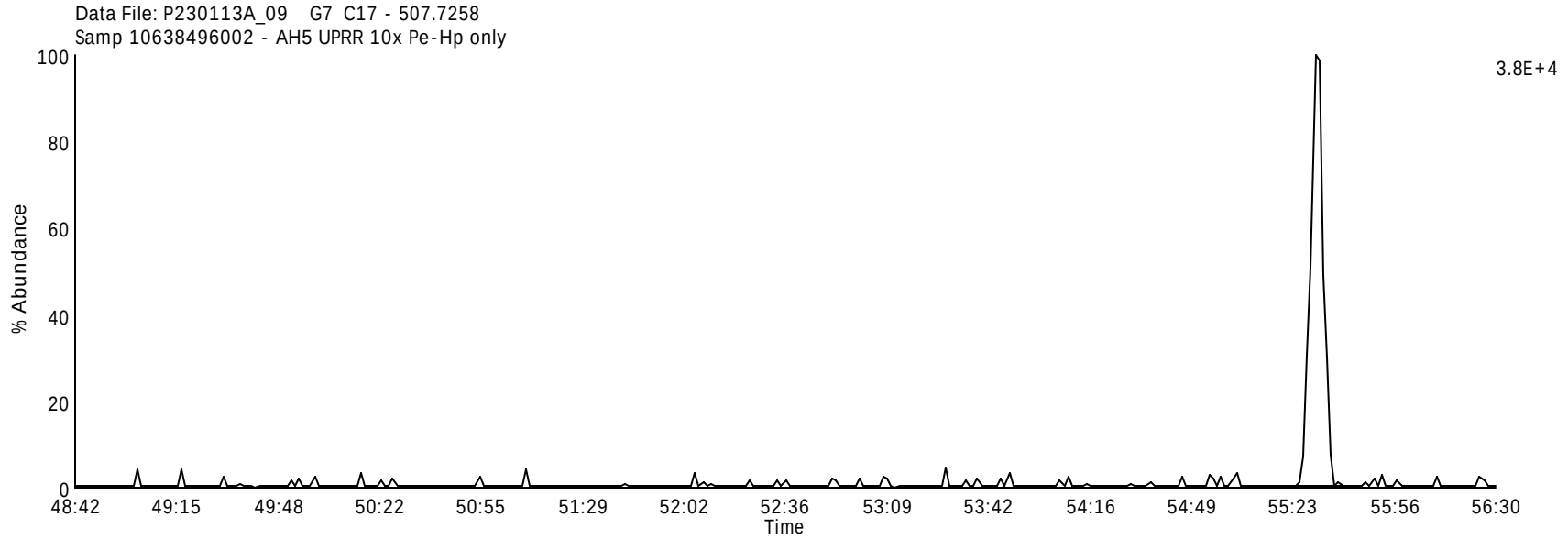
Data File Name: P230113A_09	Lab Sample ID: 10638496002
Date Acquired: 1/13/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only	Client Sample ID: SB08-0.5-110322

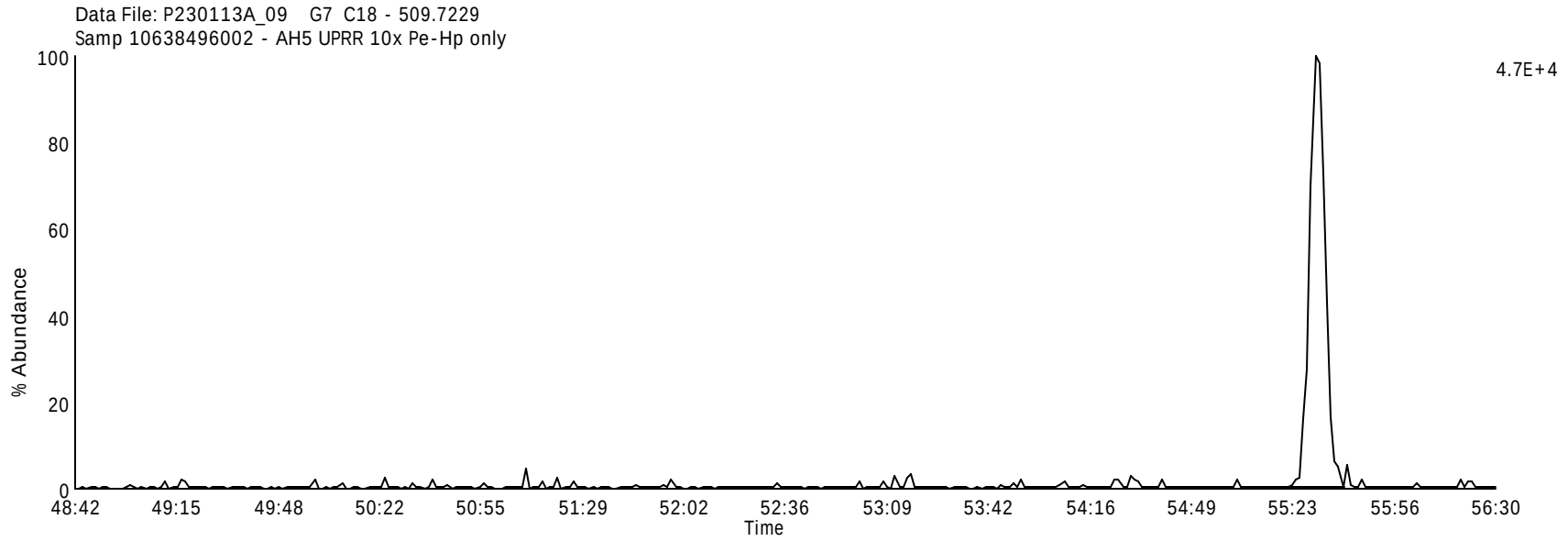




Labeled Deca Chlorinated Biphenyl

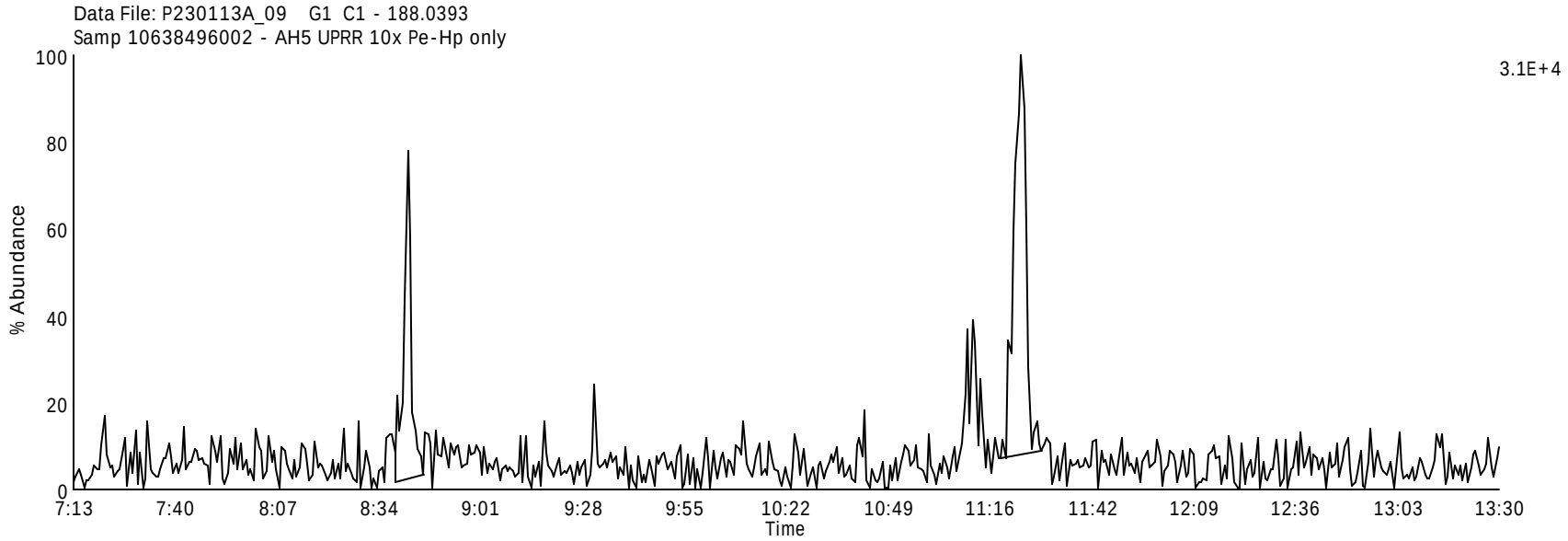
Data File Name: P230113A_09	Lab Sample ID: 10638496002
Date Acquired: 1/13/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only	Client Sample ID: SB08-0.5-110322

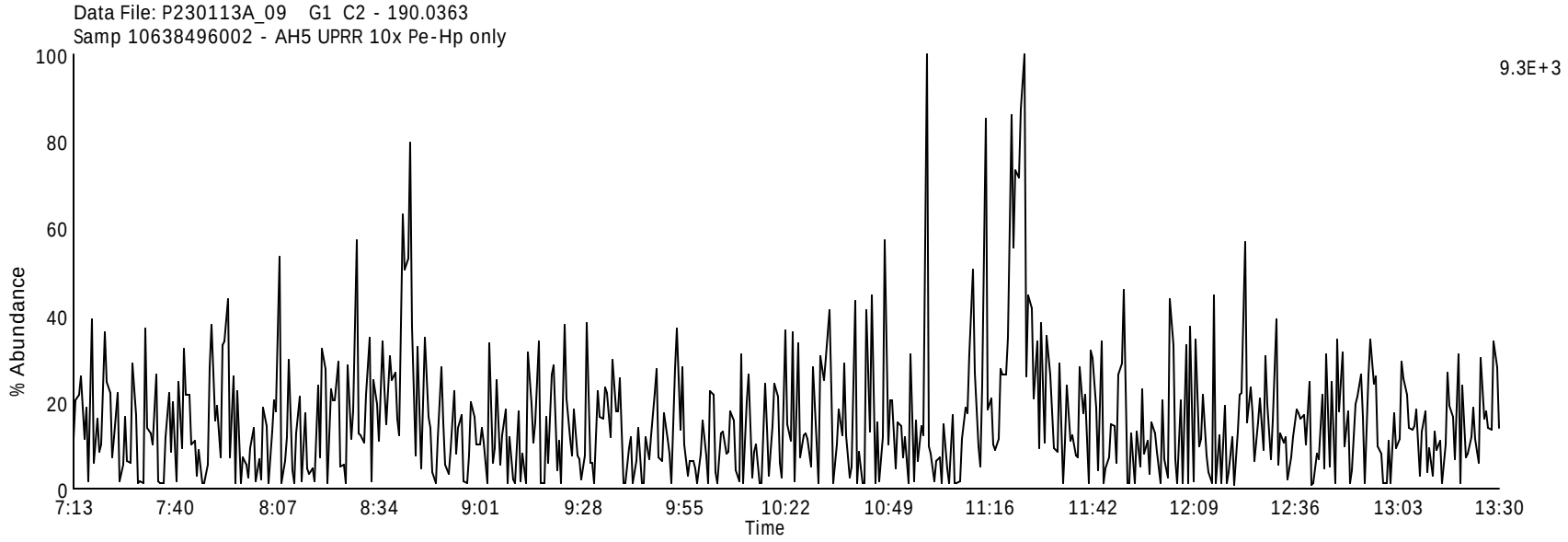




Mono Chlorinated Biphenyls

Data File Name: P230113A_09	Lab Sample ID: 10638496002
Date Acquired: 1/13/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only	Client Sample ID: SB08-0.5-110322

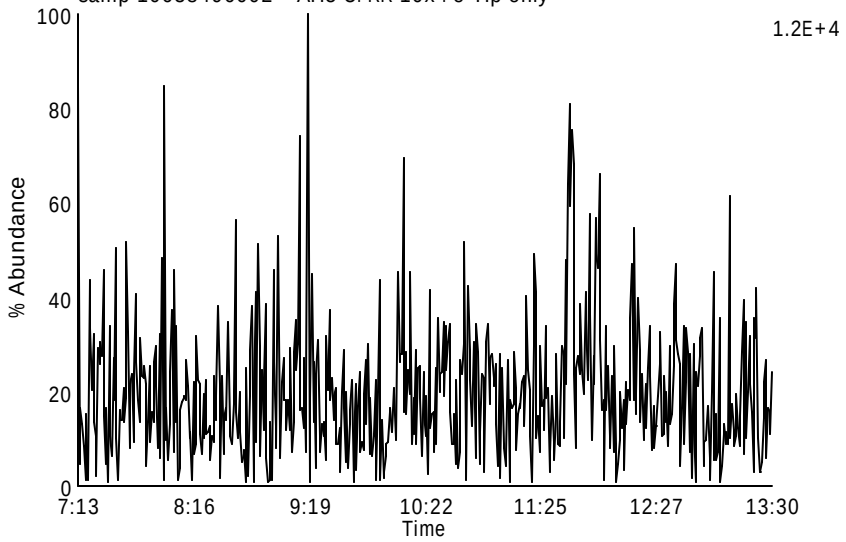




Di Chlorinated Biphenyls

Data File Name: P230113A_09
Lab Sample ID: 10638496002
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only
Client Sample ID: SB08-0.5-110322

Data File: P230113A_09 G1 C7 - 222.0003
Samp 10638496002 - AH5 UPRR 10x Pe-Hp only



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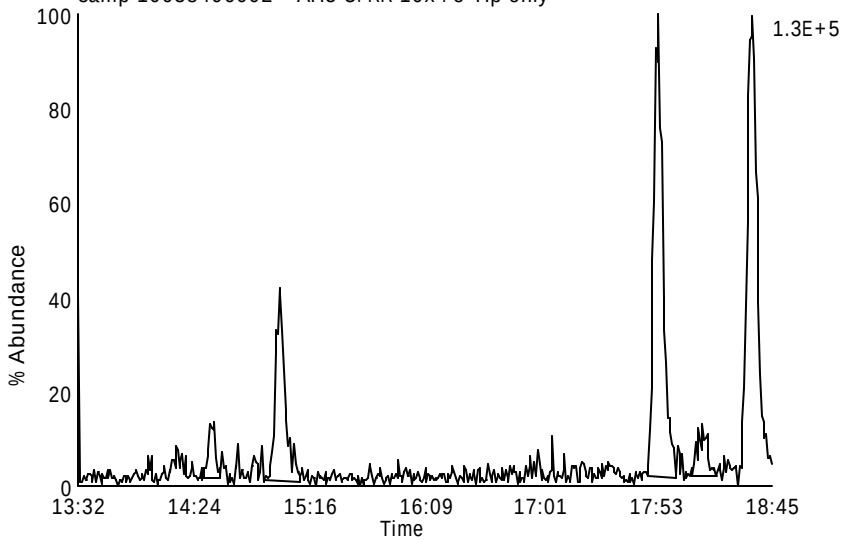

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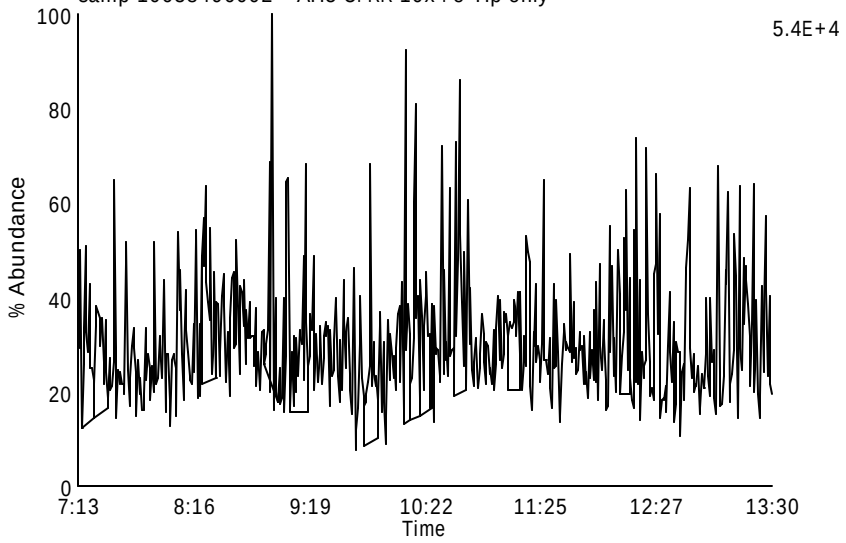
Samp 10638496002 - AH5 UPRR 10x Pe-Hp only



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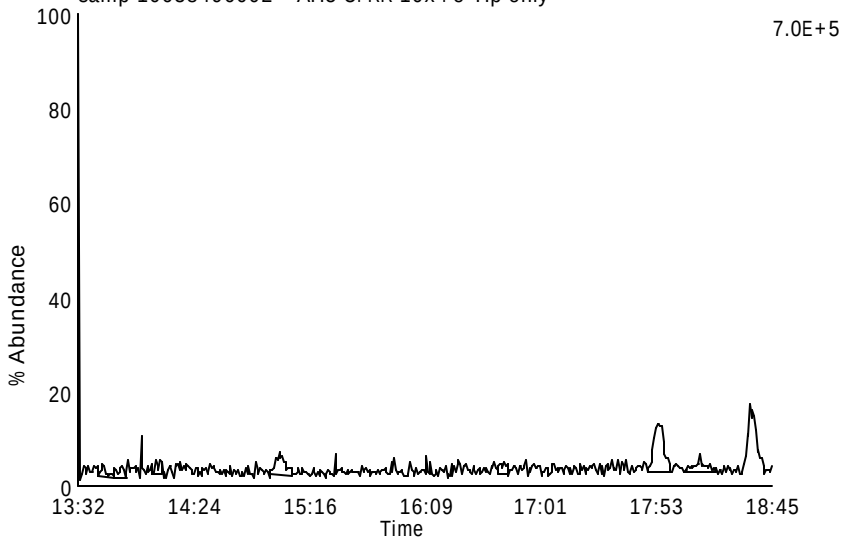
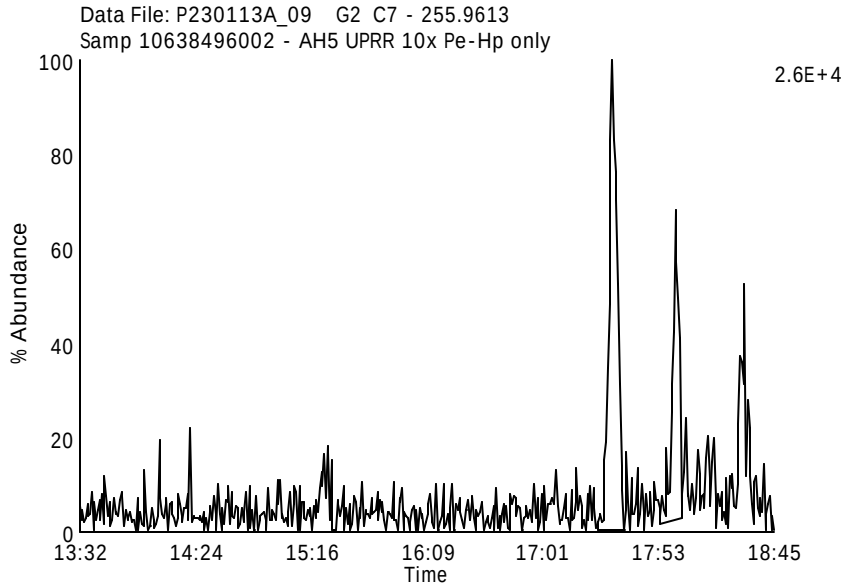
Samp 10638496002 - AH5 UPRR 10x Pe-Hp only

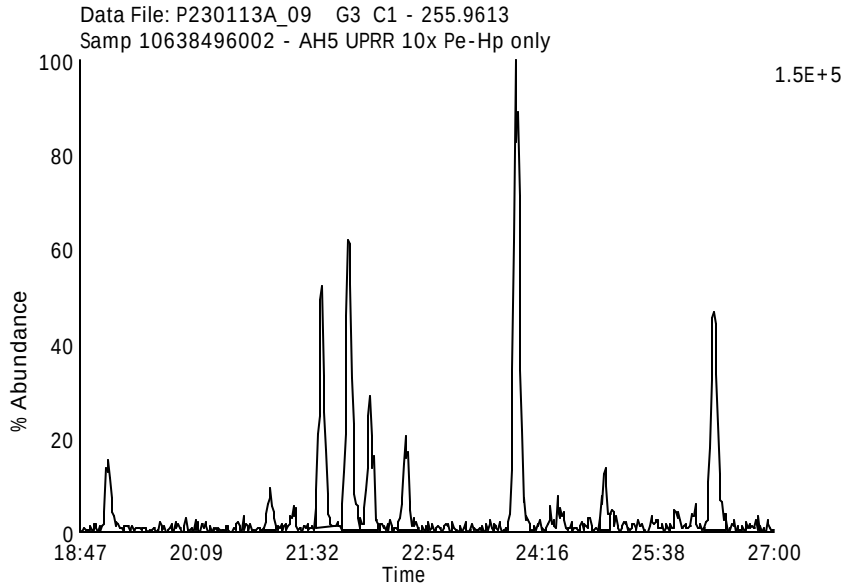


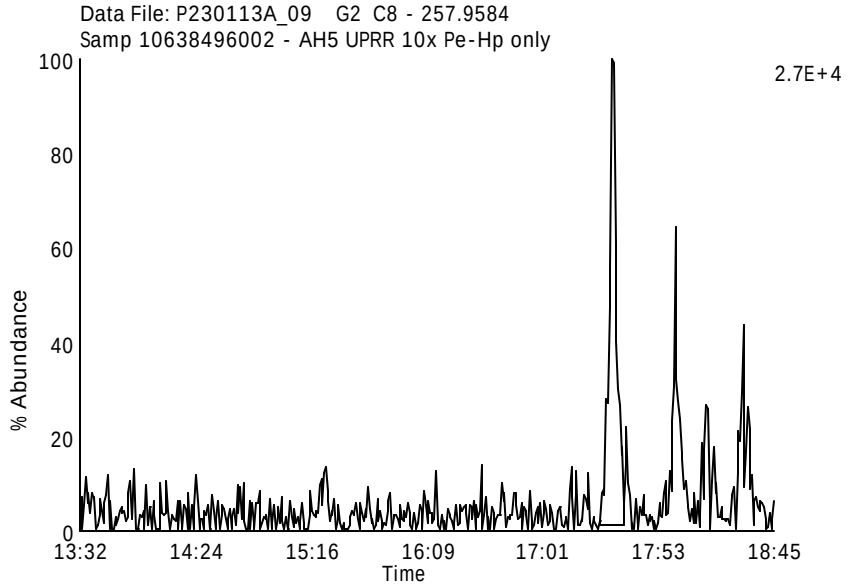
Tri Chlorinated Biphenyls

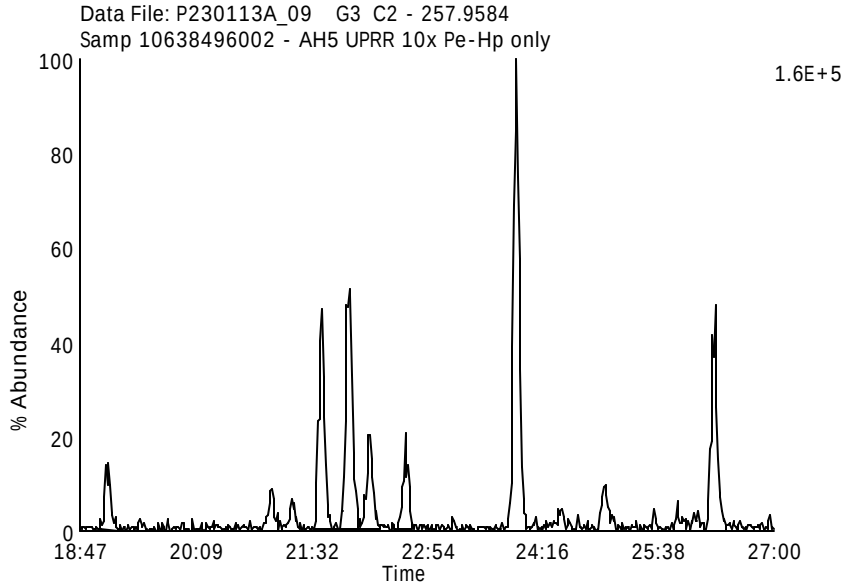
Data File Name: P230113A_09
Date Acquired: 1/13/2023
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only

Lab Sample ID: 10638496002
Instrument: 10MSHR09 (P)
Client Sample ID: SB08-0.5-110322



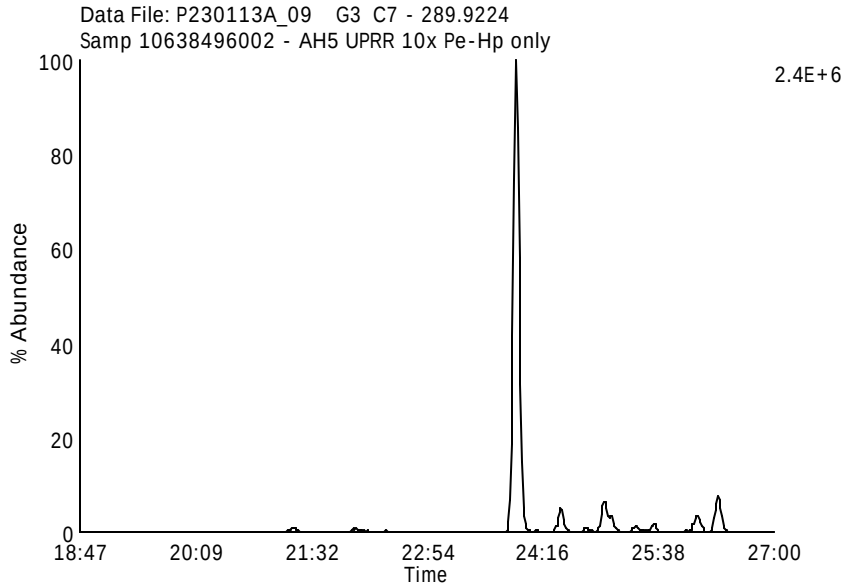


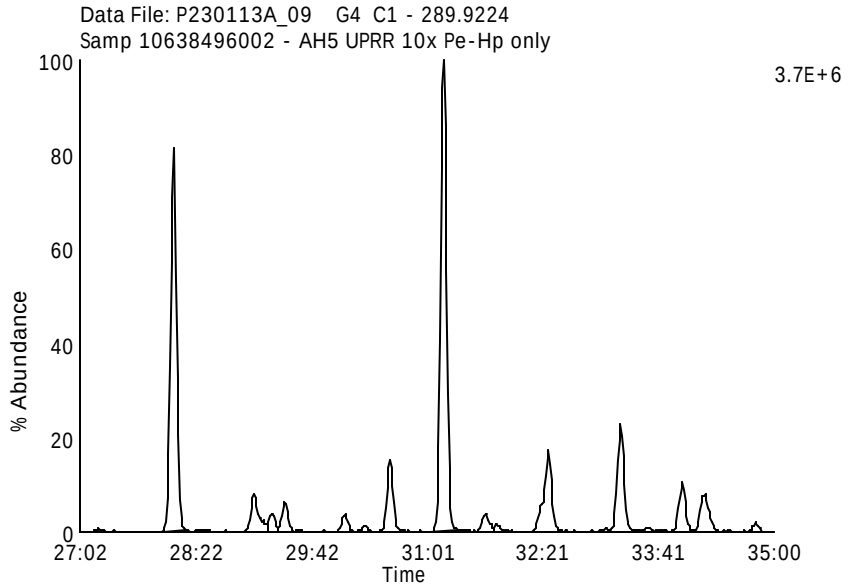


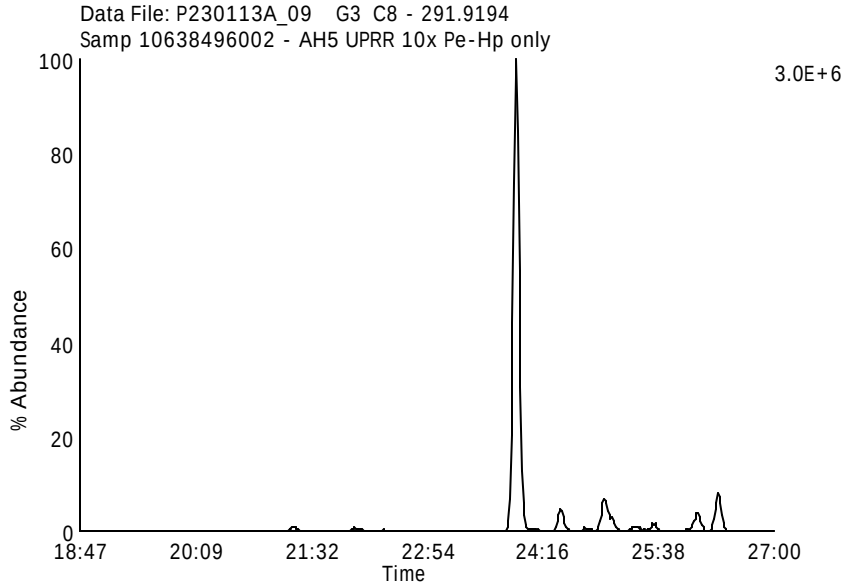


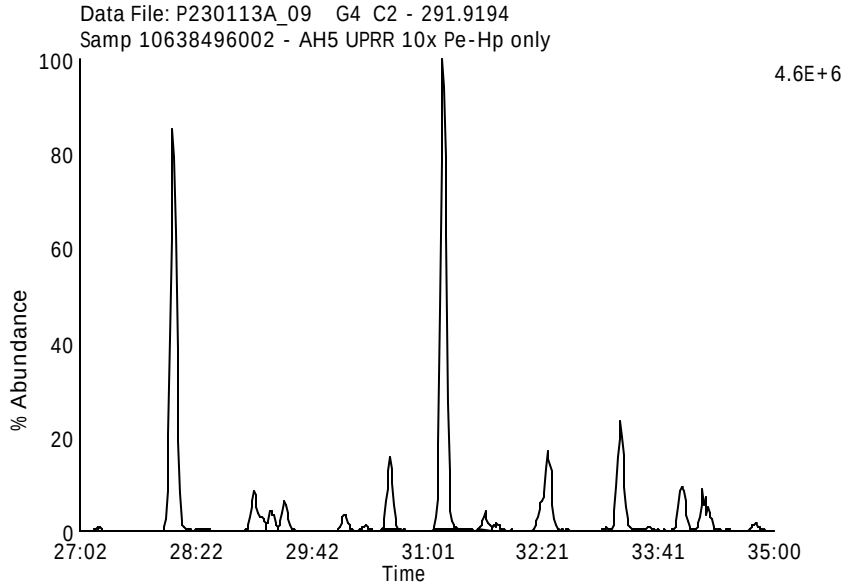
Tetra Chlorinated Biphenyls

Data File Name: P230113A_09
Lab Sample ID: 10638496002
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only
Client Sample ID: SB08-0.5-110322



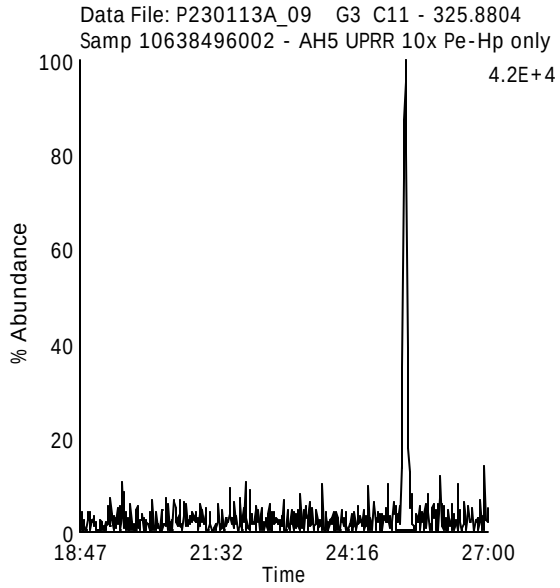


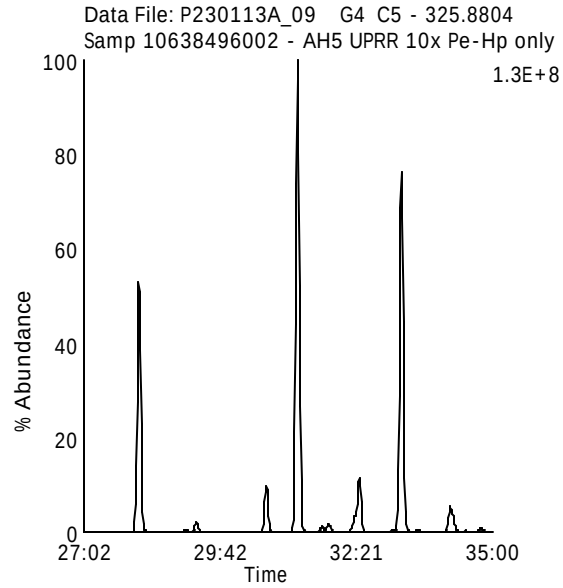


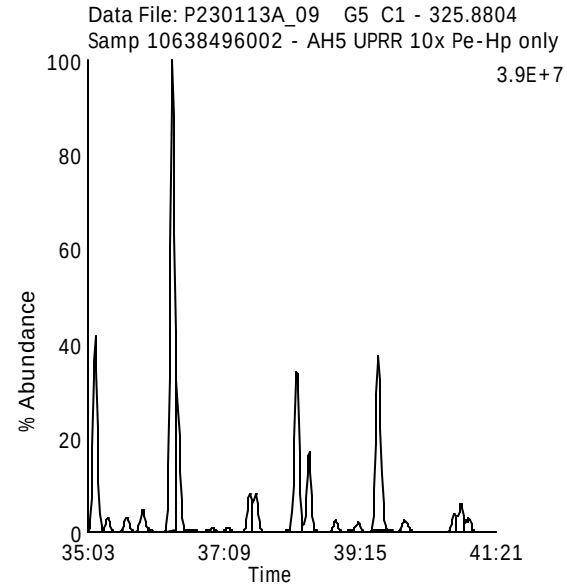


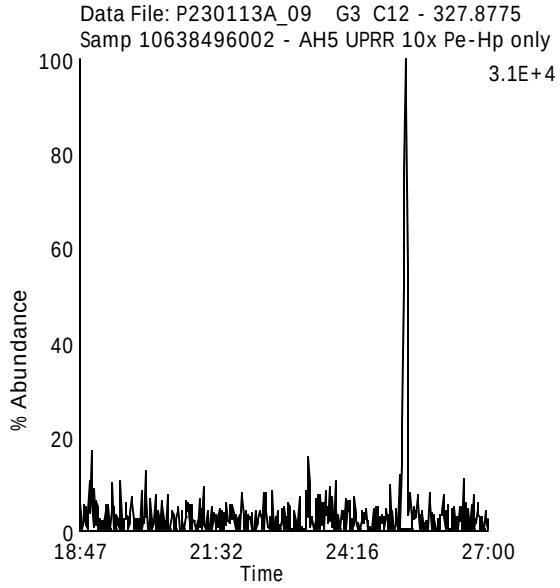
Penta Chlorinated Biphenyls

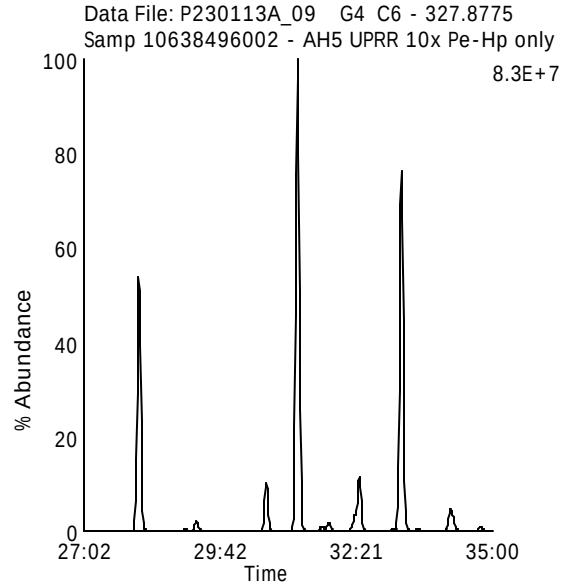
Data File Name: P230113A_09 | Lab Sample ID: 10638496002
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only | Client Sample ID: SB08-0.5-110322

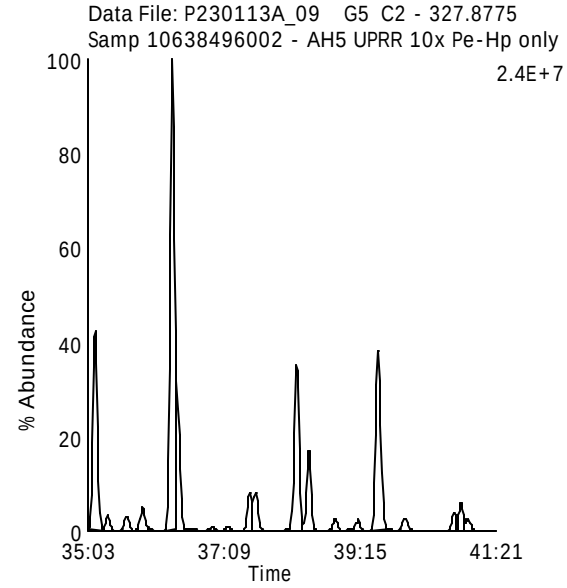










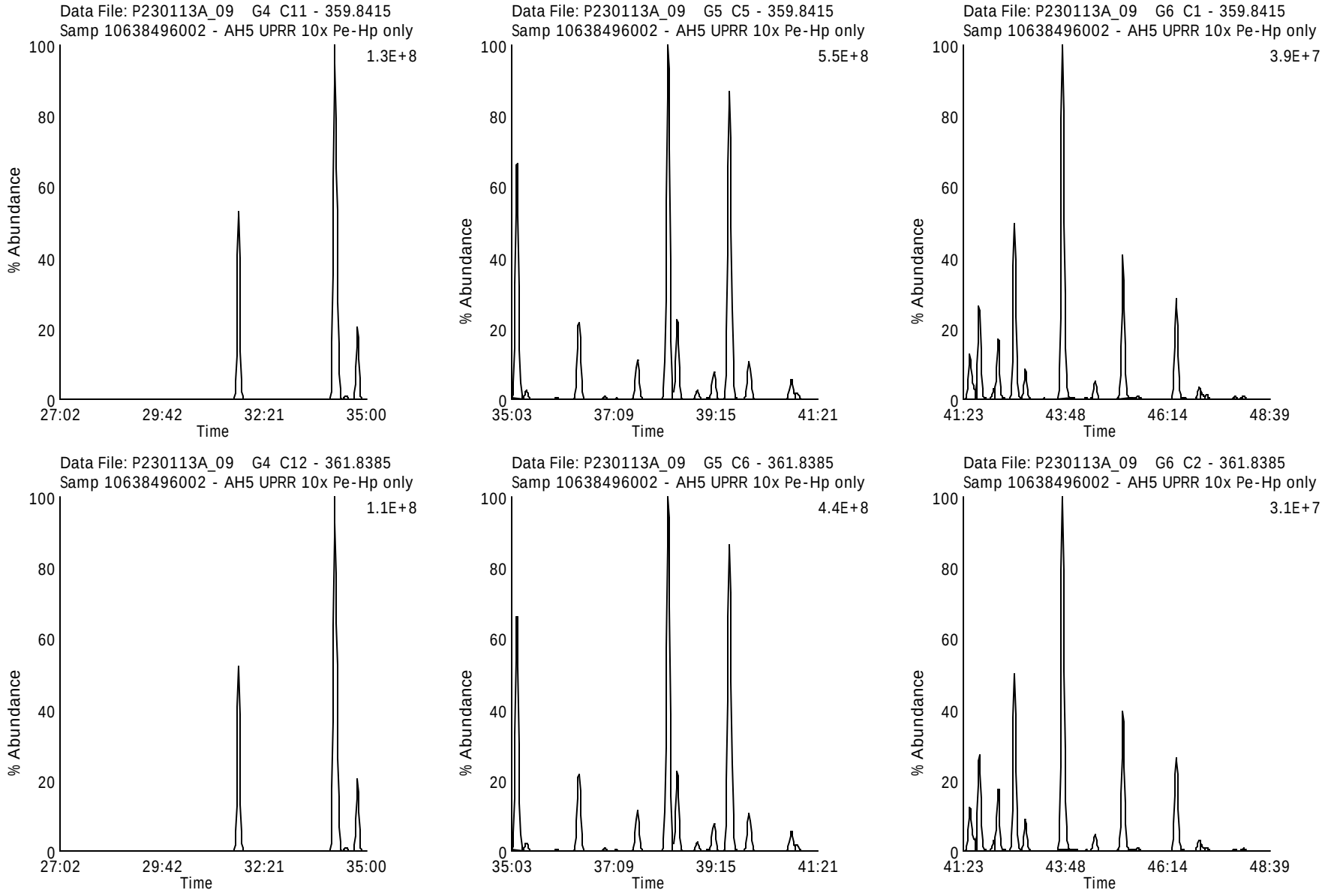


Hexa Chlorinated Biphenyls

Data File Name: P230113A_09 | Lab Sample ID: 10638496002

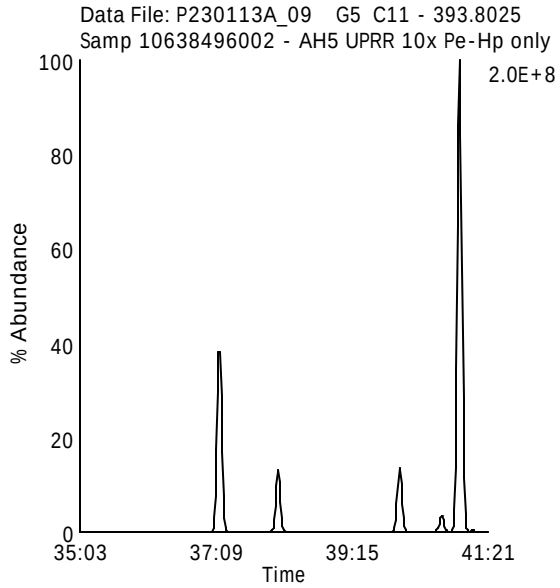
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

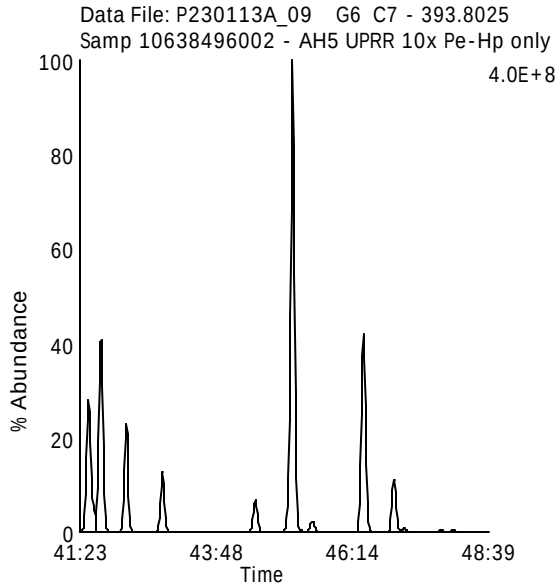
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only | Client Sample ID: SB08-0.5-110322

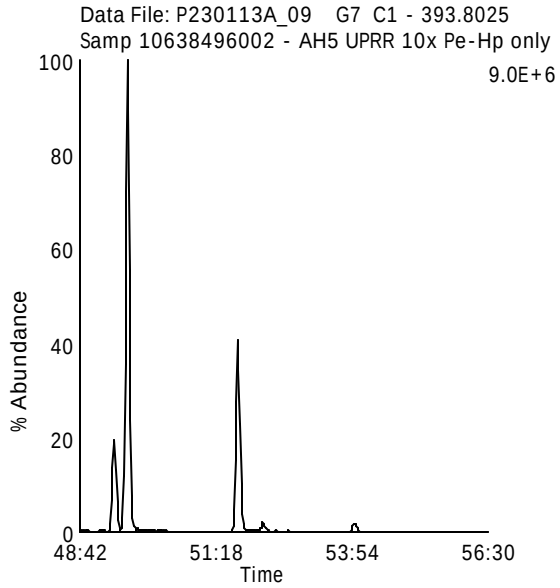


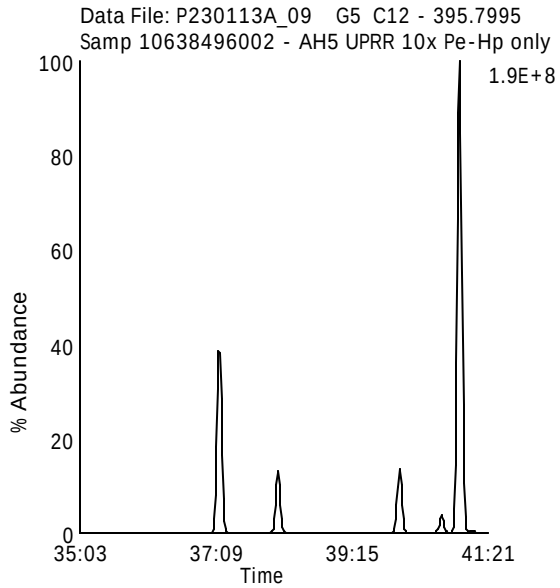
Hepta Chlorinated Biphenyls

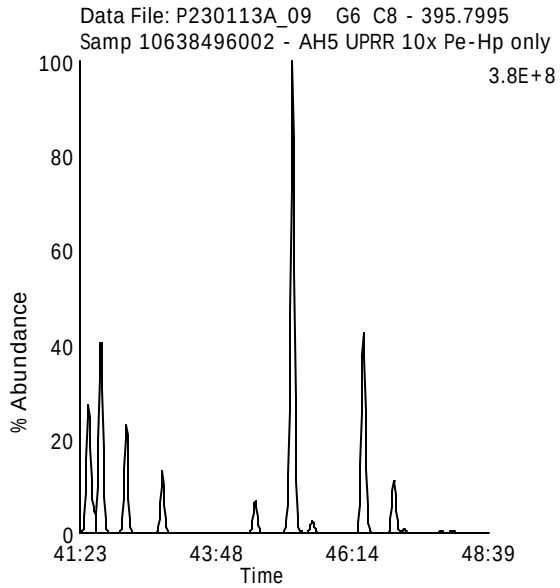
Data File Name: P230113A_09 | Lab Sample ID: 10638496002
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only | Client Sample ID: SB08-0.5-110322

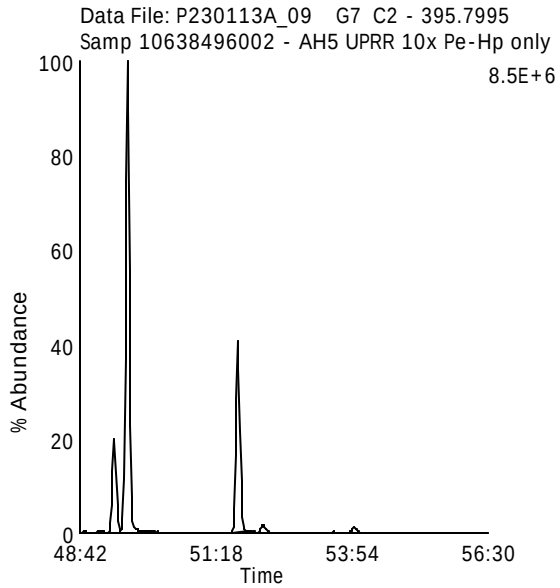






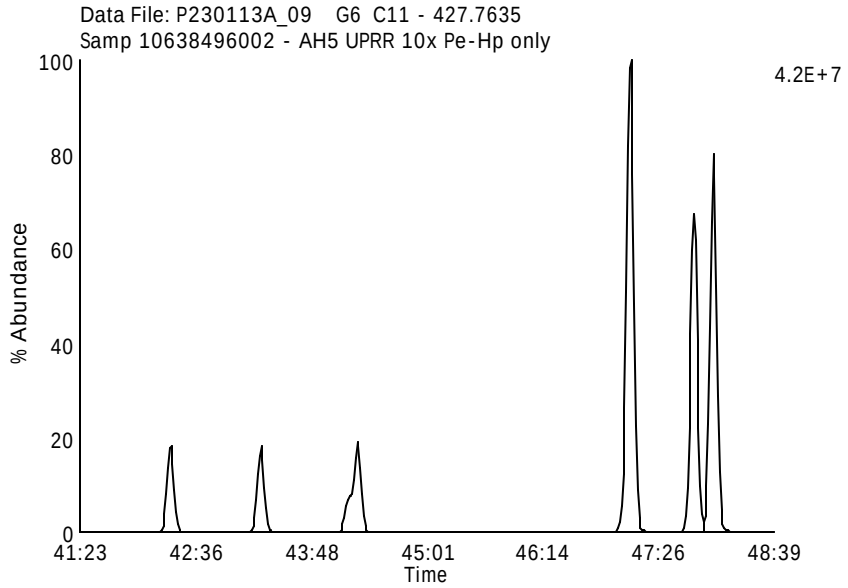


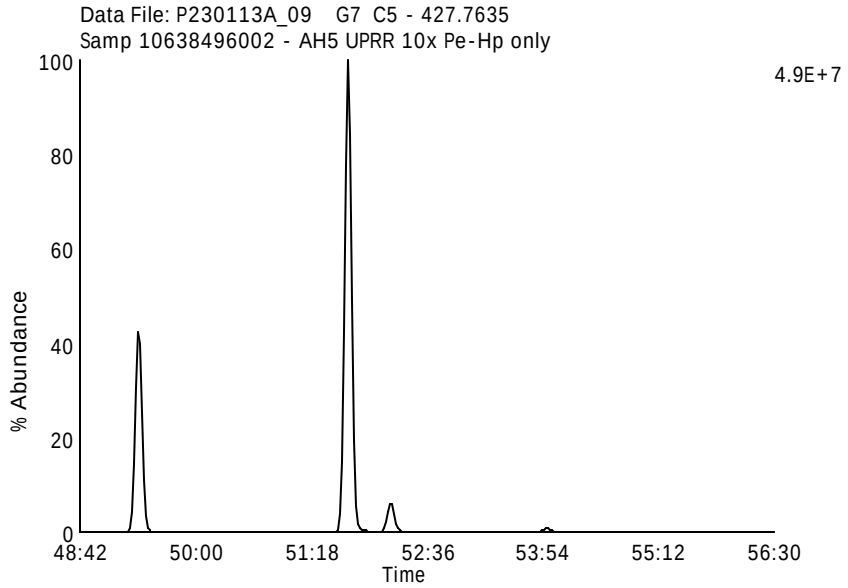


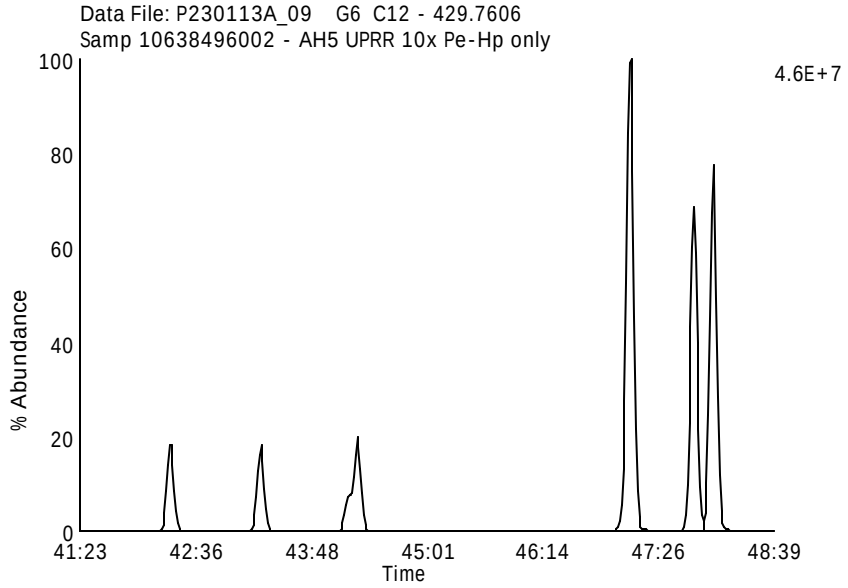


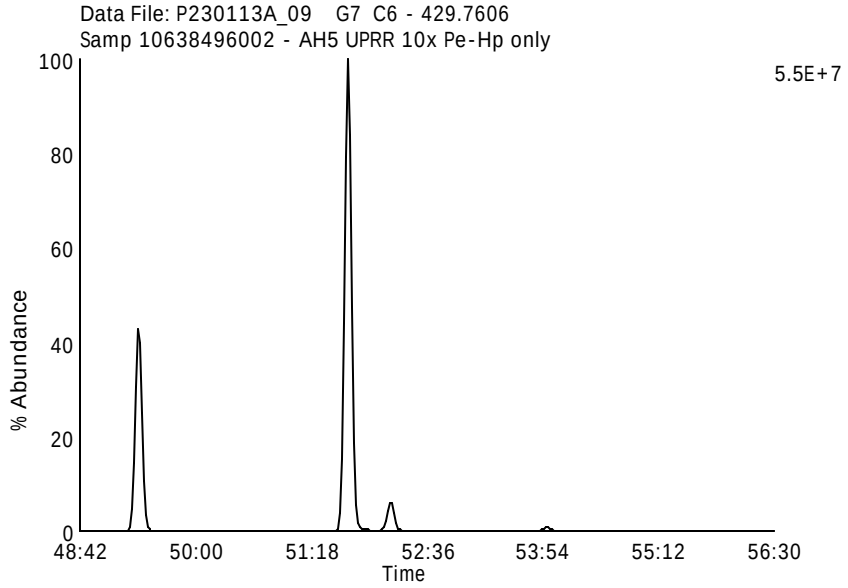
Octa Chlorinated Biphenyls

Data File Name: P230113A_09
Lab Sample ID: 10638496002
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only
Client Sample ID: SB08-0.5-110322







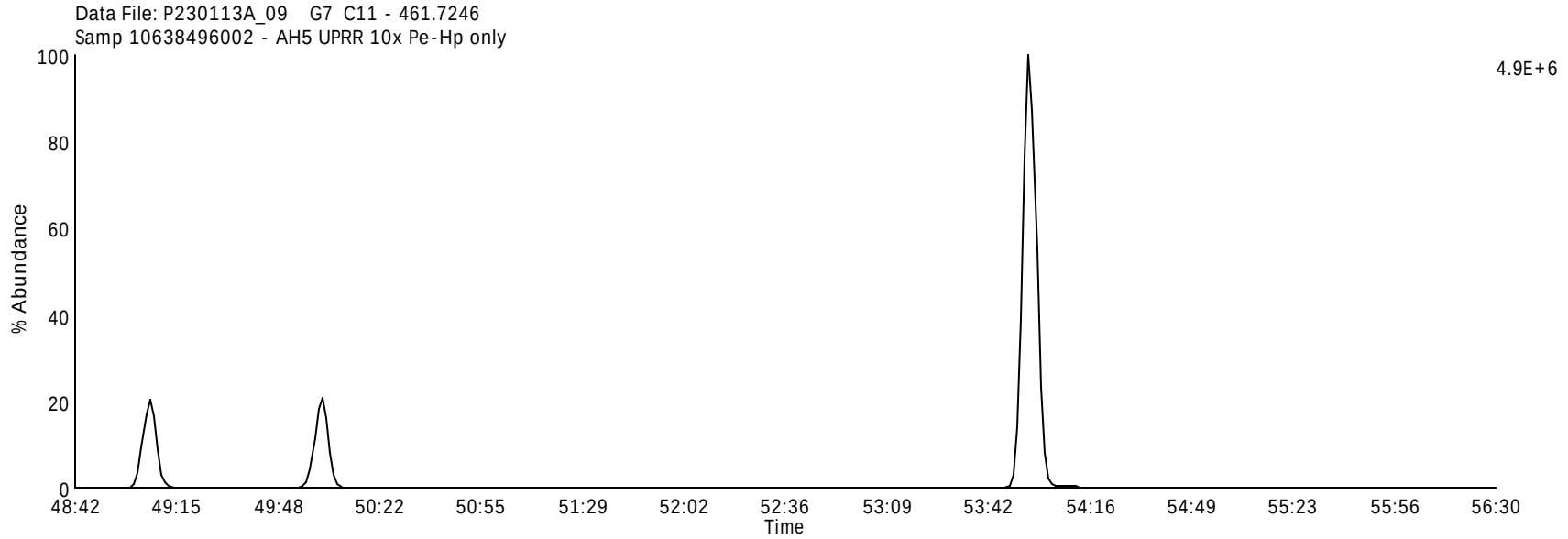


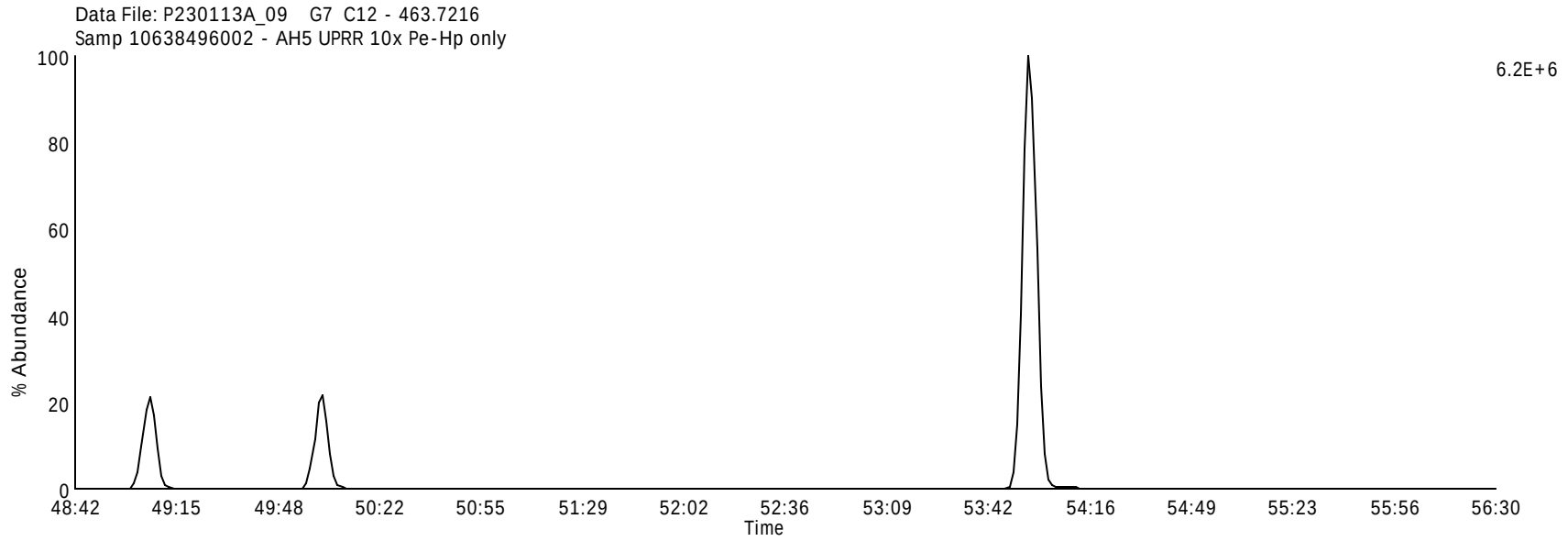
Nona Chlorinated Biphenyls

Data File Name: P230113A_09 | Lab Sample ID: 10638496002

Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

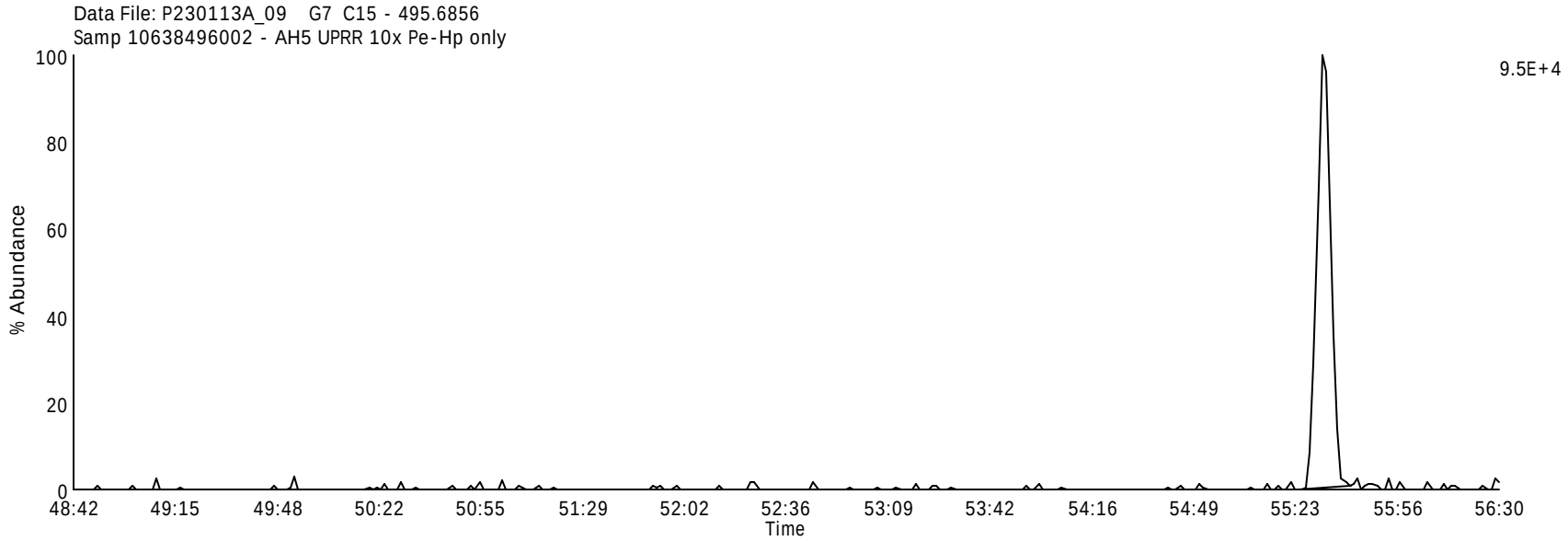
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only | Client Sample ID: SB08-0.5-110322

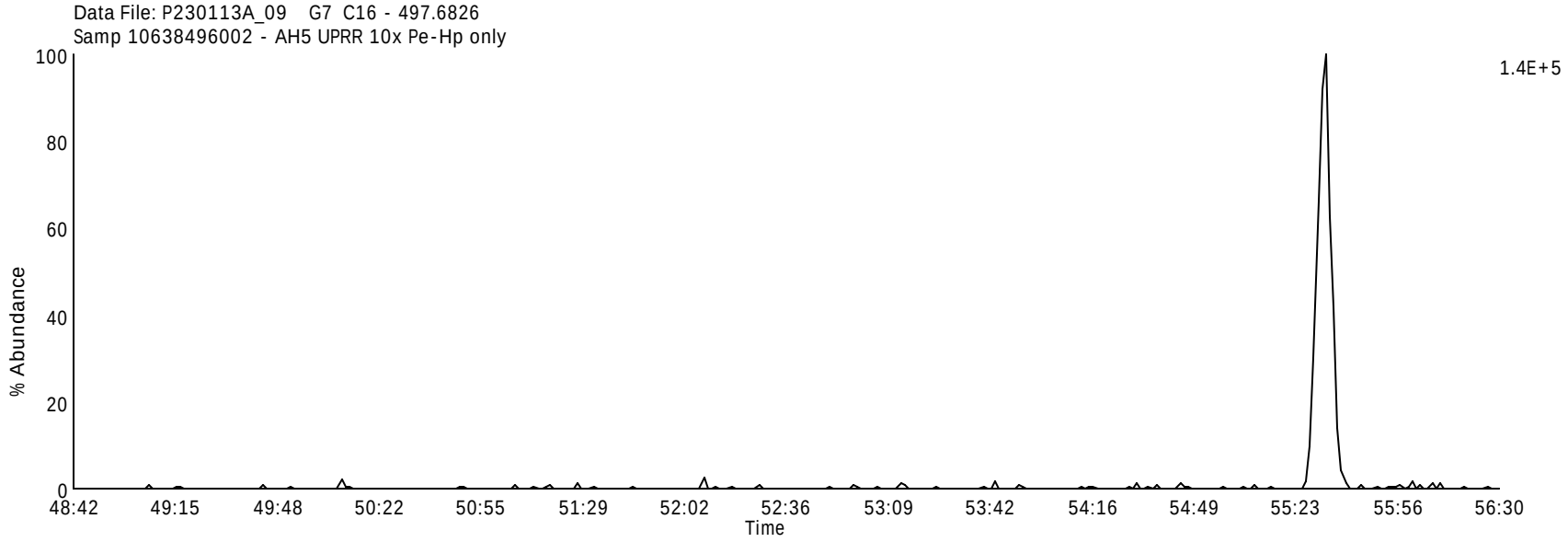




Deca Chlorinated Biphenyl

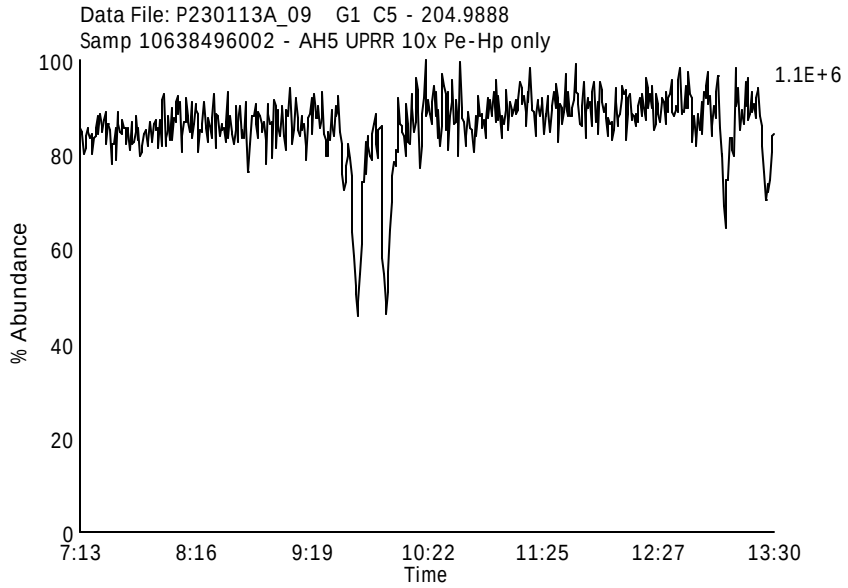
Data File Name: P230113A_09	Lab Sample ID: 10638496002
Date Acquired: 1/13/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only	Client Sample ID: SB08-0.5-110322

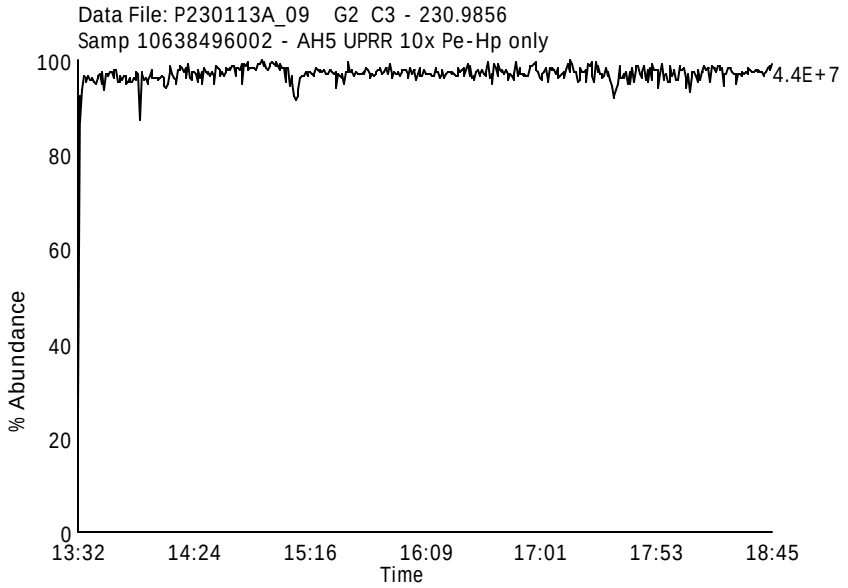


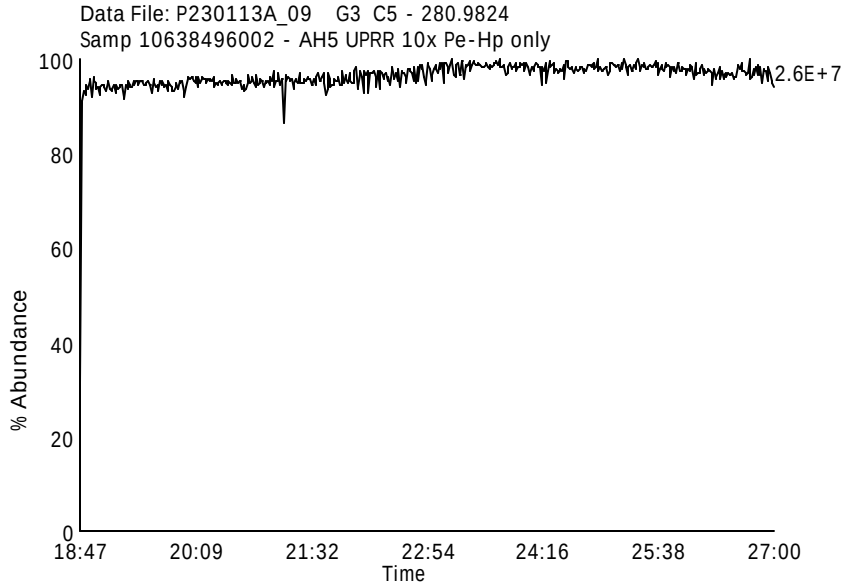


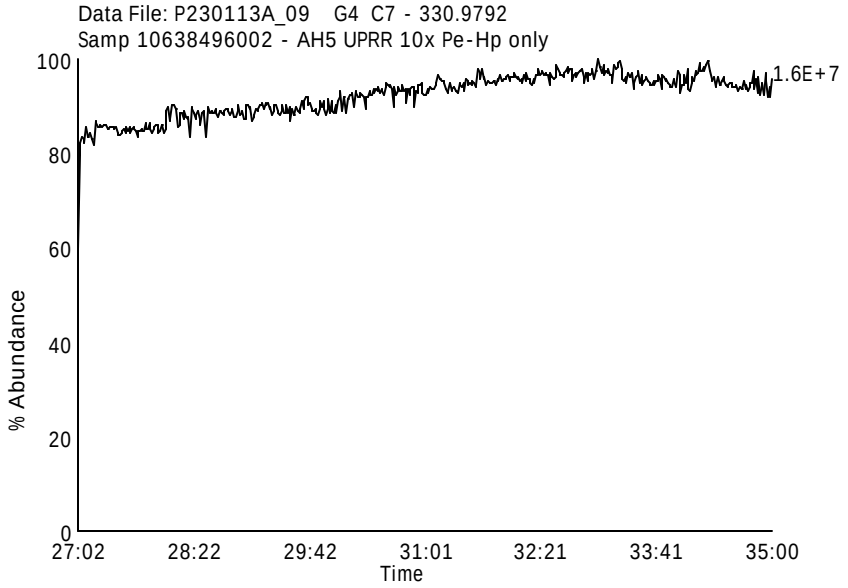
Group 1 - 4 Lock mass

Data File Name: P230113A_09
Lab Sample ID: 10638496002
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only
Client Sample ID: SB08-0.5-110322



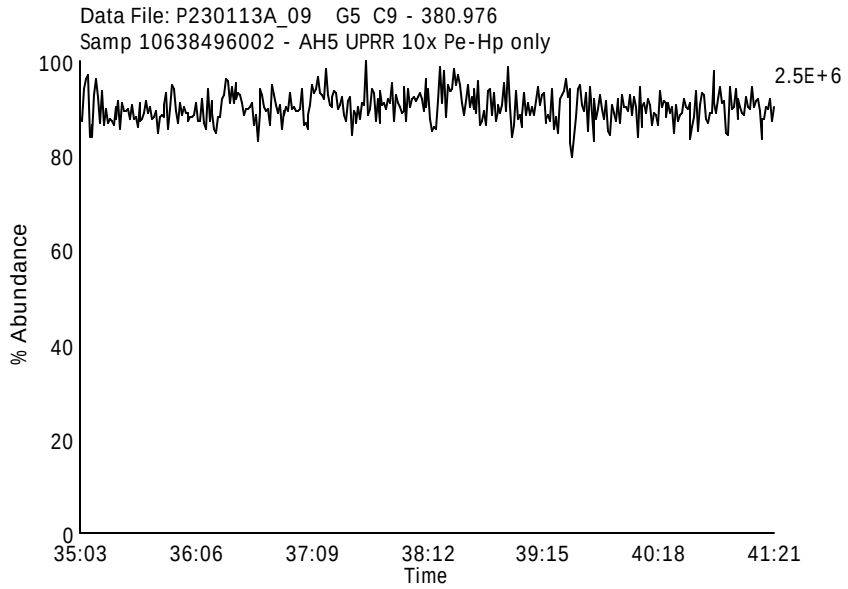


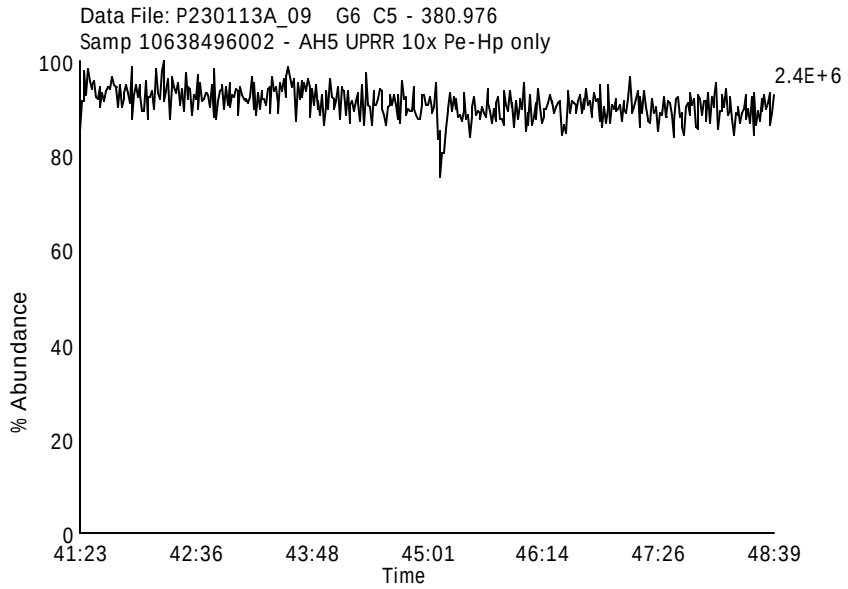


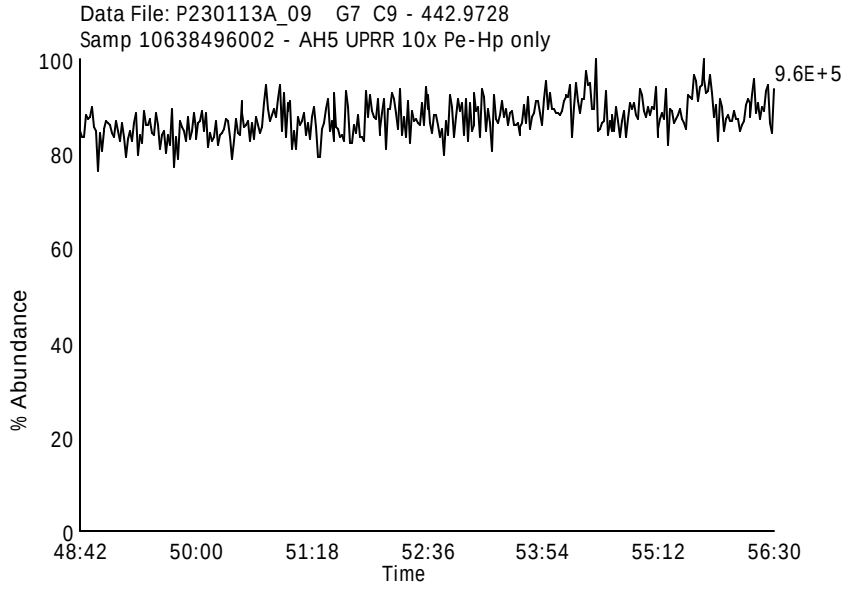


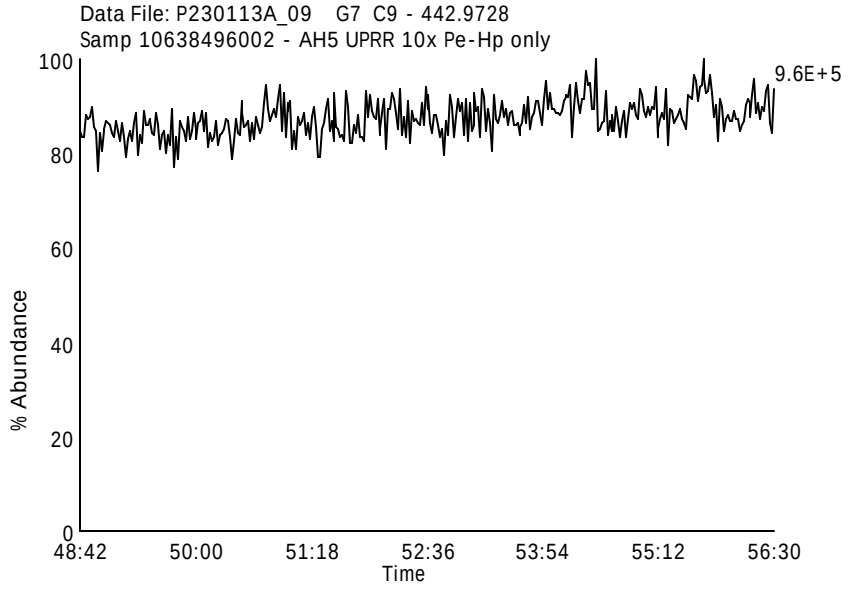
Group 5 - 7 Lock mass

Data File Name: P230113A_09
Lab Sample ID: 10638496002
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496002 - AH5 UPRR 10x Pe-Hp only
Client Sample ID: SB08-0.5-110322







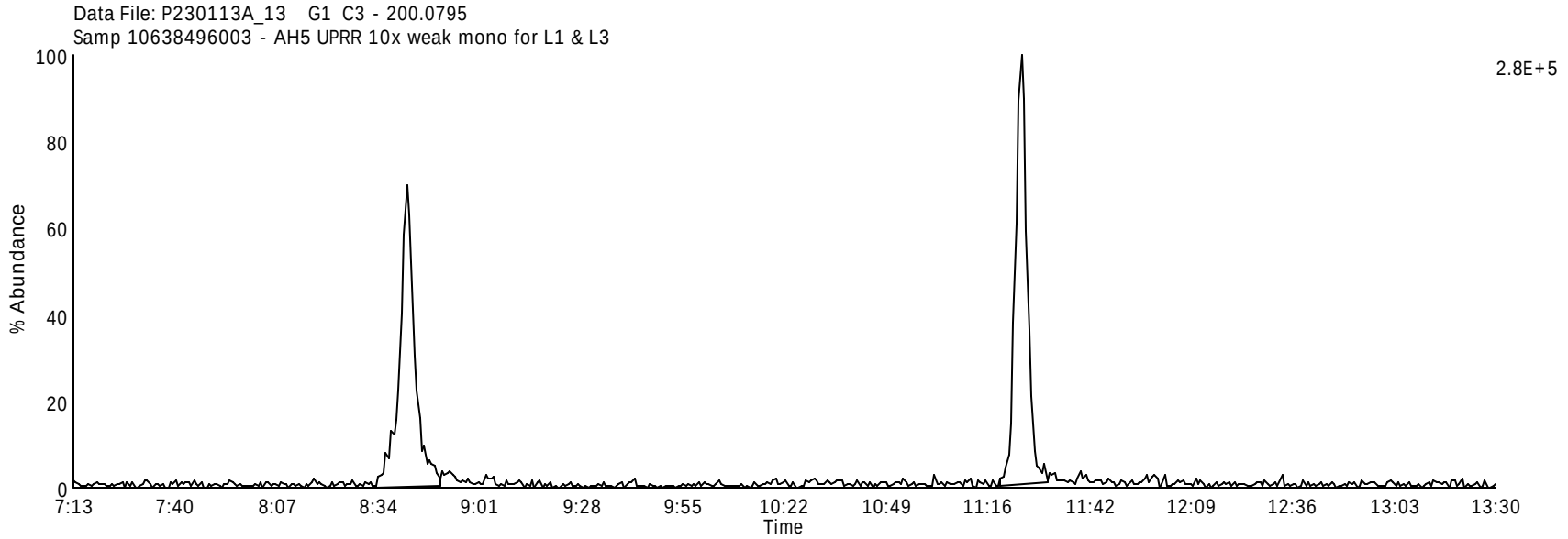


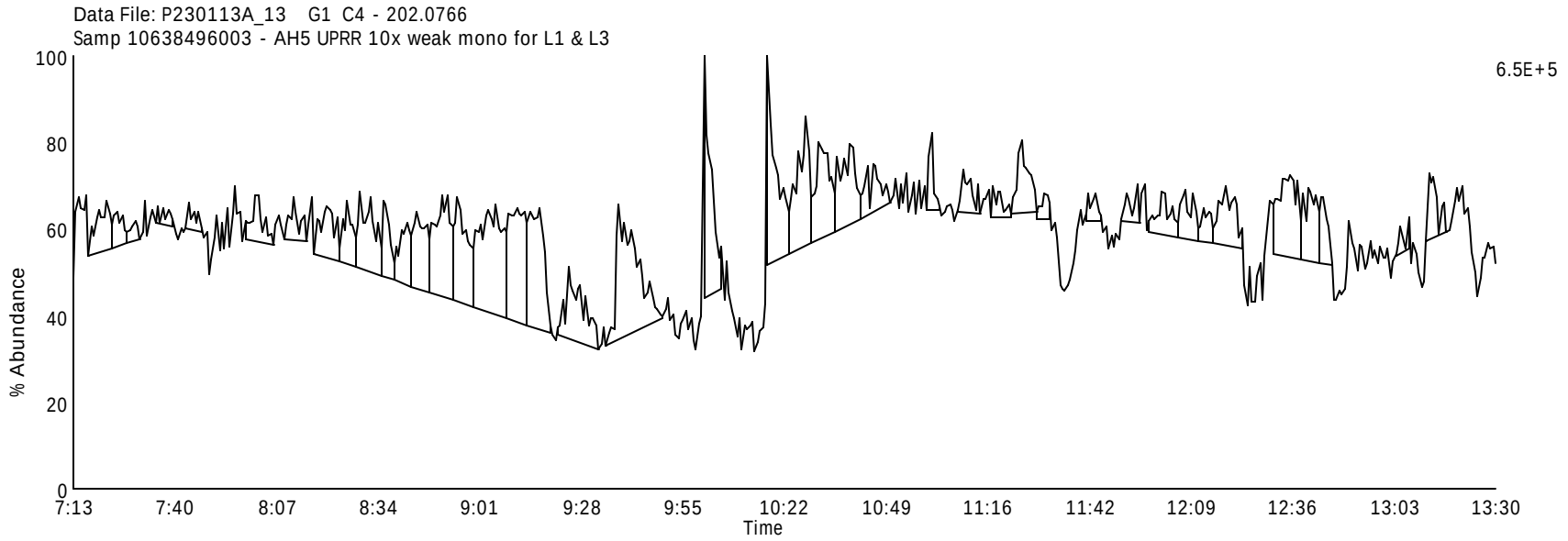
Labeled Mono Chlorinated Biphenyls

Data File Name: P230113A_13 | Lab Sample ID: 10638496003

Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3 | Client Sample ID: SB10-0.0-0.5-1022



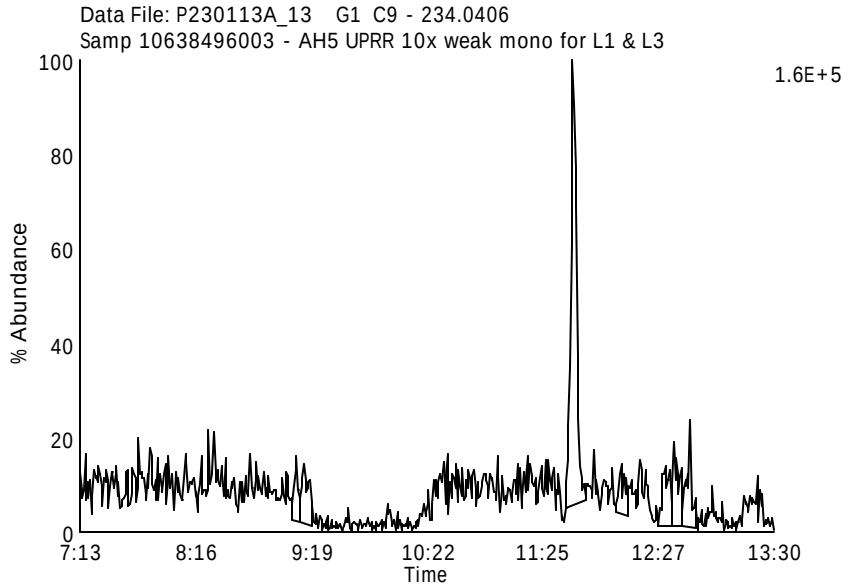


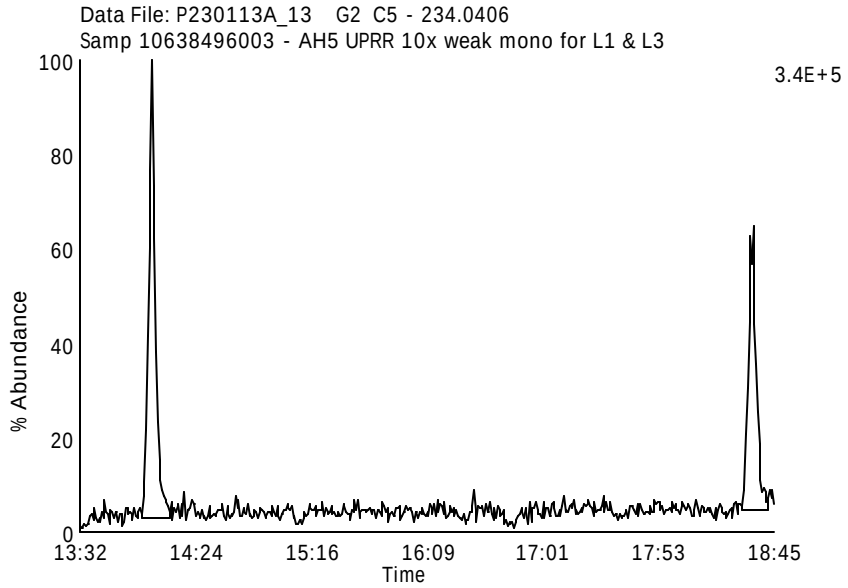
Labeled Di Chlorinated Biphenyls

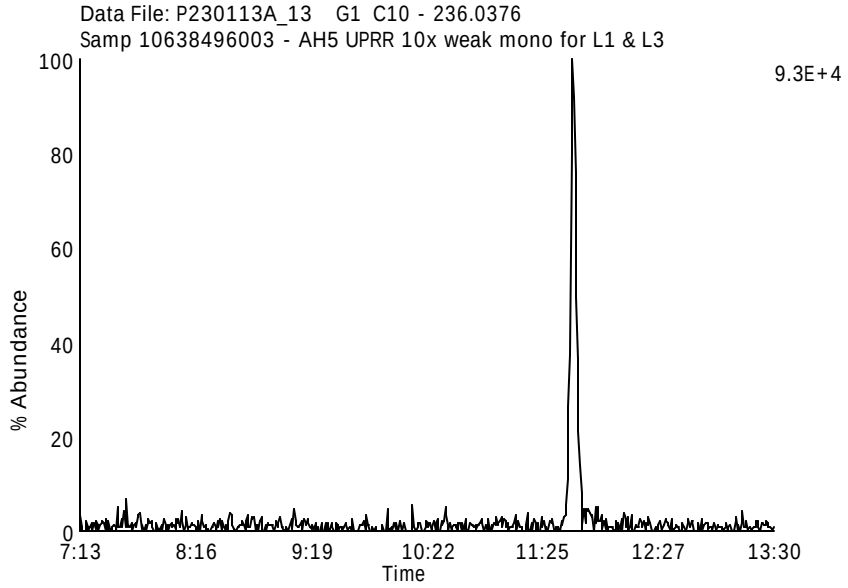
Data File Name: P230113A_13 | Lab Sample ID: 10638496003

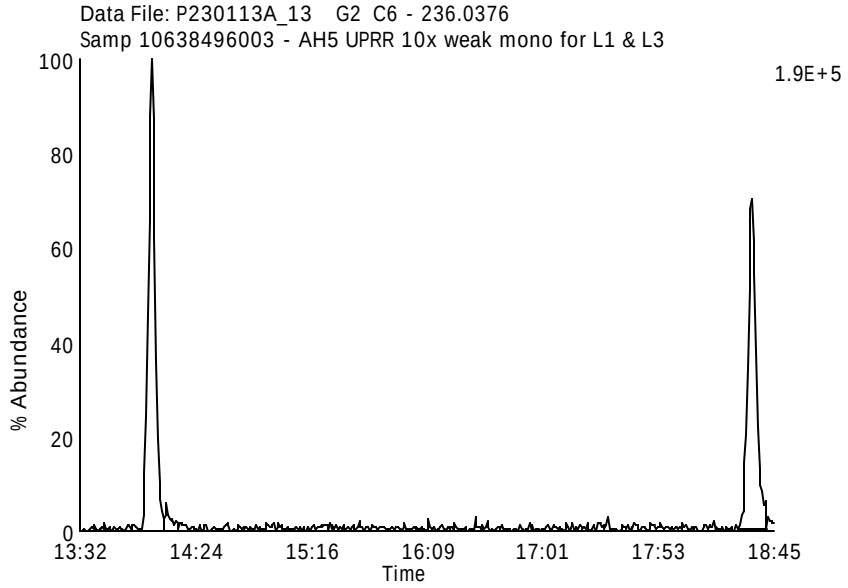
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3 | Client Sample ID: SB10-0.0-0.5-1022









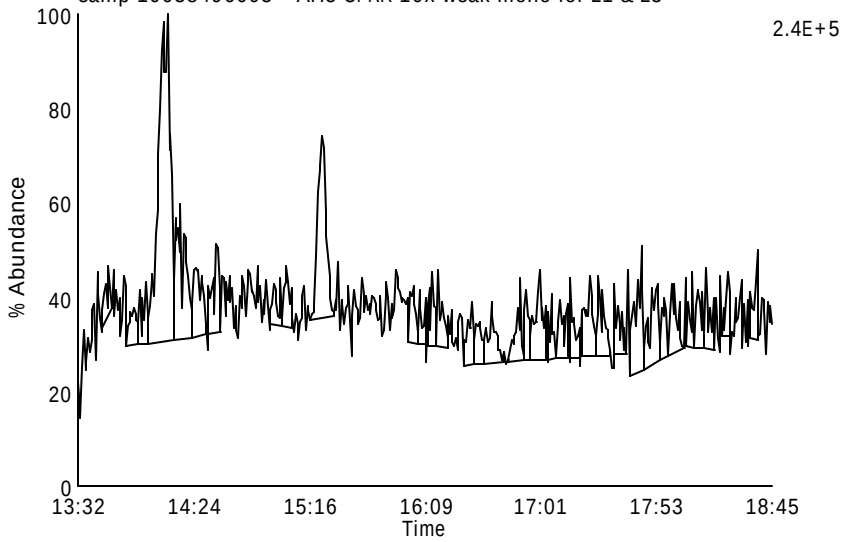
Labeled Tri Chlorinated Biphenyls

Data File Name: P230113A_13 | Lab Sample ID: 10638496003

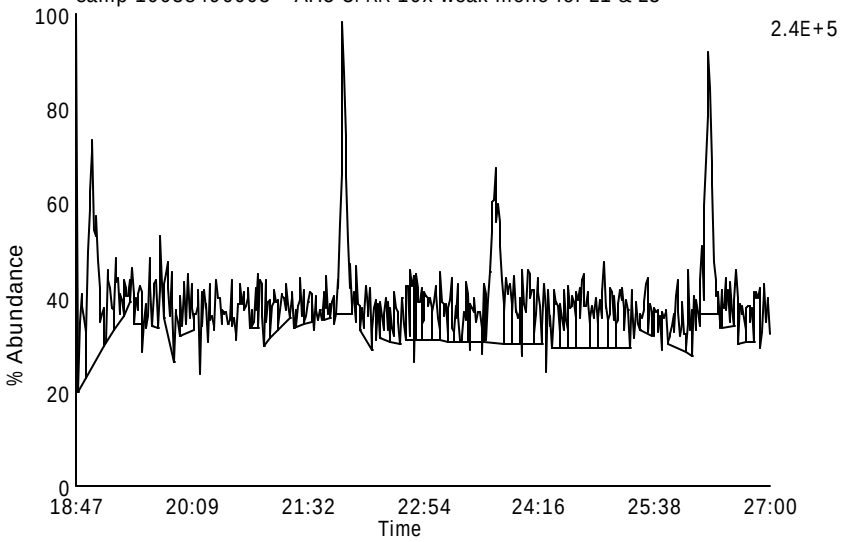
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3 | Client Sample ID: SB10-0.0-0.5-1022

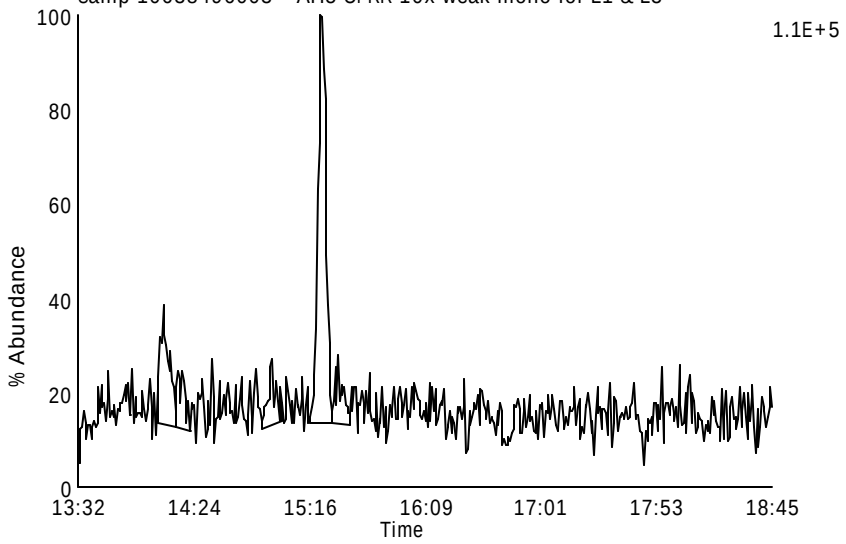
Data File: P230113A_13 G2 C9 - 268.0016
Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3



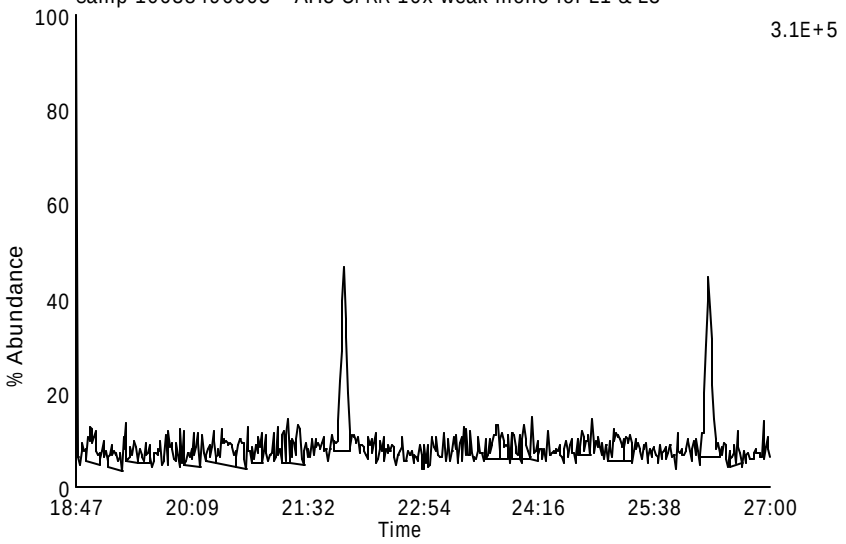
Data File: P230113A_13 G3 C3 - 268.0016
Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3



Data File: P230113A_13 G2 C10 - 269.9986
Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3



Data File: P230113A_13 G3 C4 - 269.9986
Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3

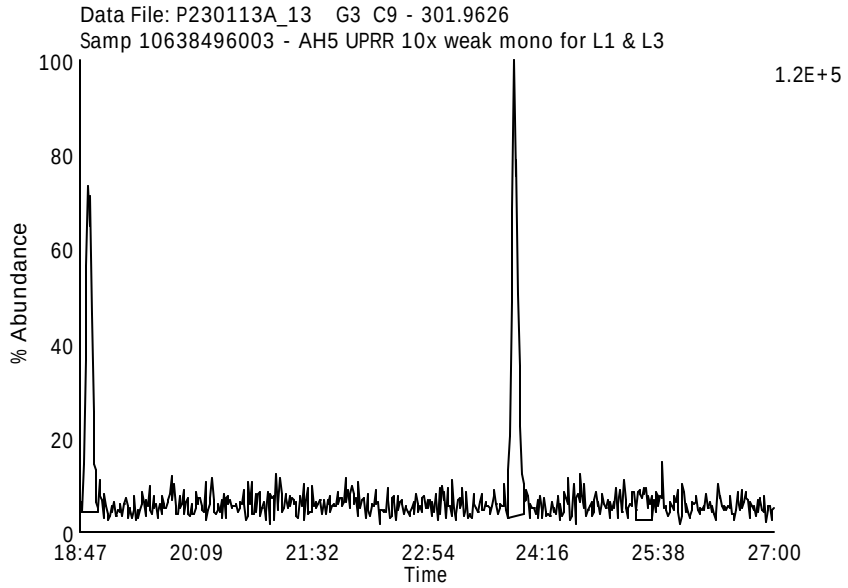


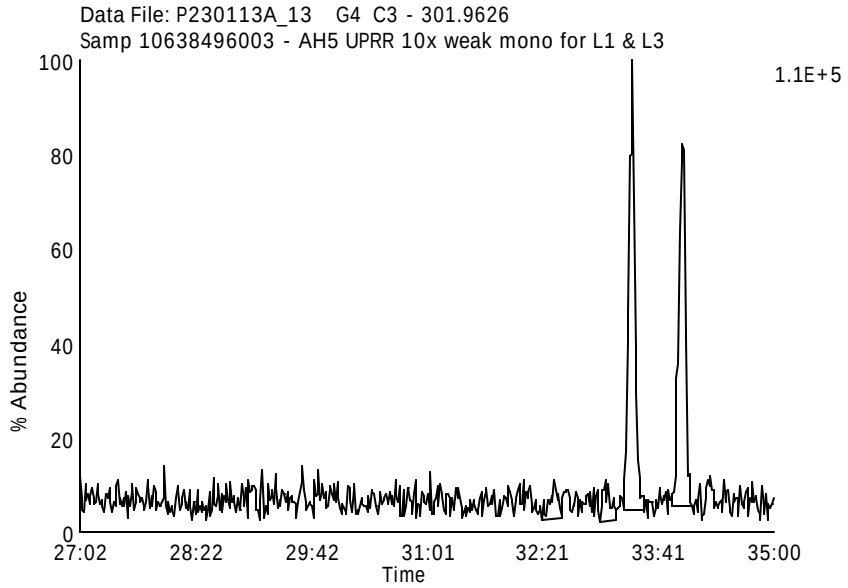
Labeled Tetra Chlorinated Biphenyls

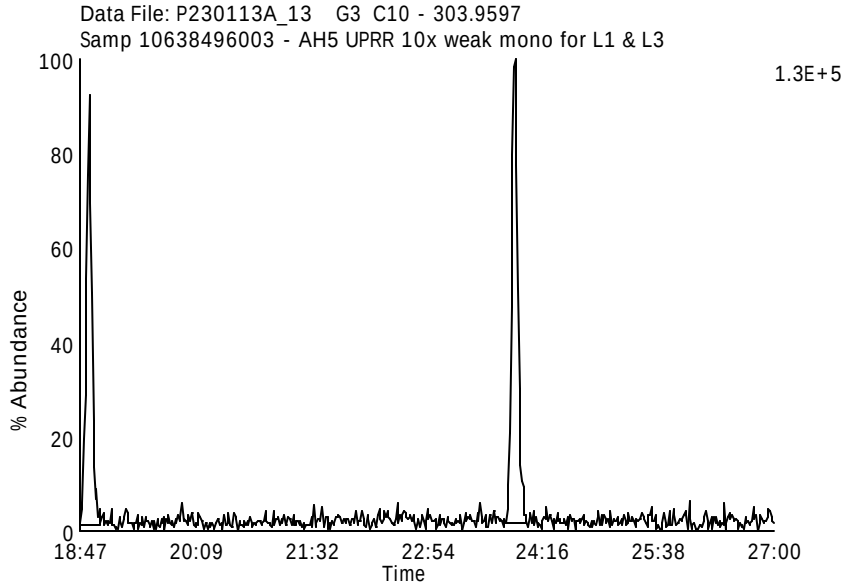
Data File Name: P230113A_13 | Lab Sample ID: 10638496003

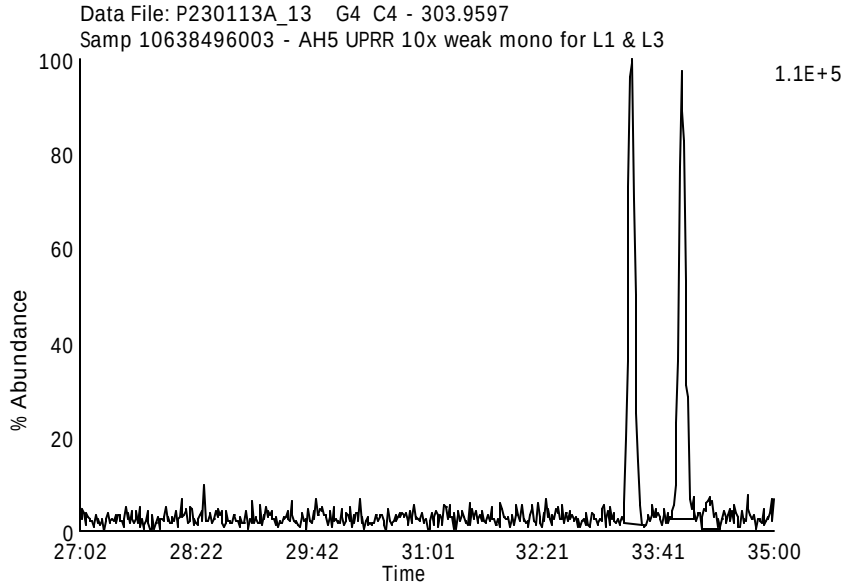
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3 | Client Sample ID: SB10-0.0-0.5-1022







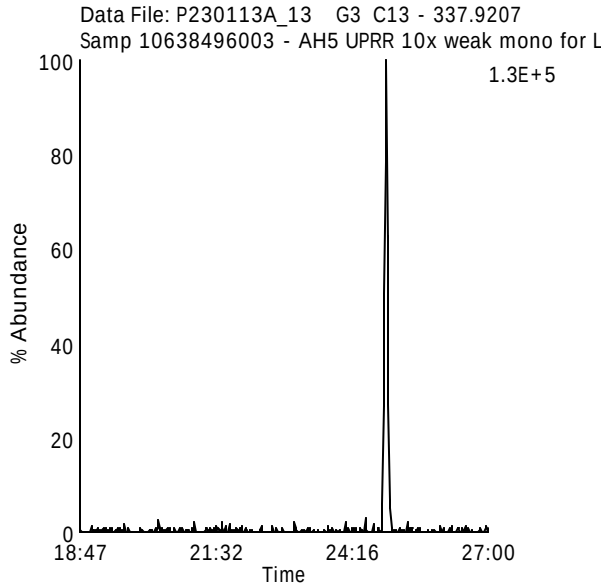


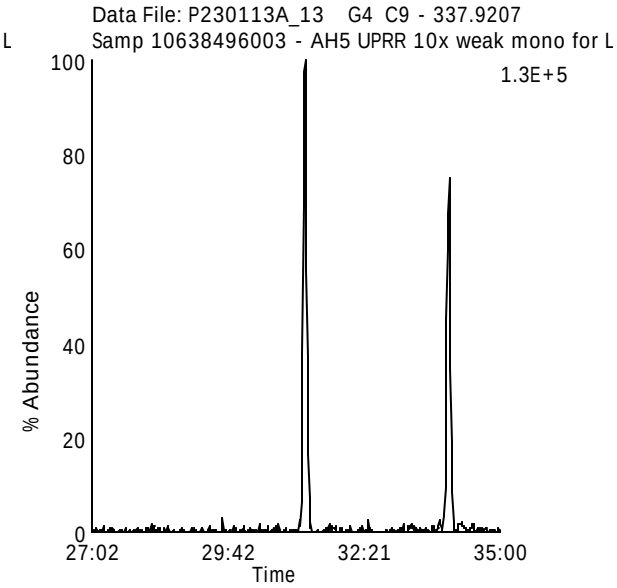
Labeled Penta Chlorinated Biphenyls

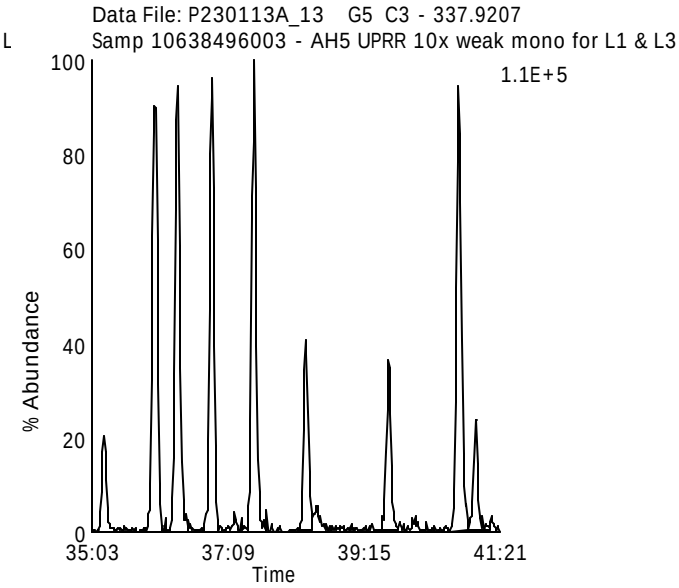
Data File Name: P230113A_13 | Lab Sample ID: 10638496003

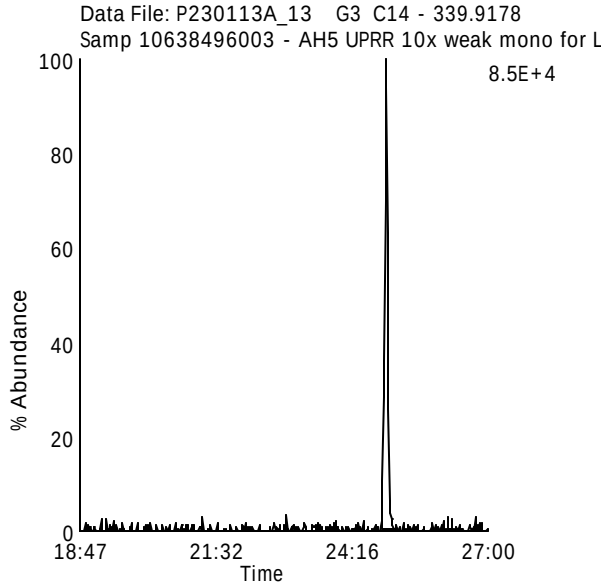
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

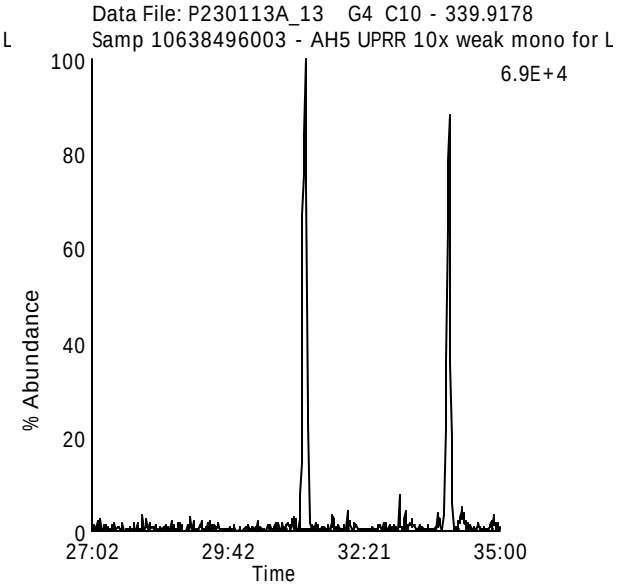
Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3 | Client Sample ID: SB10-0.0-0.5-1022

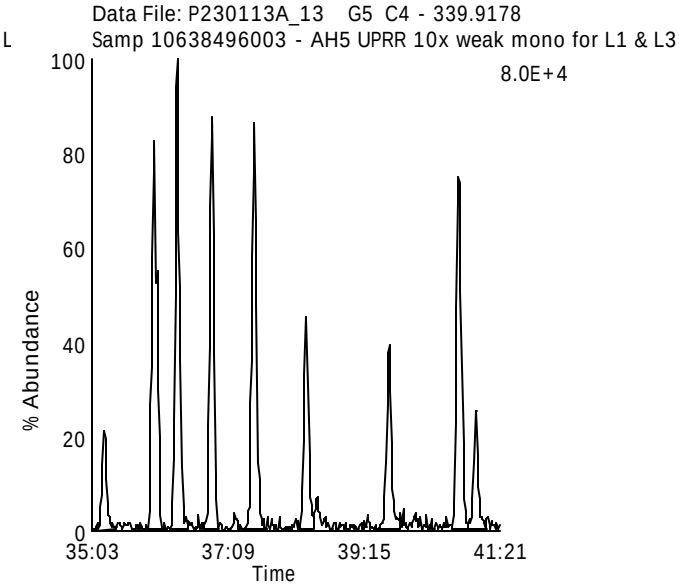










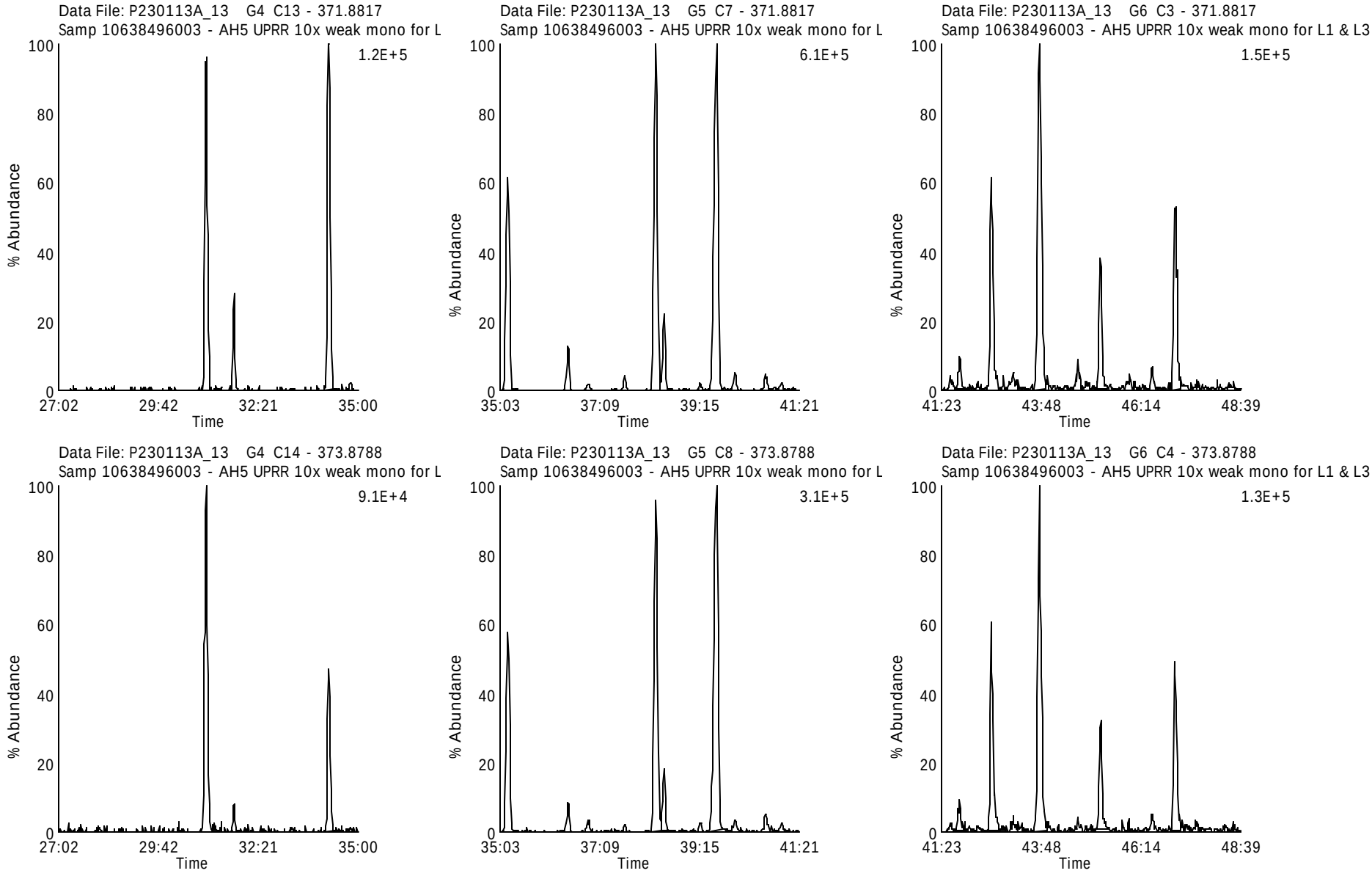


Labeled Hexa Chlorinated Biphenyls

Data File Name: P230113A_13 Lab Sample ID: 10638496003

Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3 Client Sample ID: SB10-0.0-0.5-1022

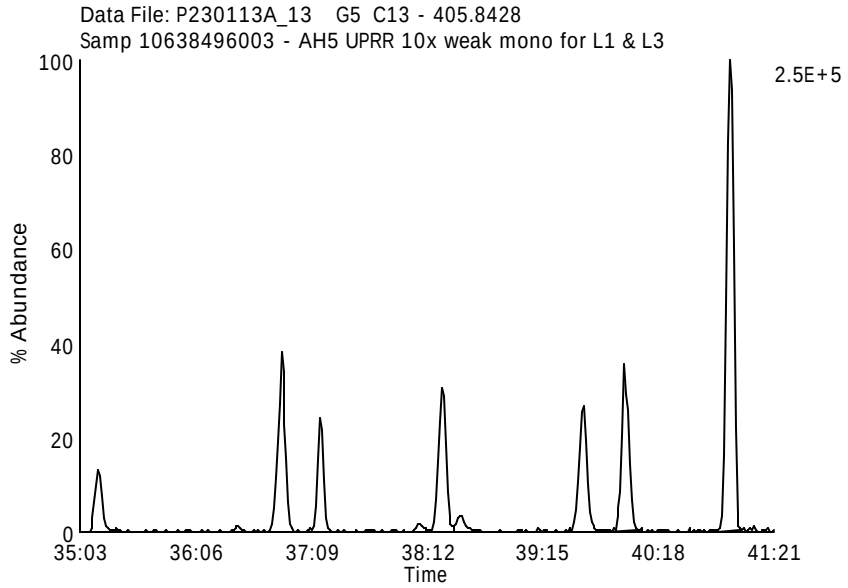


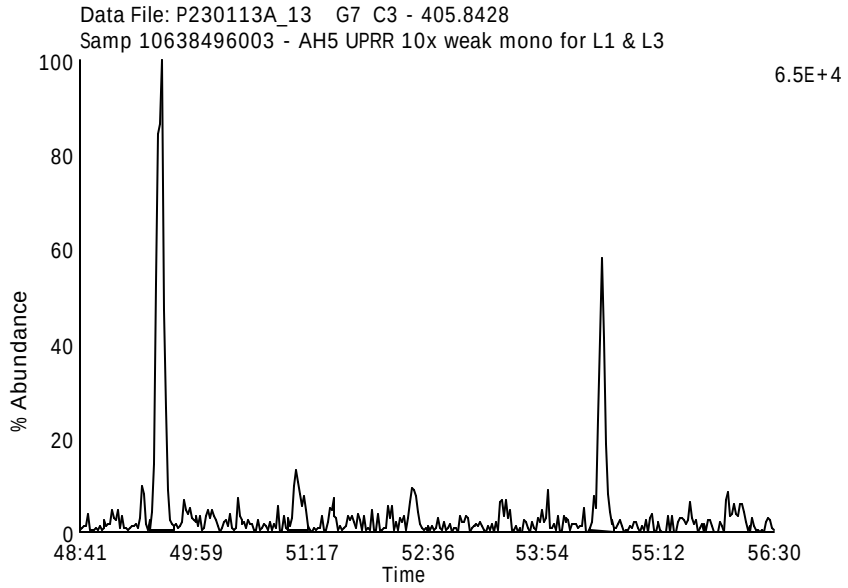
Labeled Hepta Chlorinated Biphenyls

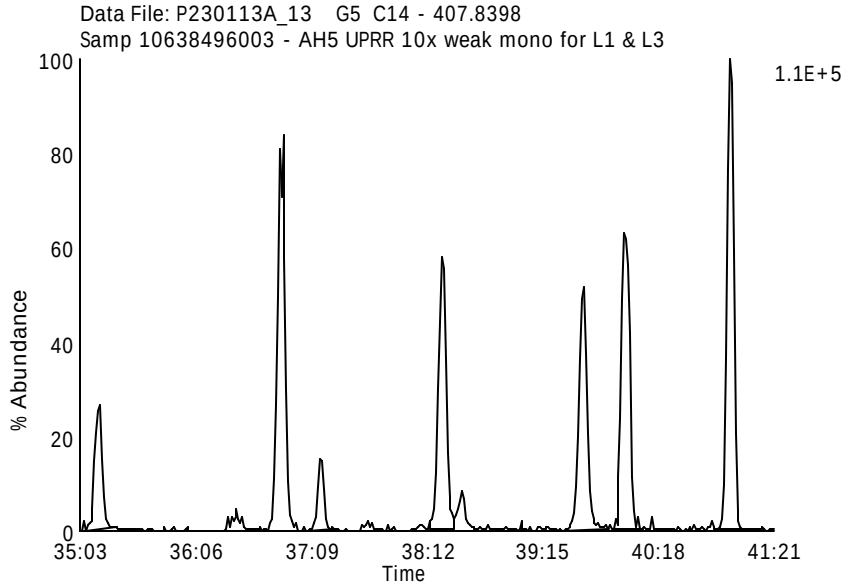
Data File Name: P230113A_13 | Lab Sample ID: 10638496003

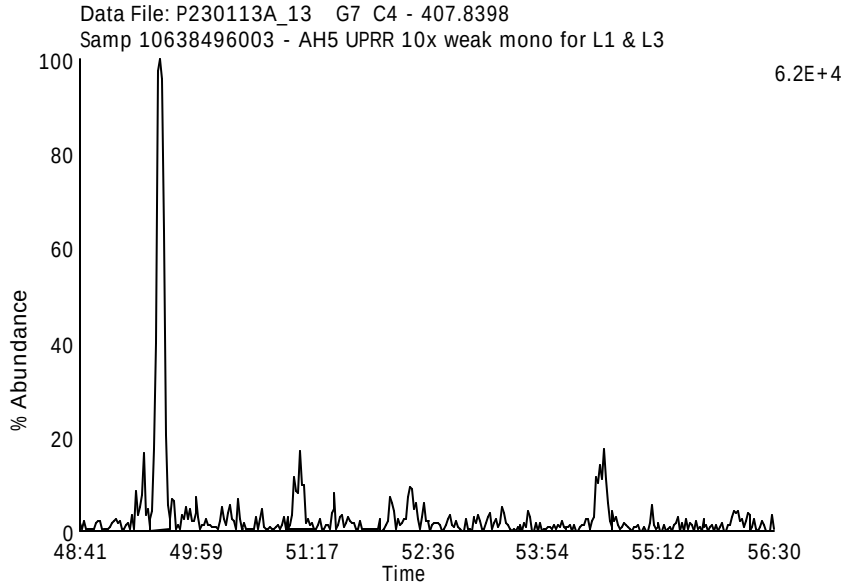
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3 | Client Sample ID: SB10-0.0-0.5-1022







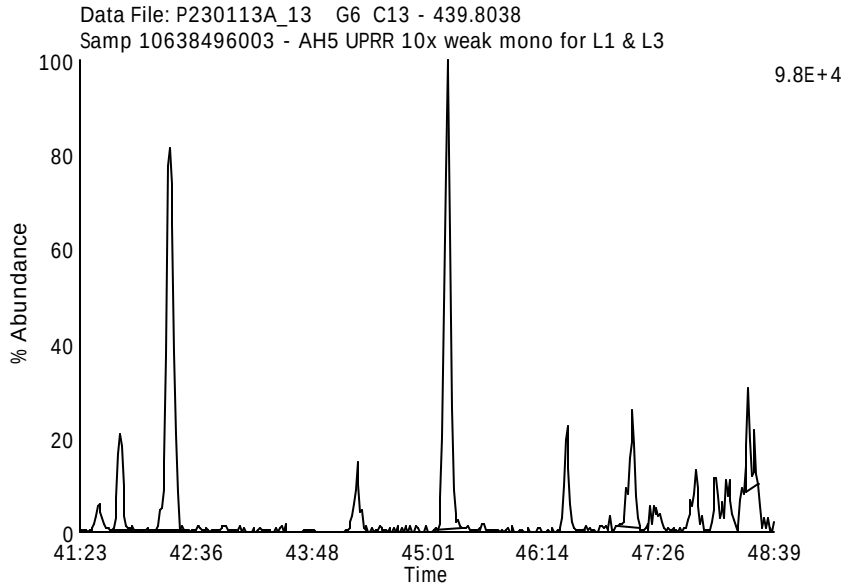


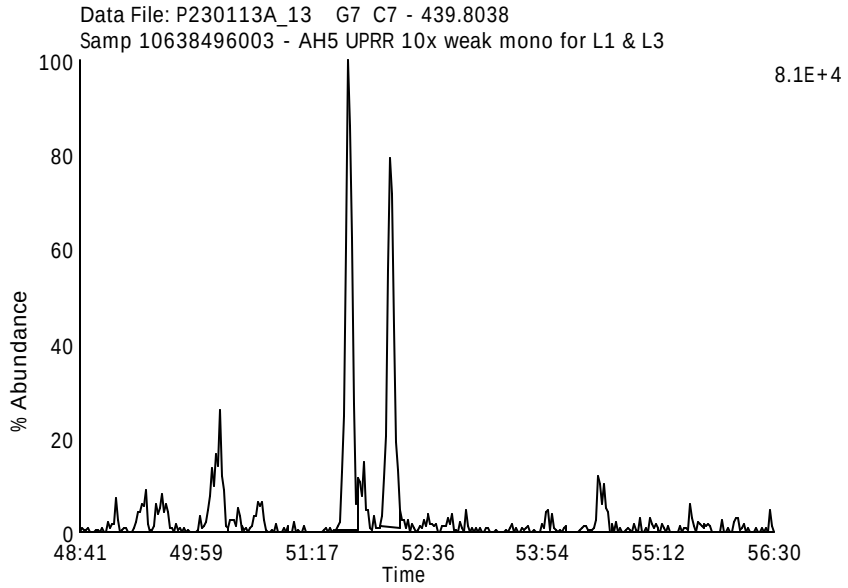
Labeled Octa Chlorinated Biphenyls

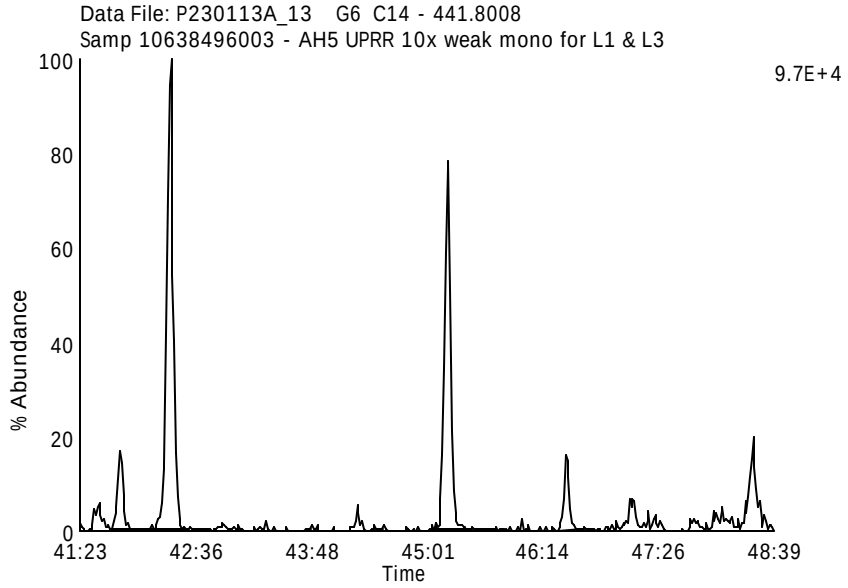
Data File Name: P230113A_13 | Lab Sample ID: 10638496003

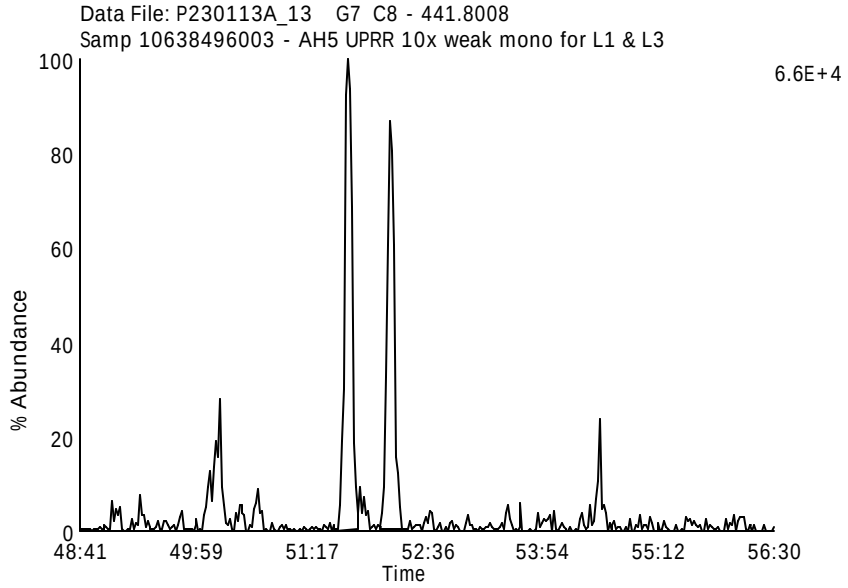
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3 | Client Sample ID: SB10-0.0-0.5-1022



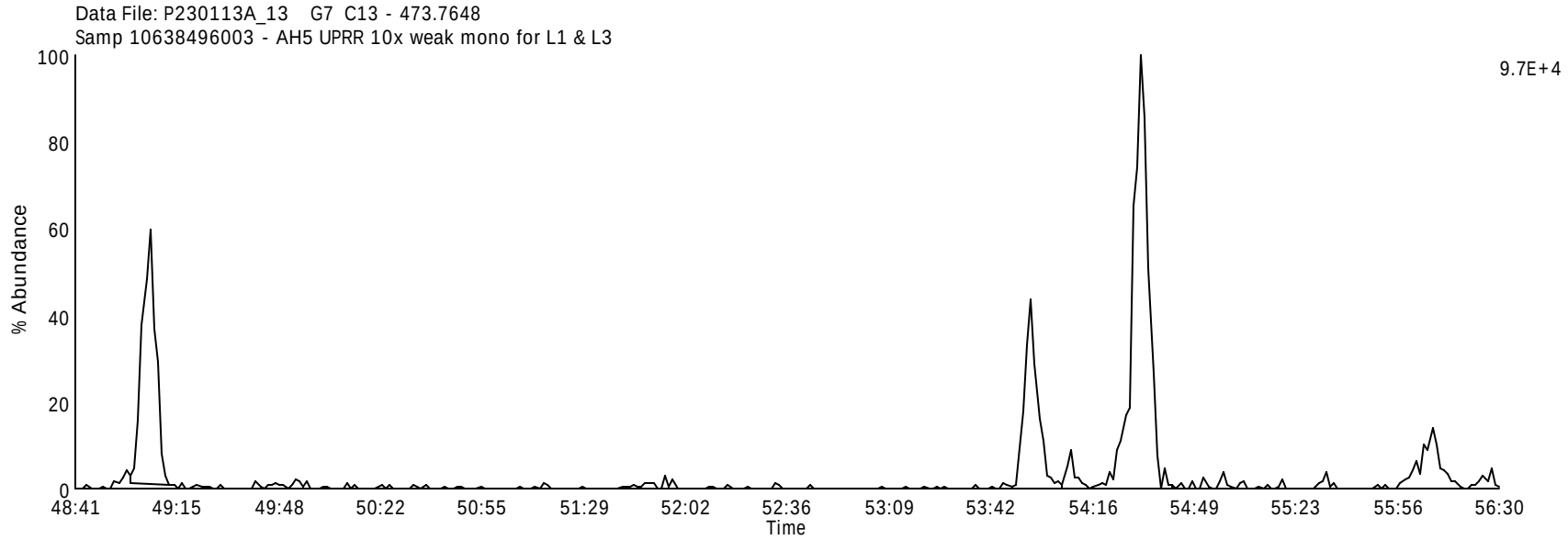


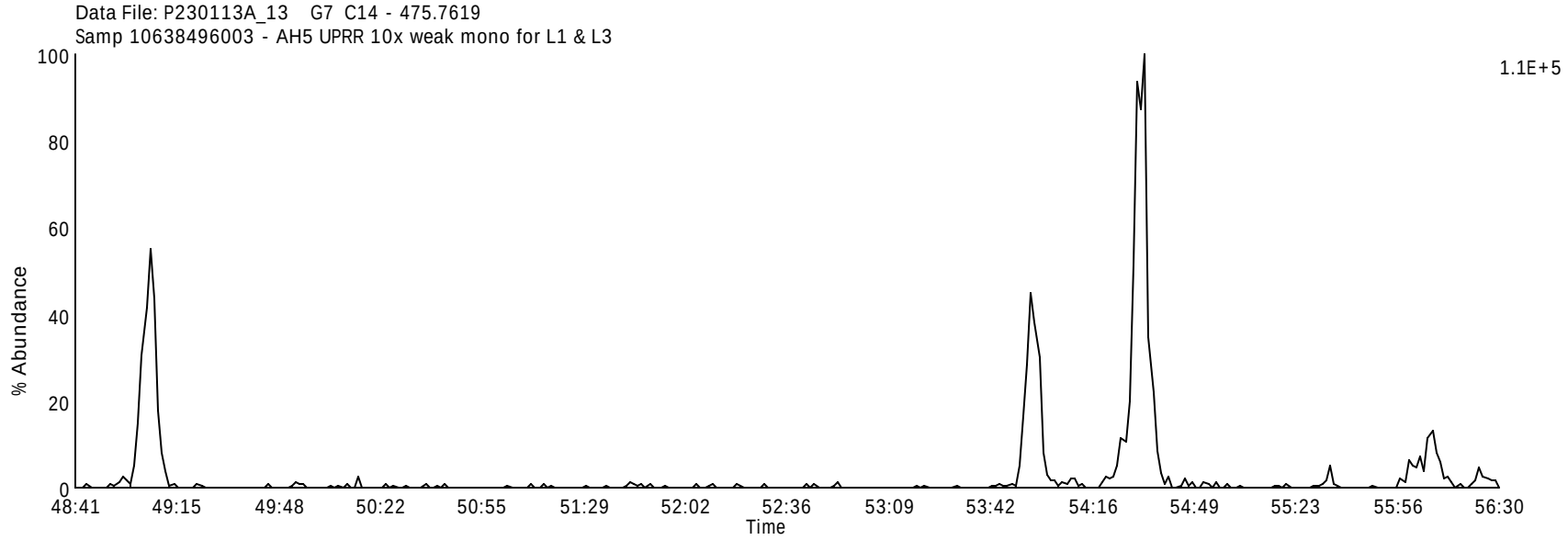




Labeled Nona Chlorinated Biphenyls

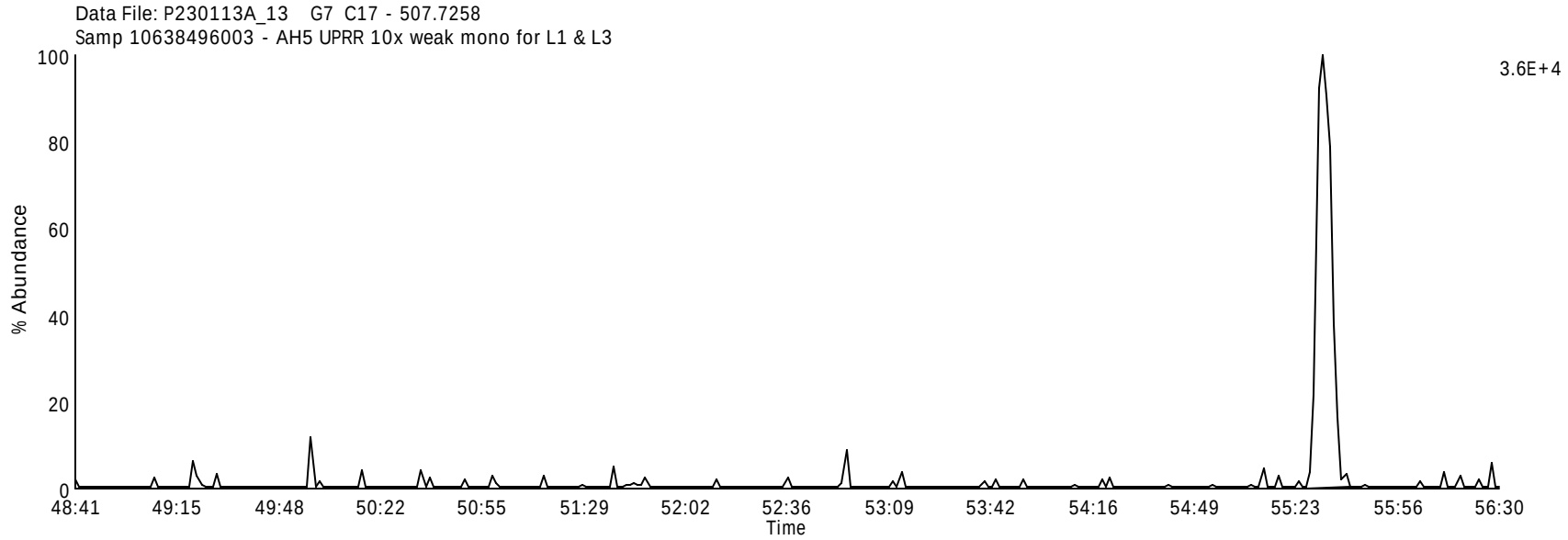
Data File Name: P230113A_13	Lab Sample ID: 10638496003
Date Acquired: 1/13/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3	Client Sample ID: SB10-0.0-0.5-1022

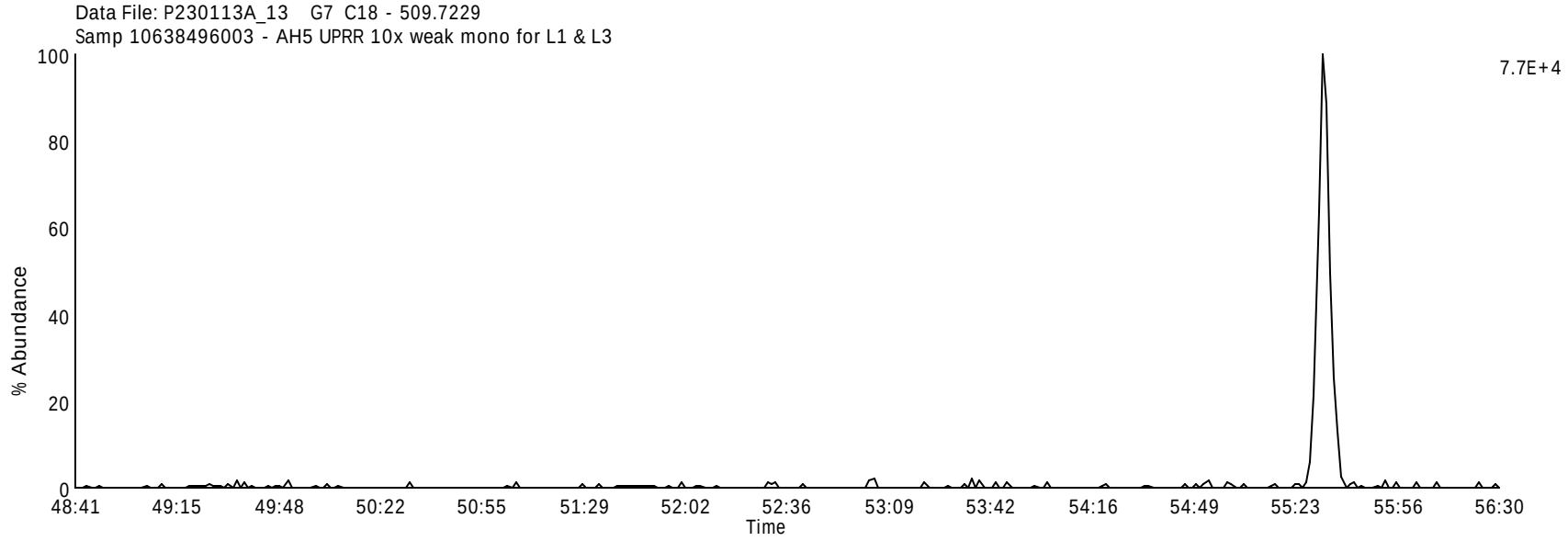




Labeled Deca Chlorinated Biphenyl

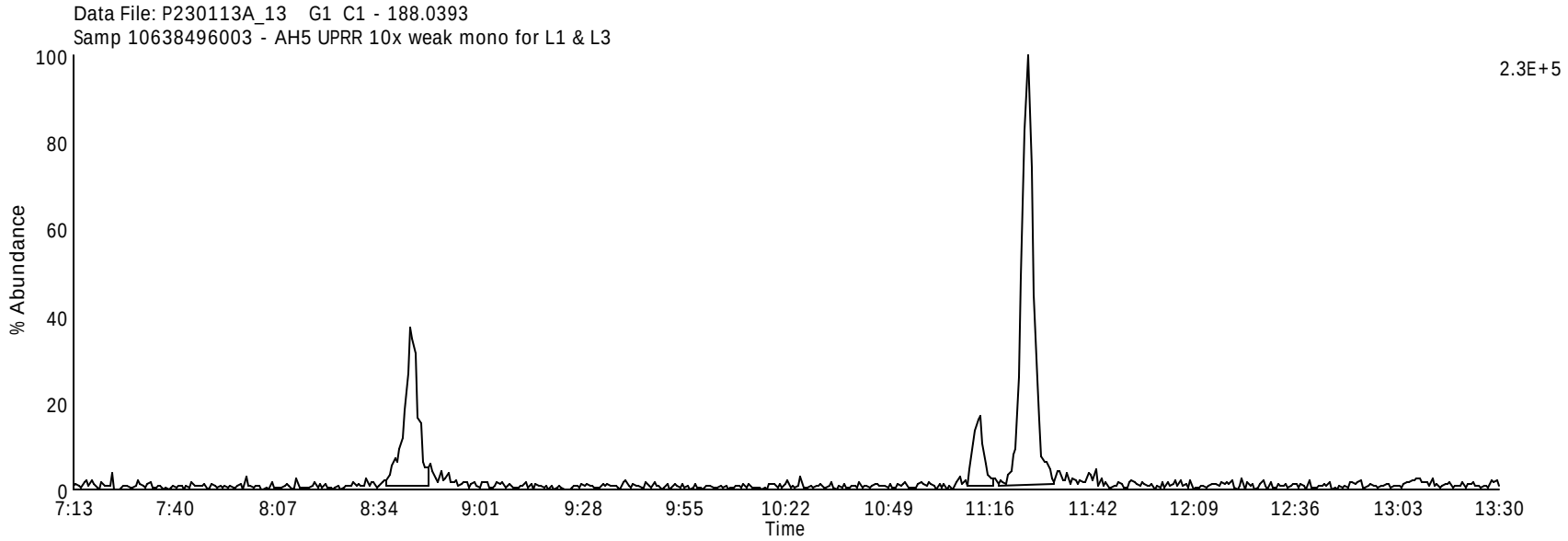
Data File Name: P230113A_13	Lab Sample ID: 10638496003
Date Acquired: 1/13/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3	Client Sample ID: SB10-0.0-0.5-1022

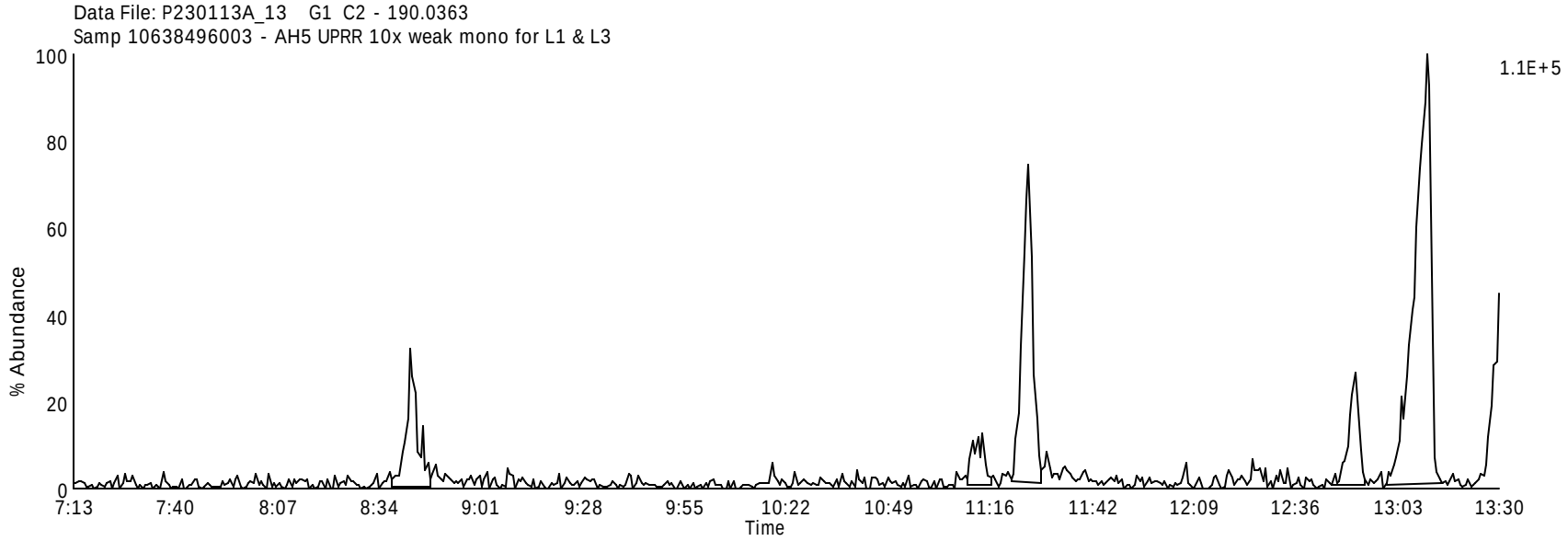




Mono Chlorinated Biphenyls

Data File Name: P230113A_13	Lab Sample ID: 10638496003
Date Acquired: 1/13/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3	Client Sample ID: SB10-0.0-0.5-1022





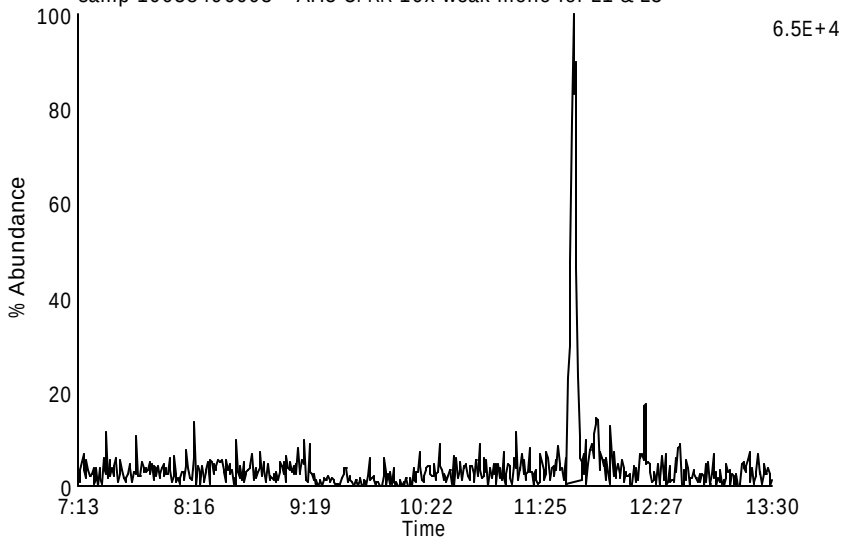
Di Chlorinated Biphenyls

Data File Name: P230113A_13 Lab Sample ID: 10638496003

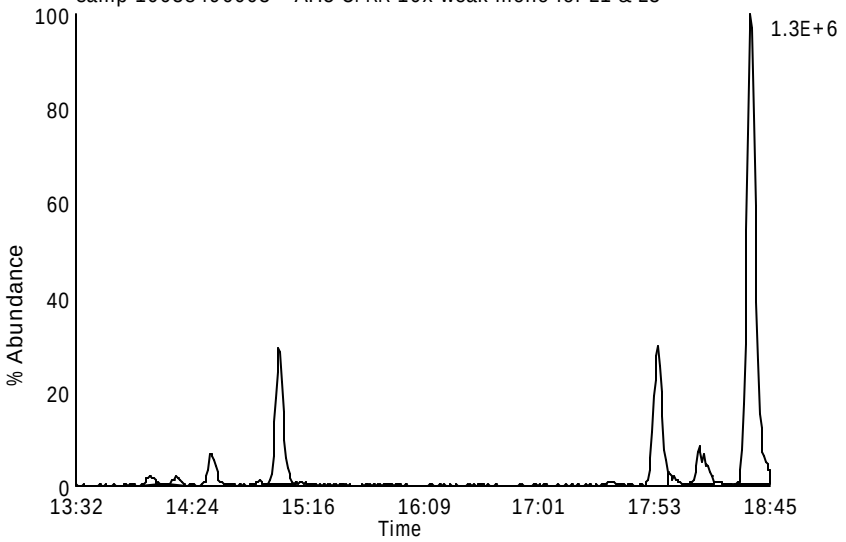
Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3 Client Sample ID: SB10-0.0-0.5-1022

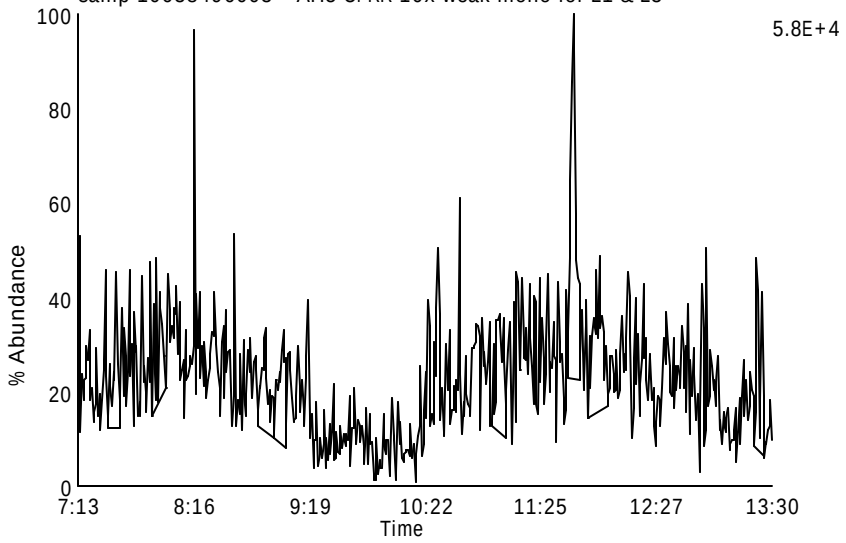
Data File: P230113A_13 G1 C7 - 222.0003
Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3



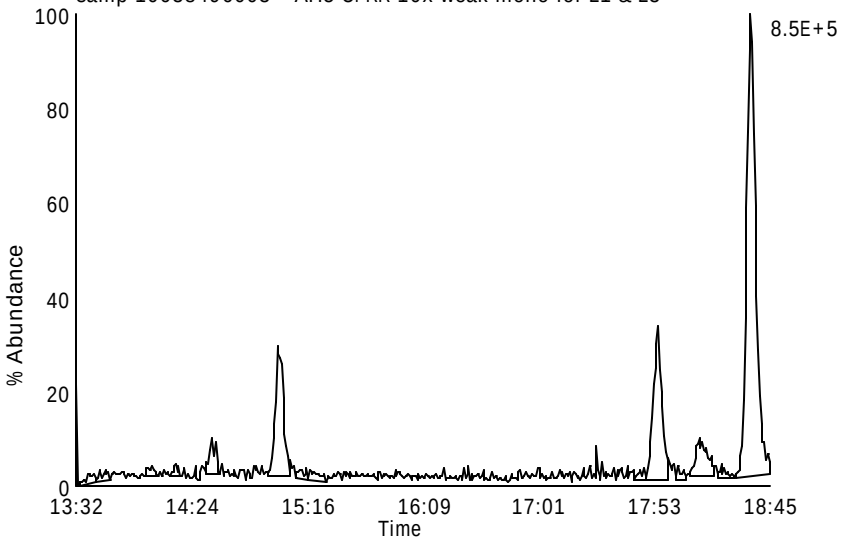
Data File: P230113A_13 G2 C1 - 222.0003
Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3



Data File: P230113A_13 G1 C8 - 223.9974
Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3



Data File: P230113A_13 G2 C2 - 223.9974
Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3

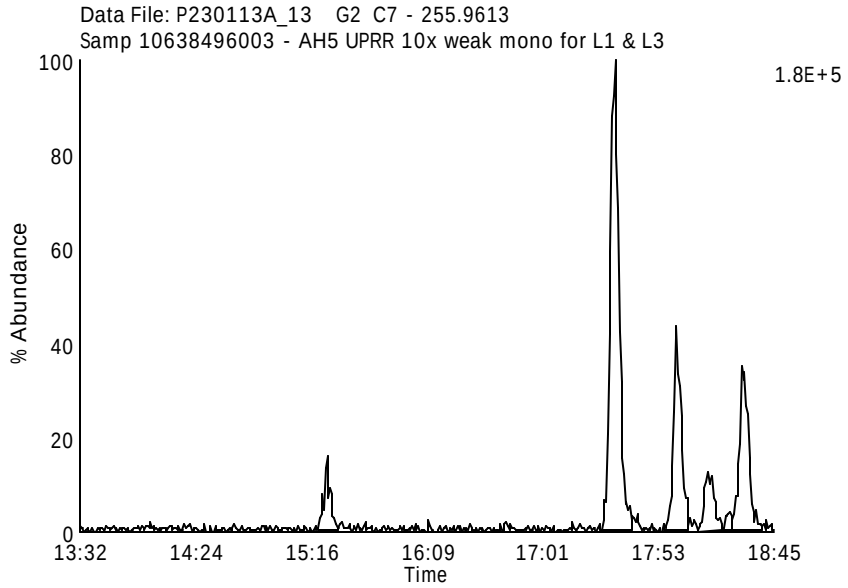


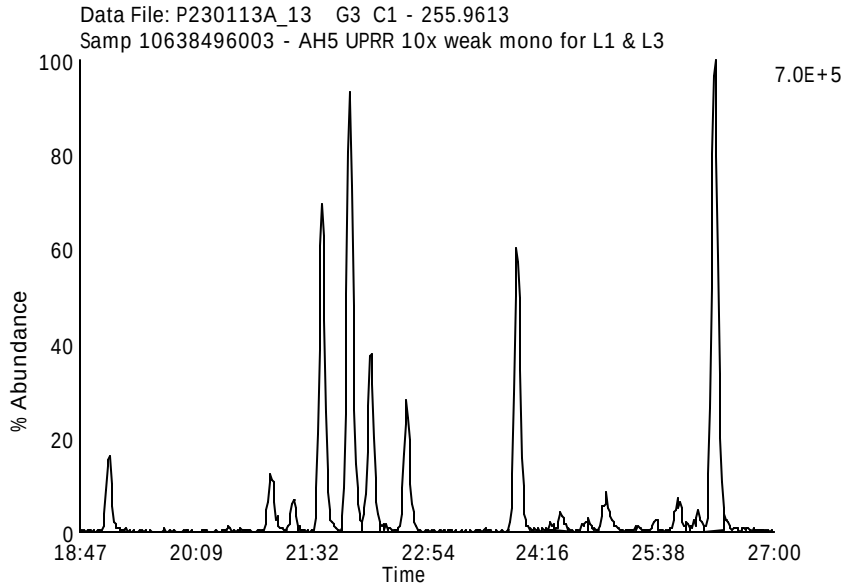
Tri Chlorinated Biphenyls

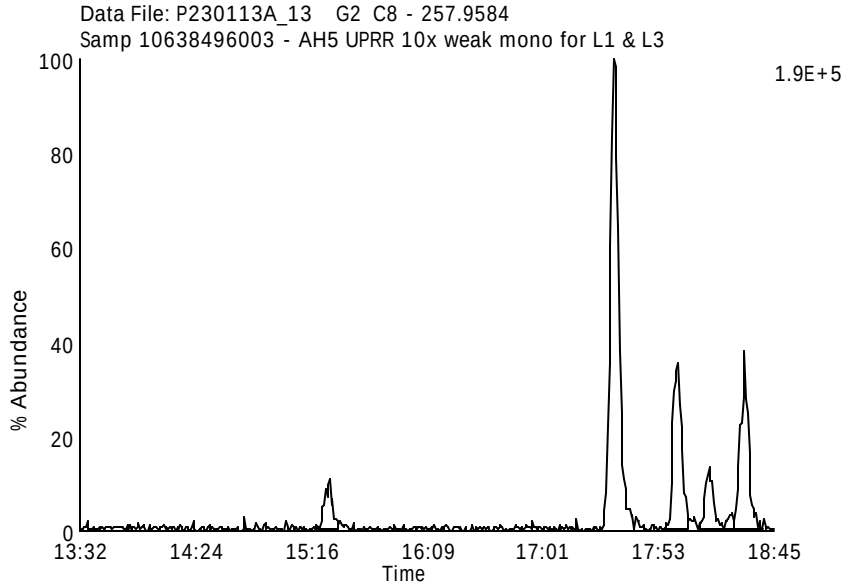
Data File Name: P230113A_13 | Lab Sample ID: 10638496003

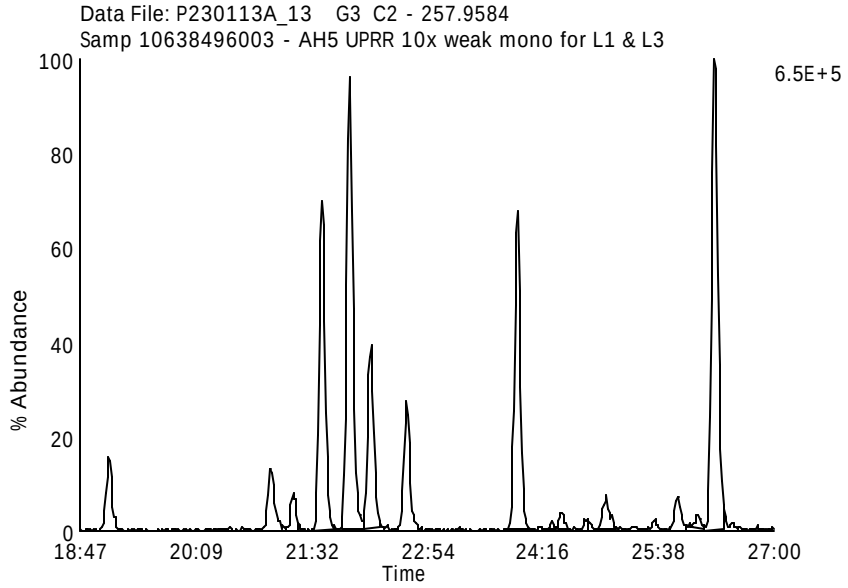
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3 | Client Sample ID: SB10-0.0-0.5-1022







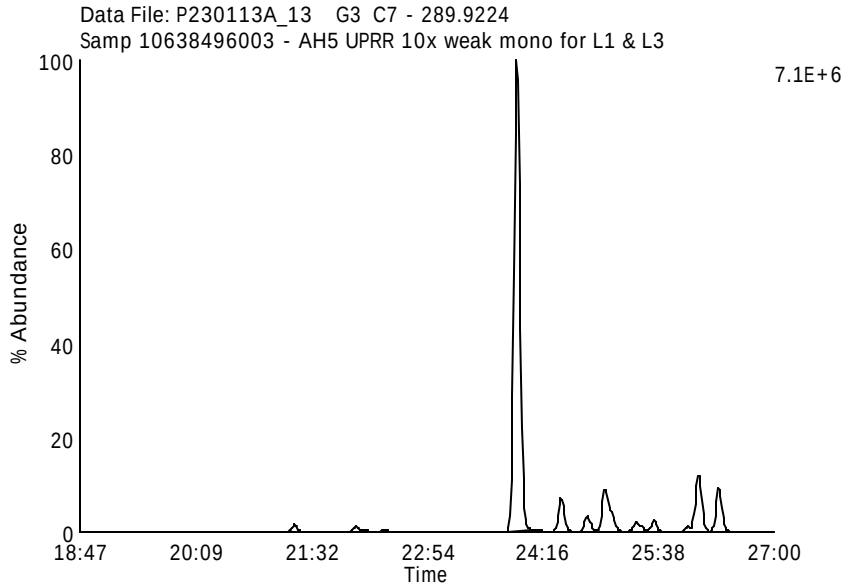


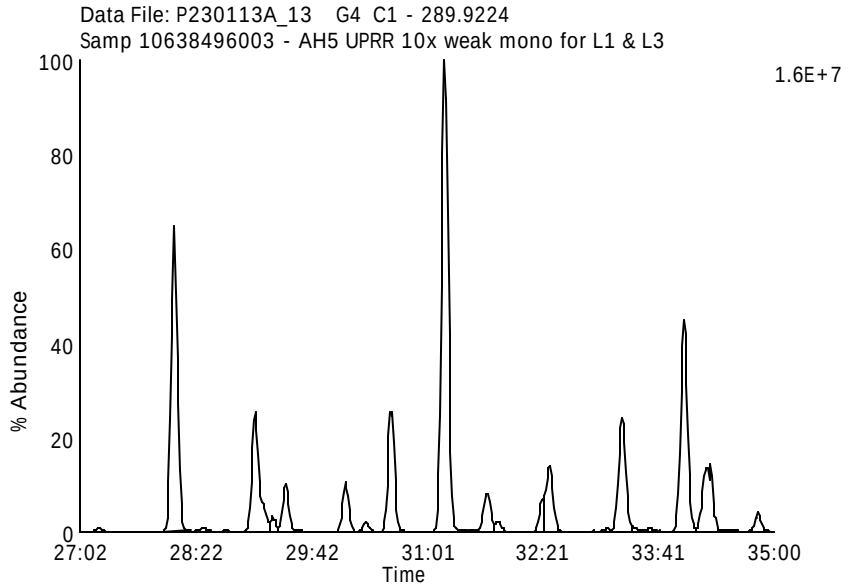
Tetra Chlorinated Biphenyls

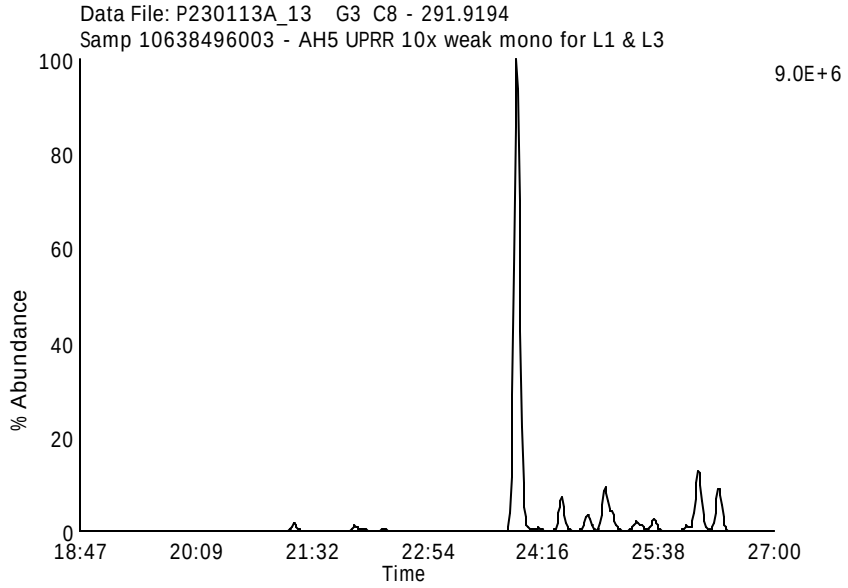
Data File Name: P230113A_13 Lab Sample ID: 10638496003

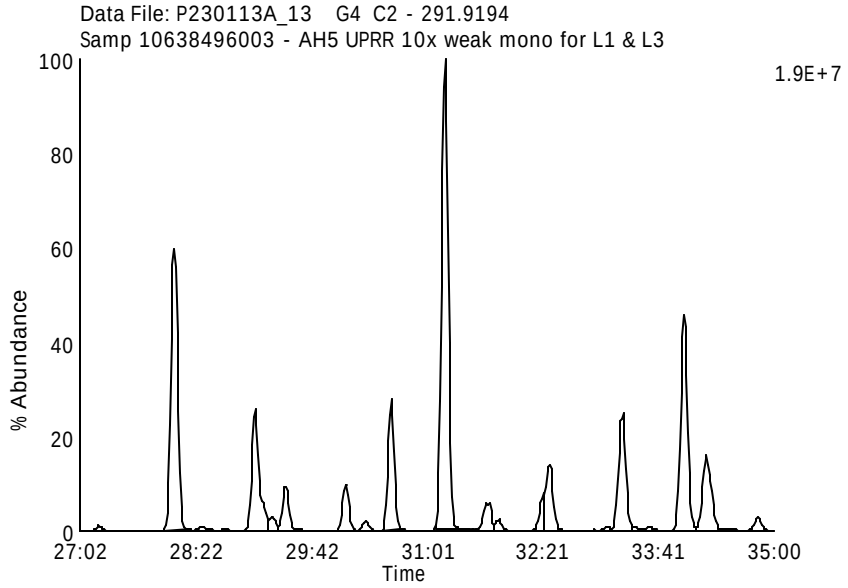
Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3 Client Sample ID: SB10-0.0-0.5-1022







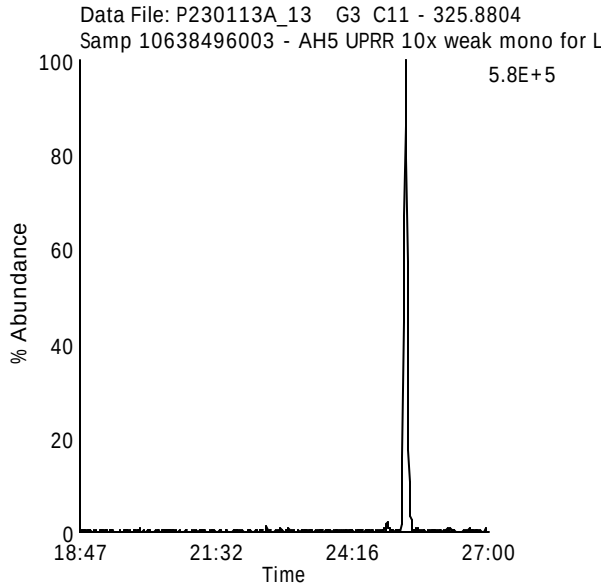


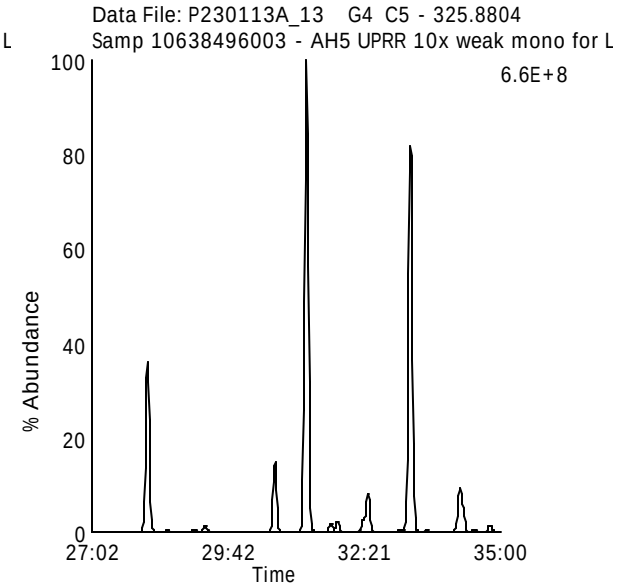
Penta Chlorinated Biphenyls

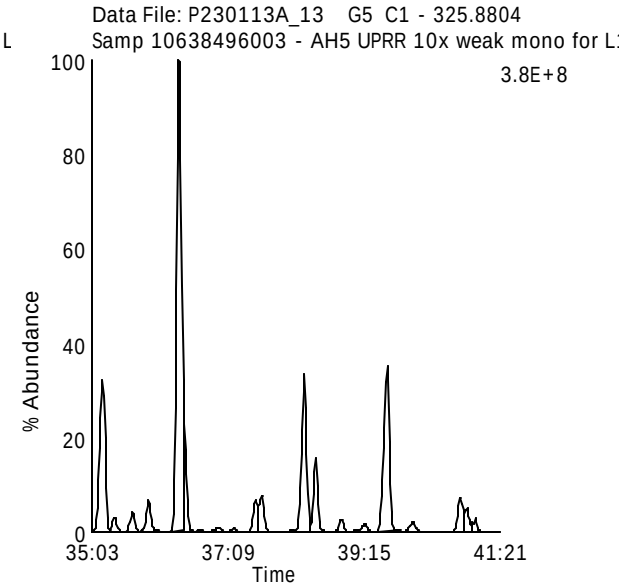
Data File Name: P230113A_13 Lab Sample ID: 10638496003

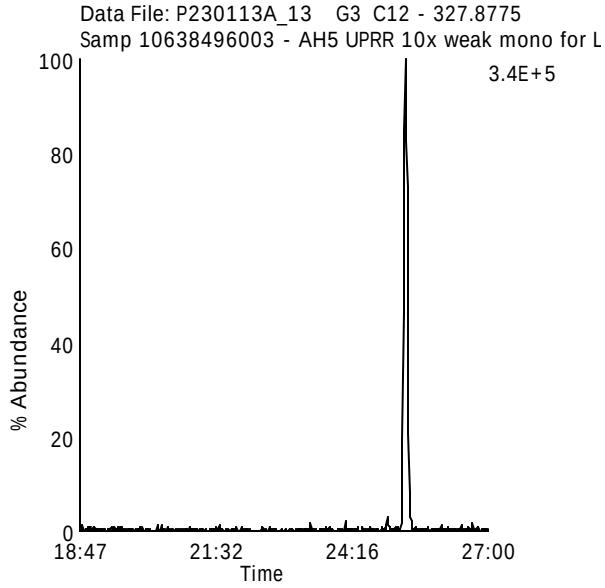
Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

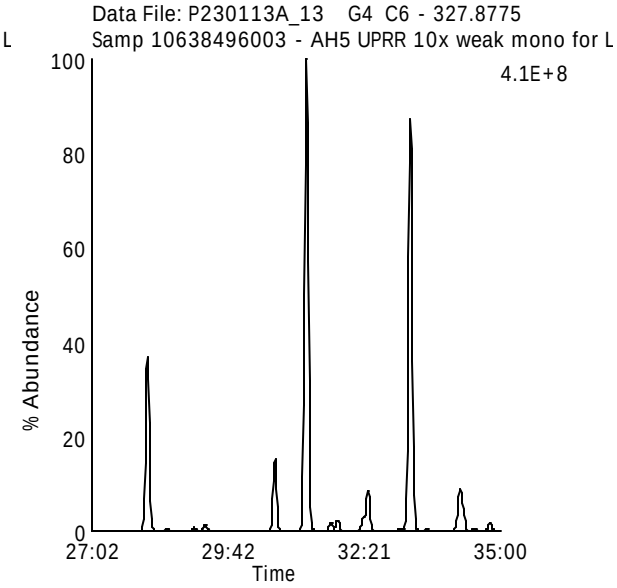
Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3 Client Sample ID: SB10-0.0-0.5-1022

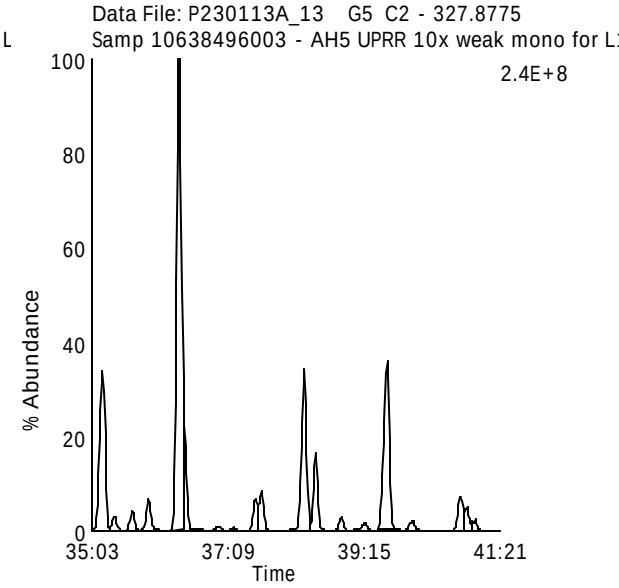










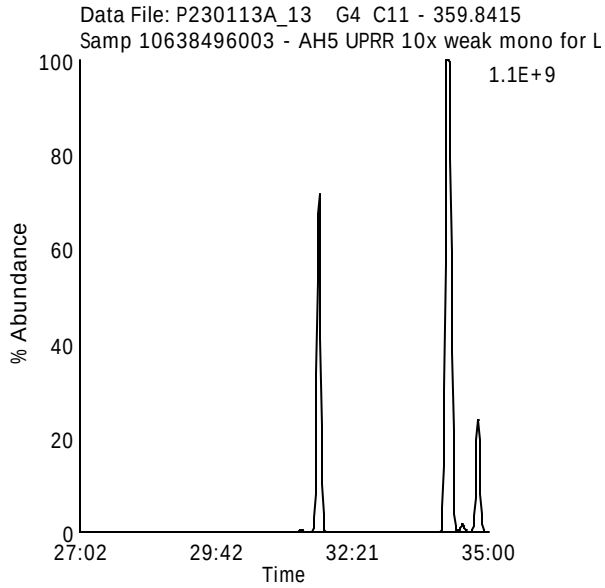


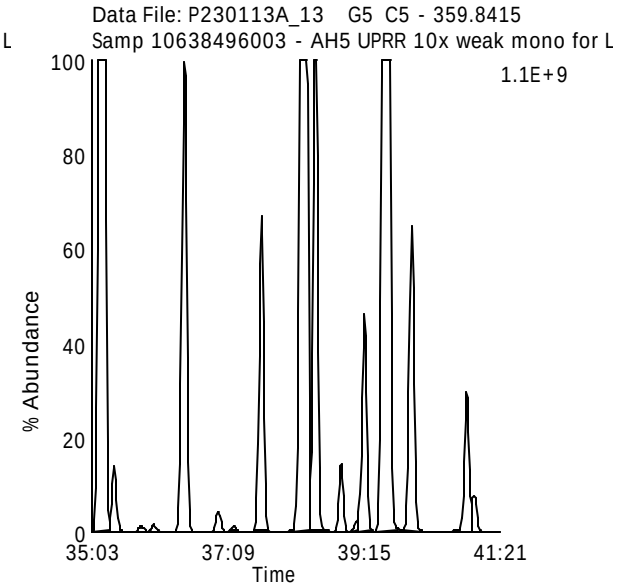
Hexa Chlorinated Biphenyls

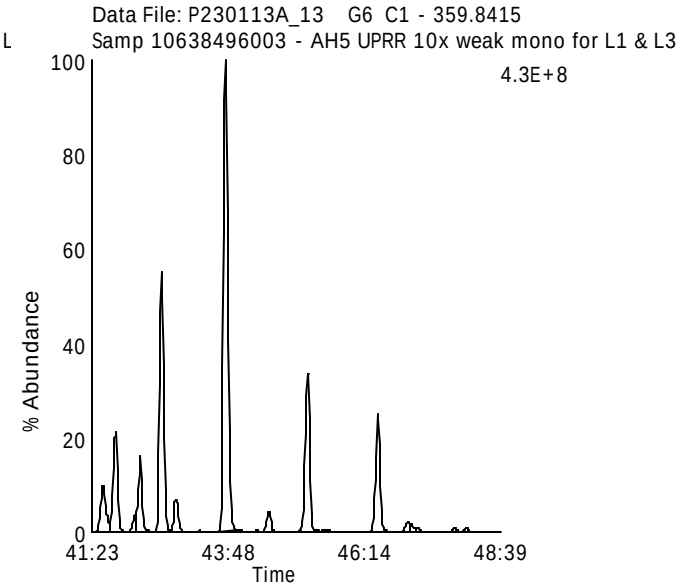
Data File Name: P230113A_13 | Lab Sample ID: 10638496003

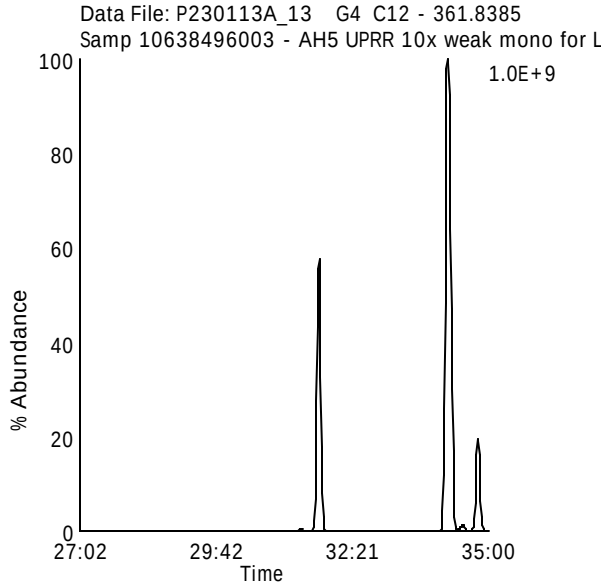
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

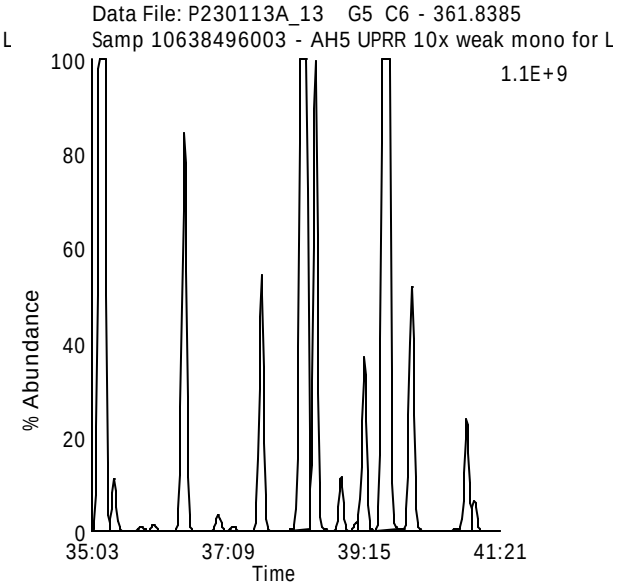
Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3 | Client Sample ID: SB10-0.0-0.5-1022

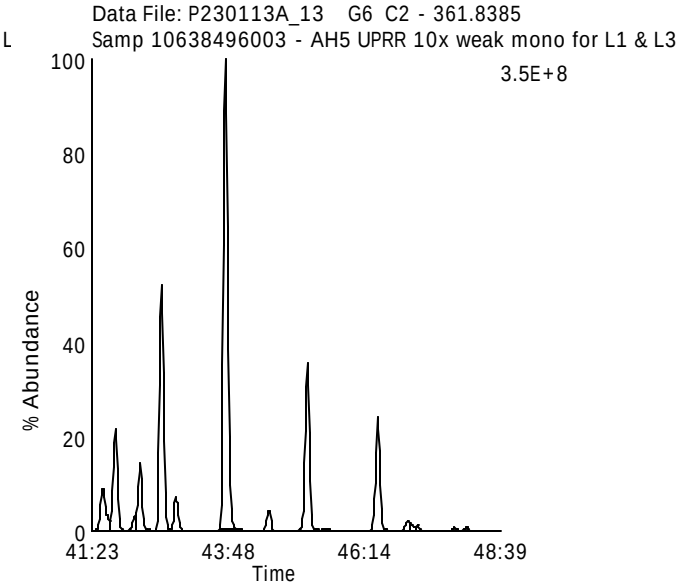










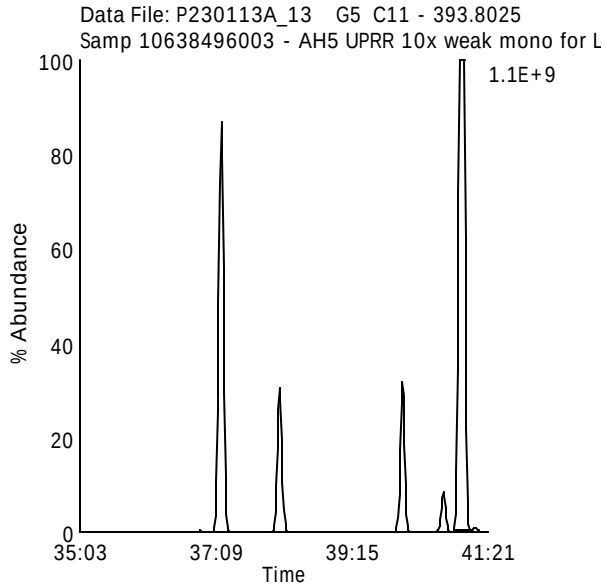


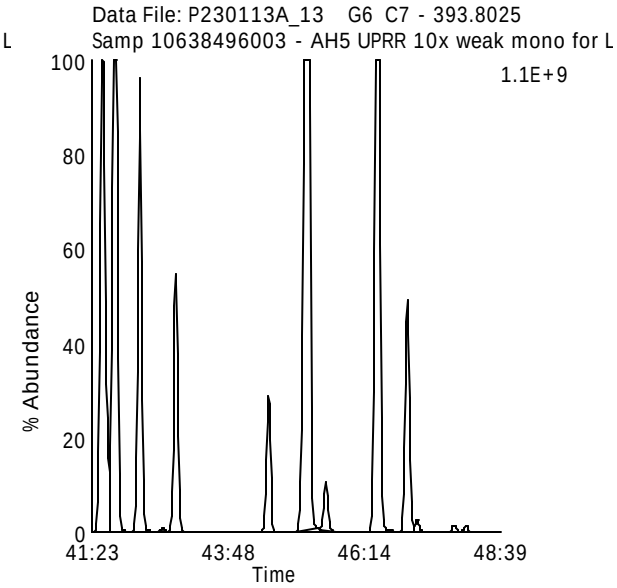
Hepta Chlorinated Biphenyls

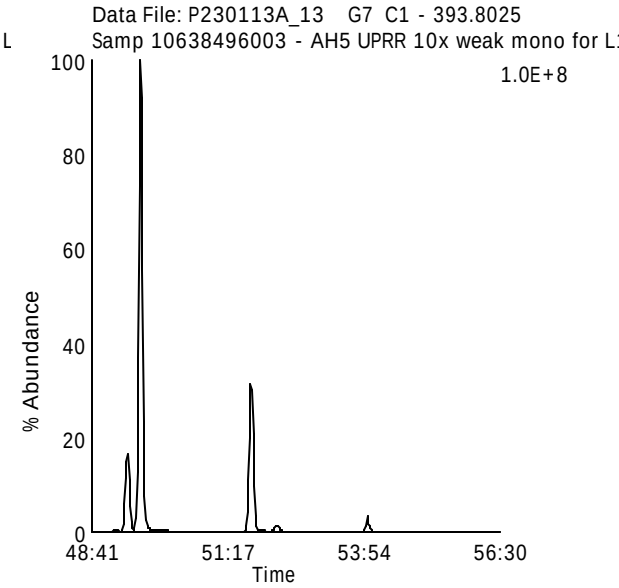
Data File Name: P230113A_13 | Lab Sample ID: 10638496003

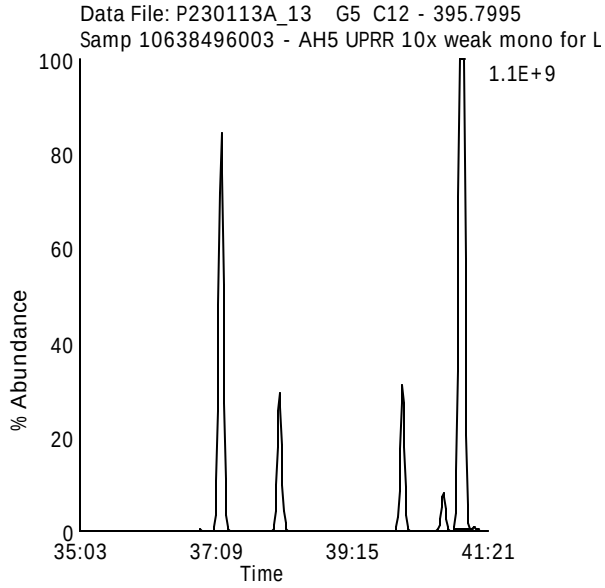
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

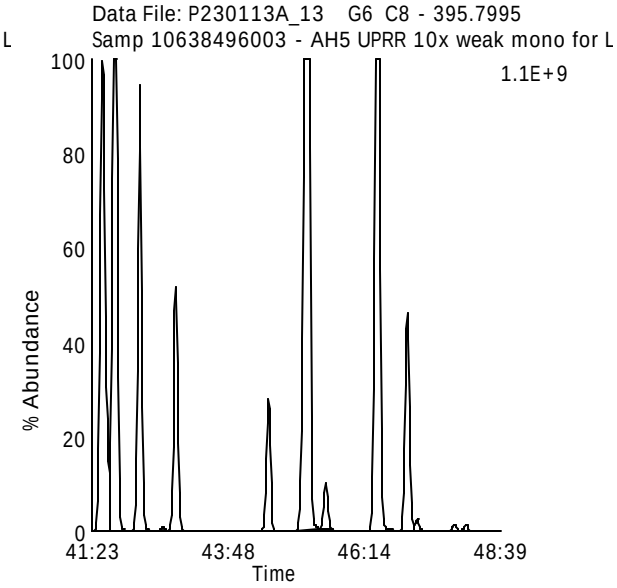
Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3 | Client Sample ID: SB10-0.0-0.5-1022

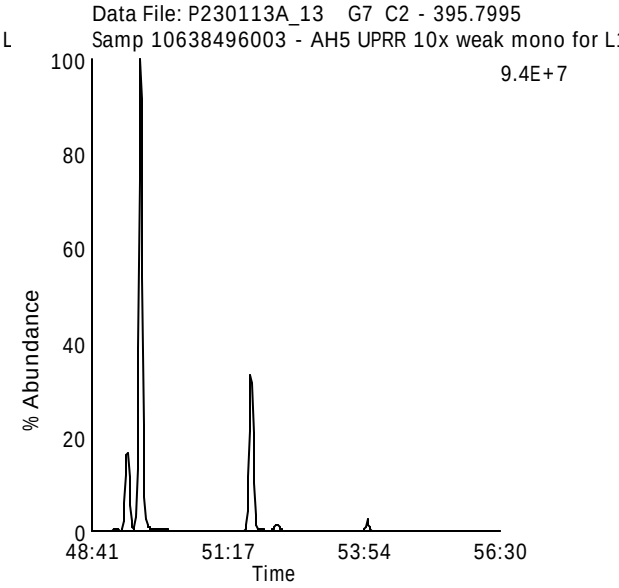










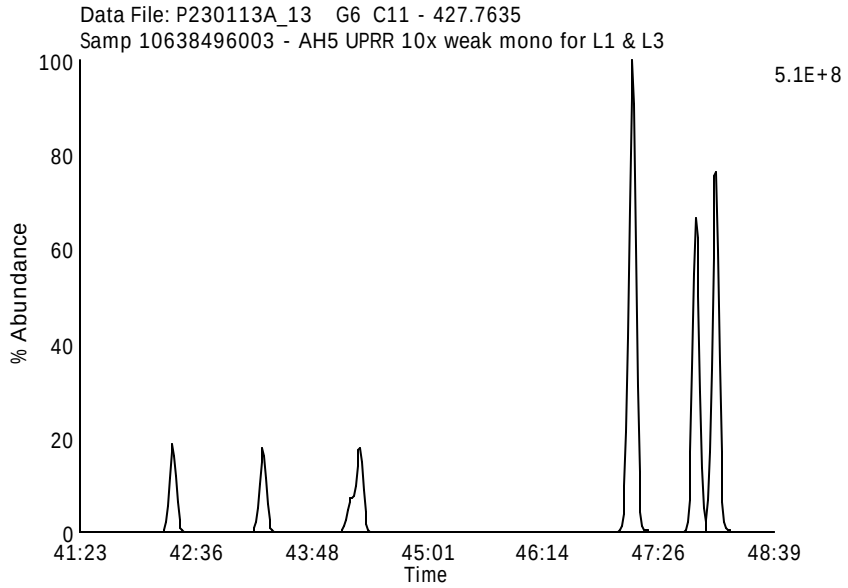


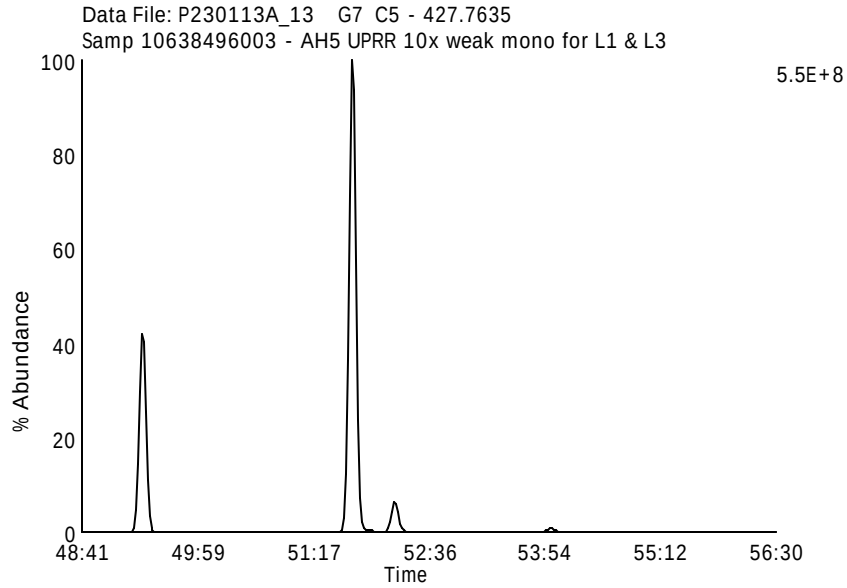
Octa Chlorinated Biphenyls

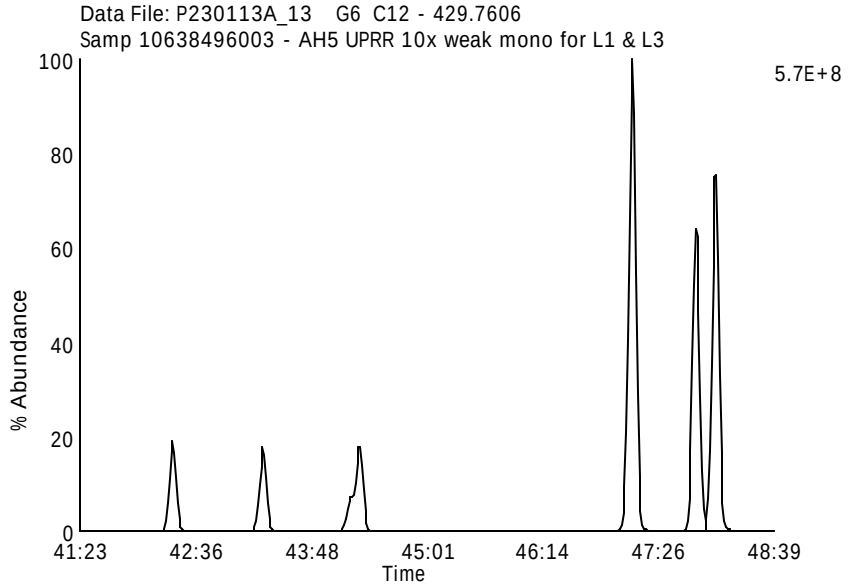
Data File Name: P230113A_13 Lab Sample ID: 10638496003

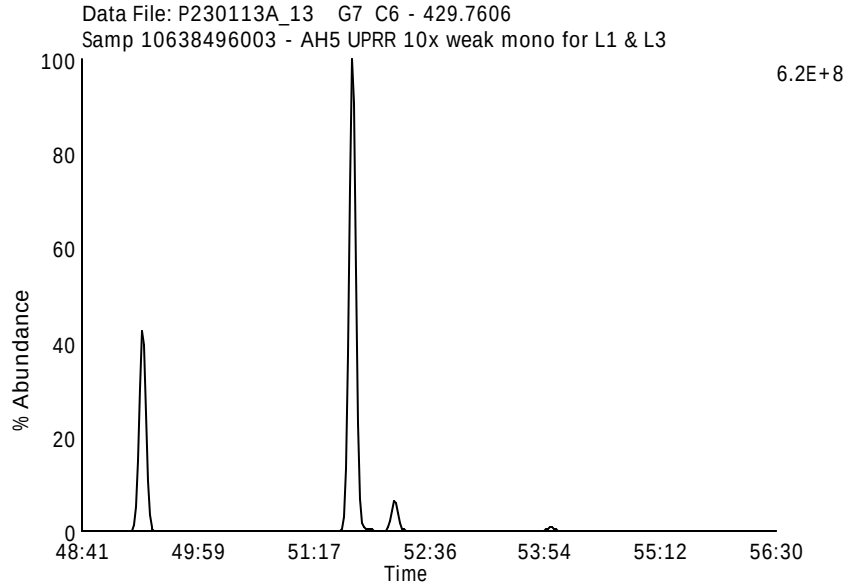
Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3 Client Sample ID: SB10-0.0-0.5-1022



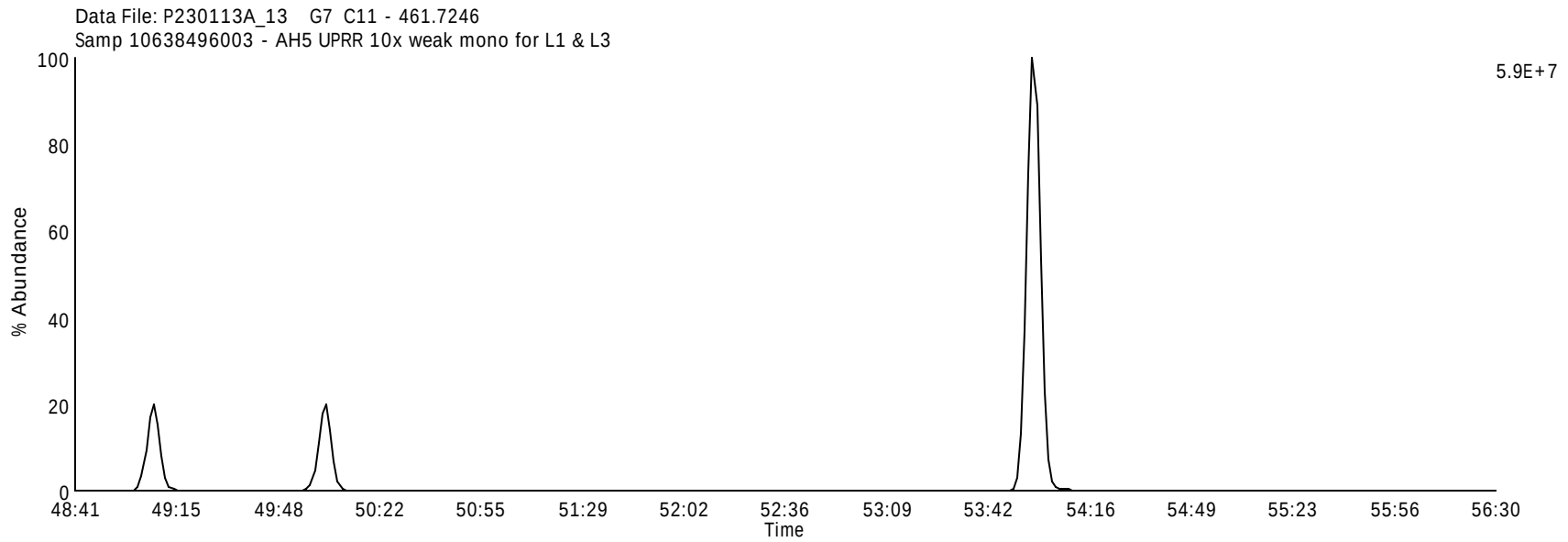


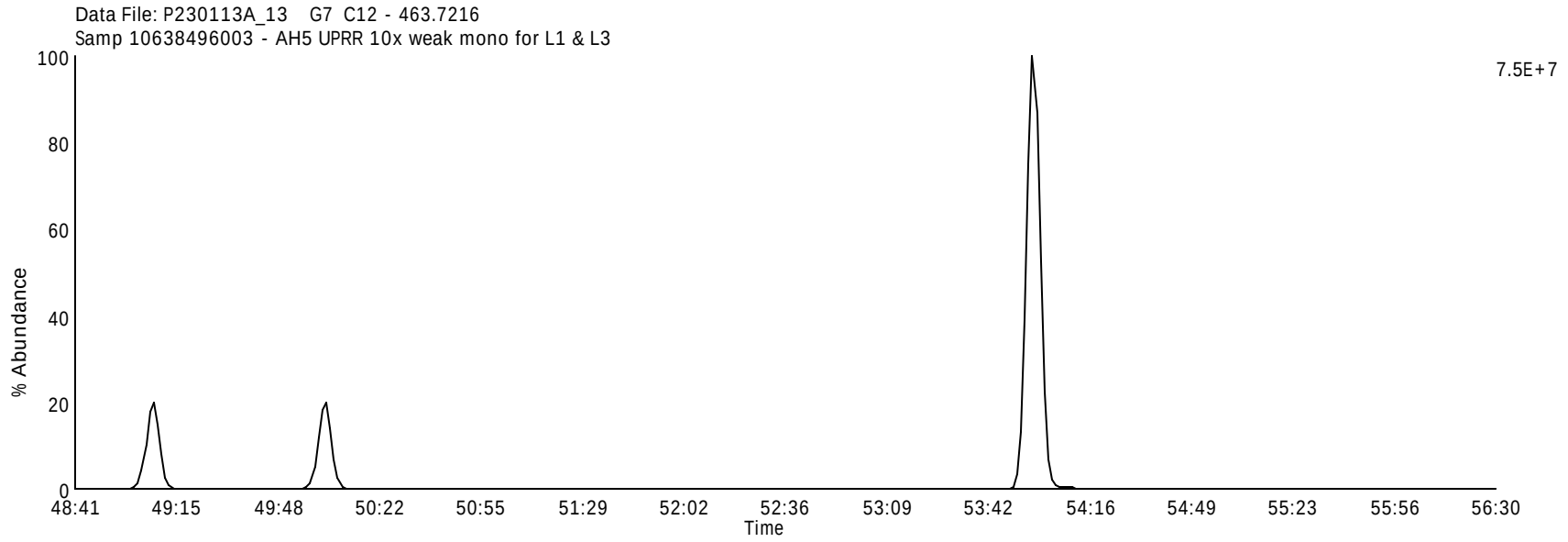




Nona Chlorinated Biphenyls

Data File Name: P230113A_13	Lab Sample ID: 10638496003
Date Acquired: 1/13/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3	Client Sample ID: SB10-0.0-0.5-1022



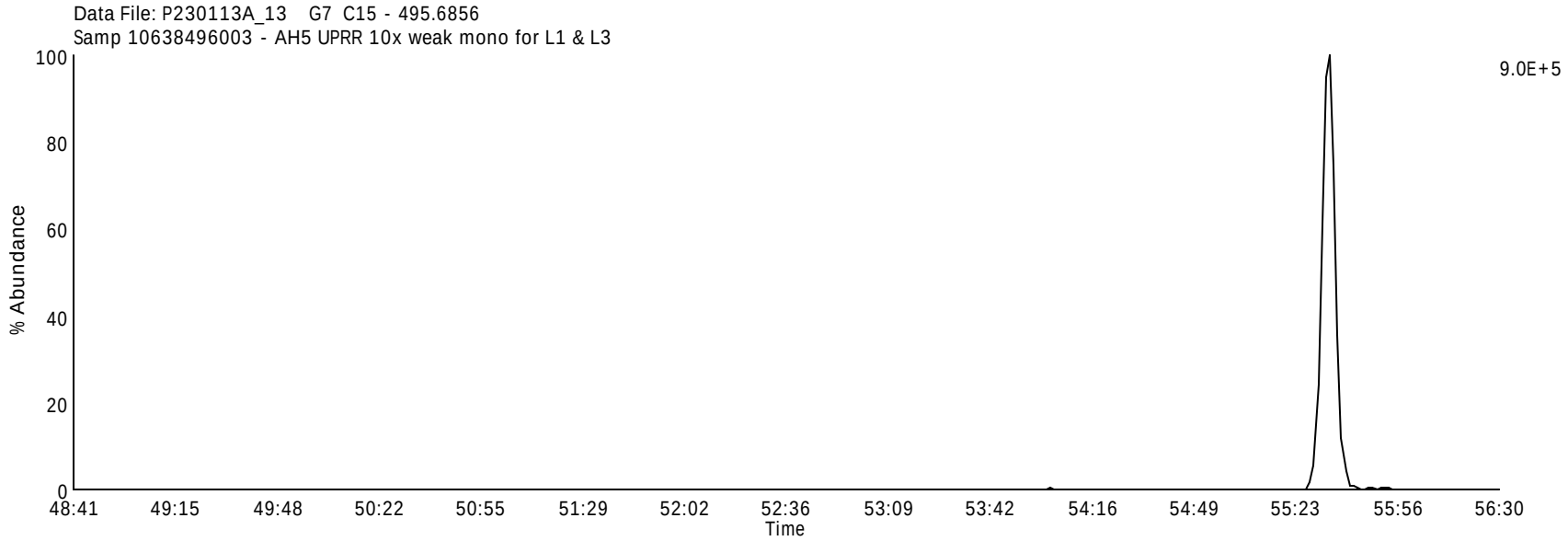


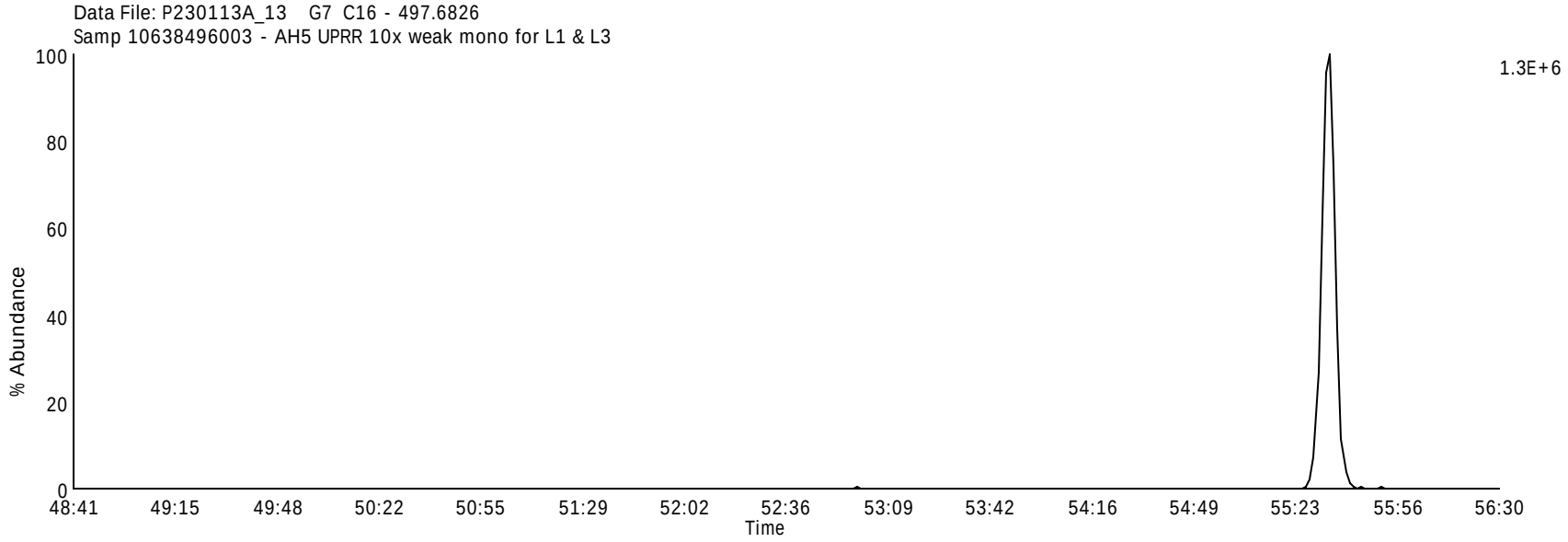
Deca Chlorinated Biphenyl

Data File Name: P230113A_13 | Lab Sample ID: 10638496003

Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3 | Client Sample ID: SB10-0.0-0.5-1022



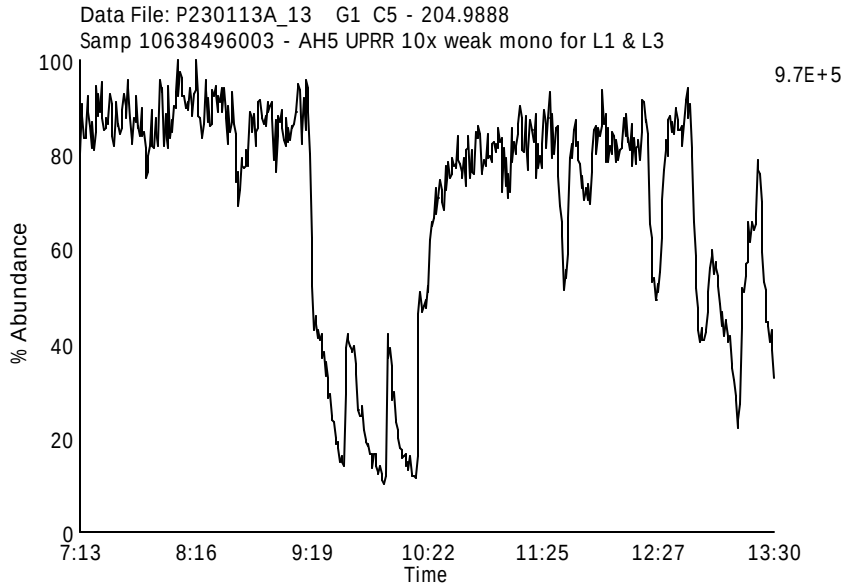


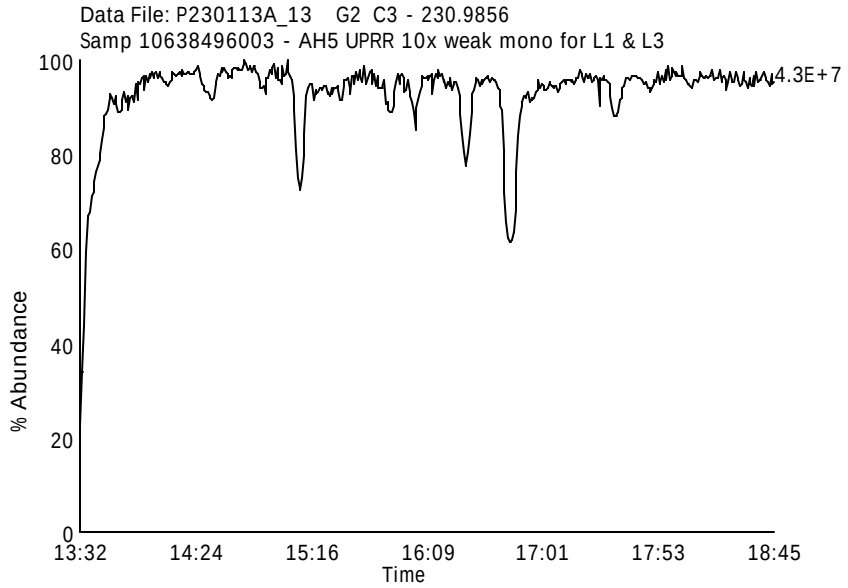
Group 1 - 4 Lock mass

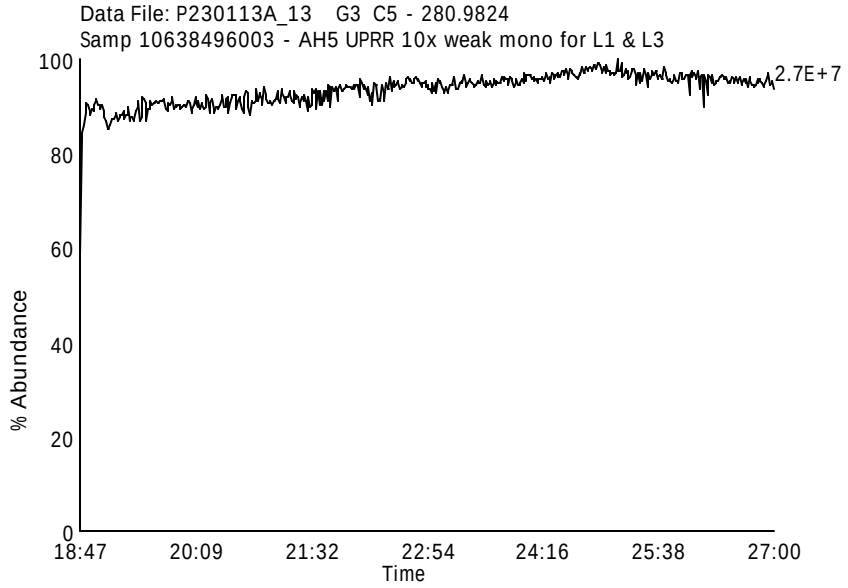
Data File Name: P230113A_13 | Lab Sample ID: 10638496003

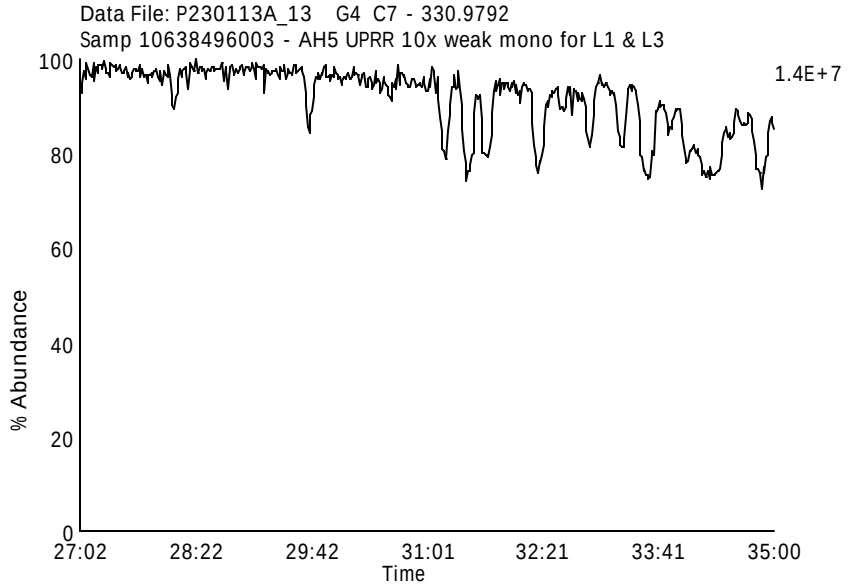
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3 | Client Sample ID: SB10-0.0-0.5-1022







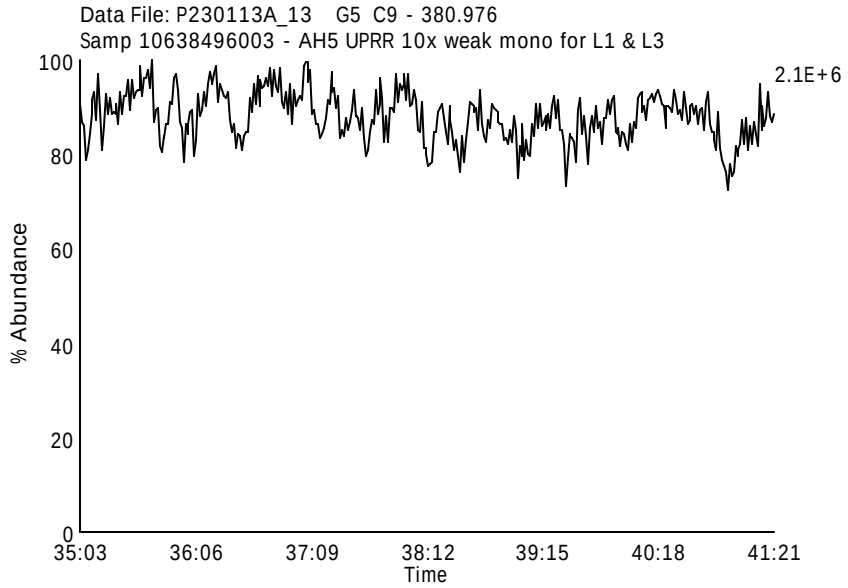


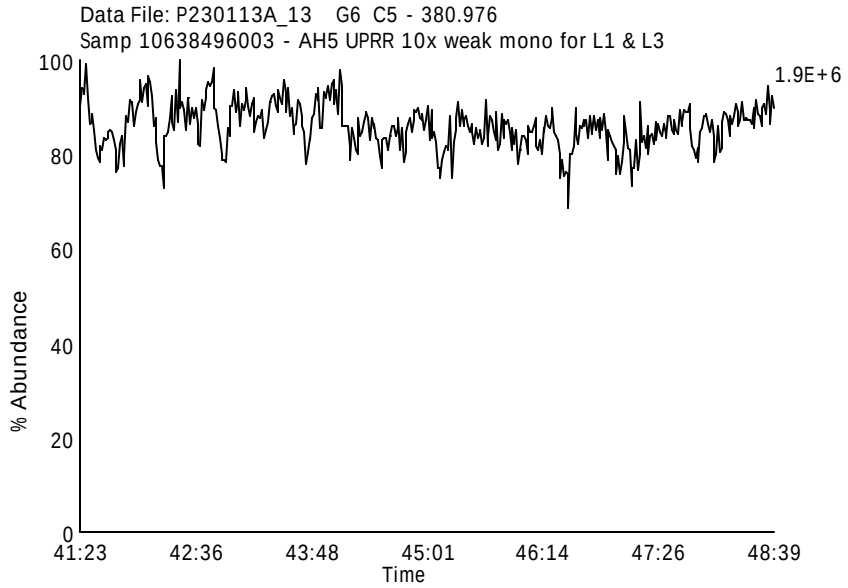
Group 5 - 7 Lock mass

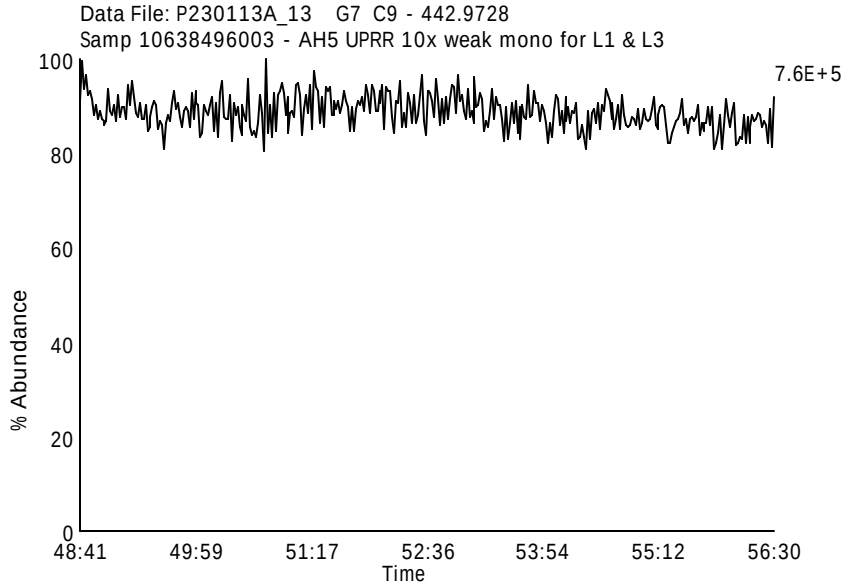
Data File Name: P230113A_13 | Lab Sample ID: 10638496003

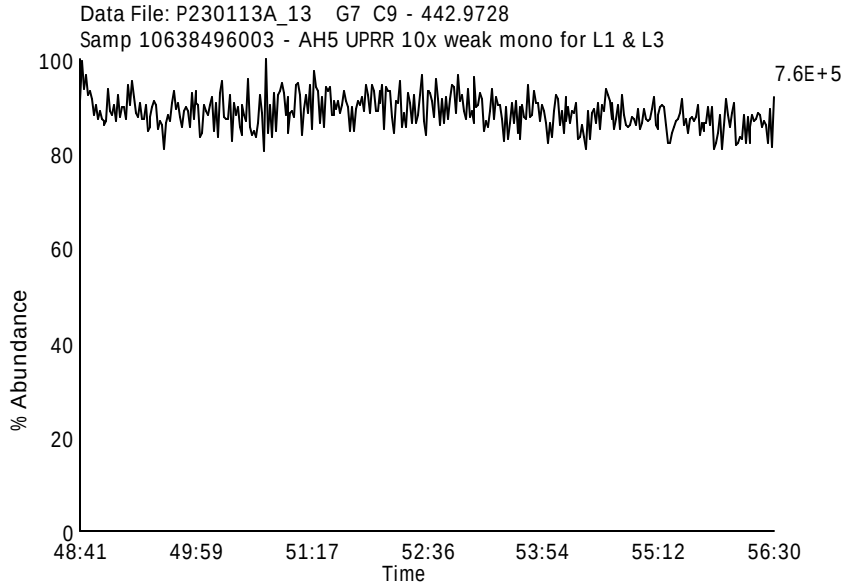
Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

Sample Description: Samp 10638496003 - AH5 UPRR 10x weak mono for L1 & L3 | Client Sample ID: SB10-0.0-0.5-1022



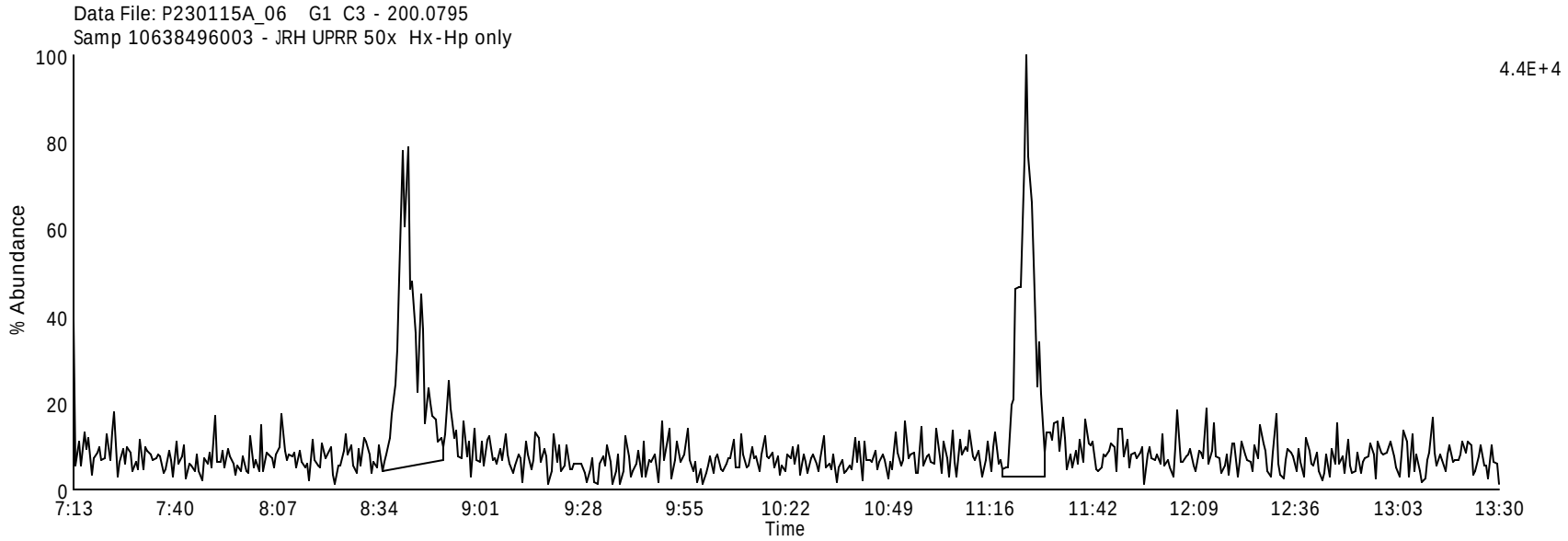


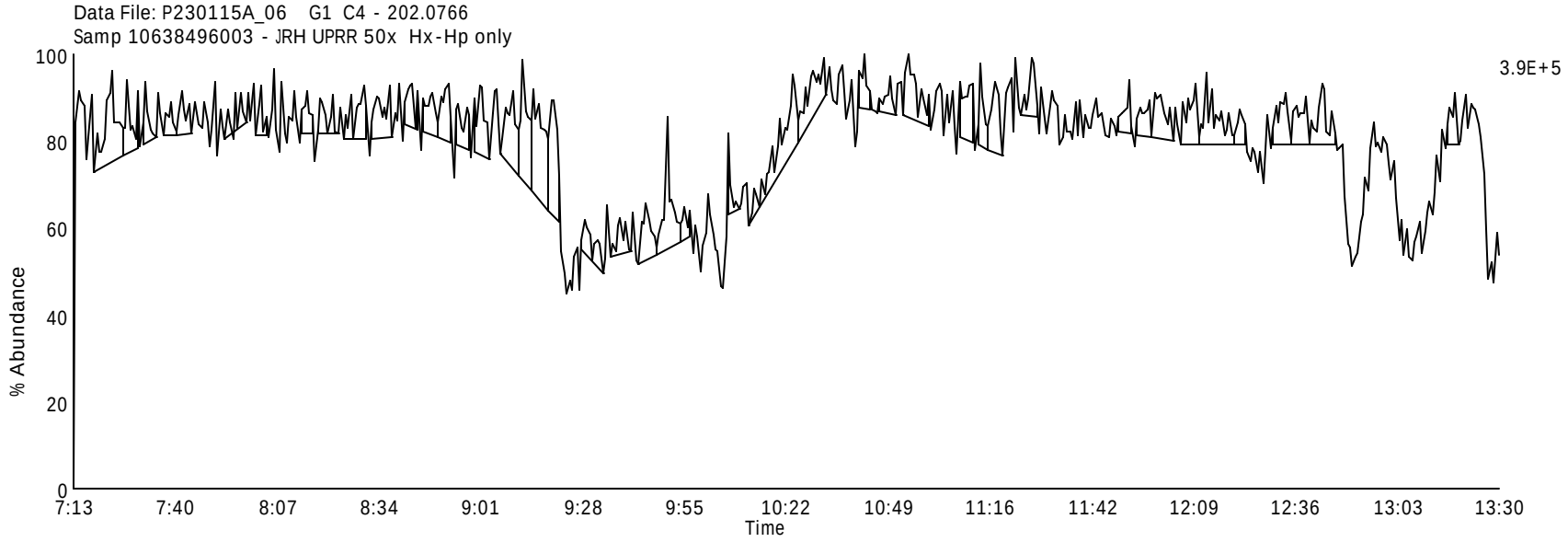




Labeled Mono Chlorinated Biphenyls

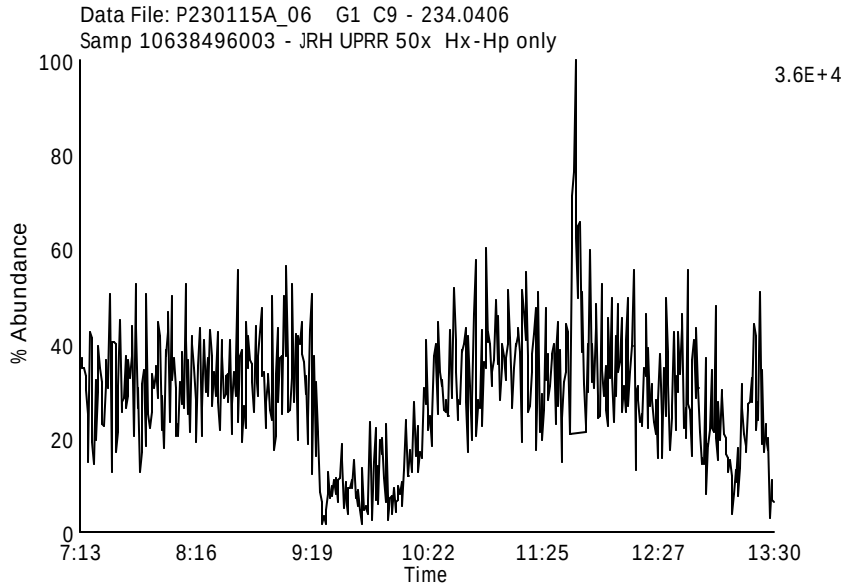
Data File Name: P230115A_06 | Lab Sample ID: 10638496003
Date Acquired: 1/15/2023 | Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only | Client Sample ID: SB10-0.0-0.5-1022

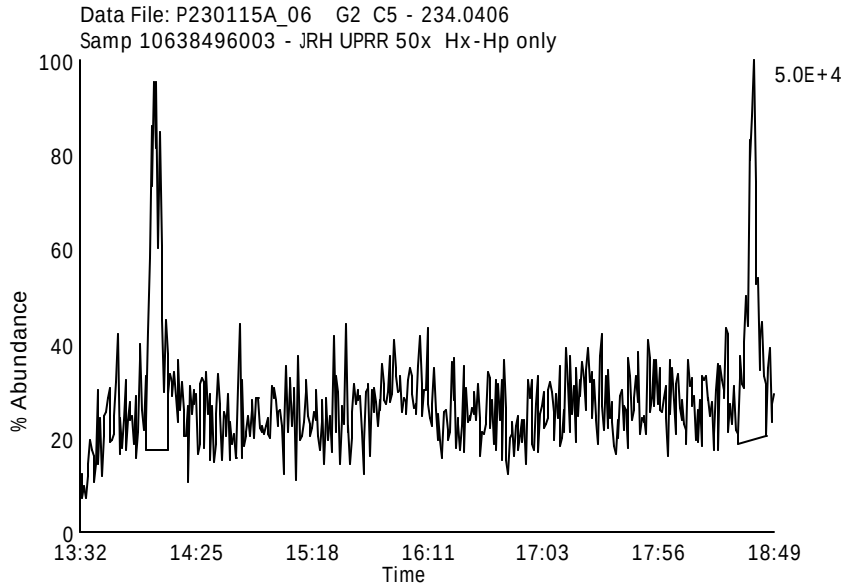


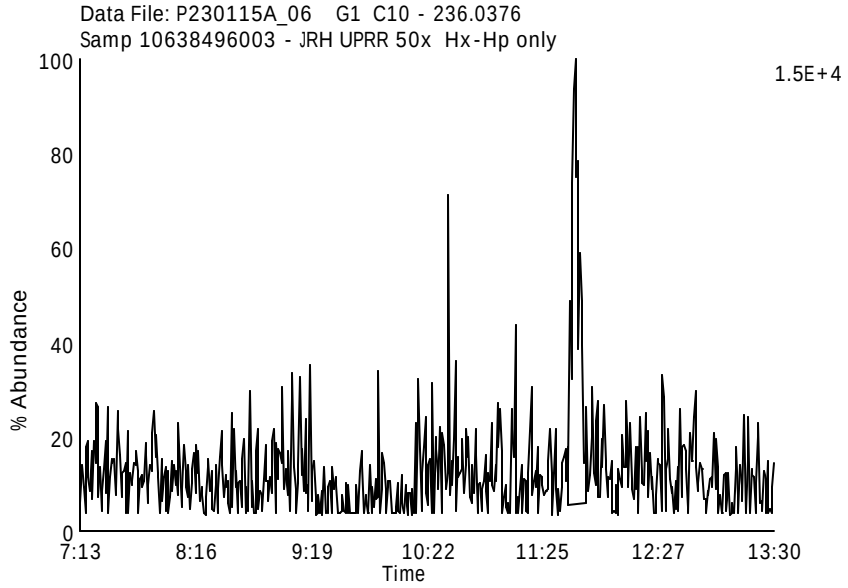


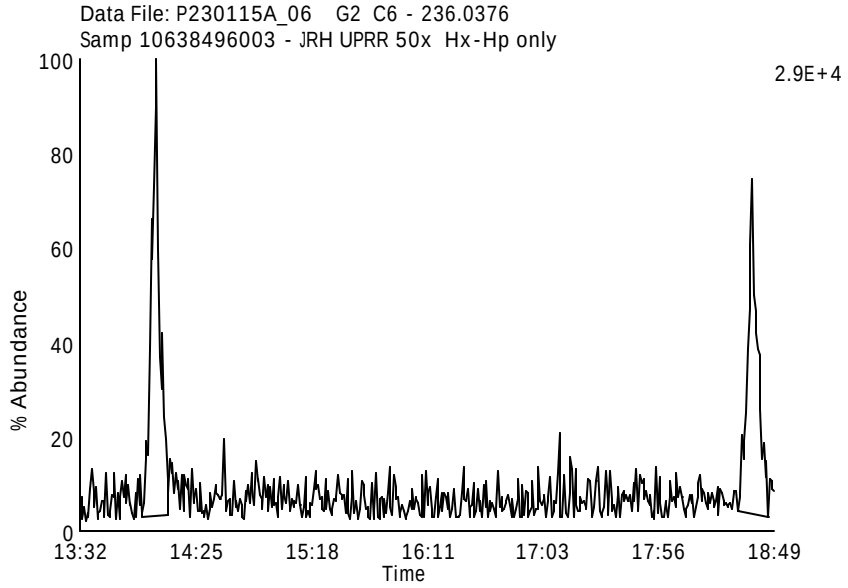
Labeled Di Chlorinated Biphenyls

Data File Name: P230115A_06
Lab Sample ID: 10638496003
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only
Client Sample ID: SB10-0.0-0.5-1022



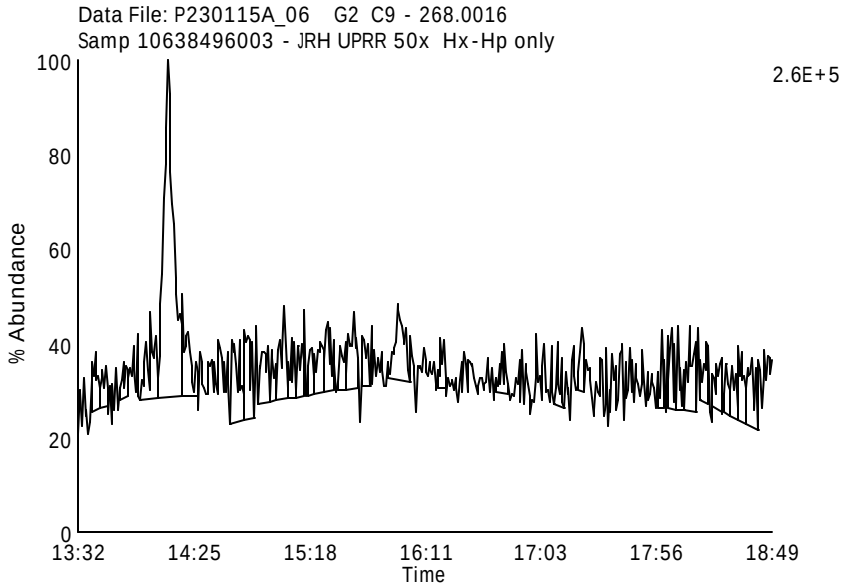


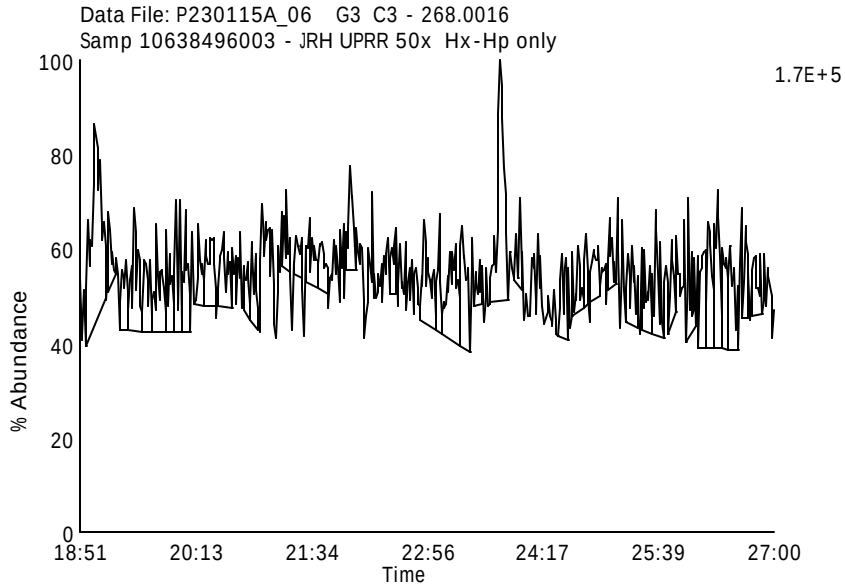


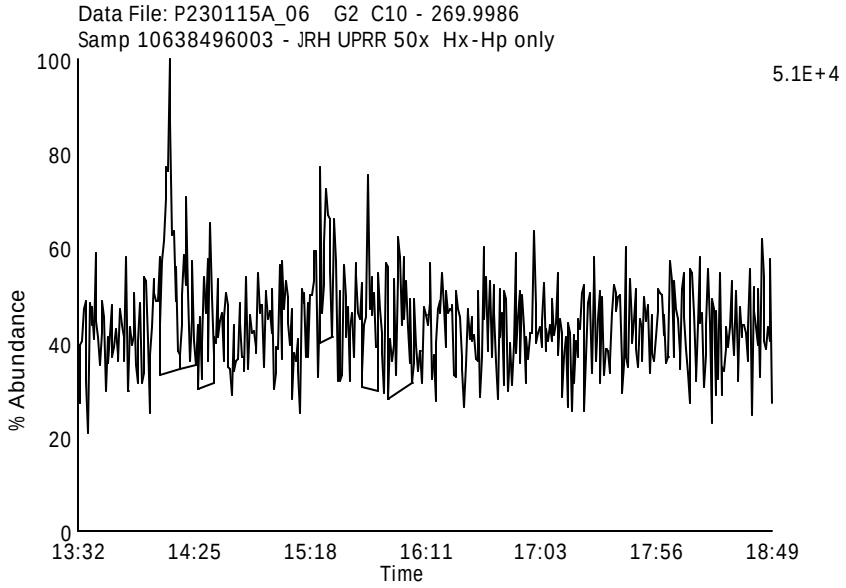


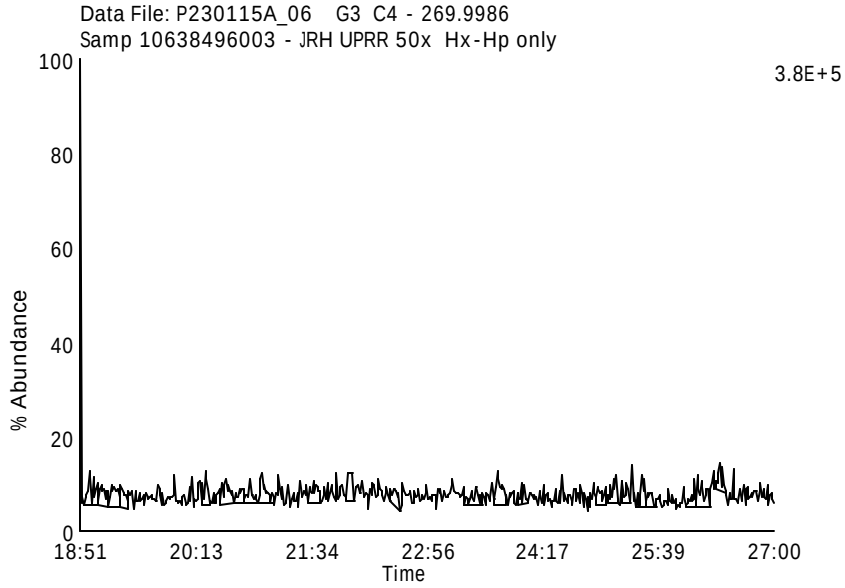
Labeled Tri Chlorinated Biphenyls

Data File Name: P230115A_06
Lab Sample ID: 10638496003
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only
Client Sample ID: SB10-0.0-0.5-1022



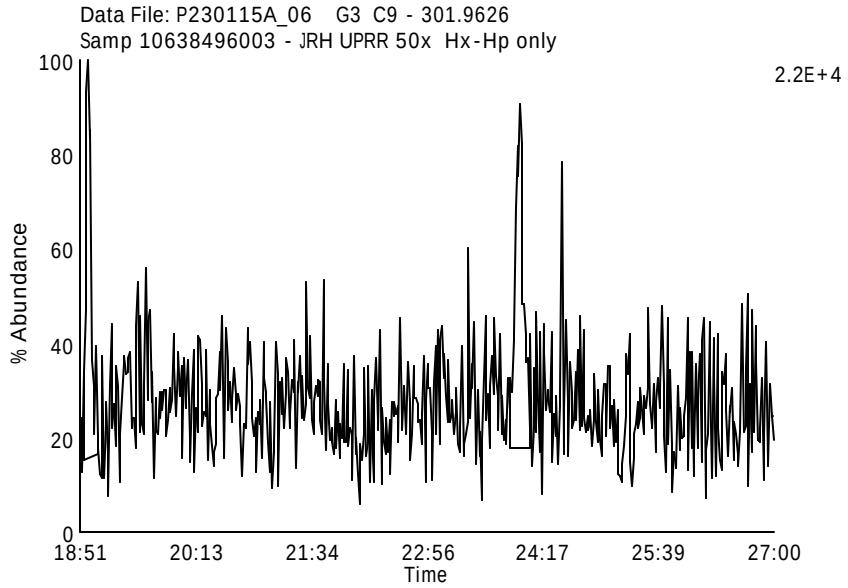


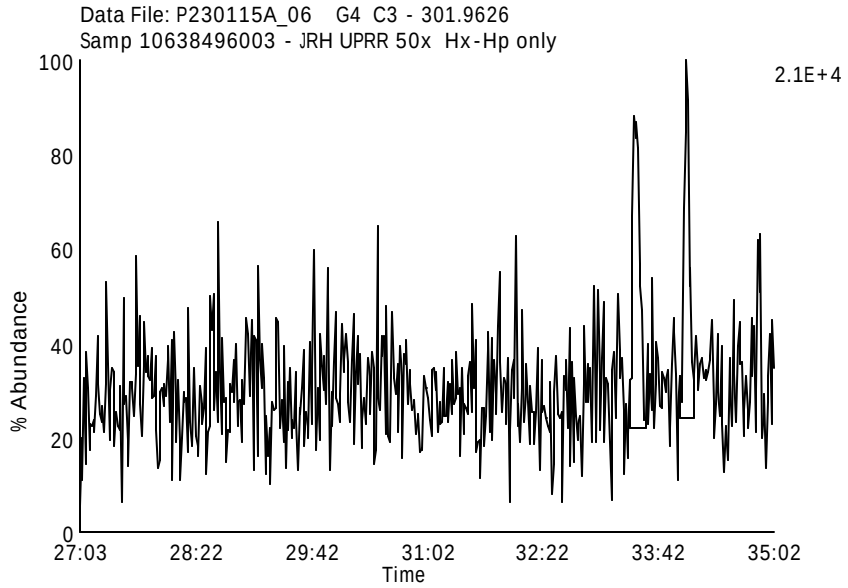


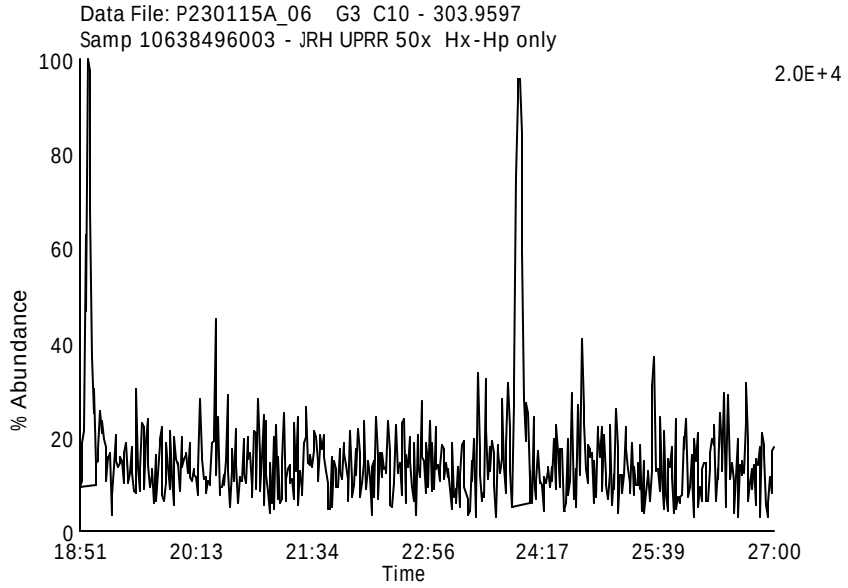


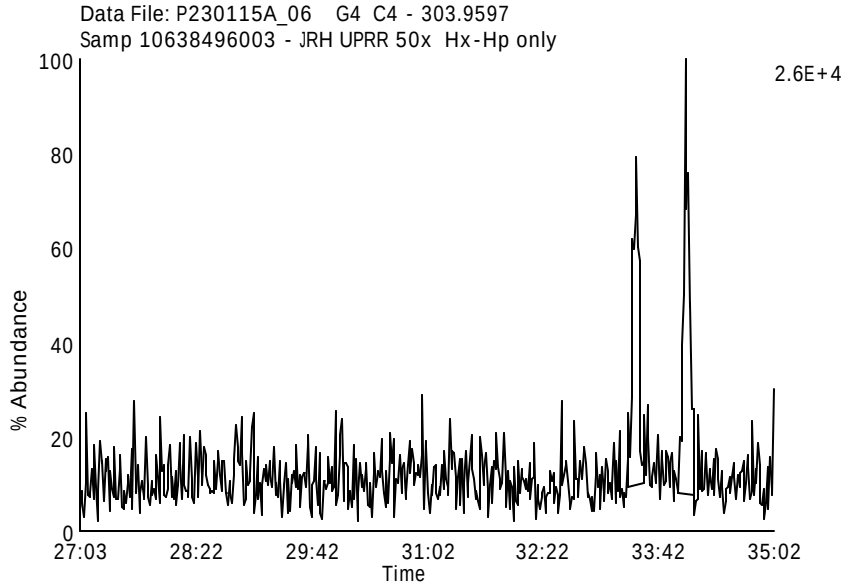
Labeled Tetra Chlorinated Biphenyls

Data File Name: P230115A_06
Lab Sample ID: 10638496003
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only
Client Sample ID: SB10-0.0-0.5-1022



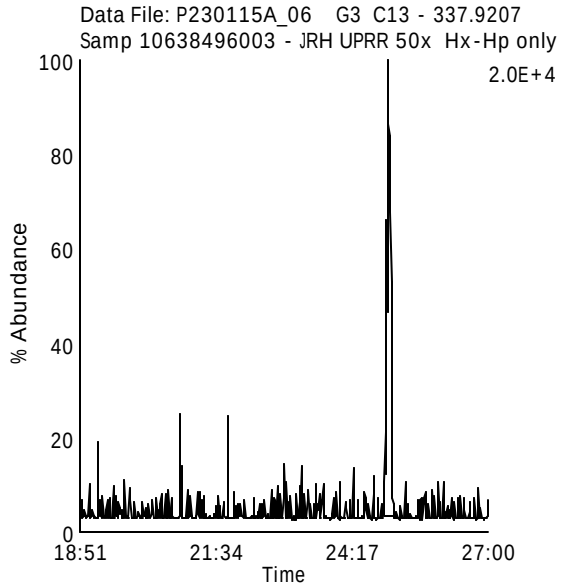


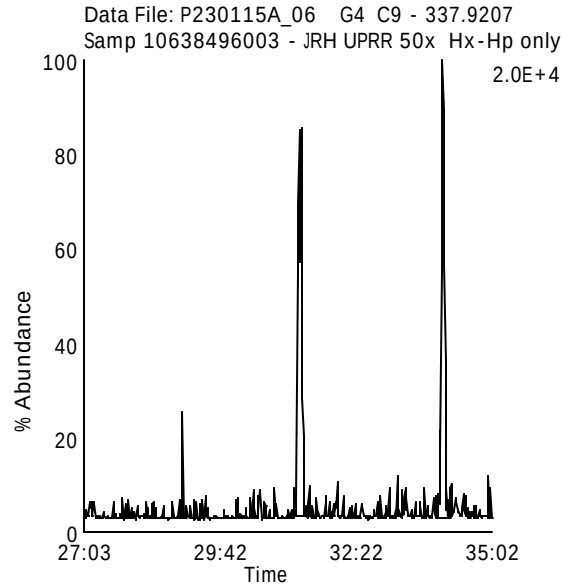


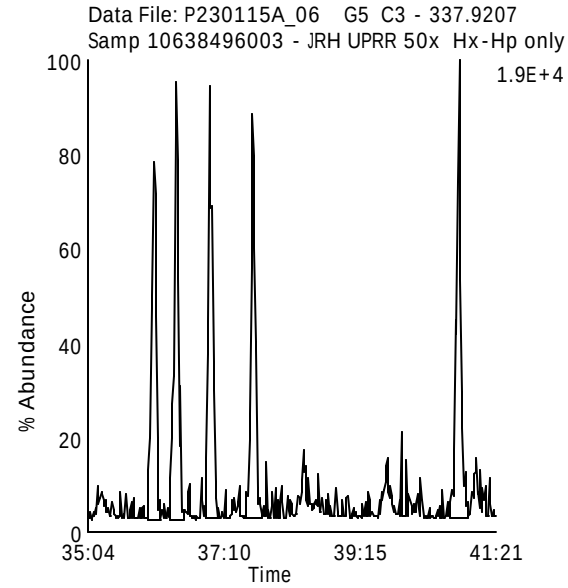


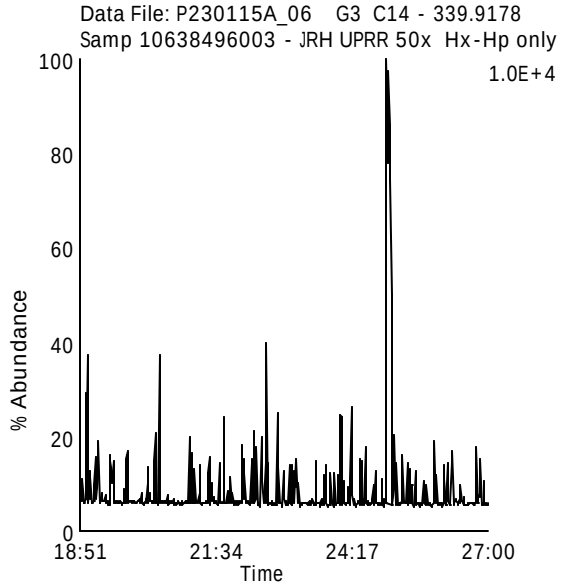
Labeled Penta Chlorinated Biphenyls

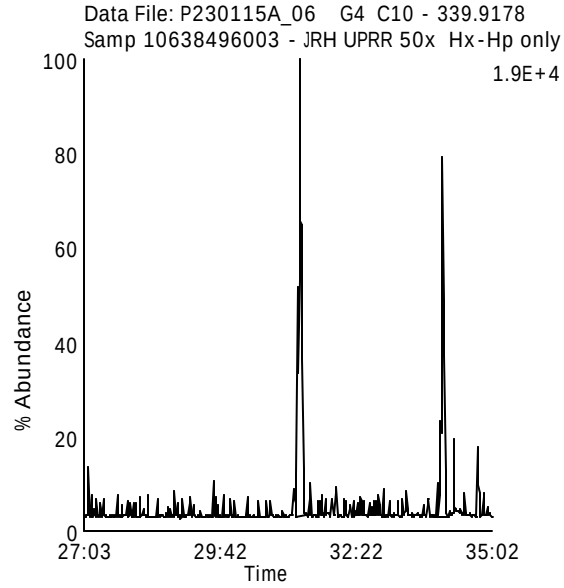
Data File Name: P230115A_06 | Lab Sample ID: 10638496003
Date Acquired: 1/15/2023 | Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only | Client Sample ID: SB10-0.0-0.5-1022

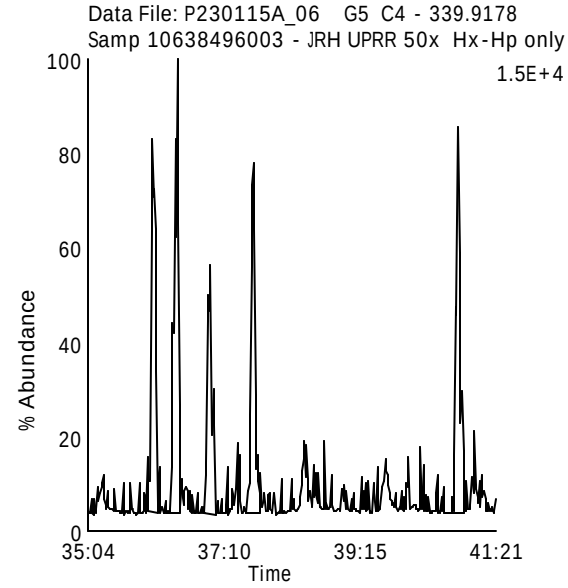






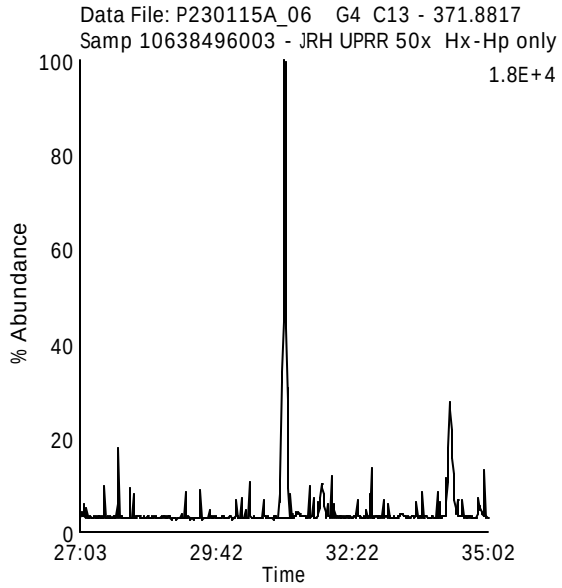


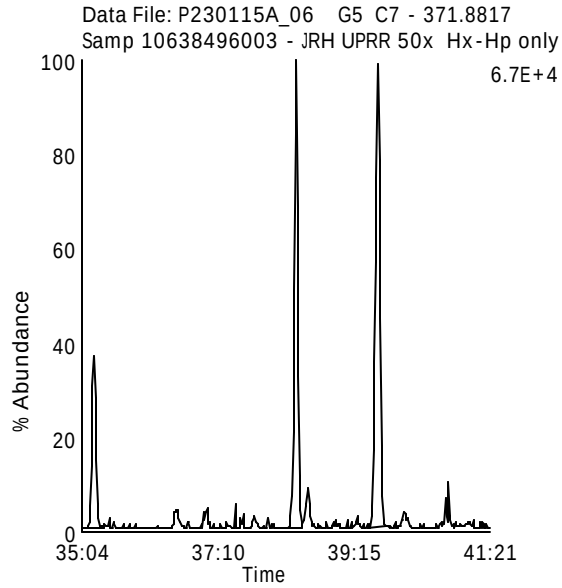


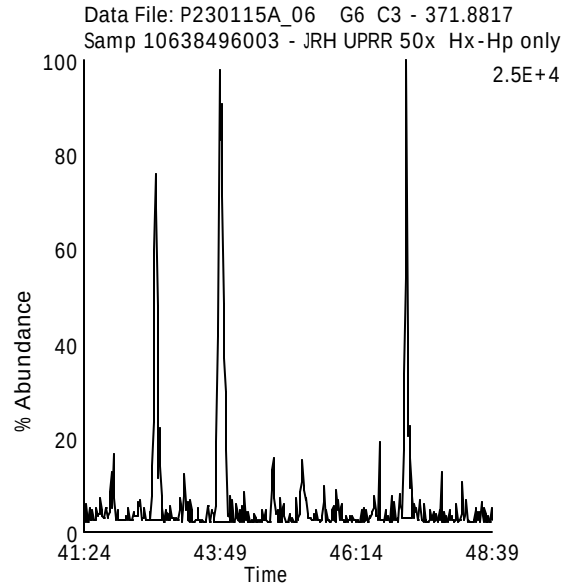


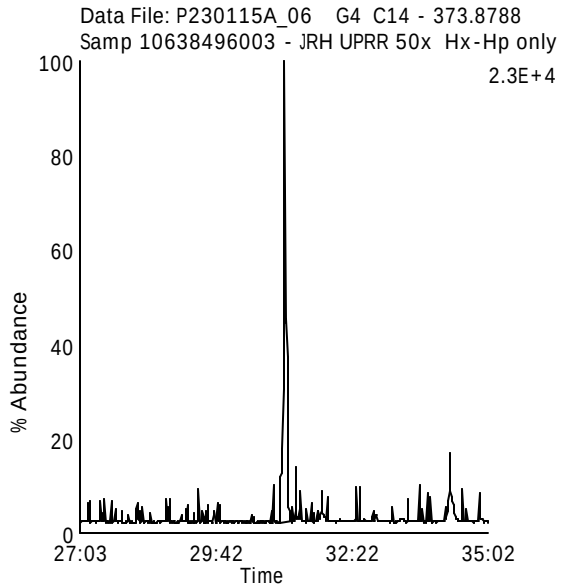
Labeled Hexa Chlorinated Biphenyls

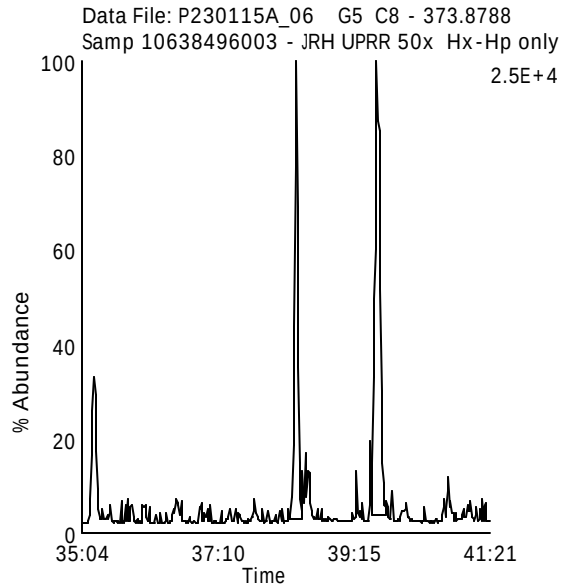
Data File Name: P230115A_06 | Lab Sample ID: 10638496003
Date Acquired: 1/15/2023 | Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only | Client Sample ID: SB10-0.0-0.5-1022

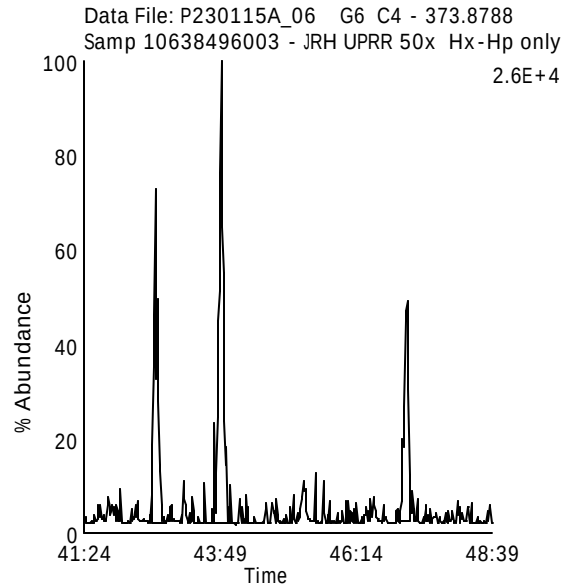






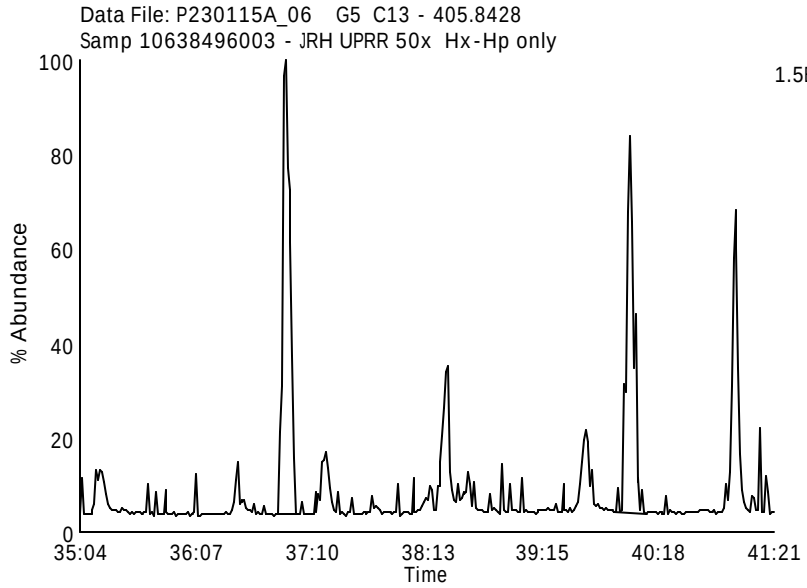


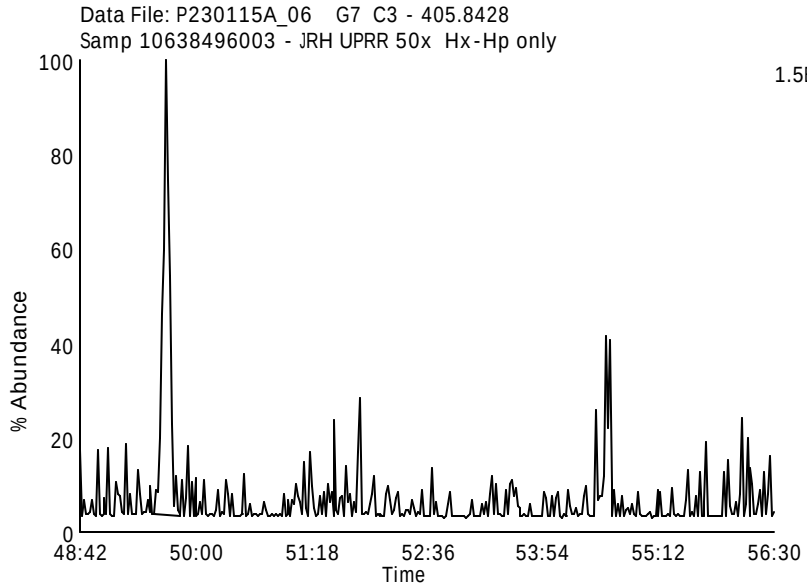


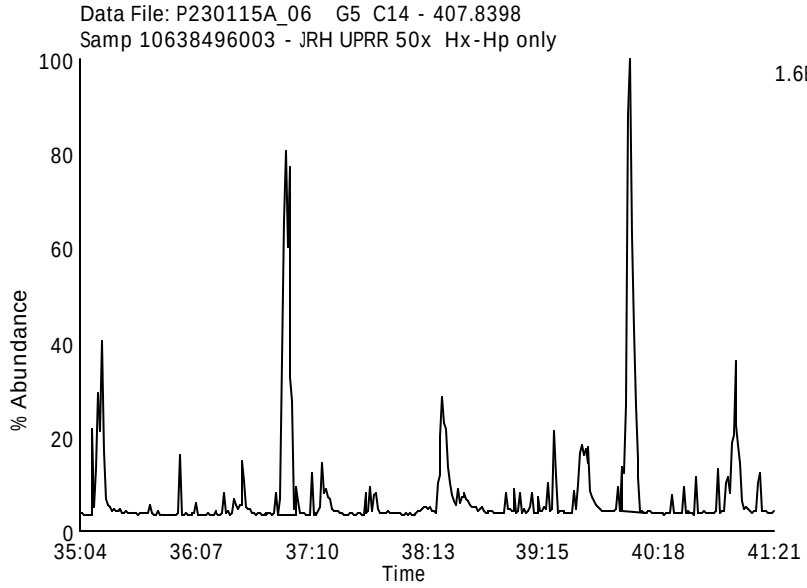


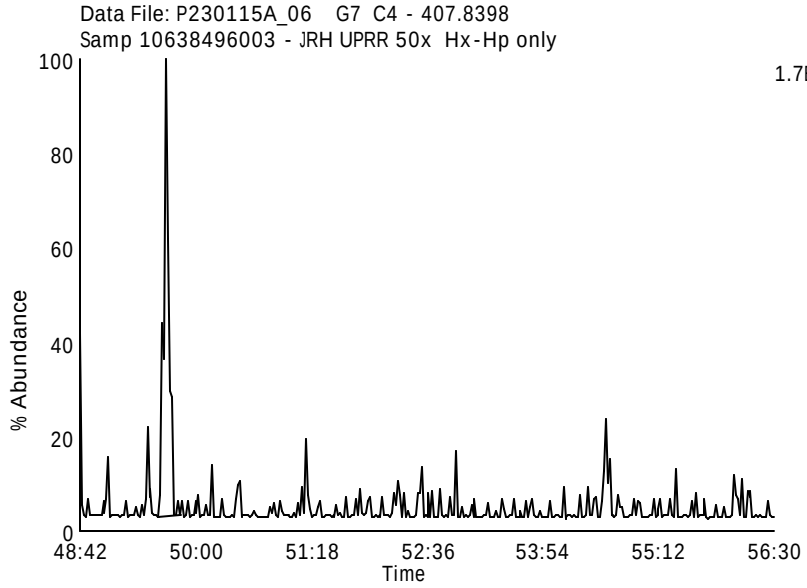
Labeled Hepta Chlorinated Biphenyls

Data File Name: P230115A_06
Lab Sample ID: 10638496003
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only
Client Sample ID: SB10-0.0-0.5-1022



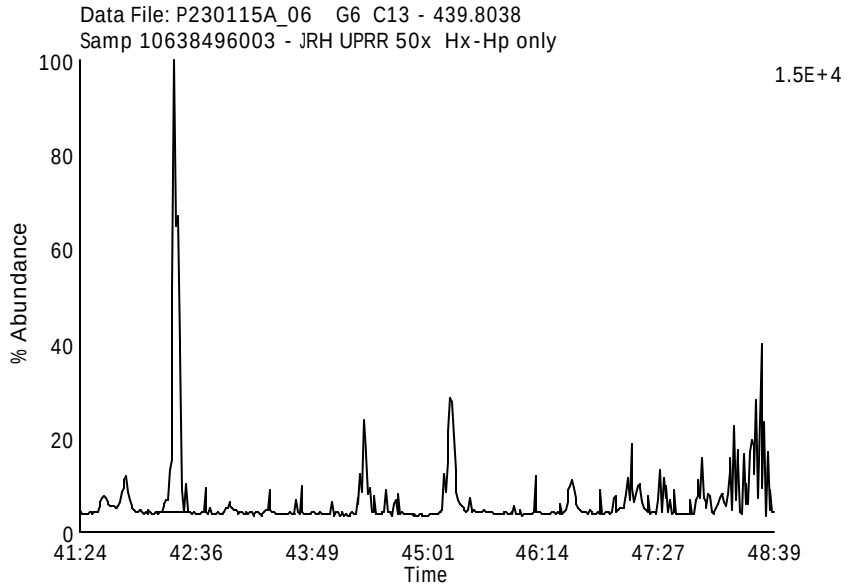


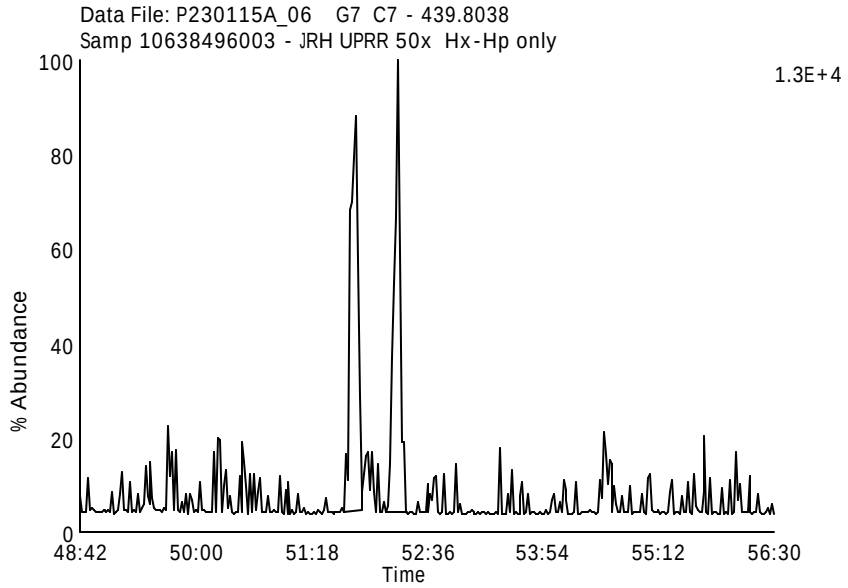


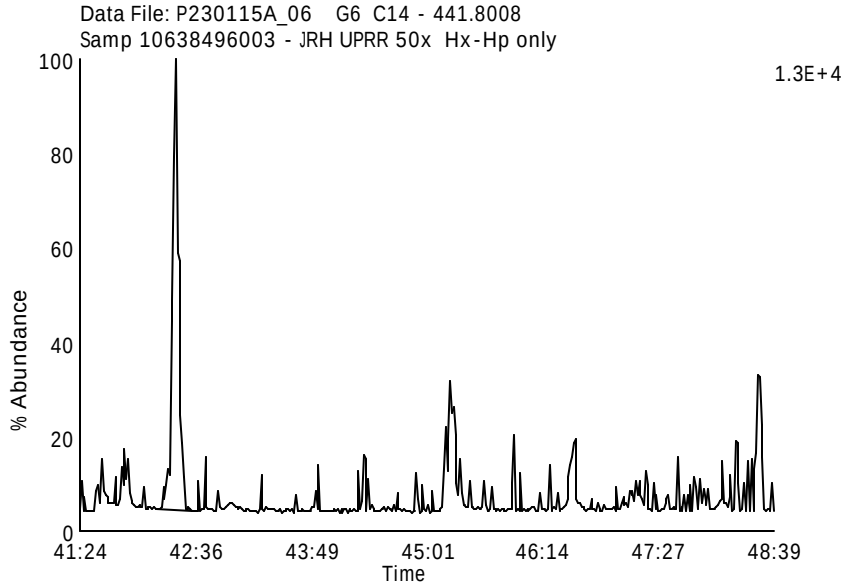


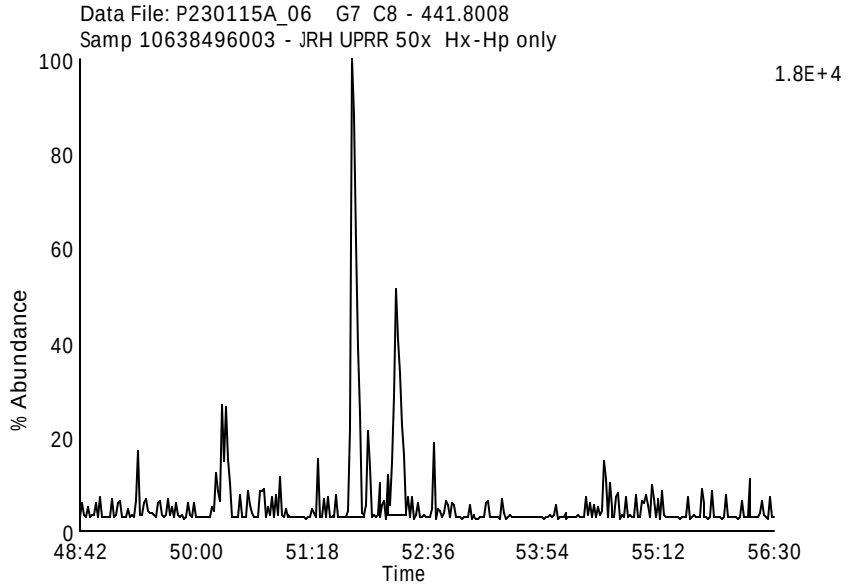
Labeled Octa Chlorinated Biphenyls

Data File Name: P230115A_06
Lab Sample ID: 10638496003
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only
Client Sample ID: SB10-0.0-0.5-1022



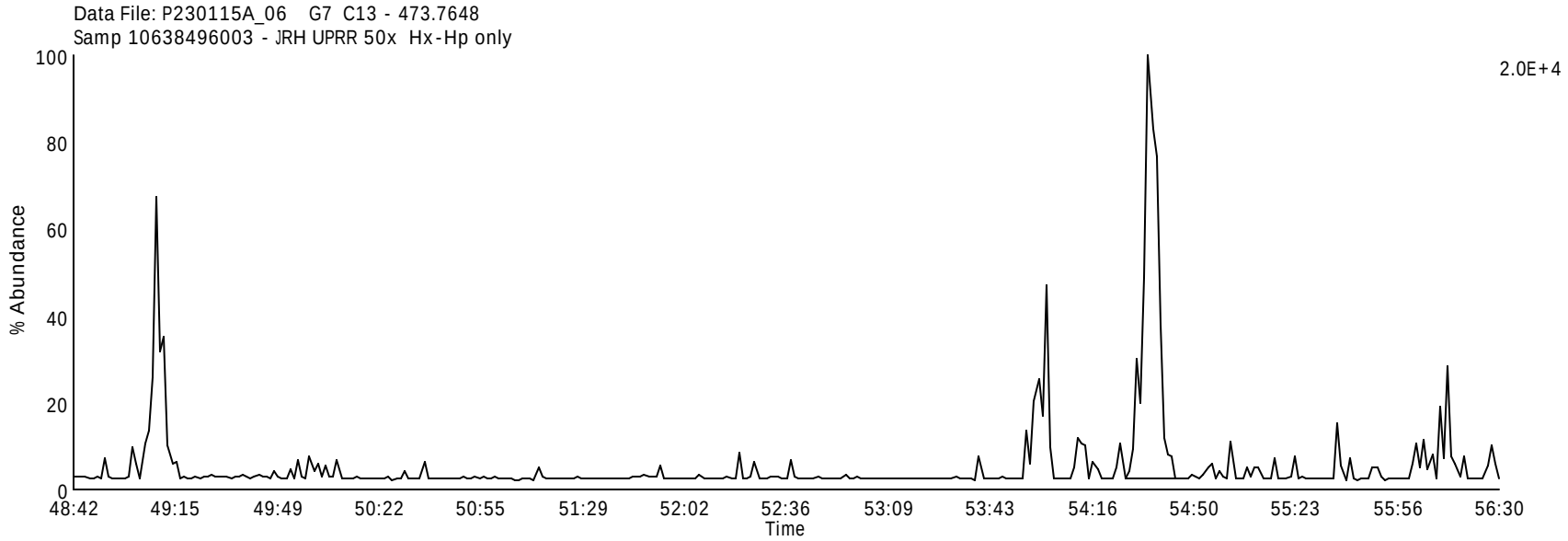


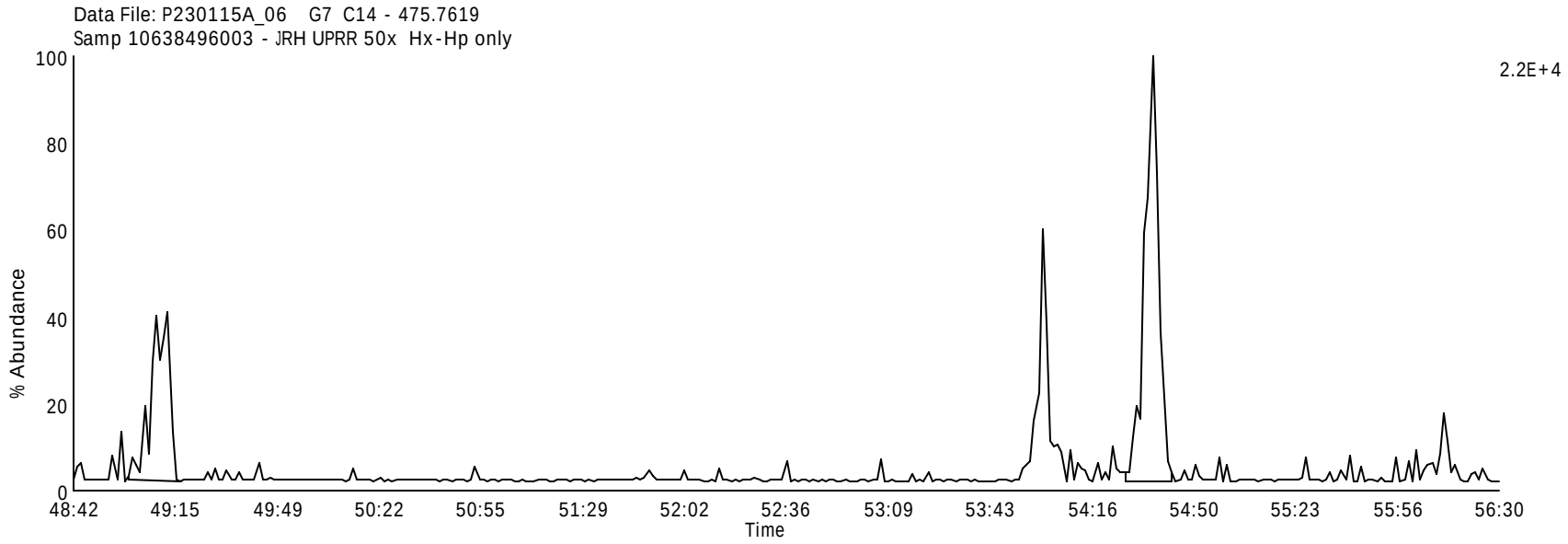




Labeled Nona Chlorinated Biphenyls

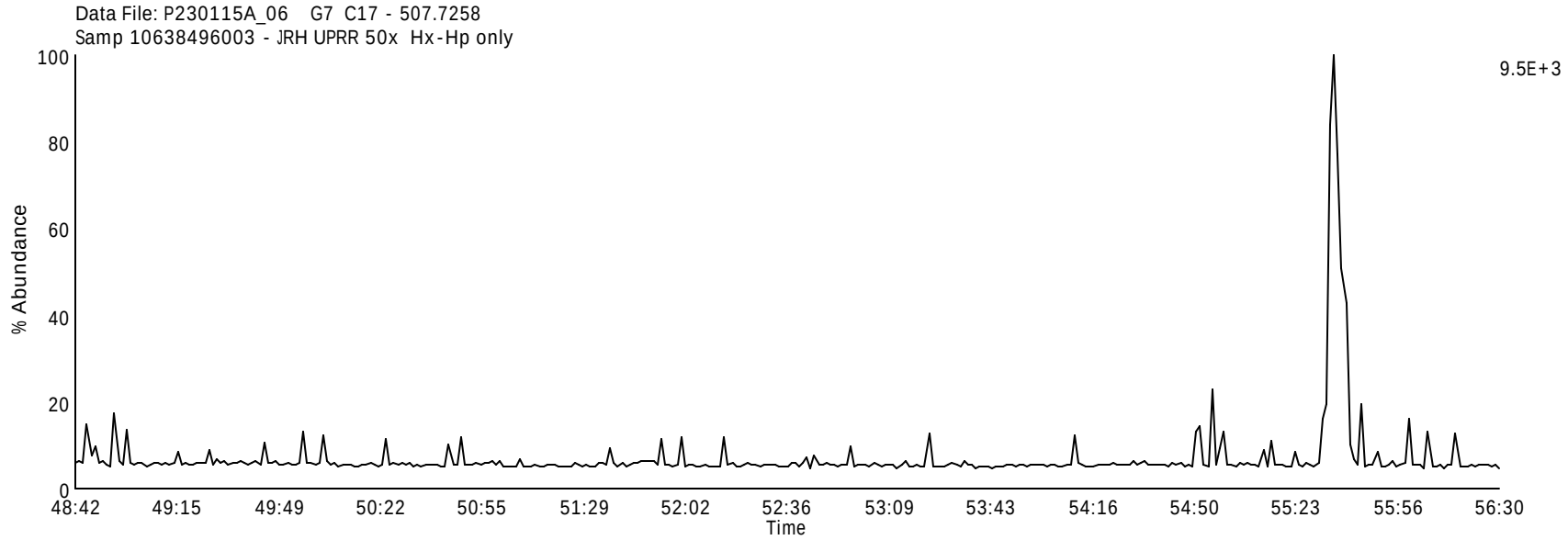
Data File Name: P230115A_06	Lab Sample ID: 10638496003
Date Acquired: 1/15/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only	Client Sample ID: SB10-0.0-0.5-1022

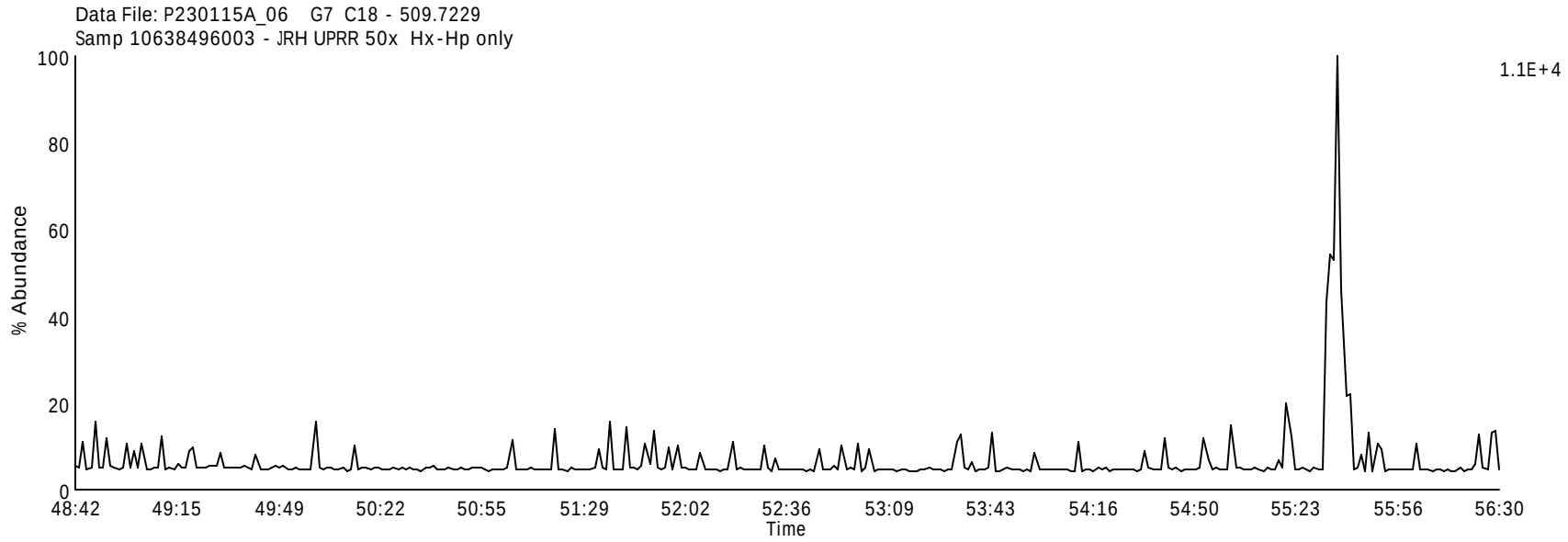




Labeled Deca Chlorinated Biphenyl

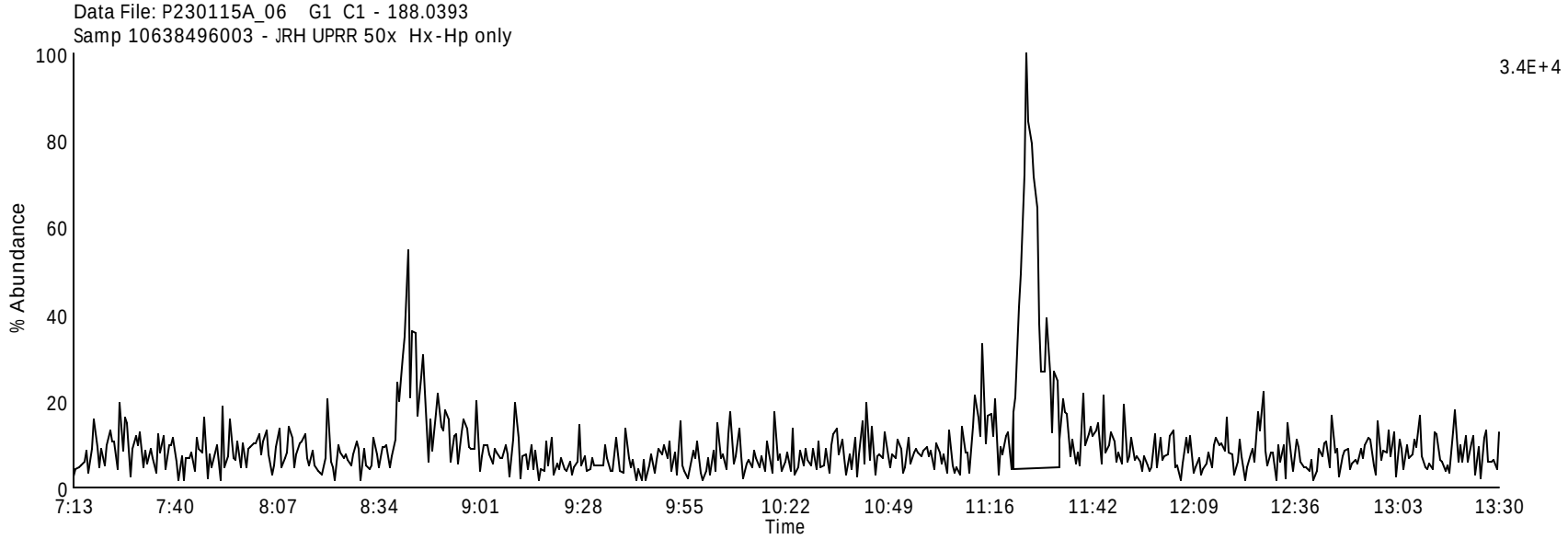
Data File Name: P230115A_06	Lab Sample ID: 10638496003
Date Acquired: 1/15/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only	Client Sample ID: SB10-0.0-0.5-1022

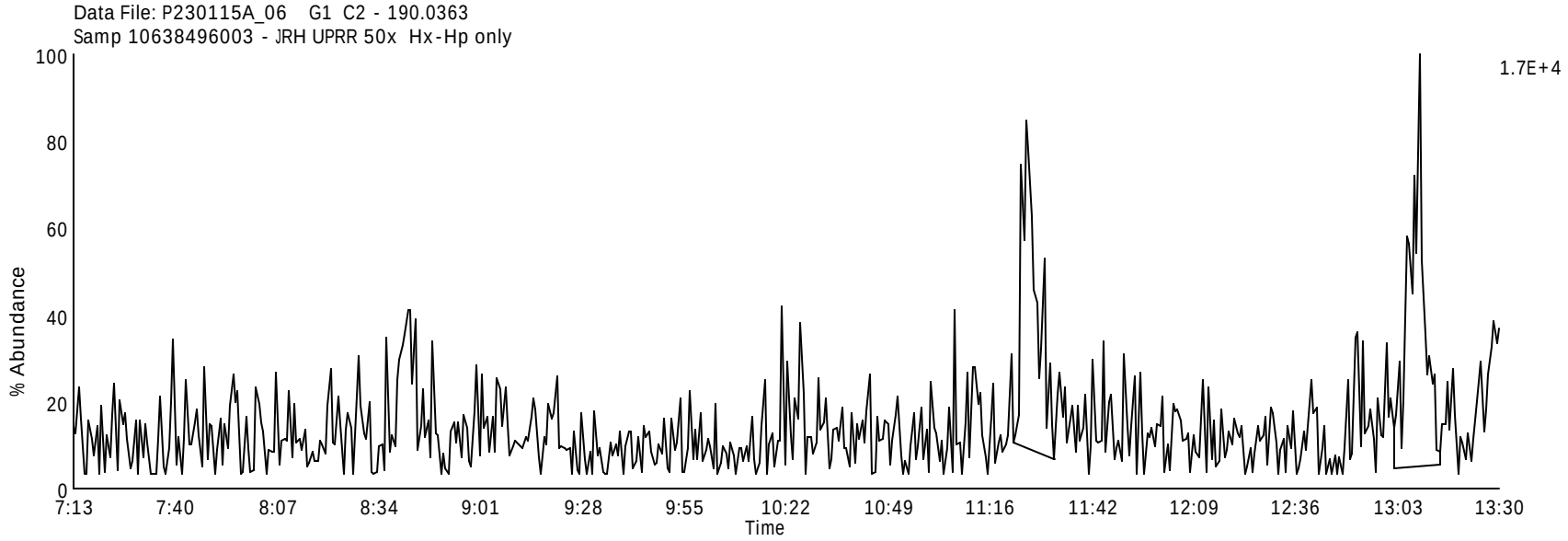




Mono Chlorinated Biphenyls

Data File Name: P230115A_06	Lab Sample ID: 10638496003
Date Acquired: 1/15/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only	Client Sample ID: SB10-0.0-0.5-1022

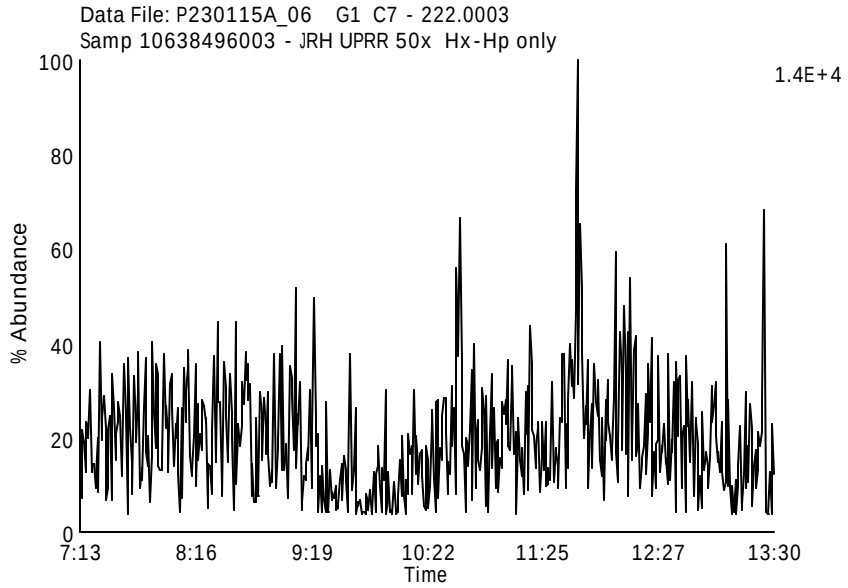


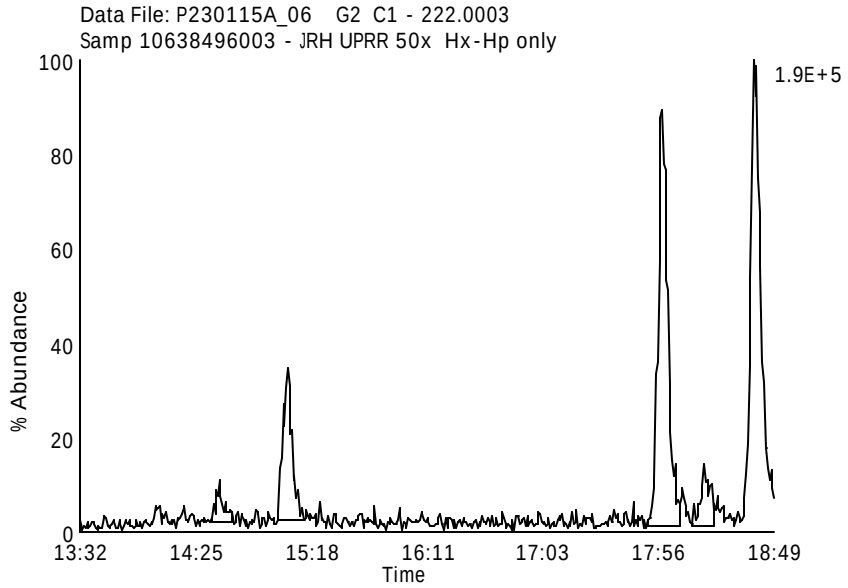


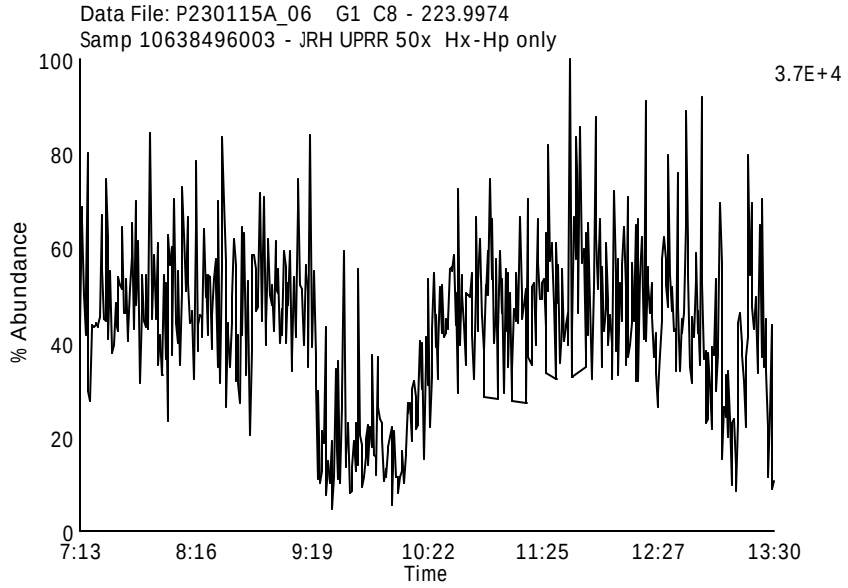
Di Chlorinated Biphenyls

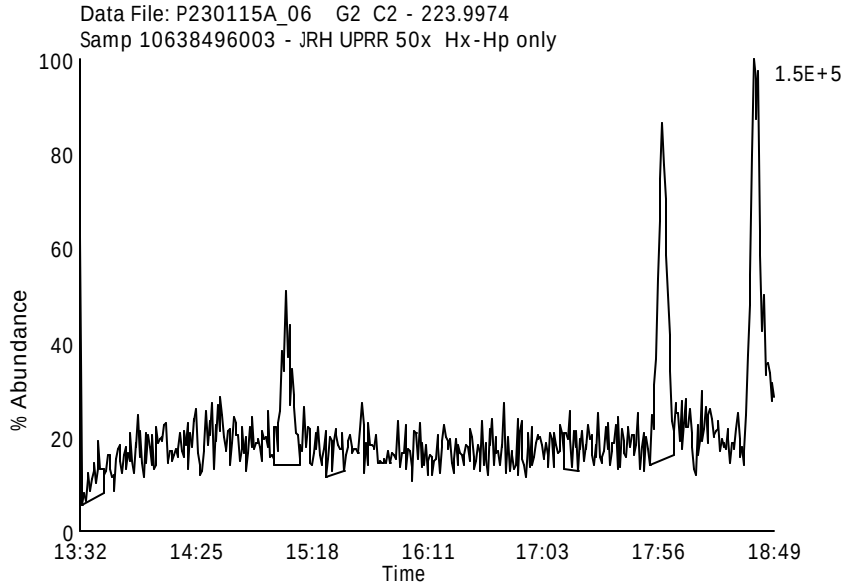
Data File Name: P230115A_06
Date Acquired: 1/15/2023
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only

Lab Sample ID: 10638496003
Instrument: 10MSHR09 (P)
Client Sample ID: SB10-0.0-0.5-1022



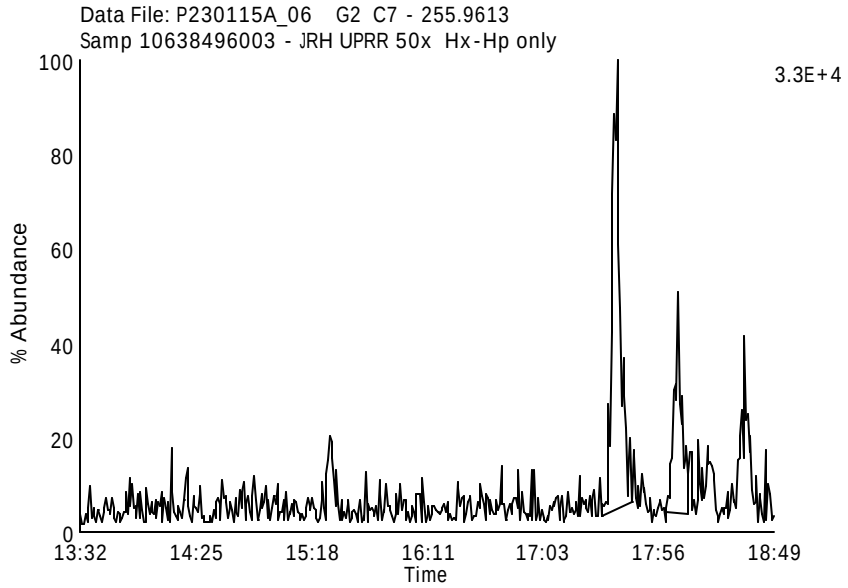


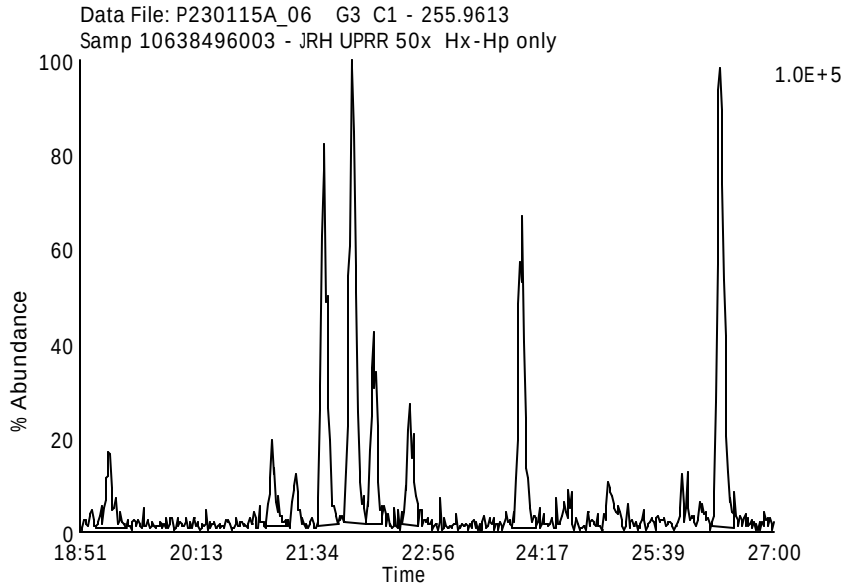


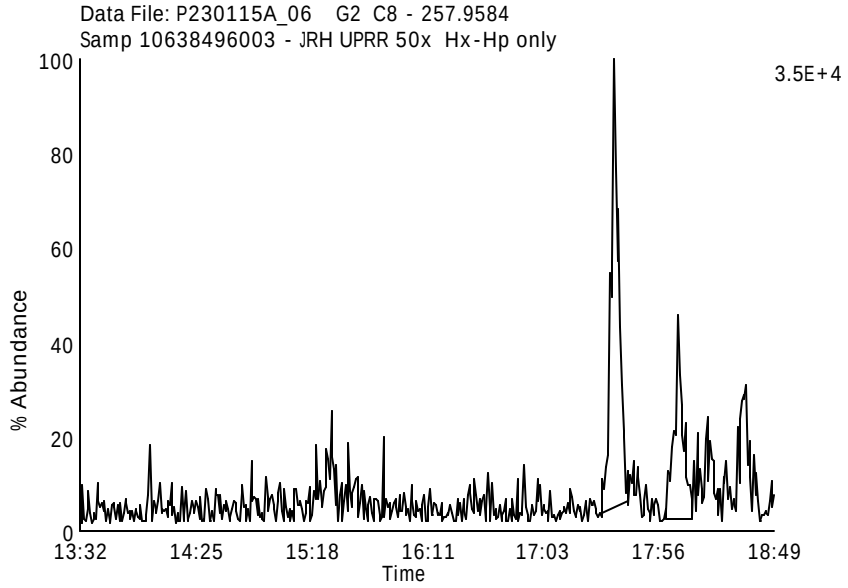


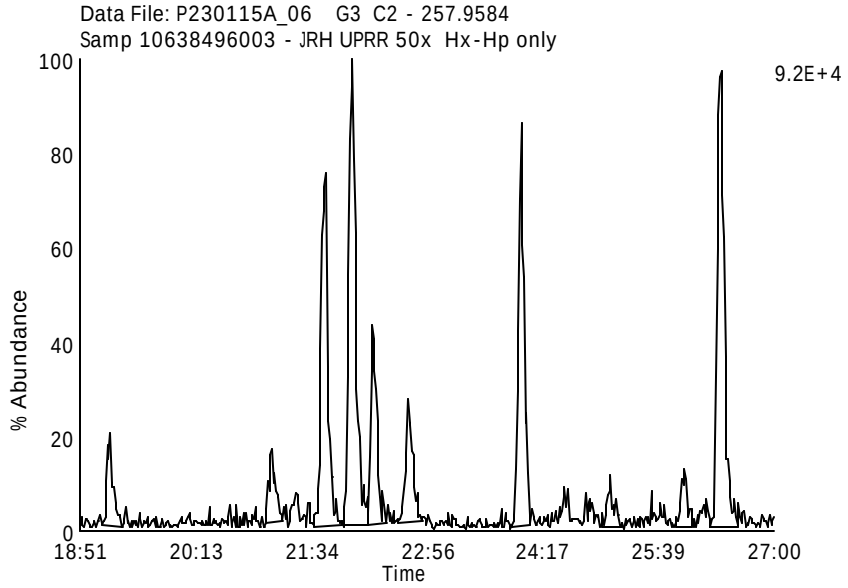
Tri Chlorinated Biphenyls

Data File Name: P230115A_06
Lab Sample ID: 10638496003
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only
Client Sample ID: SB10-0.0-0.5-1022



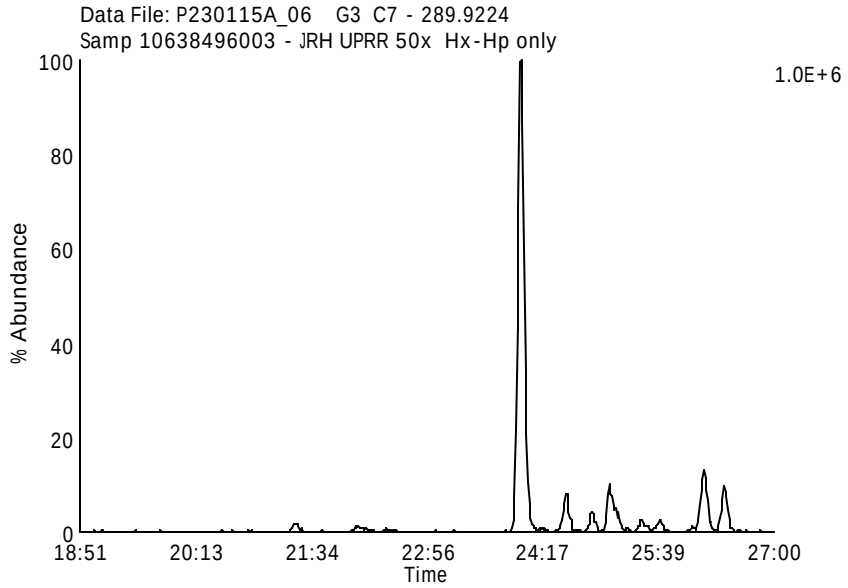


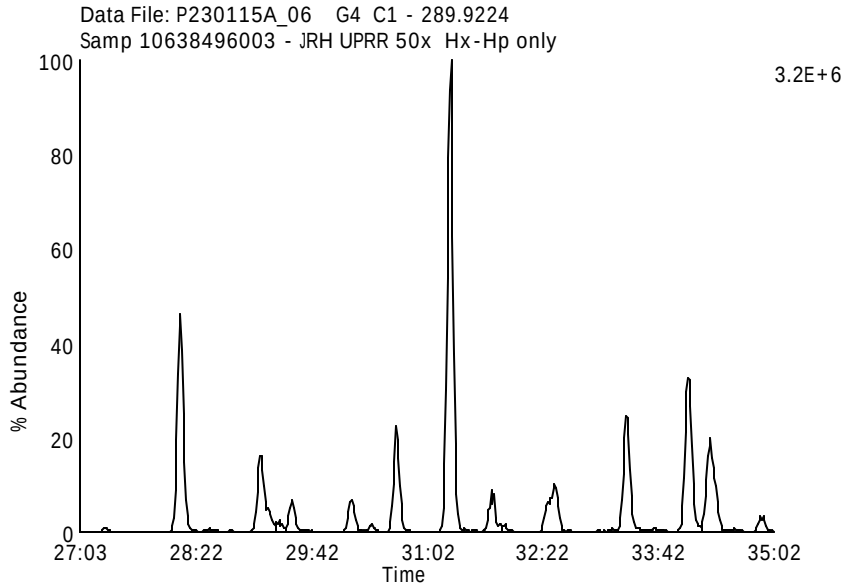


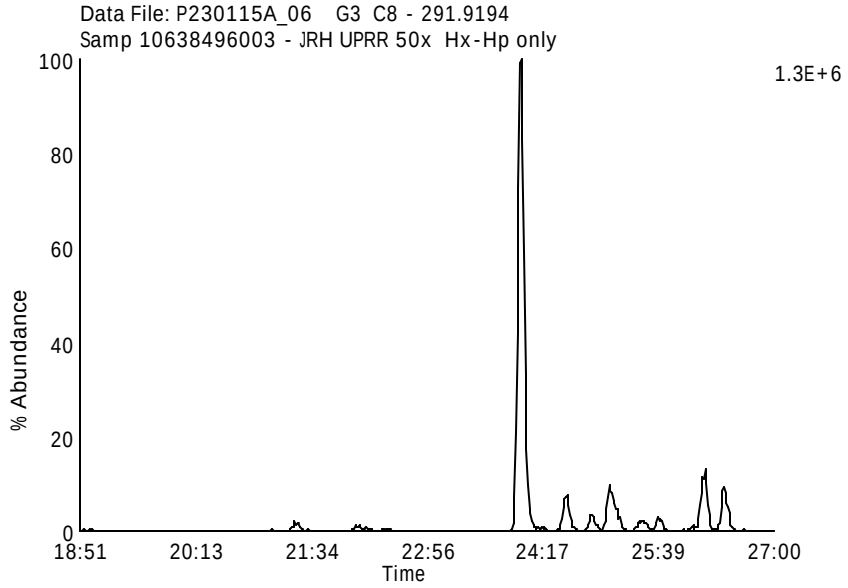


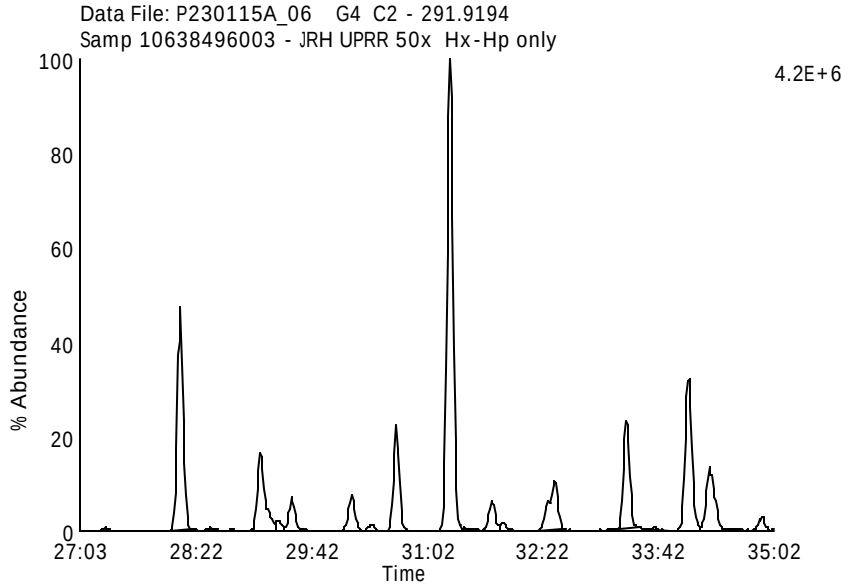
Tetra Chlorinated Biphenyls

Data File Name: P230115A_06
Lab Sample ID: 10638496003
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only
Client Sample ID: SB10-0.0-0.5-1022



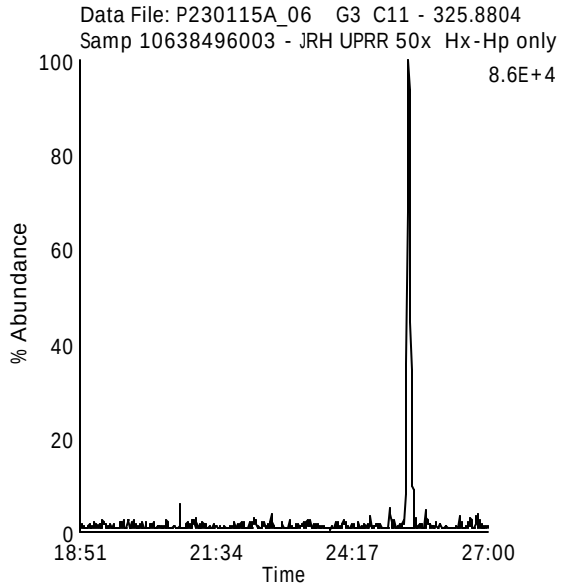


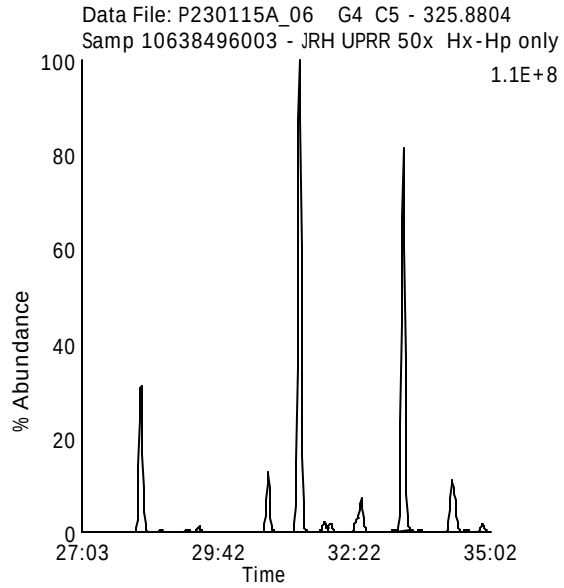


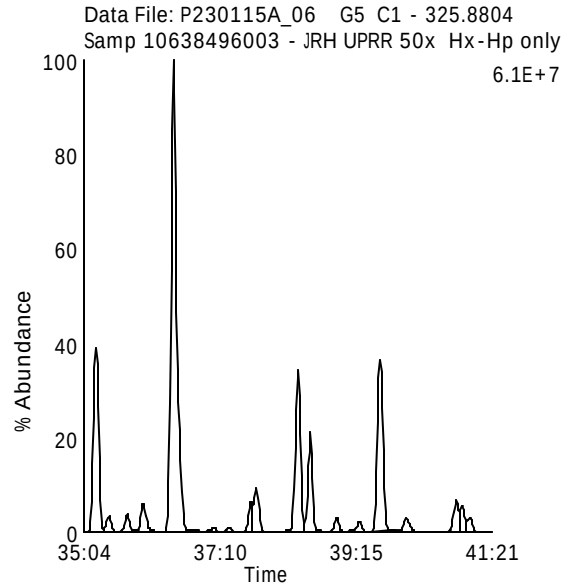


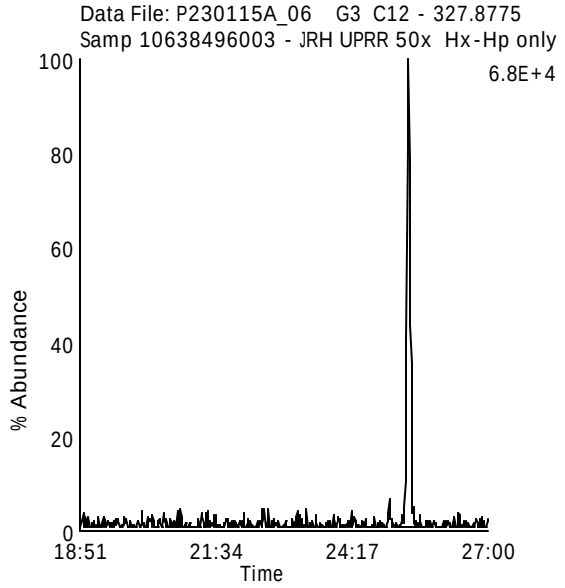
Penta Chlorinated Biphenyls

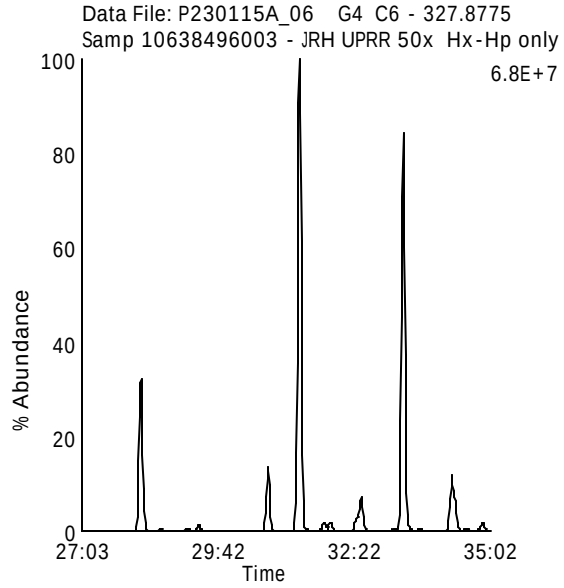
Data File Name: P230115A_06 | Lab Sample ID: 10638496003
Date Acquired: 1/15/2023 | Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only | Client Sample ID: SB10-0.0-0.5-1022

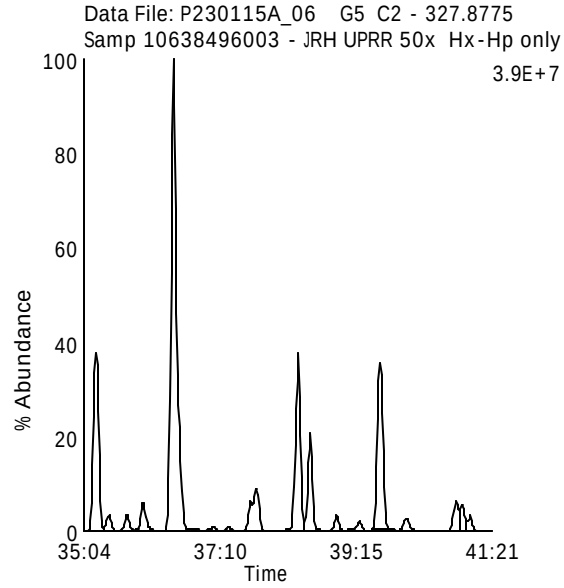






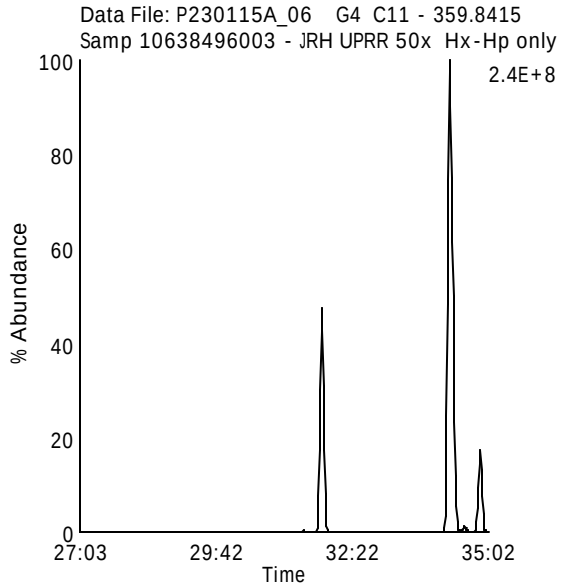


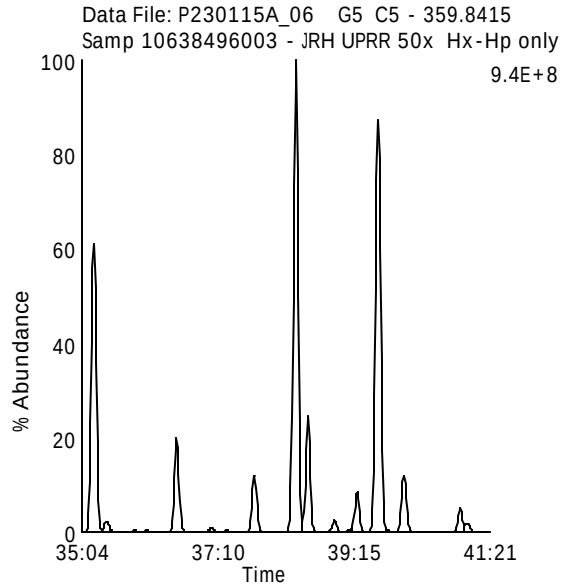


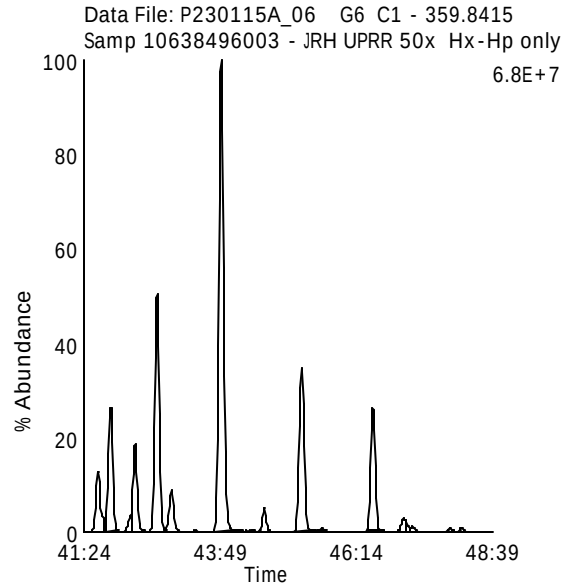


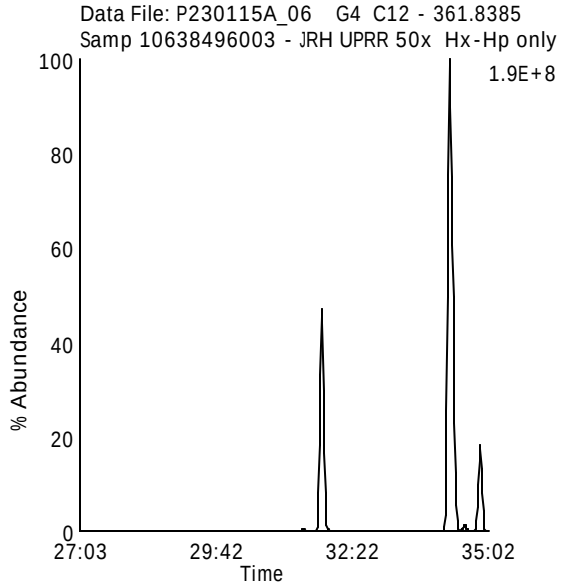
Hexa Chlorinated Biphenyls

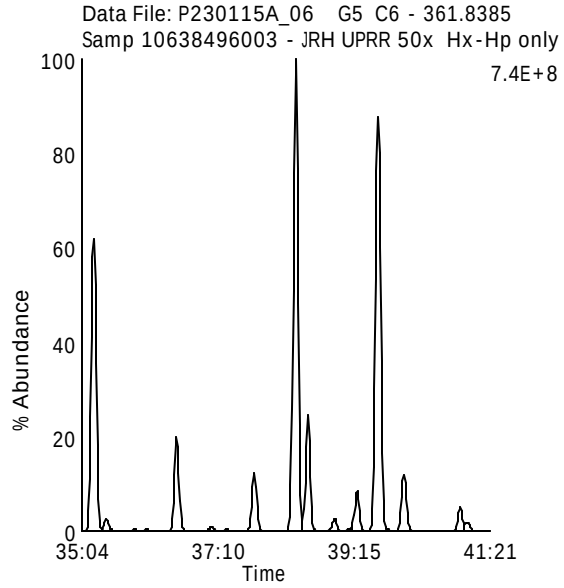
Data File Name: P230115A_06 | Lab Sample ID: 10638496003
Date Acquired: 1/15/2023 | Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only | Client Sample ID: SB10-0.0-0.5-1022

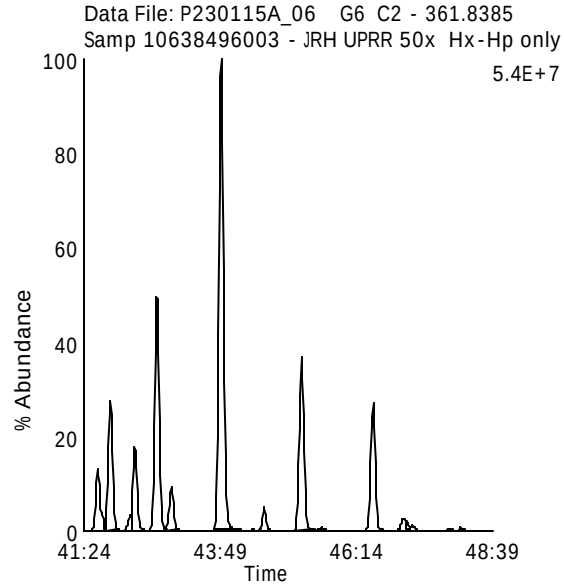






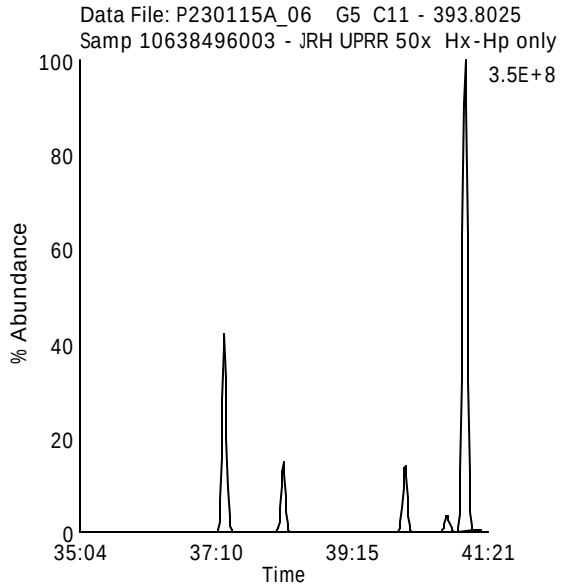


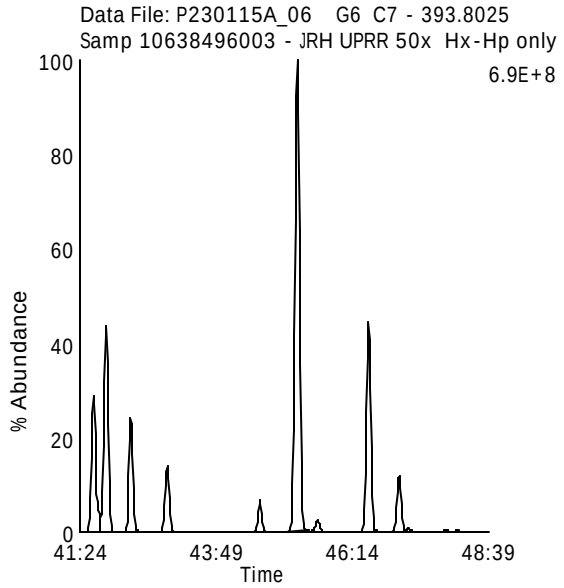


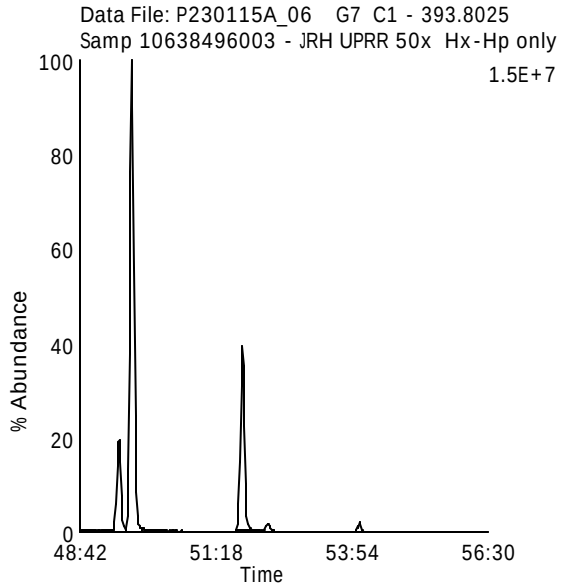


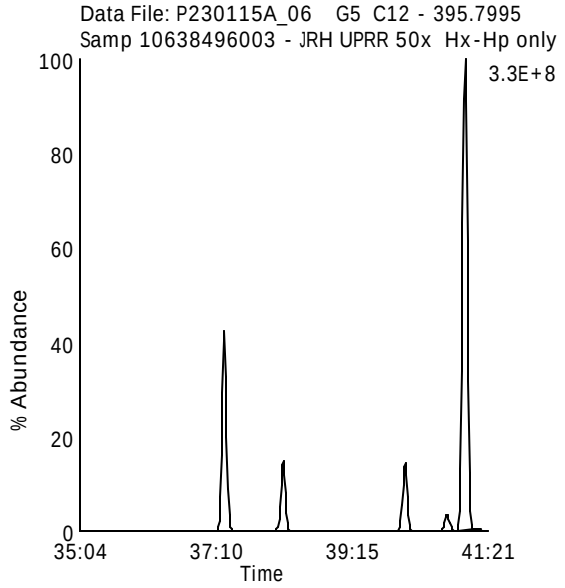
Hepta Chlorinated Biphenyls

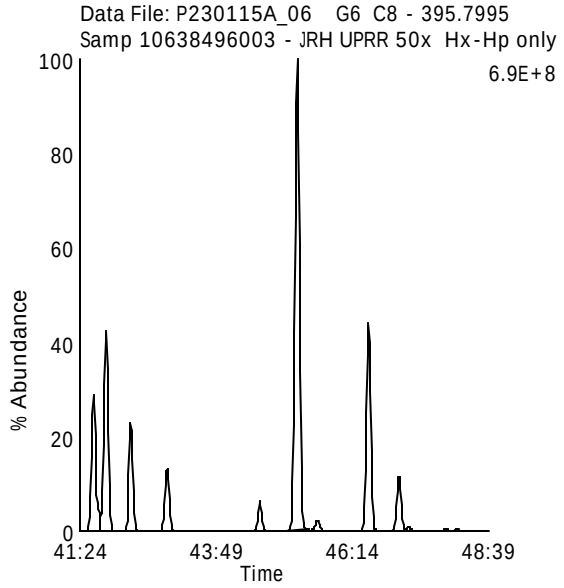
Data File Name: P230115A_06
Lab Sample ID: 10638496003
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only
Client Sample ID: SB10-0.0-0.5-1022

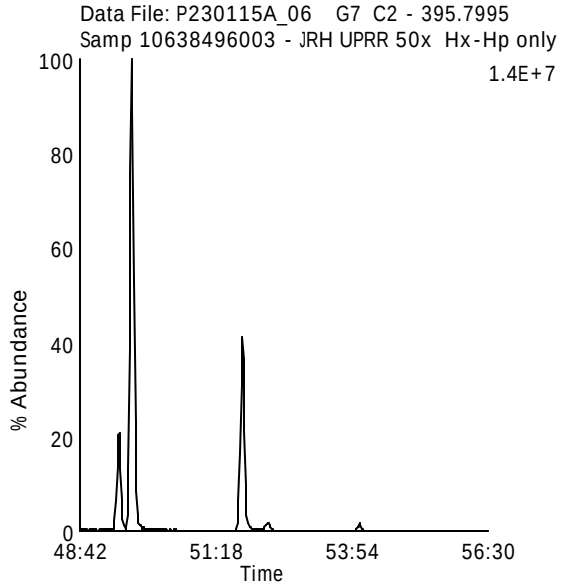






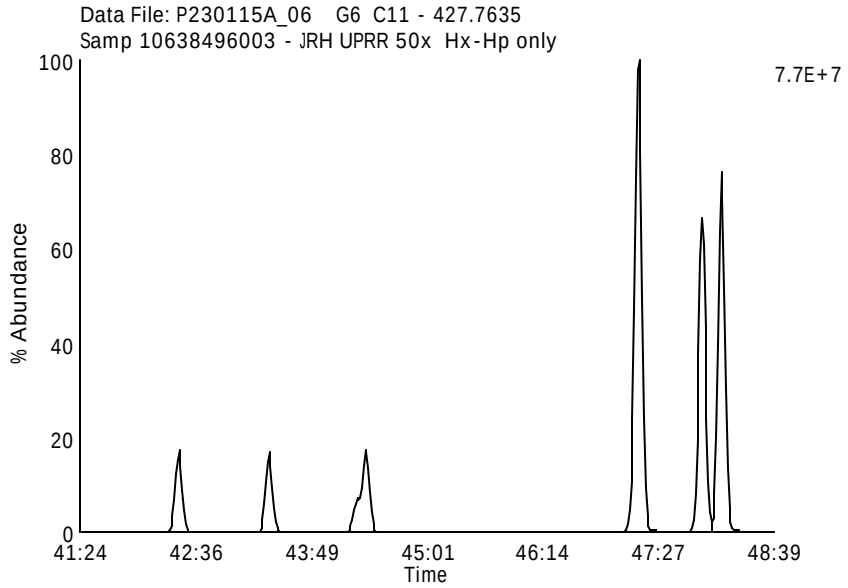


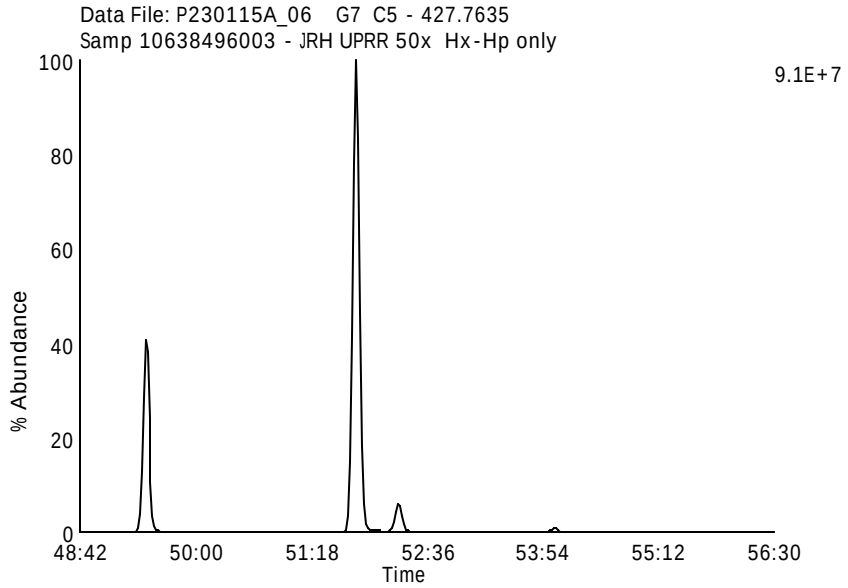


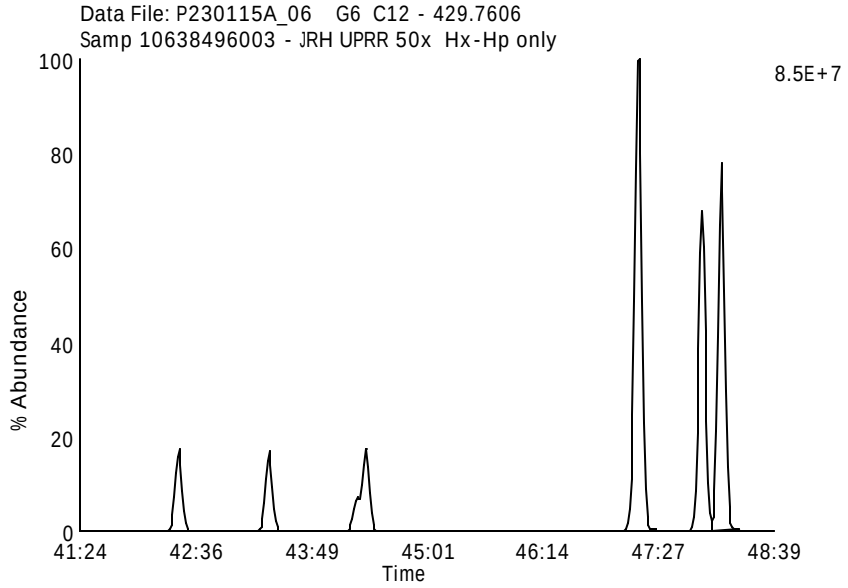


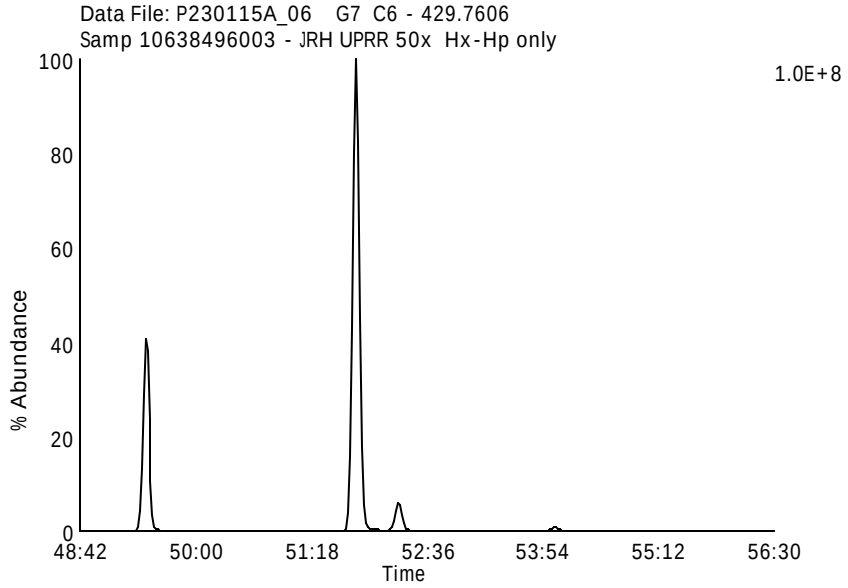
Octa Chlorinated Biphenyls

Data File Name: P230115A_06
Lab Sample ID: 10638496003
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only
Client Sample ID: SB10-0.0-0.5-1022



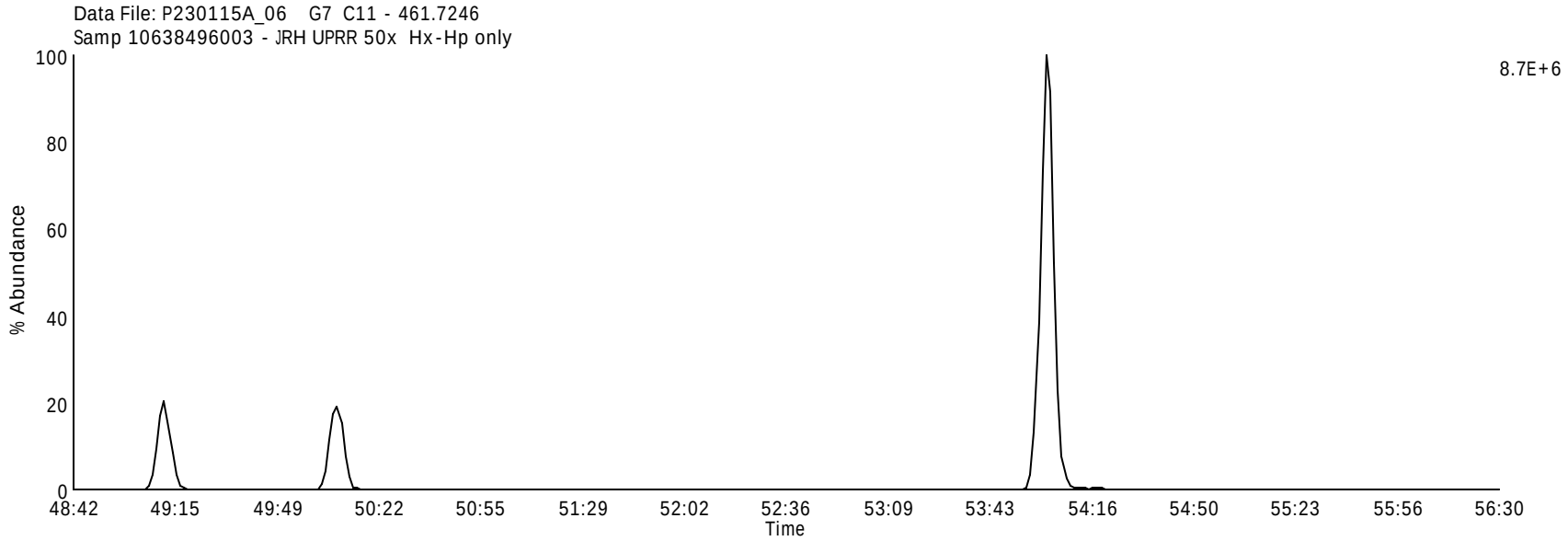


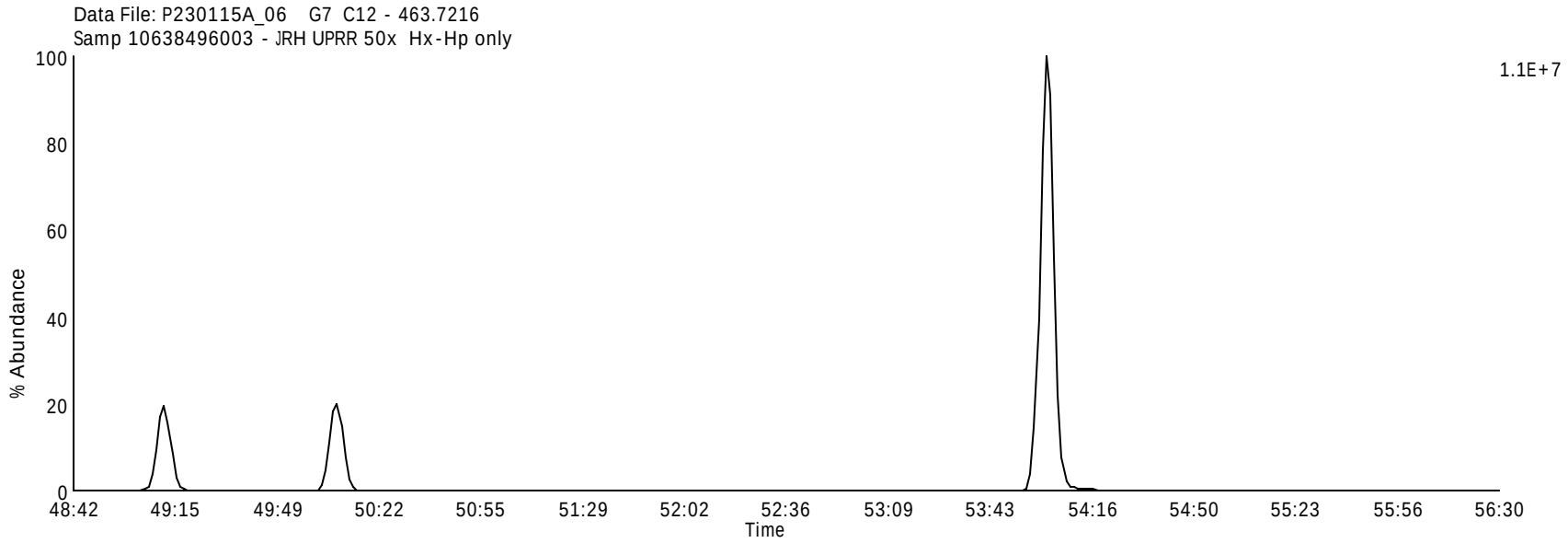




Nona Chlorinated Biphenyls

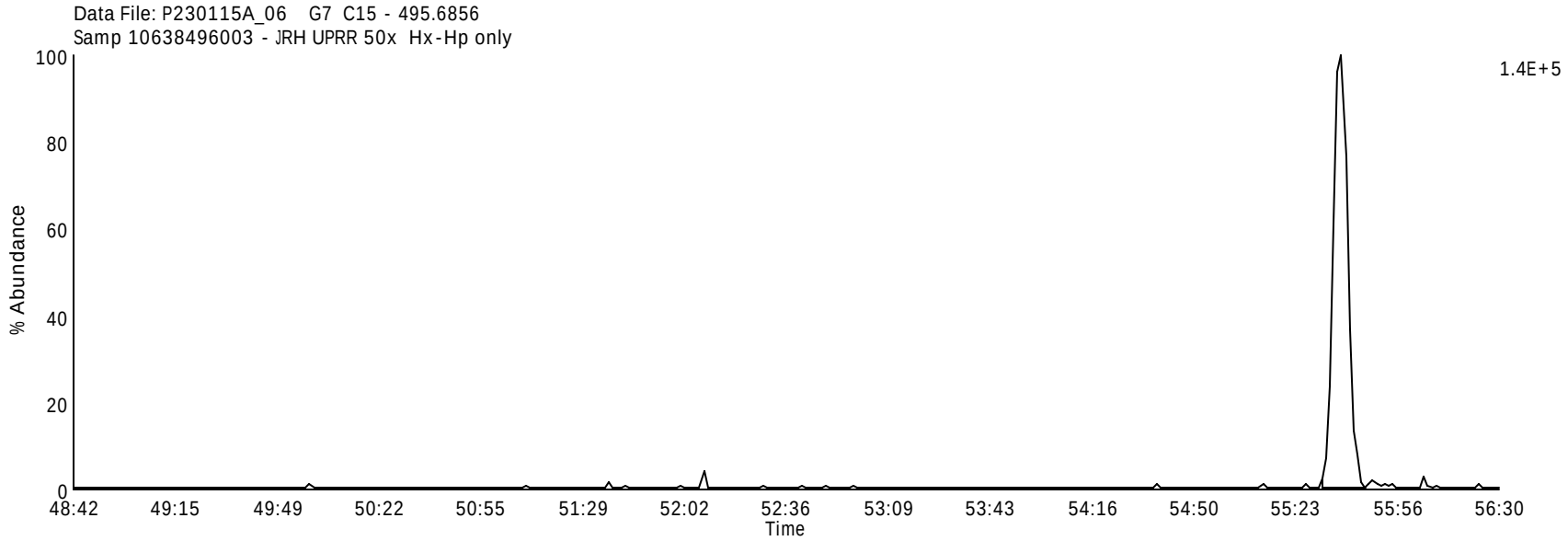
Data File Name: P230115A_06	Lab Sample ID: 10638496003
Date Acquired: 1/15/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only	Client Sample ID: SB10-0.0-0.5-1022

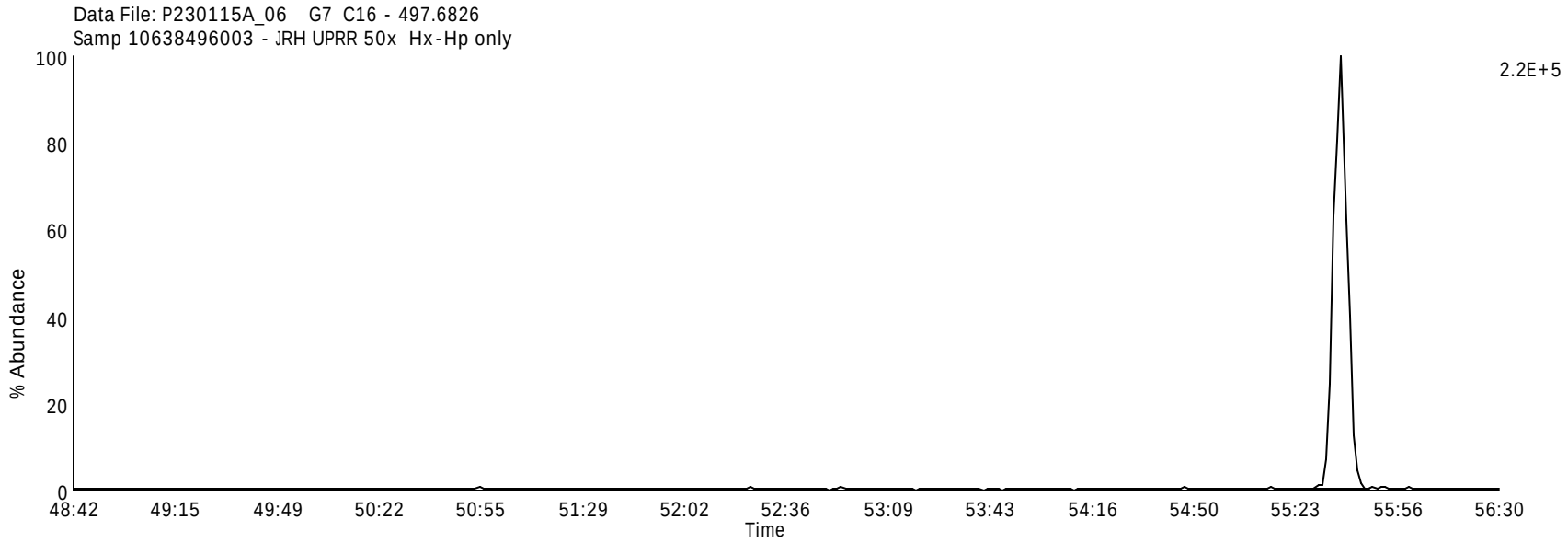




Deca Chlorinated Biphenyl

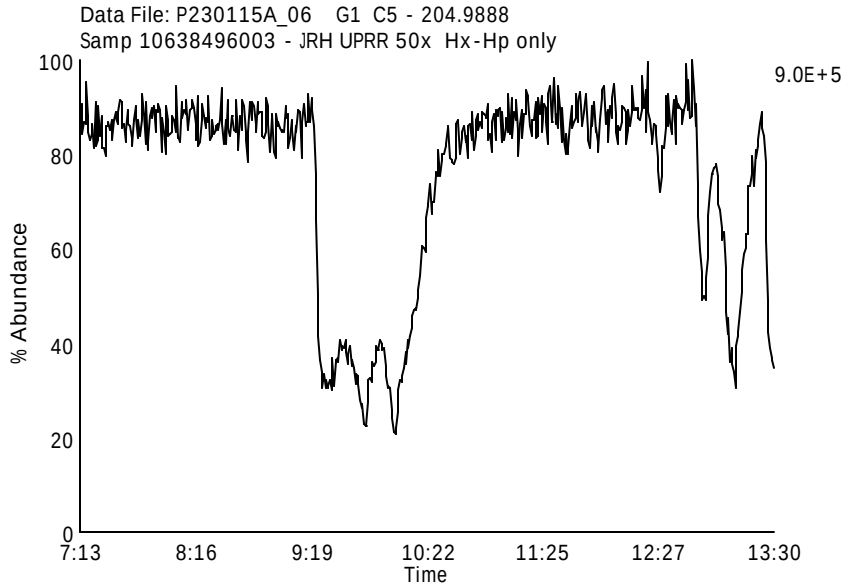
Data File Name: P230115A_06	Lab Sample ID: 10638496003
Date Acquired: 1/15/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only	Client Sample ID: SB10-0.0-0.5-1022

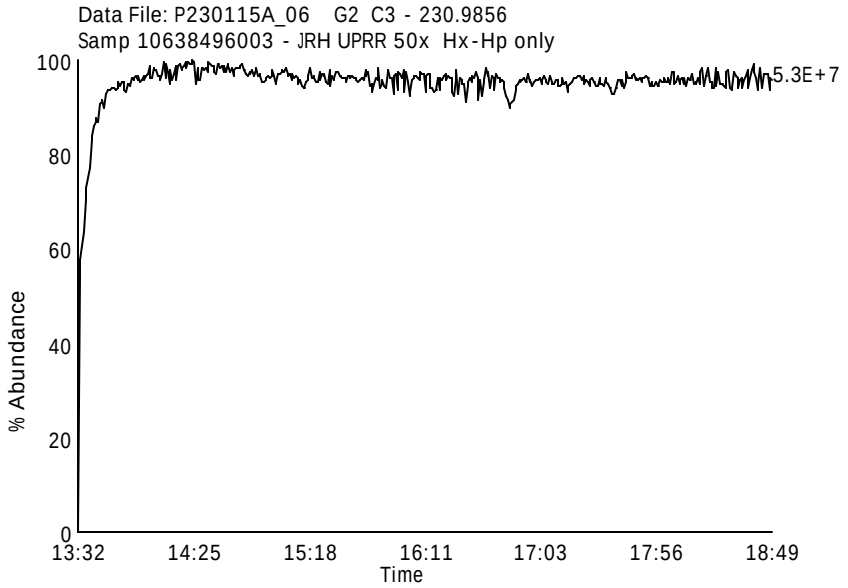


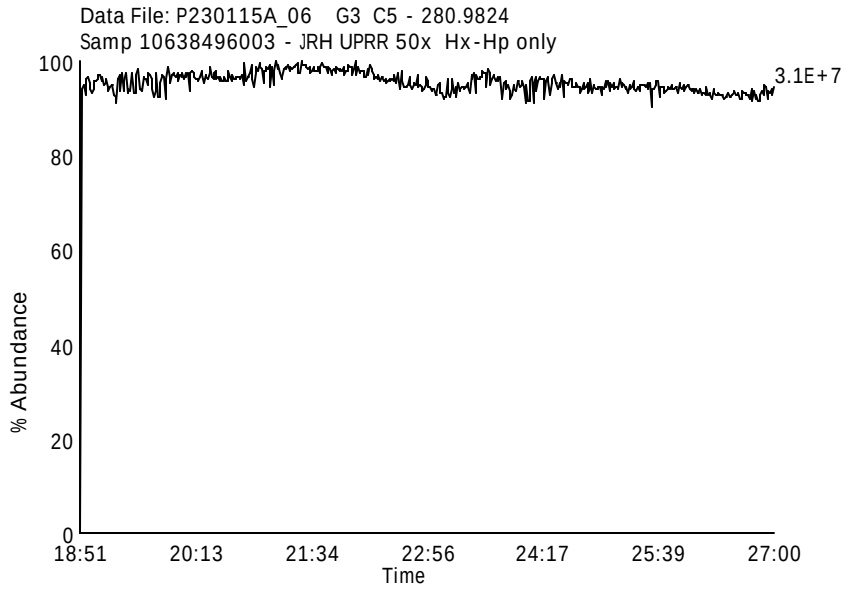


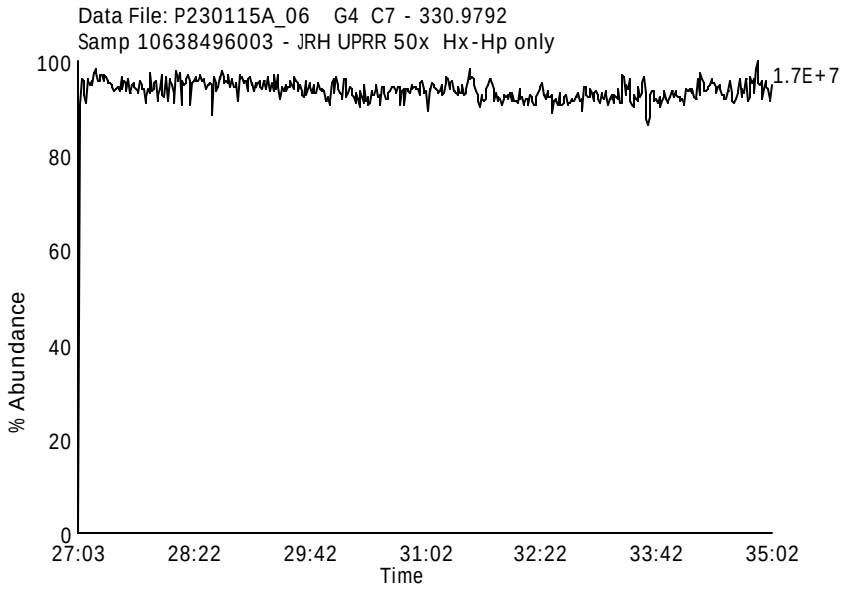
Group 1 - 4 Lock mass

Data File Name: P230115A_06
Lab Sample ID: 10638496003
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only
Client Sample ID: SB10-0.0-0.5-1022



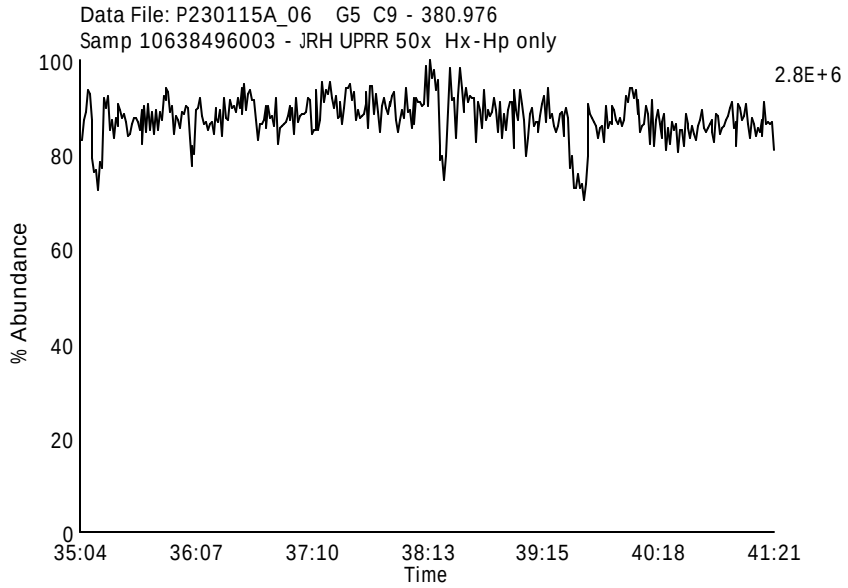


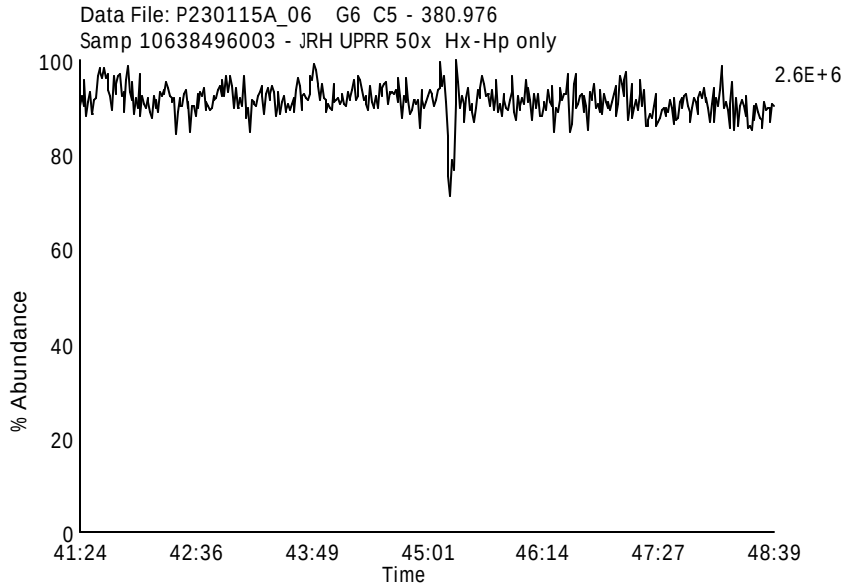


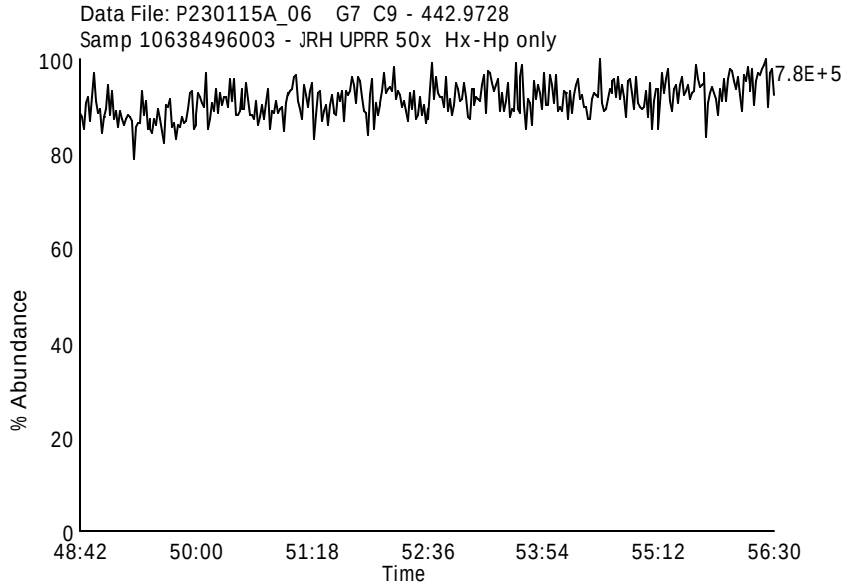


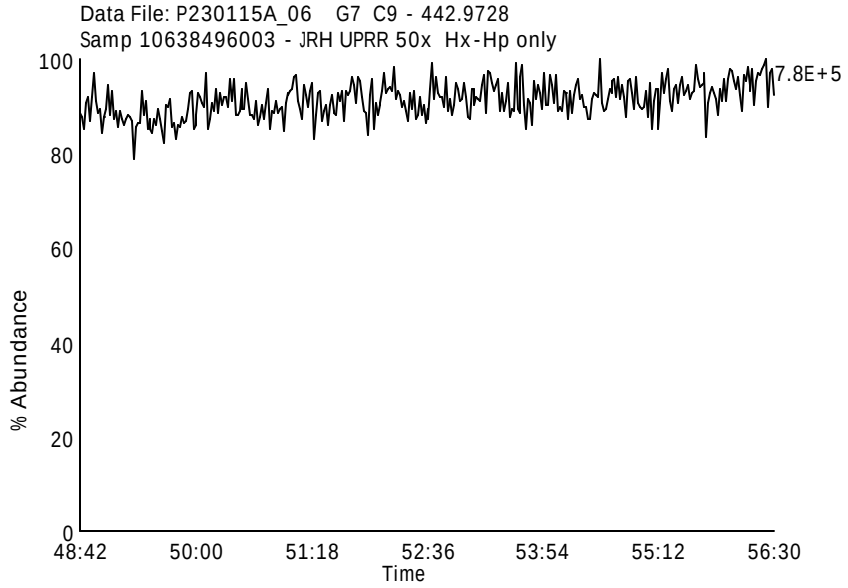
Group 5 - 7 Lock mass

Data File Name: P230115A_06
Lab Sample ID: 10638496003
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496003 - JRH UPRR 50x Hx-Hp only
Client Sample ID: SB10-0.0-0.5-1022



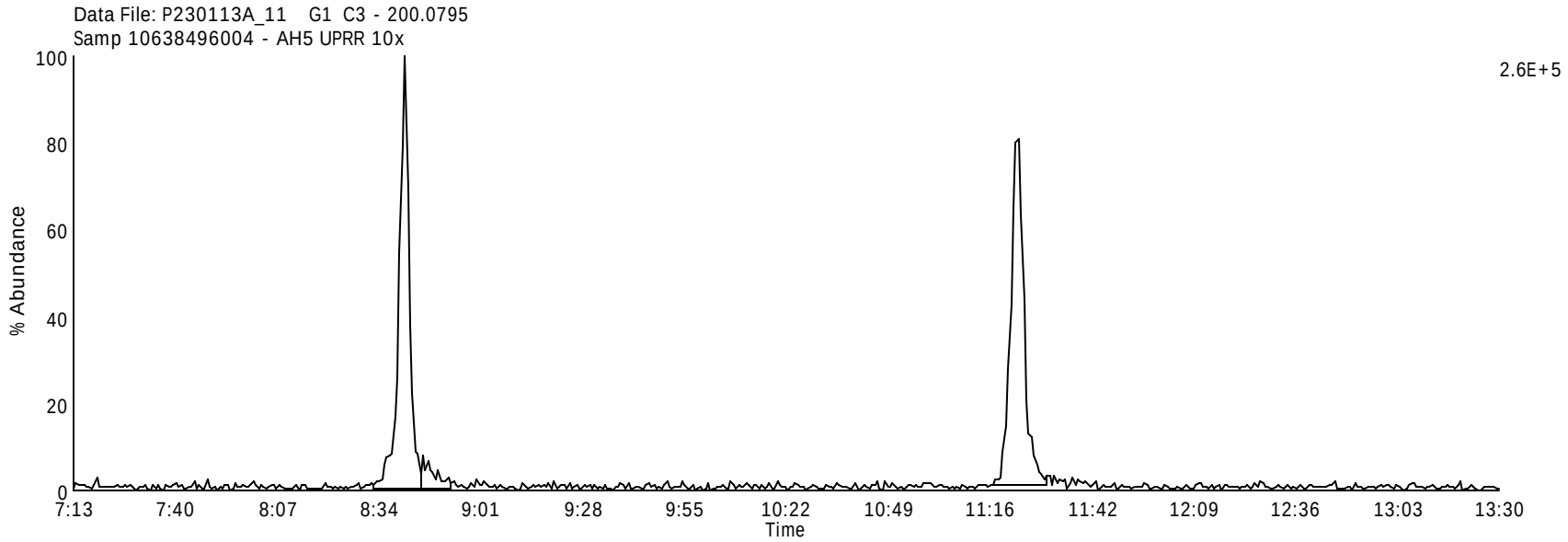


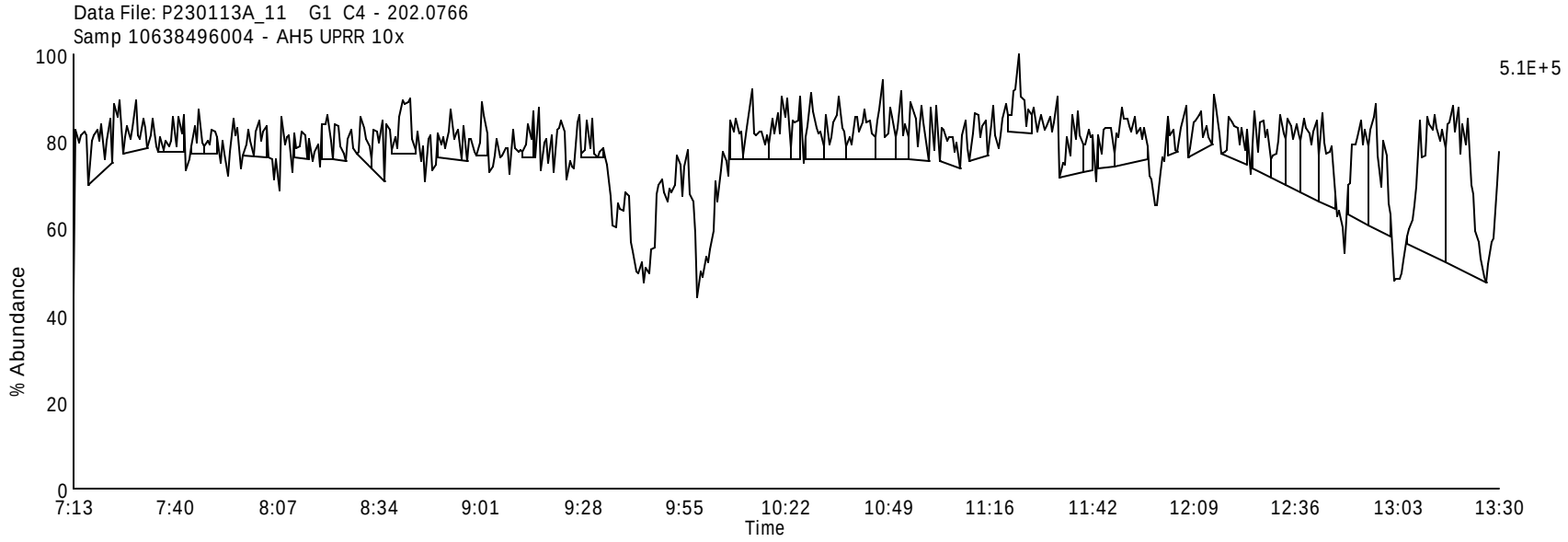




Labeled Mono Chlorinated Biphenyls

Data File Name: P230113A_11
Lab Sample ID: 10638496004
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496004 - AH5 UPRR 10x
Client Sample ID: SB12-0.0-0.5-1022

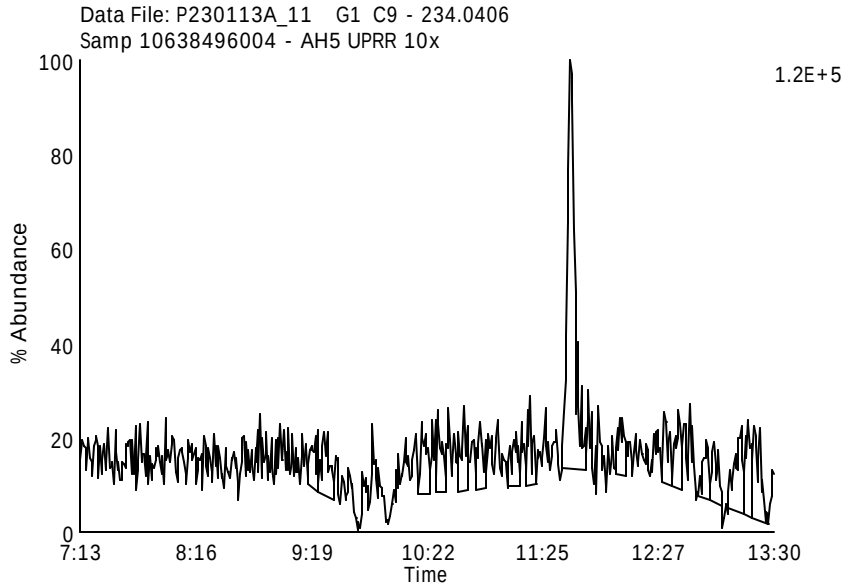


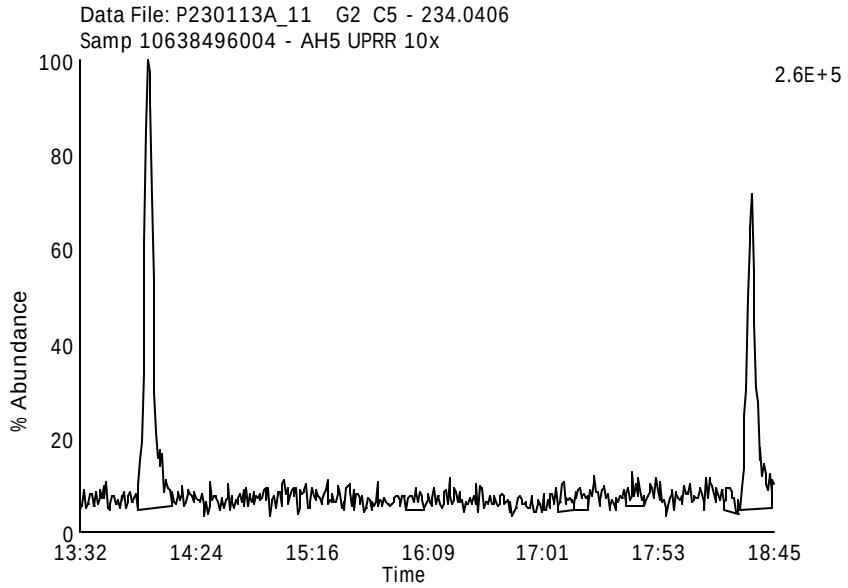


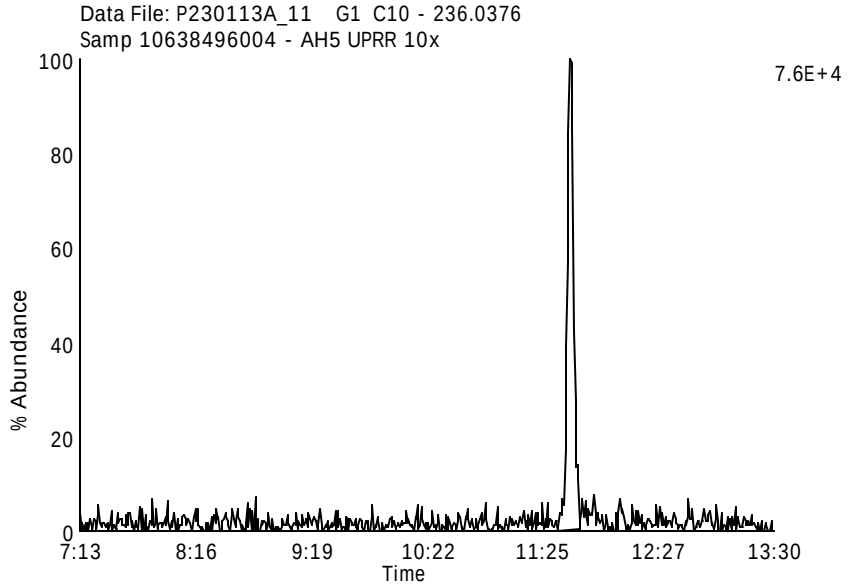
Labeled Di Chlorinated Biphenyls

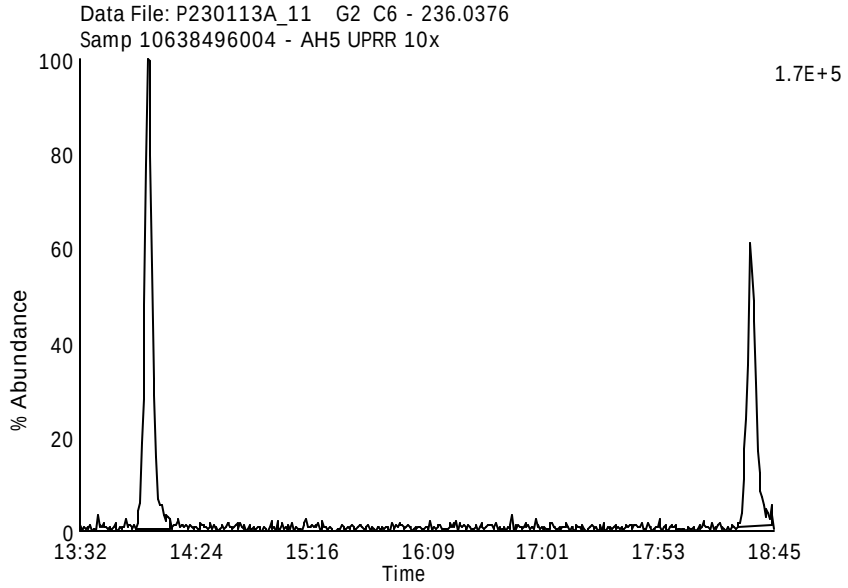
Data File Name: P230113A_11
Date Acquired: 1/13/2023
Sample Description: Samp 10638496004 - AH5 UPRR 10x

Lab Sample ID: 10638496004
Instrument: 10MSHR09 (P)
Client Sample ID: SB12-0.0-0.5-1022



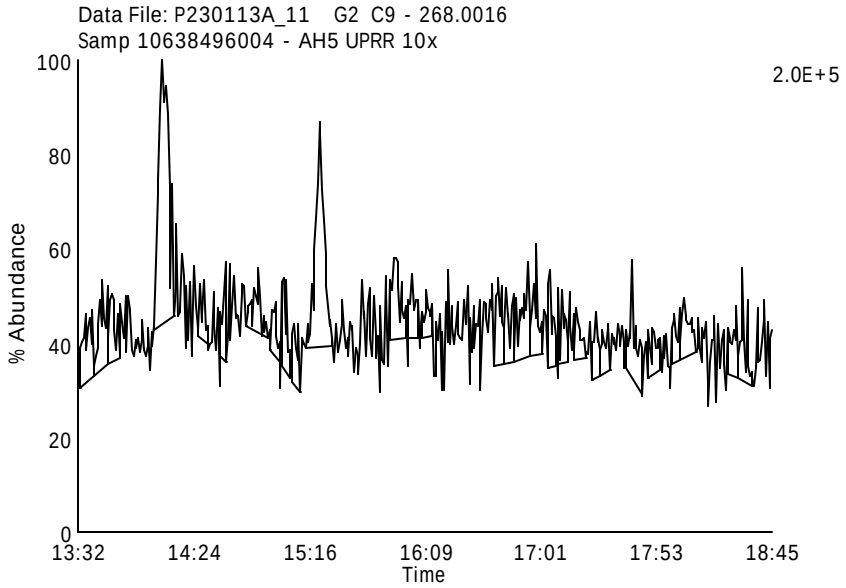


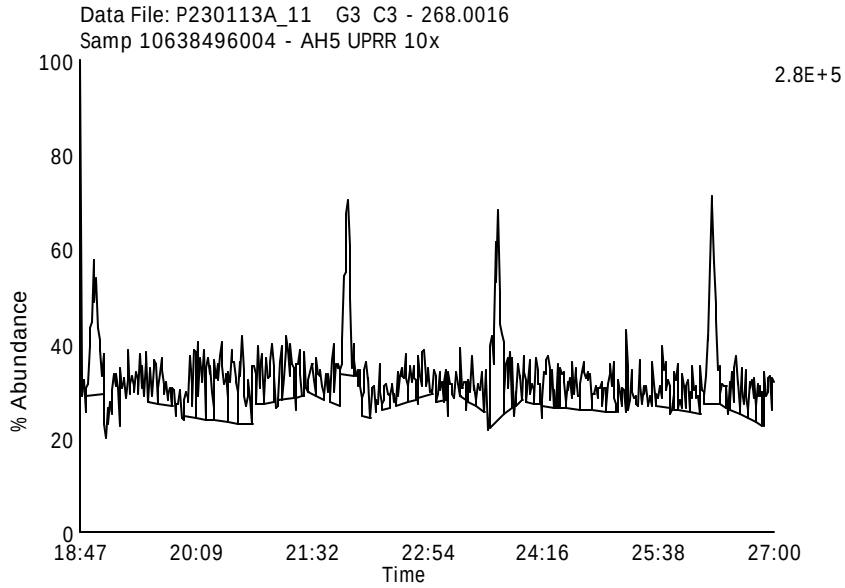


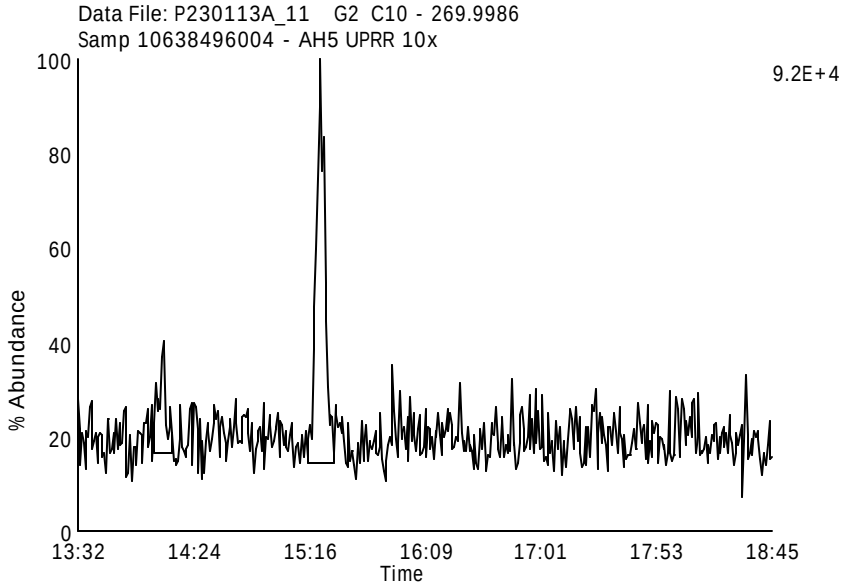


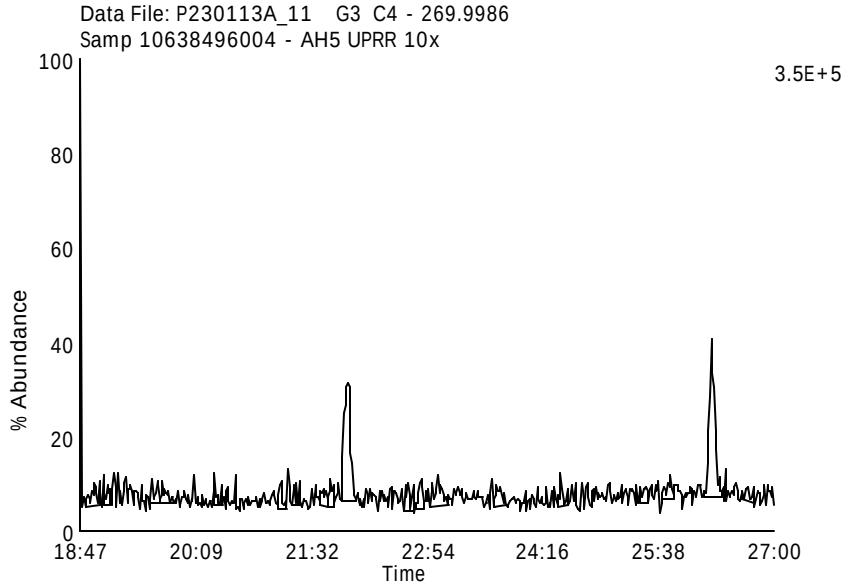
Labeled Tri Chlorinated Biphenyls

Data File Name: P230113A_11
Lab Sample ID: 10638496004
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496004 - AH5 UPRR 10x
Client Sample ID: SB12-0.0-0.5-1022



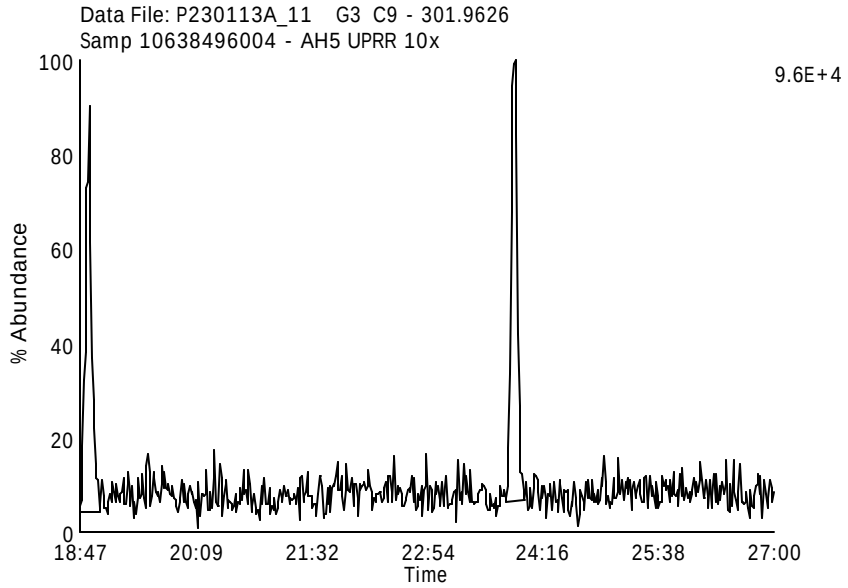


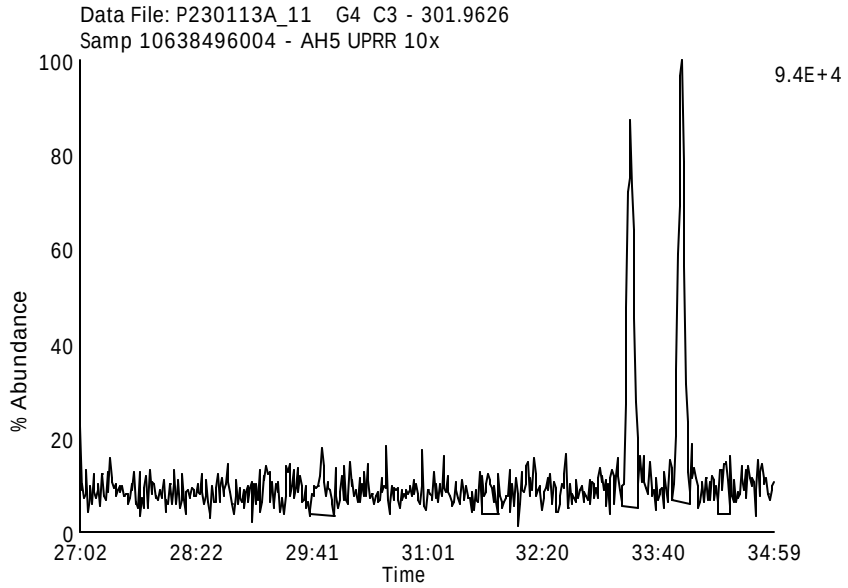


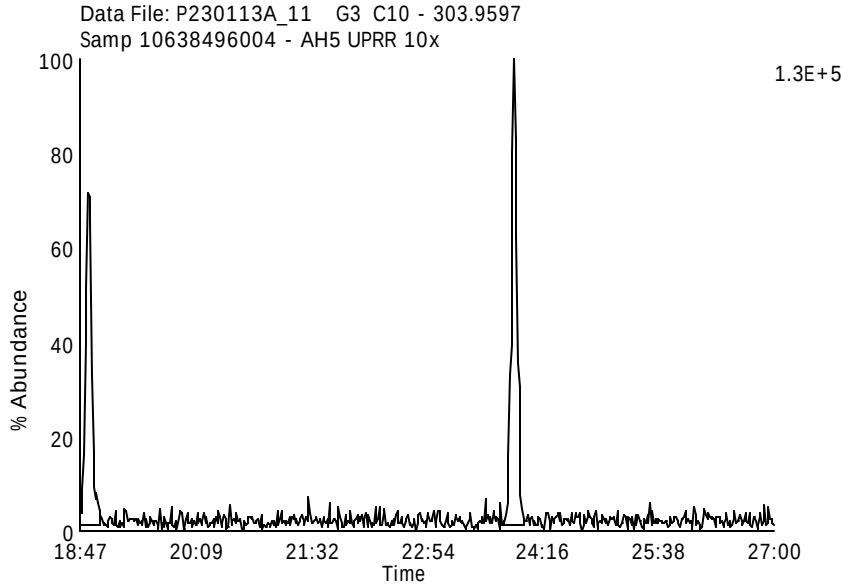


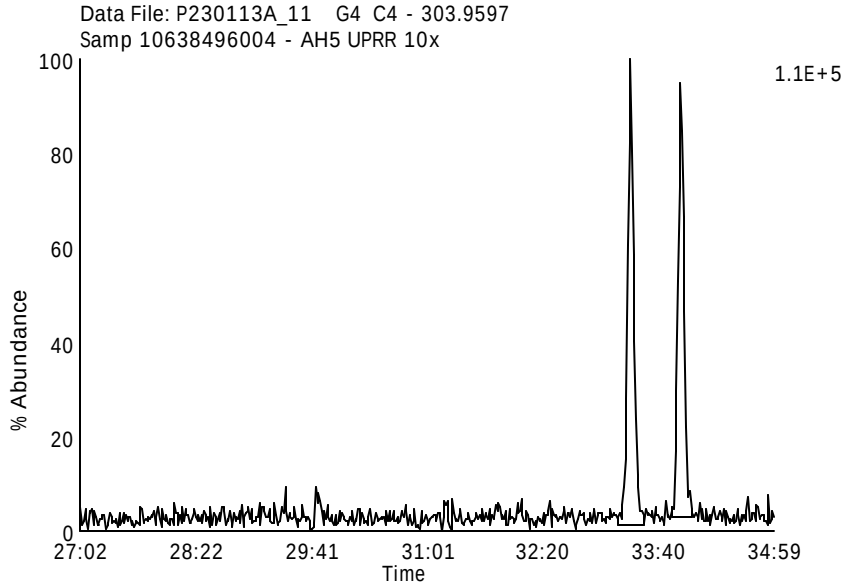
Labeled Tetra Chlorinated Biphenyls

Data File Name: P230113A_11
Lab Sample ID: 10638496004
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496004 - AH5 UPRR 10x
Client Sample ID: SB12-0.0-0.5-1022



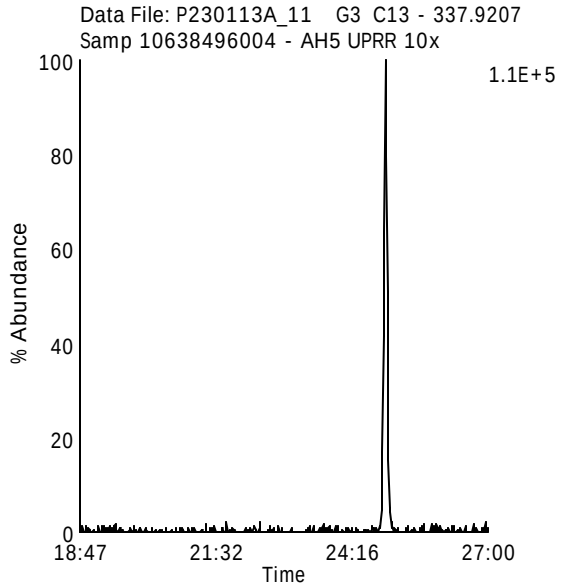


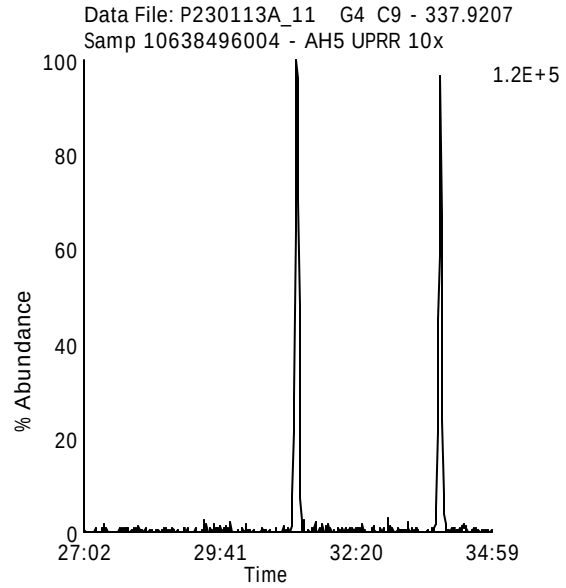


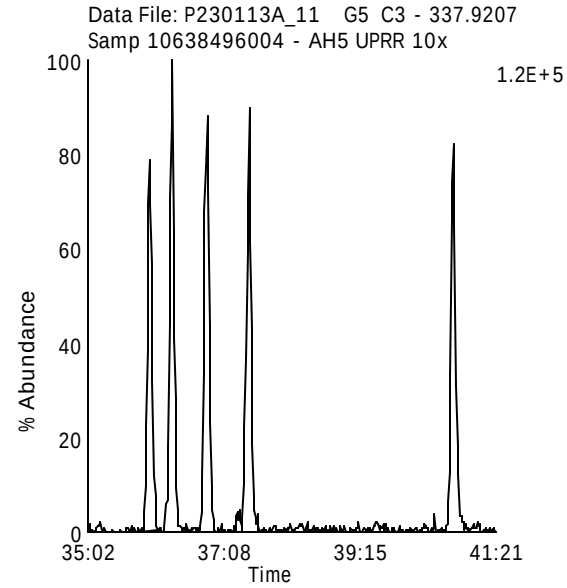


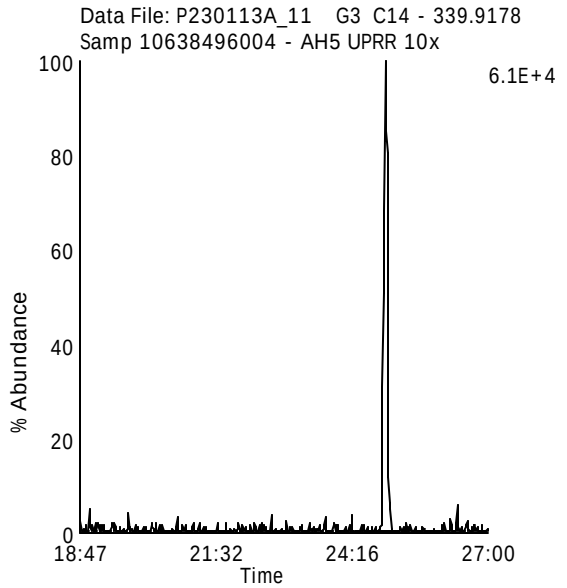
Labeled Penta Chlorinated Biphenyls

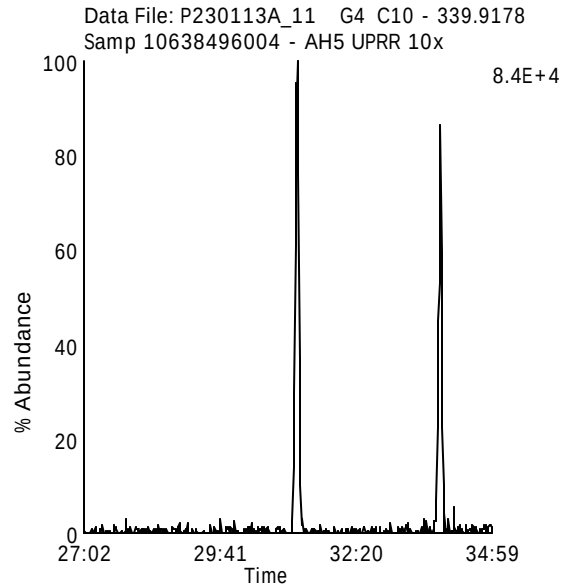
Data File Name: P230113A_11
Lab Sample ID: 10638496004
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496004 - AH5 UPRR 10x
Client Sample ID: SB12-0.0-0.5-1022

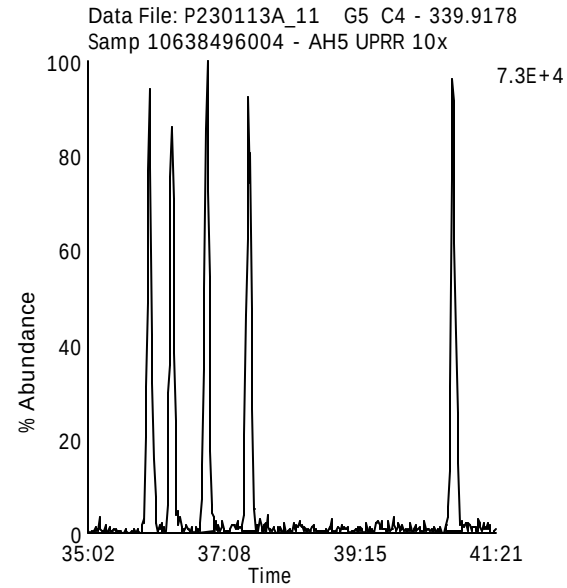






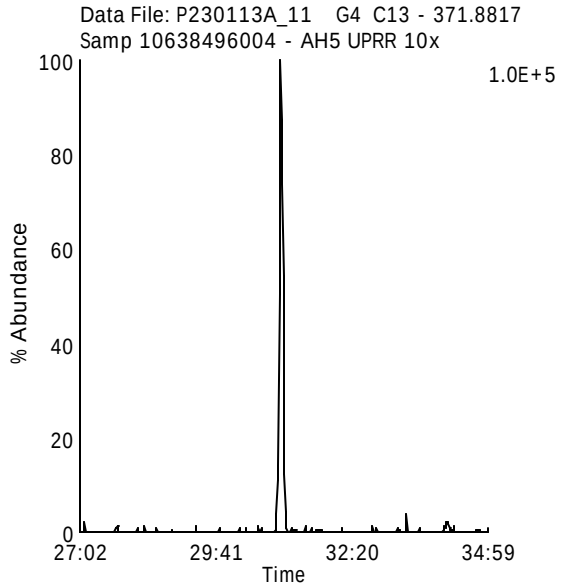


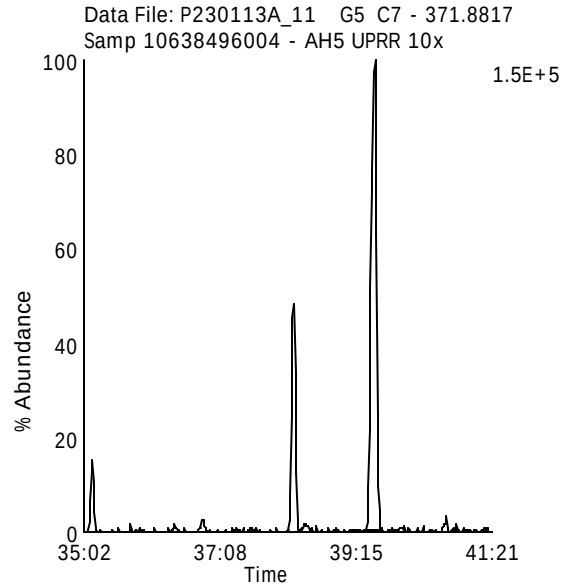


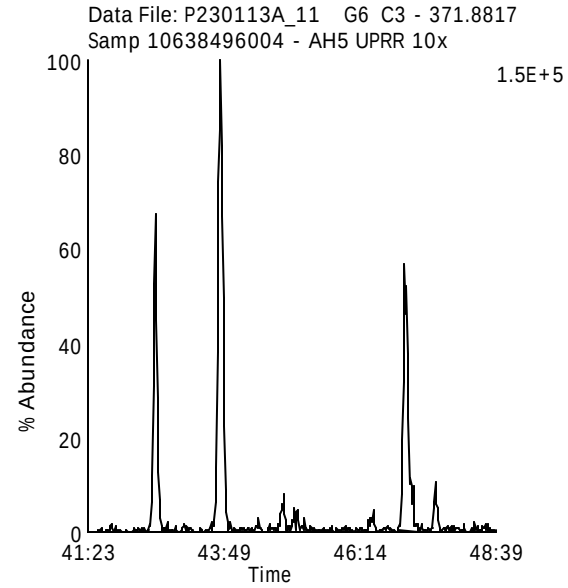


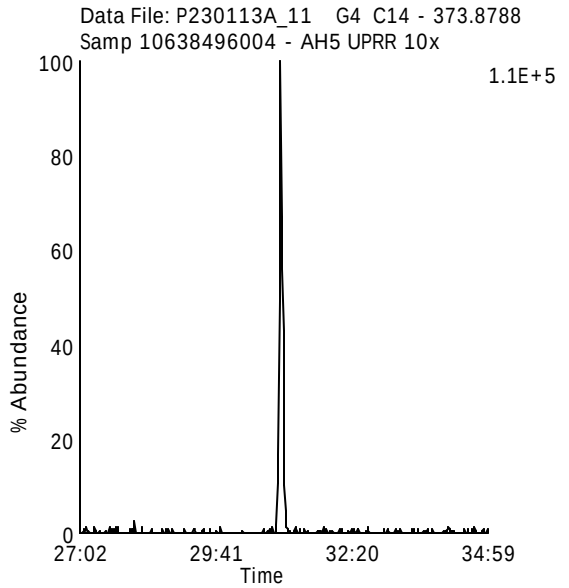
Labeled Hexa Chlorinated Biphenyls

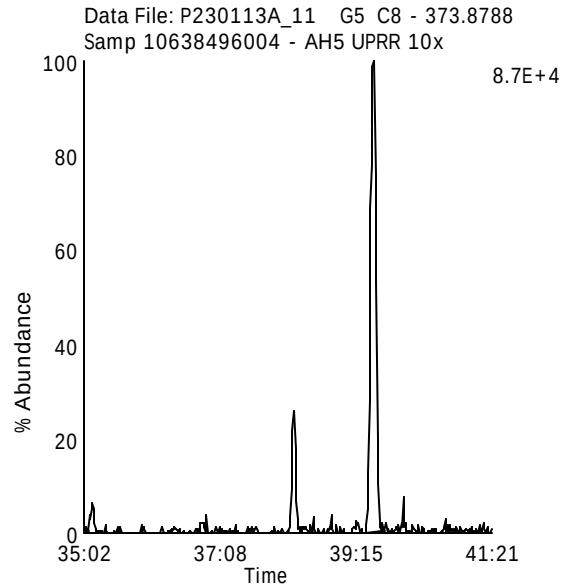
Data File Name: P230113A_11
Lab Sample ID: 10638496004
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496004 - AH5 UPRR 10x
Client Sample ID: SB12-0.0-0.5-1022

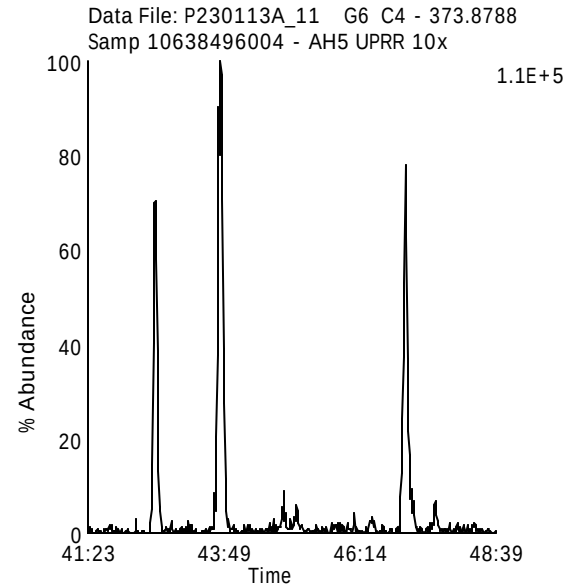






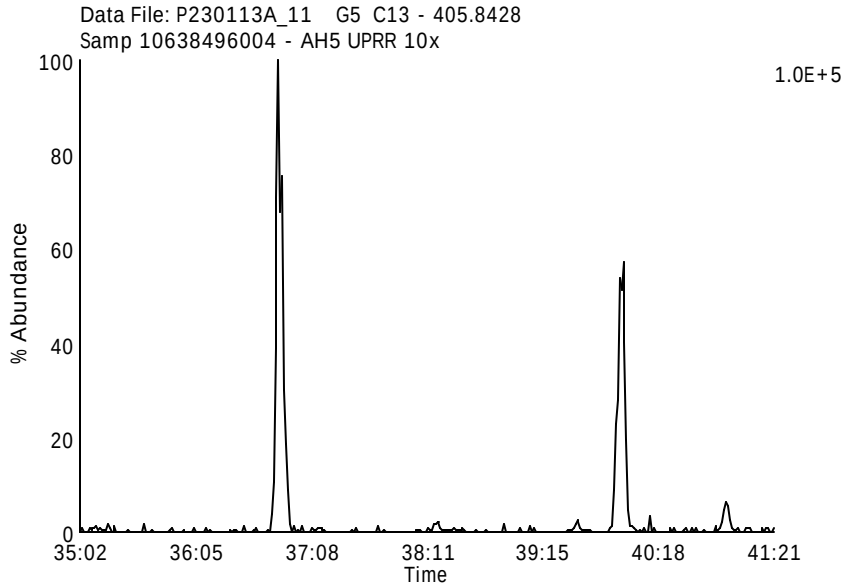


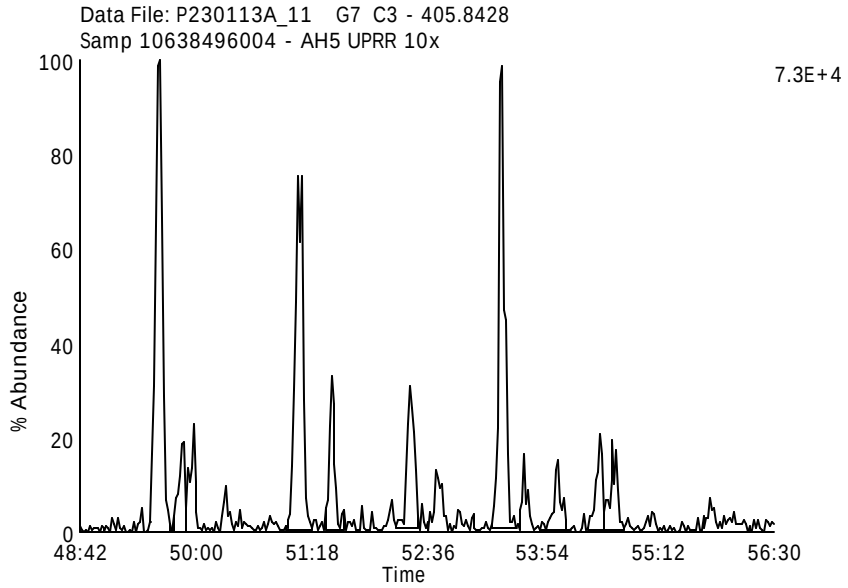


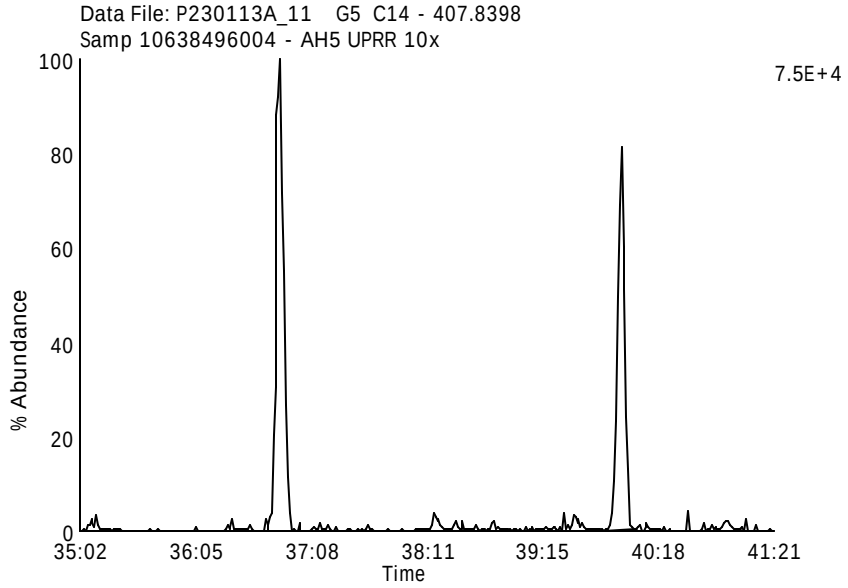


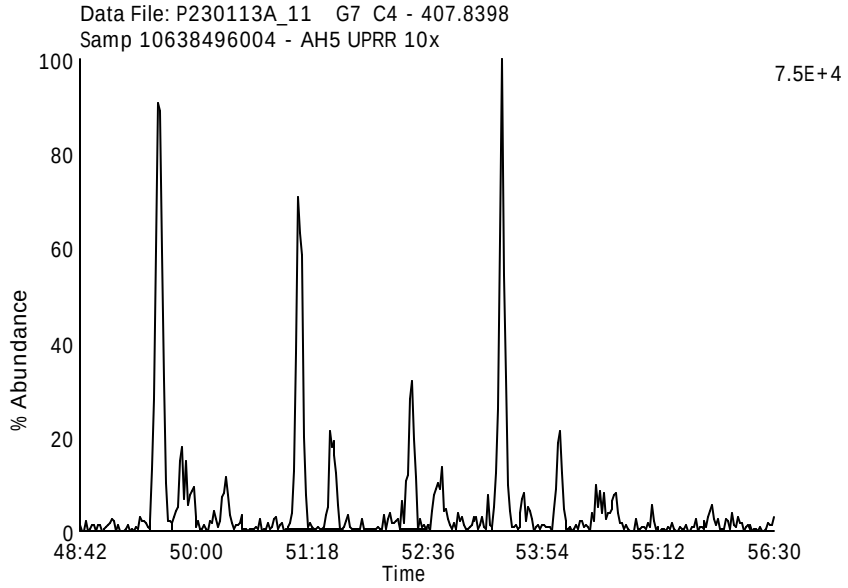
Labeled Hepta Chlorinated Biphenyls

Data File Name: P230113A_11
Lab Sample ID: 10638496004
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496004 - AH5 UPRR 10x
Client Sample ID: SB12-0.0-0.5-1022



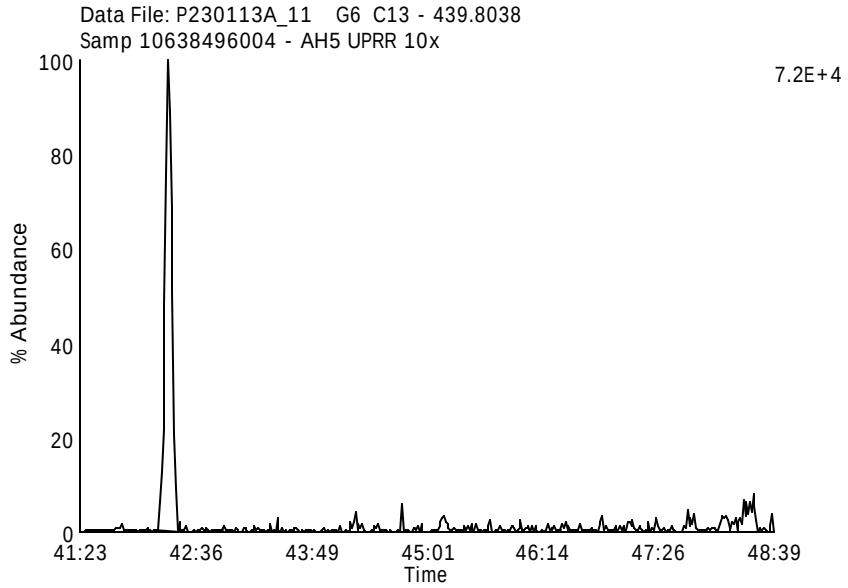


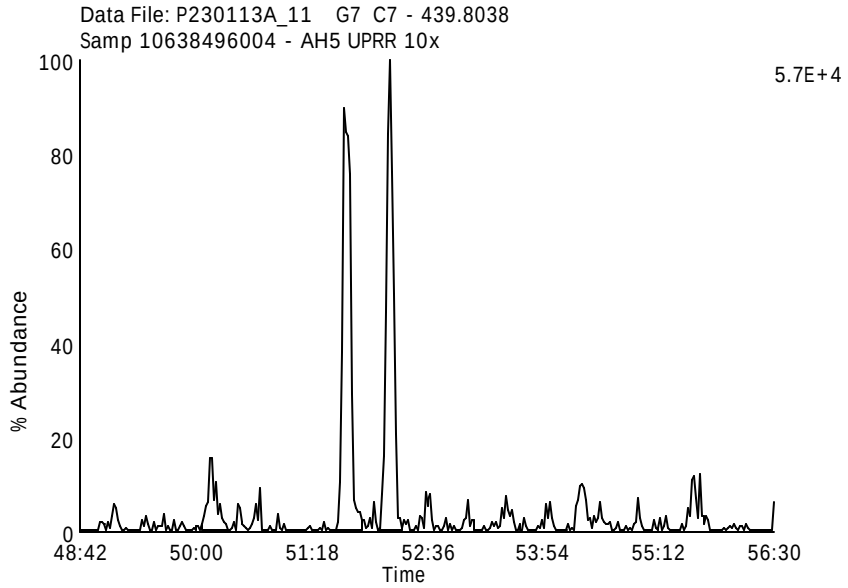


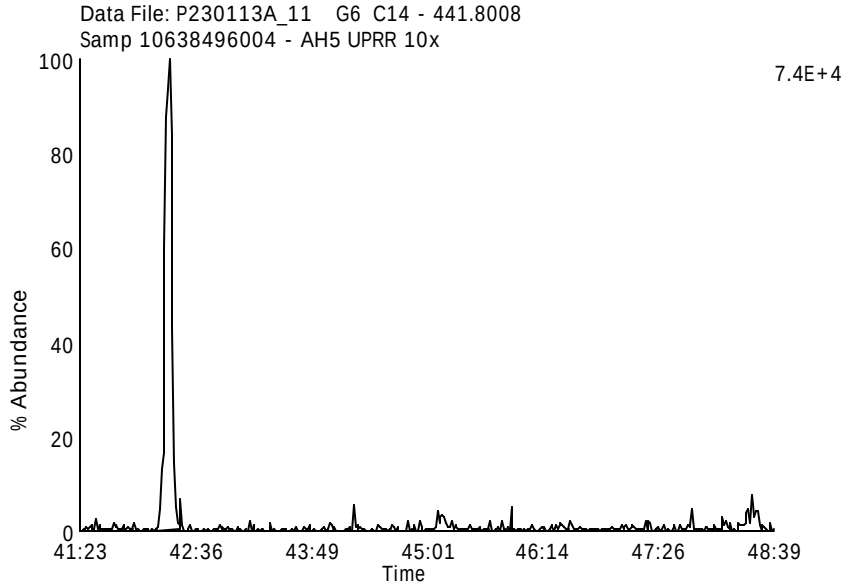


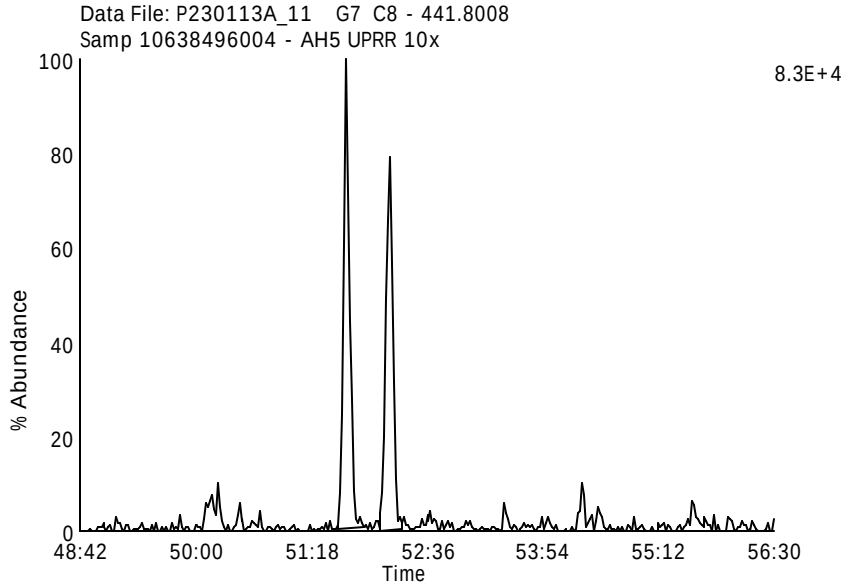
Labeled Octa Chlorinated Biphenyls

Data File Name: P230113A_11
Lab Sample ID: 10638496004
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496004 - AH5 UPRR 10x
Client Sample ID: SB12-0.0-0.5-1022



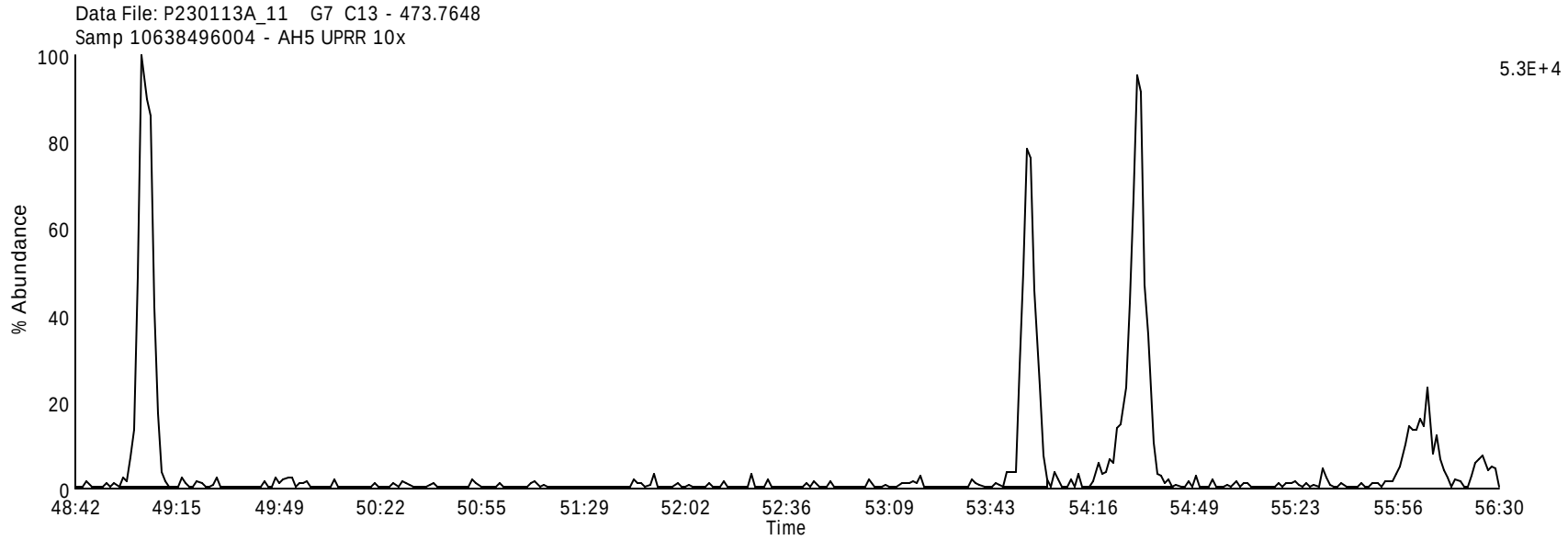


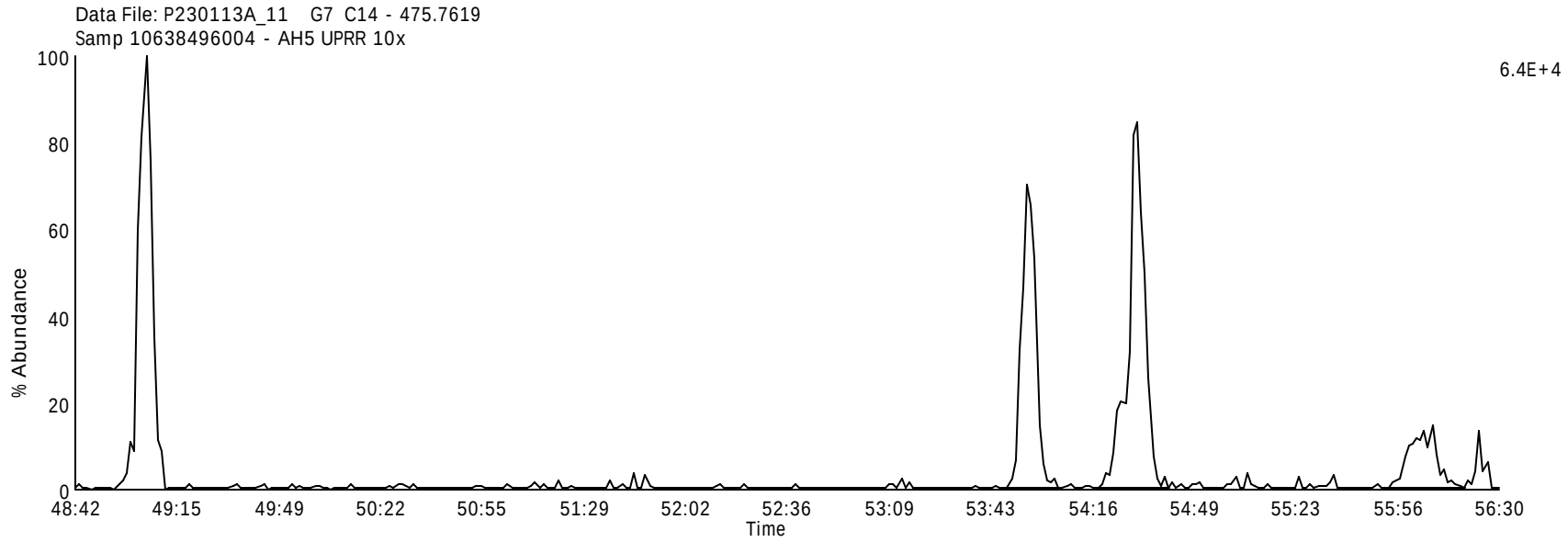




Labeled Nona Chlorinated Biphenyls

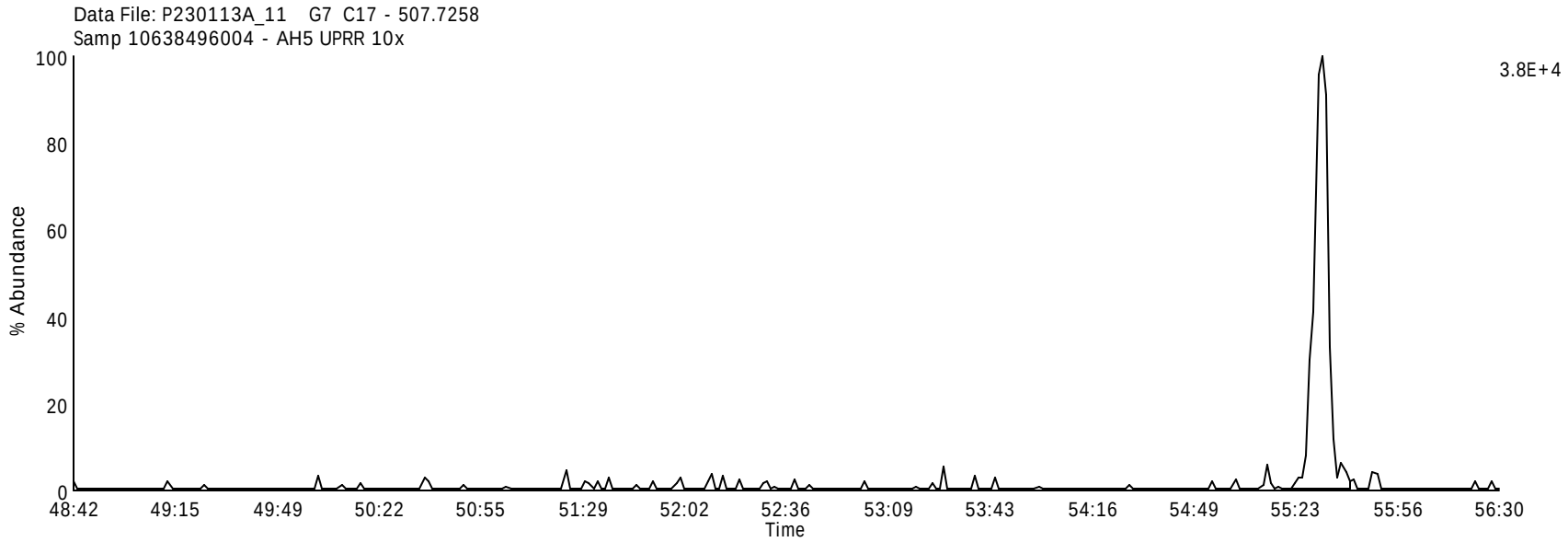
Data File Name: P230113A_11
Lab Sample ID: 10638496004
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496004 - AH5 UPRR 10x
Client Sample ID: SB12-0.0-0.5-1022

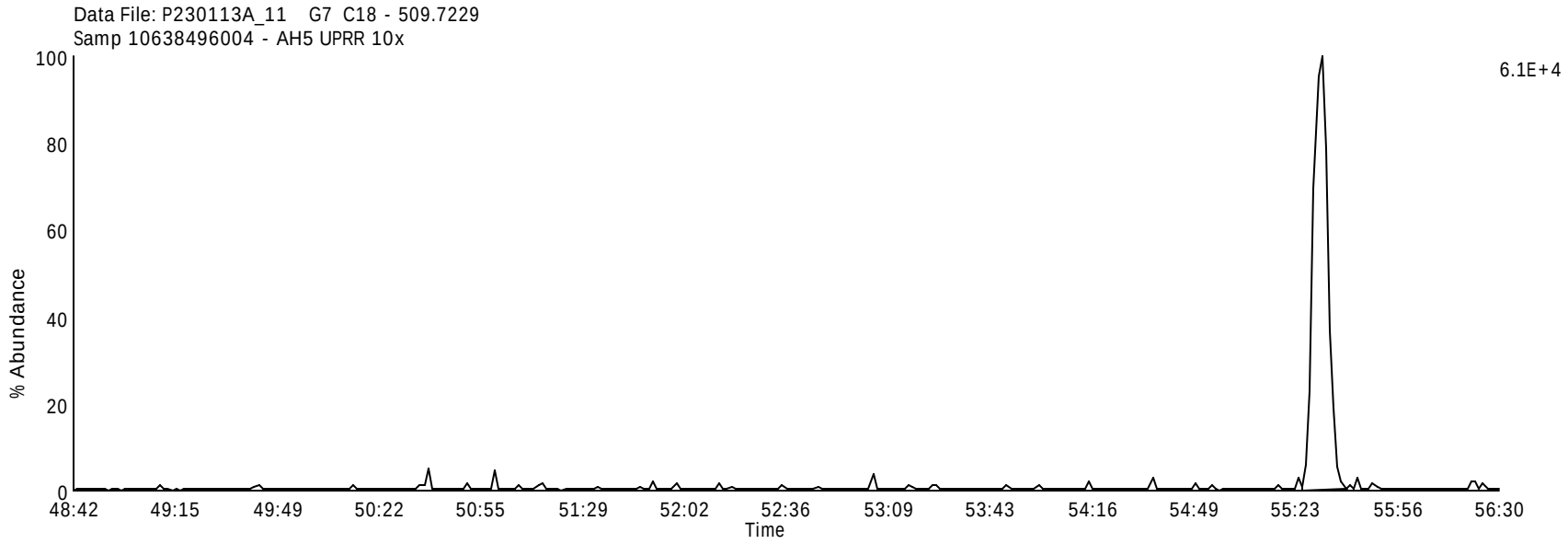




Labeled Deca Chlorinated Biphenyl

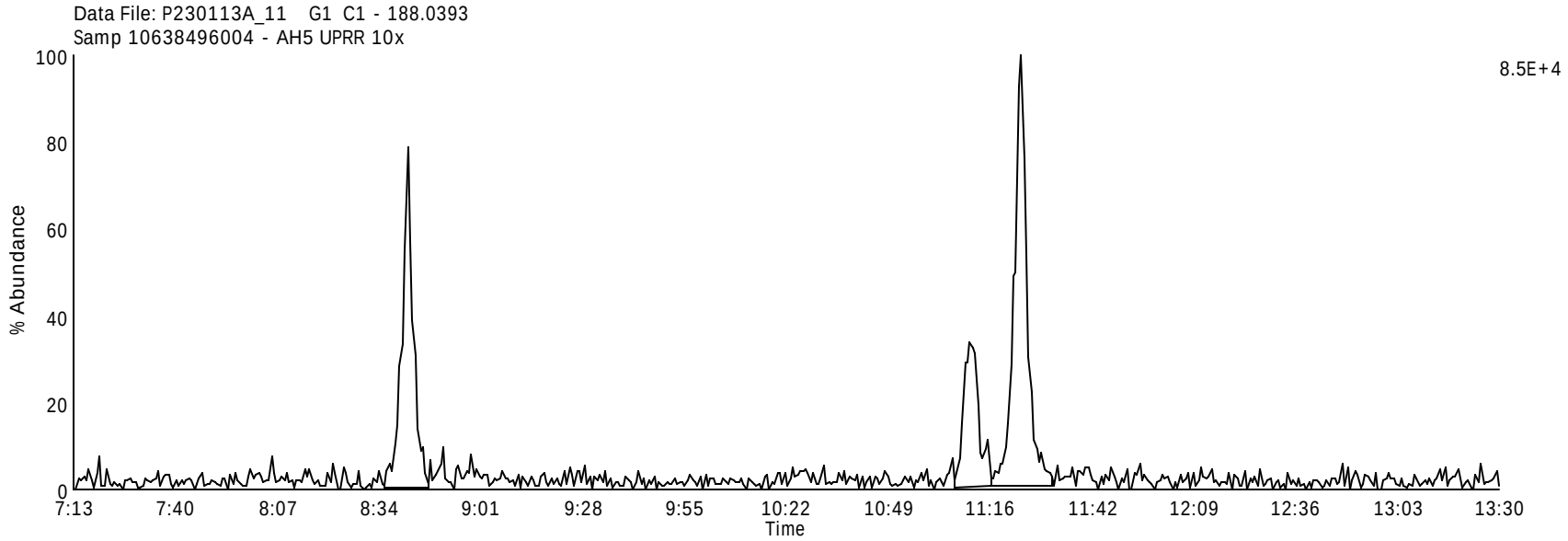
Data File Name: P230113A_11
Lab Sample ID: 10638496004
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496004 - AH5 UPRR 10x
Client Sample ID: SB12-0.0-0.5-1022

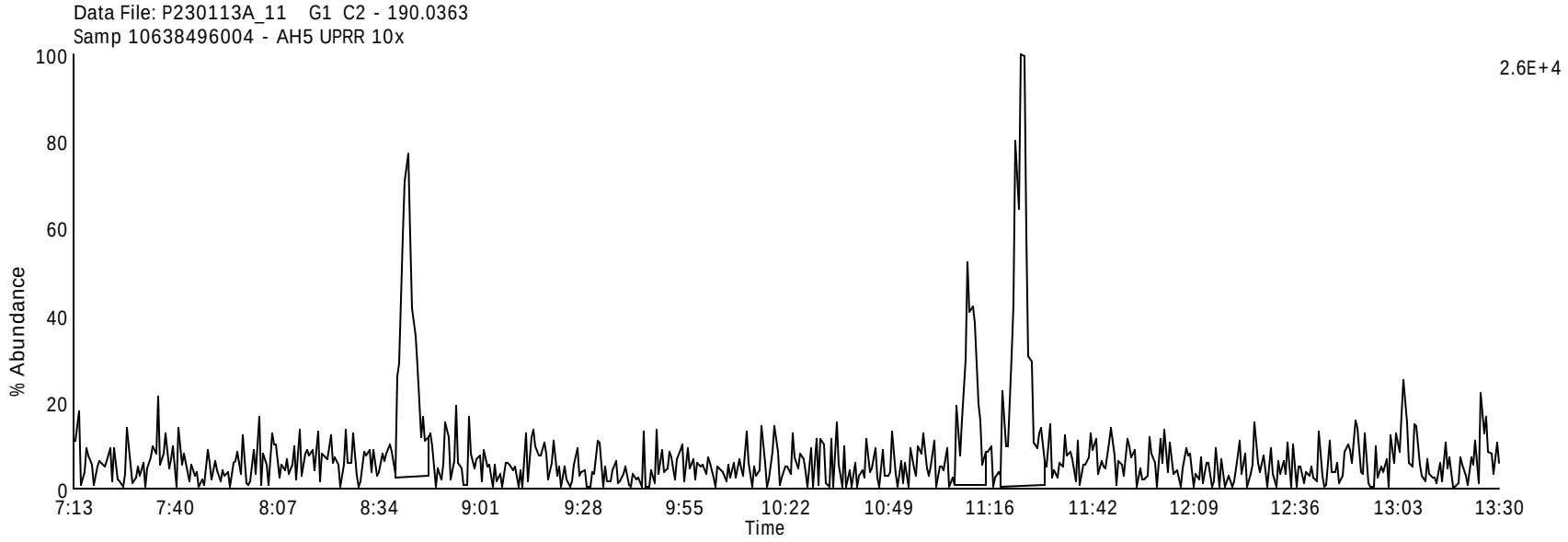




Mono Chlorinated Biphenyls

Data File Name: P230113A_11
Lab Sample ID: 10638496004
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496004 - AH5 UPRR 10x
Client Sample ID: SB12-0.0-0.5-1022

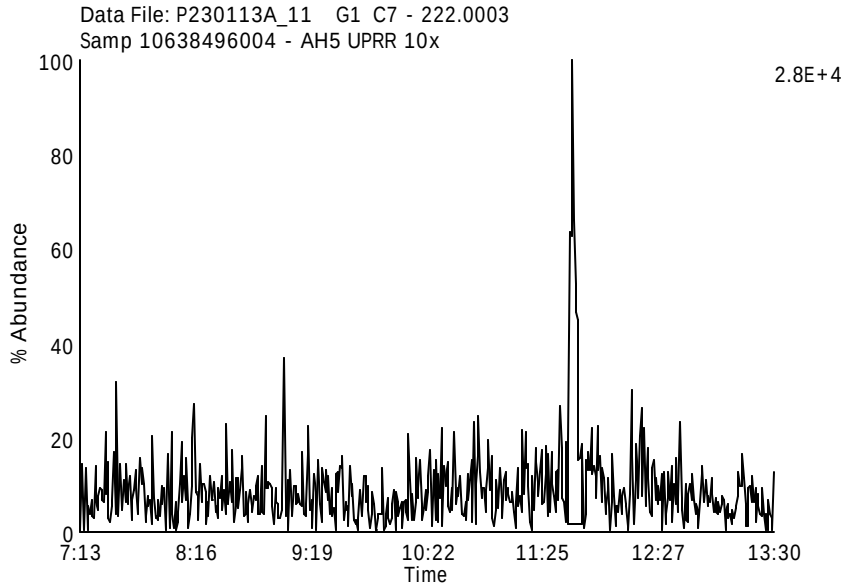


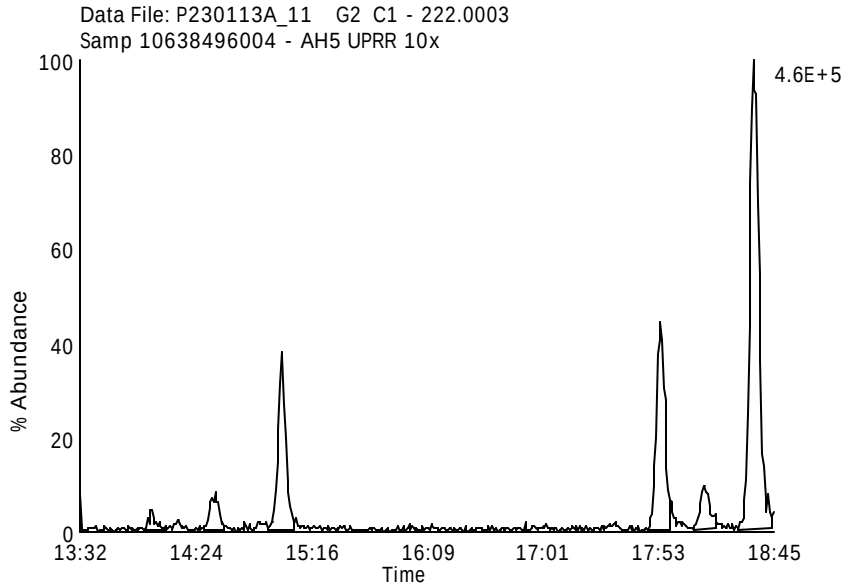


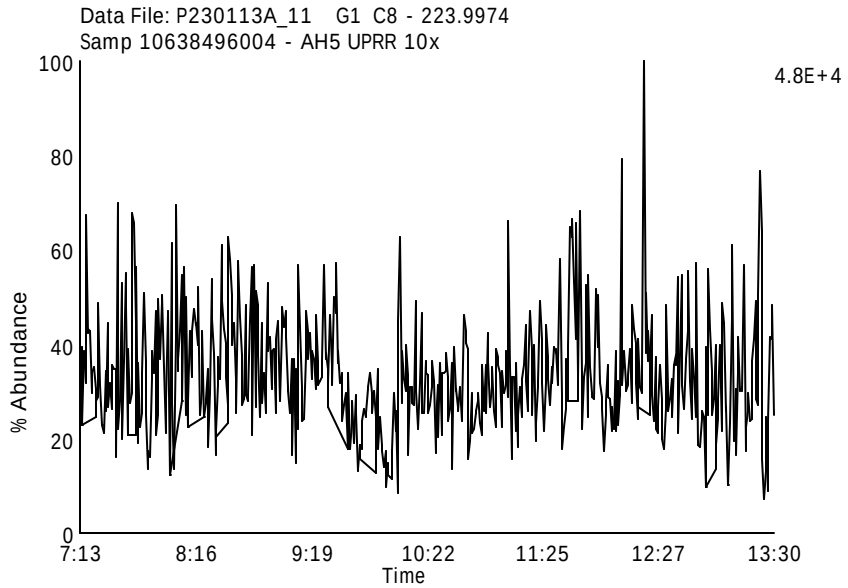
Di Chlorinated Biphenyls

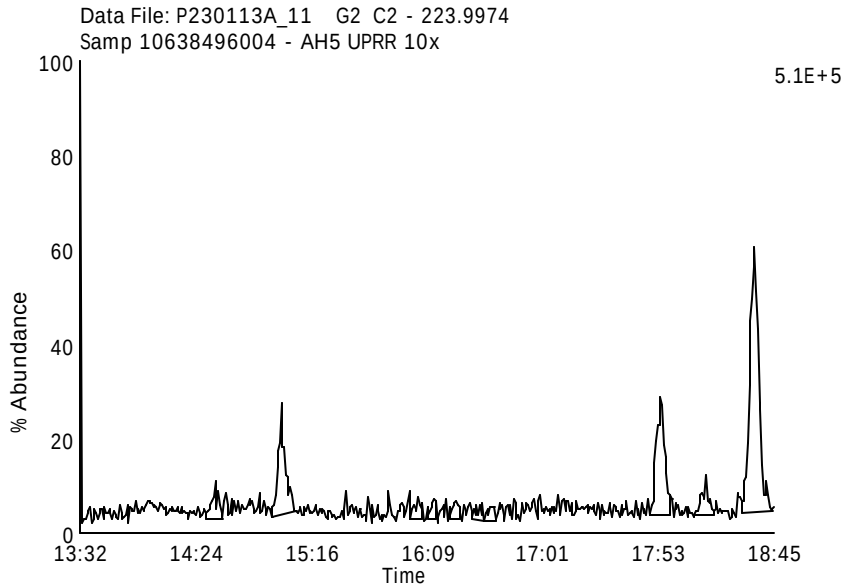
Data File Name: P230113A_11
Date Acquired: 1/13/2023
Sample Description: Samp 10638496004 - AH5 UPRR 10x

Lab Sample ID: 10638496004
Instrument: 10MSHR09 (P)
Client Sample ID: SB12-0.0-0.5-1022



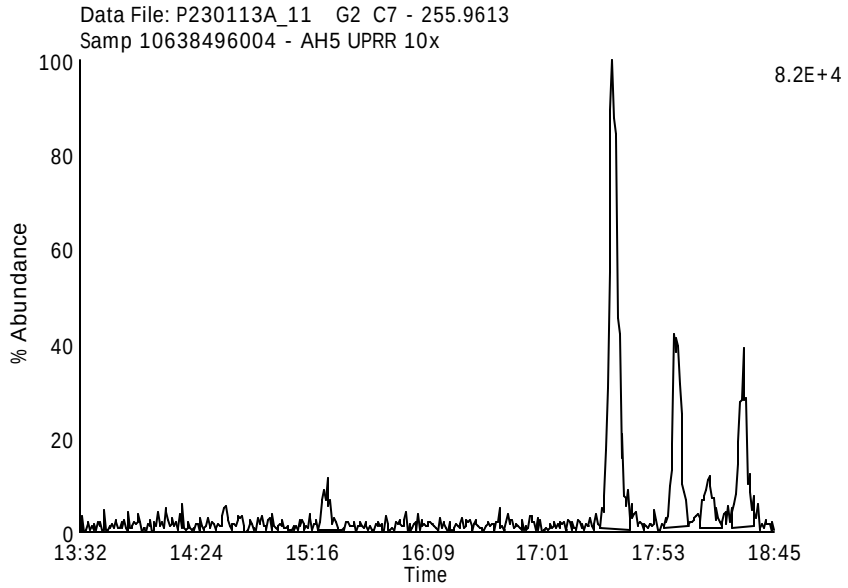


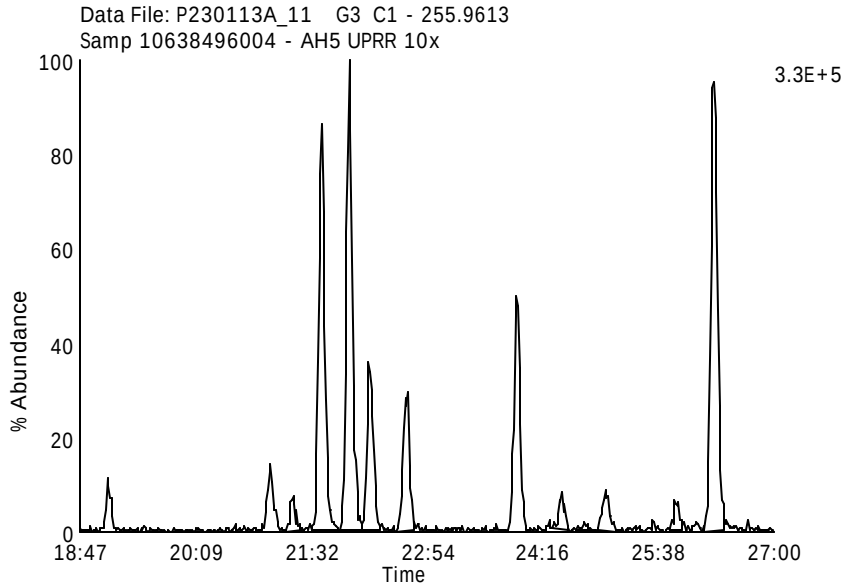


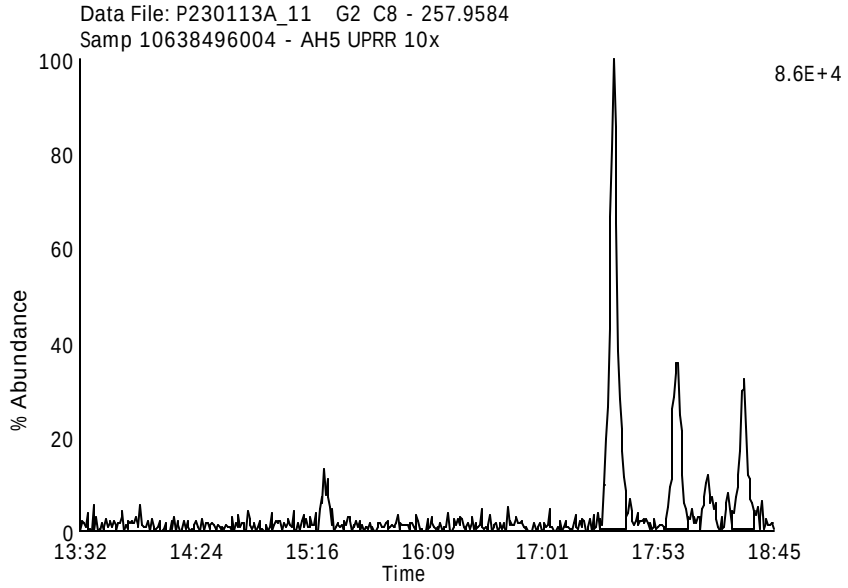


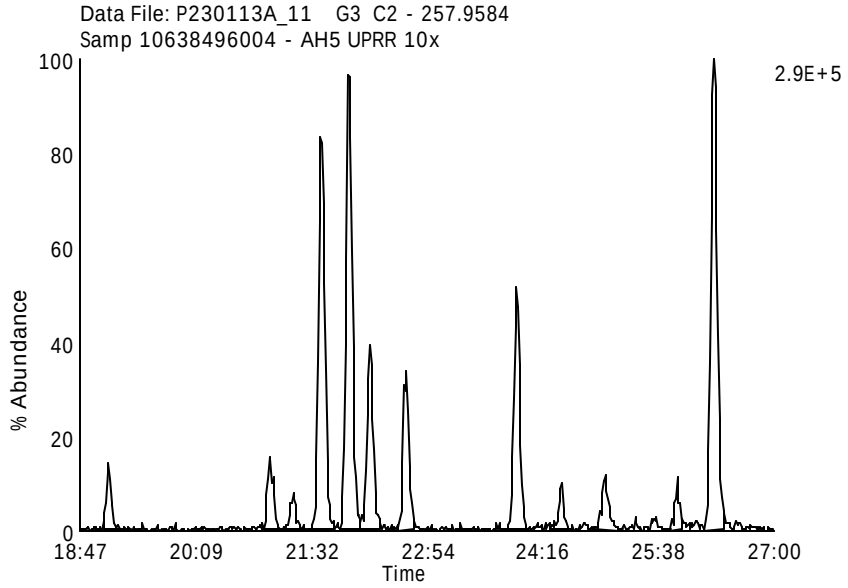
Tri Chlorinated Biphenyls

Data File Name: P230113A_11
Lab Sample ID: 10638496004
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496004 - AH5 UPRR 10x
Client Sample ID: SB12-0.0-0.5-1022





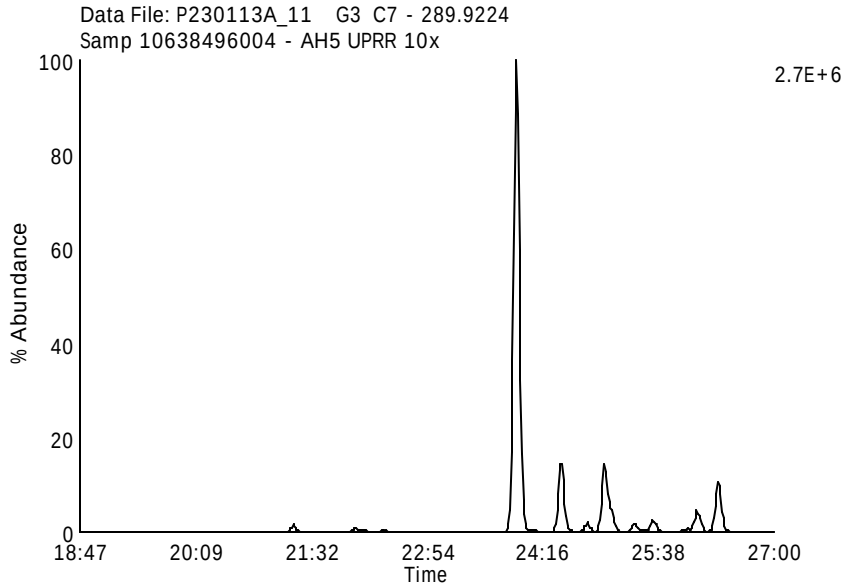


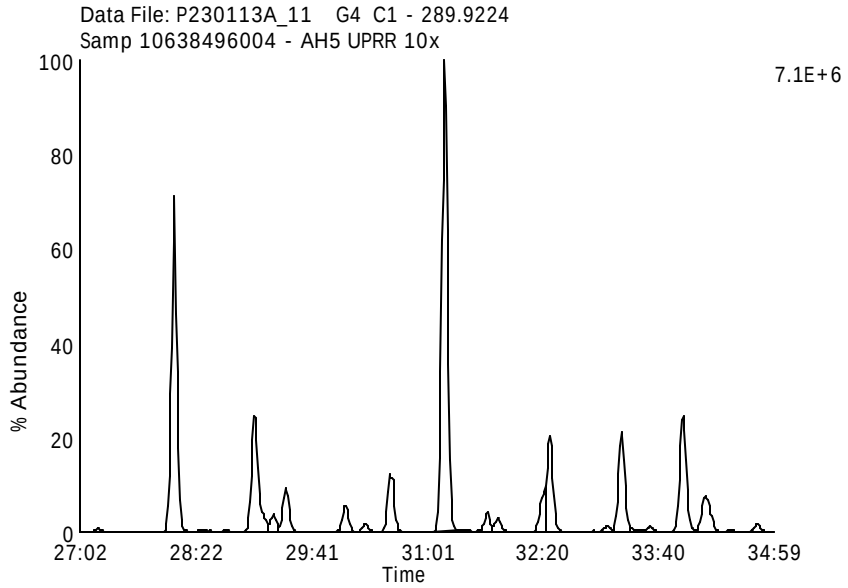


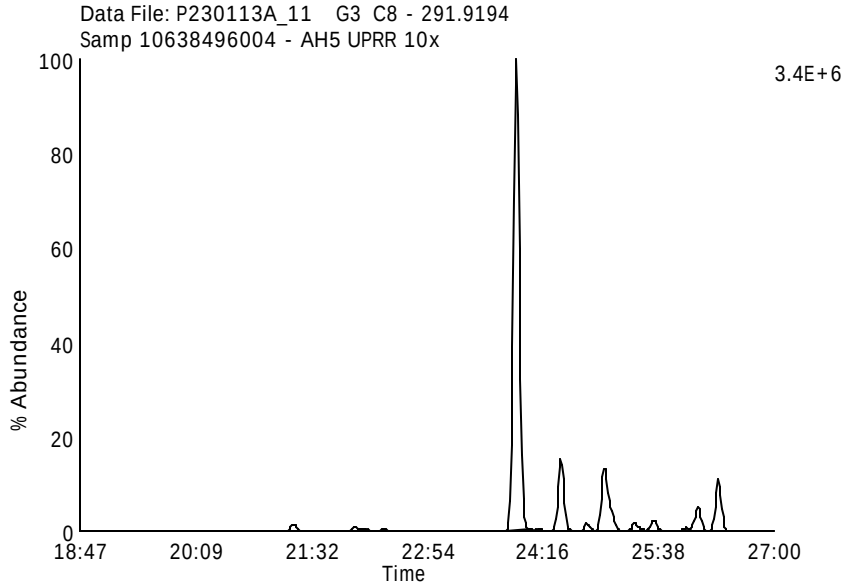
Tetra Chlorinated Biphenyls

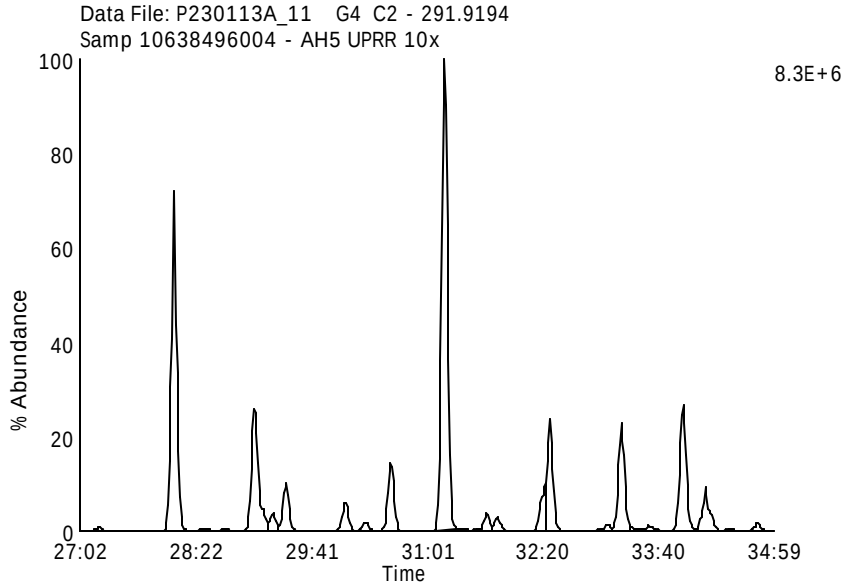
Data File Name: P230113A_11
Date Acquired: 1/13/2023
Sample Description: Samp 10638496004 - AH5 UPRR 10x

Lab Sample ID: 10638496004
Instrument: 10MSHR09 (P)
Client Sample ID: SB12-0.0-0.5-1022



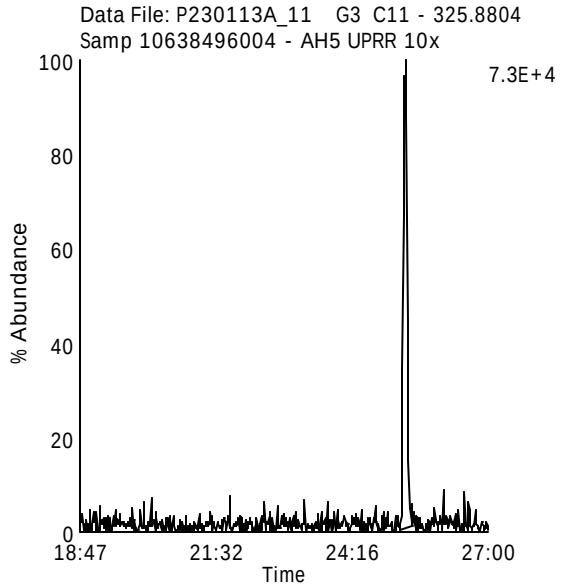


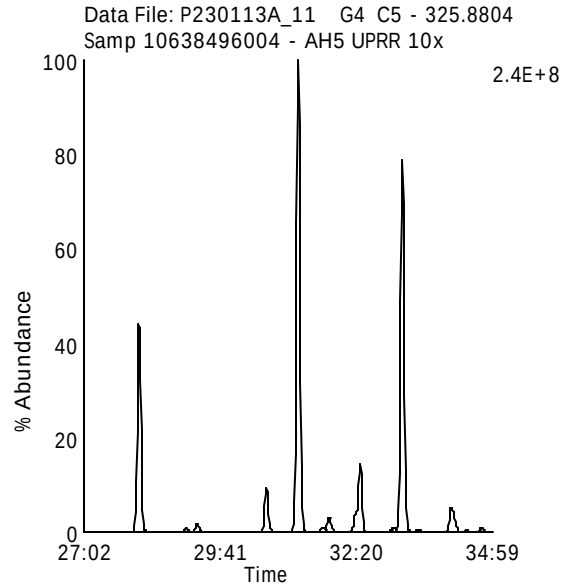


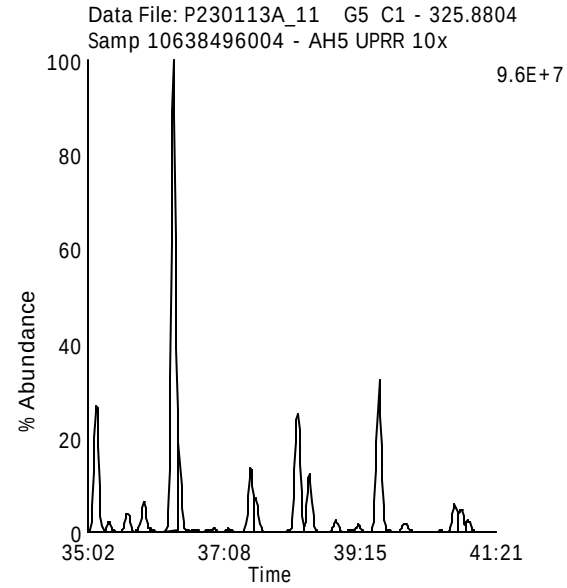


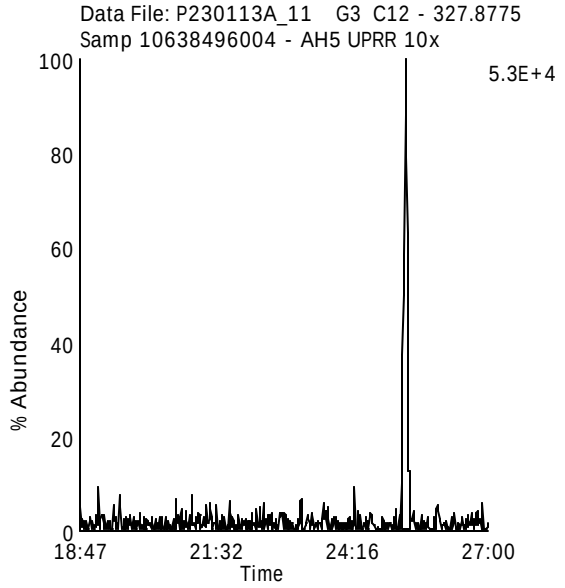
Penta Chlorinated Biphenyls

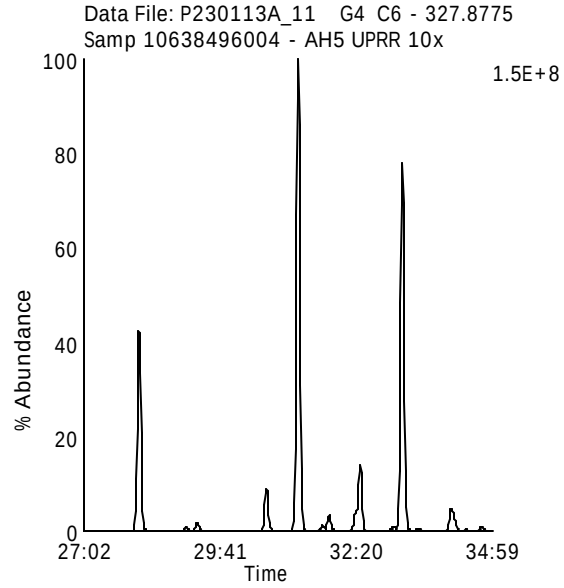
Data File Name: P230113A_11
Lab Sample ID: 10638496004
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496004 - AH5 UPRR 10x
Client Sample ID: SB12-0.0-0.5-1022

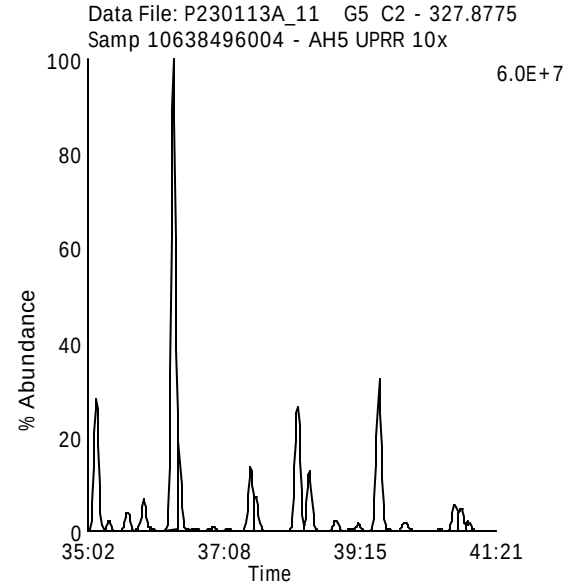






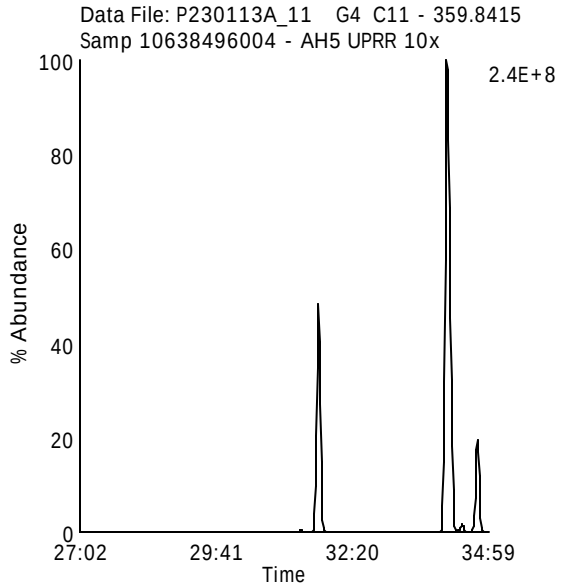


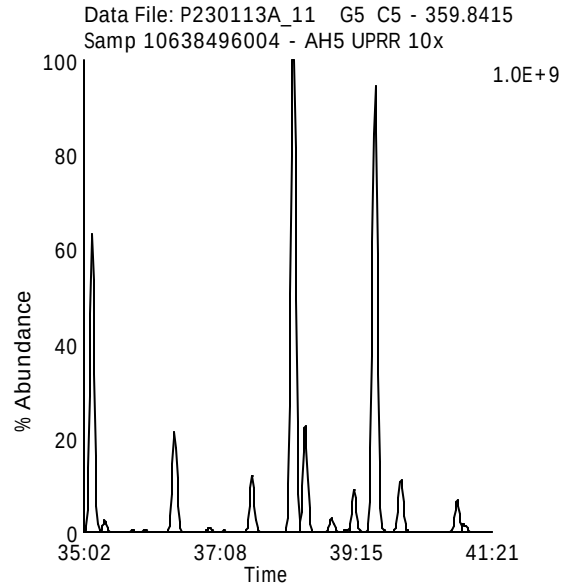


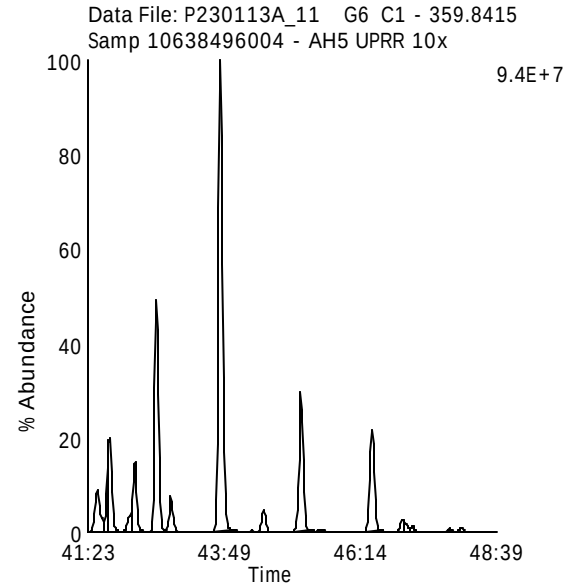


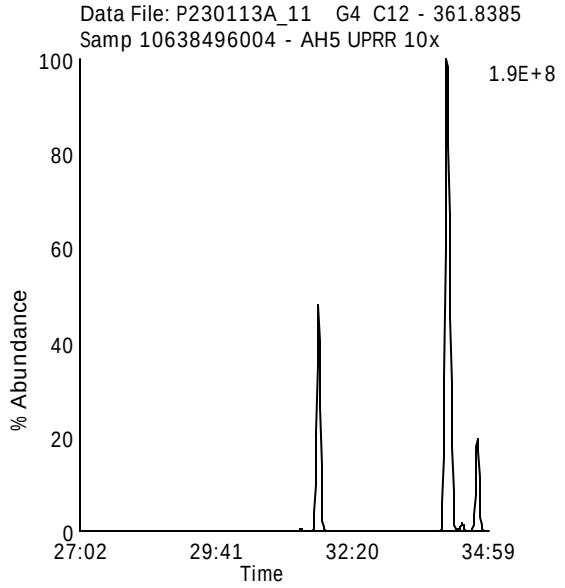
Hexa Chlorinated Biphenyls

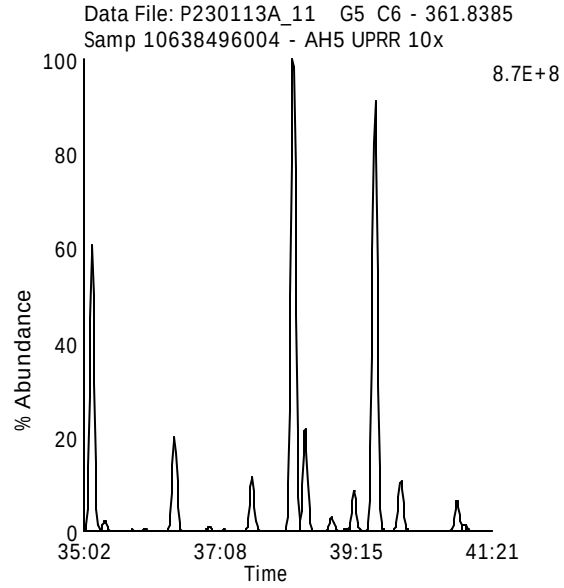
Data File Name: P230113A_11
Lab Sample ID: 10638496004
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496004 - AH5 UPRR 10x
Client Sample ID: SB12-0.0-0.5-1022

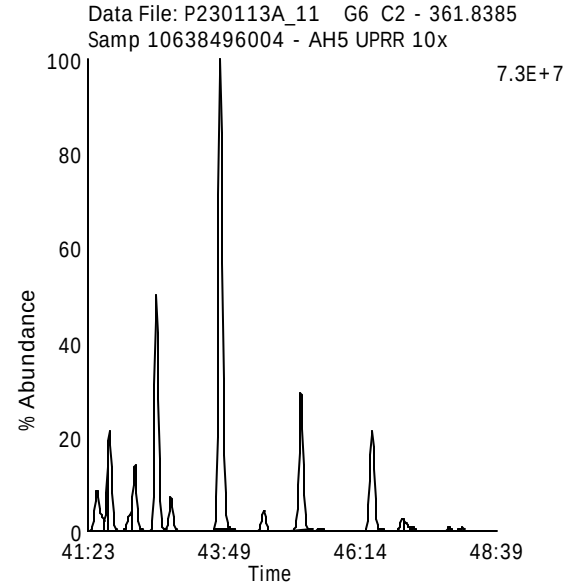








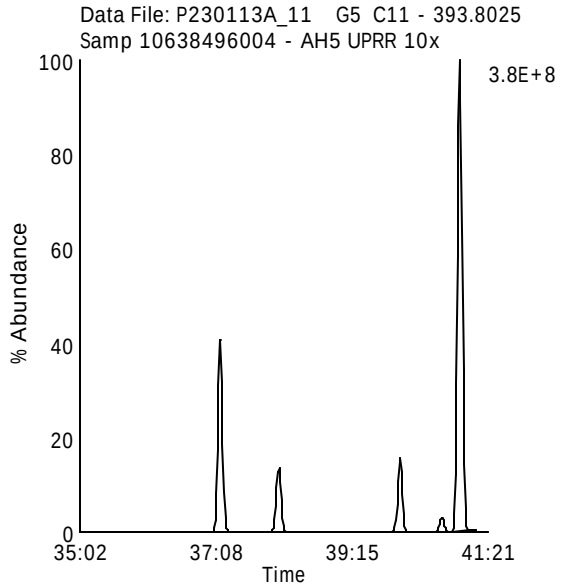


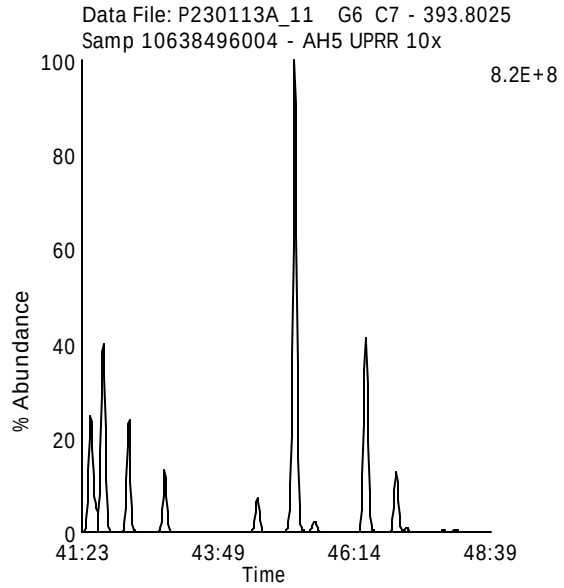


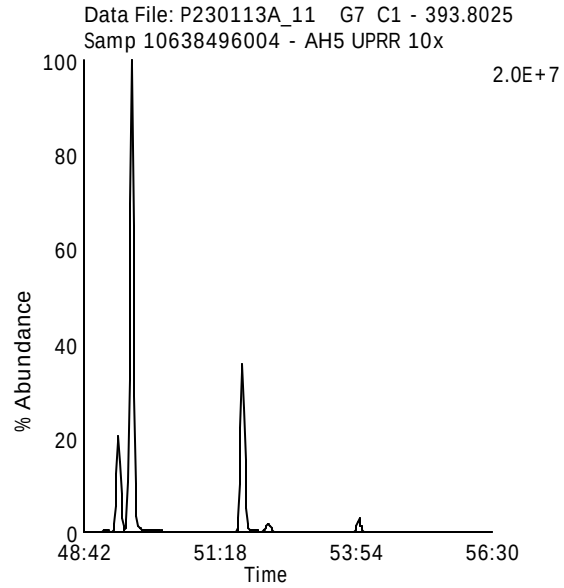
Hepta Chlorinated Biphenyls

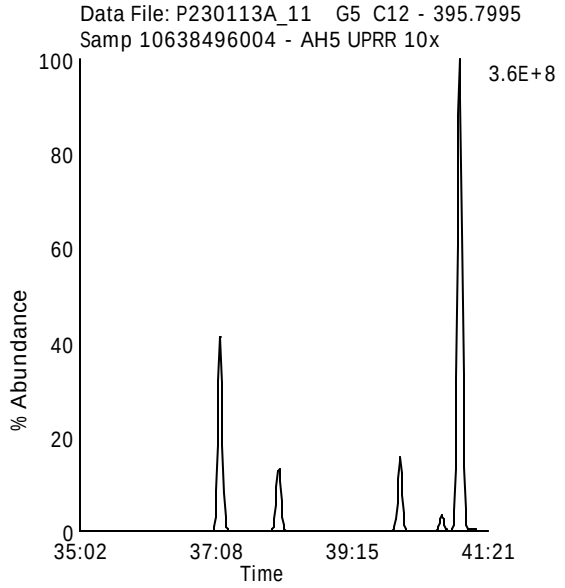
Data File Name: P230113A_11
Date Acquired: 1/13/2023
Sample Description: Samp 10638496004 - AH5 UPRR 10x

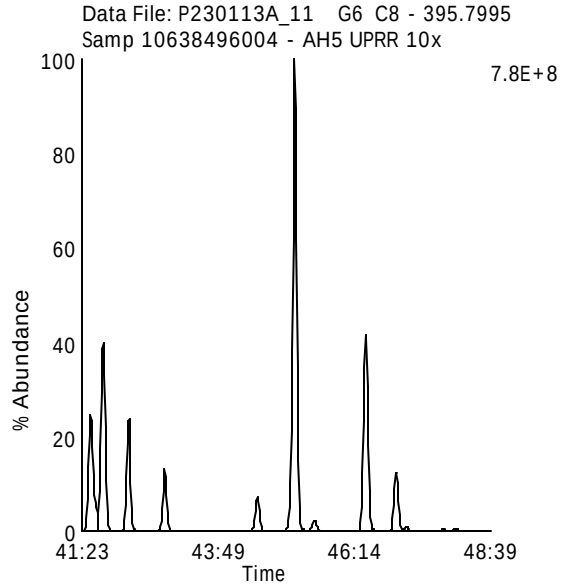
Lab Sample ID: 10638496004
Instrument: 10MSHR09 (P)
Client Sample ID: SB12-0.0-0.5-1022

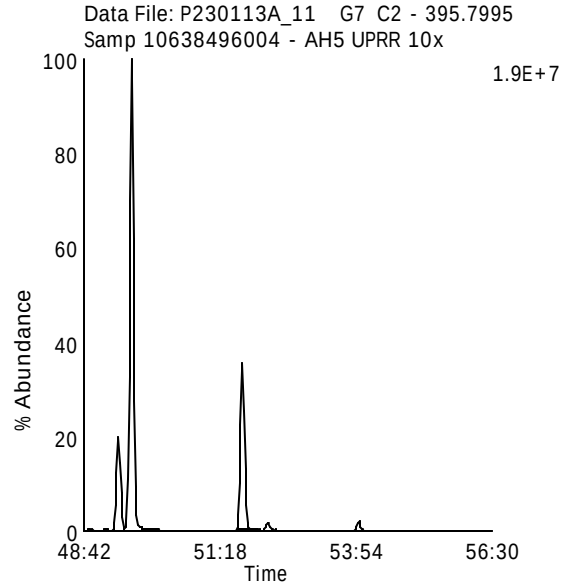






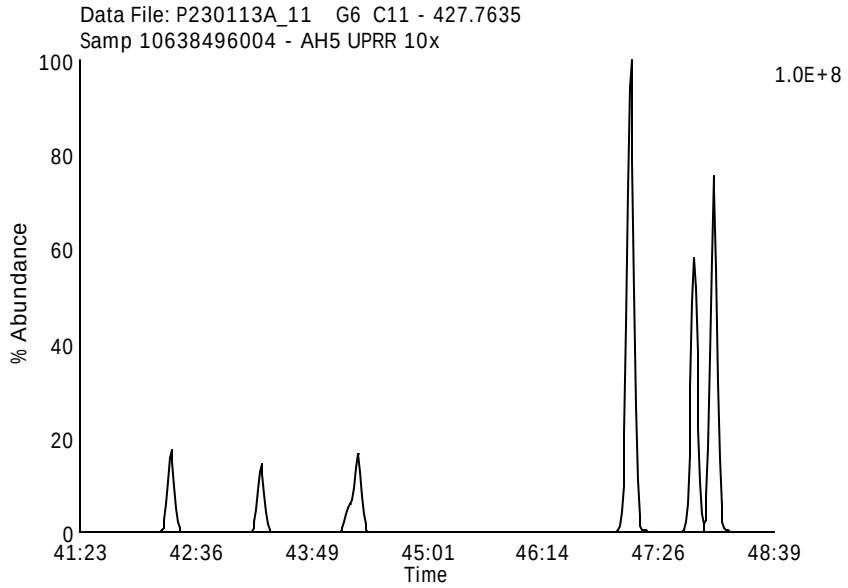


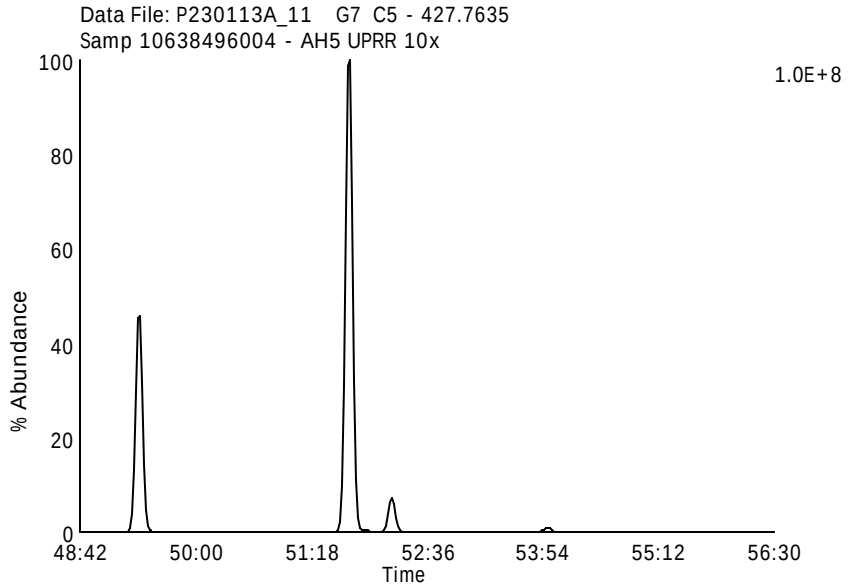


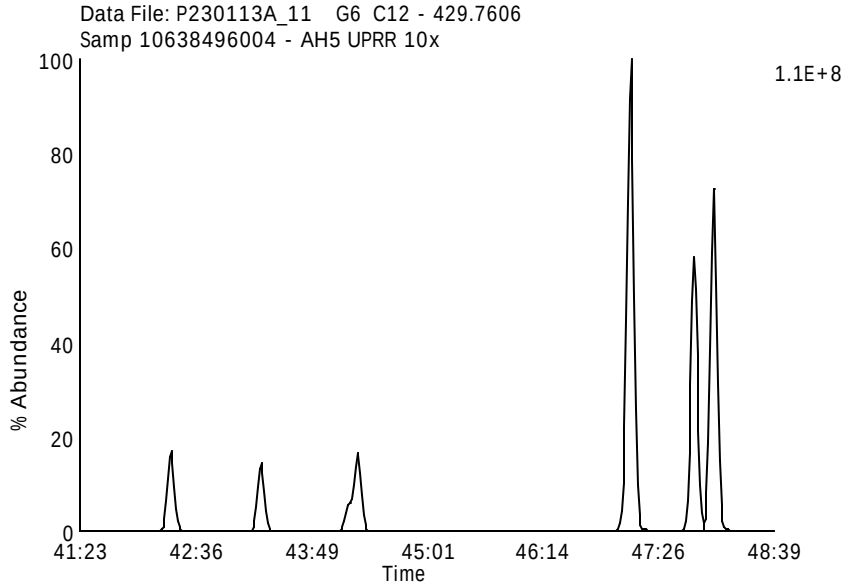


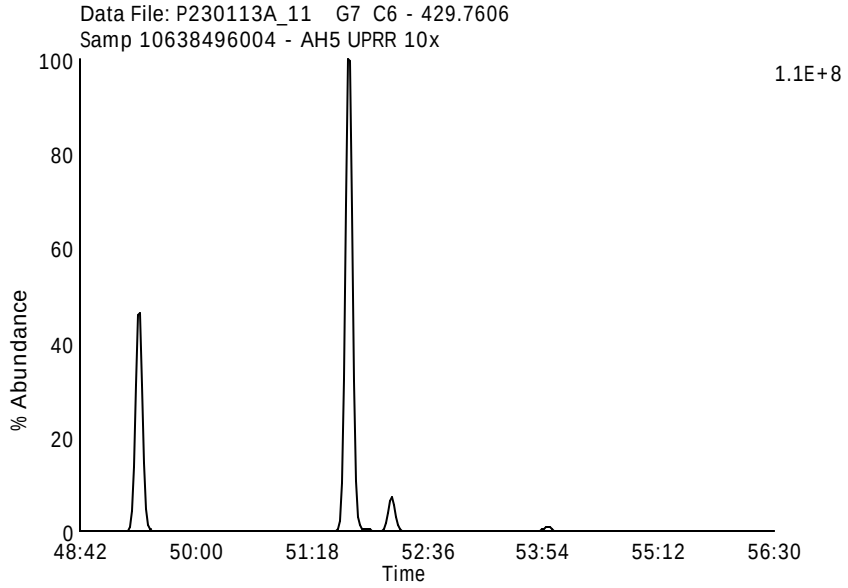
Octa Chlorinated Biphenyls

Data File Name: P230113A_11
Lab Sample ID: 10638496004
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496004 - AH5 UPRR 10x
Client Sample ID: SB12-0.0-0.5-1022



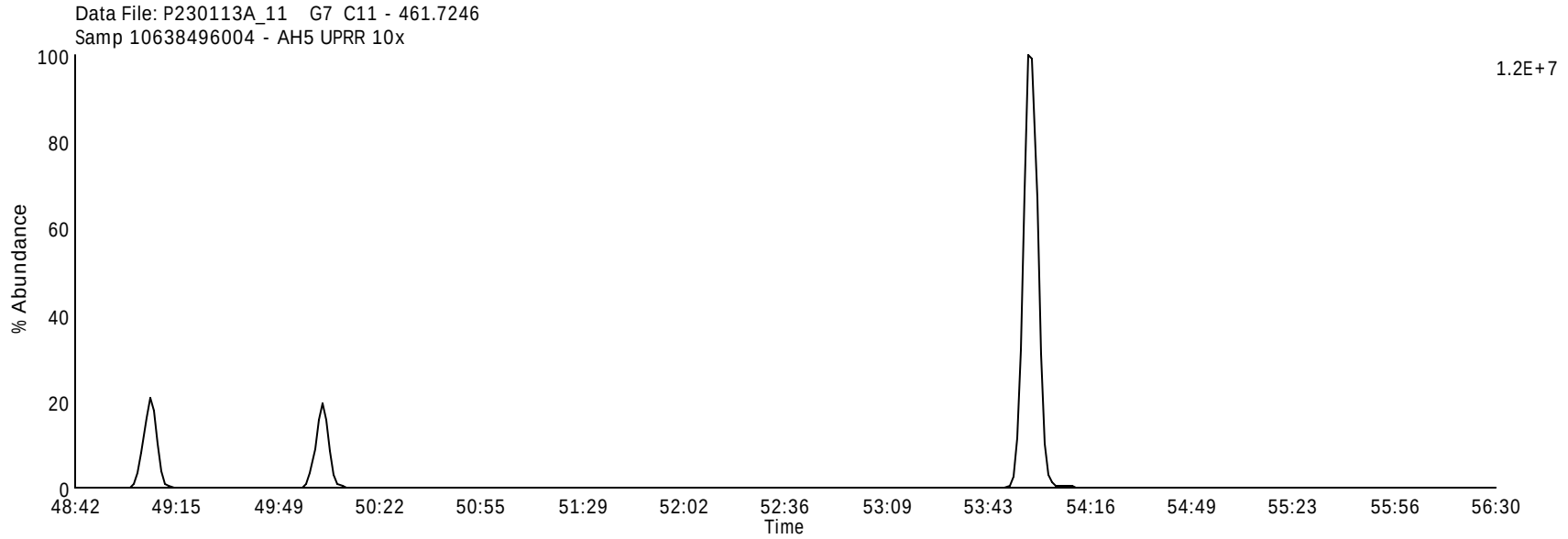


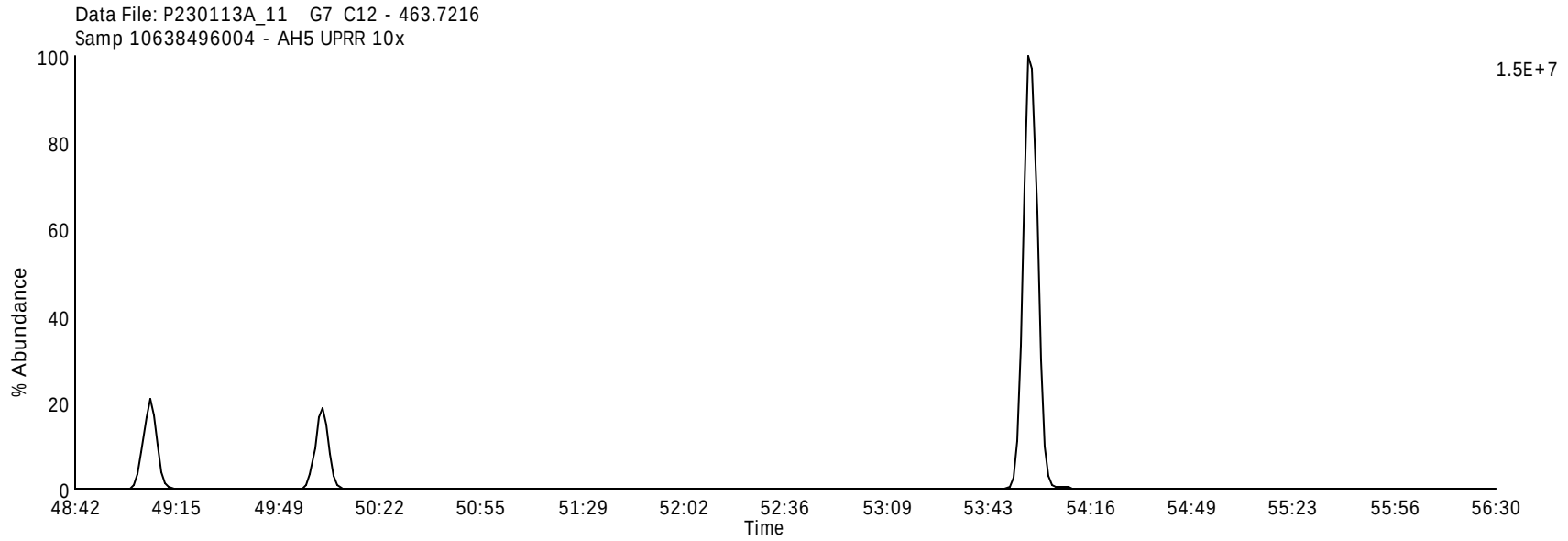




Nona Chlorinated Biphenyls

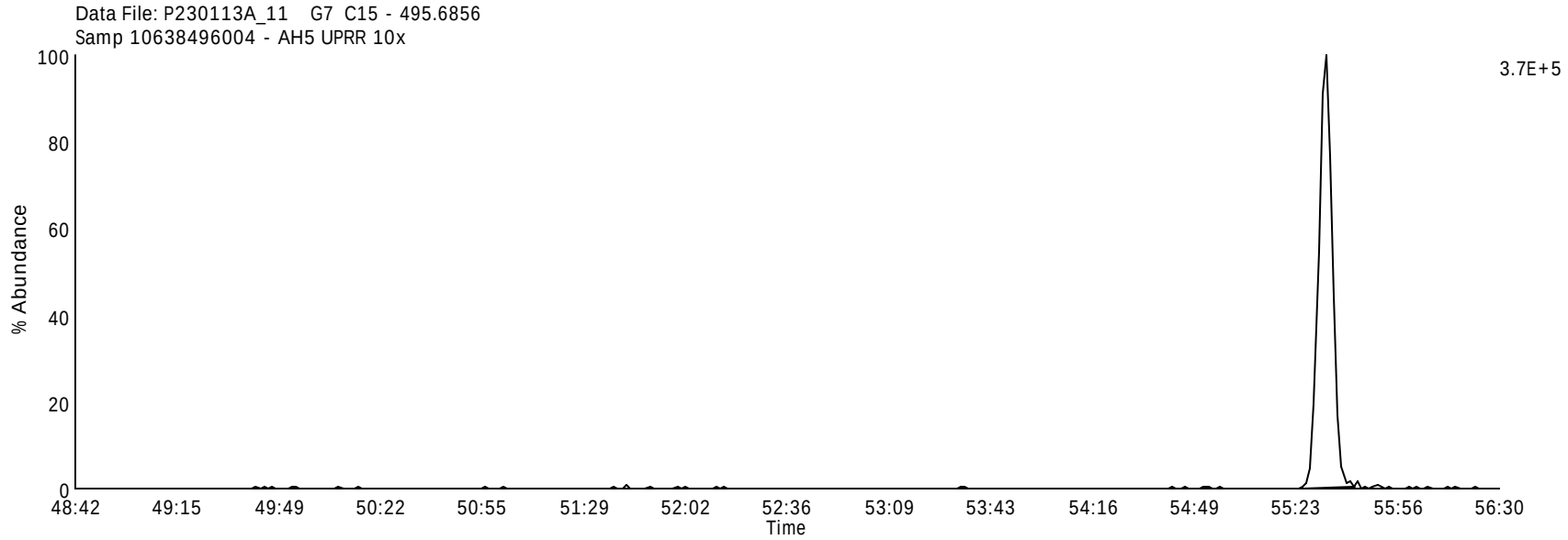
Data File Name: P230113A_11	Lab Sample ID: 10638496004
Date Acquired: 1/13/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496004 - AH5 UPRR 10x	Client Sample ID: SB12-0.0-0.5-1022

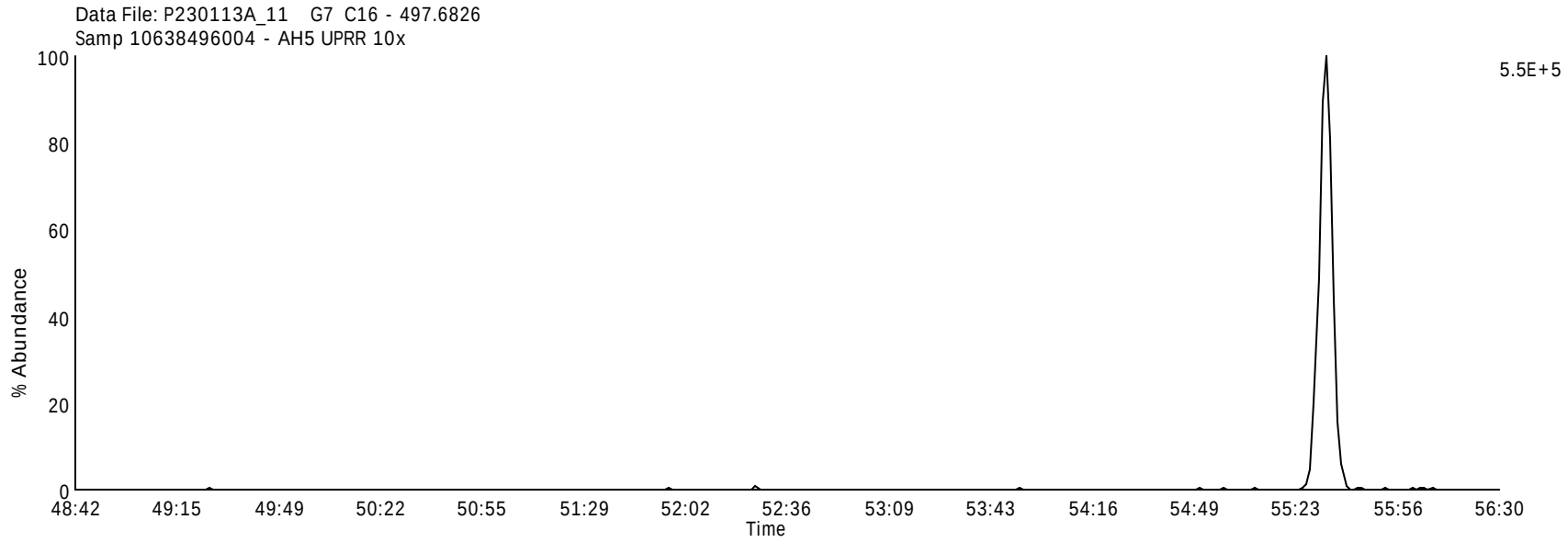




Deca Chlorinated Biphenyl

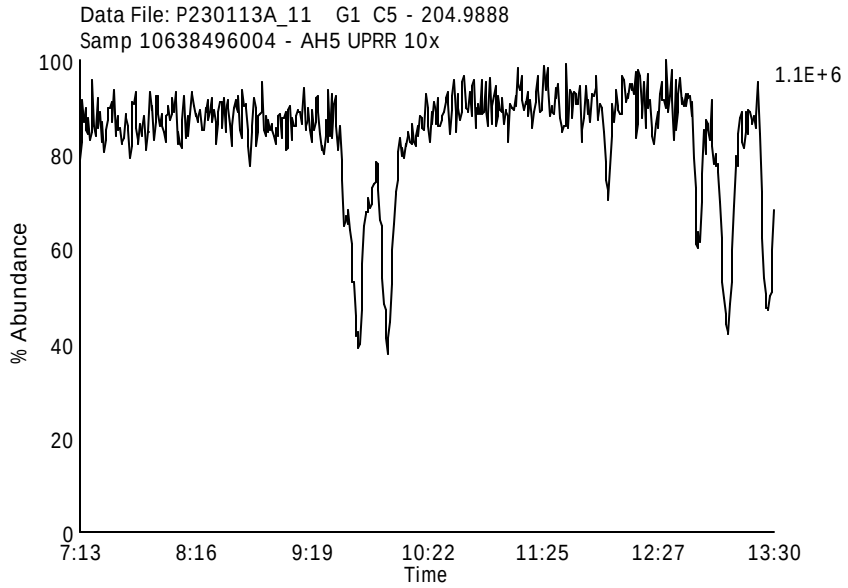
Data File Name: P230113A_11
Lab Sample ID: 10638496004
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496004 - AH5 UPRR 10x
Client Sample ID: SB12-0.0-0.5-1022

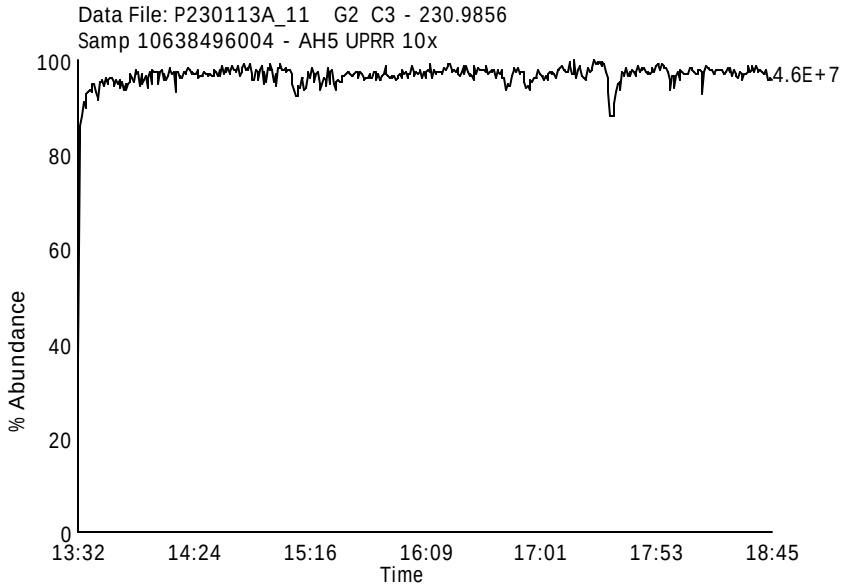


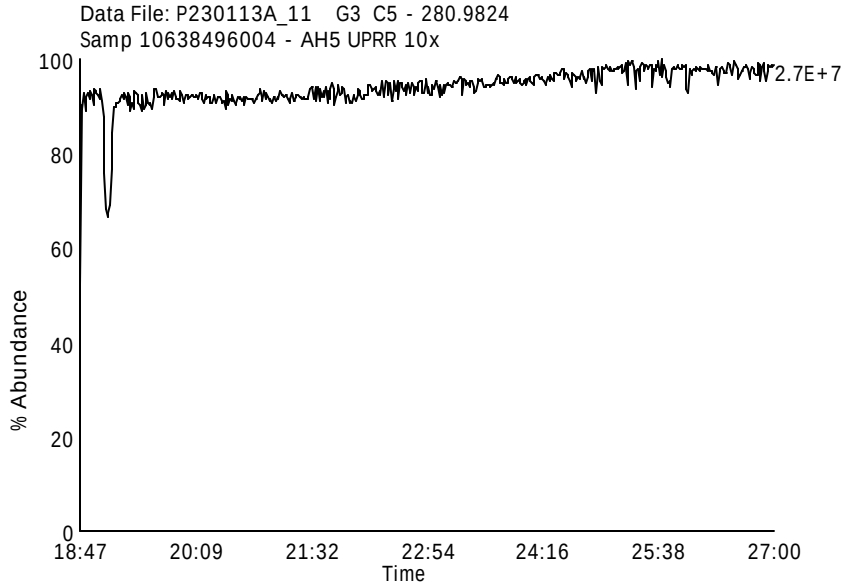


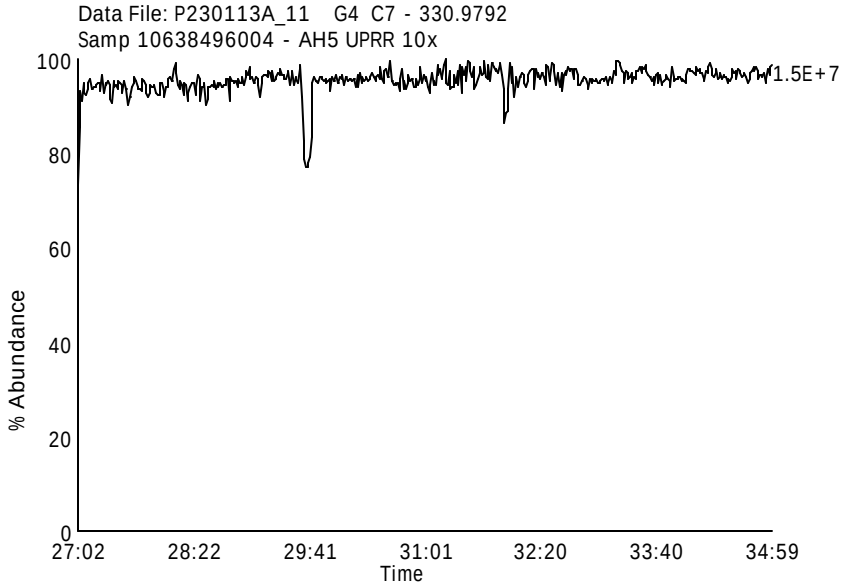
Group 1 - 4 Lock mass

Data File Name: P230113A_11
Lab Sample ID: 10638496004
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496004 - AH5 UPRR 10x
Client Sample ID: SB12-0.0-0.5-1022





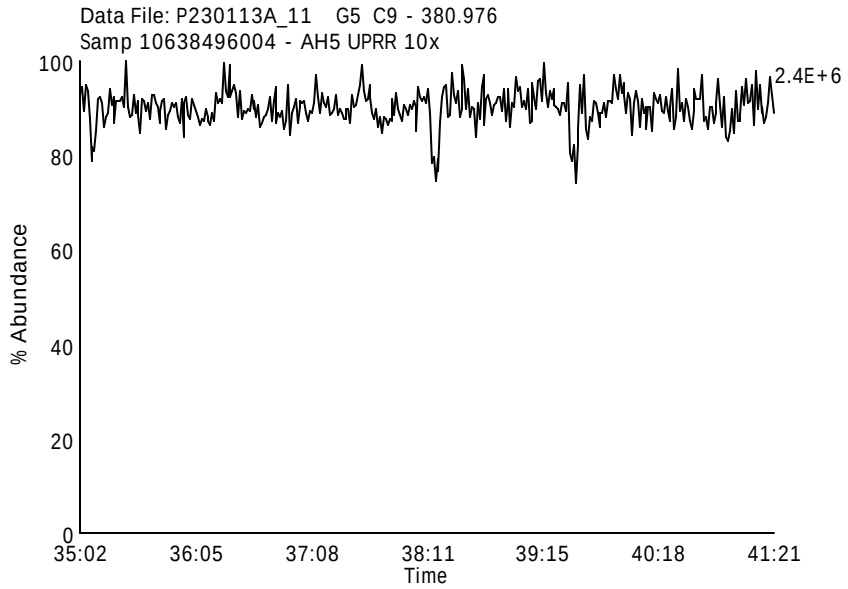


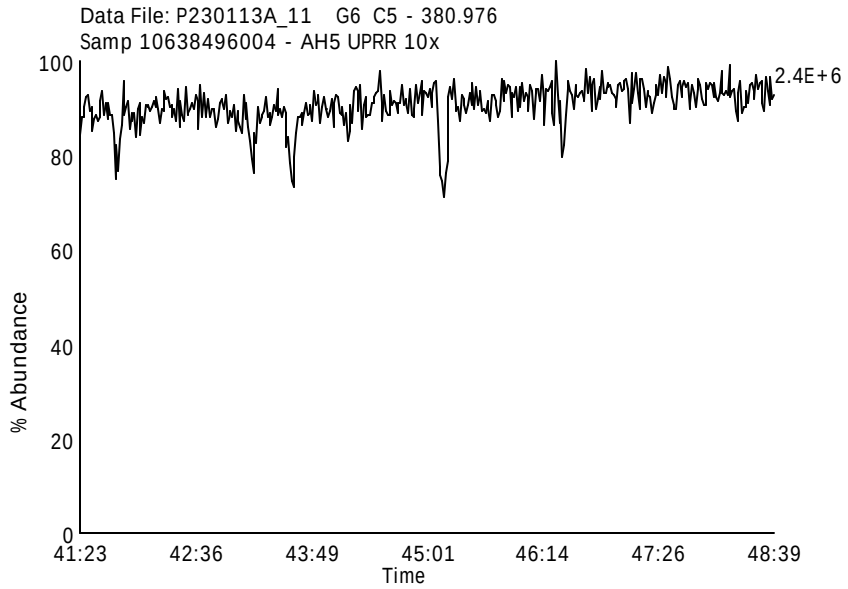


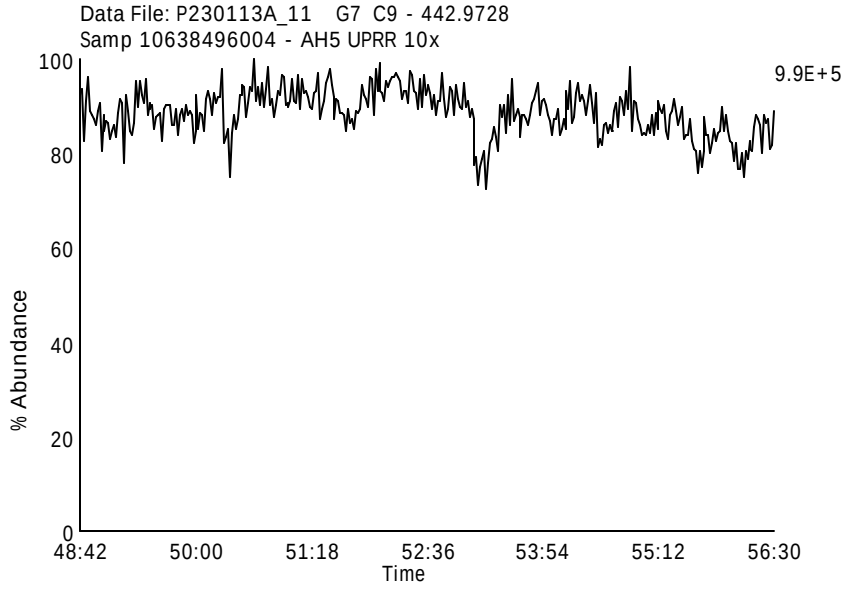
Group 5 - 7 Lock mass

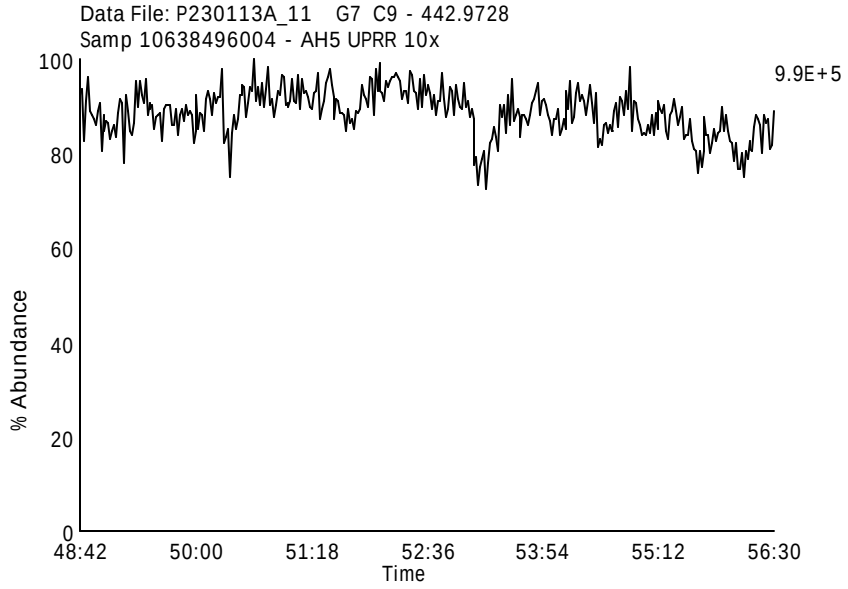
Data File Name: P230113A_11
Date Acquired: 1/13/2023
Sample Description: Samp 10638496004 - AH5 UPRR 10x

Lab Sample ID: 10638496004
Instrument: 10MSHR09 (P)
Client Sample ID: SB12-0.0-0.5-1022



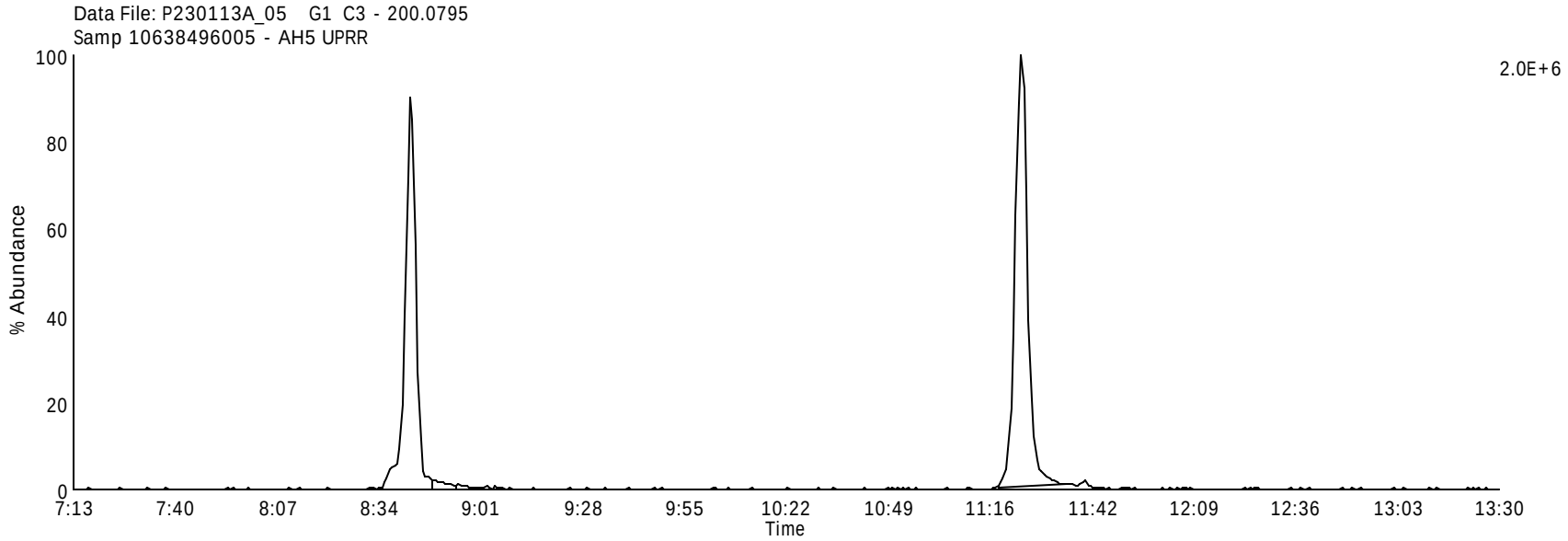


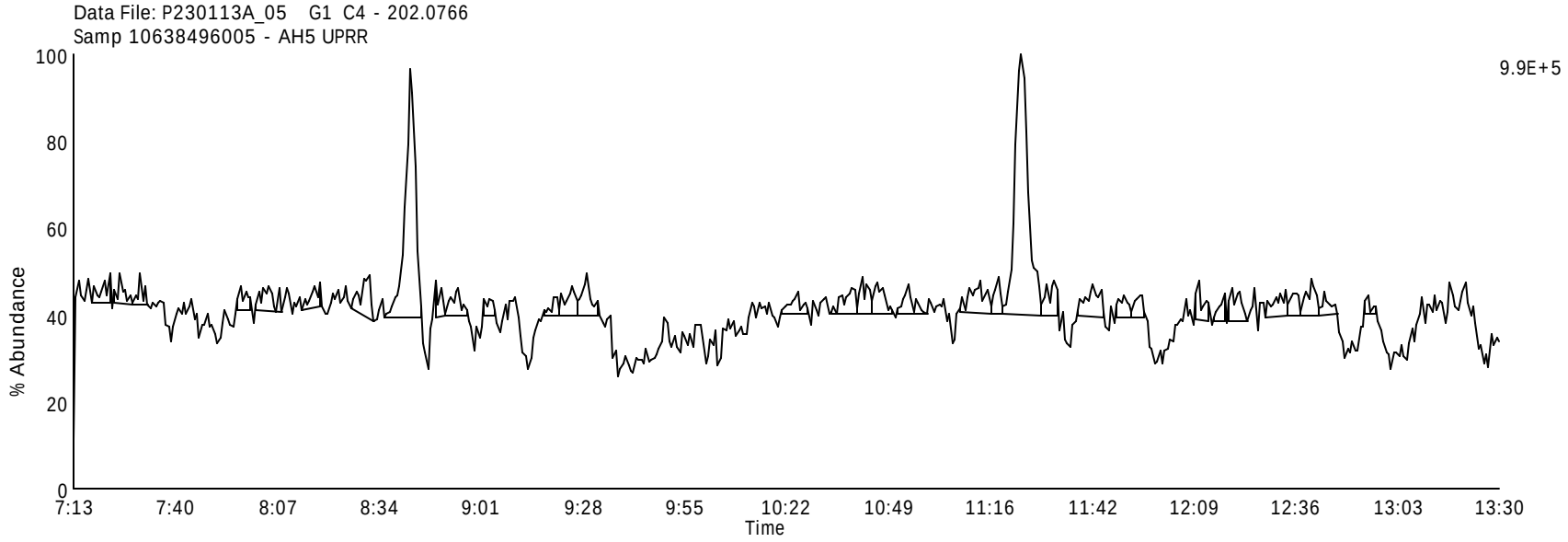




Labeled Mono Chlorinated Biphenyls

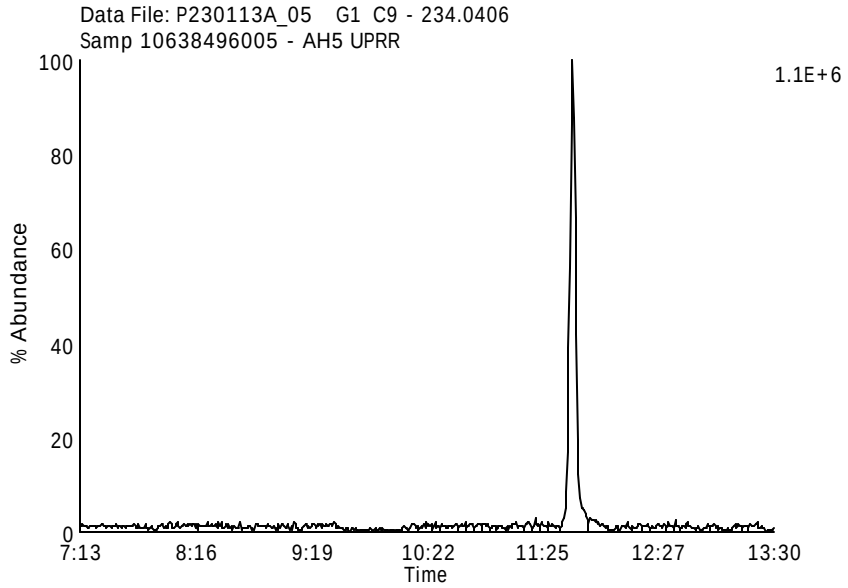
Data File Name: P230113A_05
Lab Sample ID: 10638496005
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496005 - AH5 UPRR
Client Sample ID: SB13-0.0-0.5-1022

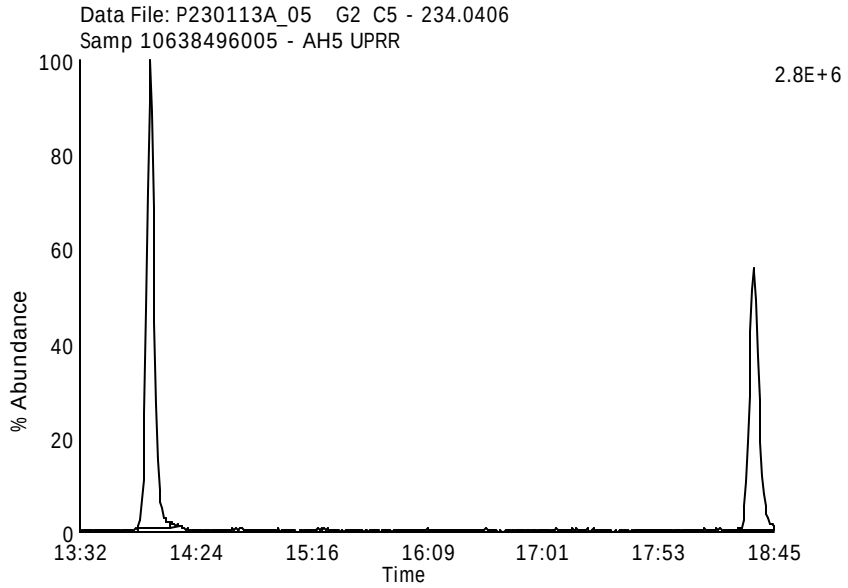


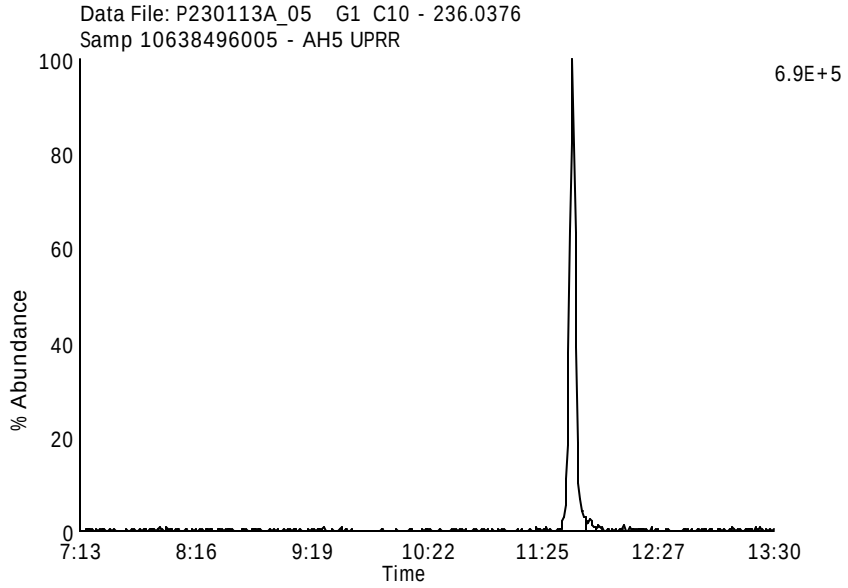


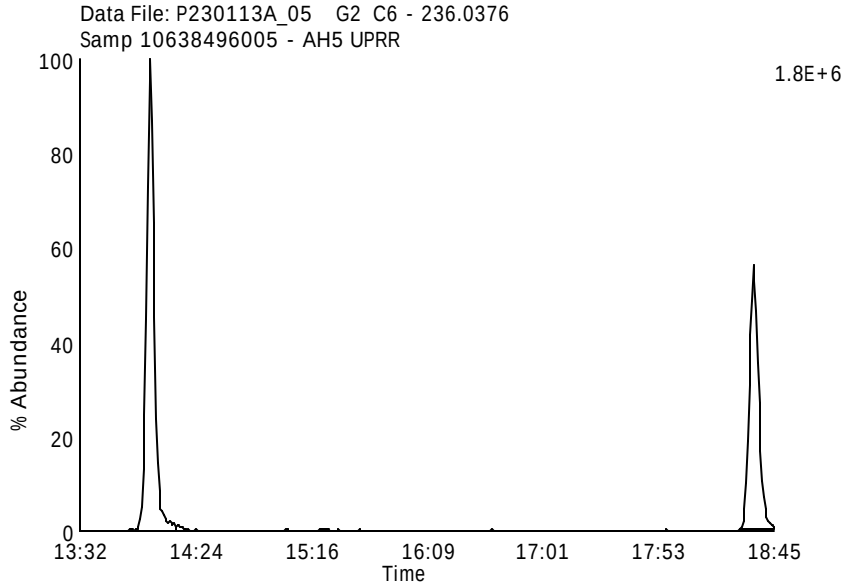
Labeled Di Chlorinated Biphenyls

Data File Name: P230113A_05
Lab Sample ID: 10638496005
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496005 - AH5 UPRR
Client Sample ID: SB13-0.0-0.5-1022





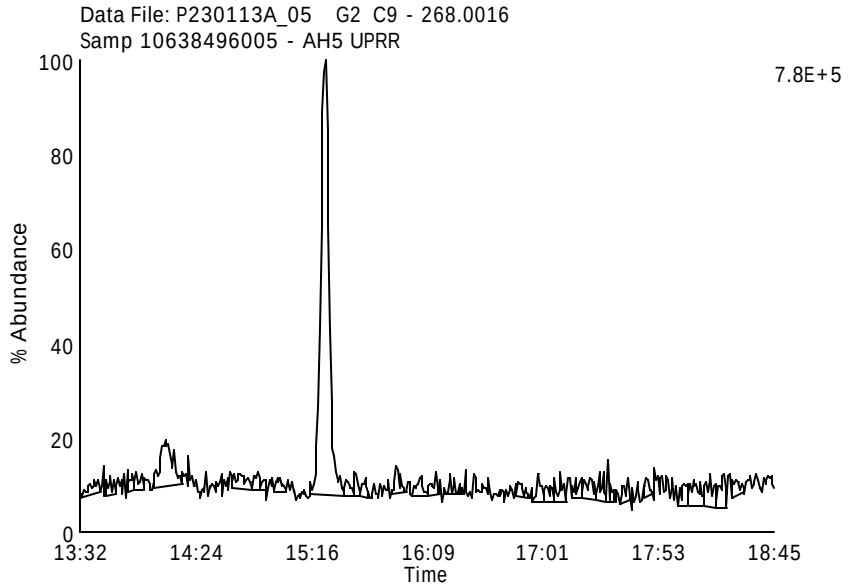


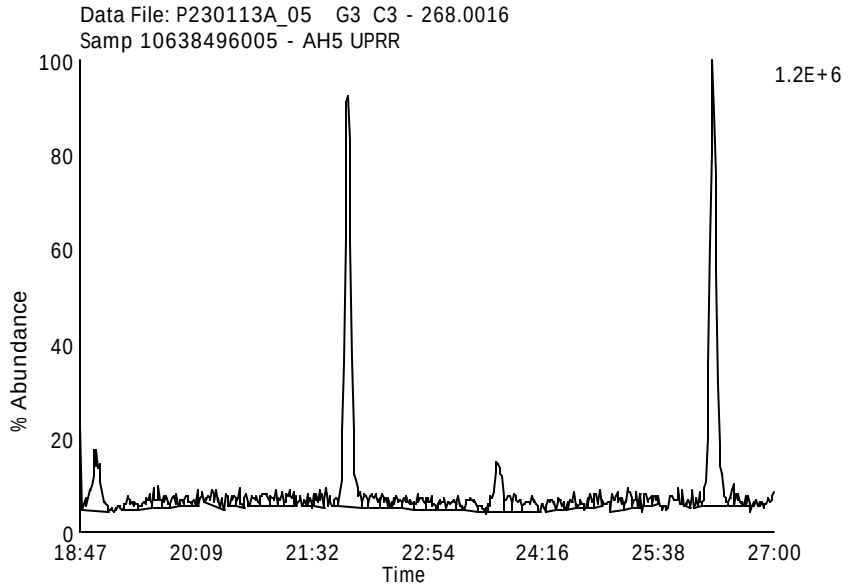


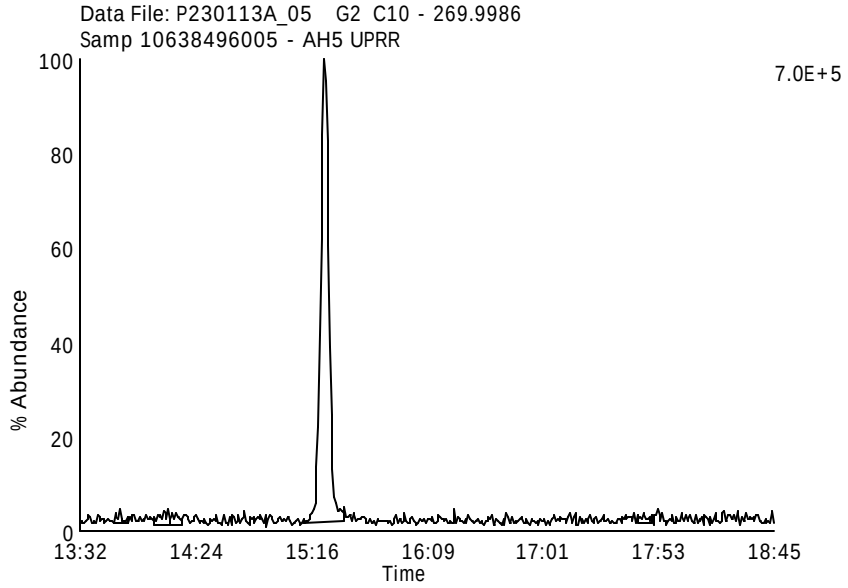
Labeled Tri Chlorinated Biphenyls

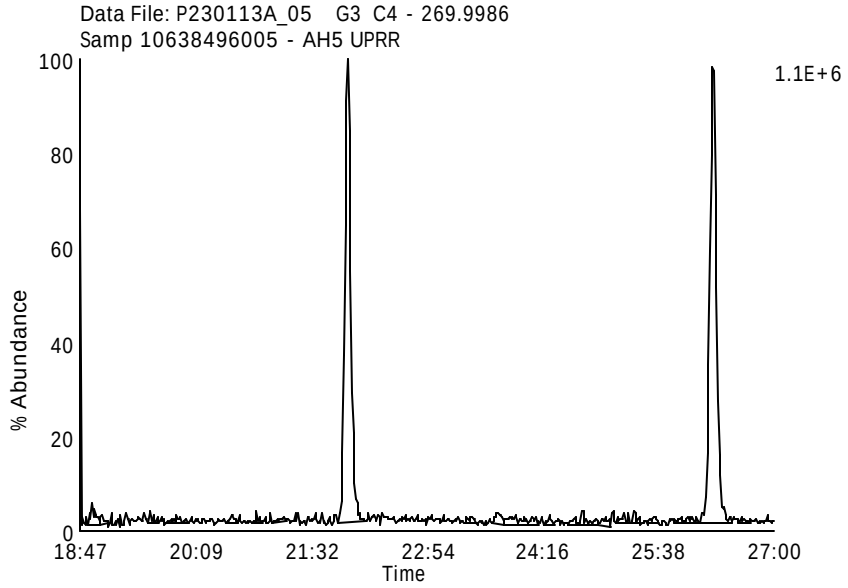
Data File Name: P230113A_05
Date Acquired: 1/13/2023
Sample Description: Samp 10638496005 - AH5 UPRR

Lab Sample ID: 10638496005
Instrument: 10MSHR09 (P)
Client Sample ID: SB13-0.0-0.5-1022



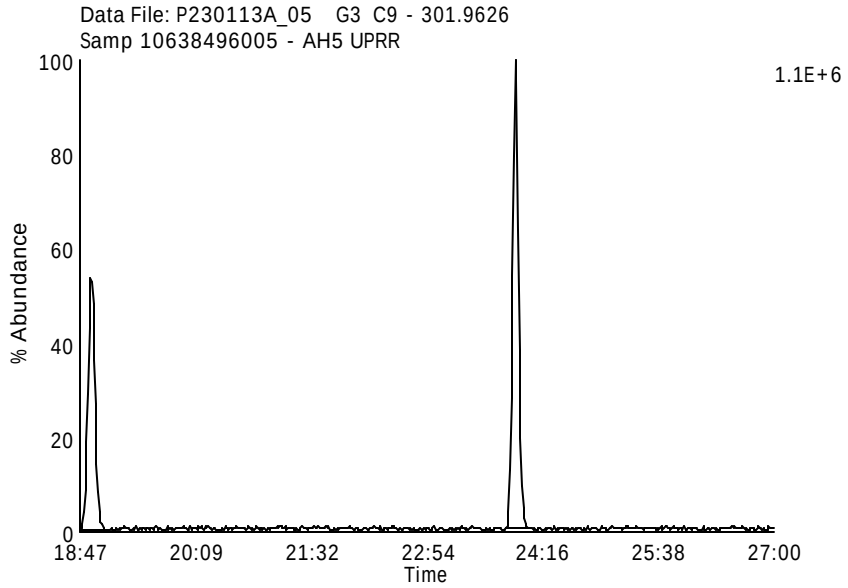


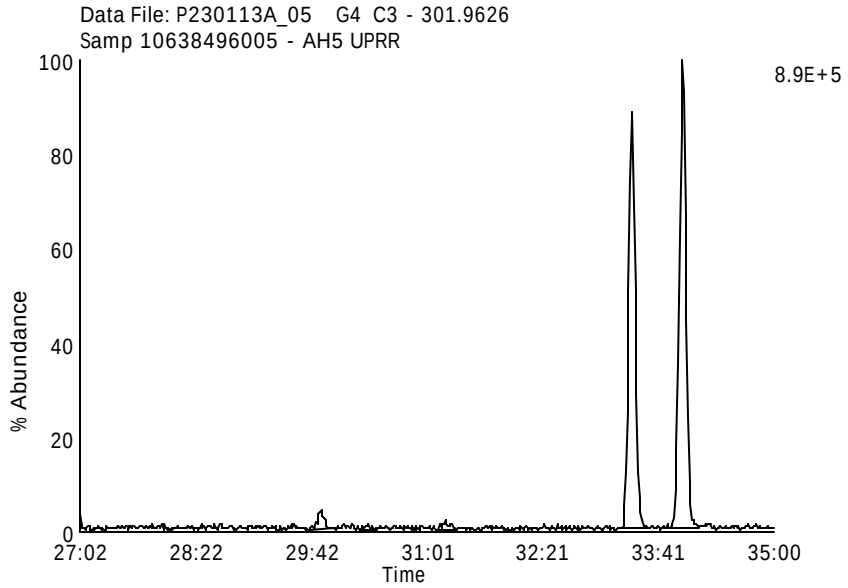


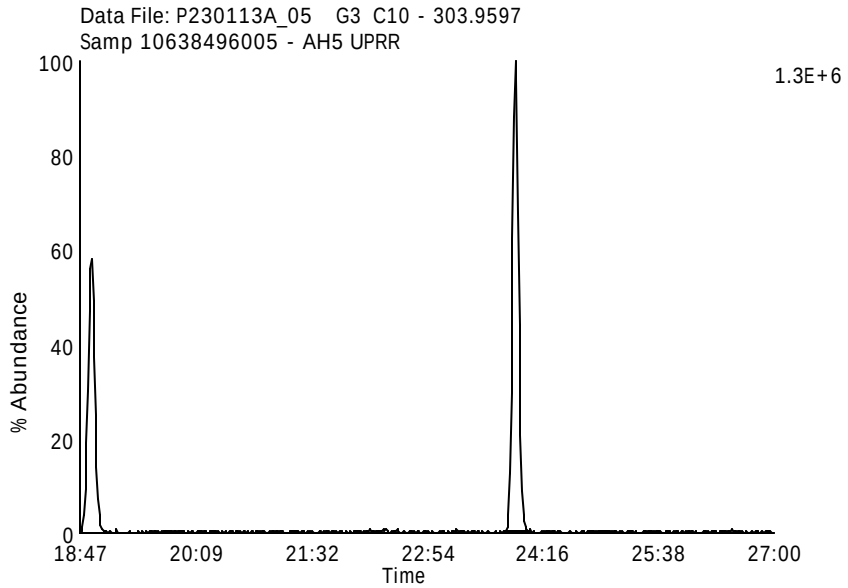


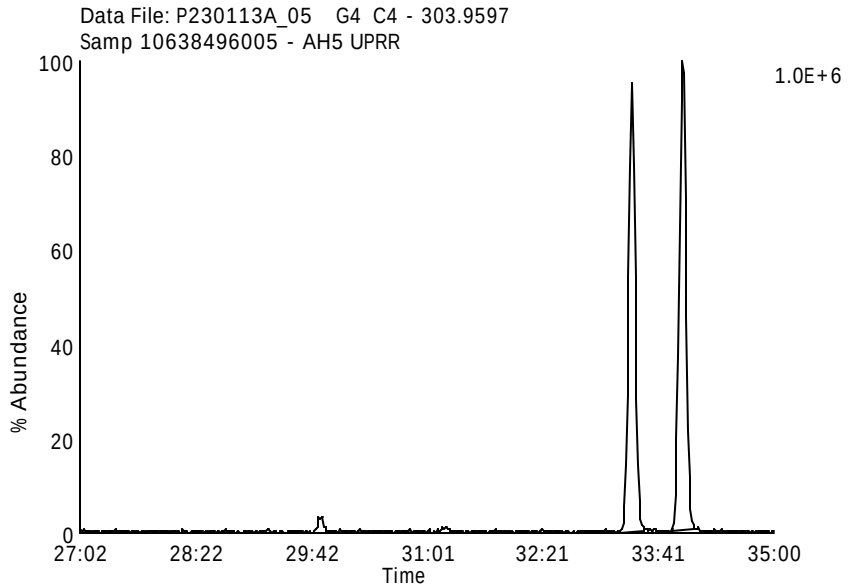
Labeled Tetra Chlorinated Biphenyls

Data File Name: P230113A_05
Lab Sample ID: 10638496005
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496005 - AH5 UPRR
Client Sample ID: SB13-0.0-0.5-1022



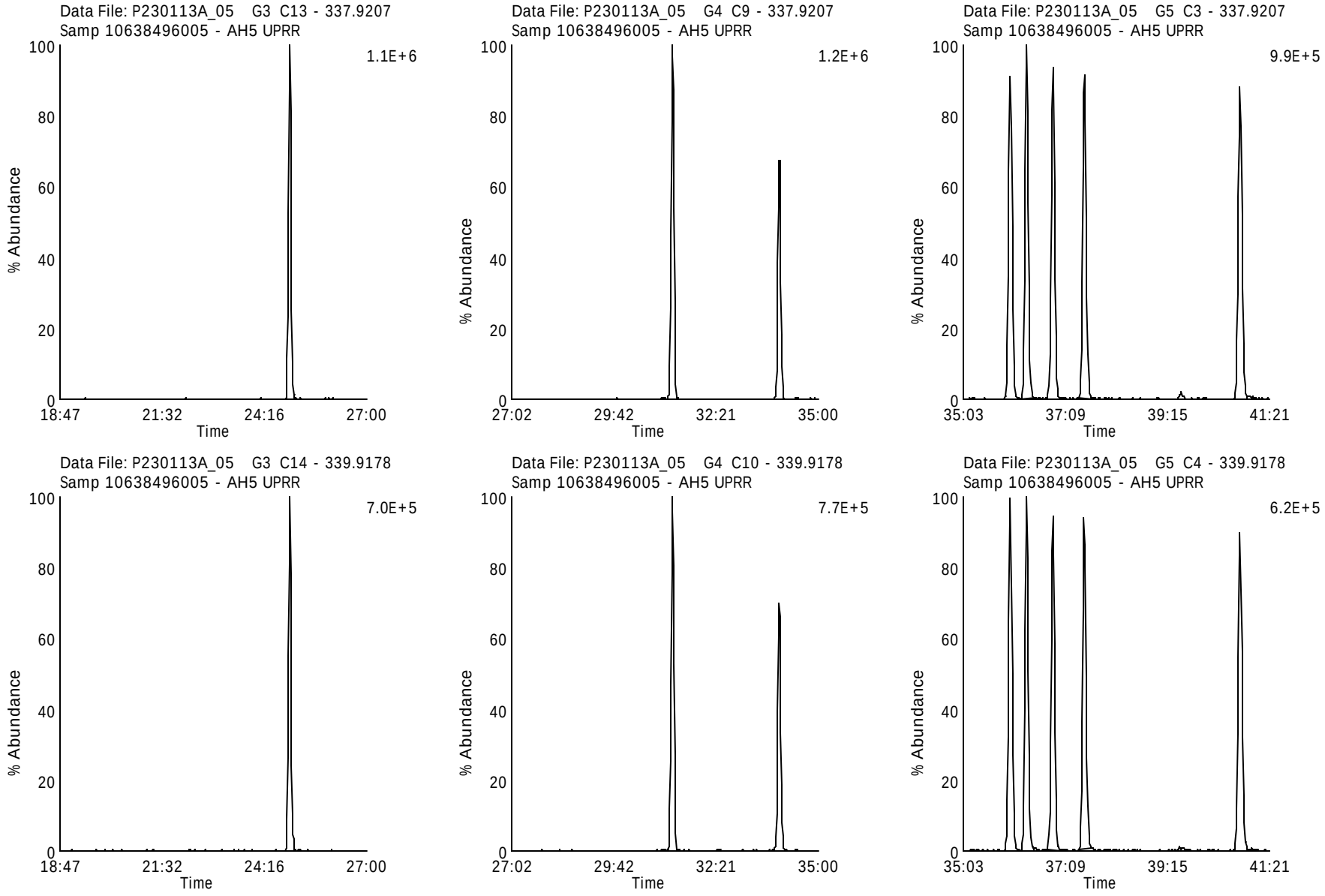






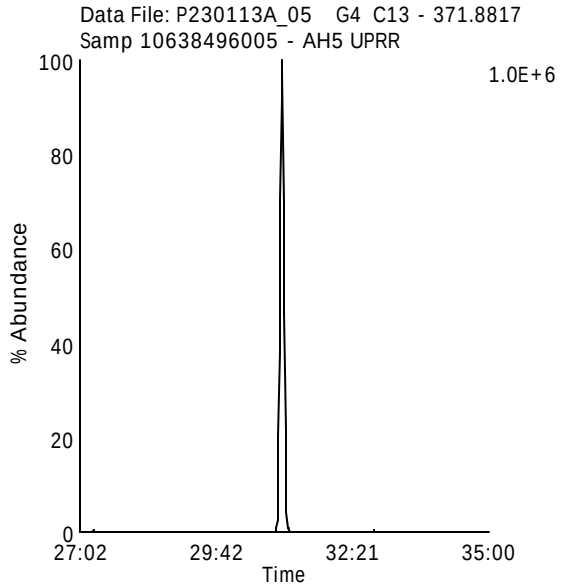
Labeled Penta Chlorinated Biphenyls

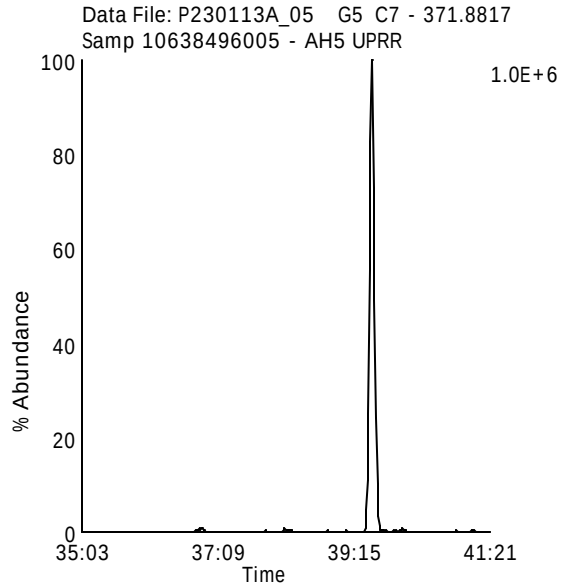
Data File Name: P230113A_05
Lab Sample ID: 10638496005
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496005 - AH5 UPRR
Client Sample ID: SB13-0.0-0.5-1022

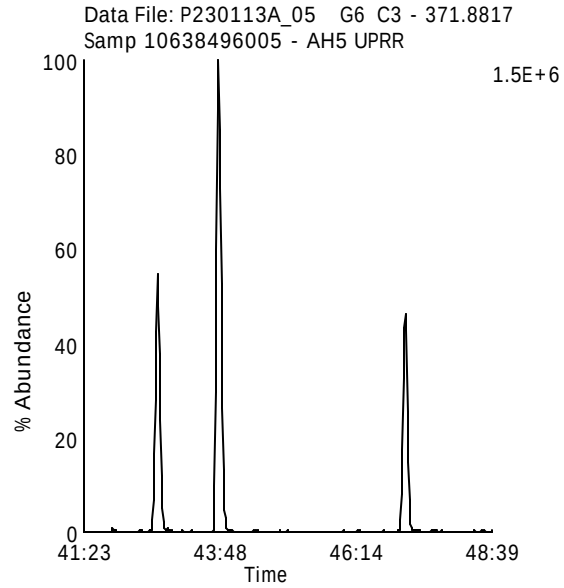


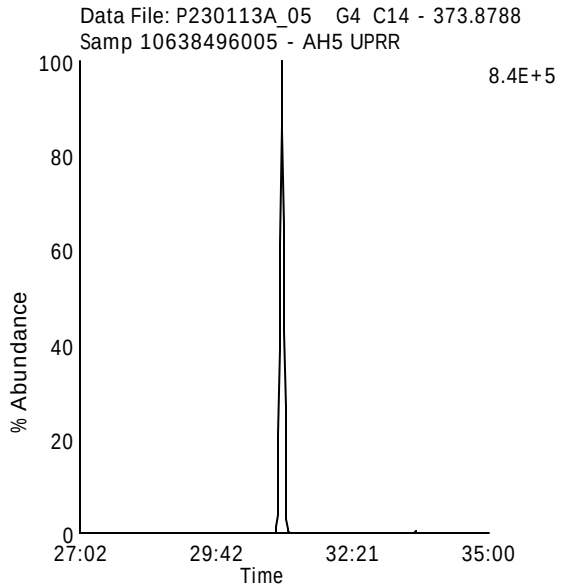
Labeled Hexa Chlorinated Biphenyls

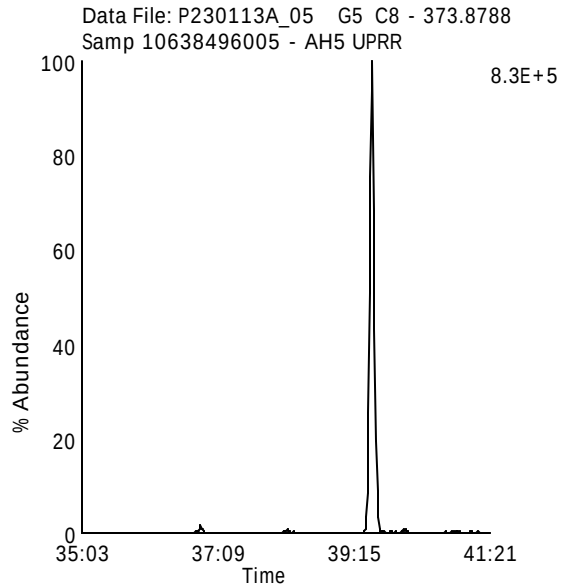
Data File Name: P230113A_05
Lab Sample ID: 10638496005
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496005 - AH5 UPRR
Client Sample ID: SB13-0.0-0.5-1022

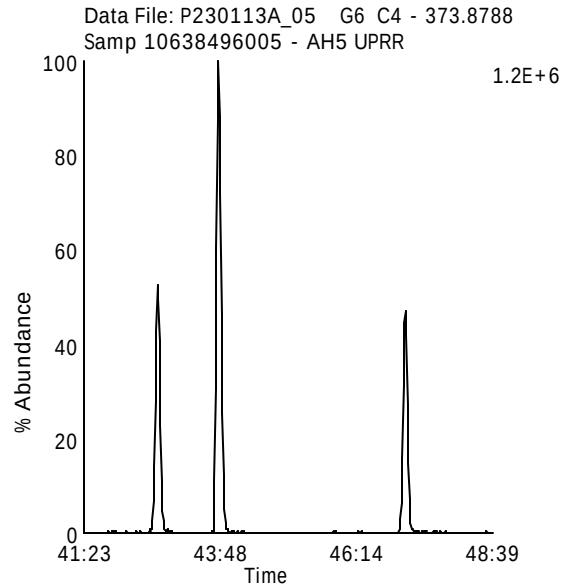






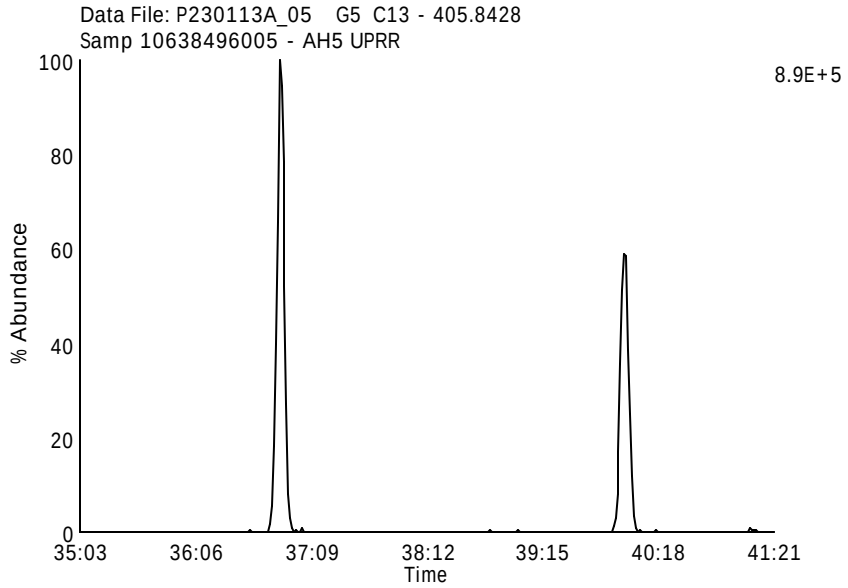


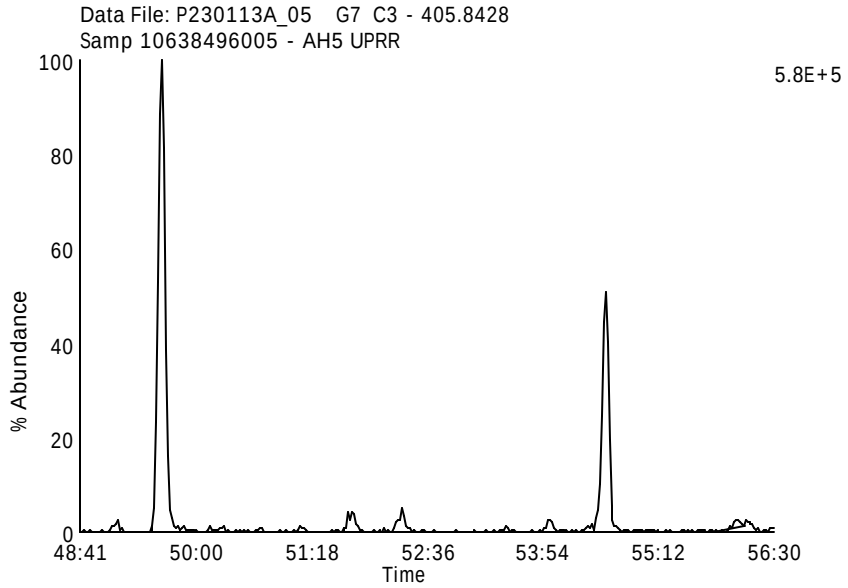


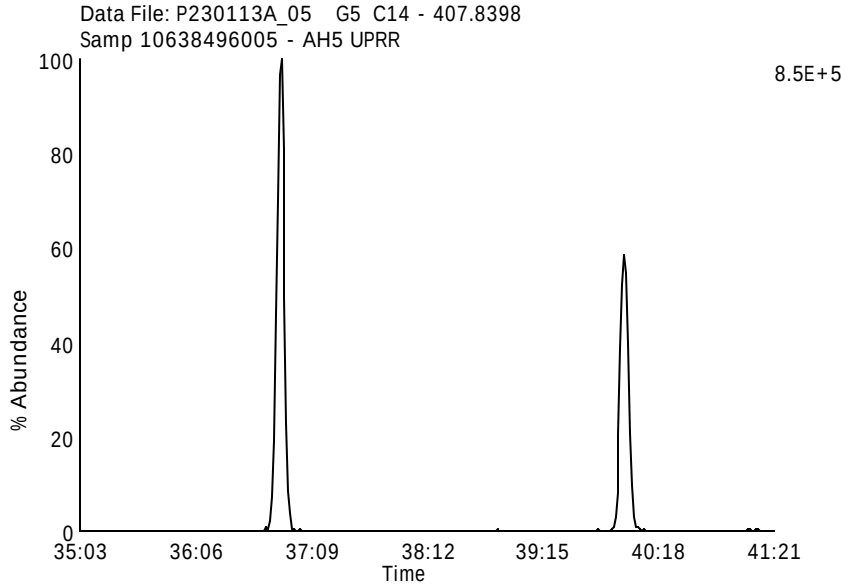


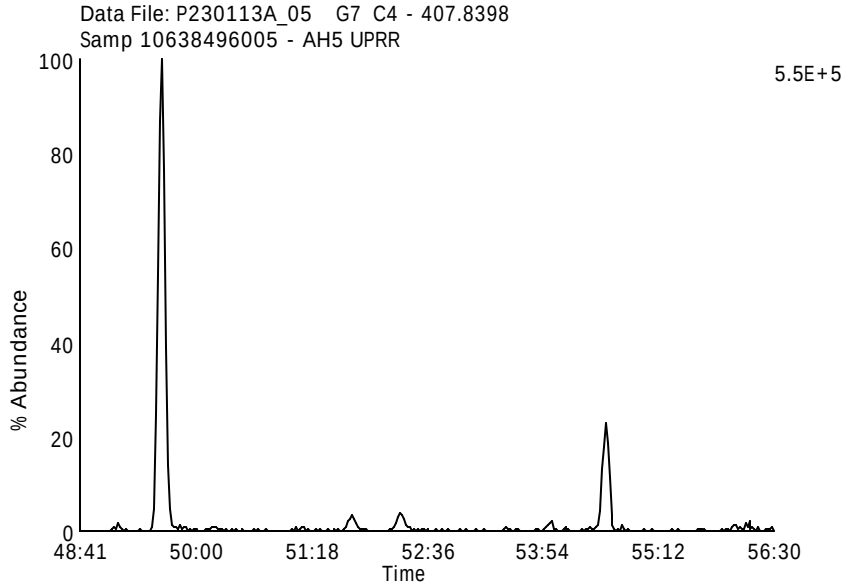
Labeled Hepta Chlorinated Biphenyls

Data File Name: P230113A_05
Lab Sample ID: 10638496005
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496005 - AH5 UPRR
Client Sample ID: SB13-0.0-0.5-1022



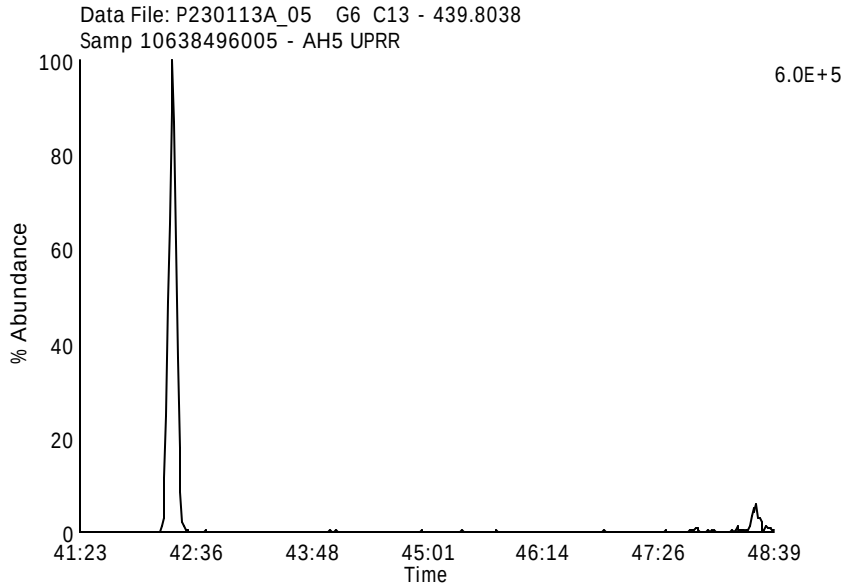


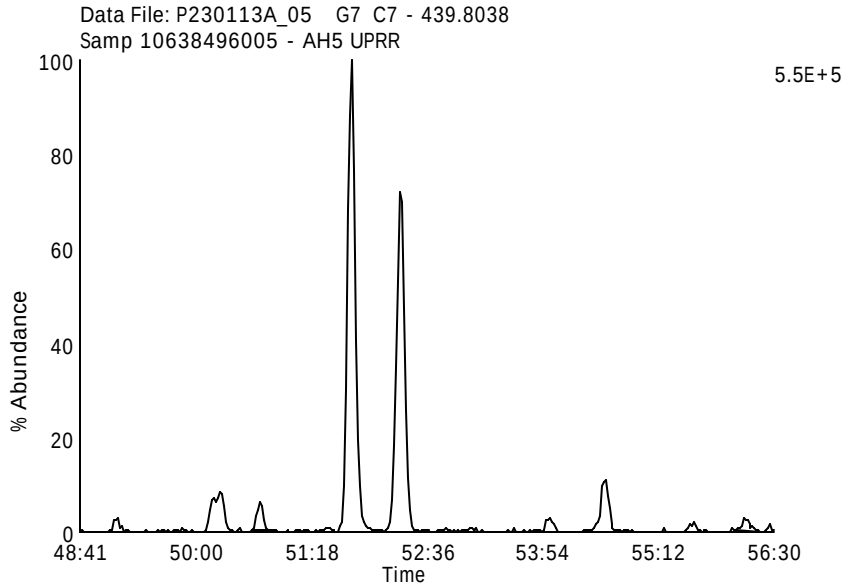


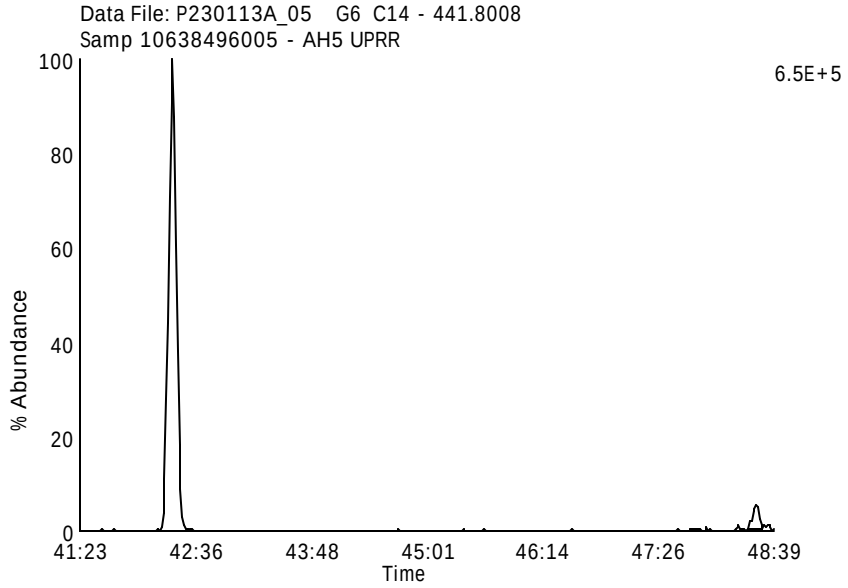


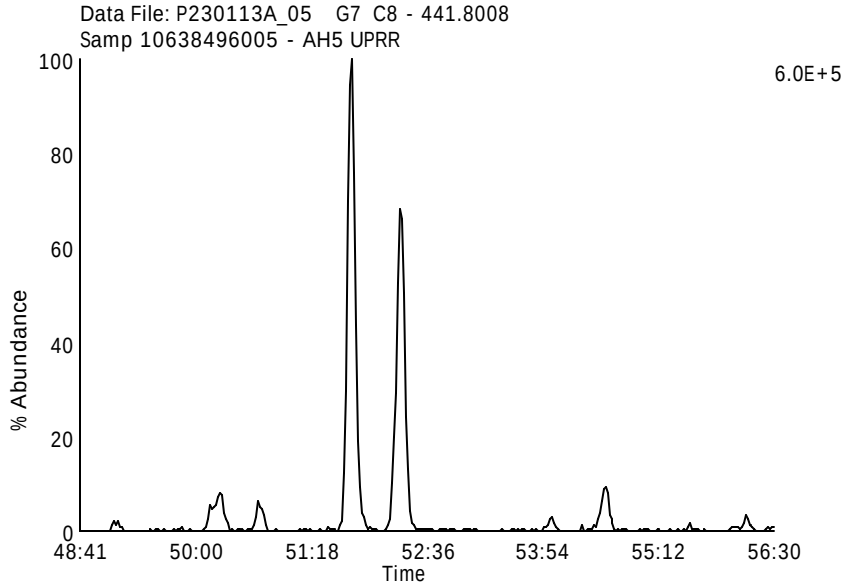
Labeled Octa Chlorinated Biphenyls

Data File Name: P230113A_05
Lab Sample ID: 10638496005
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496005 - AH5 UPRR
Client Sample ID: SB13-0.0-0.5-1022



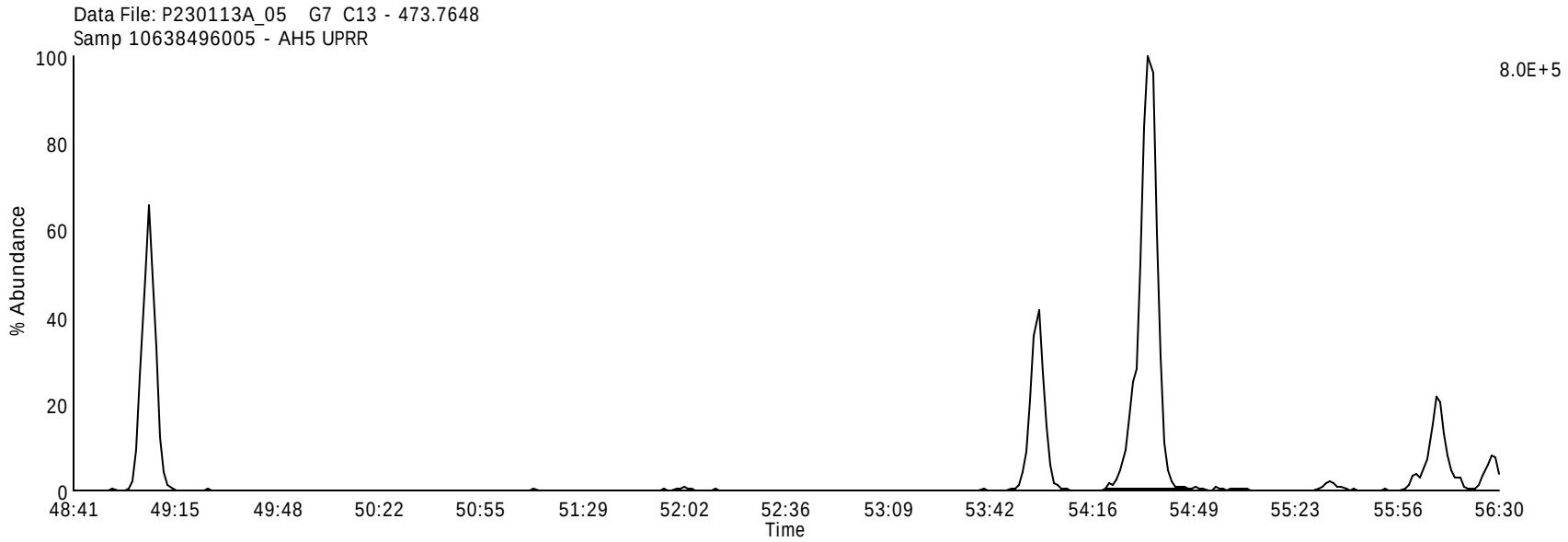


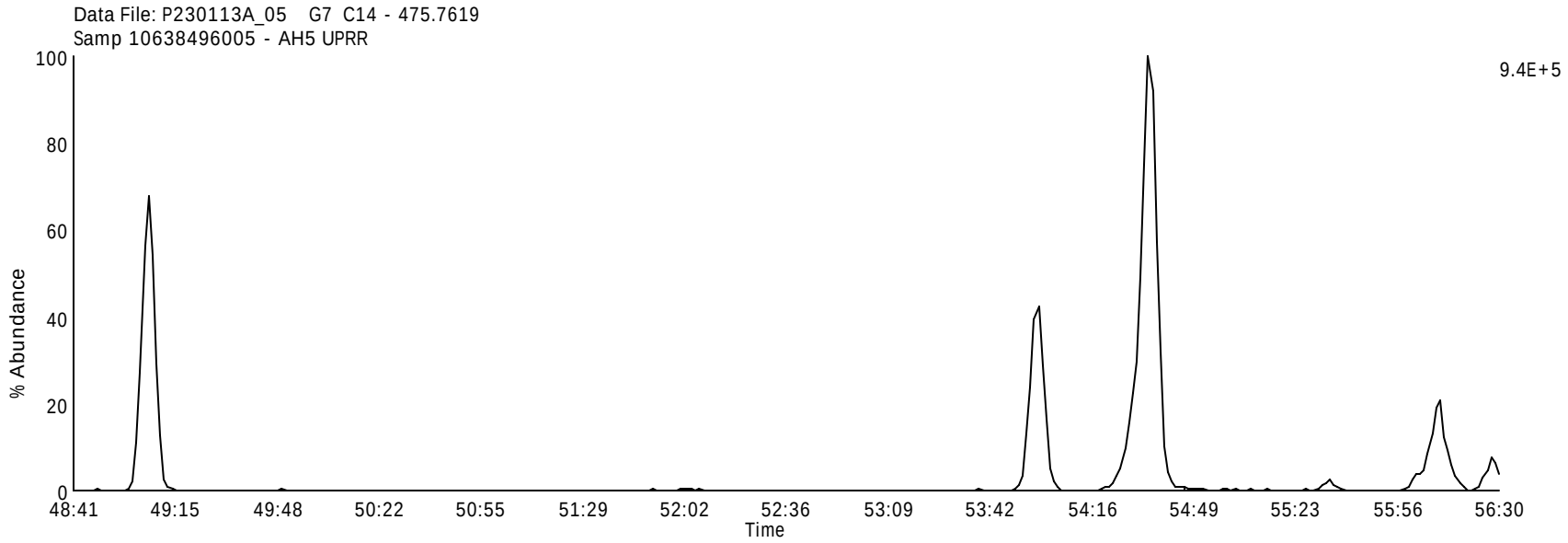




Labeled Nona Chlorinated Biphenyls

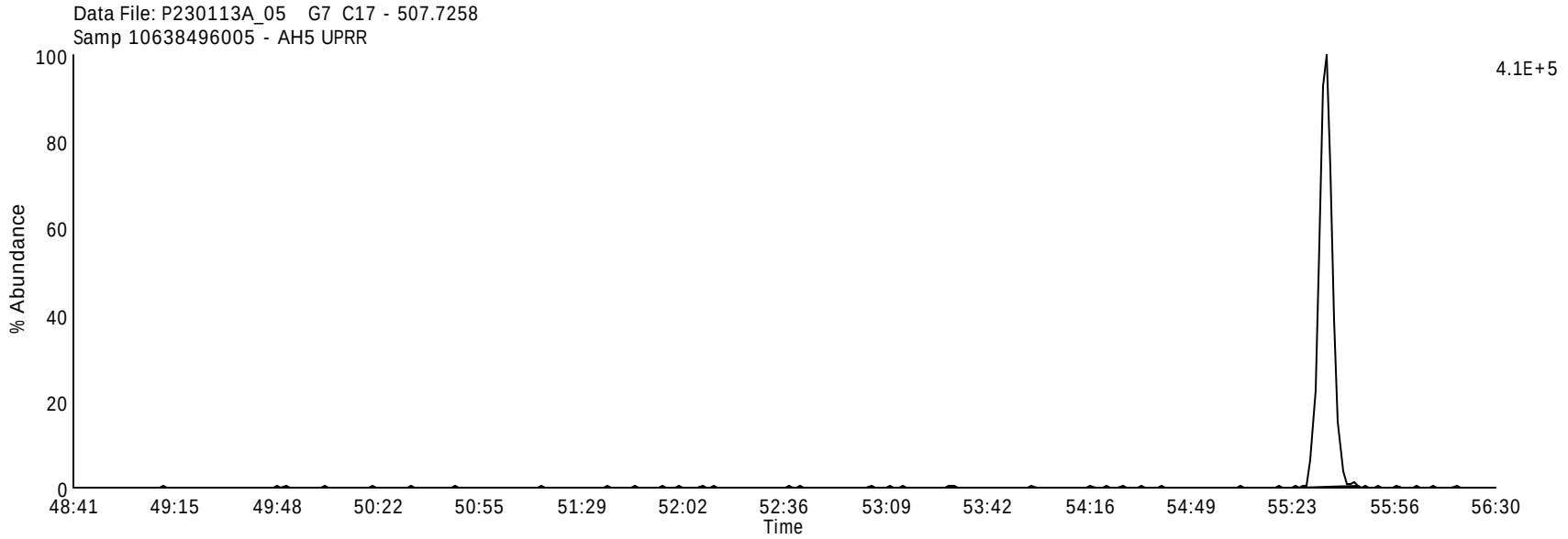
Data File Name: P230113A_05
Lab Sample ID: 10638496005
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496005 - AH5 UPRR
Client Sample ID: SB13-0.0-0.5-1022

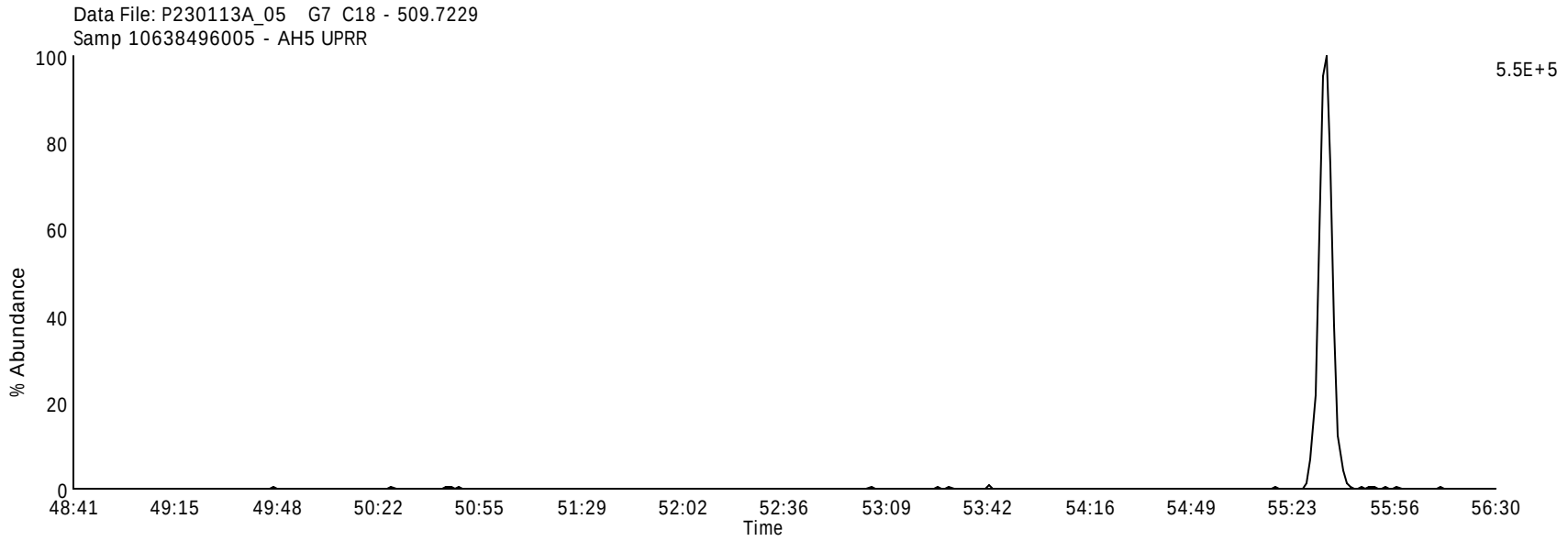




Labeled Deca Chlorinated Biphenyl

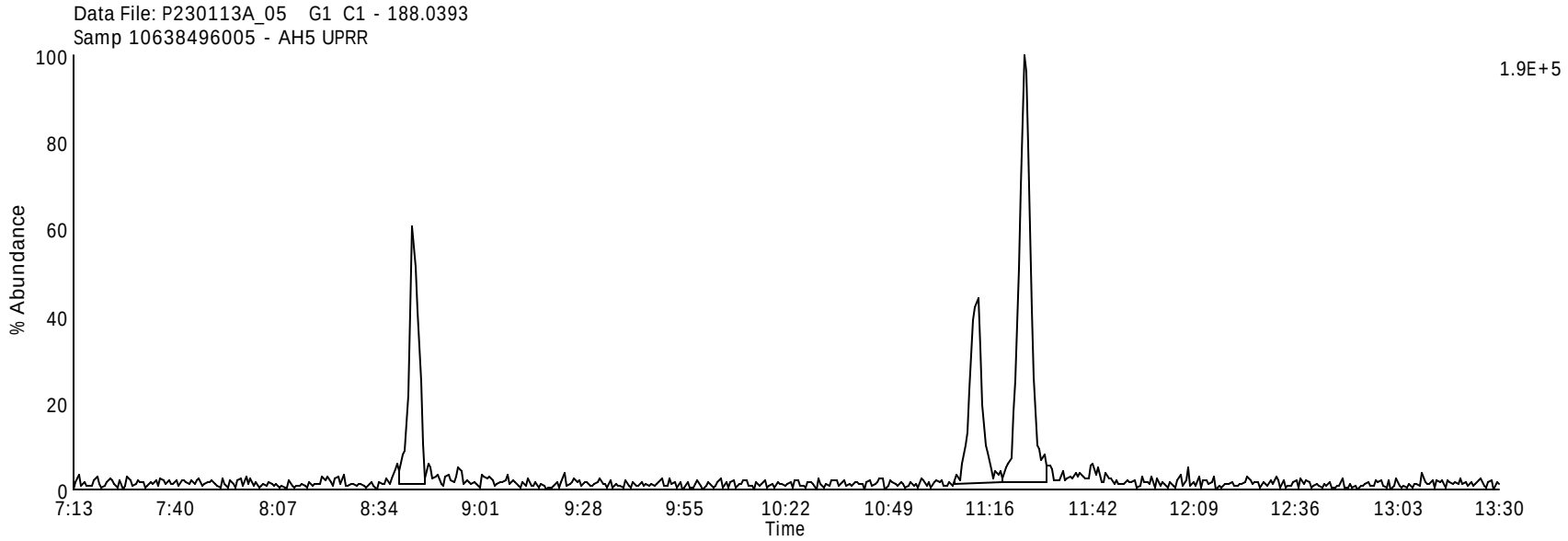
Data File Name: P230113A_05	Lab Sample ID: 10638496005
Date Acquired: 1/13/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496005 - AH5 UPRR	Client Sample ID: SB13-0.0-0.5-1022

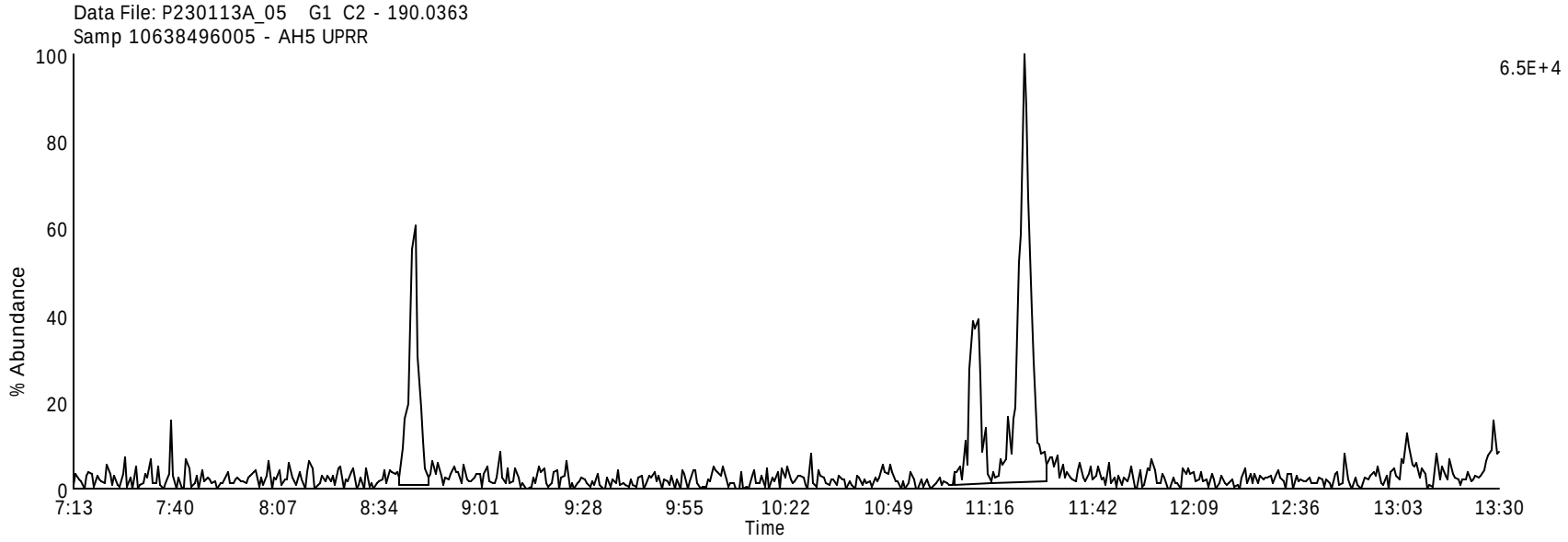




Mono Chlorinated Biphenyls

Data File Name: P230113A_05
Lab Sample ID: 10638496005
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496005 - AH5 UPRR
Client Sample ID: SB13-0.0-0.5-1022

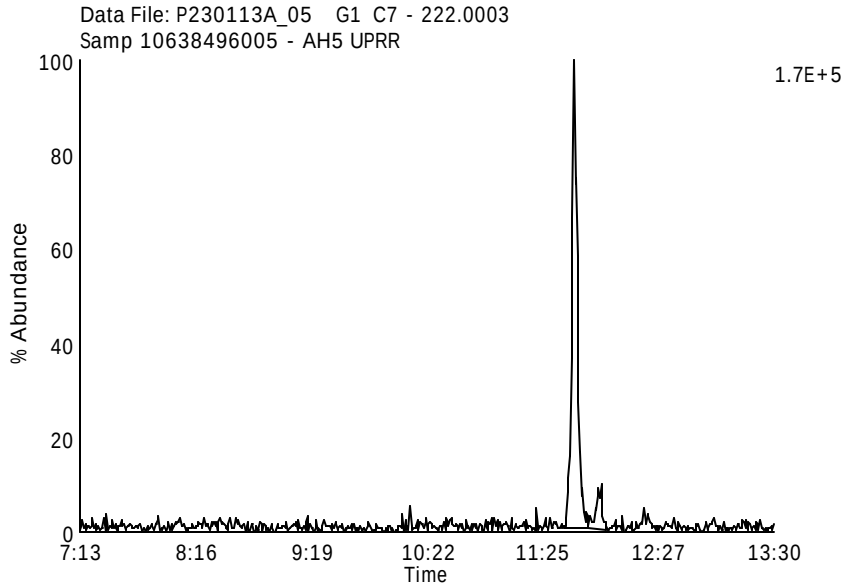


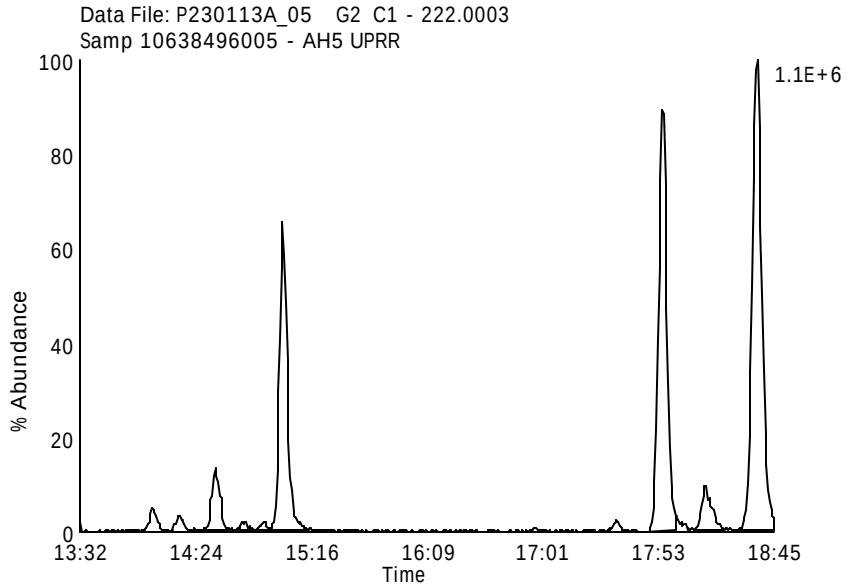


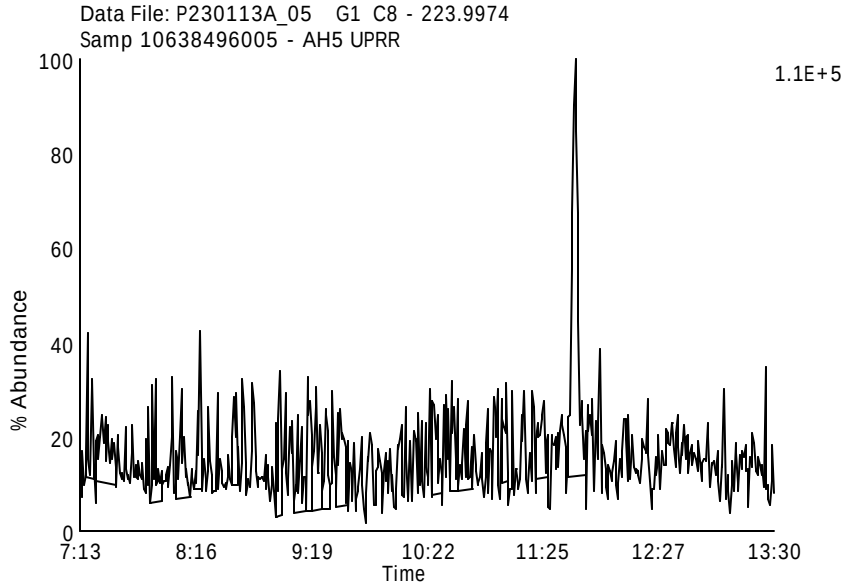
Di Chlorinated Biphenyls

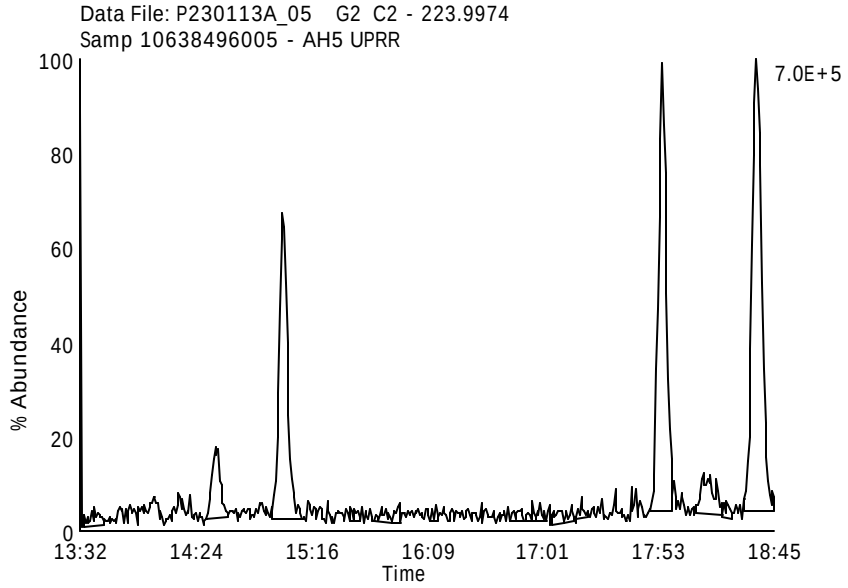
Data File Name: P230113A_05
Date Acquired: 1/13/2023
Sample Description: Samp 10638496005 - AH5 UPRR

Lab Sample ID: 10638496005
Instrument: 10MSHR09 (P)
Client Sample ID: SB13-0.0-0.5-1022





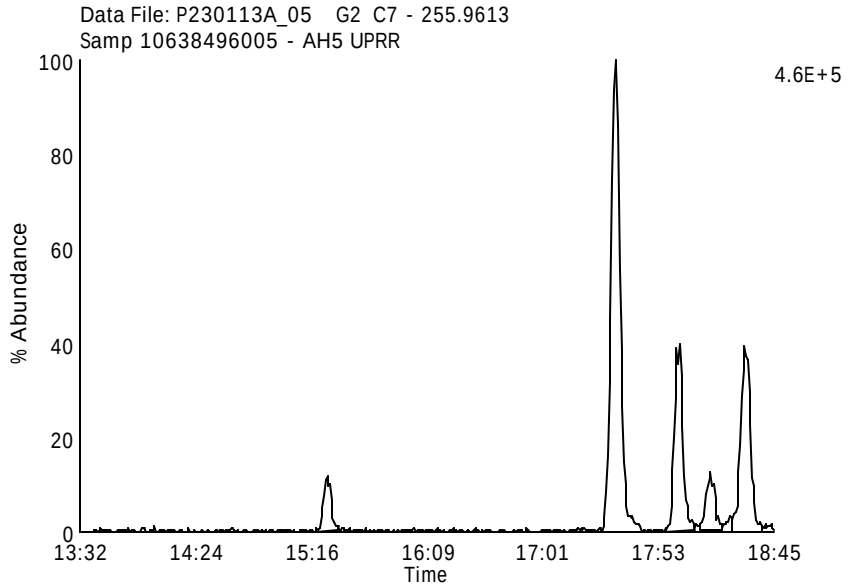


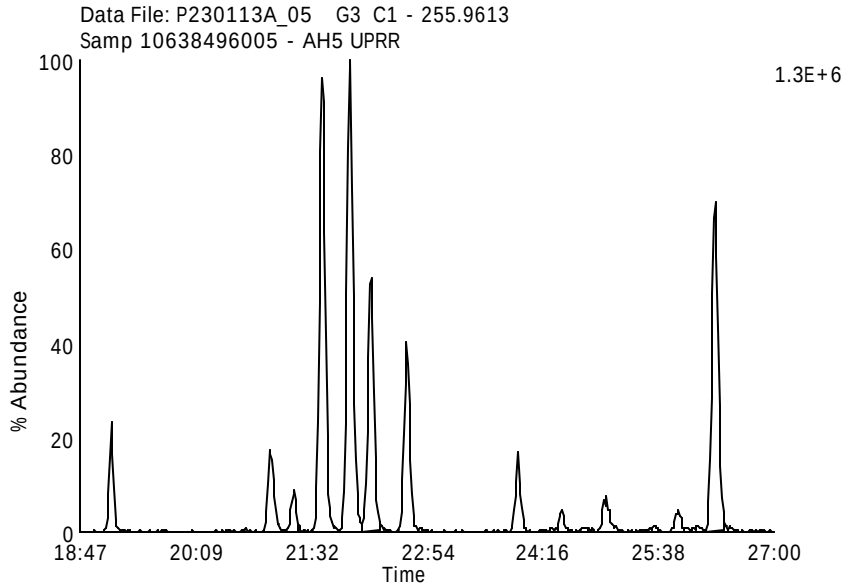


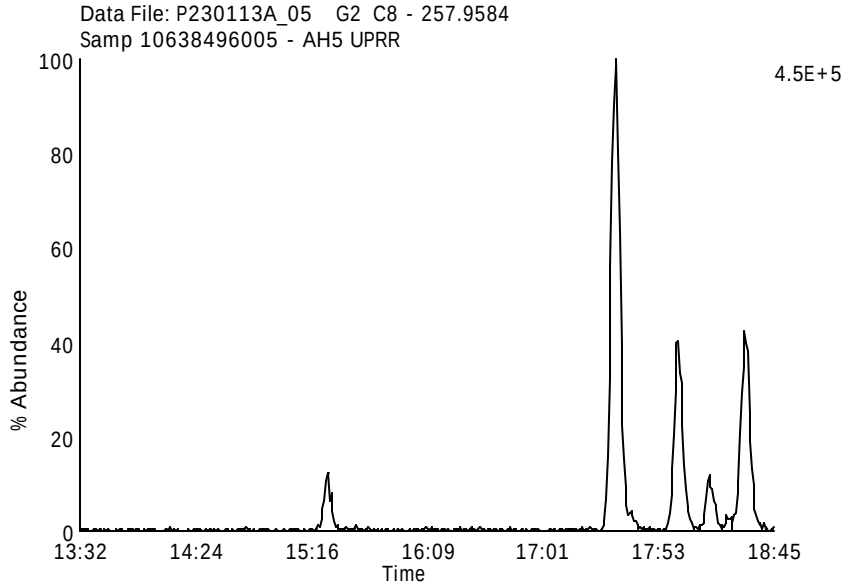
Tri Chlorinated Biphenyls

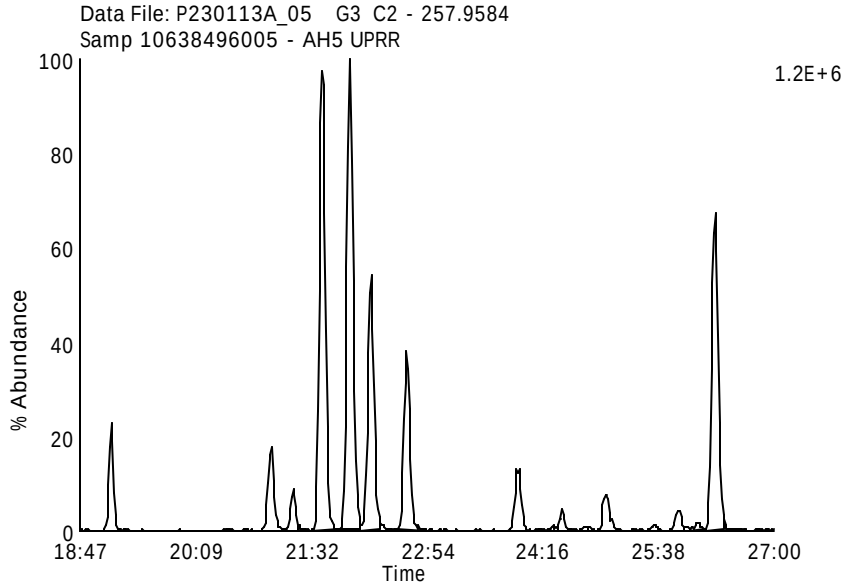
Data File Name: P230113A_05
Date Acquired: 1/13/2023
Sample Description: Samp 10638496005 - AH5 UPRR

Lab Sample ID: 10638496005
Instrument: 10MSHR09 (P)
Client Sample ID: SB13-0.0-0.5-1022





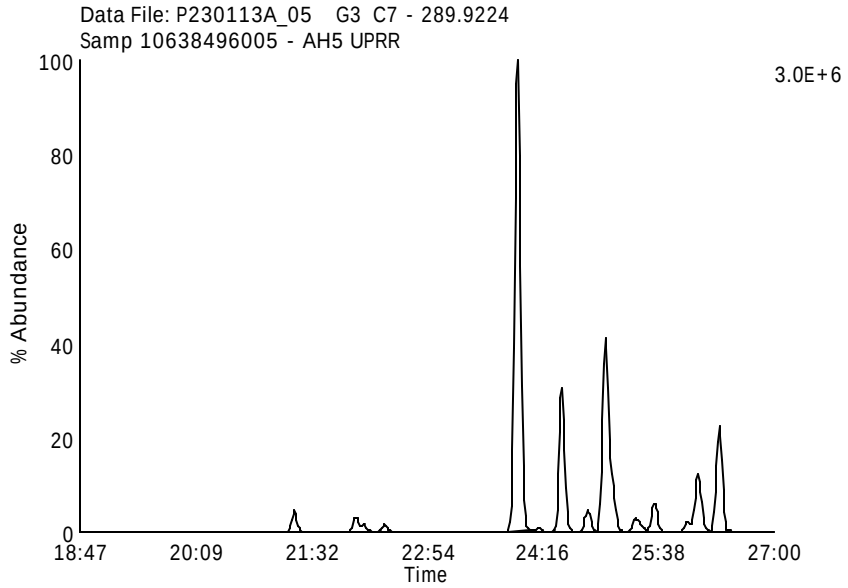


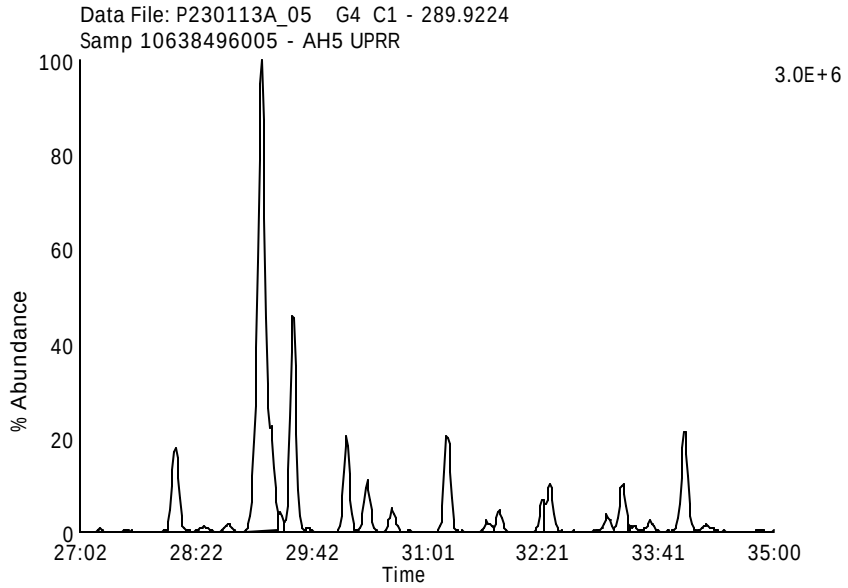


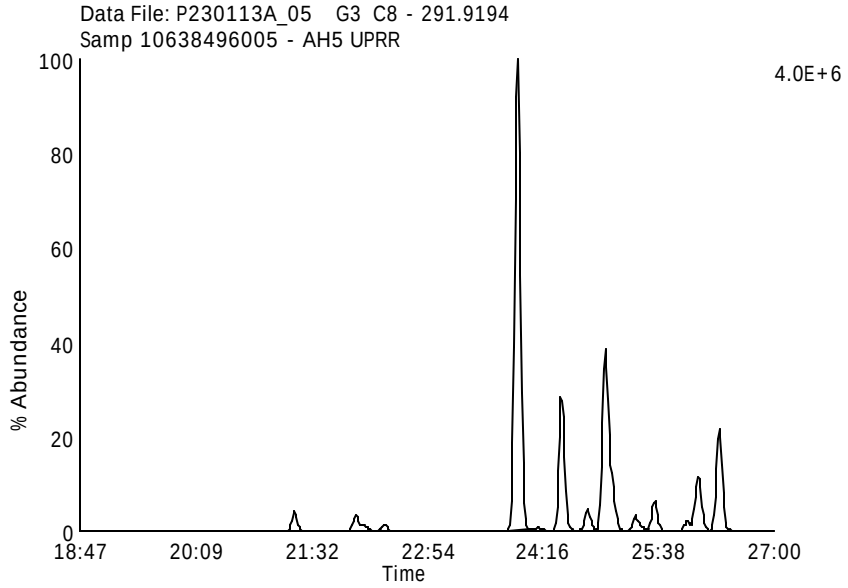
Tetra Chlorinated Biphenyls

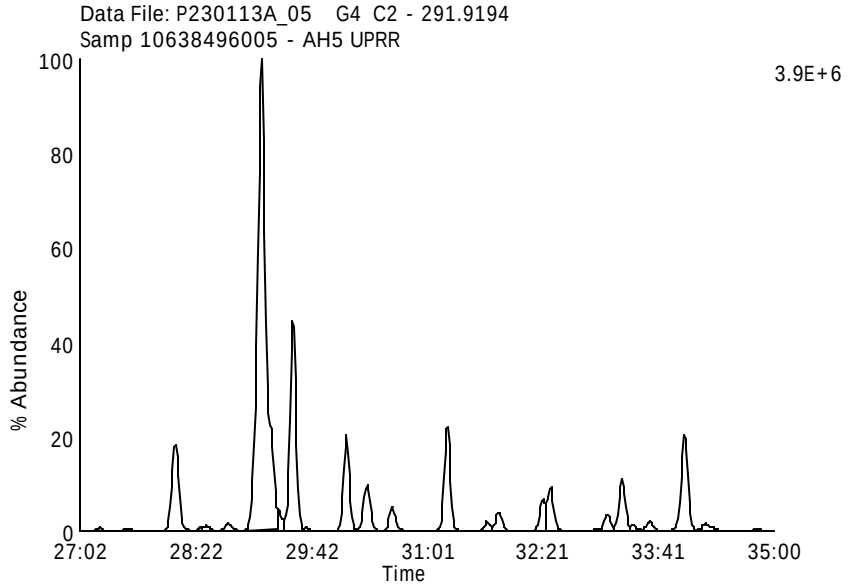
Data File Name: P230113A_05
Date Acquired: 1/13/2023
Sample Description: Samp 10638496005 - AH5 UPRR

Lab Sample ID: 10638496005
Instrument: 10MSHR09 (P)
Client Sample ID: SB13-0.0-0.5-1022





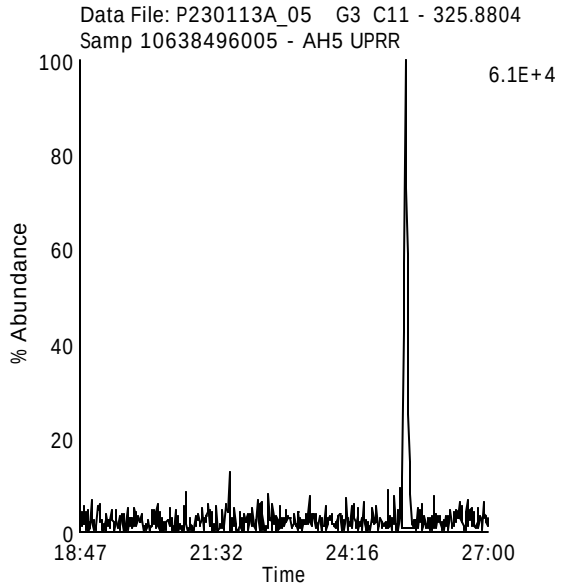


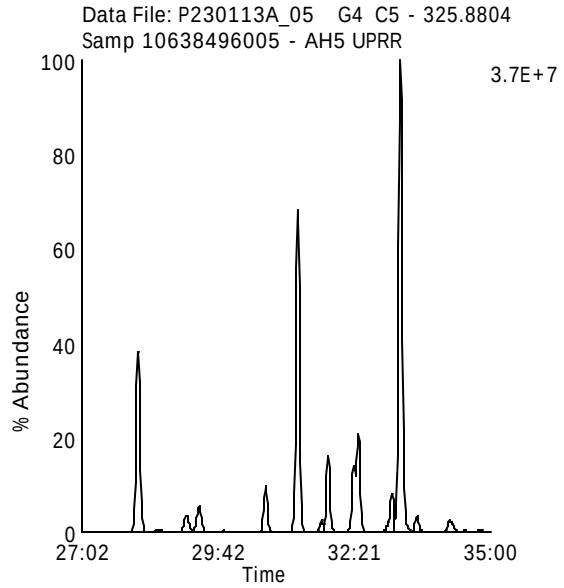


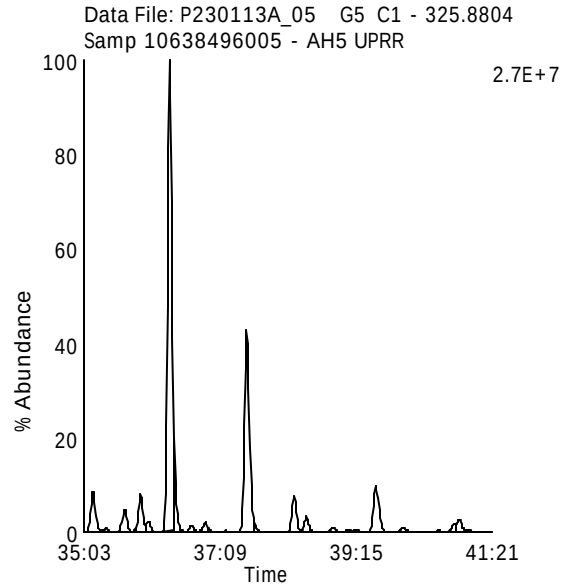
Penta Chlorinated Biphenyls

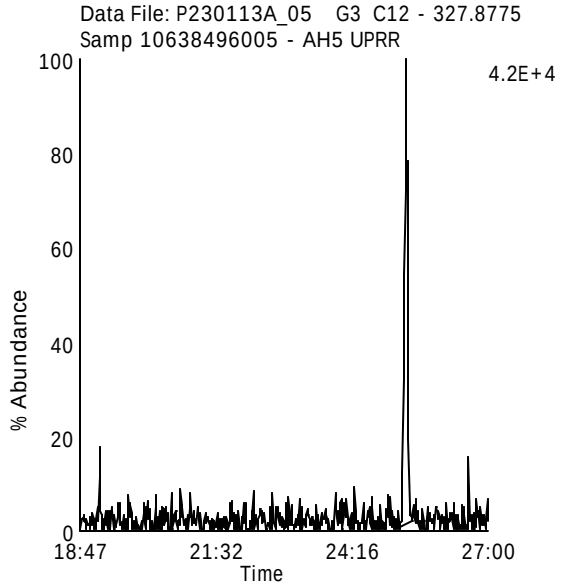
Data File Name: P230113A_05
Date Acquired: 1/13/2023
Sample Description: Samp 10638496005 - AH5 UPRR

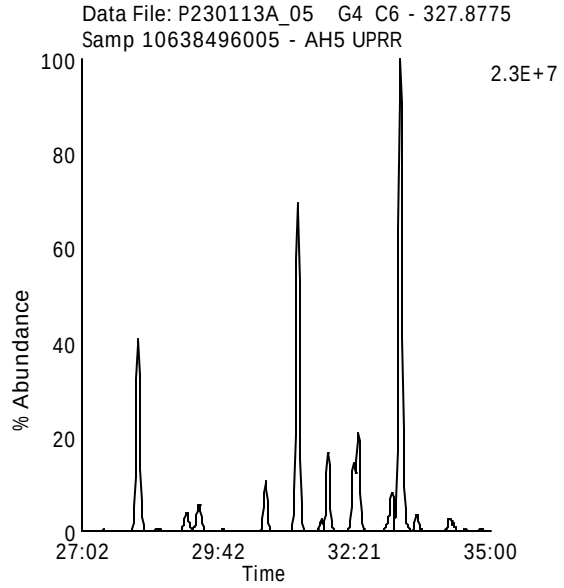
Lab Sample ID: 10638496005
Instrument: 10MSHR09 (P)
Client Sample ID: SB13-0.0-0.5-1022

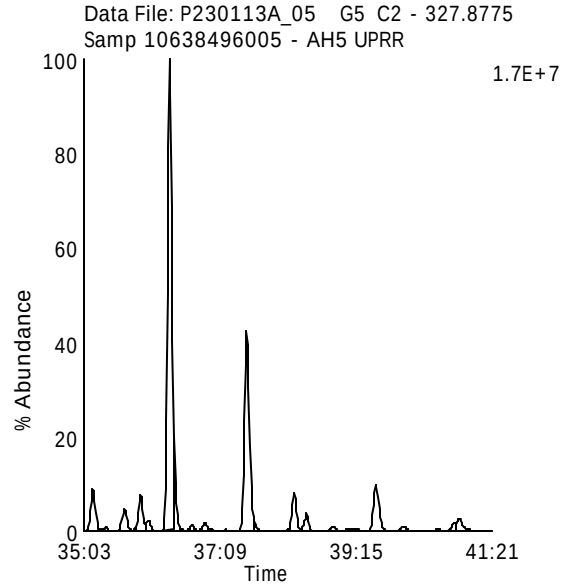






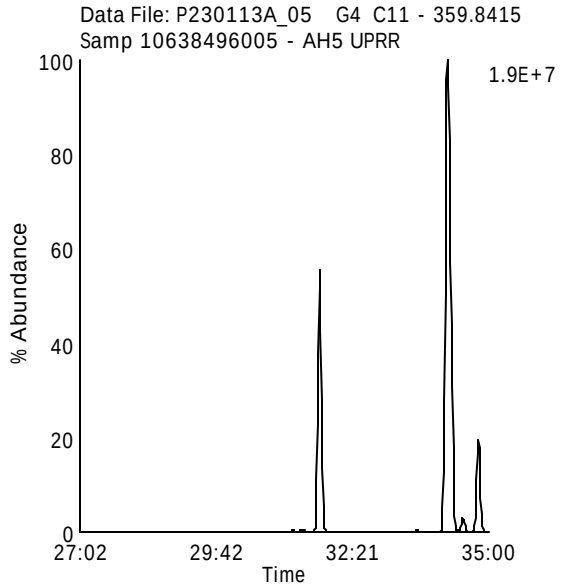


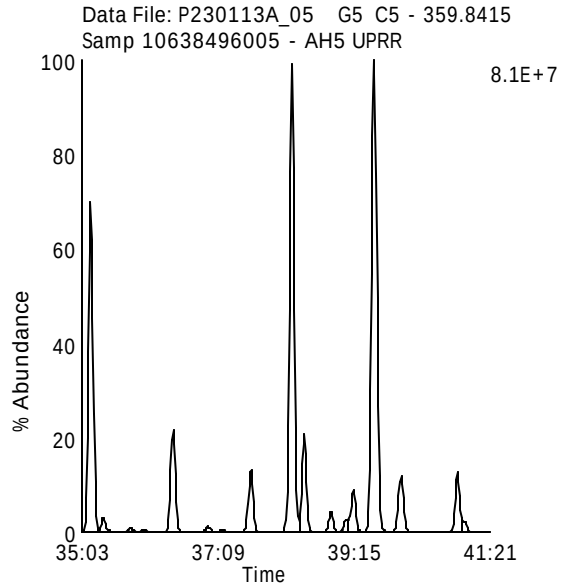


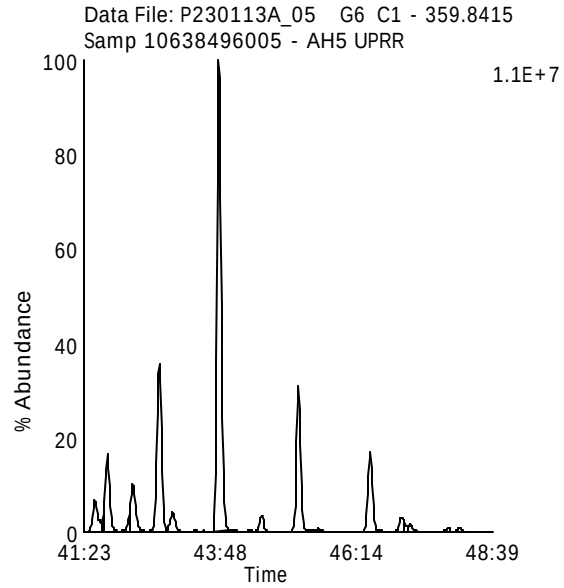


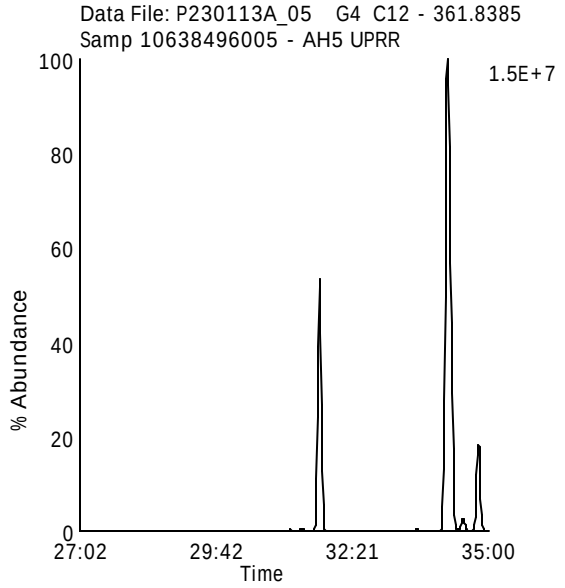
Hexa Chlorinated Biphenyls

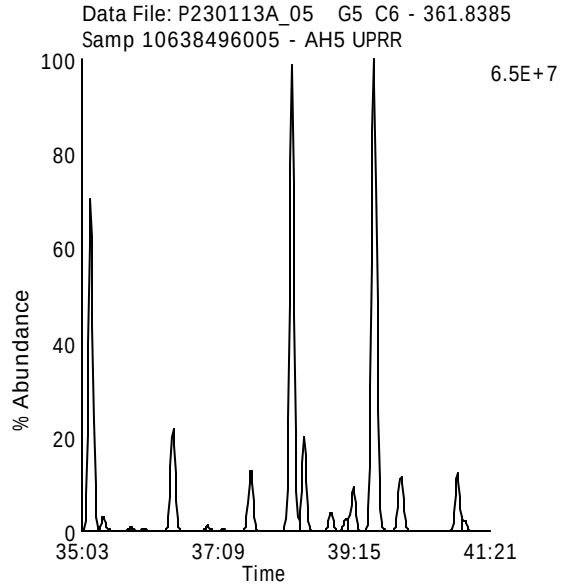
Data File Name: P230113A_05
Lab Sample ID: 10638496005
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496005 - AH5 UPRR
Client Sample ID: SB13-0.0-0.5-1022

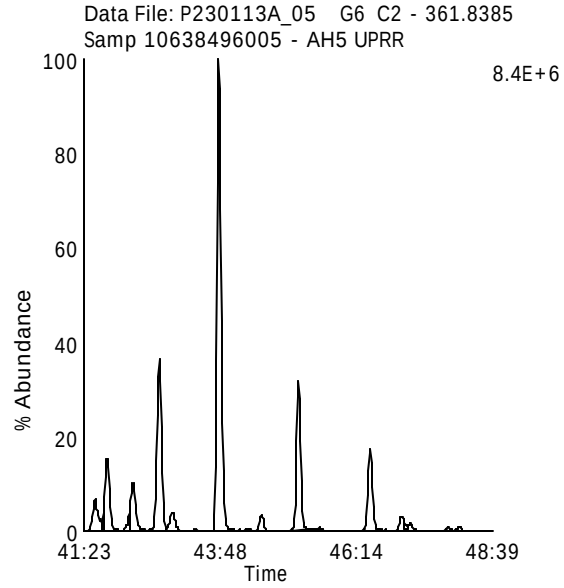






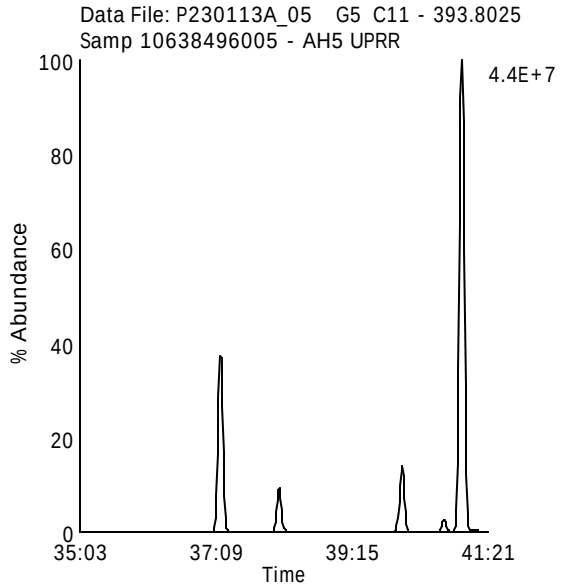


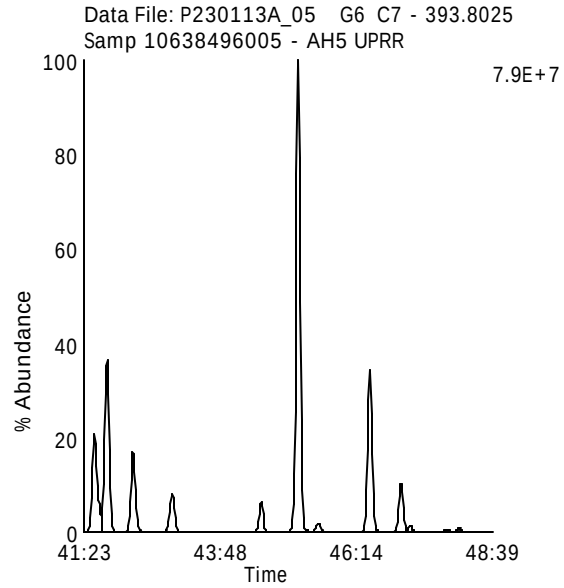


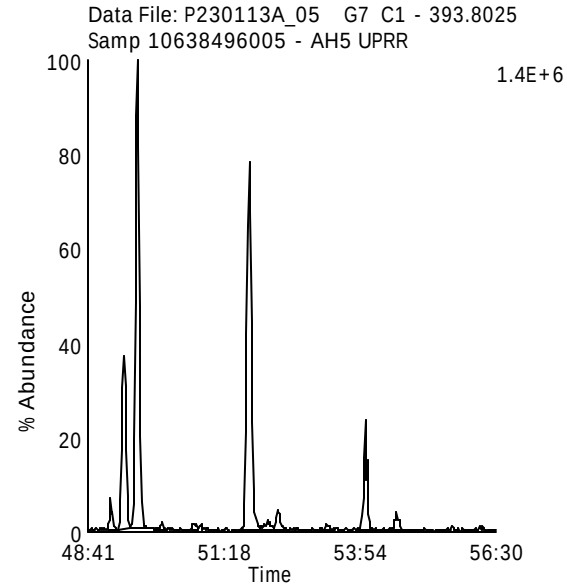


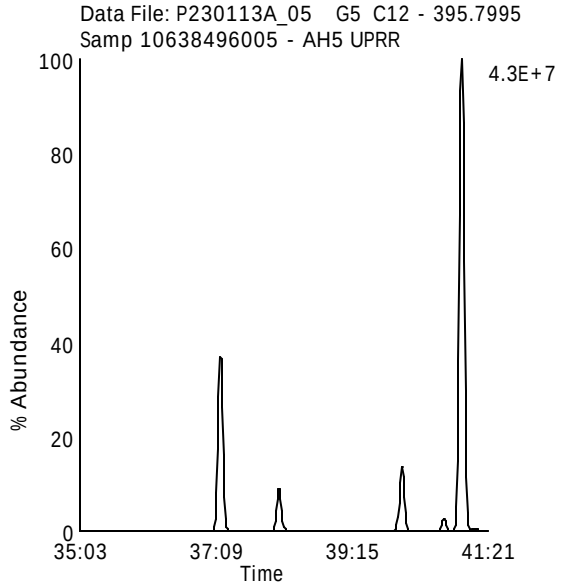
Hepta Chlorinated Biphenyls

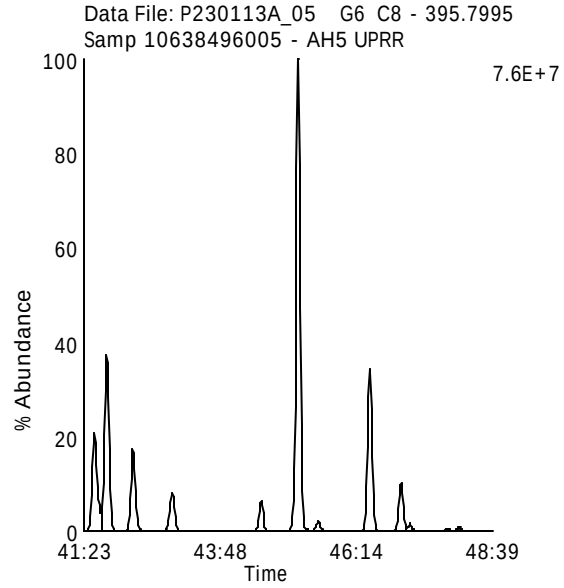
Data File Name: P230113A_05
Lab Sample ID: 10638496005
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496005 - AH5 UPRR
Client Sample ID: SB13-0.0-0.5-1022

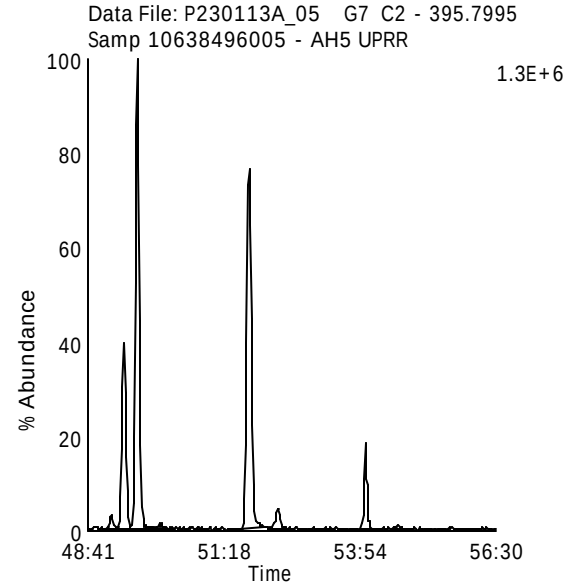








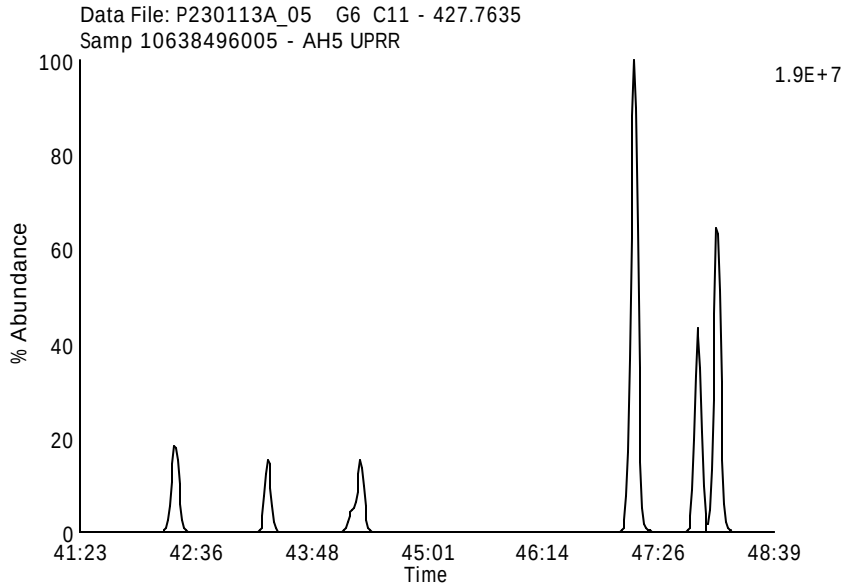


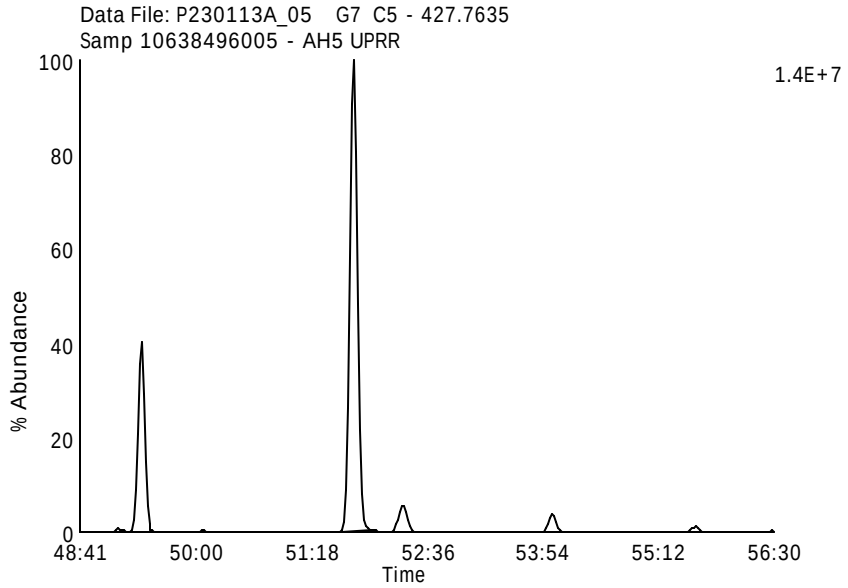


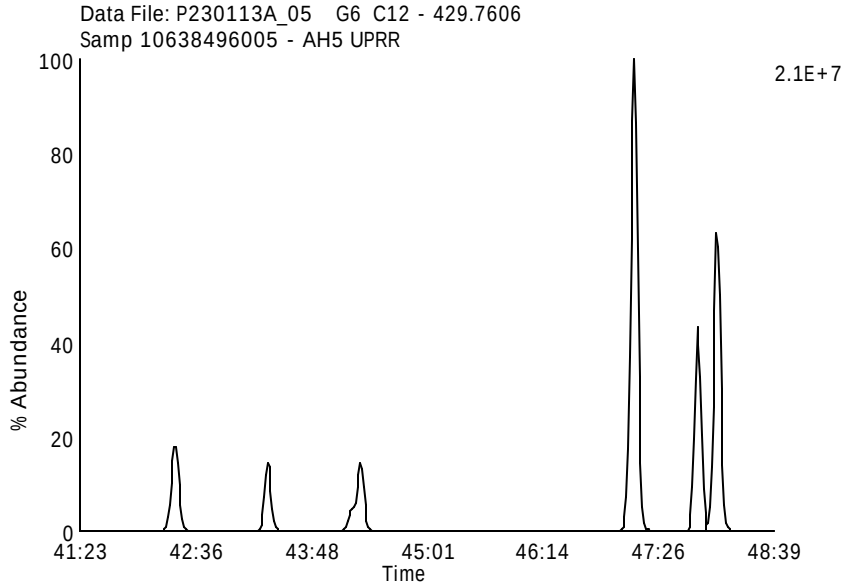
Octa Chlorinated Biphenyls

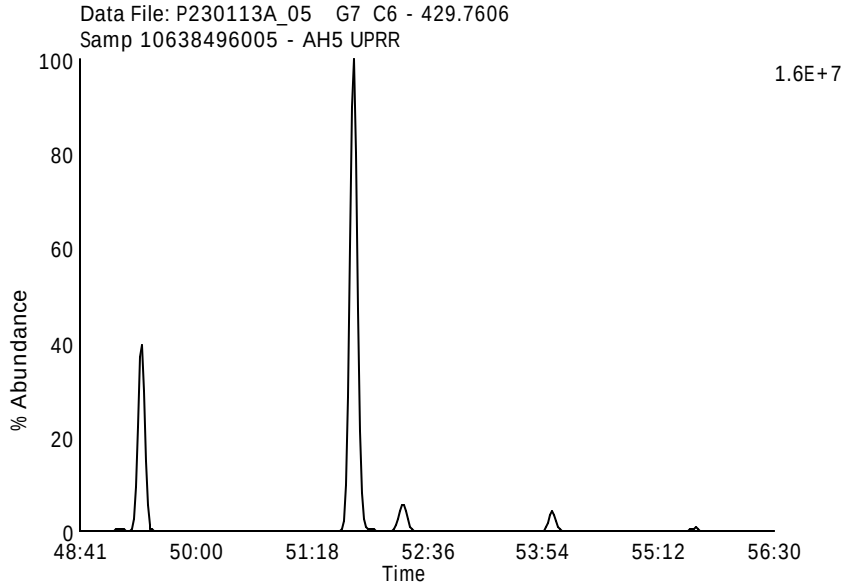
Data File Name: P230113A_05
Date Acquired: 1/13/2023
Sample Description: Samp 10638496005 - AH5 UPRR

Lab Sample ID: 10638496005
Instrument: 10MSHR09 (P)
Client Sample ID: SB13-0.0-0.5-1022



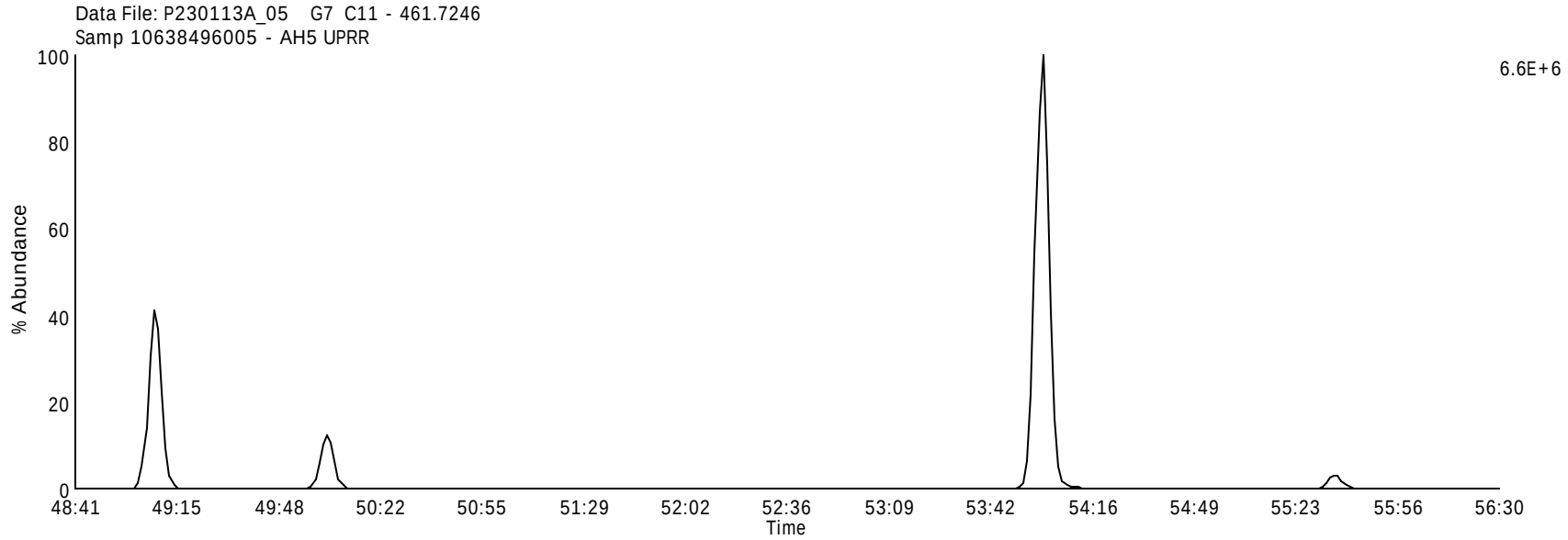


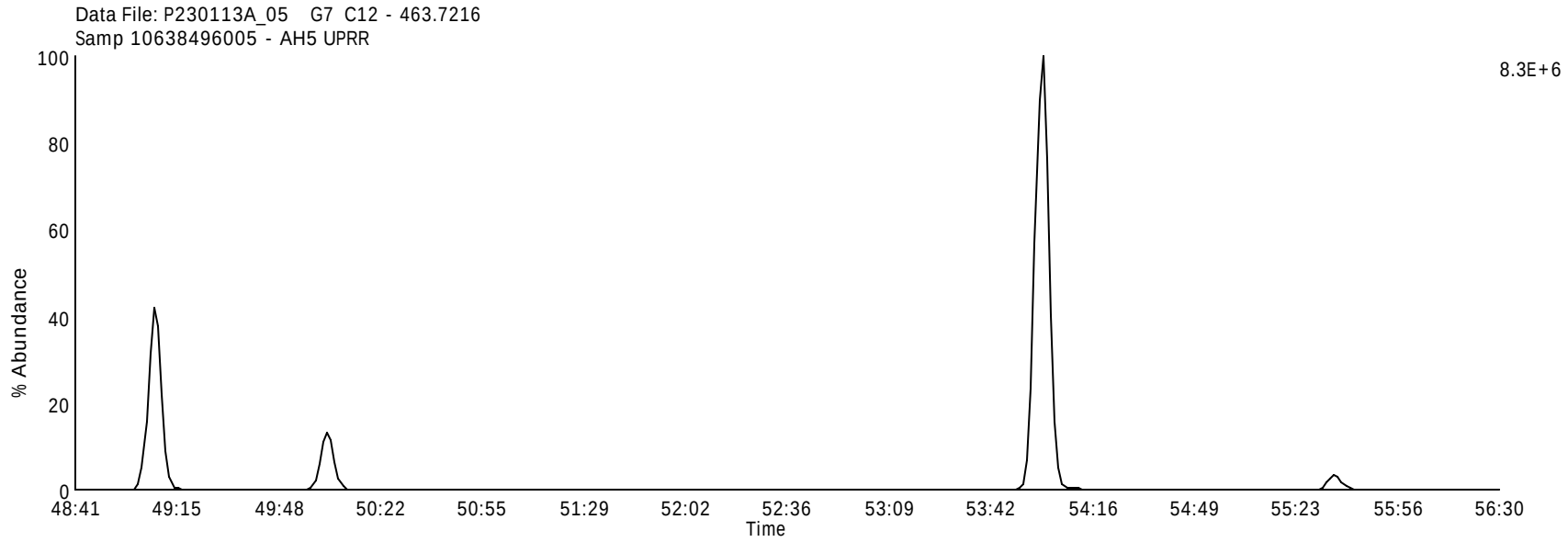




Nona Chlorinated Biphenyls

Data File Name: P230113A_05	Lab Sample ID: 10638496005
Date Acquired: 1/13/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496005 - AH5 UPRR	Client Sample ID: SB13-0.0-0.5-1022



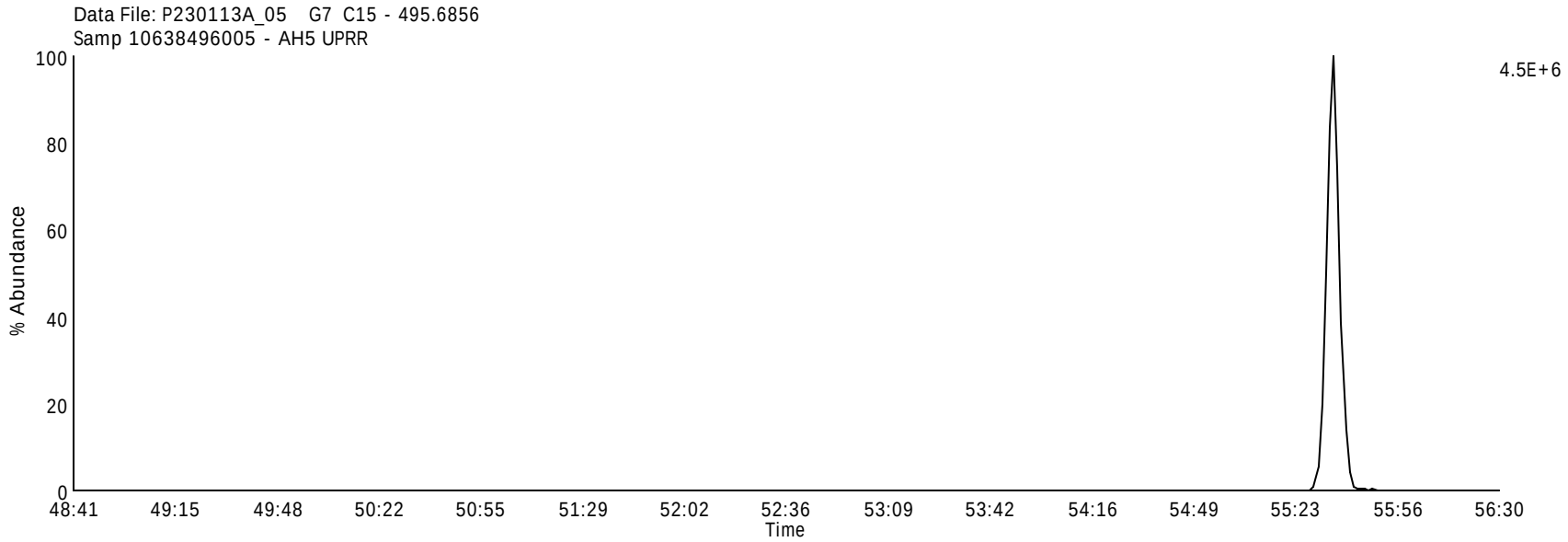


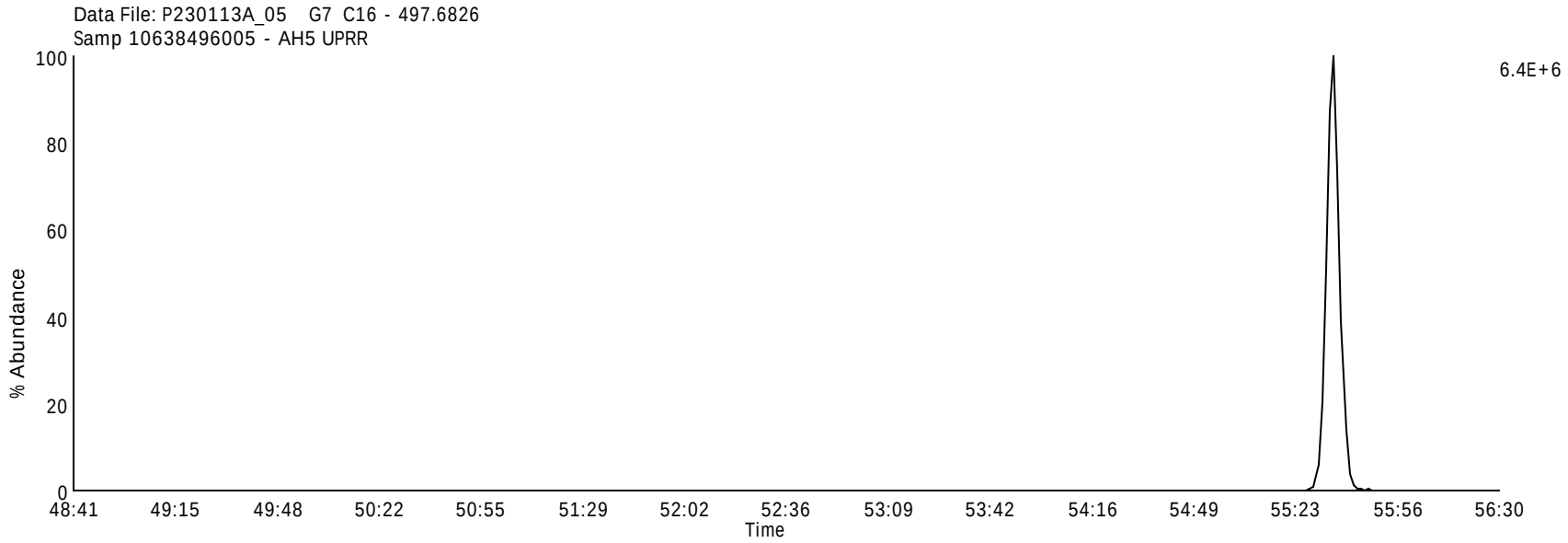
Deca Chlorinated Biphenyl

Data File Name: P230113A_05 | Lab Sample ID: 10638496005

Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

Sample Description: Samp 10638496005 - AH5 UPRR | Client Sample ID: SB13-0.0-0.5-1022

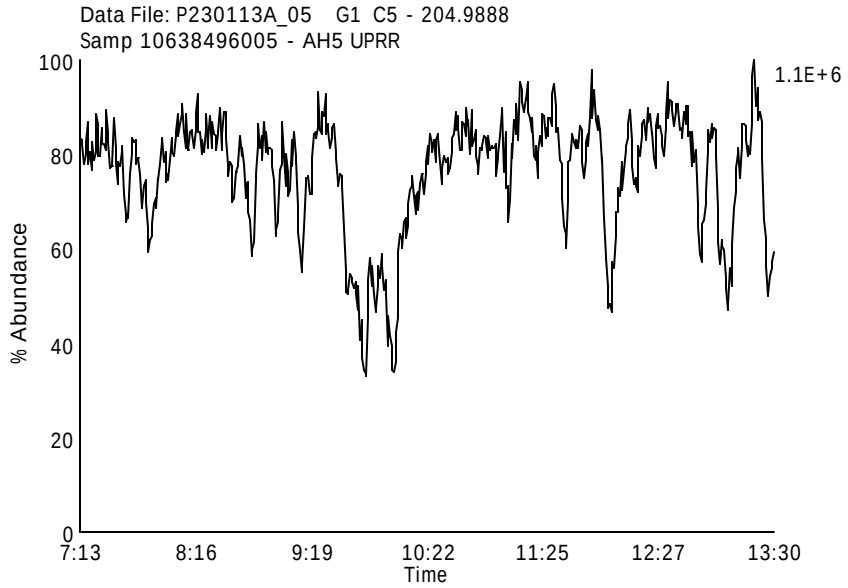


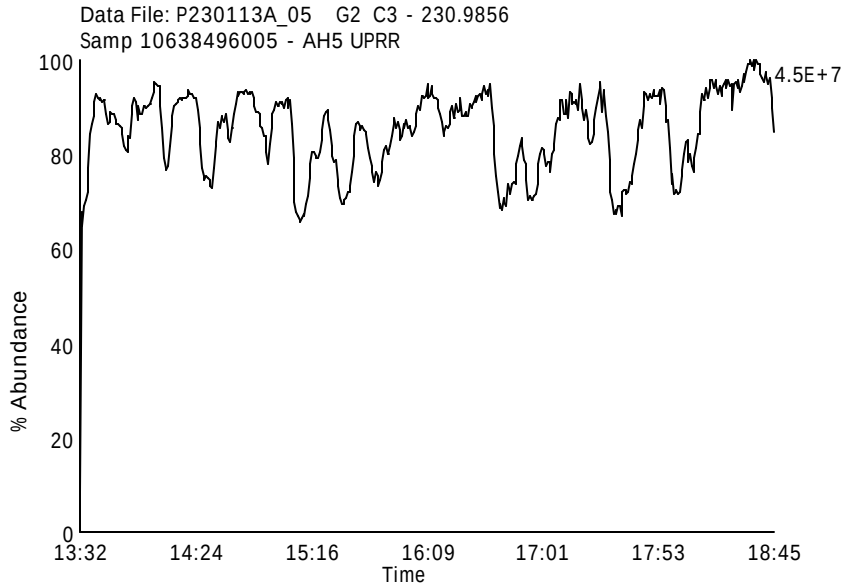


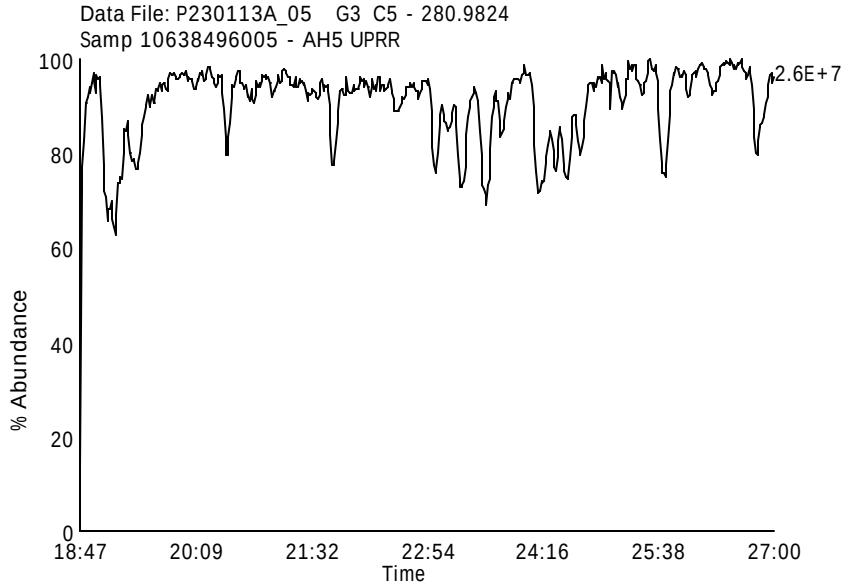
Group 1 - 4 Lock mass

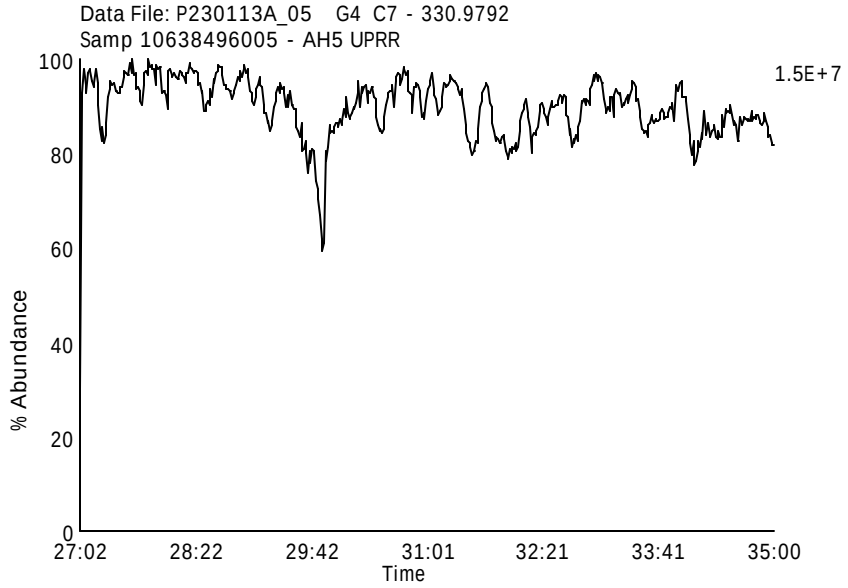
Data File Name: P230113A_05
Date Acquired: 1/13/2023
Sample Description: Samp 10638496005 - AH5 UPRR

Lab Sample ID: 10638496005
Instrument: 10MSHR09 (P)
Client Sample ID: SB13-0.0-0.5-1022





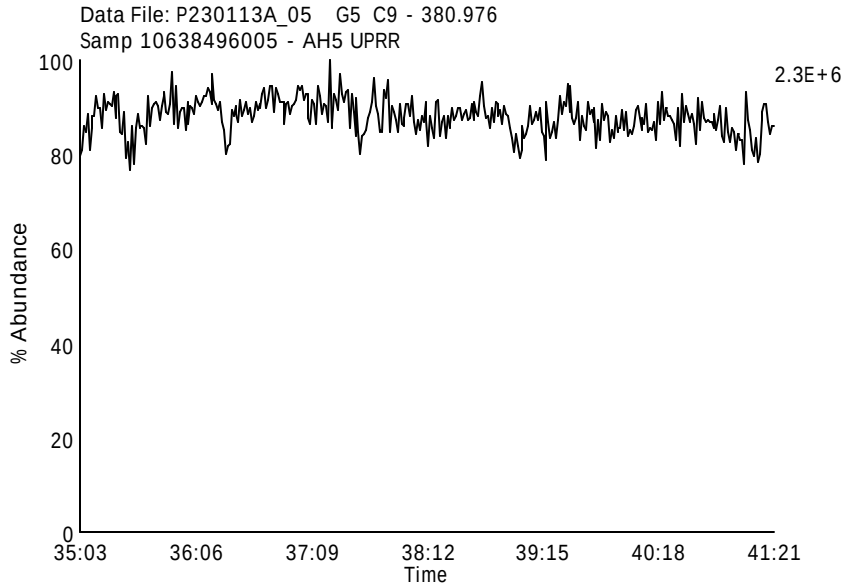


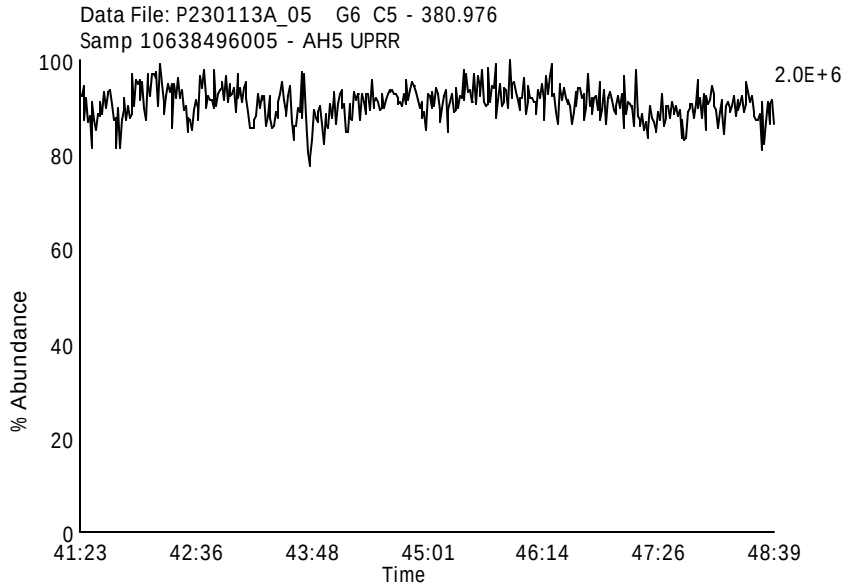


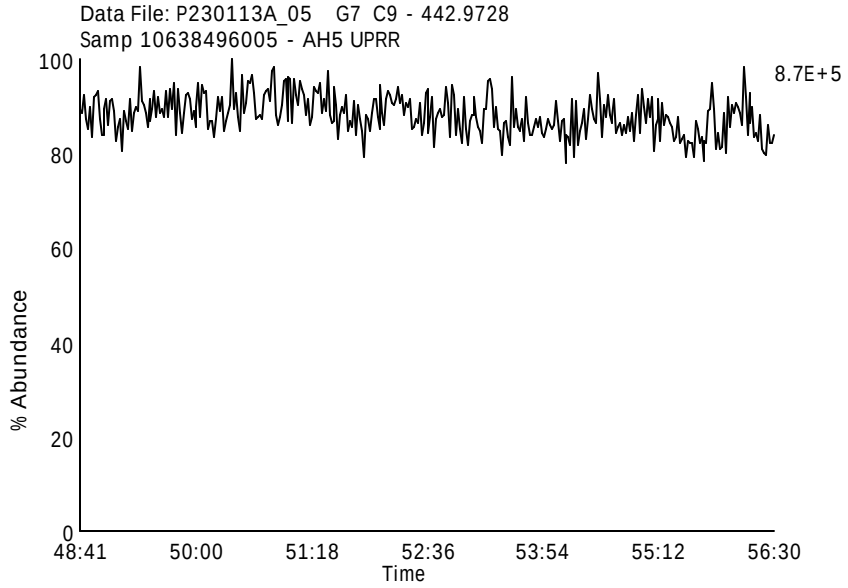
Group 5 - 7 Lock mass

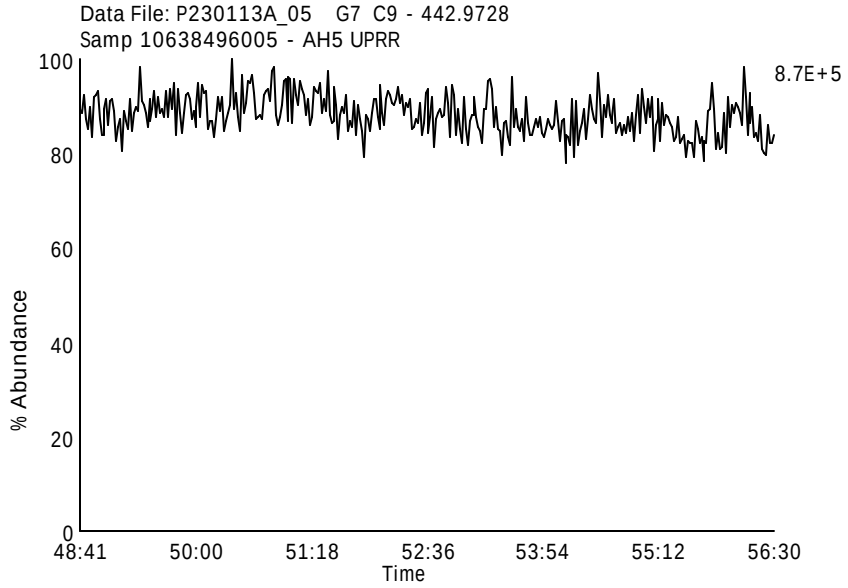
Data File Name: P230113A_05
Date Acquired: 1/13/2023
Sample Description: Samp 10638496005 - AH5 UPRR

Lab Sample ID: 10638496005
Instrument: 10MSHR09 (P)
Client Sample ID: SB13-0.0-0.5-1022



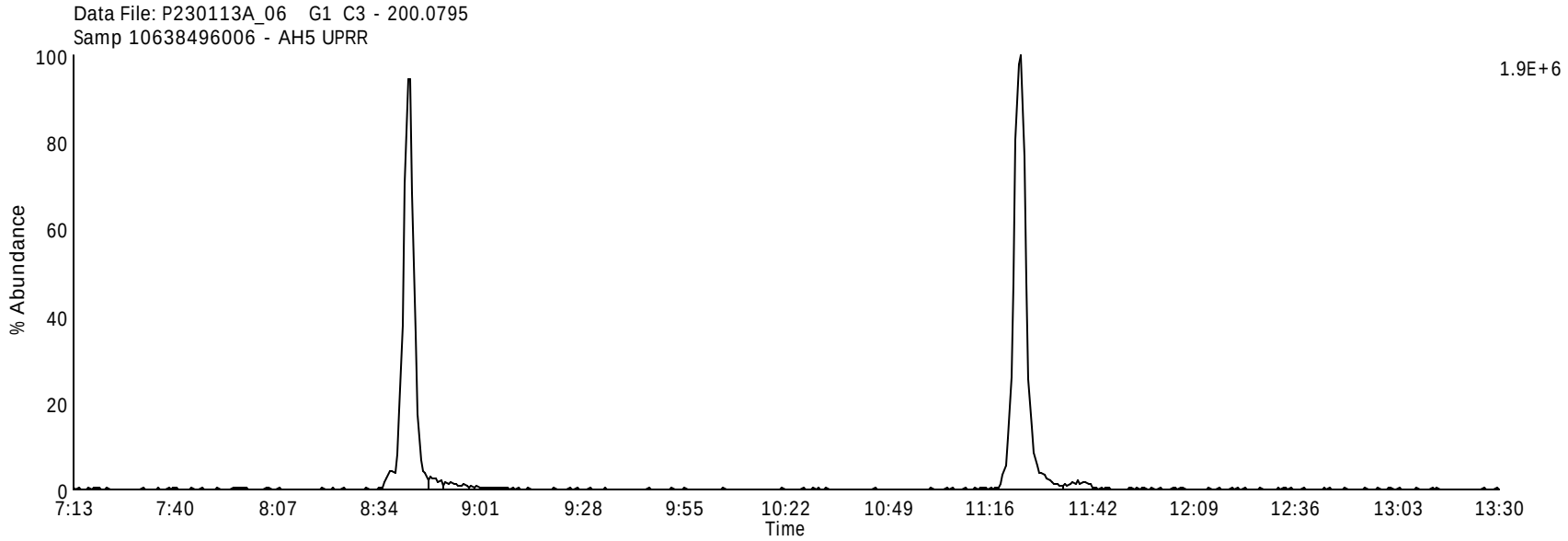


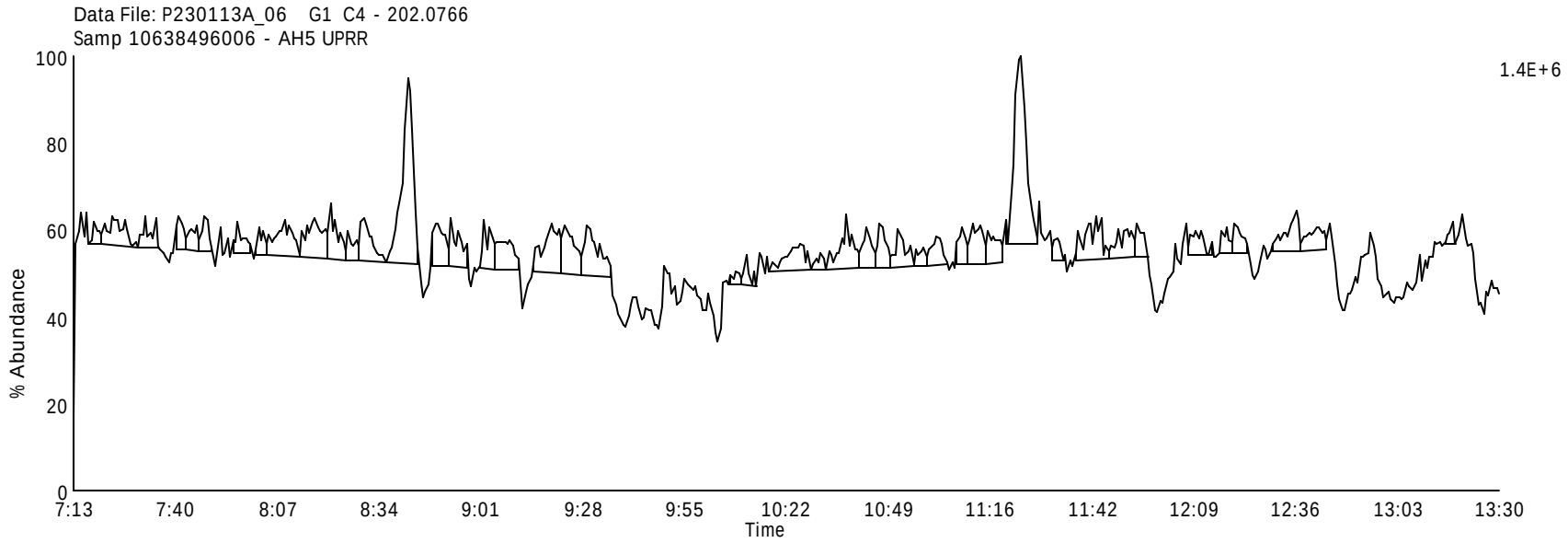




Labeled Mono Chlorinated Biphenyls

Data File Name: P230113A_06	Lab Sample ID: 10638496006
Date Acquired: 1/13/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496006 - AH5 UPRR	Client Sample ID: SB14-1.0-1.5-1022

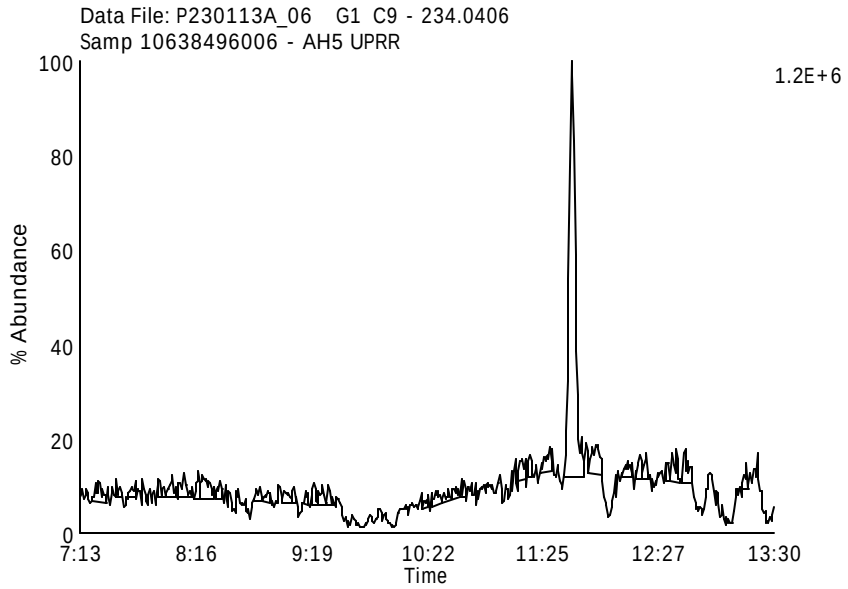


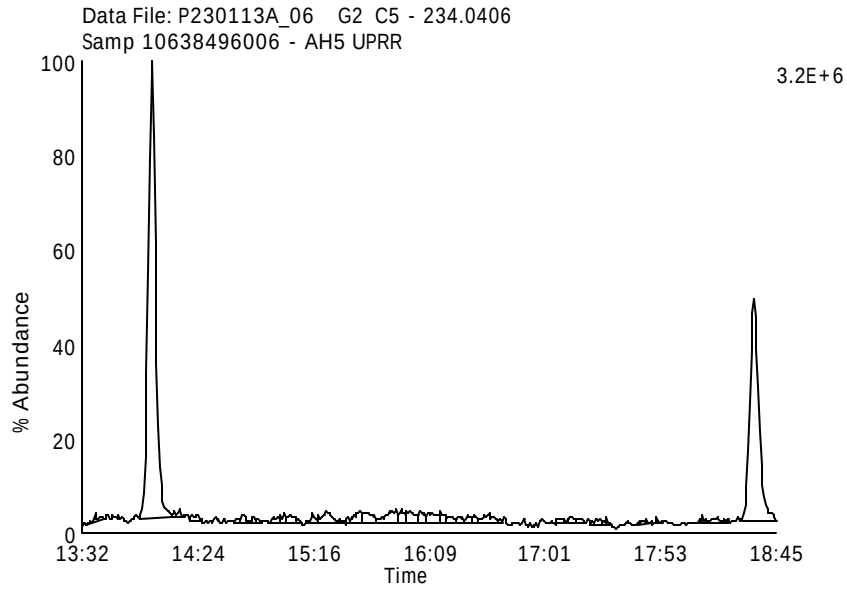


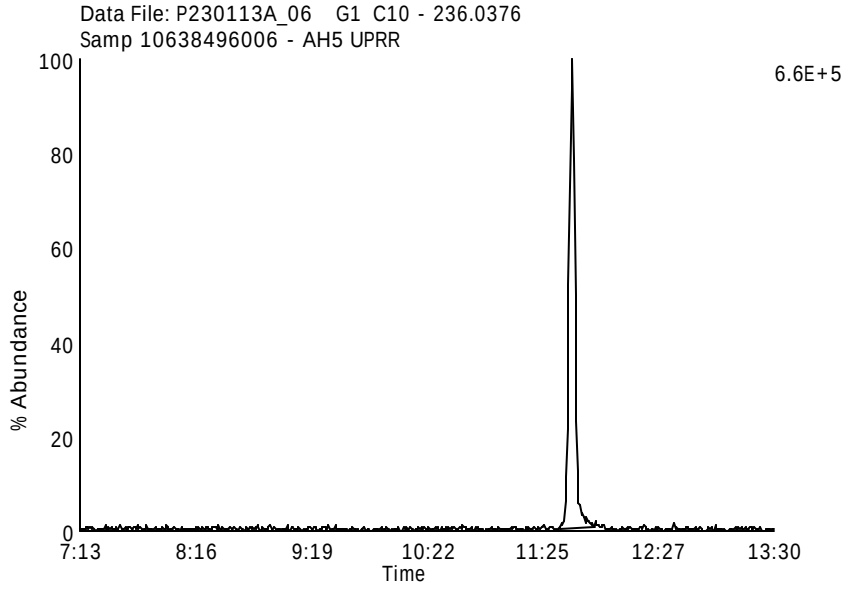
Labeled Di Chlorinated Biphenyls

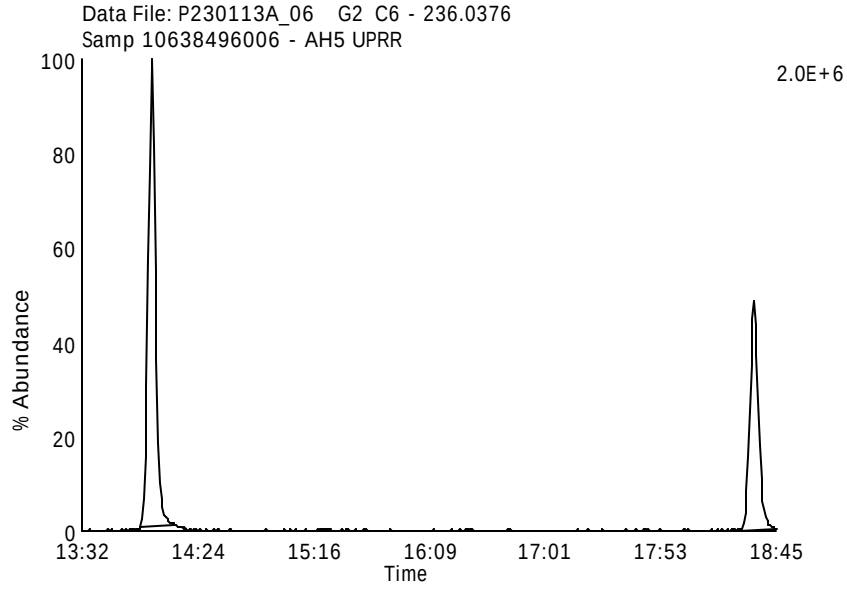
Data File Name: P230113A_06
Date Acquired: 1/13/2023
Sample Description: Samp 10638496006 - AH5 UPRR

Lab Sample ID: 10638496006
Instrument: 10MSHR09 (P)
Client Sample ID: SB14-1.0-1.5-1022



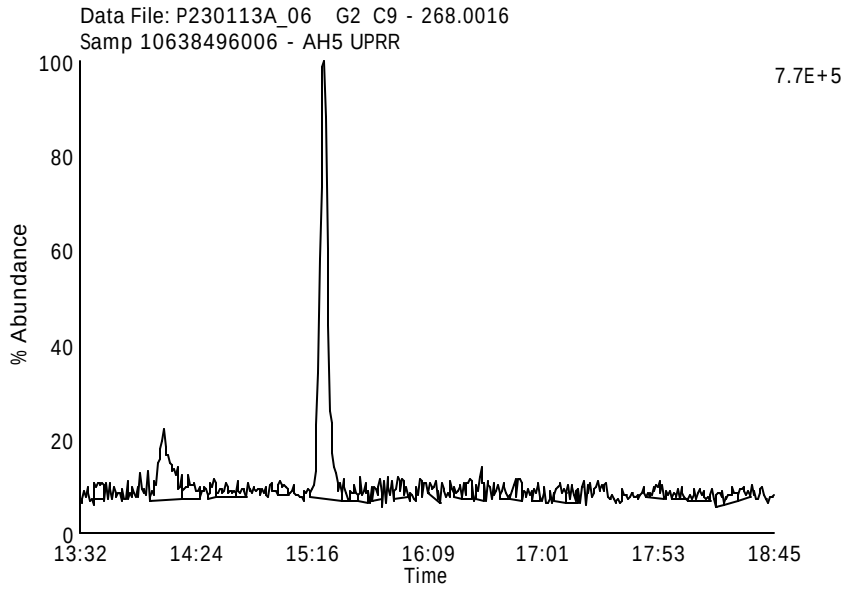


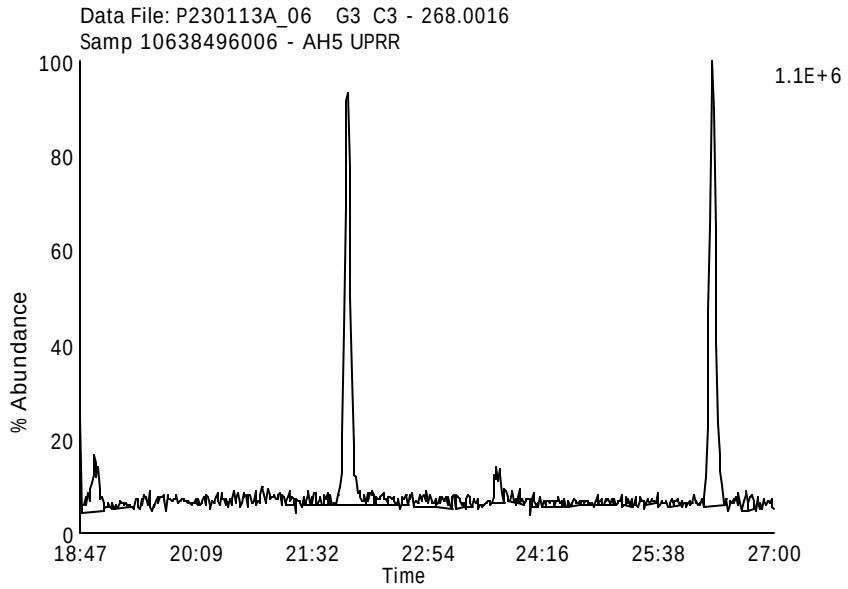


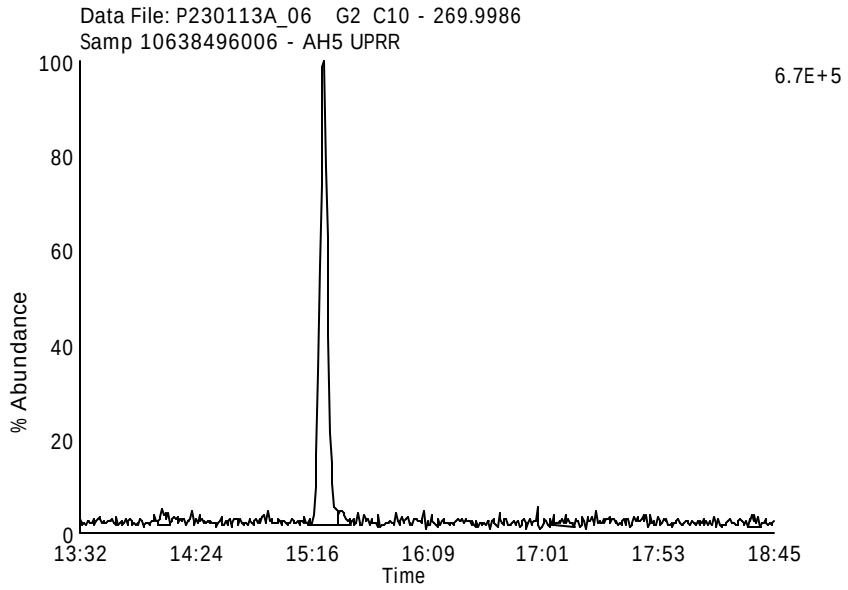


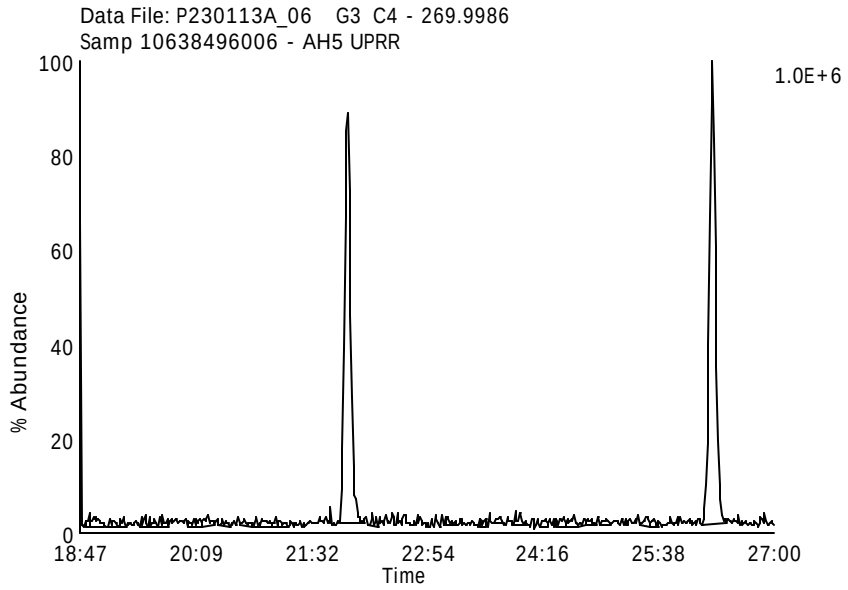
Labeled Tri Chlorinated Biphenyls

Data File Name: P230113A_06
Lab Sample ID: 10638496006
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496006 - AH5 UPRR
Client Sample ID: SB14-1.0-1.5-1022



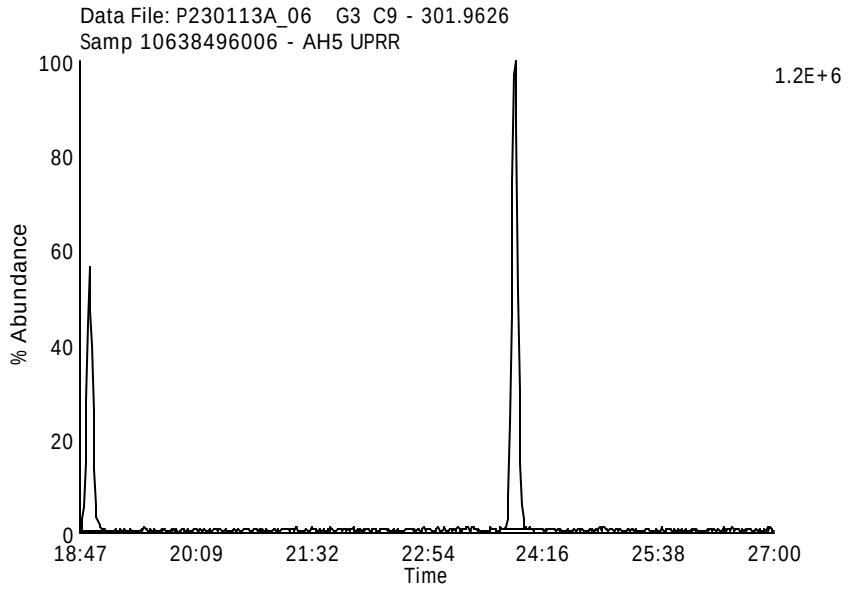


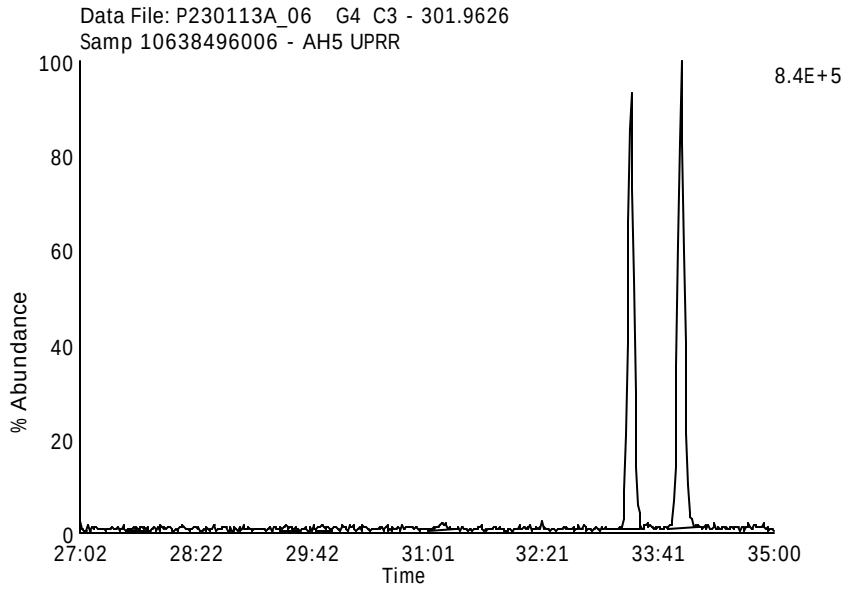


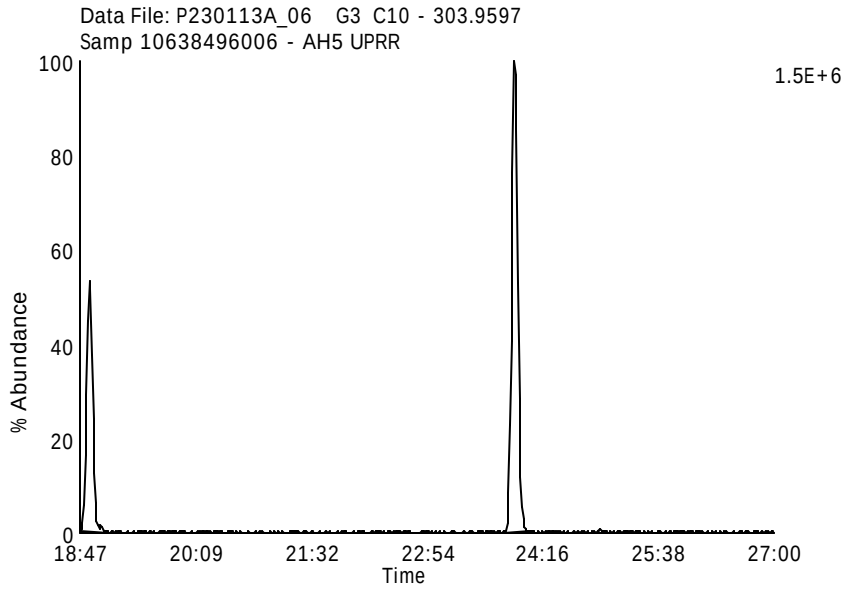


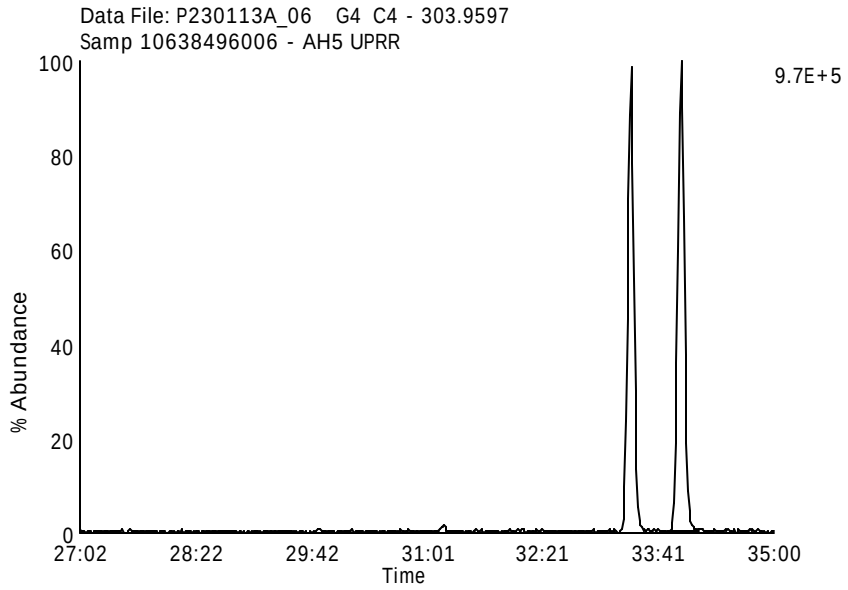
Labeled Tetra Chlorinated Biphenyls

Data File Name: P230113A_06
Lab Sample ID: 10638496006
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496006 - AH5 UPRR
Client Sample ID: SB14-1.0-1.5-1022



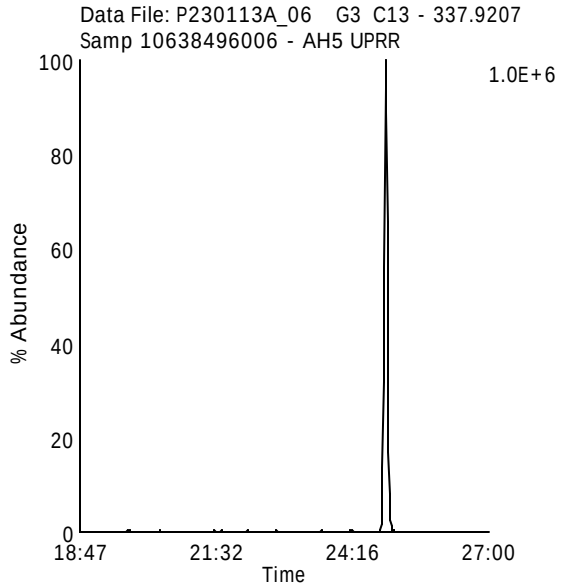


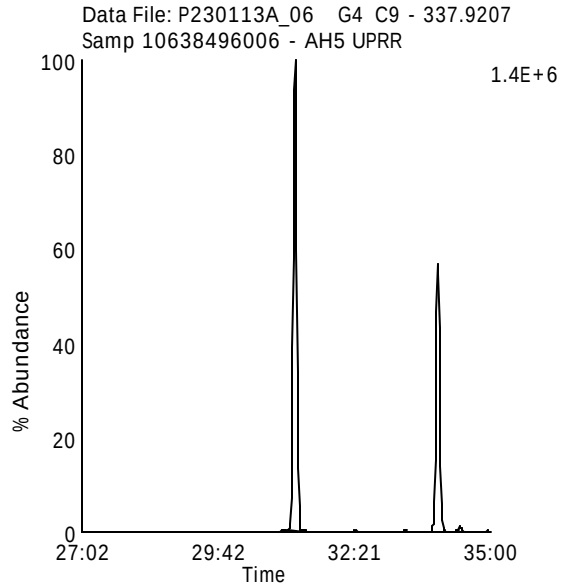


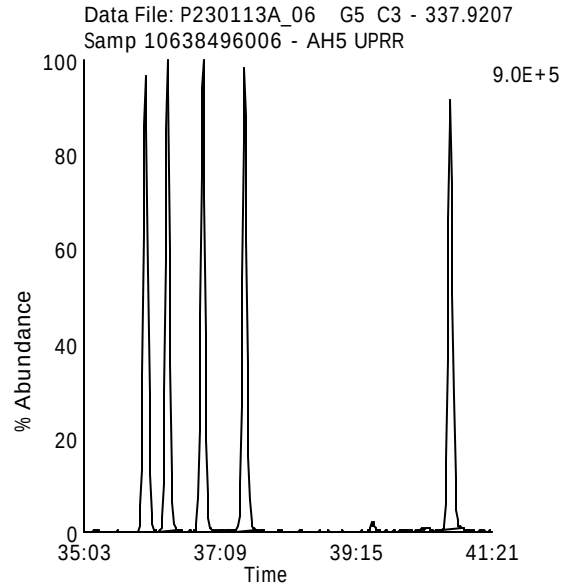


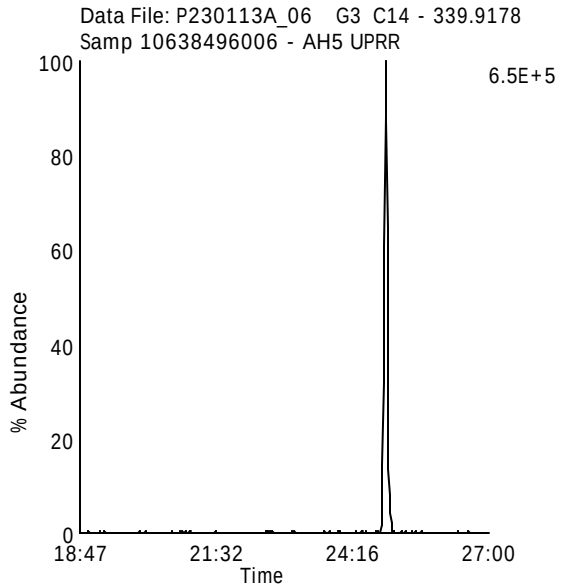
Labeled Penta Chlorinated Biphenyls

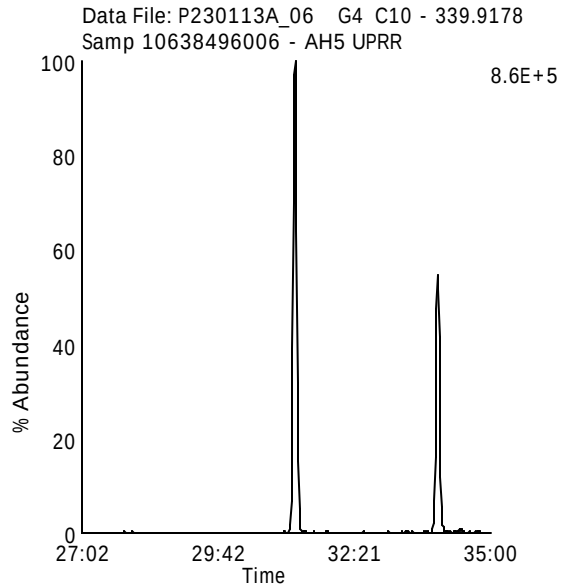
Data File Name: P230113A_06
Lab Sample ID: 10638496006
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496006 - AH5 UPRR
Client Sample ID: SB14-1.0-1.5-1022

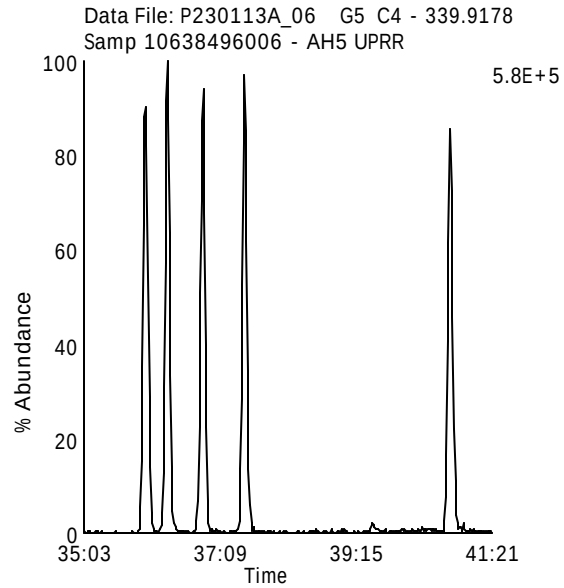






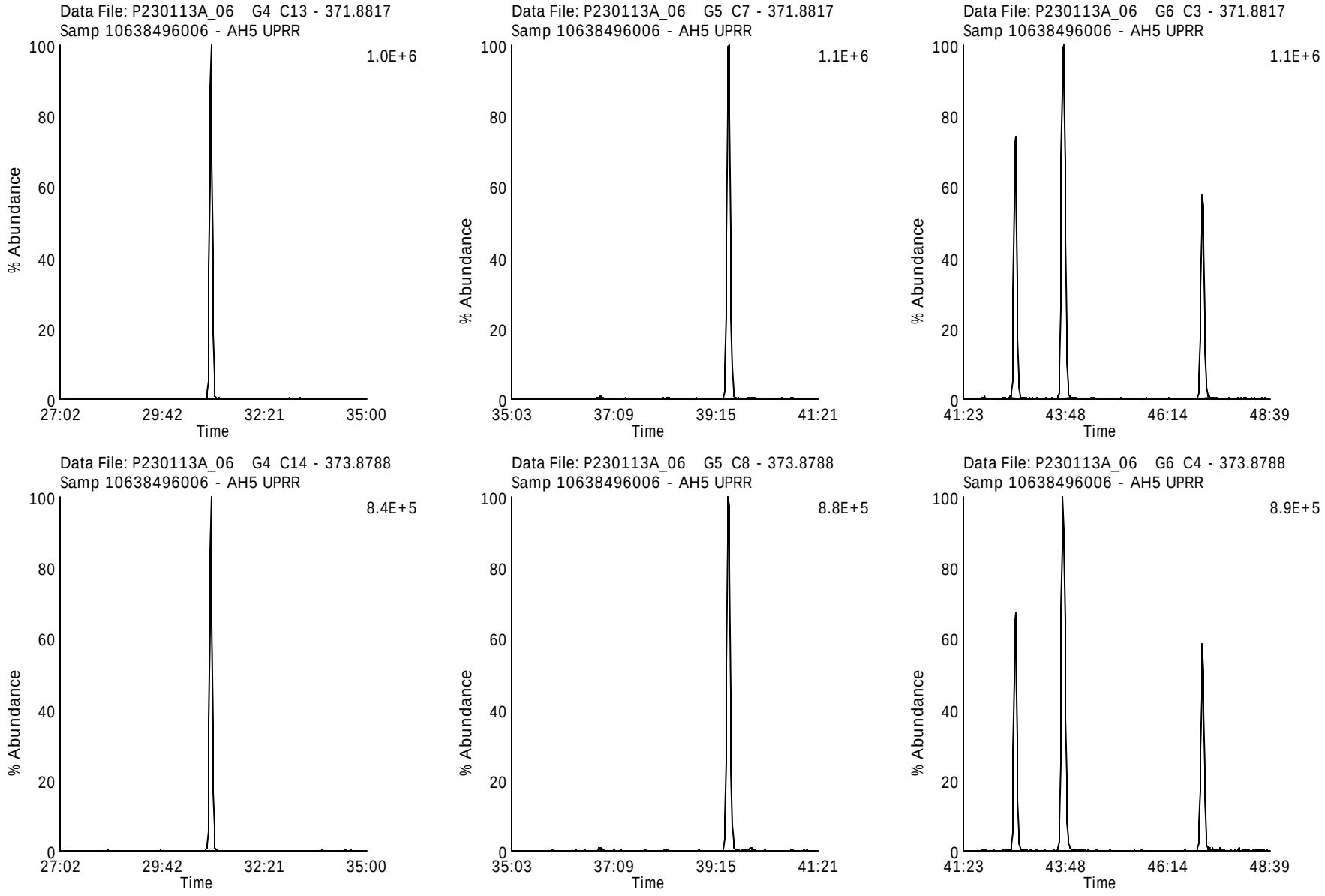






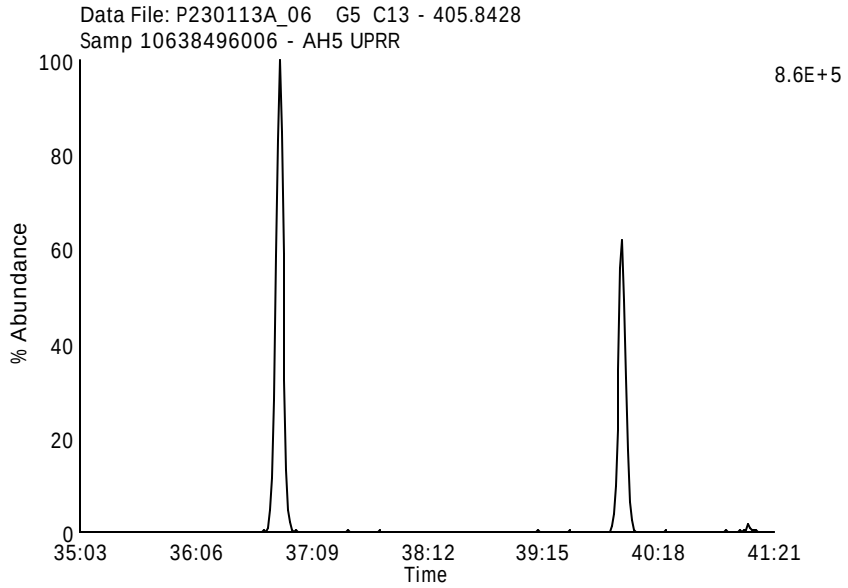
Labeled Hexa Chlorinated Biphenyls

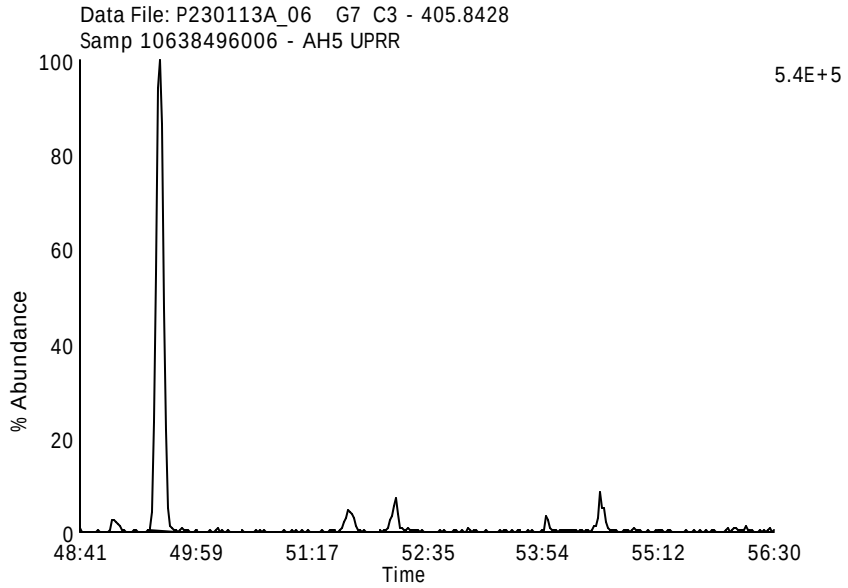
Data File Name: P230113A_06
Lab Sample ID: 10638496006
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496006 - AH5 UPRR
Client Sample ID: SB14-1.0-1.5-1022

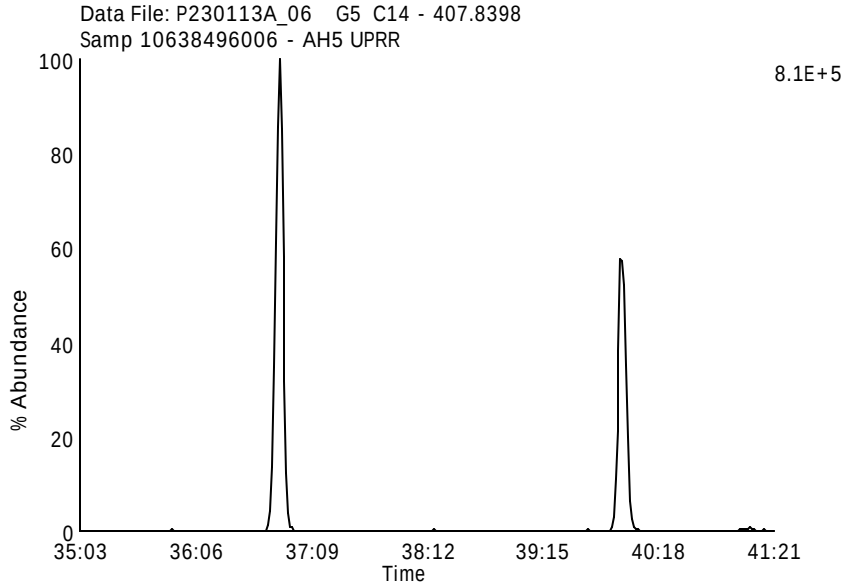


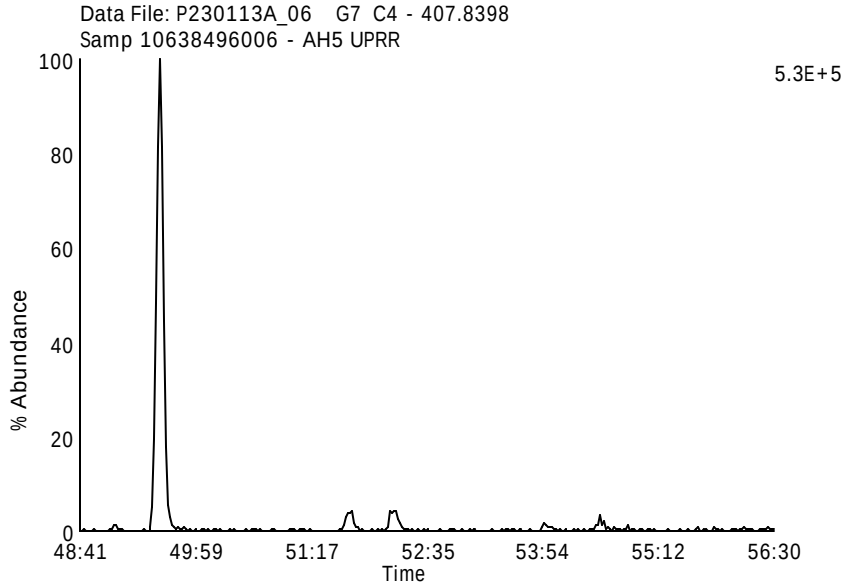
Labeled Hepta Chlorinated Biphenyls

Data File Name: P230113A_06
Lab Sample ID: 10638496006
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496006 - AH5 UPRR
Client Sample ID: SB14-1.0-1.5-1022



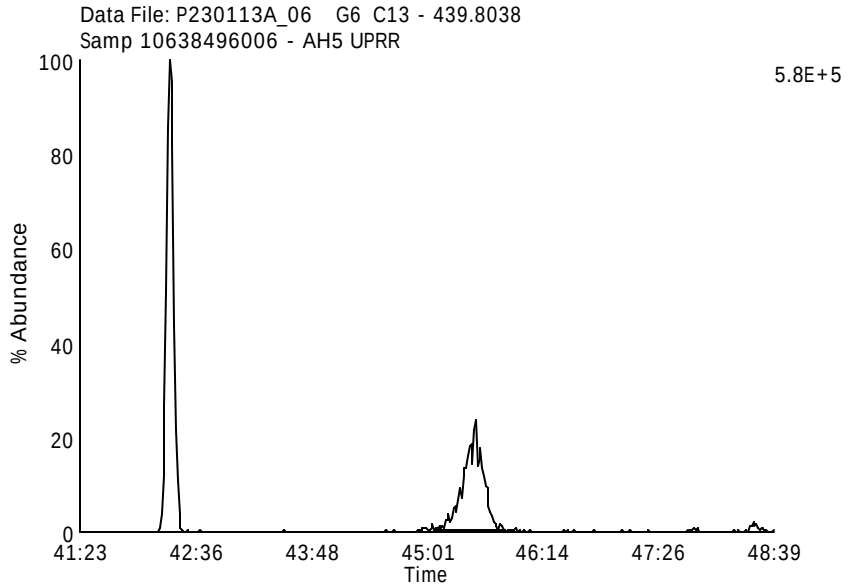


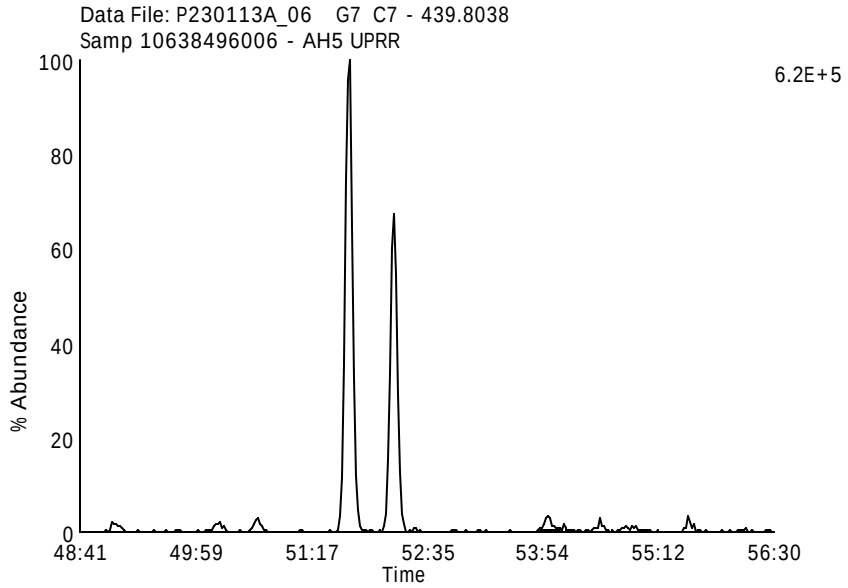


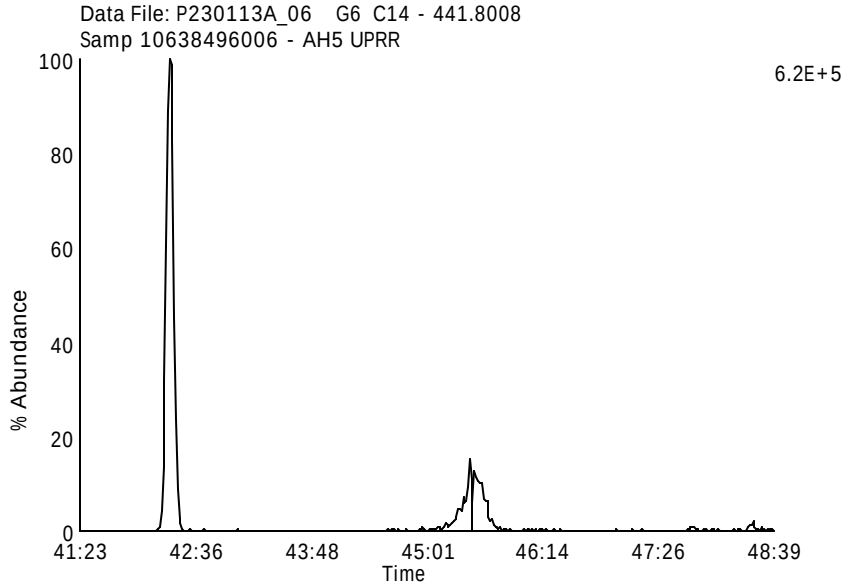


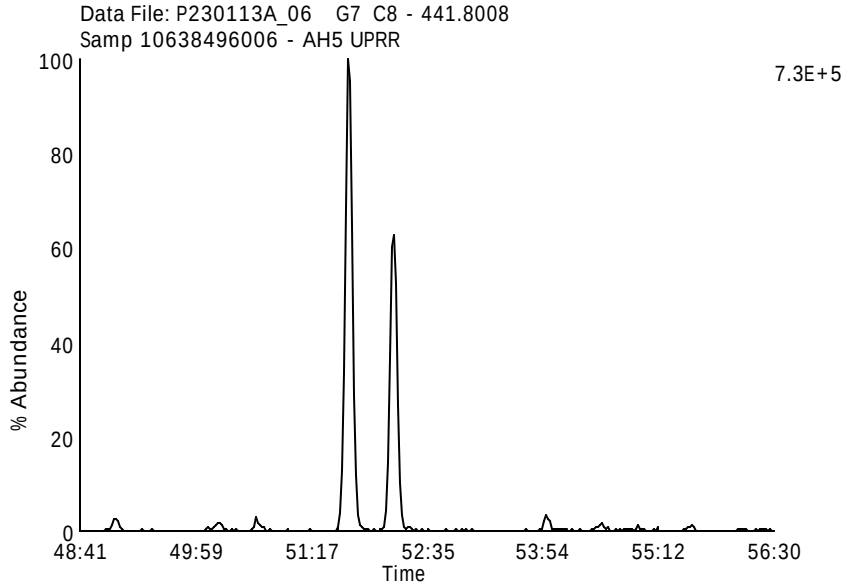
Labeled Octa Chlorinated Biphenyls

Data File Name: P230113A_06
Lab Sample ID: 10638496006
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496006 - AH5 UPRR
Client Sample ID: SB14-1.0-1.5-1022



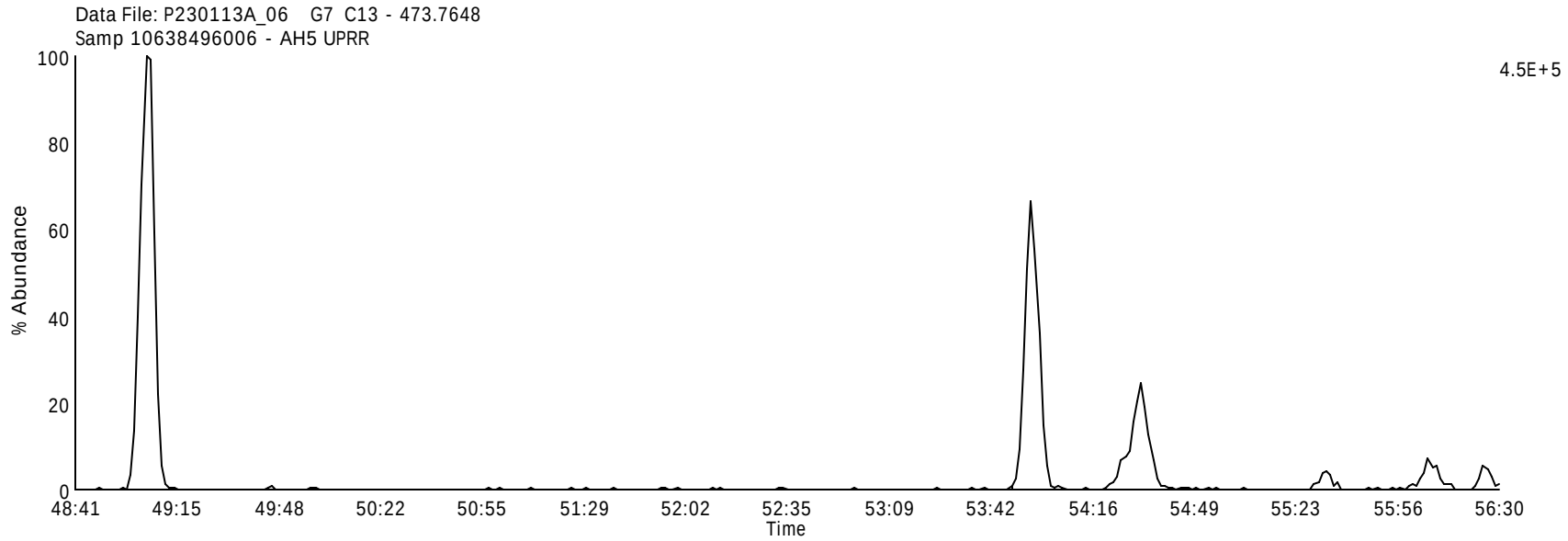


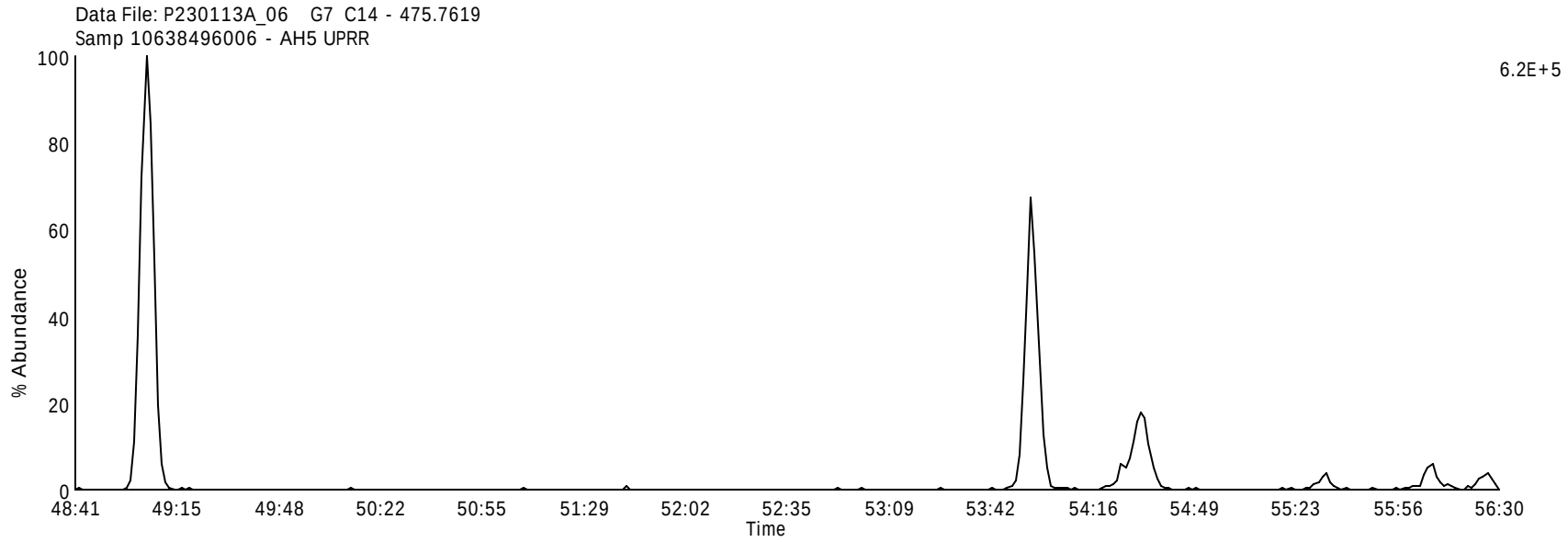




Labeled Nona Chlorinated Biphenyls

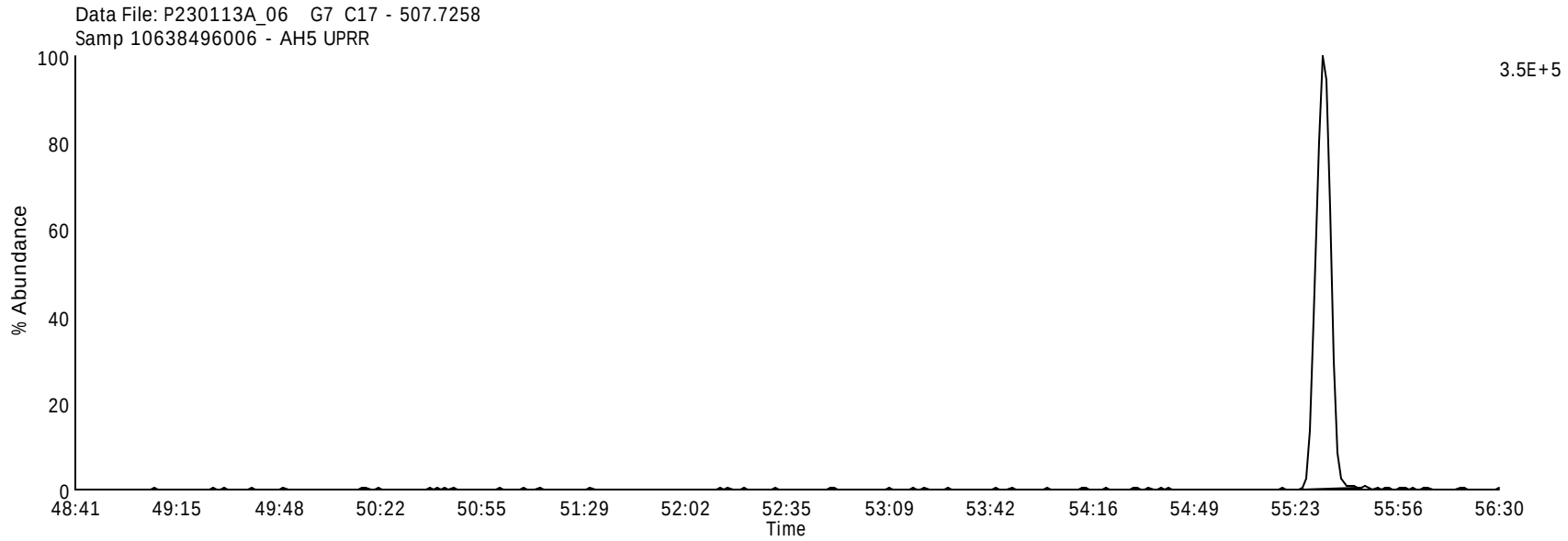
Data File Name: P230113A_06	Lab Sample ID: 10638496006
Date Acquired: 1/13/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496006 - AH5 UPRR	Client Sample ID: SB14-1.0-1.5-1022

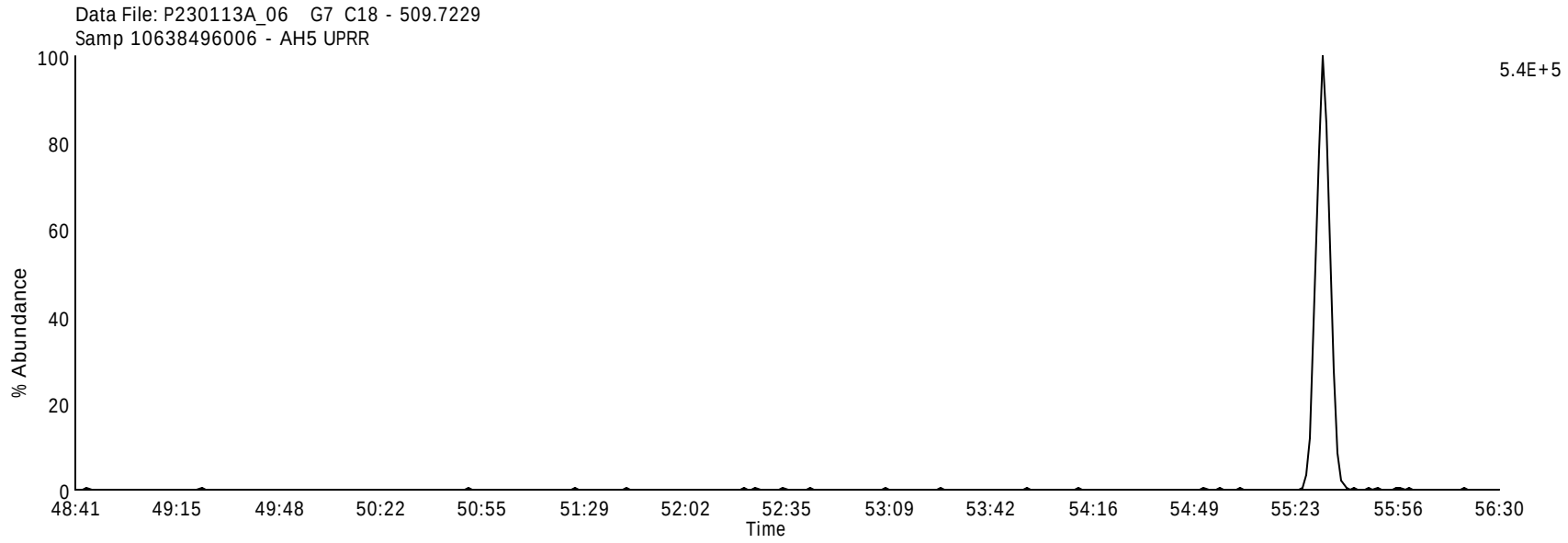




Labeled Deca Chlorinated Biphenyl

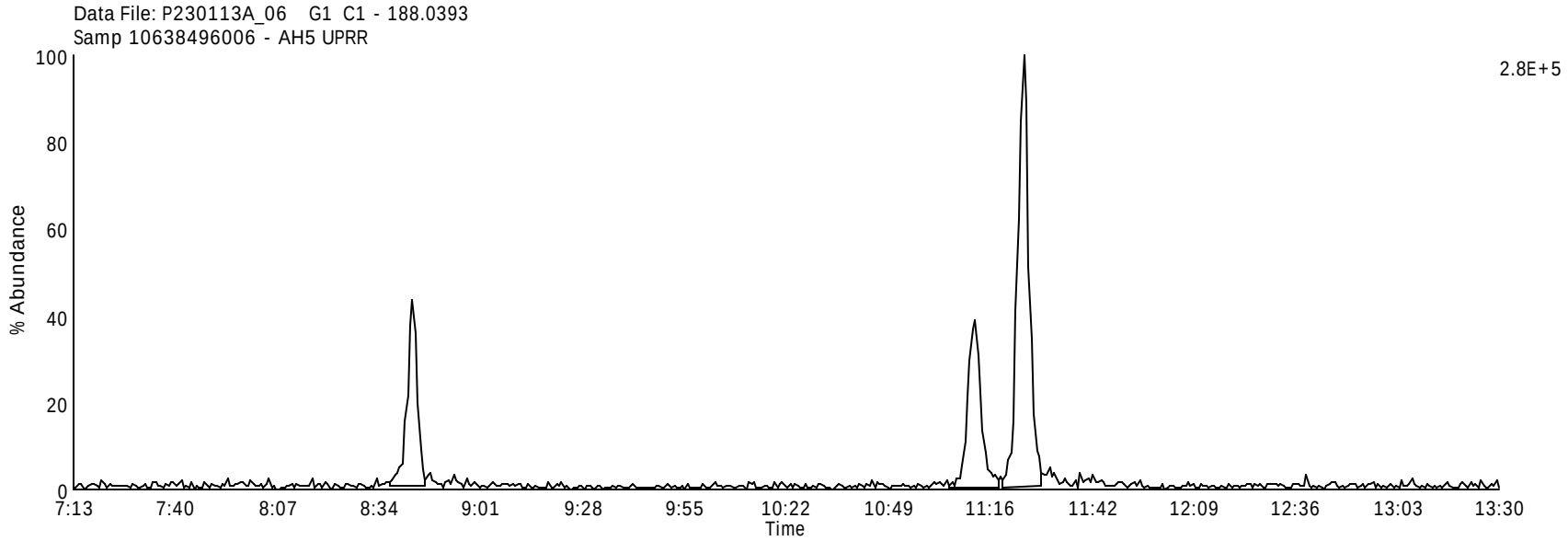
Data File Name: P230113A_06	Lab Sample ID: 10638496006
Date Acquired: 1/13/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496006 - AH5 UPRR	Client Sample ID: SB14-1.0-1.5-1022

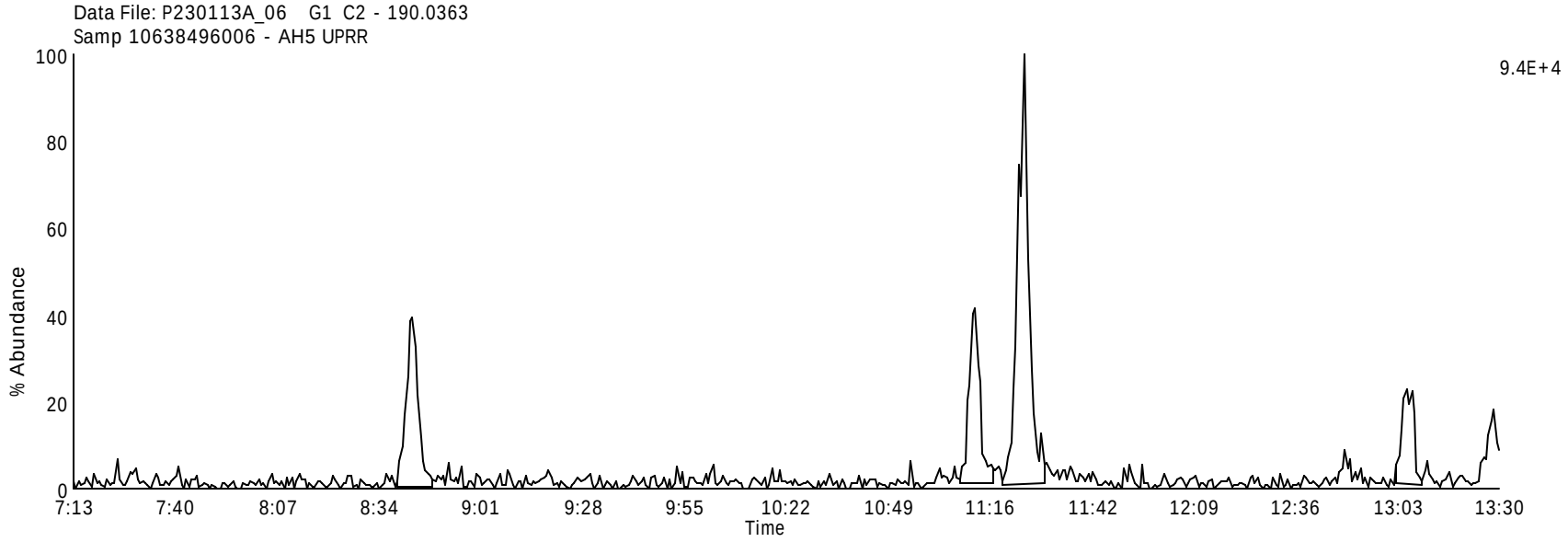




Mono Chlorinated Biphenyls

Data File Name: P230113A_06	Lab Sample ID: 10638496006
Date Acquired: 1/13/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496006 - AH5 UPRR	Client Sample ID: SB14-1.0-1.5-1022

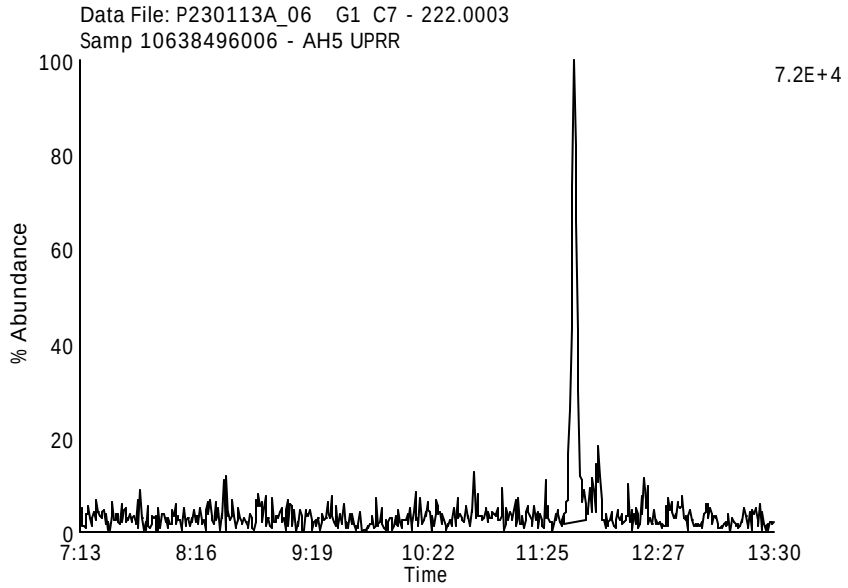


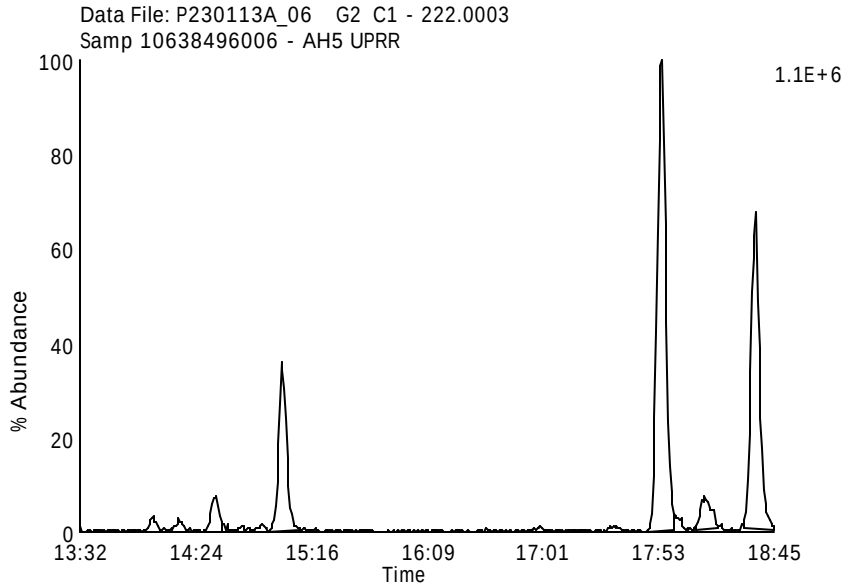


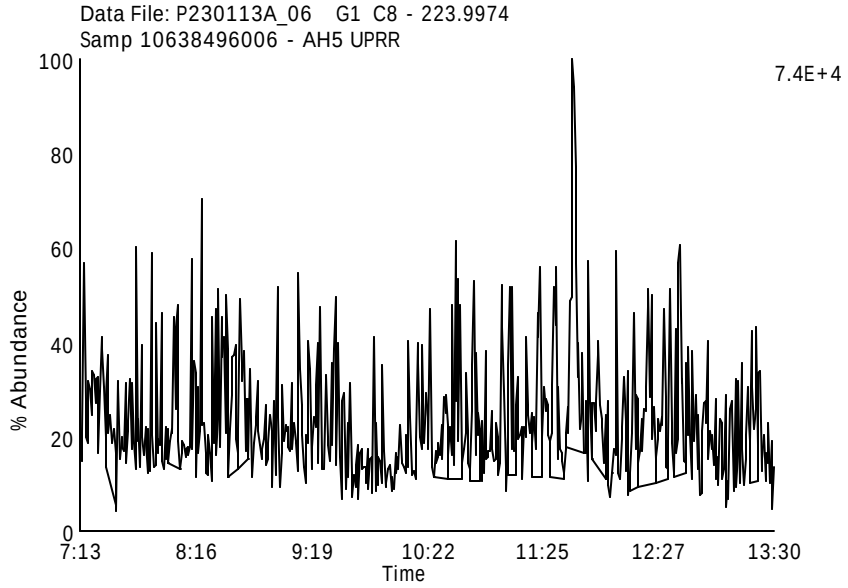
Di Chlorinated Biphenyls

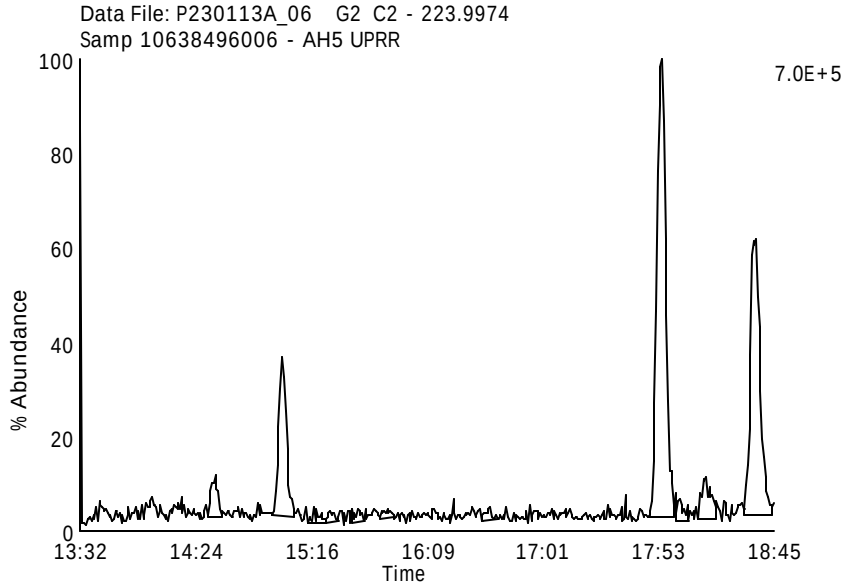
Data File Name: P230113A_06
Date Acquired: 1/13/2023
Sample Description: Samp 10638496006 - AH5 UPRR

Lab Sample ID: 10638496006
Instrument: 10MSHR09 (P)
Client Sample ID: SB14-1.0-1.5-1022



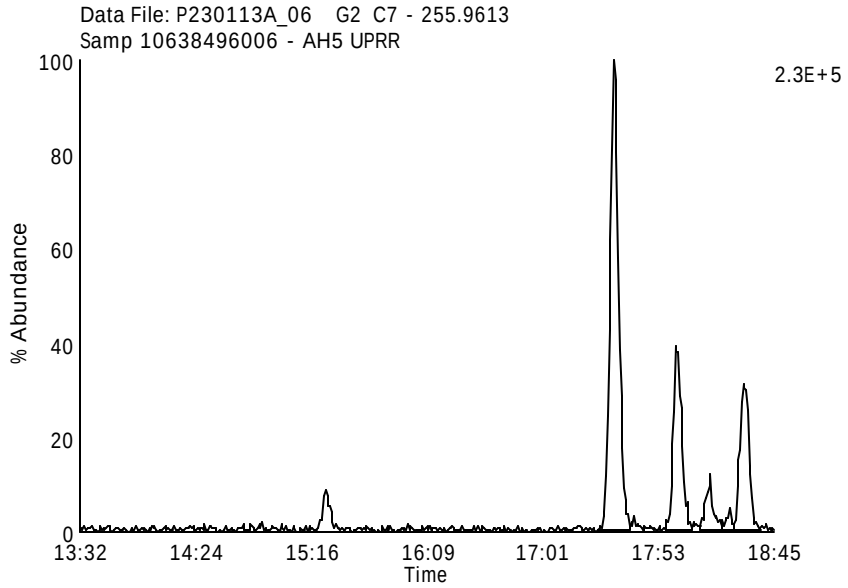


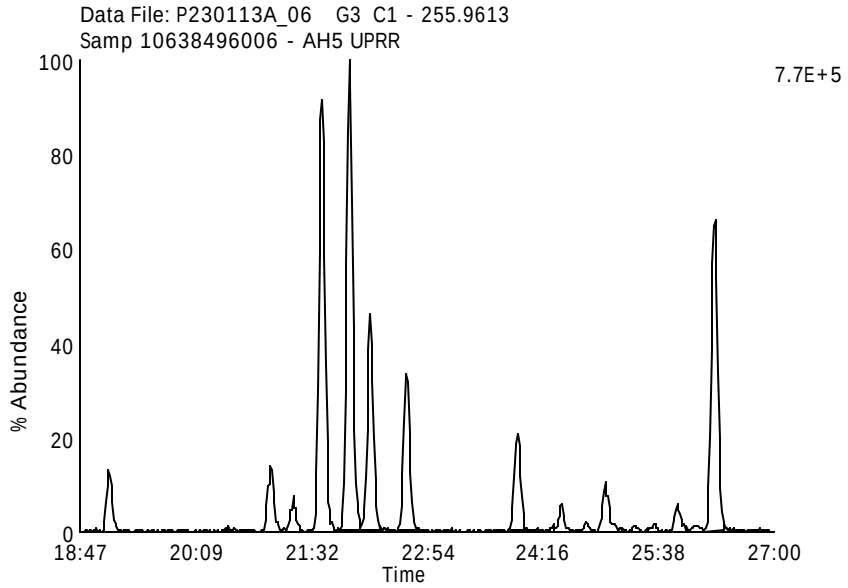


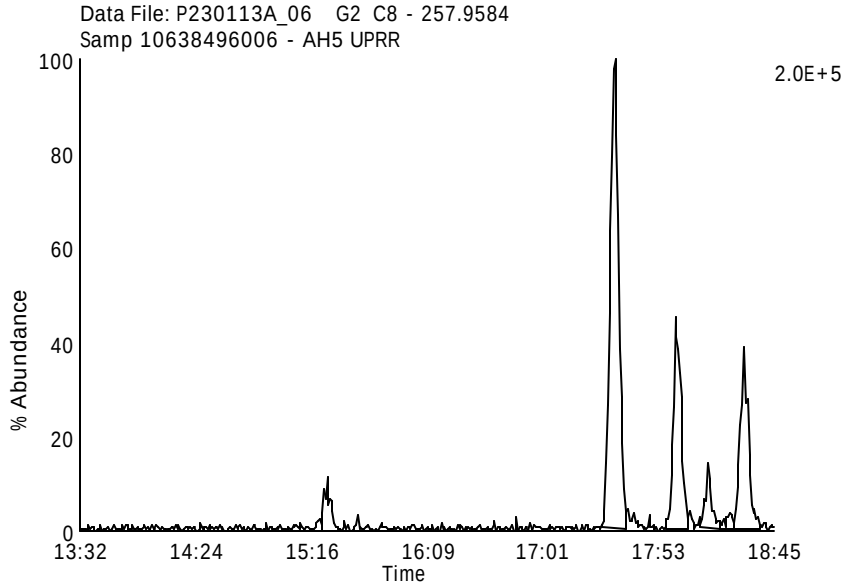


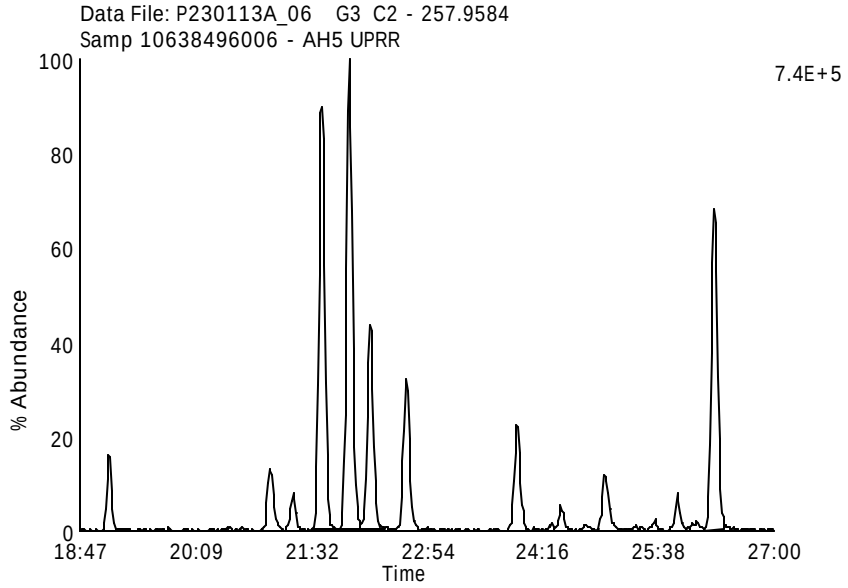
Tri Chlorinated Biphenyls

Data File Name: P230113A_06
Lab Sample ID: 10638496006
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496006 - AH5 UPRR
Client Sample ID: SB14-1.0-1.5-1022



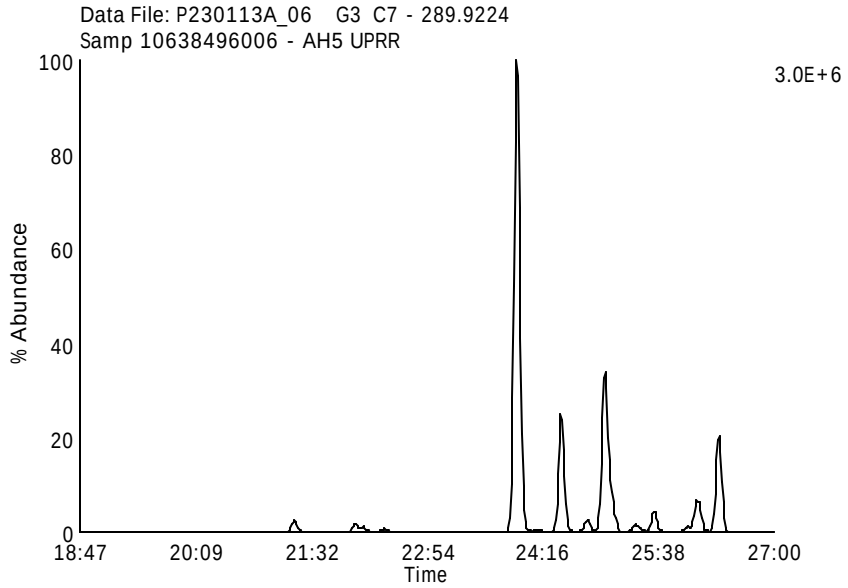


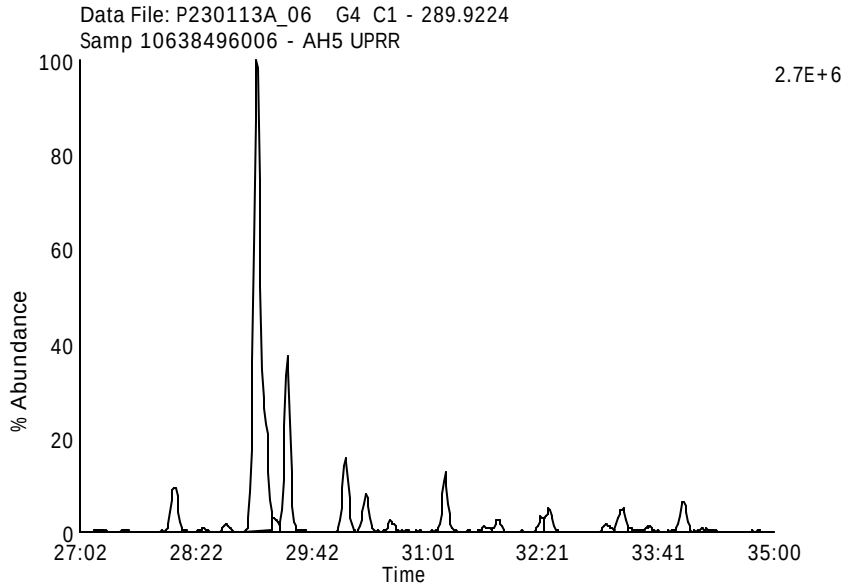


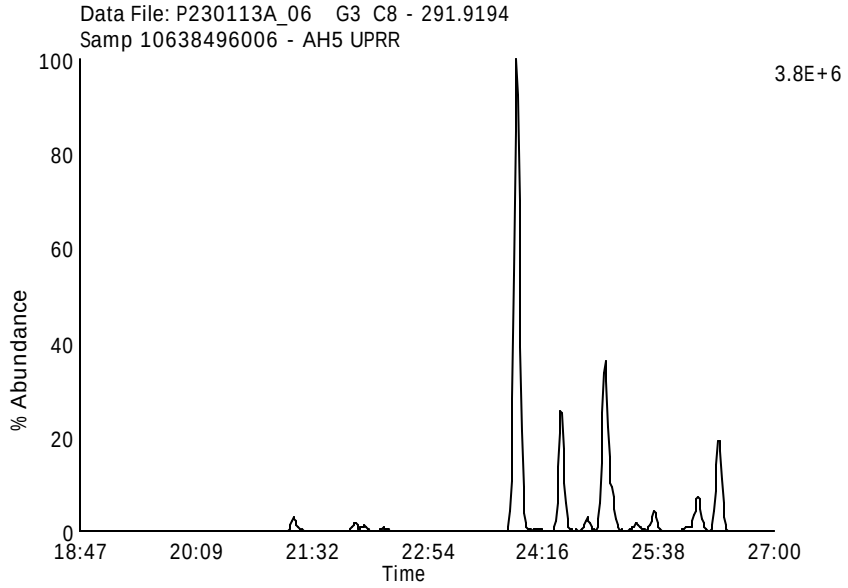


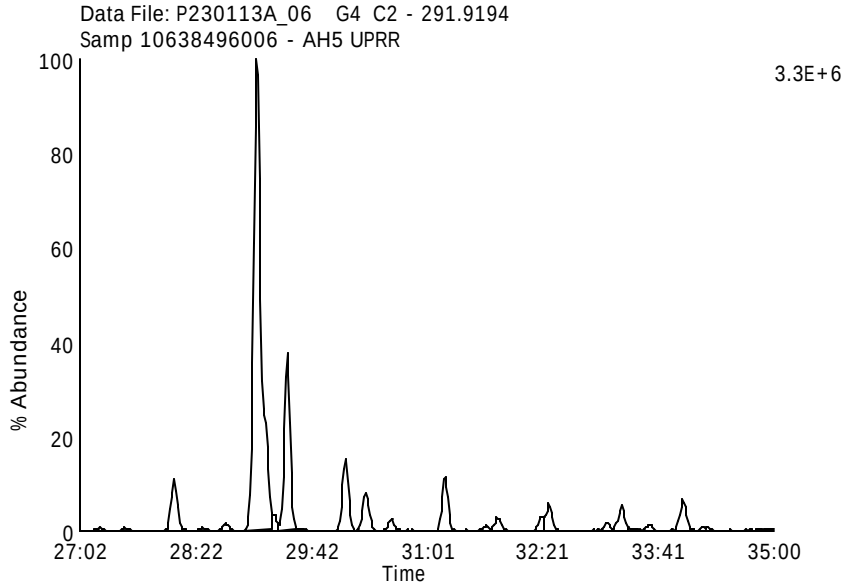
Tetra Chlorinated Biphenyls

Data File Name: P230113A_06
Lab Sample ID: 10638496006
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496006 - AH5 UPRR
Client Sample ID: SB14-1.0-1.5-1022



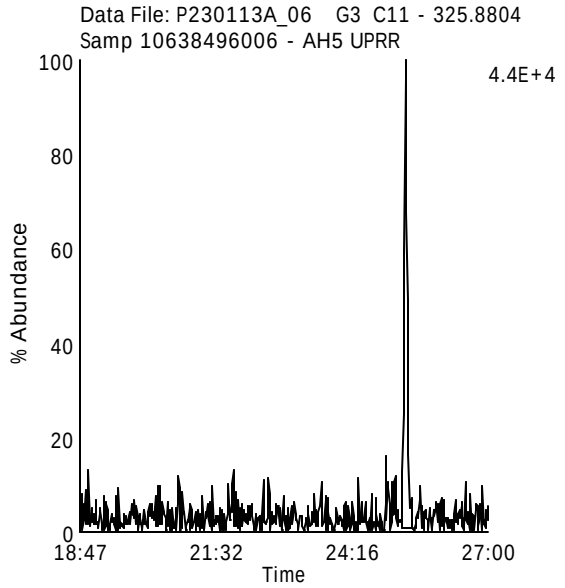


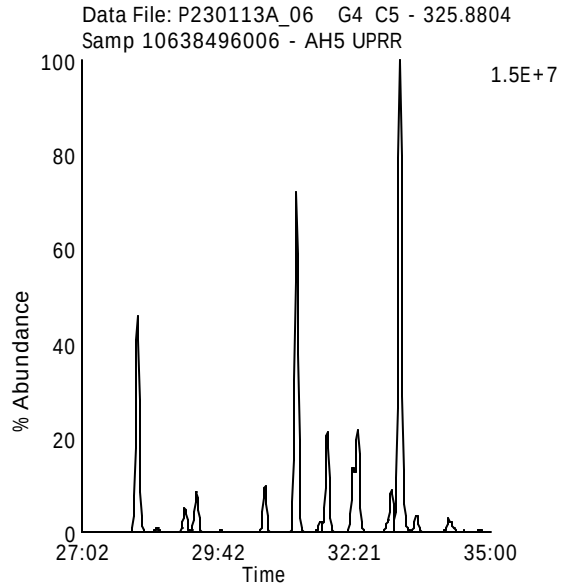


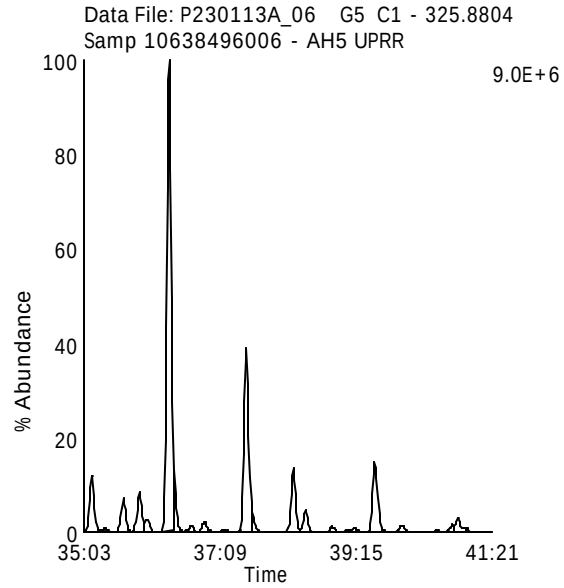


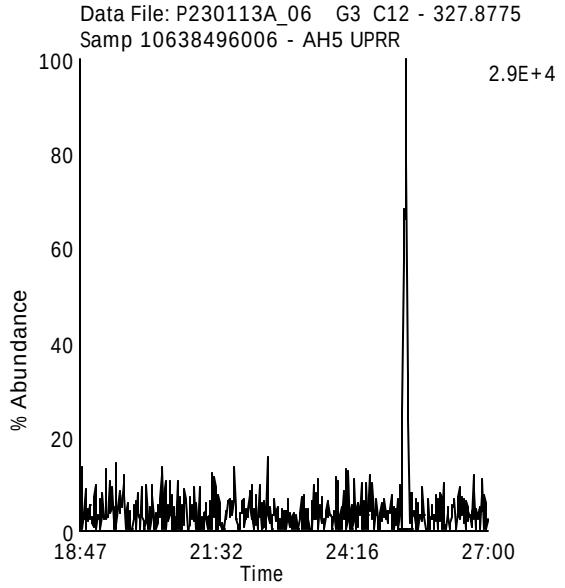
Penta Chlorinated Biphenyls

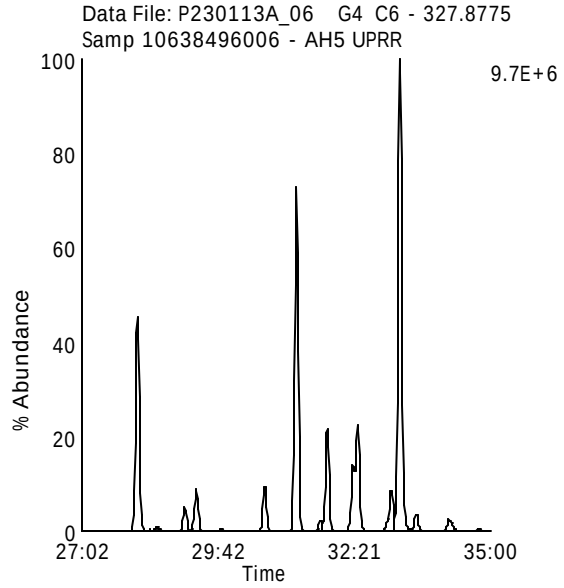
Data File Name: P230113A_06
Lab Sample ID: 10638496006
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496006 - AH5 UPRR
Client Sample ID: SB14-1.0-1.5-1022

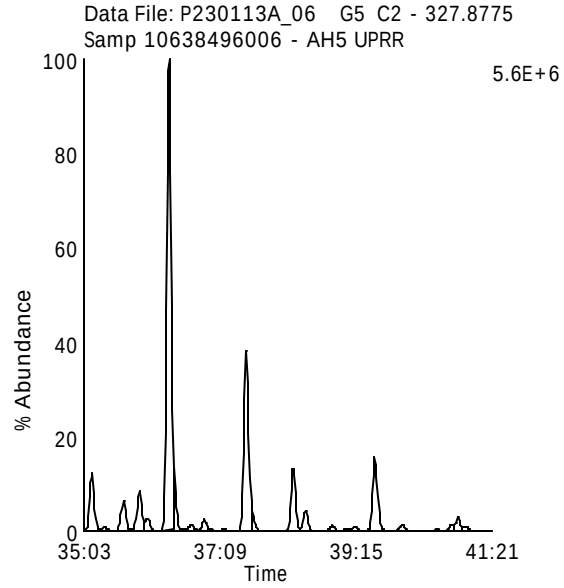






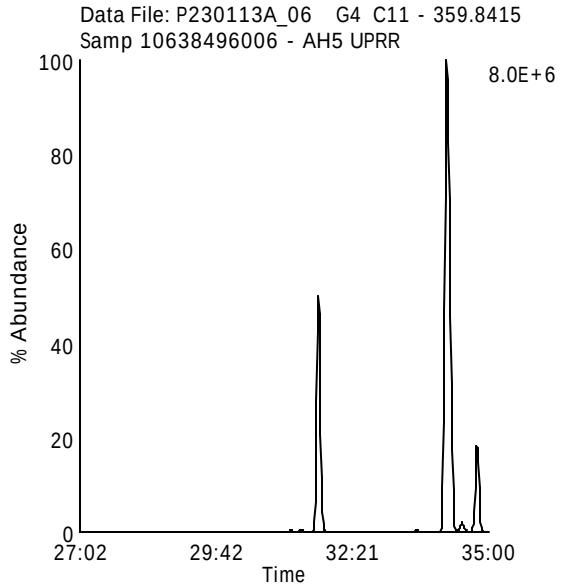


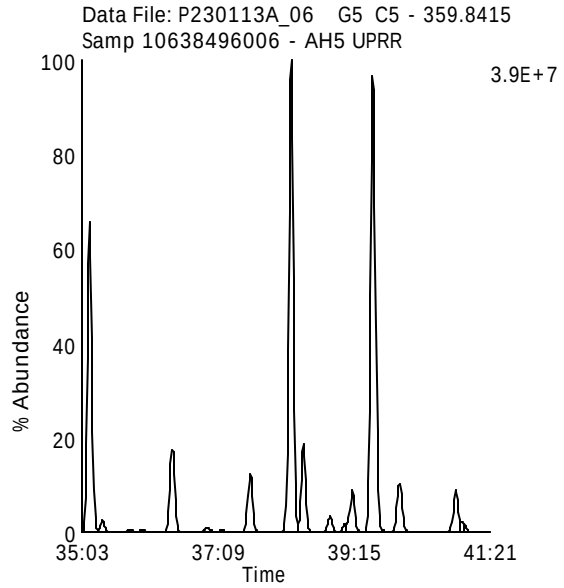


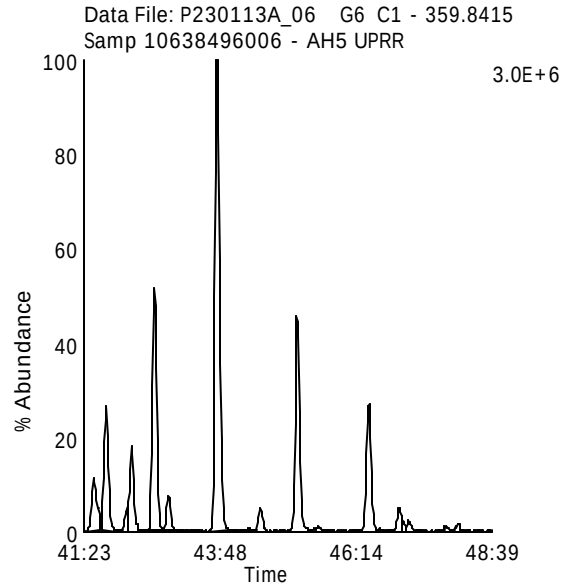


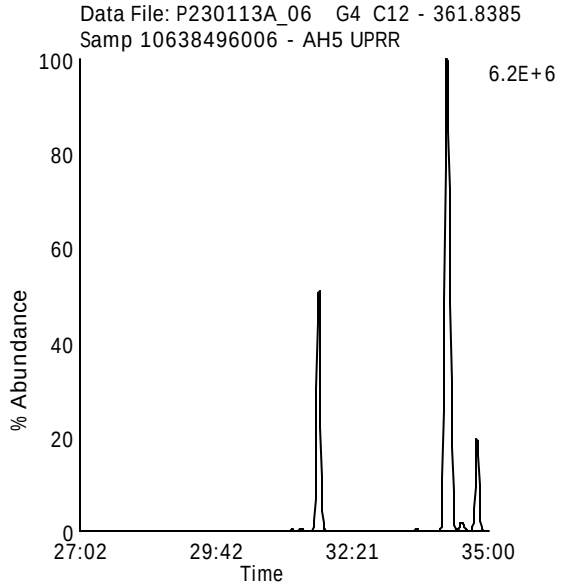
Hexa Chlorinated Biphenyls

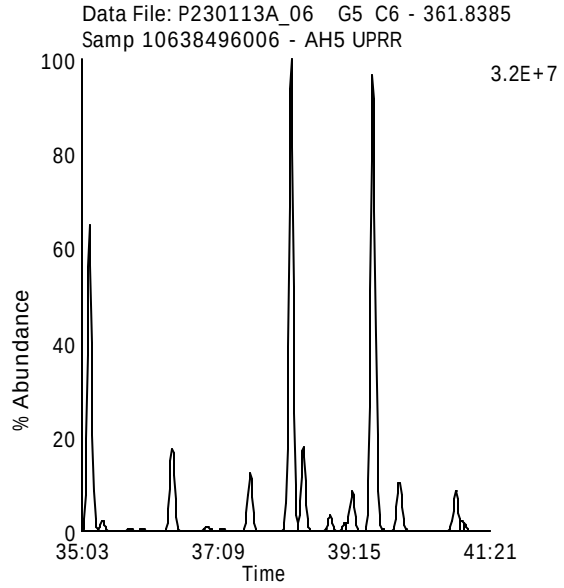
Data File Name: P230113A_06
Lab Sample ID: 10638496006
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496006 - AH5 UPRR
Client Sample ID: SB14-1.0-1.5-1022

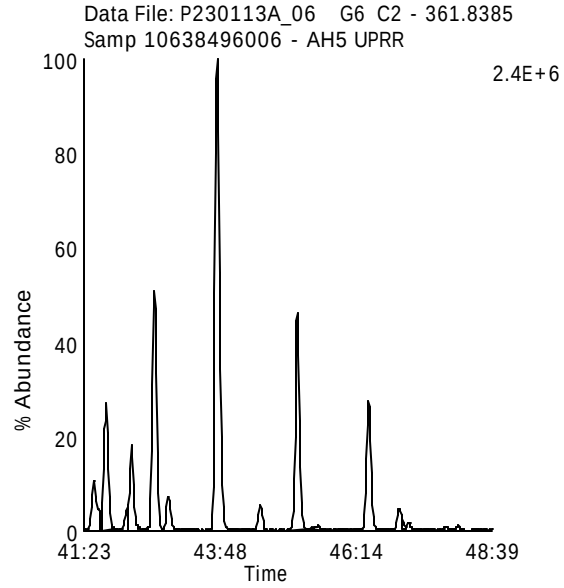






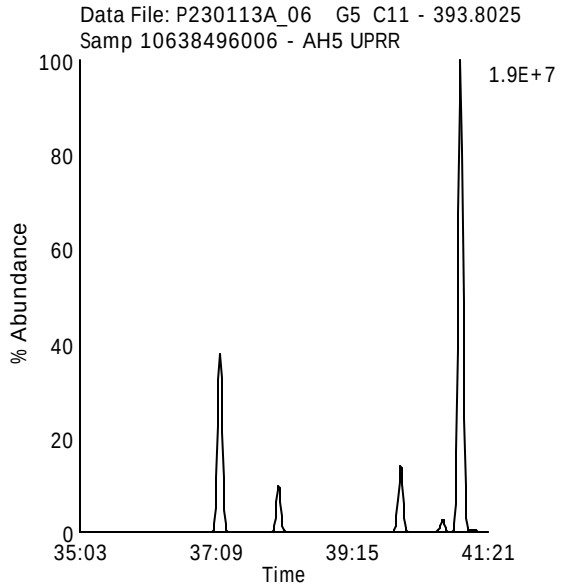


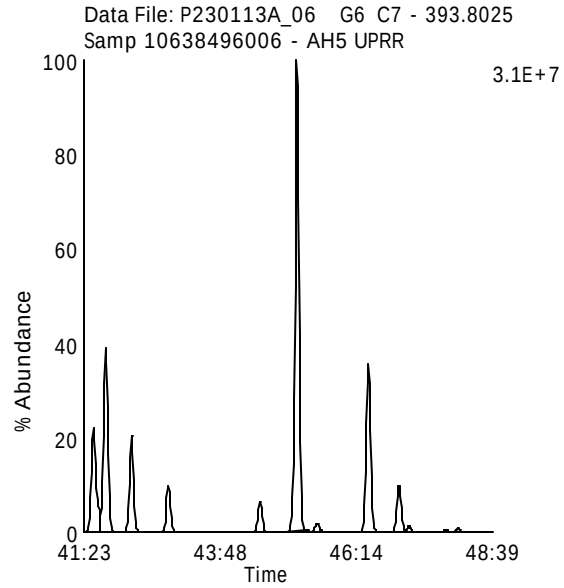


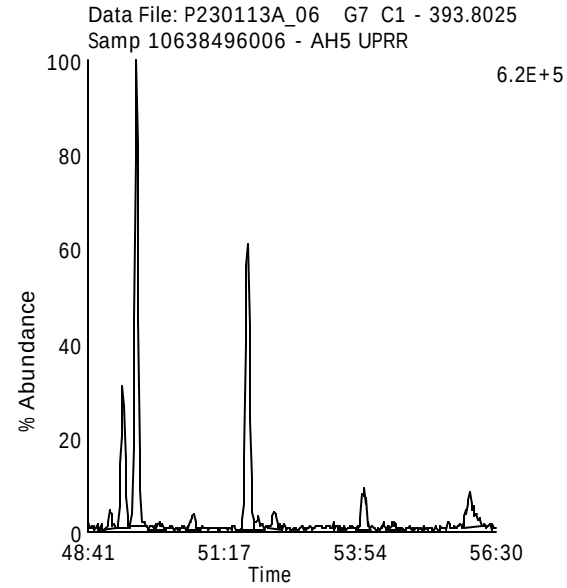


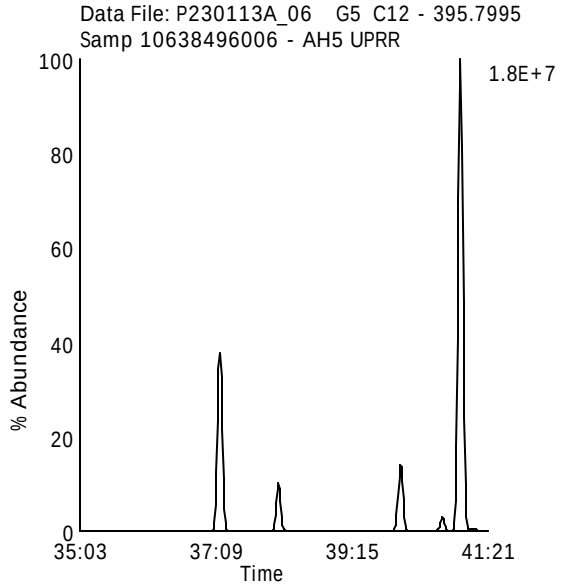
Hepta Chlorinated Biphenyls

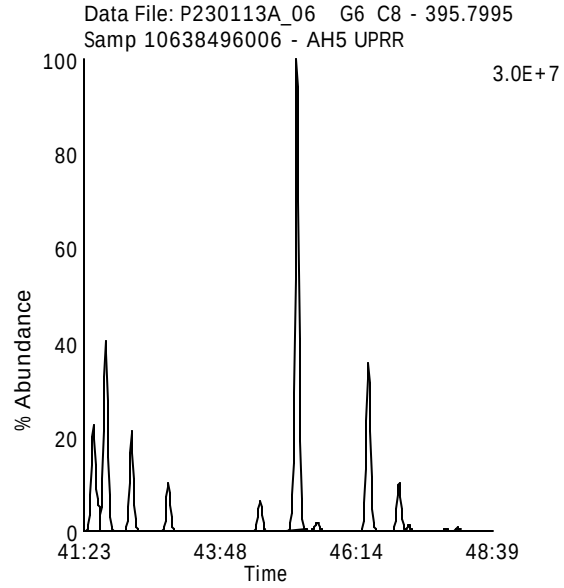
Data File Name: P230113A_06
Lab Sample ID: 10638496006
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496006 - AH5 UPRR
Client Sample ID: SB14-1.0-1.5-1022

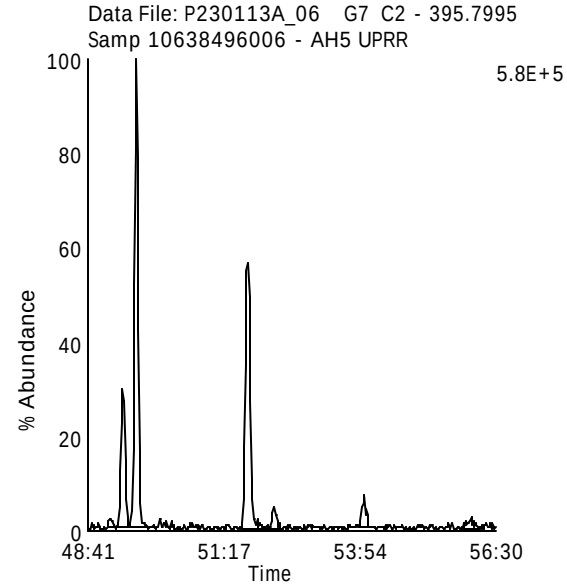








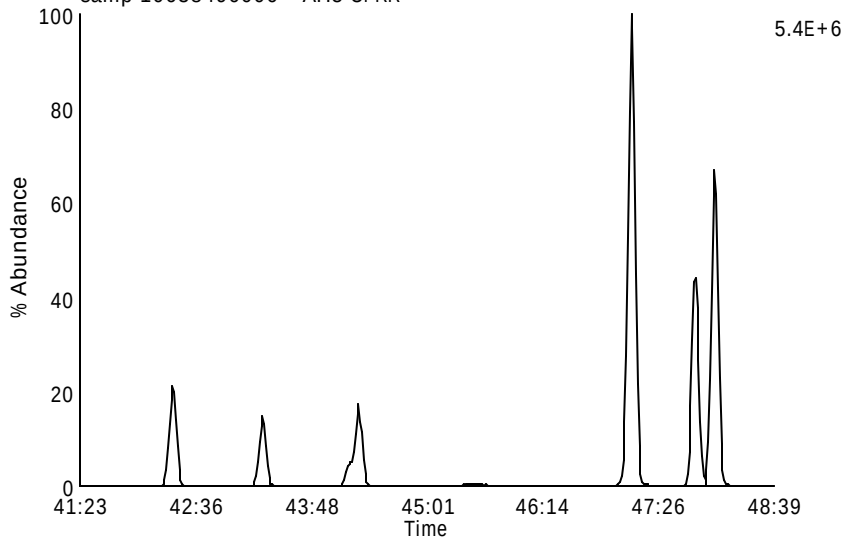




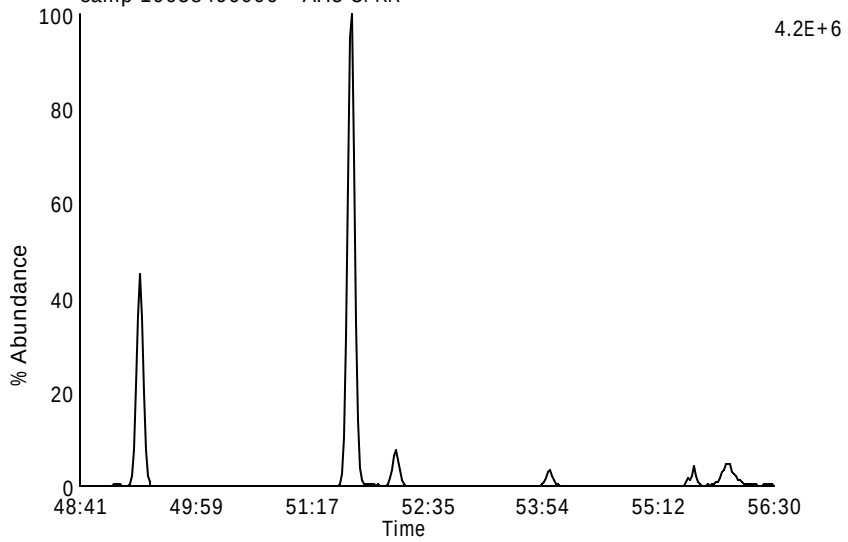
Octa Chlorinated Biphenyls

Data File Name: P230113A_06
Lab Sample ID: 10638496006
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496006 - AH5 UPRR
Client Sample ID: SB14-1.0-1.5-1022

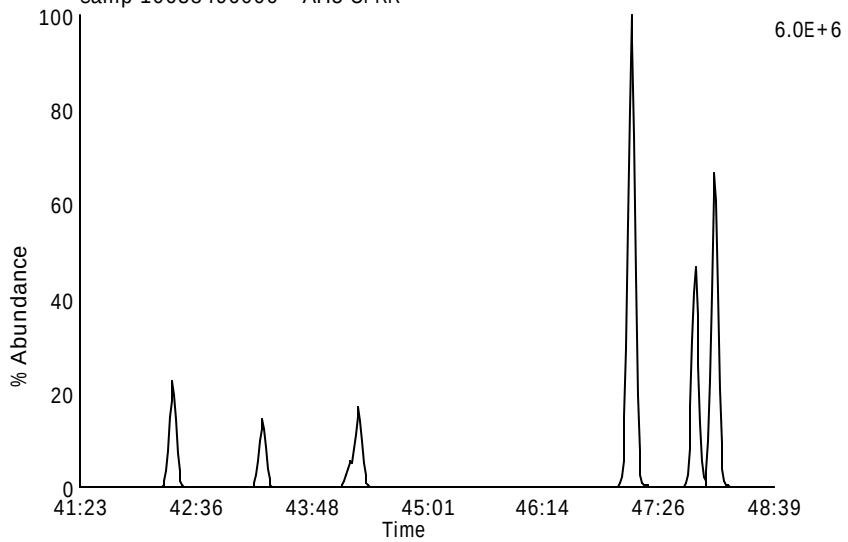
Data File: P230113A_06 G6 C11 - 427.7635
Samp 10638496006 - AH5 UPRR



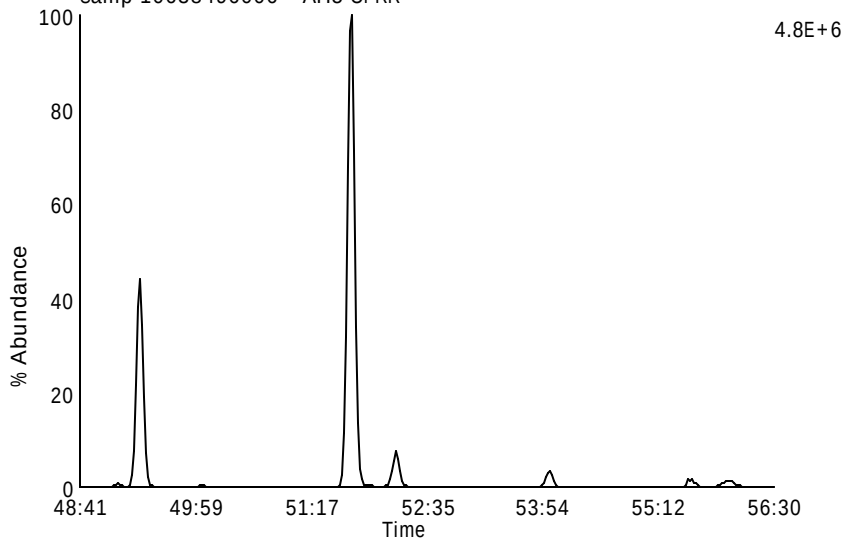
Data File: P230113A_06 G7 C5 - 427.7635
Samp 10638496006 - AH5 UPRR



Data File: P230113A_06 G6 C12 - 429.7606
Samp 10638496006 - AH5 UPRR

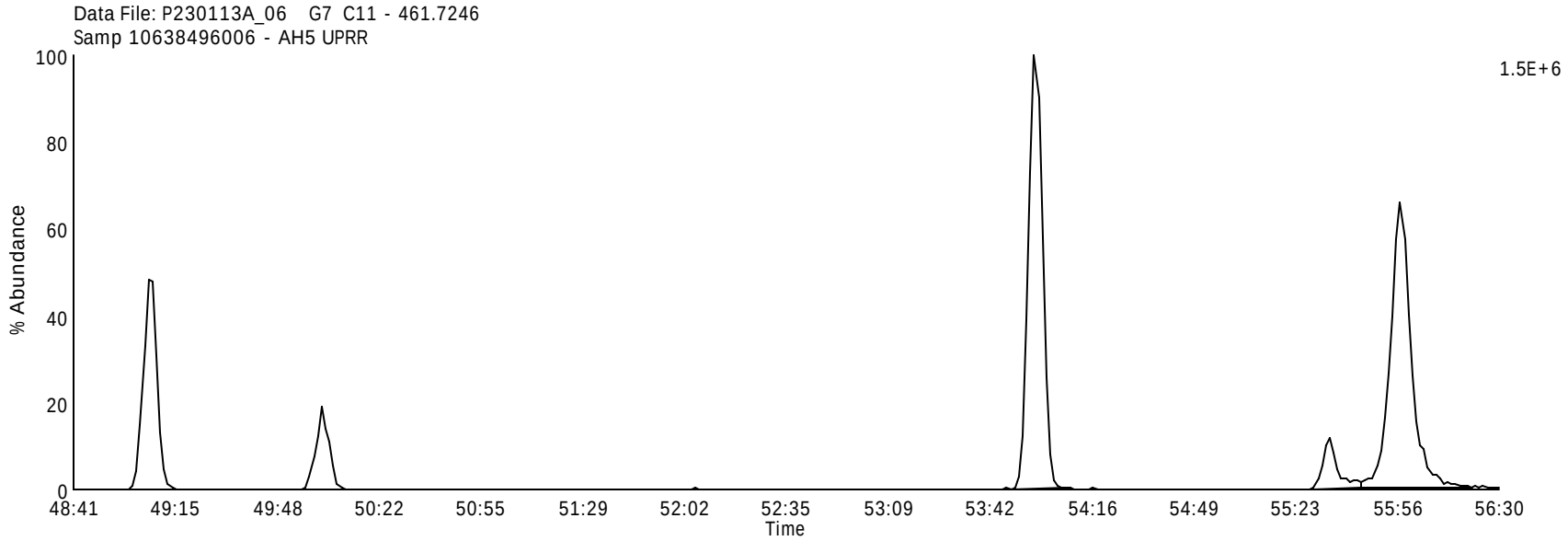


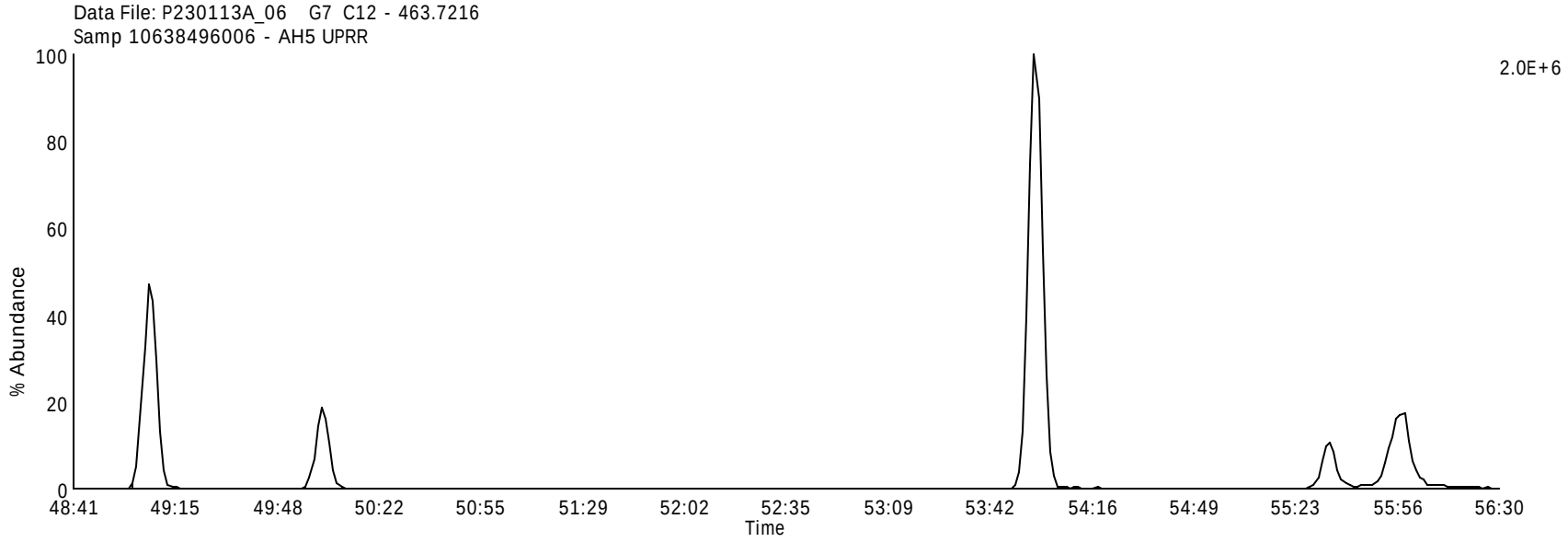
Data File: P230113A_06 G7 C6 - 429.7606
Samp 10638496006 - AH5 UPRR



Nona Chlorinated Biphenyls

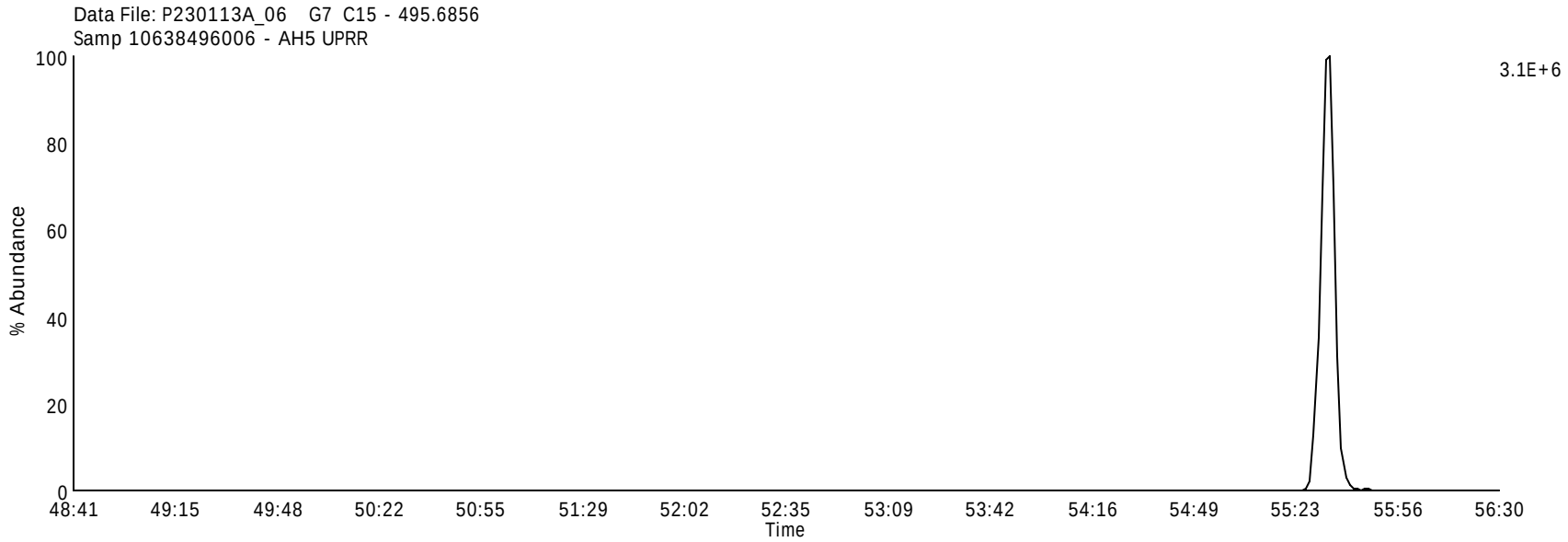
Data File Name: P230113A_06	Lab Sample ID: 10638496006
Date Acquired: 1/13/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496006 - AH5 UPRR	Client Sample ID: SB14-1.0-1.5-1022

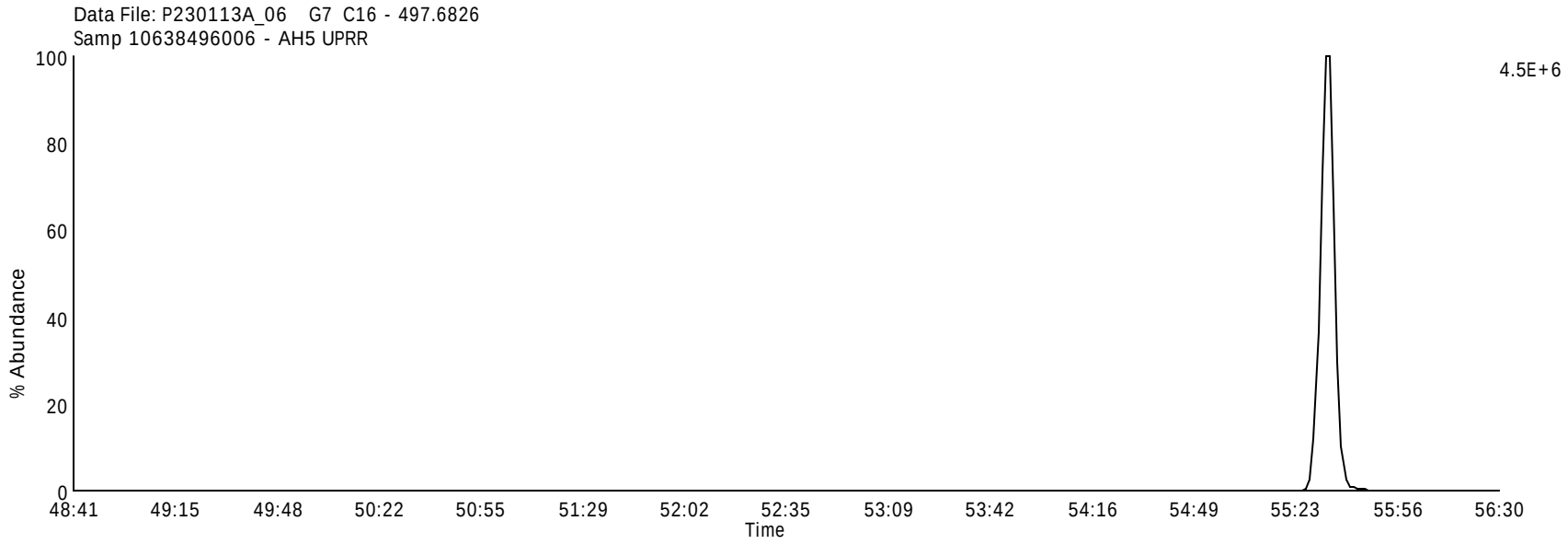




Deca Chlorinated Biphenyl

Data File Name: P230113A_06
Lab Sample ID: 10638496006
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496006 - AH5 UPRR
Client Sample ID: SB14-1.0-1.5-1022

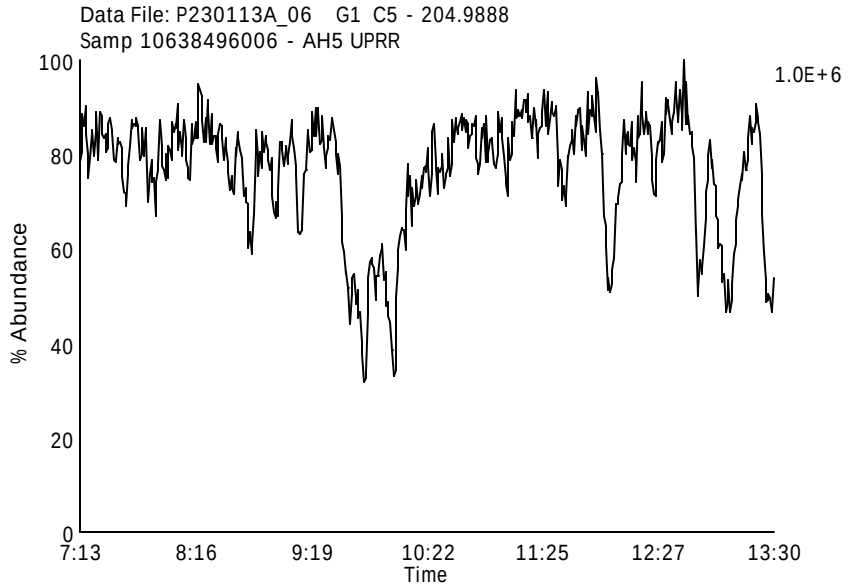


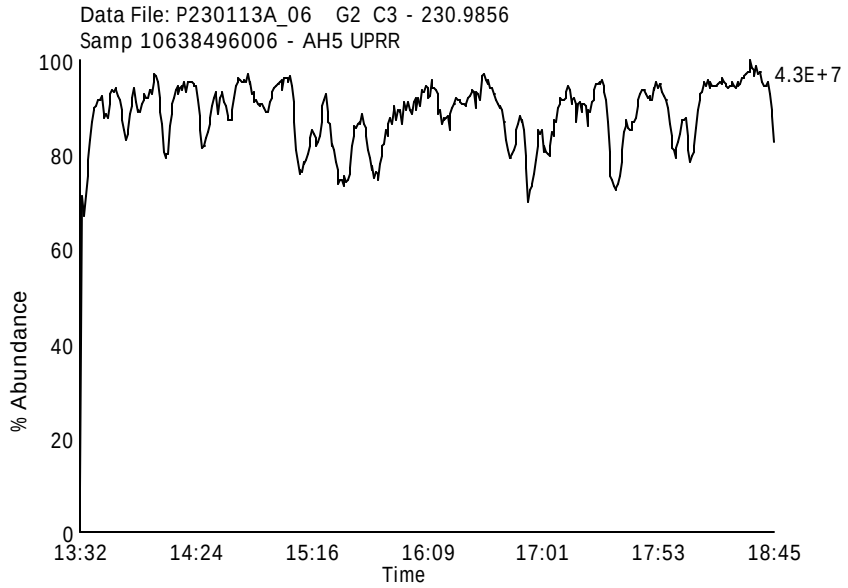


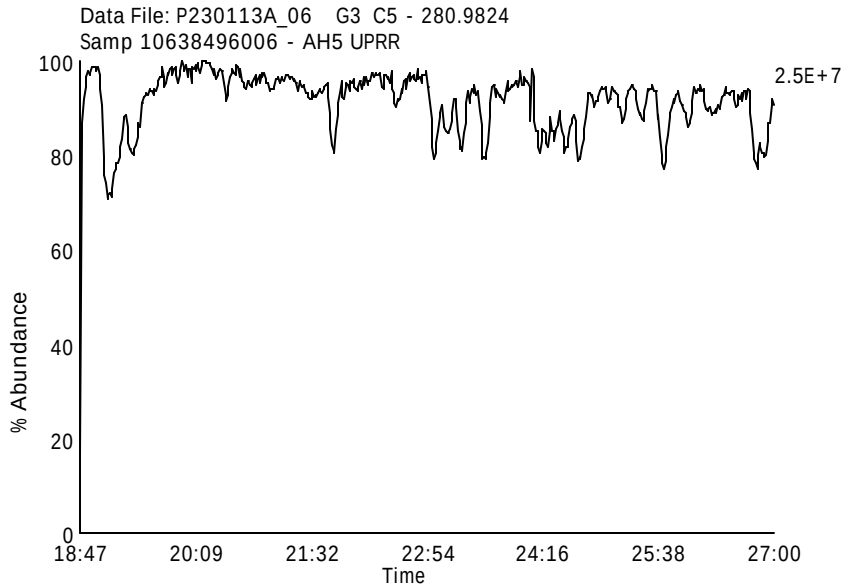
Group 1 - 4 Lock mass

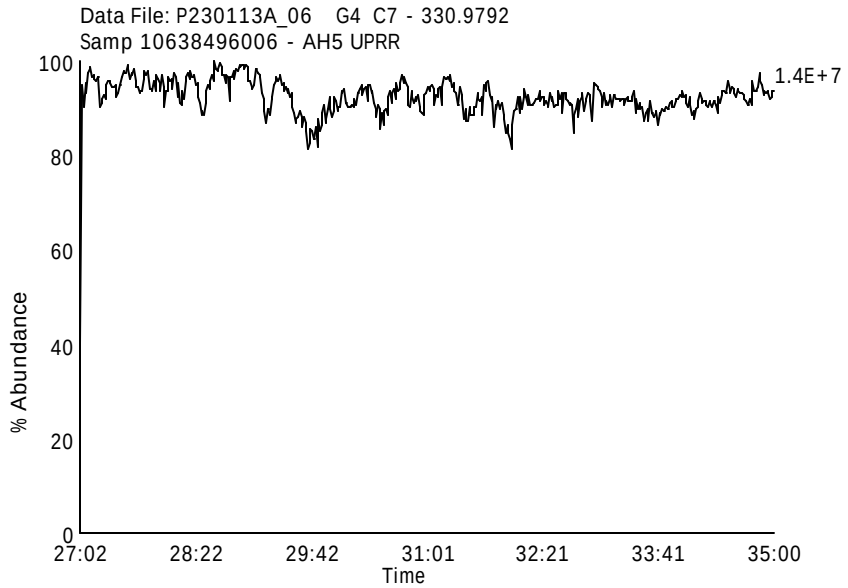
Data File Name: P230113A_06
Date Acquired: 1/13/2023
Sample Description: Samp 10638496006 - AH5 UPRR

Lab Sample ID: 10638496006
Instrument: 10MSHR09 (P)
Client Sample ID: SB14-1.0-1.5-1022





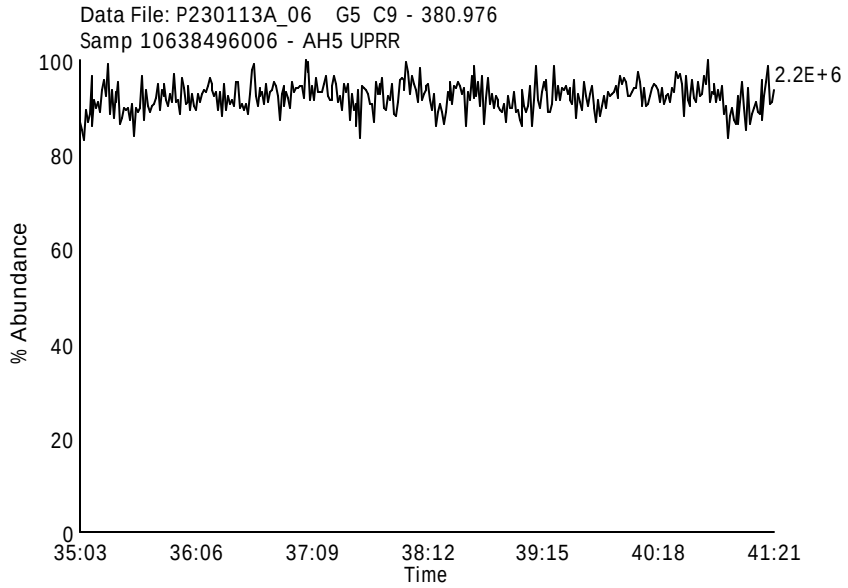


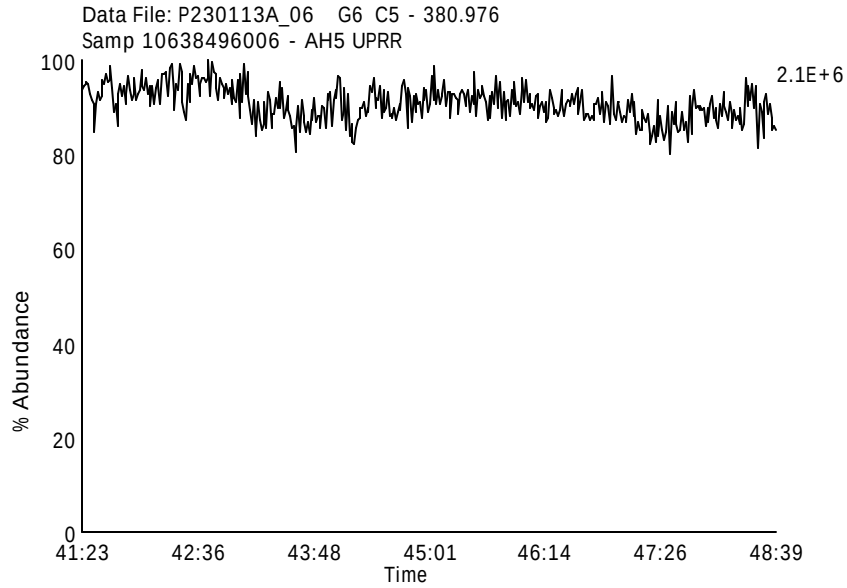


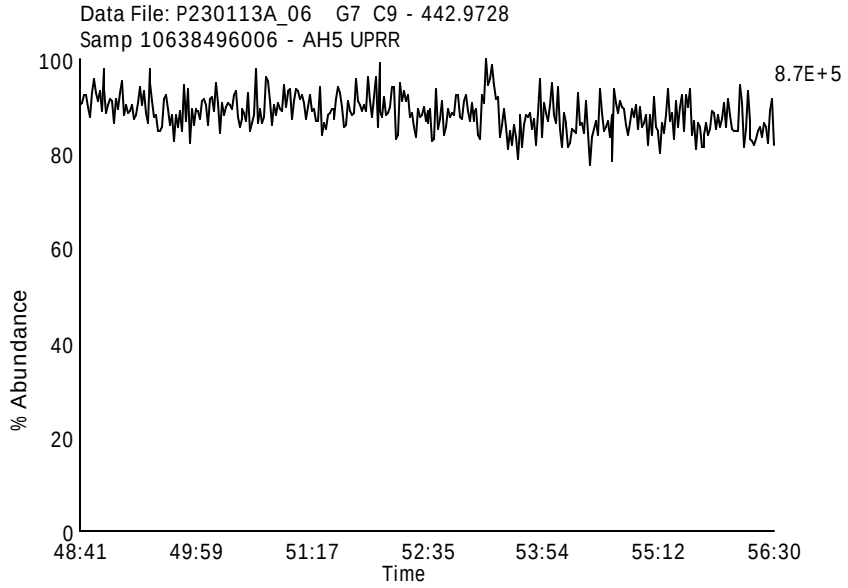
Group 5 - 7 Lock mass

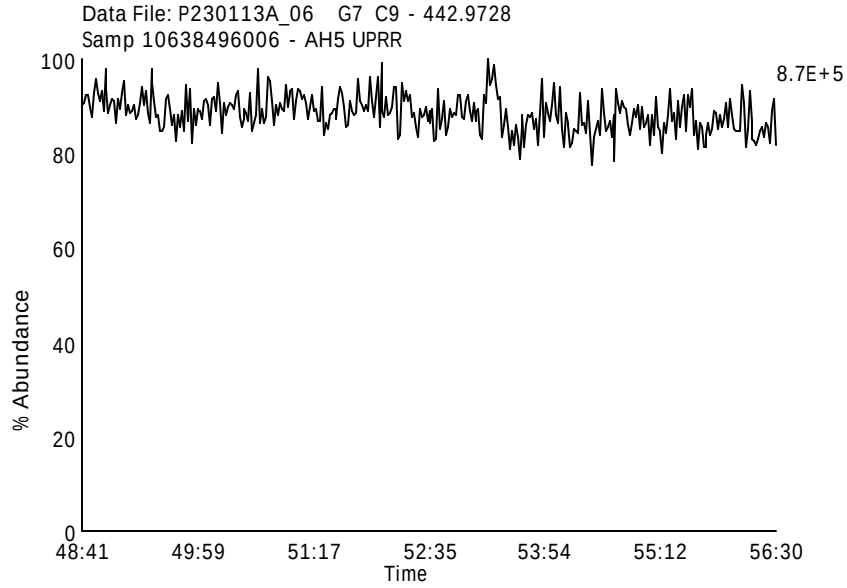
Data File Name: P230113A_06
Date Acquired: 1/13/2023
Sample Description: Samp 10638496006 - AH5 UPRR

Lab Sample ID: 10638496006
Instrument: 10MSHR09 (P)
Client Sample ID: SB14-1.0-1.5-1022







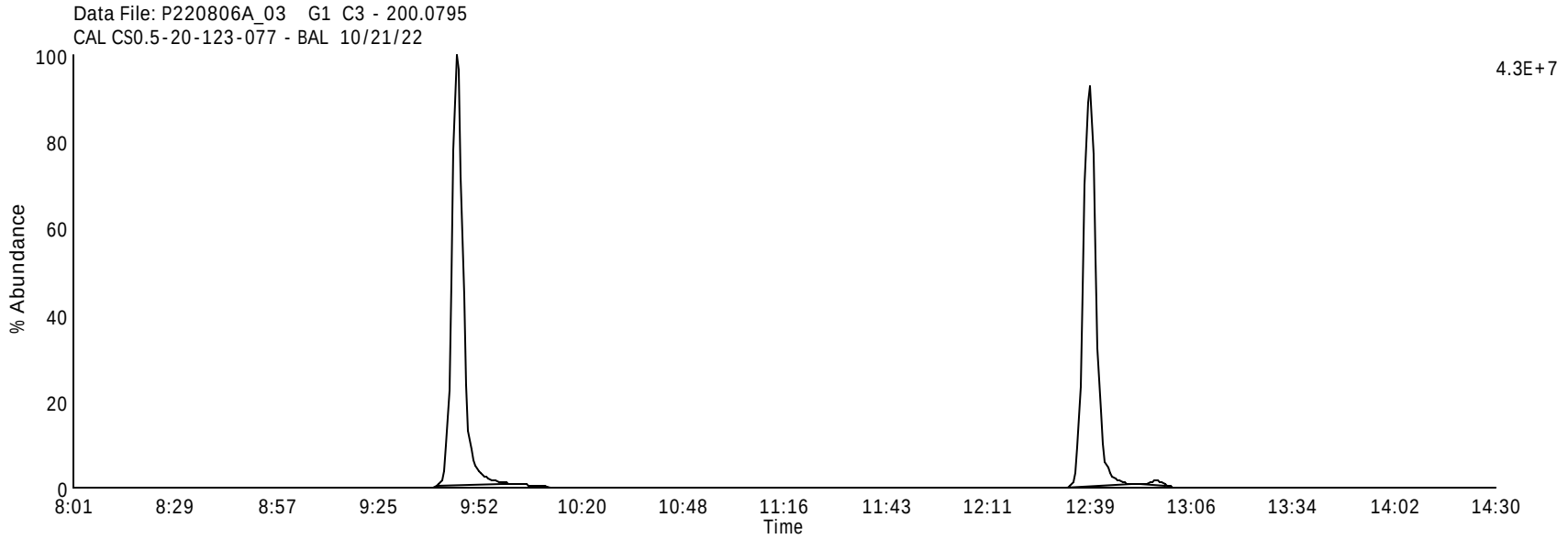


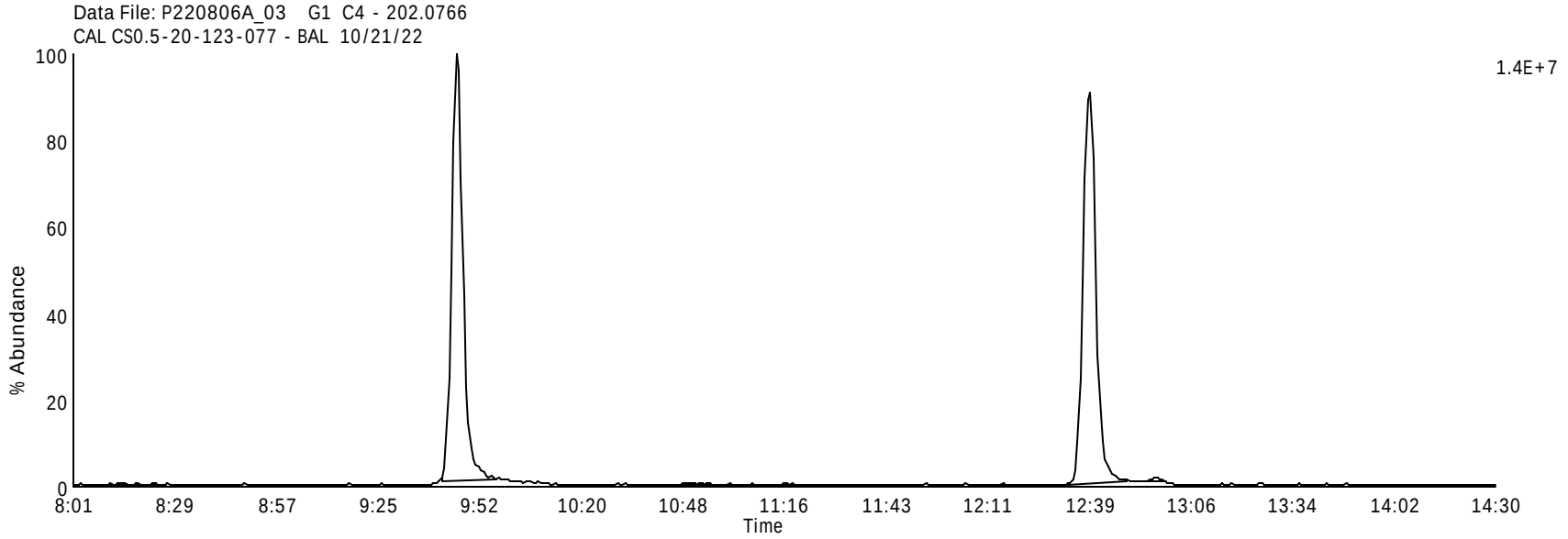
Labeled Mono Chlorinated Biphenyls

Data File Name: P220806A_03 Lab Sample ID: CS0.5-20-123-077

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

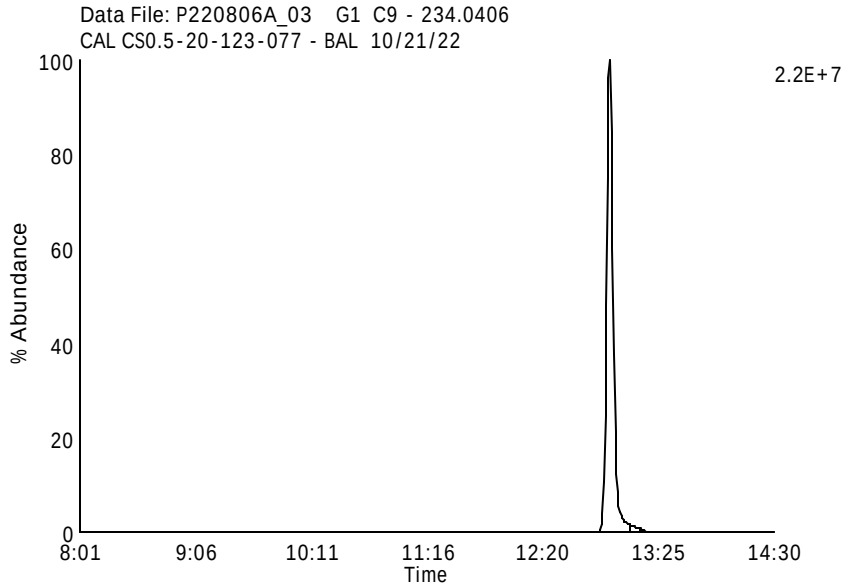
Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22

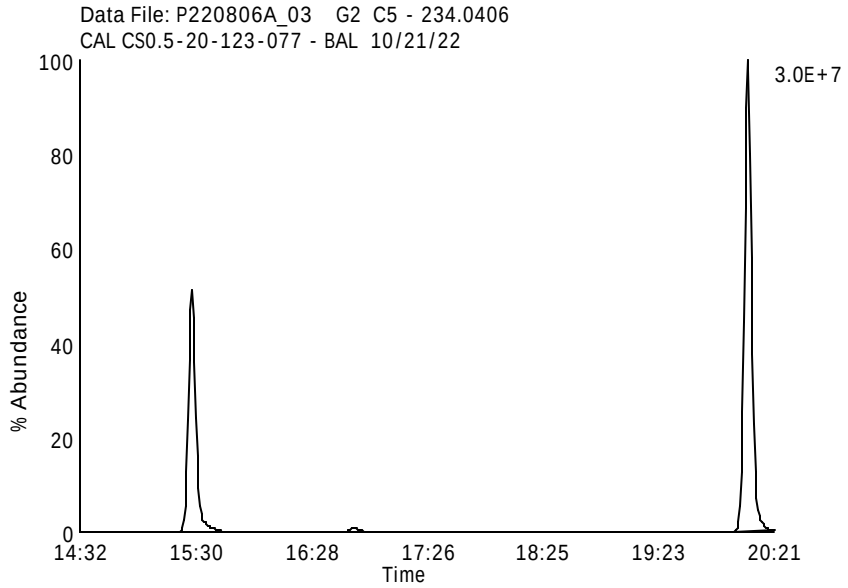


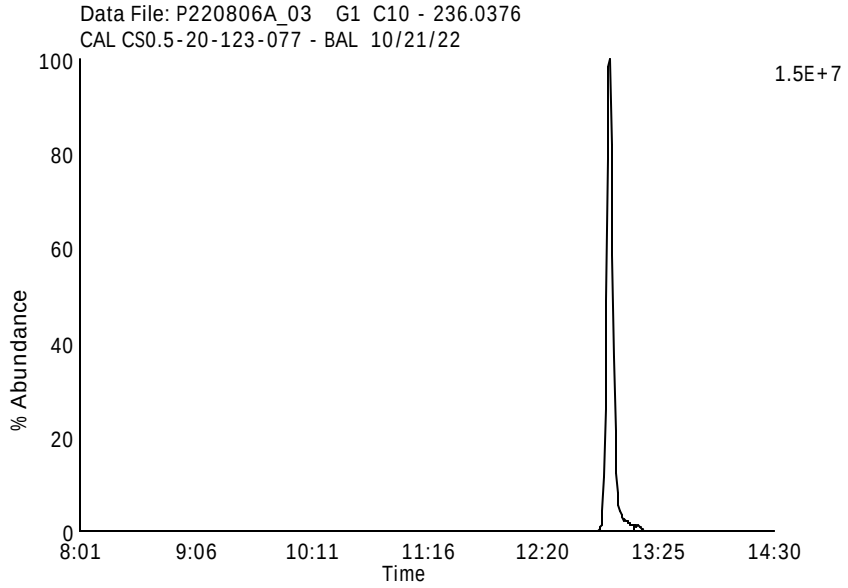


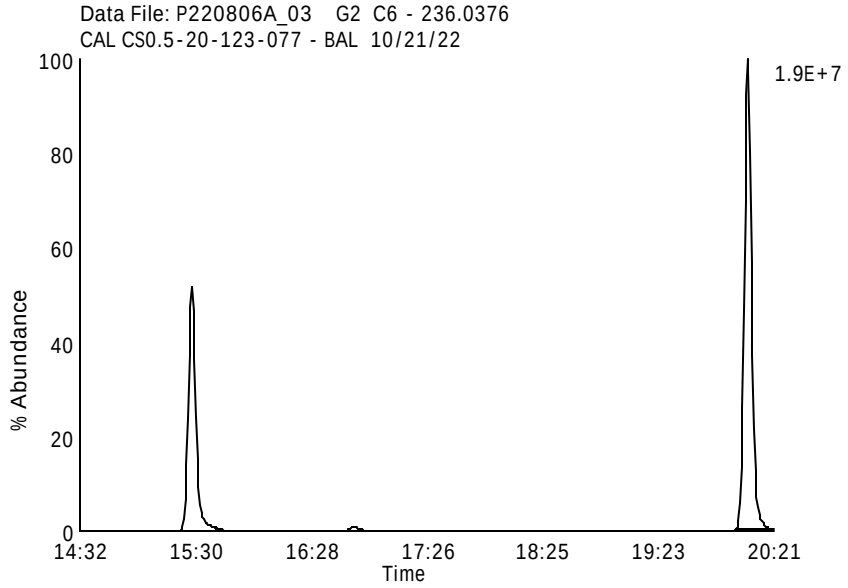
Labeled Di Chlorinated Biphenyls

Data File Name: P220806A_03
Lab Sample ID: CS0.5-20-123-077
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22



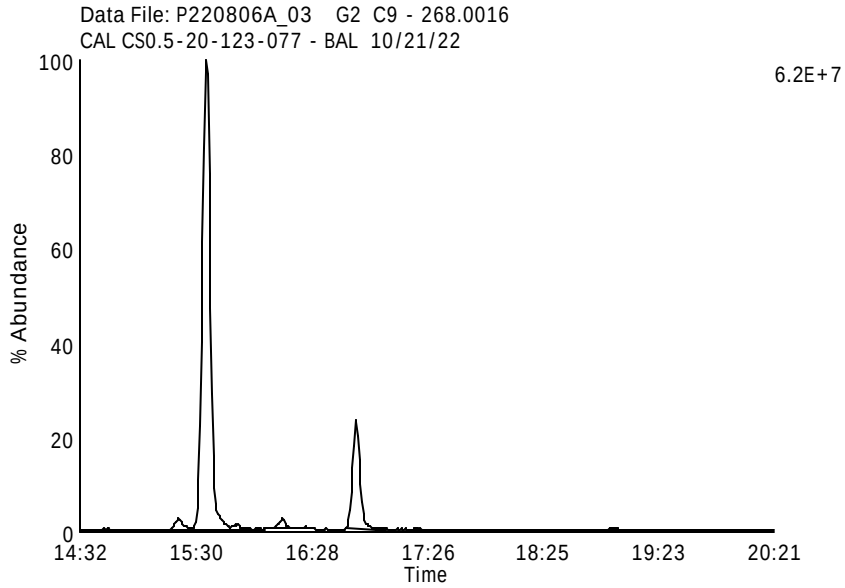


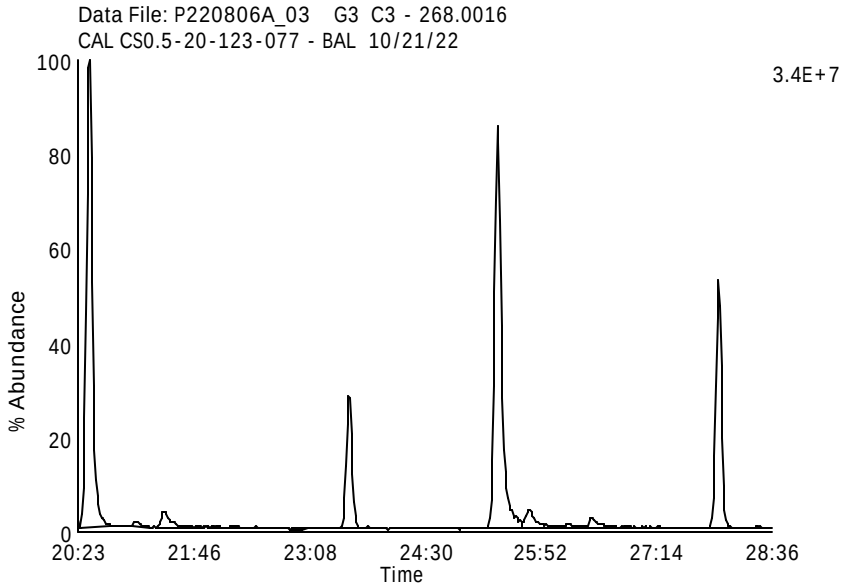


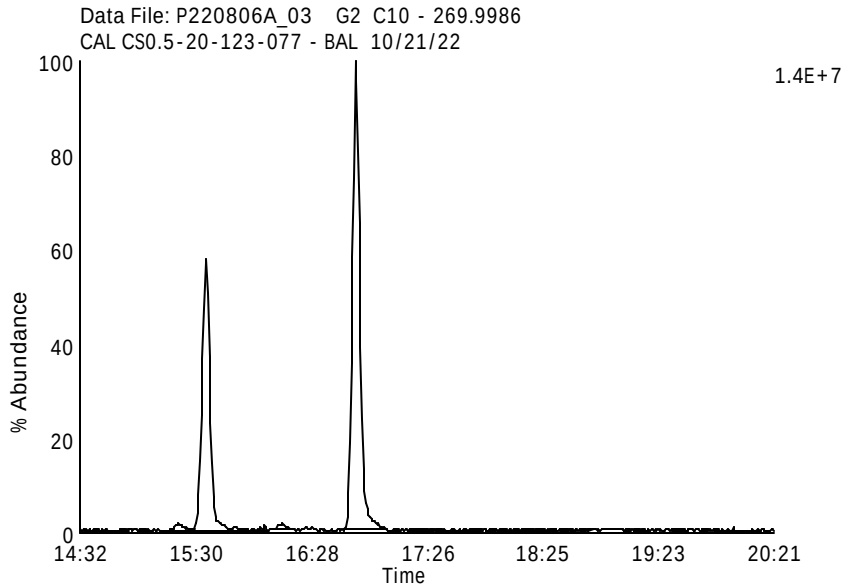


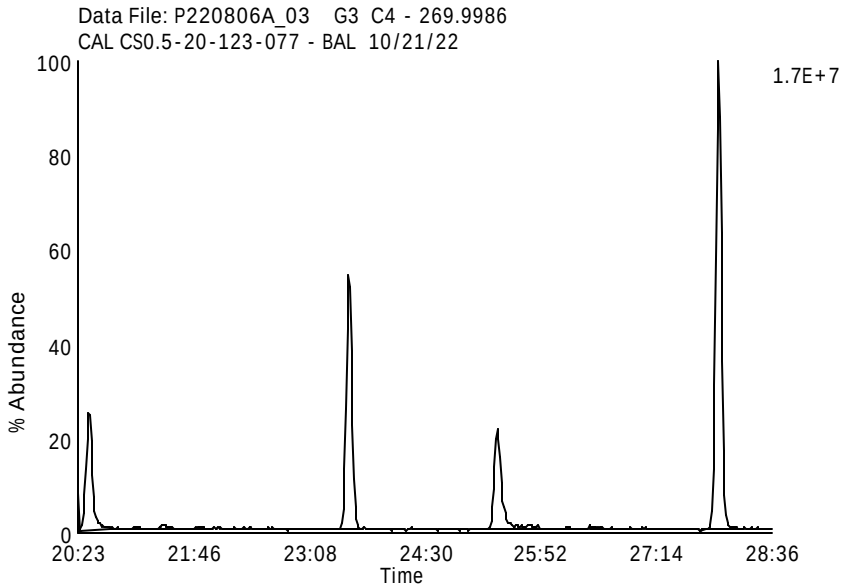
Labeled Tri Chlorinated Biphenyls

Data File Name: P220806A_03
Lab Sample ID: CS0.5-20-123-077
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22







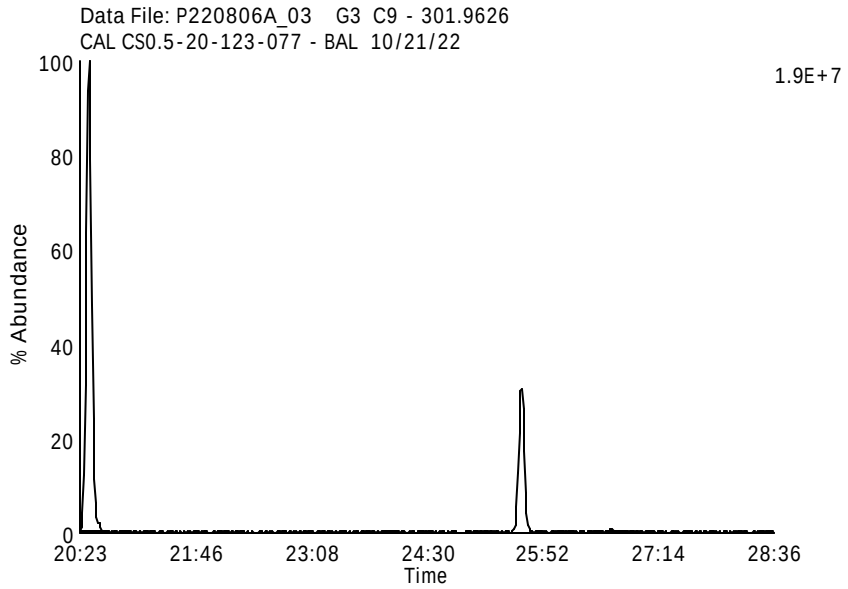


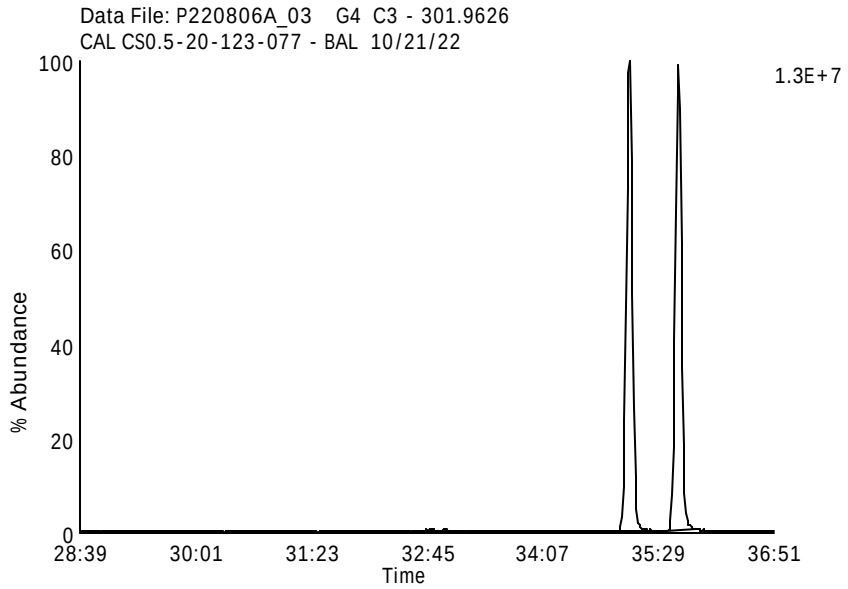
Labeled Tetra Chlorinated Biphenyls

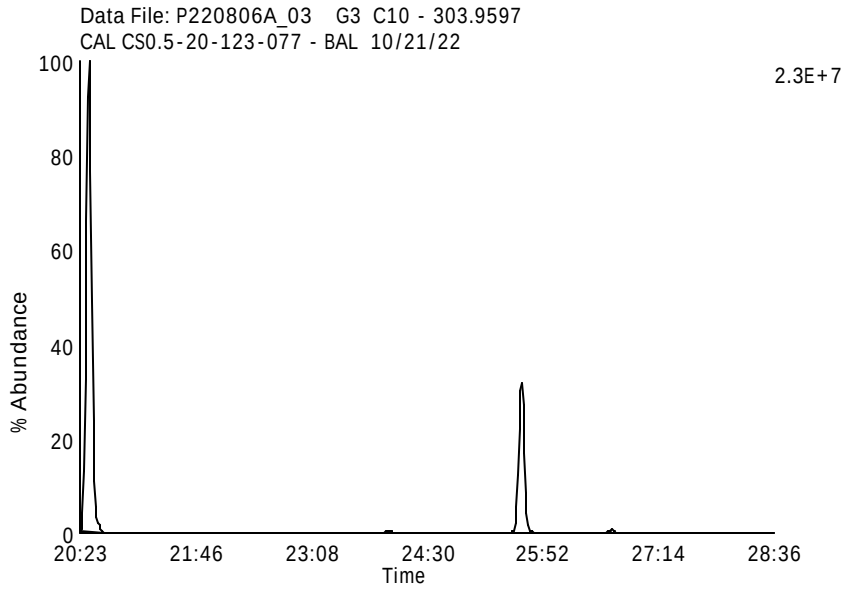
Data File Name: P220806A_03 Lab Sample ID: CS0.5-20-123-077

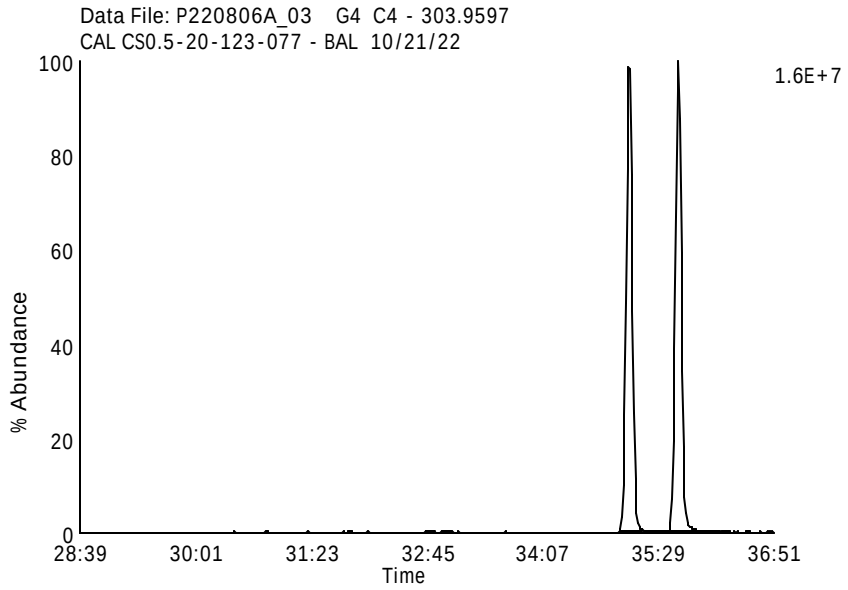
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22



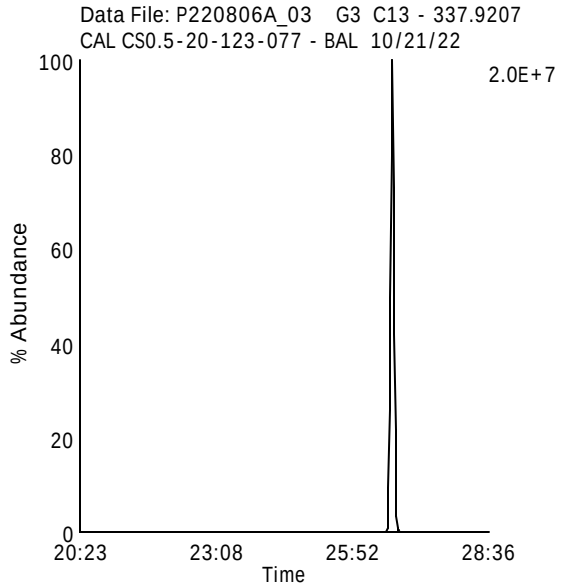


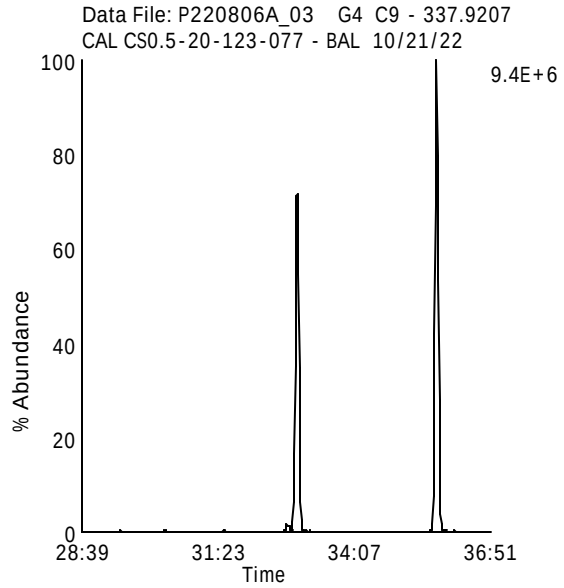


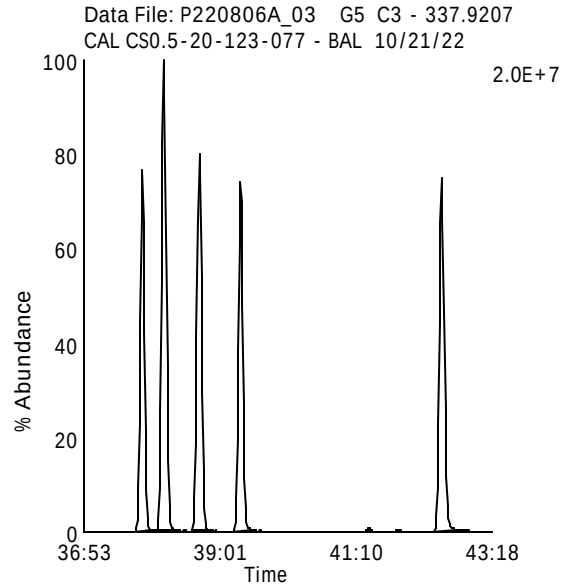


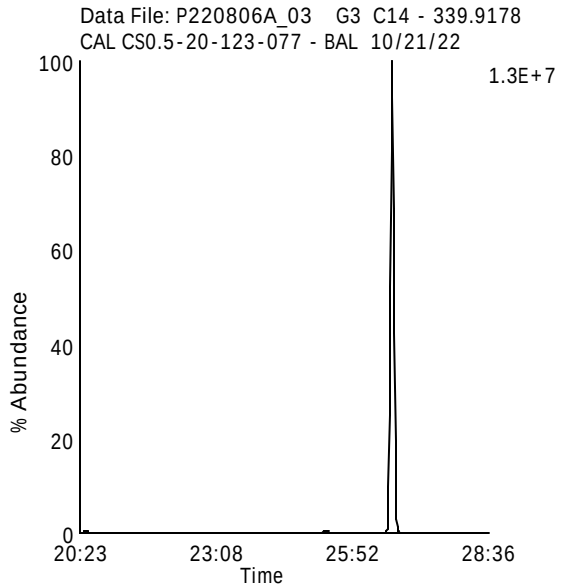
Labeled Penta Chlorinated Biphenyls

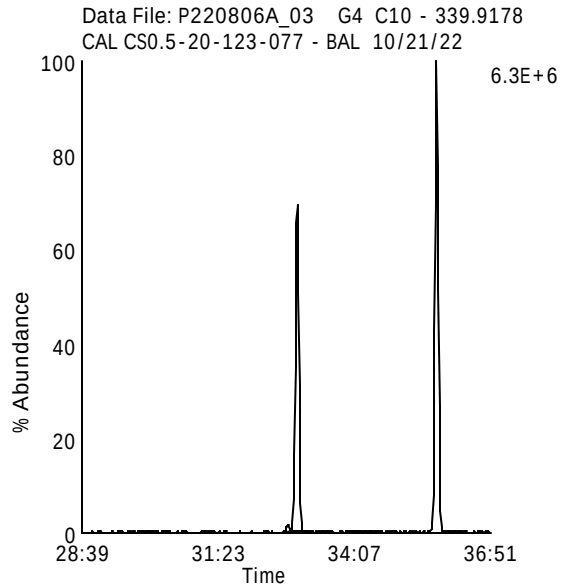
Data File Name: P220806A_03
Lab Sample ID: CS0.5-20-123-077
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22

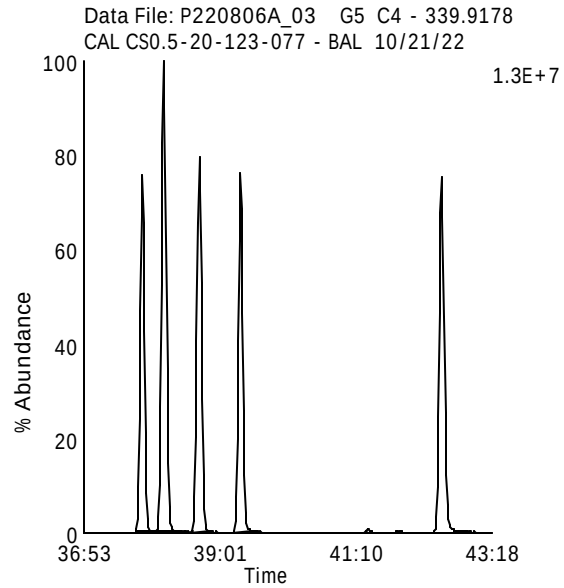










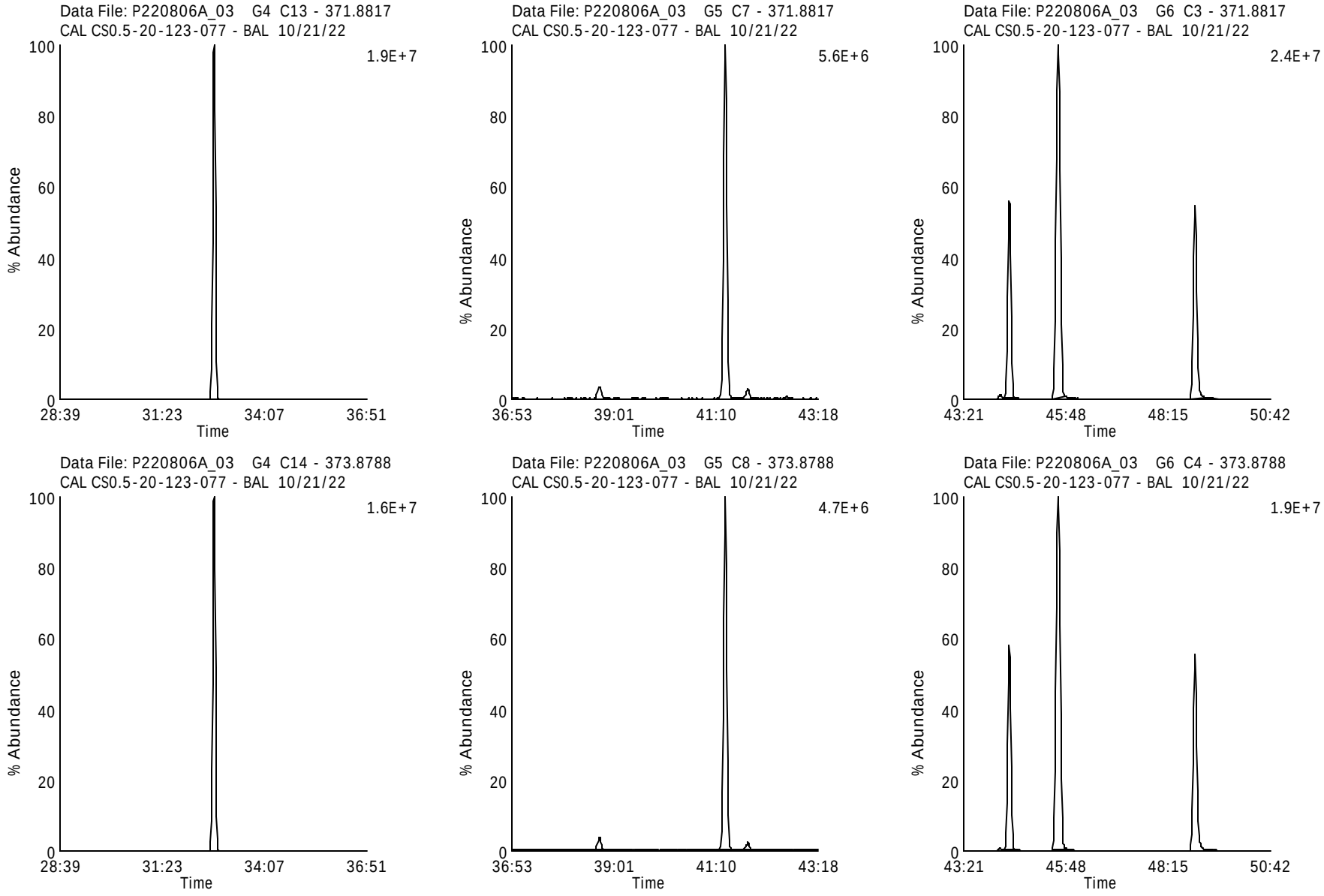


Labeled Hexa Chlorinated Biphenyls

Data File Name: P220806A_03 Lab Sample ID: CS0.5-20-123-077

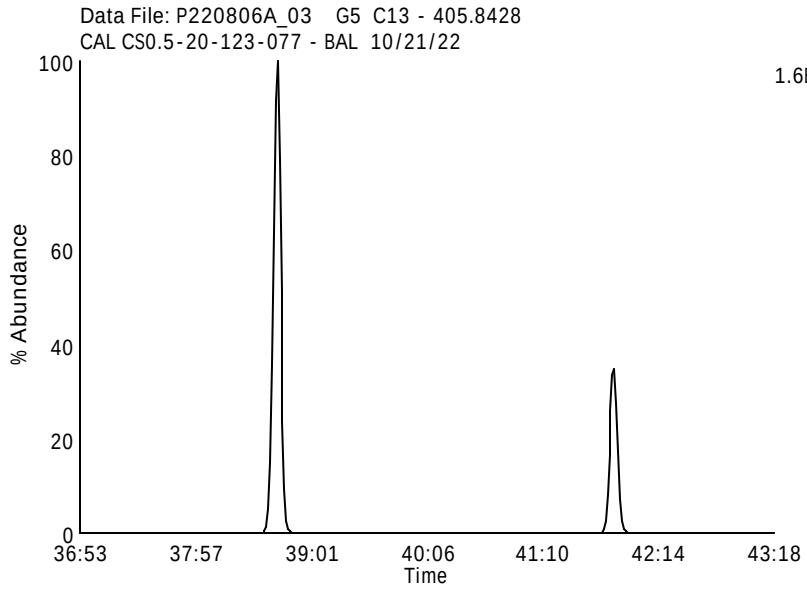
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

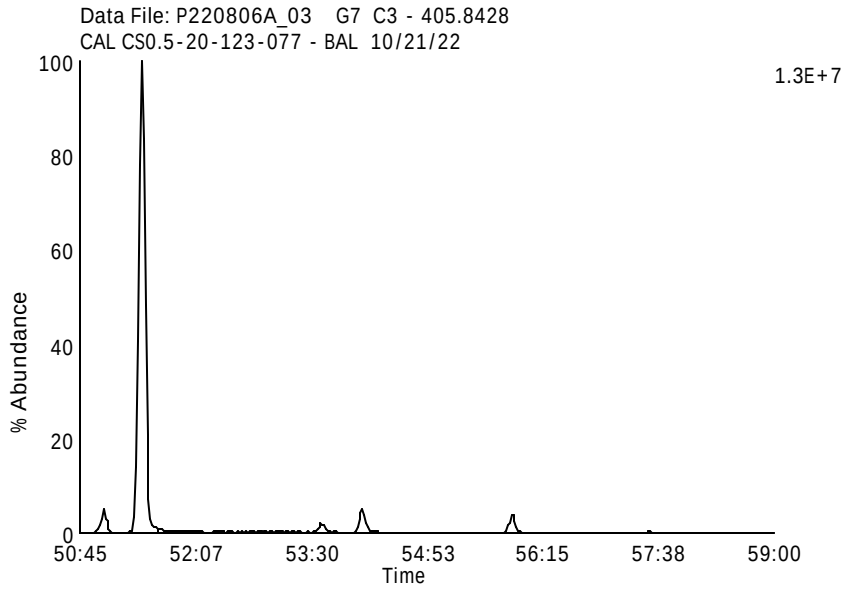
Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22

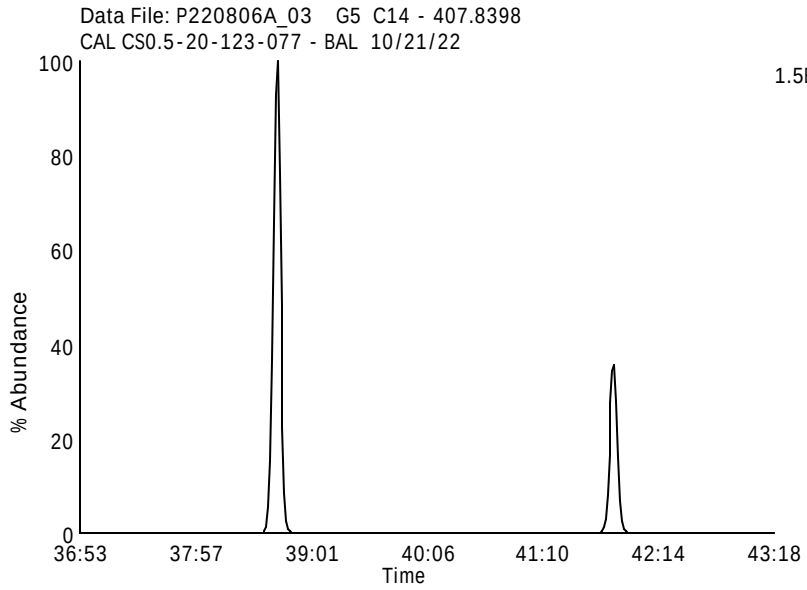


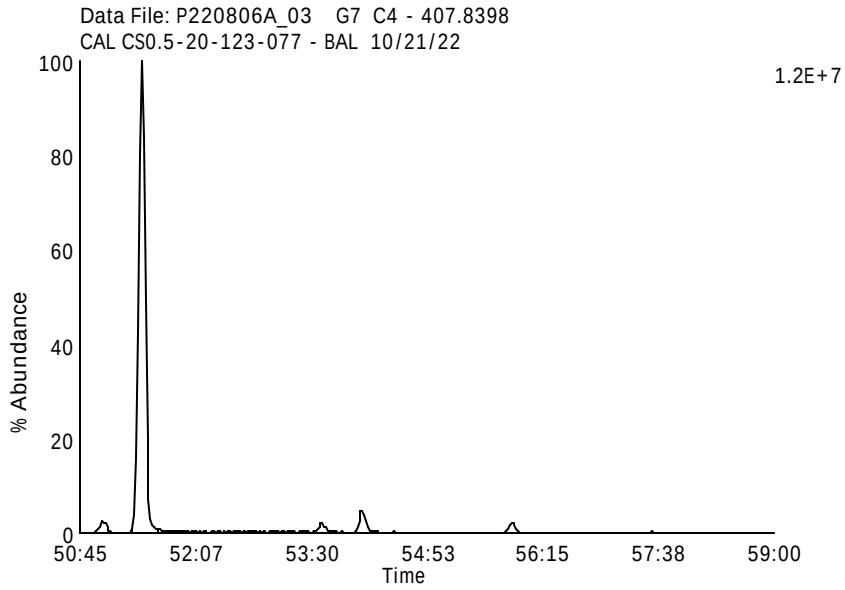
Labeled Hepta Chlorinated Biphenyls

Data File Name: P220806A_03
Lab Sample ID: CS0.5-20-123-077
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22







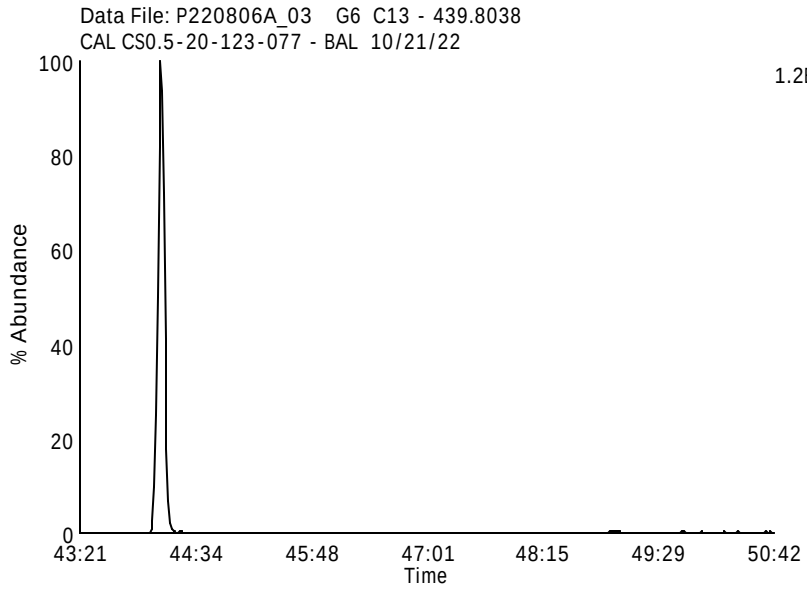


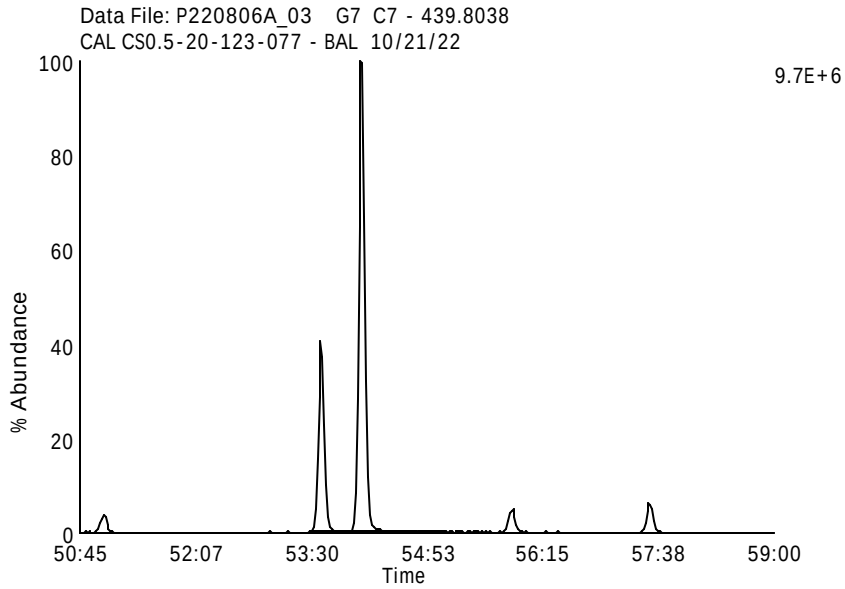
Labeled Octa Chlorinated Biphenyls

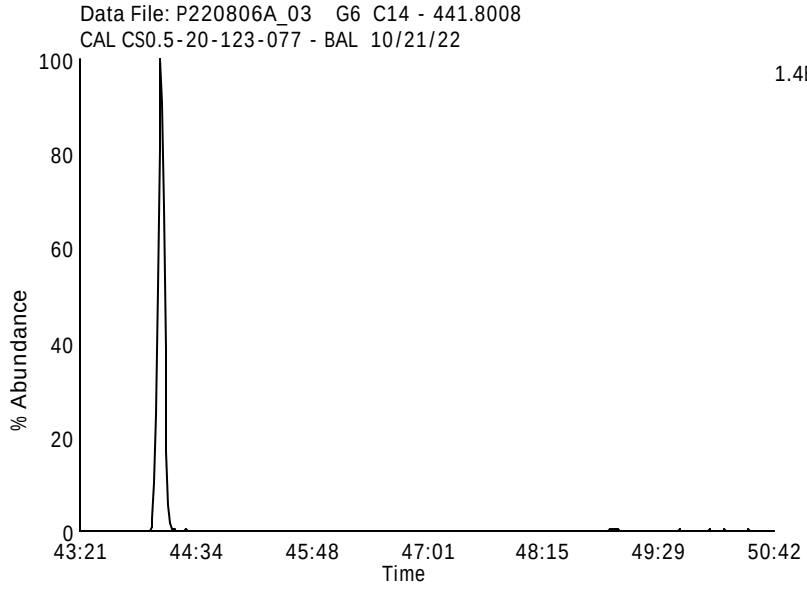
Data File Name: P220806A_03 Lab Sample ID: CS0.5-20-123-077

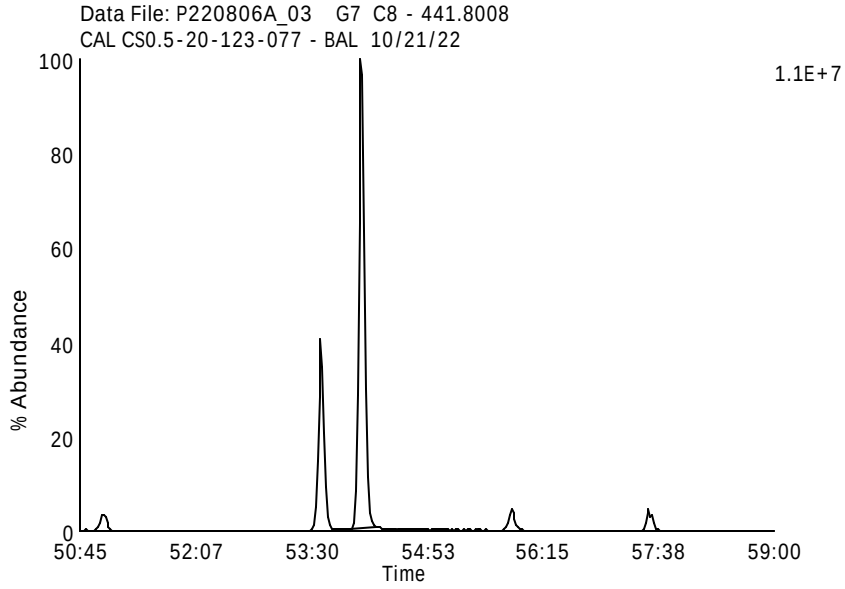
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22







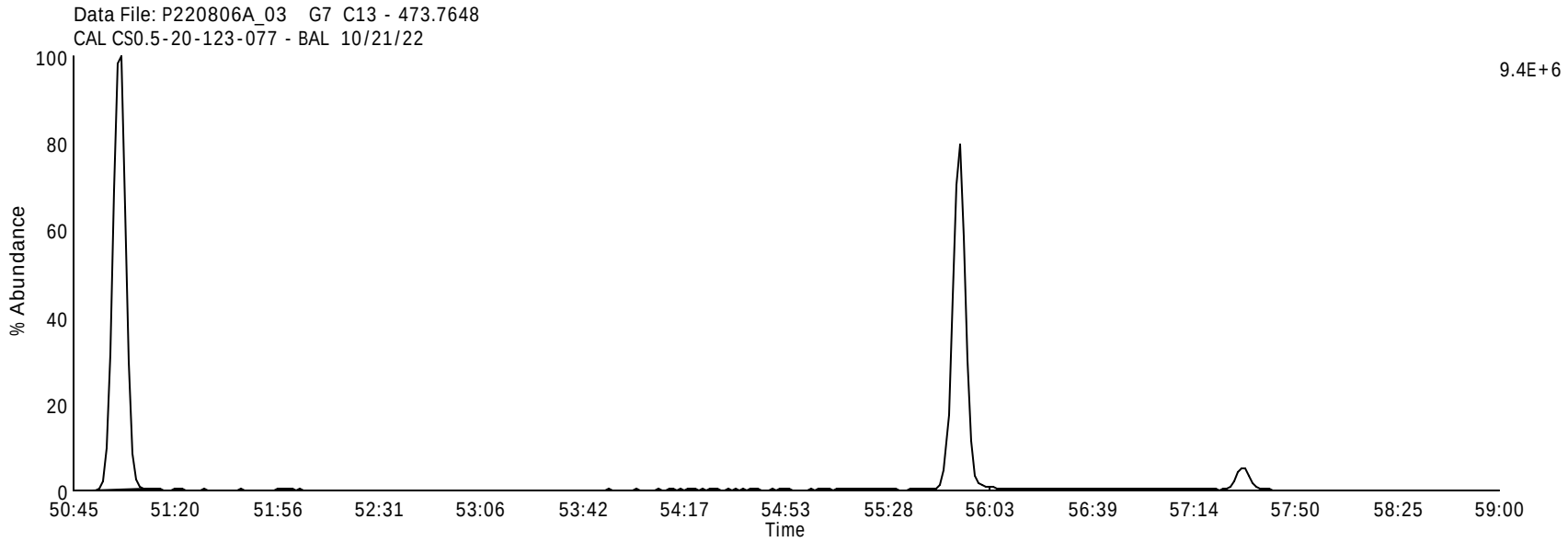


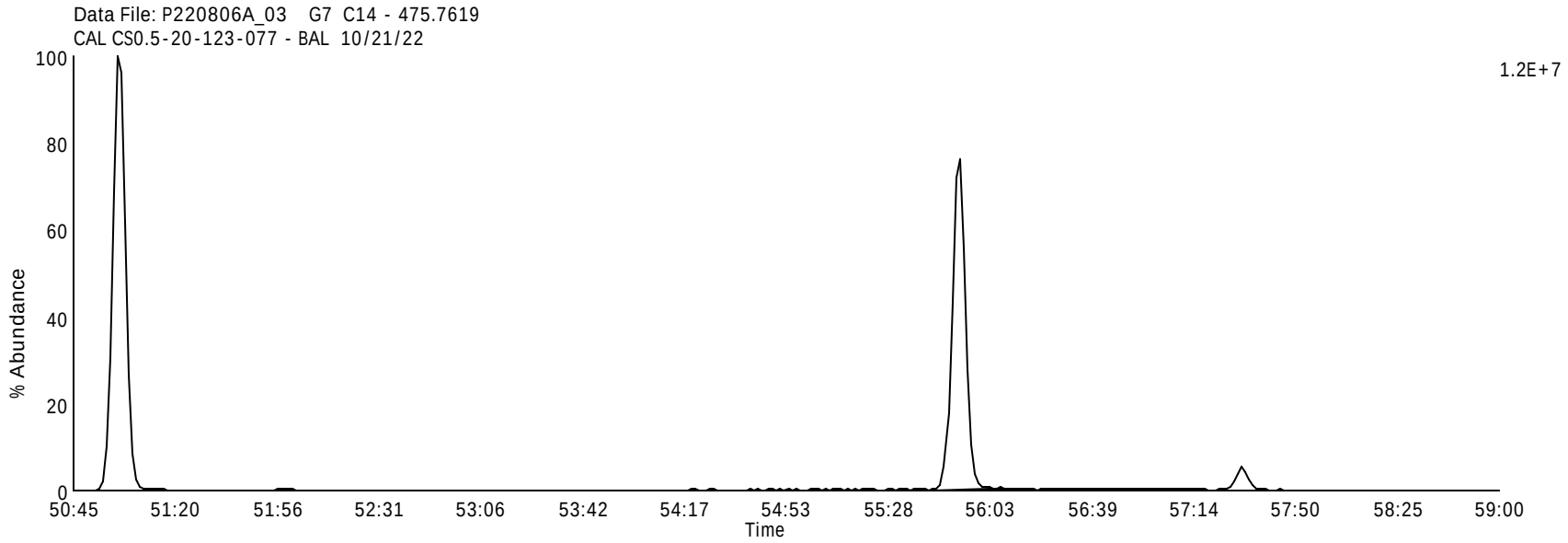
Labeled Nona Chlorinated Biphenyls

Data File Name: P220806A_03 Lab Sample ID: CS0.5-20-123-077

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22



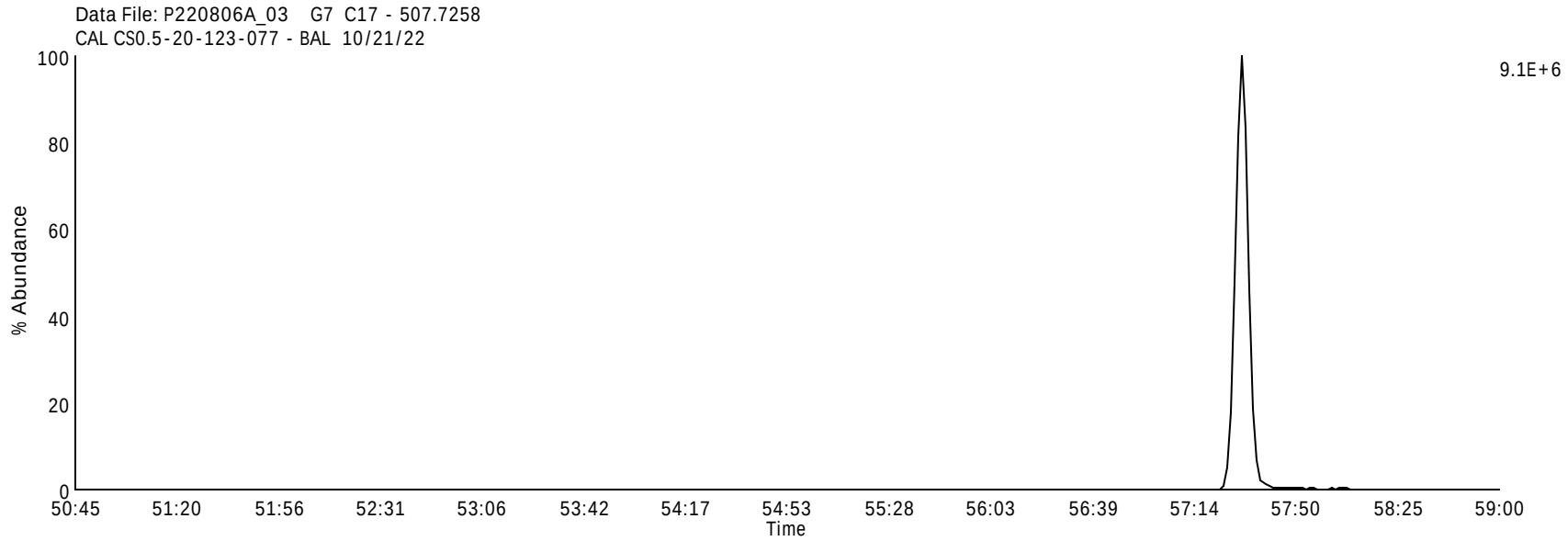


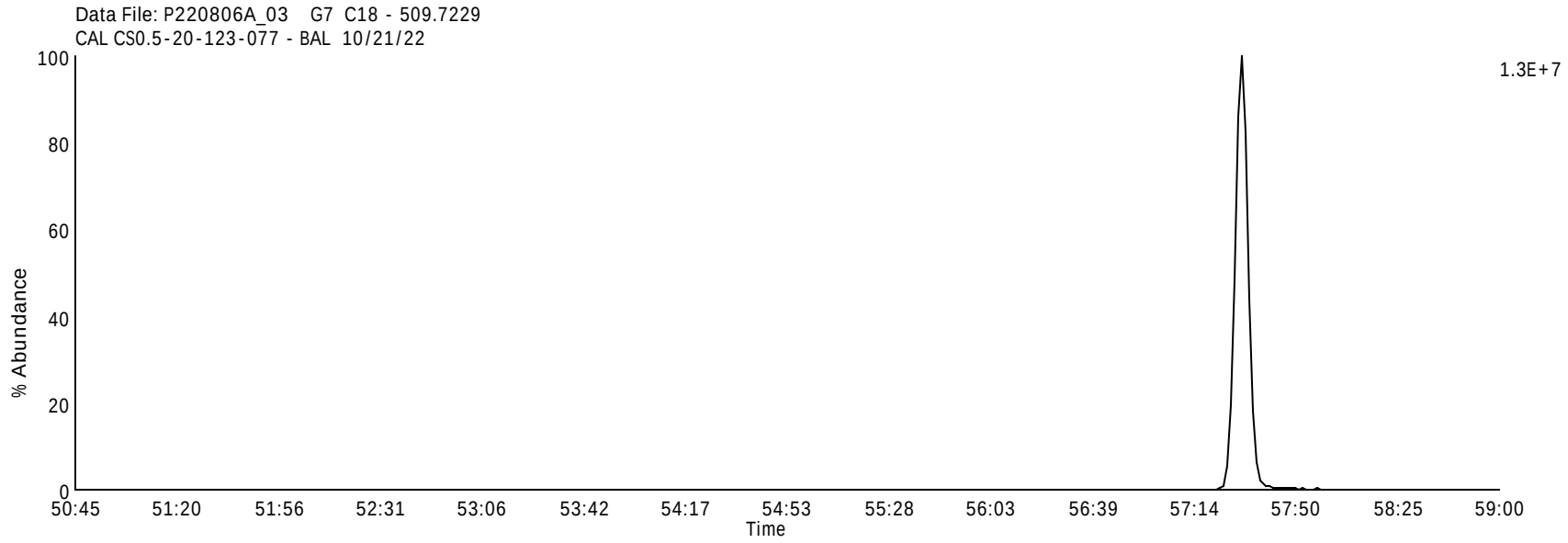
Labeled Deca Chlorinated Biphenyl

Data File Name: P220806A_03 Lab Sample ID: CS0.5-20-123-077

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22



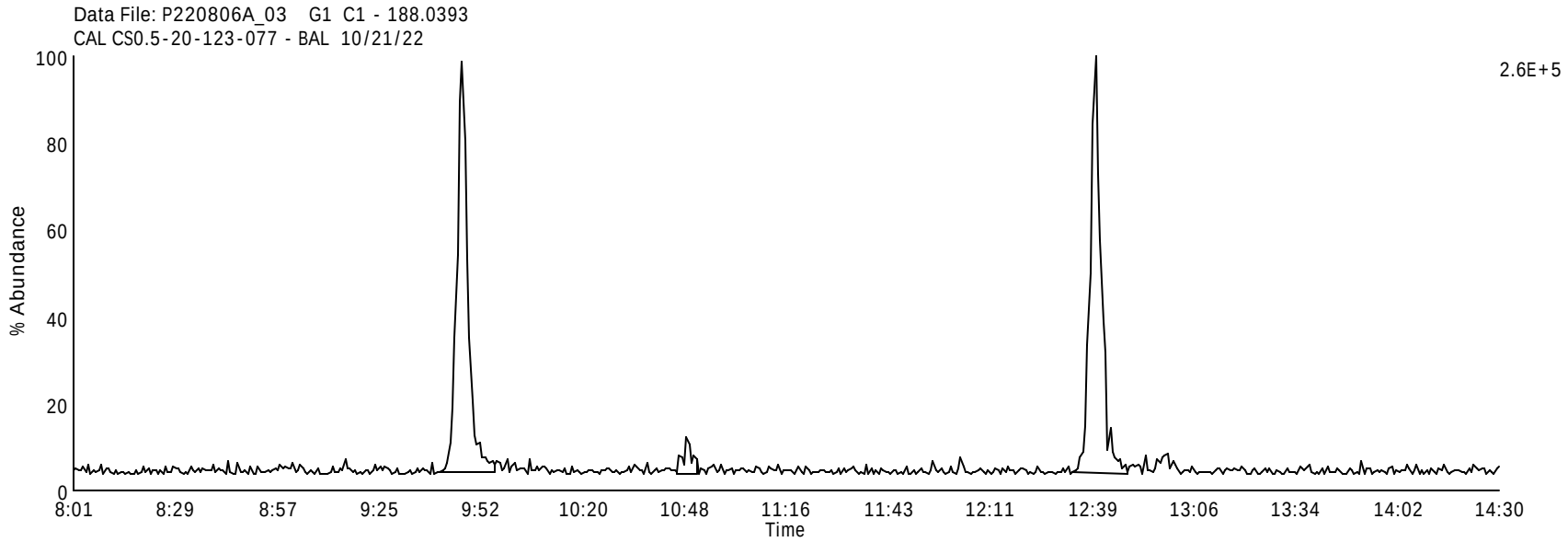


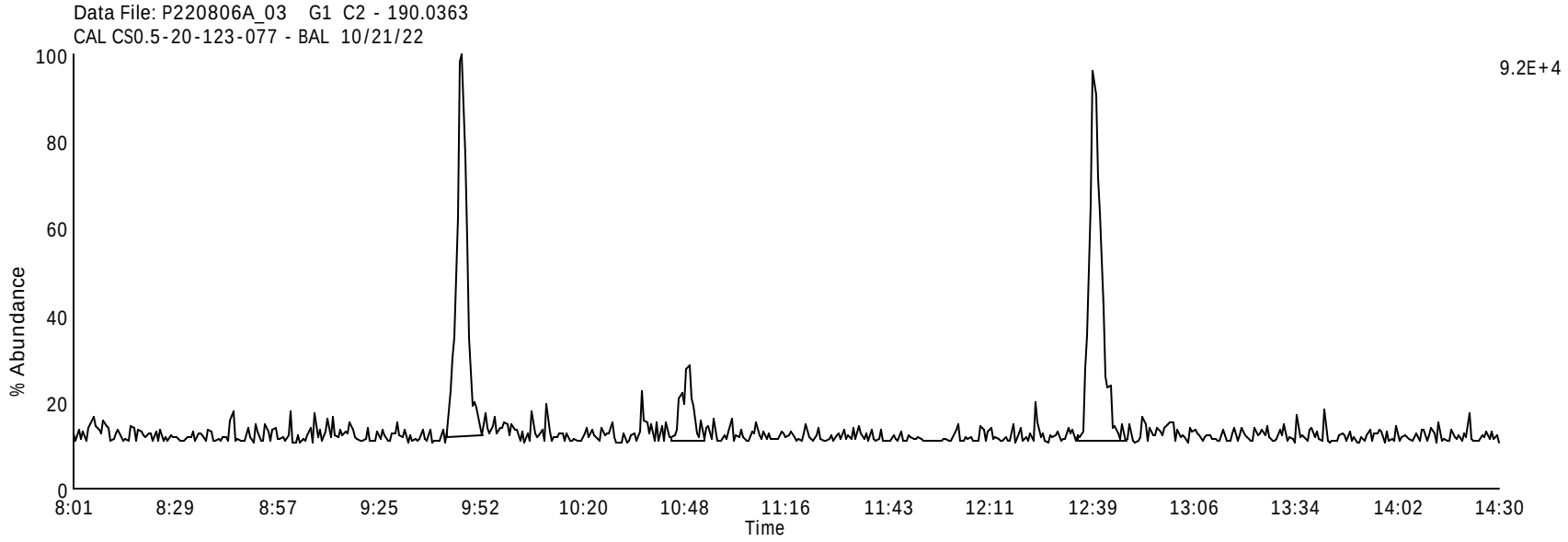
Mono Chlorinated Biphenyls

Data File Name: P220806A_03 Lab Sample ID: CS0.5-20-123-077

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

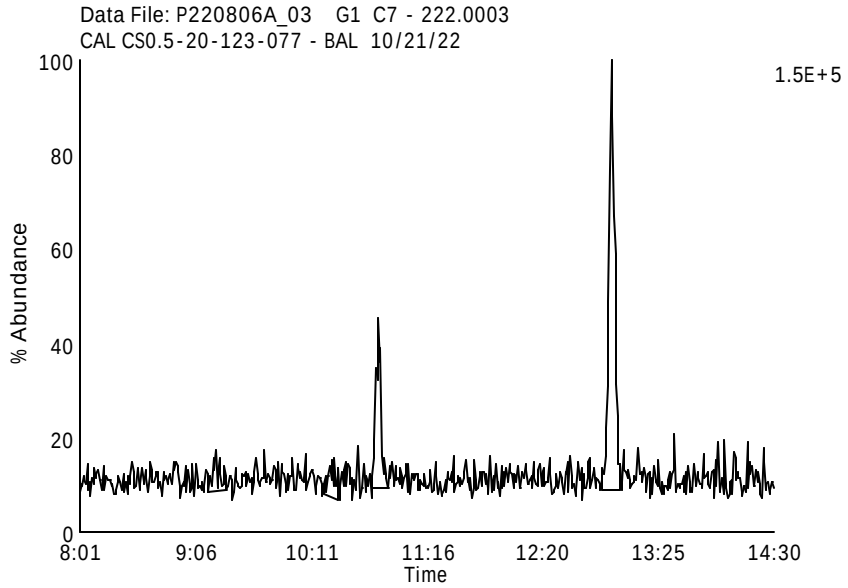
Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22

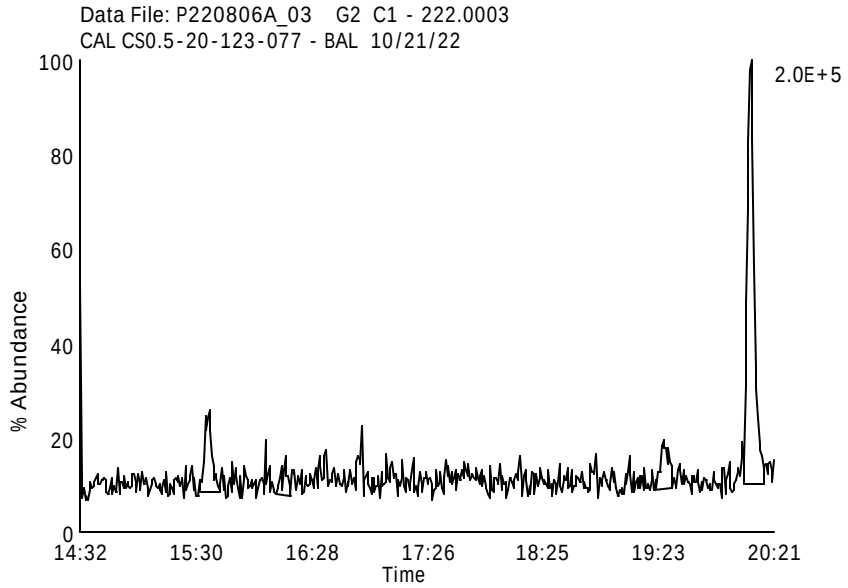


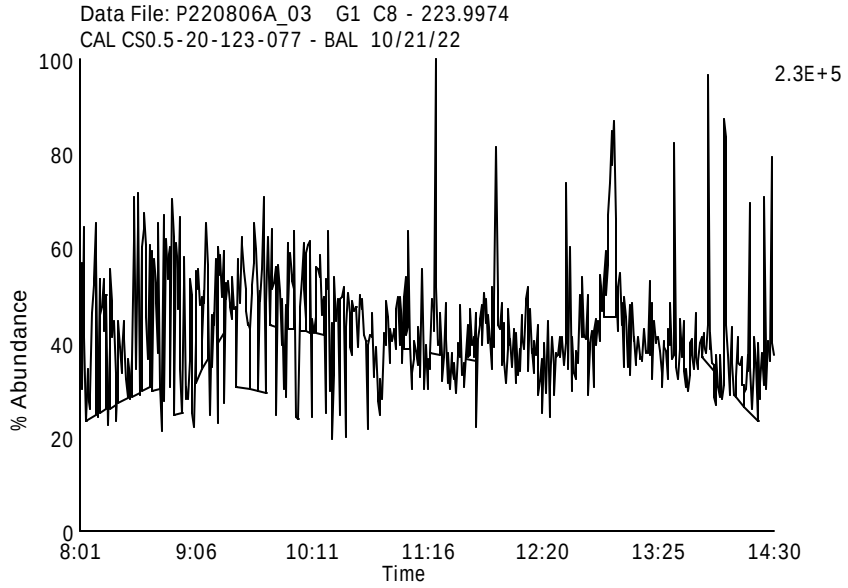


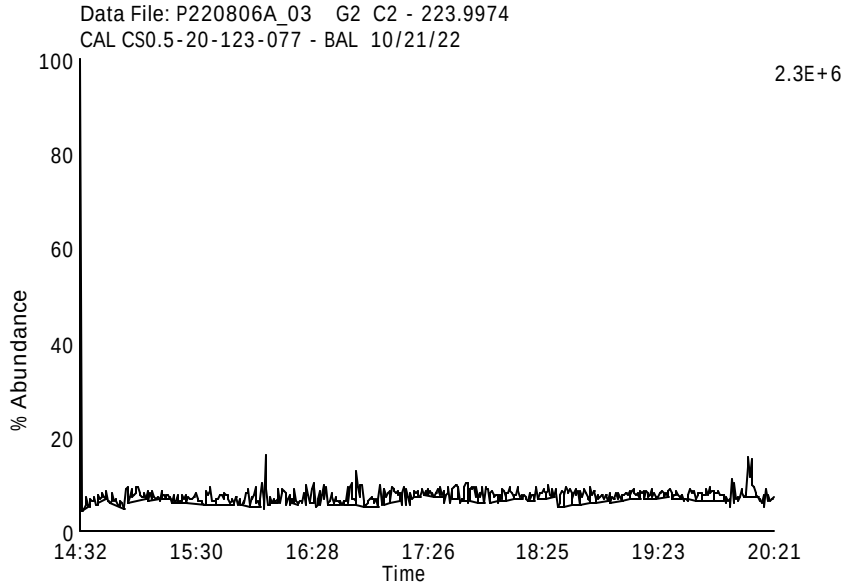
Di Chlorinated Biphenyls

Data File Name: P220806A_03
Lab Sample ID: CS0.5-20-123-077
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22



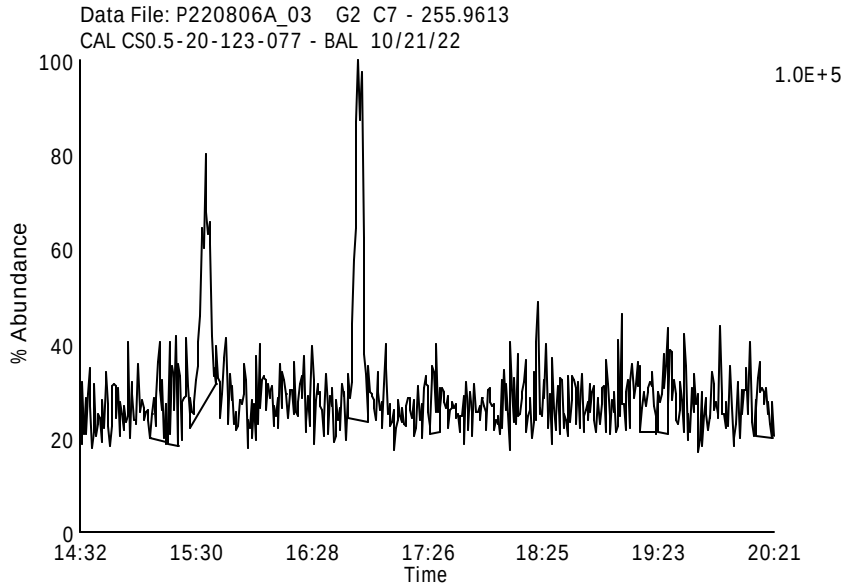


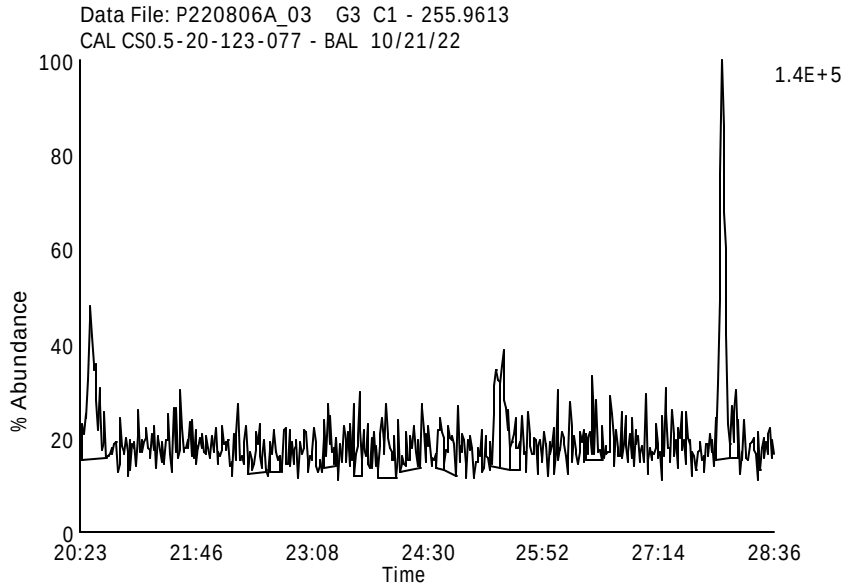


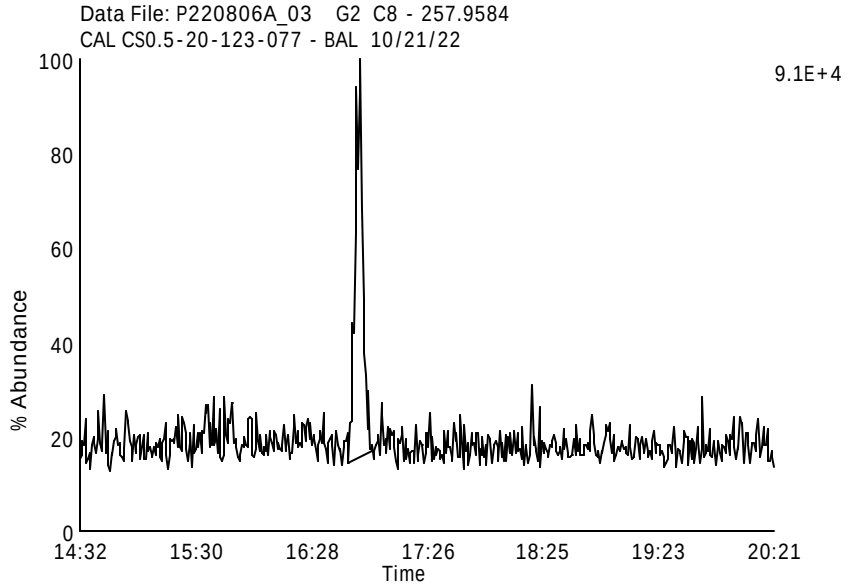


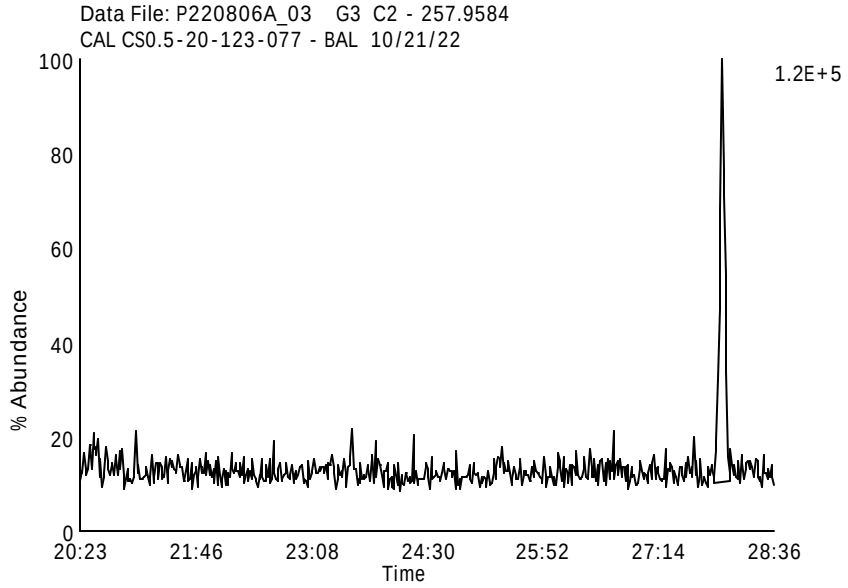
Tri Chlorinated Biphenyls

Data File Name: P220806A_03
Lab Sample ID: CS0.5-20-123-077
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22



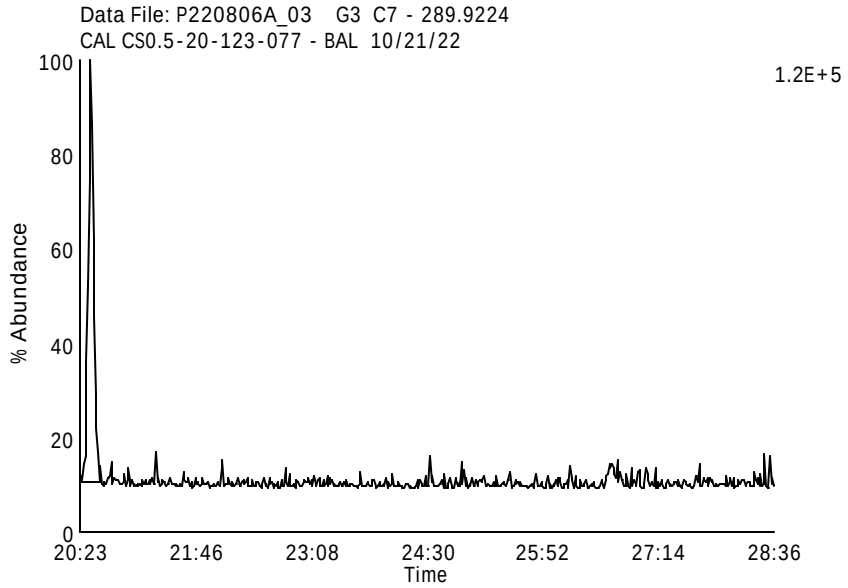


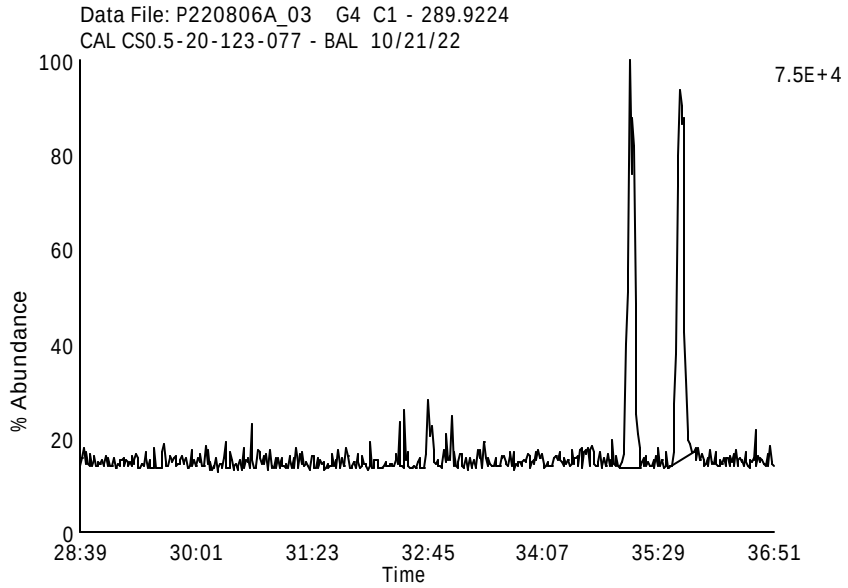


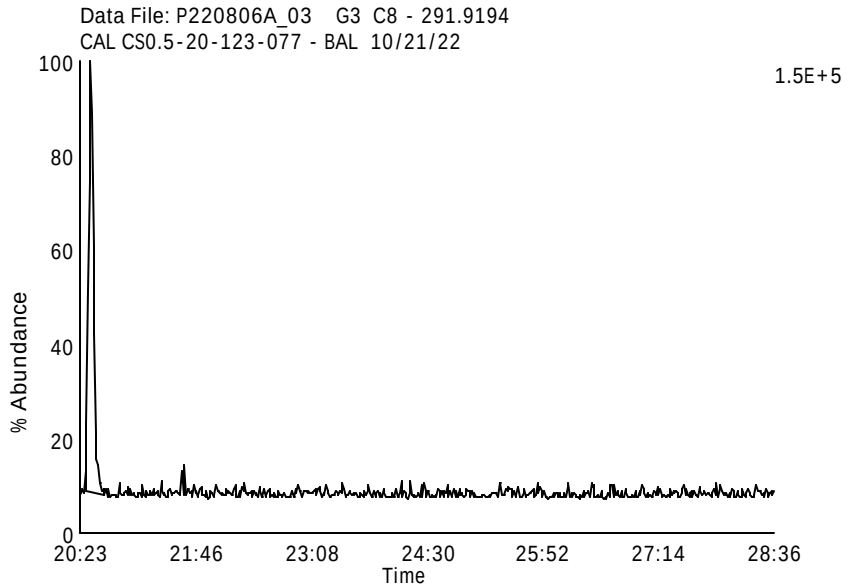


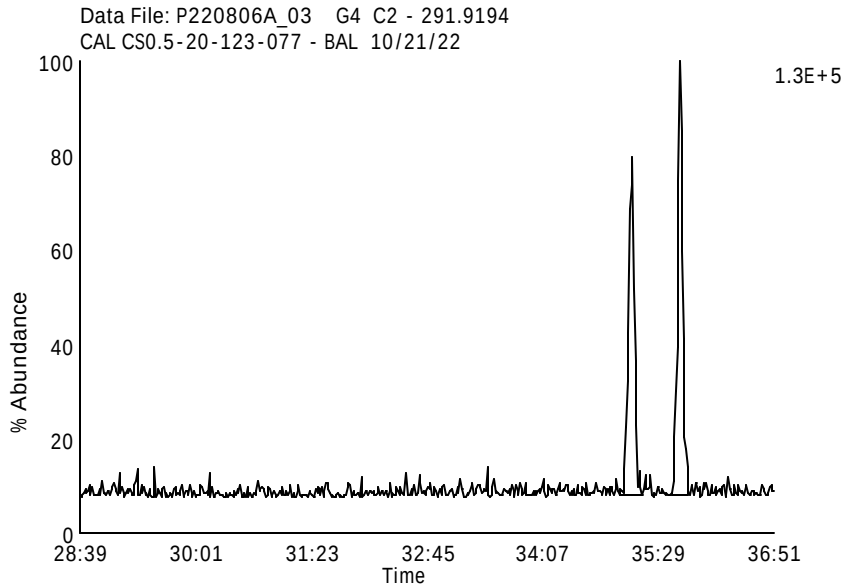
Tetra Chlorinated Biphenyls

Data File Name: P220806A_03
Lab Sample ID: CS0.5-20-123-077
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22



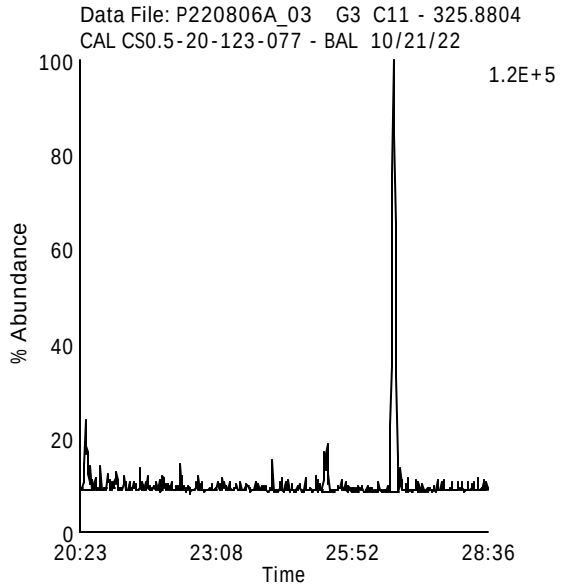


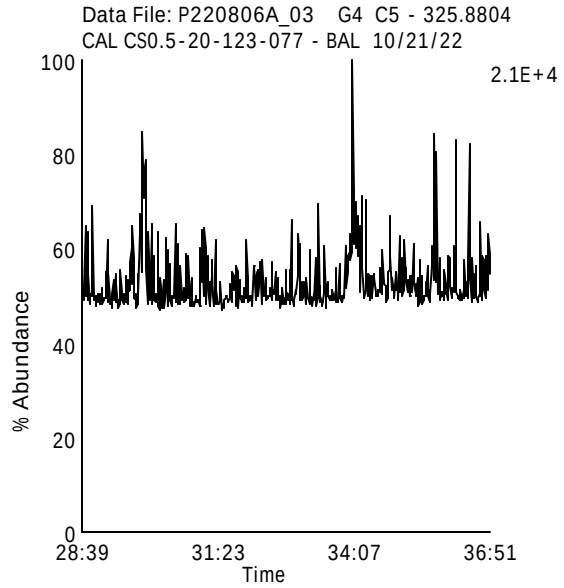


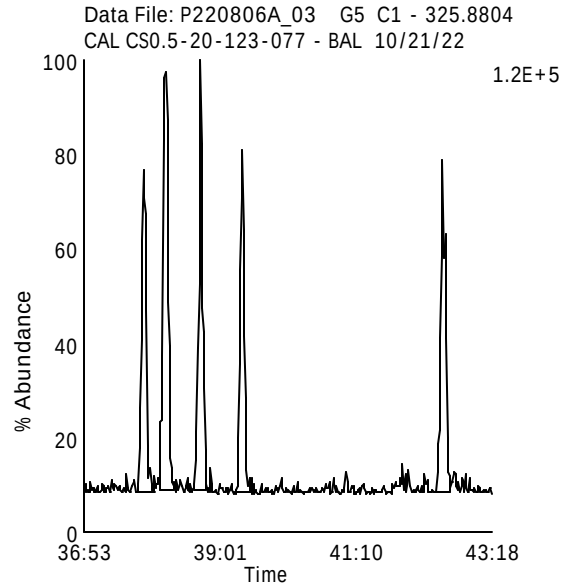


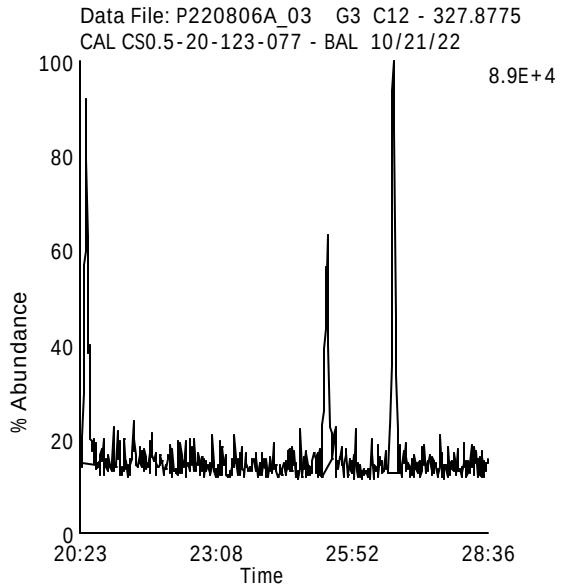
Penta Chlorinated Biphenyls

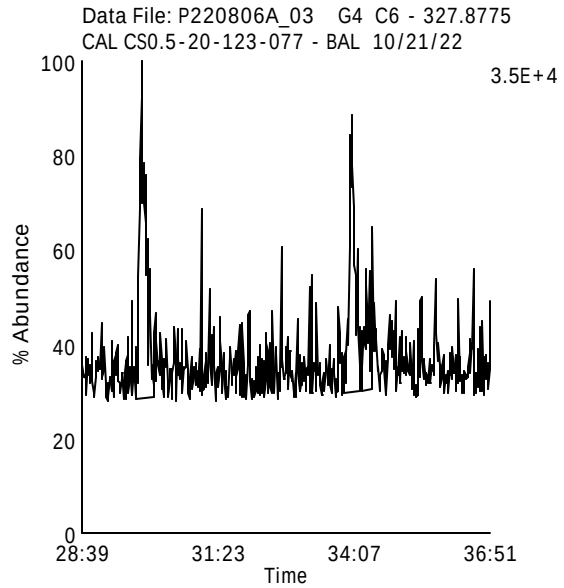
Data File Name: P220806A_03
Lab Sample ID: CS0.5-20-123-077
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22

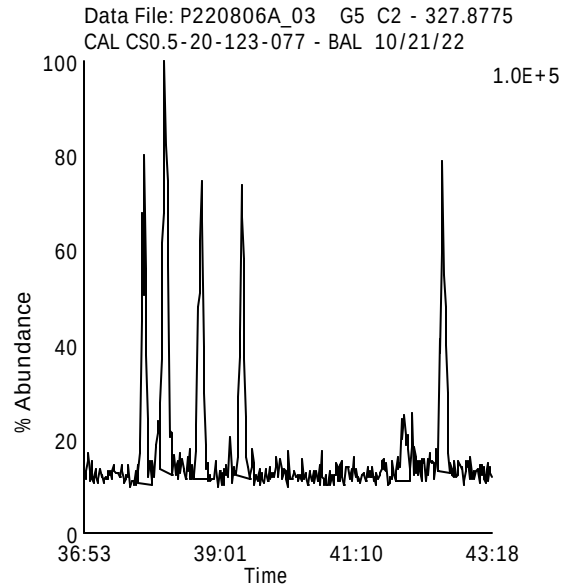












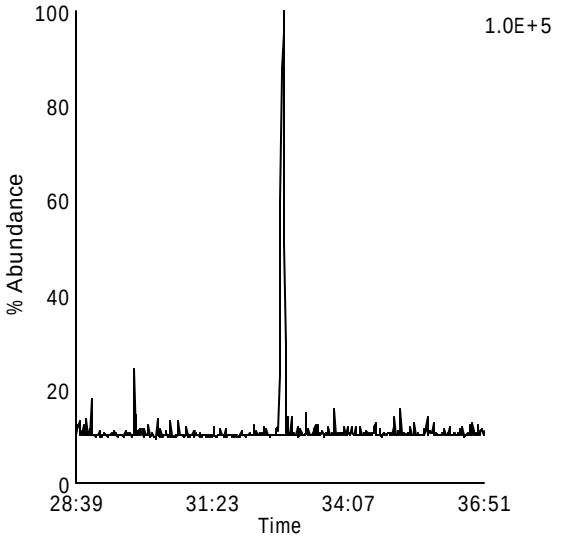
Hexa Chlorinated Biphenyls

Data File Name: P220806A_03 Lab Sample ID: CS0.5-20-123-077

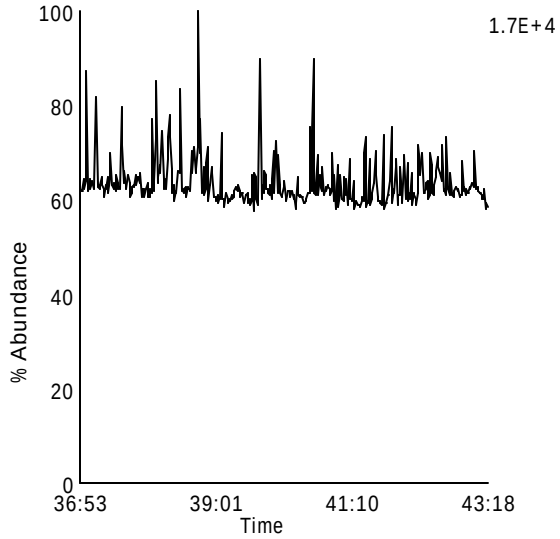
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22

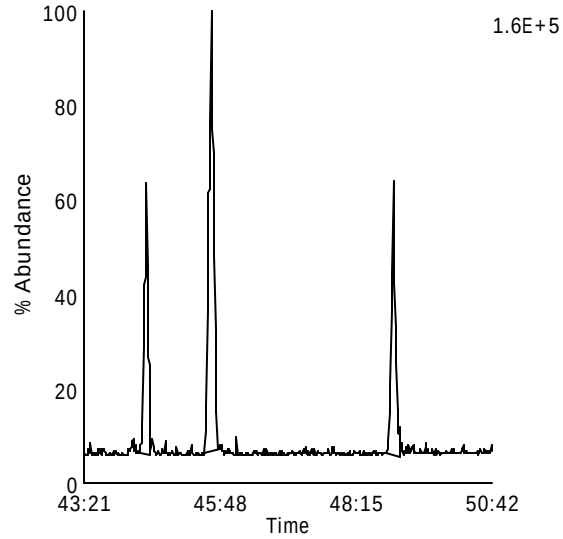
Data File: P220806A_03 G4 C11 - 359.8415
CAL CS0.5-20-123-077 - BAL 10/21/22



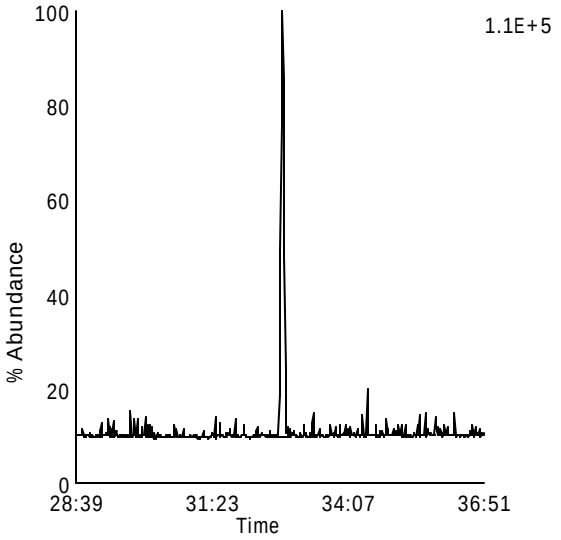
Data File: P220806A_03 G5 C5 - 359.8415
CAL CS0.5-20-123-077 - BAL 10/21/22



Data File: P220806A_03 G6 C1 - 359.8415
CAL CS0.5-20-123-077 - BAL 10/21/22



Data File: P220806A_03 G4 C12 - 361.8385
CAL CS0.5-20-123-077 - BAL 10/21/22



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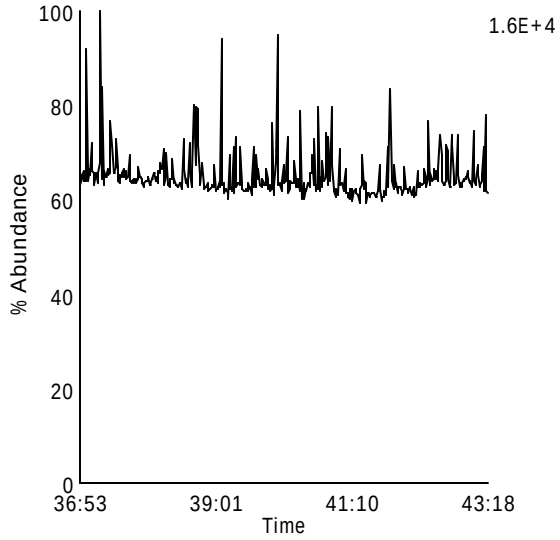
CAL CS0.5-20-123-077 - BAL 10/21/22



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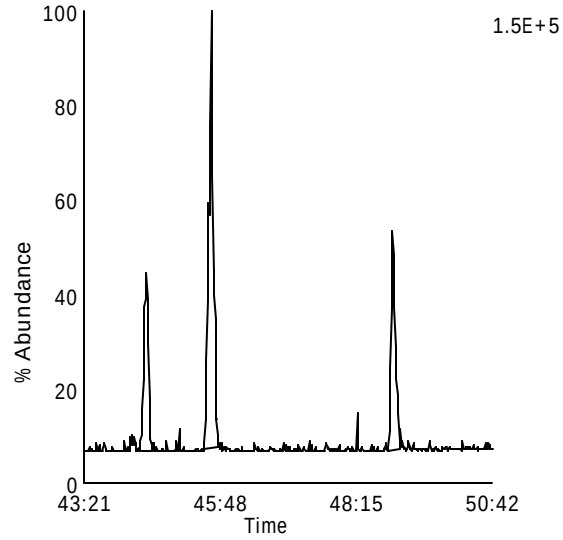
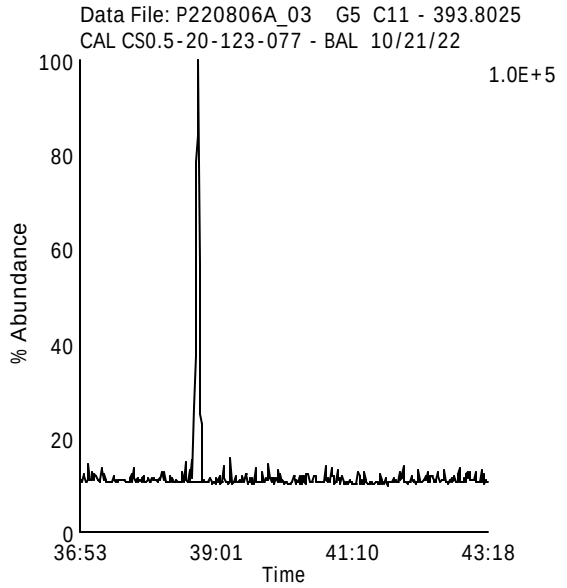
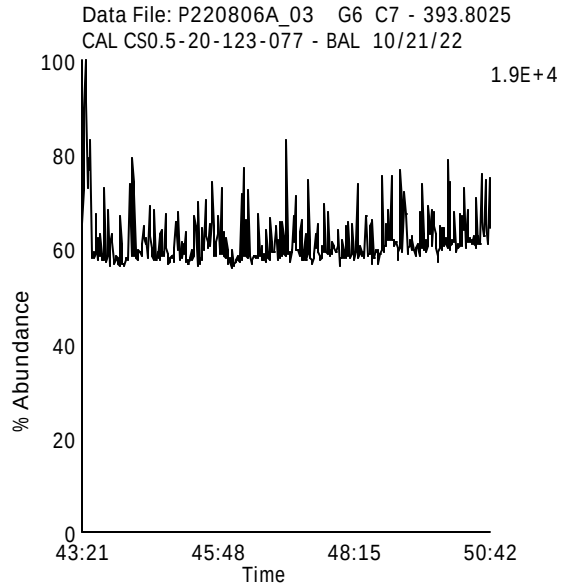
CAL CS0.5-20-123-077 - BAL 10/21/22

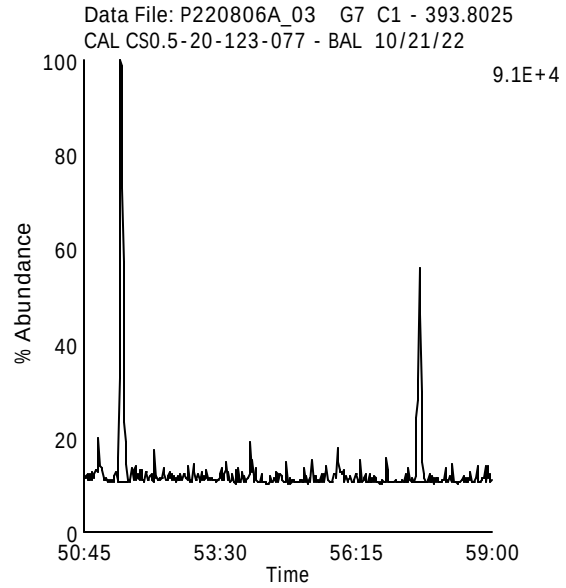


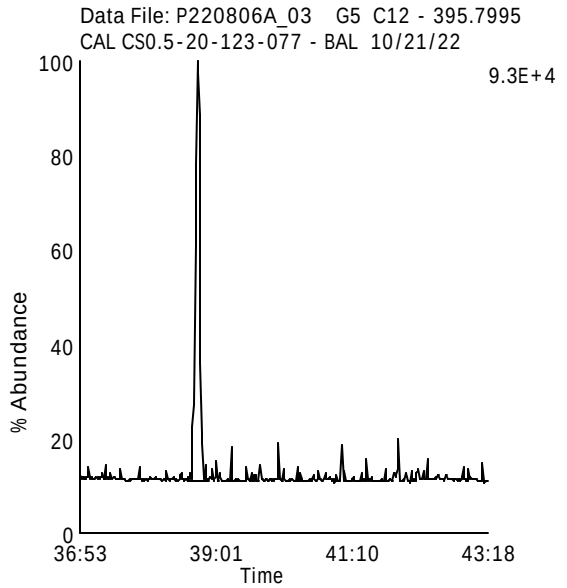
Hepta Chlorinated Biphenyls

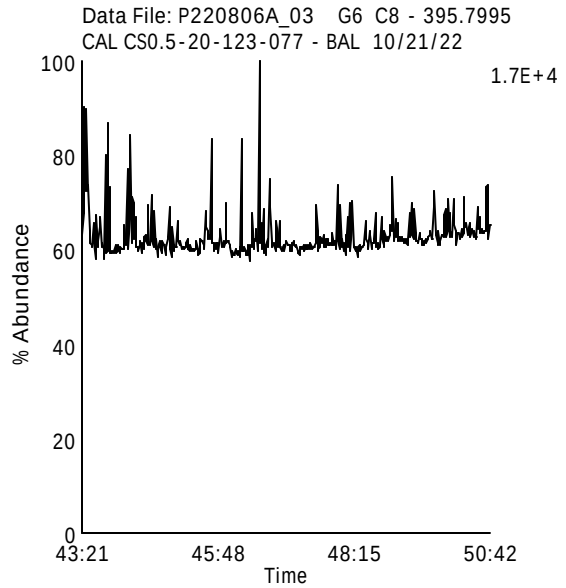
Data File Name: P220806A_03
Lab Sample ID: CS0.5-20-123-077
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22

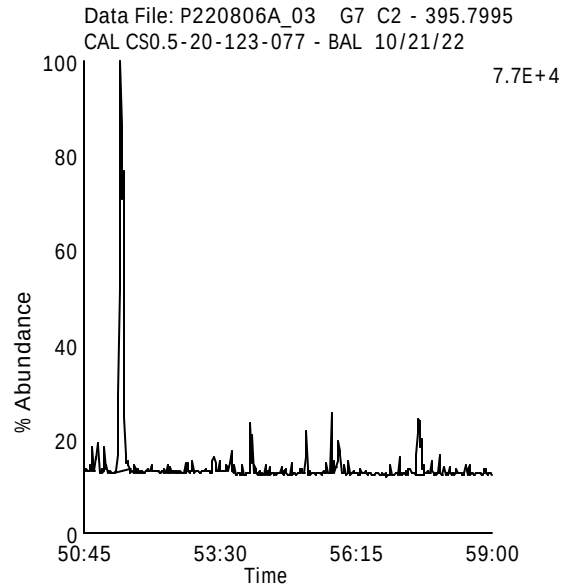








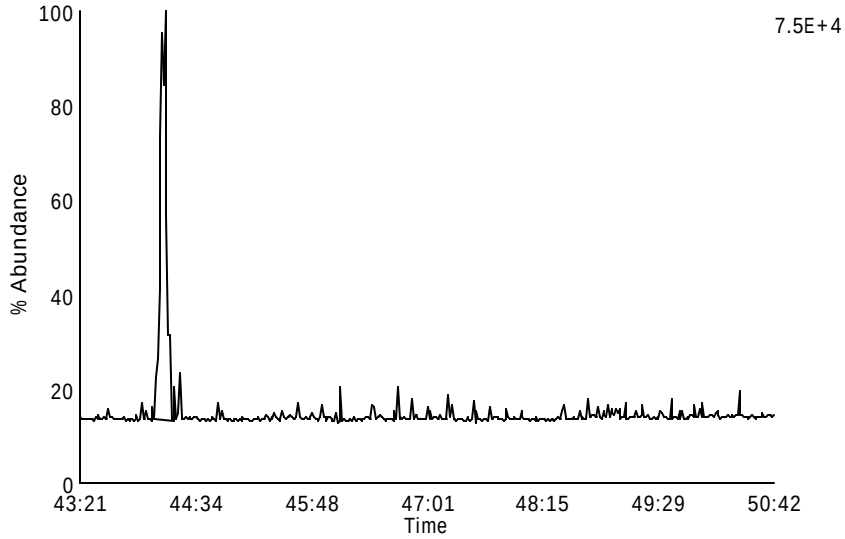




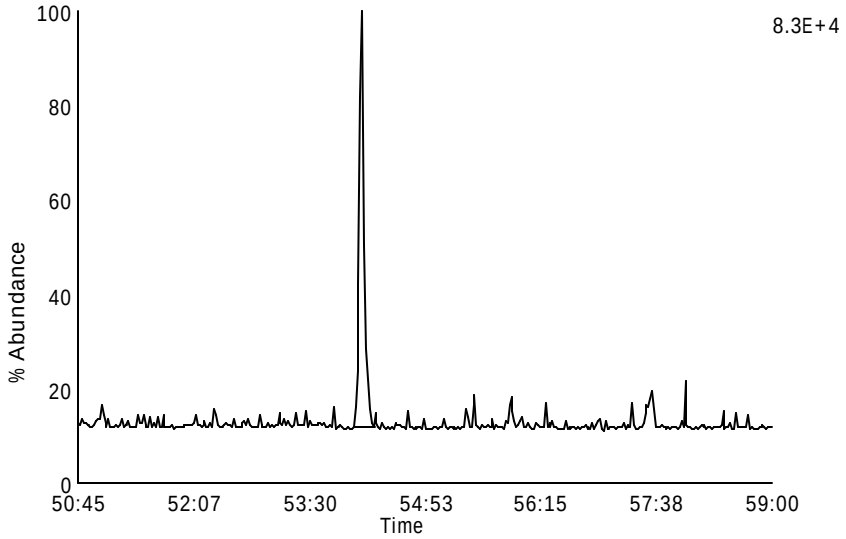
Octa Chlorinated Biphenyls

Data File Name: P220806A_03
Lab Sample ID: CS0.5-20-123-077
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22

Data File: P220806A_03 G6 C11 - 427.7635
CAL CS0.5-20-123-077 - BAL 10/21/22



Data File: P220806A_03 G7 C5 - 427.7635
CAL CS0.5-20-123-077 - BAL 10/21/22



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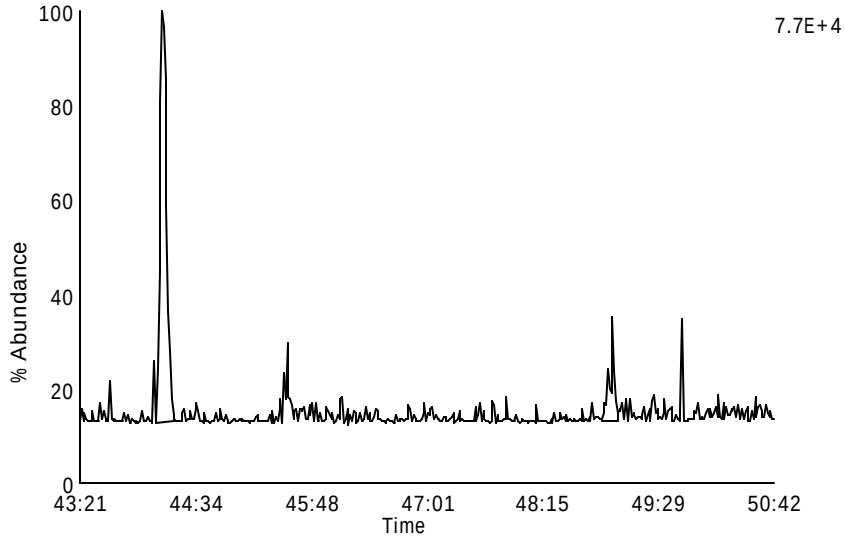
CAL CS0.5-20-123-077 - BAL 10/21/22



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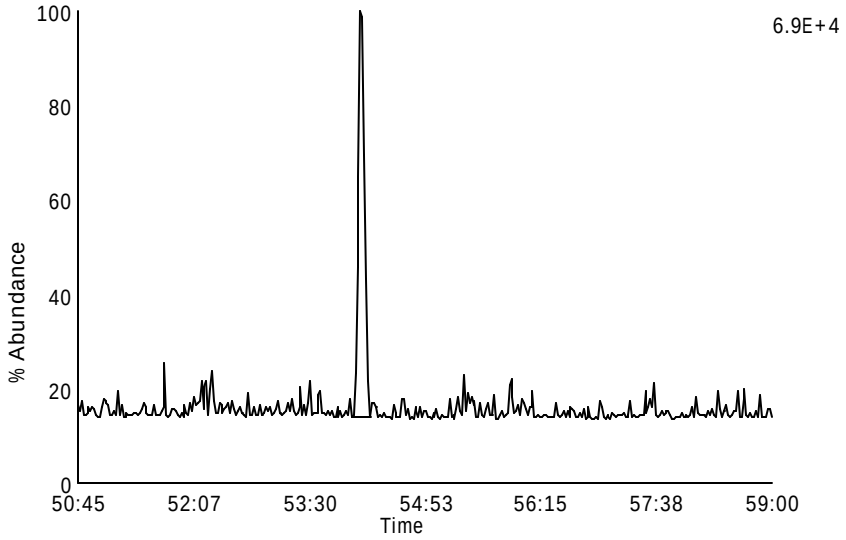
CAL CS0.5-20-123-077 - BAL 10/21/22



Nona Chlorinated Biphenyls

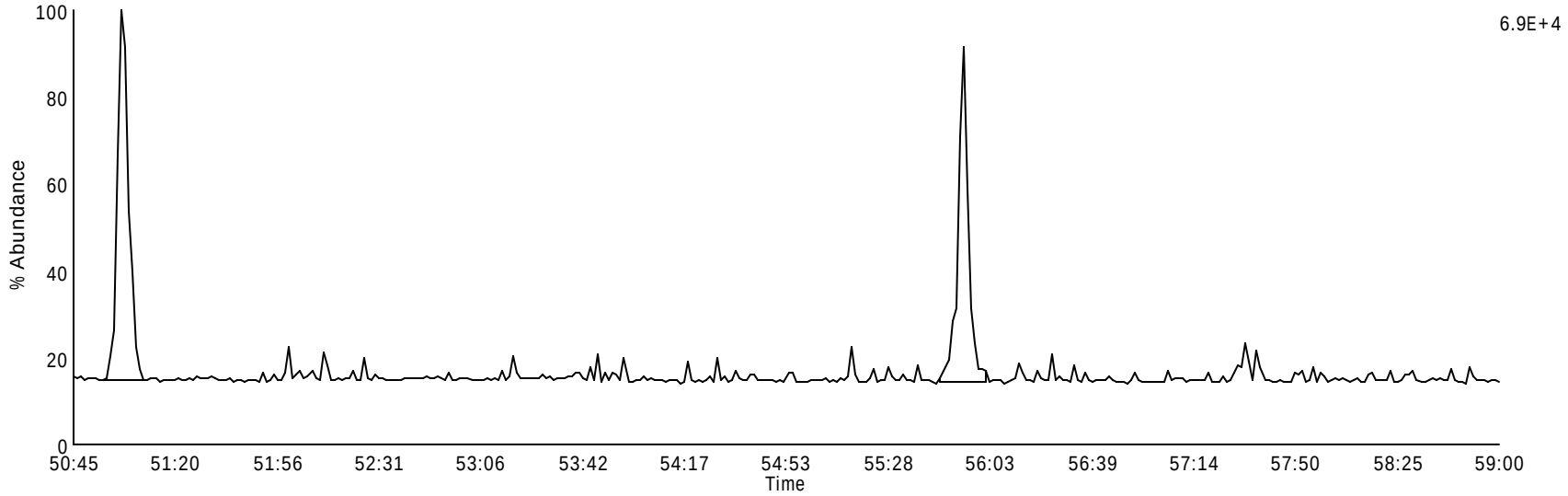
Data File Name: P220806A_03 Lab Sample ID: CS0.5-20-123-077

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22

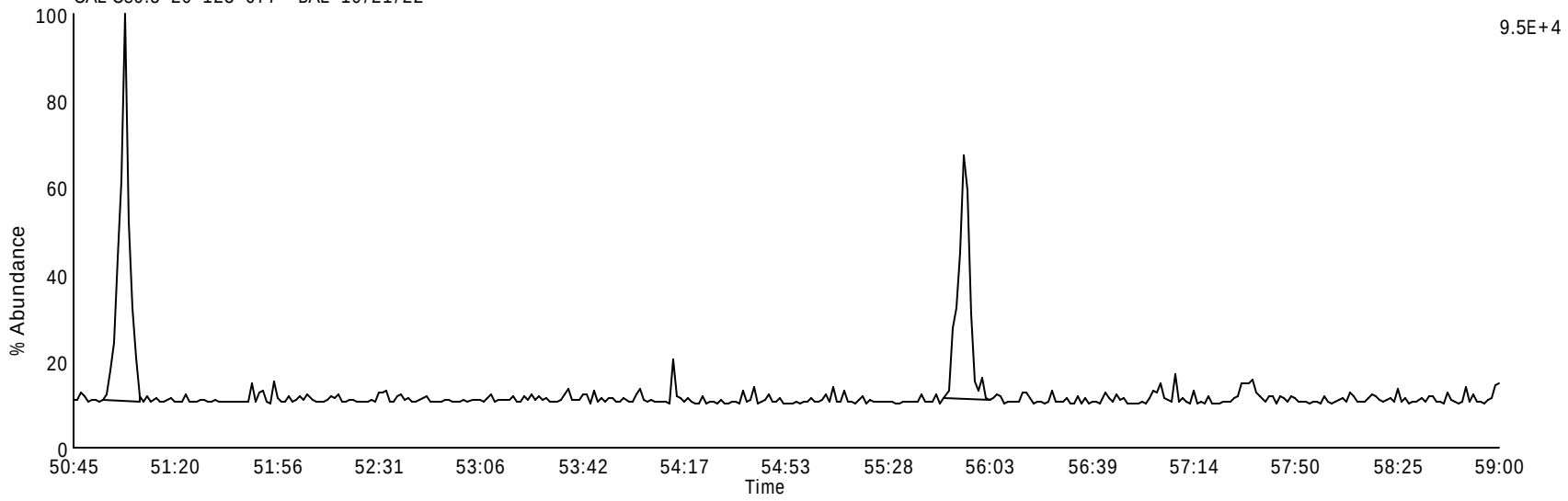
Data File: P220806A_03 G7 C11 - 461.7246

CAL CS0.5-20-123-077 - BAL 10/21/22



Data File: P220806A_03 G7 C12 - 463.7216

CAL CS0.5-20-123-077 - BAL 10/21/22

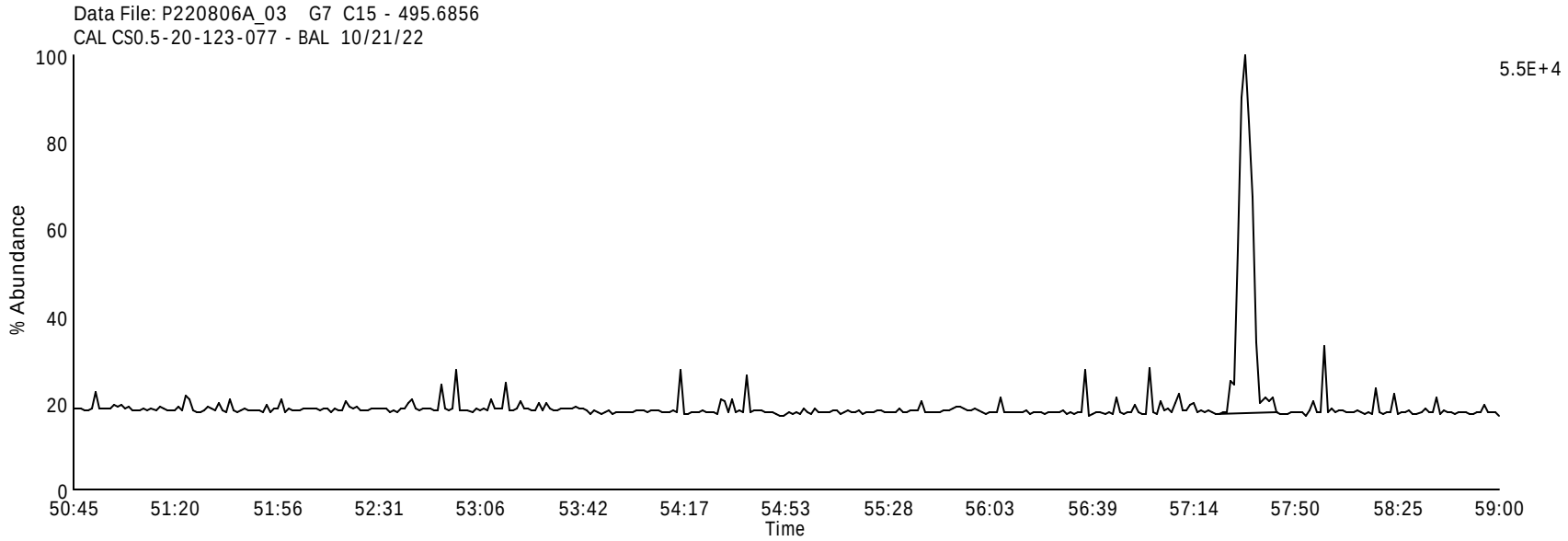


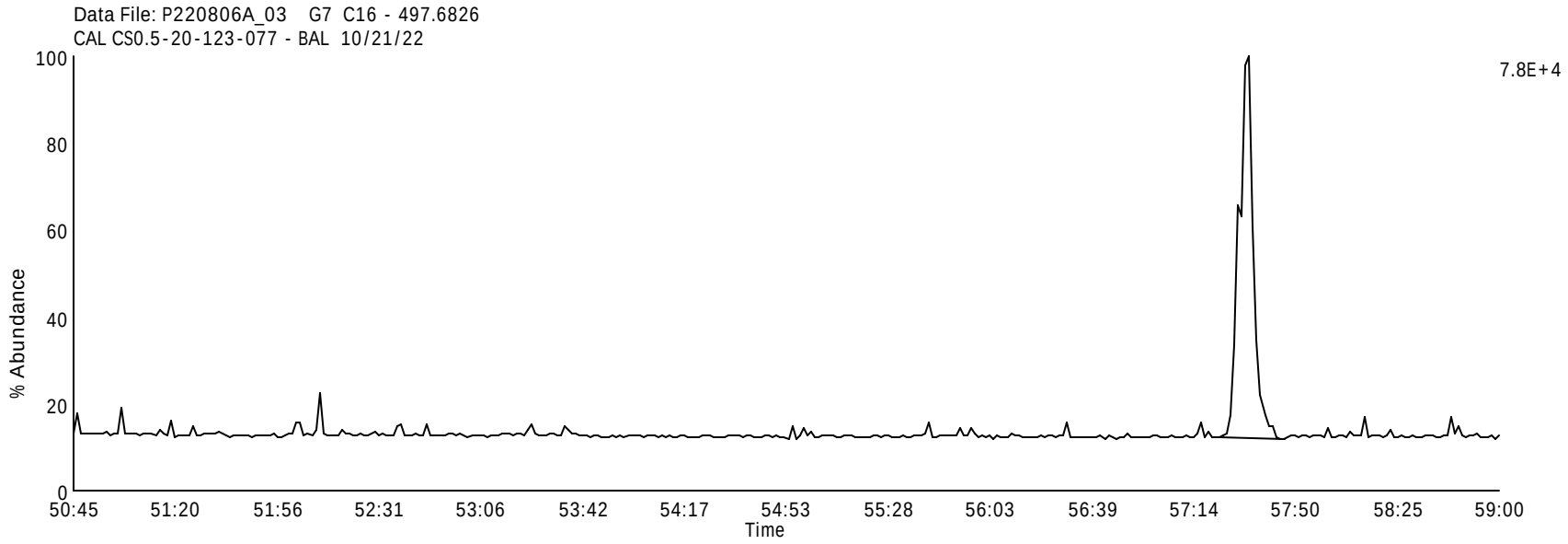
Deca Chlorinated Biphenyl

Data File Name: P220806A_03 Lab Sample ID: CS0.5-20-123-077

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

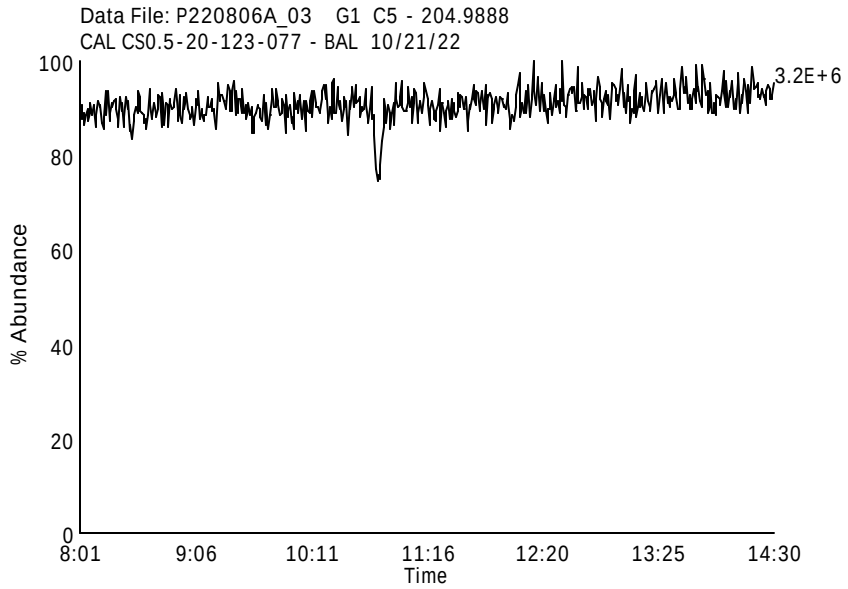
Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22

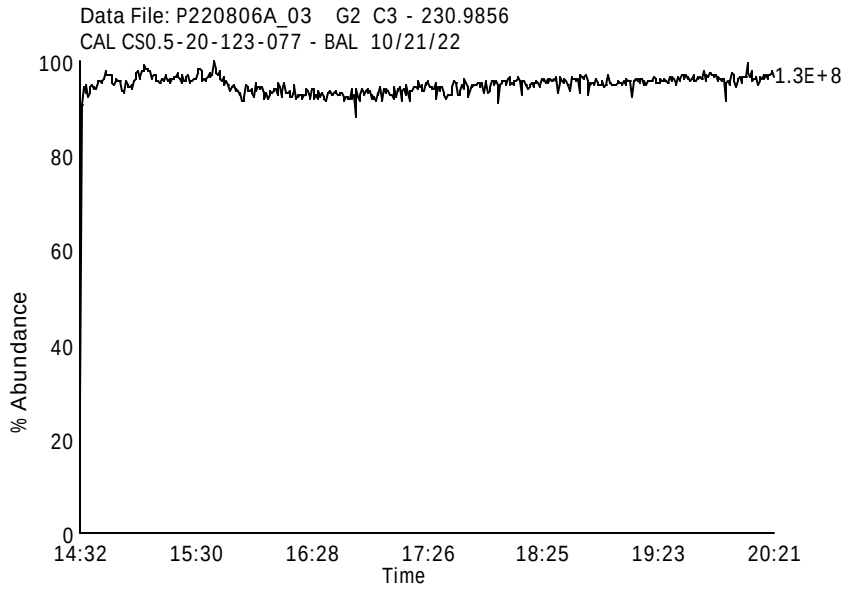


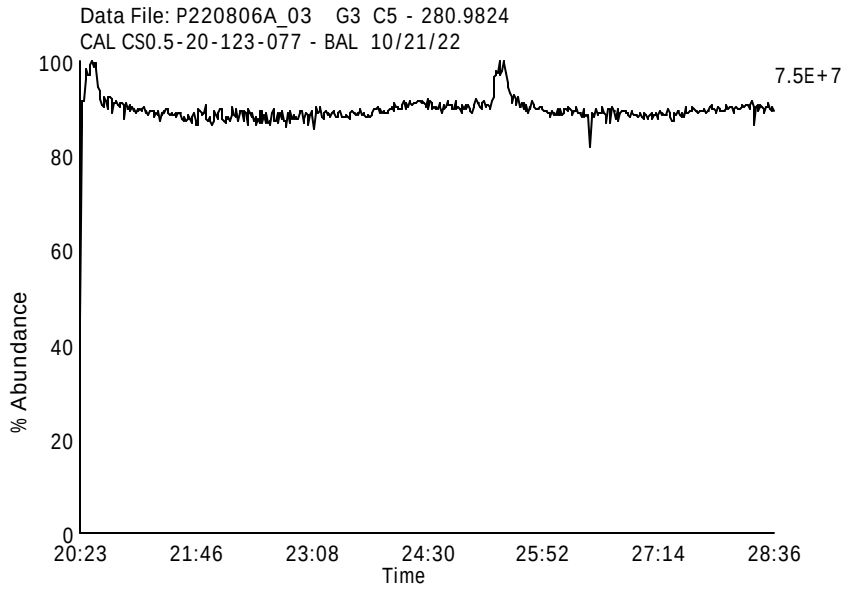


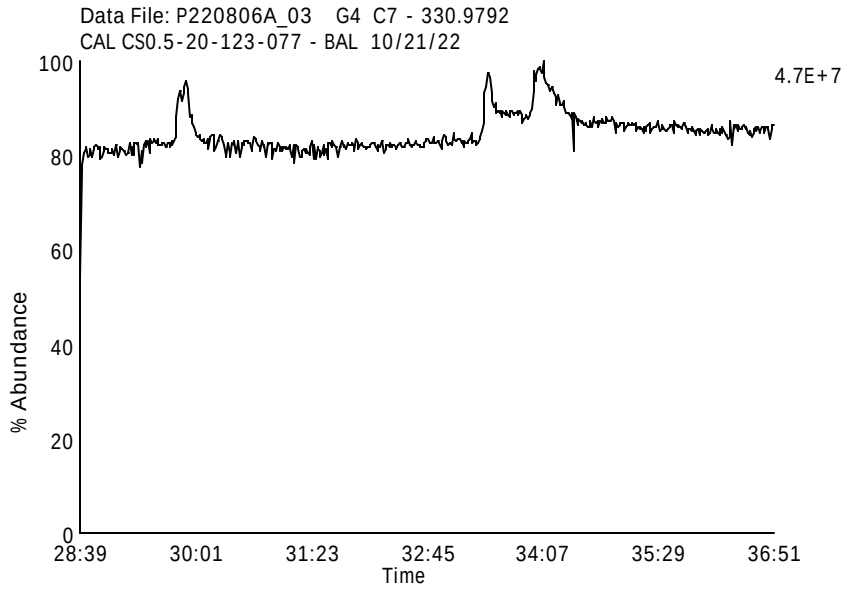
Group 1 - 4 Lock mass

Data File Name: P220806A_03
Lab Sample ID: CS0.5-20-123-077
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22



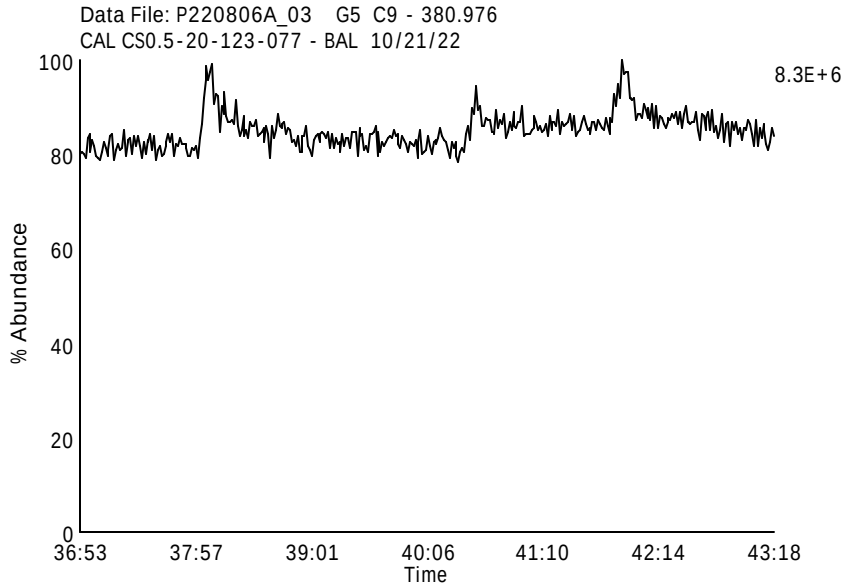


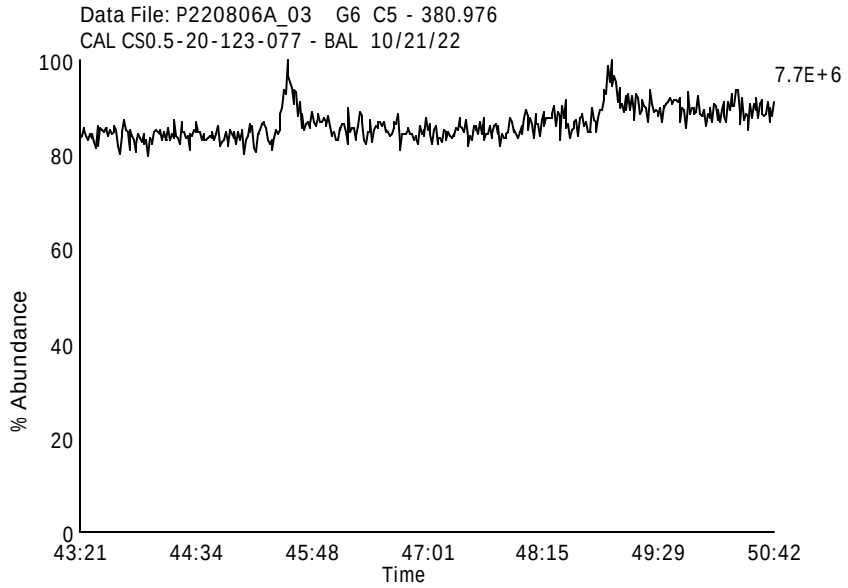


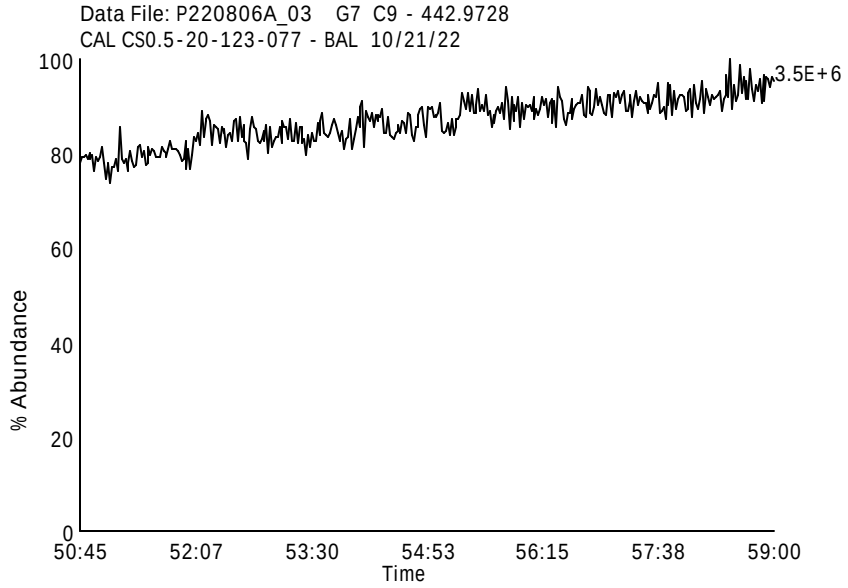


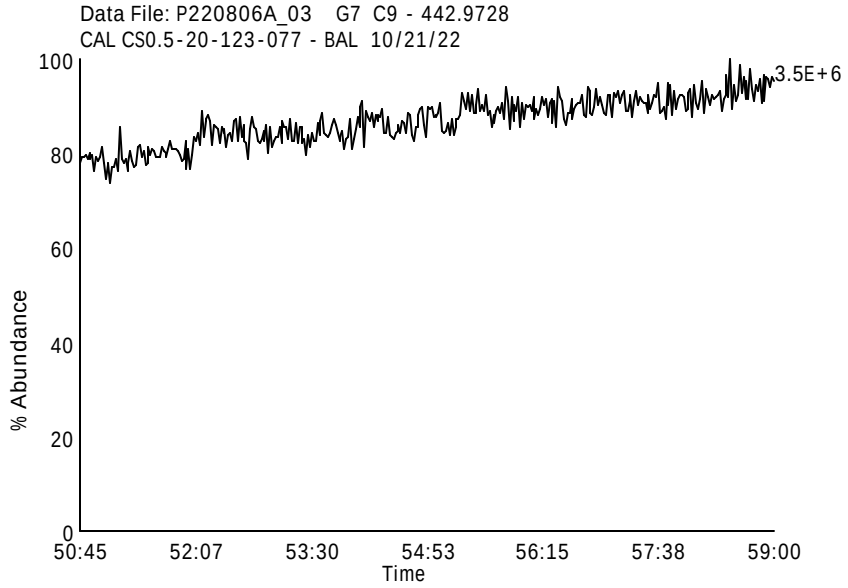
Group 5 - 7 Lock mass

Data File Name: P220806A_03
Lab Sample ID: CS0.5-20-123-077
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS0.5-20-123-077 - BAL 10/21/22







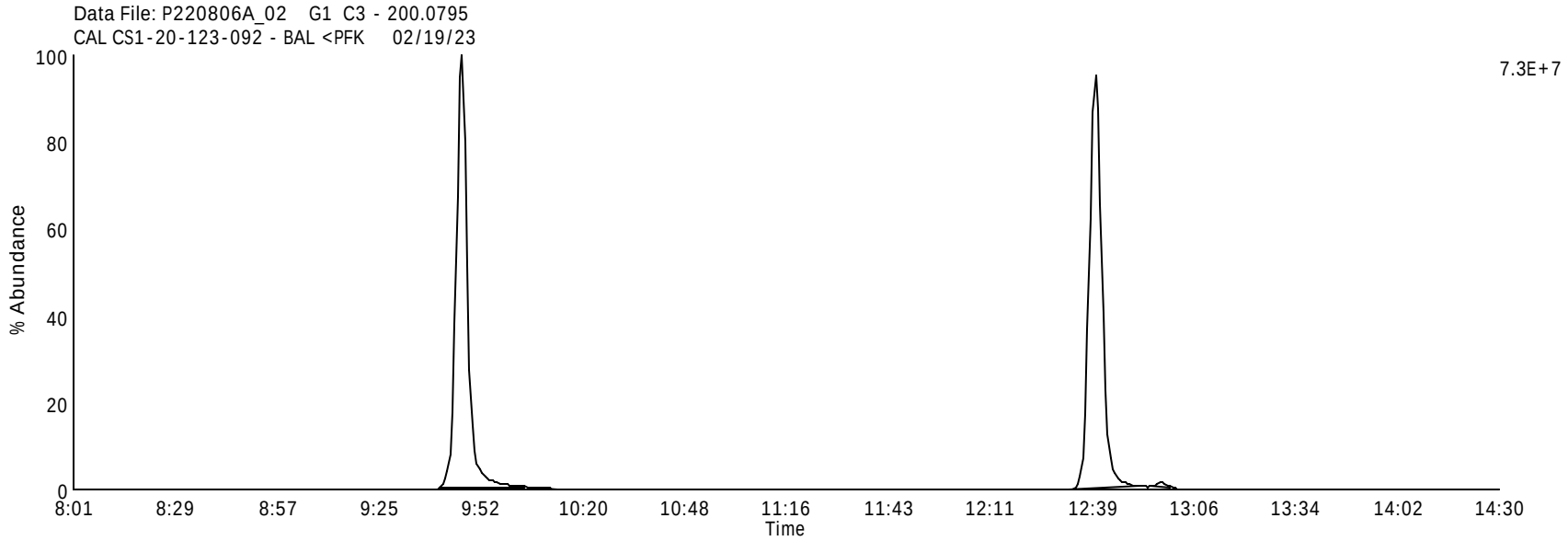


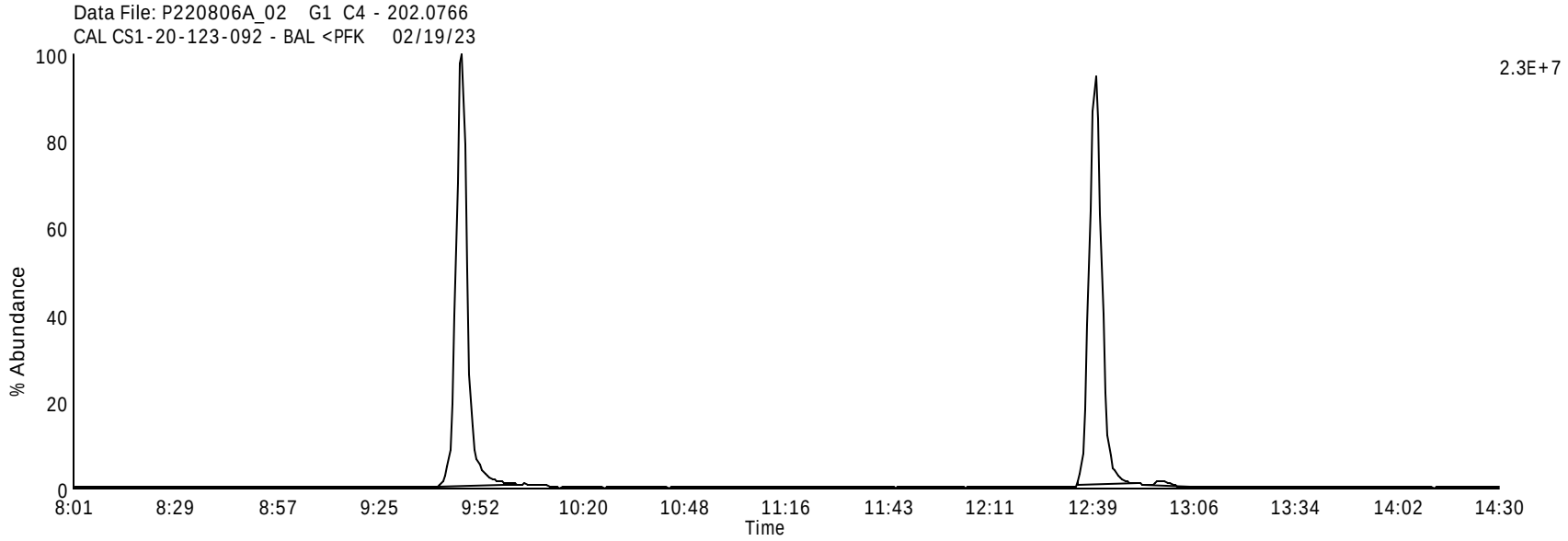
Labeled Mono Chlorinated Biphenyls

Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS1-20-123-092 - BAL <PFK 02/19/23

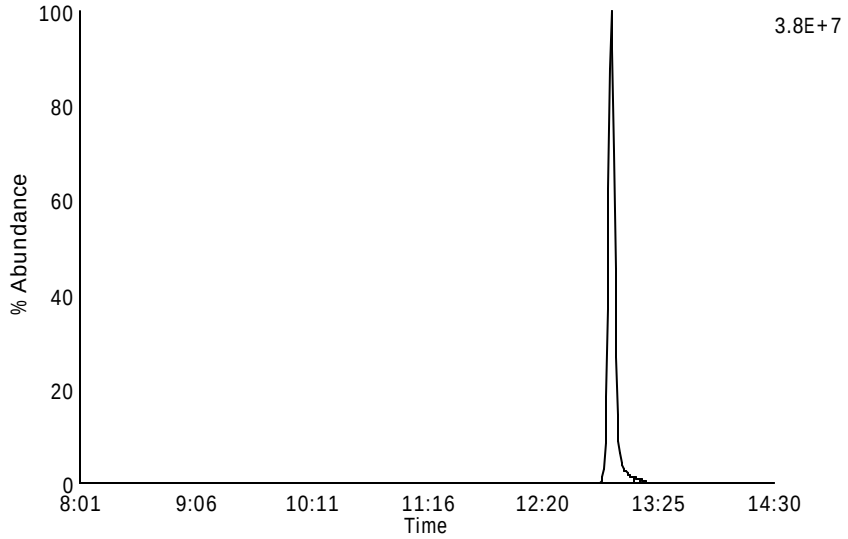




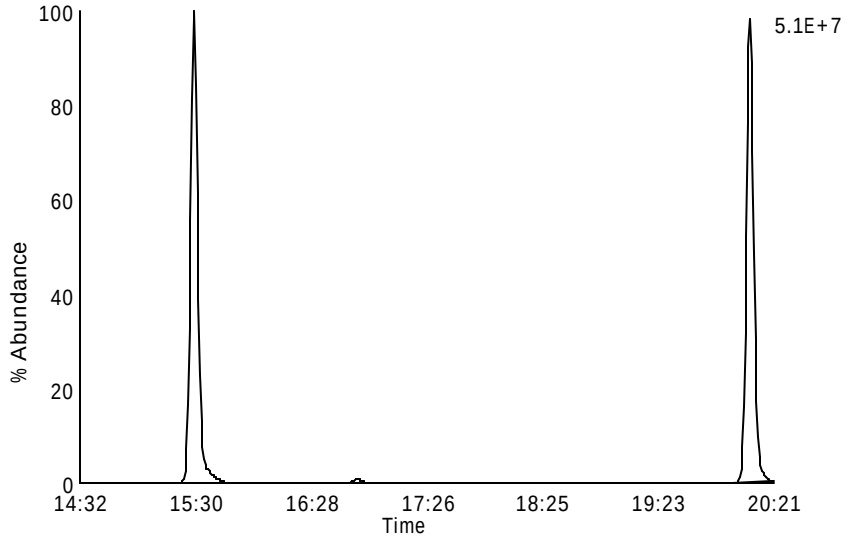
Labeled Di Chlorinated Biphenyls

Data File Name: P220806A_02
Lab Sample ID: CS1-20-123-092
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS1-20-123-092 - BAL <PFK 02/19/23

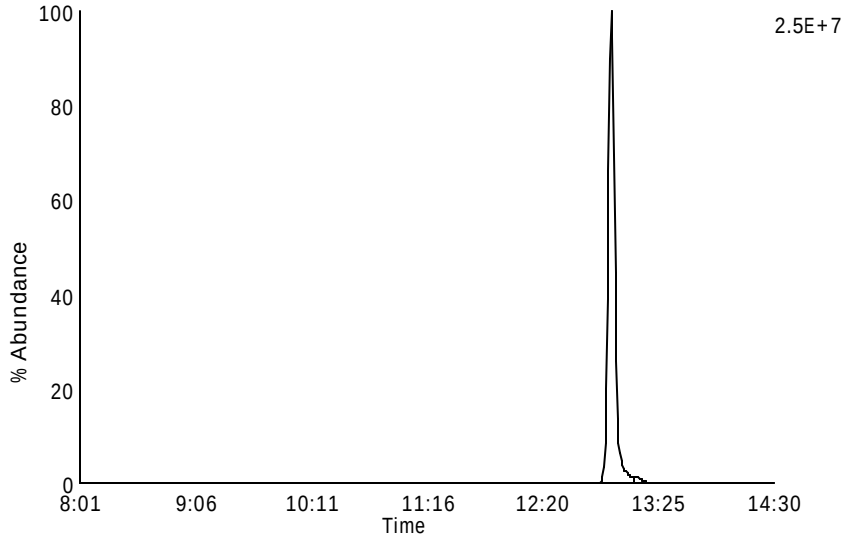
Data File: P220806A_02 G1 C9 - 234.0406
CAL CS1-20-123-092 - BAL <PFK 02/19/23



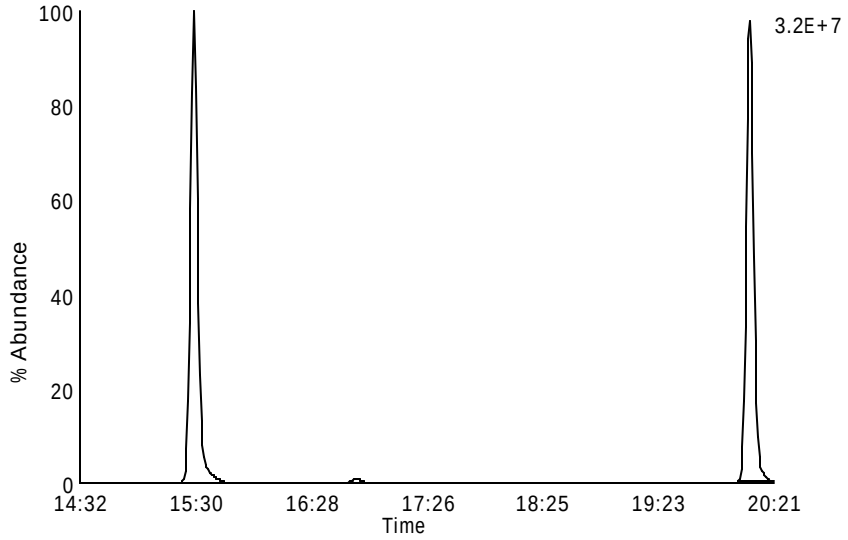
Data File: P220806A_02 G2 C5 - 234.0406
CAL CS1-20-123-092 - BAL <PFK 02/19/23



Data File: P220806A_02 G1 C10 - 236.0376
CAL CS1-20-123-092 - BAL <PFK 02/19/23



Data File: P220806A_02 G2 C6 - 236.0376
CAL CS1-20-123-092 - BAL <PFK 02/19/23

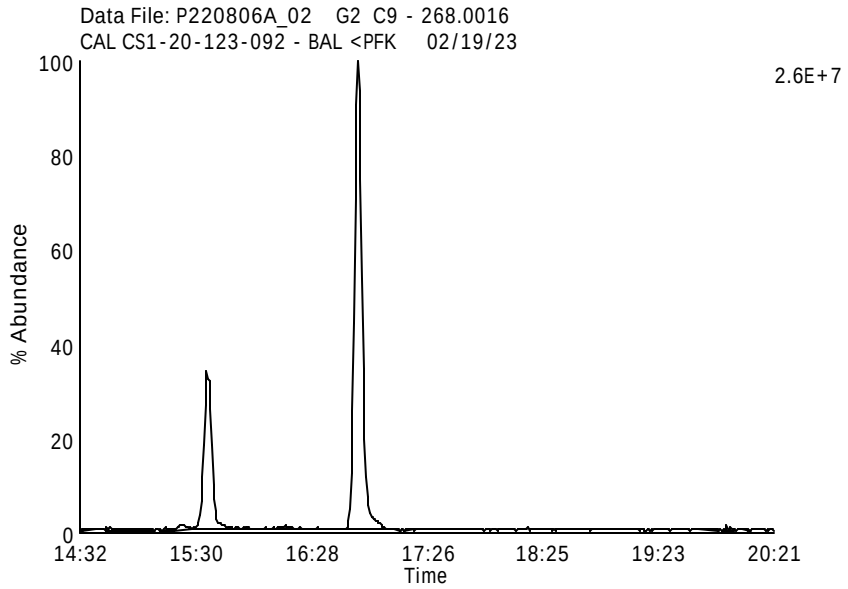


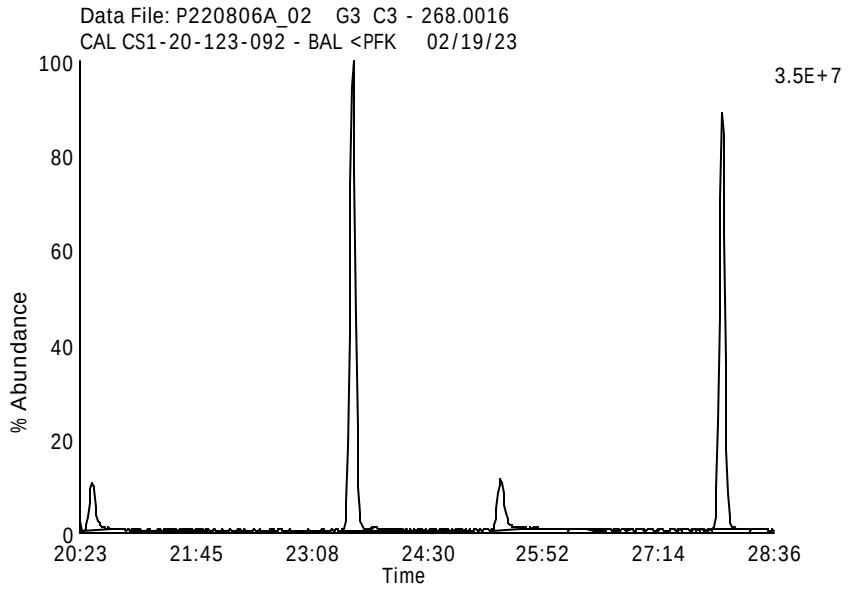
Labeled Tri Chlorinated Biphenyls

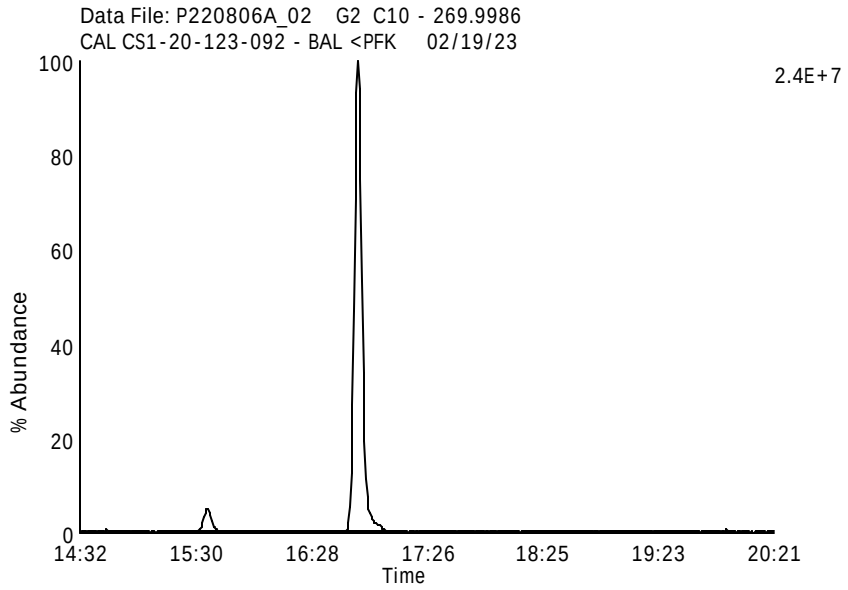
Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

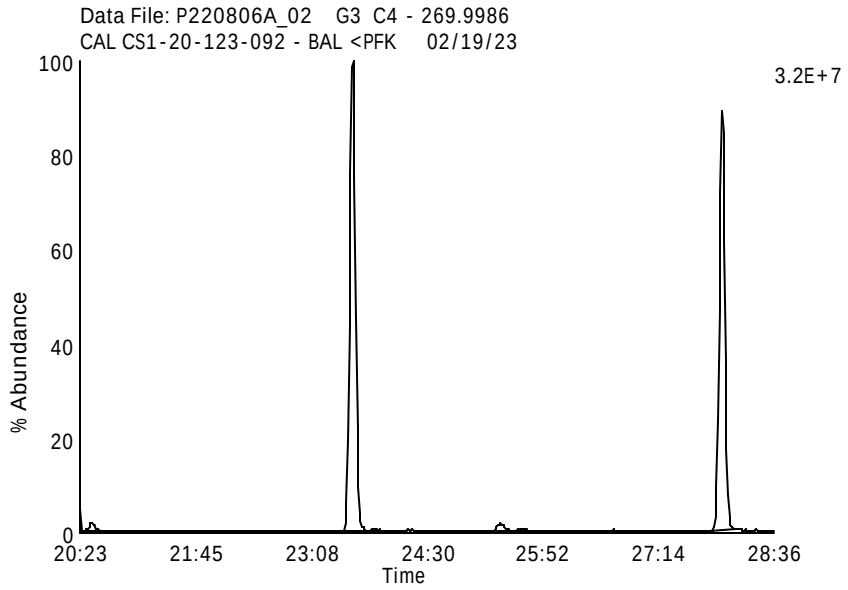
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS1-20-123-092 - BAL <PFK 02/19/23







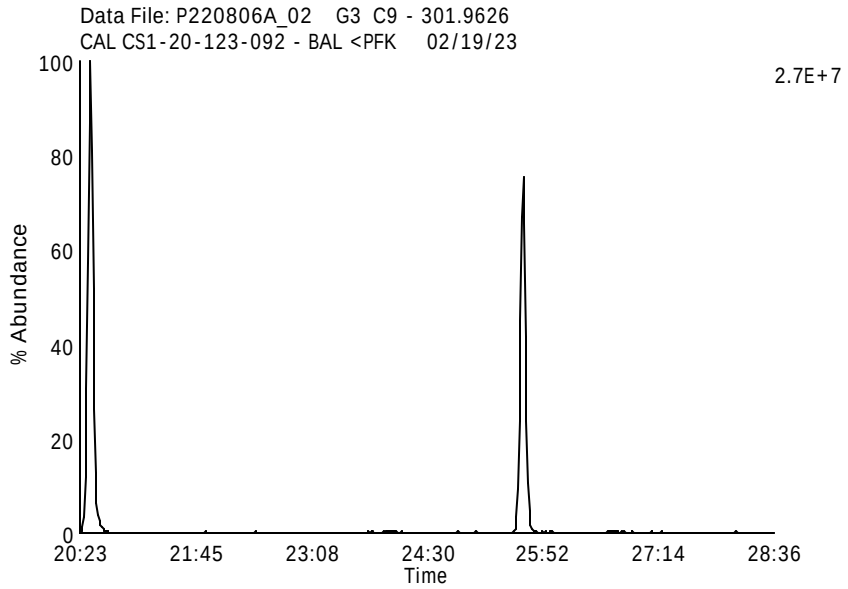


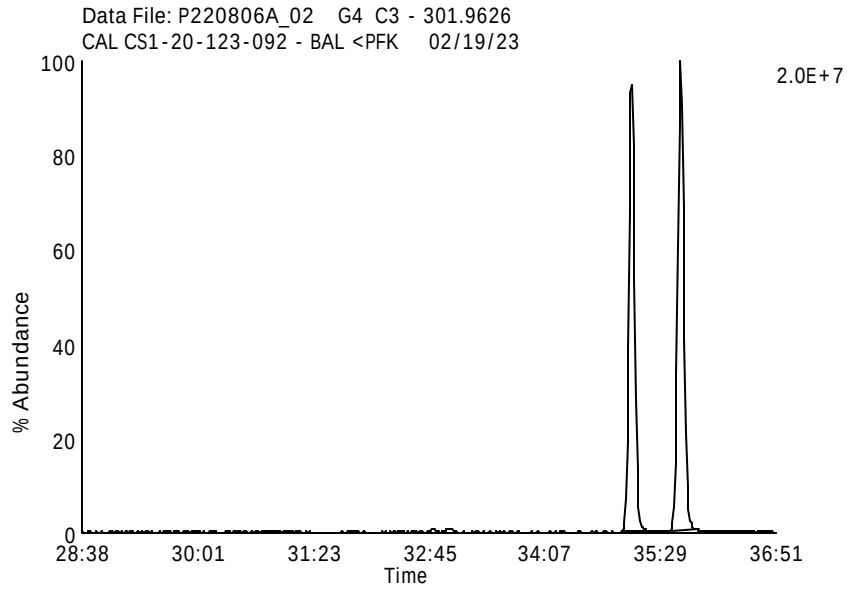
Labeled Tetra Chlorinated Biphenyls

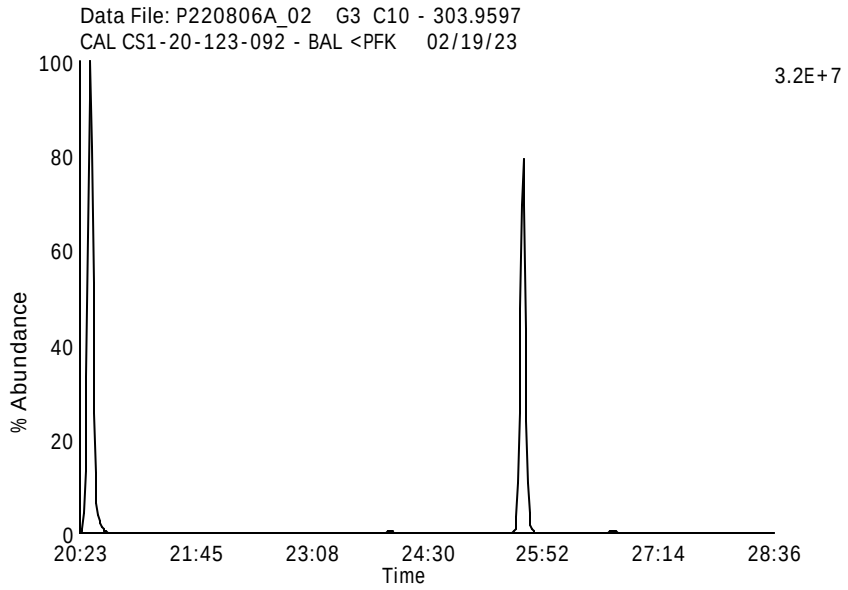
Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

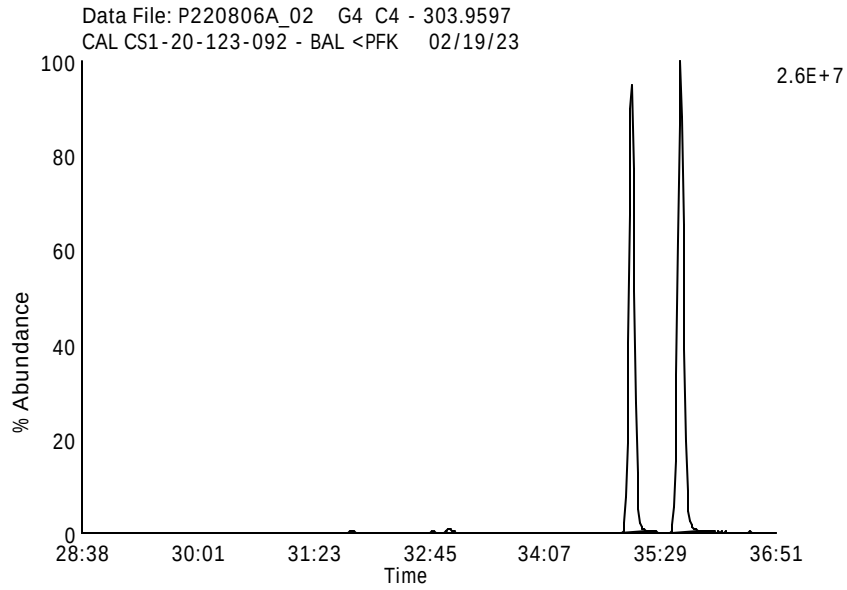
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS1-20-123-092 - BAL <PFK 02/19/23







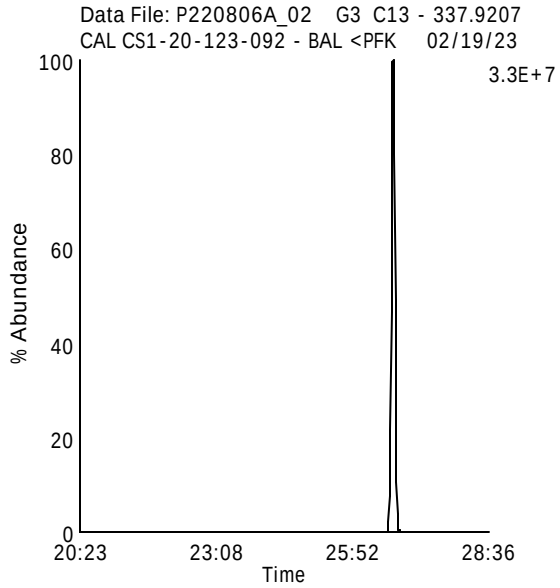


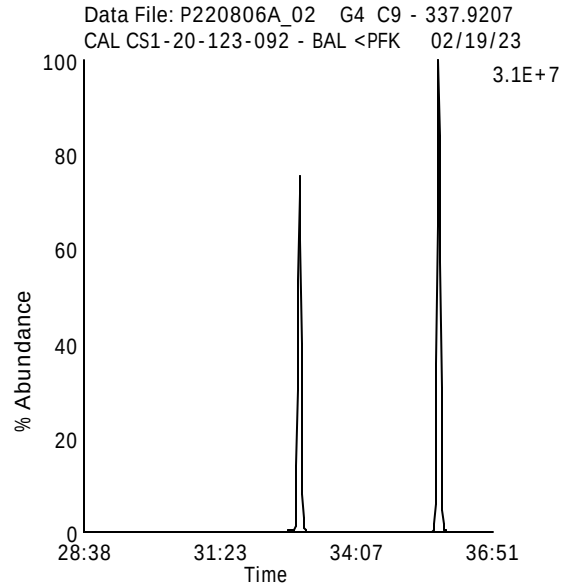
Labeled Penta Chlorinated Biphenyls

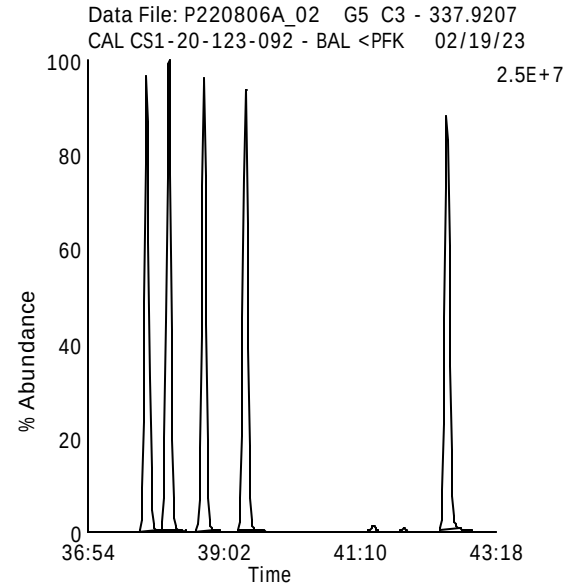
Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

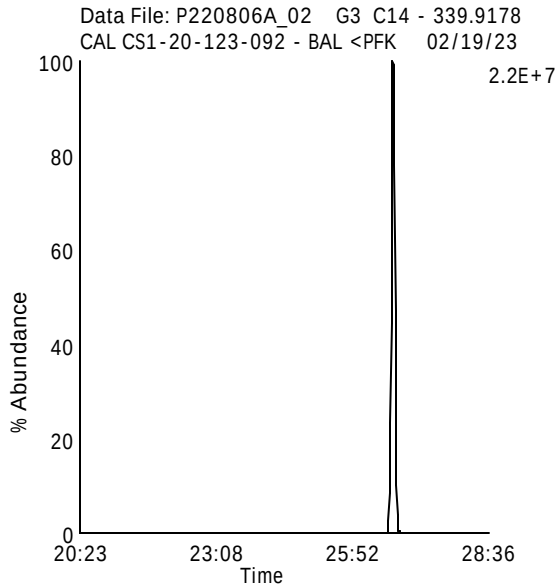
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

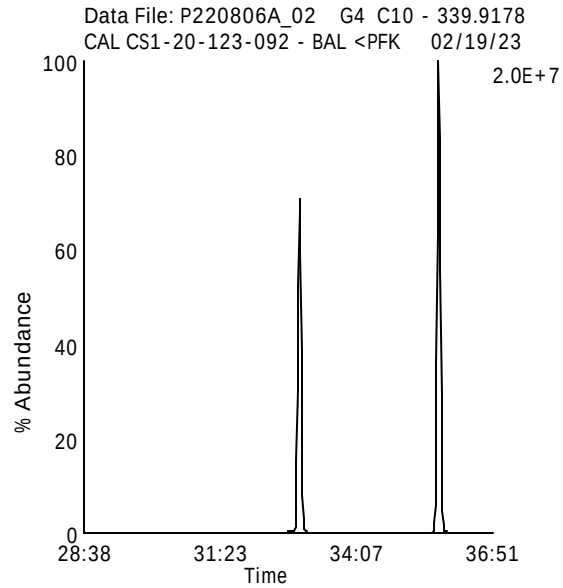
Sample Description: CAL CS1-20-123-092 - BAL <PFK 02/19/23

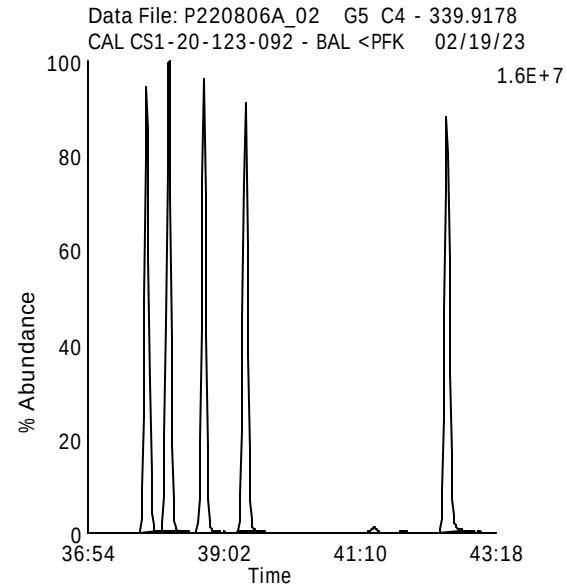










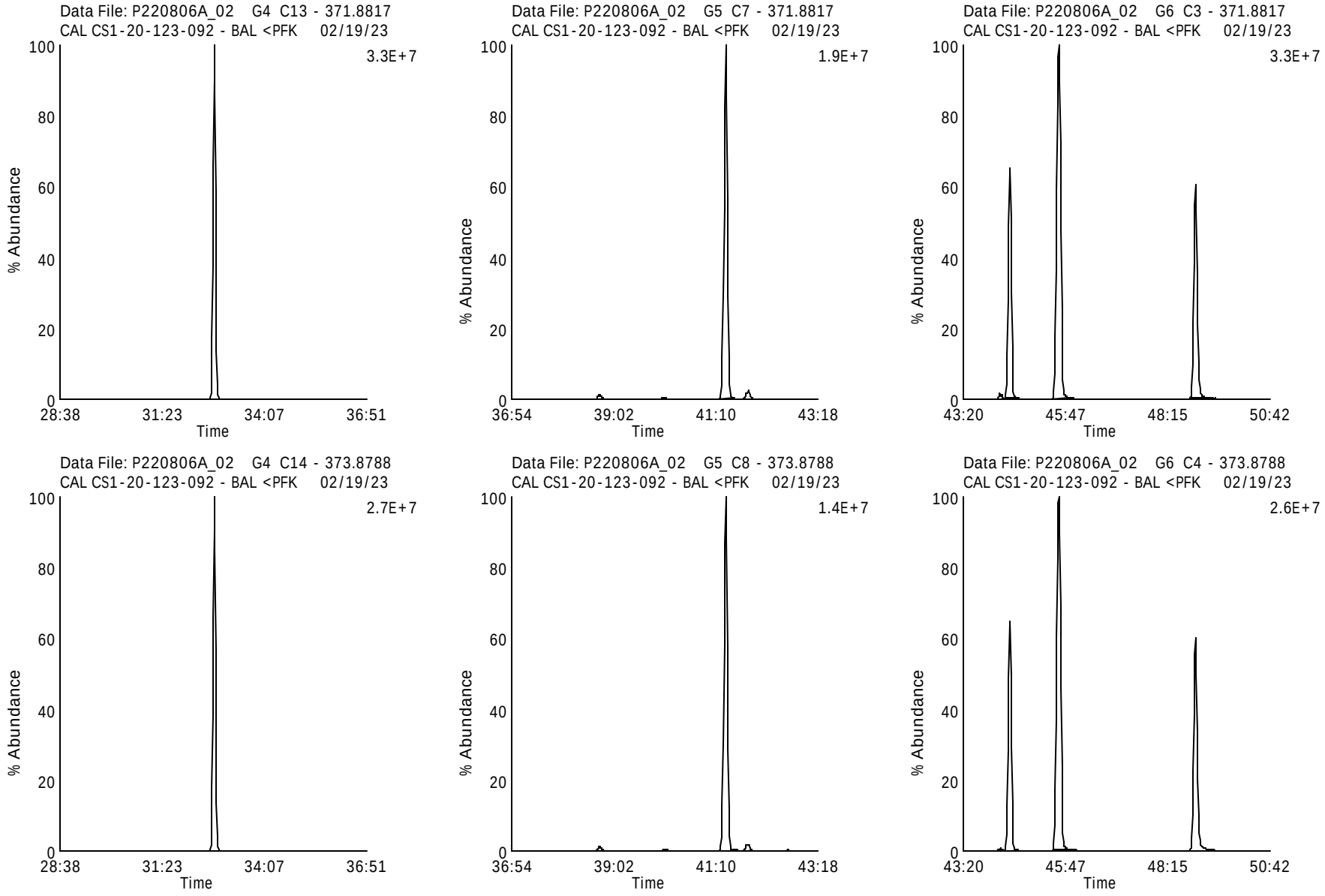


Labeled Hexa Chlorinated Biphenyls

Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS1-20-123-092 - BAL <PFK 02/19/23

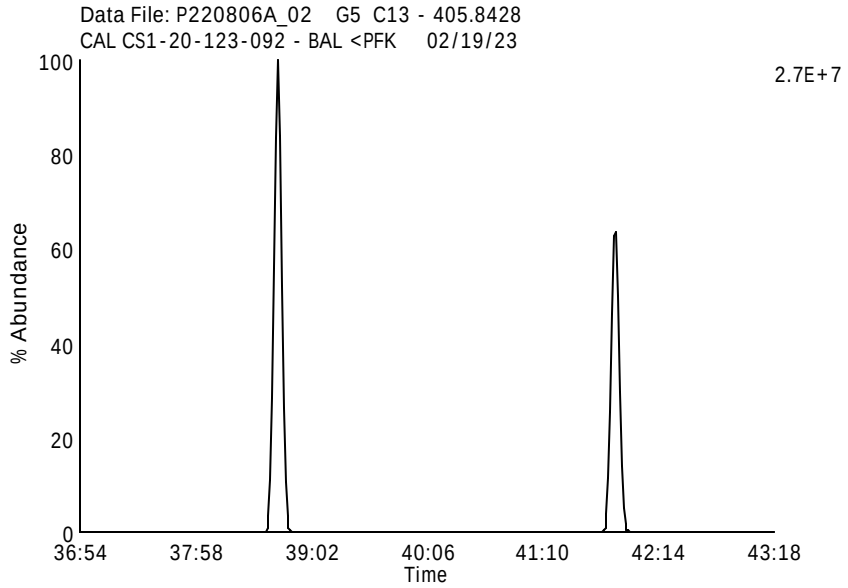


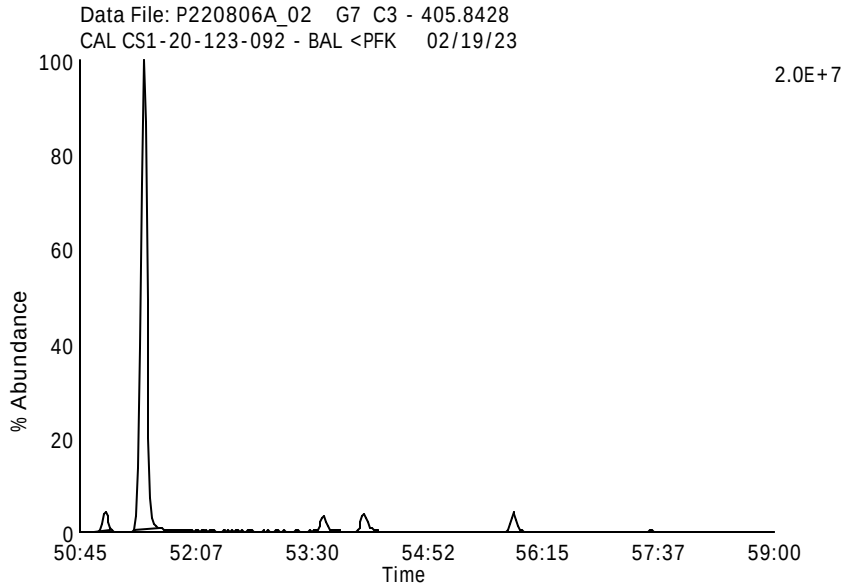
Labeled Hepta Chlorinated Biphenyls

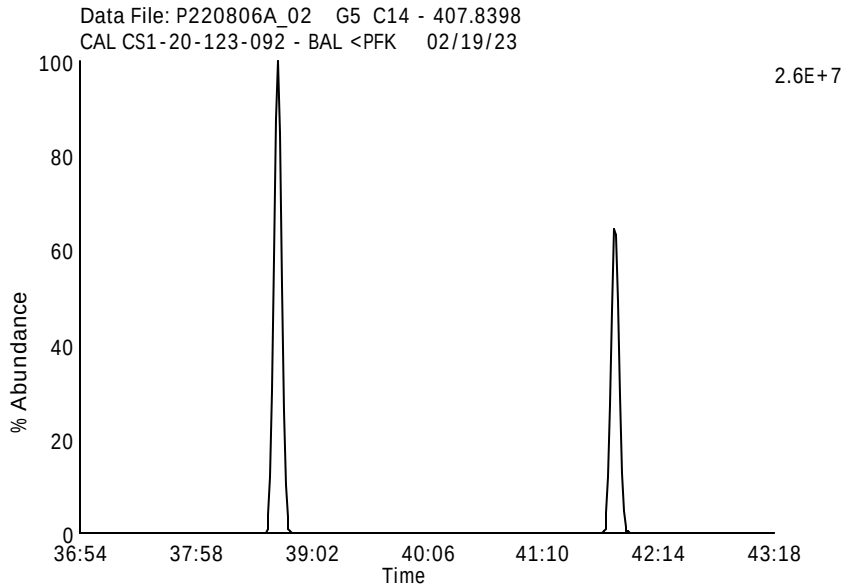
Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

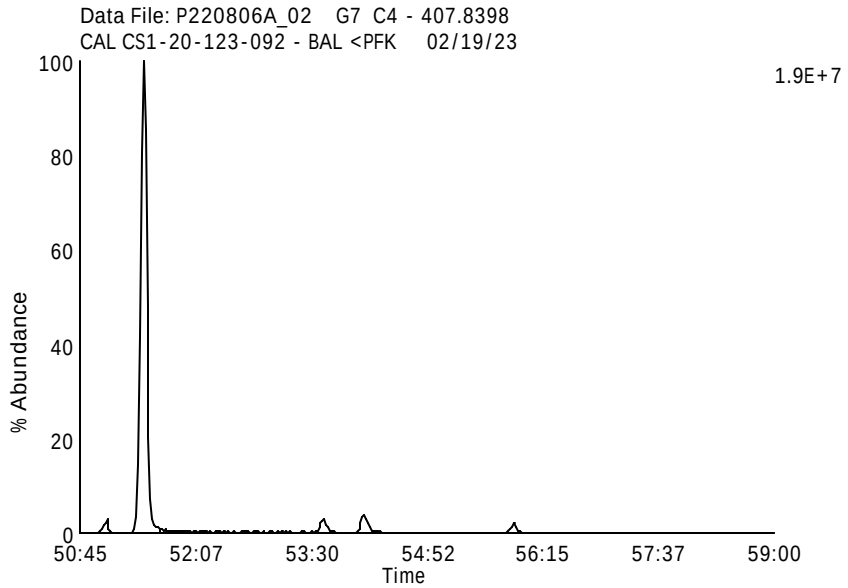
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS1-20-123-092 - BAL <PFK 02/19/23







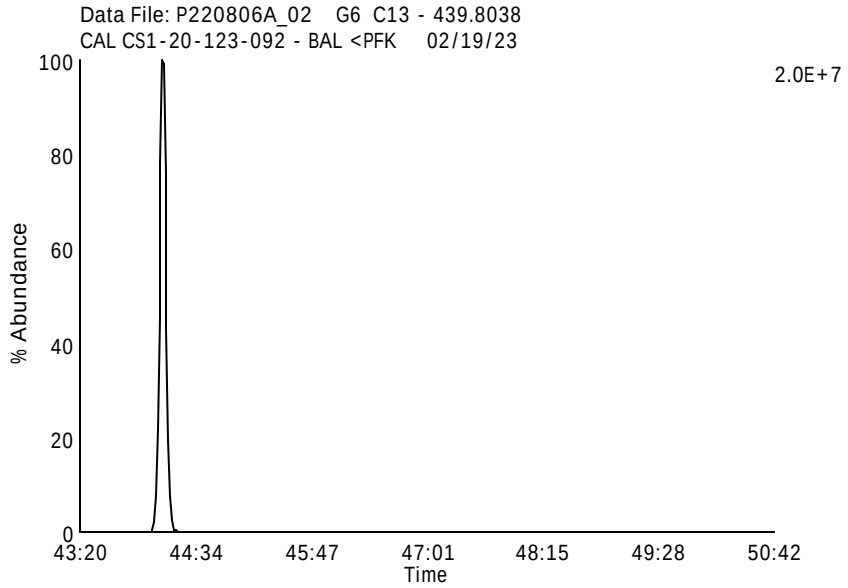


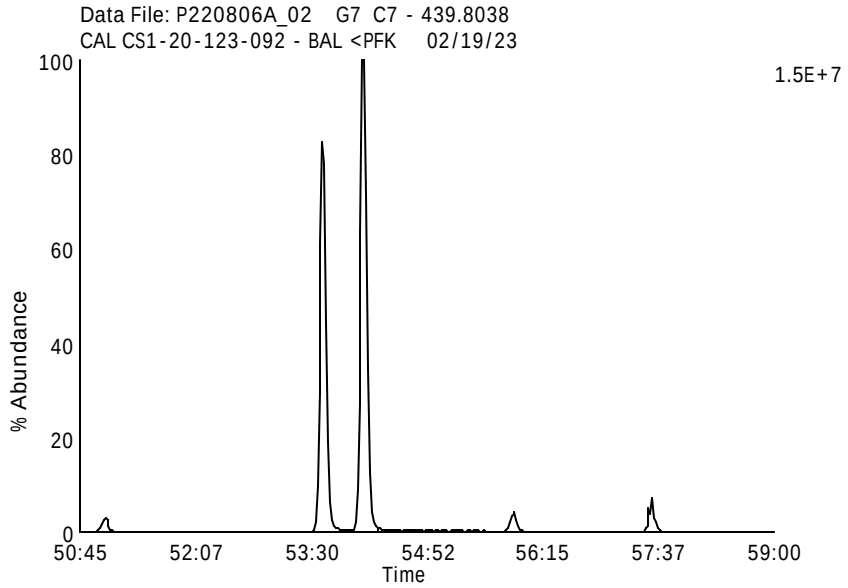
Labeled Octa Chlorinated Biphenyls

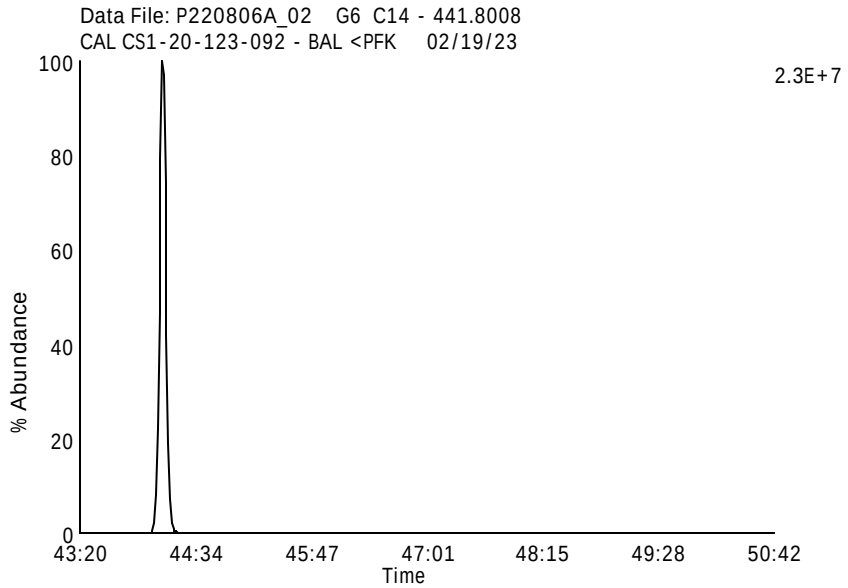
Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

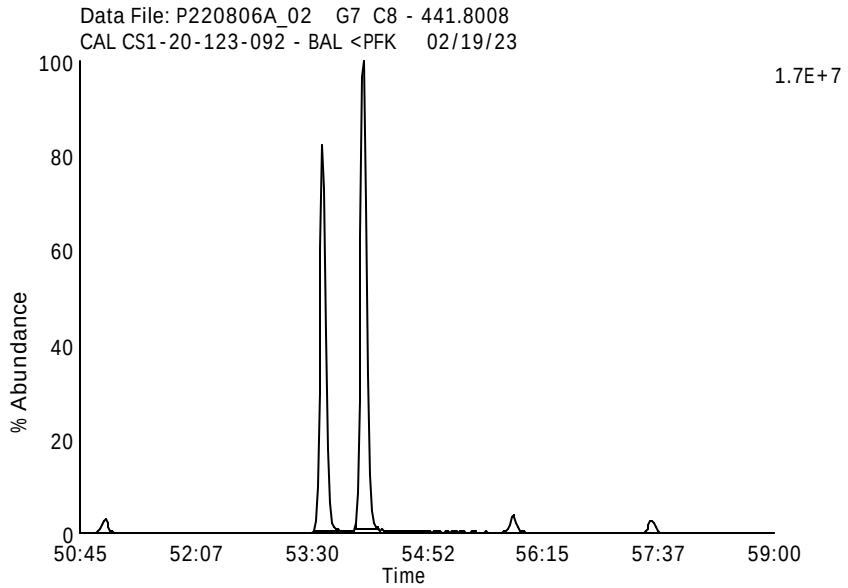
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS1-20-123-092 - BAL <PFK 02/19/23







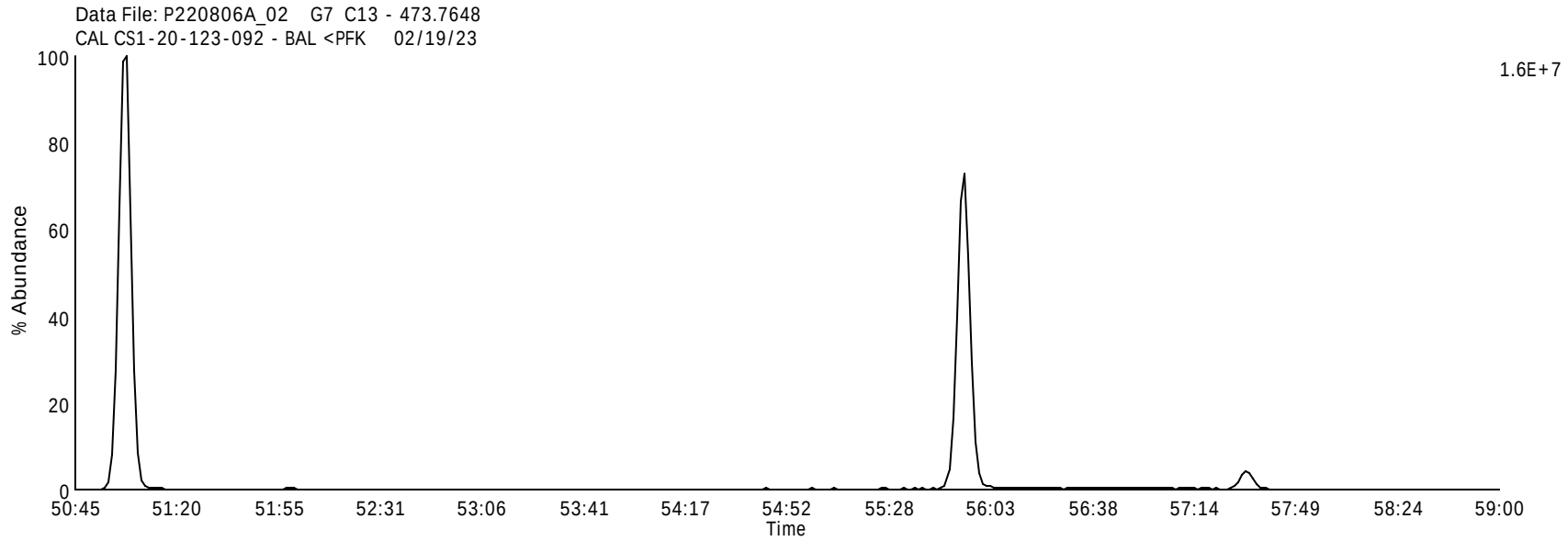


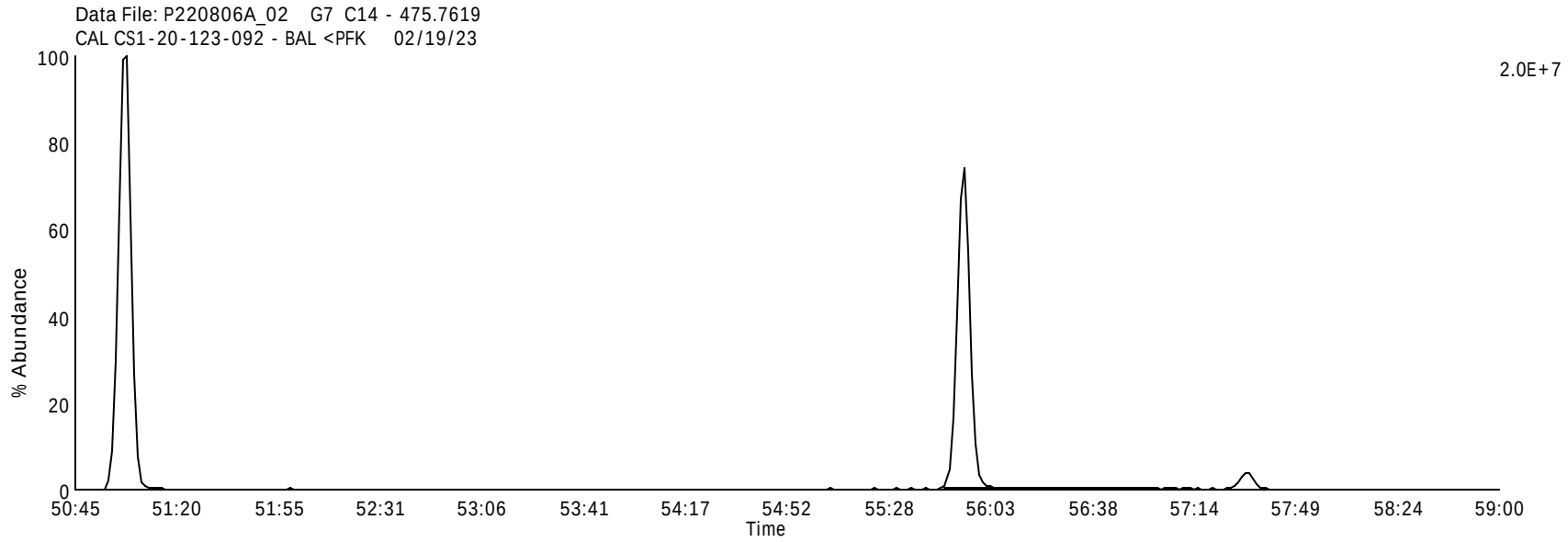
Labeled Nona Chlorinated Biphenyls

Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS1-20-123-092 - BAL <PFK 02/19/23





Labeled Deca Chlorinated Biphenyl

Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

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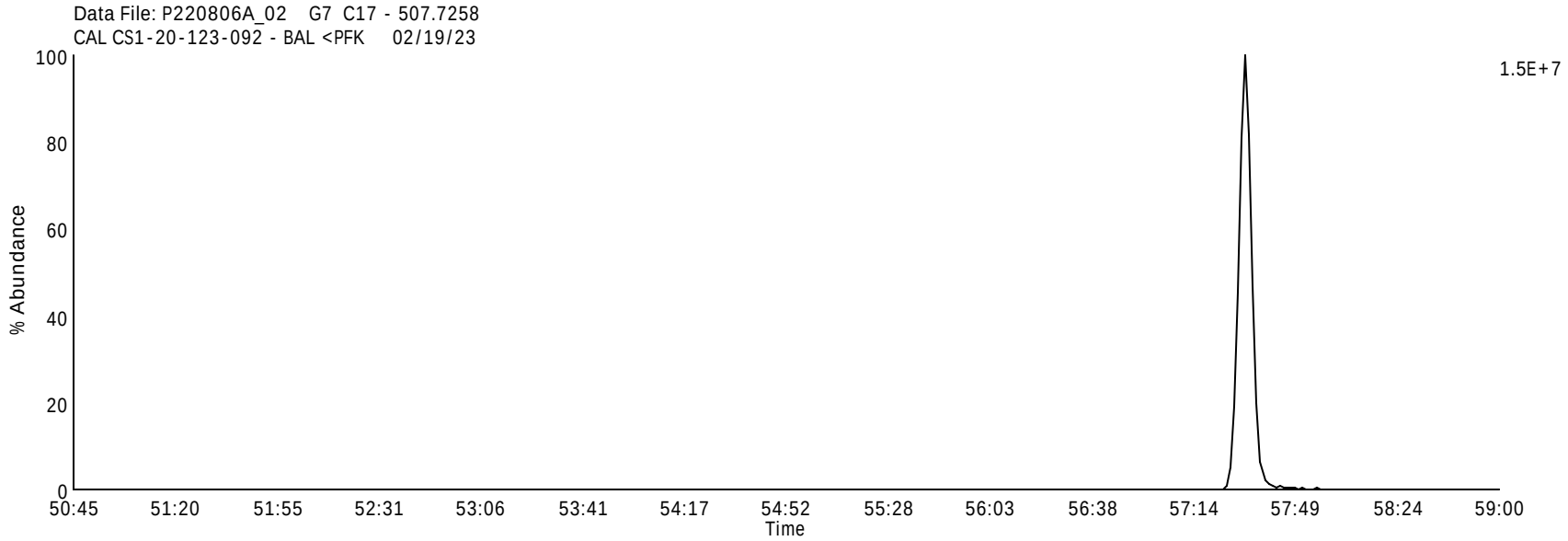

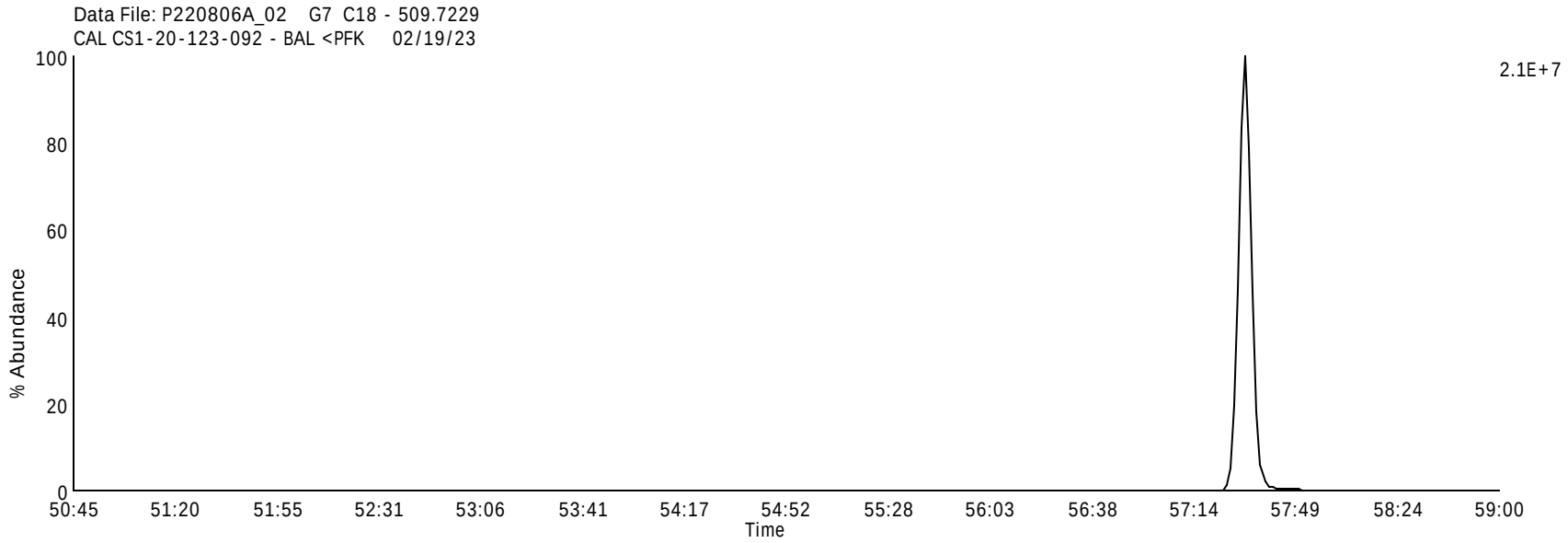

Mono Chlorinated Biphenyls

Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

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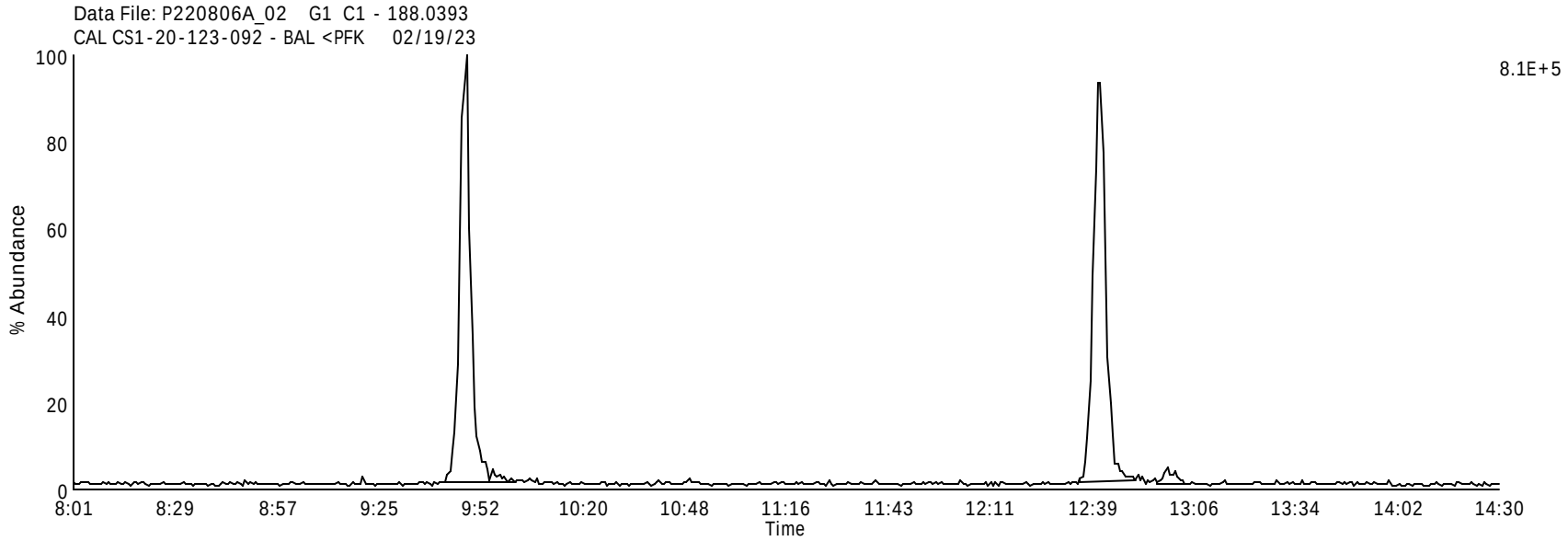
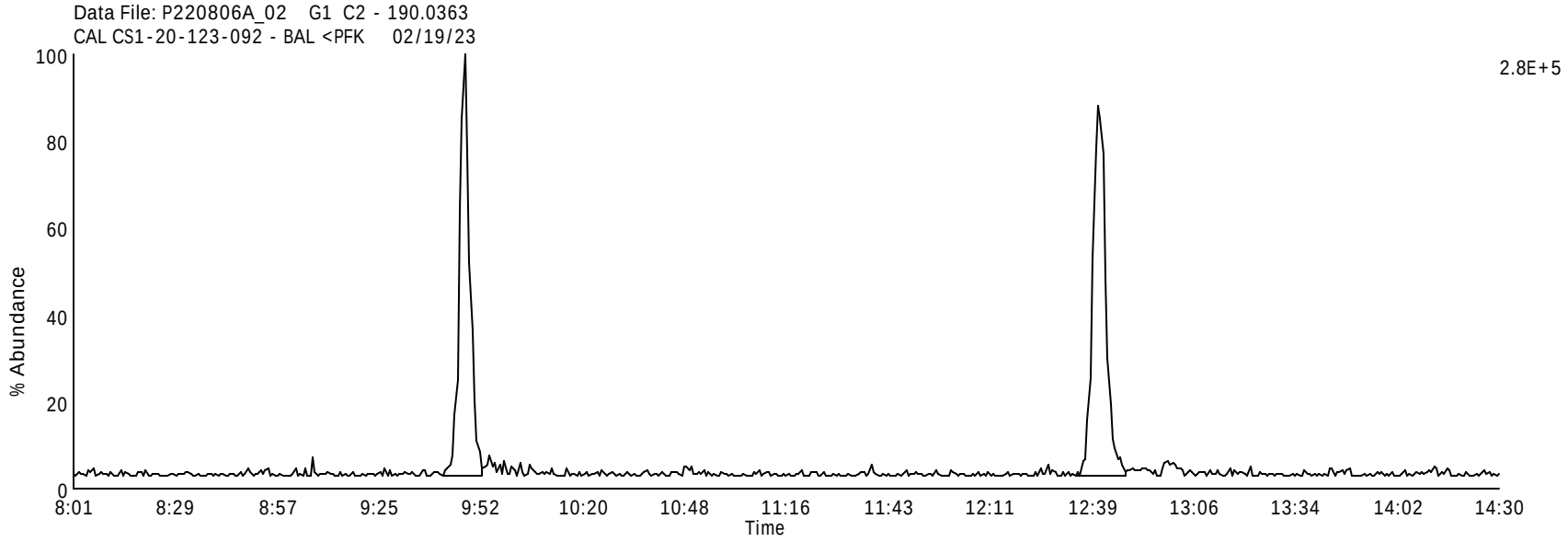


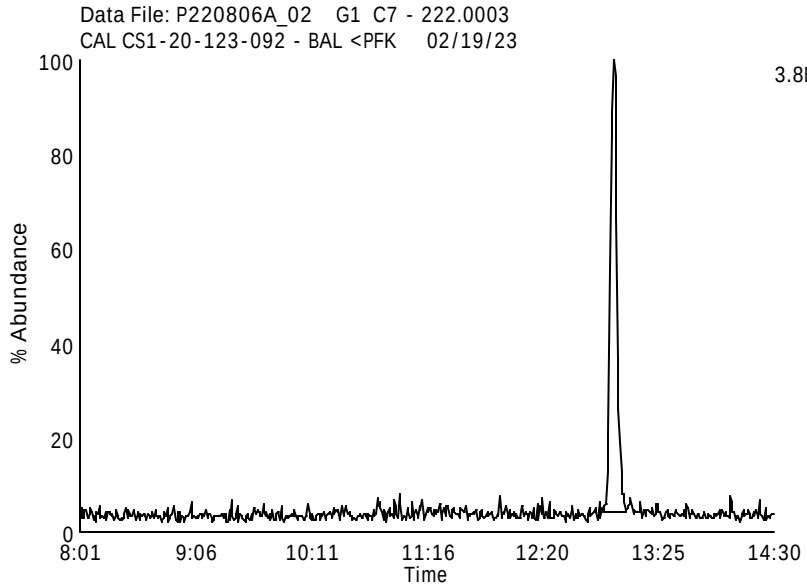


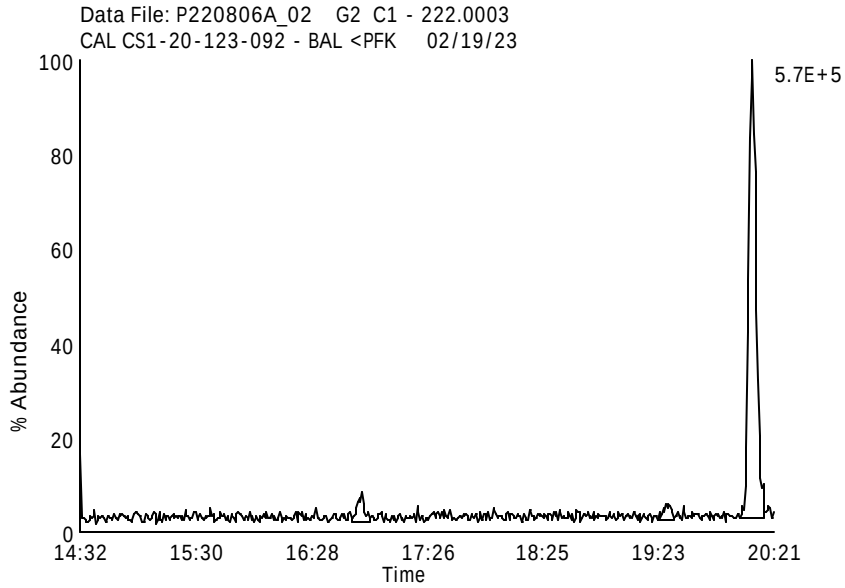
Di Chlorinated Biphenyls

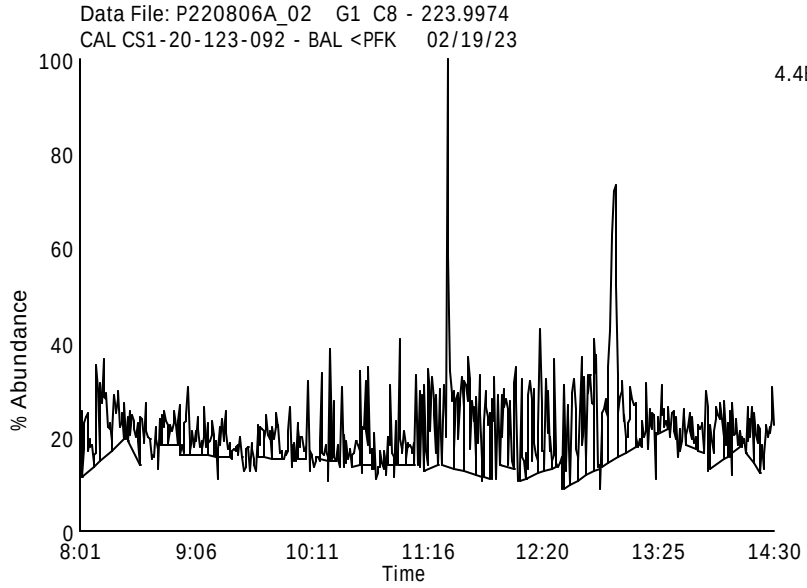
Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

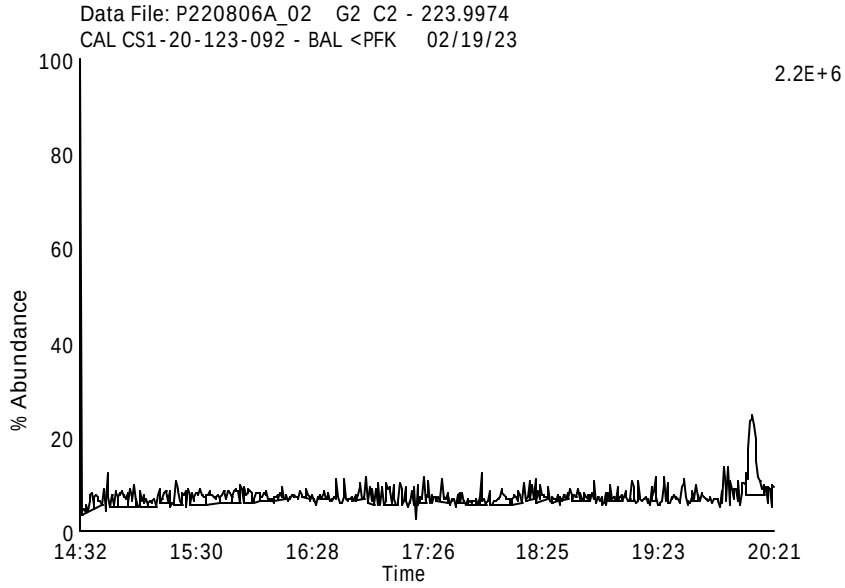
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS1-20-123-092 - BAL <PFK 02/19/23









Tri Chlorinated Biphenyls

Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS1-20-123-092 - BAL <PFK 02/19/23

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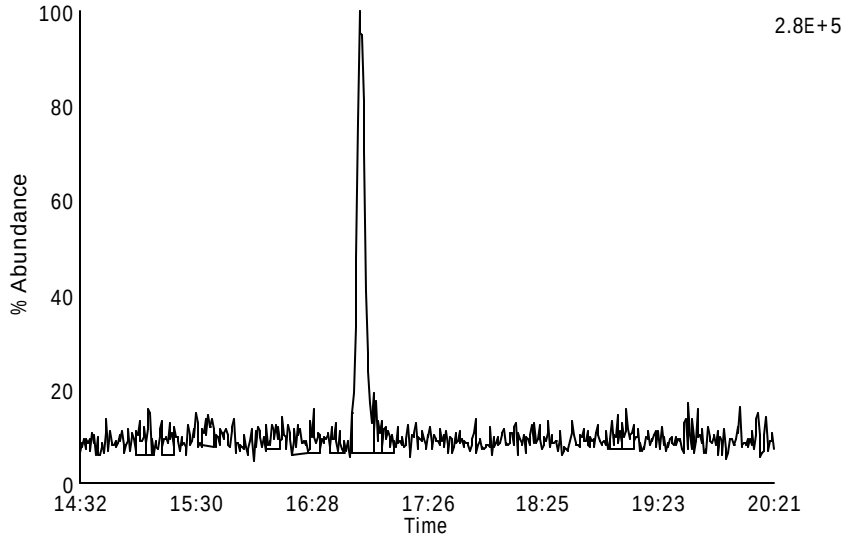
CAL CS1-20-123-092 - BAL <PFK 02/19/23



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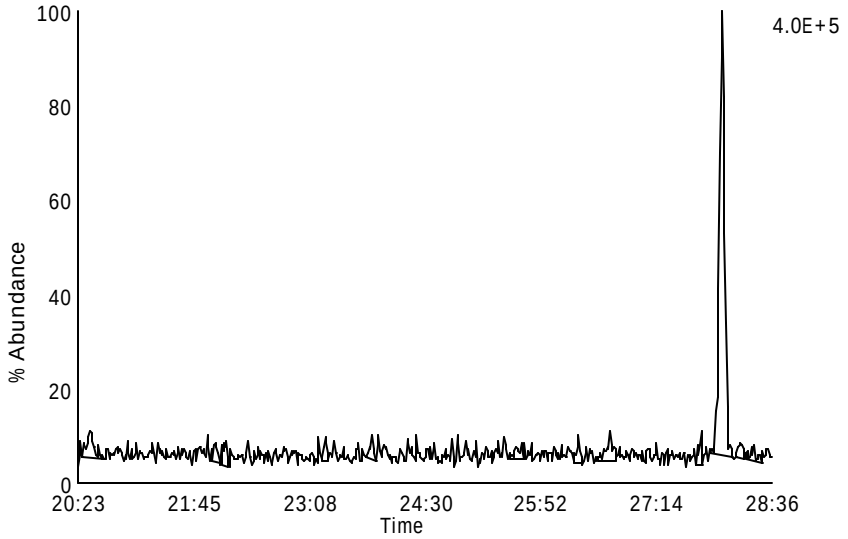
CAL CS1-20-123-092 - BAL <PFK 02/19/23



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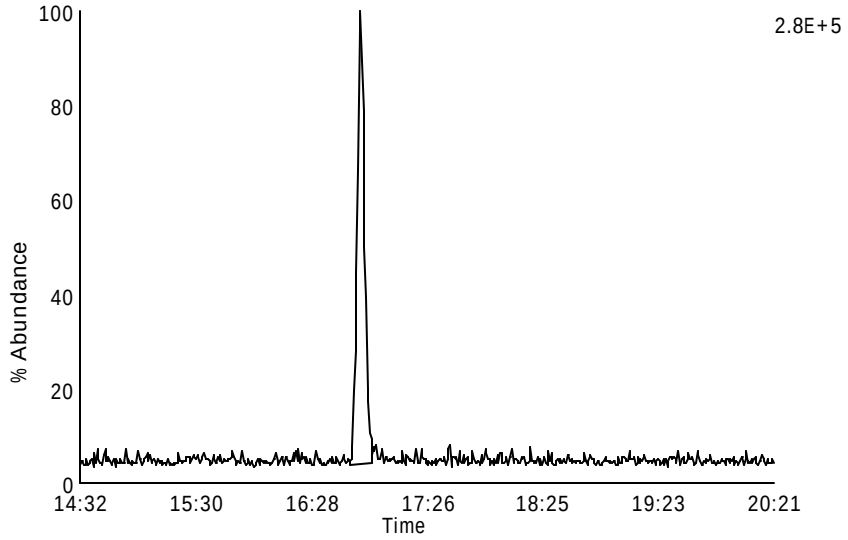

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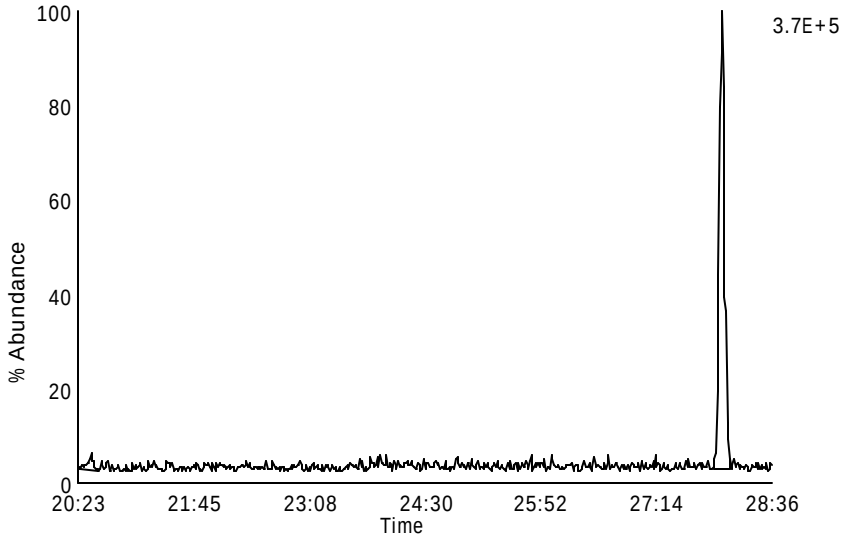

Tetra Chlorinated Biphenyls

Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

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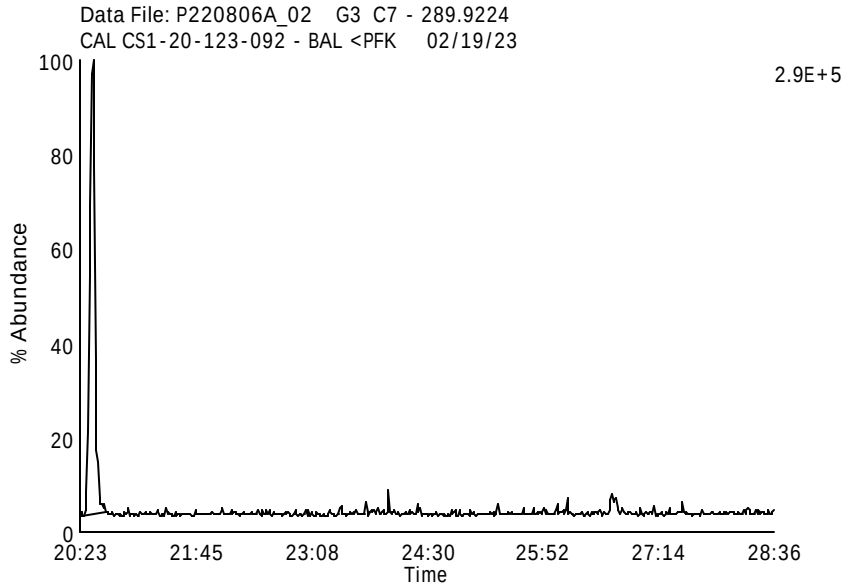

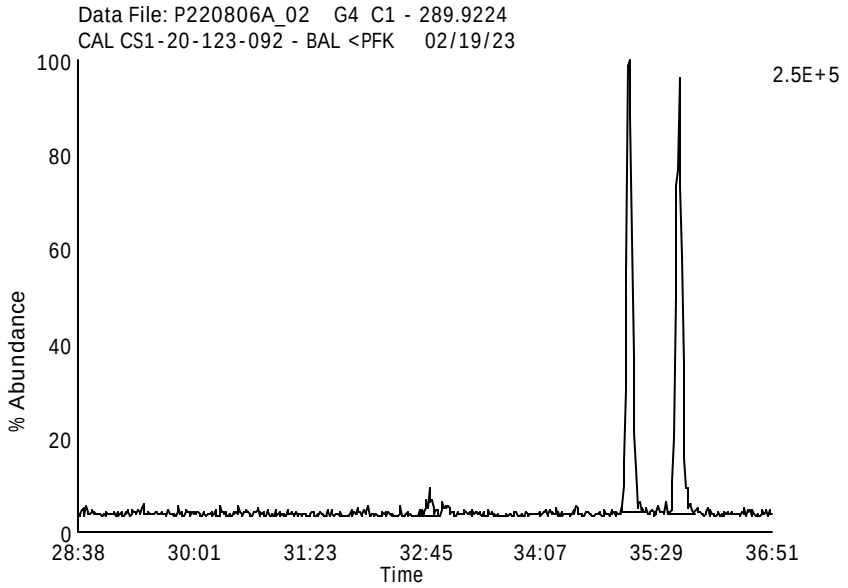

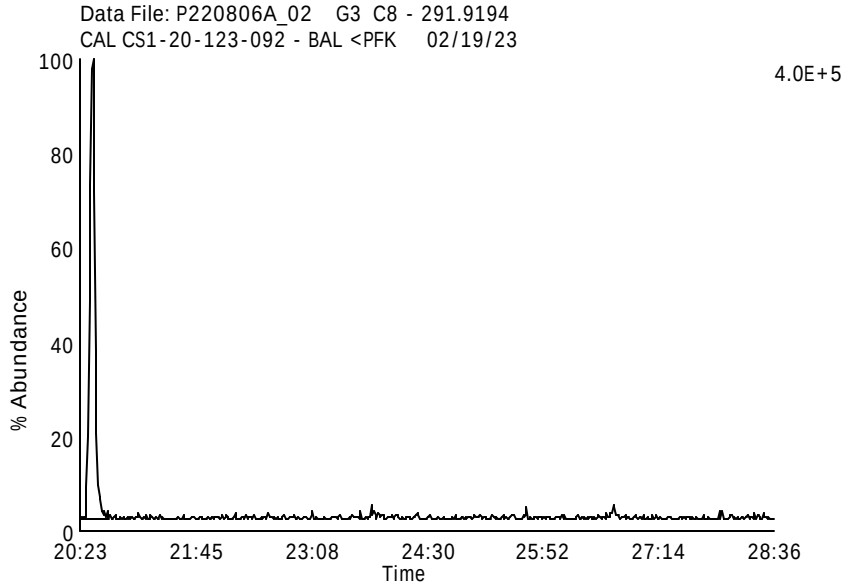

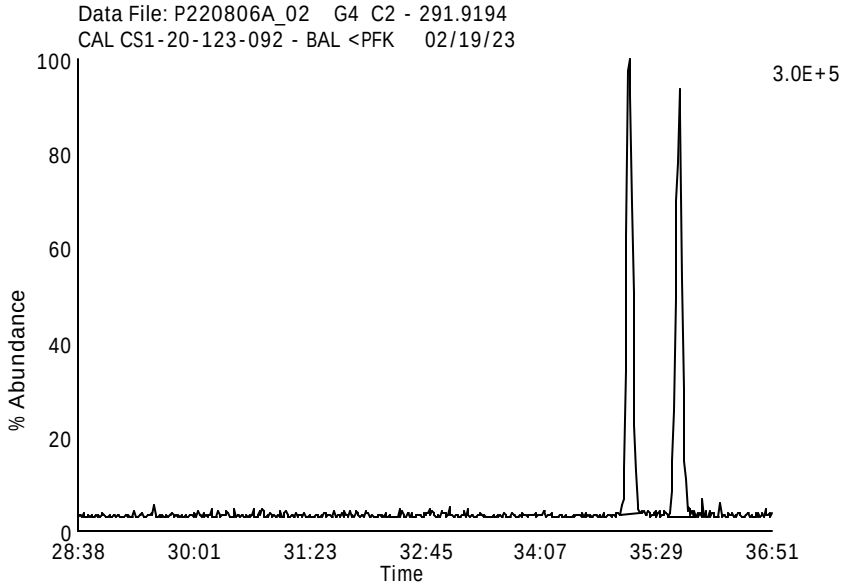

Penta Chlorinated Biphenyls

Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

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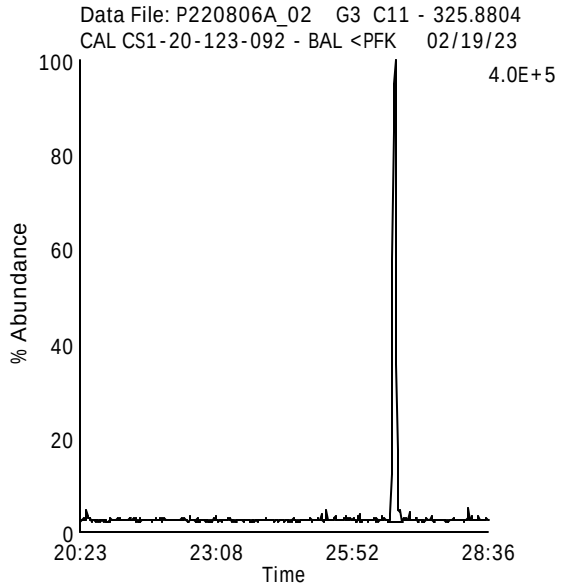
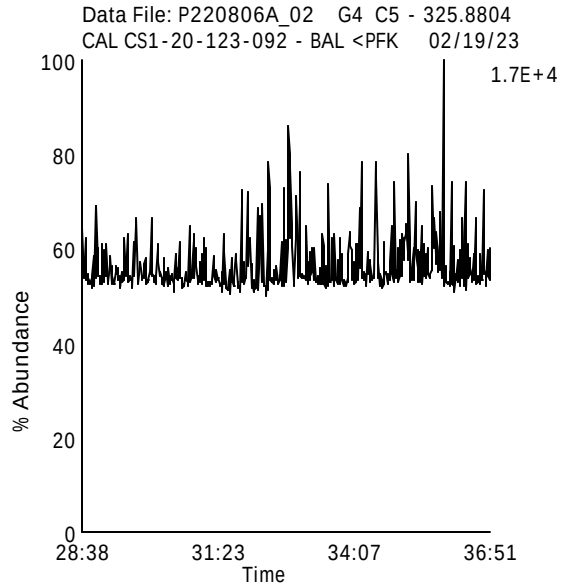
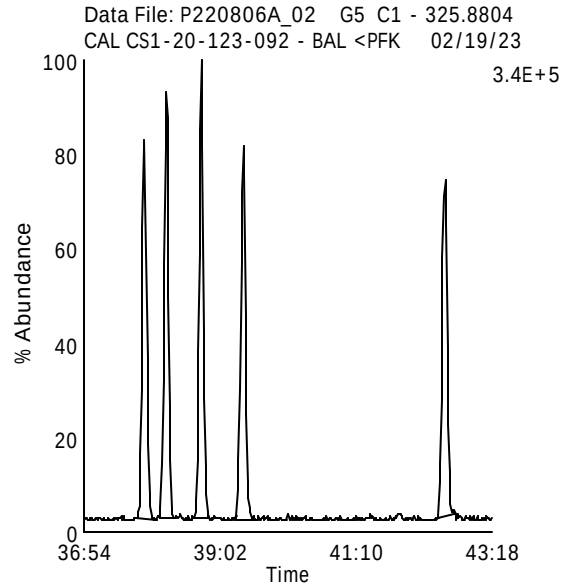
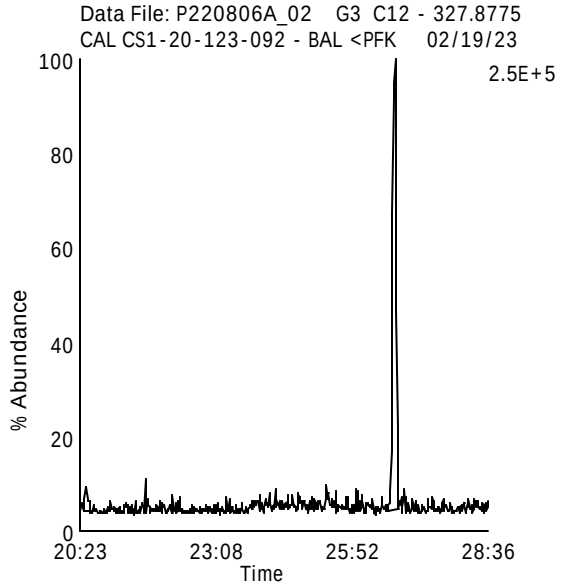
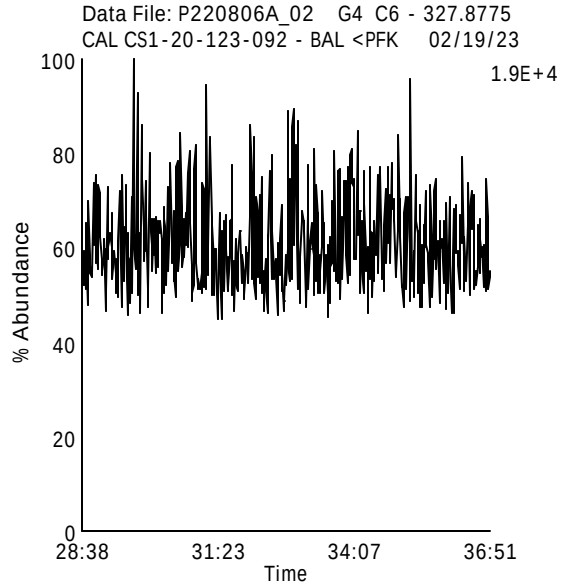
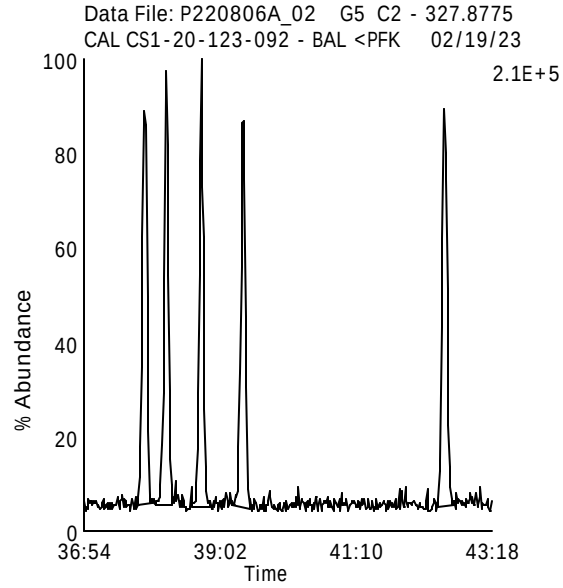










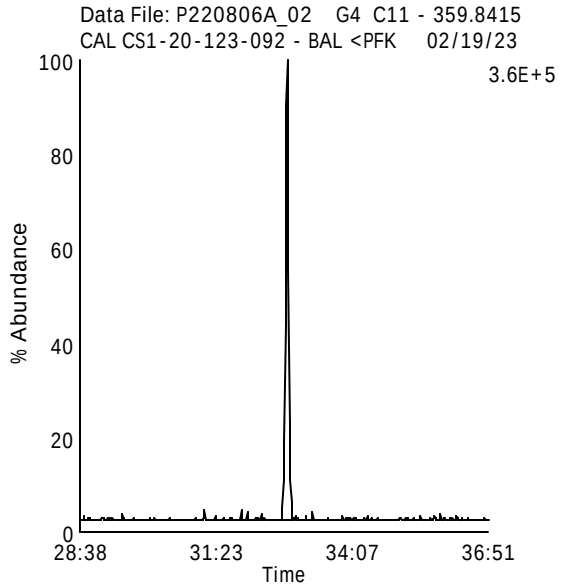


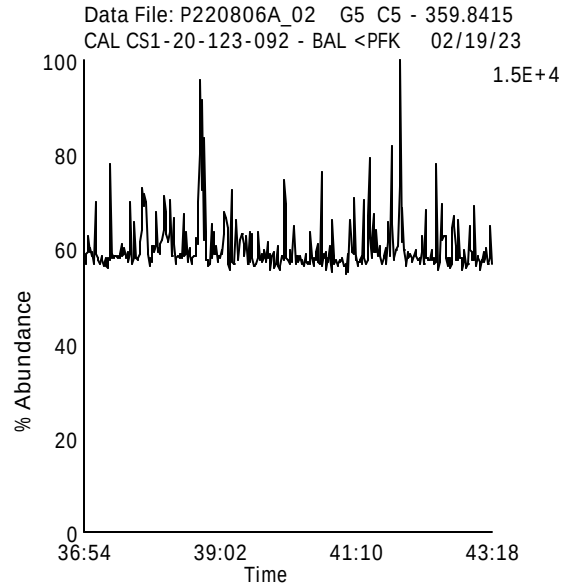
Hexa Chlorinated Biphenyls

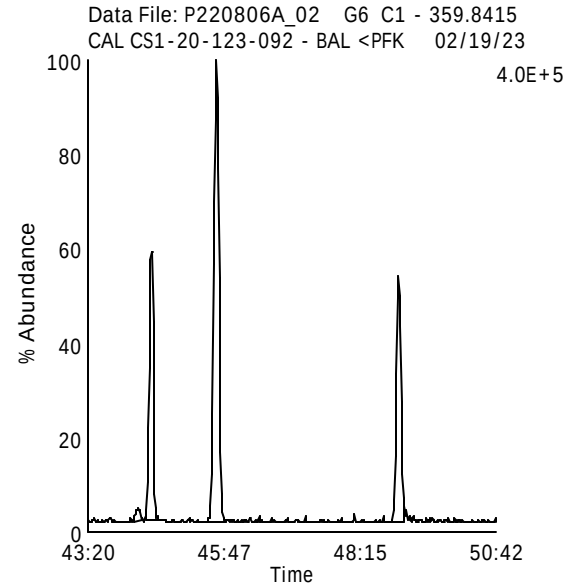
Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

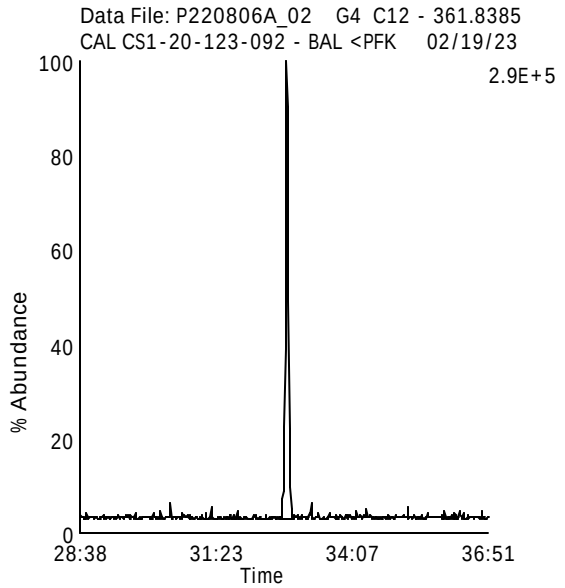
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

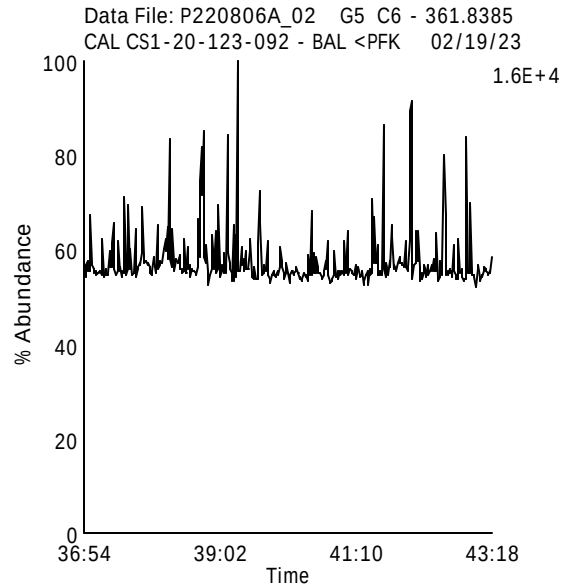
Sample Description: CAL CS1-20-123-092 - BAL <PFK 02/19/23

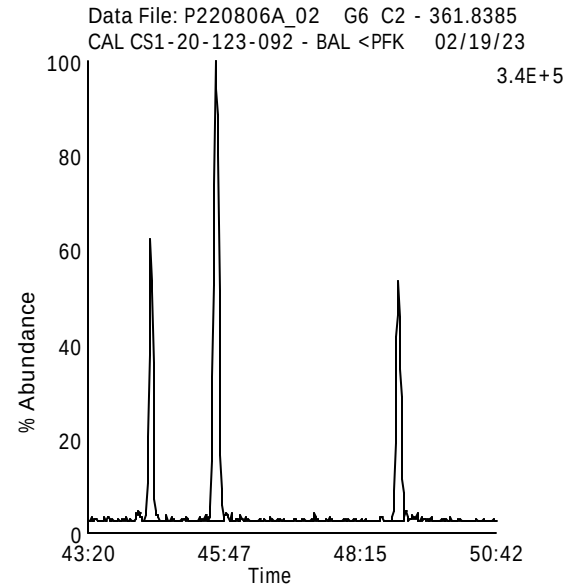










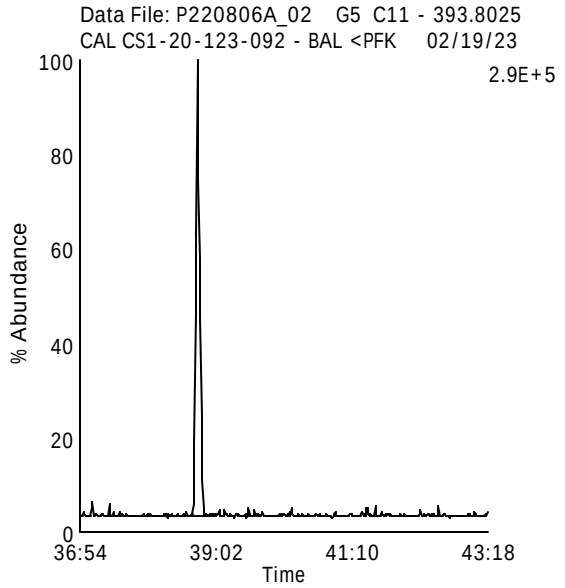


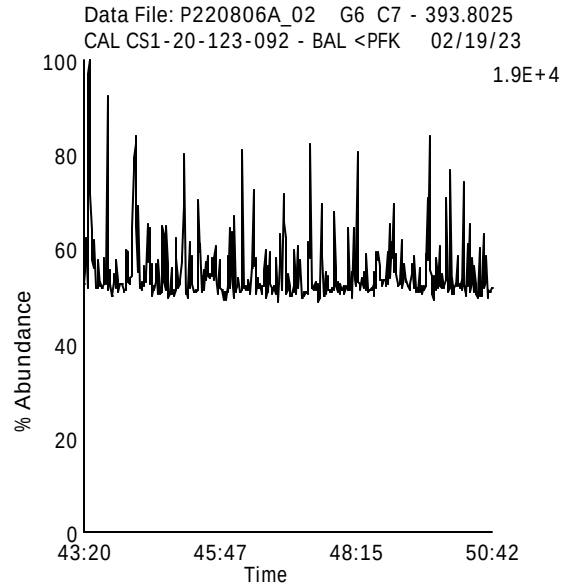
Hepta Chlorinated Biphenyls

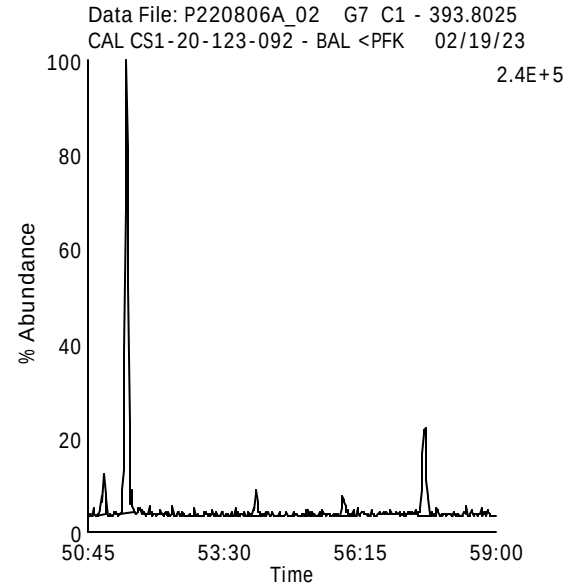
Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

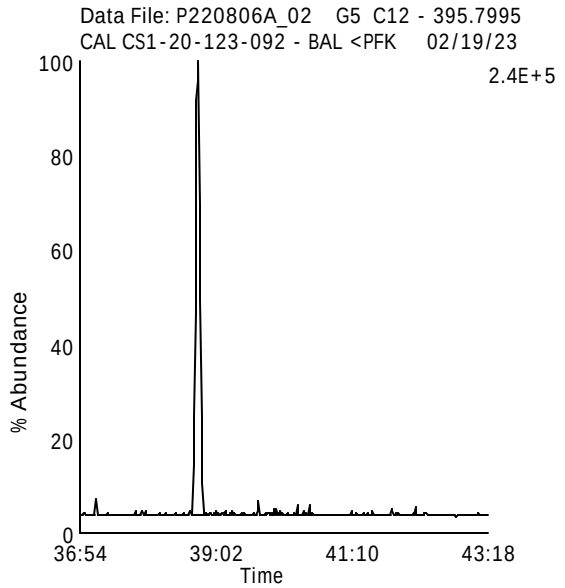
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

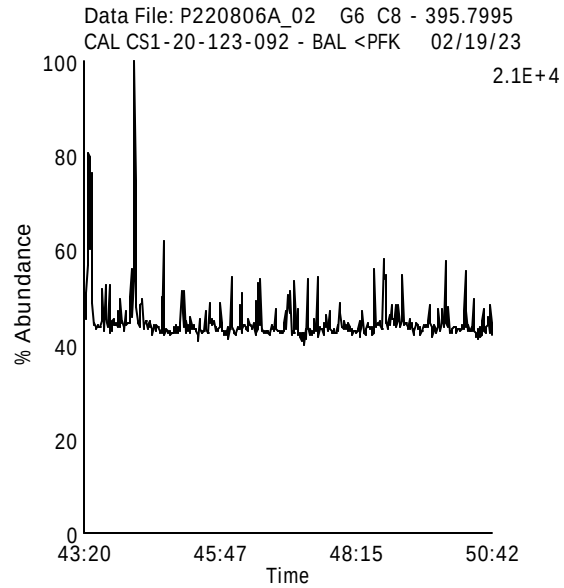
Sample Description: CAL CS1-20-123-092 - BAL <PFK 02/19/23

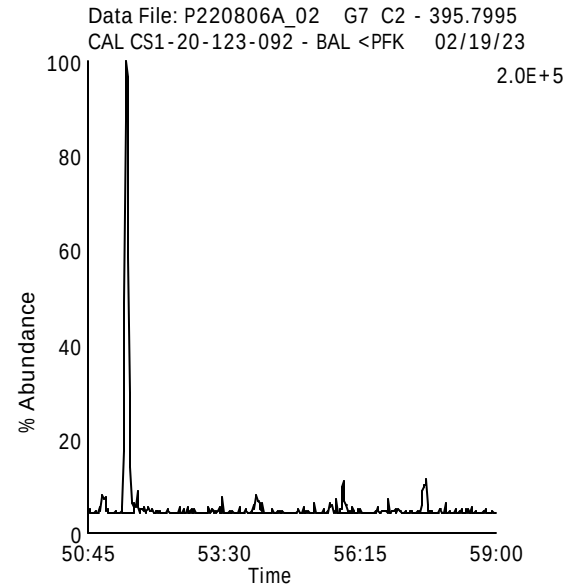










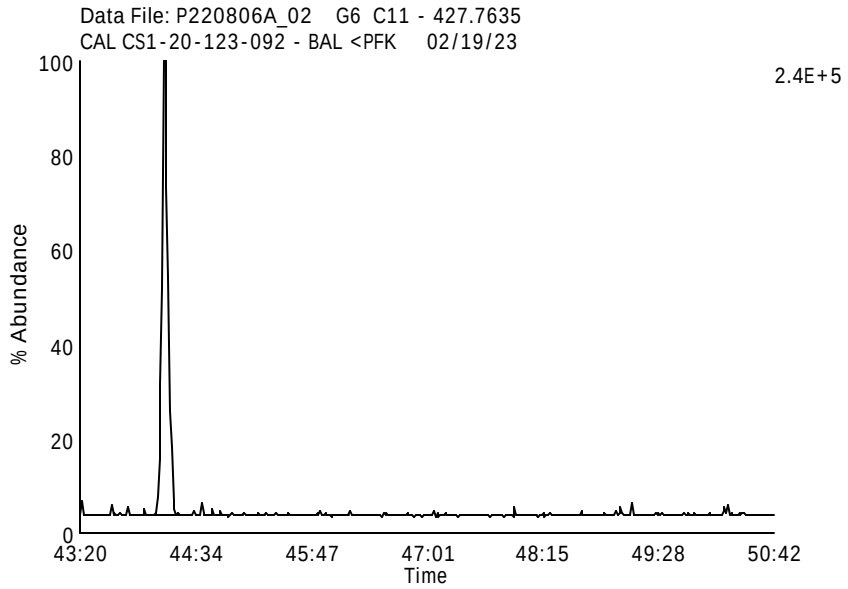


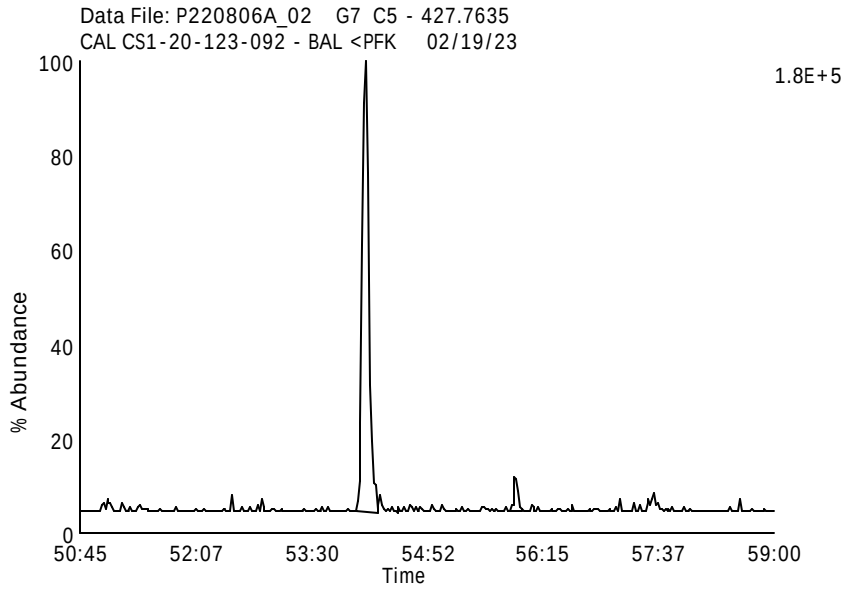
Octa Chlorinated Biphenyls

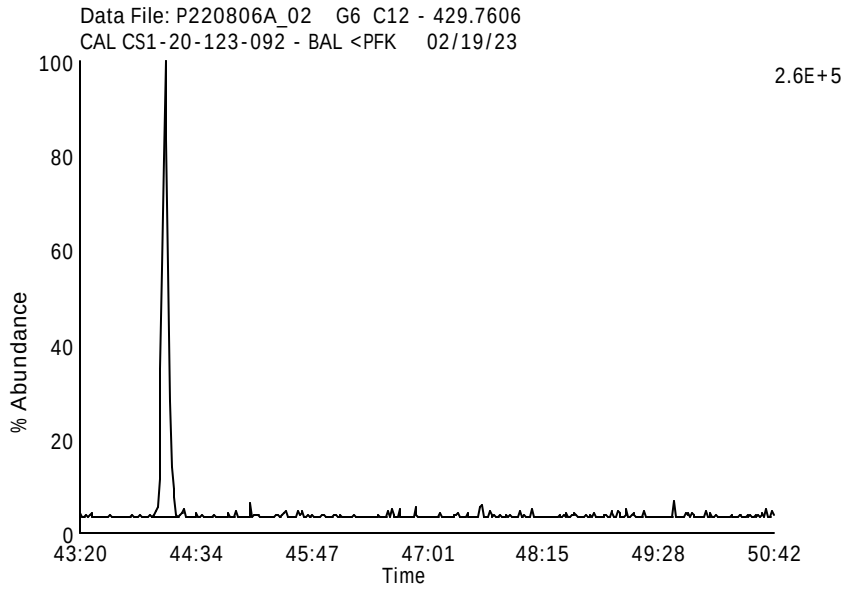
Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

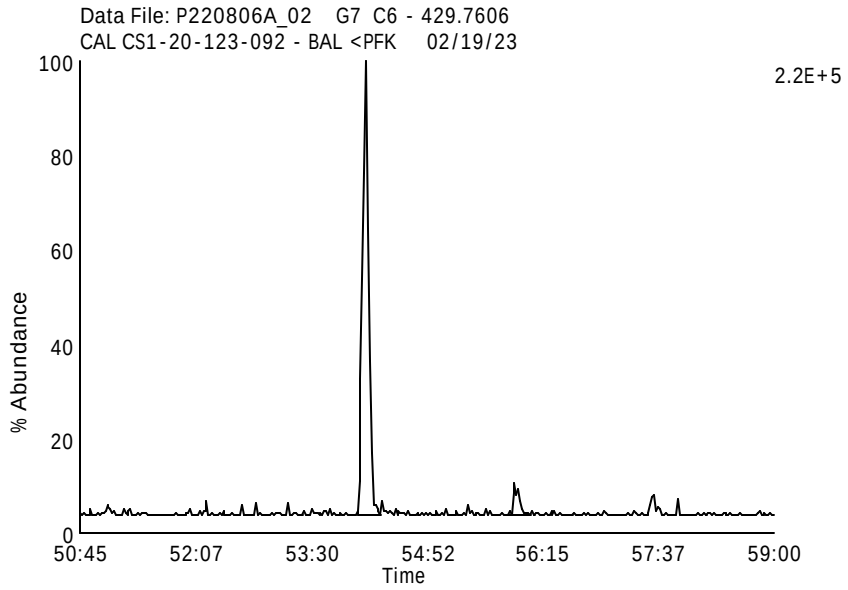
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS1-20-123-092 - BAL <PFK 02/19/23







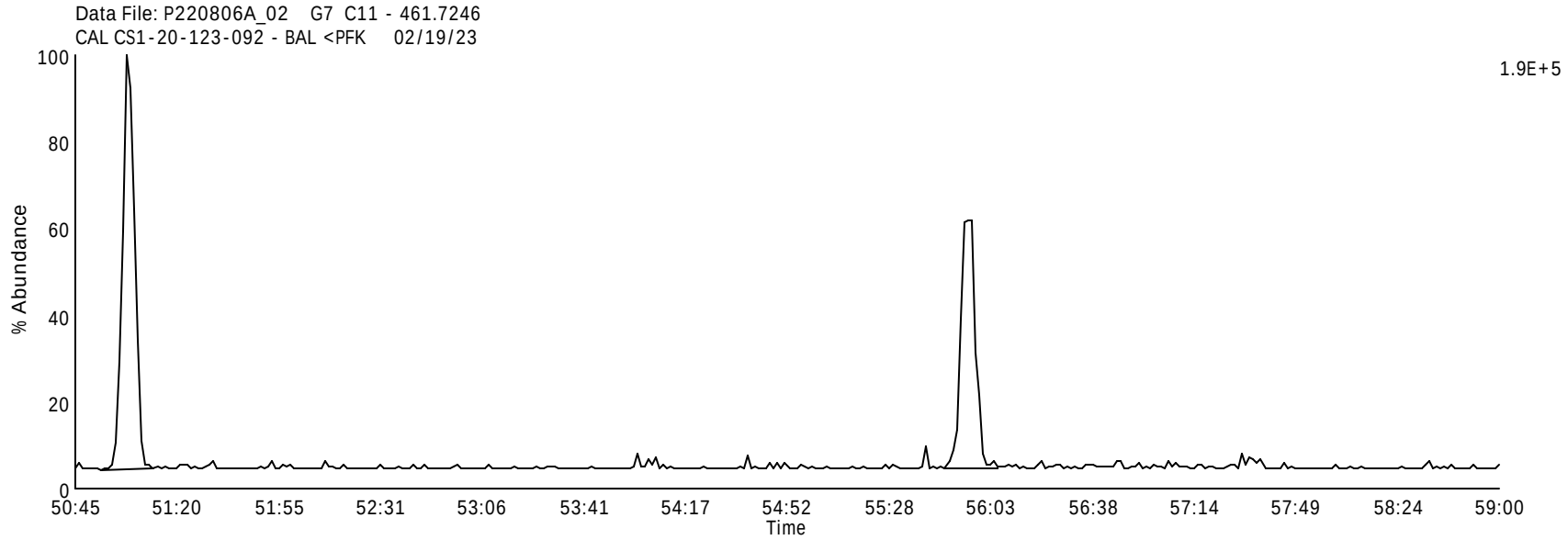


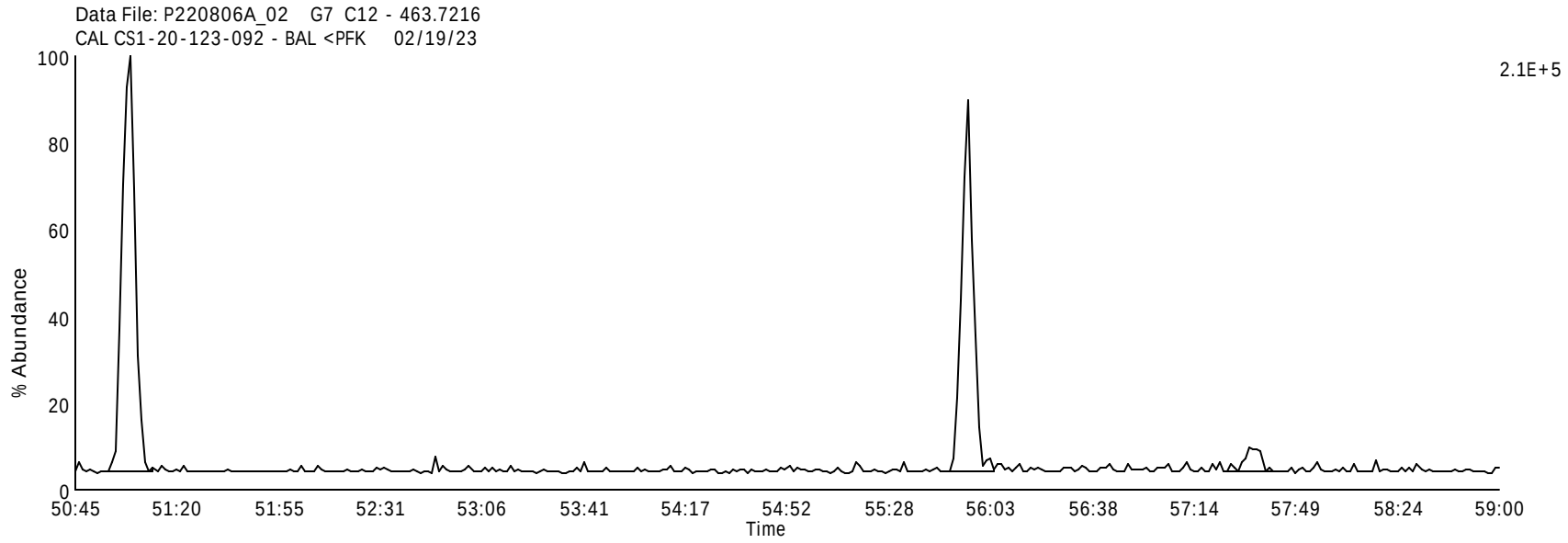
Nona Chlorinated Biphenyls

Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS1-20-123-092 - BAL <PFK 02/19/23



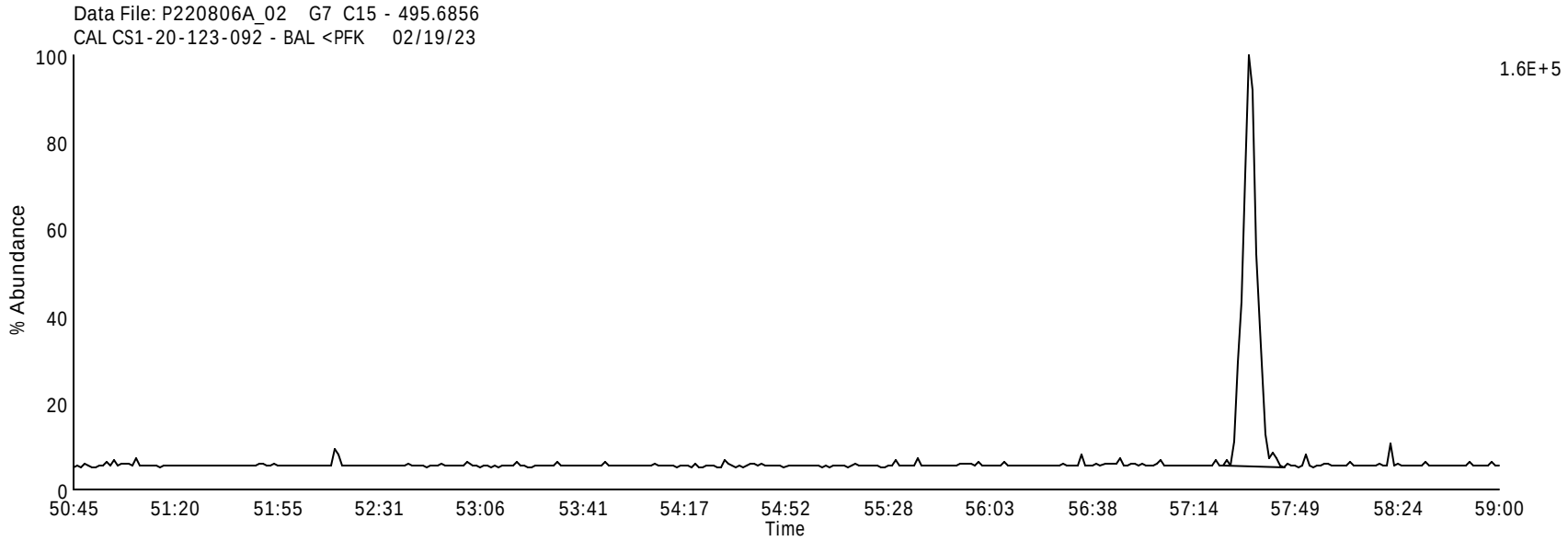


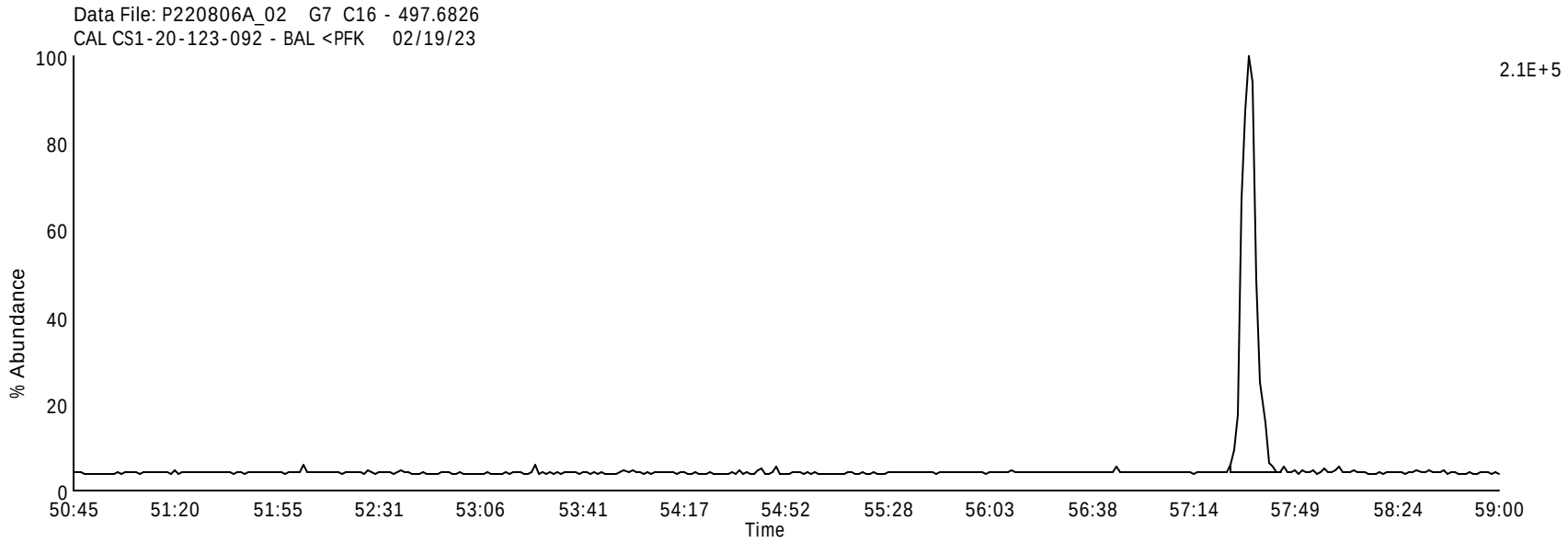
Deca Chlorinated Biphenyl

Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS1-20-123-092 - BAL <PFK 02/19/23



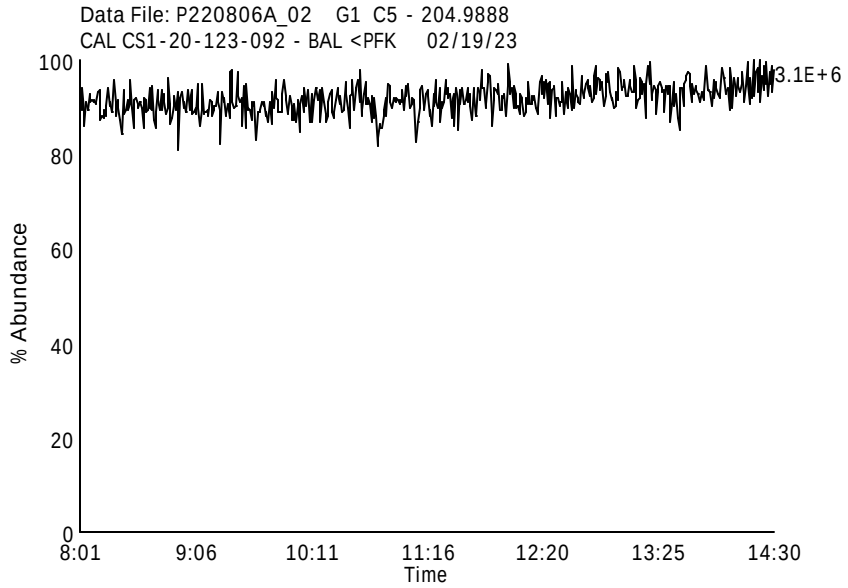


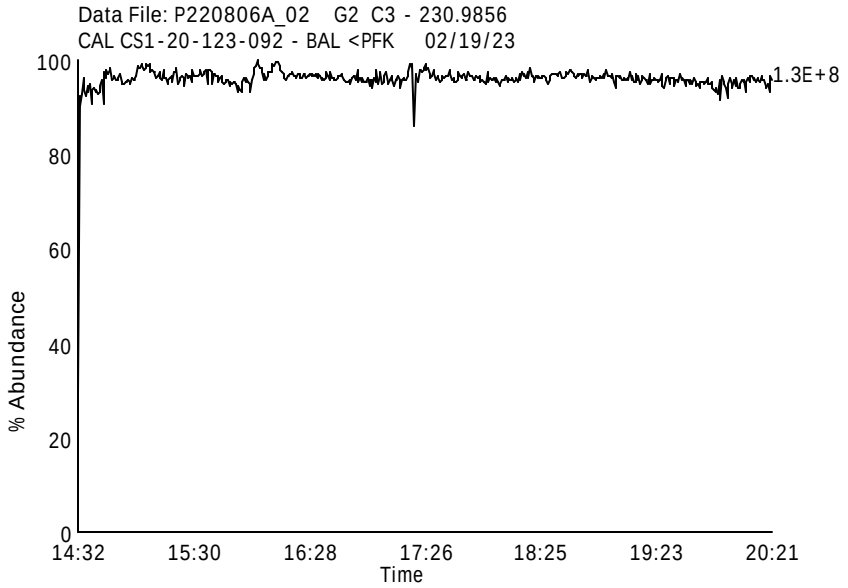
Group 1 - 4 Lock mass

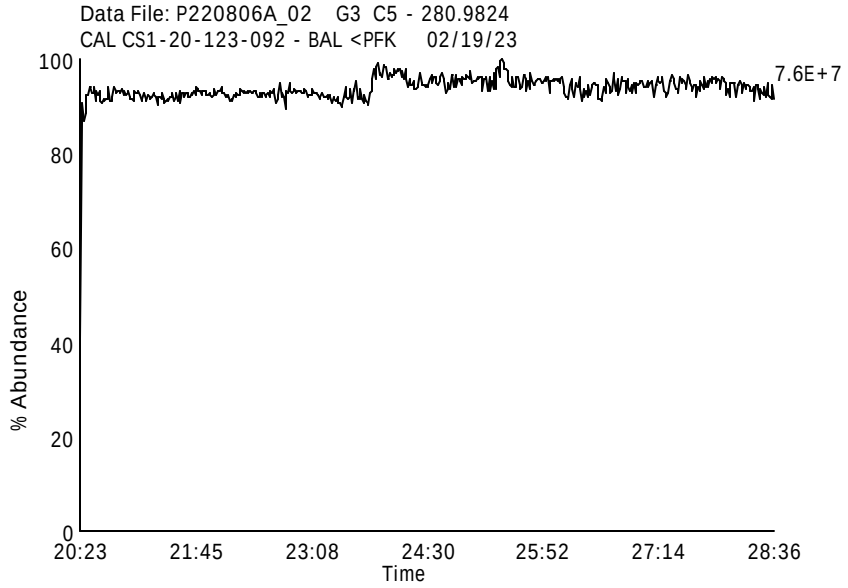
Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

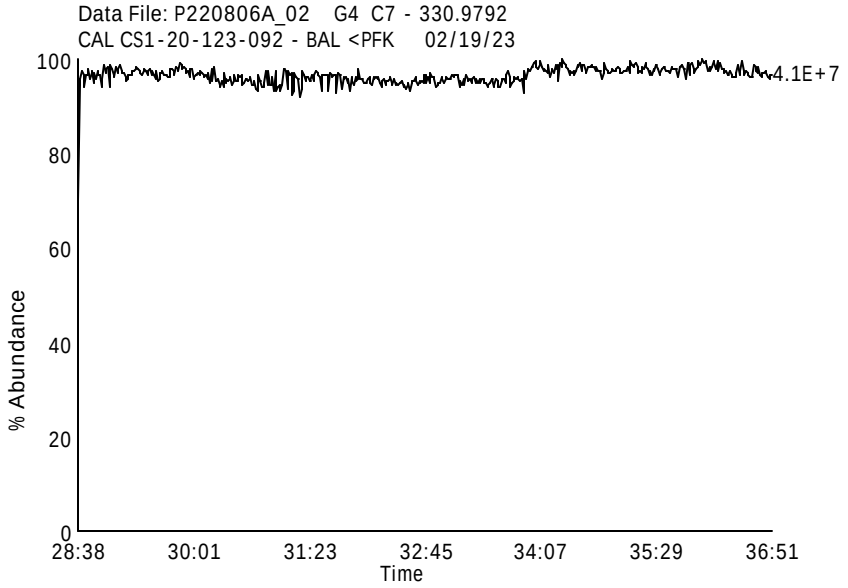
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS1-20-123-092 - BAL <PFK 02/19/23







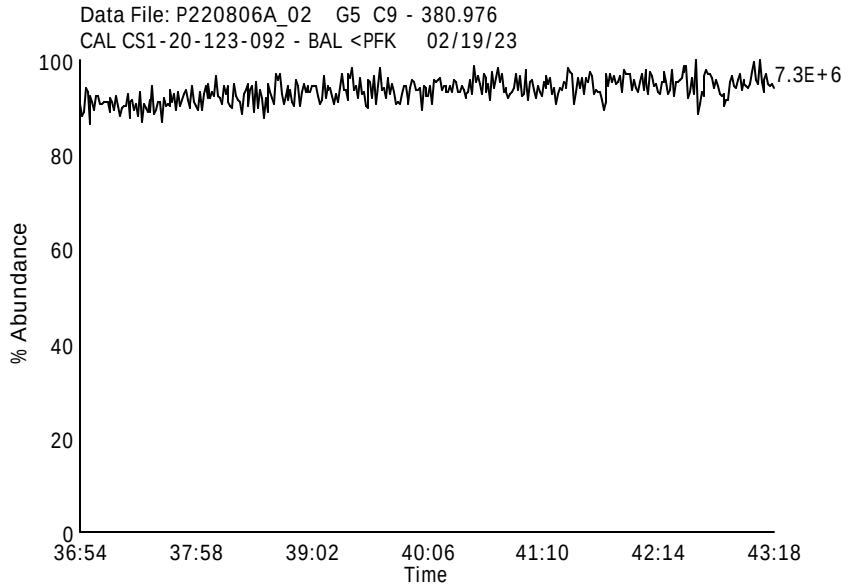


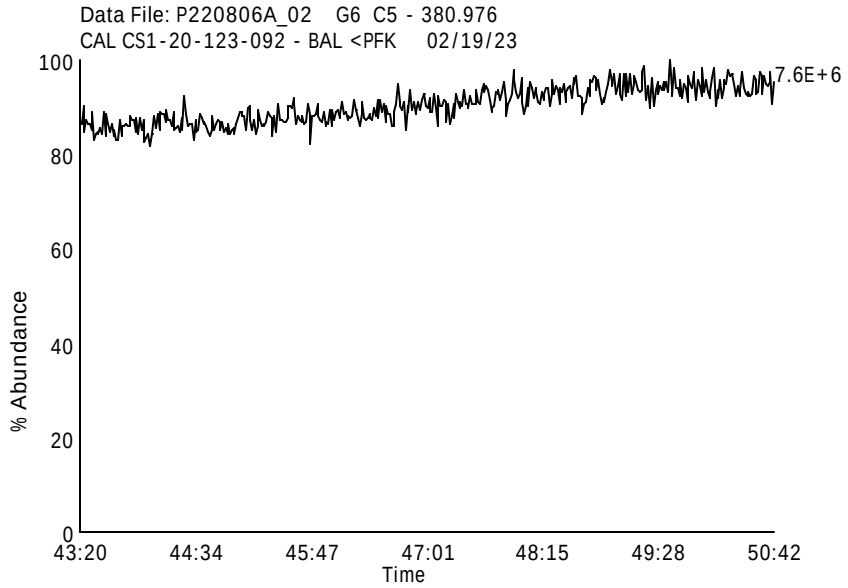
Group 5 - 7 Lock mass

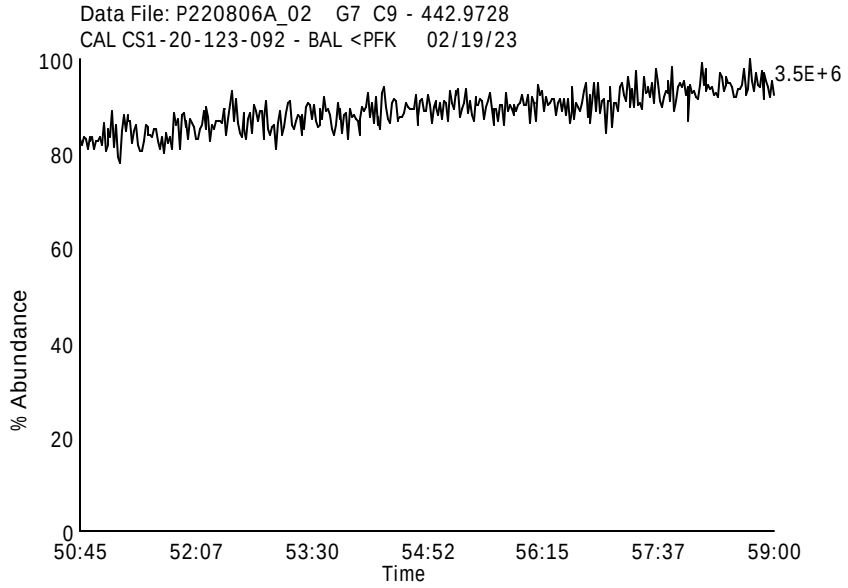
Data File Name: P220806A_02 Lab Sample ID: CS1-20-123-092

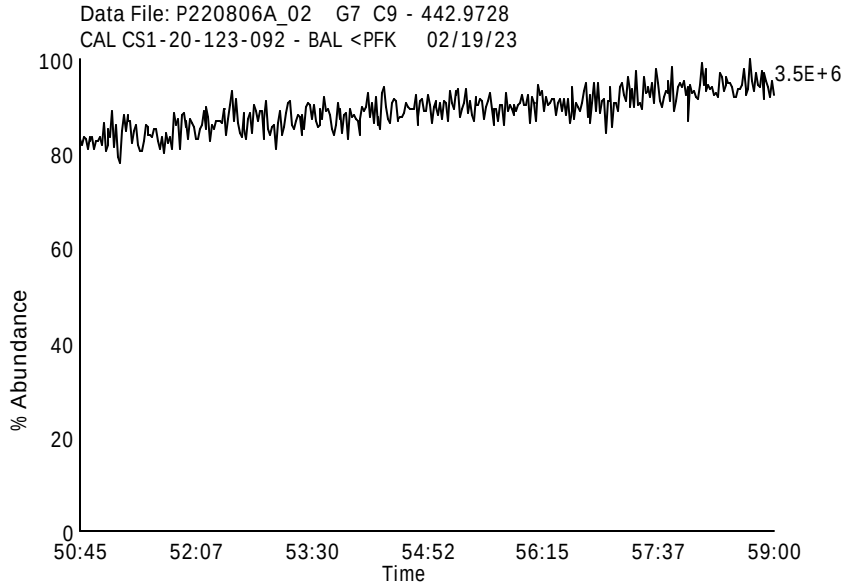
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS1-20-123-092 - BAL <PFK 02/19/23







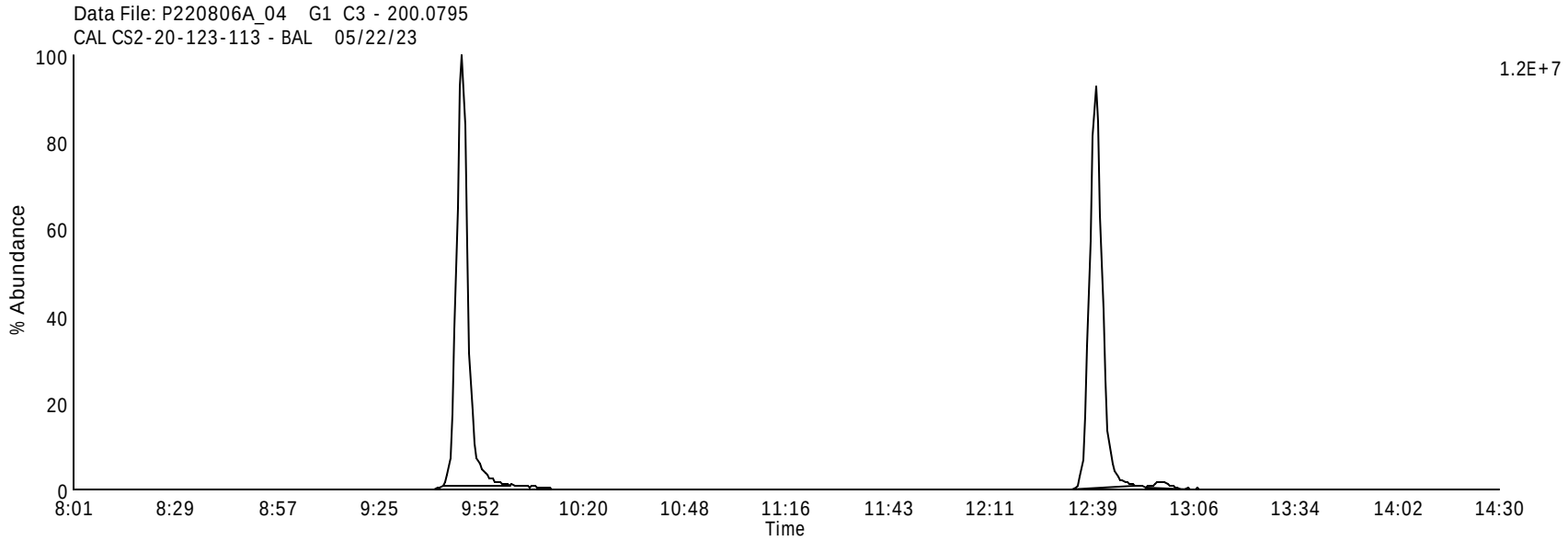


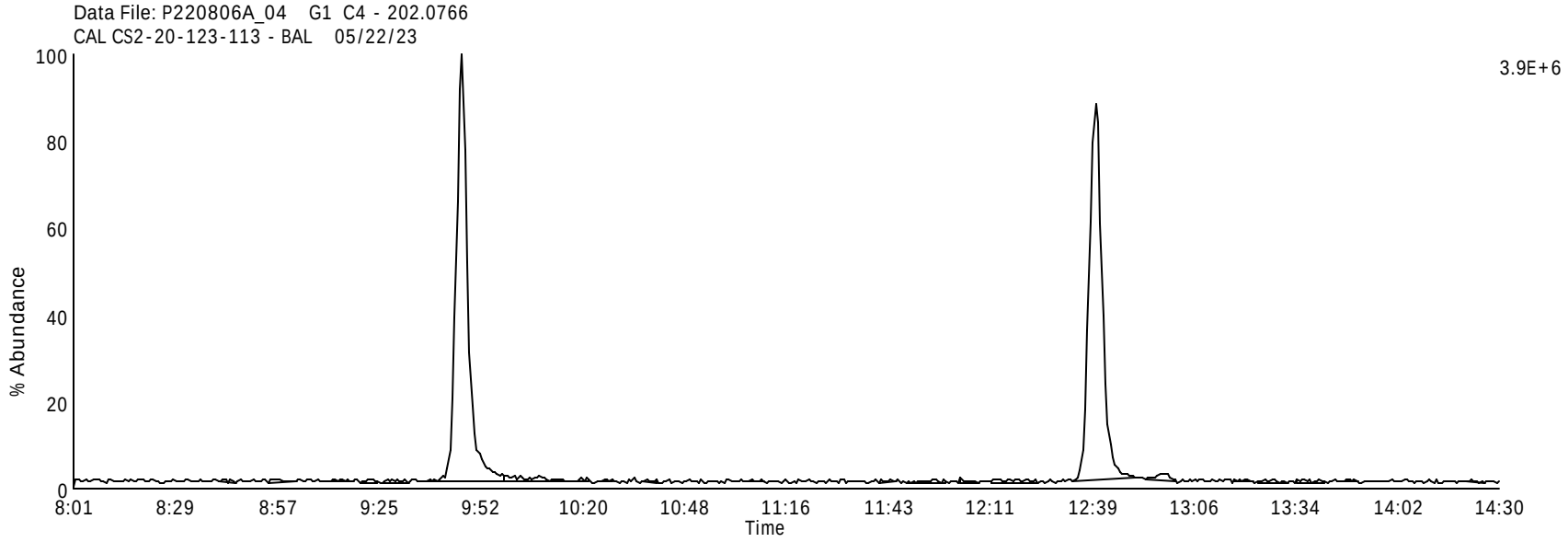
Labeled Mono Chlorinated Biphenyls

Data File Name: P220806A_04 Lab Sample ID: CS2-20-123-113

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS2-20-123-113 - BAL 05/22/23

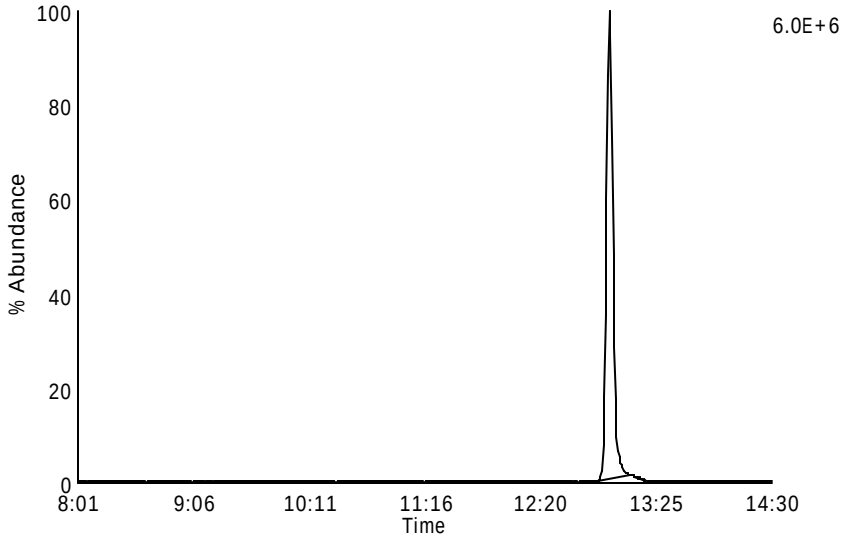




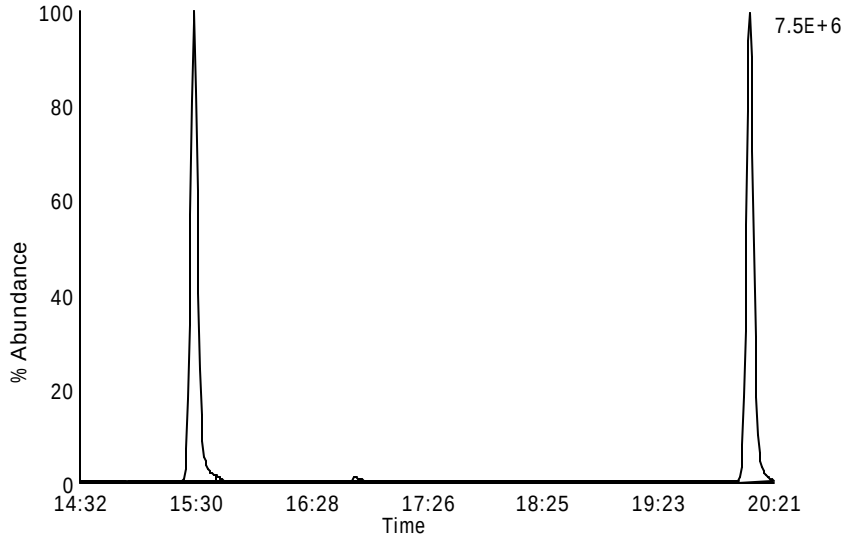
Labeled Di Chlorinated Biphenyls

Data File Name: P220806A_04
Lab Sample ID: CS2-20-123-113
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS2-20-123-113 - BAL 05/22/23

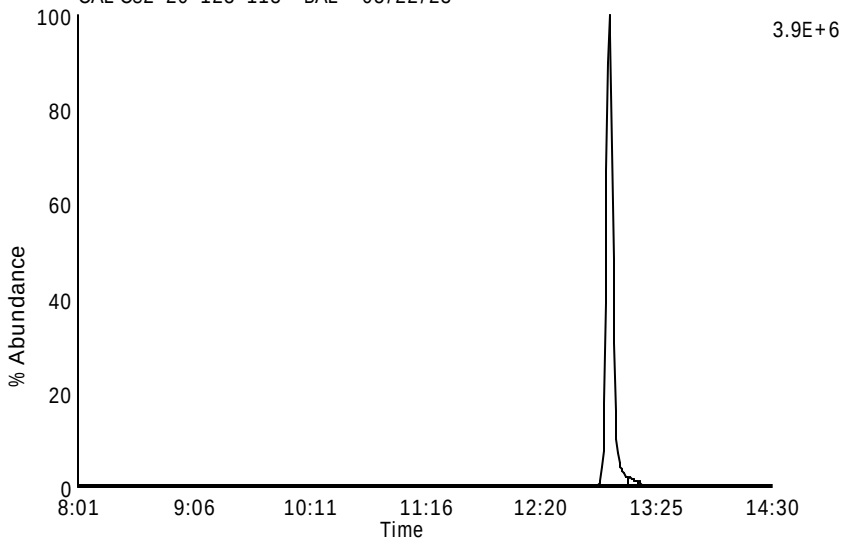
Data File: P220806A_04 G1 C9 - 234.0406
CAL CS2-20-123-113 - BAL 05/22/23



Data File: P220806A_04 G2 C5 - 234.0406
CAL CS2-20-123-113 - BAL 05/22/23



Data File: P220806A_04 G1 C10 - 236.0376
CAL CS2-20-123-113 - BAL 05/22/23



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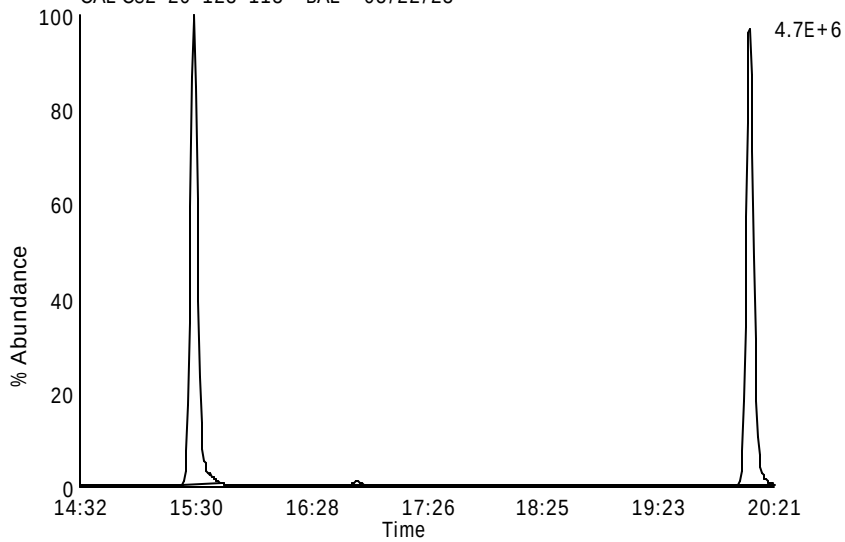
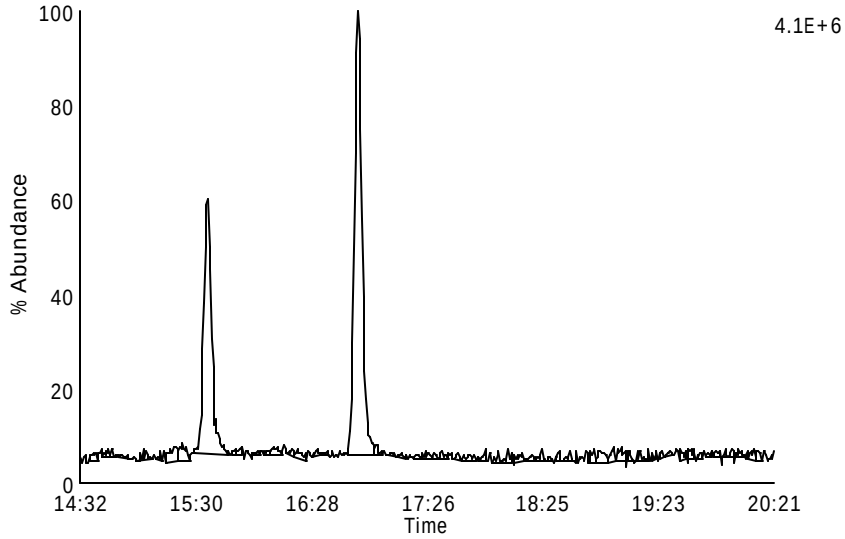
CAL CS2-20-123-113 - BAL 05/22/23



Labeled Tri Chlorinated Biphenyls

Data File Name: P220806A_04
Lab Sample ID: CS2-20-123-113
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS2-20-123-113 - BAL 05/22/23

Data File: P220806A_04 G2 C9 - 268.0016
CAL CS2-20-123-113 - BAL 05/22/23



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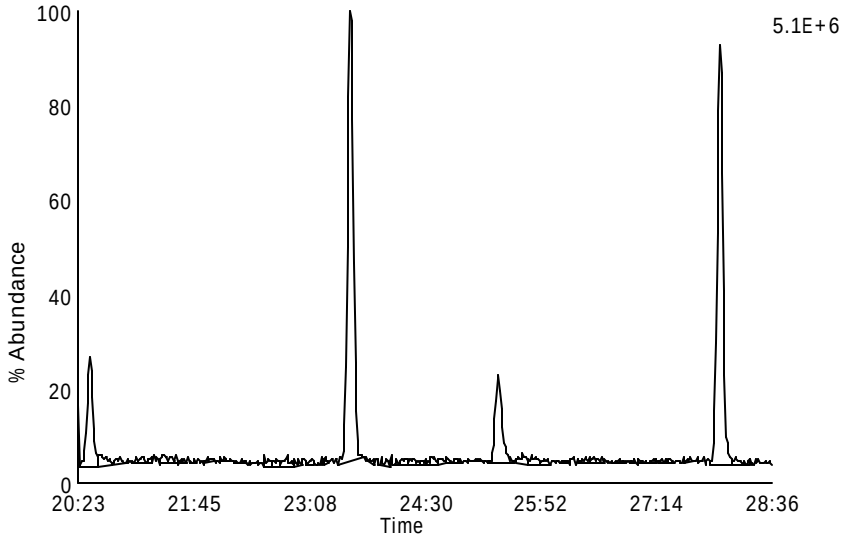
CAL CS2-20-123-113 - BAL 05/22/23



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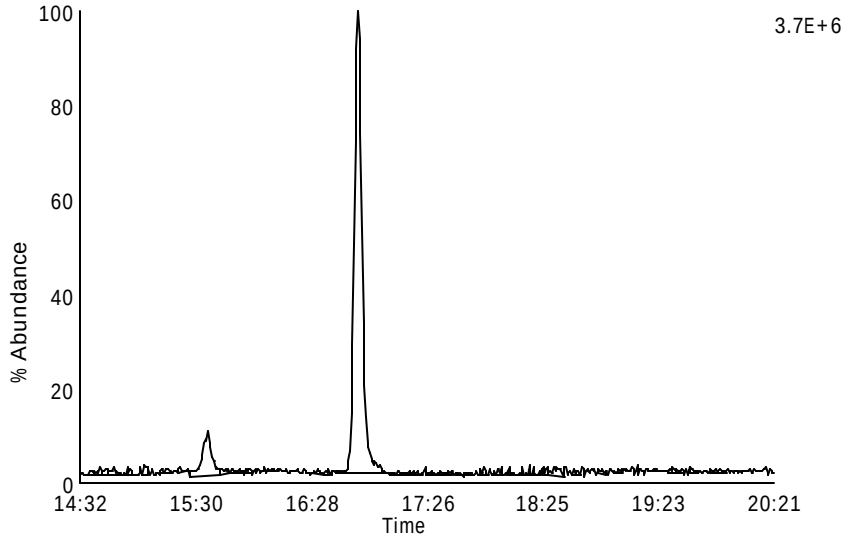
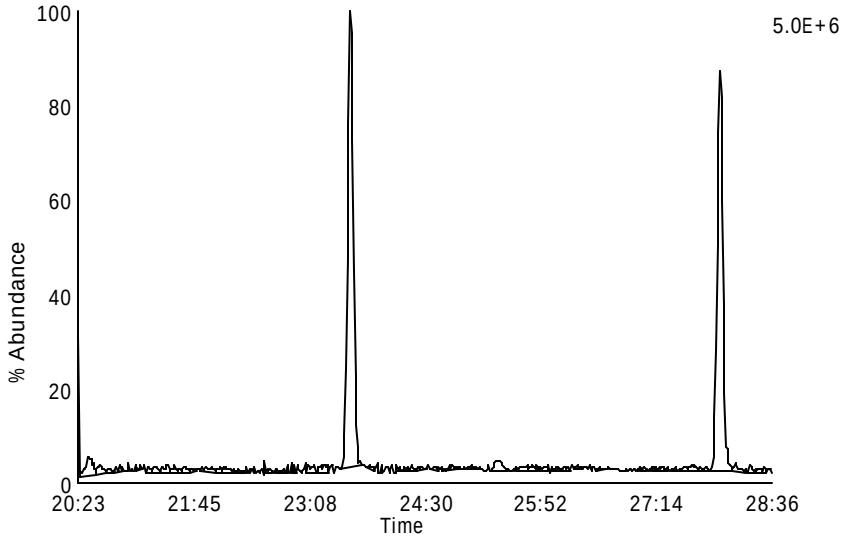
CAL CS2-20-123-113 - BAL 05/22/23



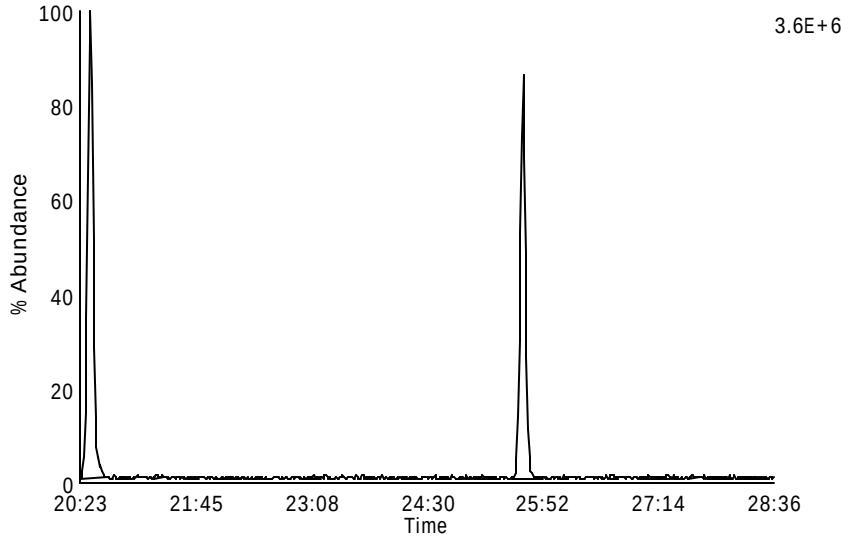
Data File: P220806A_04 G3 C4 - 269.9986
CAL CS2-20-123-113 - BAL 05/22/23



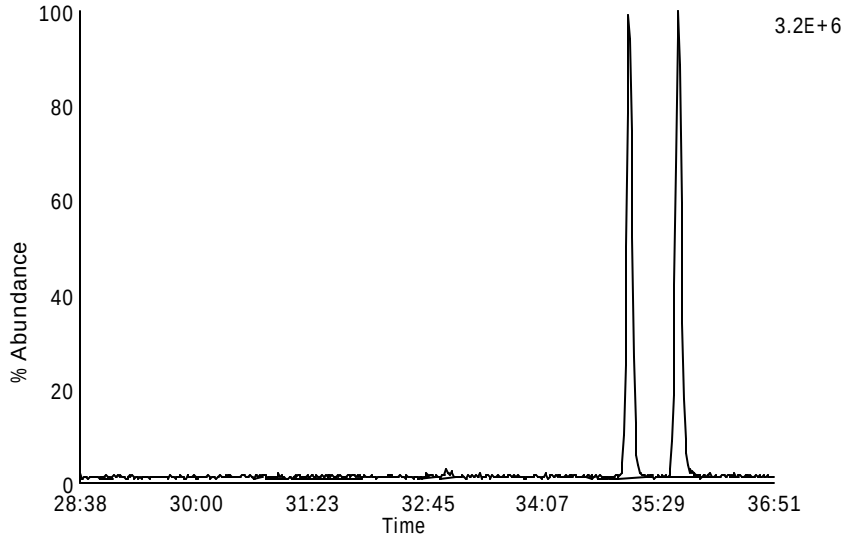
Labeled Tetra Chlorinated Biphenyls

Data File Name: P220806A_04
Lab Sample ID: CS2-20-123-113
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS2-20-123-113 - BAL 05/22/23

Data File: P220806A_04 G3 C9 - 301.9626
CAL CS2-20-123-113 - BAL 05/22/23



Data File: P220806A_04 G4 C3 - 301.9626
CAL CS2-20-123-113 - BAL 05/22/23



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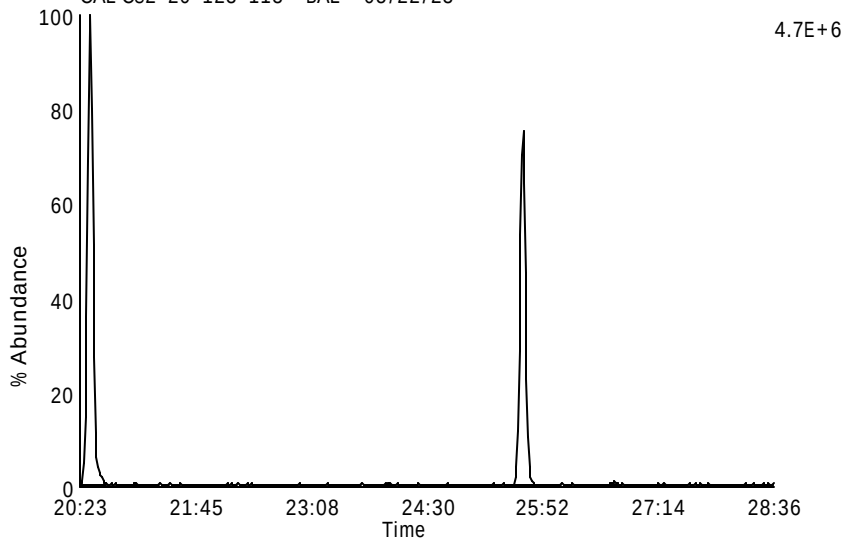
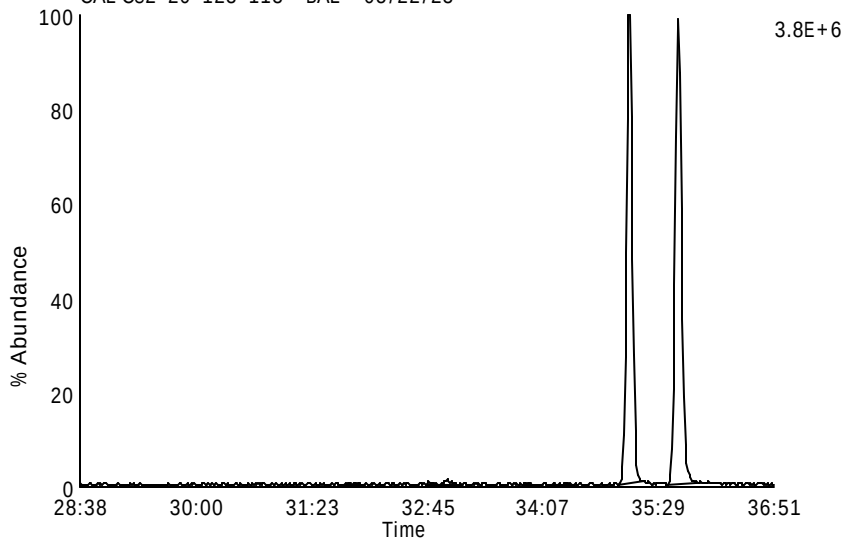
CAL CS2-20-123-113 - BAL 05/22/23



Data File: P220806A_04 G4 C4 - 303.9597
CAL CS2-20-123-113 - BAL 05/22/23

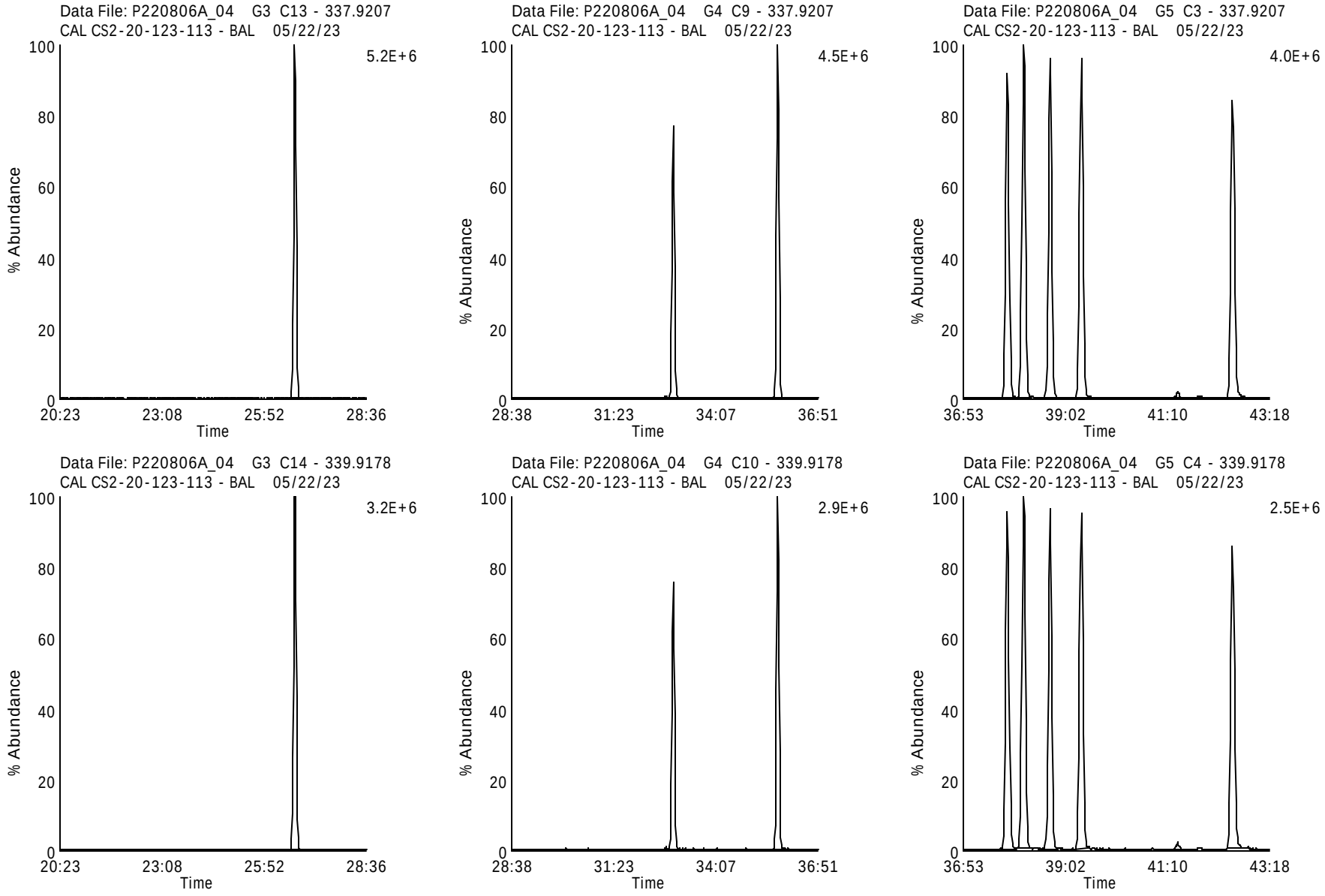


Labeled Penta Chlorinated Biphenyls

Data File Name: P220806A_04 Lab Sample ID: CS2-20-123-113

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS2-20-123-113 - BAL 05/22/23



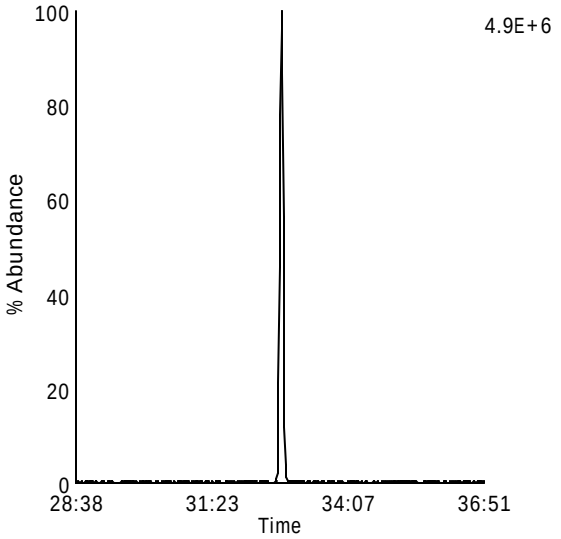
Labeled Hexa Chlorinated Biphenyls

Data File Name: P220806A_04 Lab Sample ID: CS2-20-123-113

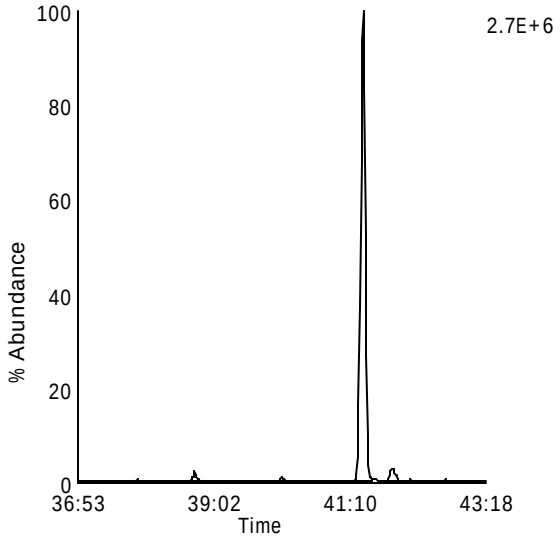
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS2-20-123-113 - BAL 05/22/23

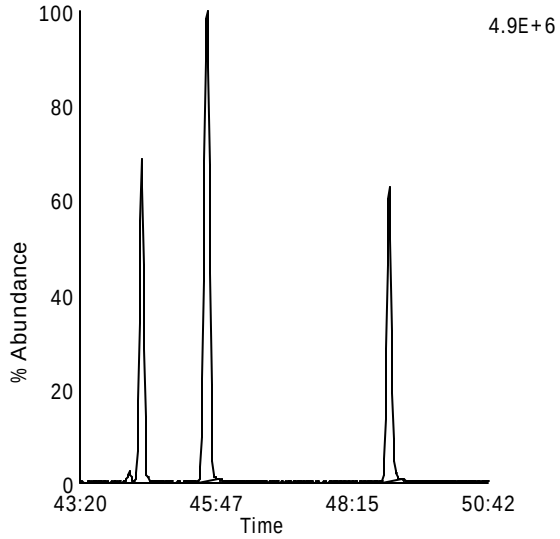
Data File: P220806A_04 G4 C13 - 371.8817
CAL CS2-20-123-113 - BAL 05/22/23



Data File: P220806A_04 G5 C7 - 371.8817
CAL CS2-20-123-113 - BAL 05/22/23



Data File: P220806A_04 G6 C3 - 371.8817
CAL CS2-20-123-113 - BAL 05/22/23



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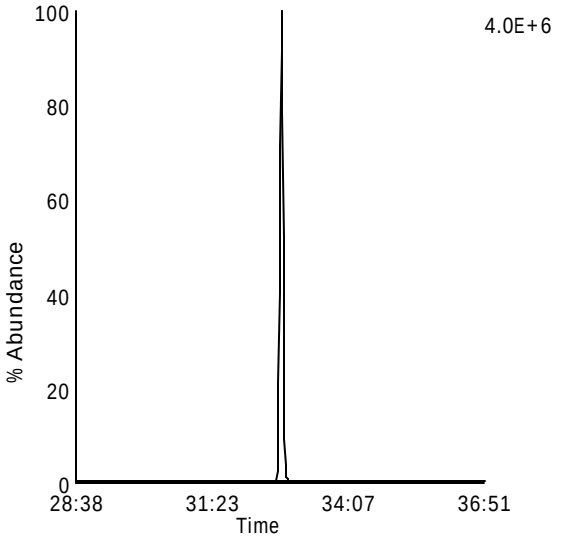
CAL CS2-20-123-113 - BAL 05/22/23



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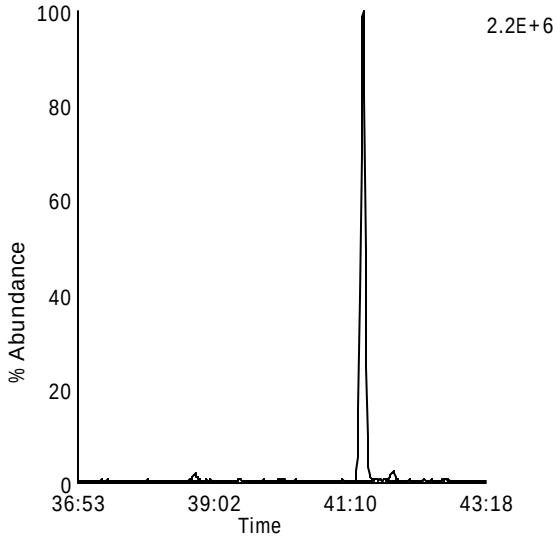
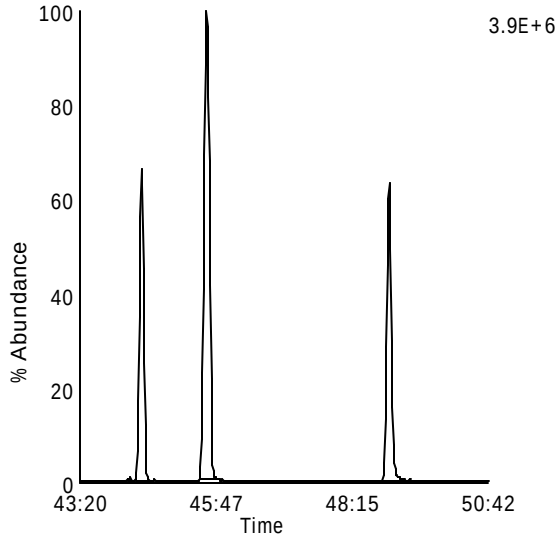
CAL CS2-20-123-113 - BAL 05/22/23

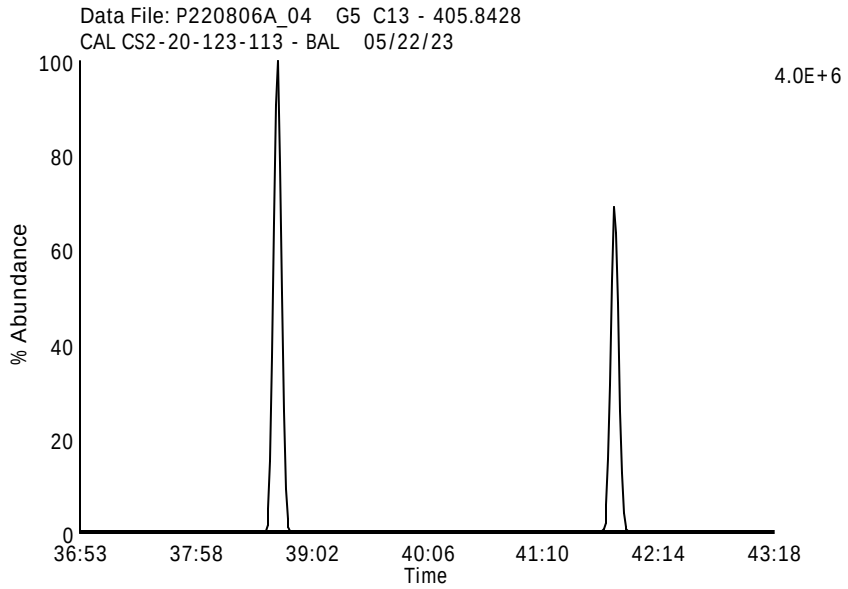


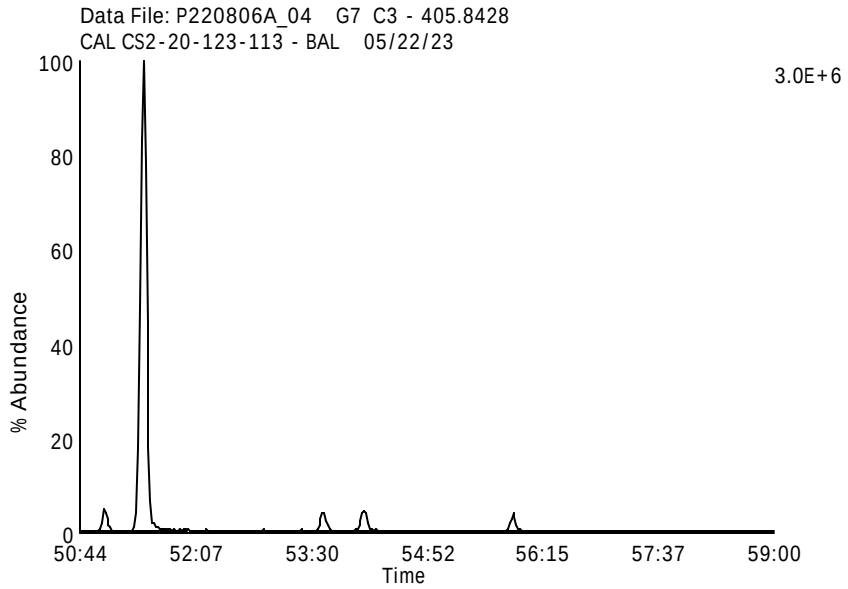
Data File: P220806A_04 G6 C4 - 373.8788
CAL CS2-20-123-113 - BAL 05/22/23

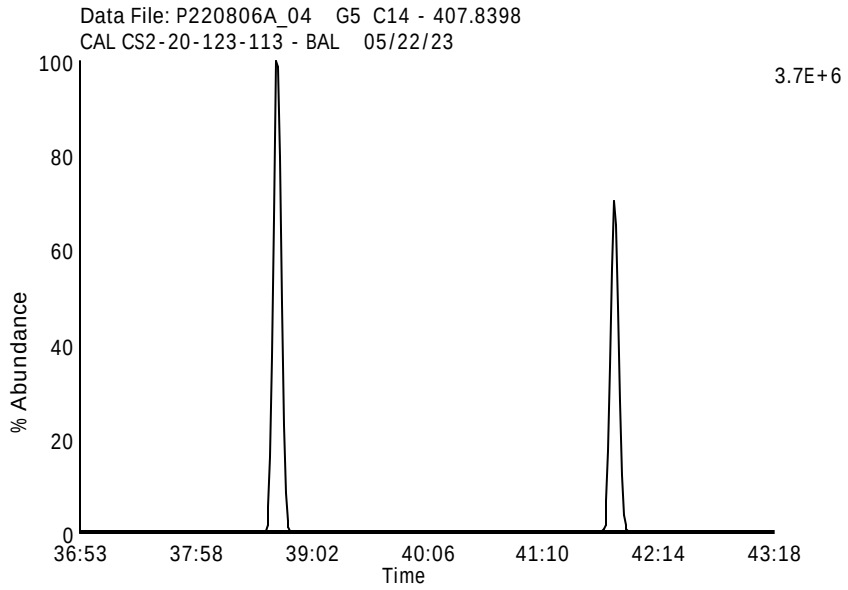


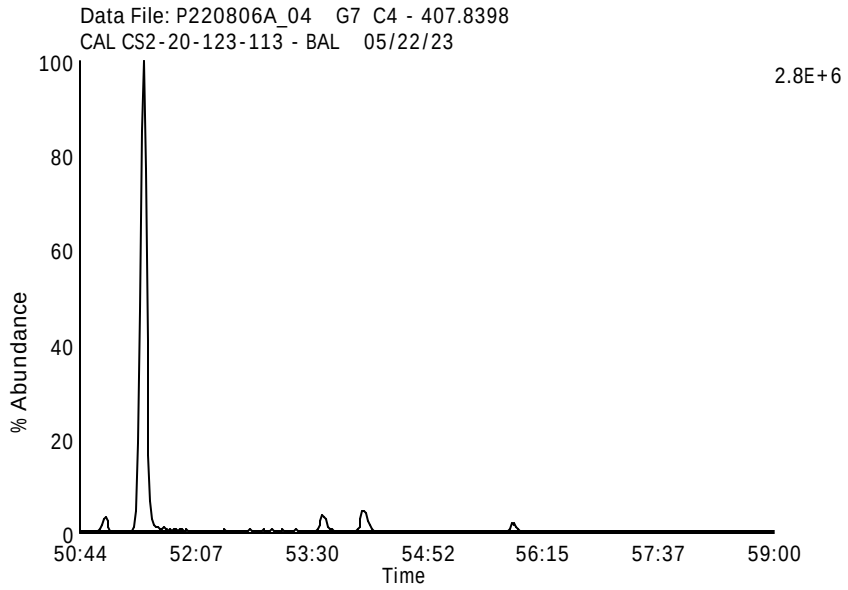
Labeled Hepta Chlorinated Biphenyls

Data File Name: P220806A_04
Lab Sample ID: CS2-20-123-113
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS2-20-123-113 - BAL 05/22/23



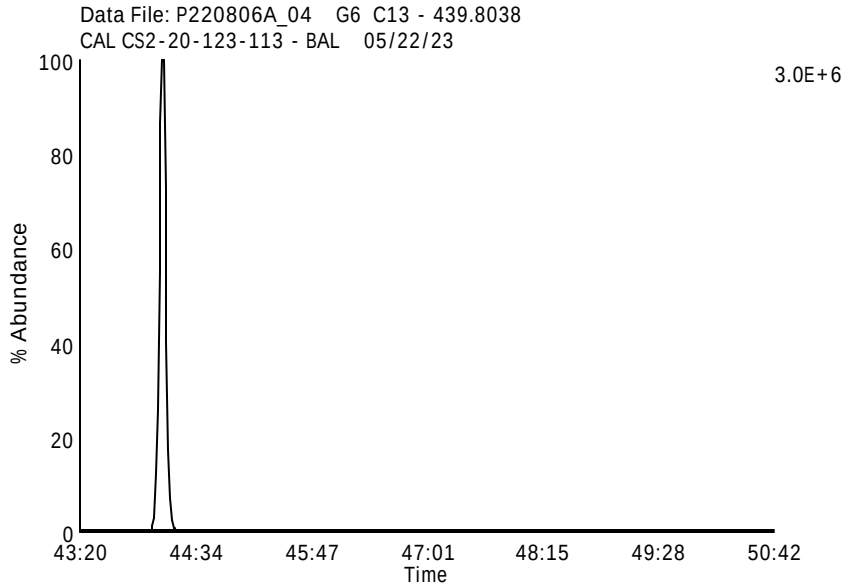


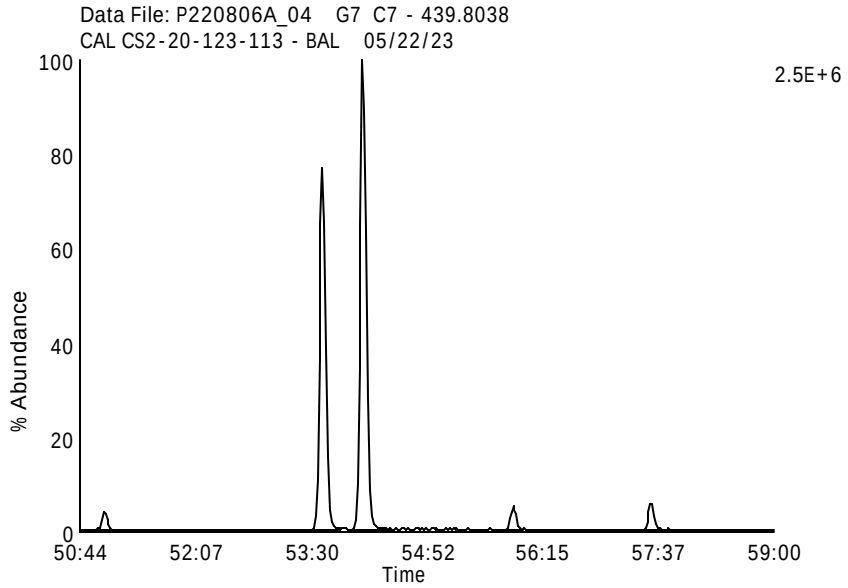


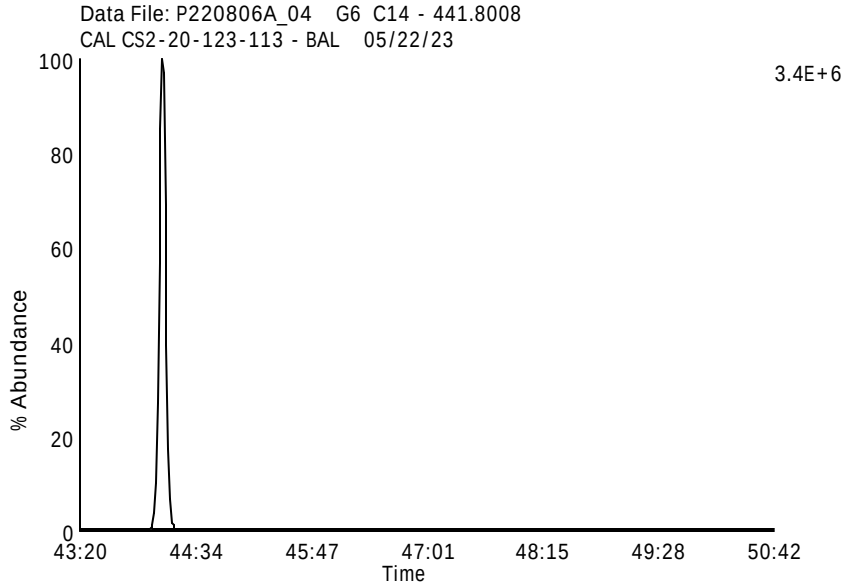


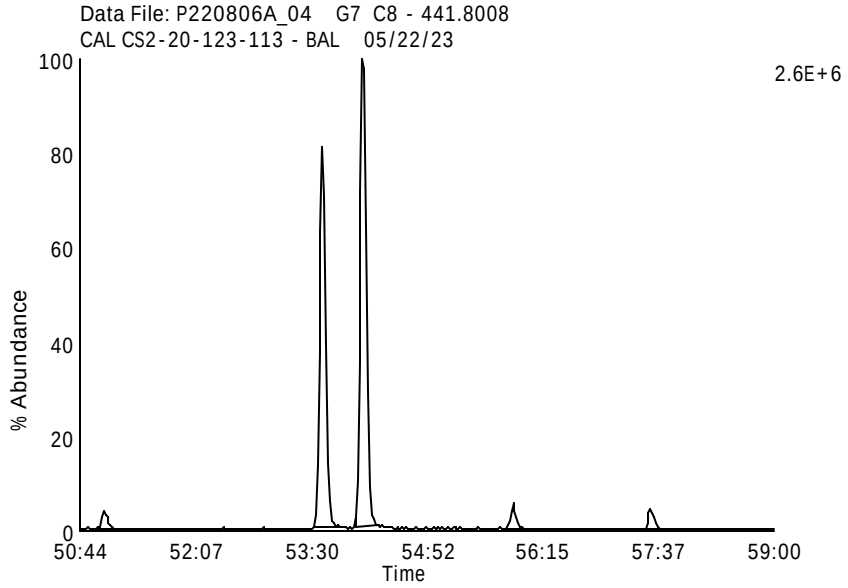
Labeled Octa Chlorinated Biphenyls

Data File Name: P220806A_04
Lab Sample ID: CS2-20-123-113
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS2-20-123-113 - BAL 05/22/23







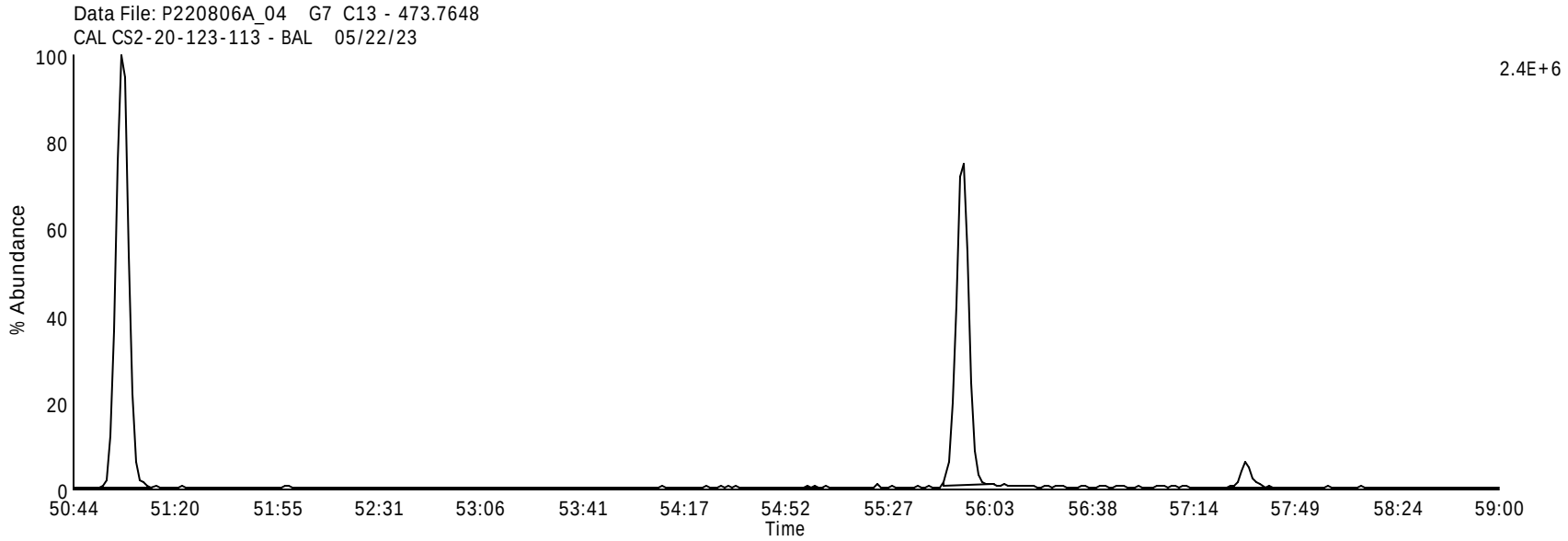


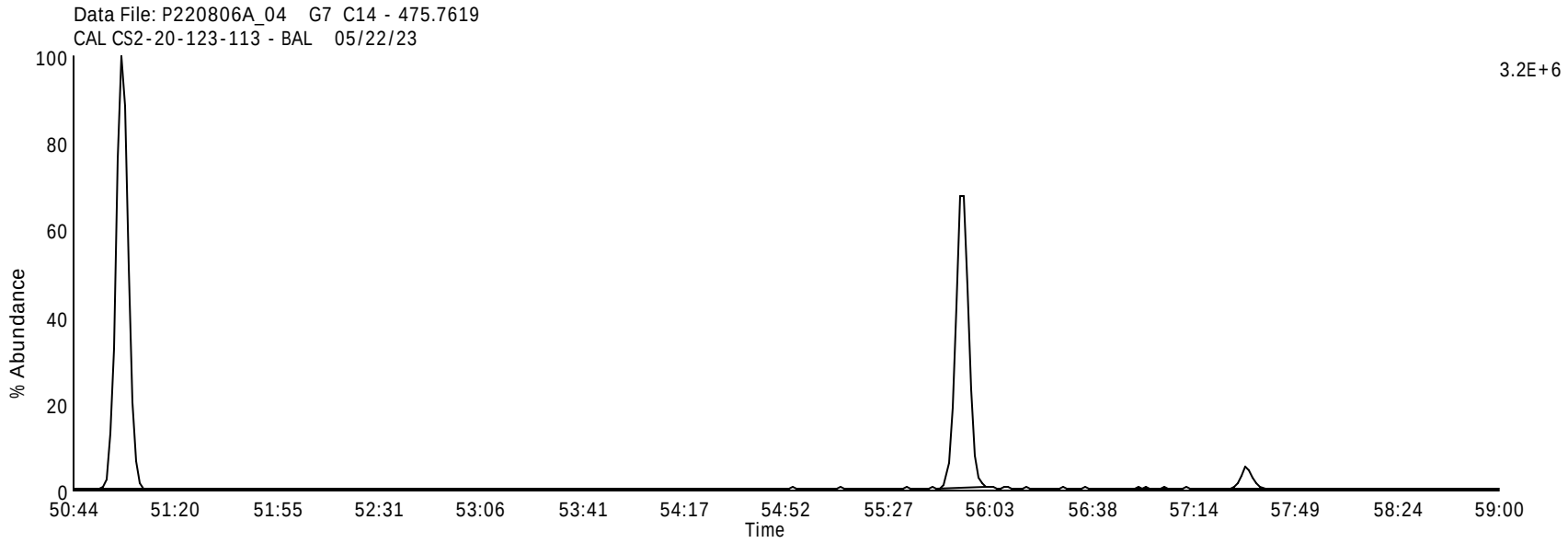
Labeled Nona Chlorinated Biphenyls

Data File Name: P220806A_04 Lab Sample ID: CS2-20-123-113

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS2-20-123-113 - BAL 05/22/23



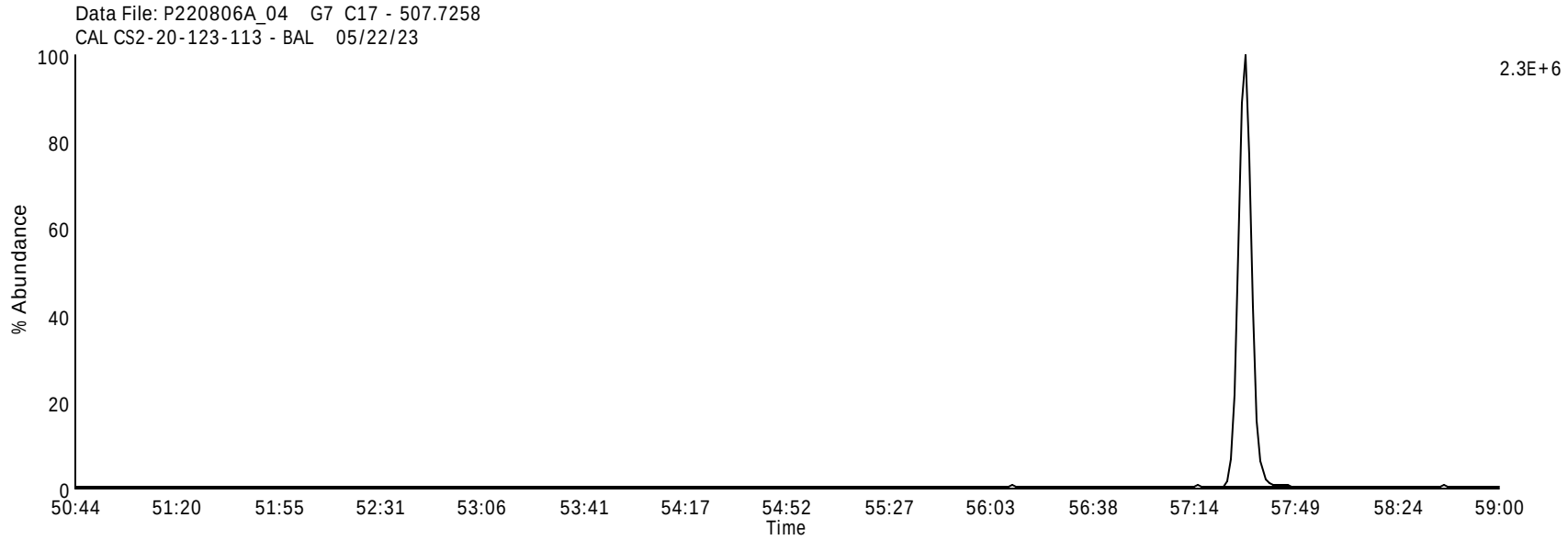


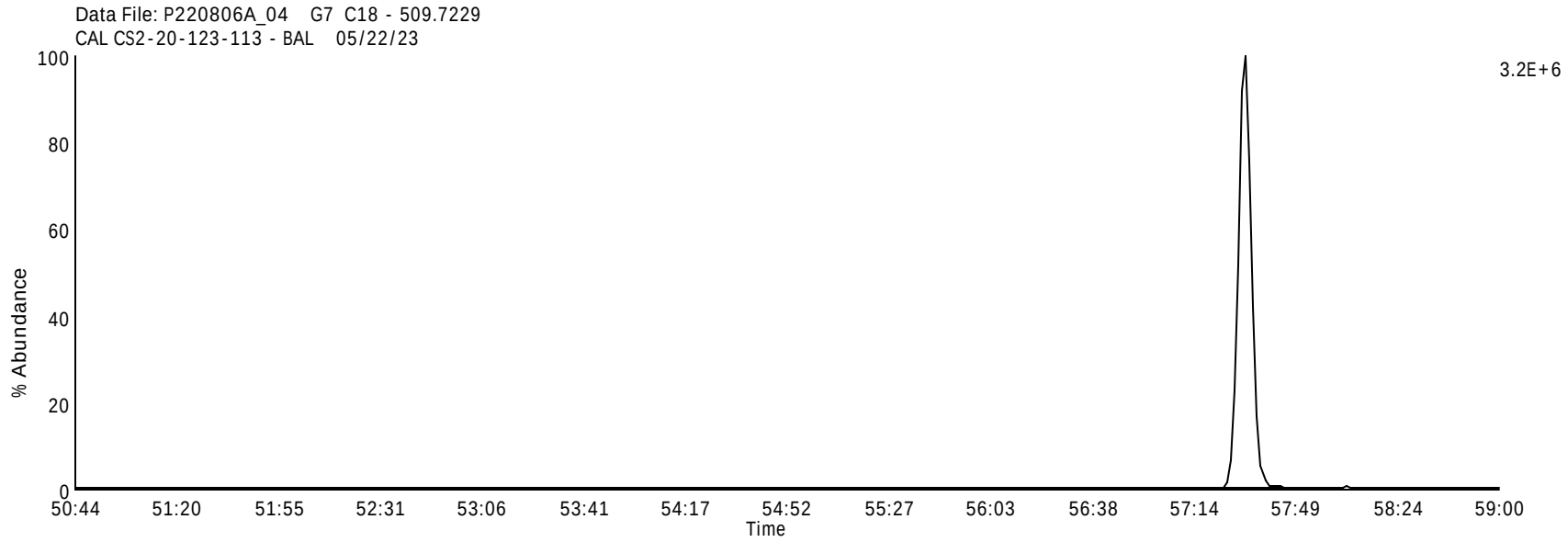
Labeled Deca Chlorinated Biphenyl

Data File Name: P220806A_04 Lab Sample ID: CS2-20-123-113

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS2-20-123-113 - BAL 05/22/23



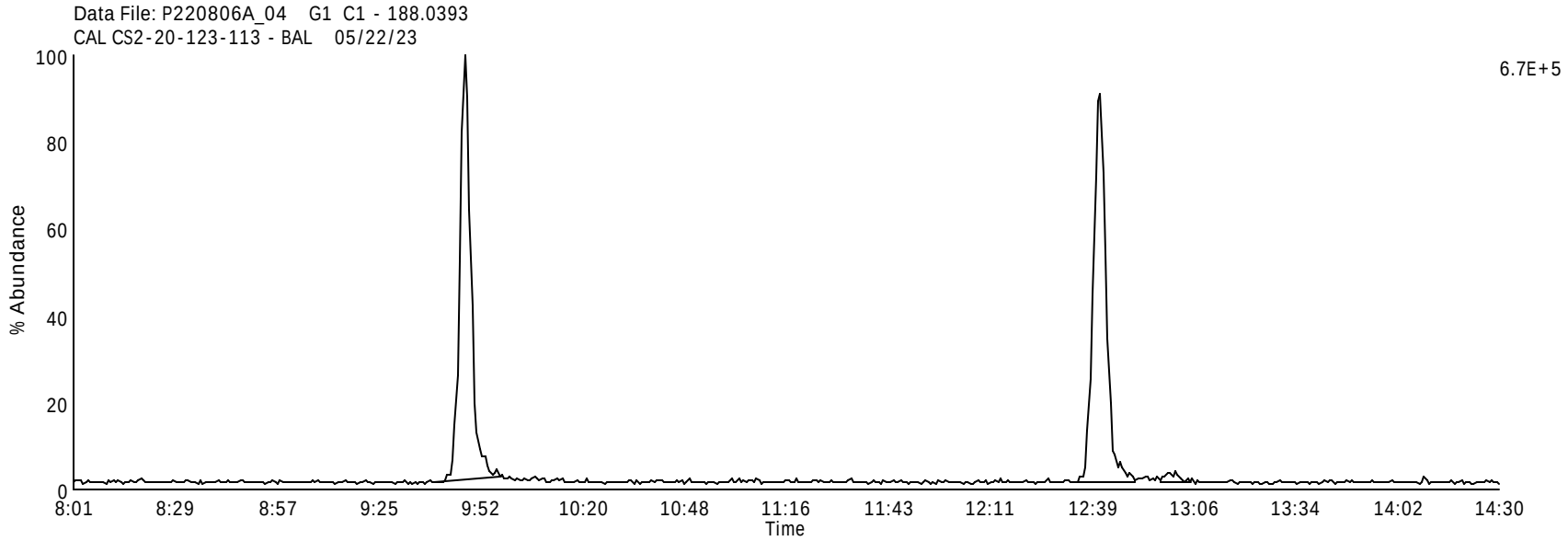


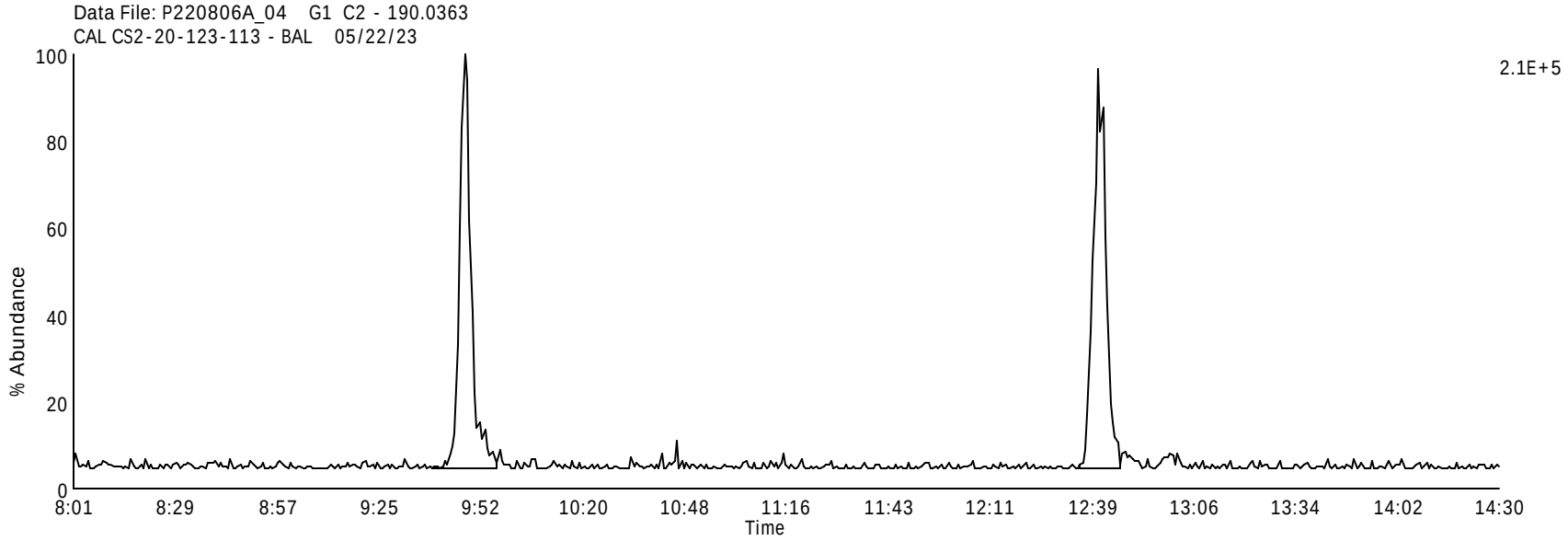
Mono Chlorinated Biphenyls

Data File Name: P220806A_04 Lab Sample ID: CS2-20-123-113

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS2-20-123-113 - BAL 05/22/23

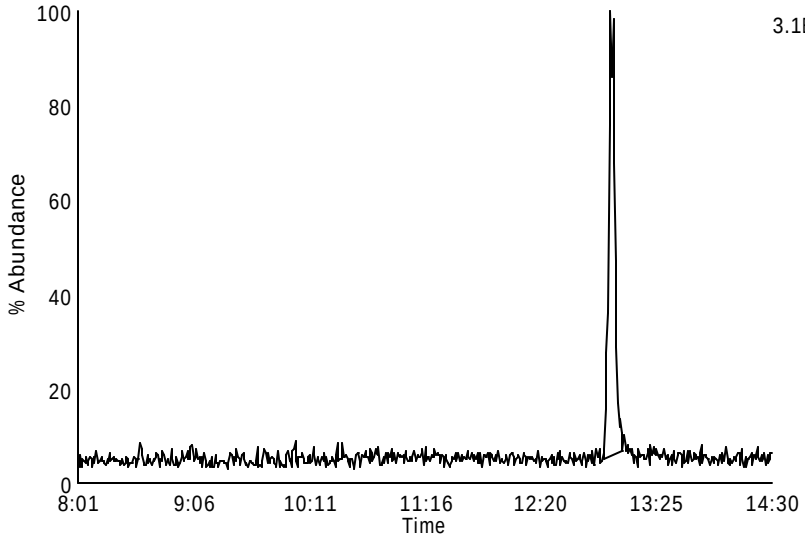




Di Chlorinated Biphenyls

Data File Name: P220806A_04
Lab Sample ID: CS2-20-123-113
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS2-20-123-113 - BAL 05/22/23

Data File: P220806A_04 G1 C7 - 222.0003
CAL CS2-20-123-113 - BAL 05/22/23



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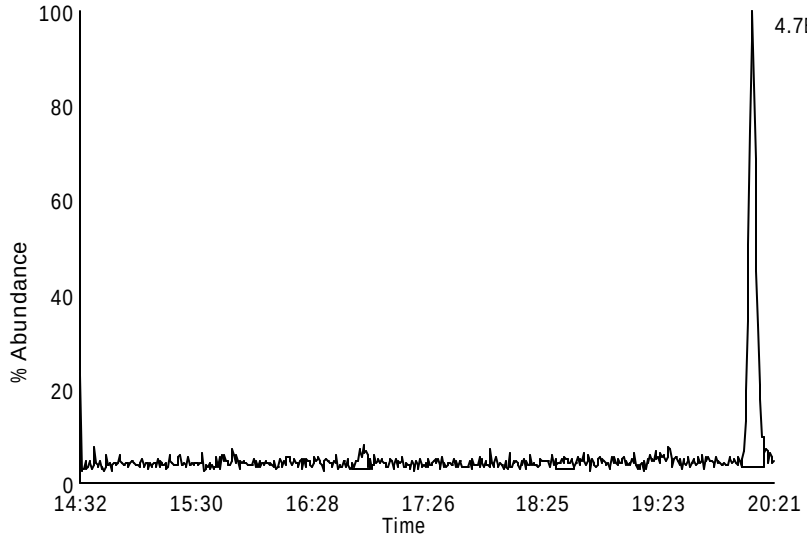
CAL CS2-20-123-113 - BAL 05/22/23



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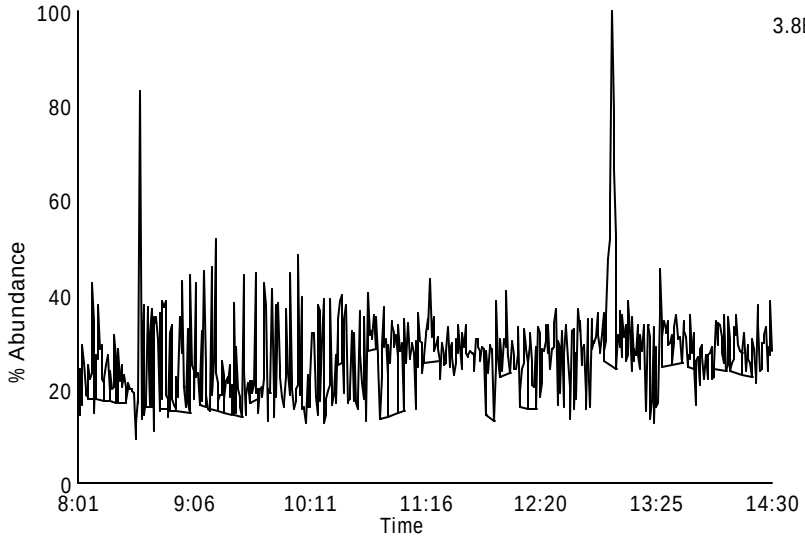
CAL CS2-20-123-113 - BAL 05/22/23



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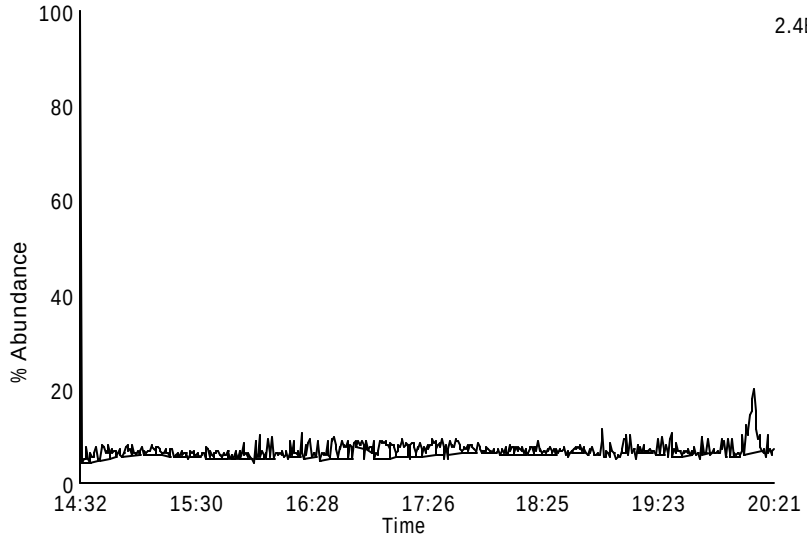
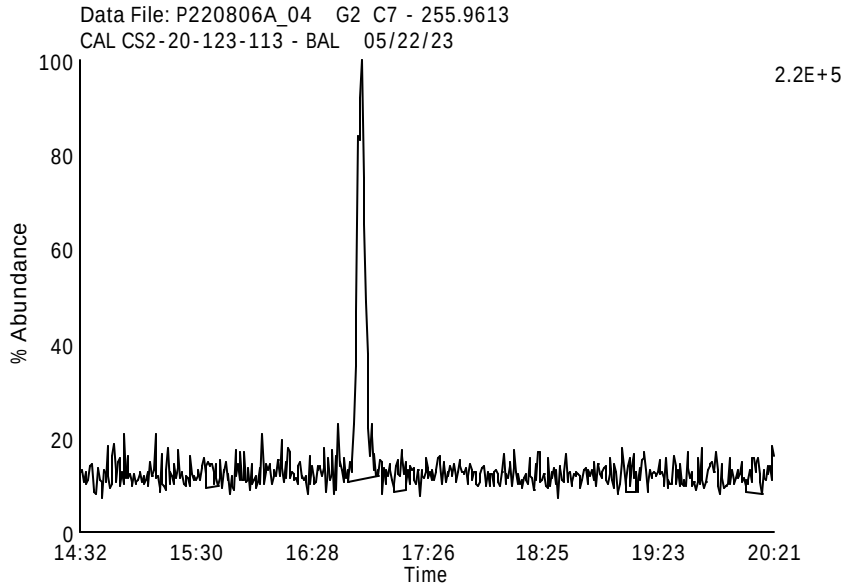
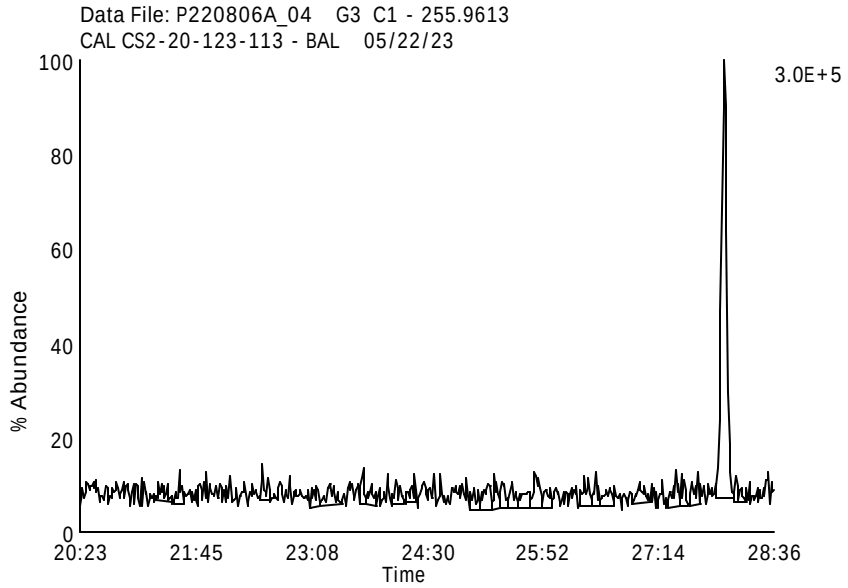
CAL CS2-20-123-113 - BAL 05/22/23

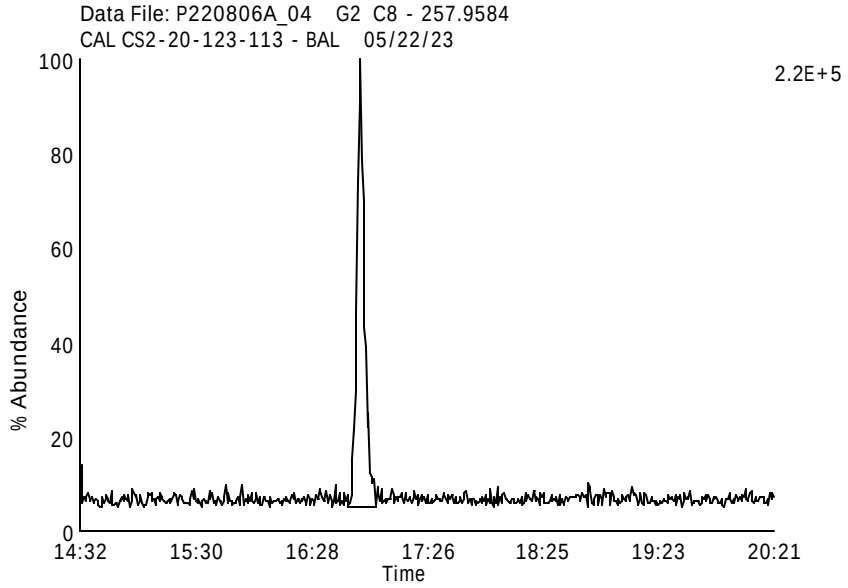


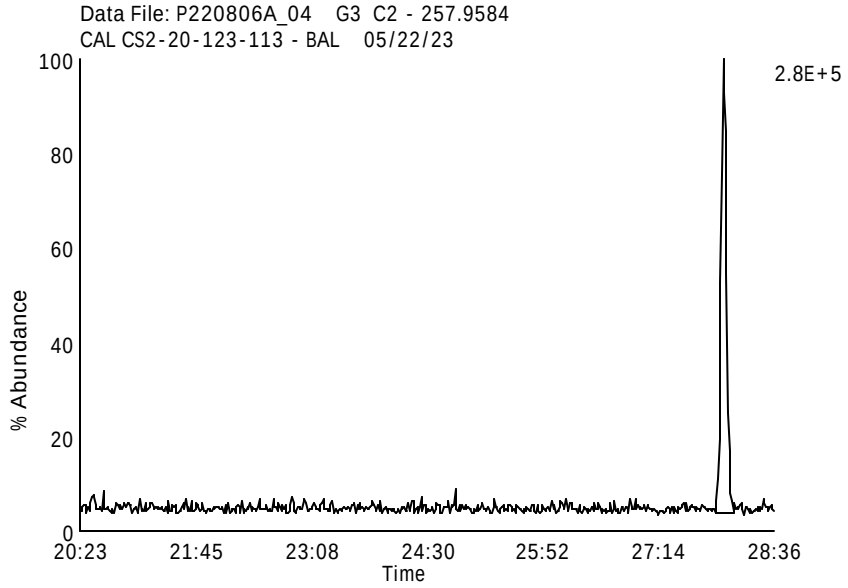
Tri Chlorinated Biphenyls

Data File Name: P220806A_04
Lab Sample ID: CS2-20-123-113
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS2-20-123-113 - BAL 05/22/23



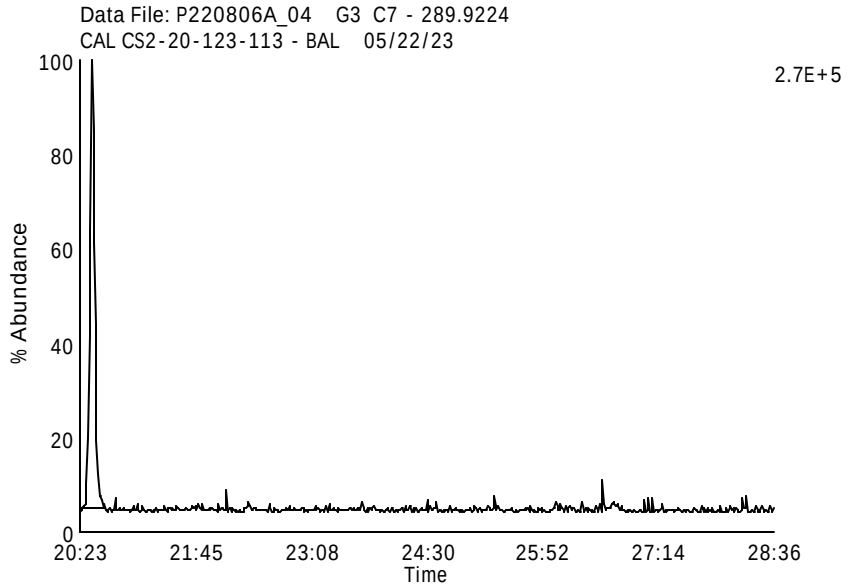


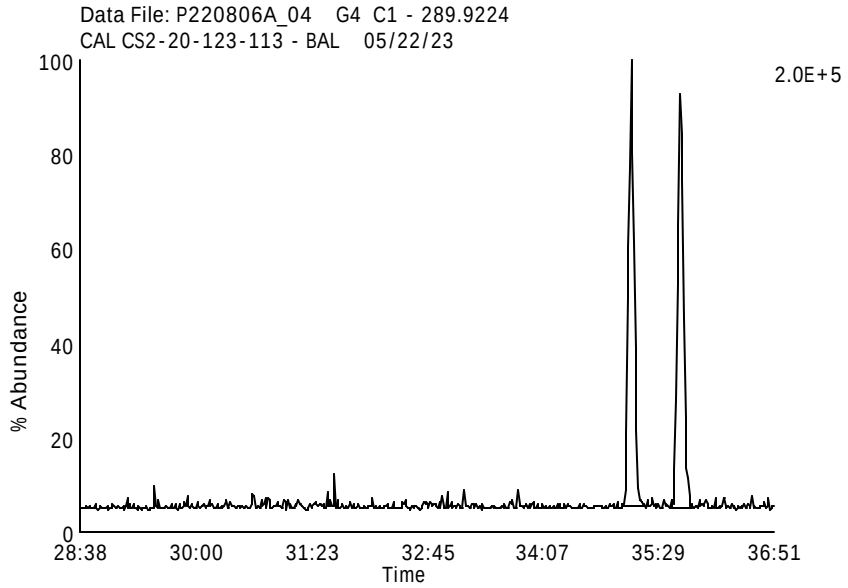


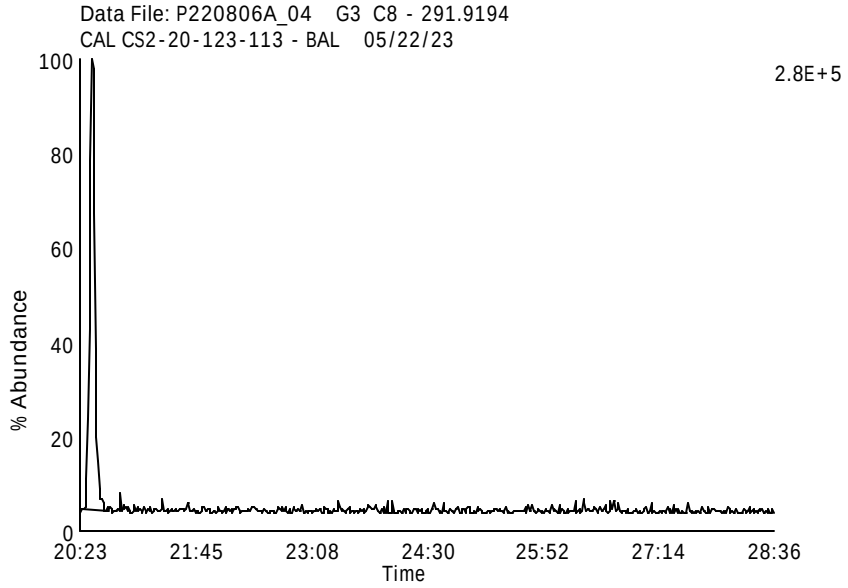


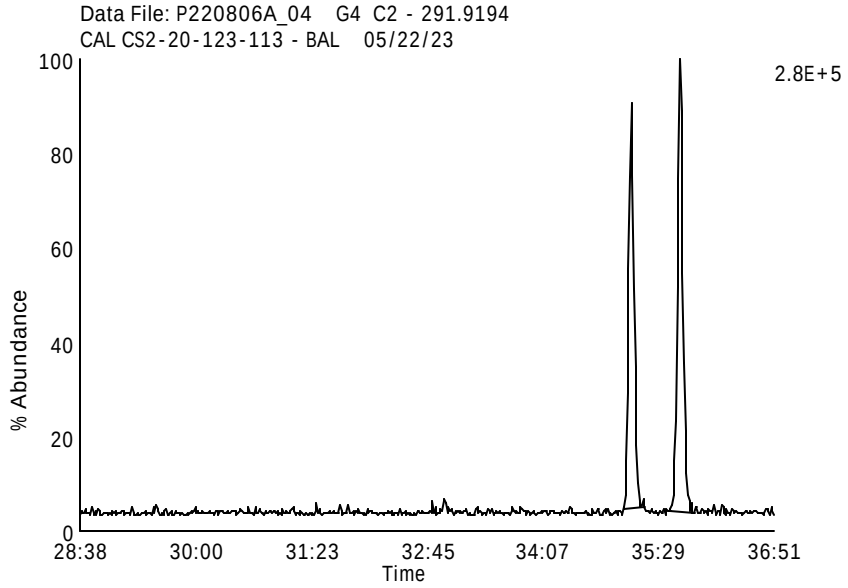
Tetra Chlorinated Biphenyls

Data File Name: P220806A_04
Lab Sample ID: CS2-20-123-113
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS2-20-123-113 - BAL 05/22/23







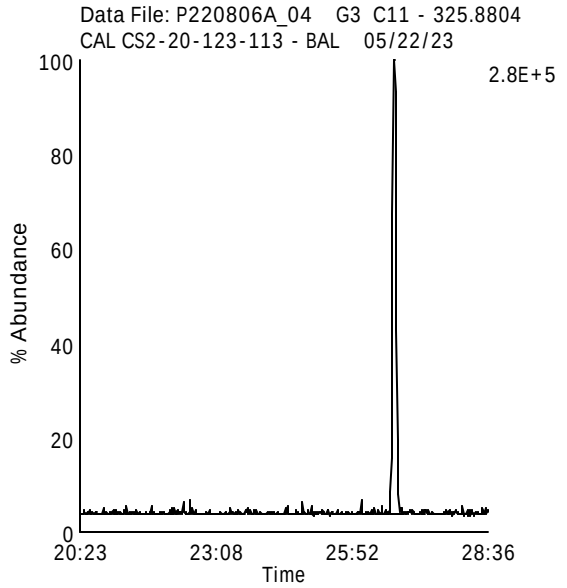


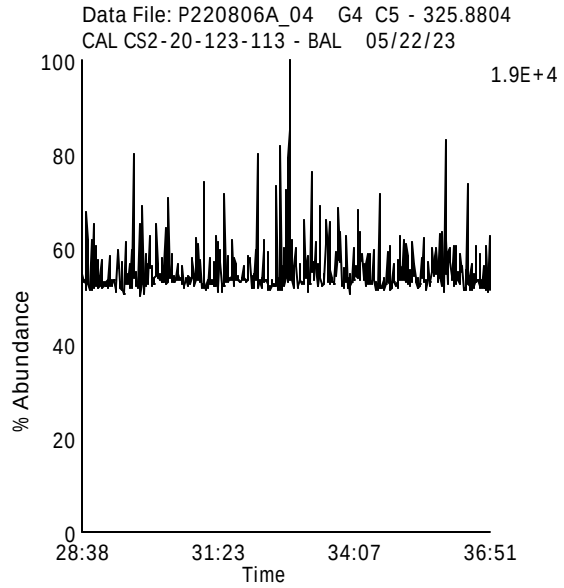
Penta Chlorinated Biphenyls

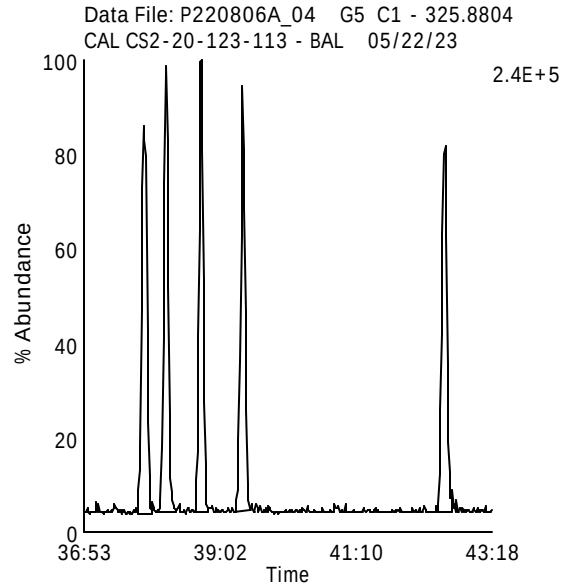
Data File Name: P220806A_04 Lab Sample ID: CS2-20-123-113

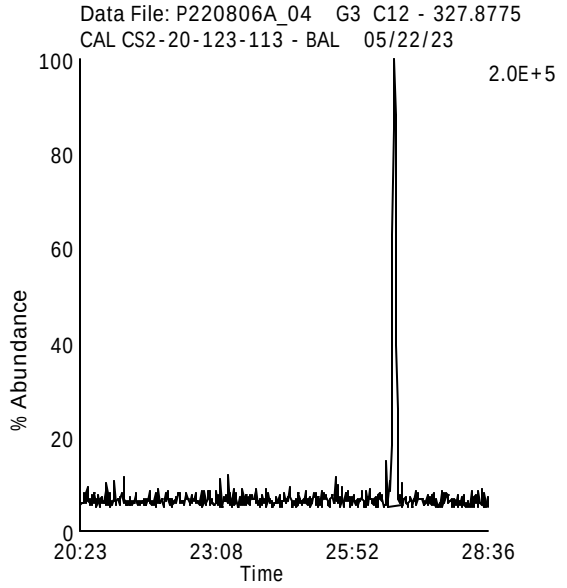
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

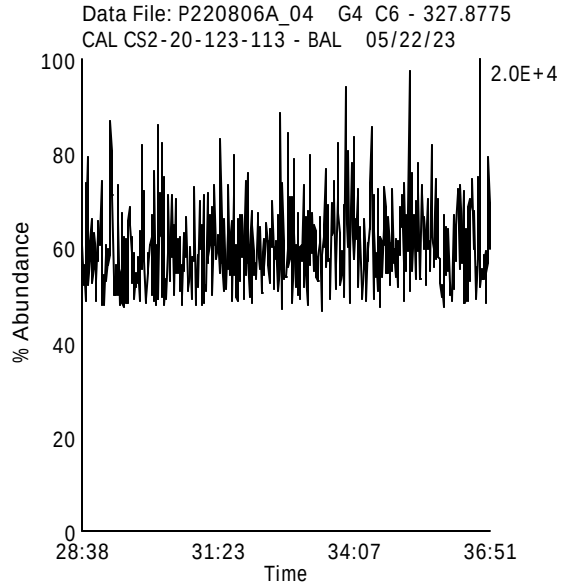
Sample Description: CAL CS2-20-123-113 - BAL 05/22/23

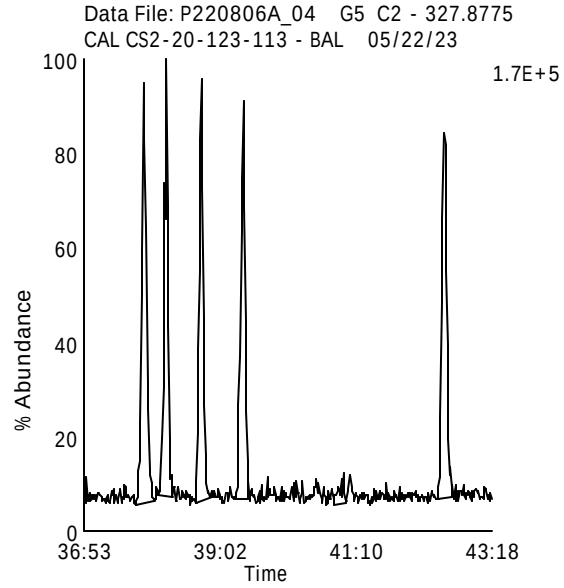












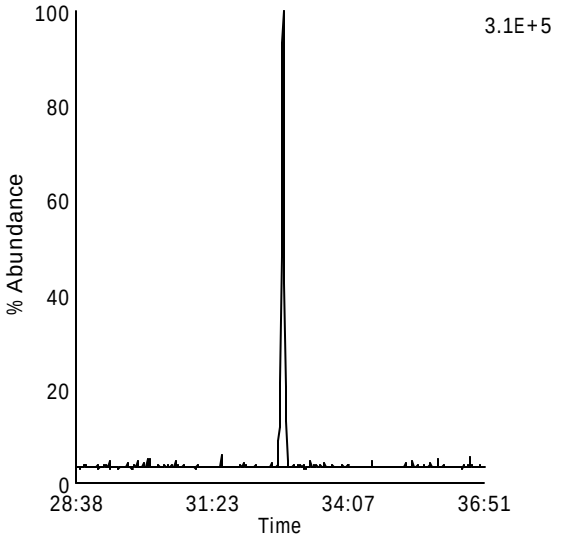
Hexa Chlorinated Biphenyls

Data File Name: P220806A_04 Lab Sample ID: CS2-20-123-113

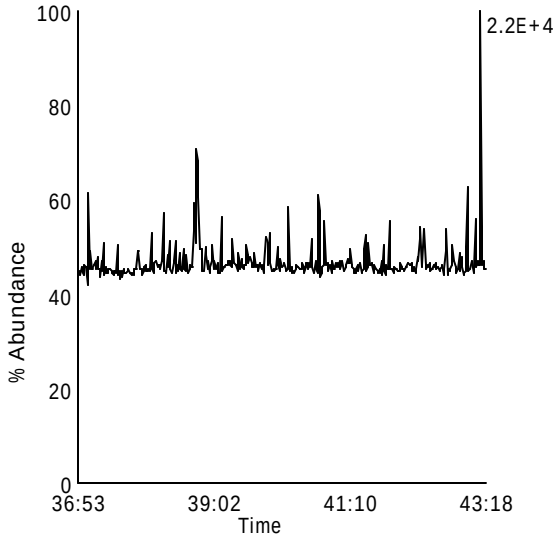
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS2-20-123-113 - BAL 05/22/23

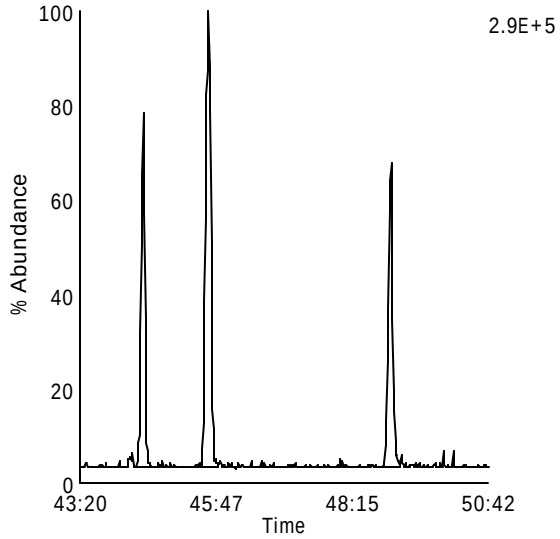
Data File: P220806A_04 G4 C11 - 359.8415
CAL CS2-20-123-113 - BAL 05/22/23



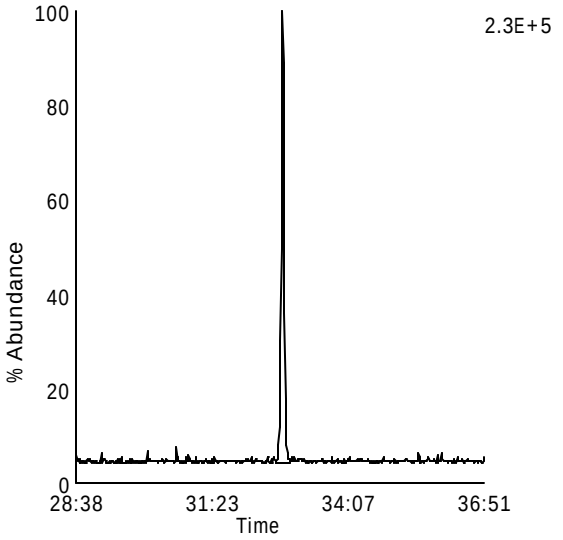
Data File: P220806A_04 G5 C5 - 359.8415
CAL CS2-20-123-113 - BAL 05/22/23



Data File: P220806A_04 G6 C1 - 359.8415
CAL CS2-20-123-113 - BAL 05/22/23



Data File: P220806A_04 G4 C12 - 361.8385
CAL CS2-20-123-113 - BAL 05/22/23



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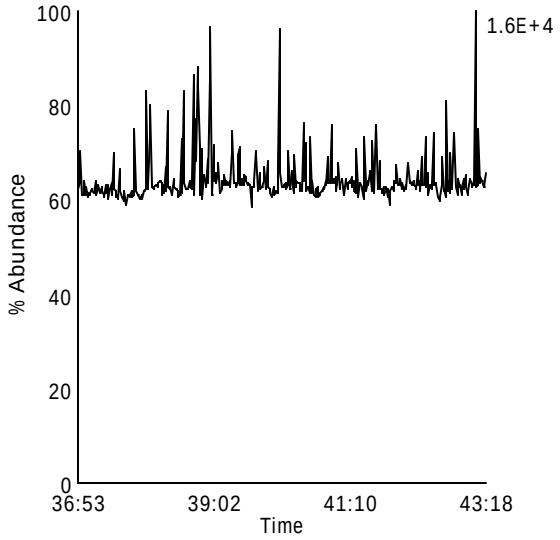
CAL CS2-20-123-113 - BAL 05/22/23



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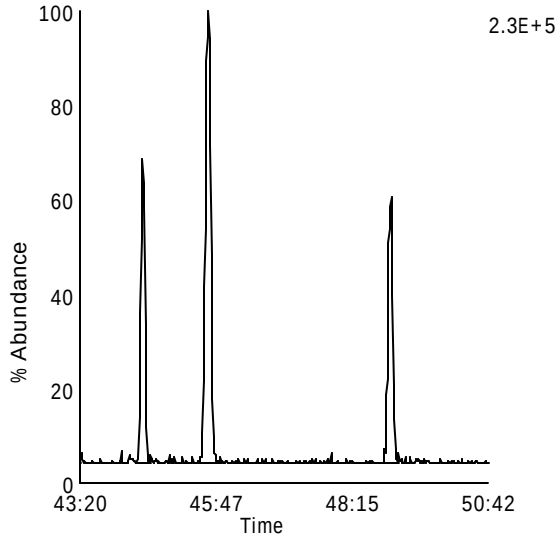
CAL CS2-20-123-113 - BAL 05/22/23

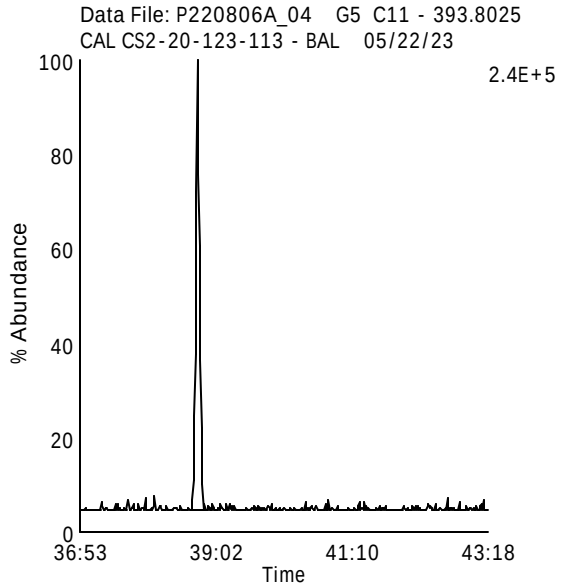


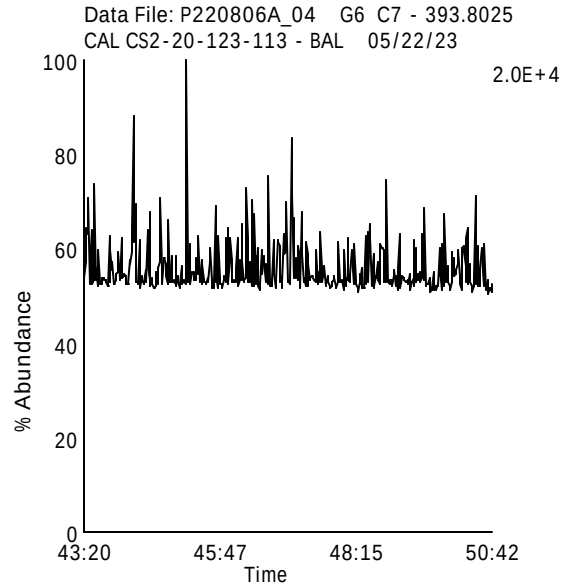
Hepta Chlorinated Biphenyls

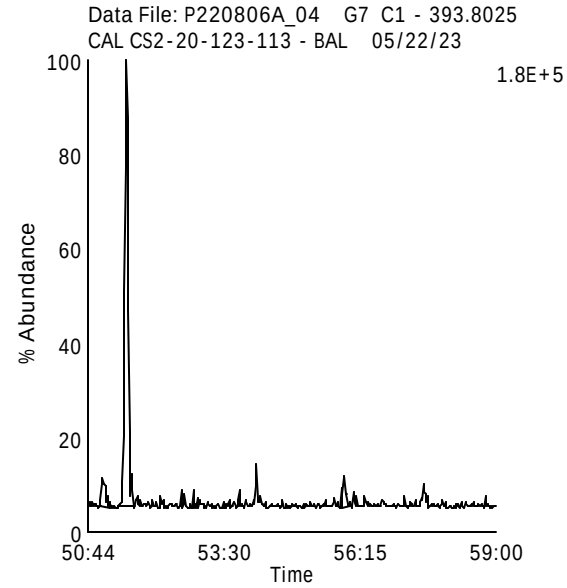
Data File Name: P220806A_04 Lab Sample ID: CS2-20-123-113

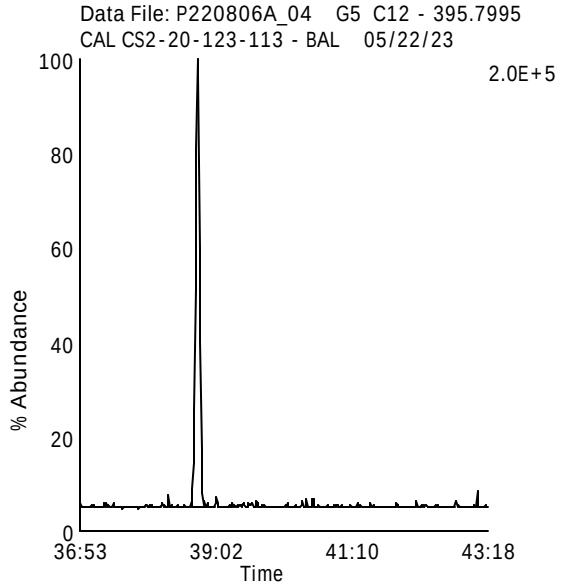
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

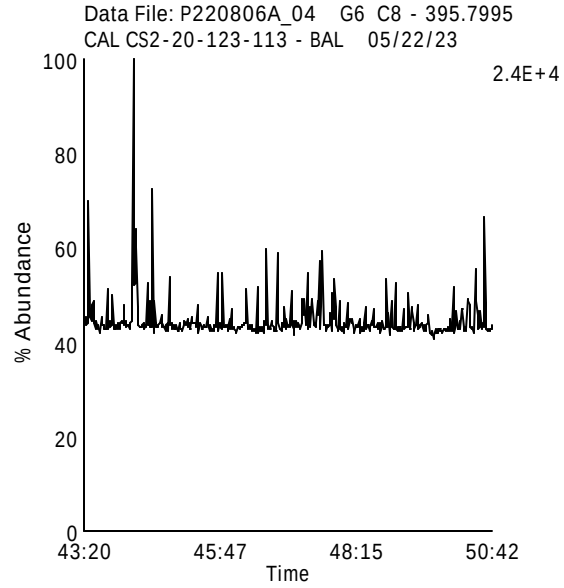
Sample Description: CAL CS2-20-123-113 - BAL 05/22/23

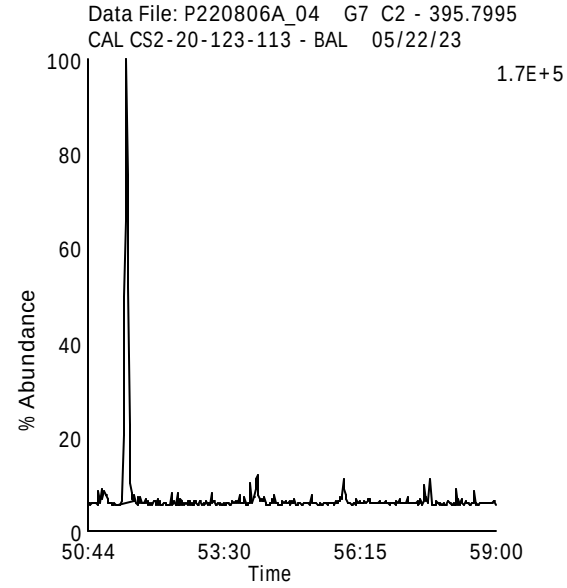












Octa Chlorinated Biphenyls

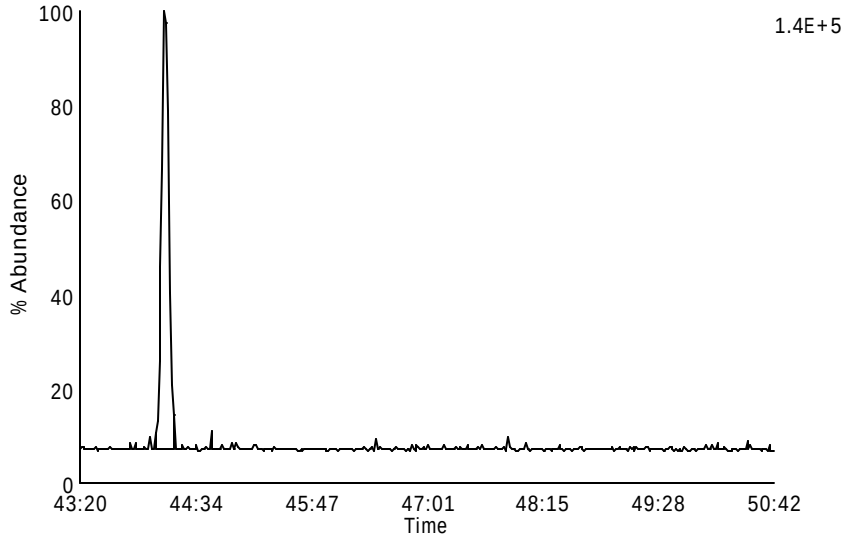
Data File Name: P220806A_04 Lab Sample ID: CS2-20-123-113

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS2-20-123-113 - BAL 05/22/23

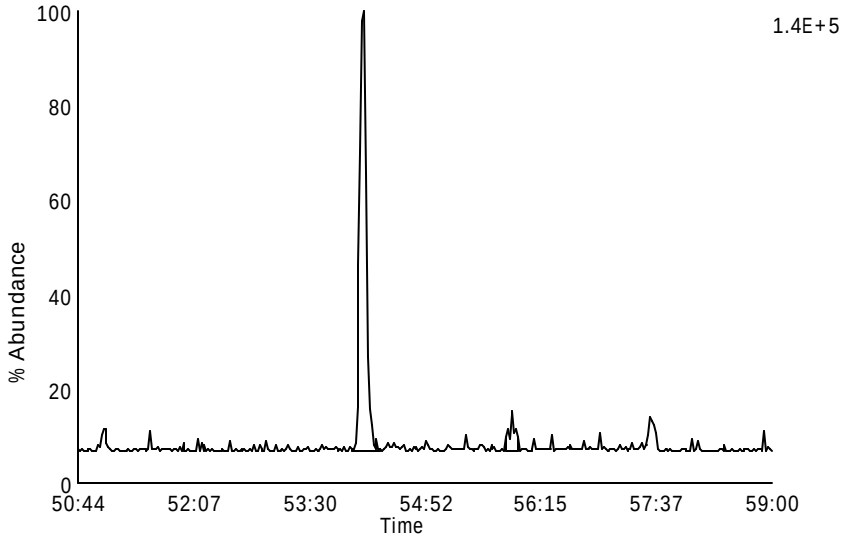
Data File: P220806A_04 G6 C11 - 427.7635

CAL CS2-20-123-113 - BAL 05/22/23



Data File: P220806A_04 G7 C5 - 427.7635

CAL CS2-20-123-113 - BAL 05/22/23



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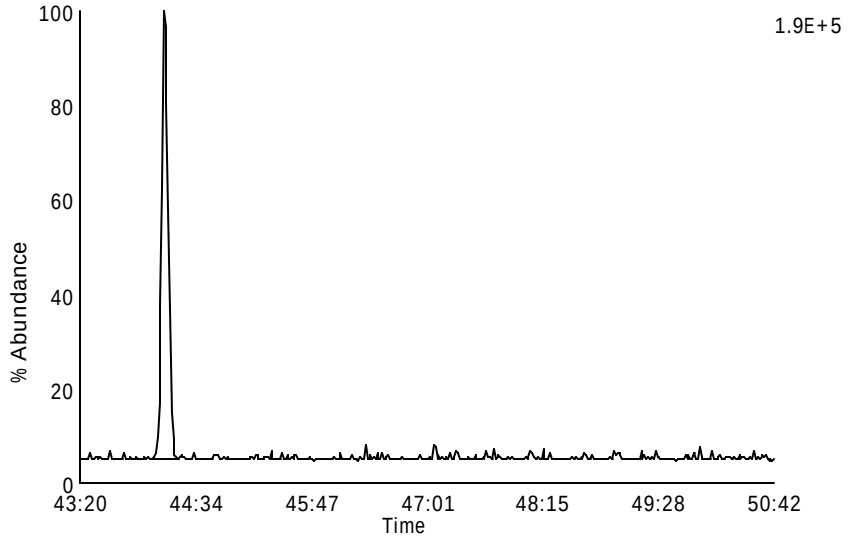
CAL CS2-20-123-113 - BAL 05/22/23



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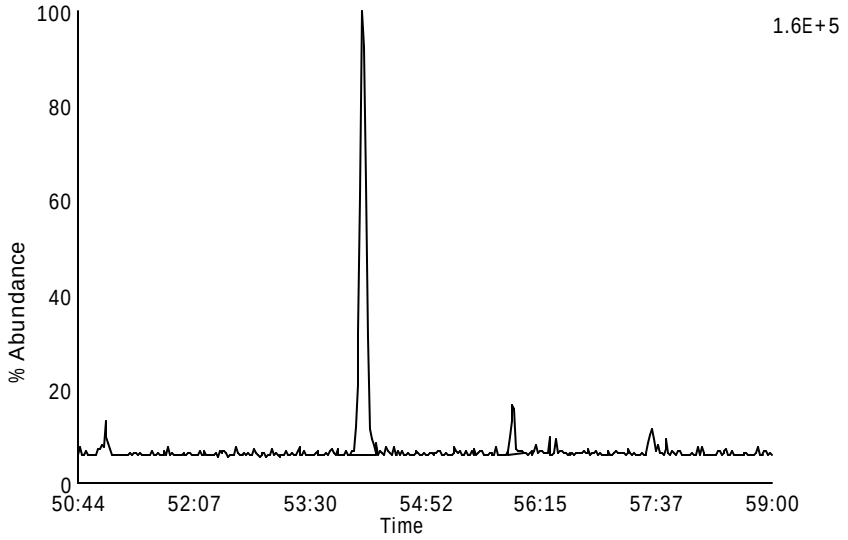
CAL CS2-20-123-113 - BAL 05/22/23

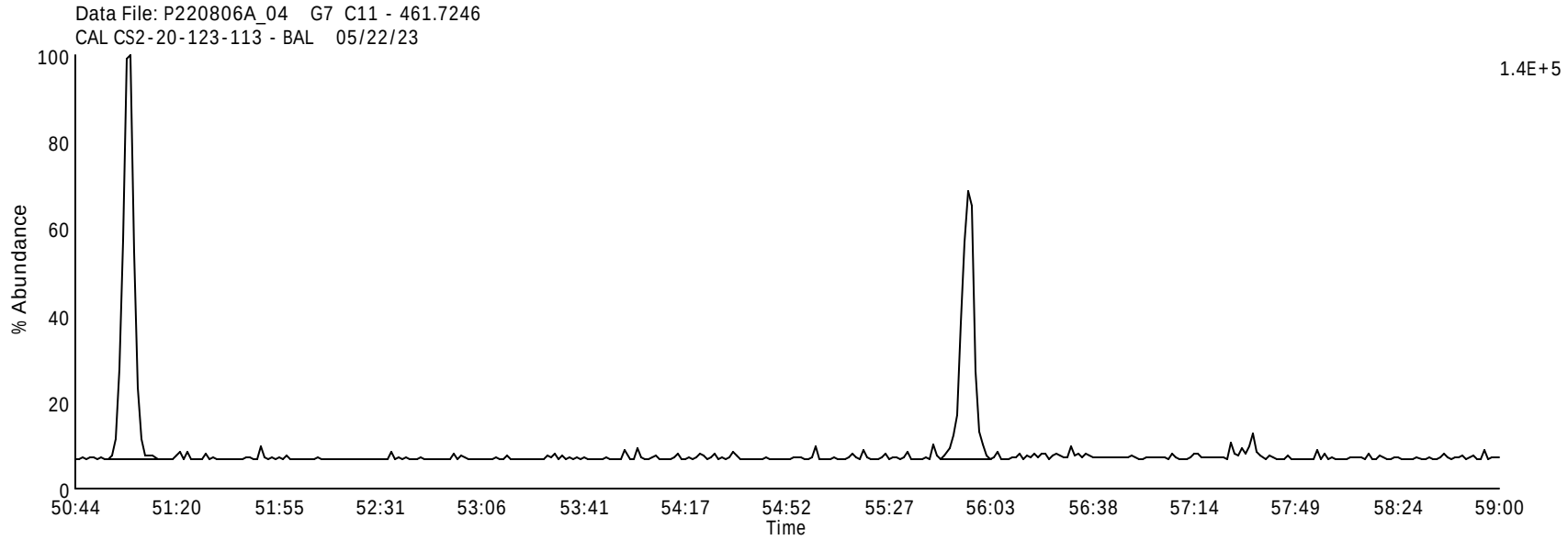


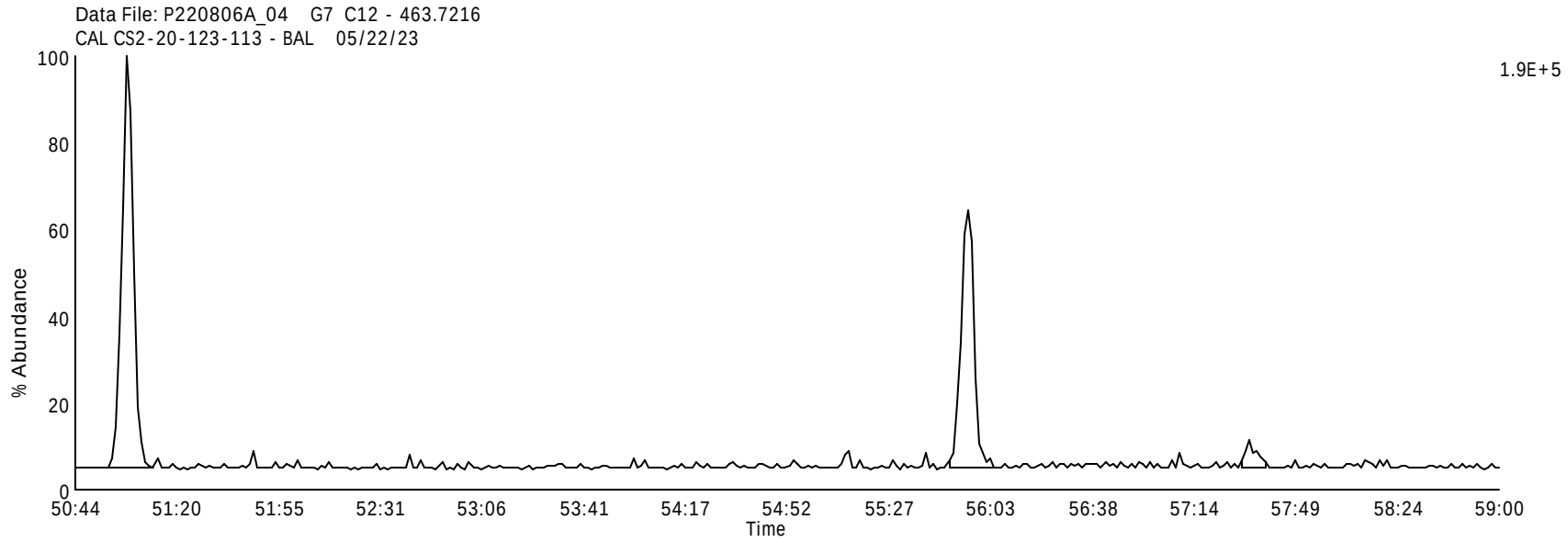
Nona Chlorinated Biphenyls

Data File Name: P220806A_04 Lab Sample ID: CS2-20-123-113

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS2-20-123-113 - BAL 05/22/23



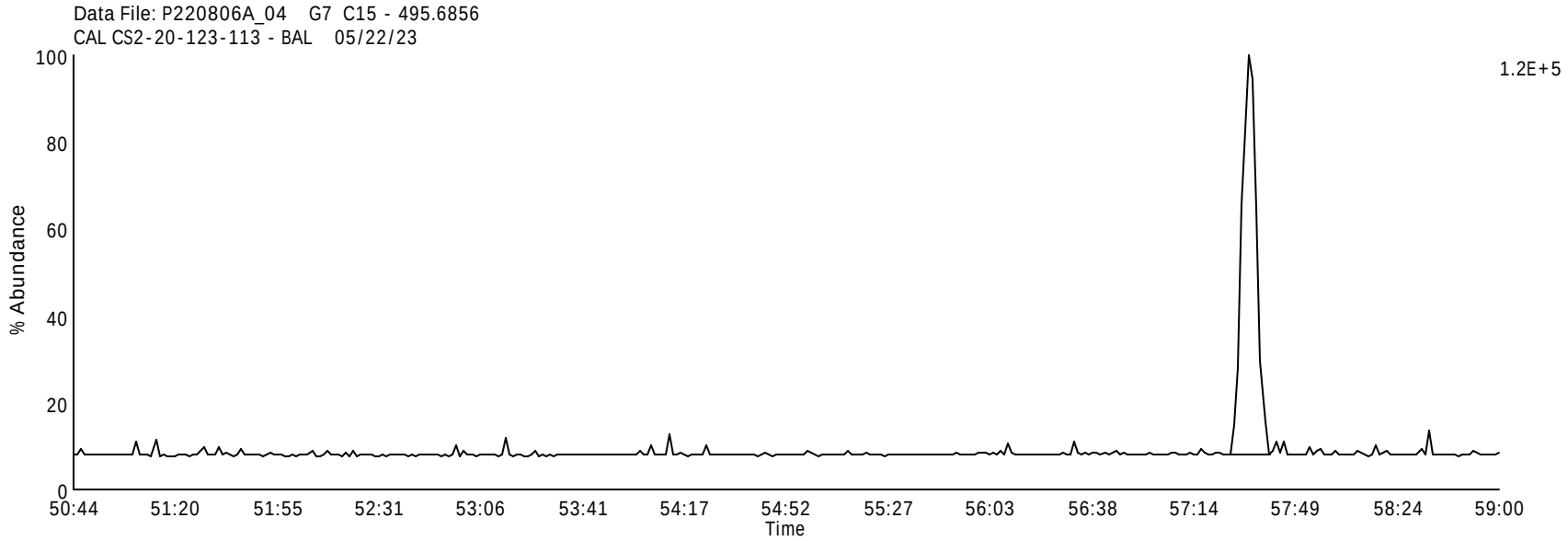


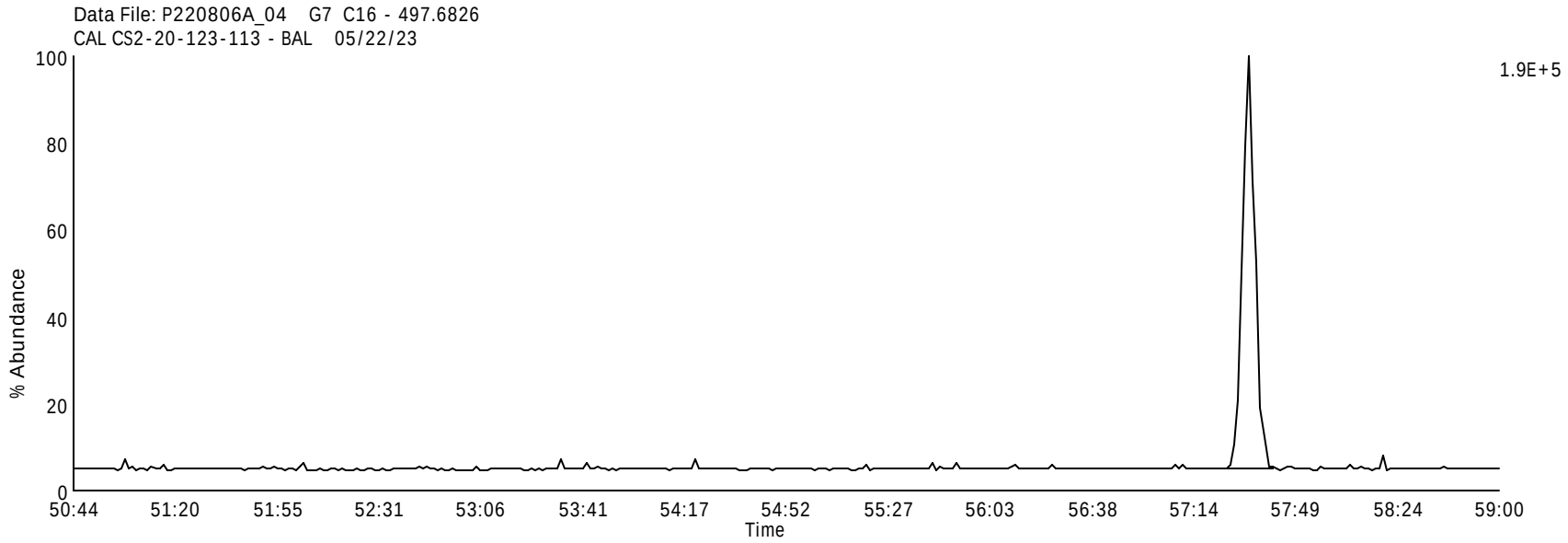
Deca Chlorinated Biphenyl

Data File Name: P220806A_04 Lab Sample ID: CS2-20-123-113

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS2-20-123-113 - BAL 05/22/23

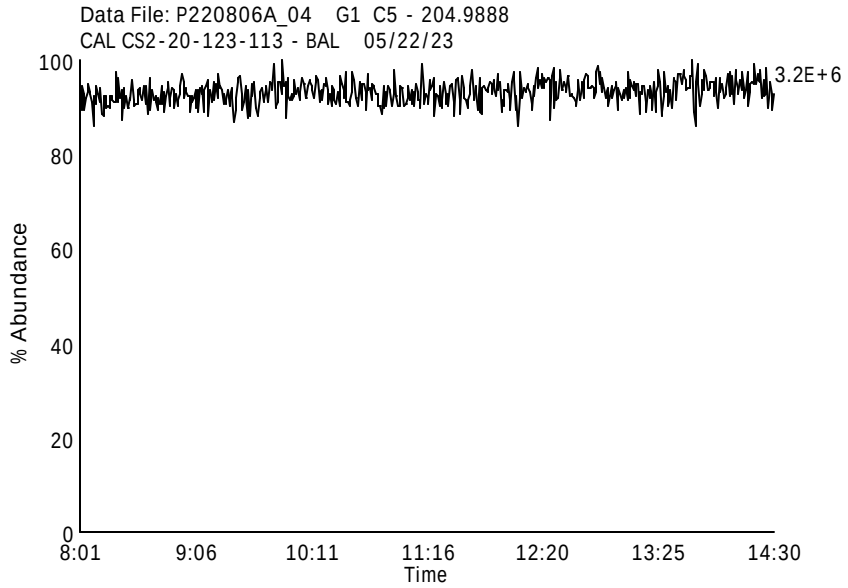


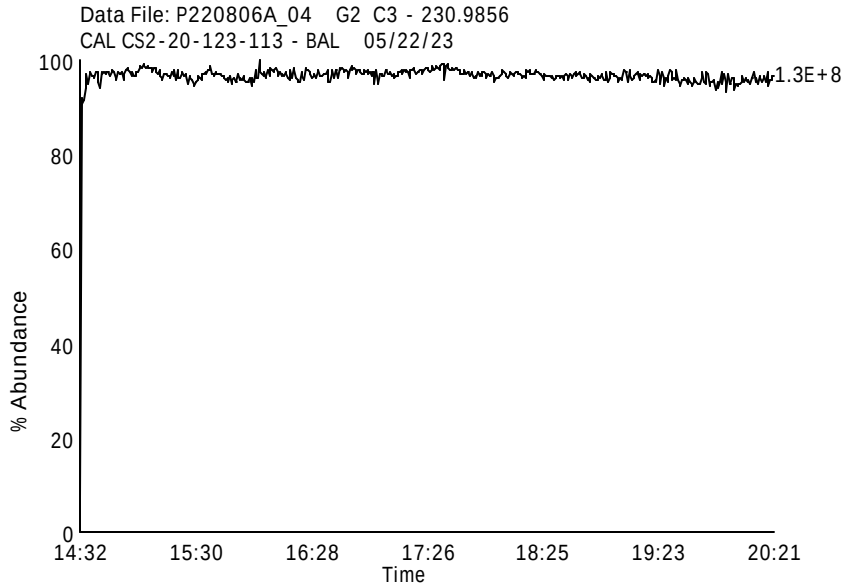


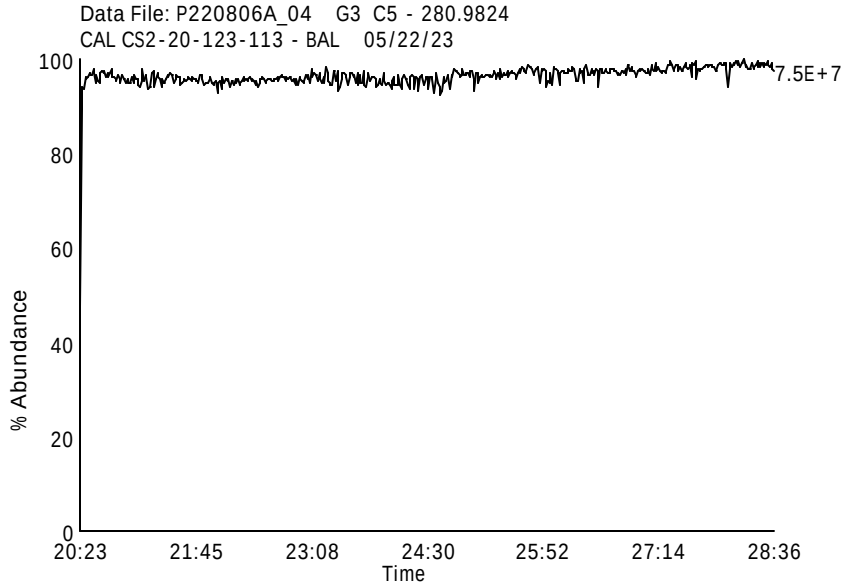
Group 1 - 4 Lock mass

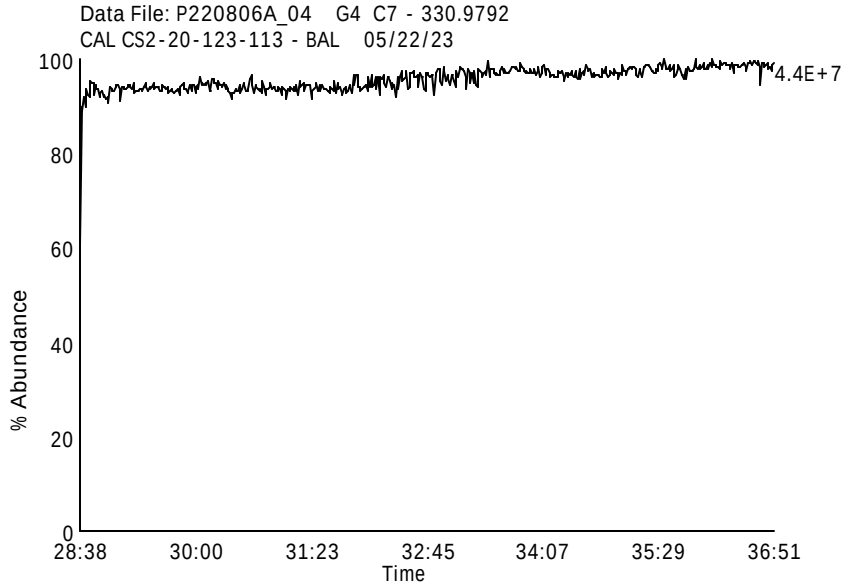
Data File Name: P220806A_04
Date Acquired: 8/6/2022
Sample Description: CAL CS2-20-123-113 - BAL 05/22/23

Lab Sample ID: CS2-20-123-113
Instrument: 10MSHR09 (P)



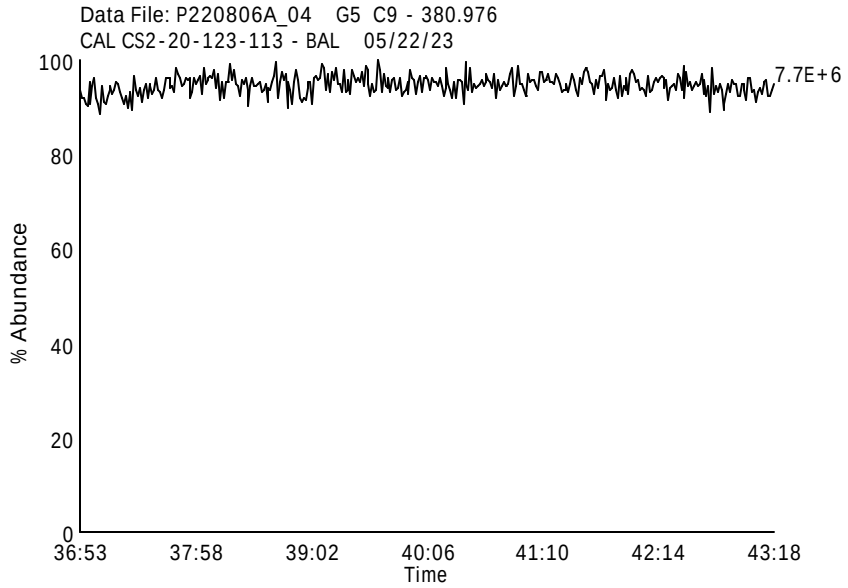


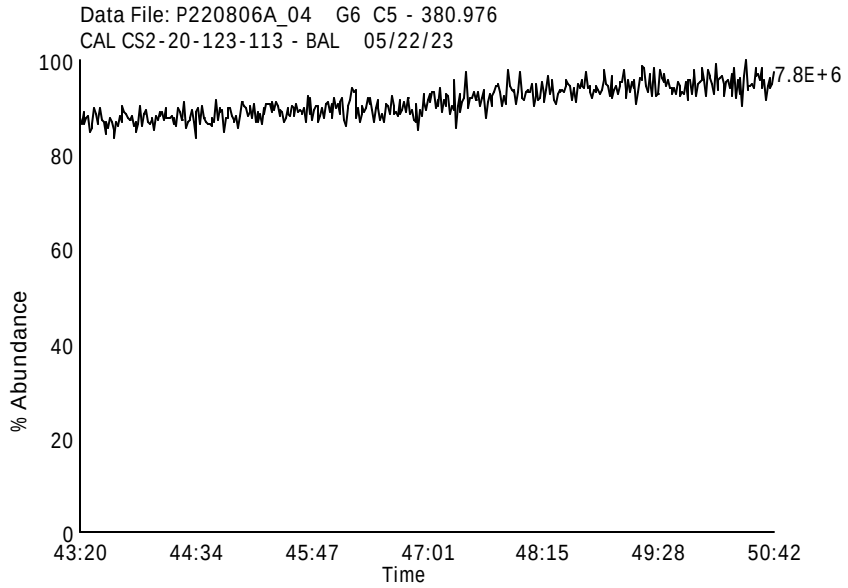


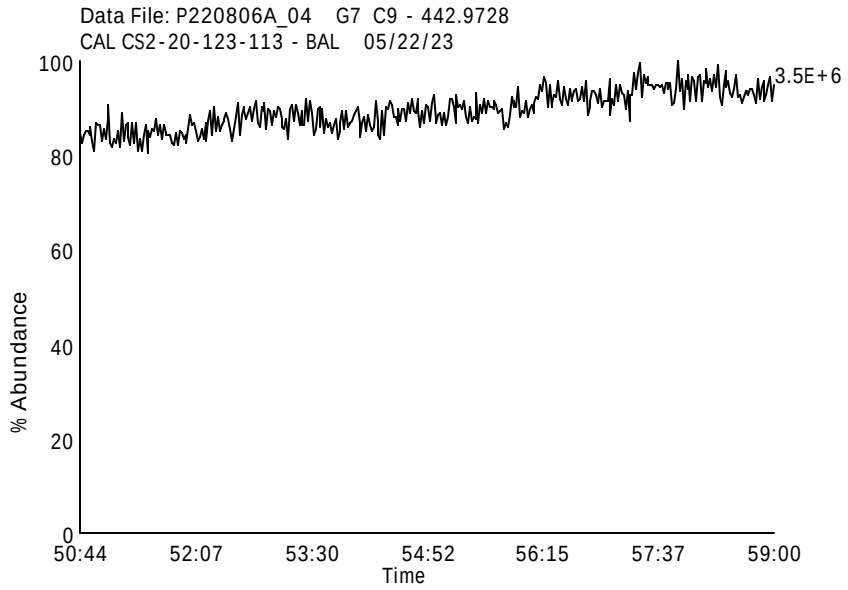


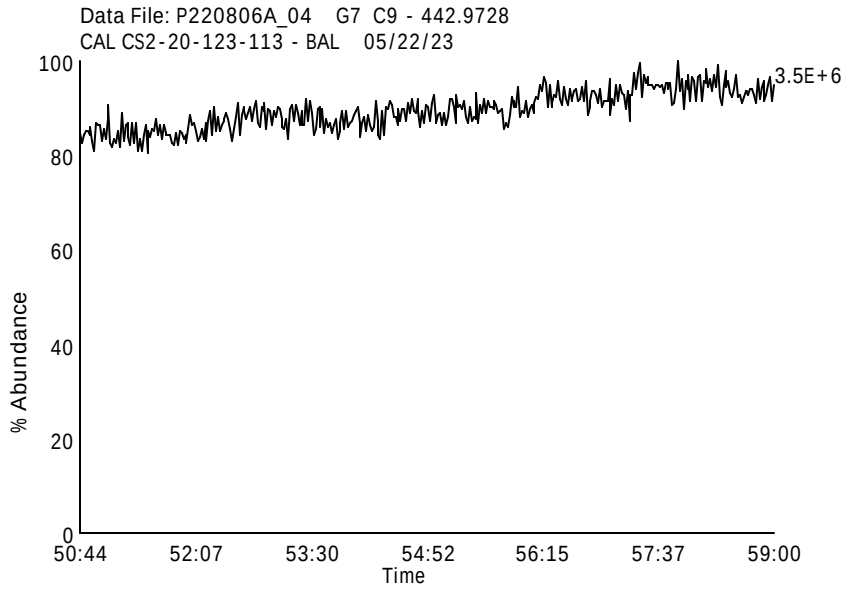
Group 5 - 7 Lock mass

Data File Name: P220806A_04
Lab Sample ID: CS2-20-123-113
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS2-20-123-113 - BAL 05/22/23







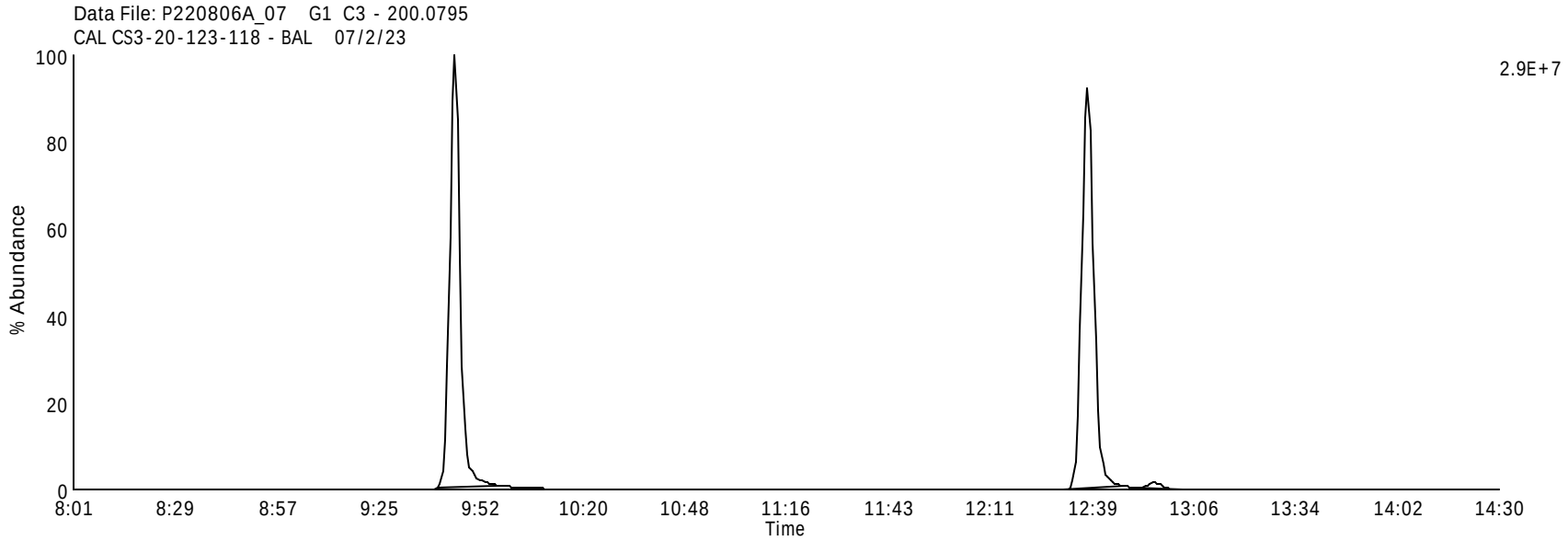


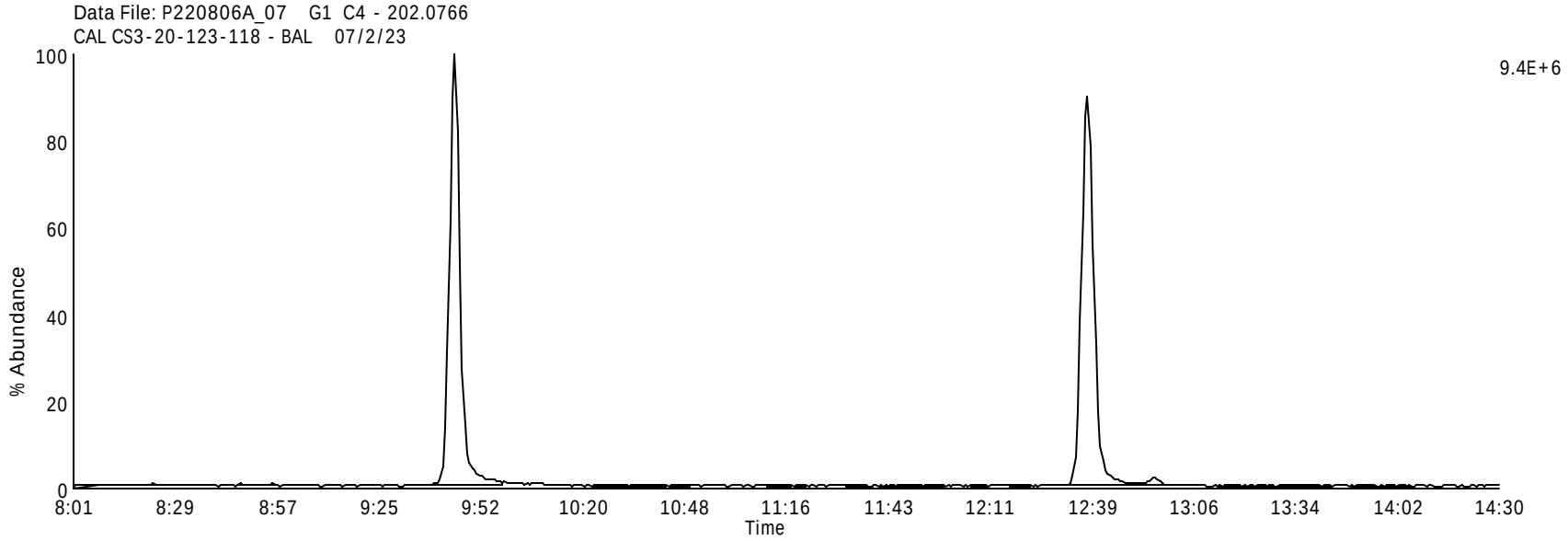
Labeled Mono Chlorinated Biphenyls

Data File Name: P220806A_07 Lab Sample ID: CS3-20-123-118

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

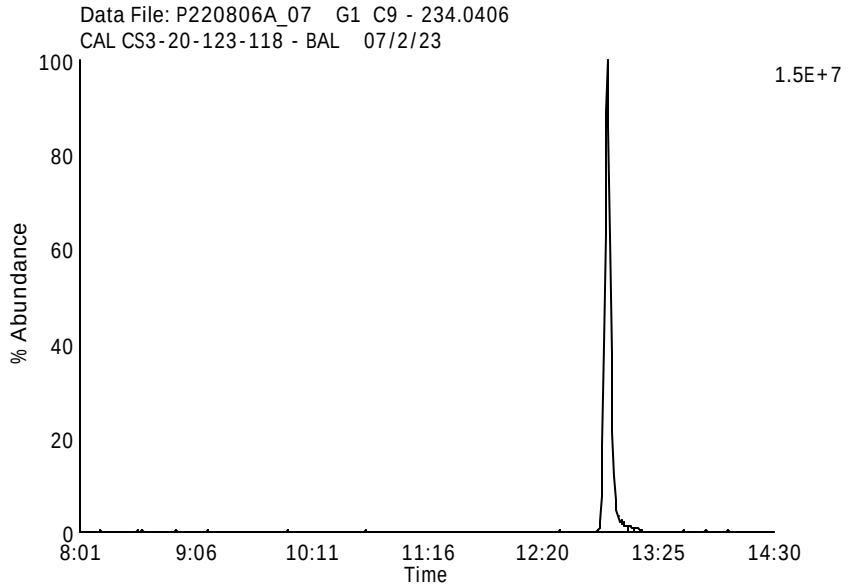
Sample Description: CAL CS3-20-123-118 - BAL 07/2/23

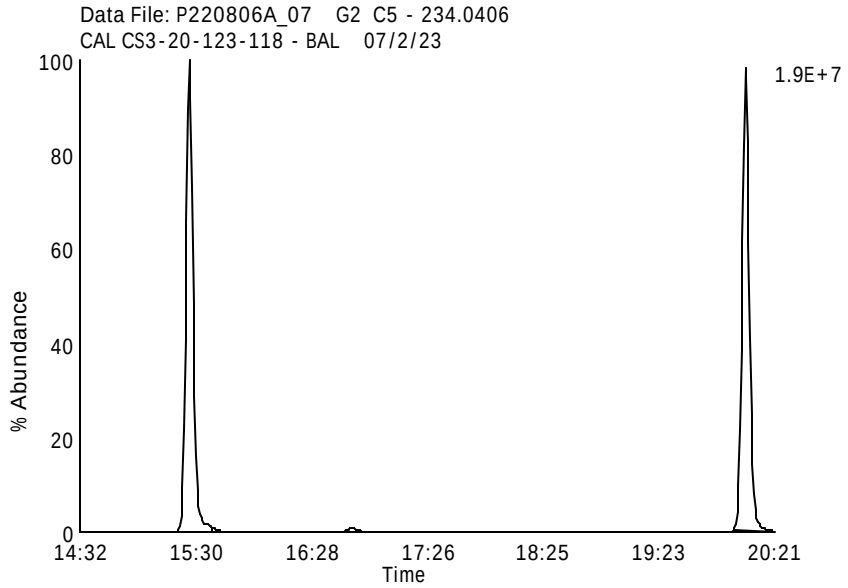


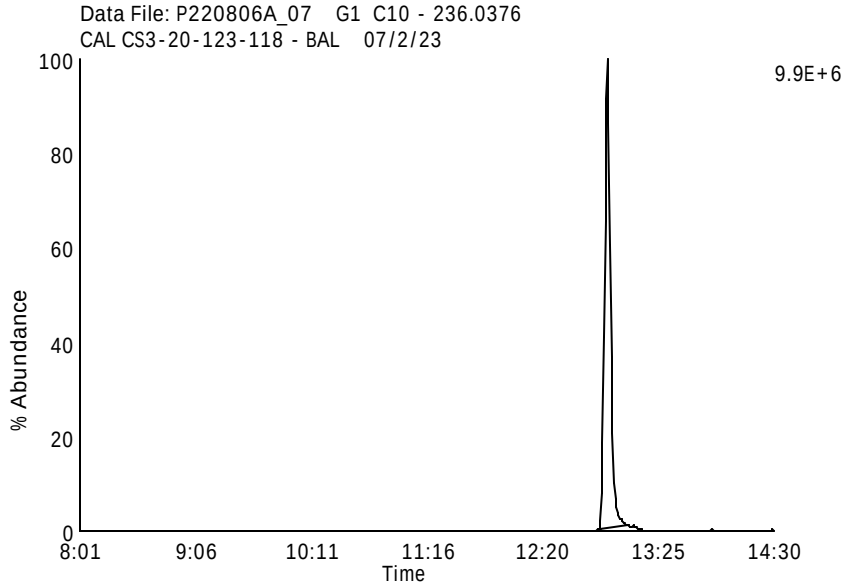


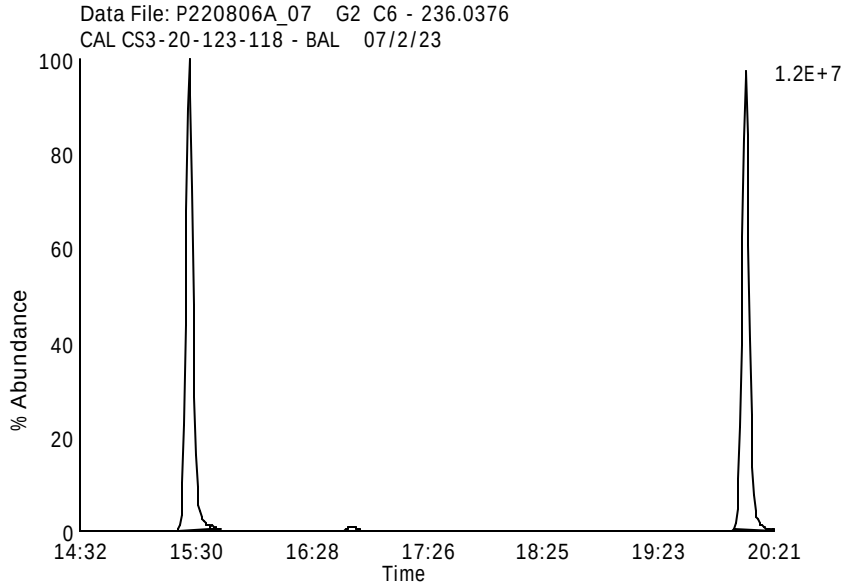
Labeled Di Chlorinated Biphenyls

Data File Name: P220806A_07
Lab Sample ID: CS3-20-123-118
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-20-123-118 - BAL 07/2/23





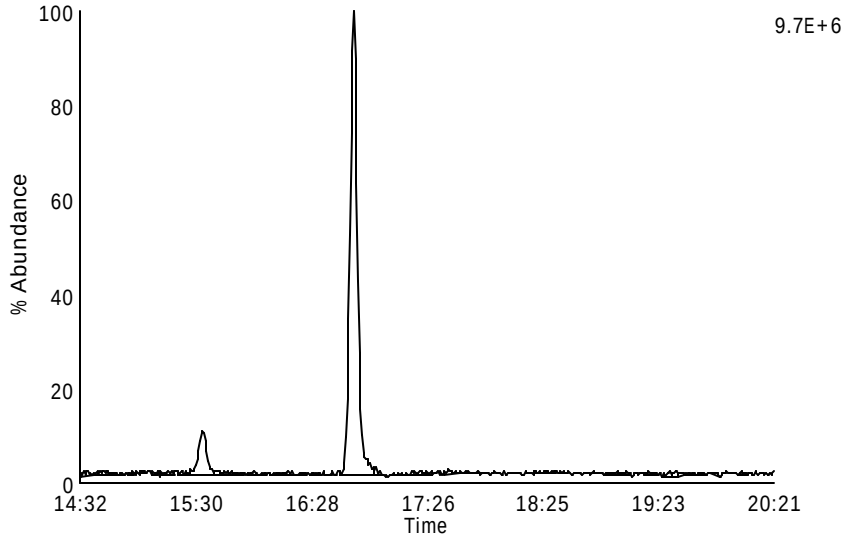




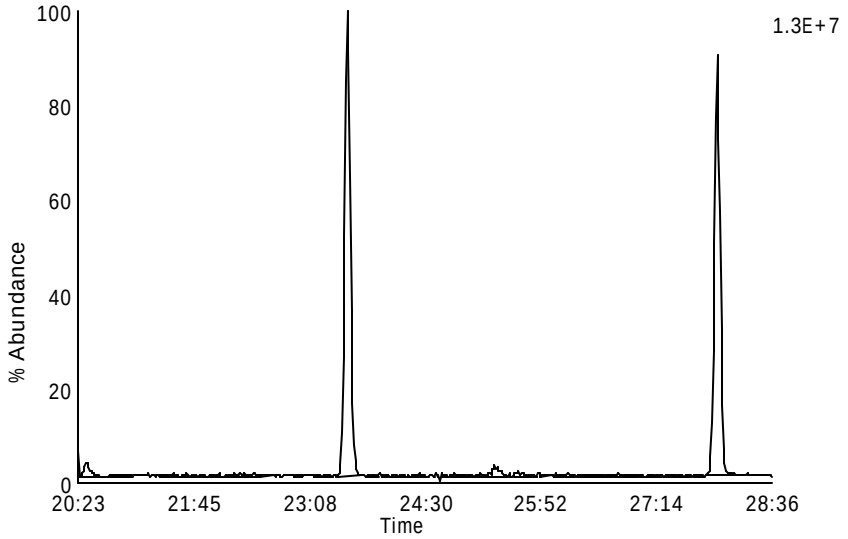
Labeled Tri Chlorinated Biphenyls

Data File Name: P220806A_07
Lab Sample ID: CS3-20-123-118
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-20-123-118 - BAL 07/2/23

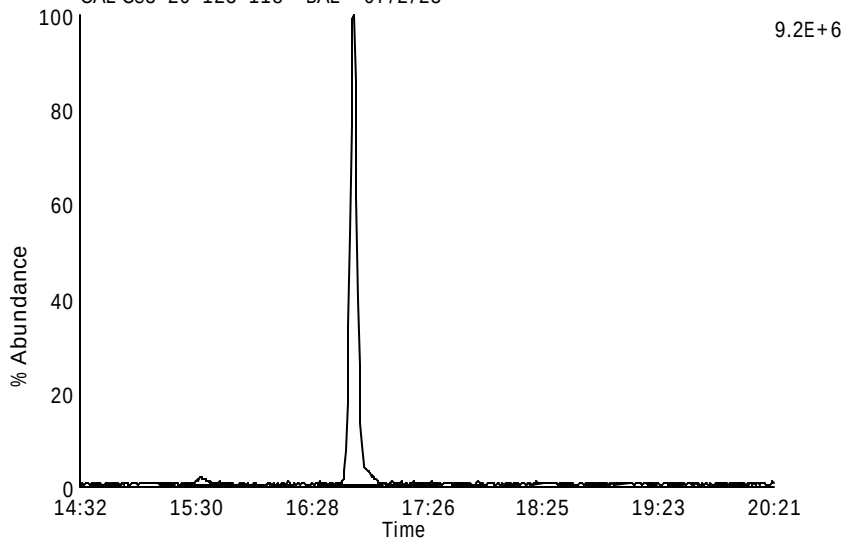
Data File: P220806A_07 G2 C9 - 268.0016
CAL CS3-20-123-118 - BAL 07/2/23



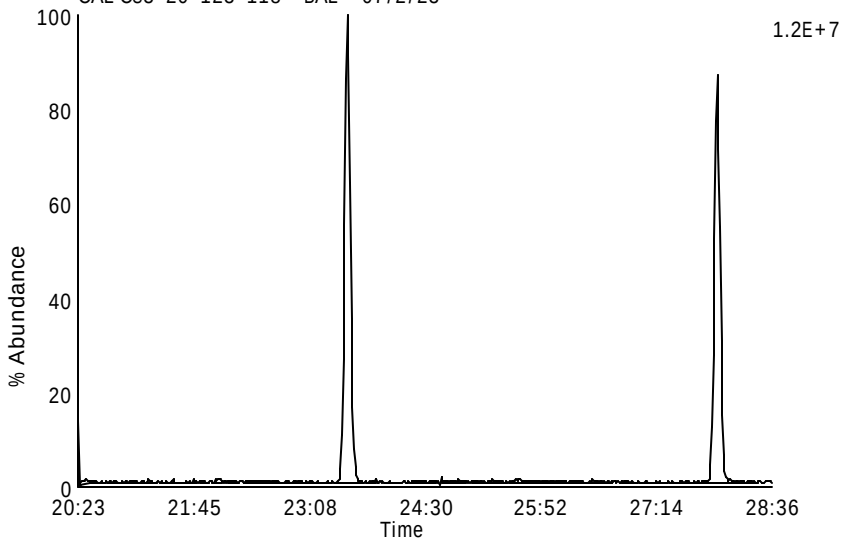
Data File: P220806A_07 G3 C3 - 268.0016
CAL CS3-20-123-118 - BAL 07/2/23



Data File: P220806A_07 G2 C10 - 269.9986
CAL CS3-20-123-118 - BAL 07/2/23

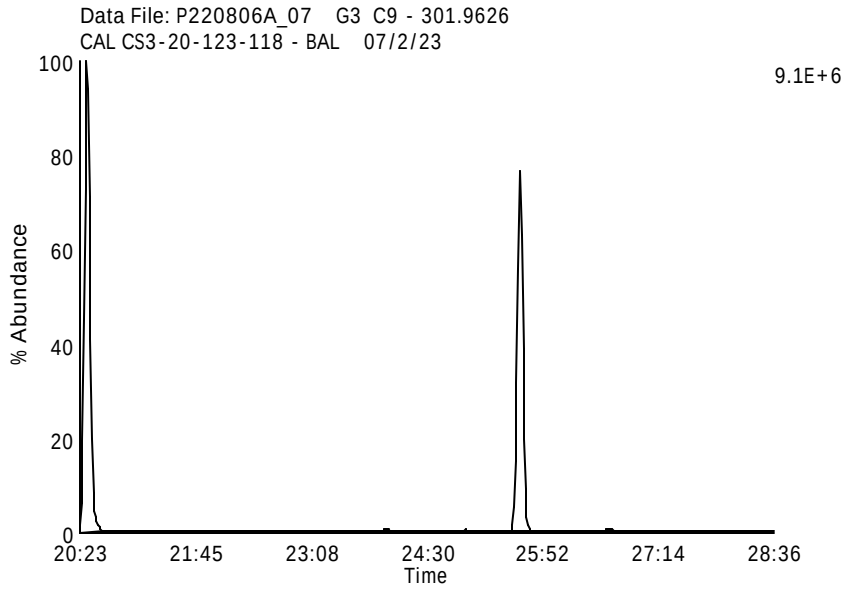


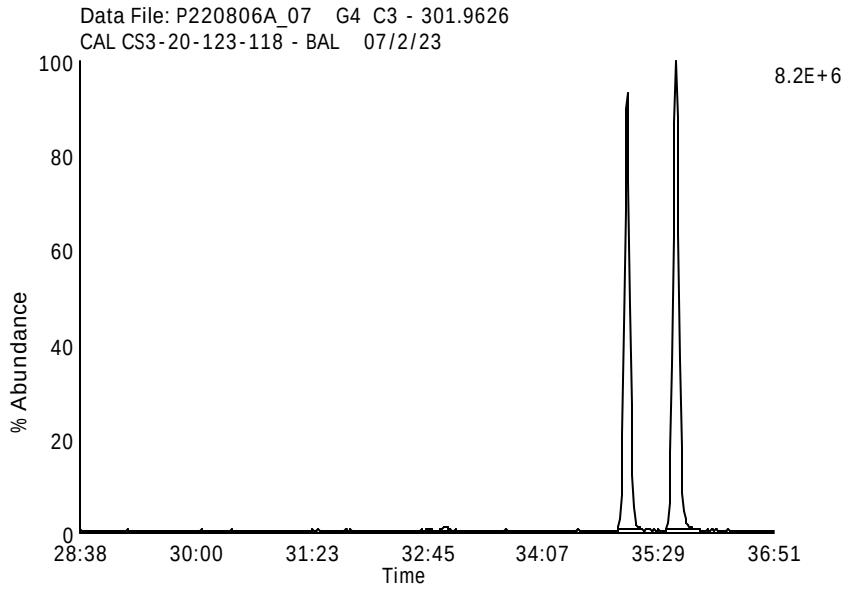
Data File: P220806A_07 G3 C4 - 269.9986
CAL CS3-20-123-118 - BAL 07/2/23

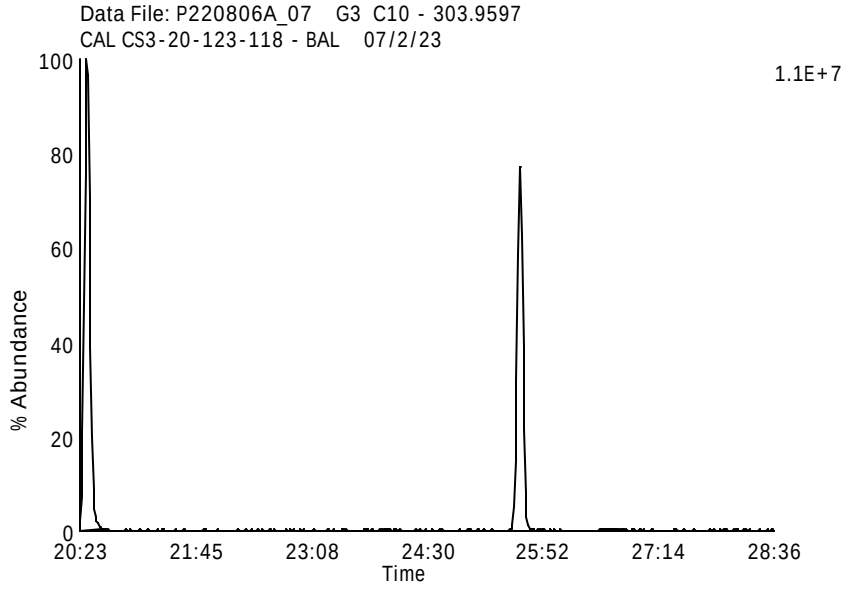


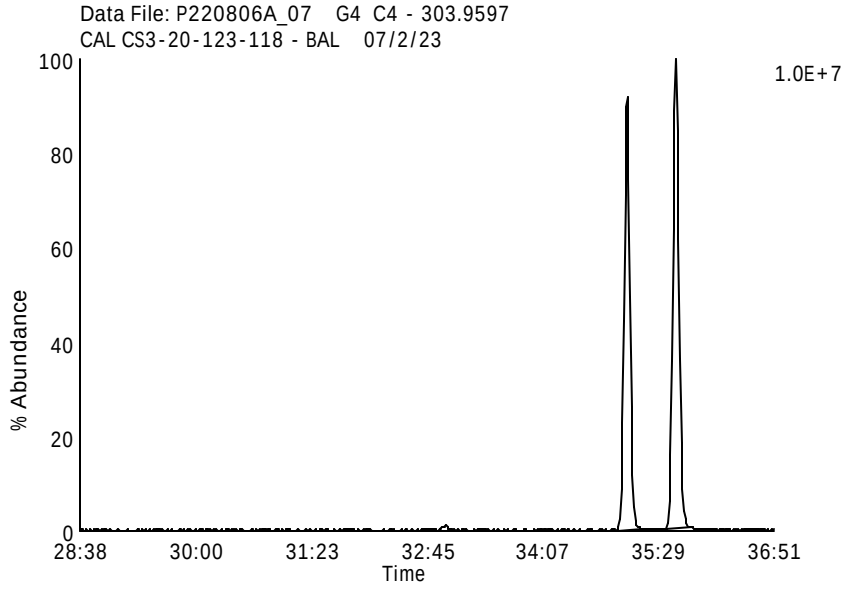
Labeled Tetra Chlorinated Biphenyls

Data File Name: P220806A_07
Lab Sample ID: CS3-20-123-118
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-20-123-118 - BAL 07/2/23









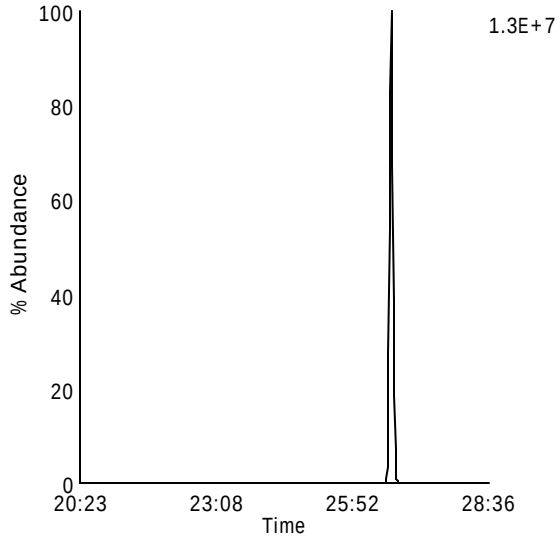
Labeled Penta Chlorinated Biphenyls

Data File Name: P220806A_07 Lab Sample ID: CS3-20-123-118

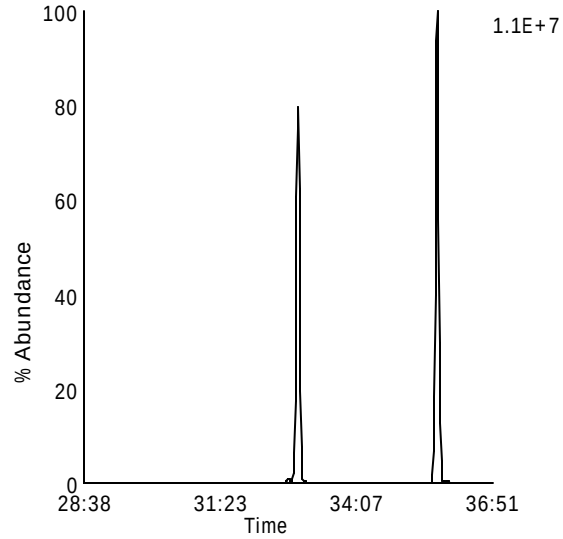
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-20-123-118 - BAL 07/2/23

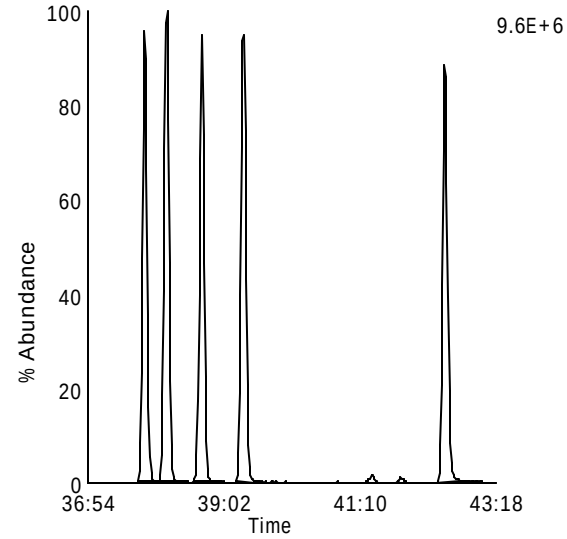
Data File: P220806A_07 G3 C13 - 337.9207
CAL CS3-20-123-118 - BAL 07/2/23



Data File: P220806A_07 G4 C9 - 337.9207
CAL CS3-20-123-118 - BAL 07/2/23



Data File: P220806A_07 G5 C3 - 337.9207
CAL CS3-20-123-118 - BAL 07/2/23



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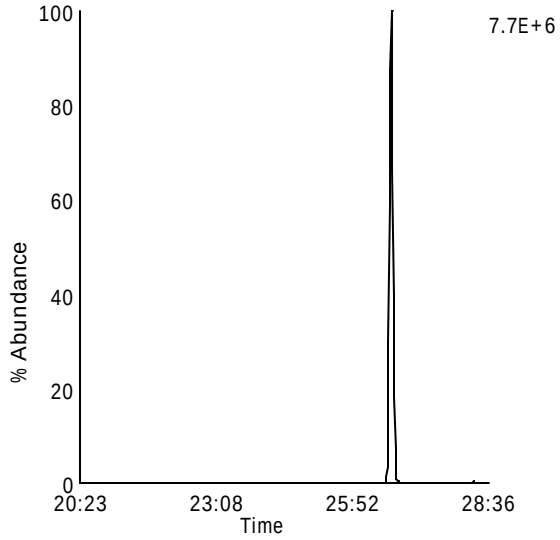
CAL CS3-20-123-118 - BAL 07/2/23



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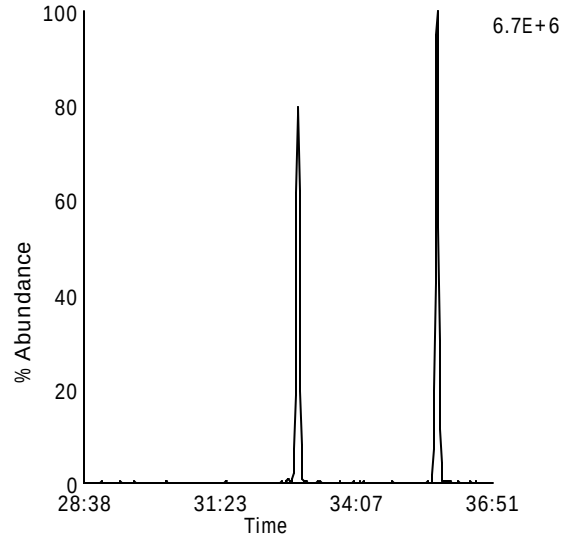
CAL CS3-20-123-118 - BAL 07/2/23



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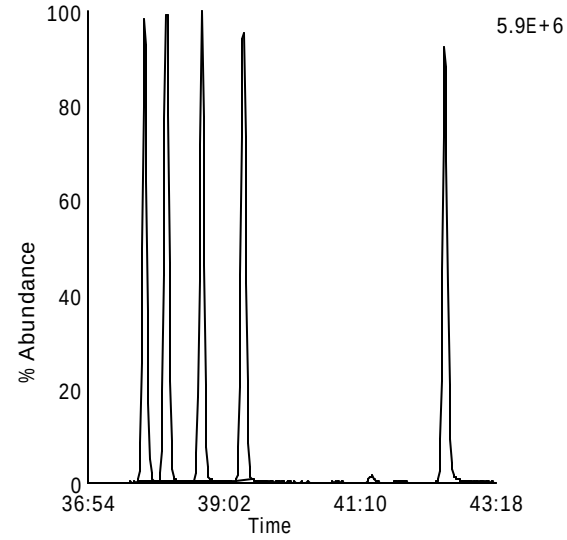
CAL CS3-20-123-118 - BAL 07/2/23



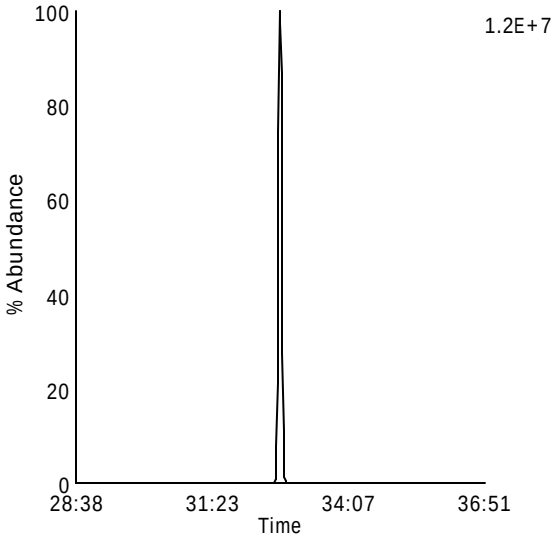
Labeled Hexa Chlorinated Biphenyls

Data File Name: P220806A_07 Lab Sample ID: CS3-20-123-118

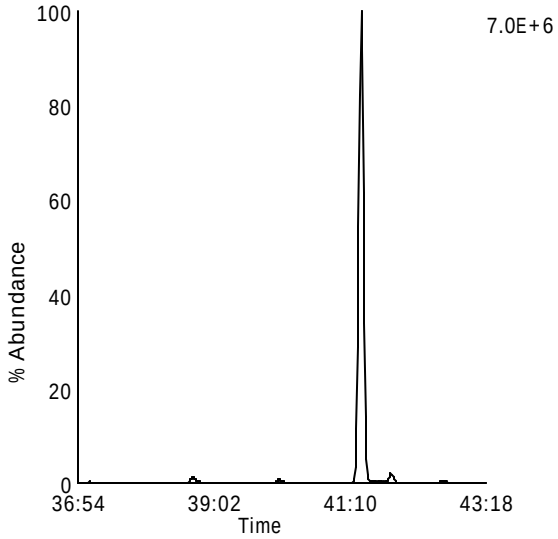
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-20-123-118 - BAL 07/2/23

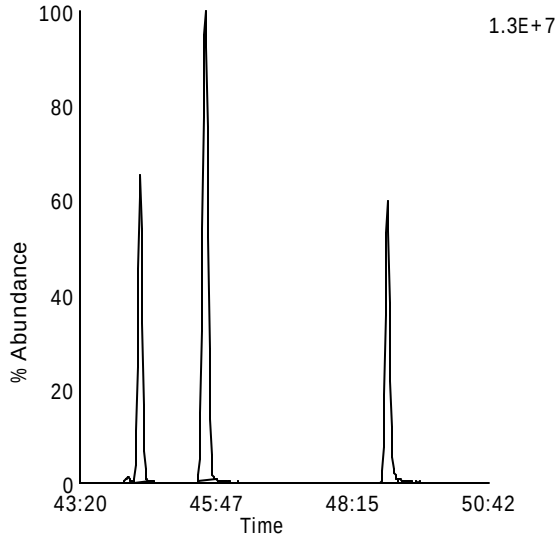
Data File: P220806A_07 G4 C13 - 371.8817
CAL CS3-20-123-118 - BAL 07/2/23



Data File: P220806A_07 G5 C7 - 371.8817
CAL CS3-20-123-118 - BAL 07/2/23



Data File: P220806A_07 G6 C3 - 371.8817
CAL CS3-20-123-118 - BAL 07/2/23



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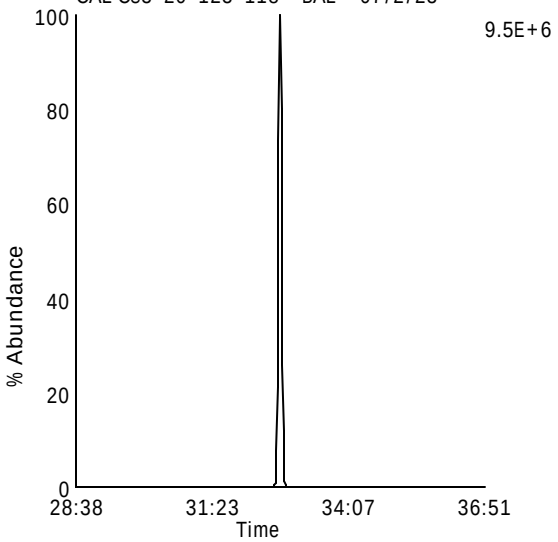
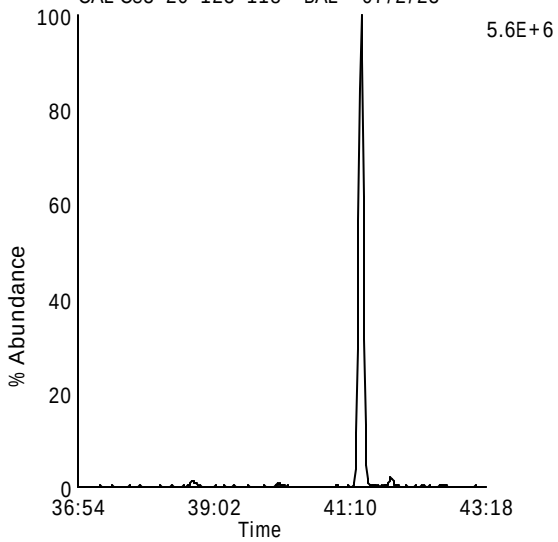
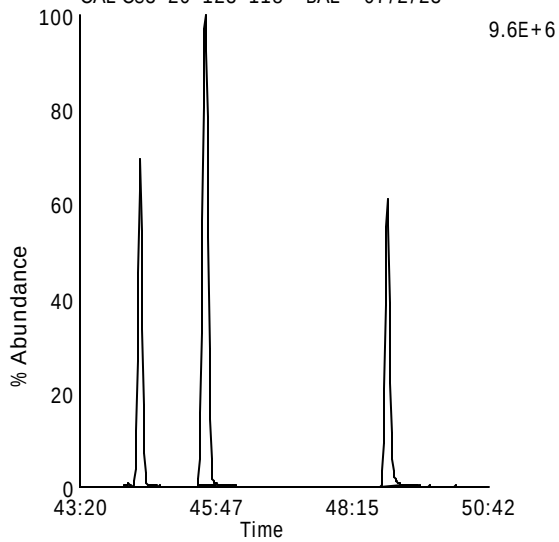
CAL CS3-20-123-118 - BAL 07/2/23



Data File: P220806A_07 G5 C8 - 373.8788
CAL CS3-20-123-118 - BAL 07/2/23

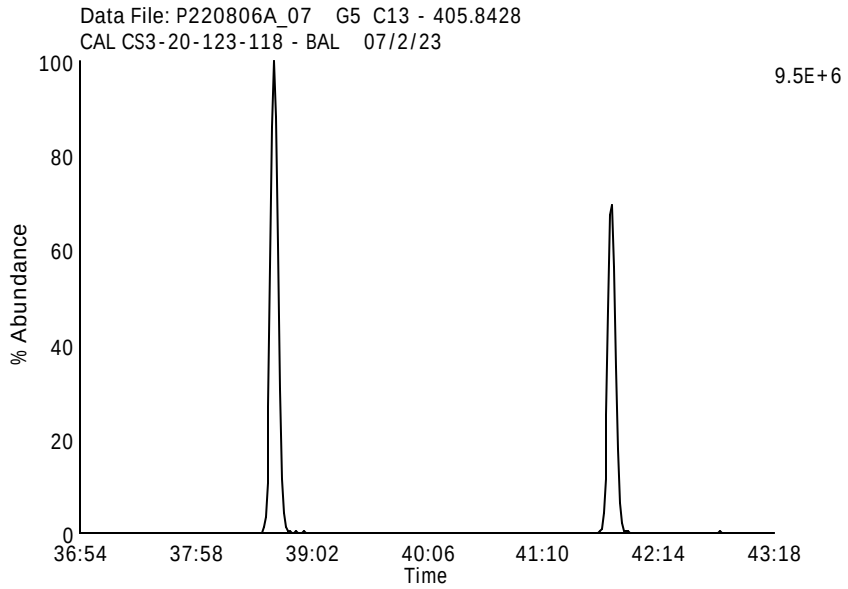


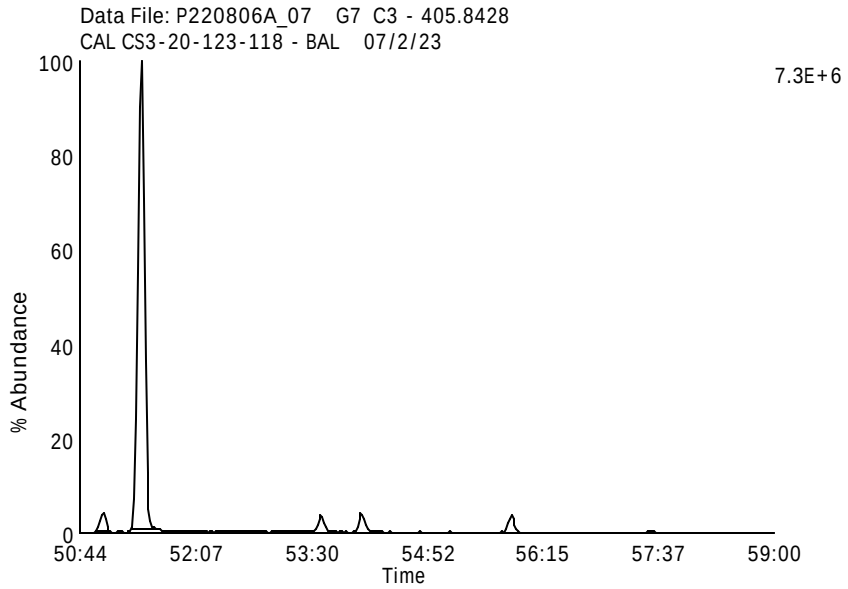
Data File: P220806A_07 G6 C4 - 373.8788
CAL CS3-20-123-118 - BAL 07/2/23

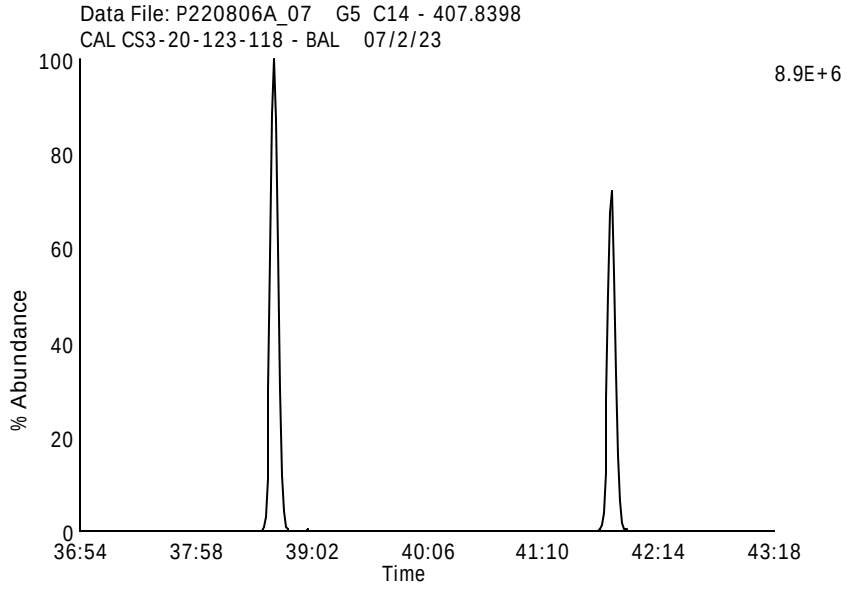


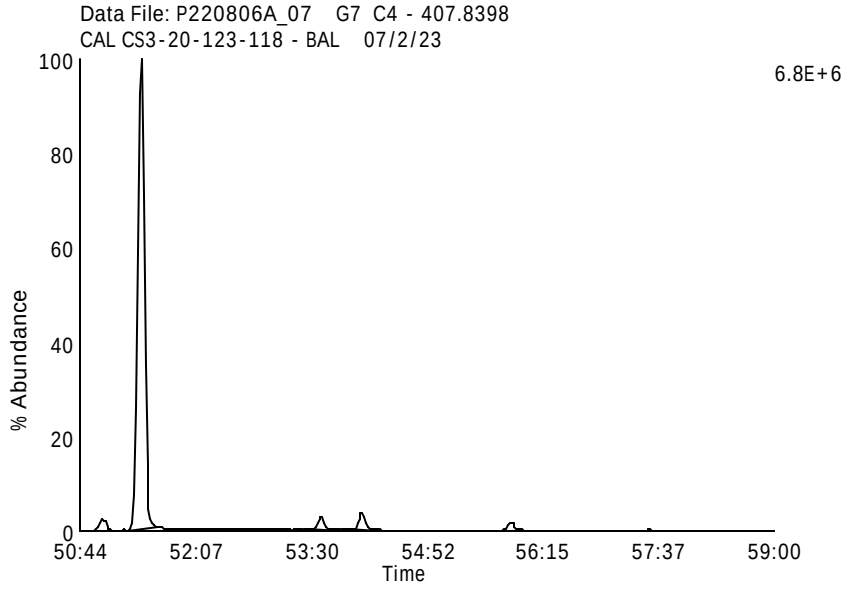
Labeled Hepta Chlorinated Biphenyls

Data File Name: P220806A_07
Lab Sample ID: CS3-20-123-118
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-20-123-118 - BAL 07/2/23





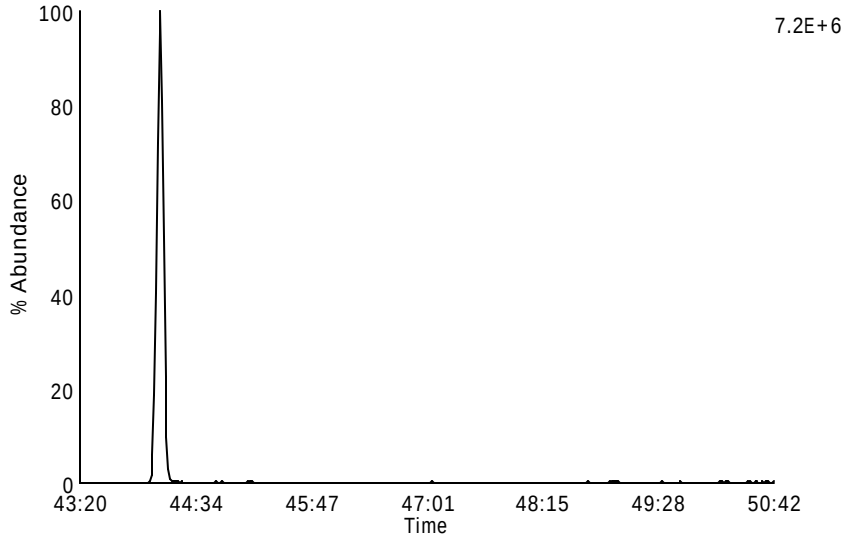




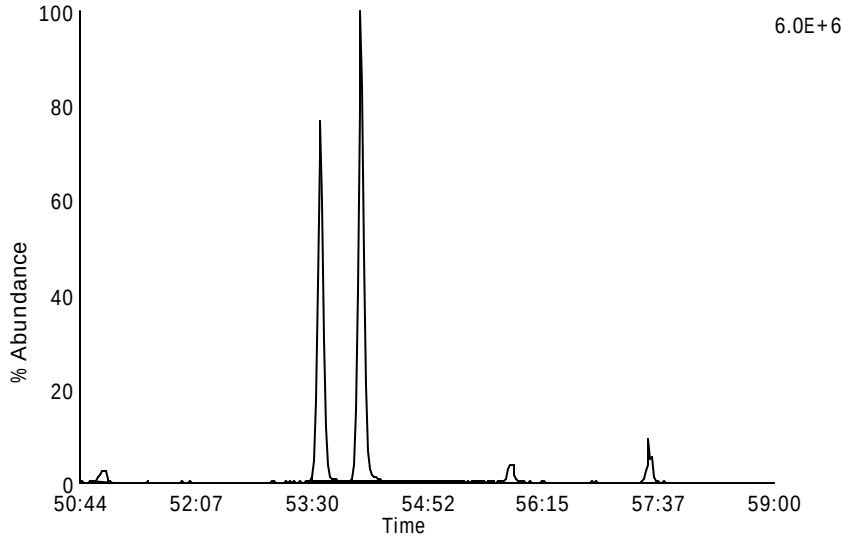
Labeled Octa Chlorinated Biphenyls

Data File Name: P220806A_07
Lab Sample ID: CS3-20-123-118
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-20-123-118 - BAL 07/2/23

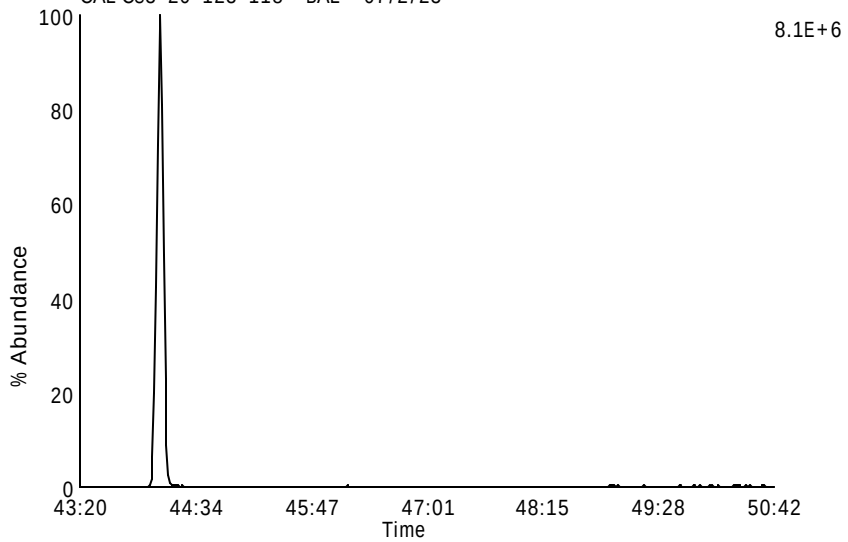
Data File: P220806A_07 G6 C13 - 439.8038
CAL CS3-20-123-118 - BAL 07/2/23



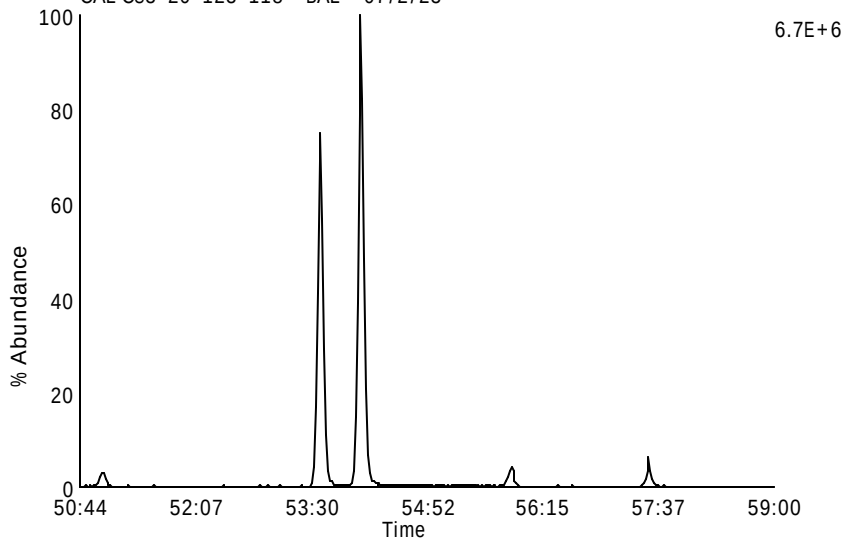
Data File: P220806A_07 G7 C7 - 439.8038
CAL CS3-20-123-118 - BAL 07/2/23



Data File: P220806A_07 G6 C14 - 441.8008
CAL CS3-20-123-118 - BAL 07/2/23



Data File: P220806A_07 G7 C8 - 441.8008
CAL CS3-20-123-118 - BAL 07/2/23

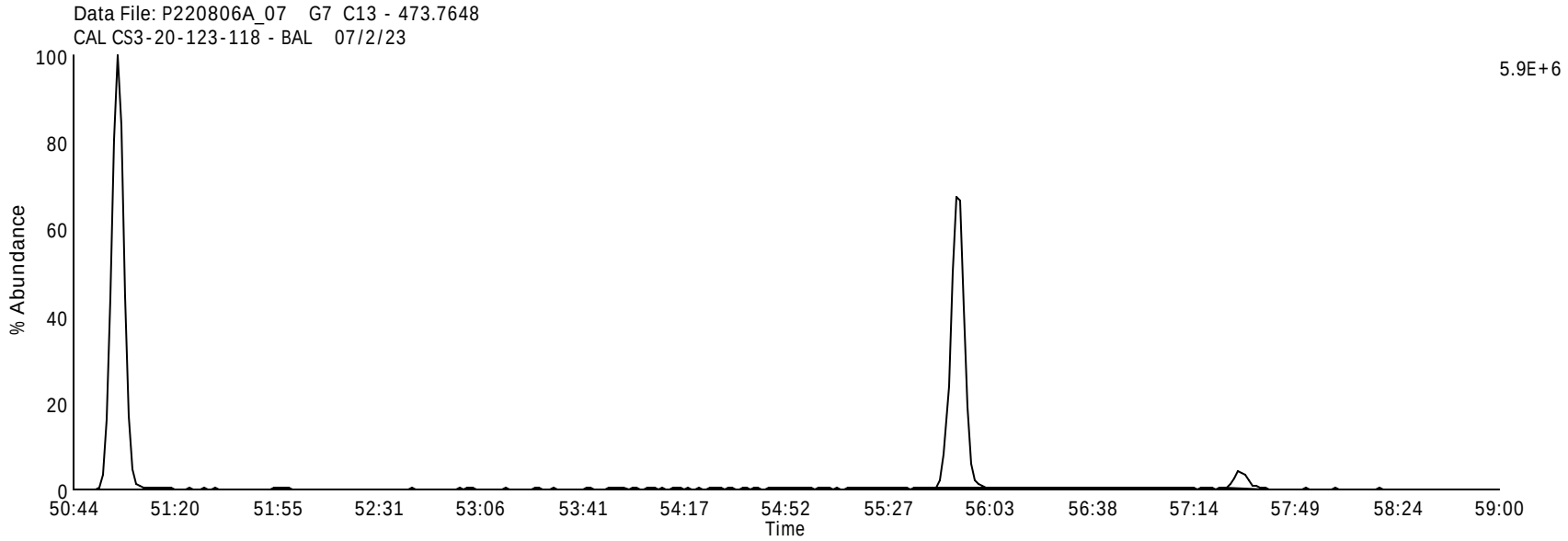


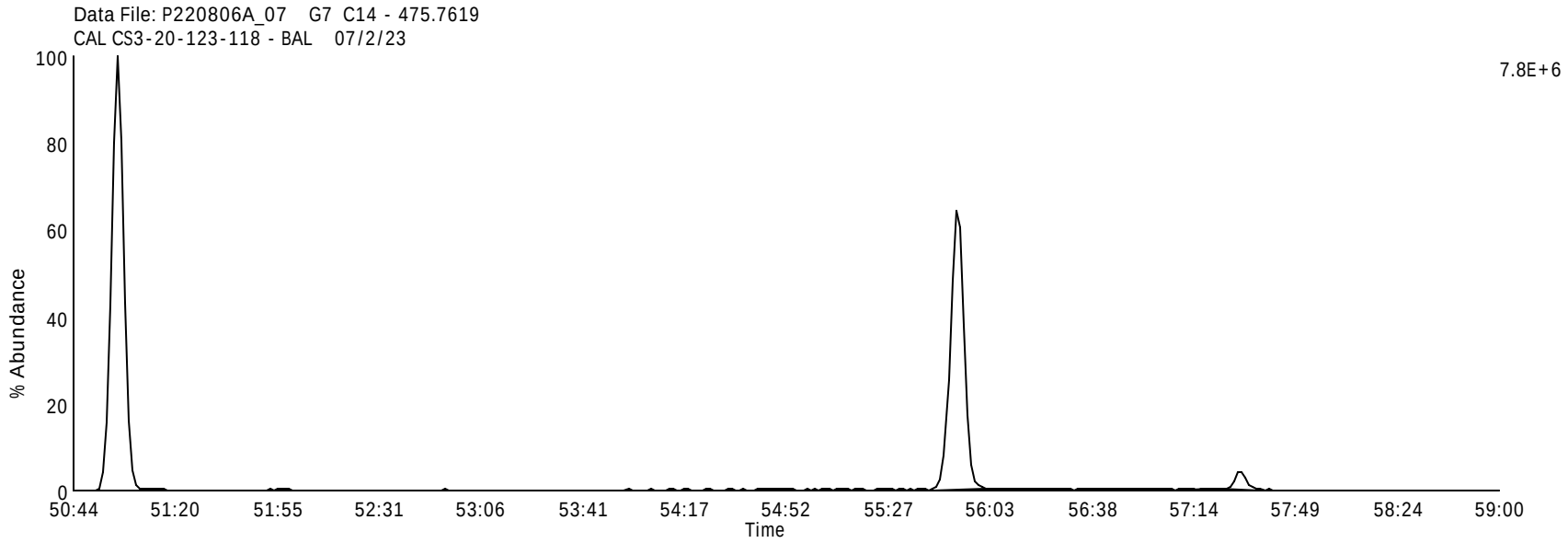
Labeled Nona Chlorinated Biphenyls

Data File Name: P220806A_07 Lab Sample ID: CS3-20-123-118

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-20-123-118 - BAL 07/2/23



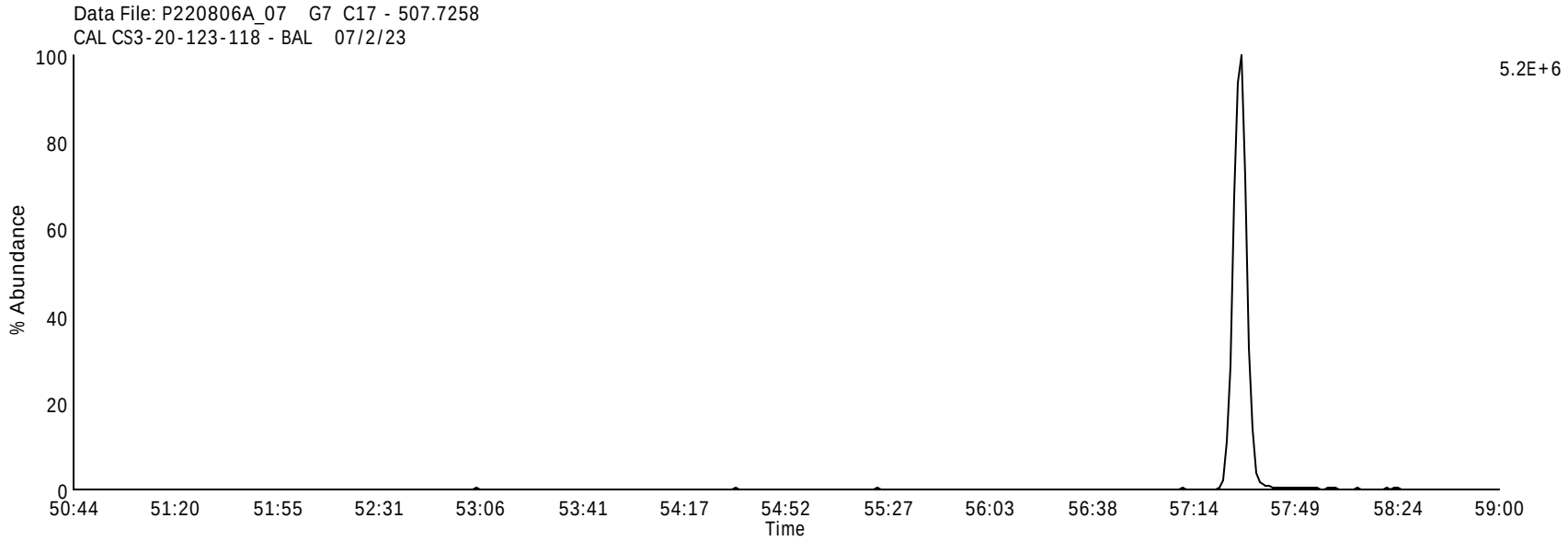


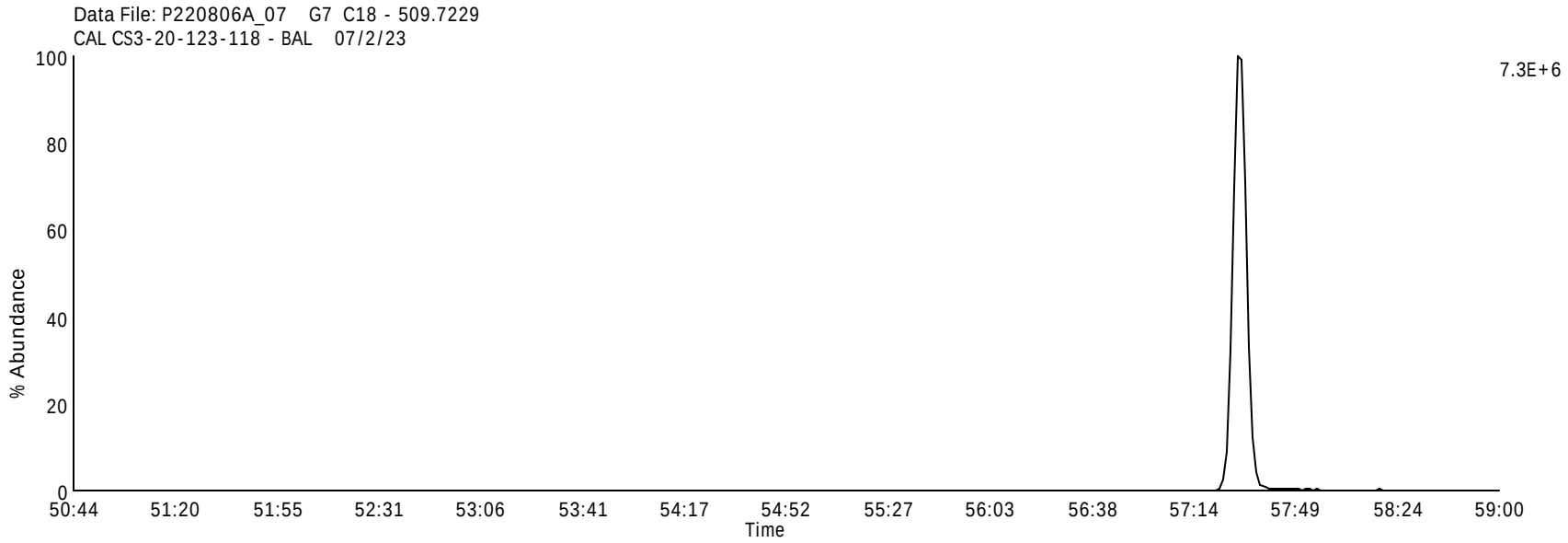
Labeled Deca Chlorinated Biphenyl

Data File Name: P220806A_07 Lab Sample ID: CS3-20-123-118

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-20-123-118 - BAL 07/2/23



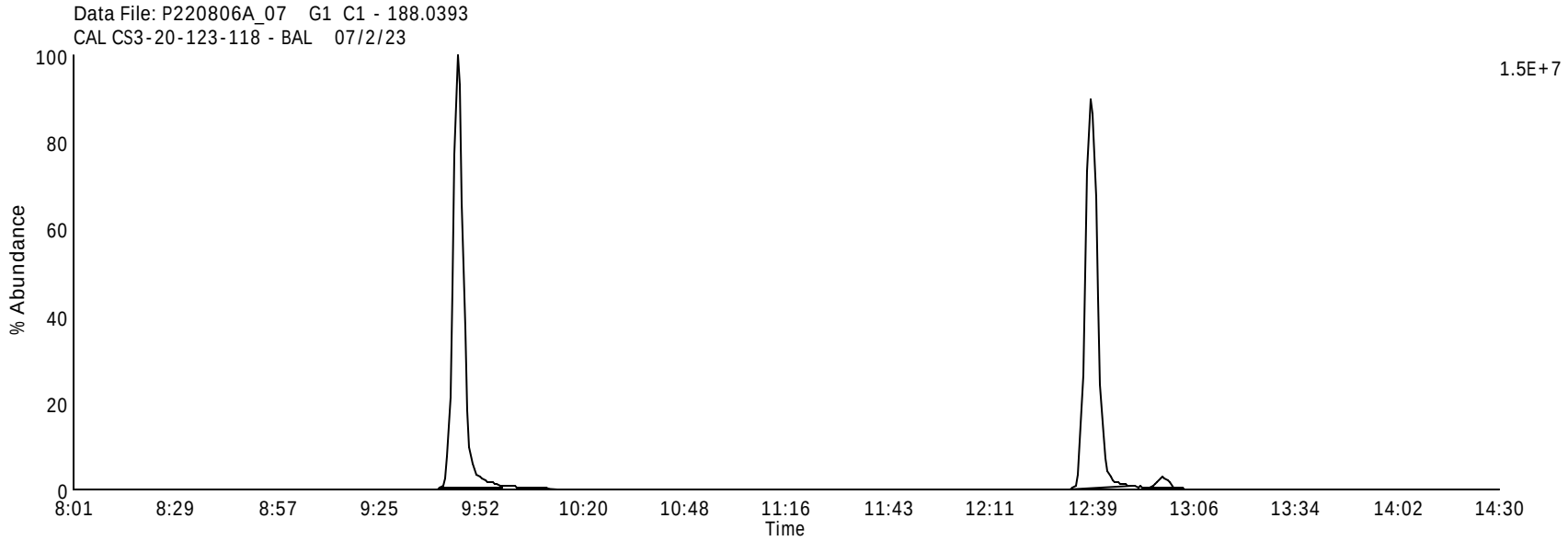


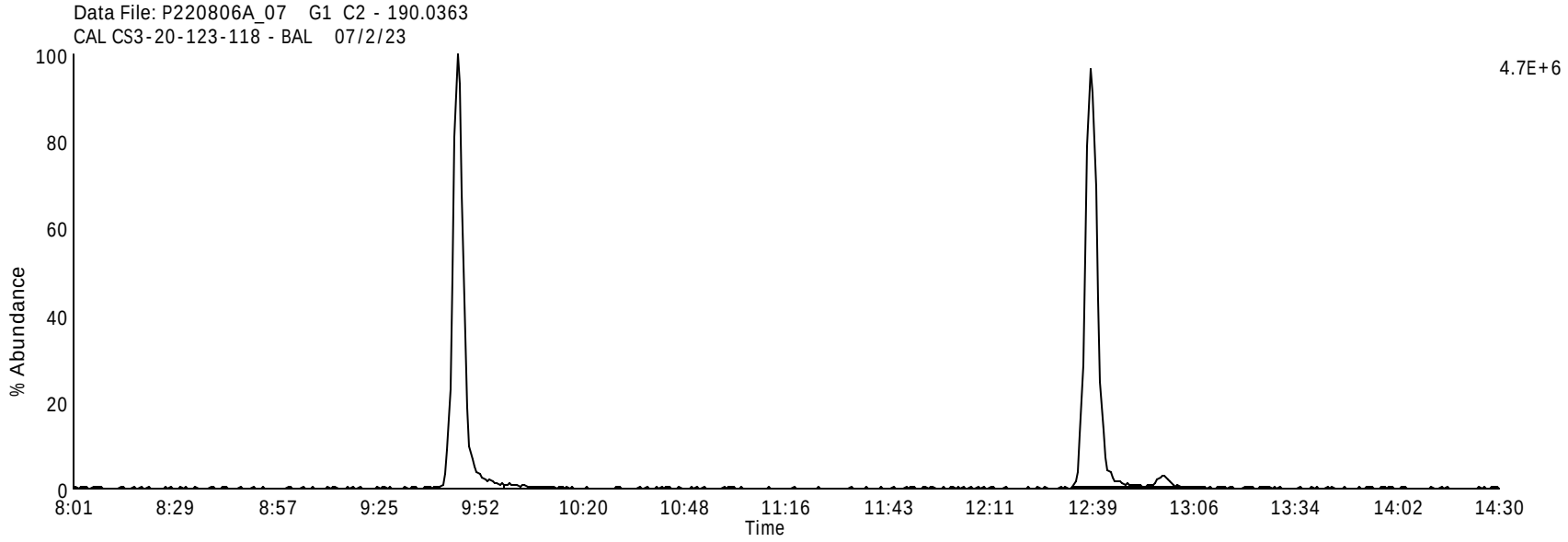
Mono Chlorinated Biphenyls

Data File Name: P220806A_07 Lab Sample ID: CS3-20-123-118

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

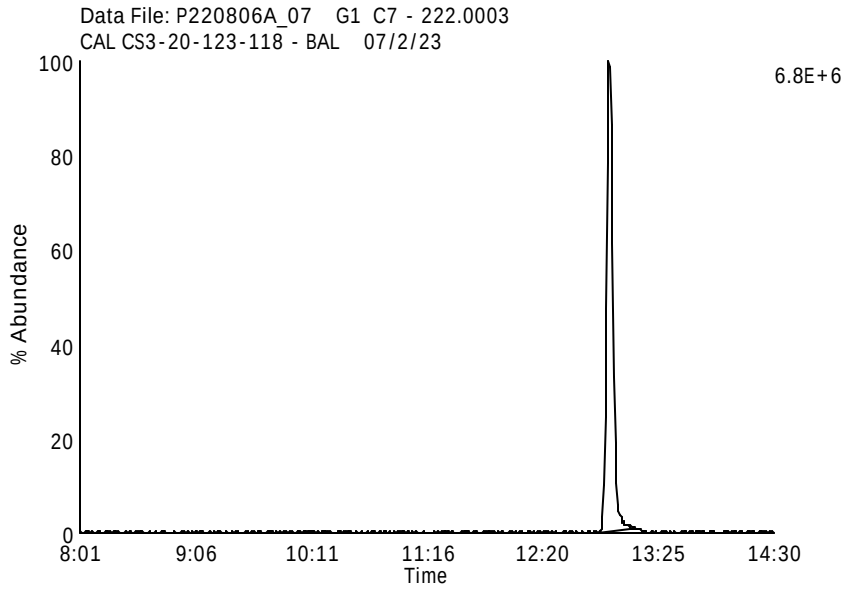
Sample Description: CAL CS3-20-123-118 - BAL 07/2/23

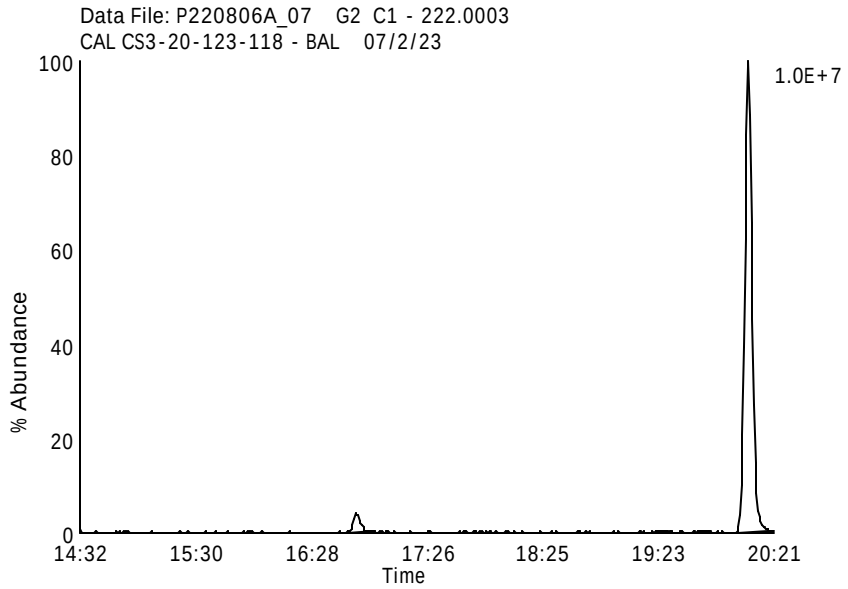


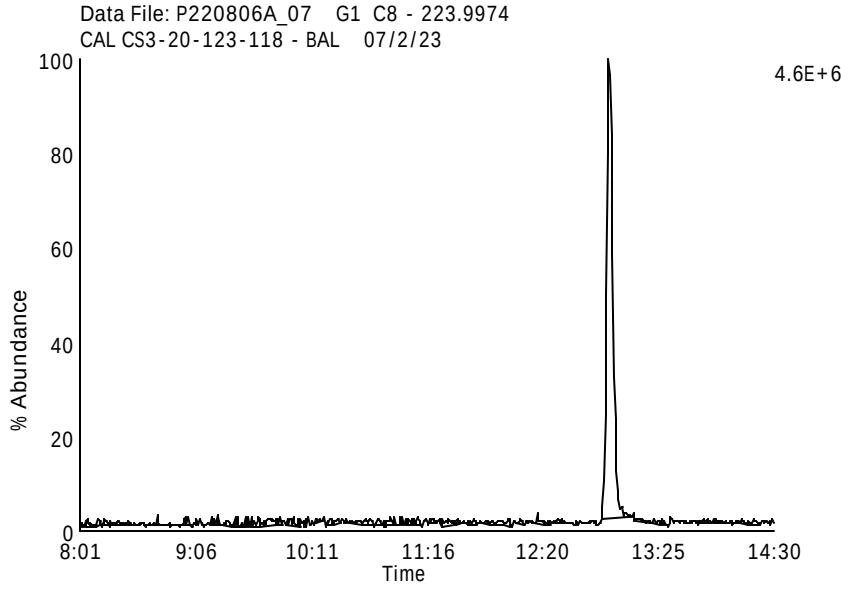


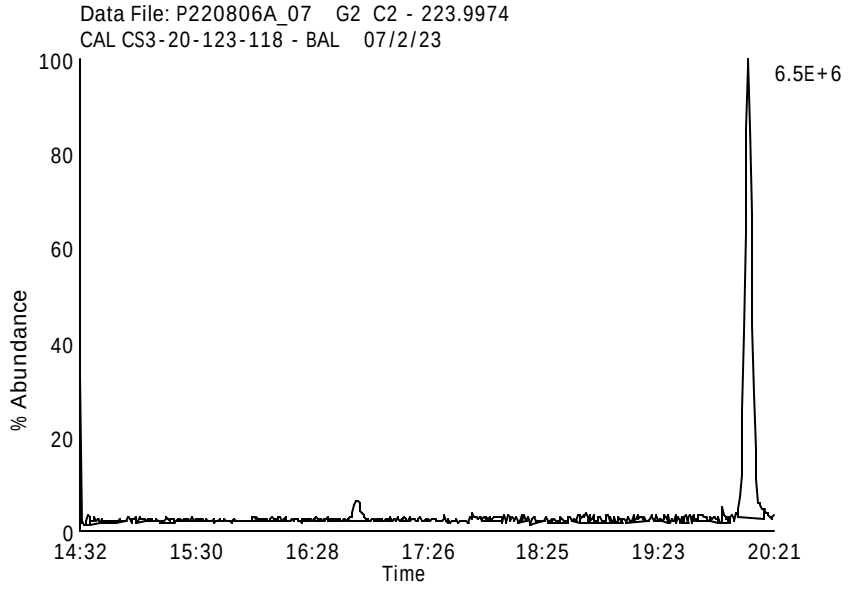
Di Chlorinated Biphenyls

Data File Name: P220806A_07
Lab Sample ID: CS3-20-123-118
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-20-123-118 - BAL 07/2/23



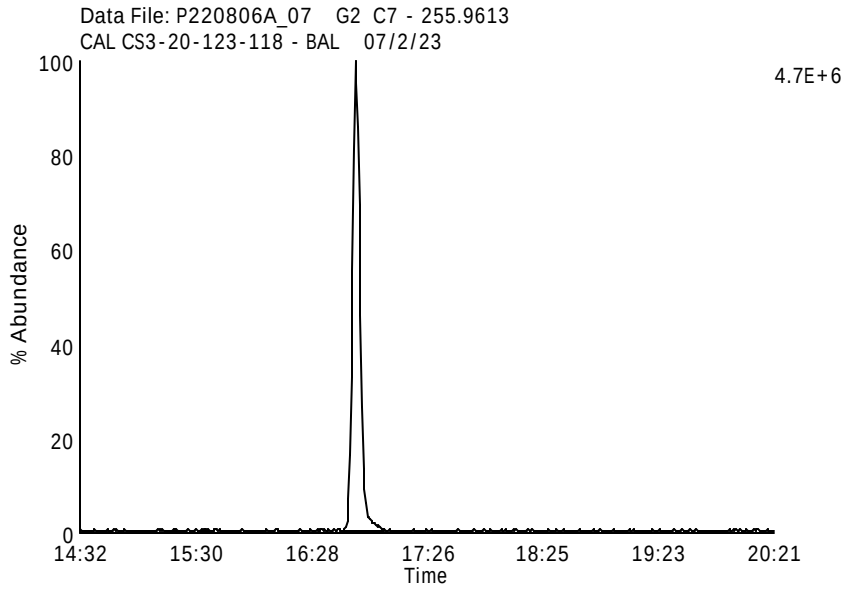


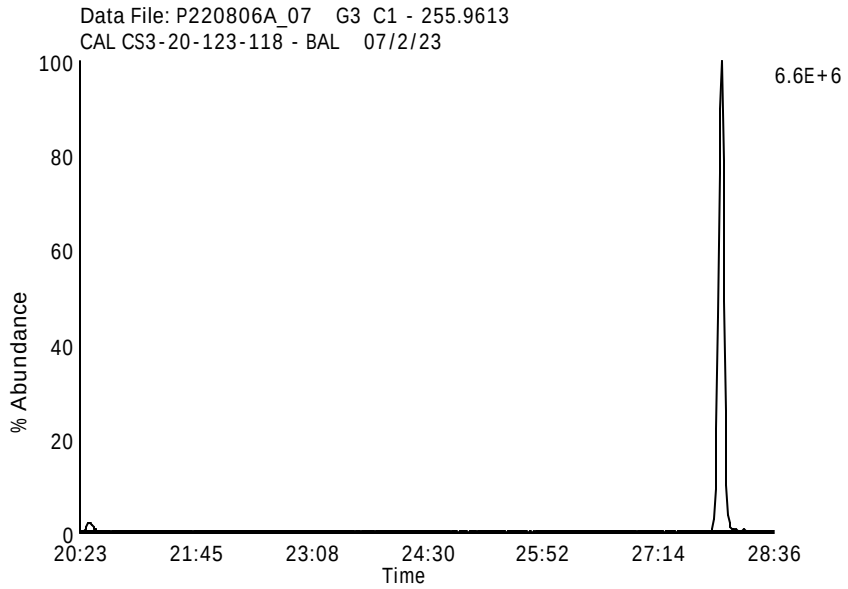


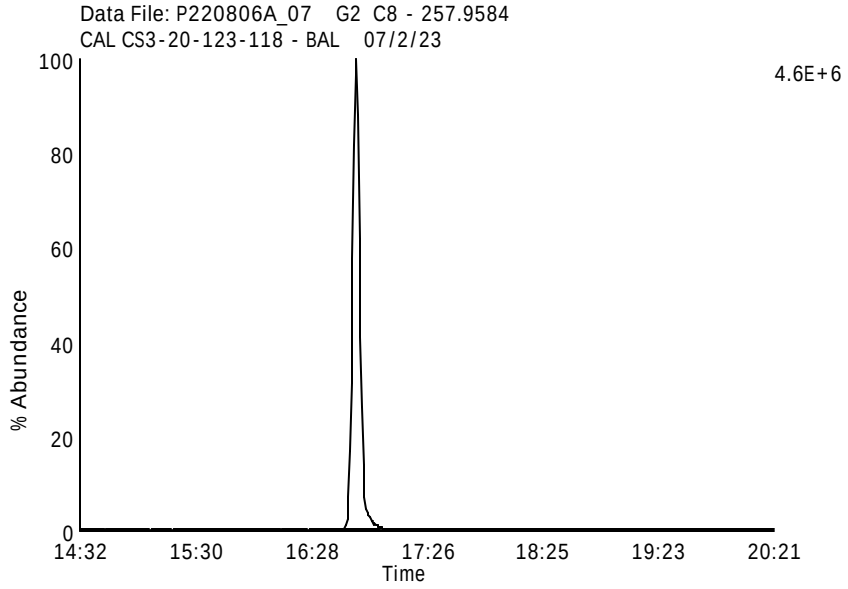


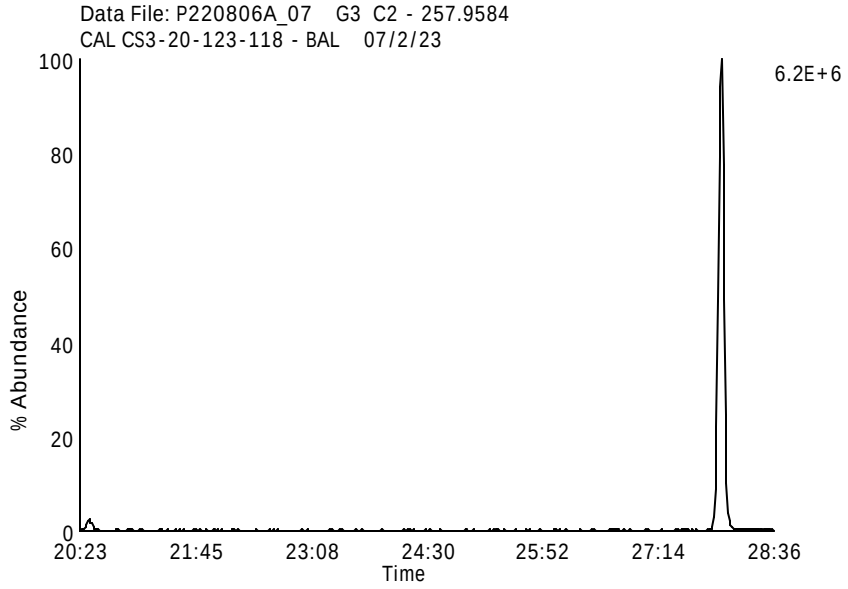
Tri Chlorinated Biphenyls

Data File Name: P220806A_07
Lab Sample ID: CS3-20-123-118
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-20-123-118 - BAL 07/2/23









Tetra Chlorinated Biphenyls

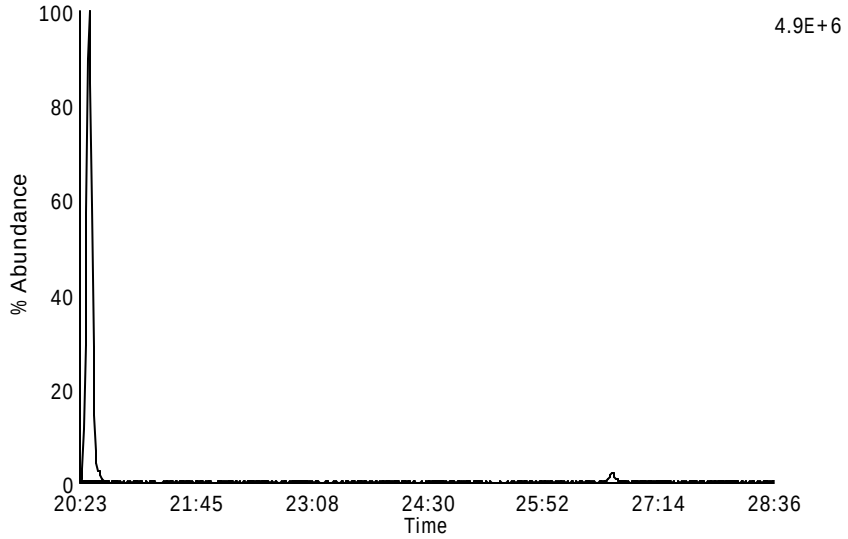
Data File Name: P220806A_07 Lab Sample ID: CS3-20-123-118

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-20-123-118 - BAL 07/2/23

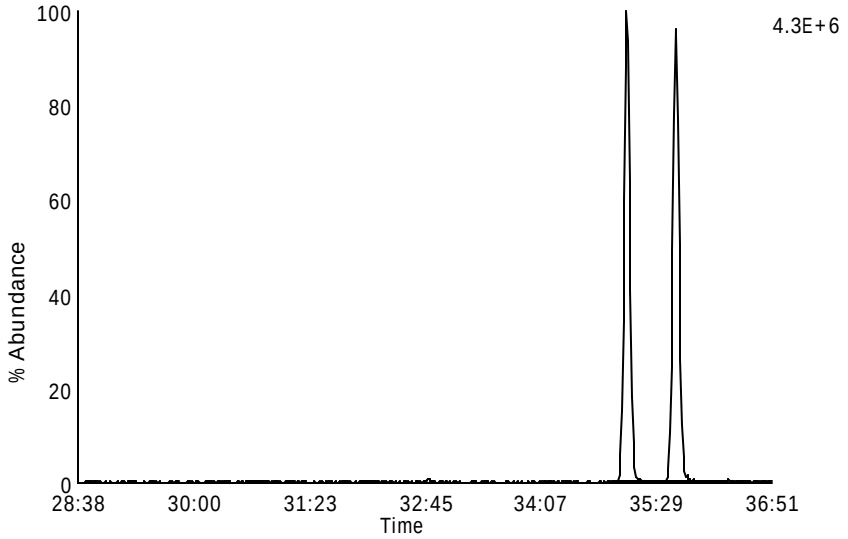
Data File: P220806A_07 G3 C7 - 289.9224

CAL CS3-20-123-118 - BAL 07/2/23



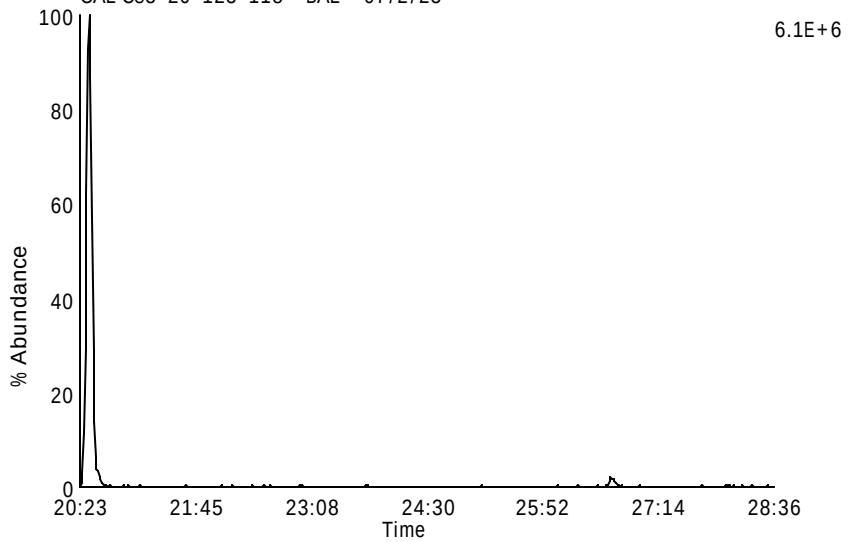
Data File: P220806A_07 G4 C1 - 289.9224

CAL CS3-20-123-118 - BAL 07/2/23



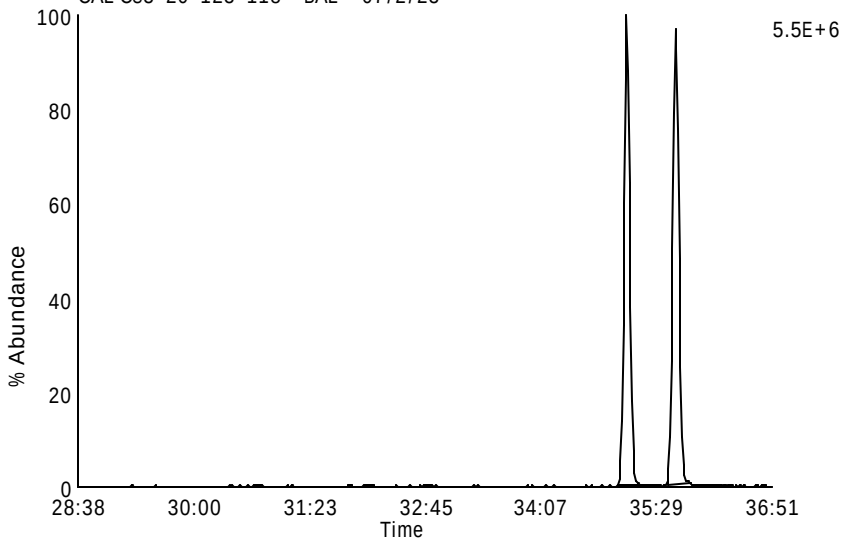
Data File: P220806A_07 G3 C8 - 291.9194

CAL CS3-20-123-118 - BAL 07/2/23



Data File: P220806A_07 G4 C2 - 291.9194

CAL CS3-20-123-118 - BAL 07/2/23

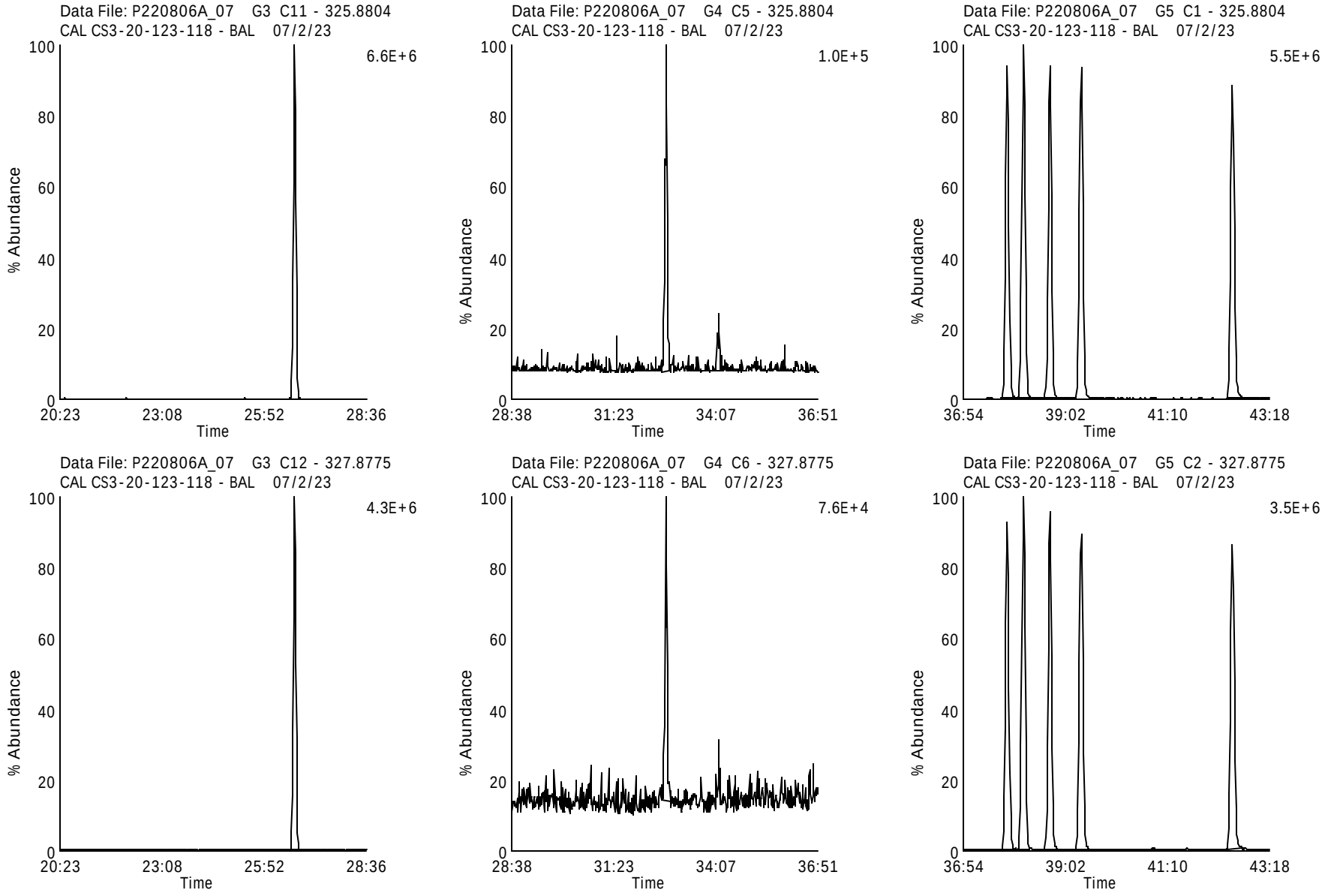


Penta Chlorinated Biphenyls

Data File Name: P220806A_07 Lab Sample ID: CS3-20-123-118

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-20-123-118 - BAL 07/2/23

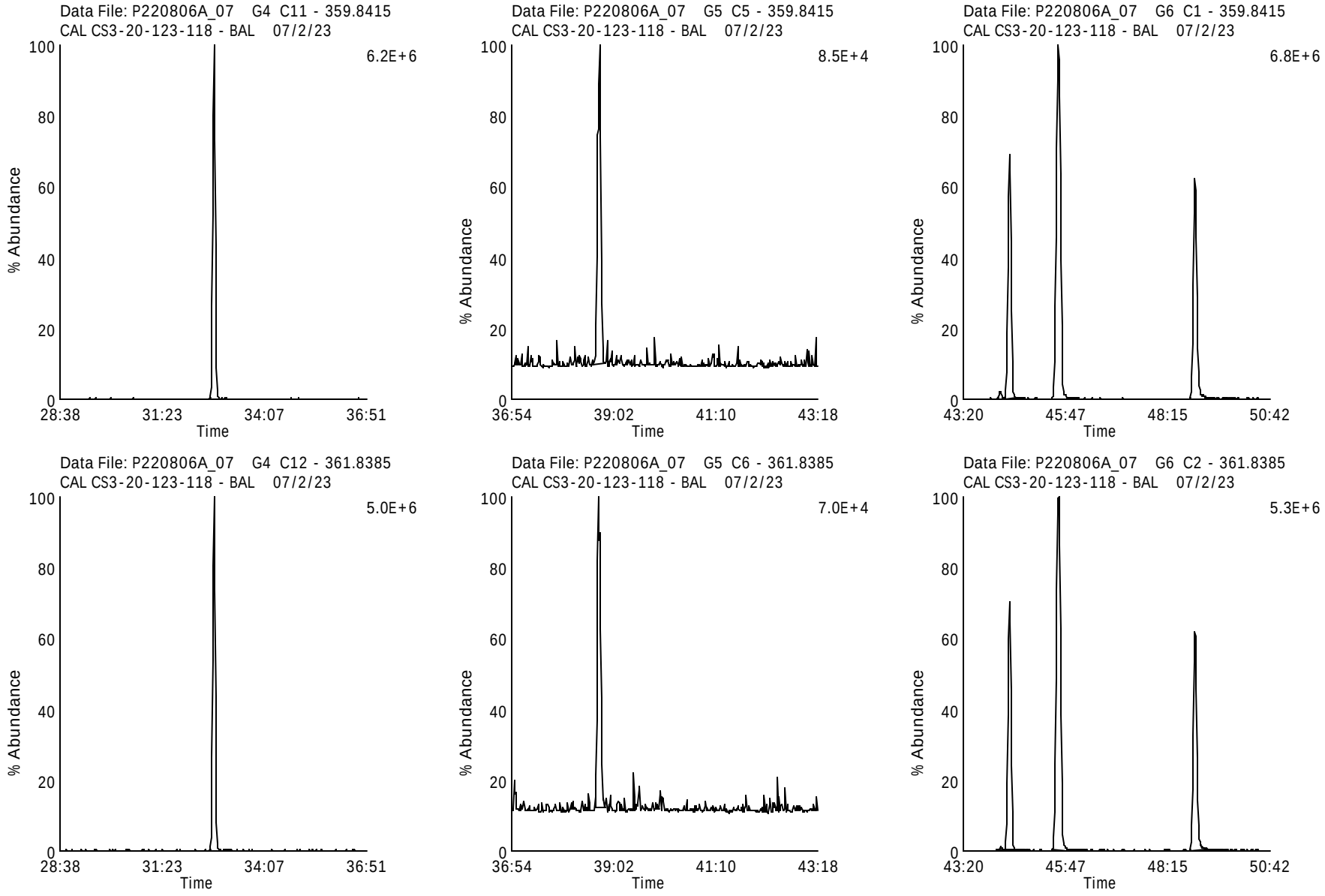


Hexa Chlorinated Biphenyls

Data File Name: P220806A_07 Lab Sample ID: CS3-20-123-118

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-20-123-118 - BAL 07/2/23

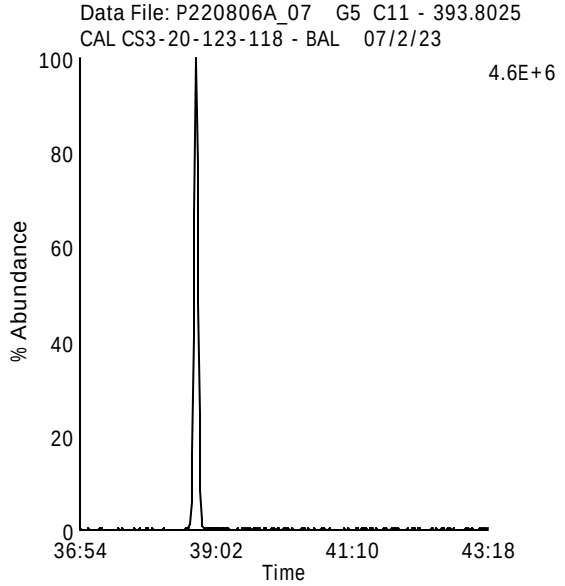


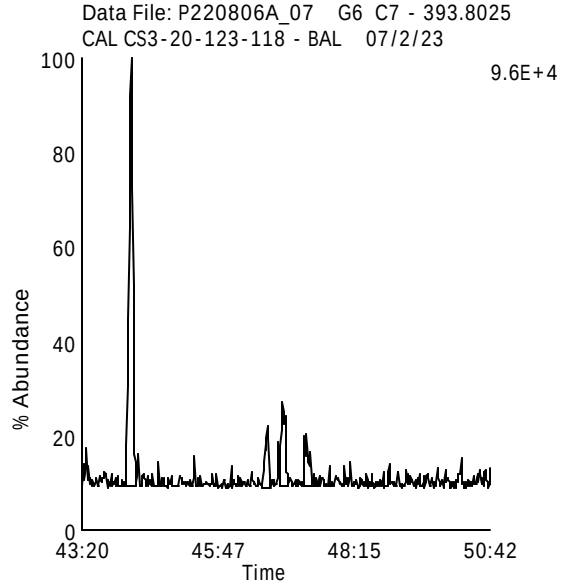
Hepta Chlorinated Biphenyls

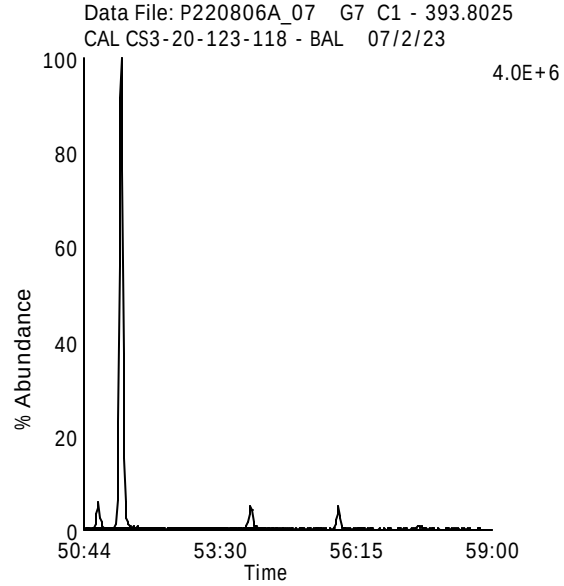
Data File Name: P220806A_07 Lab Sample ID: CS3-20-123-118

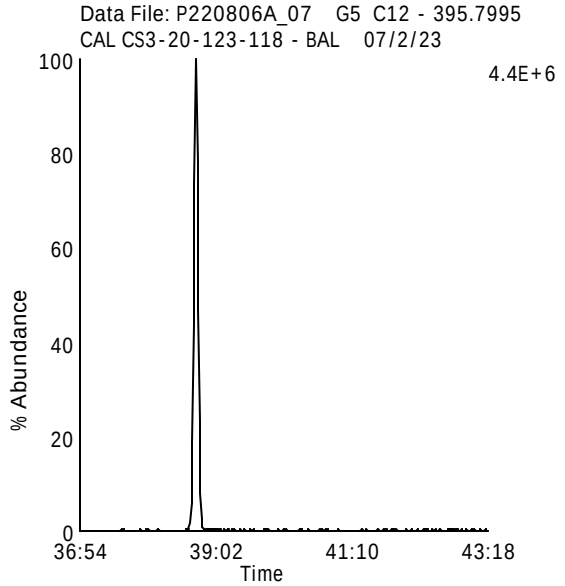
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

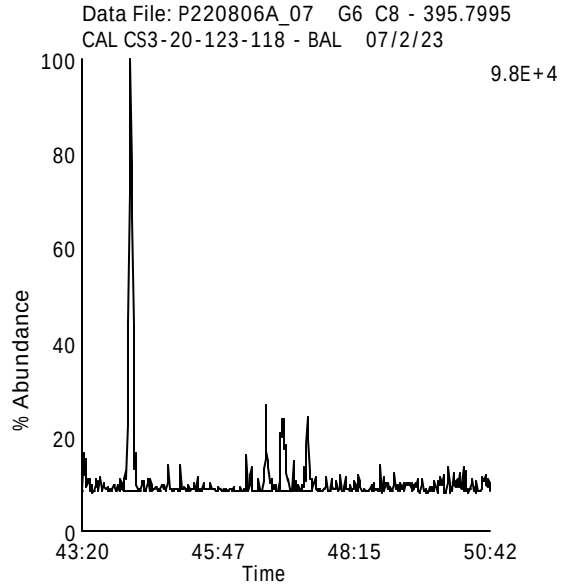
Sample Description: CAL CS3-20-123-118 - BAL 07/2/23

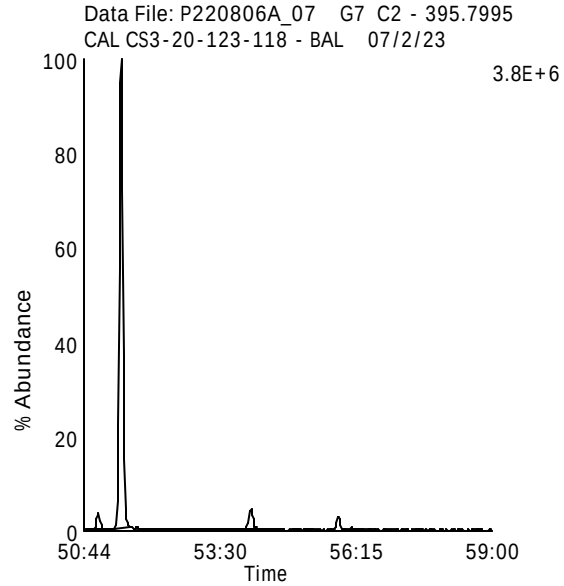






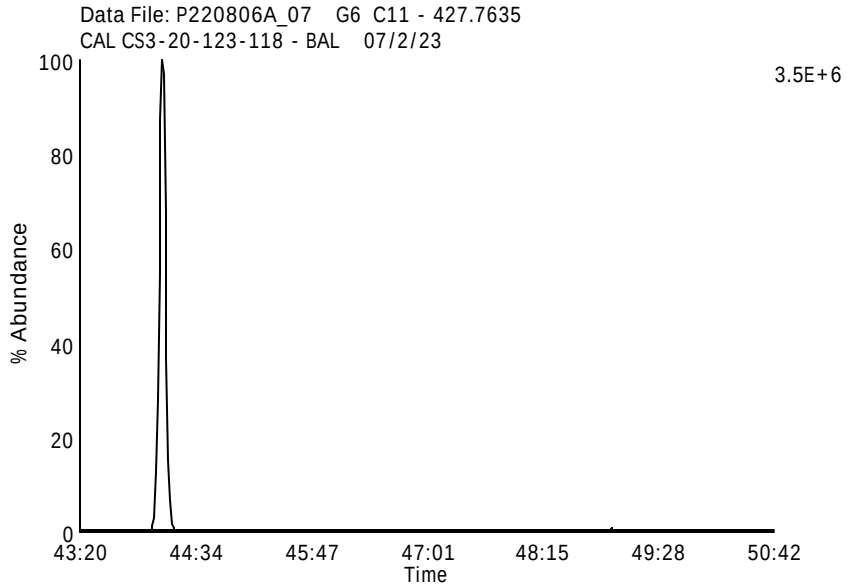


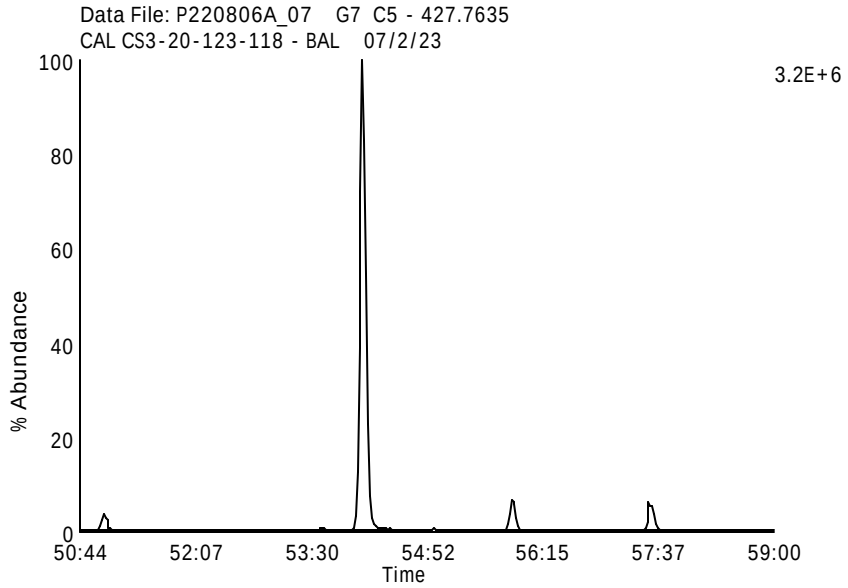


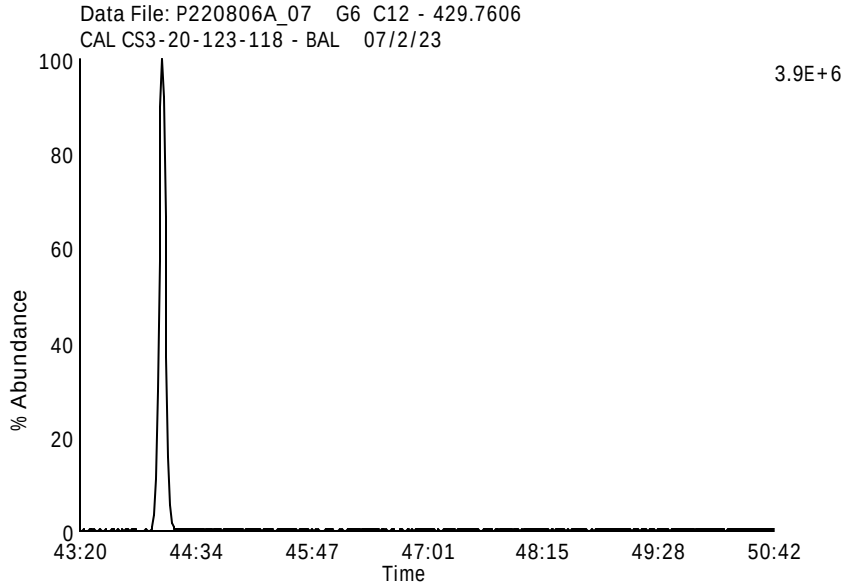


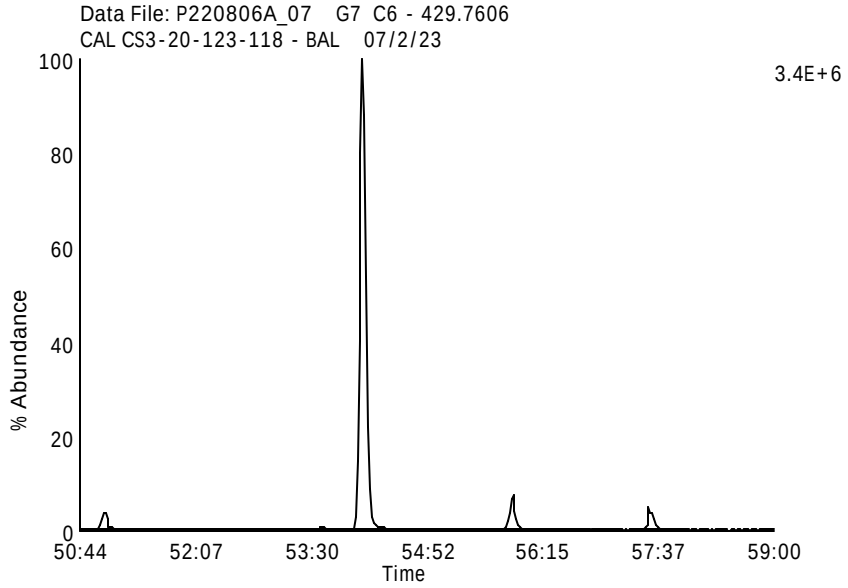
Octa Chlorinated Biphenyls

Data File Name: P220806A_07
Lab Sample ID: CS3-20-123-118
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-20-123-118 - BAL 07/2/23







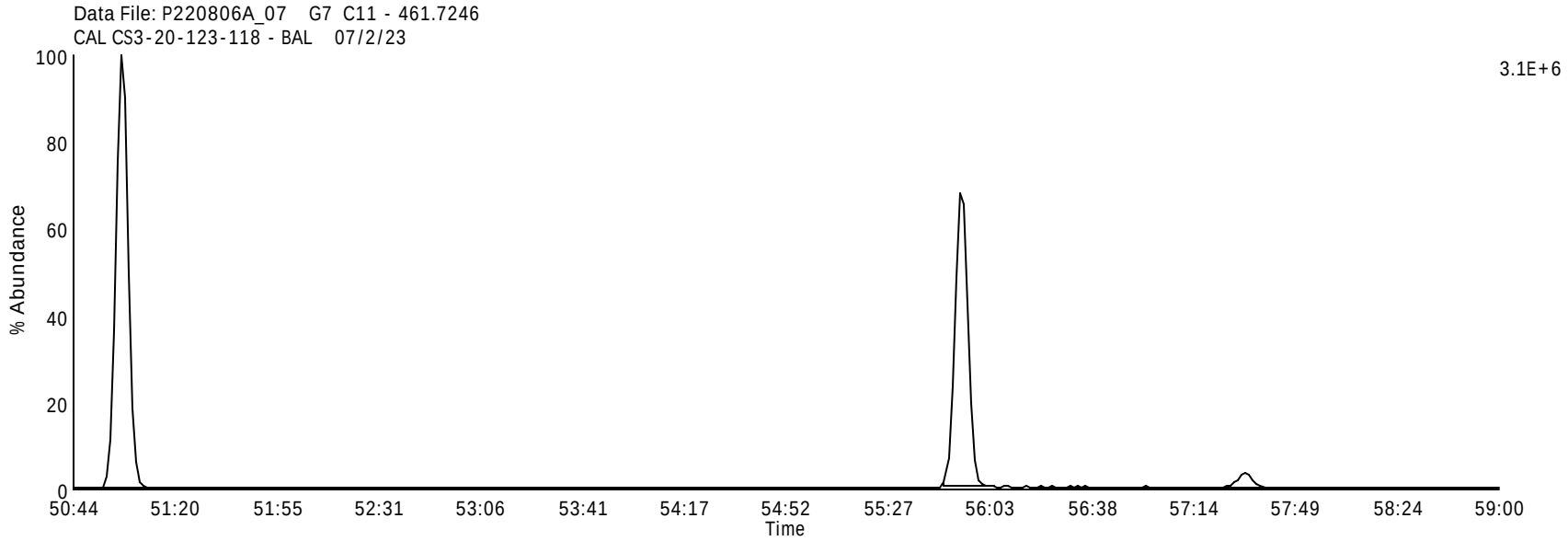


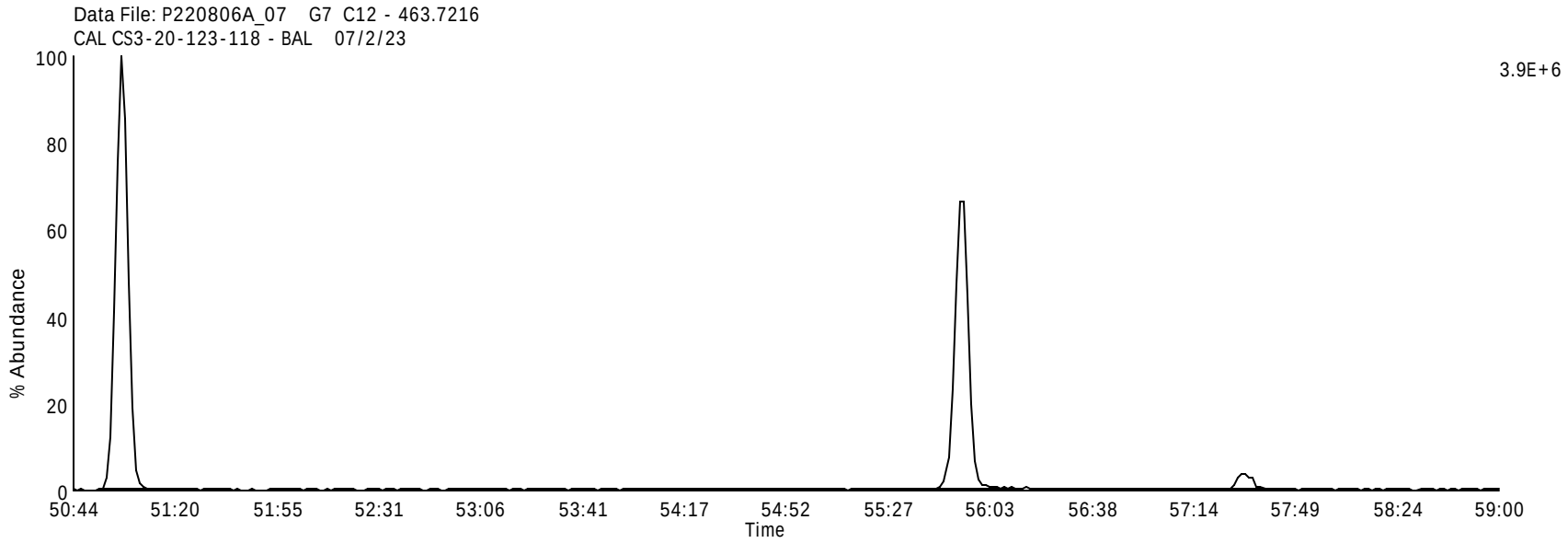
Nona Chlorinated Biphenyls

Data File Name: P220806A_07 Lab Sample ID: CS3-20-123-118

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-20-123-118 - BAL 07/2/23



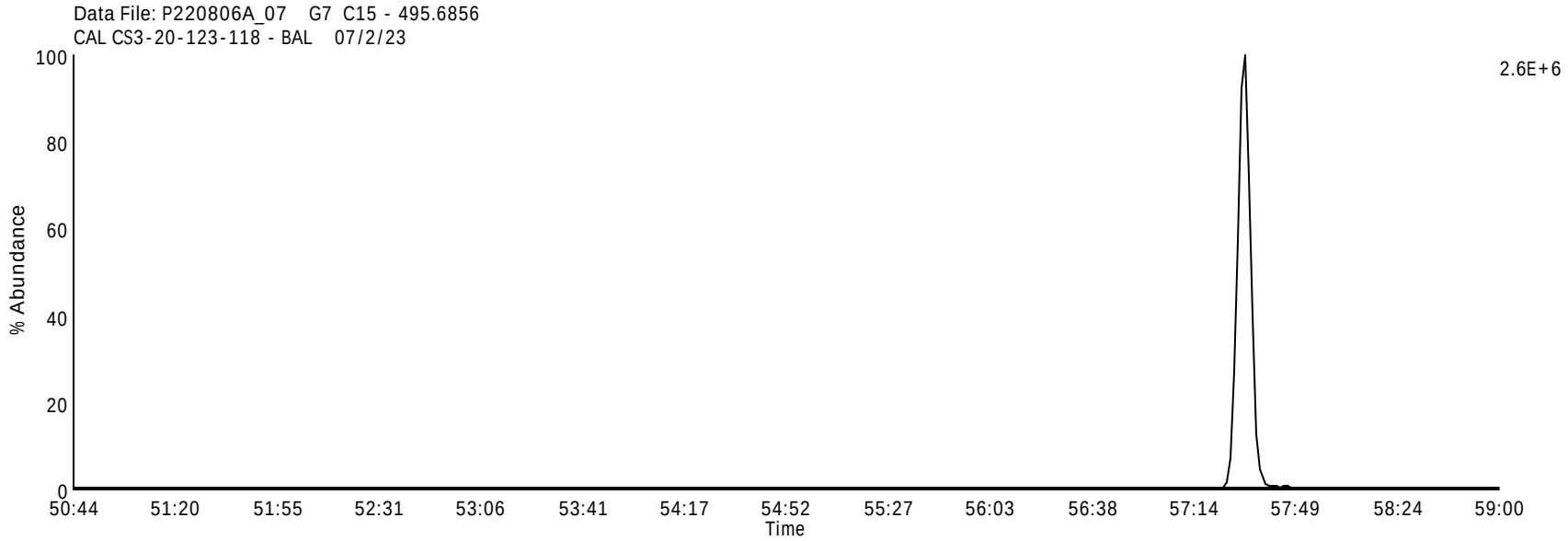


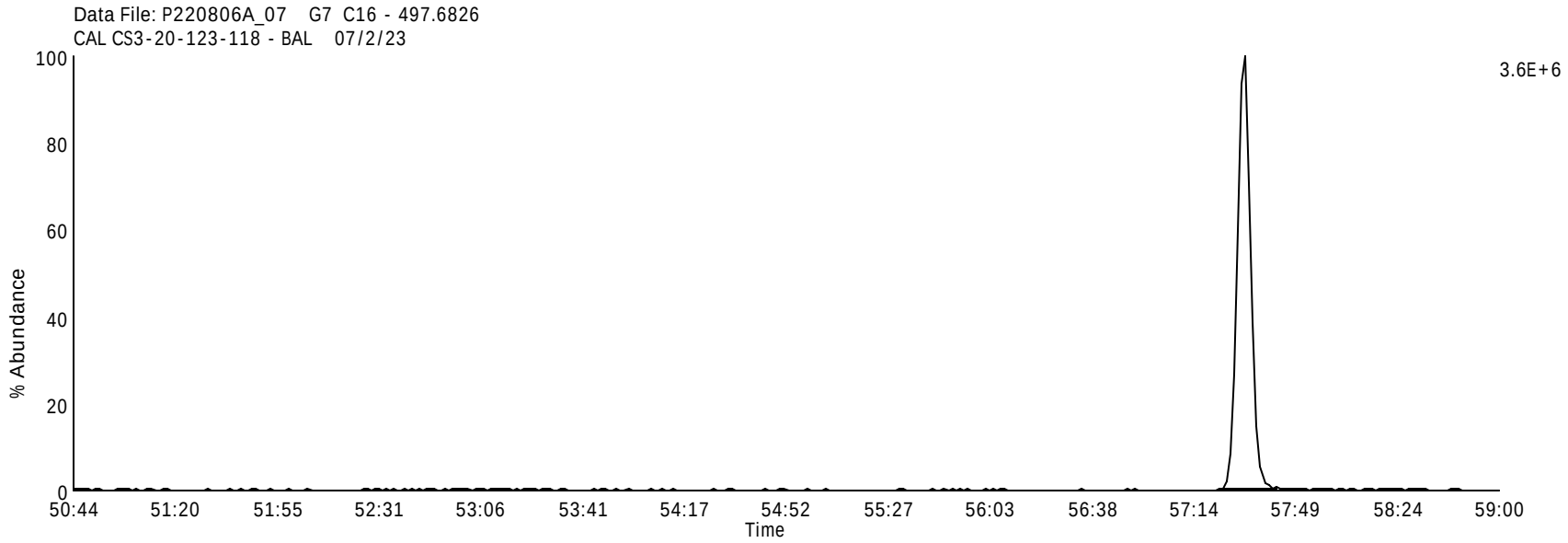
Deca Chlorinated Biphenyl

Data File Name: P220806A_07 Lab Sample ID: CS3-20-123-118

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

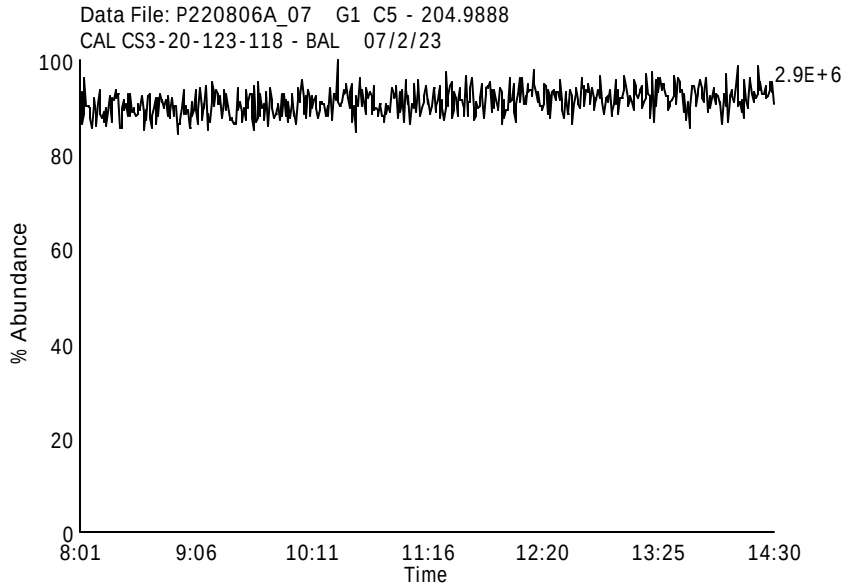
Sample Description: CAL CS3-20-123-118 - BAL 07/2/23

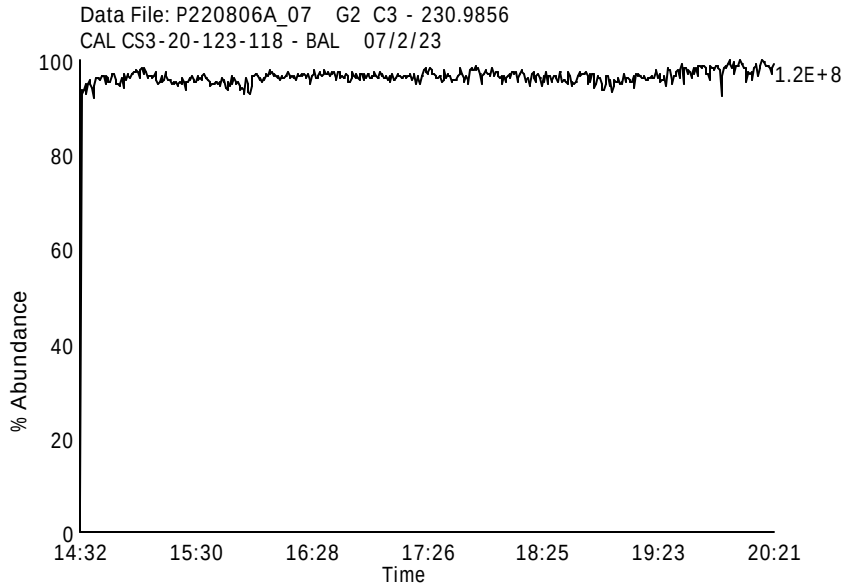


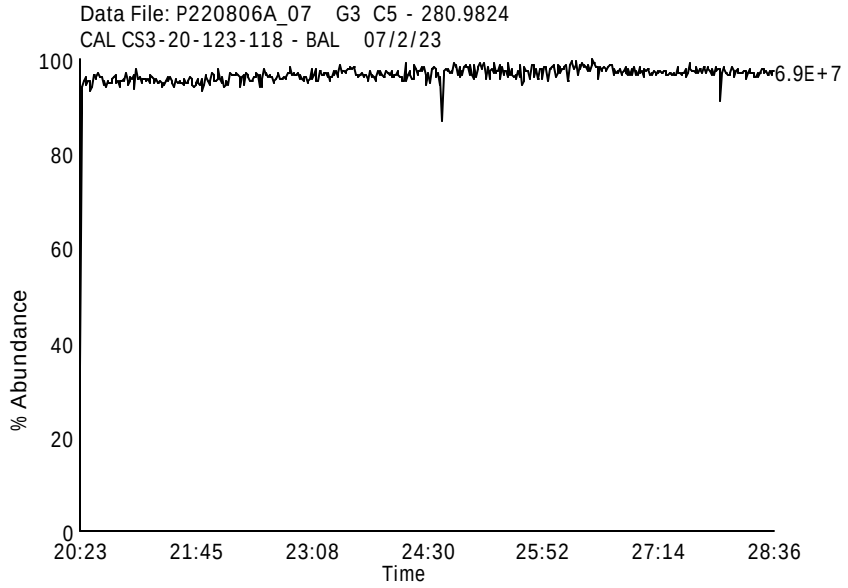


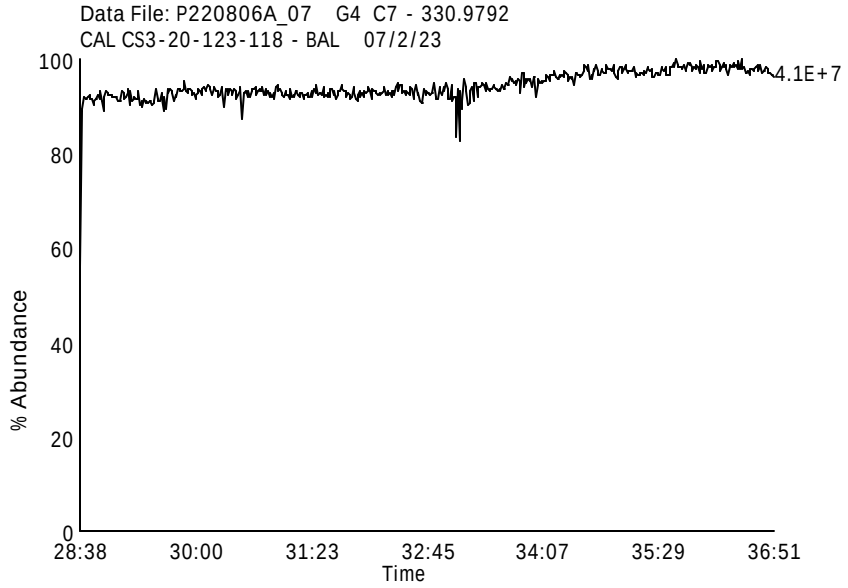
Group 1 - 4 Lock mass

Data File Name: P220806A_07
Lab Sample ID: CS3-20-123-118
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-20-123-118 - BAL 07/2/23





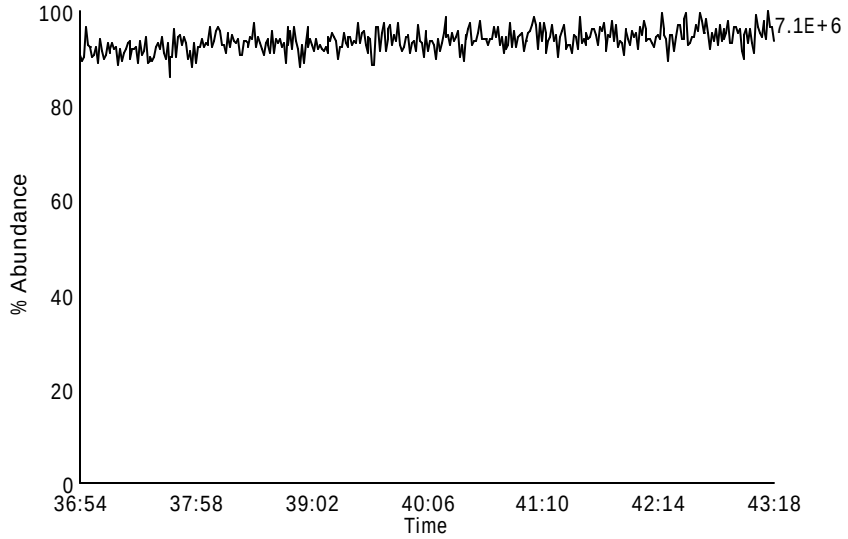




Group 5 - 7 Lock mass

Data File Name: P220806A_07
Lab Sample ID: CS3-20-123-118
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-20-123-118 - BAL 07/2/23

Data File: P220806A_07 G5 C9 - 380.976
CAL CS3-20-123-118 - BAL 07/2/23



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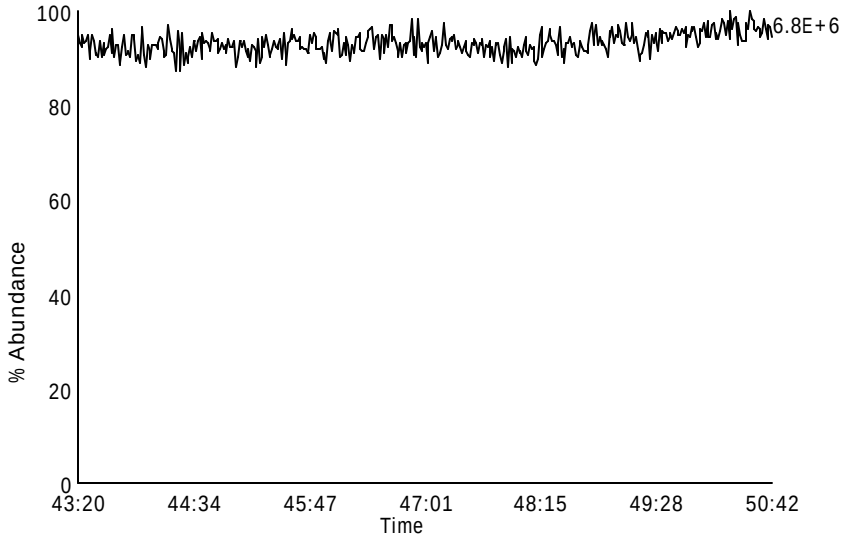
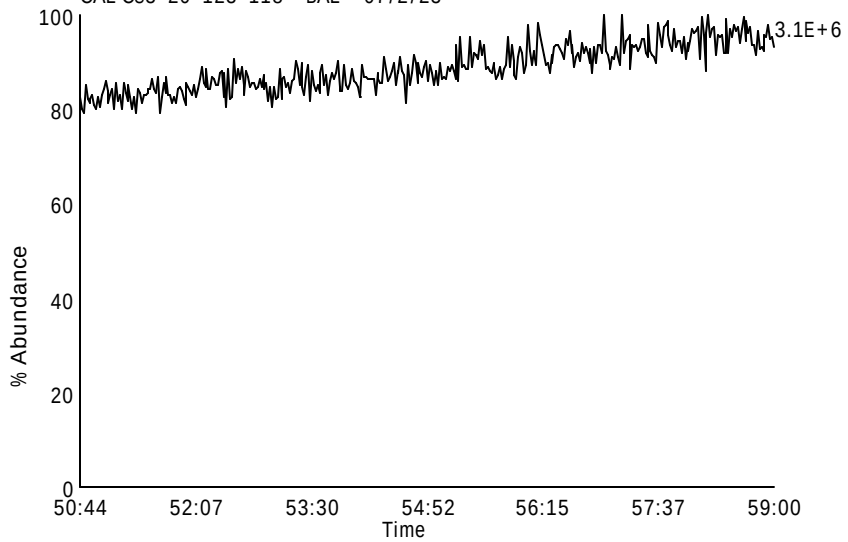
CAL CS3-20-123-118 - BAL 07/2/23



Data File: P220806A_07 G7 C9 - 442.9728
CAL CS3-20-123-118 - BAL 07/2/23



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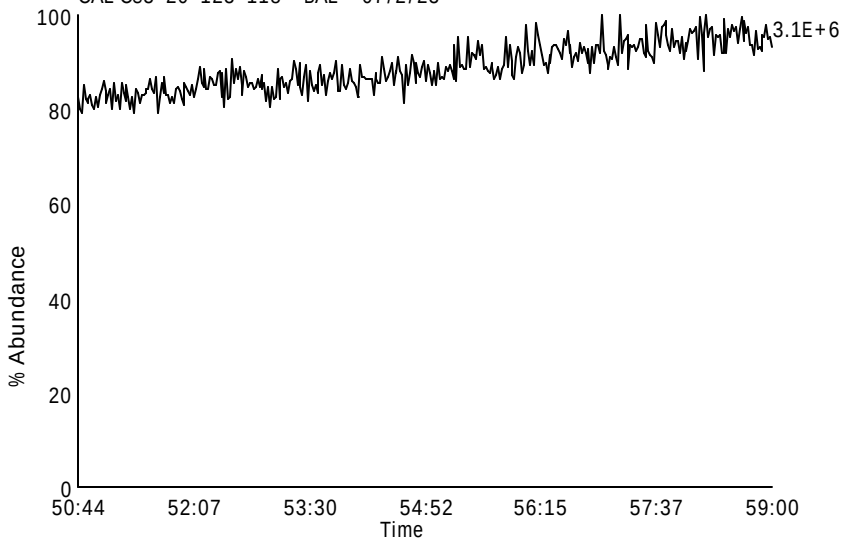
CAL CS3-20-123-118 - BAL 07/2/23

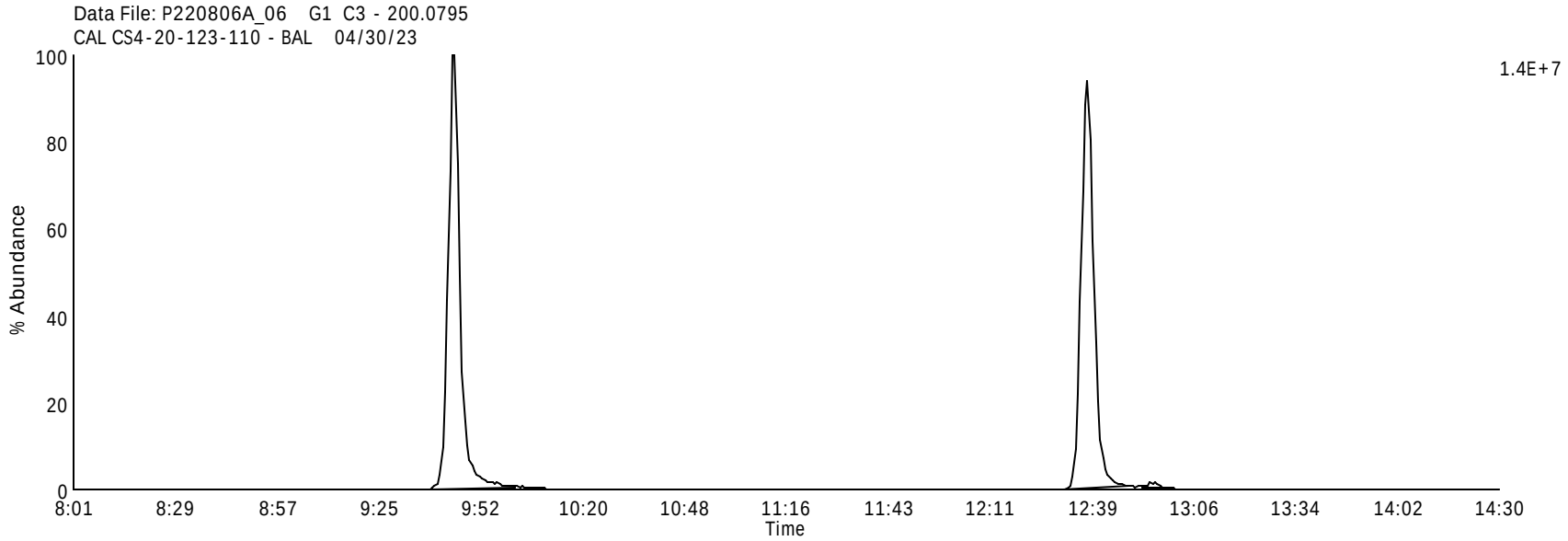


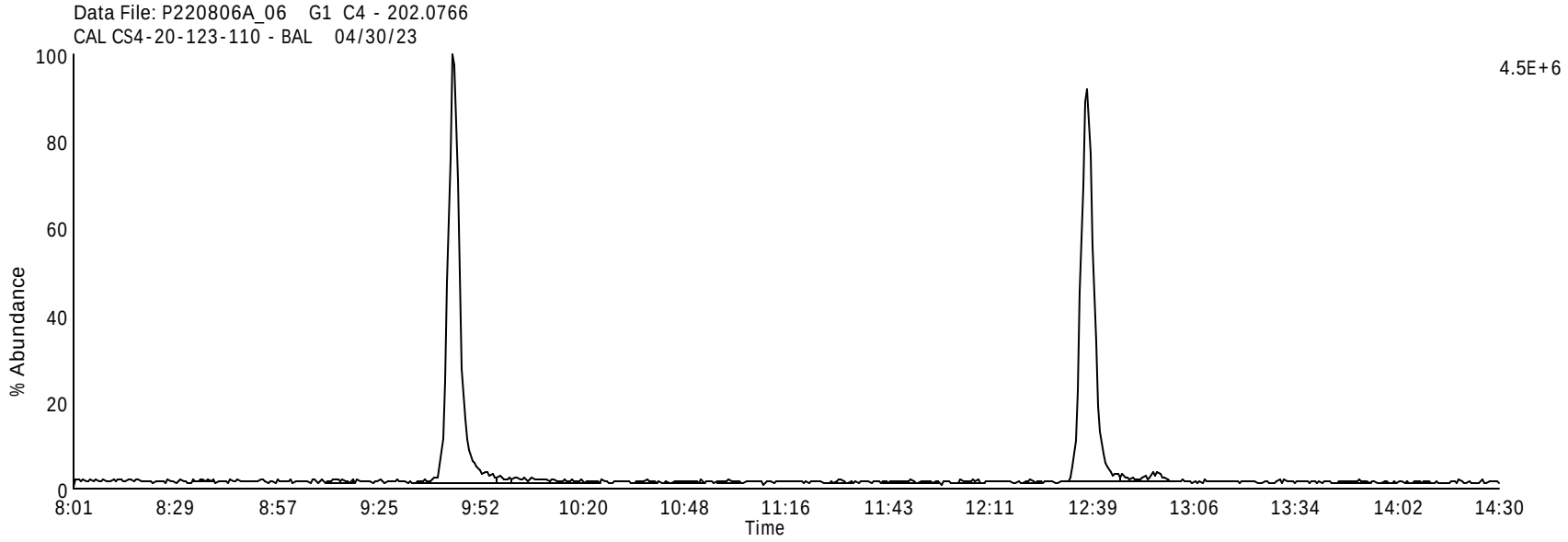
Labeled Mono Chlorinated Biphenyls

Data File Name: P220806A_06 Lab Sample ID: CS4-20-123-110

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS4-20-123-110 - BAL 04/30/23

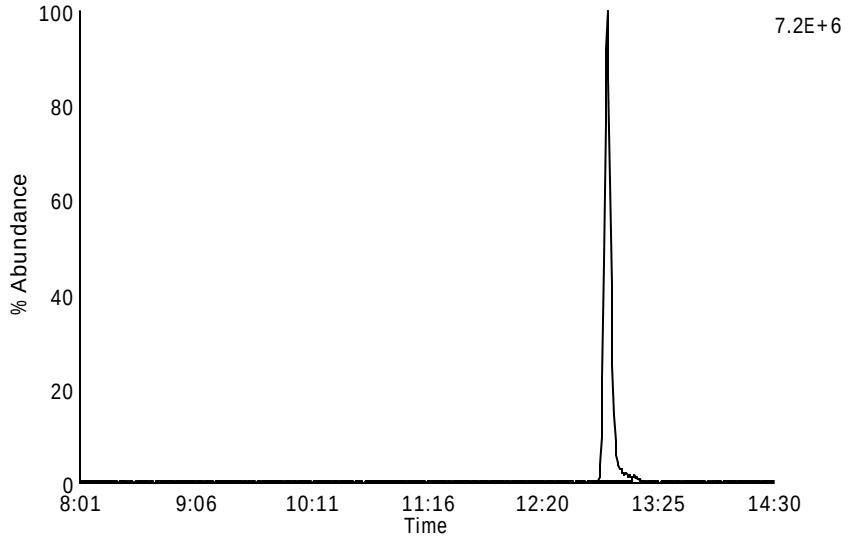




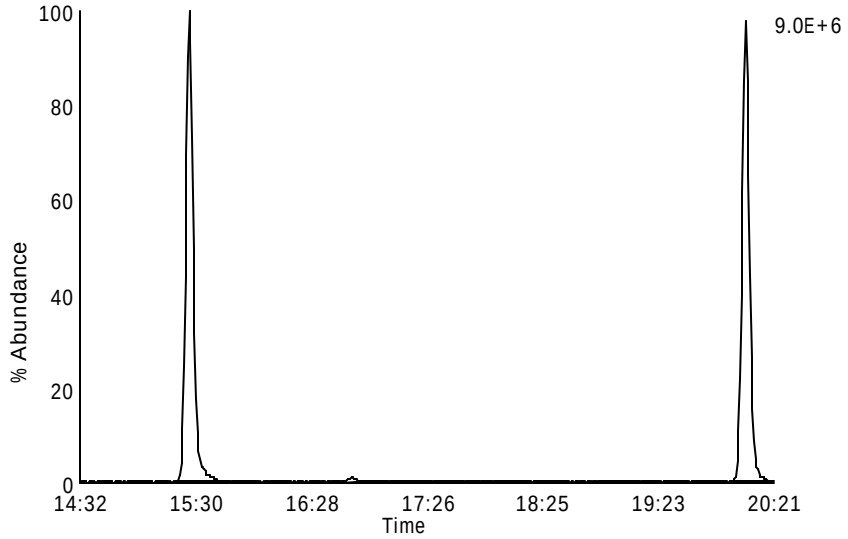
Labeled Di Chlorinated Biphenyls

Data File Name: P220806A_06
Lab Sample ID: CS4-20-123-110
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS4-20-123-110 - BAL 04/30/23

Data File: P220806A_06 G1 C9 - 234.0406
CAL CS4-20-123-110 - BAL 04/30/23



Data File: P220806A_06 G2 C5 - 234.0406
CAL CS4-20-123-110 - BAL 04/30/23



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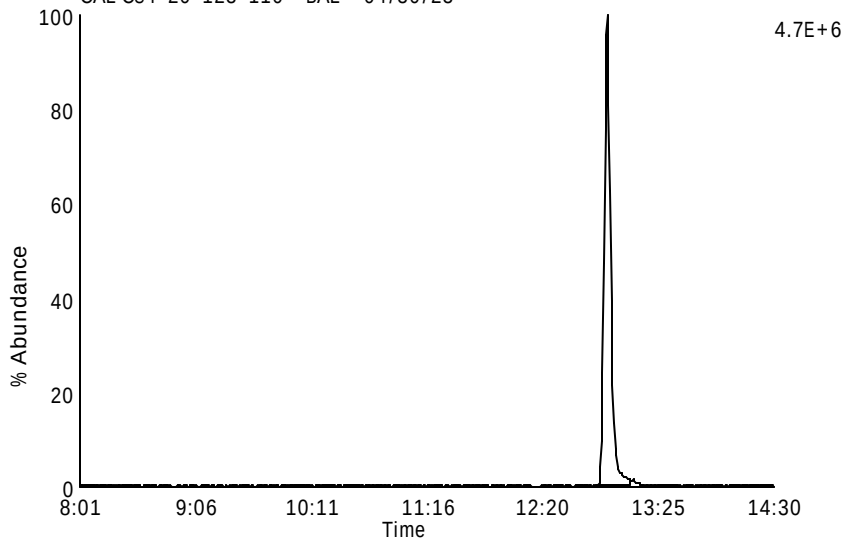
CAL CS4-20-123-110 - BAL 04/30/23



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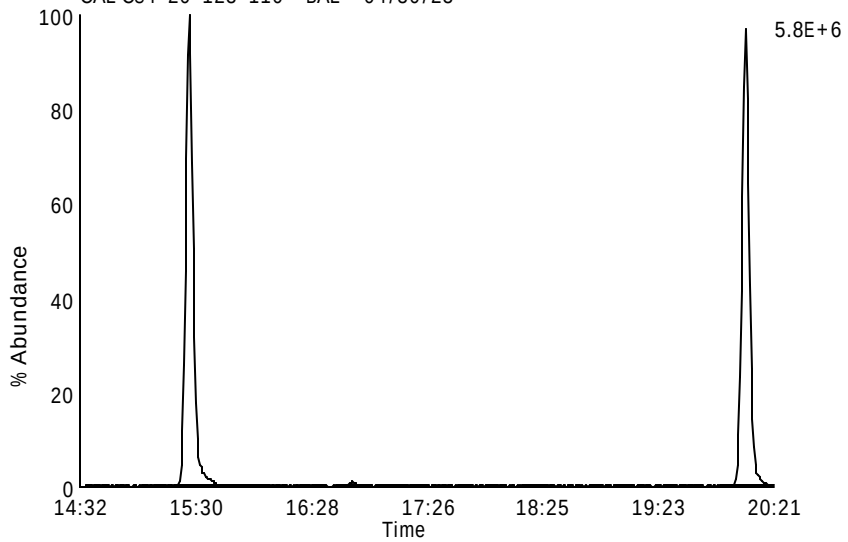
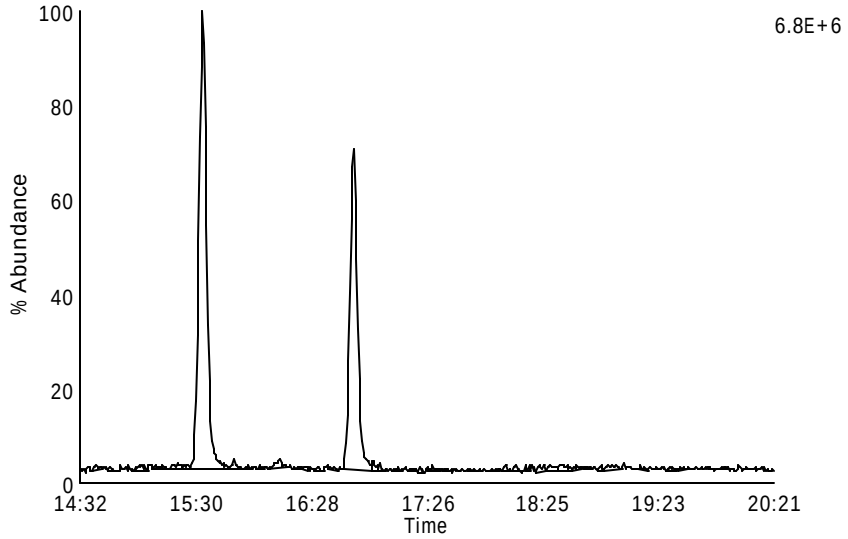
CAL CS4-20-123-110 - BAL 04/30/23



Labeled Tri Chlorinated Biphenyls

Data File Name: P220806A_06
Lab Sample ID: CS4-20-123-110
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS4-20-123-110 - BAL 04/30/23

Data File: P220806A_06 G2 C9 - 268.0016
CAL CS4-20-123-110 - BAL 04/30/23



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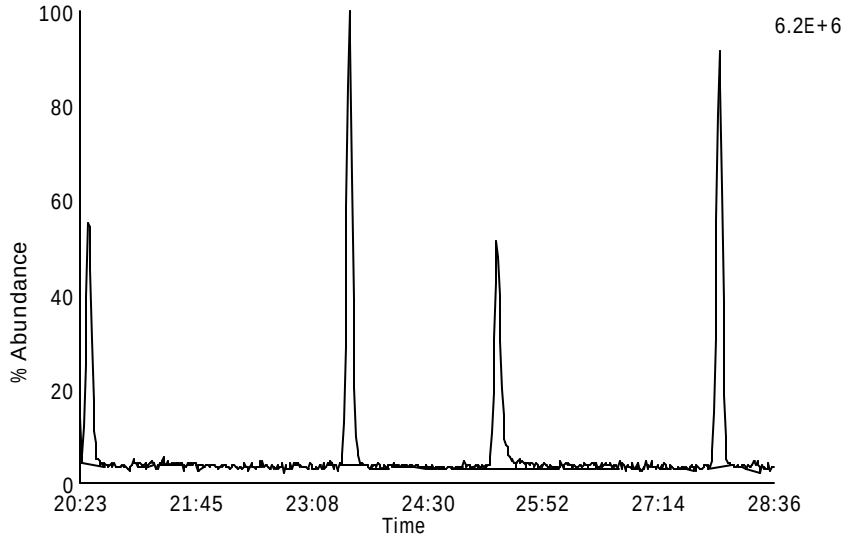
CAL CS4-20-123-110 - BAL 04/30/23



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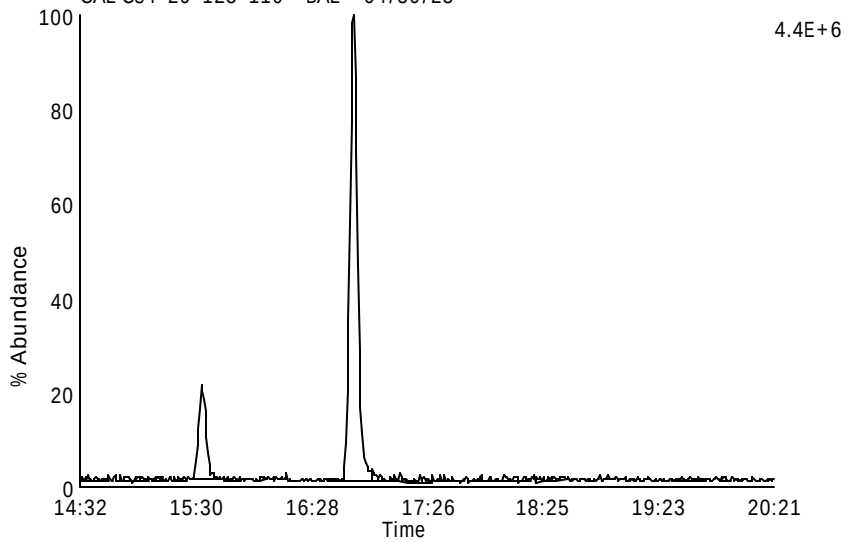
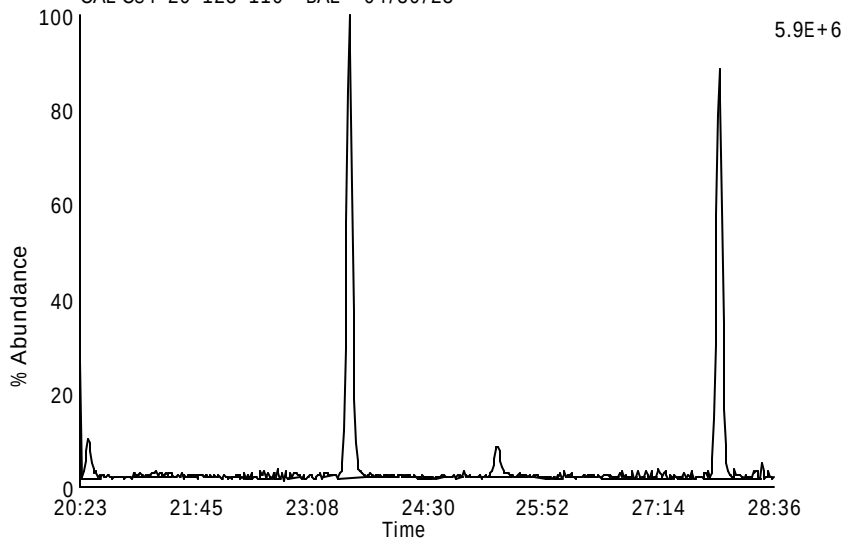
CAL CS4-20-123-110 - BAL 04/30/23

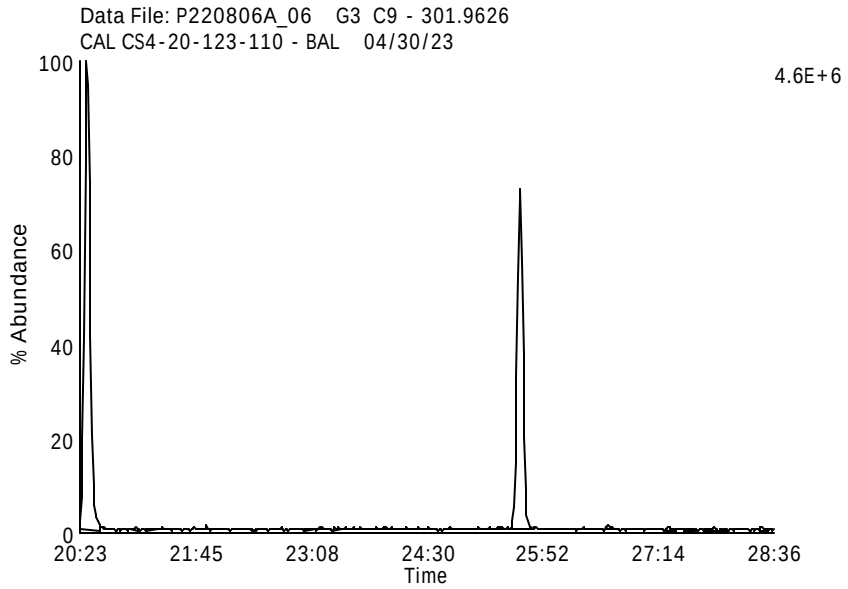


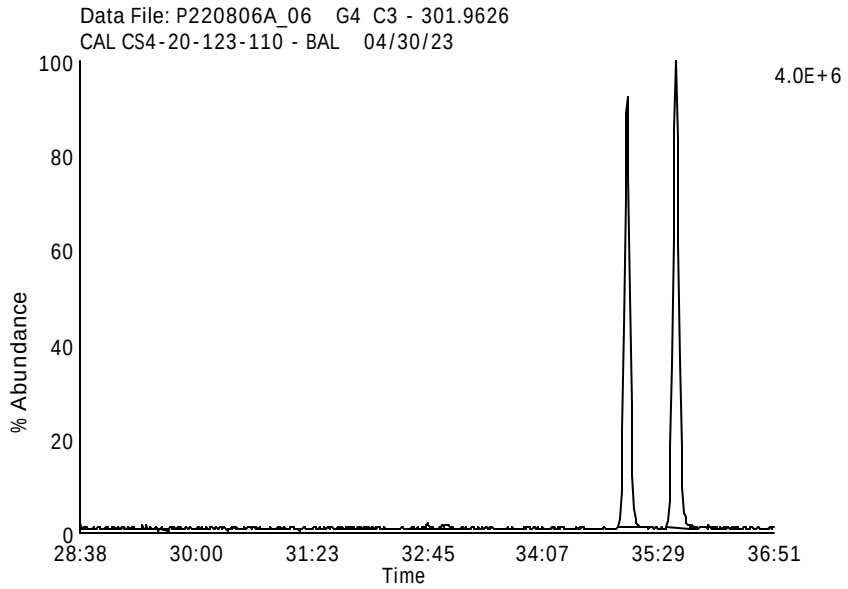
Data File: P220806A_06 G3 C4 - 269.9986
CAL CS4-20-123-110 - BAL 04/30/23

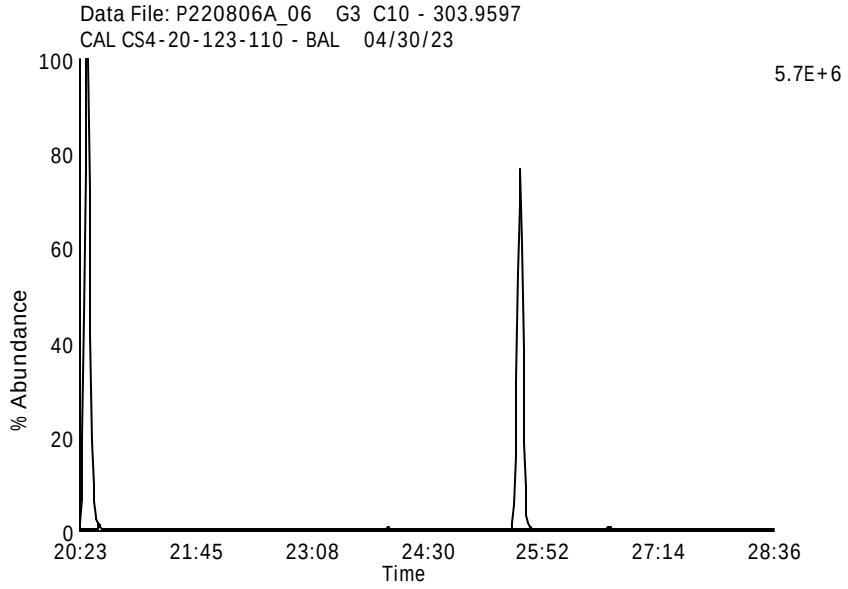


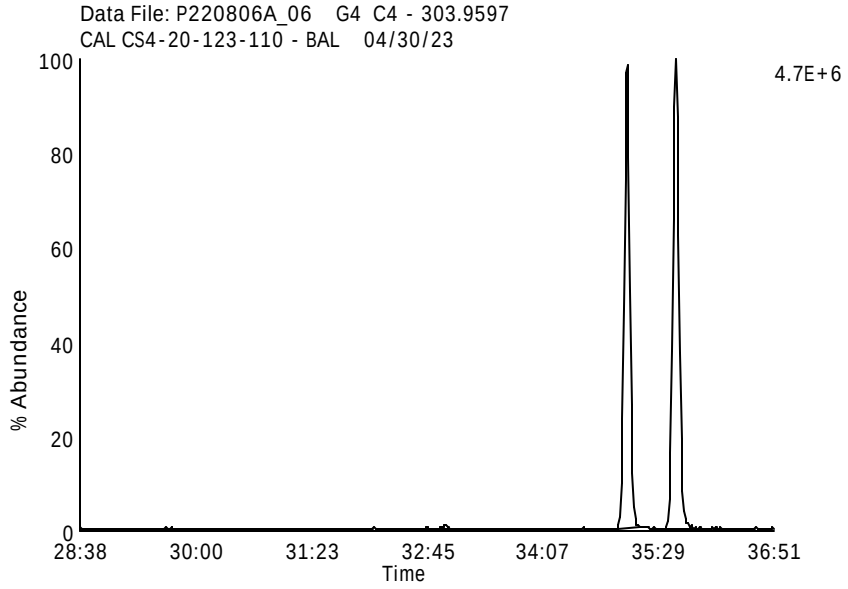
Labeled Tetra Chlorinated Biphenyls

Data File Name: P220806A_06
Lab Sample ID: CS4-20-123-110
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS4-20-123-110 - BAL 04/30/23







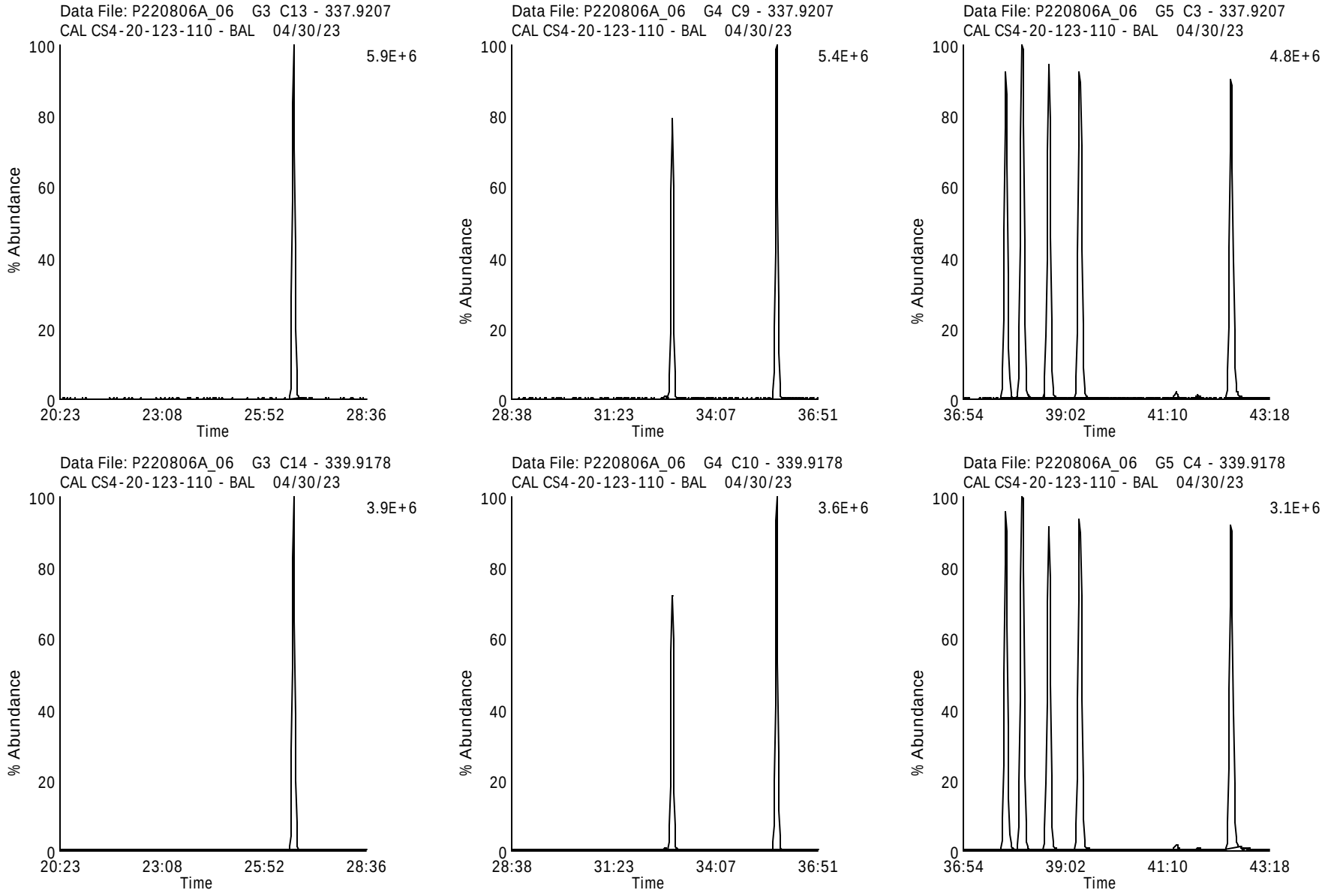


Labeled Penta Chlorinated Biphenyls

Data File Name: P220806A_06 Lab Sample ID: CS4-20-123-110

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS4-20-123-110 - BAL 04/30/23

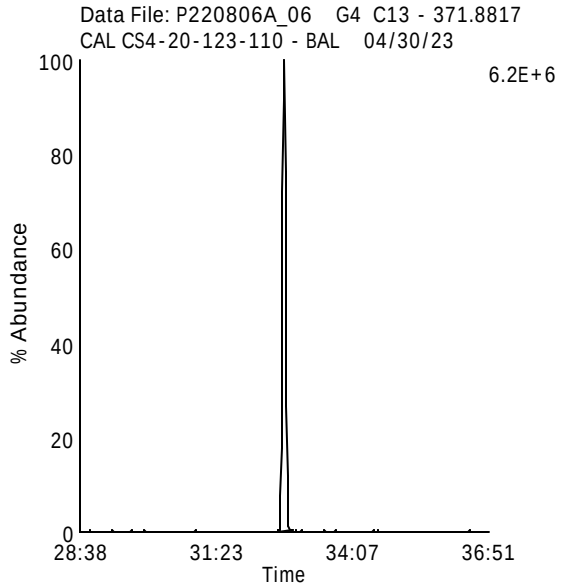


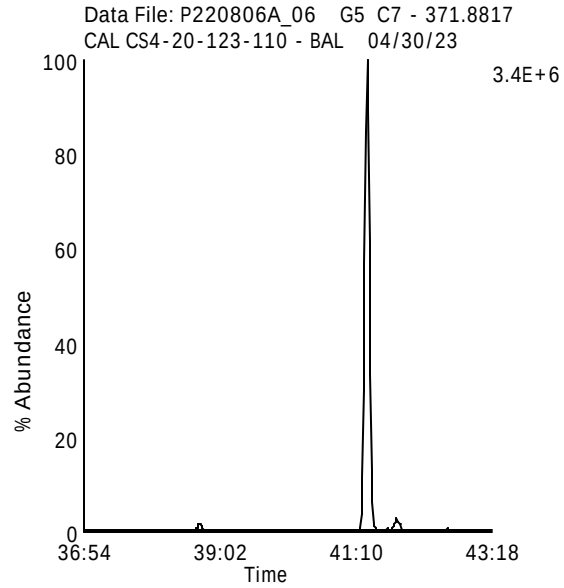
Labeled Hexa Chlorinated Biphenyls

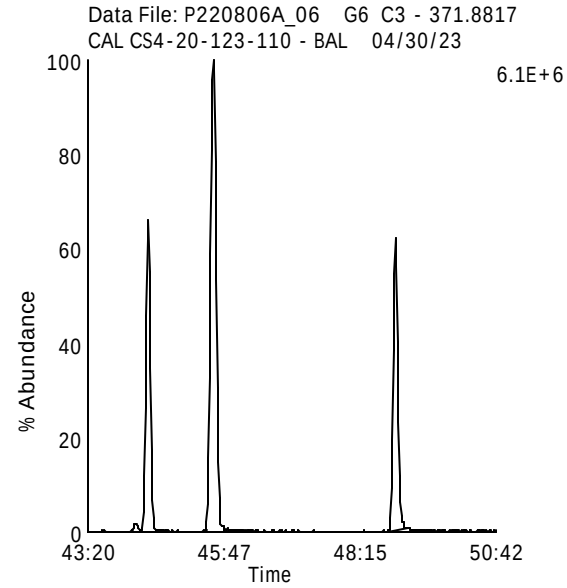
Data File Name: P220806A_06 Lab Sample ID: CS4-20-123-110

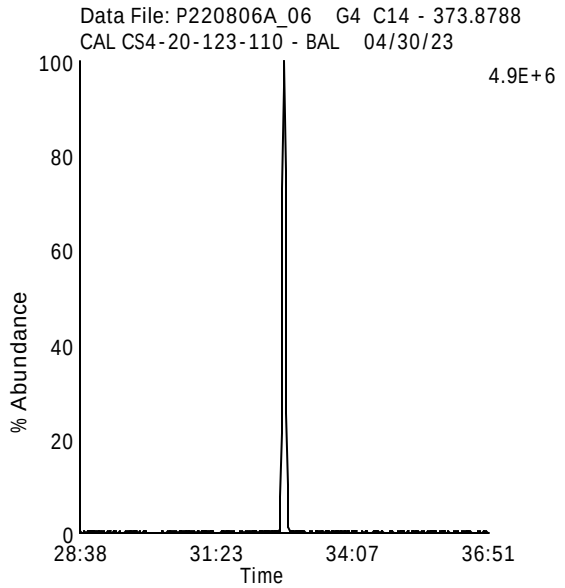
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

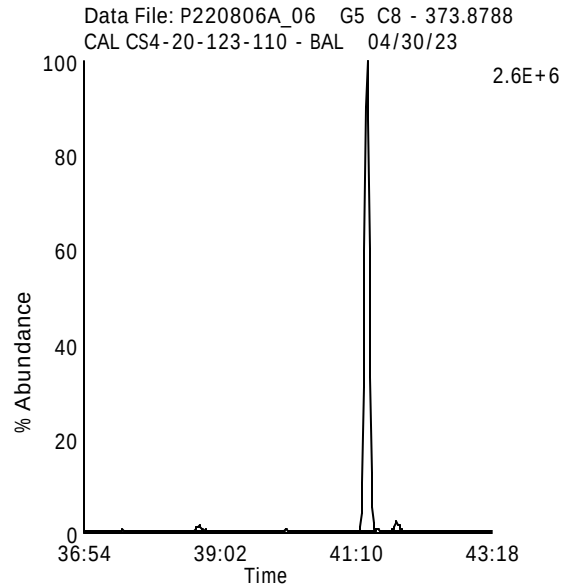
Sample Description: CAL CS4-20-123-110 - BAL 04/30/23

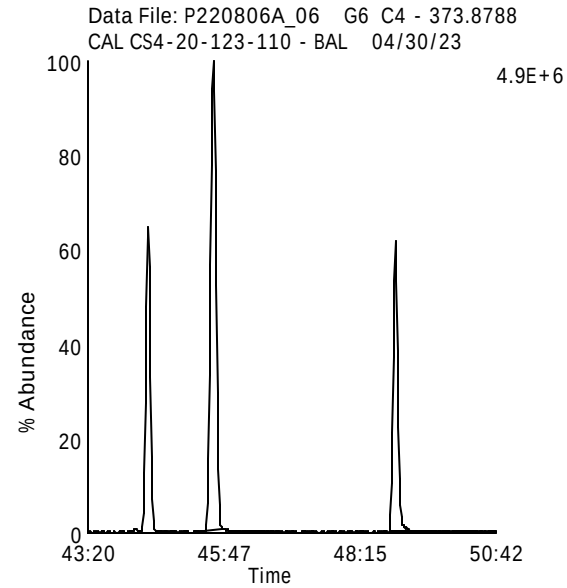






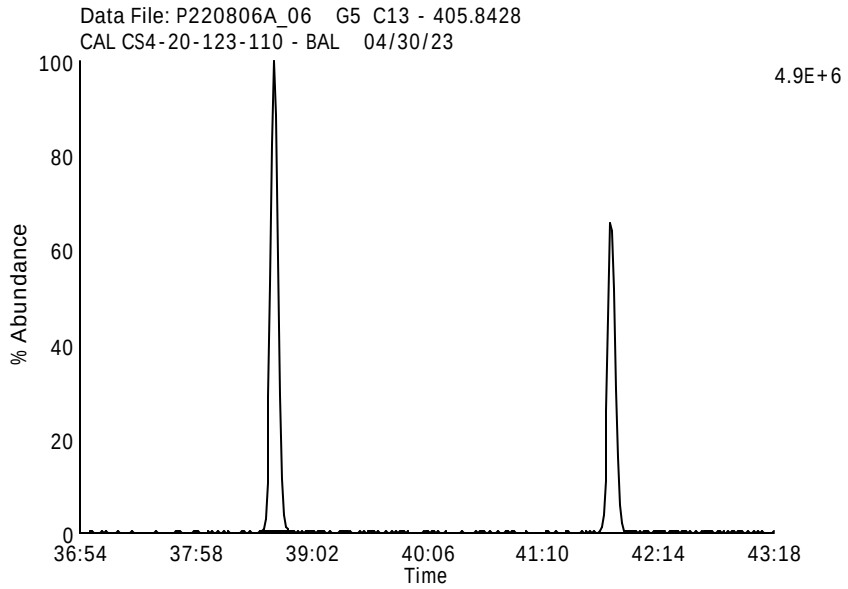


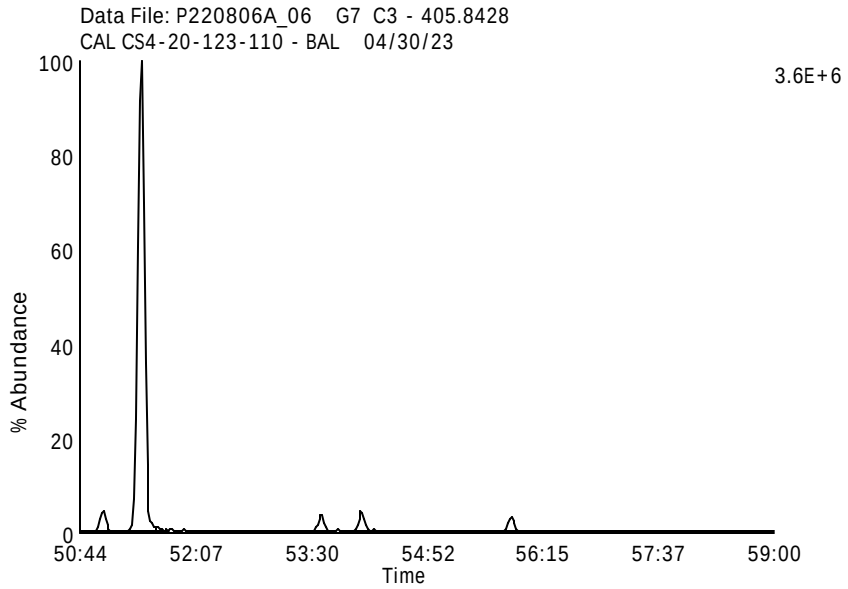


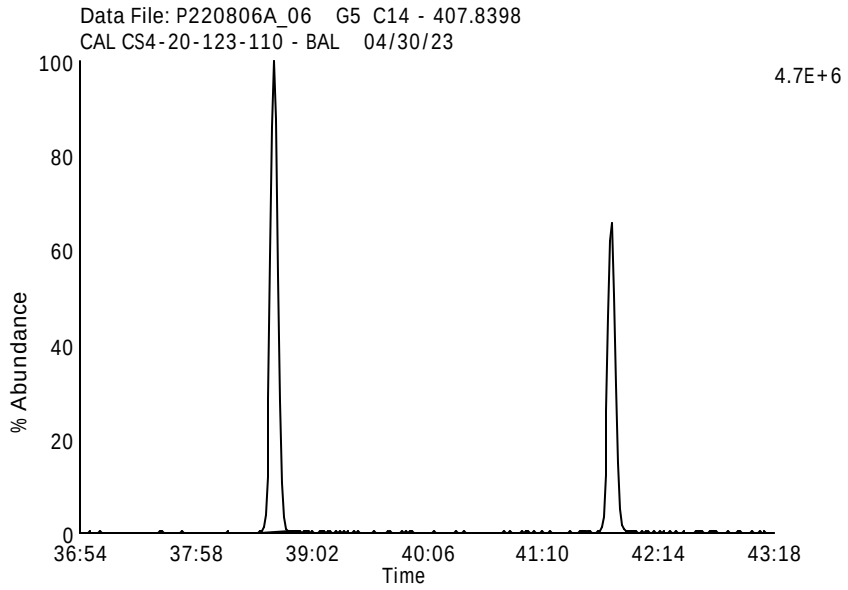


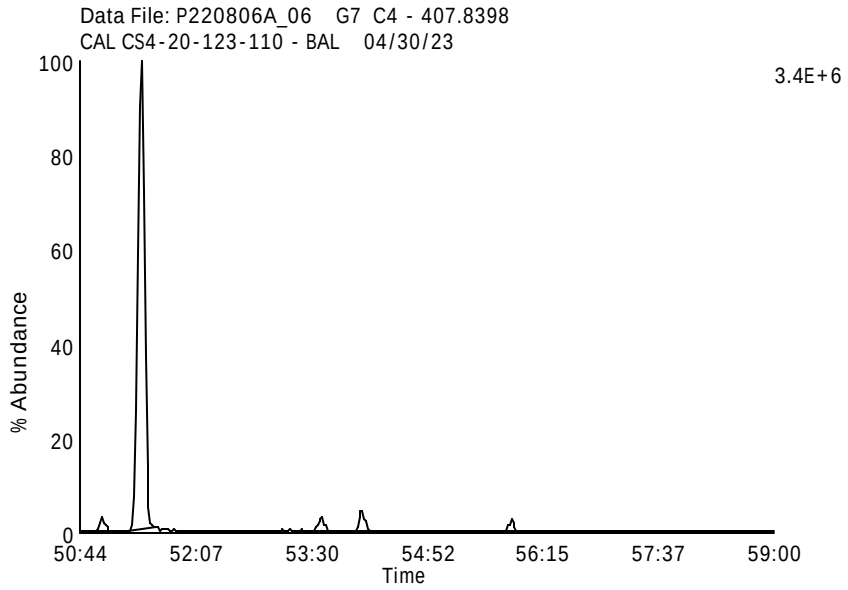
Labeled Hepta Chlorinated Biphenyls

Data File Name: P220806A_06
Lab Sample ID: CS4-20-123-110
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS4-20-123-110 - BAL 04/30/23



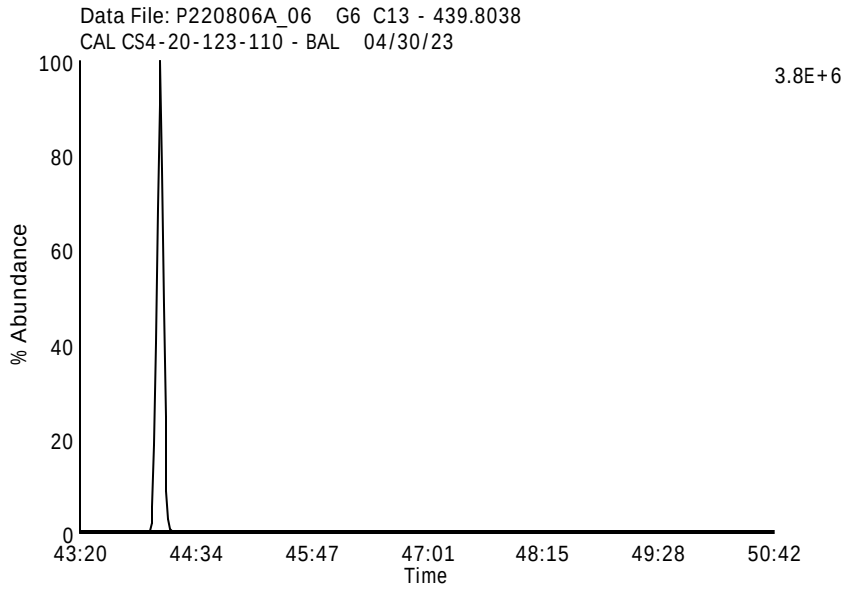


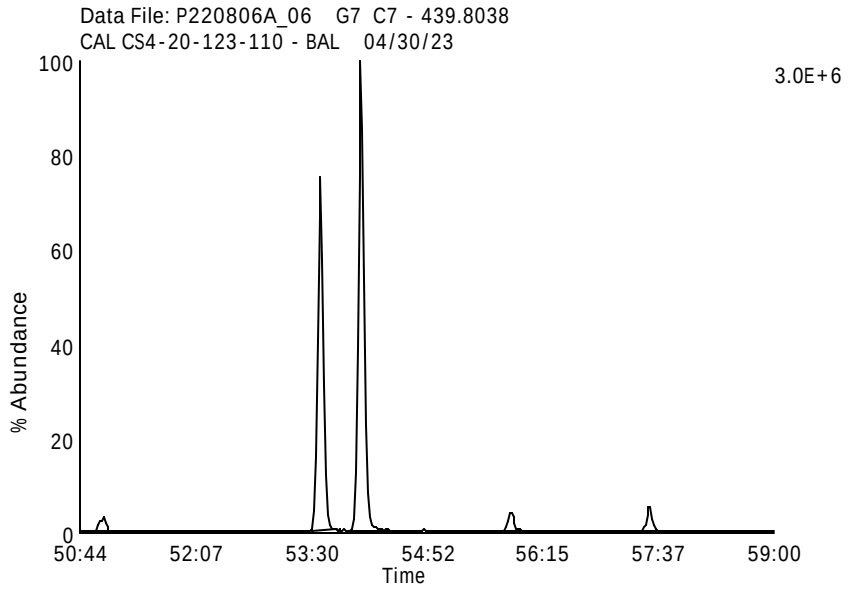


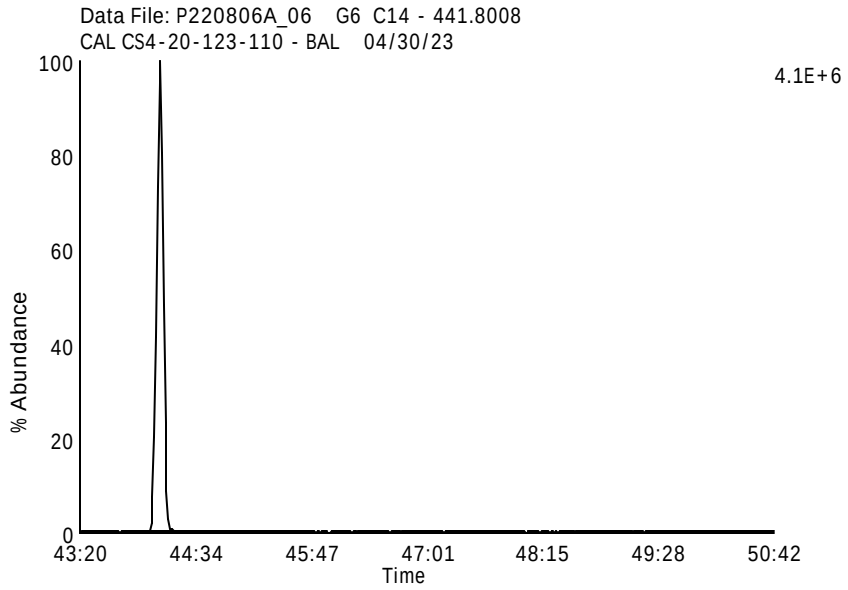


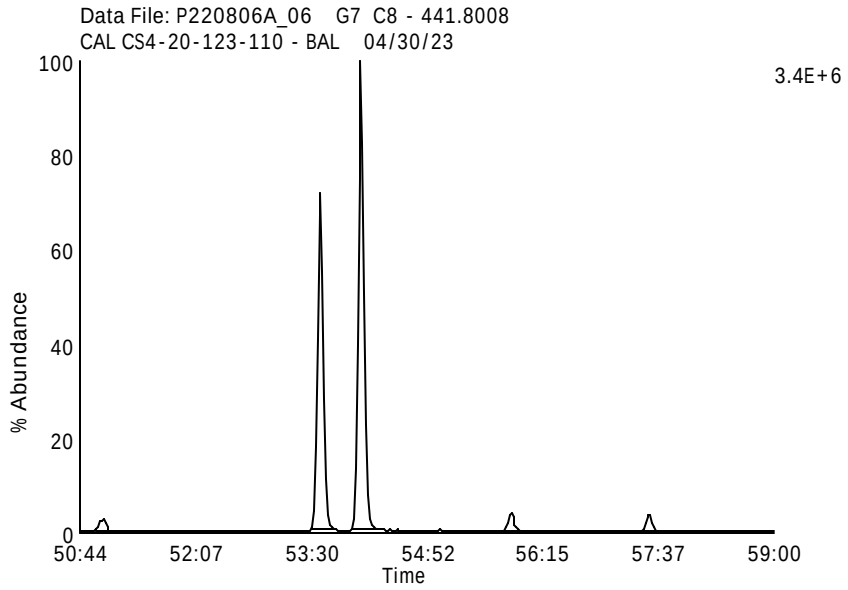
Labeled Octa Chlorinated Biphenyls

Data File Name: P220806A_06
Lab Sample ID: CS4-20-123-110
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS4-20-123-110 - BAL 04/30/23







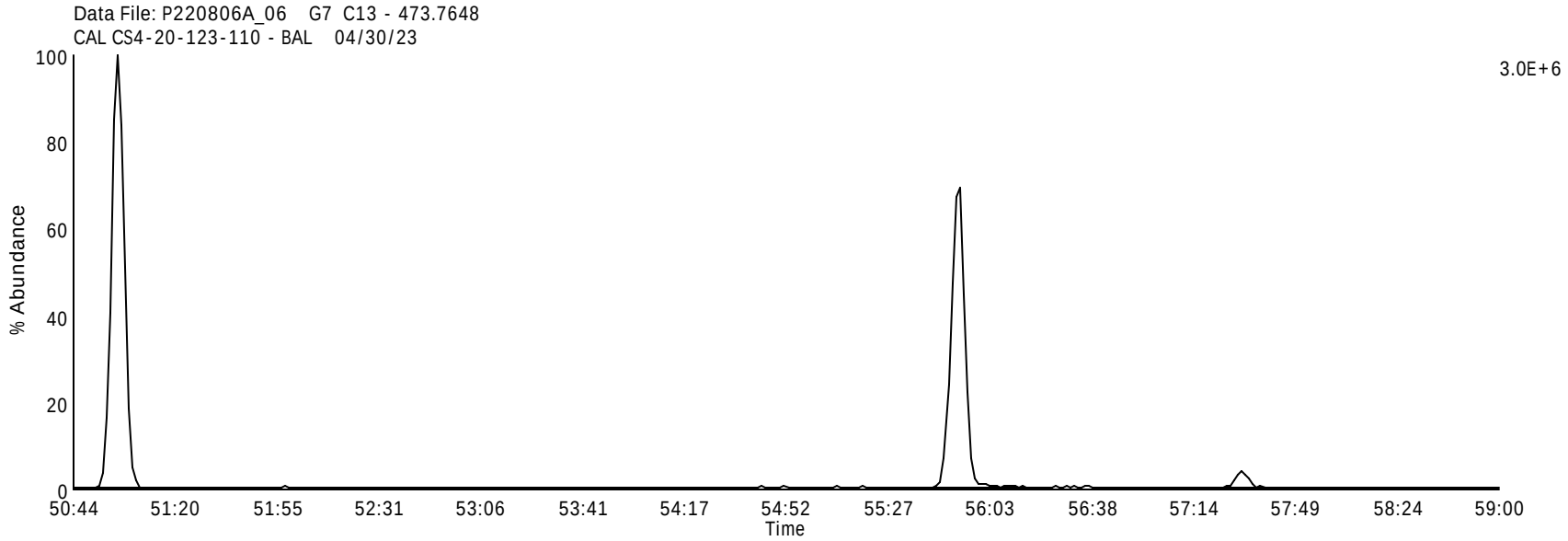


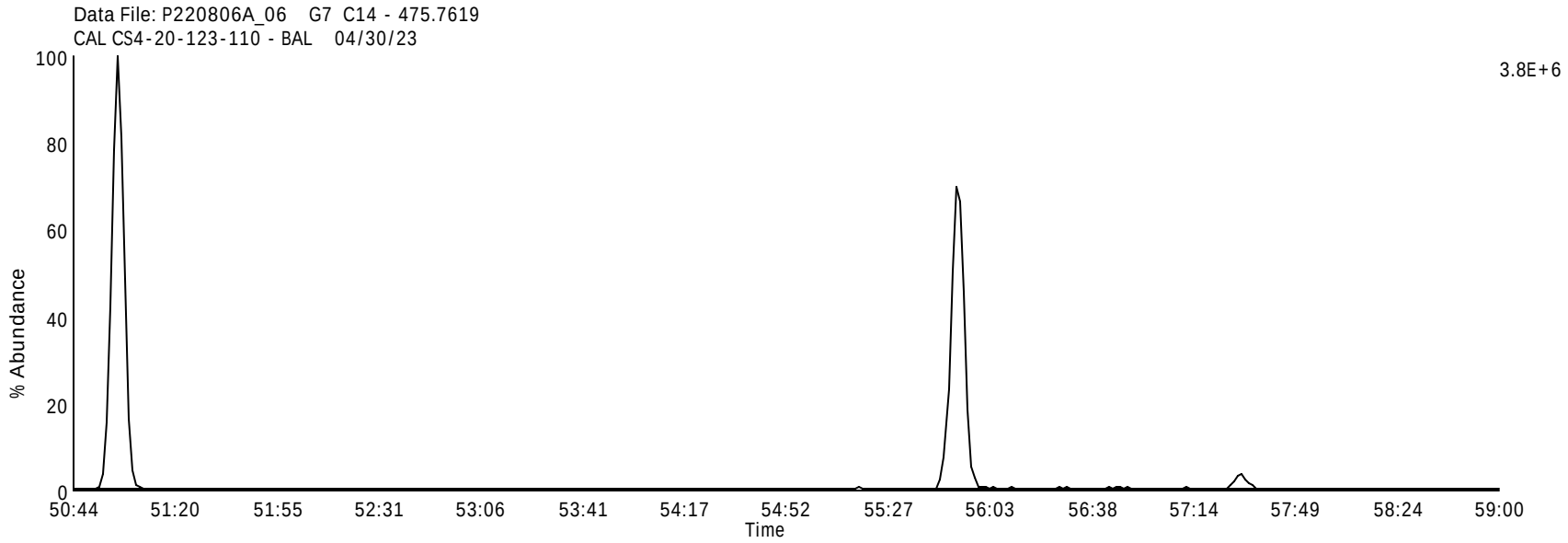
Labeled Nona Chlorinated Biphenyls

Data File Name: P220806A_06 Lab Sample ID: CS4-20-123-110

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS4-20-123-110 - BAL 04/30/23



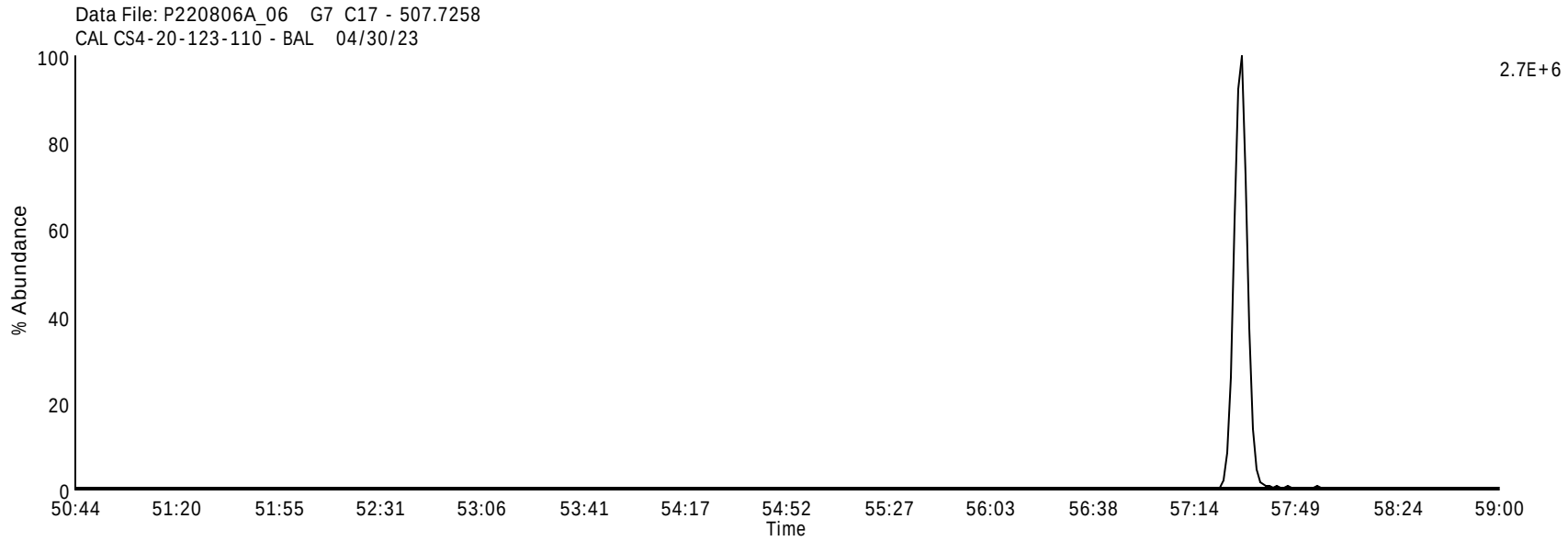


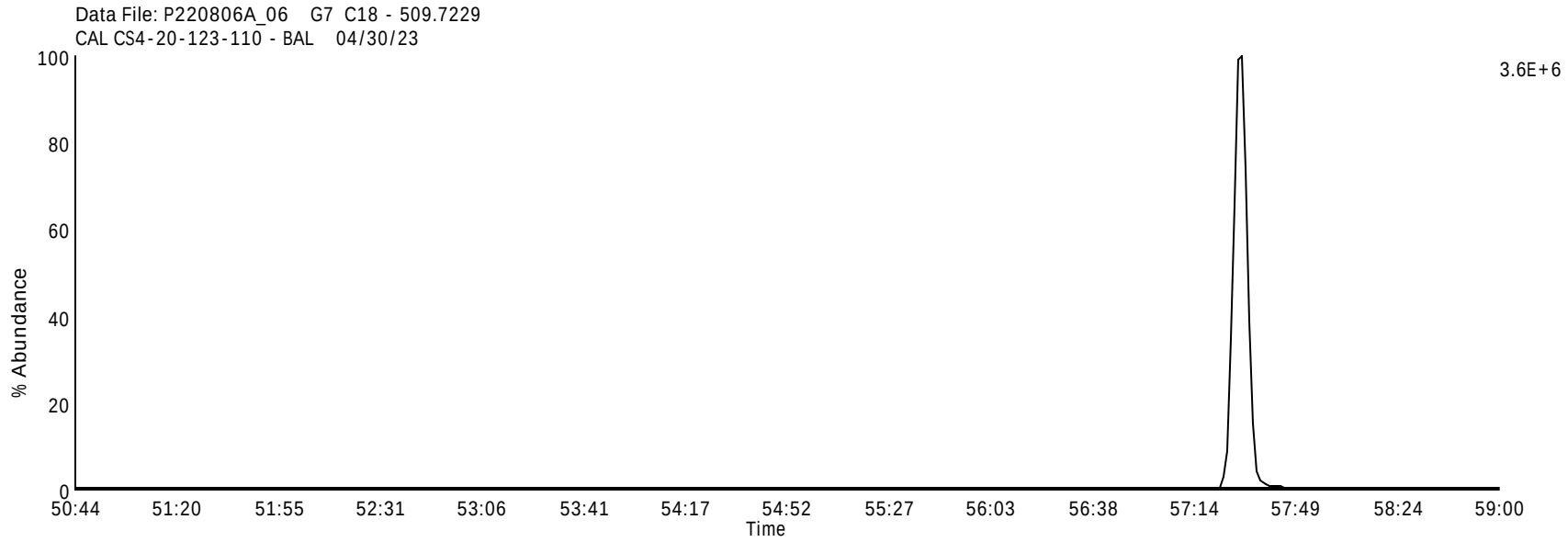
Labeled Deca Chlorinated Biphenyl

Data File Name: P220806A_06 Lab Sample ID: CS4-20-123-110

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS4-20-123-110 - BAL 04/30/23



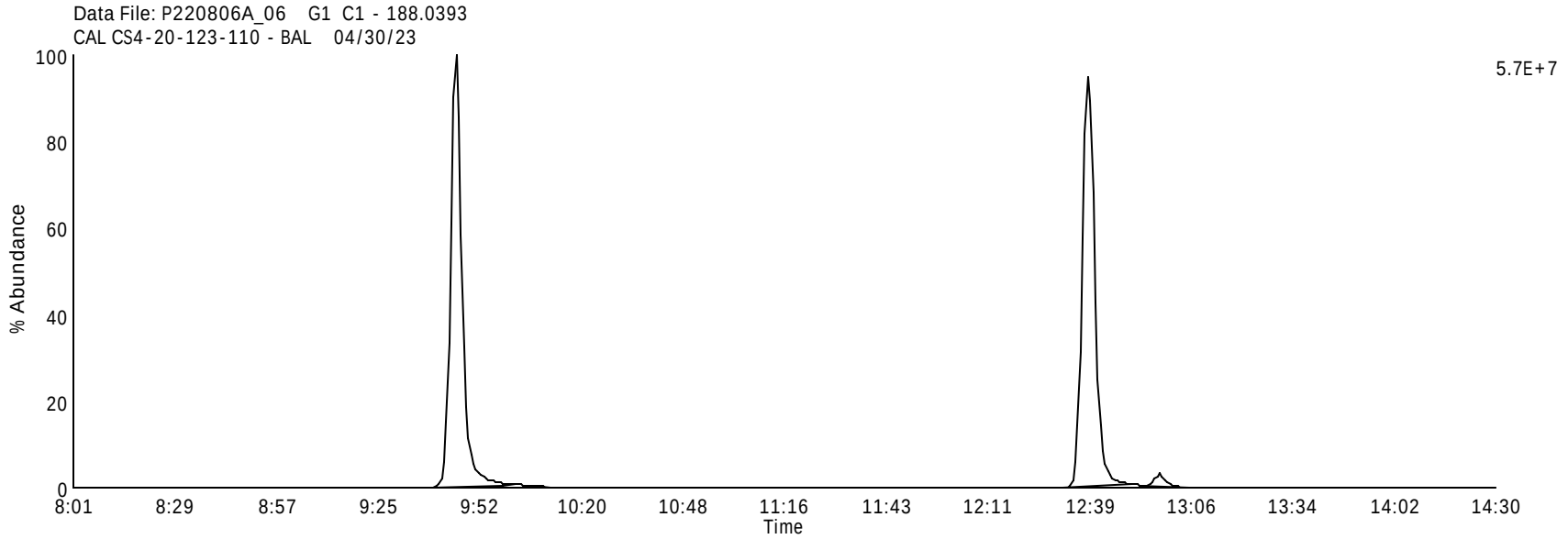


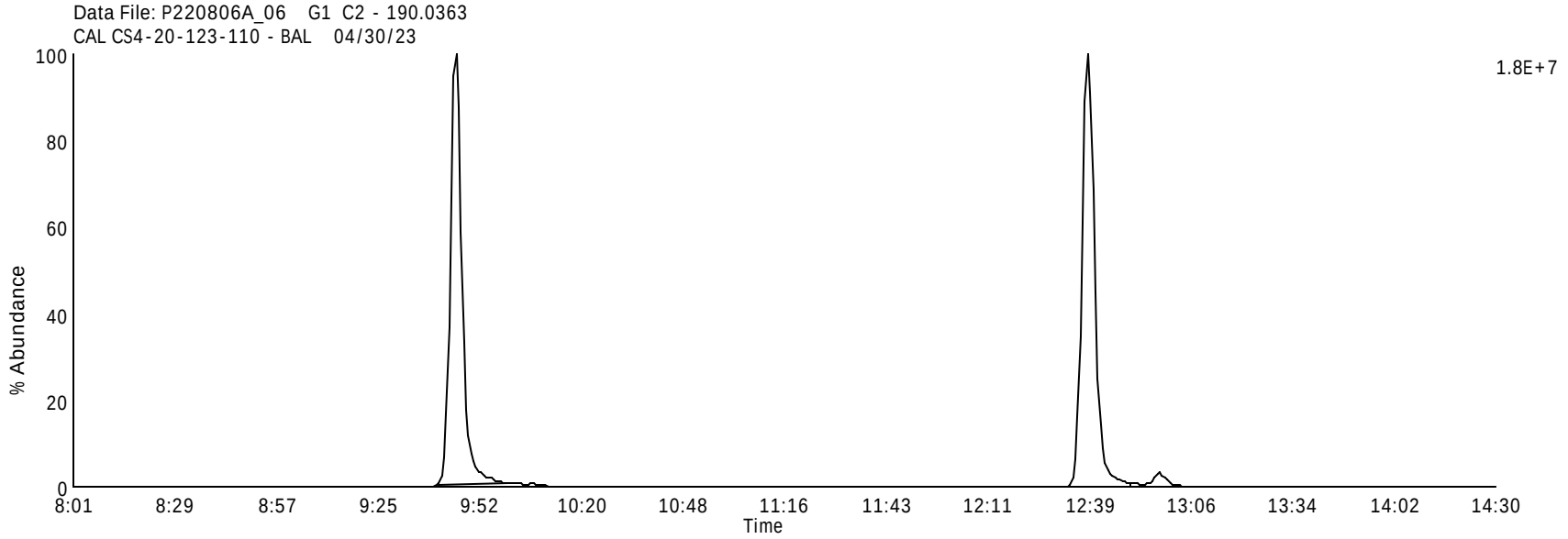
Mono Chlorinated Biphenyls

Data File Name: P220806A_06 Lab Sample ID: CS4-20-123-110

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

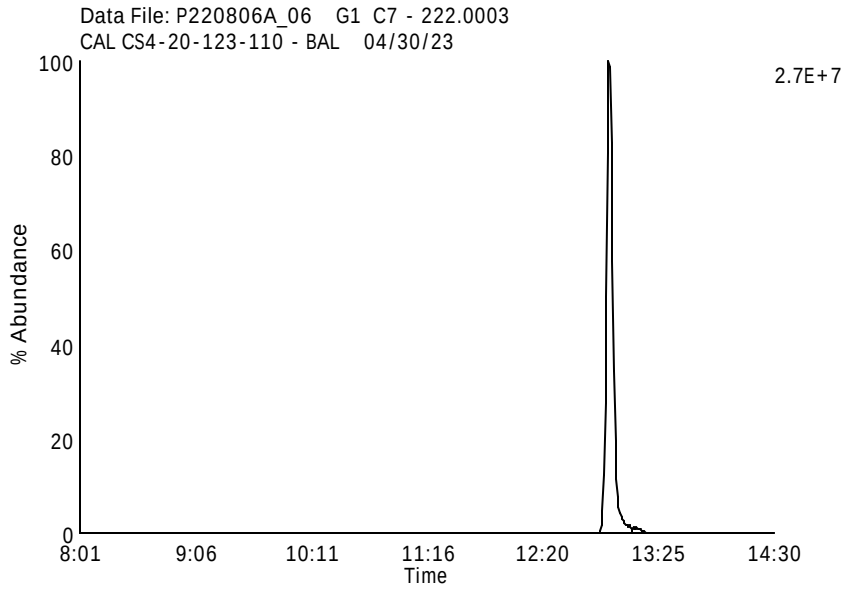
Sample Description: CAL CS4-20-123-110 - BAL 04/30/23

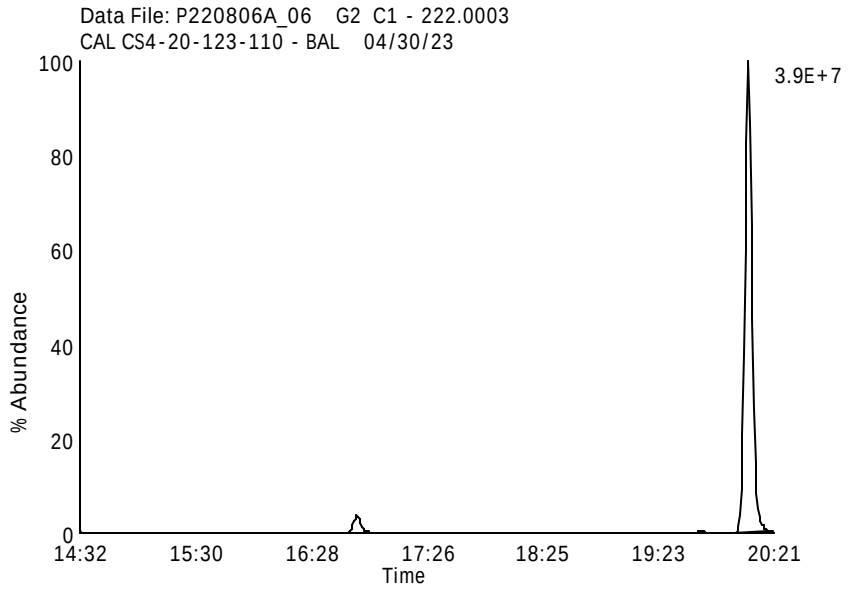


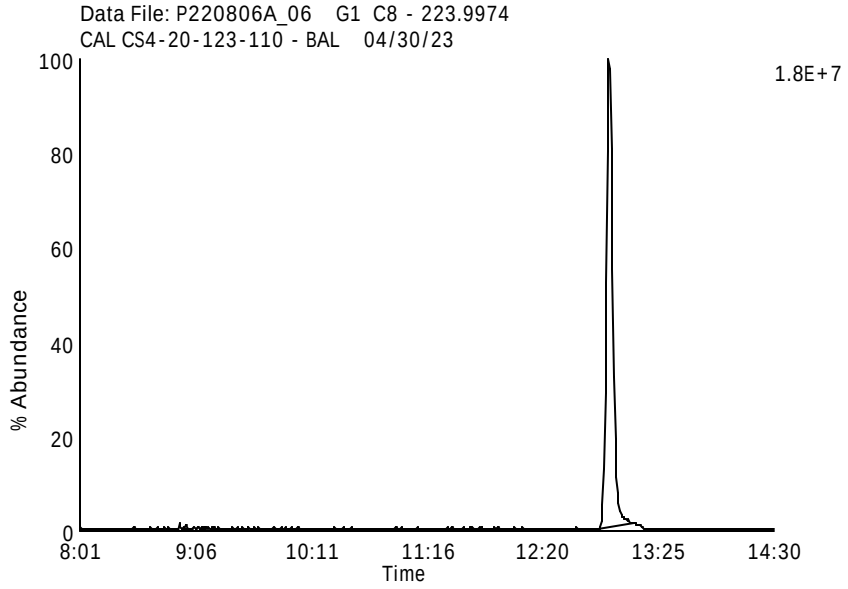


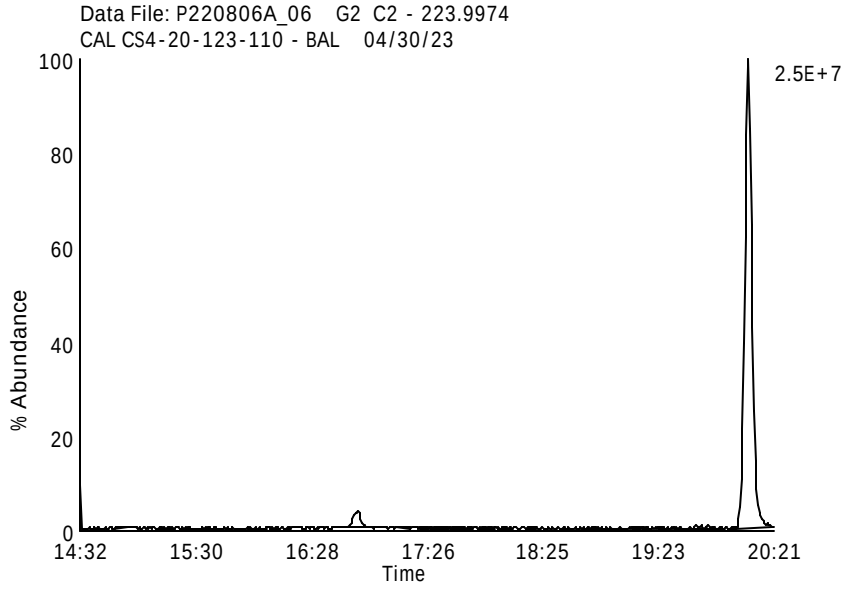
Di Chlorinated Biphenyls

Data File Name: P220806A_06
Lab Sample ID: CS4-20-123-110
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS4-20-123-110 - BAL 04/30/23









Tri Chlorinated Biphenyls

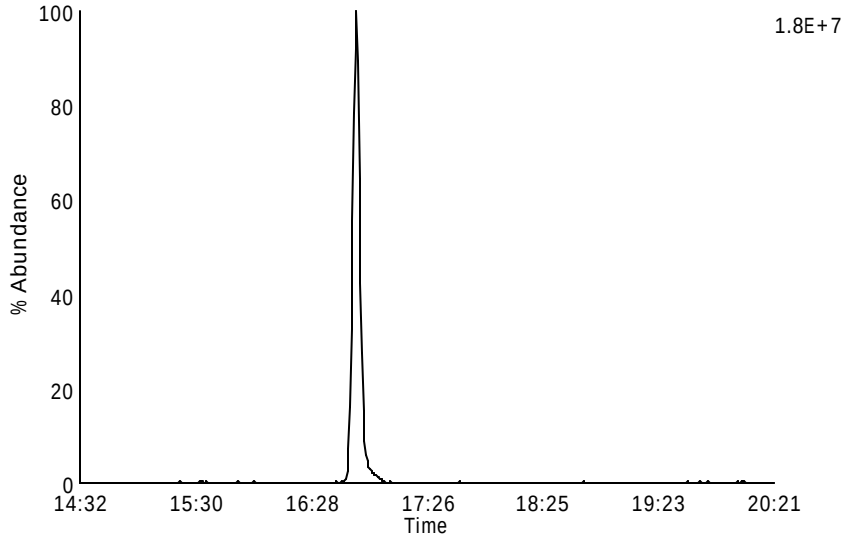
Data File Name: P220806A_06 Lab Sample ID: CS4-20-123-110

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS4-20-123-110 - BAL 04/30/23

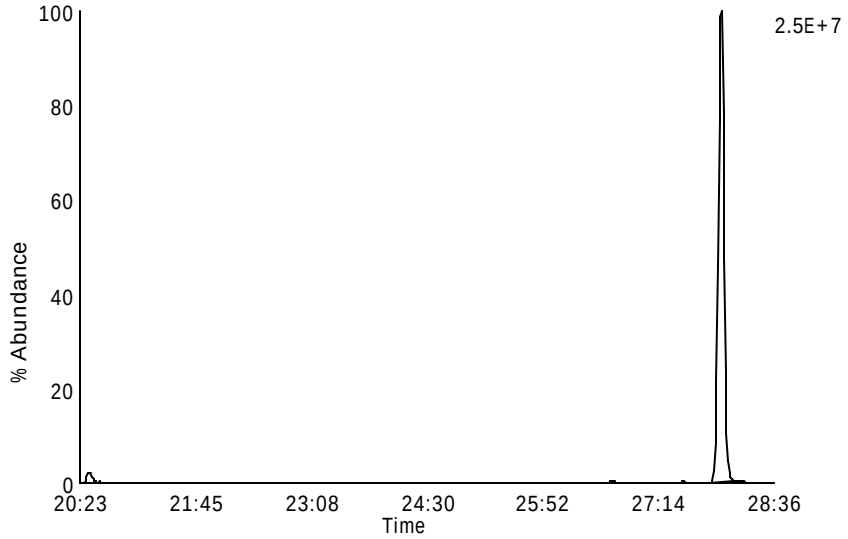
Data File: P220806A_06 G2 C7 - 255.9613

CAL CS4-20-123-110 - BAL 04/30/23



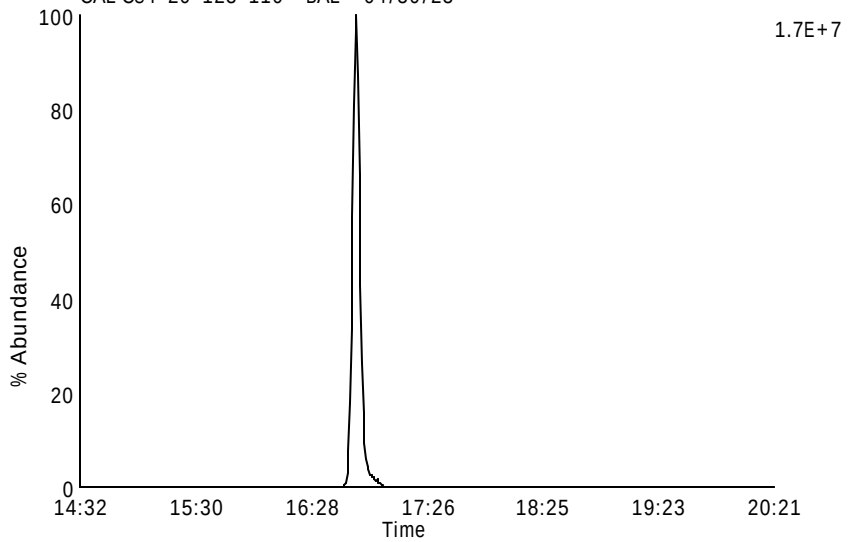
Data File: P220806A_06 G3 C1 - 255.9613

CAL CS4-20-123-110 - BAL 04/30/23



Data File: P220806A_06 G2 C8 - 257.9584

CAL CS4-20-123-110 - BAL 04/30/23



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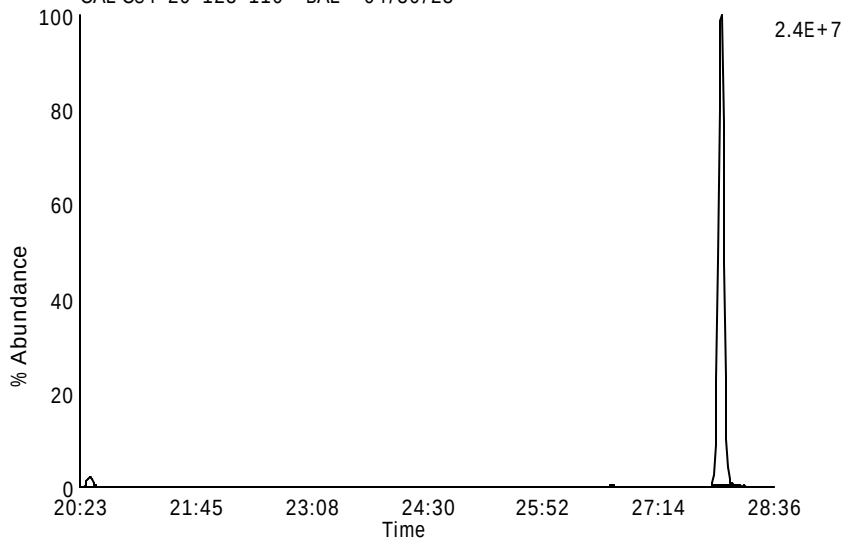
CAL CS4-20-123-110 - BAL 04/30/23

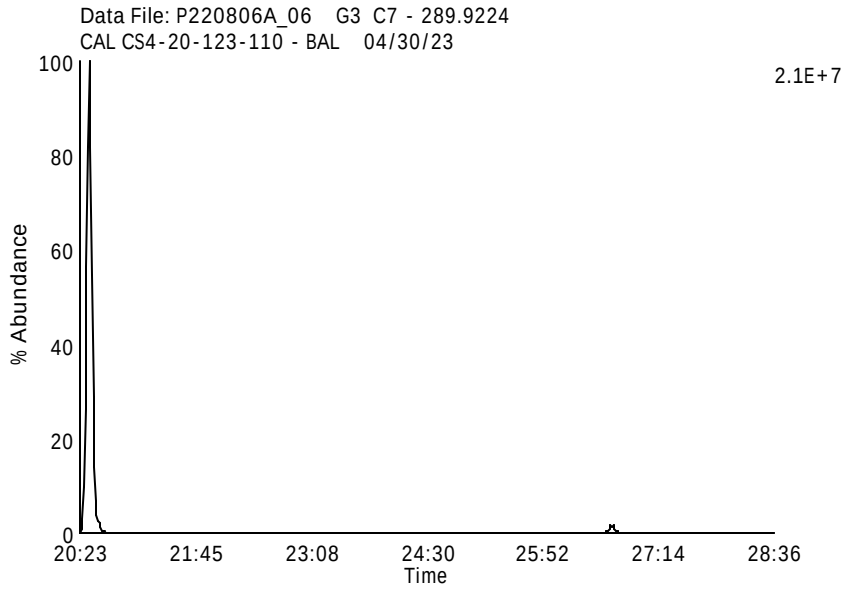


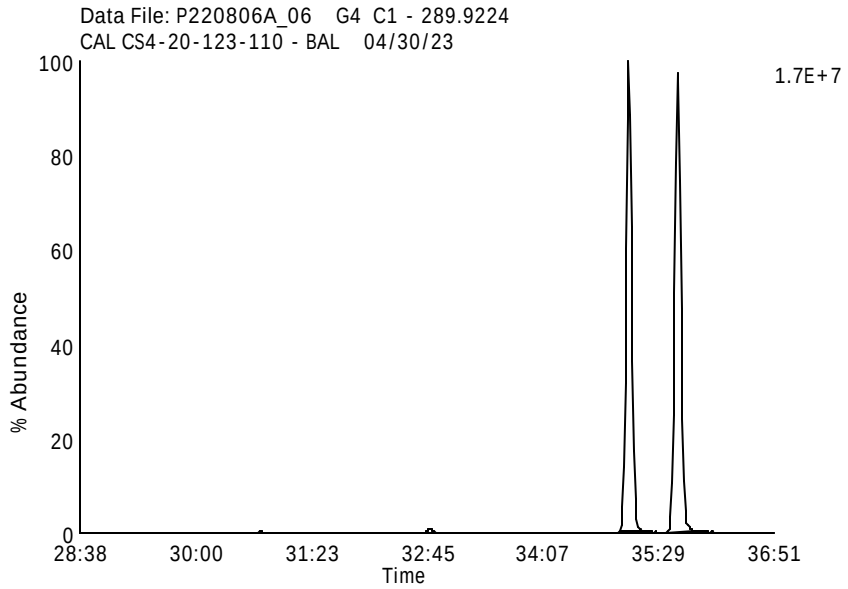
Tetra Chlorinated Biphenyls

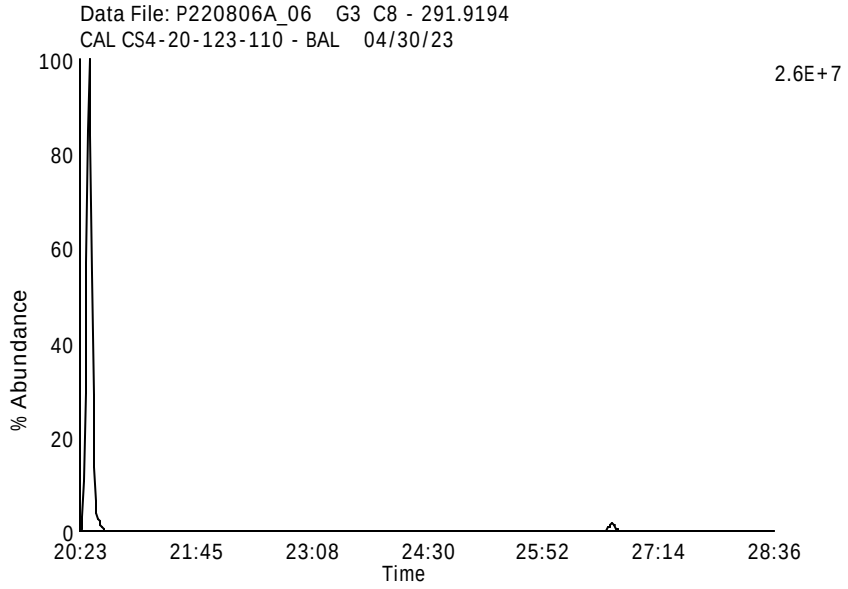
Data File Name: P220806A_06 Lab Sample ID: CS4-20-123-110

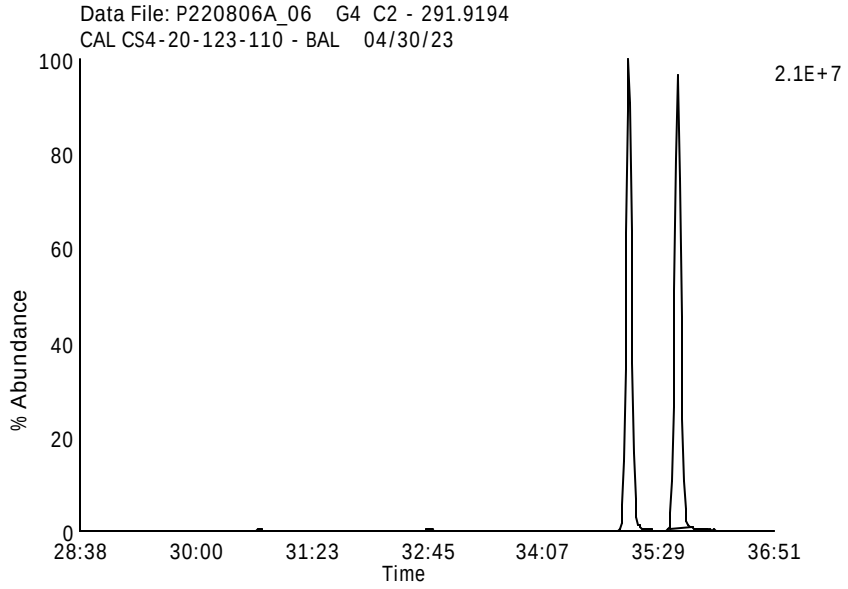
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS4-20-123-110 - BAL 04/30/23







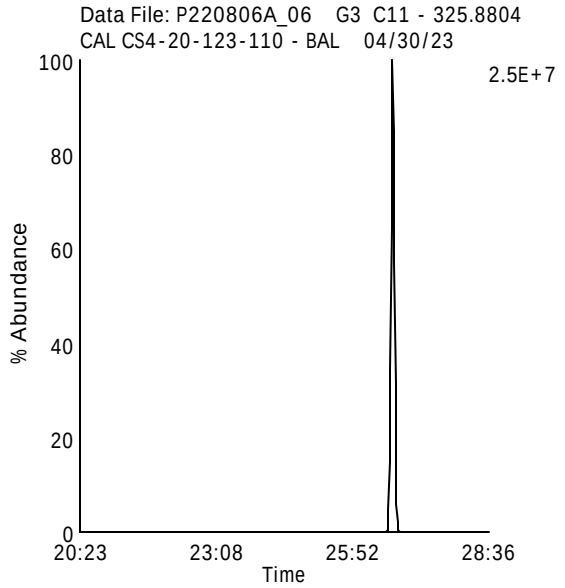


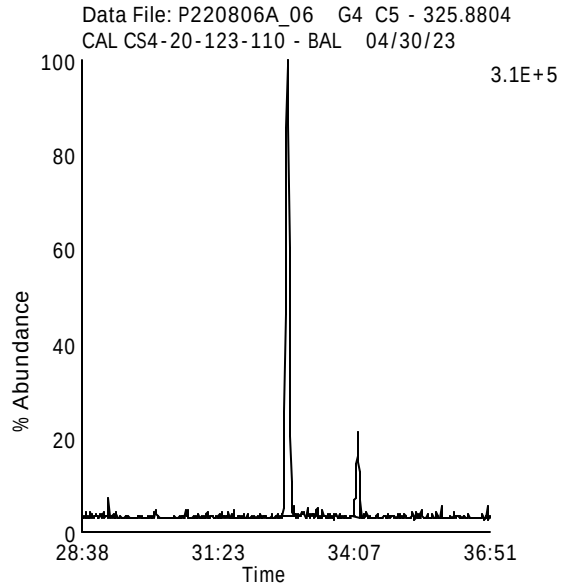
Penta Chlorinated Biphenyls

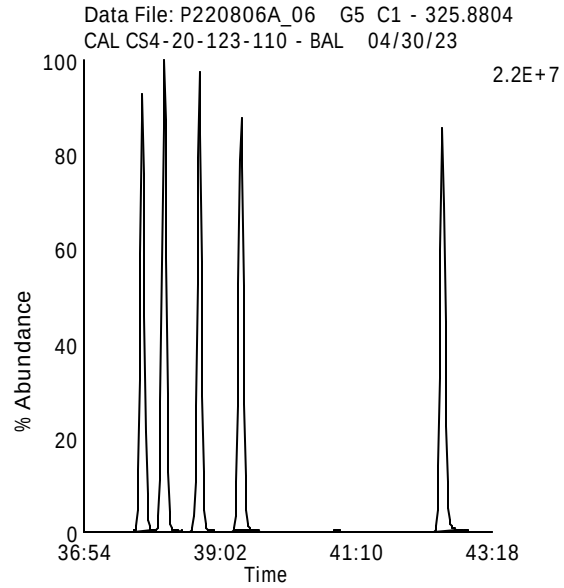
Data File Name: P220806A_06 Lab Sample ID: CS4-20-123-110

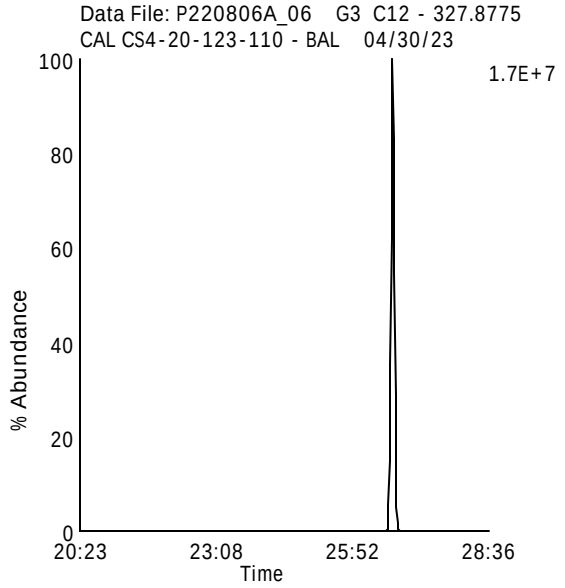
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

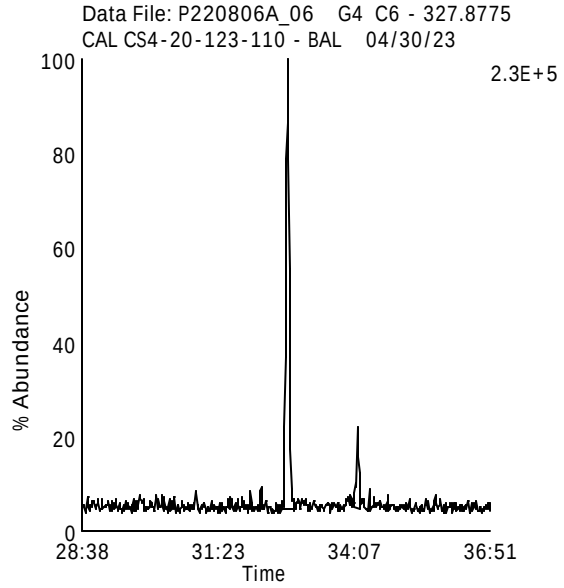
Sample Description: CAL CS4-20-123-110 - BAL 04/30/23

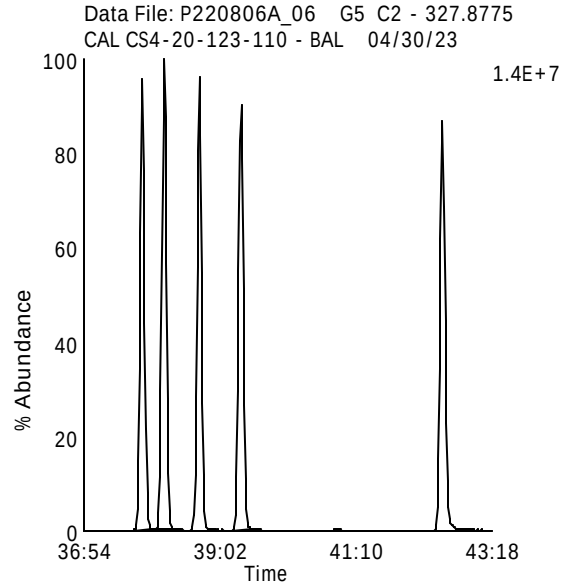












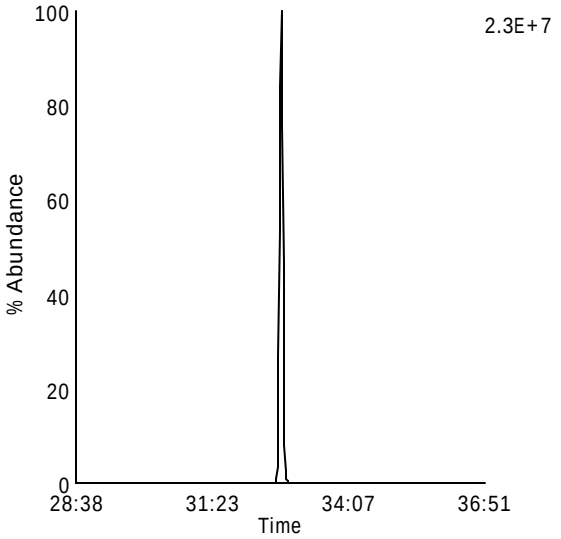
Hexa Chlorinated Biphenyls

Data File Name: P220806A_06 Lab Sample ID: CS4-20-123-110

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS4-20-123-110 - BAL 04/30/23

Data File: P220806A_06 G4 C11 - 359.8415
CAL CS4-20-123-110 - BAL 04/30/23



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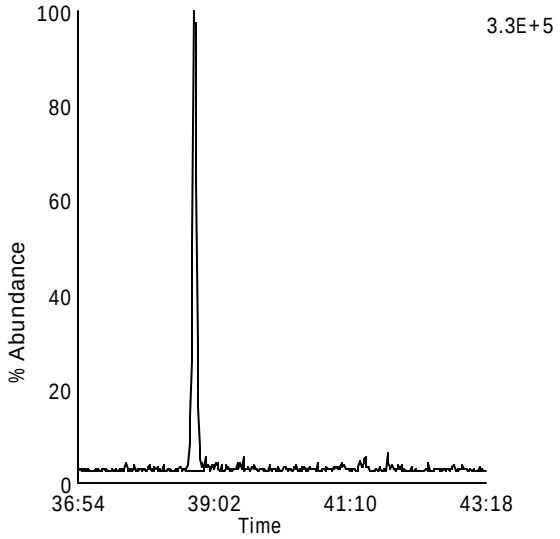
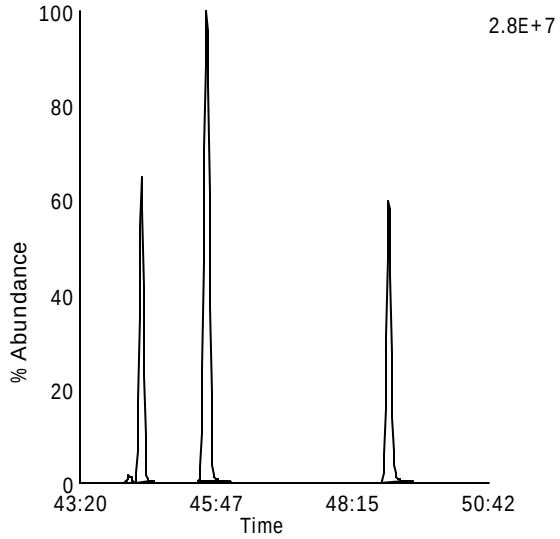
CAL CS4-20-123-110 - BAL 04/30/23



Data File: P220806A_06 G6 C1 - 359.8415
CAL CS4-20-123-110 - BAL 04/30/23



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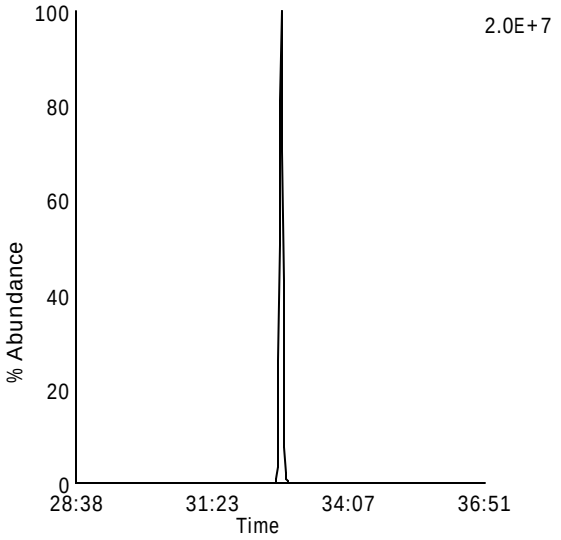
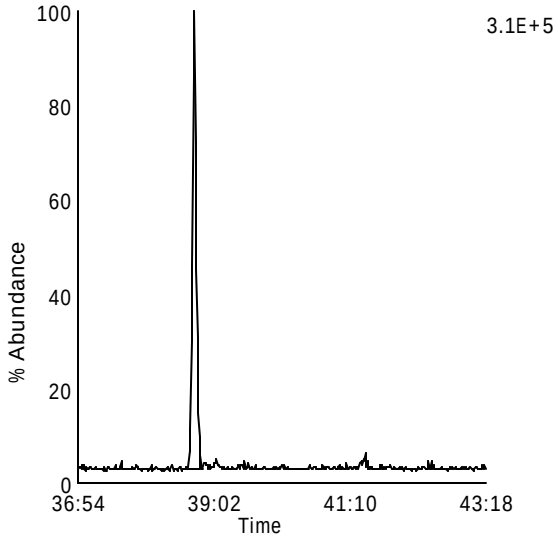
CAL CS4-20-123-110 - BAL 04/30/23



Data File: P220806A_06 G5 C6 - 361.8385
CAL CS4-20-123-110 - BAL 04/30/23



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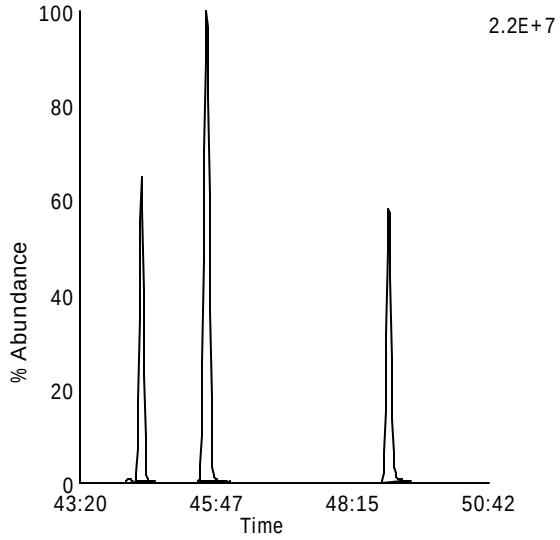
CAL CS4-20-123-110 - BAL 04/30/23



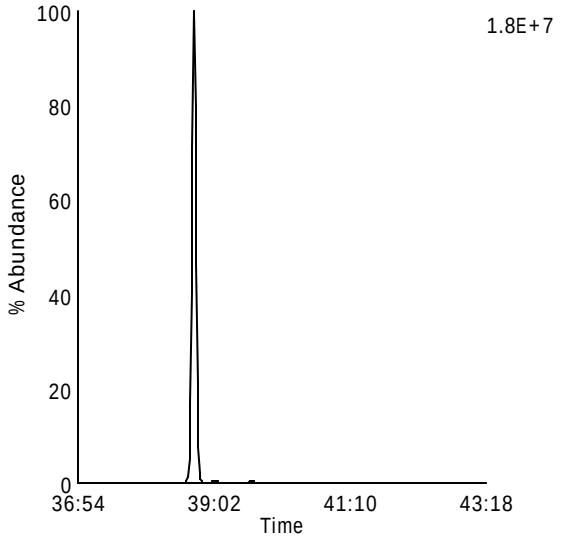
Hepta Chlorinated Biphenyls

Data File Name: P220806A_06 Lab Sample ID: CS4-20-123-110

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS4-20-123-110 - BAL 04/30/23

Data File: P220806A_06 G5 C11 - 393.8025
CAL CS4-20-123-110 - BAL 04/30/23



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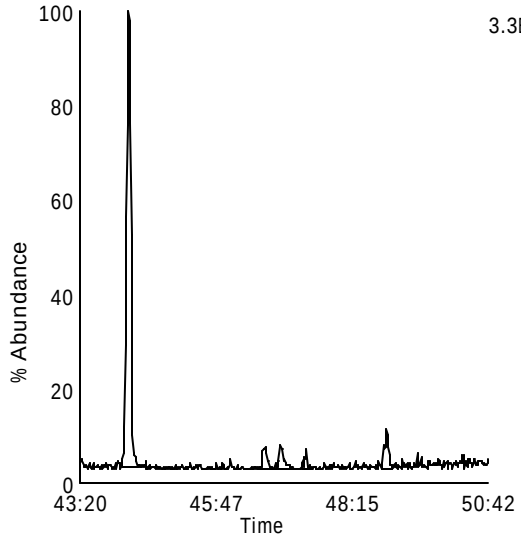
CAL CS4-20-123-110 - BAL 04/30/23



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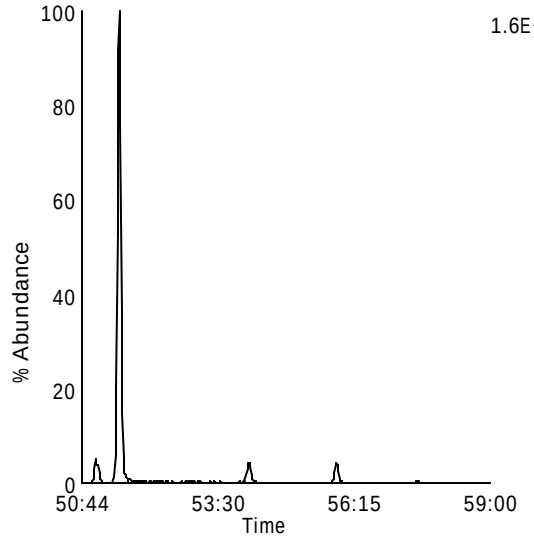
CAL CS4-20-123-110 - BAL 04/30/23



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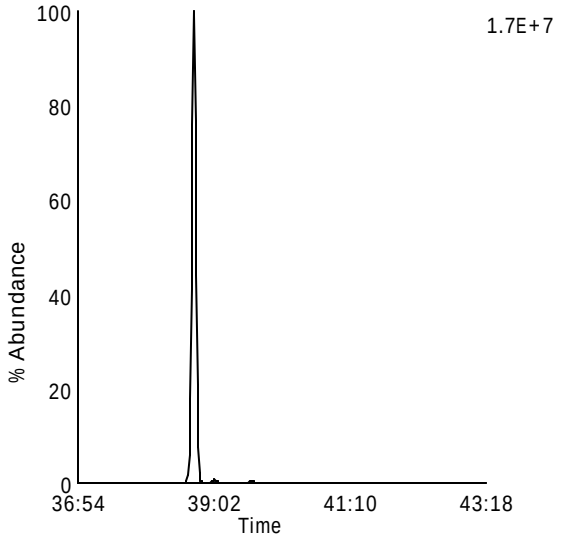
CAL CS4-20-123-110 - BAL 04/30/23



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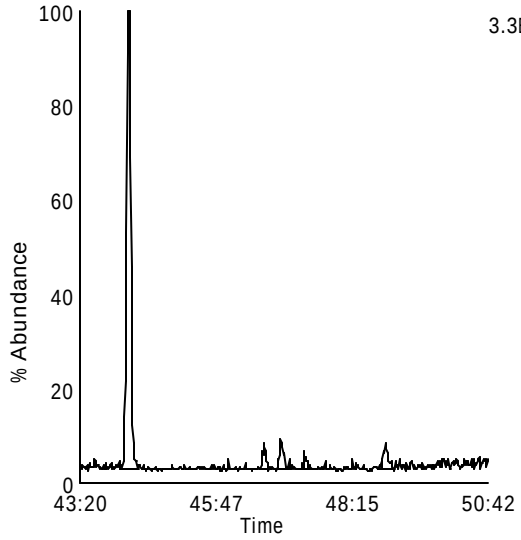
CAL CS4-20-123-110 - BAL 04/30/23



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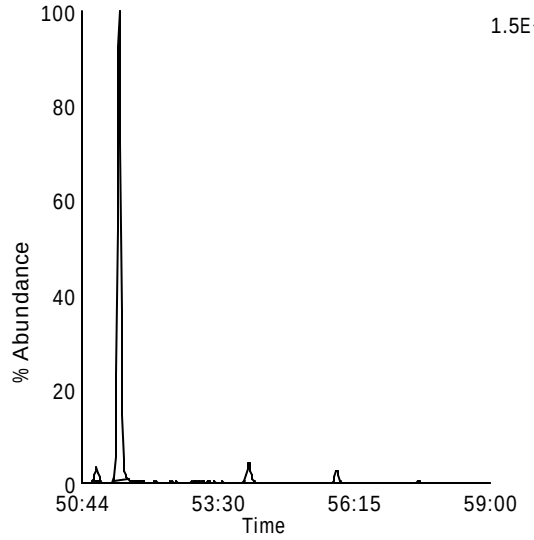
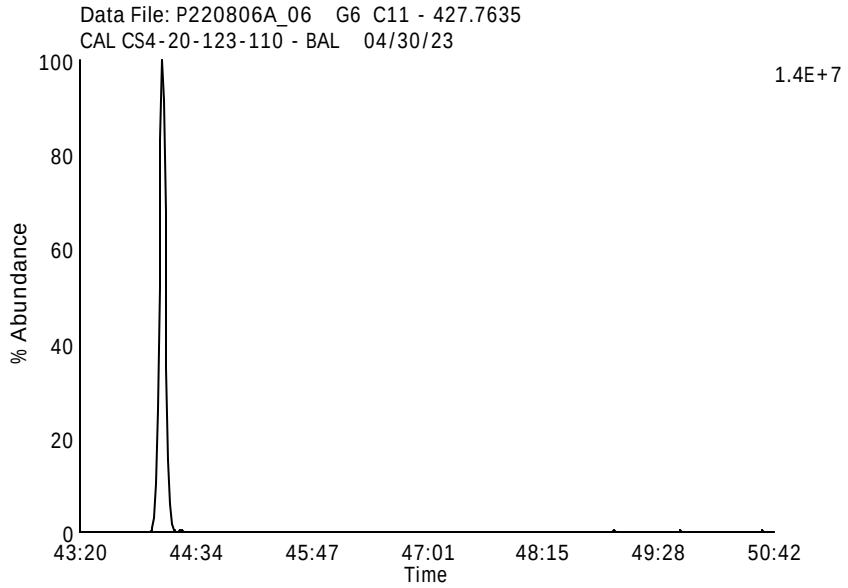
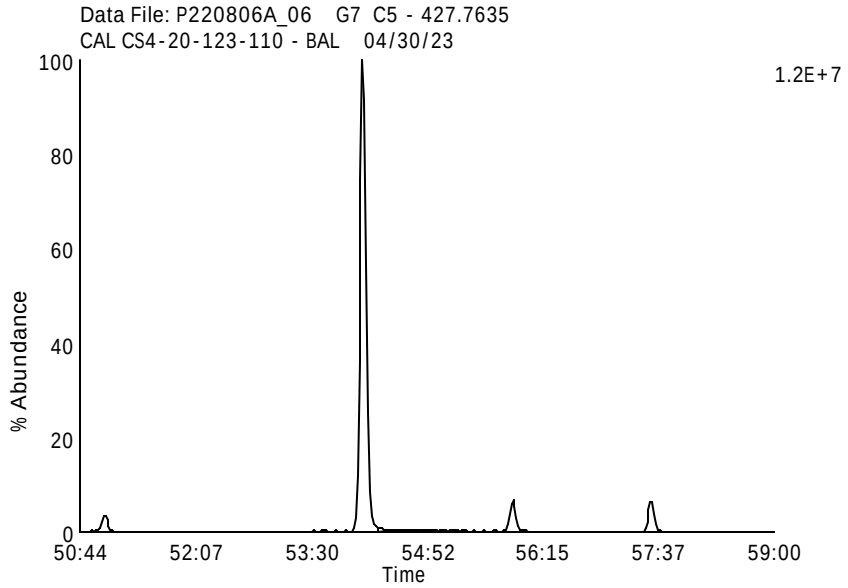
CAL CS4-20-123-110 - BAL 04/30/23

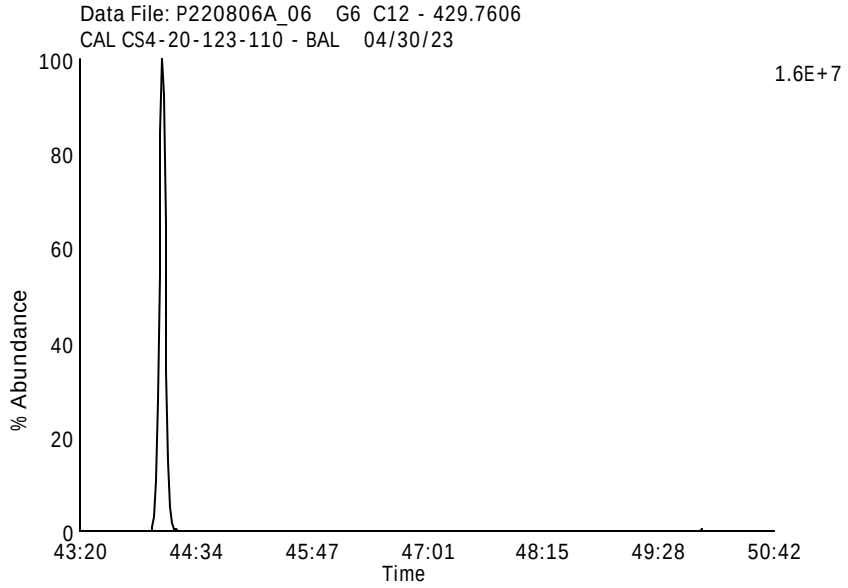


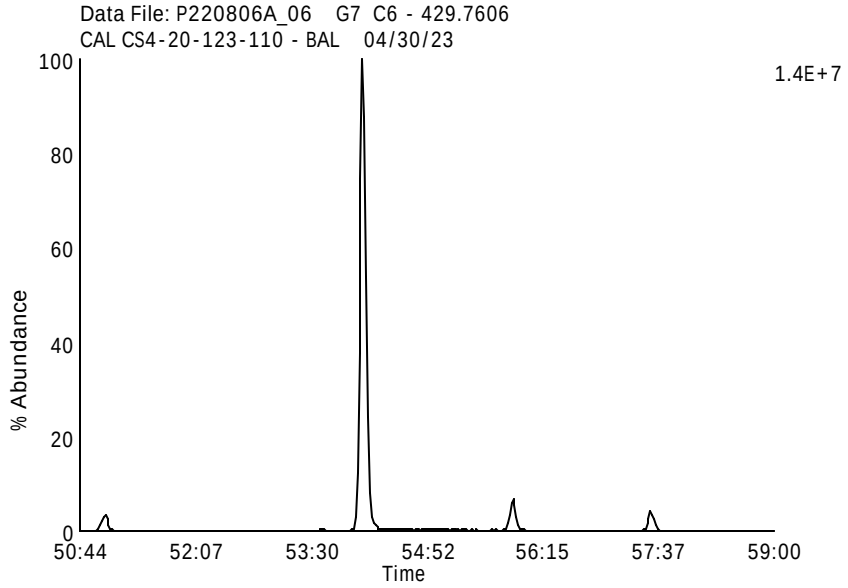
Octa Chlorinated Biphenyls

Data File Name: P220806A_06
Lab Sample ID: CS4-20-123-110
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS4-20-123-110 - BAL 04/30/23







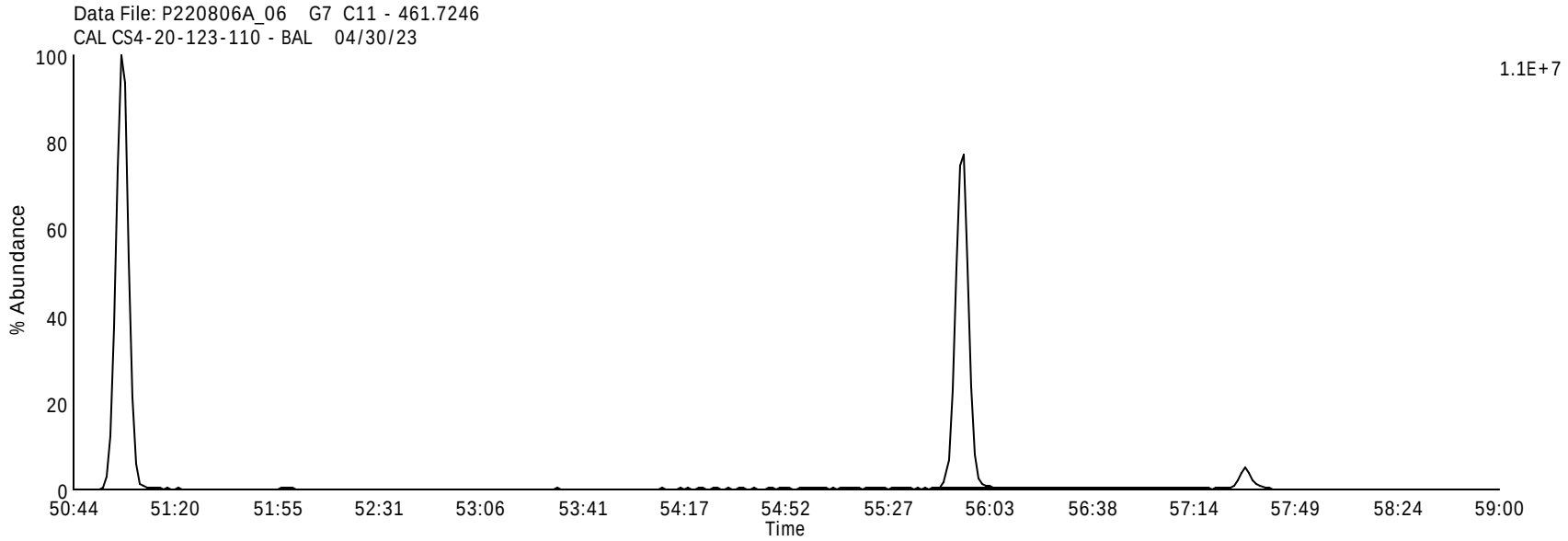


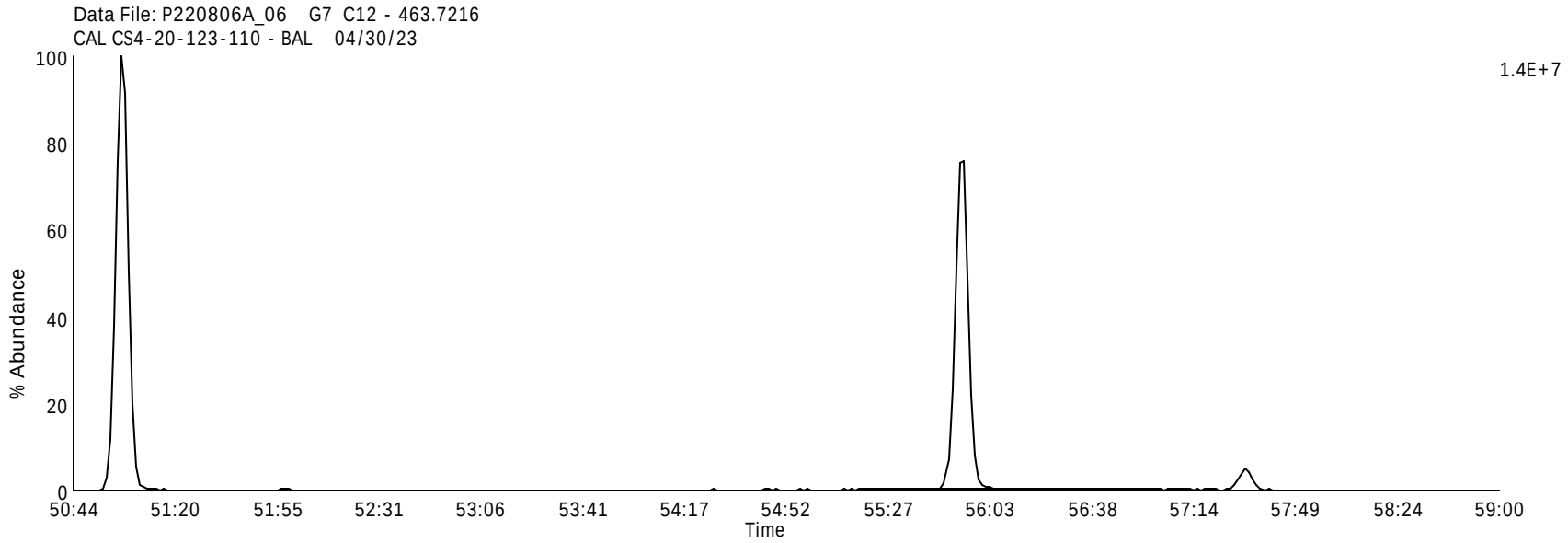
Nona Chlorinated Biphenyls

Data File Name: P220806A_06 Lab Sample ID: CS4-20-123-110

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS4-20-123-110 - BAL 04/30/23



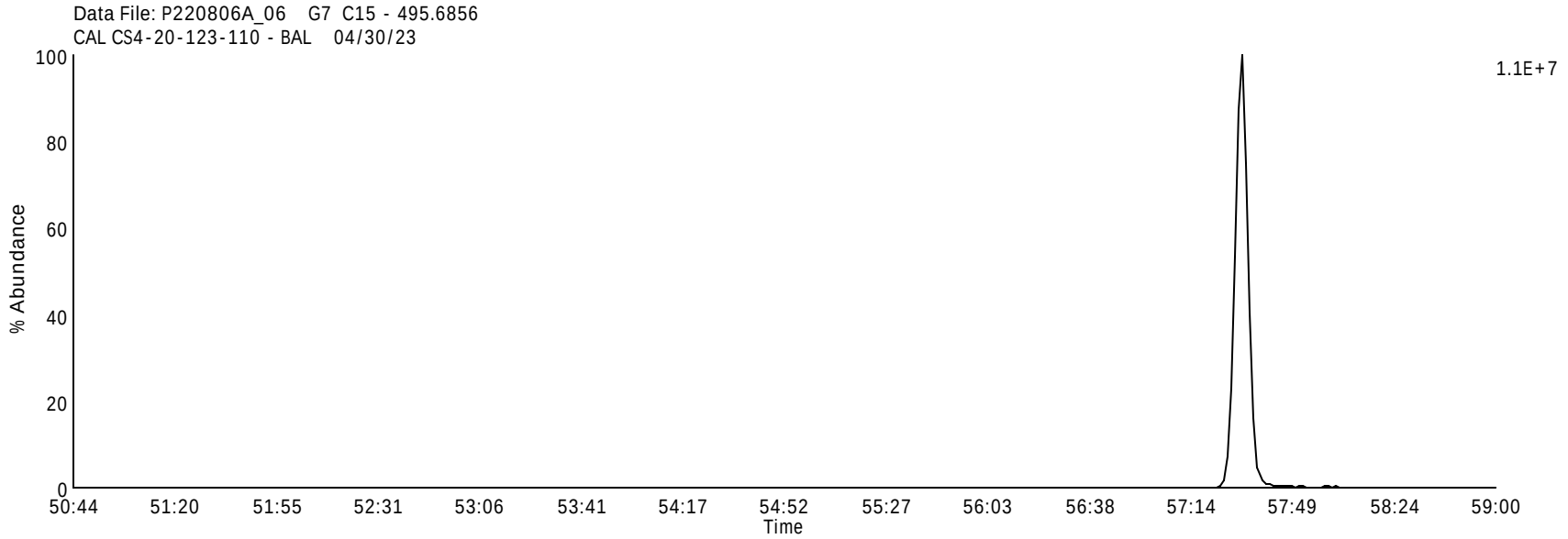


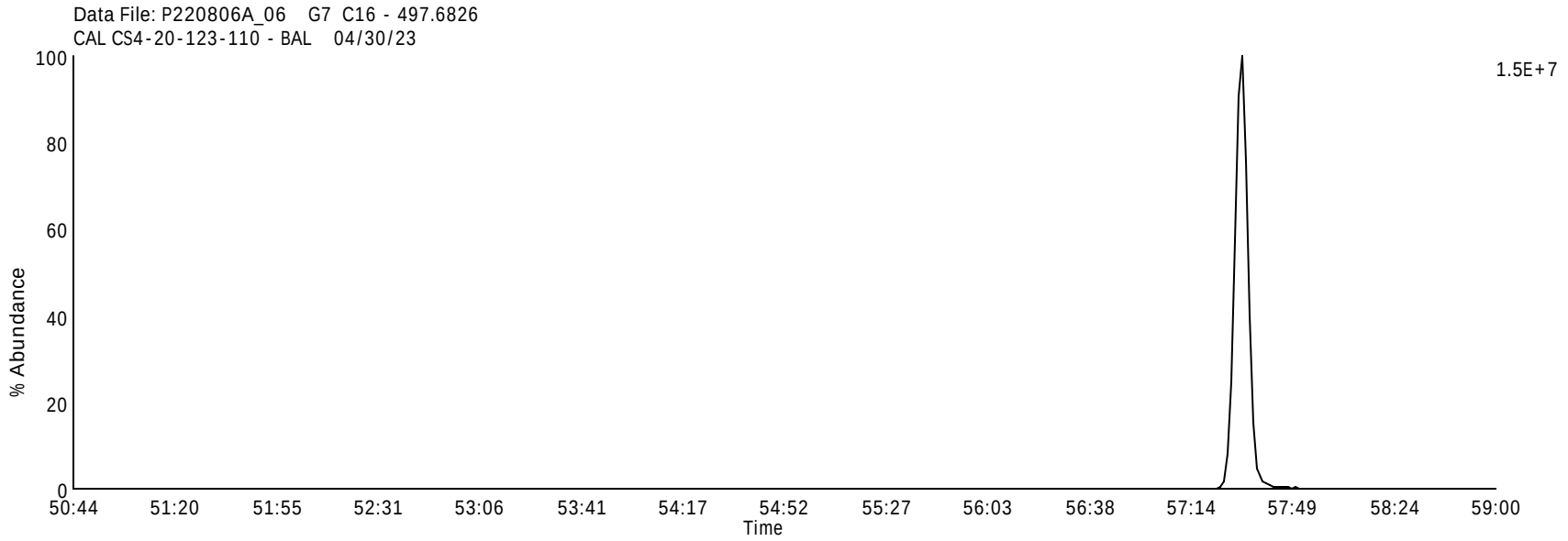
Deca Chlorinated Biphenyl

Data File Name: P220806A_06 Lab Sample ID: CS4-20-123-110

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

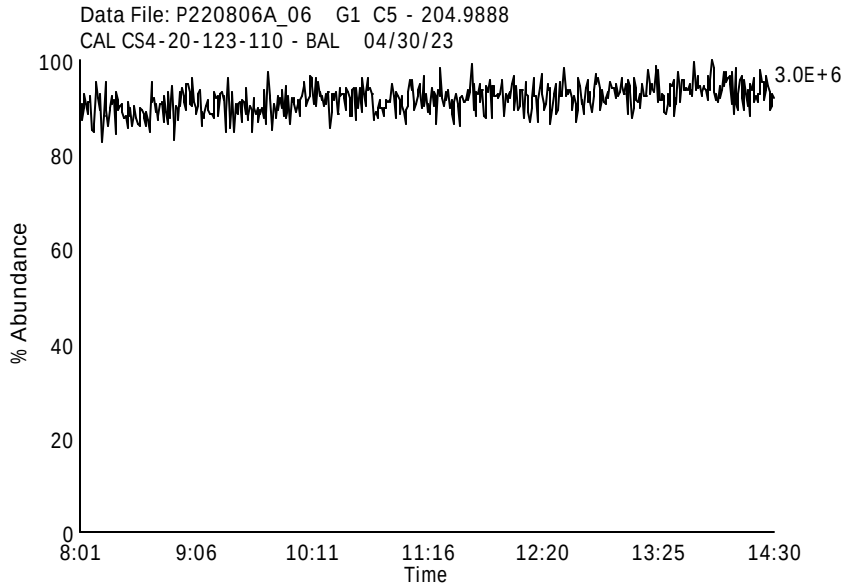
Sample Description: CAL CS4-20-123-110 - BAL 04/30/23

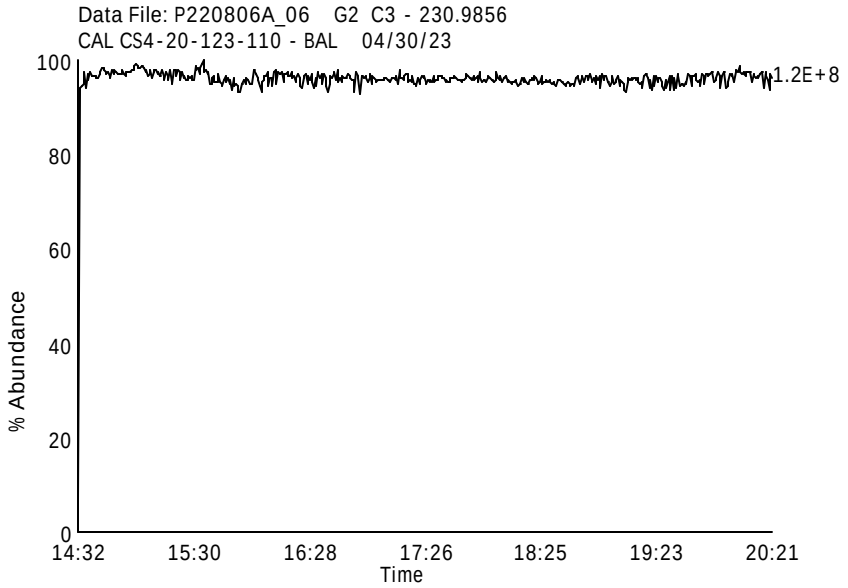


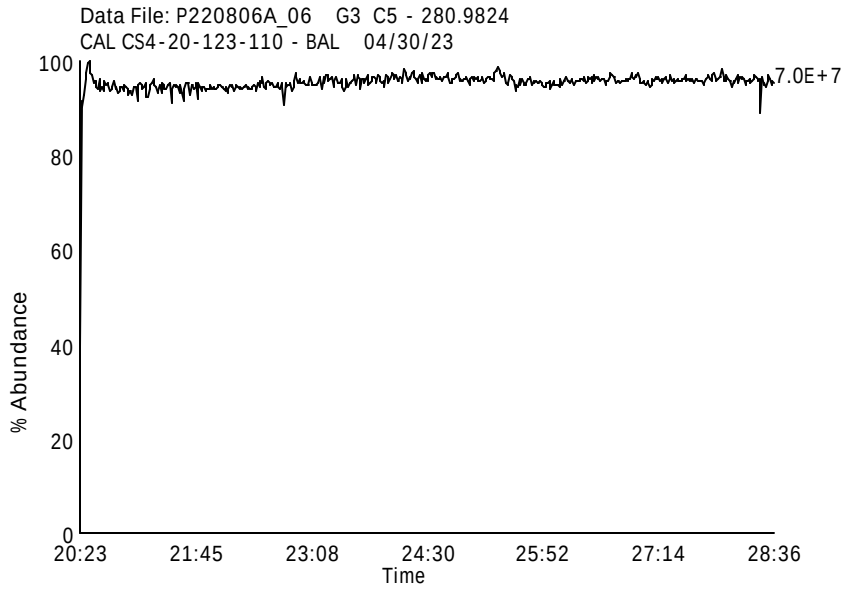


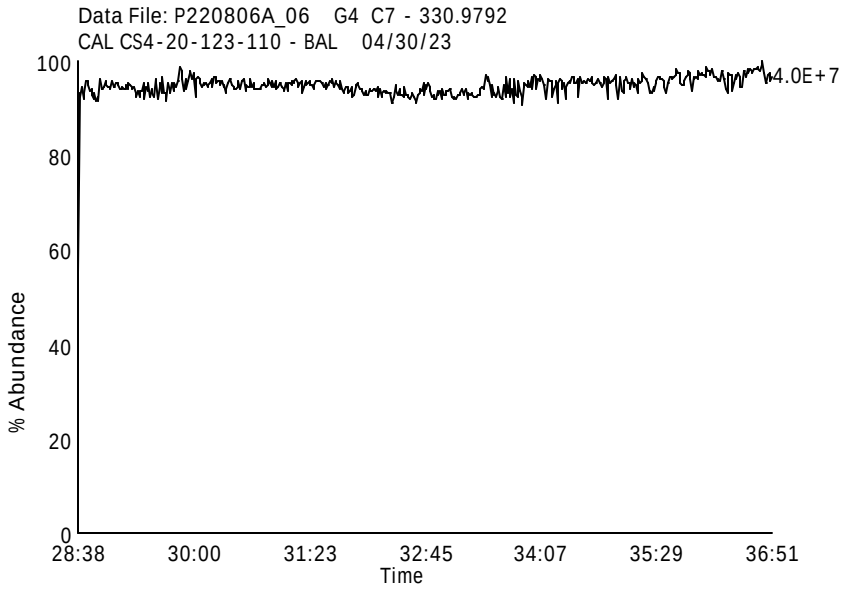
Group 1 - 4 Lock mass

Data File Name: P220806A_06
Lab Sample ID: CS4-20-123-110
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS4-20-123-110 - BAL 04/30/23



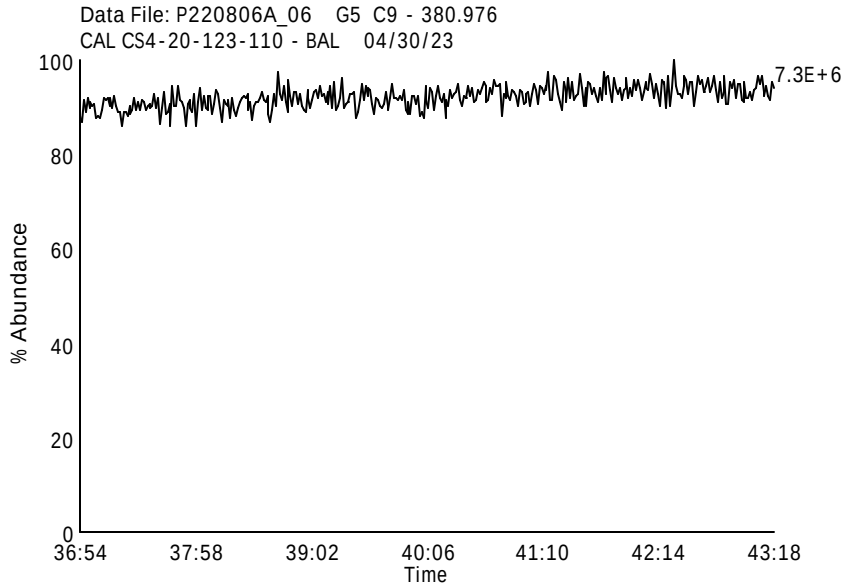


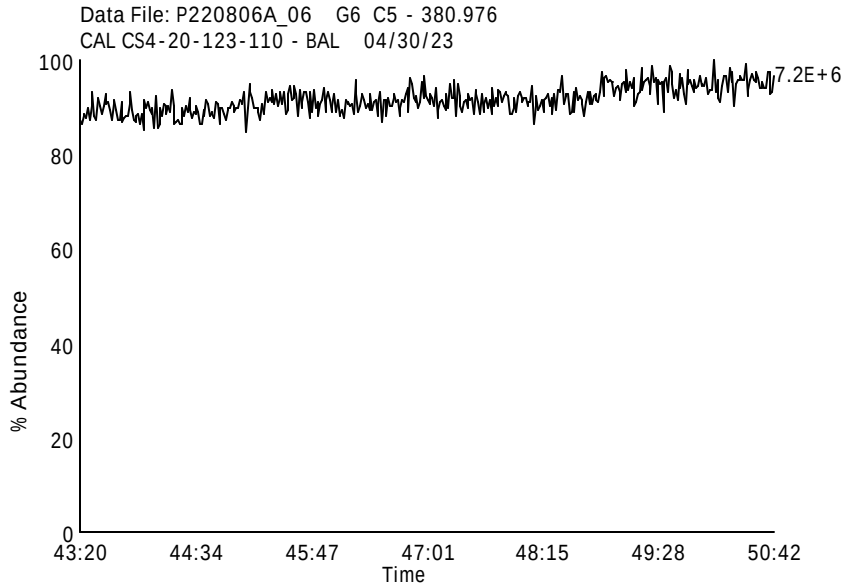


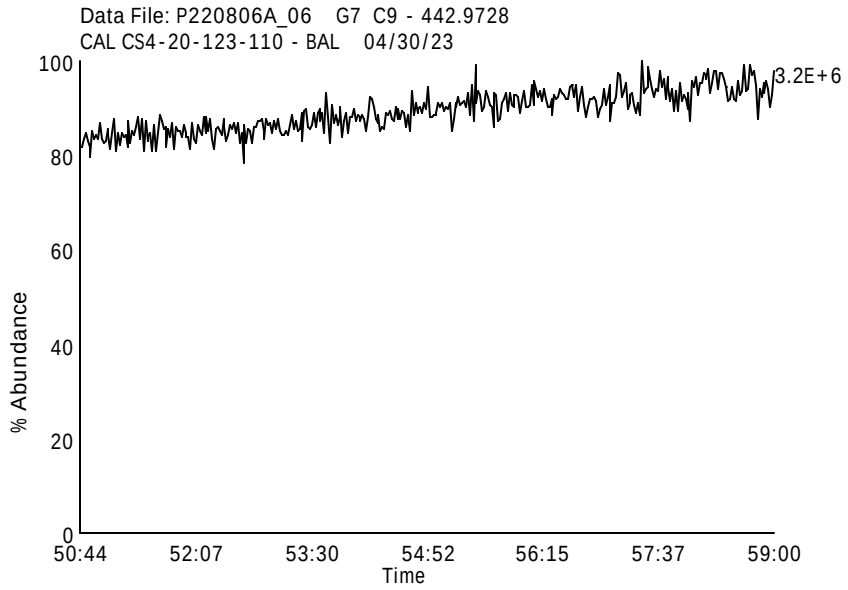


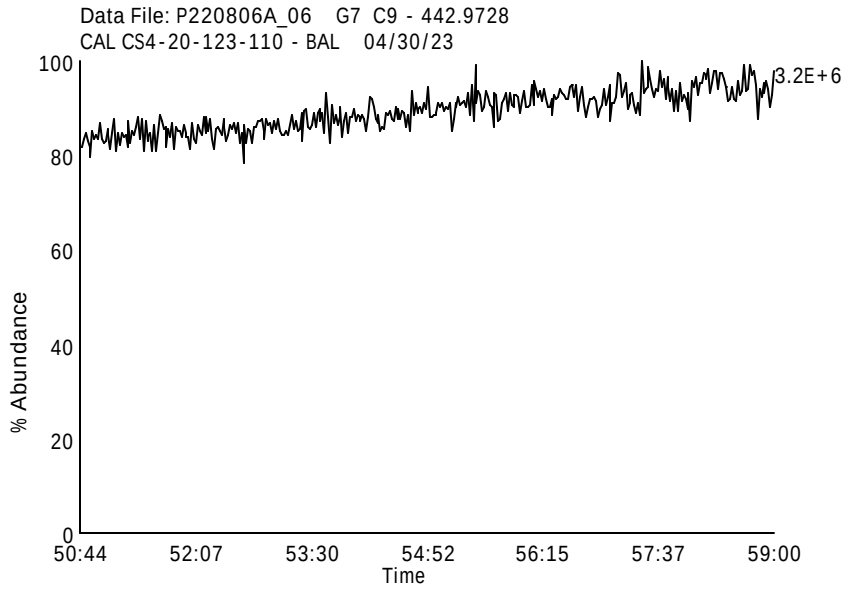
Group 5 - 7 Lock mass

Data File Name: P220806A_06
Lab Sample ID: CS4-20-123-110
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS4-20-123-110 - BAL 04/30/23







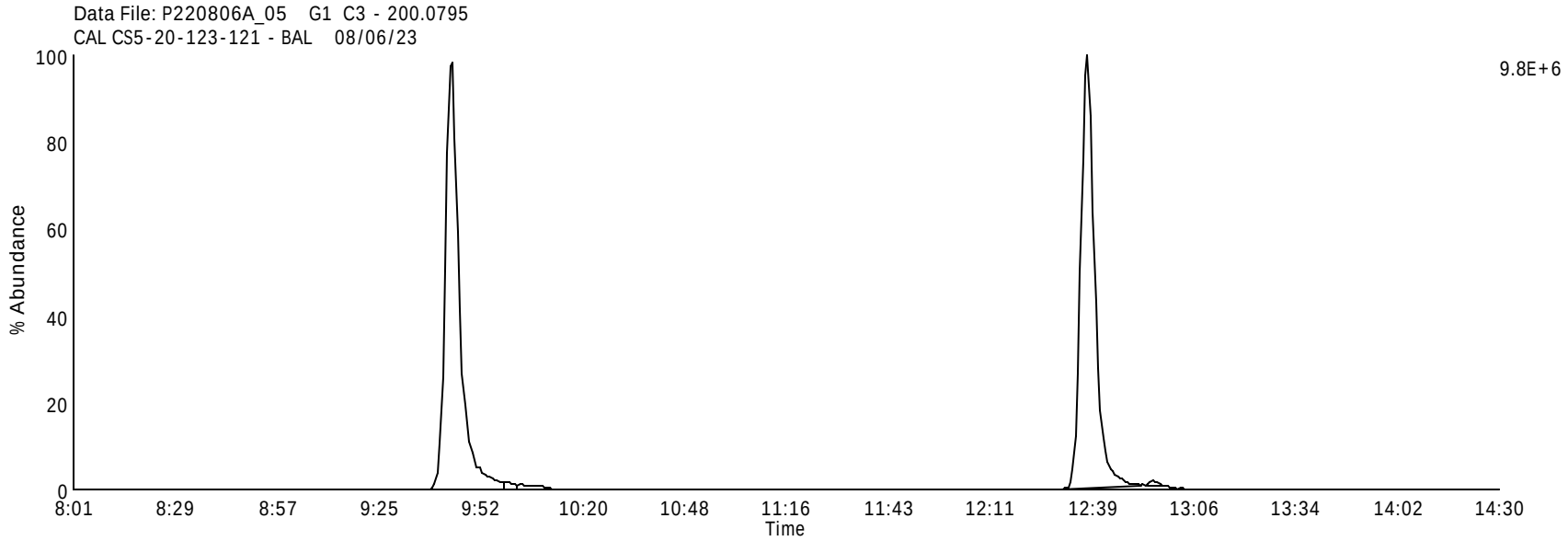


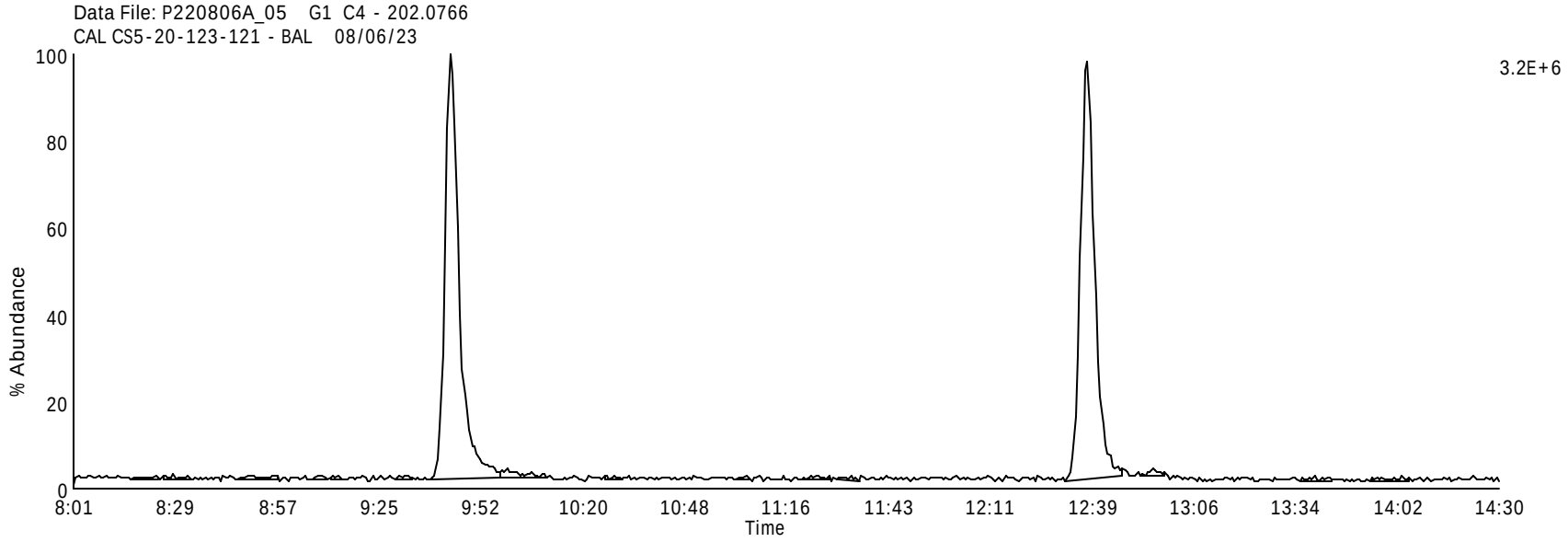
Labeled Mono Chlorinated Biphenyls

Data File Name: P220806A_05 Lab Sample ID: CS5-20-123-121

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS5-20-123-121 - BAL 08/06/23



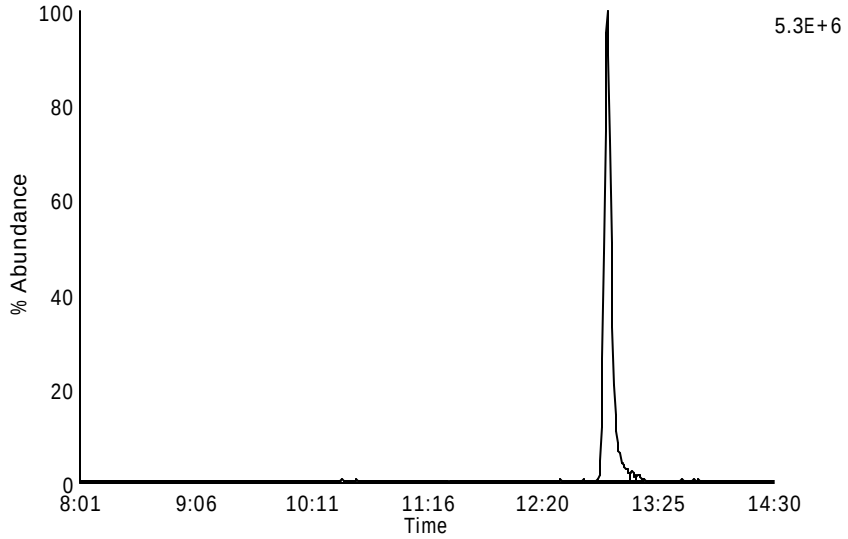


Labeled Di Chlorinated Biphenyls

Data File Name: P220806A_05
Date Acquired: 8/6/2022
Sample Description: CAL CS5-20-123-121 - BAL 08/06/23

Lab Sample ID: CS5-20-123-121
Instrument: 10MSHR09 (P)

Data File: P220806A_05 G1 C9 - 234.0406
CAL CS5-20-123-121 - BAL 08/06/23



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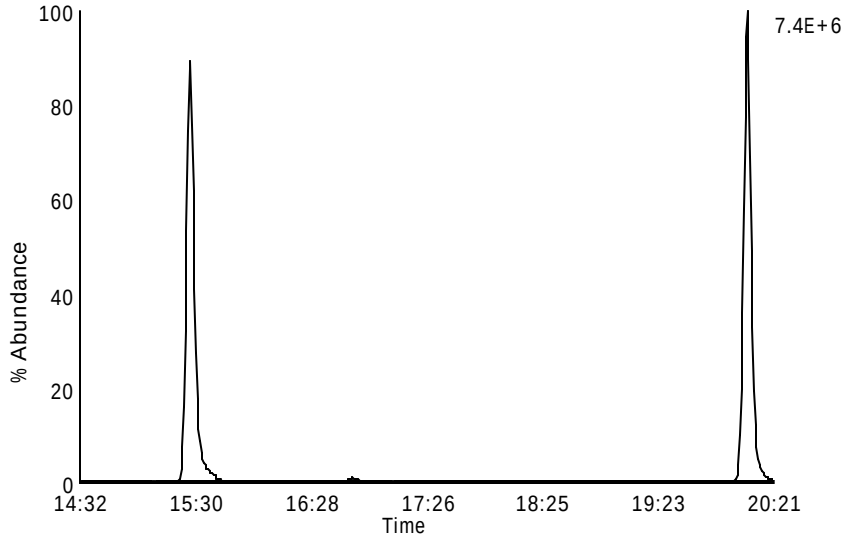
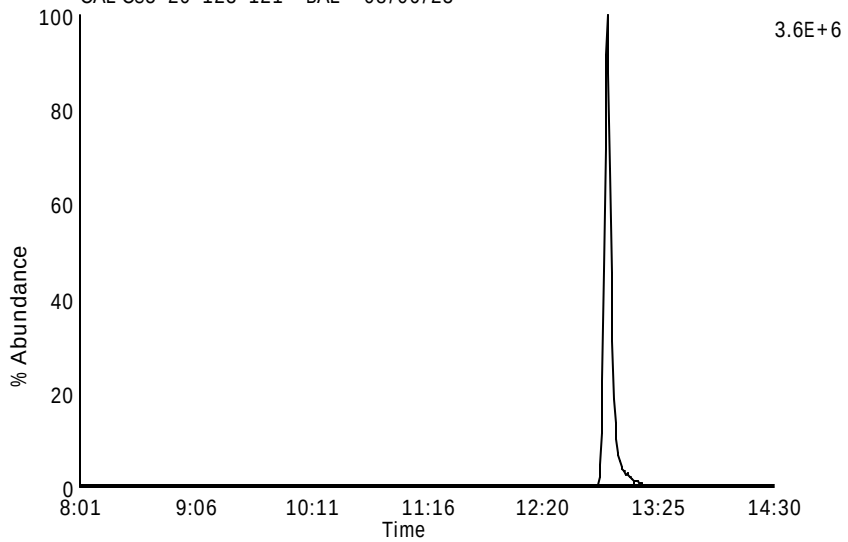
CAL CS5-20-123-121 - BAL 08/06/23



Data File: P220806A_05 G1 C10 - 236.0376
CAL CS5-20-123-121 - BAL 08/06/23



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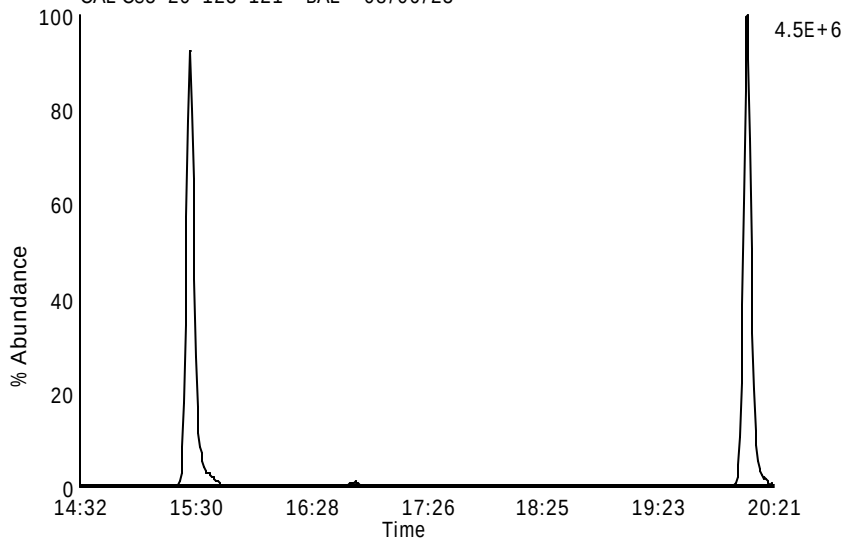
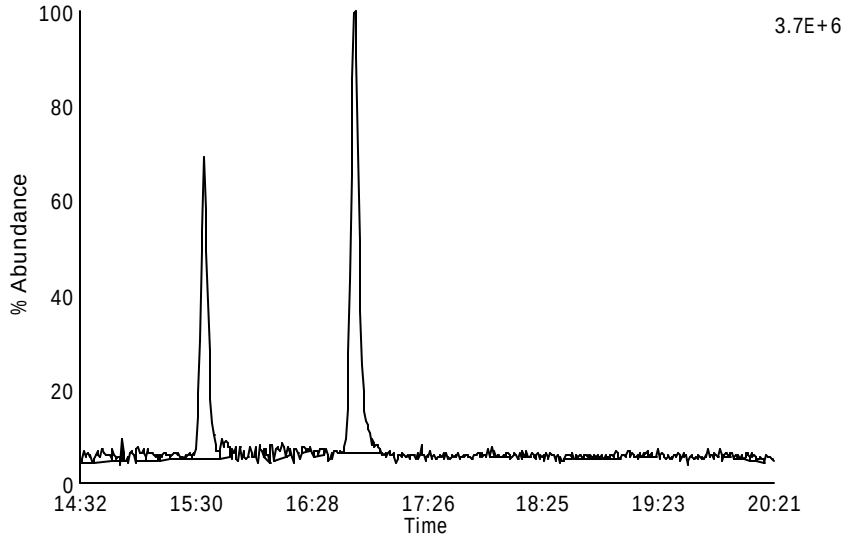
CAL CS5-20-123-121 - BAL 08/06/23



Labeled Tri Chlorinated Biphenyls

Data File Name: P220806A_05
Lab Sample ID: CS5-20-123-121
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS5-20-123-121 - BAL 08/06/23

Data File: P220806A_05 G2 C9 - 268.0016
CAL CS5-20-123-121 - BAL 08/06/23



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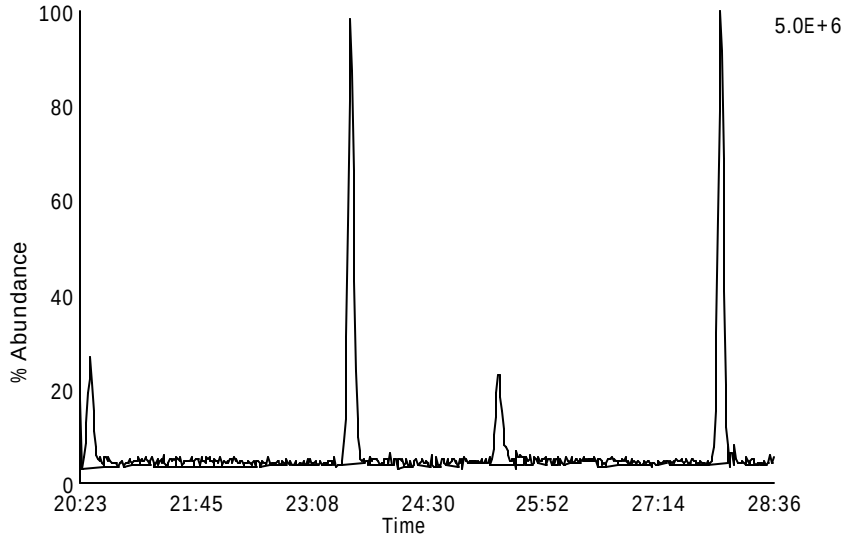
CAL CS5-20-123-121 - BAL 08/06/23



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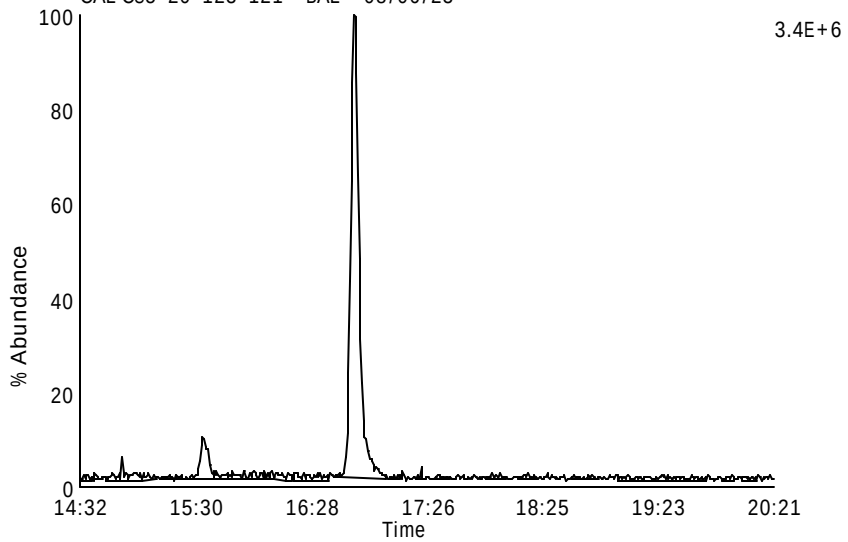
CAL CS5-20-123-121 - BAL 08/06/23



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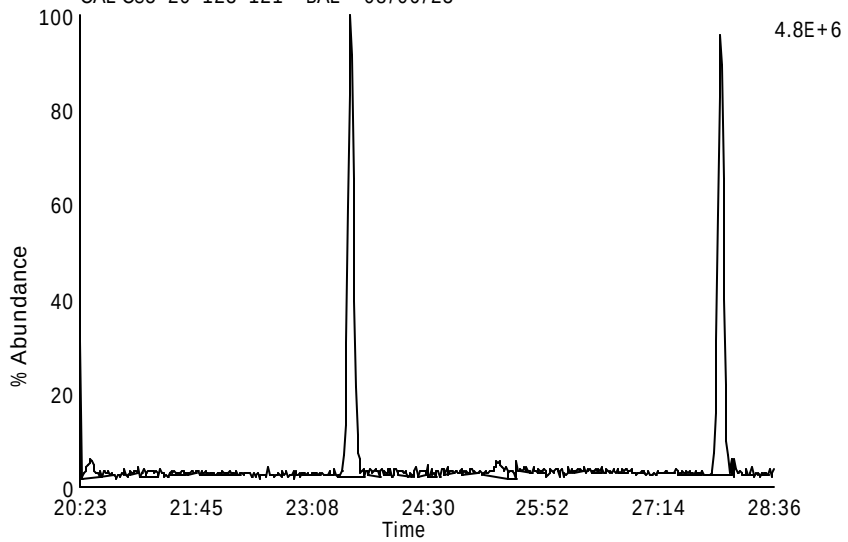
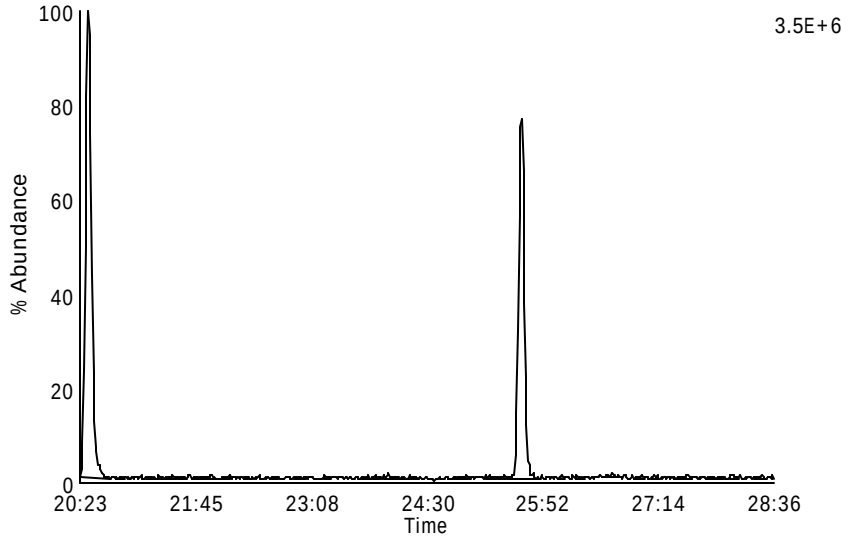
CAL CS5-20-123-121 - BAL 08/06/23



Labeled Tetra Chlorinated Biphenyls

Data File Name: P220806A_05
Lab Sample ID: CS5-20-123-121
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS5-20-123-121 - BAL 08/06/23

Data File: P220806A_05 G3 C9 - 301.9626
CAL CS5-20-123-121 - BAL 08/06/23



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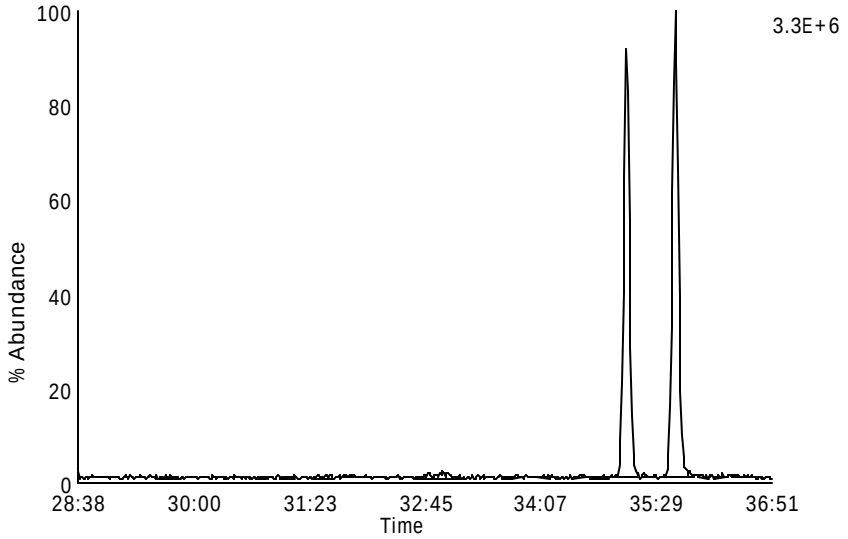
CAL CS5-20-123-121 - BAL 08/06/23



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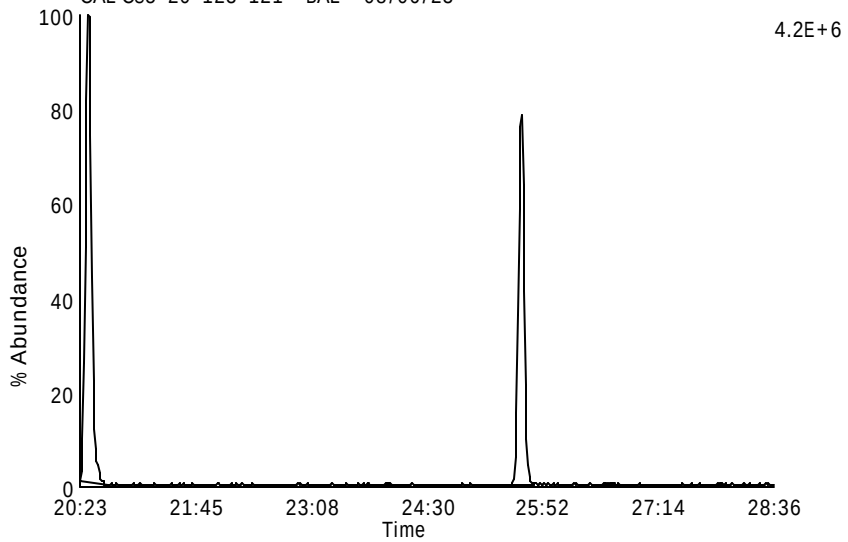
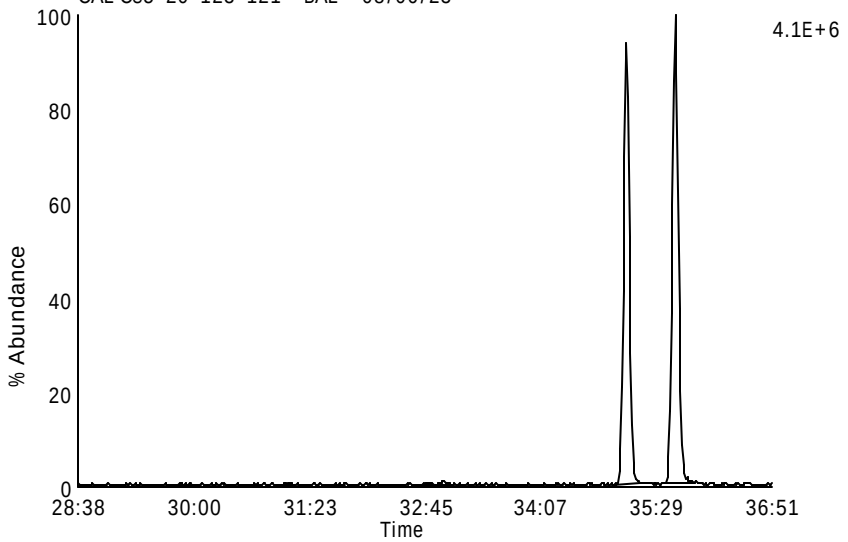
CAL CS5-20-123-121 - BAL 08/06/23



Data File: P220806A_05 G4 C4 - 303.9597
CAL CS5-20-123-121 - BAL 08/06/23

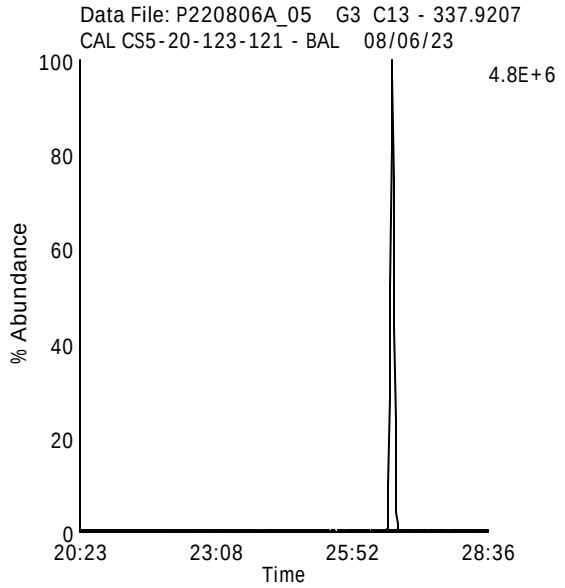


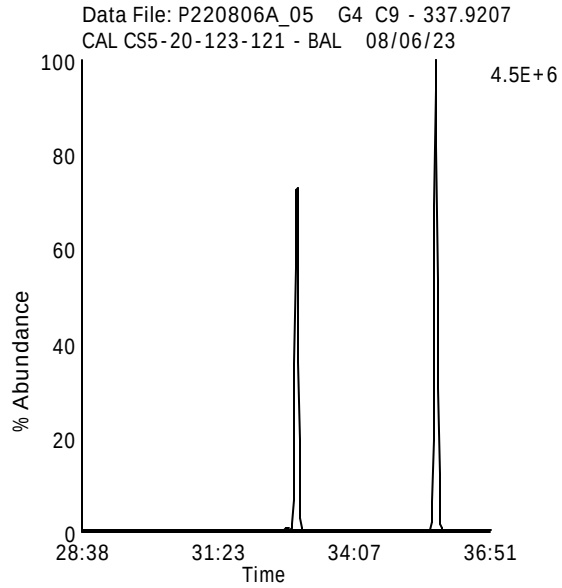
Labeled Penta Chlorinated Biphenyls

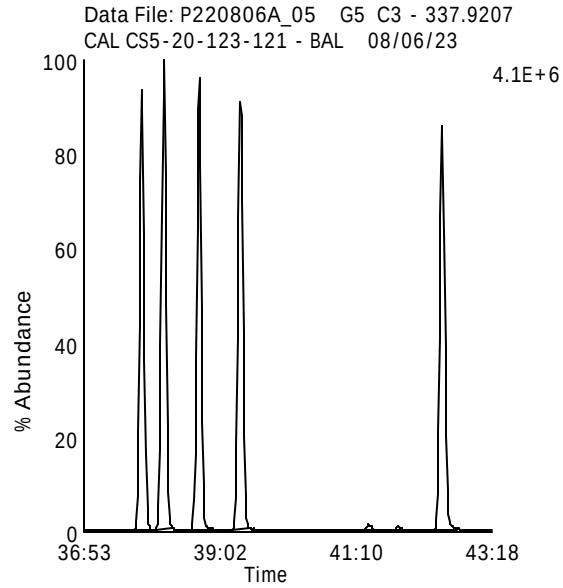
Data File Name: P220806A_05 Lab Sample ID: CS5-20-123-121

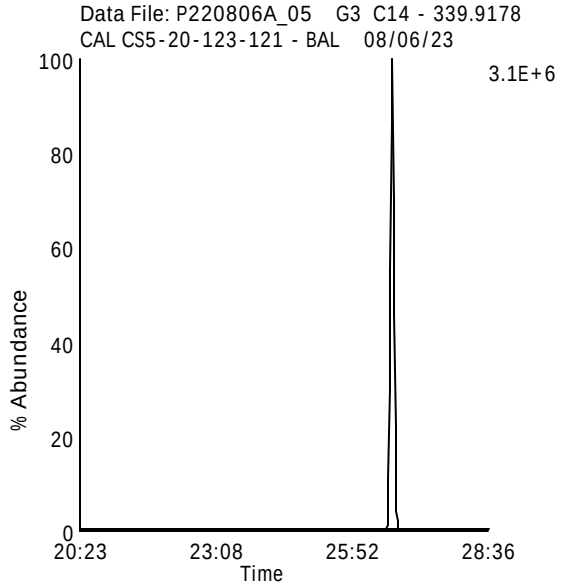
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

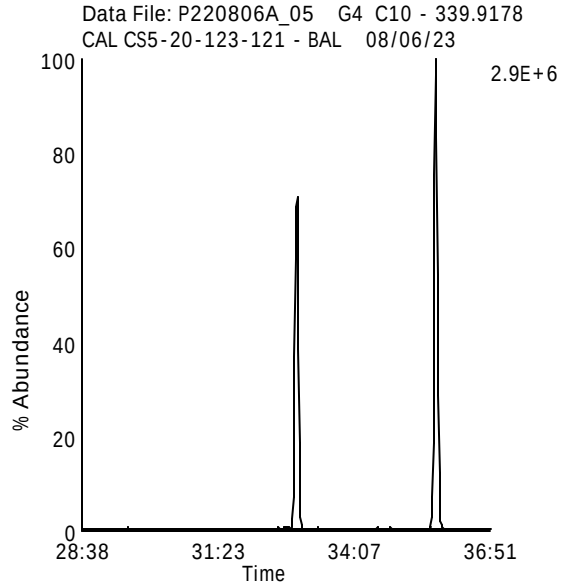
Sample Description: CAL CS5-20-123-121 - BAL 08/06/23

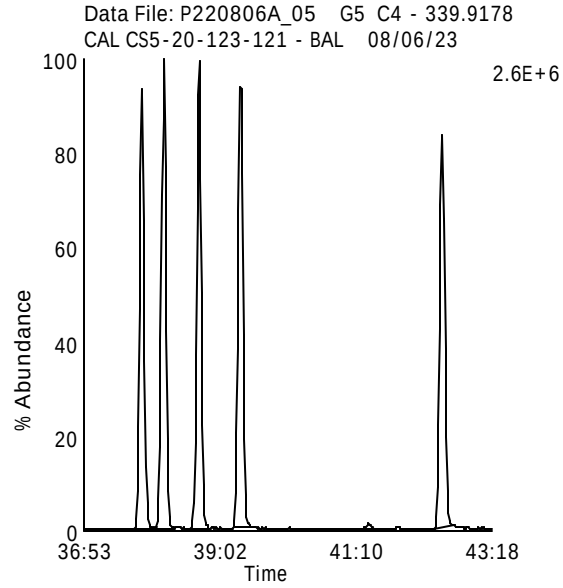












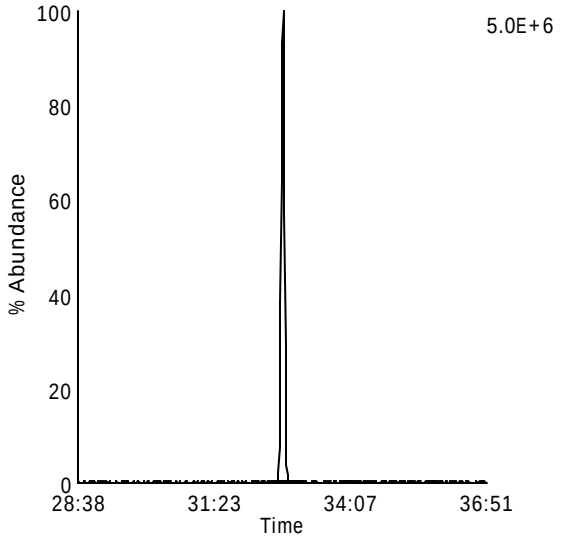
Labeled Hexa Chlorinated Biphenyls

Data File Name: P220806A_05 Lab Sample ID: CS5-20-123-121

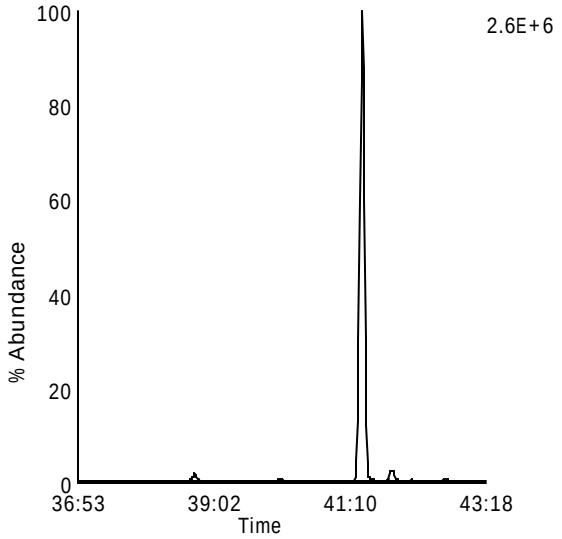
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS5-20-123-121 - BAL 08/06/23

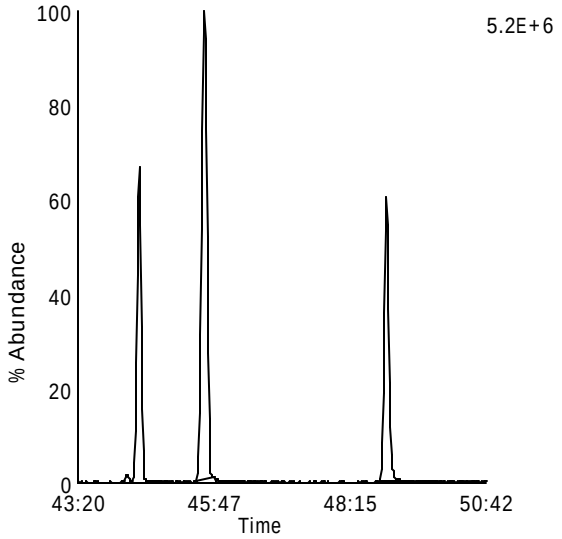
Data File: P220806A_05 G4 C13 - 371.8817
CAL CS5-20-123-121 - BAL 08/06/23



Data File: P220806A_05 G5 C7 - 371.8817
CAL CS5-20-123-121 - BAL 08/06/23



Data File: P220806A_05 G6 C3 - 371.8817
CAL CS5-20-123-121 - BAL 08/06/23



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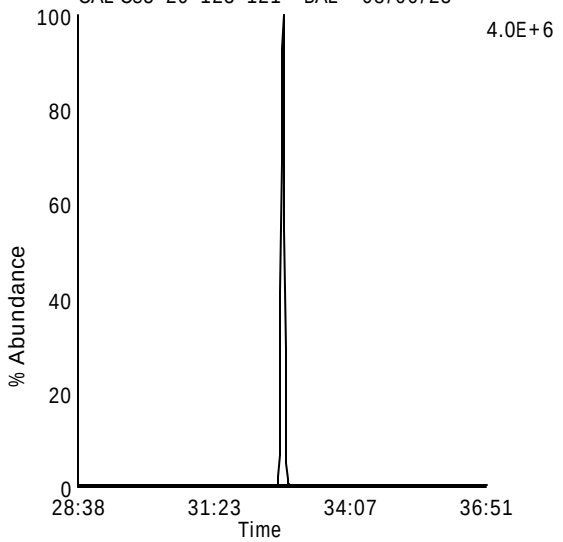
CAL CS5-20-123-121 - BAL 08/06/23



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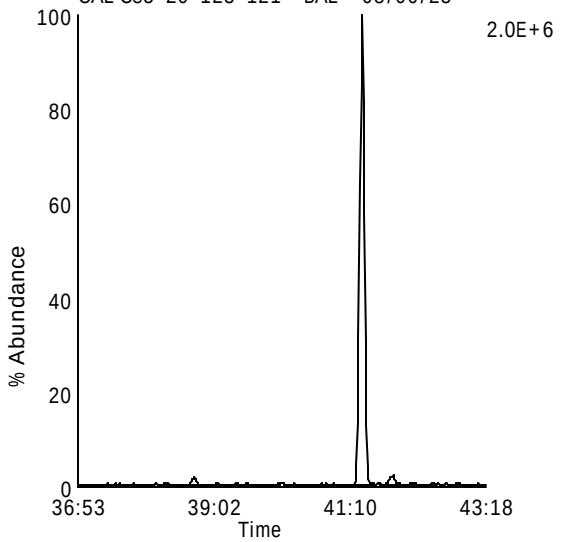
CAL CS5-20-123-121 - BAL 08/06/23



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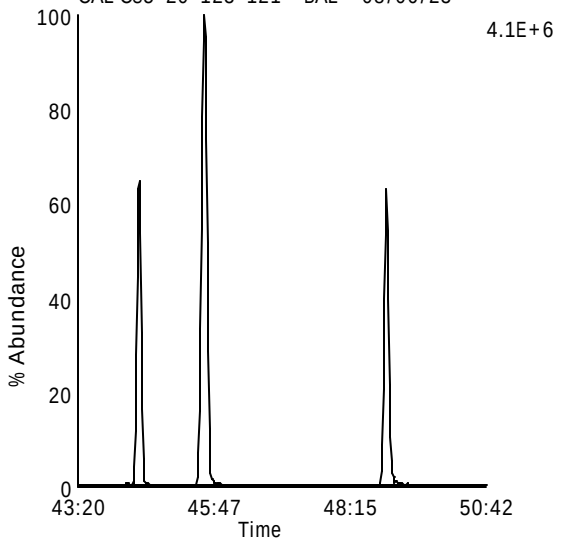
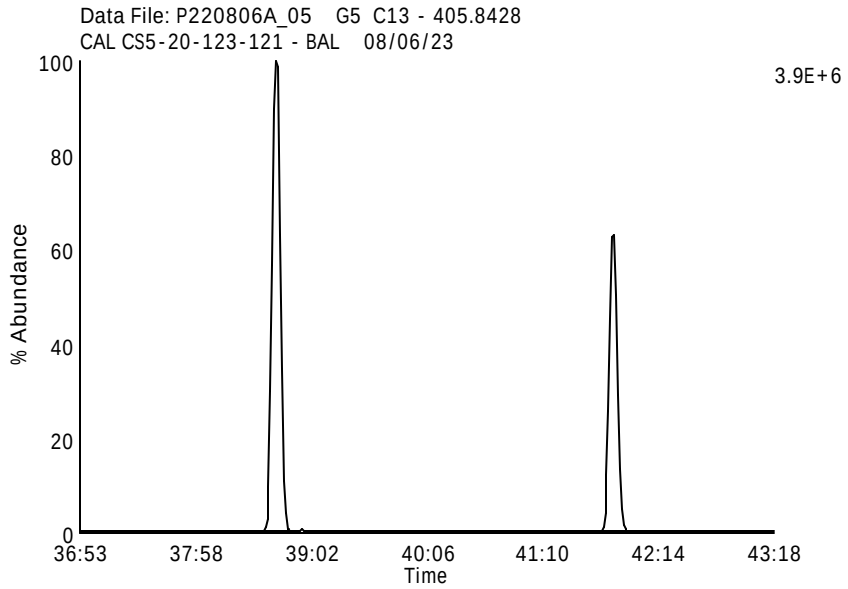
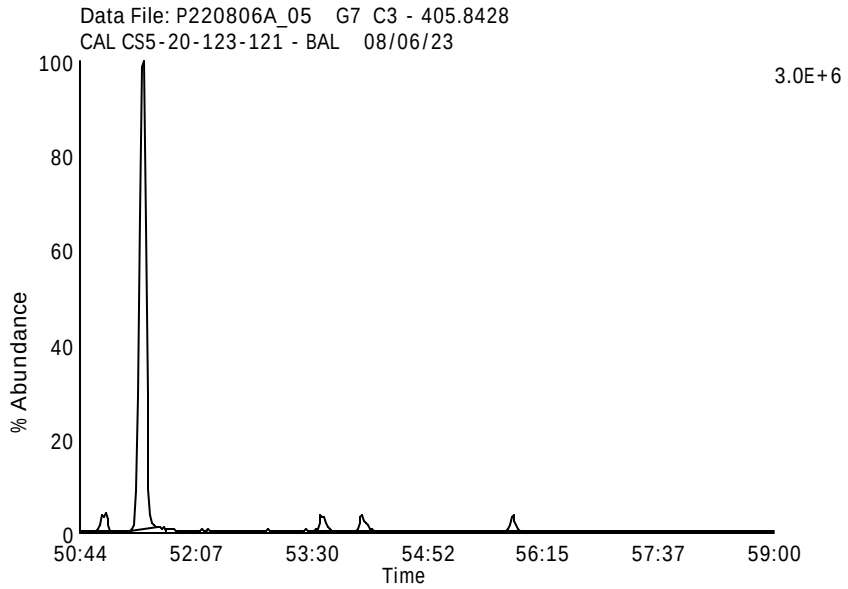
CAL CS5-20-123-121 - BAL 08/06/23

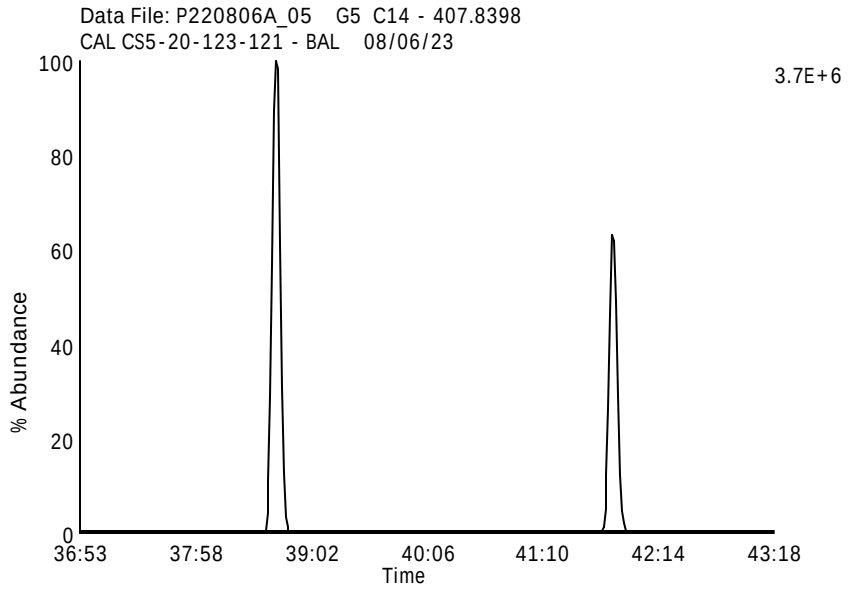


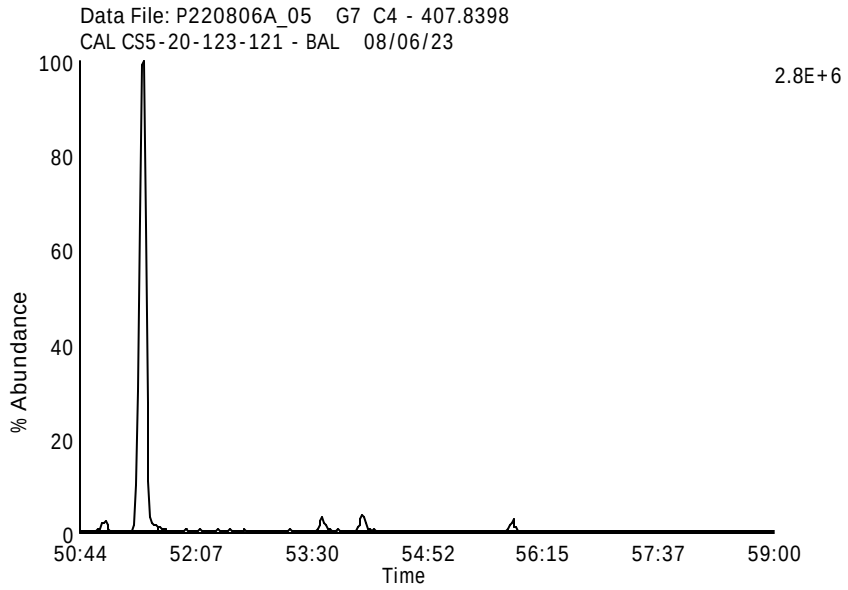
Labeled Hepta Chlorinated Biphenyls

Data File Name: P220806A_05
Lab Sample ID: CS5-20-123-121
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS5-20-123-121 - BAL 08/06/23





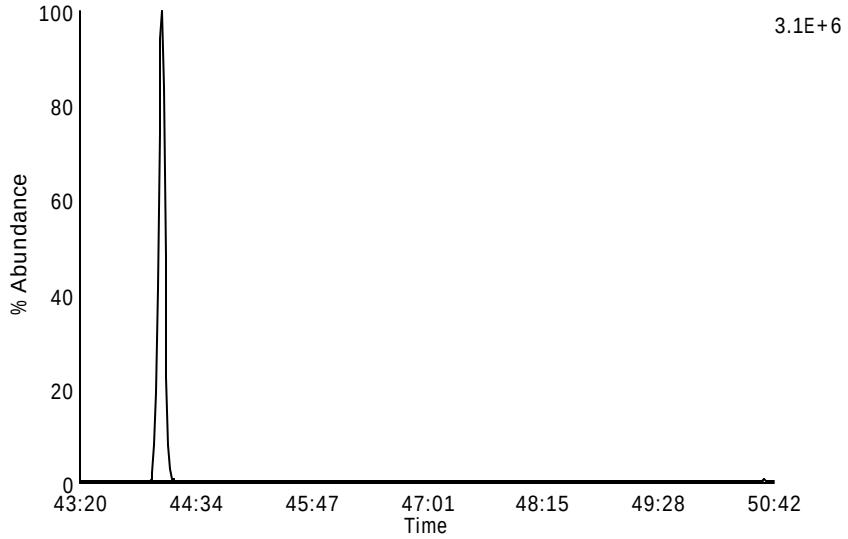




Labeled Octa Chlorinated Biphenyls

Data File Name: P220806A_05
Lab Sample ID: CS5-20-123-121
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS5-20-123-121 - BAL 08/06/23

Data File: P220806A_05 G6 C13 - 439.8038
CAL CS5-20-123-121 - BAL 08/06/23



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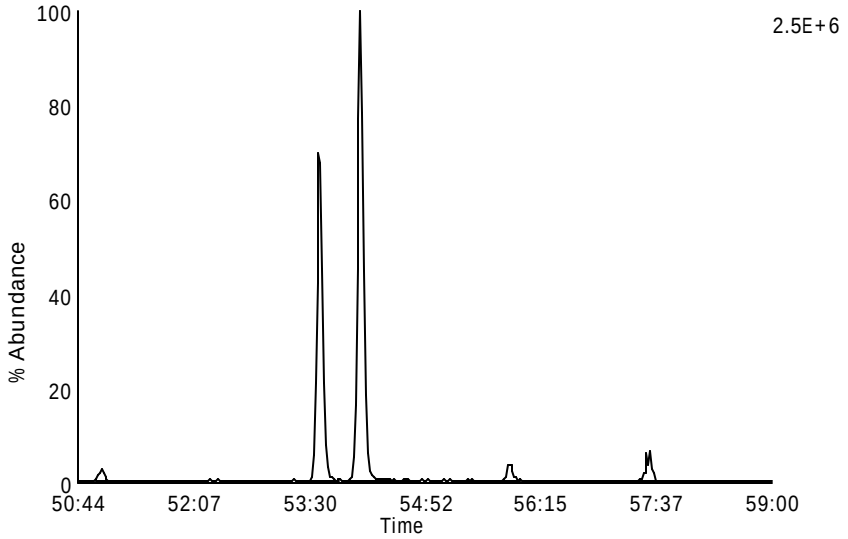
CAL CS5-20-123-121 - BAL 08/06/23



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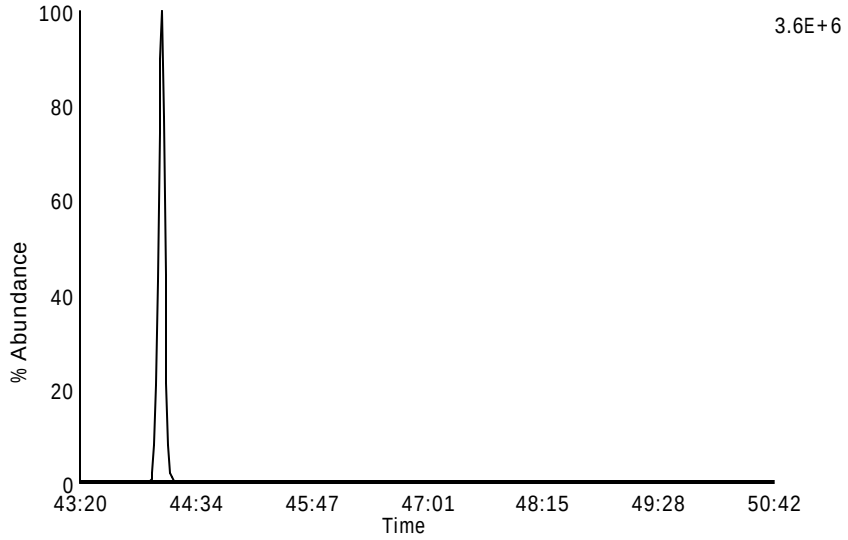
CAL CS5-20-123-121 - BAL 08/06/23



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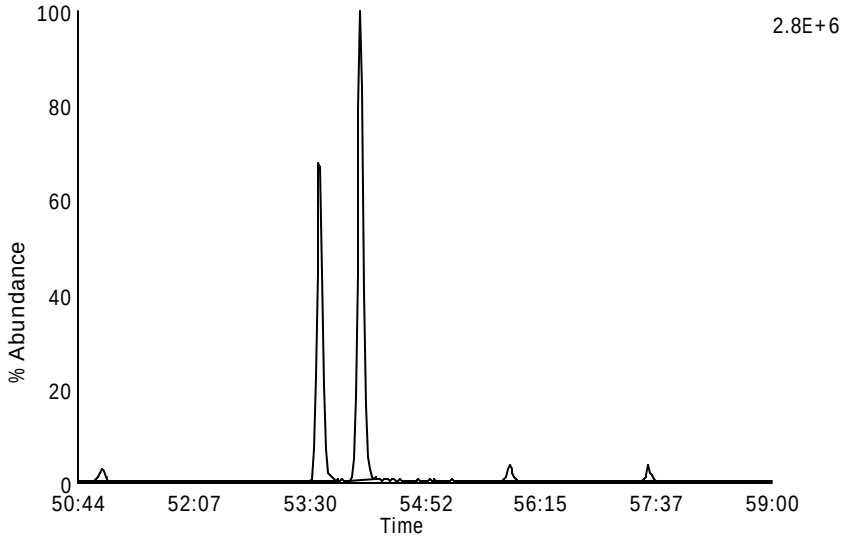
CAL CS5-20-123-121 - BAL 08/06/23

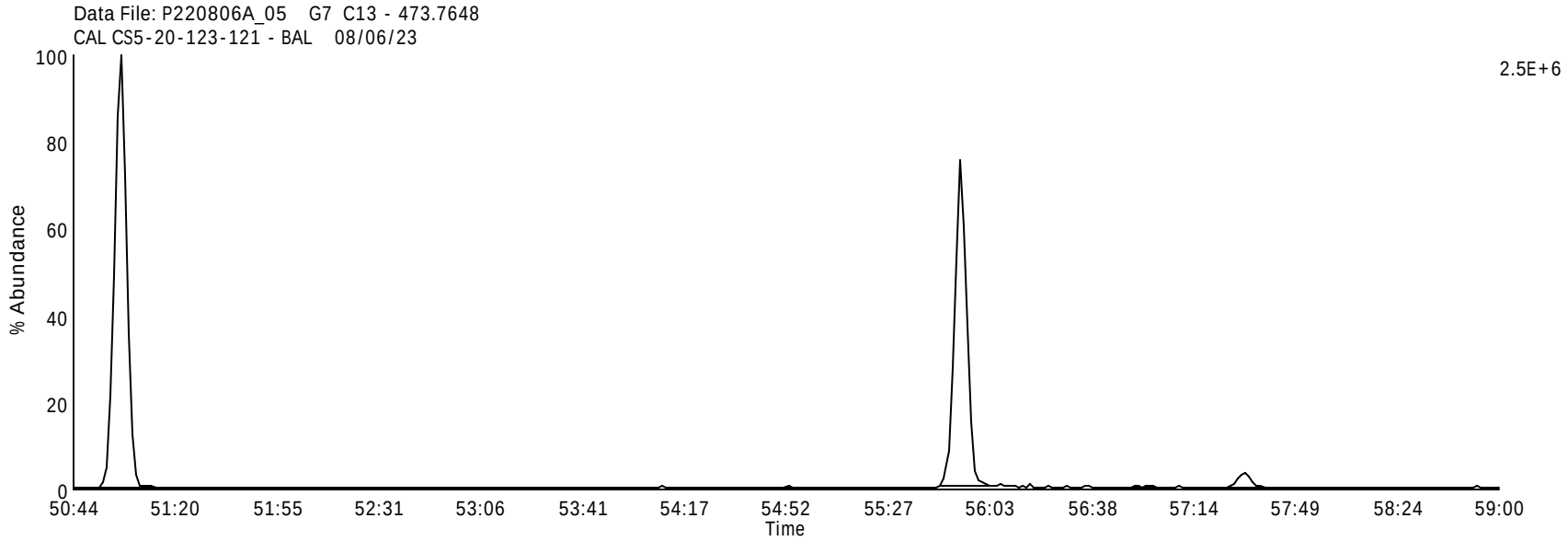


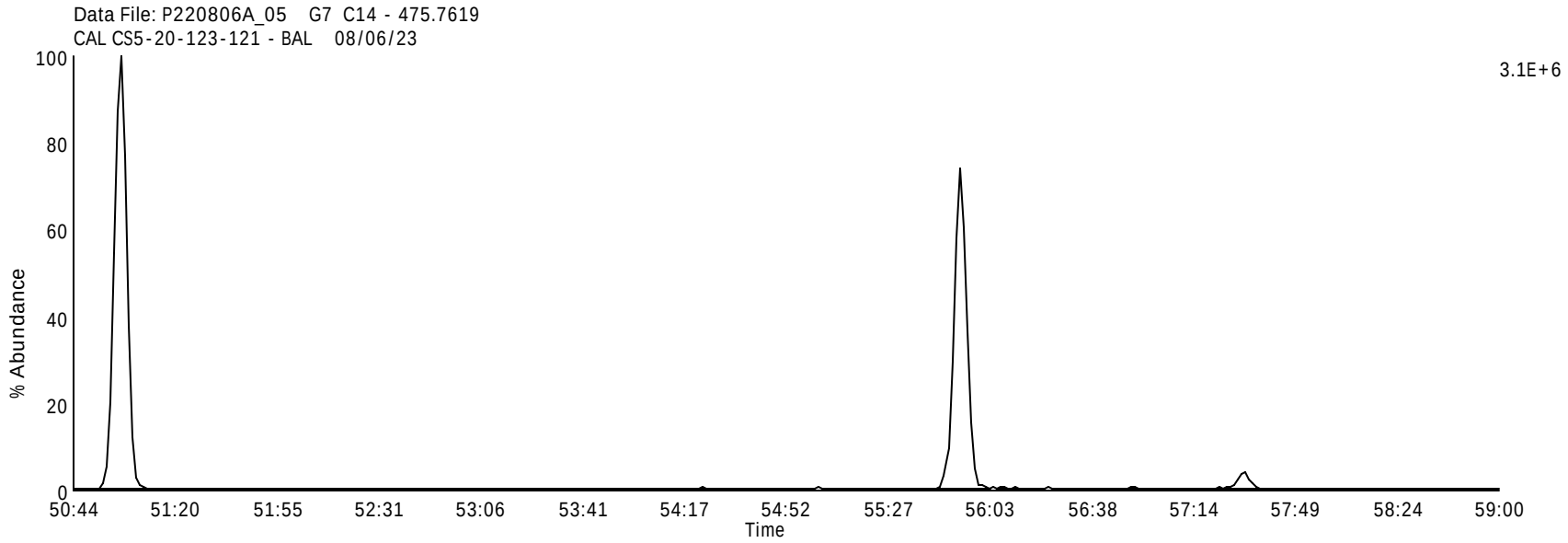
Labeled Nona Chlorinated Biphenyls

Data File Name: P220806A_05 Lab Sample ID: CS5-20-123-121

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS5-20-123-121 - BAL 08/06/23



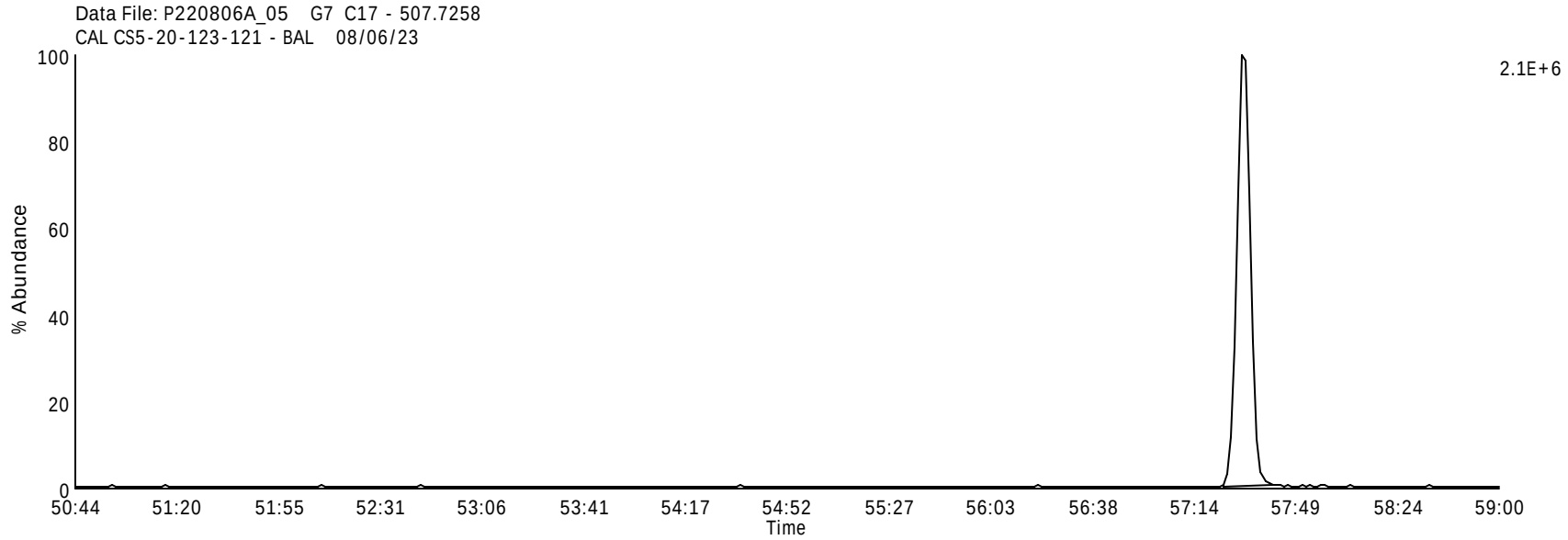


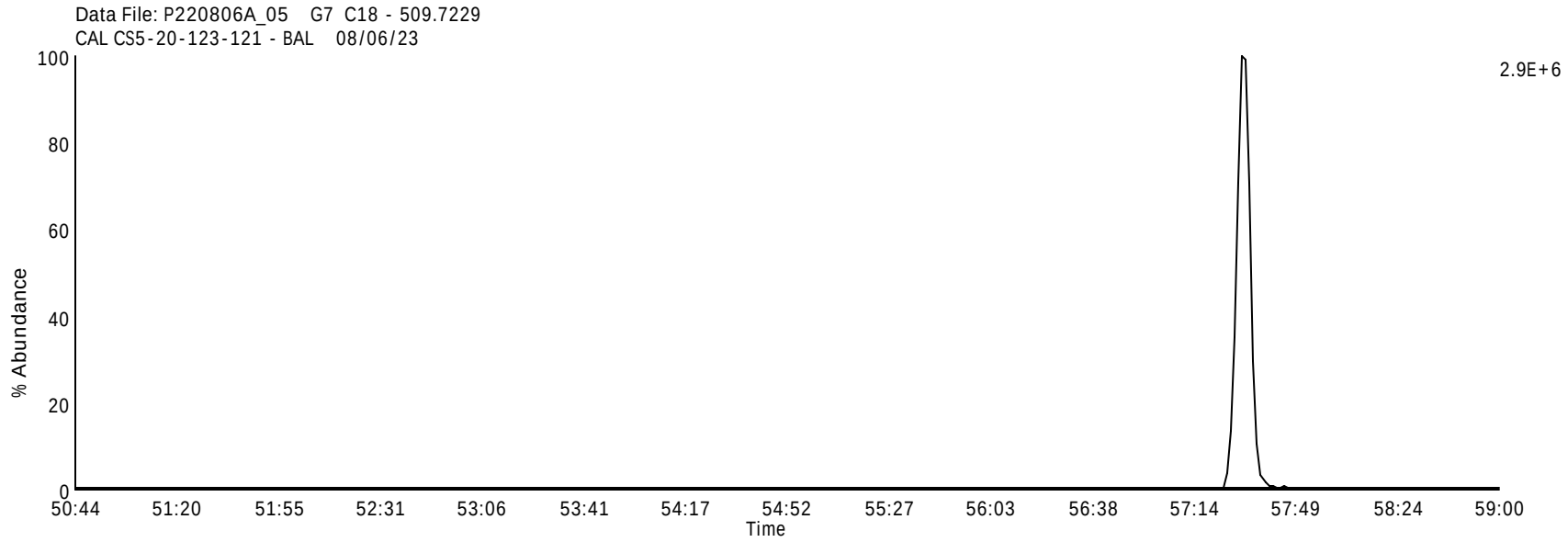
Labeled Deca Chlorinated Biphenyl

Data File Name: P220806A_05 Lab Sample ID: CS5-20-123-121

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS5-20-123-121 - BAL 08/06/23



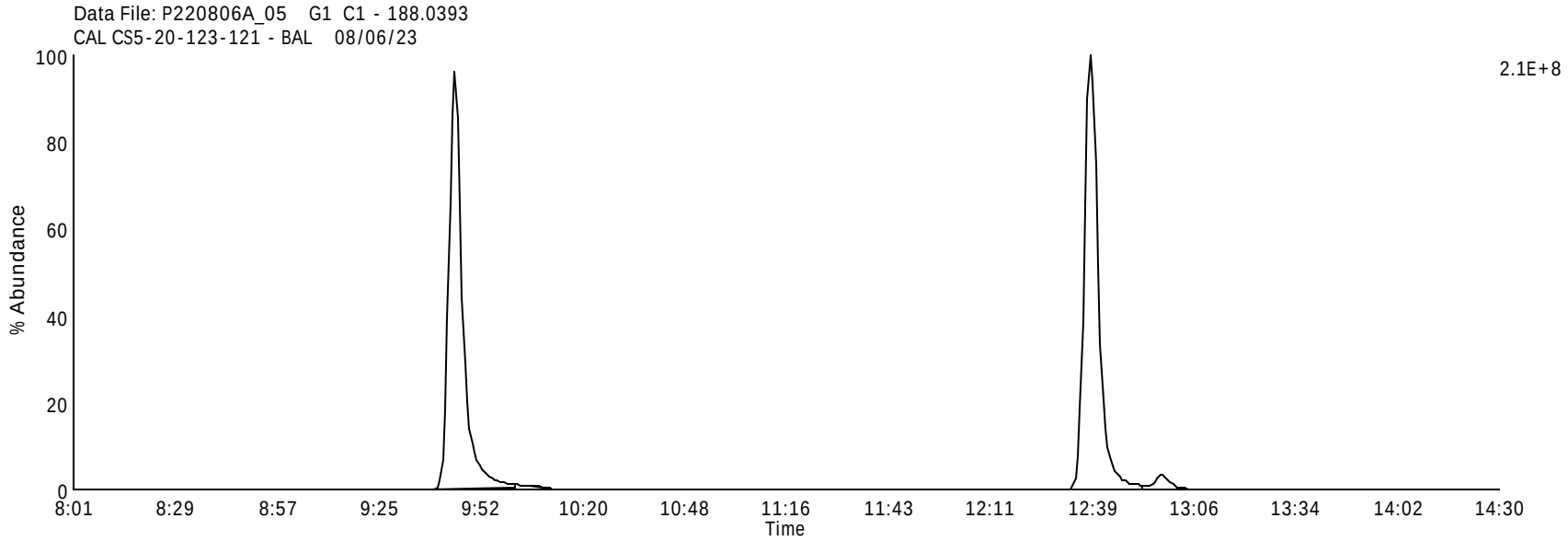


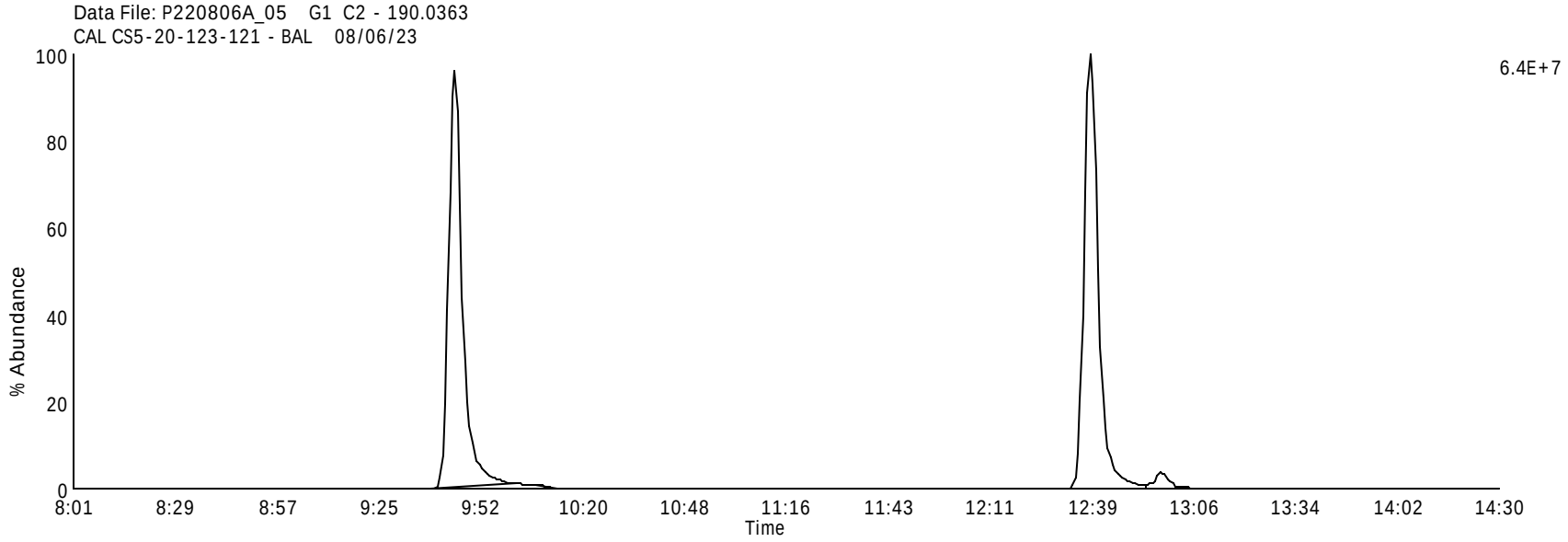
Mono Chlorinated Biphenyls

Data File Name: P220806A_05 Lab Sample ID: CS5-20-123-121

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS5-20-123-121 - BAL 08/06/23

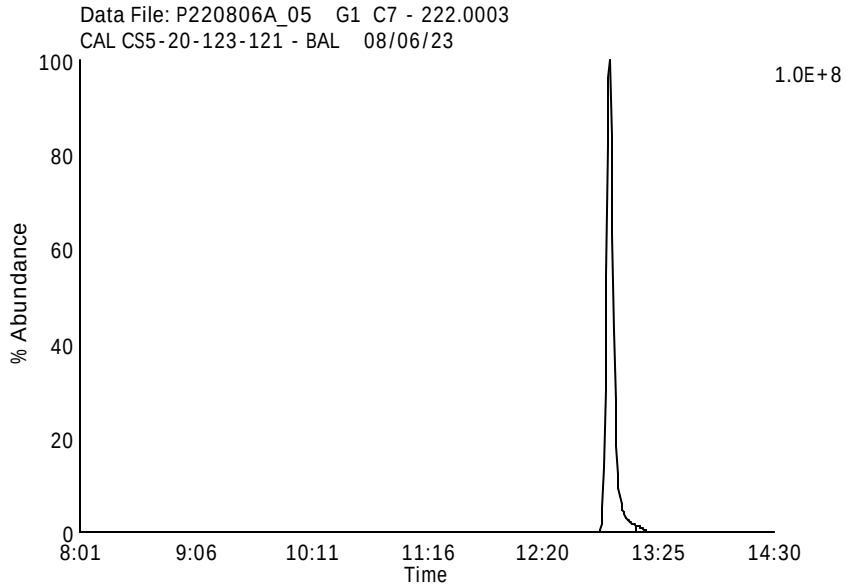


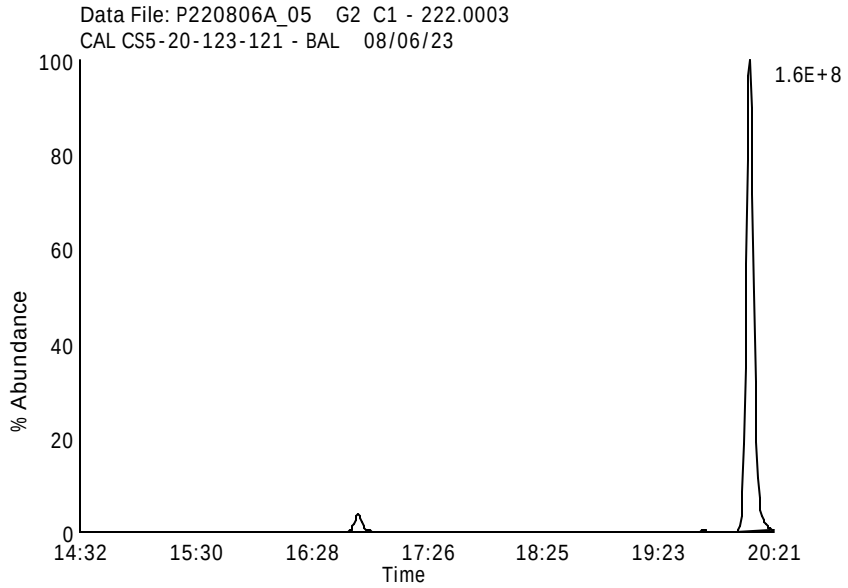


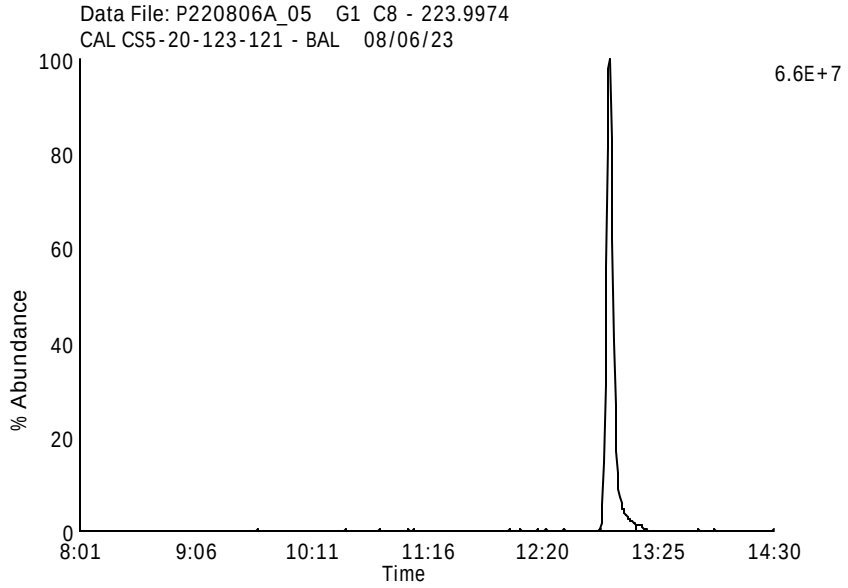
Di Chlorinated Biphenyls

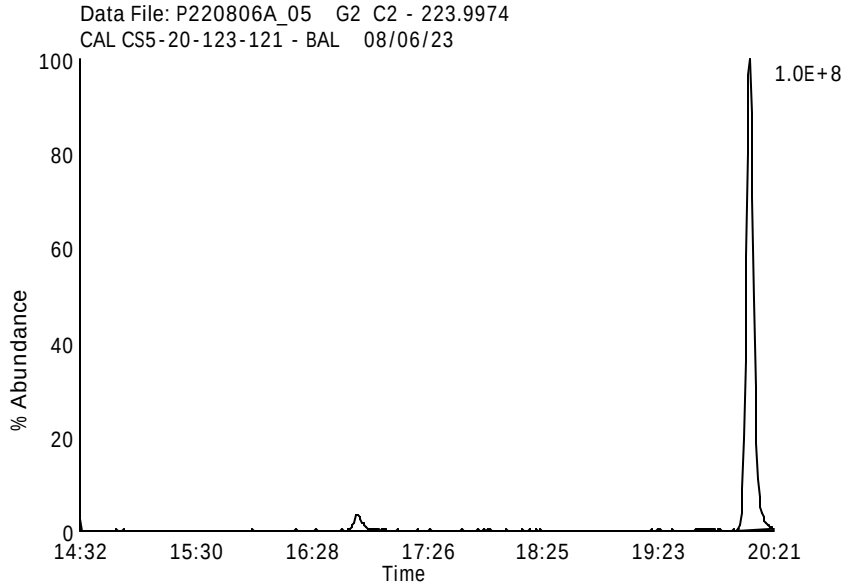
Data File Name: P220806A_05
Date Acquired: 8/6/2022
Sample Description: CAL CS5-20-123-121 - BAL 08/06/23

Lab Sample ID: CS5-20-123-121
Instrument: 10MSHR09 (P)



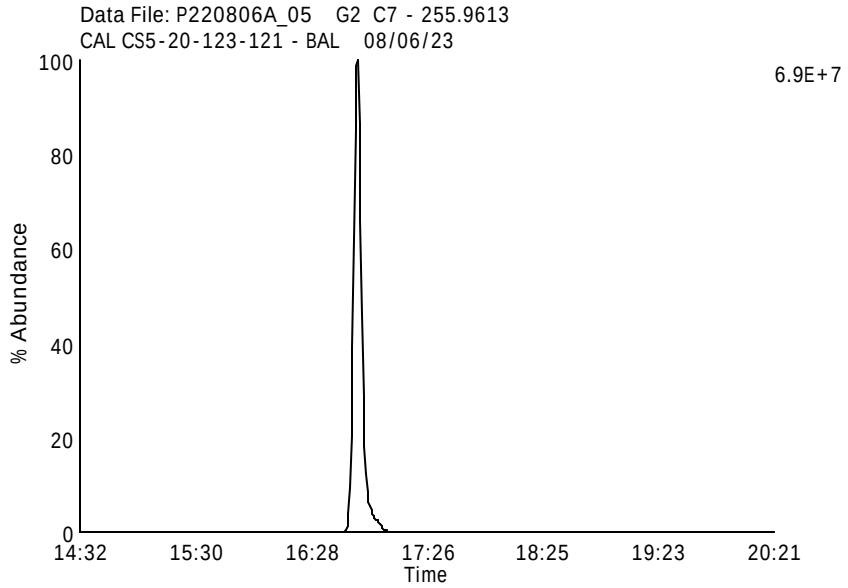


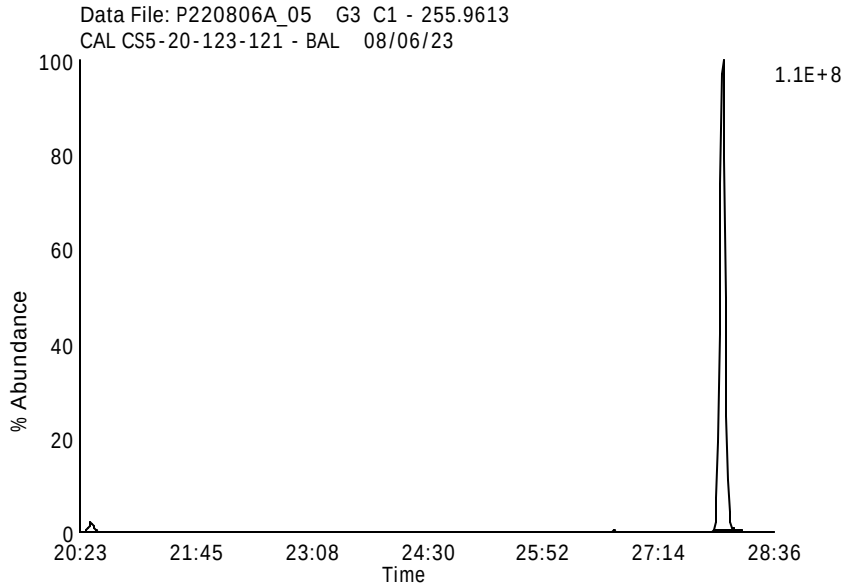


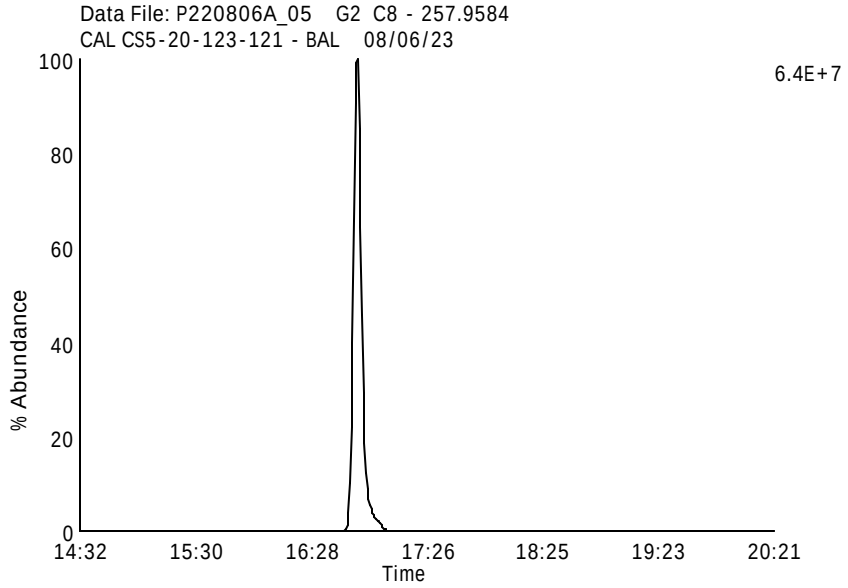


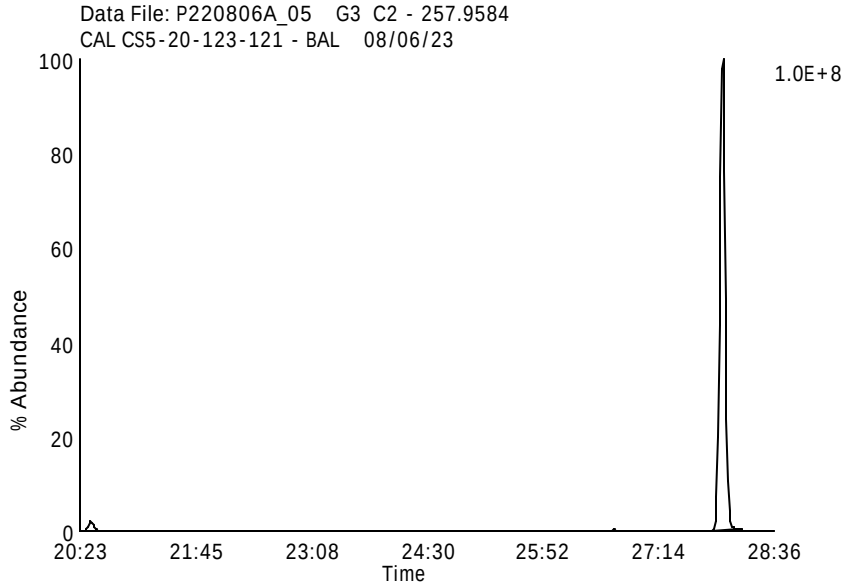
Tri Chlorinated Biphenyls

Data File Name: P220806A_05
Lab Sample ID: CS5-20-123-121
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS5-20-123-121 - BAL 08/06/23



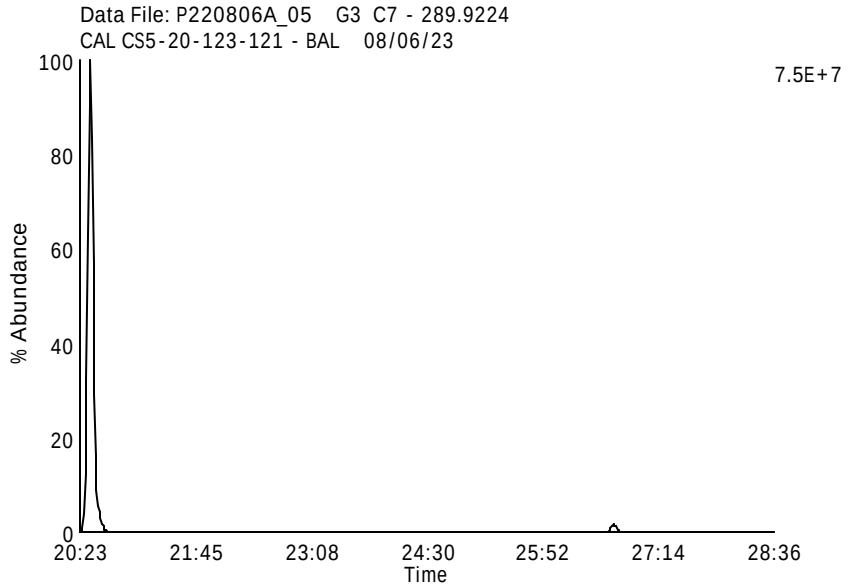


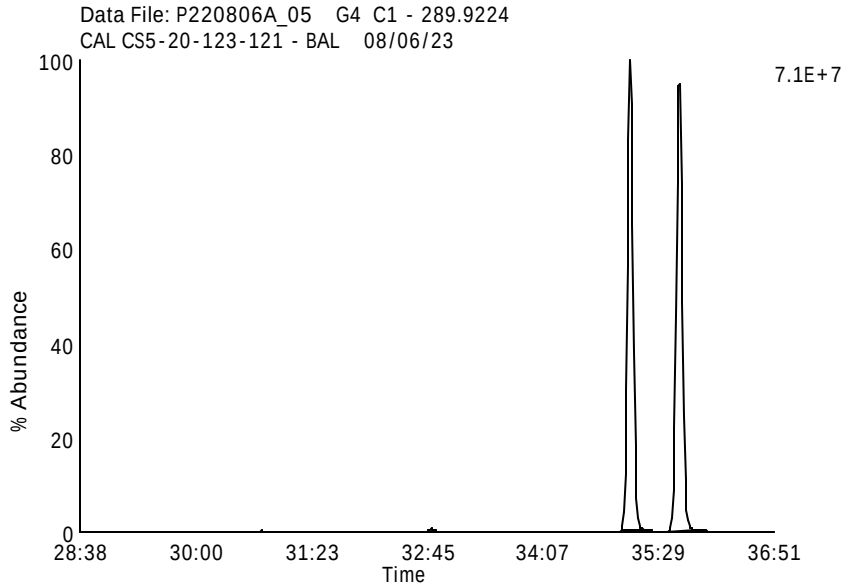


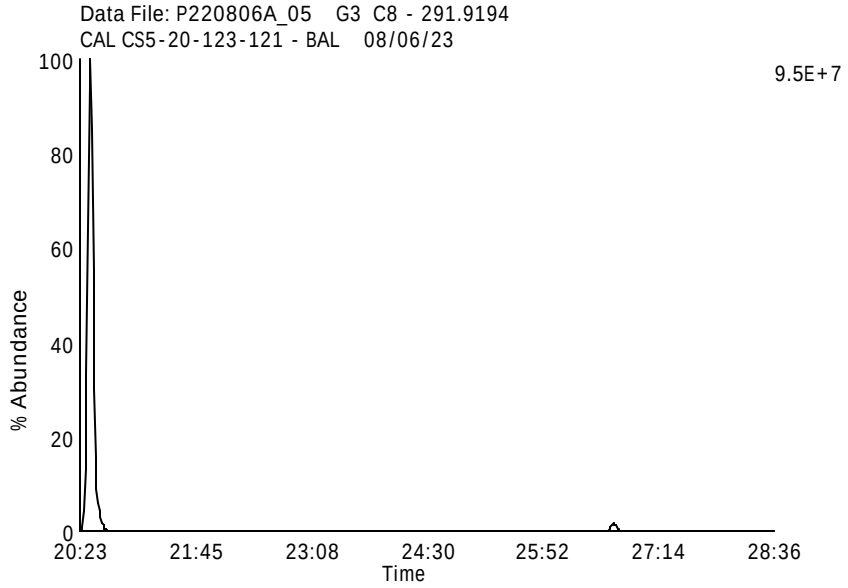


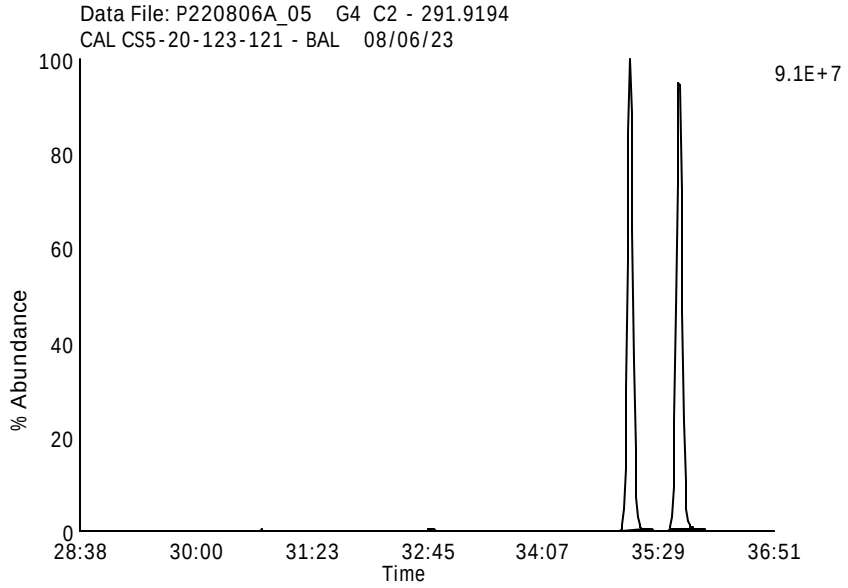
Tetra Chlorinated Biphenyls

Data File Name: P220806A_05
Lab Sample ID: CS5-20-123-121
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS5-20-123-121 - BAL 08/06/23









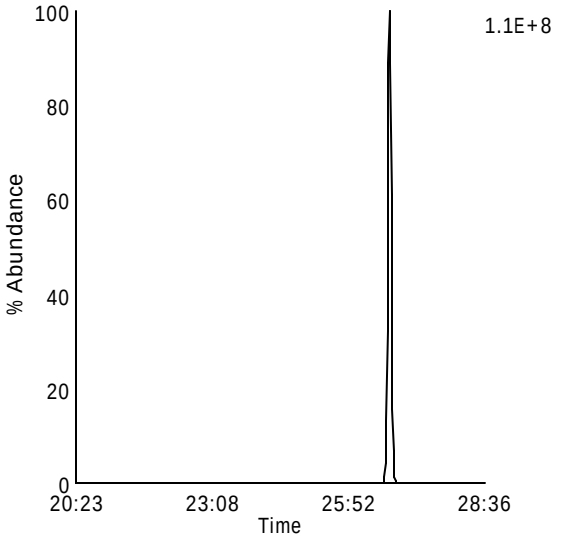
Penta Chlorinated Biphenyls

Data File Name: P220806A_05 Lab Sample ID: CS5-20-123-121

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS5-20-123-121 - BAL 08/06/23

Data File: P220806A_05 G3 C11 - 325.8804
CAL CS5-20-123-121 - BAL 08/06/23



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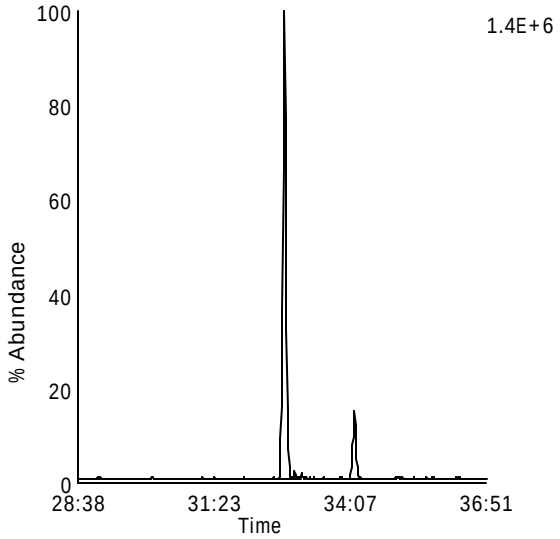
CAL CS5-20-123-121 - BAL 08/06/23



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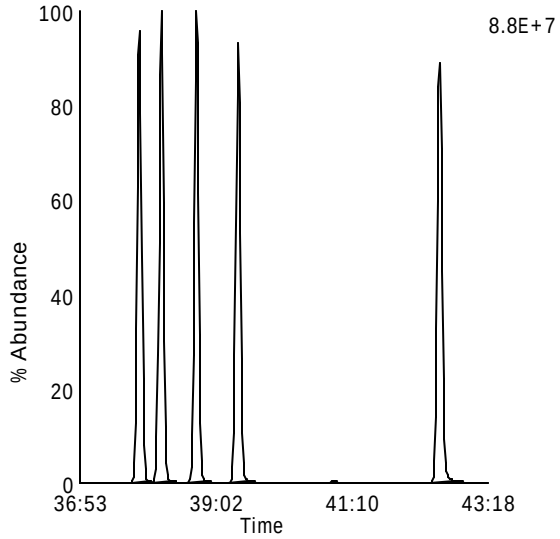
CAL CS5-20-123-121 - BAL 08/06/23



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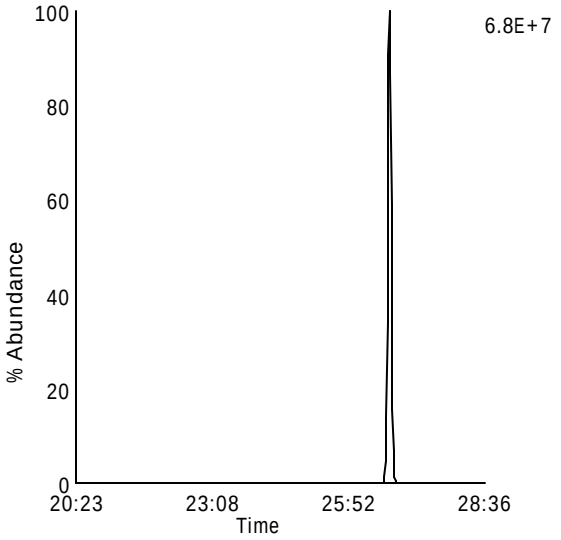
CAL CS5-20-123-121 - BAL 08/06/23



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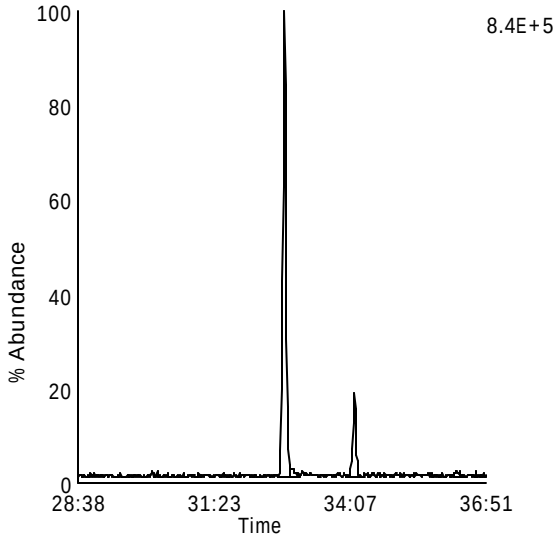
CAL CS5-20-123-121 - BAL 08/06/23



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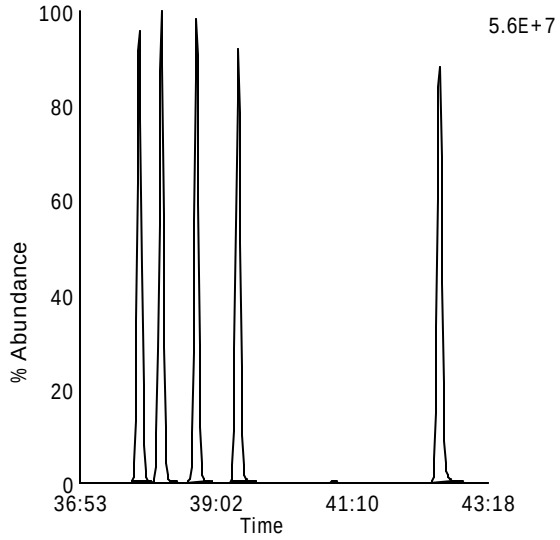
CAL CS5-20-123-121 - BAL 08/06/23



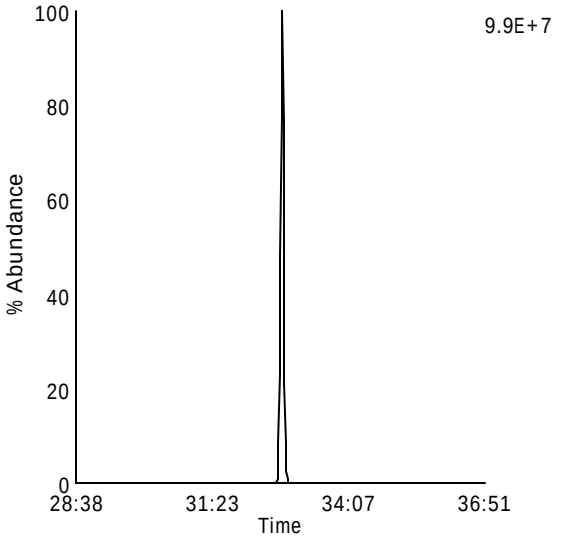
Hexa Chlorinated Biphenyls

Data File Name: P220806A_05 Lab Sample ID: CS5-20-123-121

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS5-20-123-121 - BAL 08/06/23

Data File: P220806A_05 G4 C11 - 359.8415
CAL CS5-20-123-121 - BAL 08/06/23



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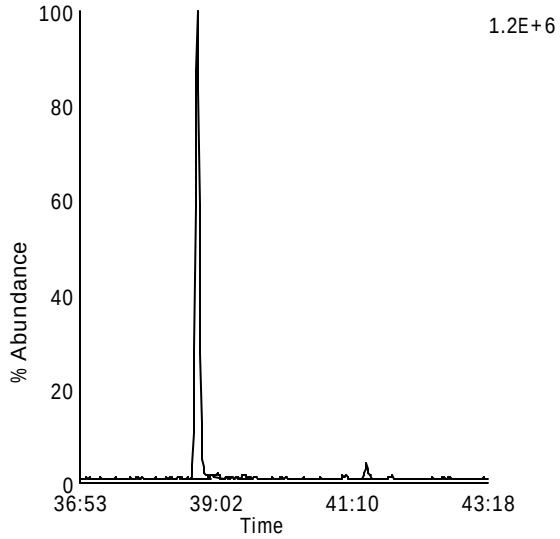
CAL CS5-20-123-121 - BAL 08/06/23



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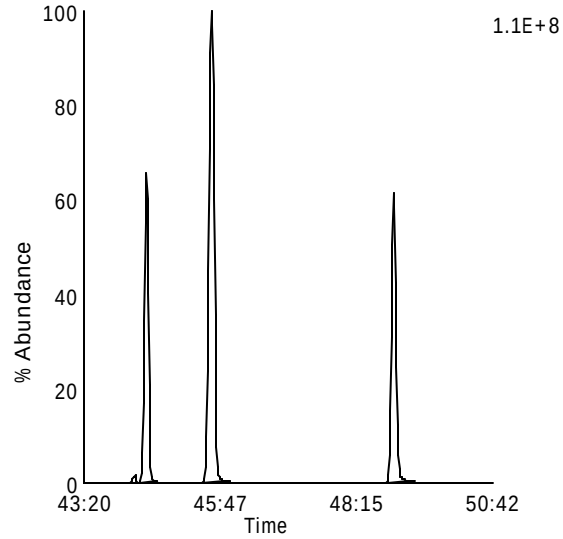
CAL CS5-20-123-121 - BAL 08/06/23



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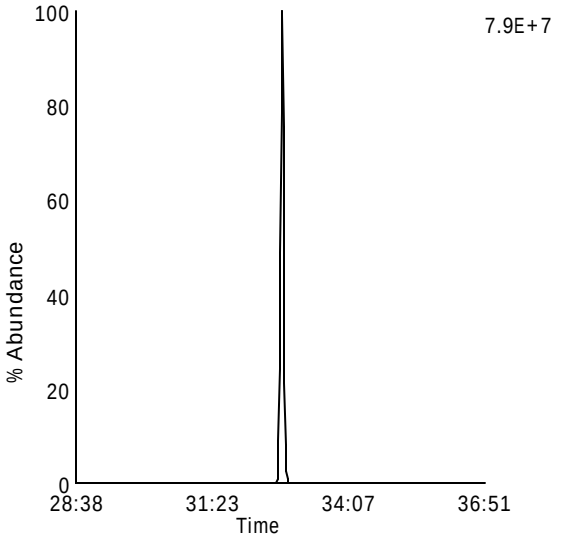
CAL CS5-20-123-121 - BAL 08/06/23



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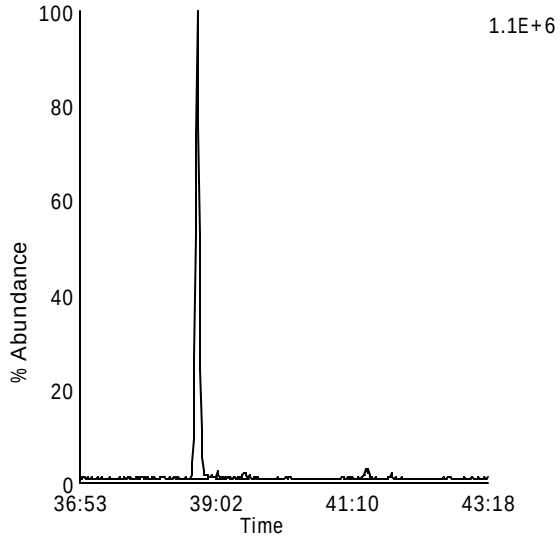
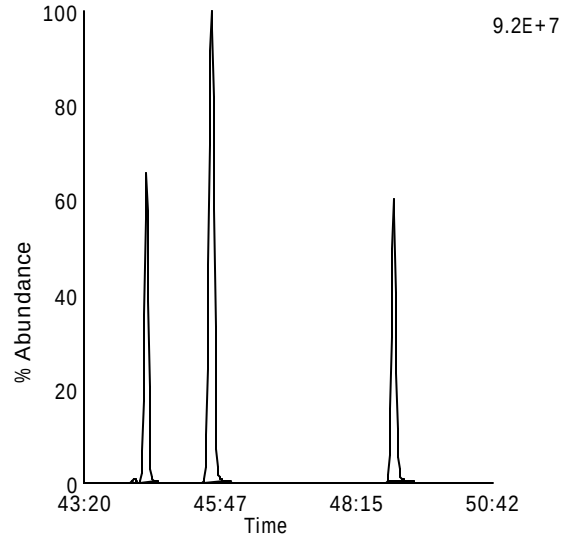
CAL CS5-20-123-121 - BAL 08/06/23



Data File: P220806A_05 G6 C2 - 361.8385
CAL CS5-20-123-121 - BAL 08/06/23

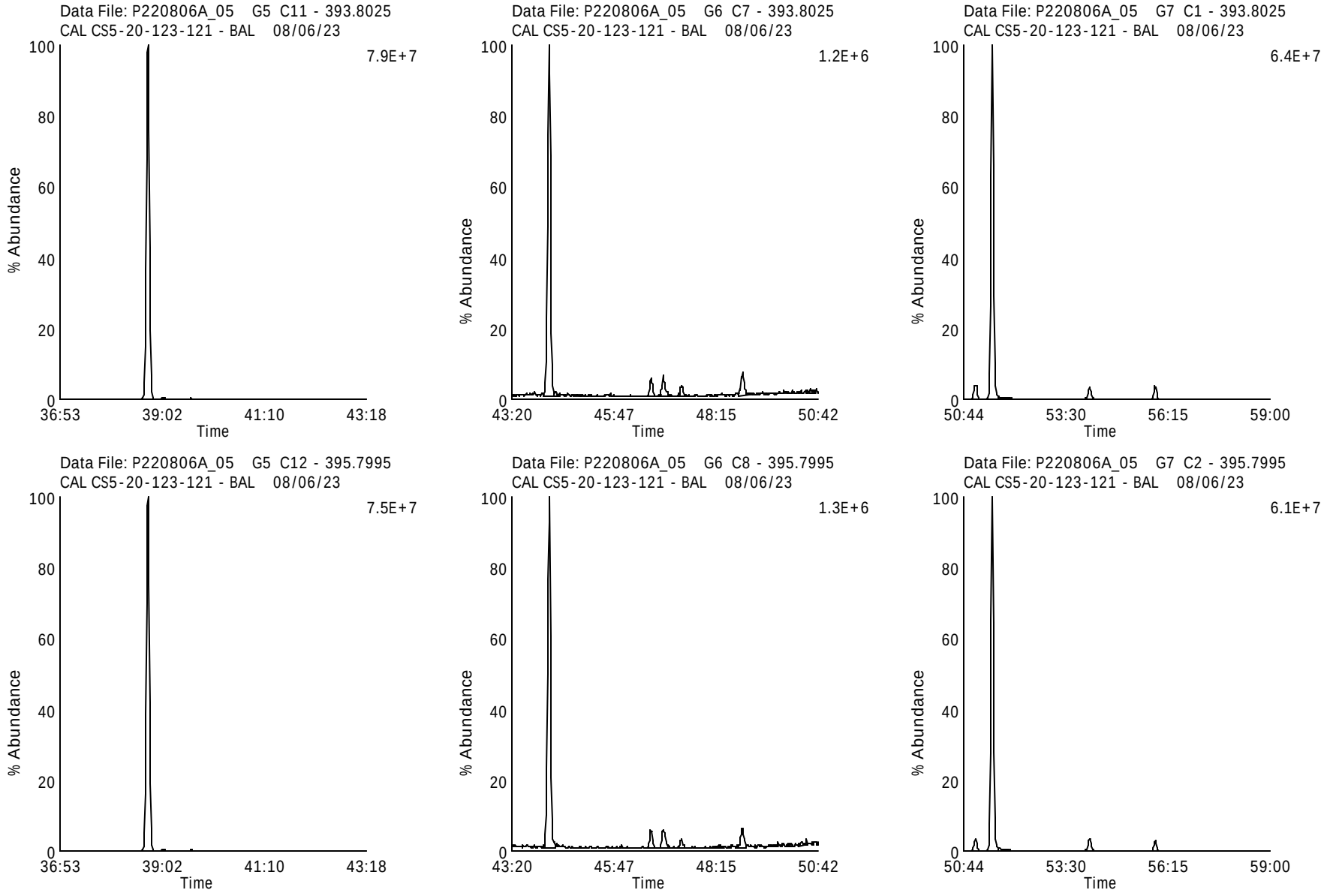


Hepta Chlorinated Biphenyls

Data File Name: P220806A_05 Lab Sample ID: CS5-20-123-121

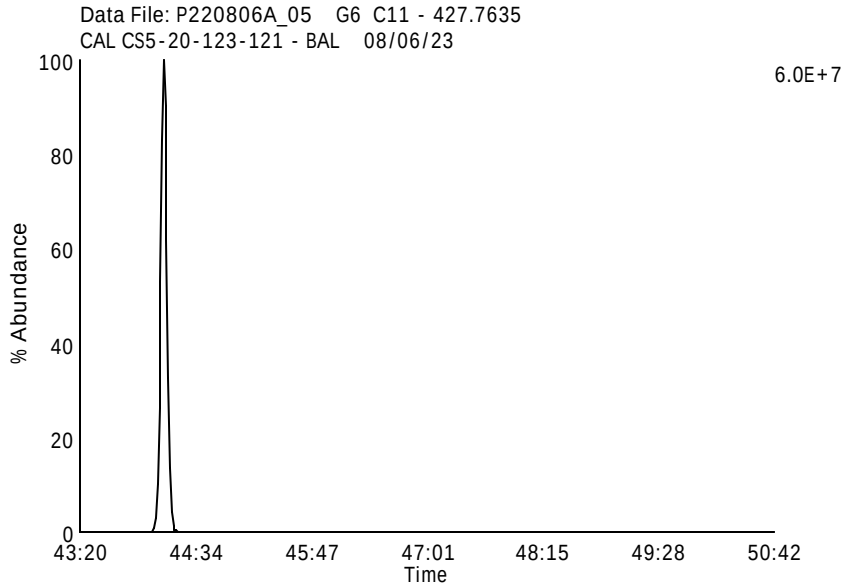
Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

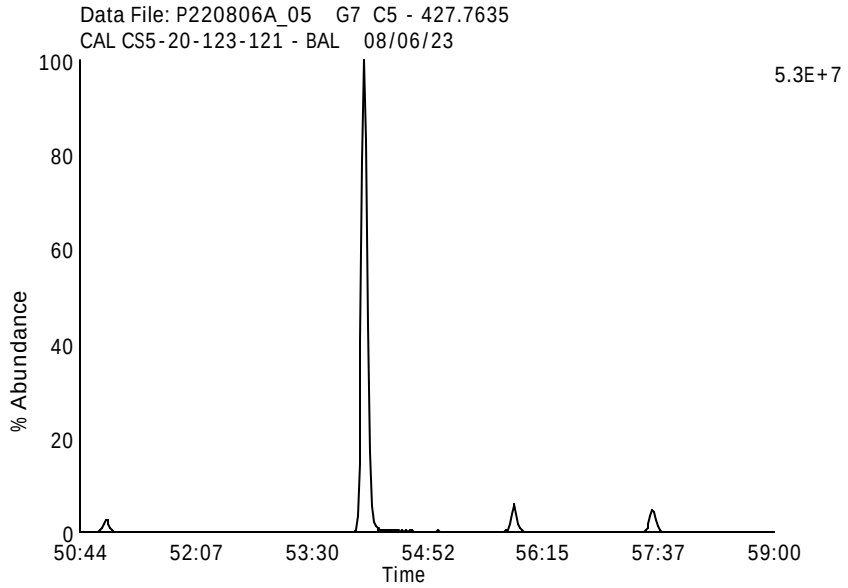
Sample Description: CAL CS5-20-123-121 - BAL 08/06/23

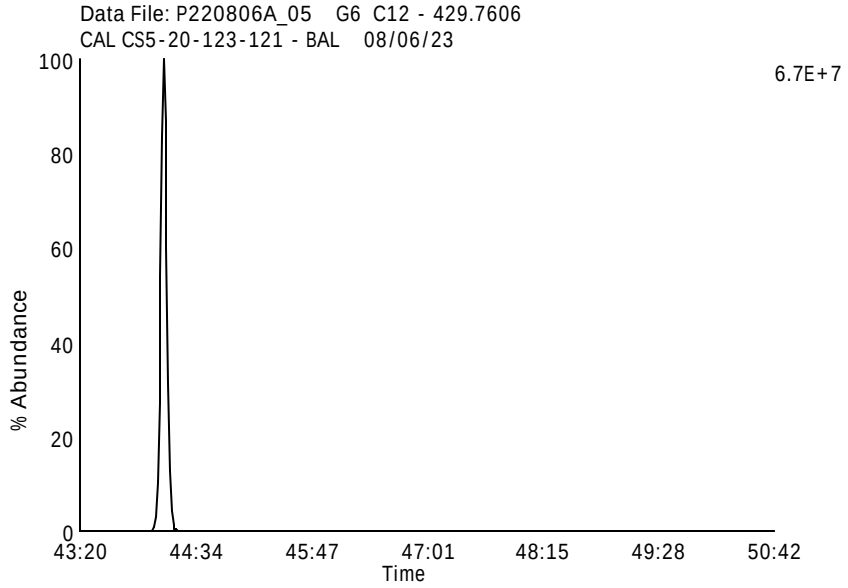


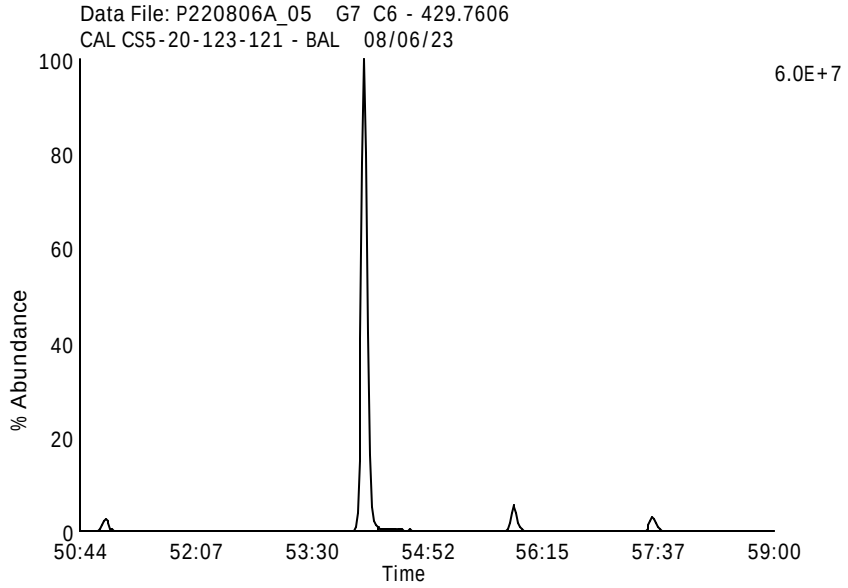
Octa Chlorinated Biphenyls

Data File Name: P220806A_05
Lab Sample ID: CS5-20-123-121
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS5-20-123-121 - BAL 08/06/23







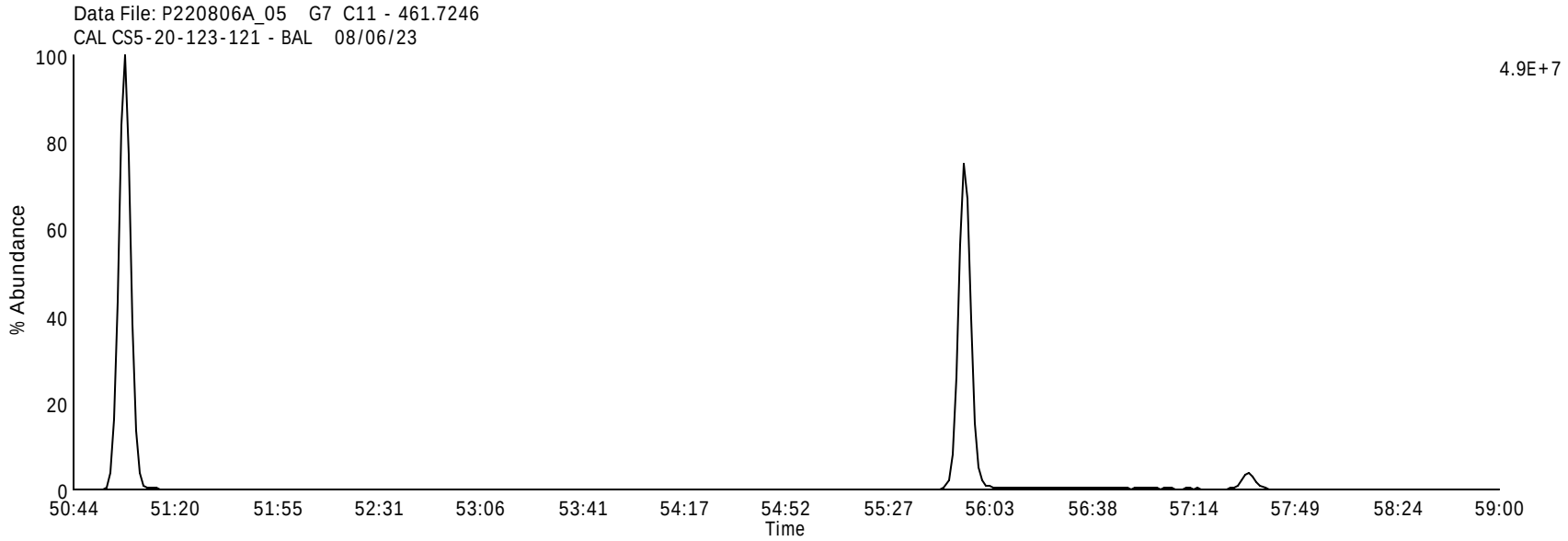


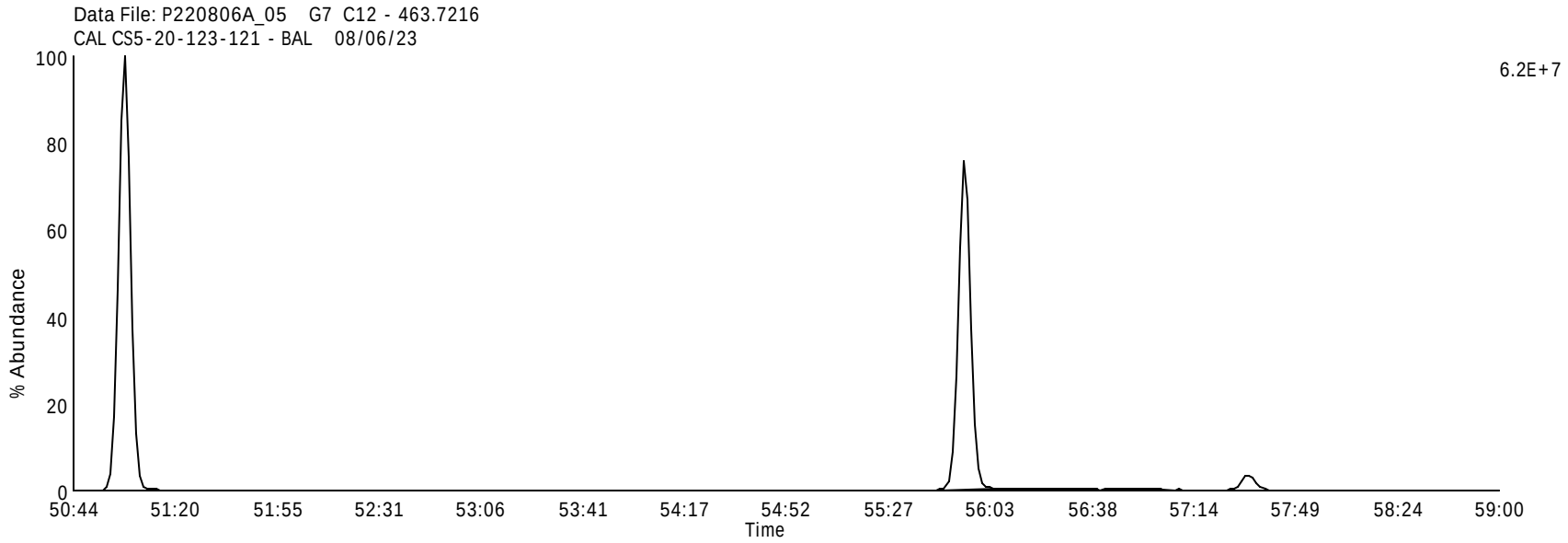
Nona Chlorinated Biphenyls

Data File Name: P220806A_05 Lab Sample ID: CS5-20-123-121

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

Sample Description: CAL CS5-20-123-121 - BAL 08/06/23



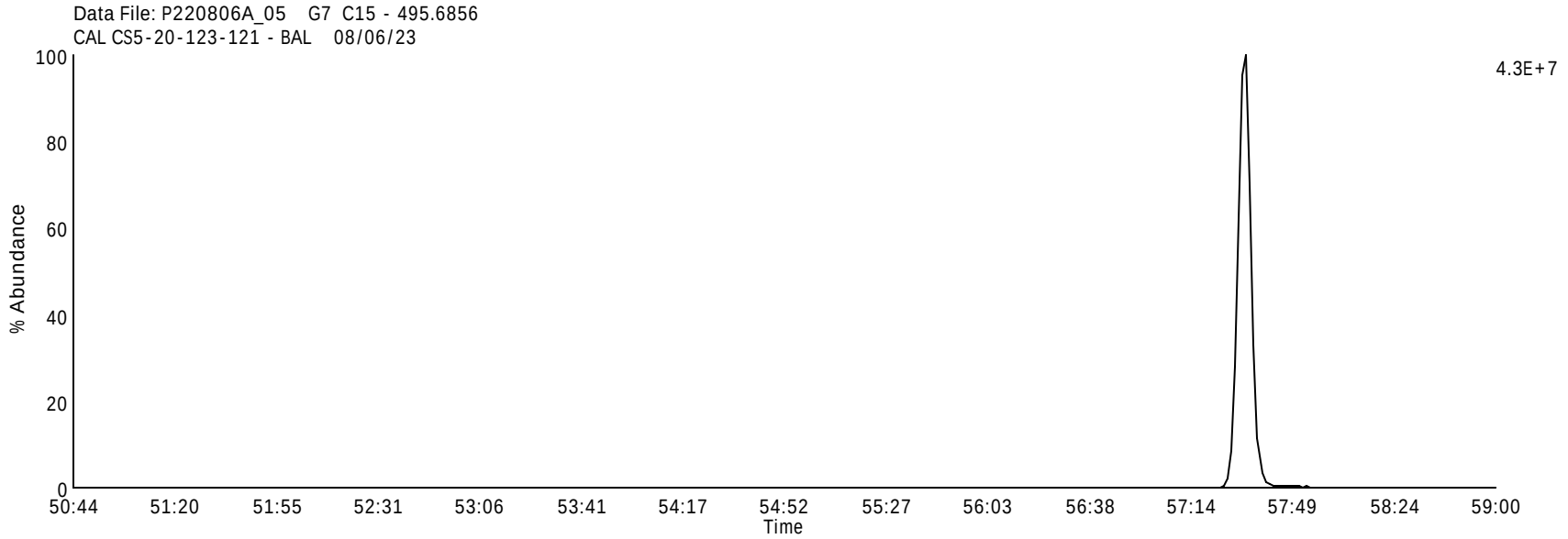


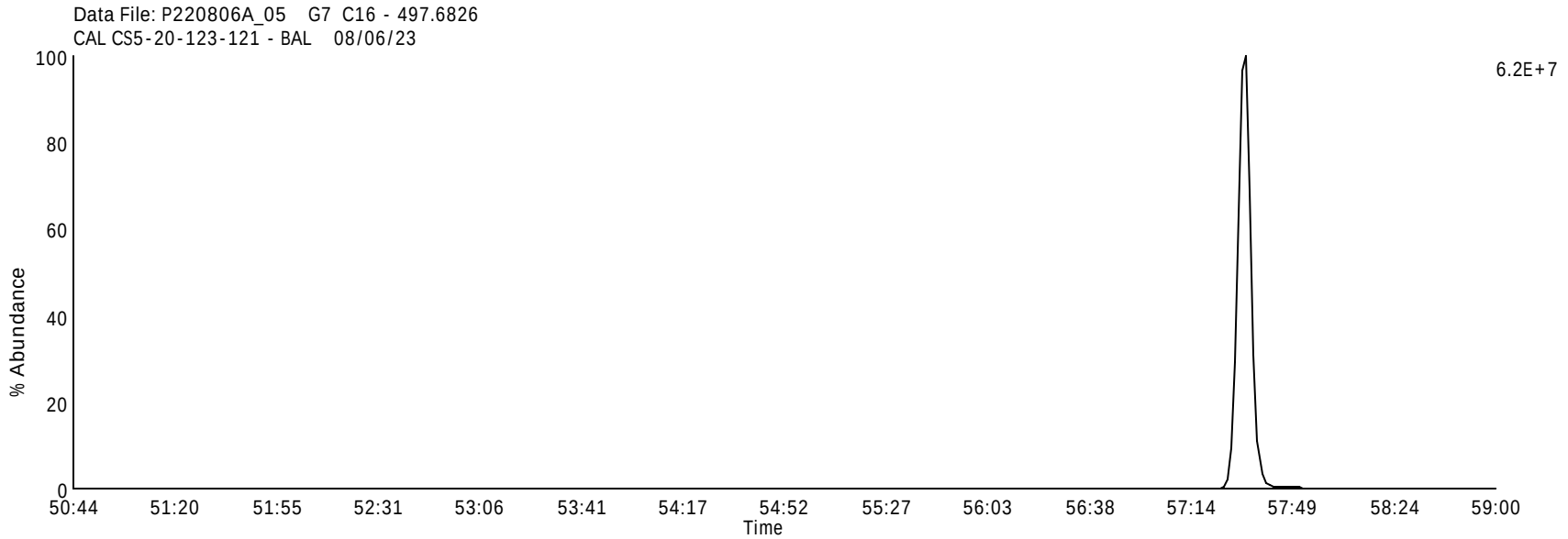
Deca Chlorinated Biphenyl

Data File Name: P220806A_05 Lab Sample ID: CS5-20-123-121

Date Acquired: 8/6/2022 Instrument: 10MSHR09 (P)

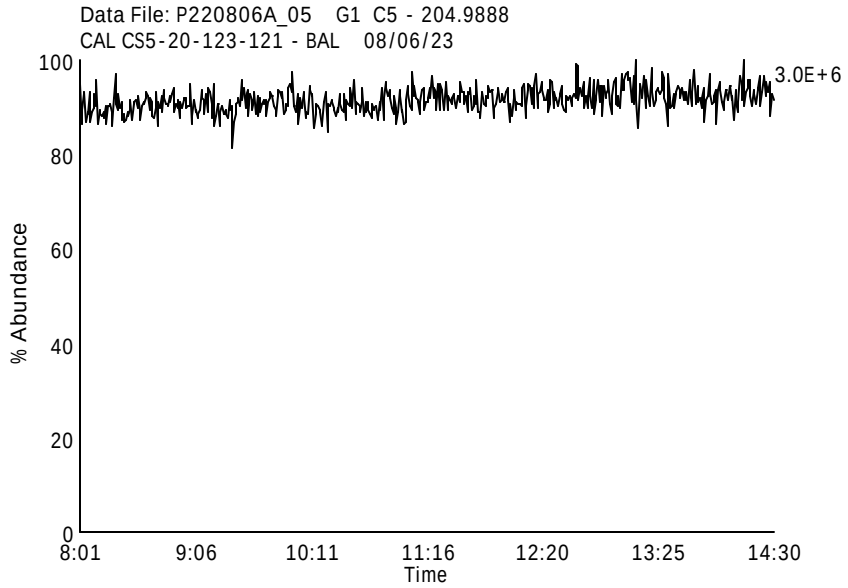
Sample Description: CAL CS5-20-123-121 - BAL 08/06/23

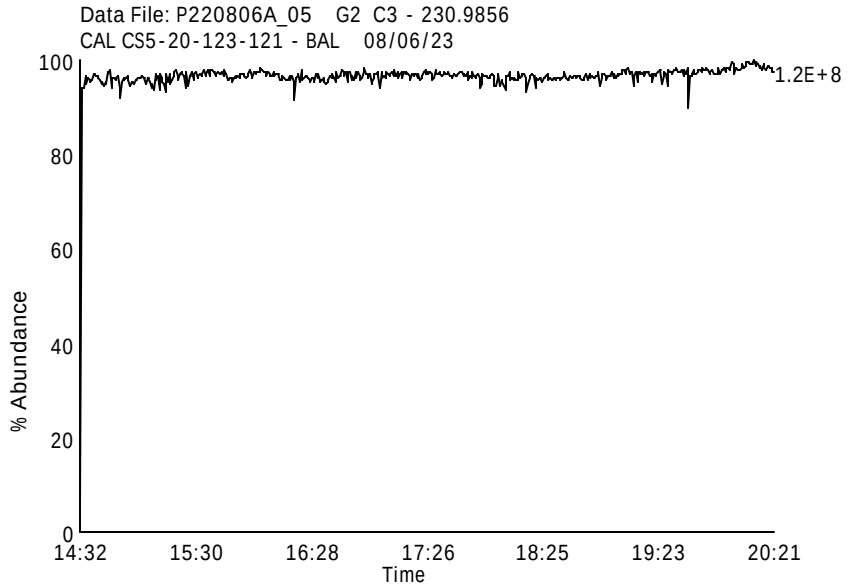


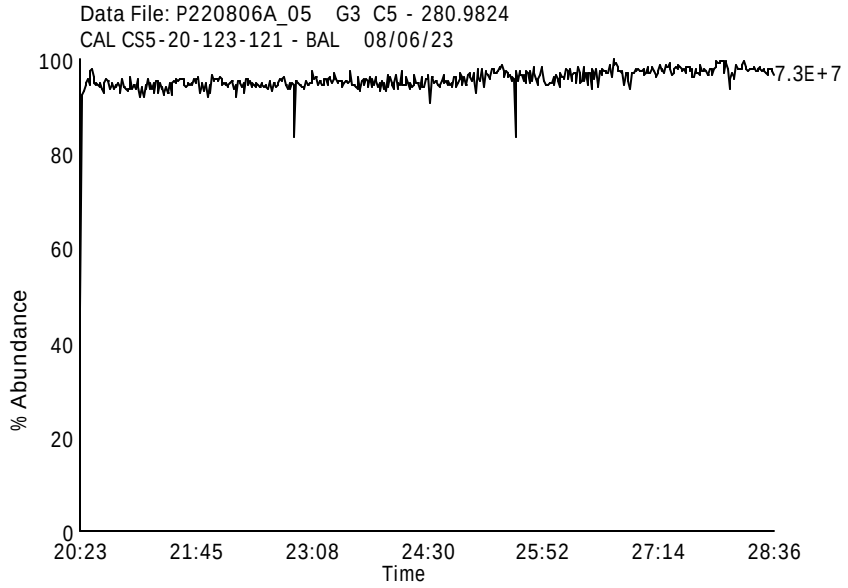


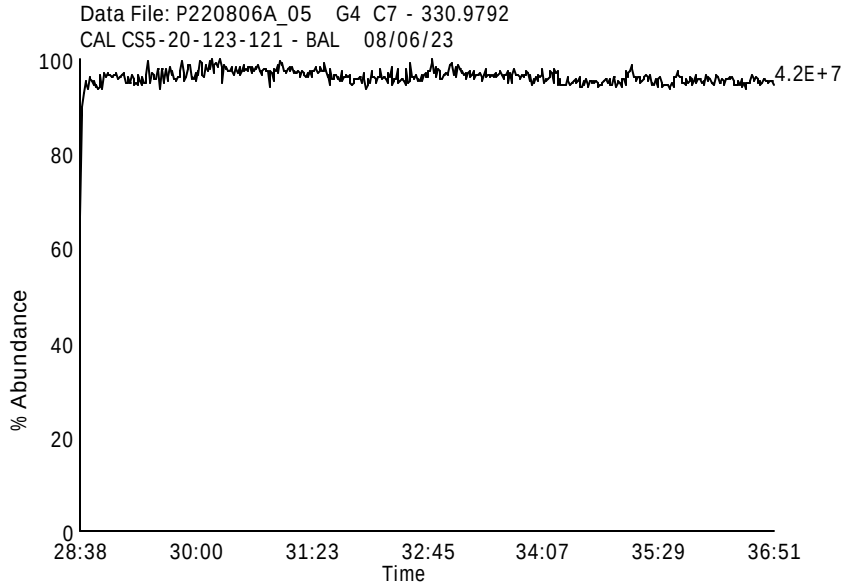
Group 1 - 4 Lock mass

Data File Name: P220806A_05
Lab Sample ID: CS5-20-123-121
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS5-20-123-121 - BAL 08/06/23



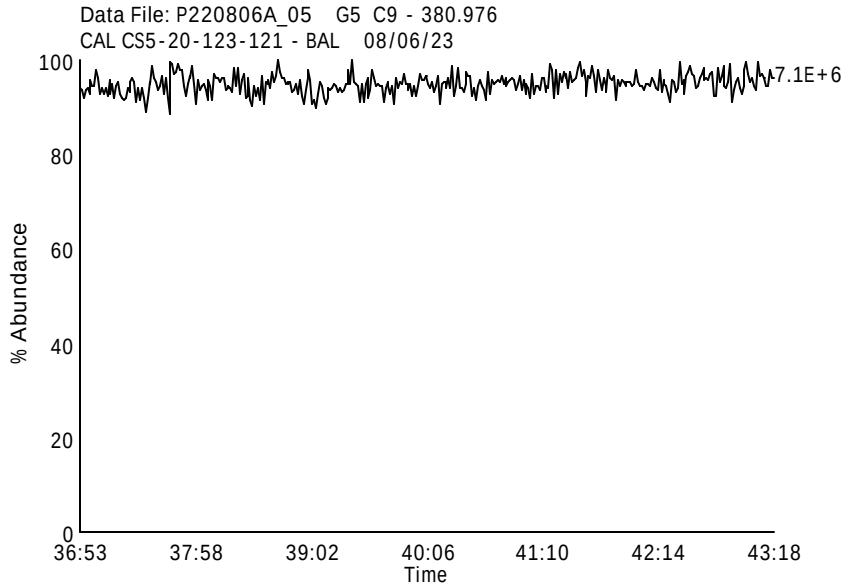


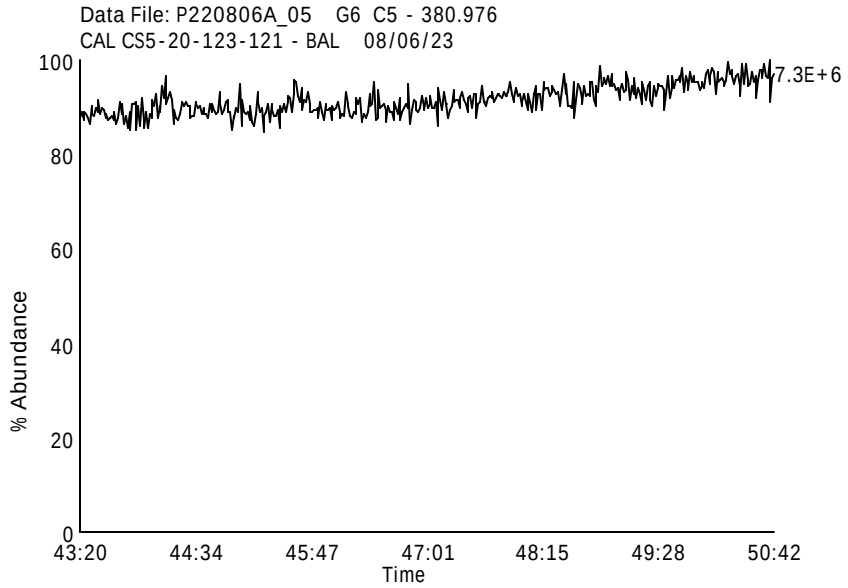


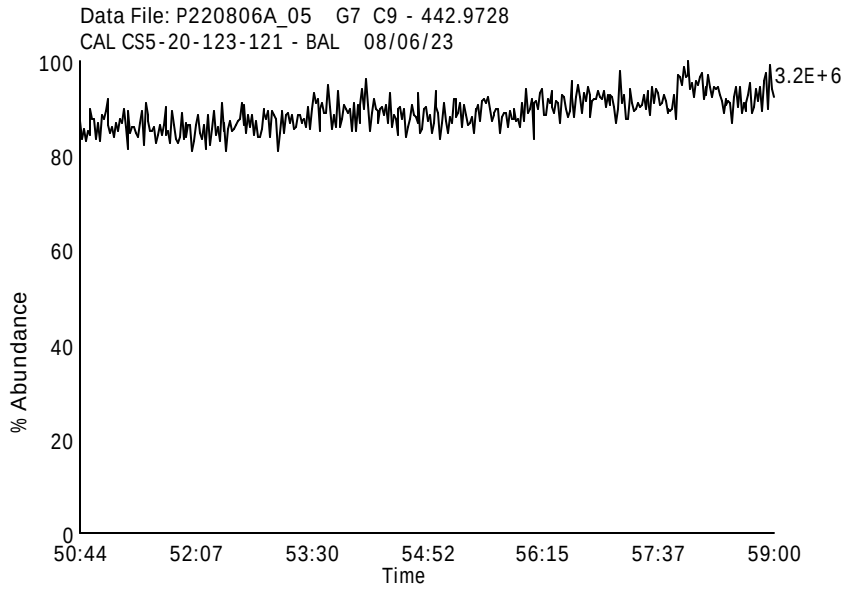


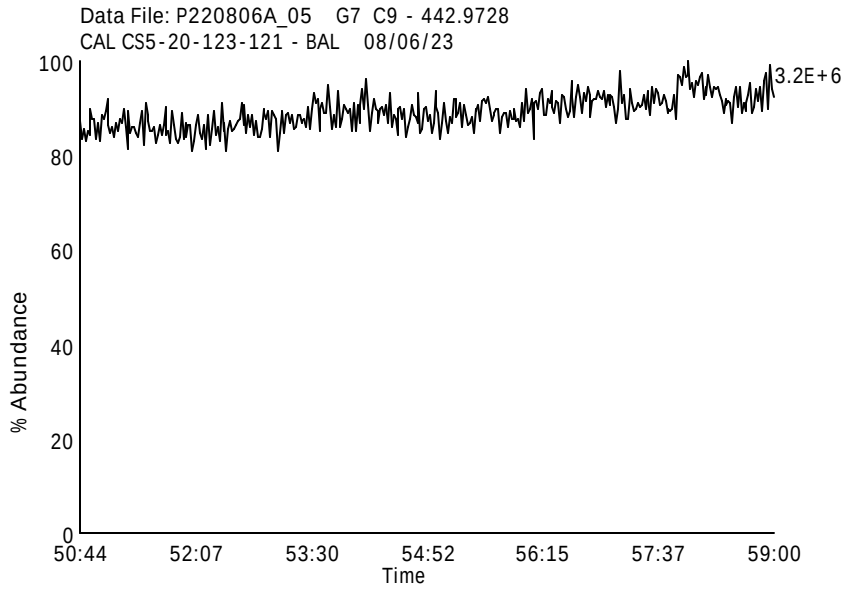
Group 5 - 7 Lock mass

Data File Name: P220806A_05
Lab Sample ID: CS5-20-123-121
Date Acquired: 8/6/2022
Instrument: 10MSHR09 (P)
Sample Description: CAL CS5-20-123-121 - BAL 08/06/23







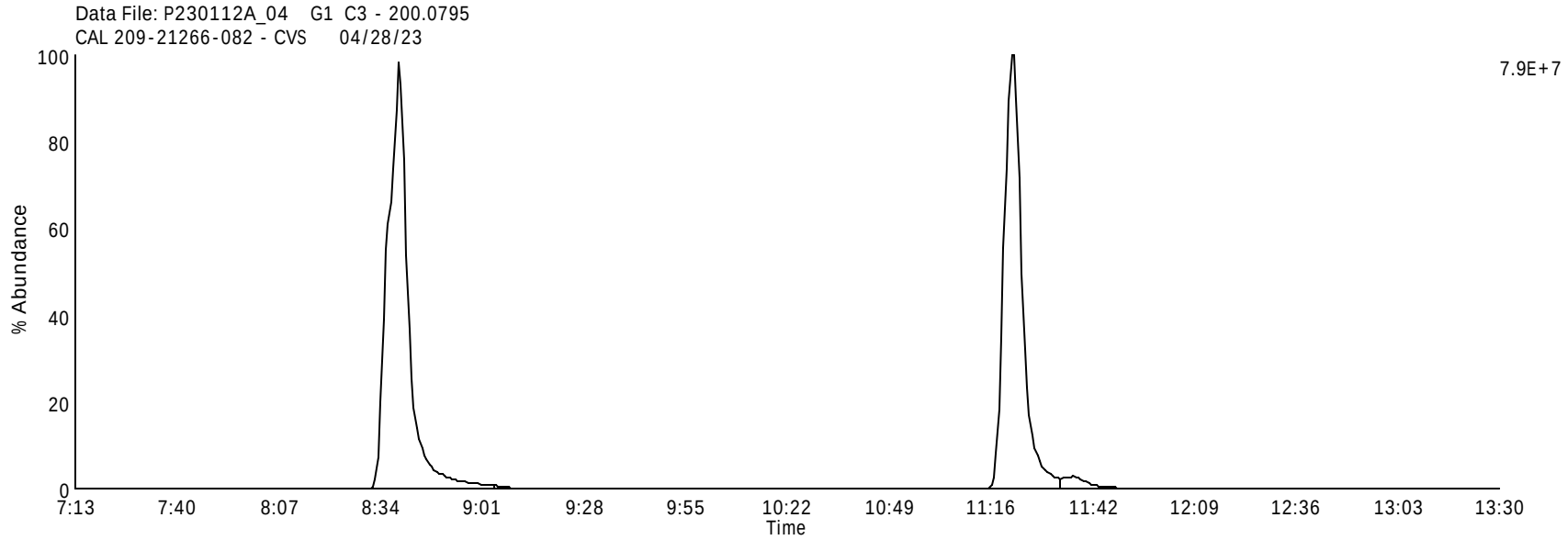


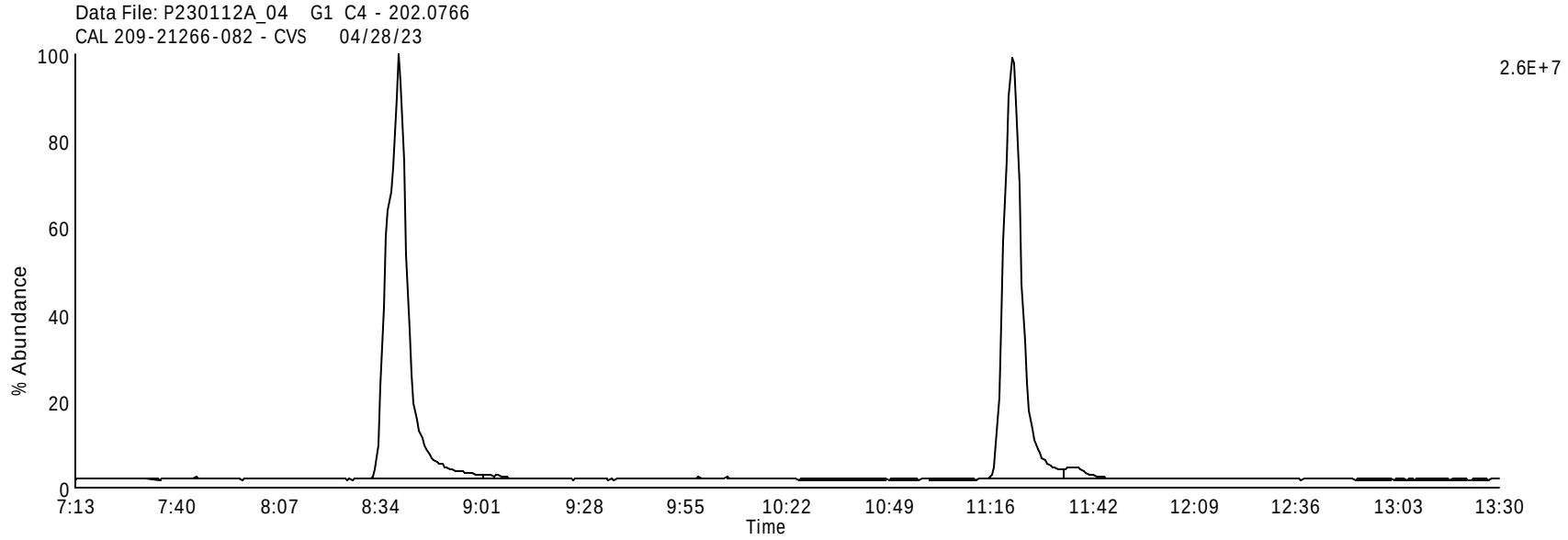
Labeled Mono Chlorinated Biphenyls

Data File Name: P230112A_04 | Lab Sample ID: 209-21266-082

Date Acquired: 1/12/2023 | Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - CVS 04/28/23 | Client Sample ID: 209 Mix

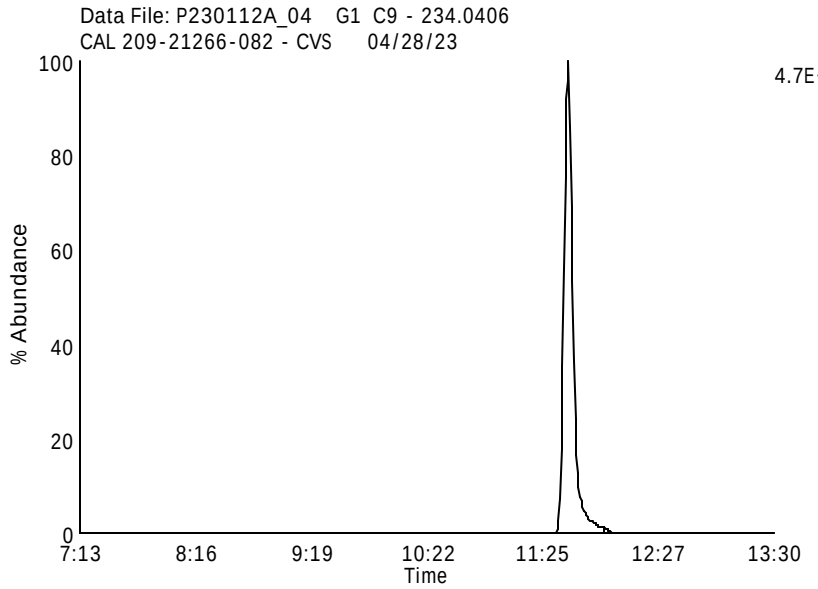


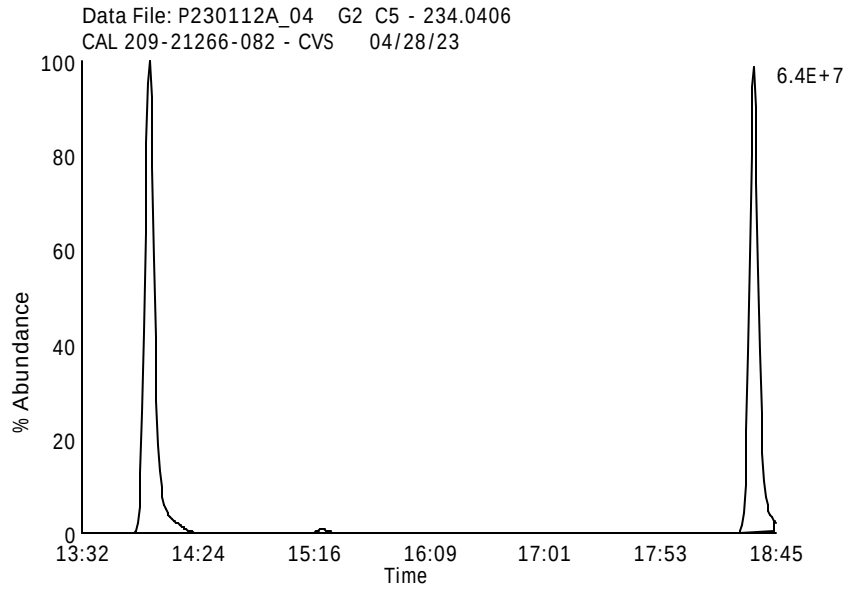


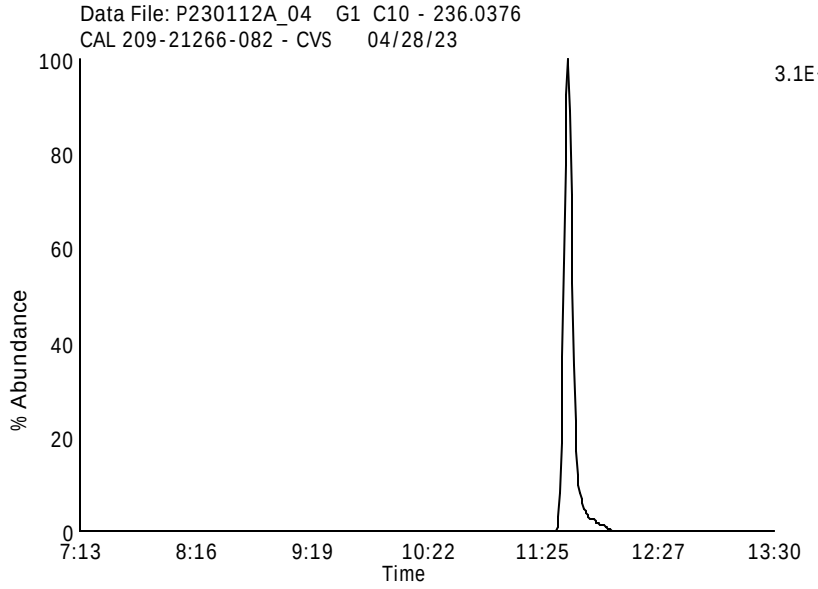
Labeled Di Chlorinated Biphenyls

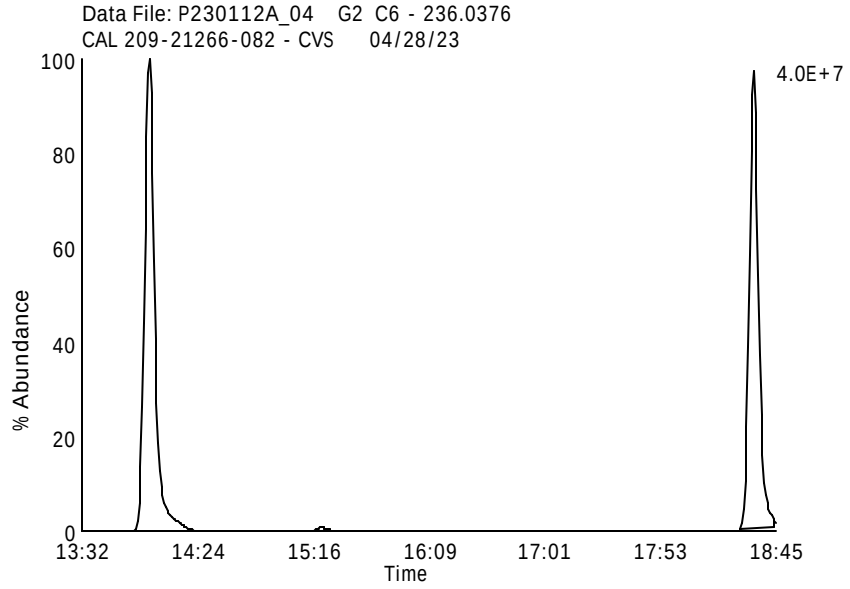
Data File Name: P230112A_04
Date Acquired: 1/12/2023
Sample Description: CAL 209-21266-082 - CVS 04/28/23

Lab Sample ID: 209-21266-082
Instrument: 10MSHR09 (P)
Client Sample ID: 209 Mix







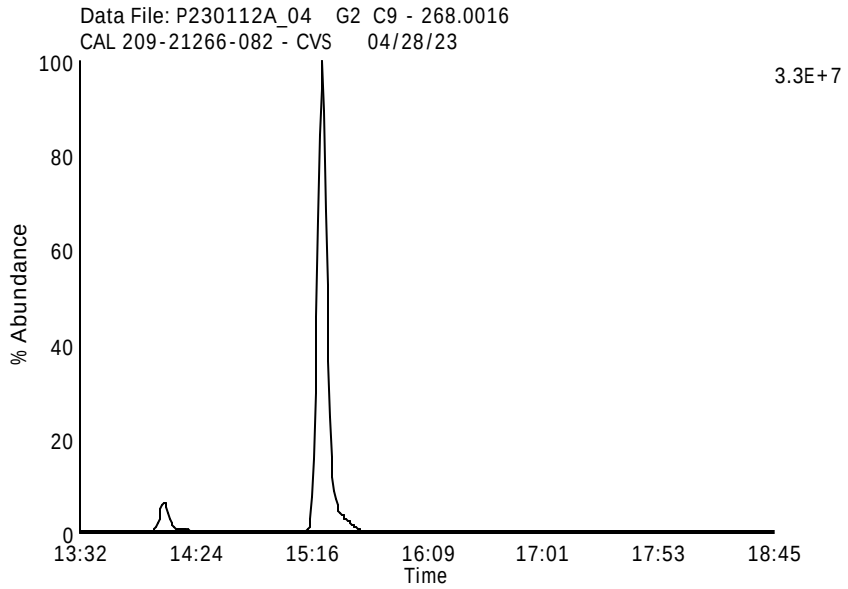


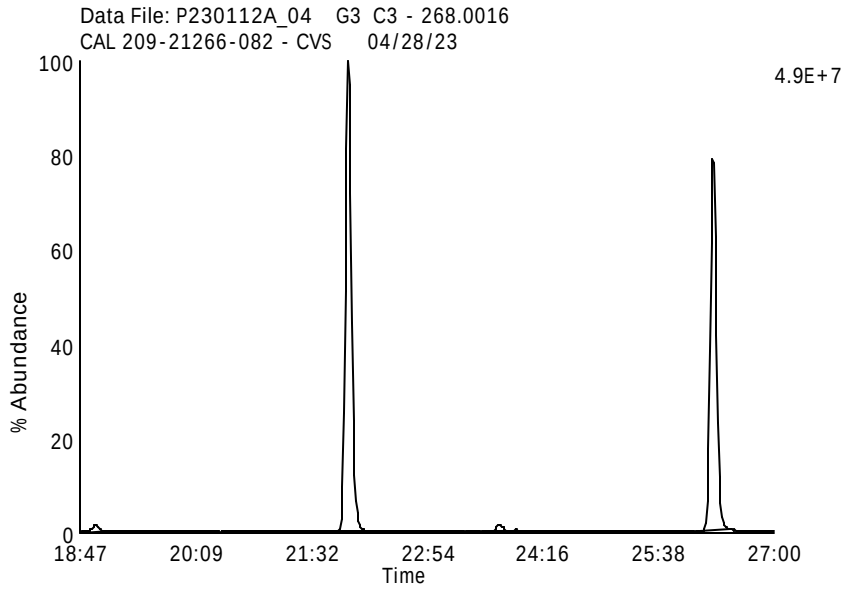
Labeled Tri Chlorinated Biphenyls

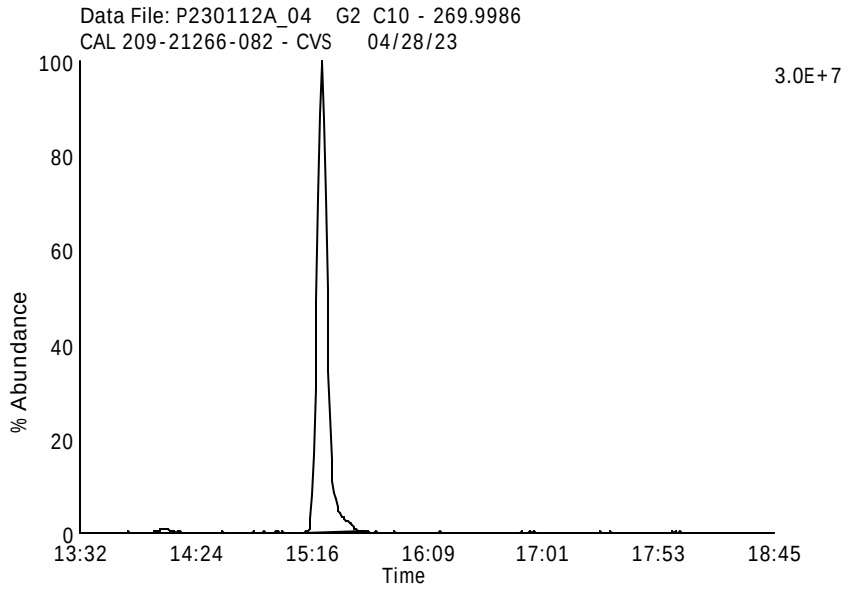
Data File Name: P230112A_04 Lab Sample ID: 209-21266-082

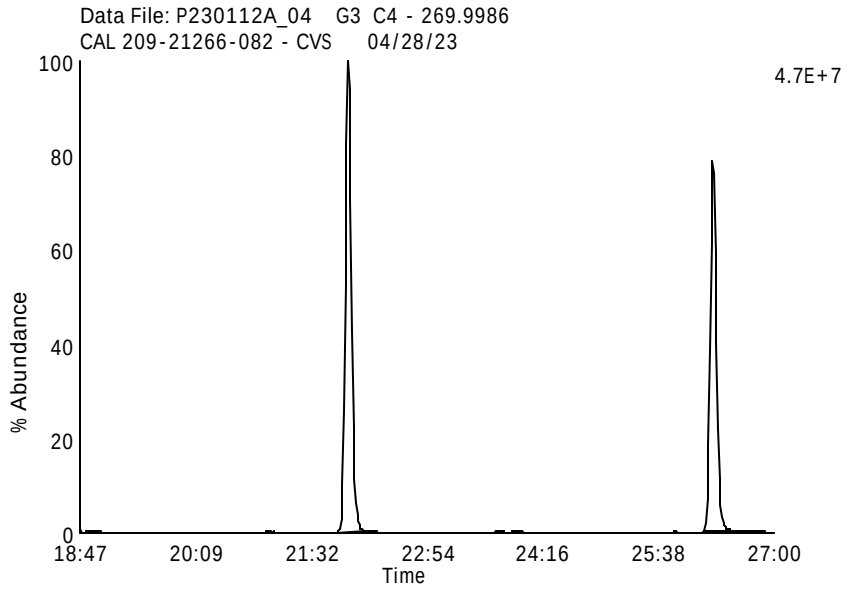
Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - CVS 04/28/23 Client Sample ID: 209 Mix





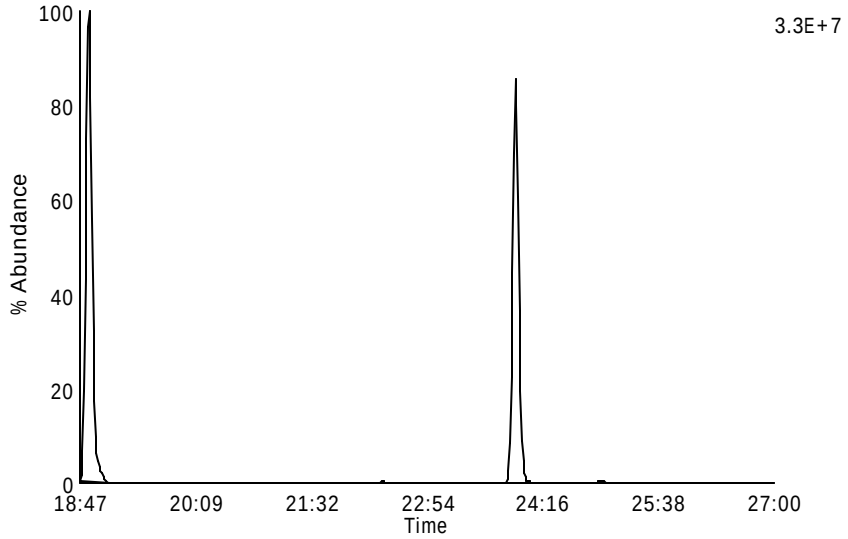




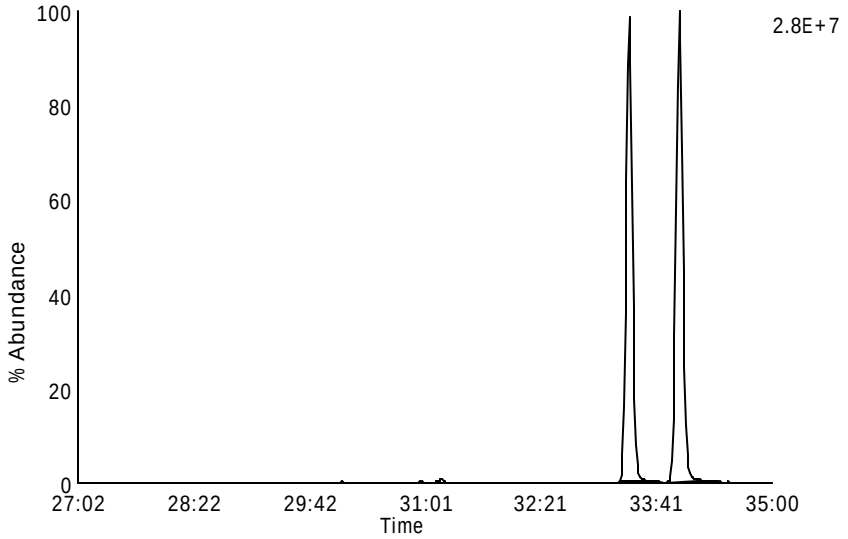
Labeled Tetra Chlorinated Biphenyls

Data File Name: P230112A_04
Lab Sample ID: 209-21266-082
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL 209-21266-082 - CVS 04/28/23
Client Sample ID: 209 Mix

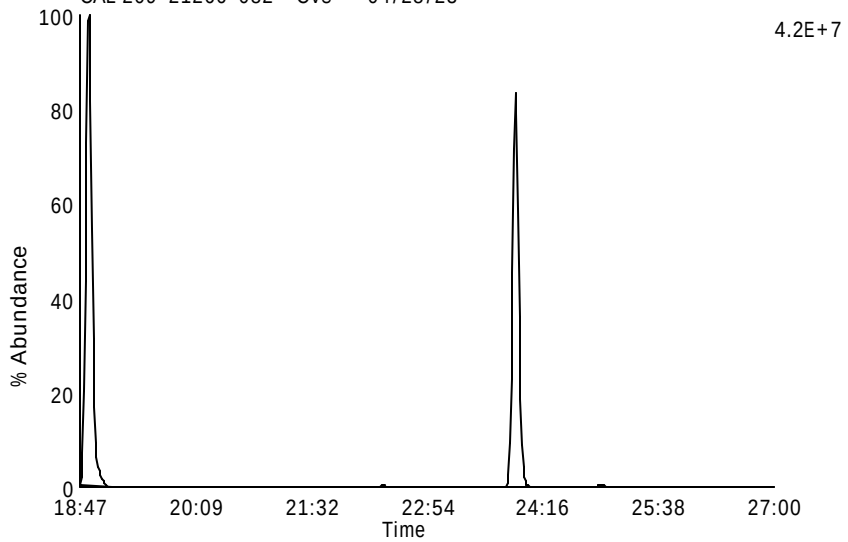
Data File: P230112A_04 G3 C9 - 301.9626
CAL 209-21266-082 - CVS 04/28/23



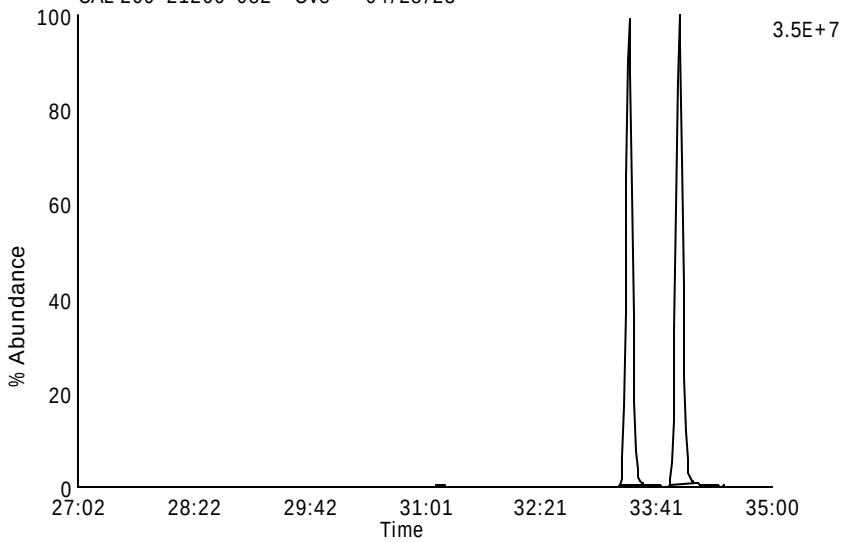
Data File: P230112A_04 G4 C3 - 301.9626
CAL 209-21266-082 - CVS 04/28/23



Data File: P230112A_04 G3 C10 - 303.9597
CAL 209-21266-082 - CVS 04/28/23



Data File: P230112A_04 G4 C4 - 303.9597
CAL 209-21266-082 - CVS 04/28/23

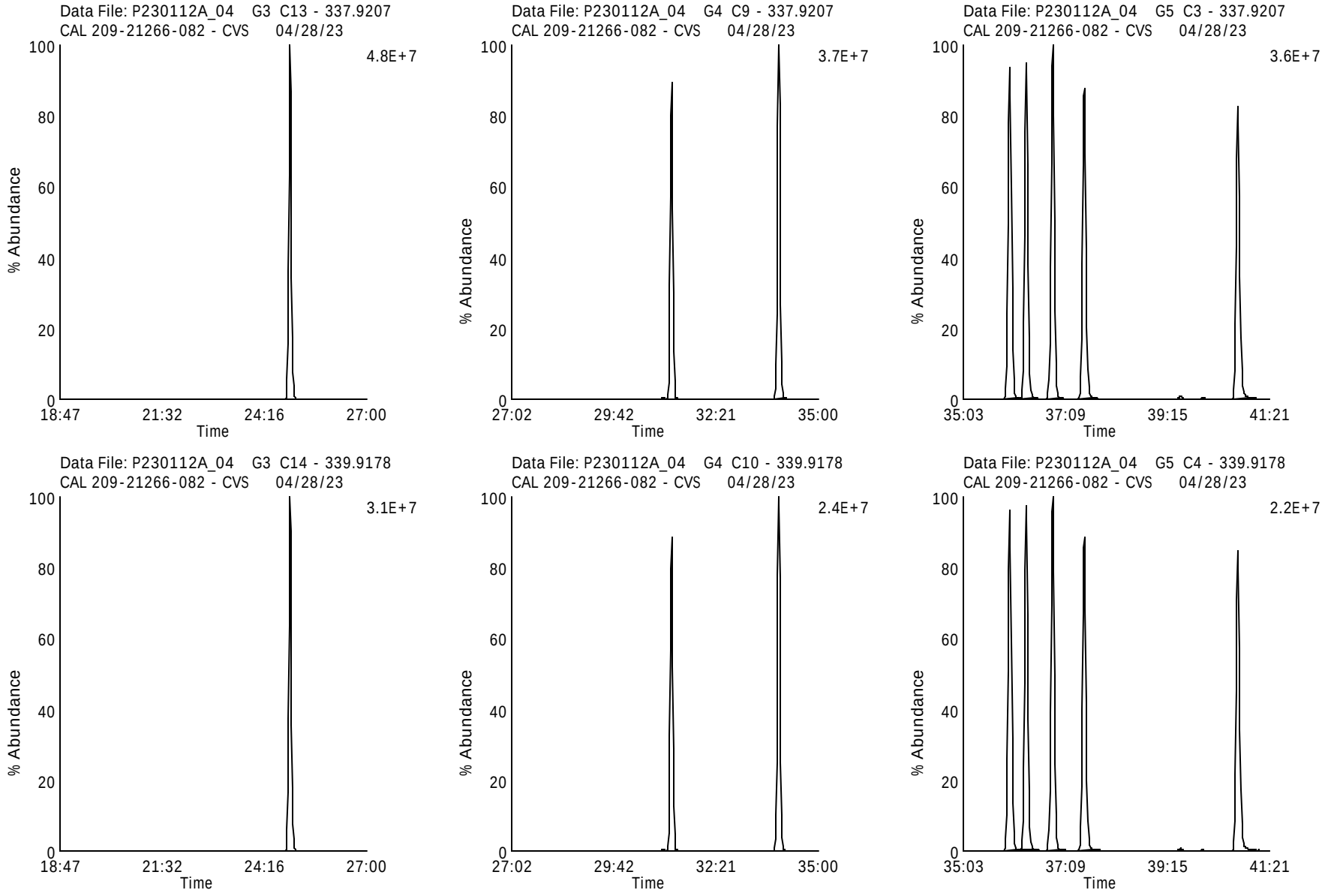


Labeled Penta Chlorinated Biphenyls

Data File Name: P230112A_04 Lab Sample ID: 209-21266-082

Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - CVS 04/28/23 Client Sample ID: 209 Mix

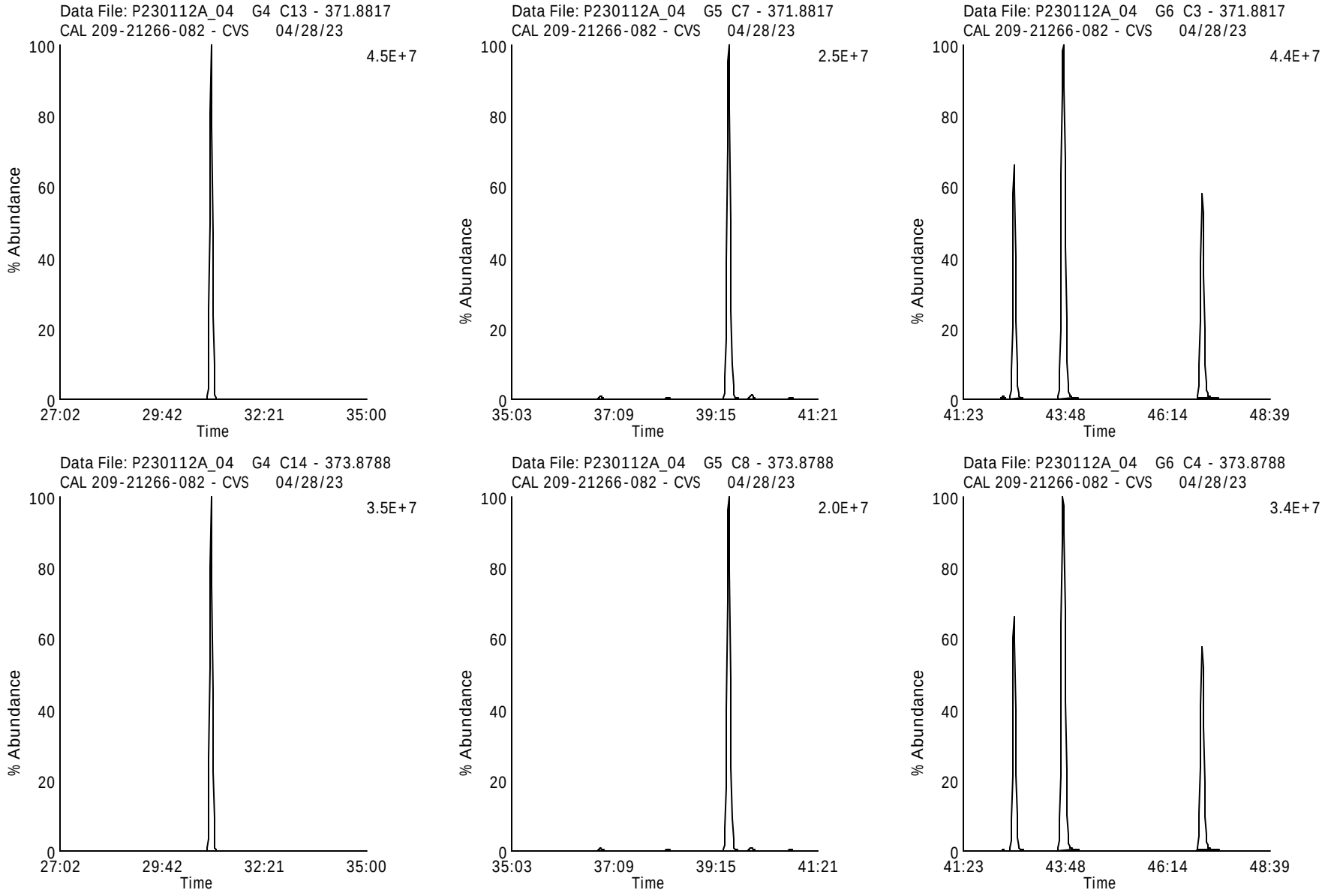


Labeled Hexa Chlorinated Biphenyls

Data File Name: P230112A_04 Lab Sample ID: 209-21266-082

Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

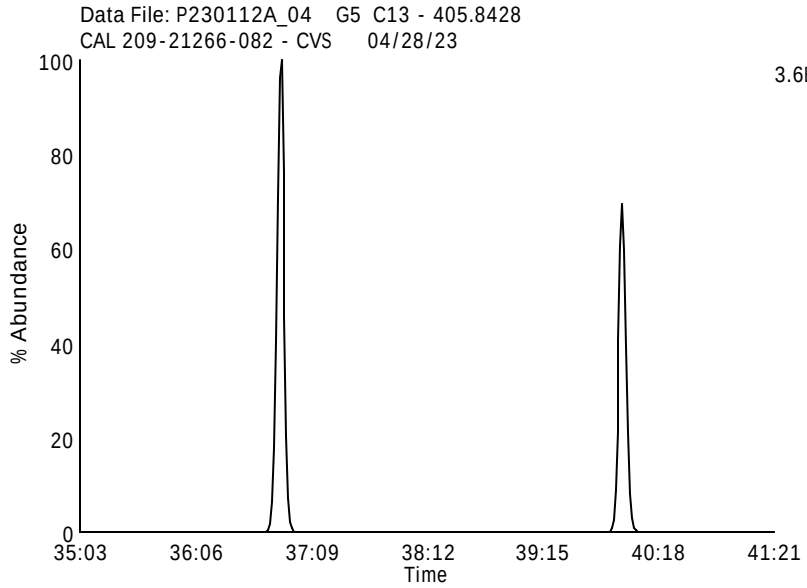
Sample Description: CAL 209-21266-082 - CVS 04/28/23 Client Sample ID: 209 Mix

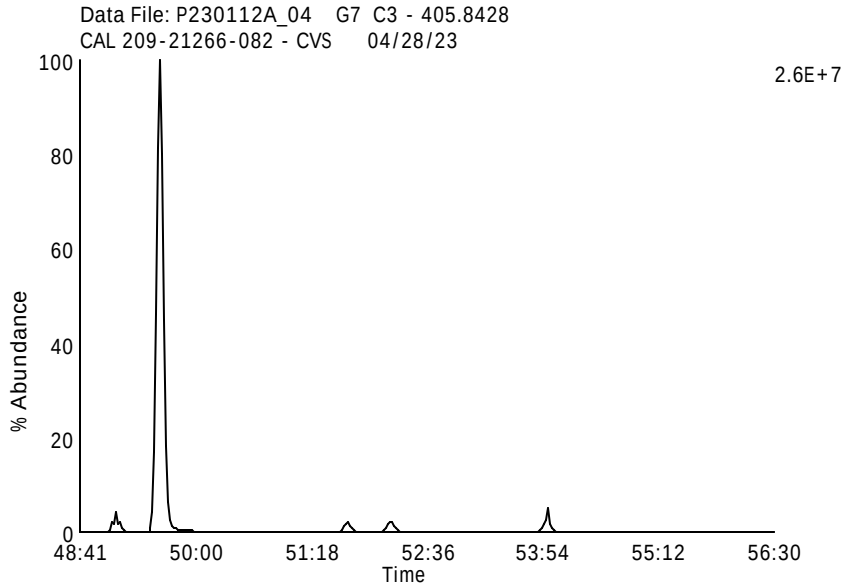


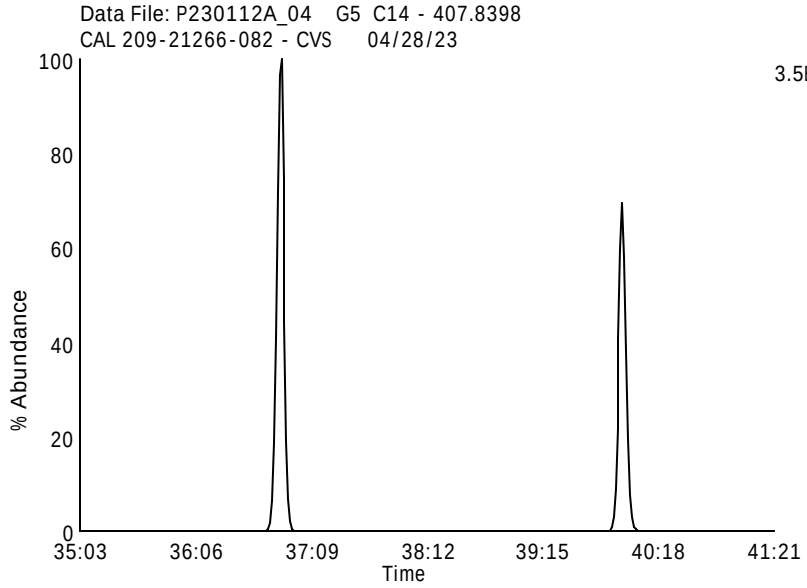
Labeled Hepta Chlorinated Biphenyls

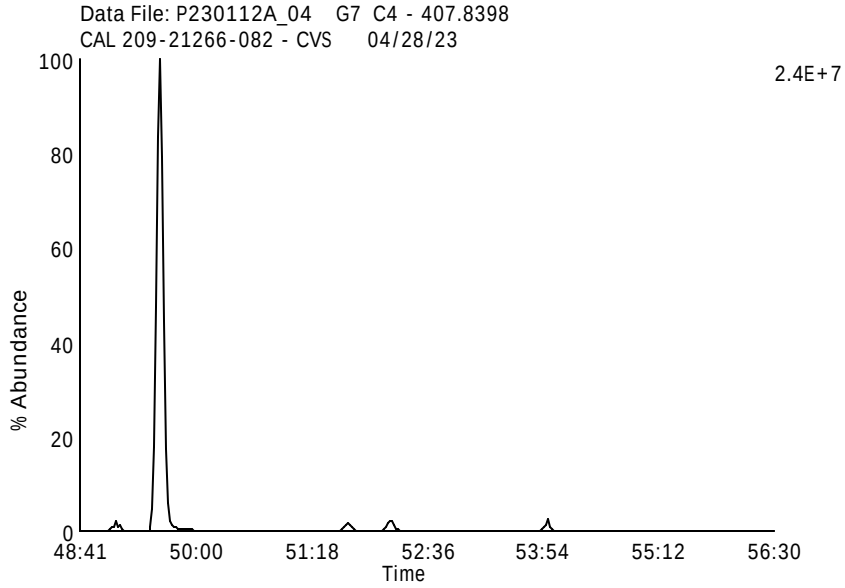
Data File Name: P230112A_04
Date Acquired: 1/12/2023
Sample Description: CAL 209-21266-082 - CVS 04/28/23

Lab Sample ID: 209-21266-082
Instrument: 10MSHR09 (P)
Client Sample ID: 209 Mix



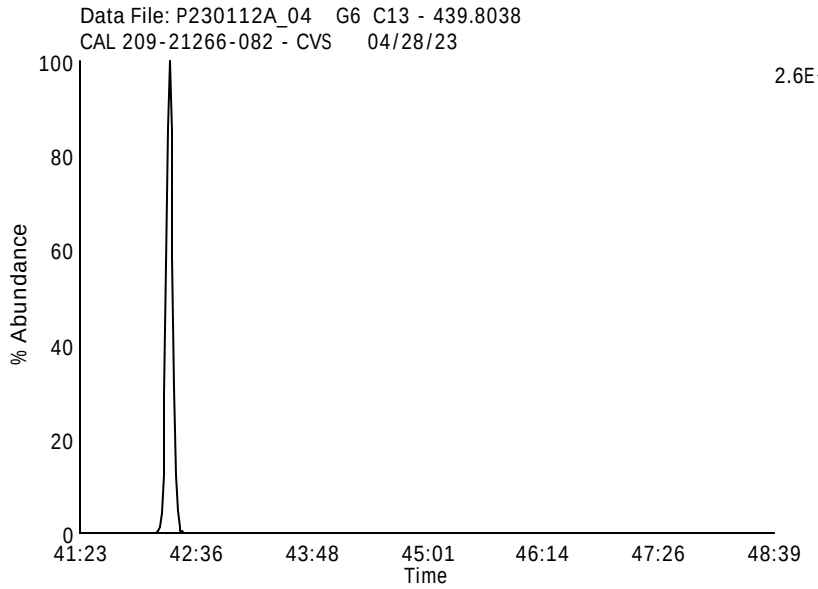


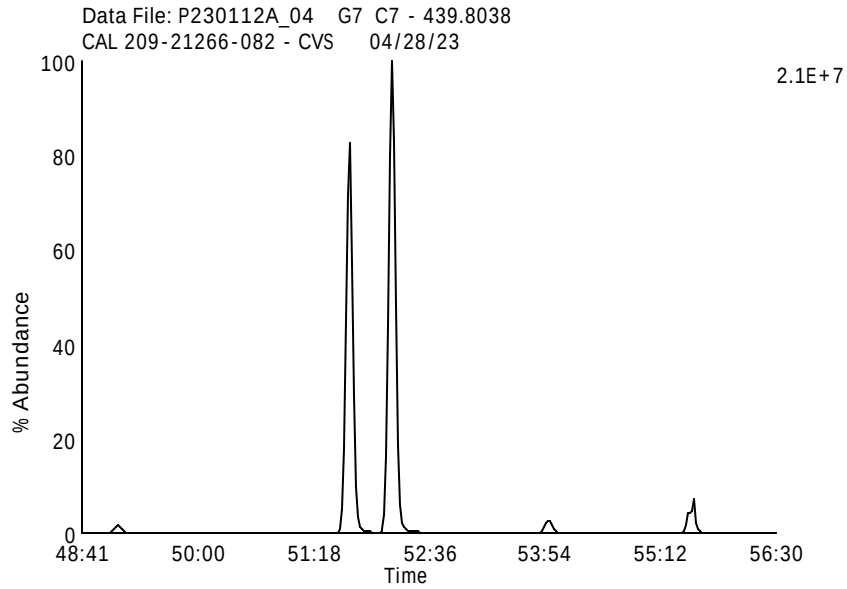


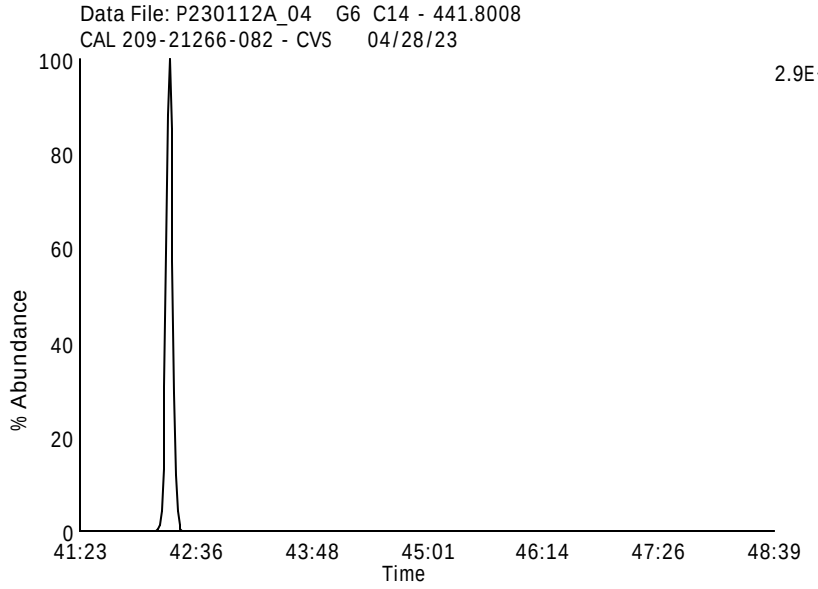


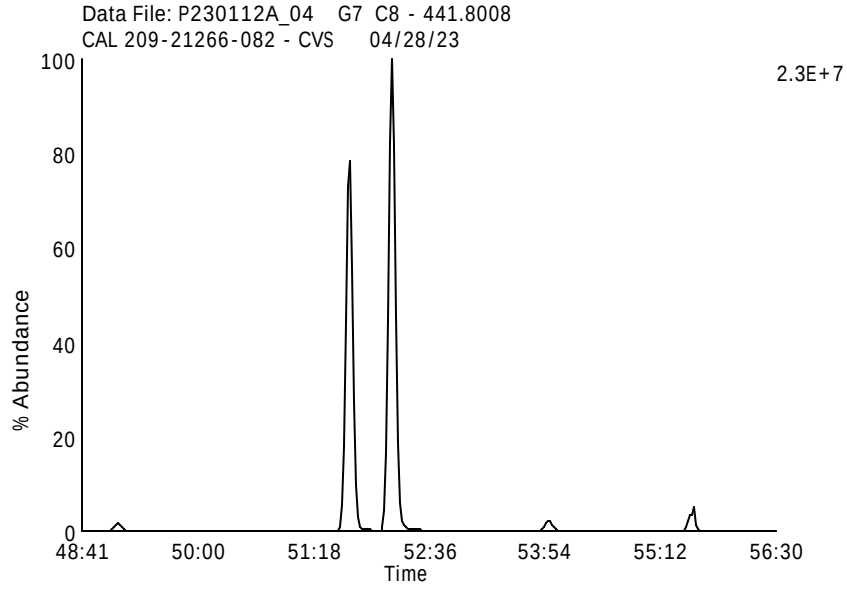
Labeled Octa Chlorinated Biphenyls

Data File Name: P230112A_04
Lab Sample ID: 209-21266-082
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL 209-21266-082 - CVS 04/28/23
Client Sample ID: 209 Mix







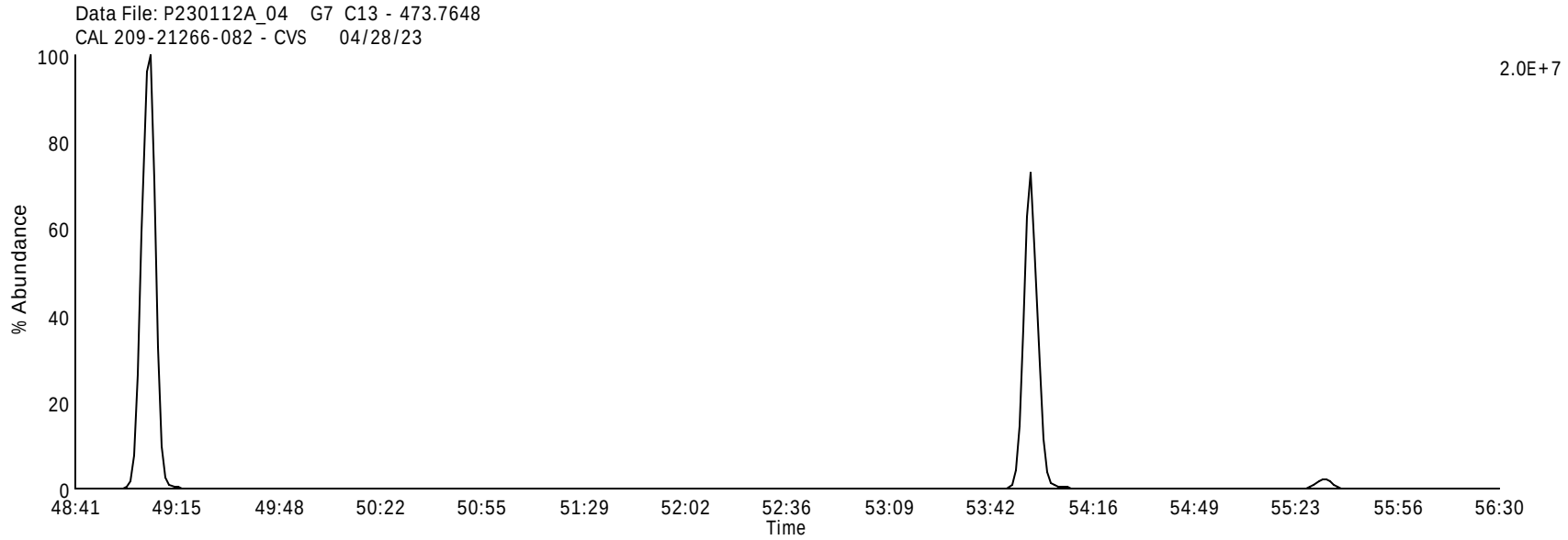


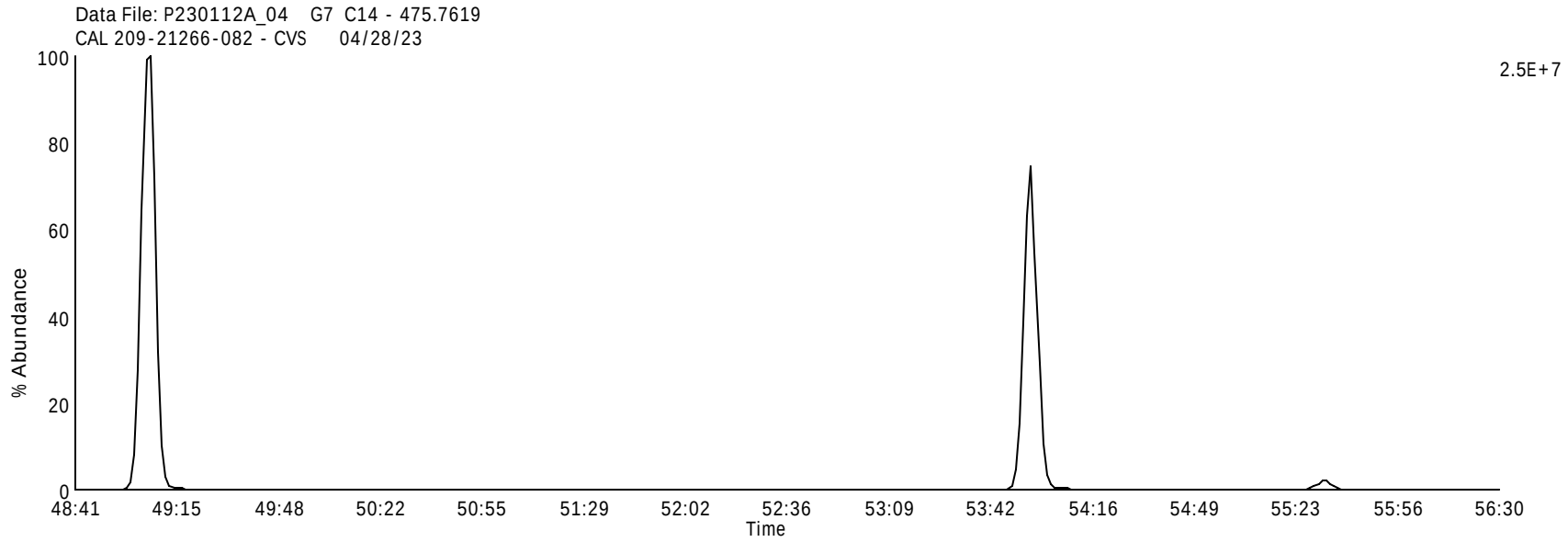
Labeled Nona Chlorinated Biphenyls

Data File Name: P230112A_04 | Lab Sample ID: 209-21266-082

Date Acquired: 1/12/2023 | Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - CVS 04/28/23 | Client Sample ID: 209 Mix



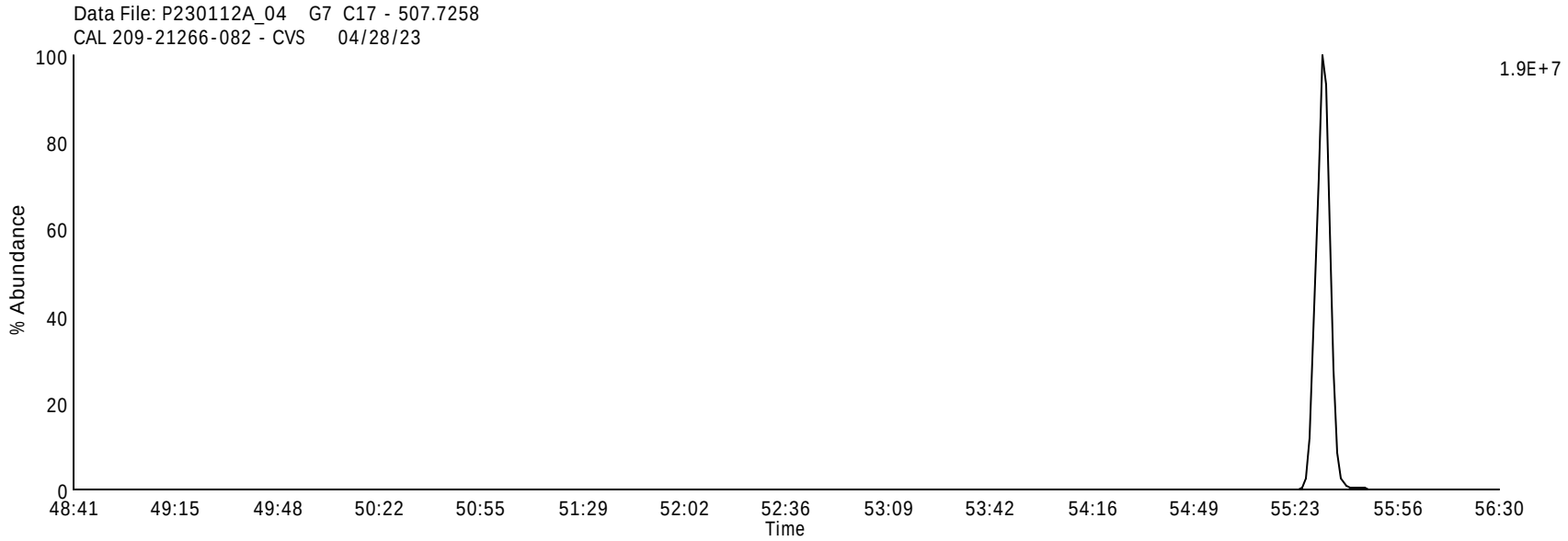


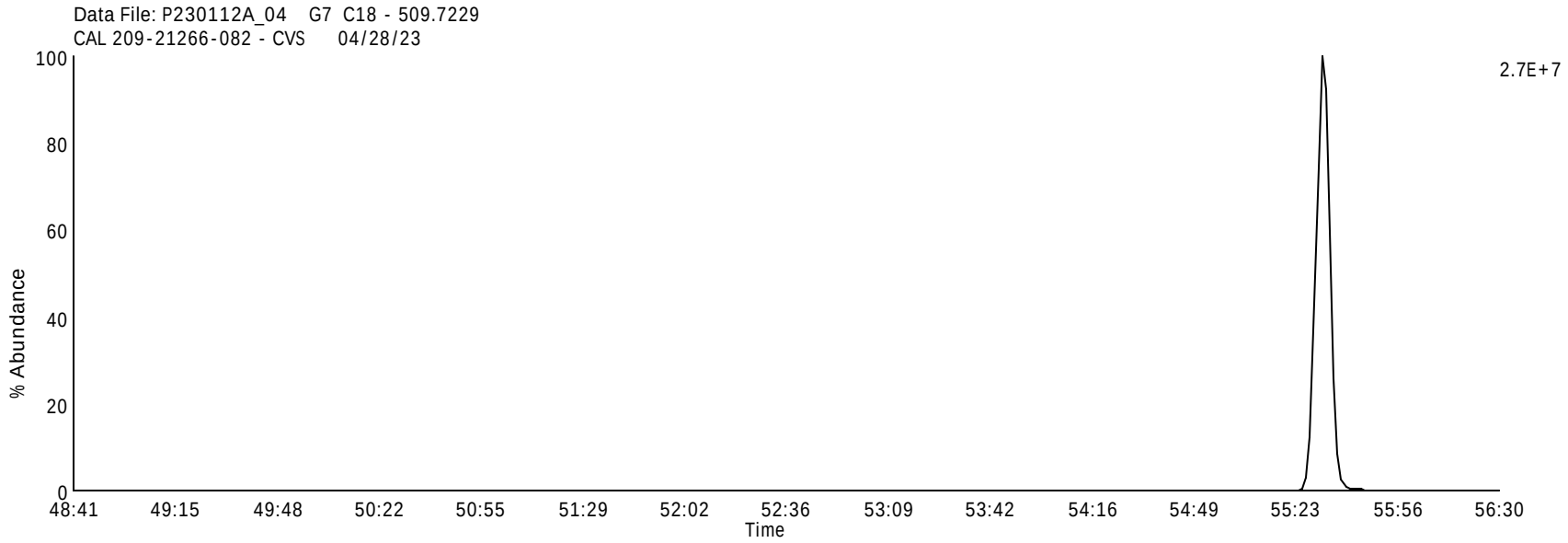
Labeled Deca Chlorinated Biphenyl

Data File Name: P230112A_04 | Lab Sample ID: 209-21266-082

Date Acquired: 1/12/2023 | Instrument: 10MSHR09 (P)

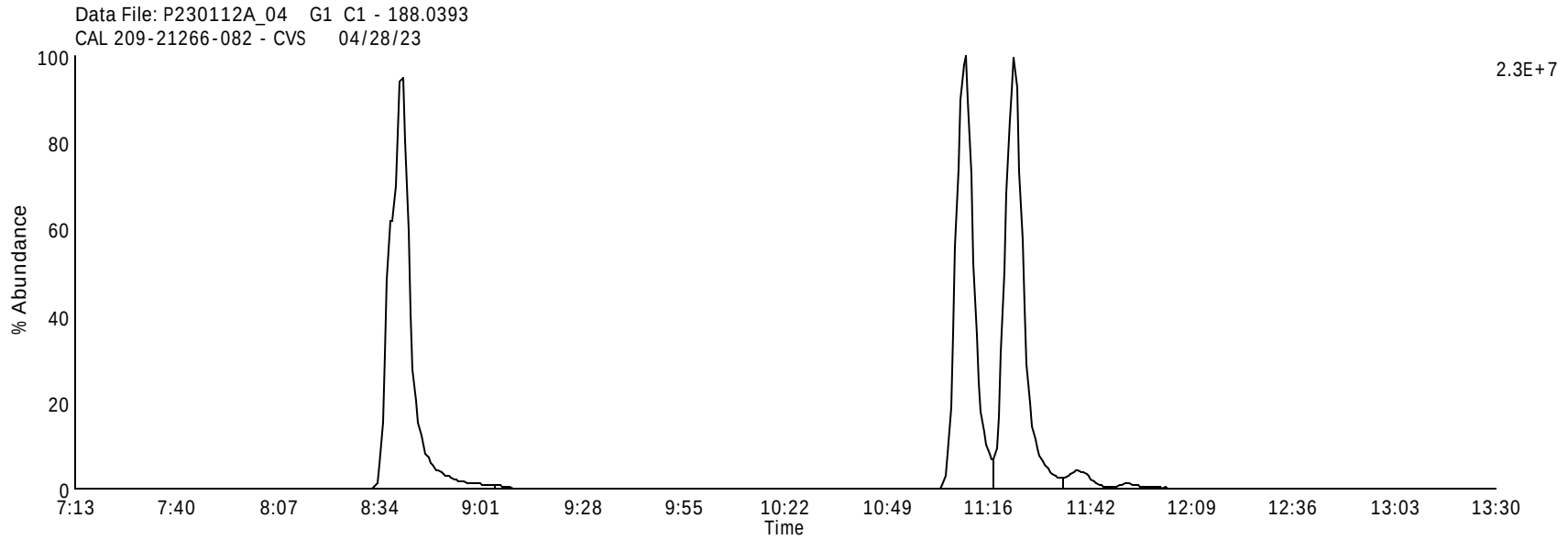
Sample Description: CAL 209-21266-082 - CVS 04/28/23 | Client Sample ID: 209 Mix

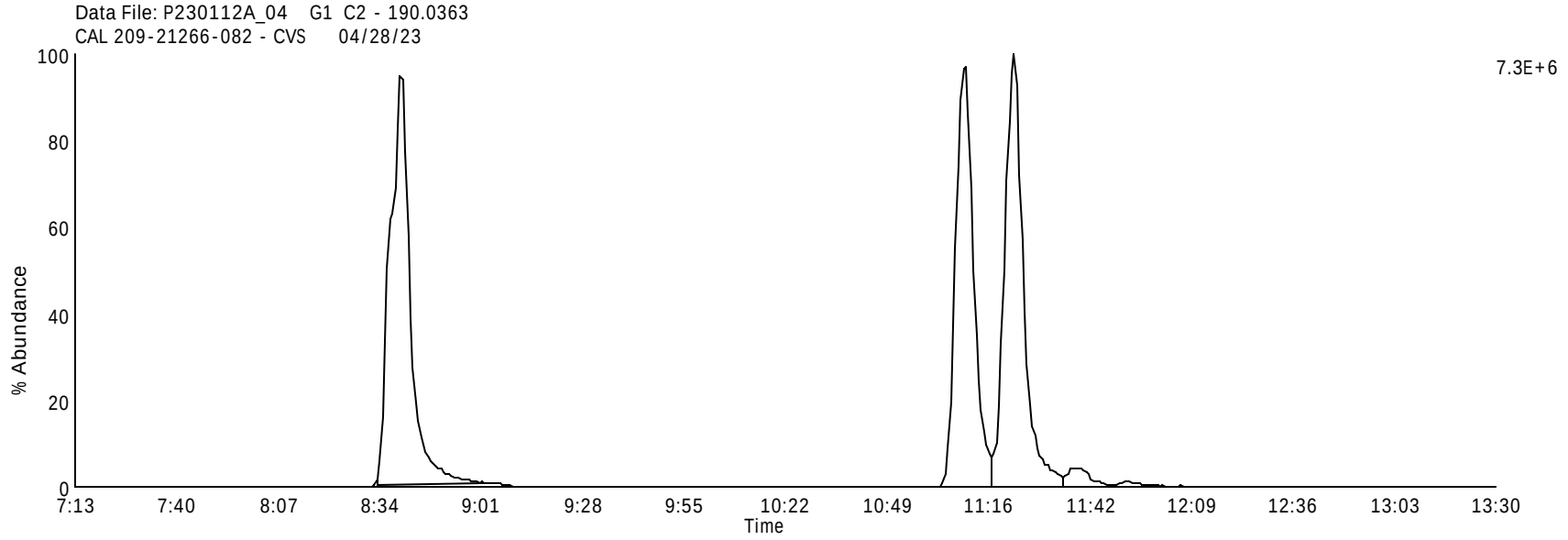




Mono Chlorinated Biphenyls

Data File Name: P230112A_04		Lab Sample ID: 209-21266-082
Date Acquired: 1/12/2023		Instrument: 10MSHR09 (P)
Sample Description: CAL 209-21266-082 - CVS	04/28/23	Client Sample ID: 209 Mix

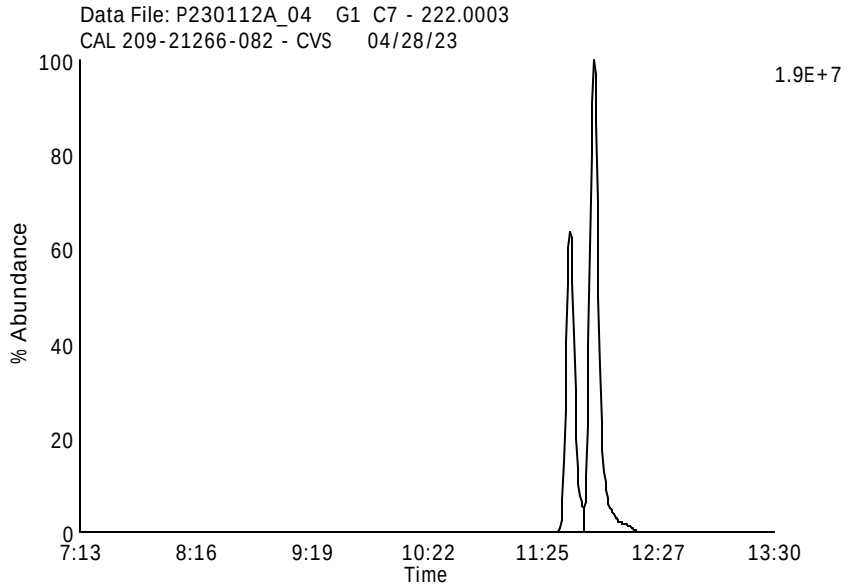


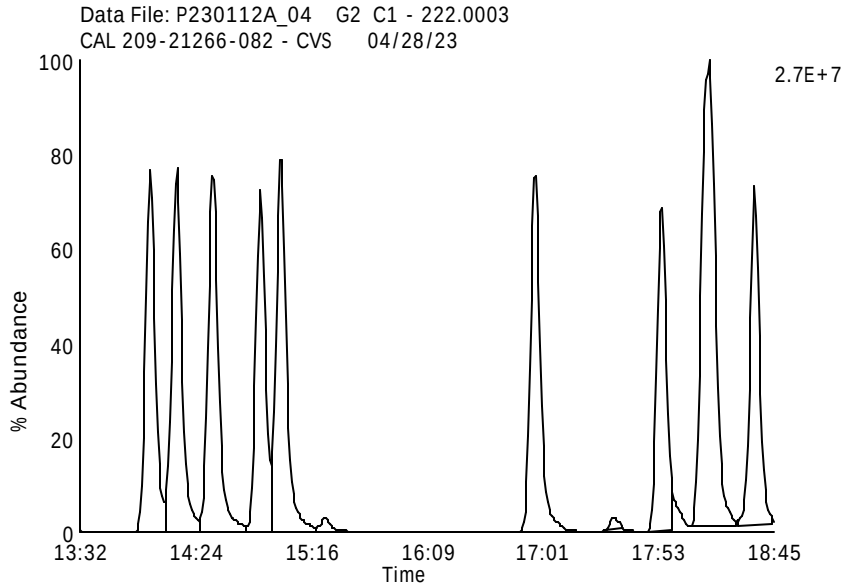


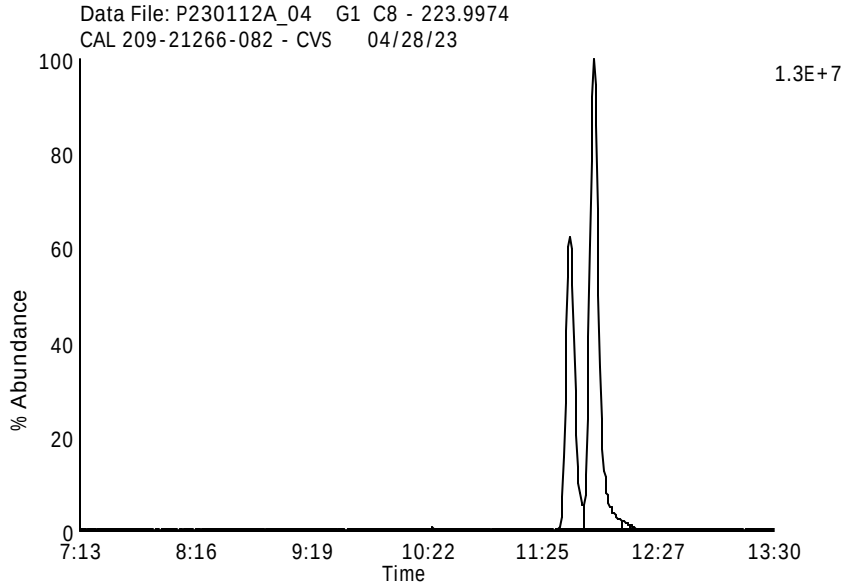
Di Chlorinated Biphenyls

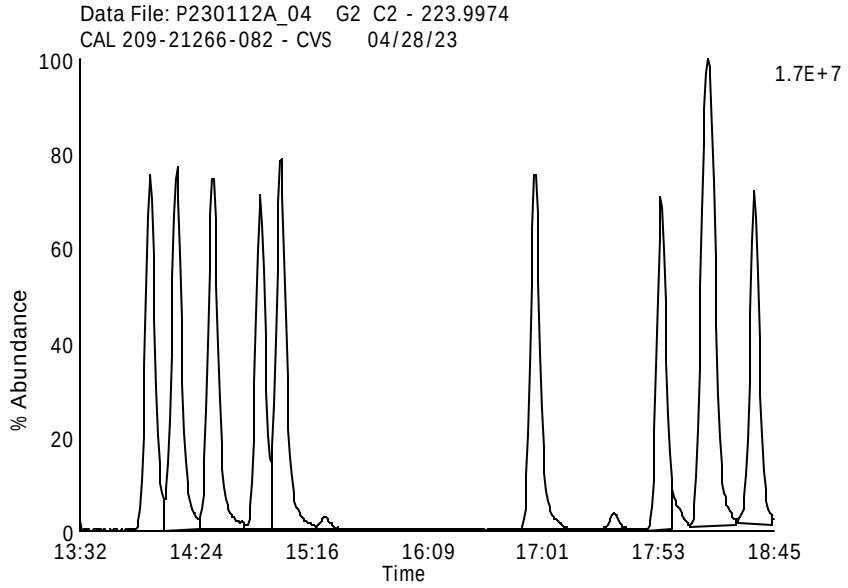
Data File Name: P230112A_04
Date Acquired: 1/12/2023
Sample Description: CAL 209-21266-082 - CVS 04/28/23

Lab Sample ID: 209-21266-082
Instrument: 10MSHR09 (P)
Client Sample ID: 209 Mix



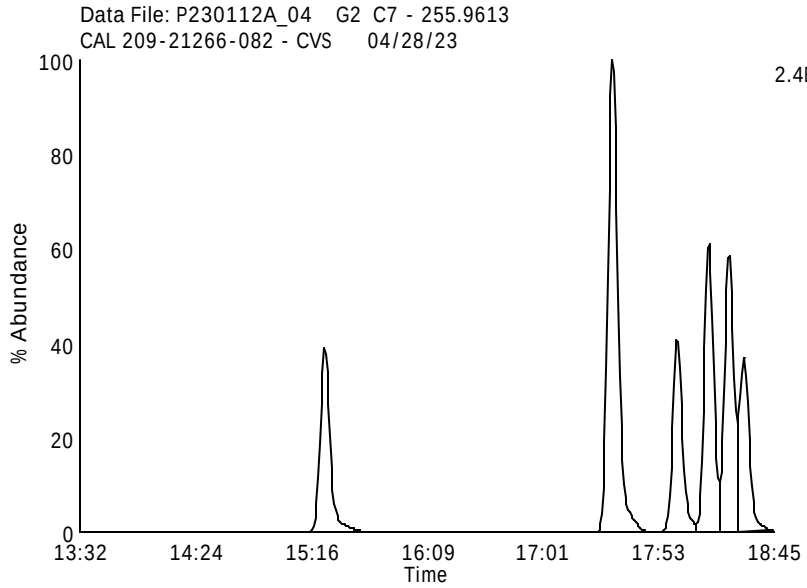


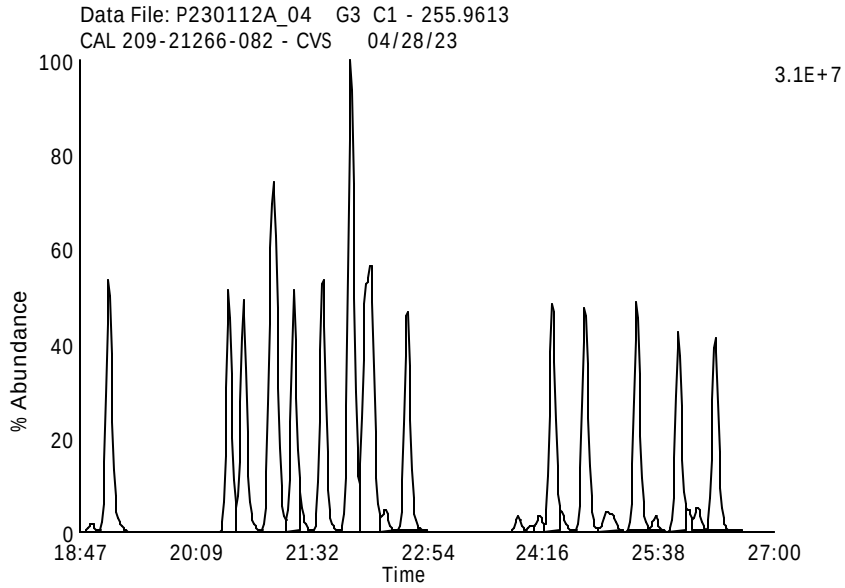


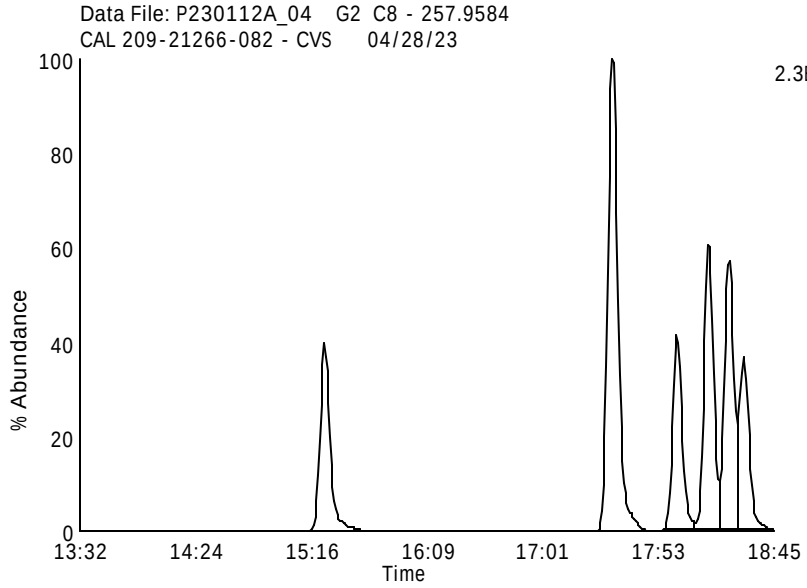


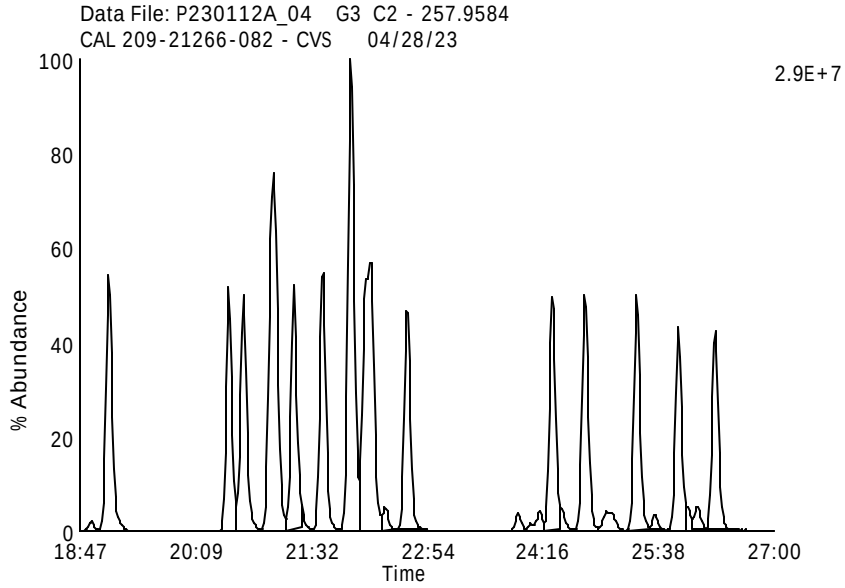
Tri Chlorinated Biphenyls

Data File Name: P230112A_04
Lab Sample ID: 209-21266-082
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL 209-21266-082 - CVS 04/28/23
Client Sample ID: 209 Mix







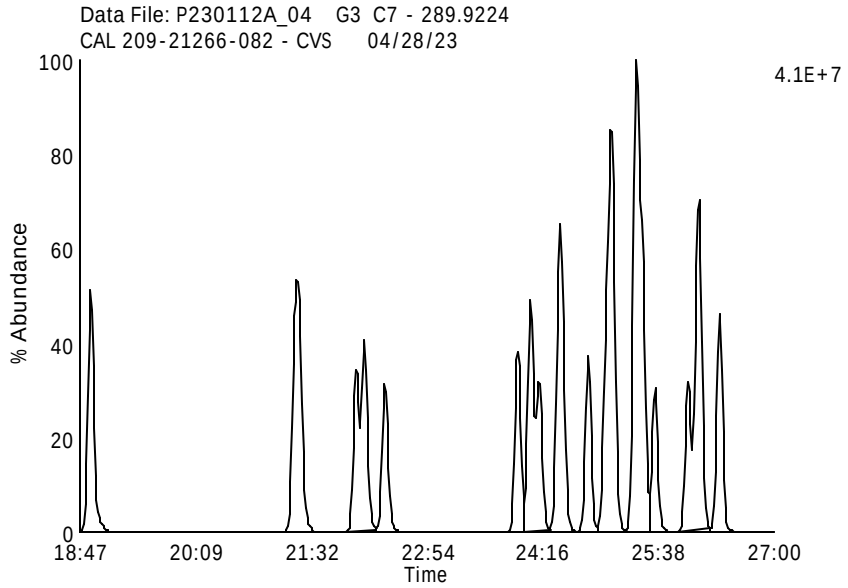


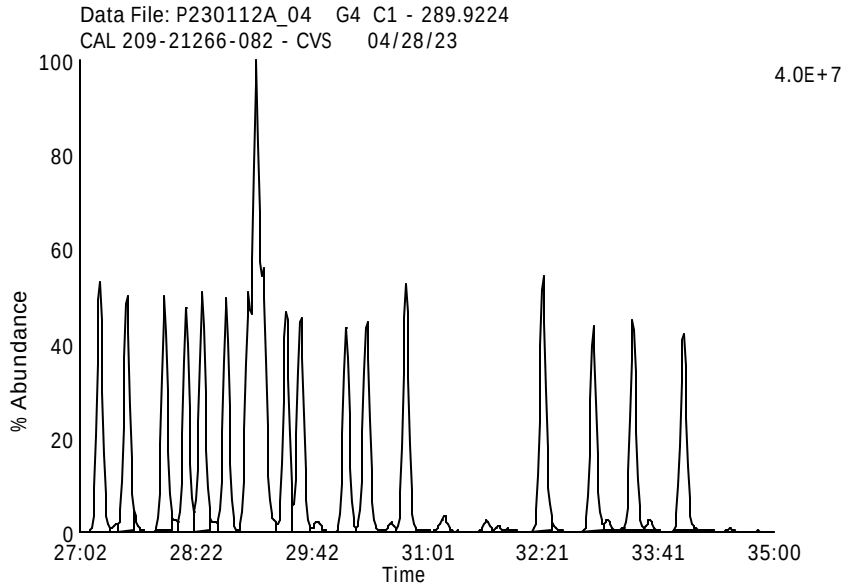
Tetra Chlorinated Biphenyls

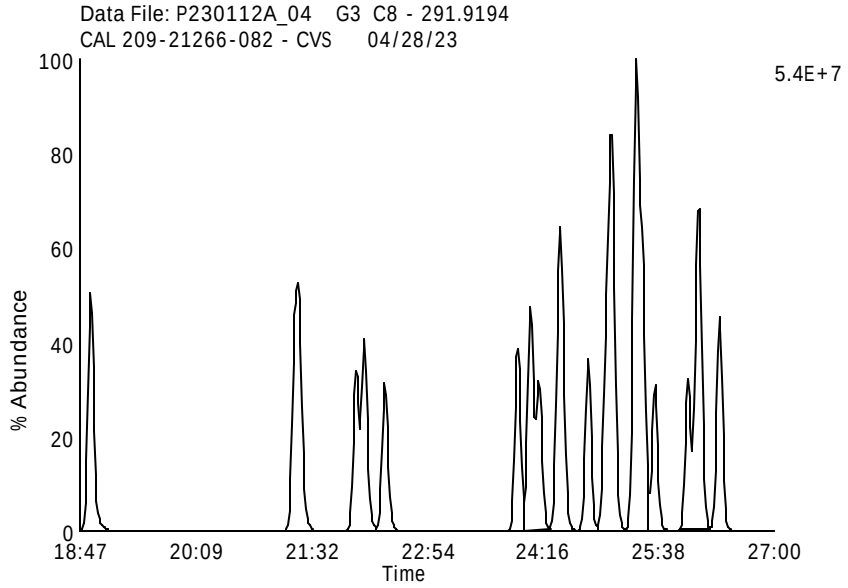
Data File Name: P230112A_04 Lab Sample ID: 209-21266-082

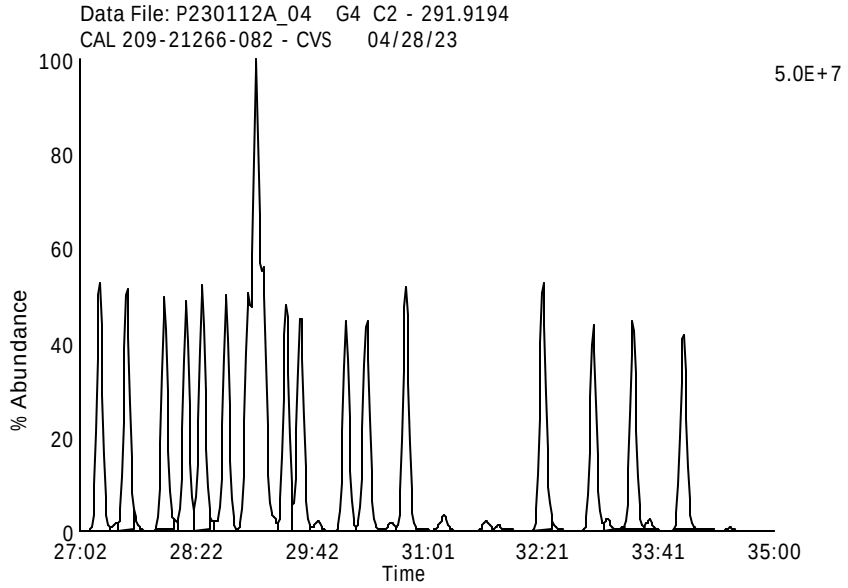
Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - CVS 04/28/23 Client Sample ID: 209 Mix







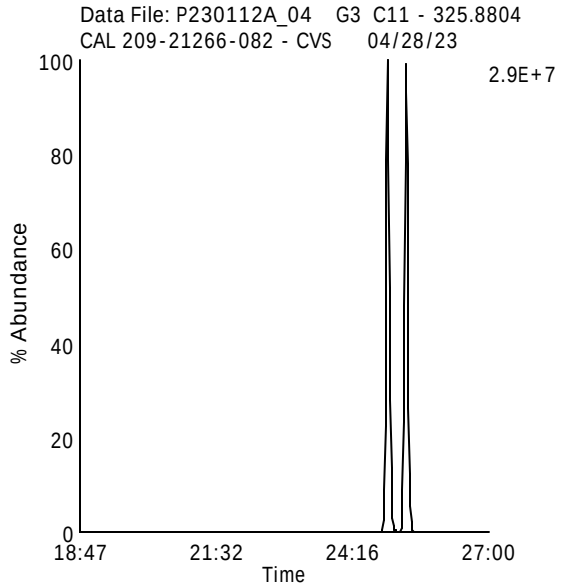


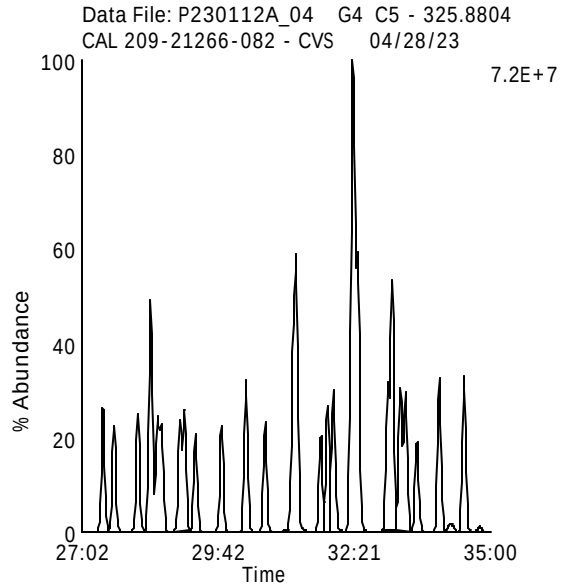
Penta Chlorinated Biphenyls

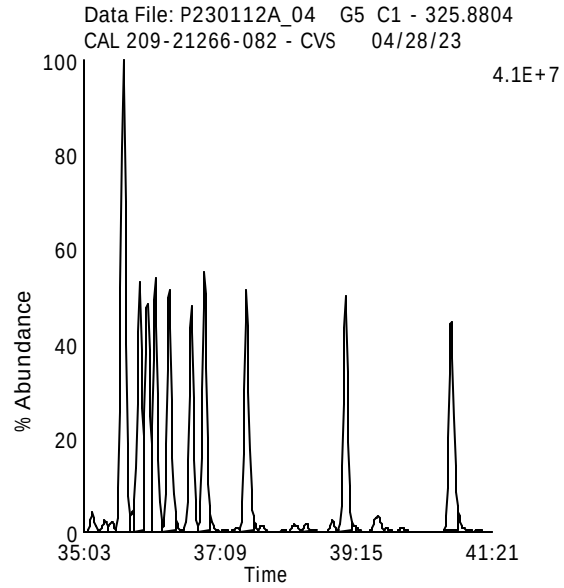
Data File Name: P230112A_04 Lab Sample ID: 209-21266-082

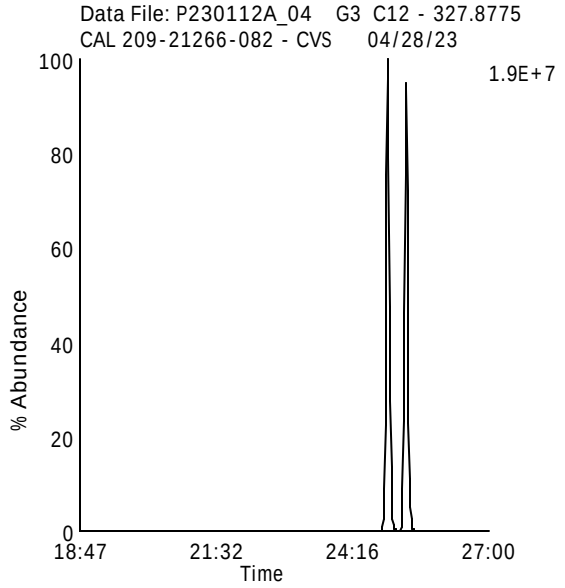
Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

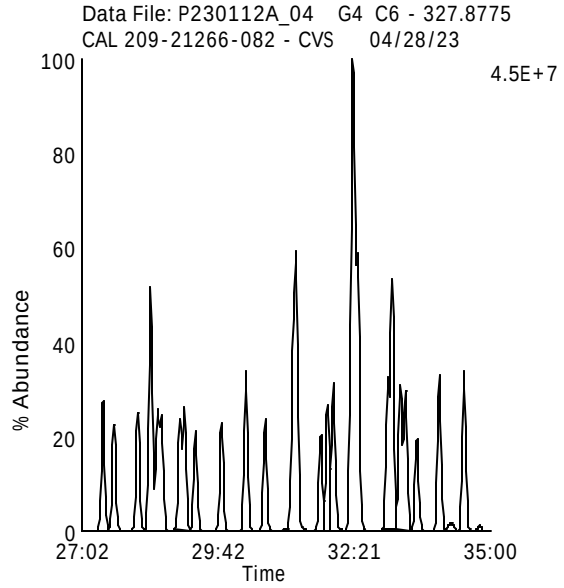
Sample Description: CAL 209-21266-082 - CVS 04/28/23 Client Sample ID: 209 Mix

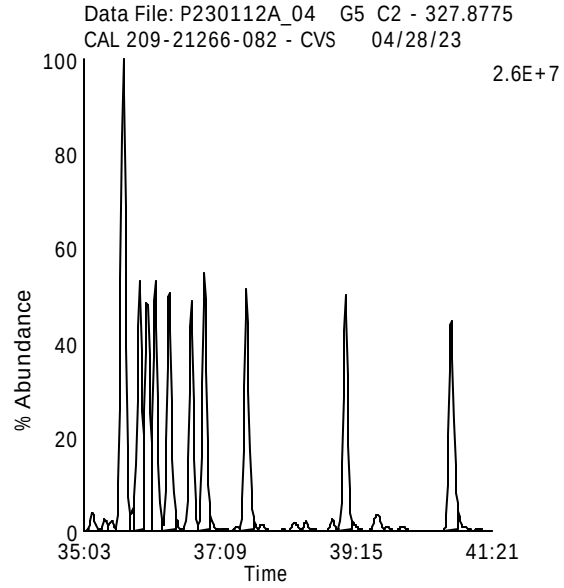










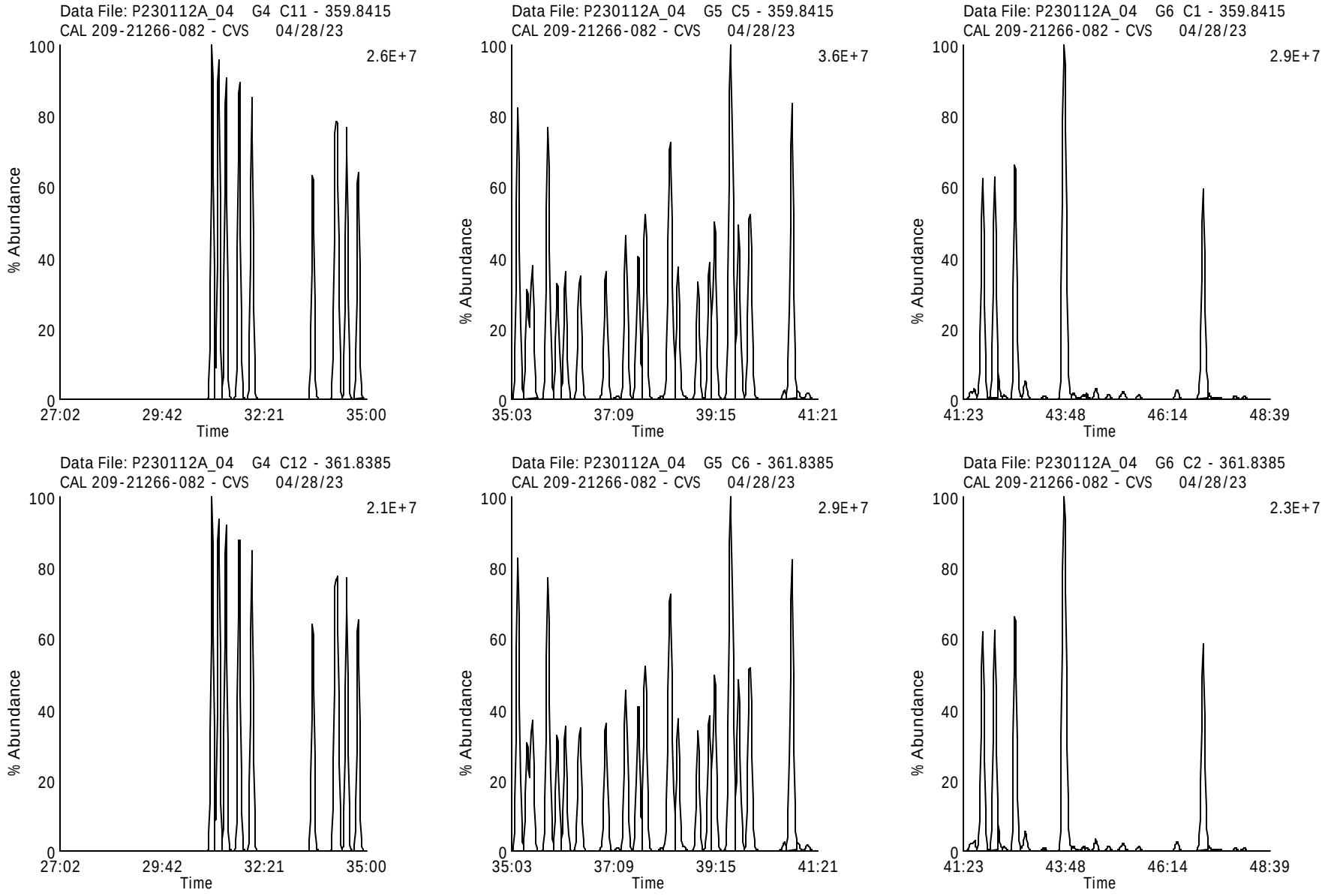


Hexa Chlorinated Biphenyls

Data File Name: P230112A_04 Lab Sample ID: 209-21266-082

Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - CVS 04/28/23 Client Sample ID: 209 Mix

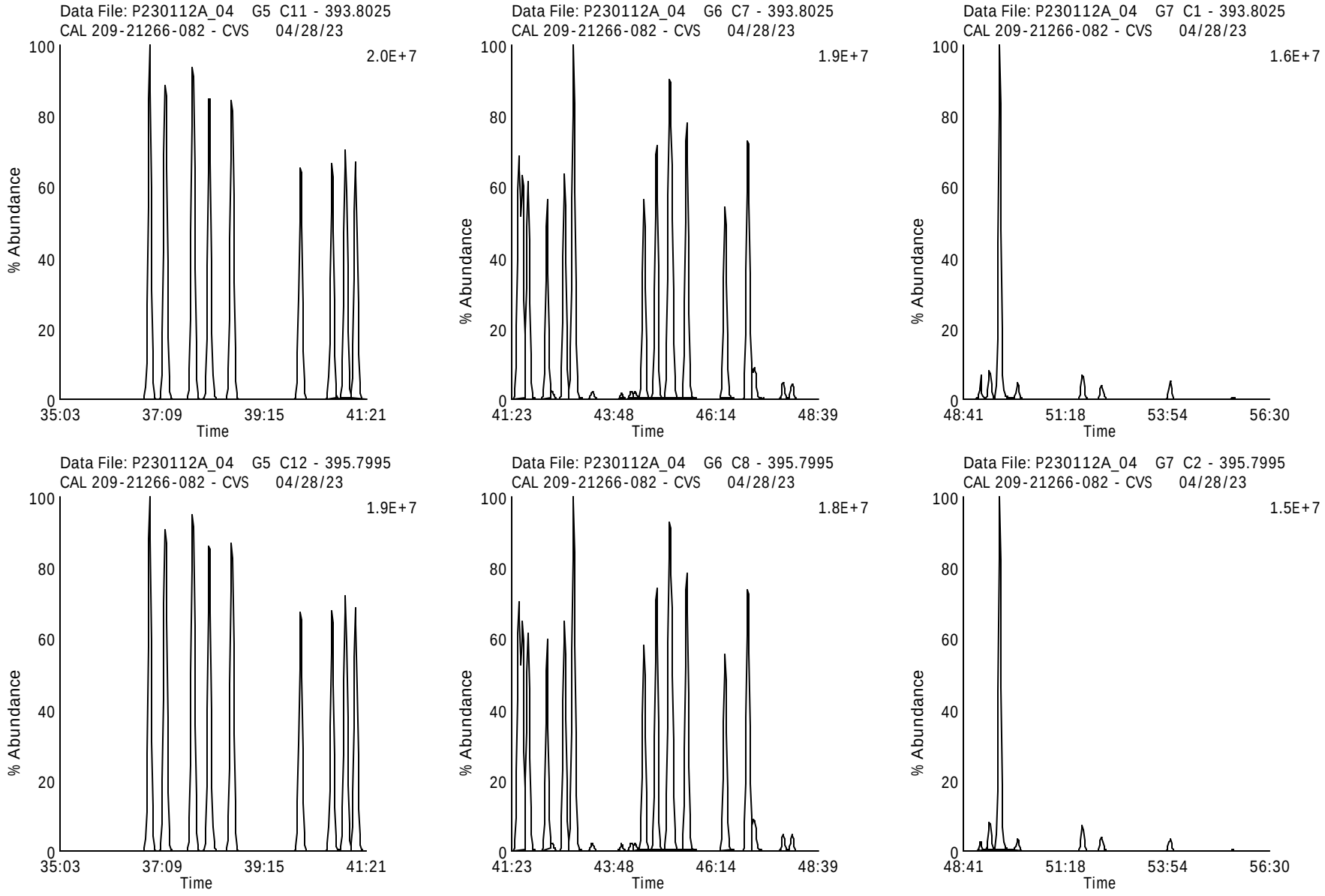


Hepta Chlorinated Biphenyls

Data File Name: P230112A_04 Lab Sample ID: 209-21266-082

Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - CVS 04/28/23 Client Sample ID: 209 Mix

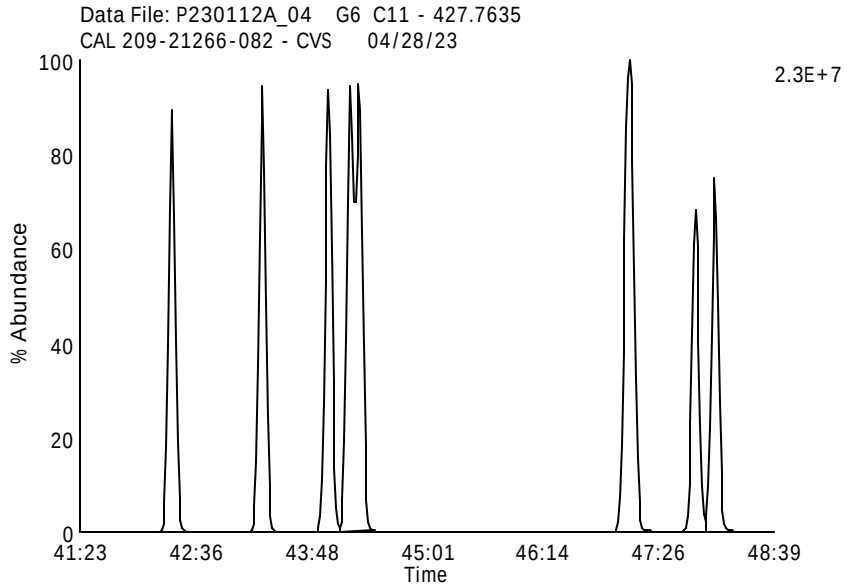


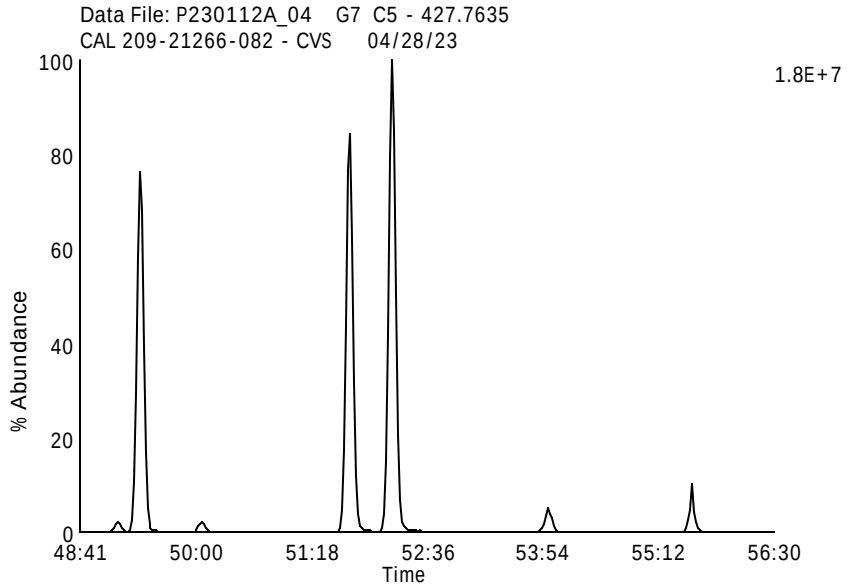
Octa Chlorinated Biphenyls

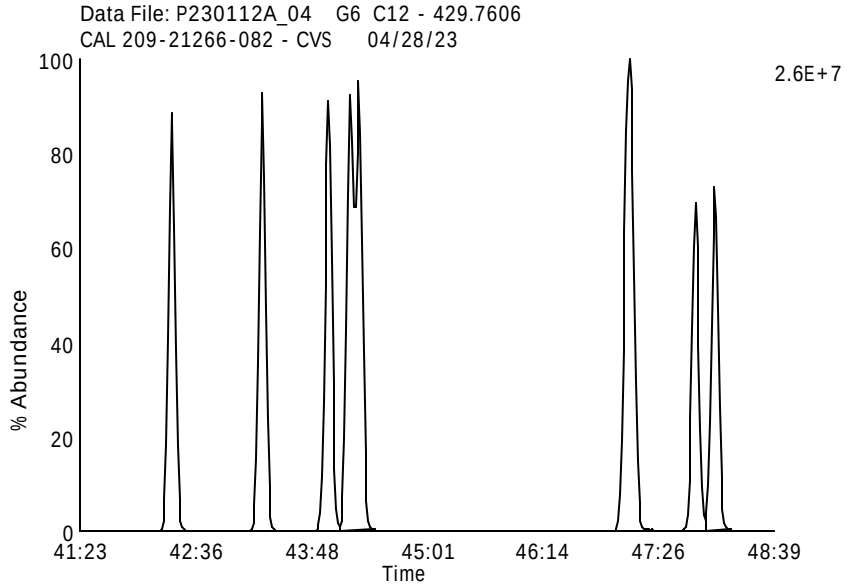
Data File Name: P230112A_04 Lab Sample ID: 209-21266-082

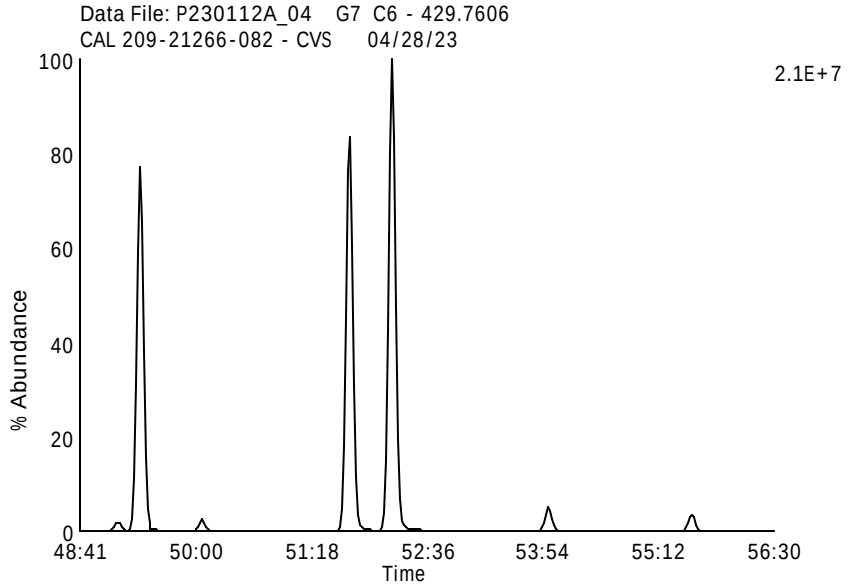
Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - CVS 04/28/23 Client Sample ID: 209 Mix



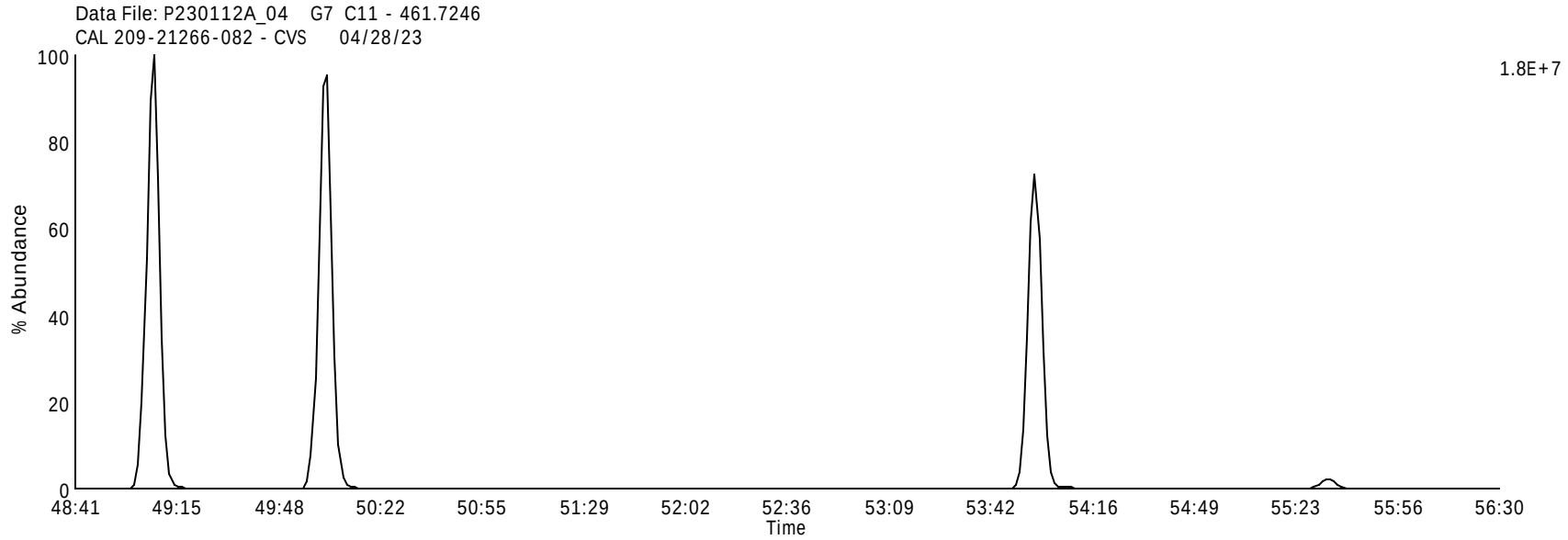


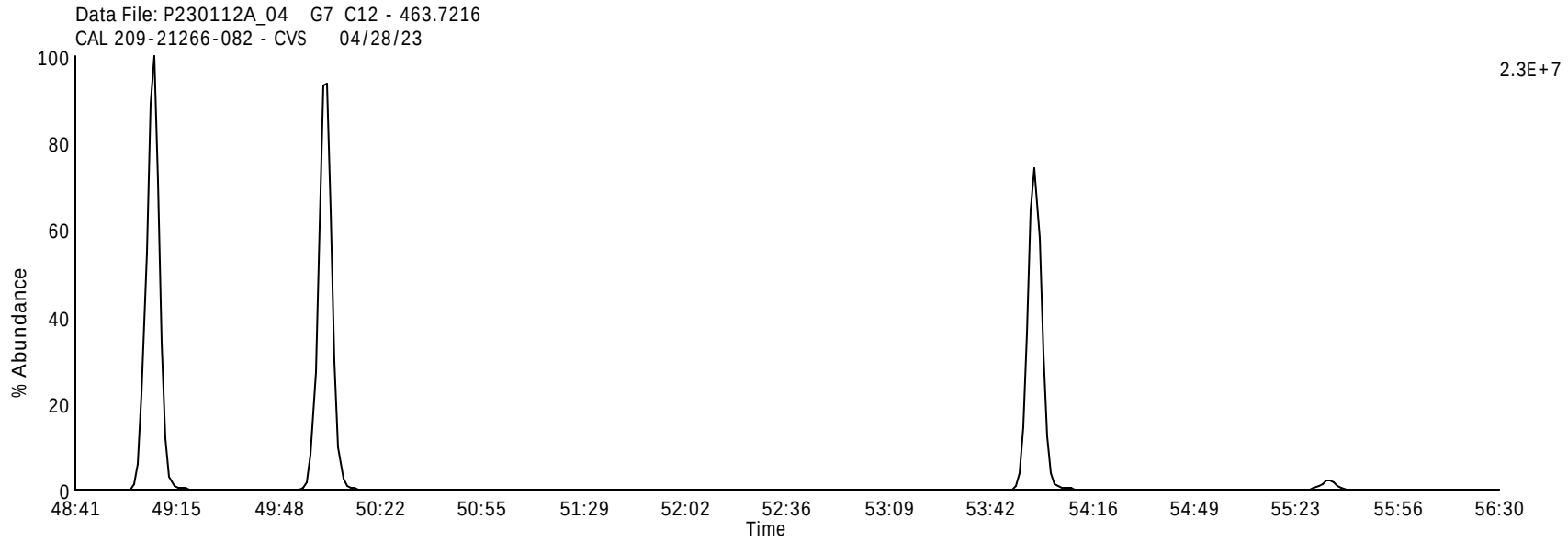




Nona Chlorinated Biphenyls

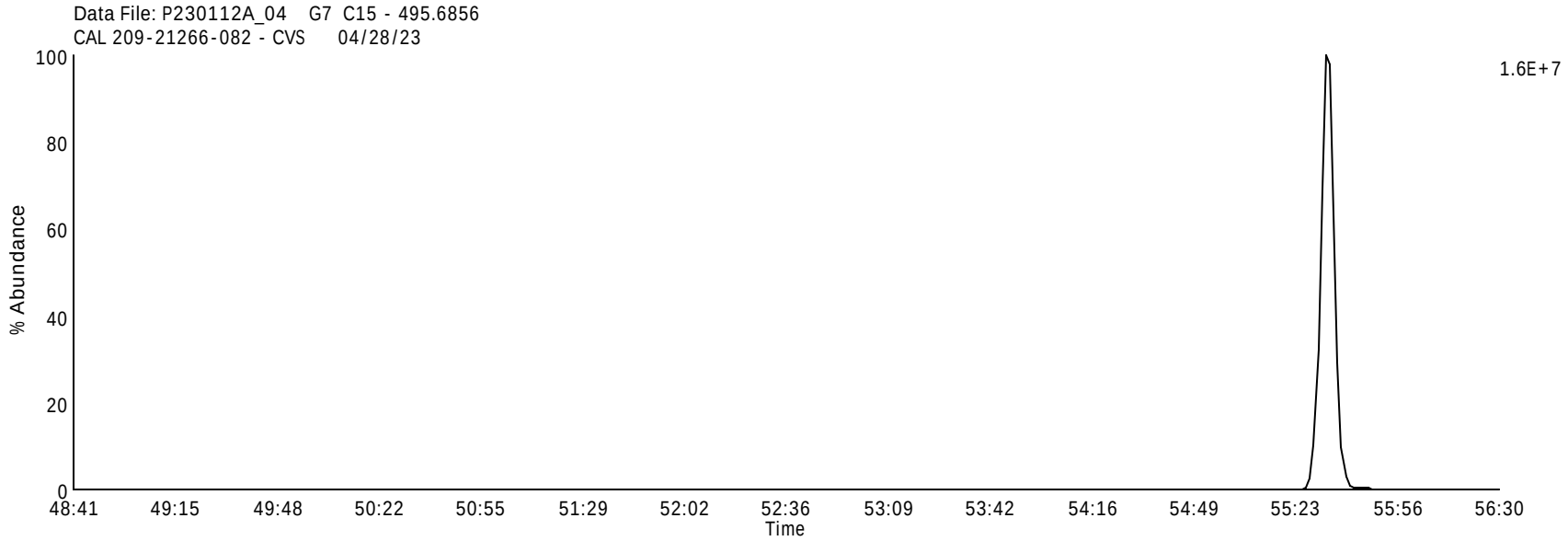
Data File Name: P230112A_04	Lab Sample ID: 209-21266-082
Date Acquired: 1/12/2023	Instrument: 10MSHR09 (P)
Sample Description: CAL 209-21266-082 - CVS 04/28/23	Client Sample ID: 209 Mix

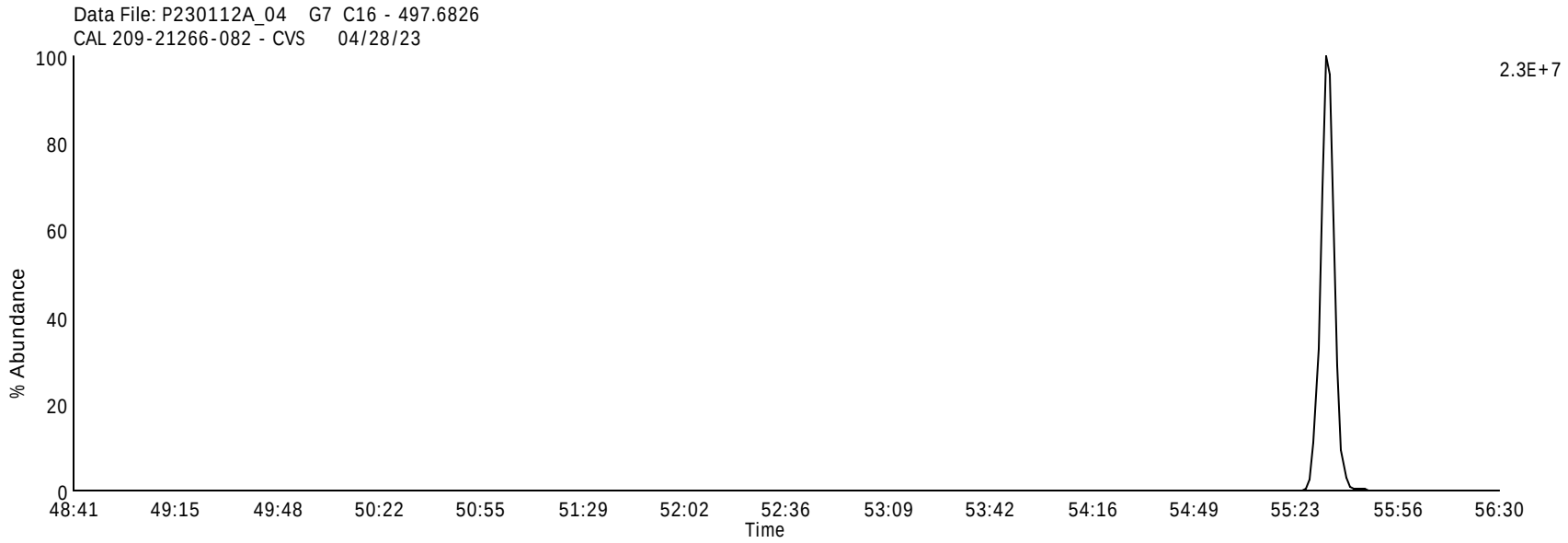




Deca Chlorinated Biphenyl

Data File Name: P230112A_04	Lab Sample ID: 209-21266-082
Date Acquired: 1/12/2023	Instrument: 10MSHR09 (P)
Sample Description: CAL 209-21266-082 - CVS 04/28/23	Client Sample ID: 209 Mix

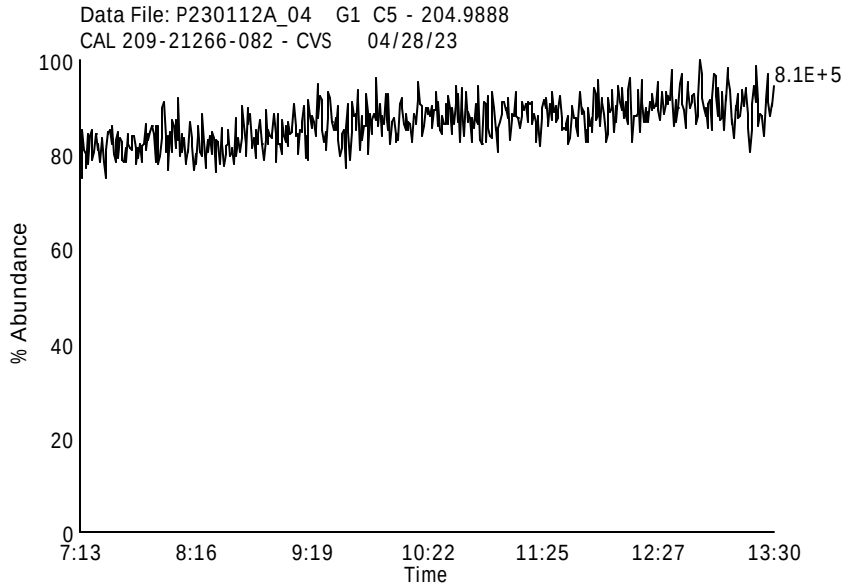


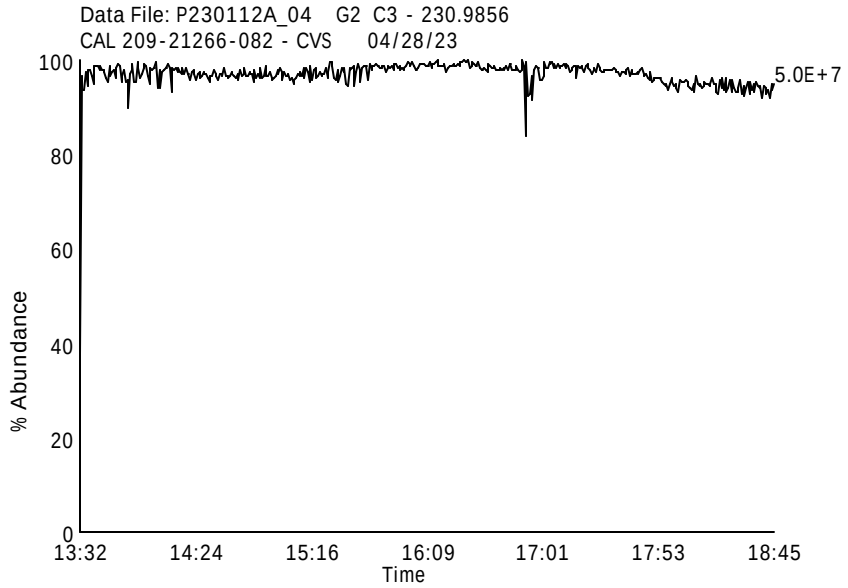


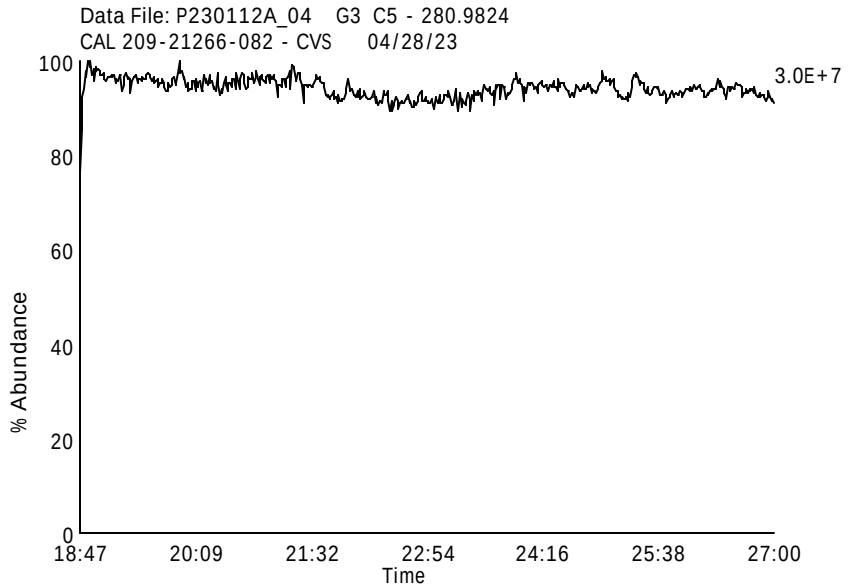
Group 1 - 4 Lock mass

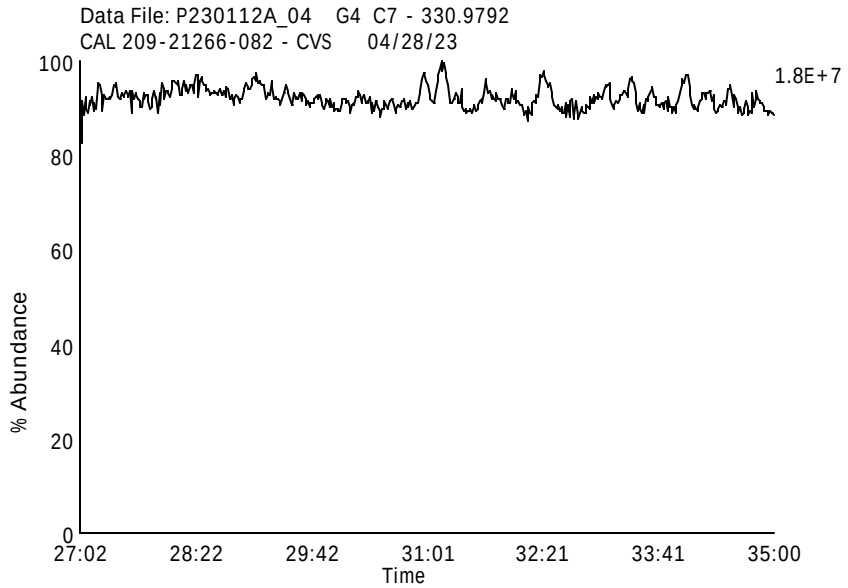
Data File Name: P230112A_04
Date Acquired: 1/12/2023
Sample Description: CAL 209-21266-082 - CVS 04/28/23

Lab Sample ID: 209-21266-082
Instrument: 10MSHR09 (P)
Client Sample ID: 209 Mix





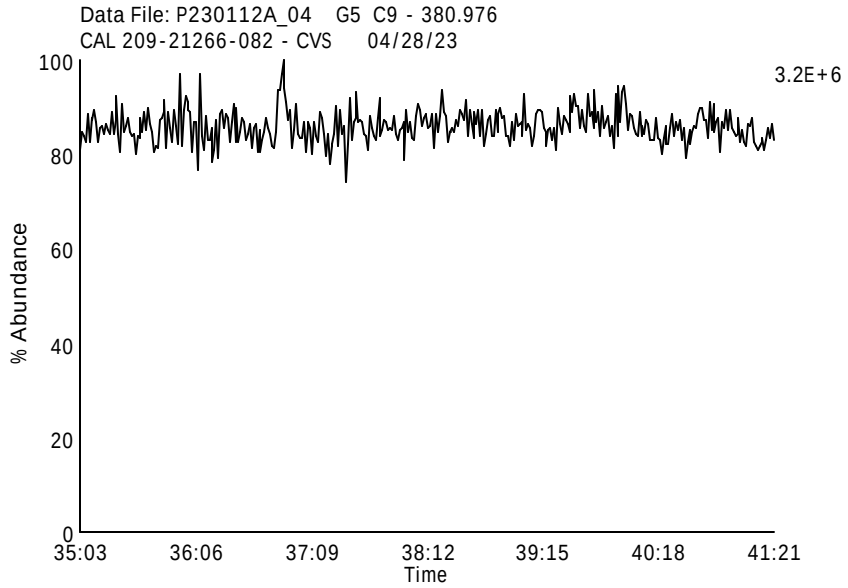


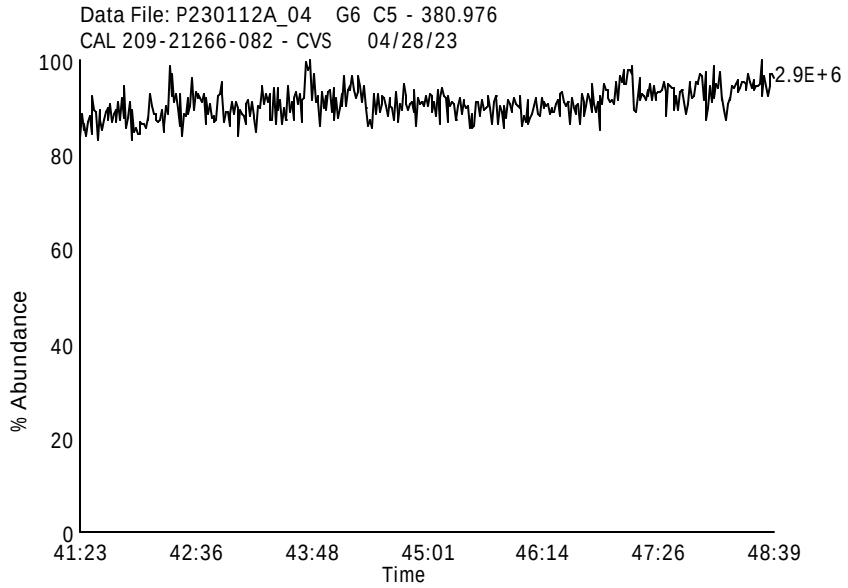


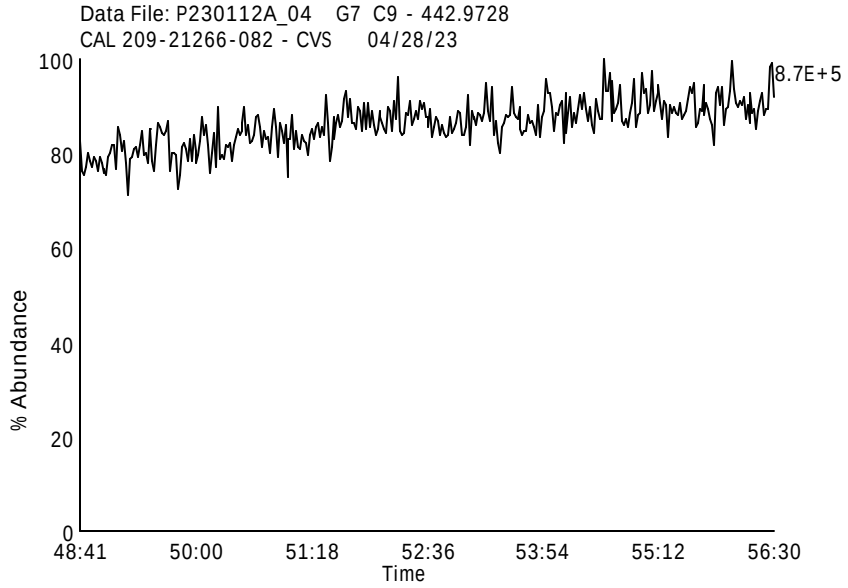
Group 5 - 7 Lock mass

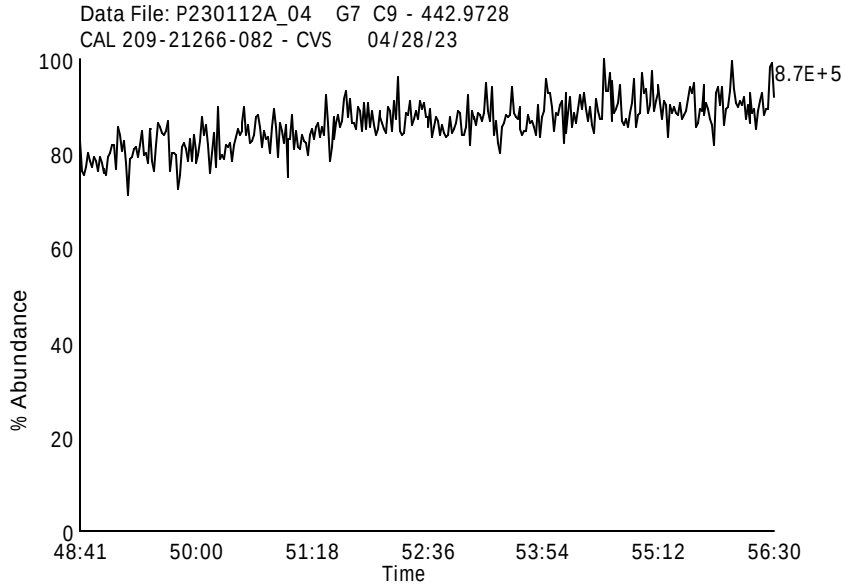
Data File Name: P230112A_04
Date Acquired: 1/12/2023
Sample Description: CAL 209-21266-082 - CVS 04/28/23

Lab Sample ID: 209-21266-082
Instrument: 10MSHR09 (P)
Client Sample ID: 209 Mix







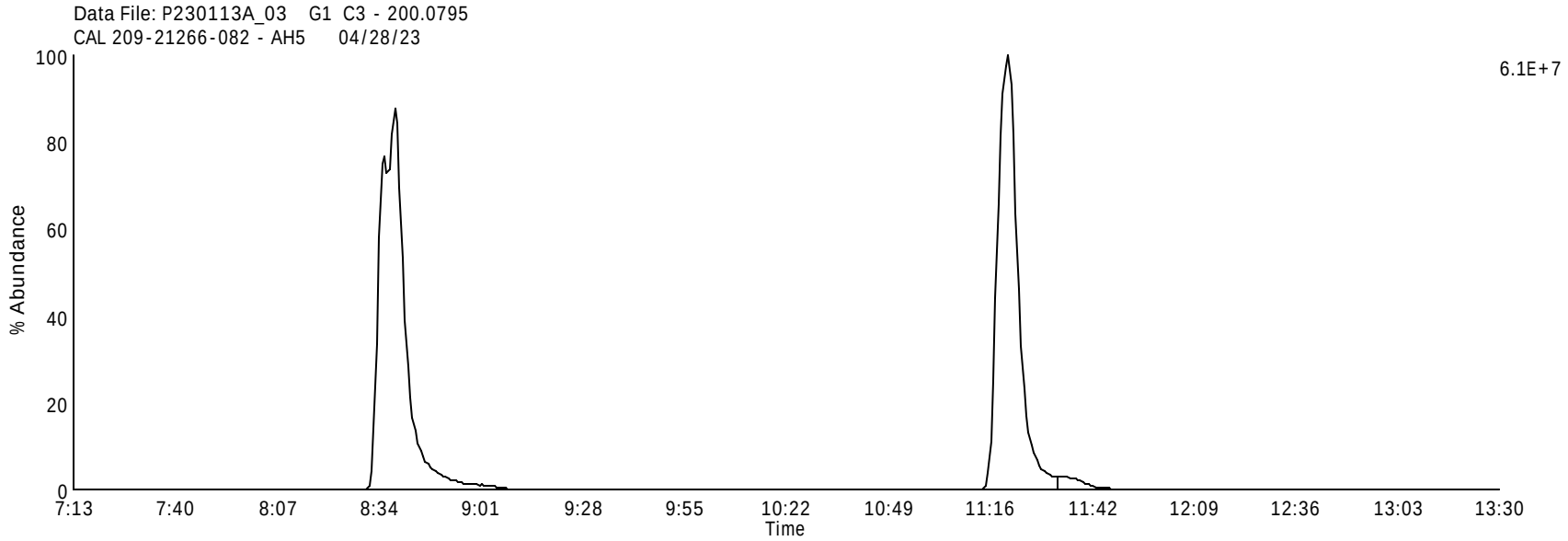


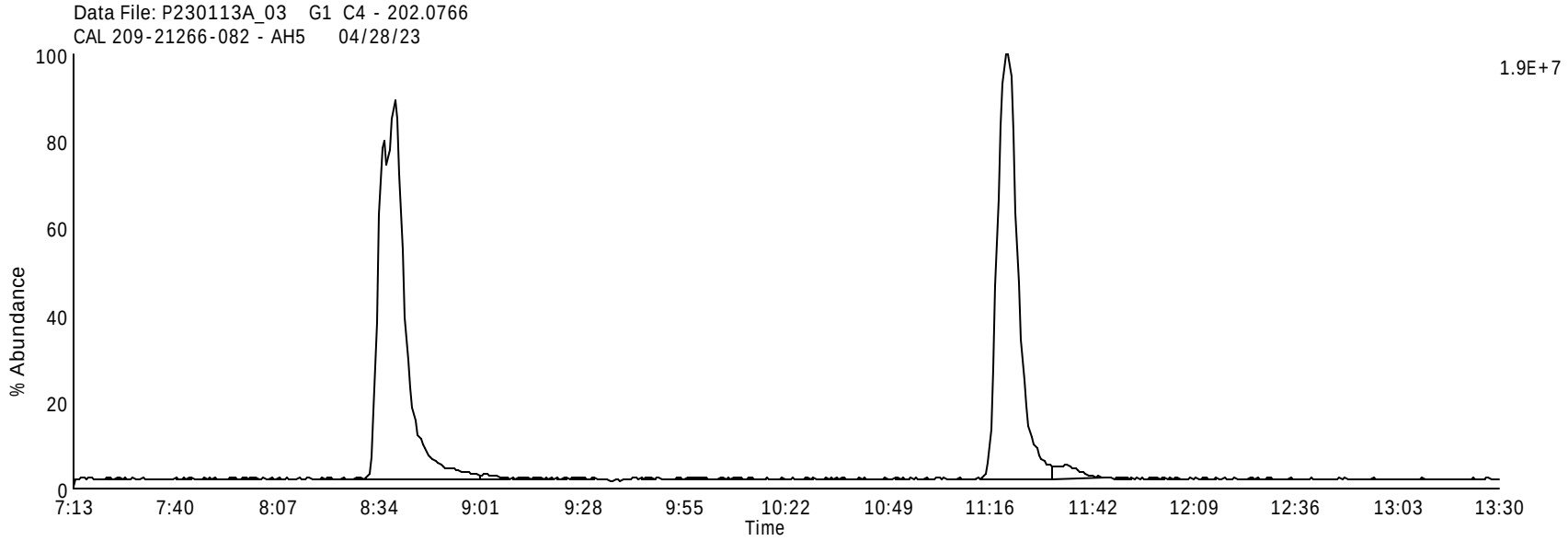
Labeled Mono Chlorinated Biphenyls

Data File Name: P230113A_03 | Lab Sample ID: 209-21266-082

Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - AH5 04/28/23 | Client Sample ID: 209 Mix

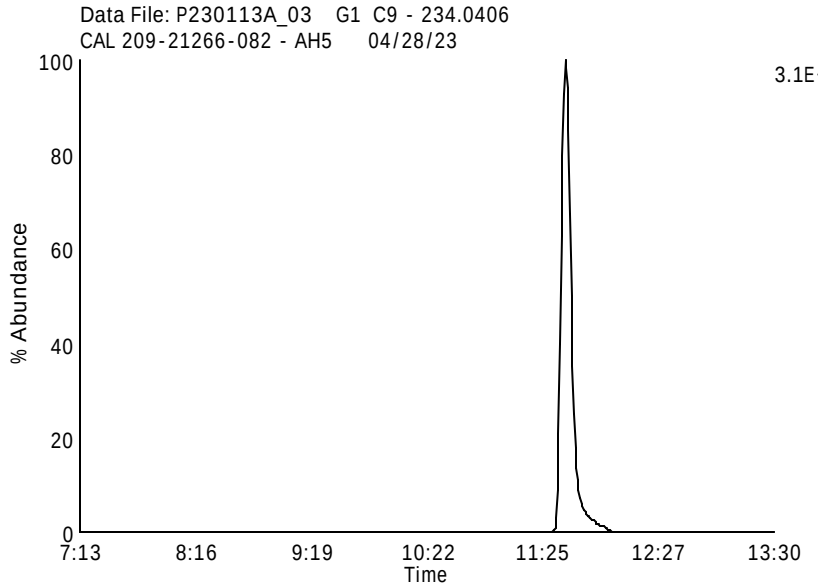


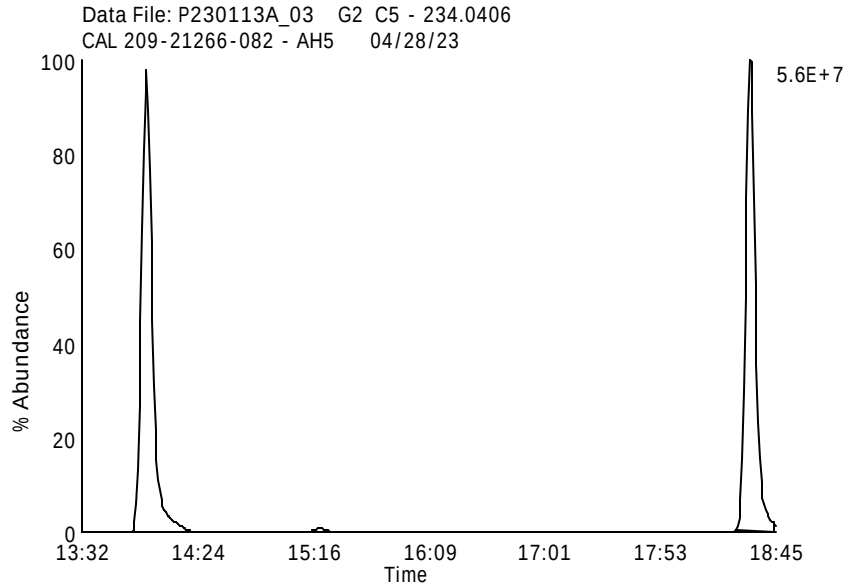


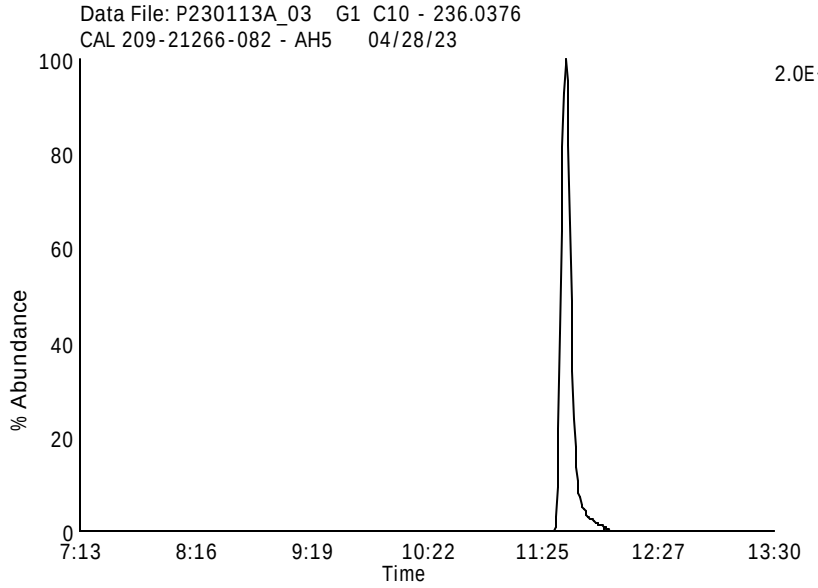
Labeled Di Chlorinated Biphenyls

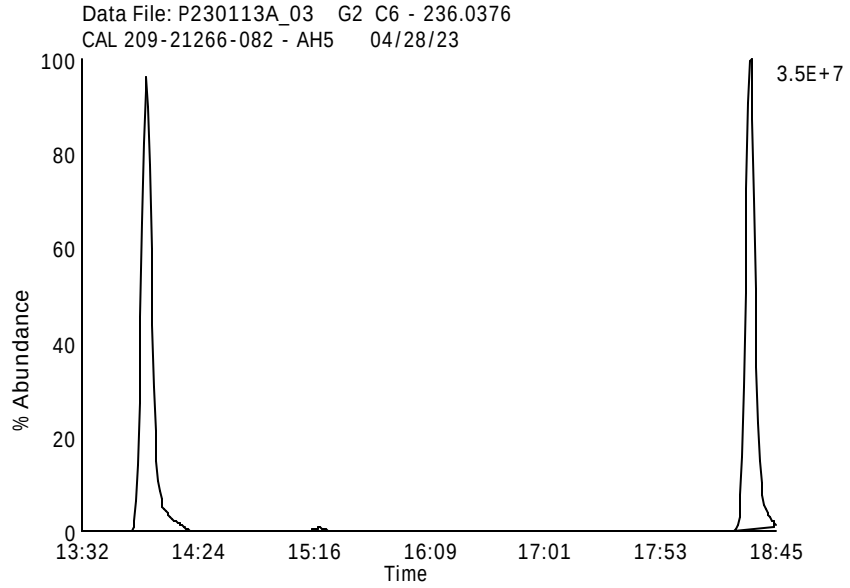
Data File Name: P230113A_03
Date Acquired: 1/13/2023
Sample Description: CAL 209-21266-082 - AH5 04/28/23

Lab Sample ID: 209-21266-082
Instrument: 10MSHR09 (P)
Client Sample ID: 209 Mix



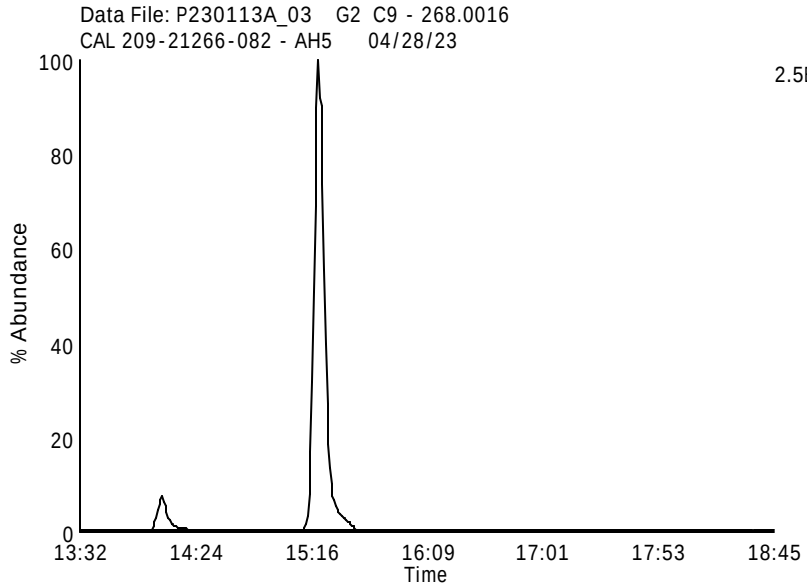


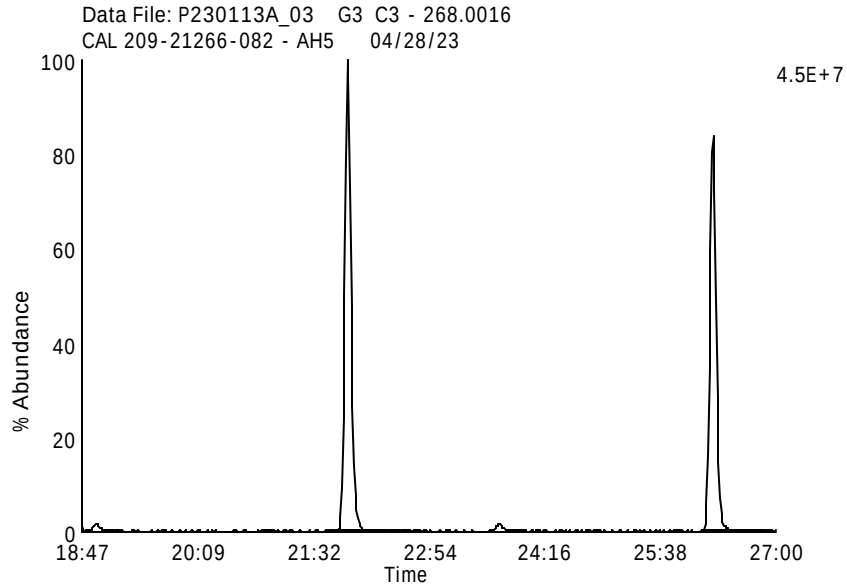


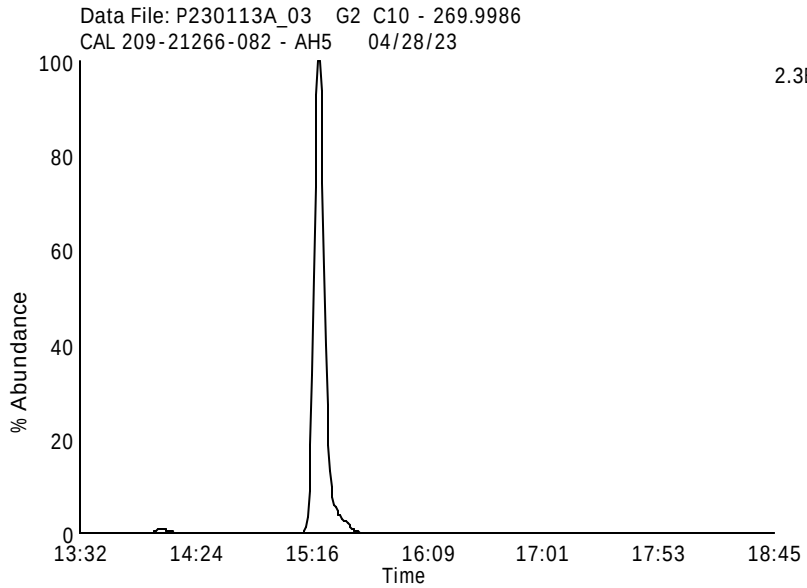


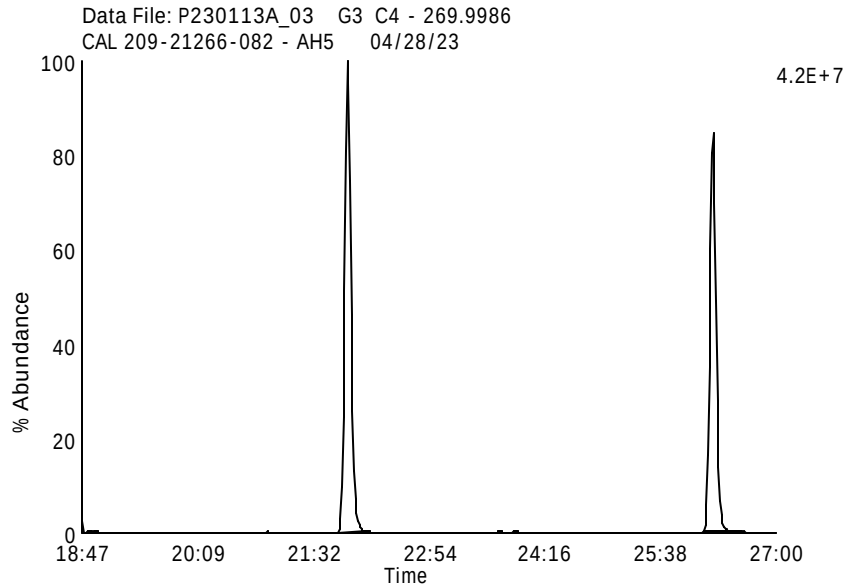
Labeled Tri Chlorinated Biphenyls

Data File Name: P230113A_03
Lab Sample ID: 209-21266-082
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL 209-21266-082 - AH5 04/28/23
Client Sample ID: 209 Mix



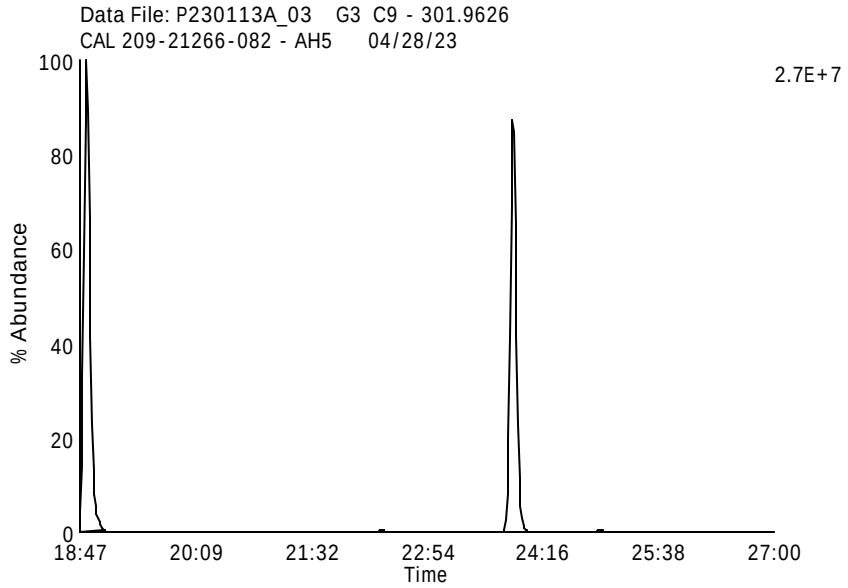


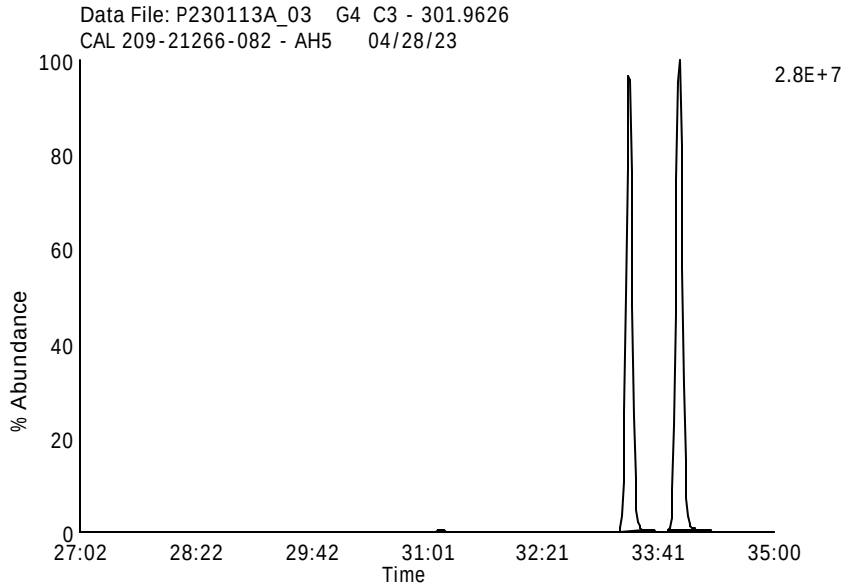


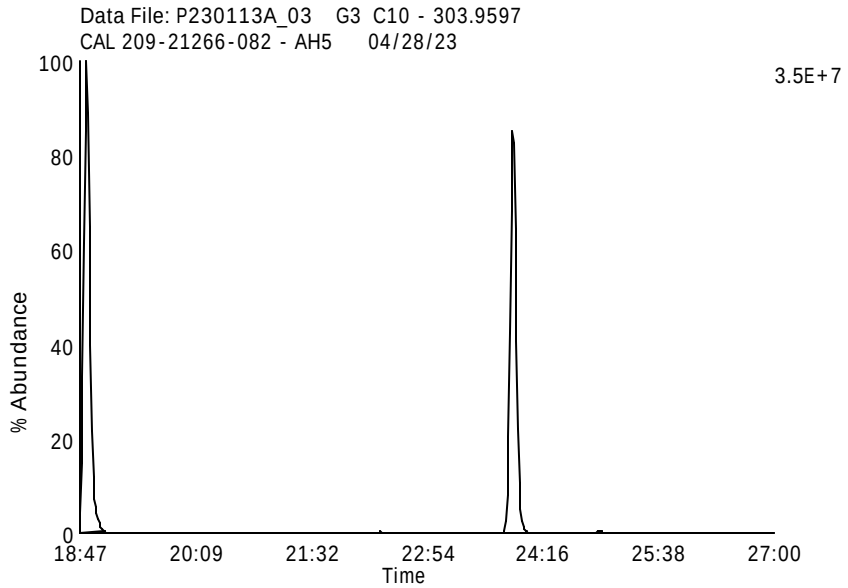


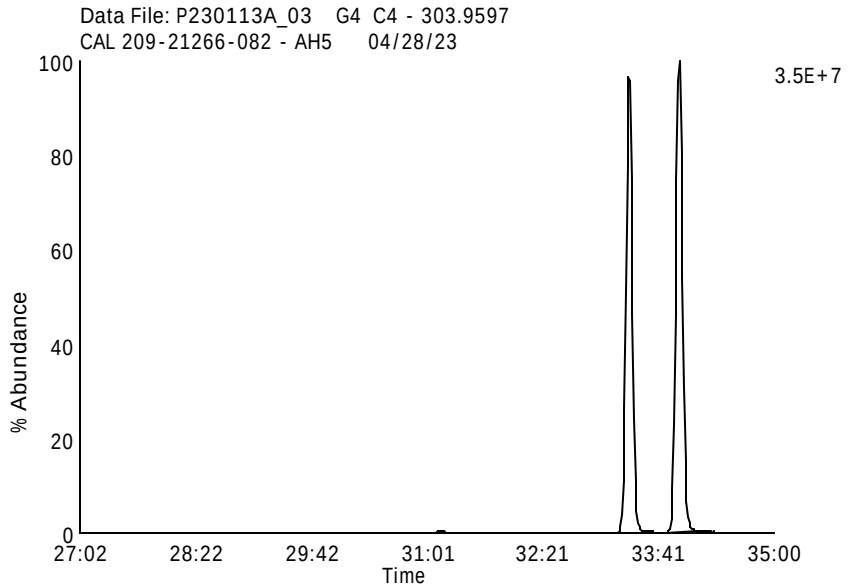
Labeled Tetra Chlorinated Biphenyls

Data File Name: P230113A_03
Lab Sample ID: 209-21266-082
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL 209-21266-082 - AH5 04/28/23
Client Sample ID: 209 Mix







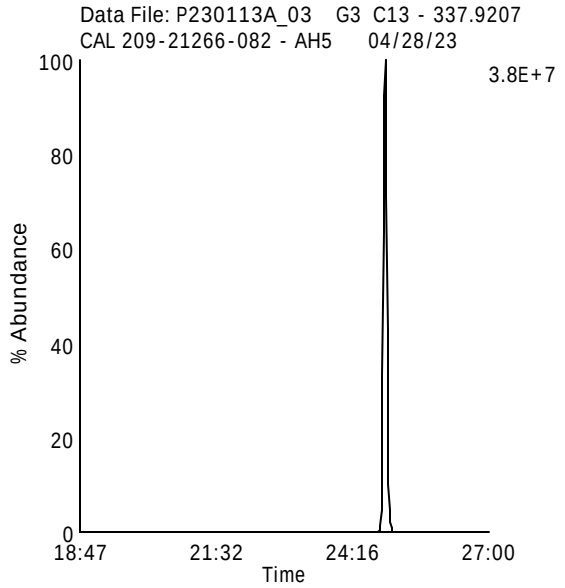


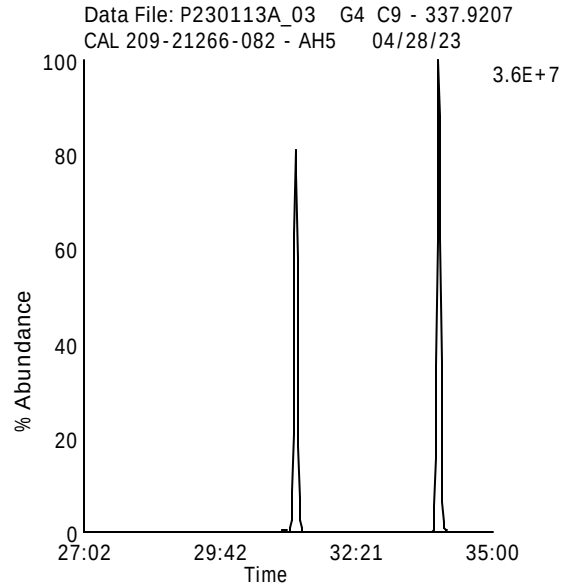
Labeled Penta Chlorinated Biphenyls

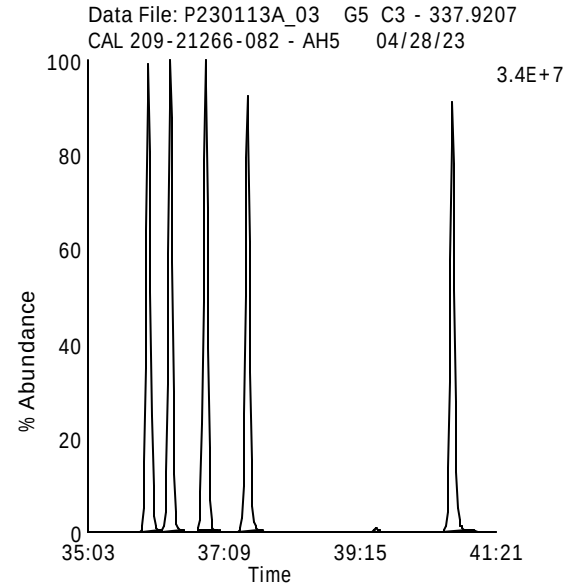
Data File Name: P230113A_03 Lab Sample ID: 209-21266-082

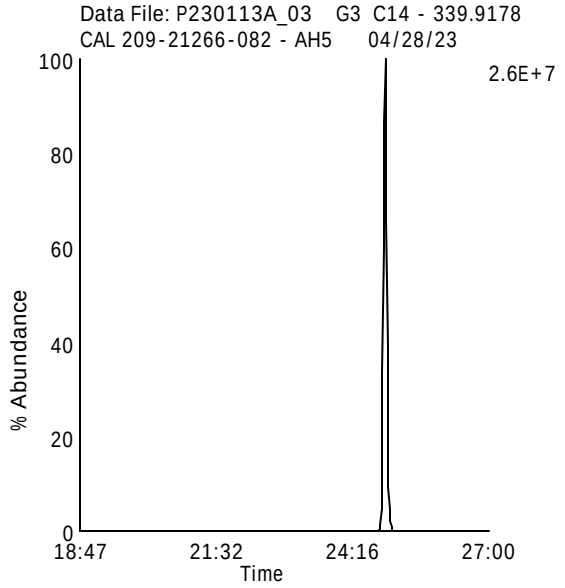
Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

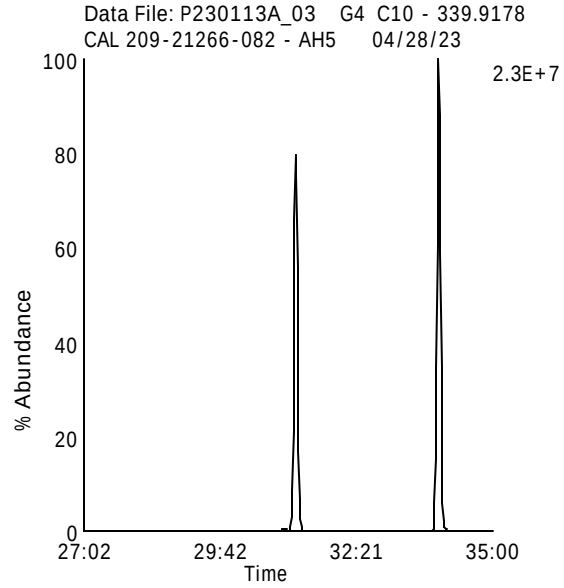
Sample Description: CAL 209-21266-082 - AH5 04/28/23 Client Sample ID: 209 Mix

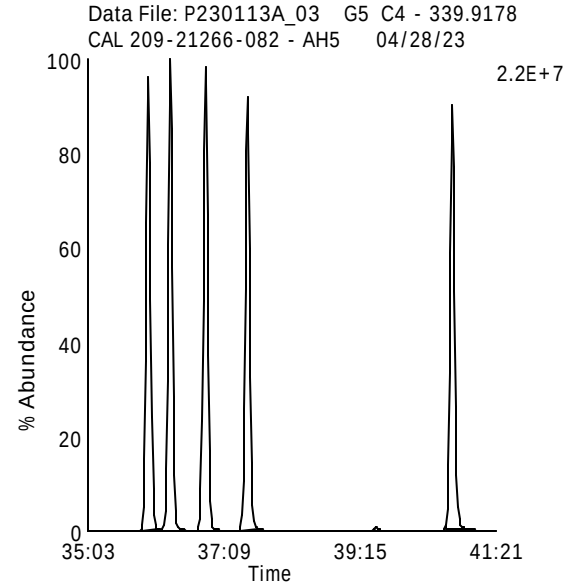










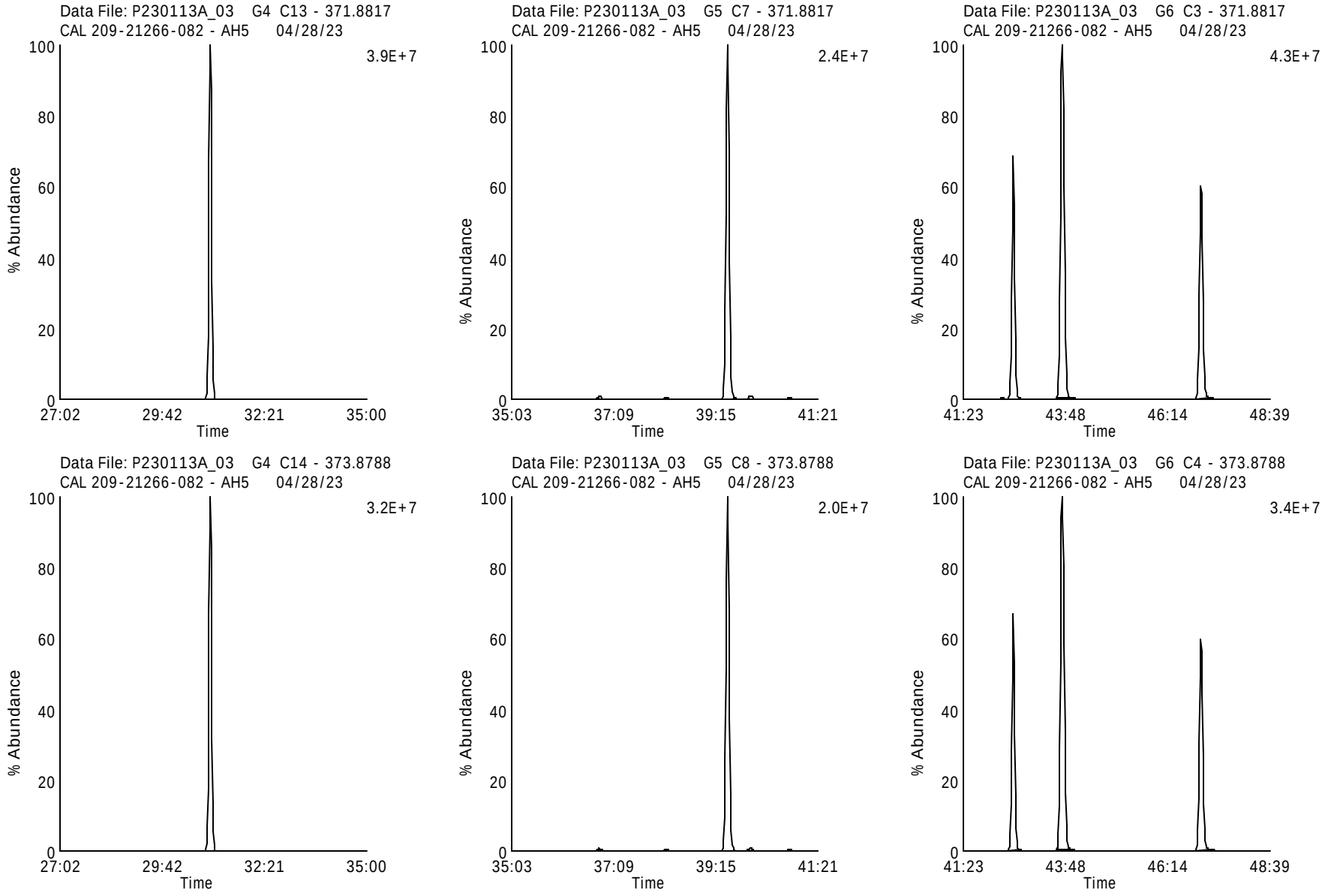


Labeled Hexa Chlorinated Biphenyls

Data File Name: P230113A_03 Lab Sample ID: 209-21266-082

Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

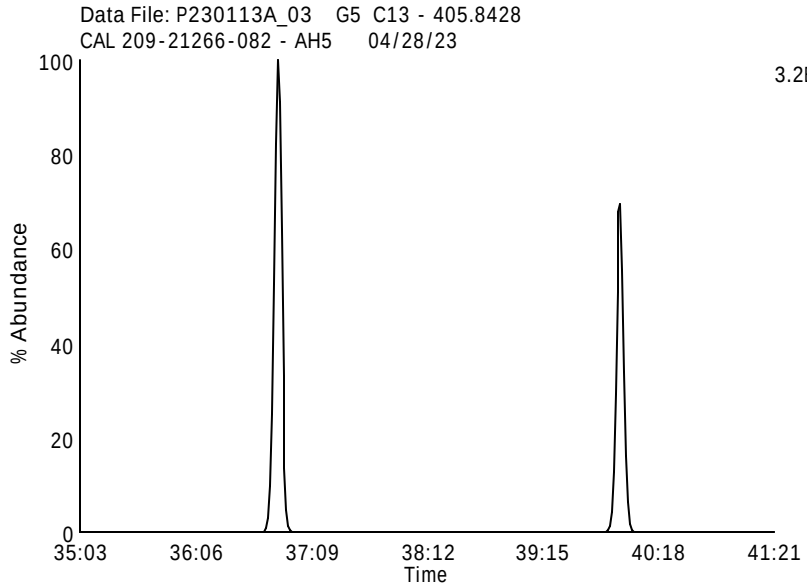
Sample Description: CAL 209-21266-082 - AH5 04/28/23 Client Sample ID: 209 Mix

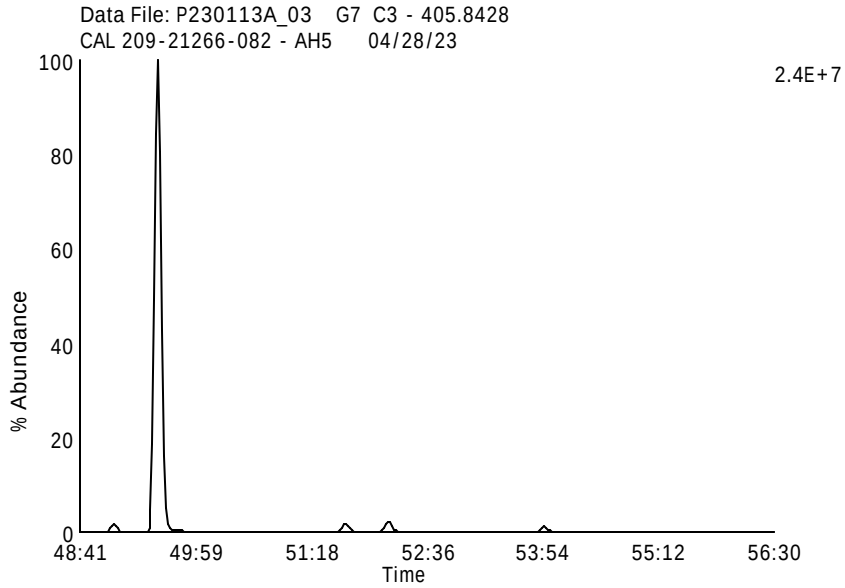


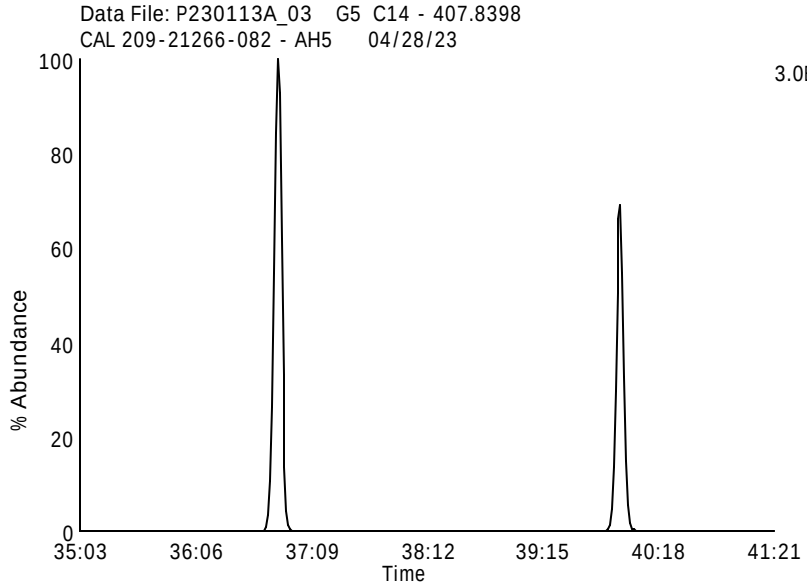
Labeled Hepta Chlorinated Biphenyls

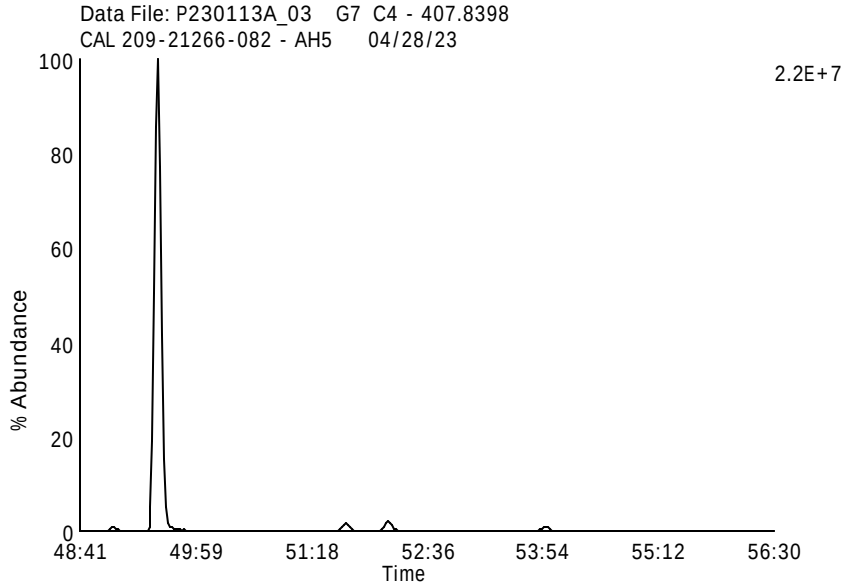
Data File Name: P230113A_03
Date Acquired: 1/13/2023
Sample Description: CAL 209-21266-082 - AH5 04/28/23

Lab Sample ID: 209-21266-082
Instrument: 10MSHR09 (P)
Client Sample ID: 209 Mix



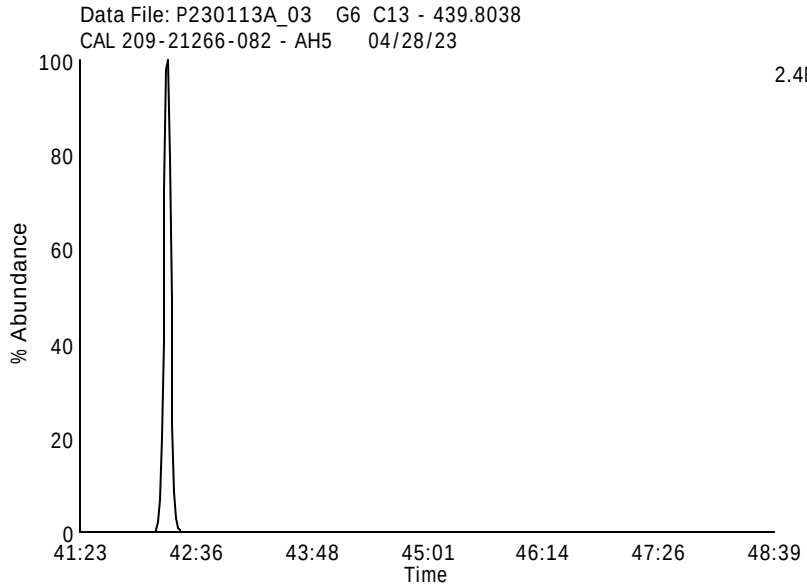


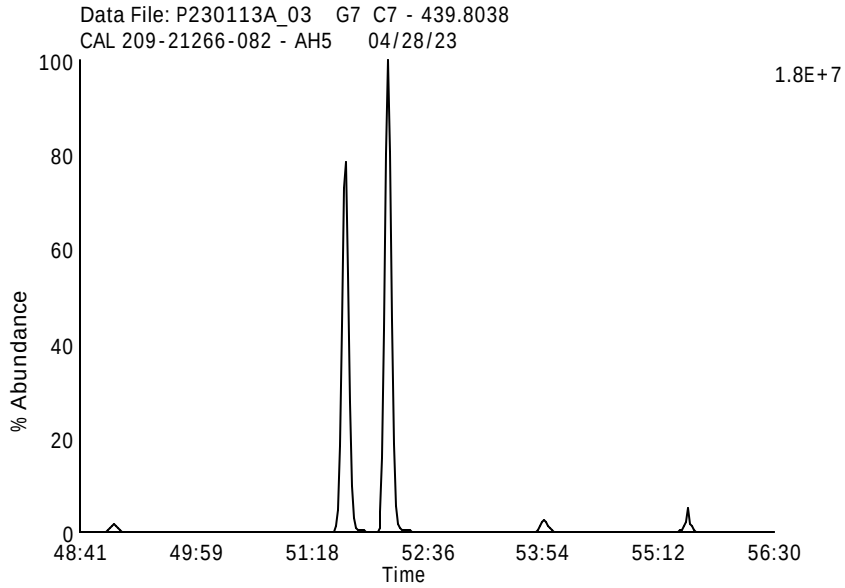


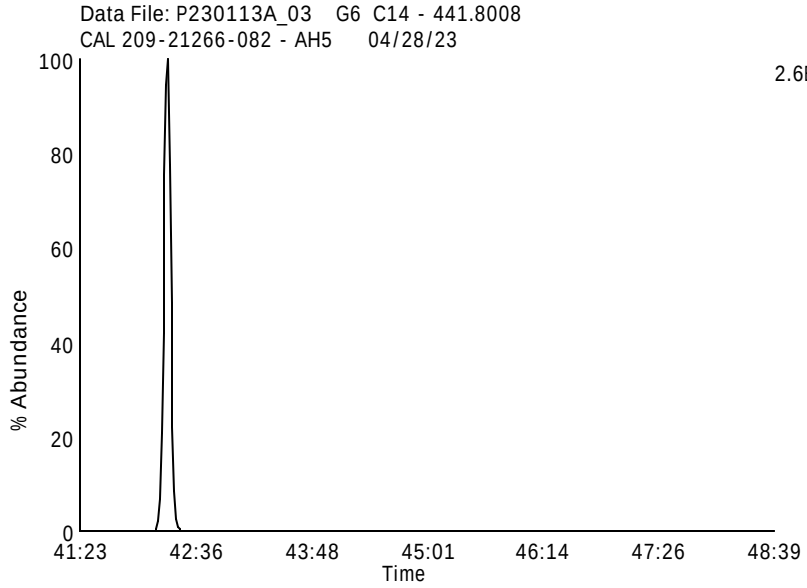


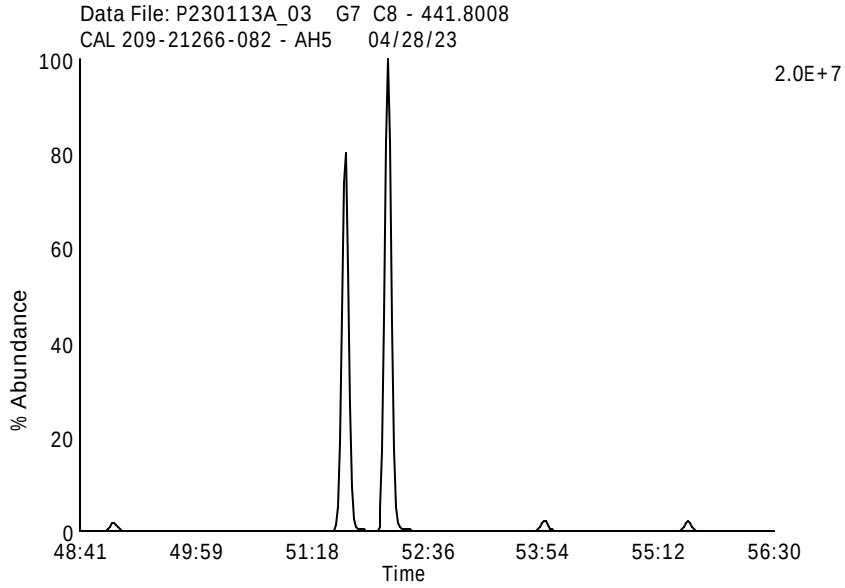
Labeled Octa Chlorinated Biphenyls

Data File Name: P230113A_03
Lab Sample ID: 209-21266-082
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL 209-21266-082 - AH5 04/28/23
Client Sample ID: 209 Mix







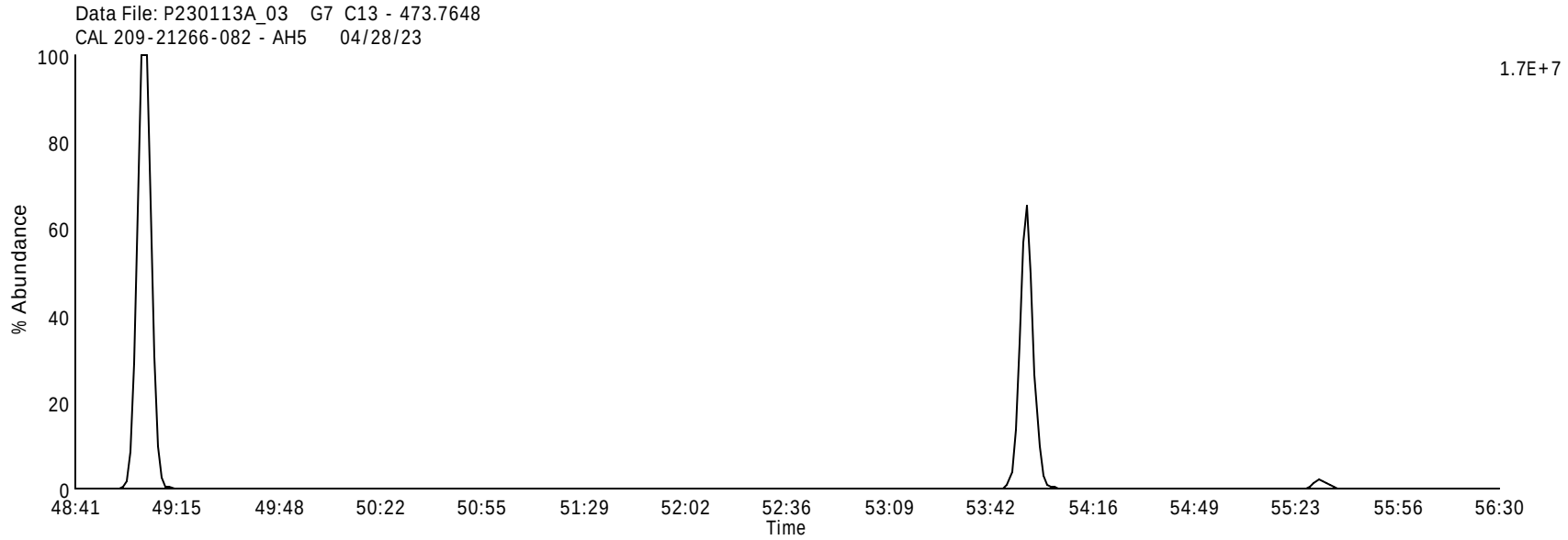


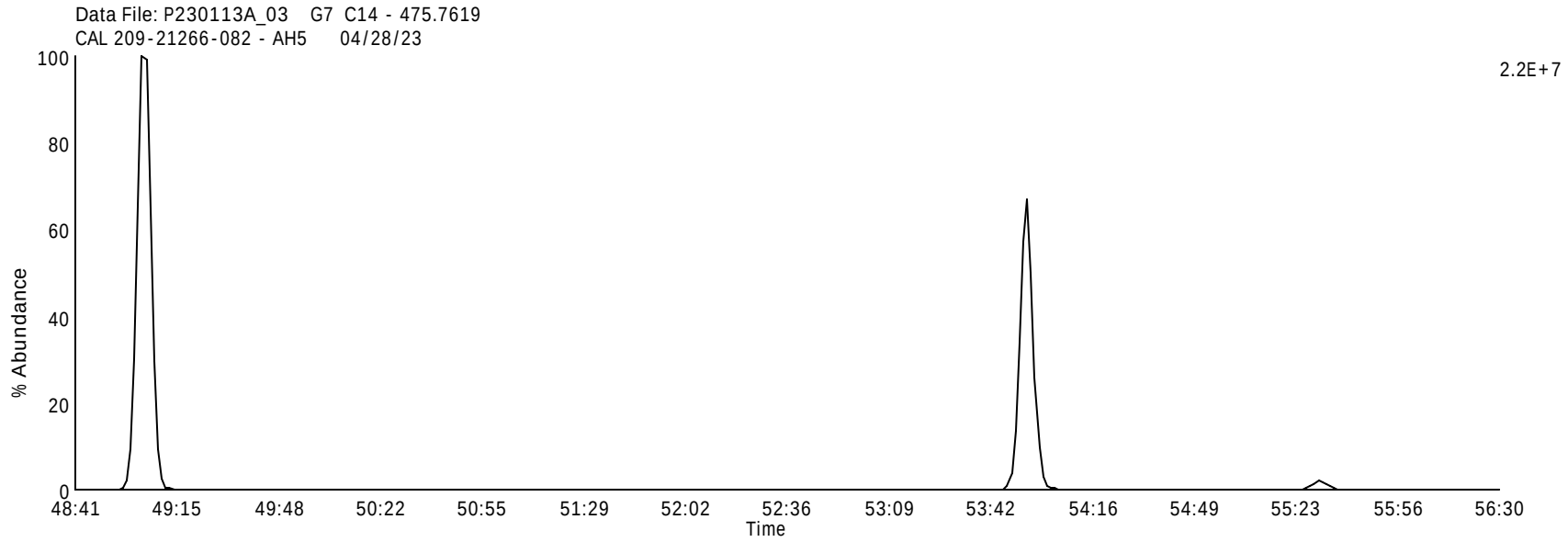
Labeled Nona Chlorinated Biphenyls

Data File Name: P230113A_03 | Lab Sample ID: 209-21266-082

Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - AH5 04/28/23 | Client Sample ID: 209 Mix



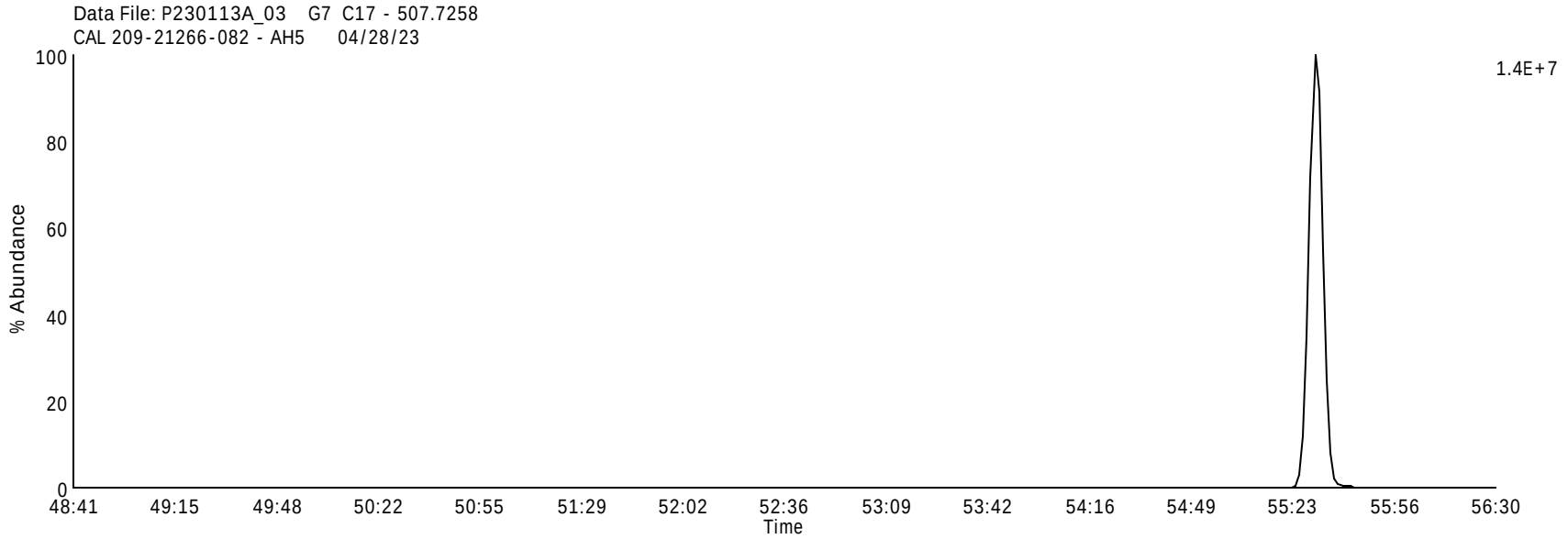


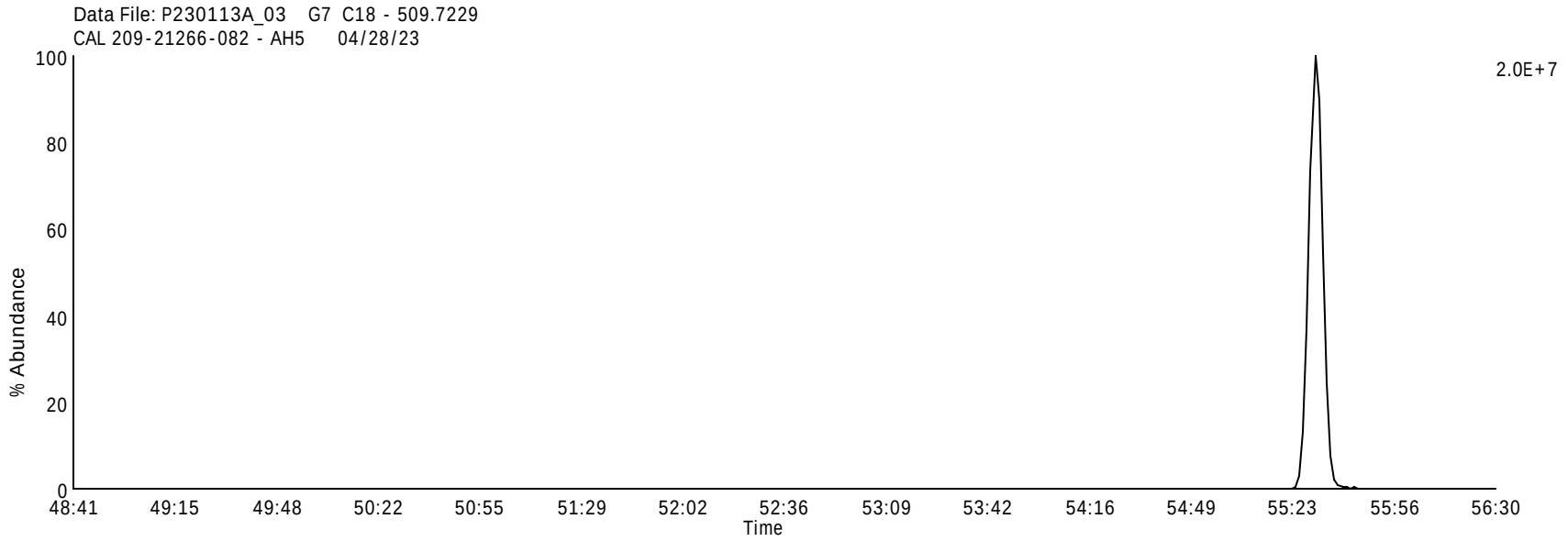
Labeled Deca Chlorinated Biphenyl

Data File Name: P230113A_03 | Lab Sample ID: 209-21266-082

Date Acquired: 1/13/2023 | Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - AH5 04/28/23 | Client Sample ID: 209 Mix



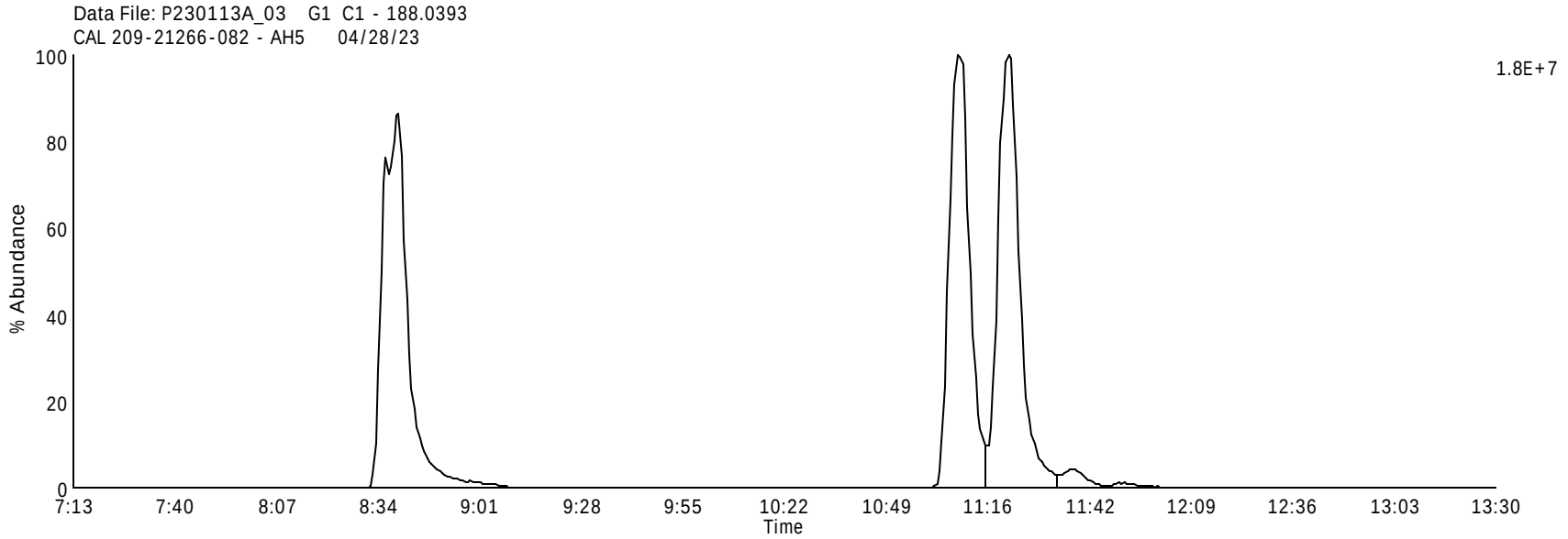


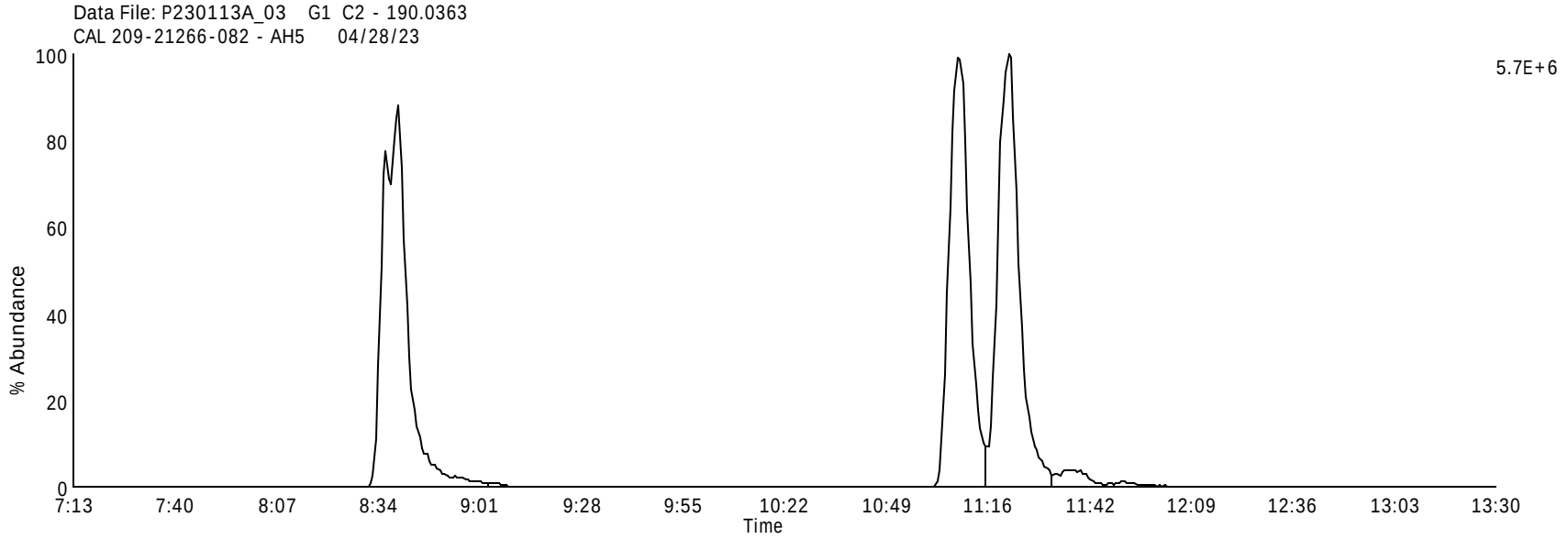
Mono Chlorinated Biphenyls

Data File Name: P230113A_03 Lab Sample ID: 209-21266-082

Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - AH5 04/28/23 Client Sample ID: 209 Mix

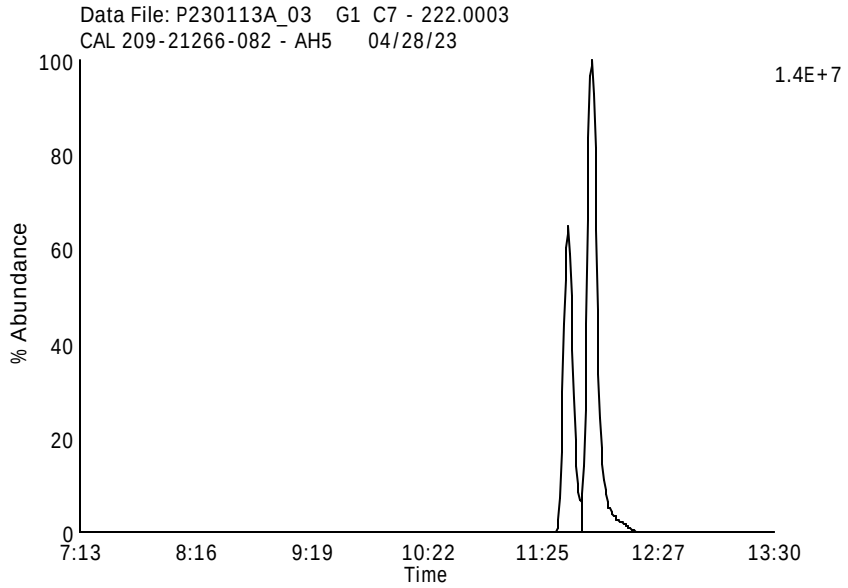


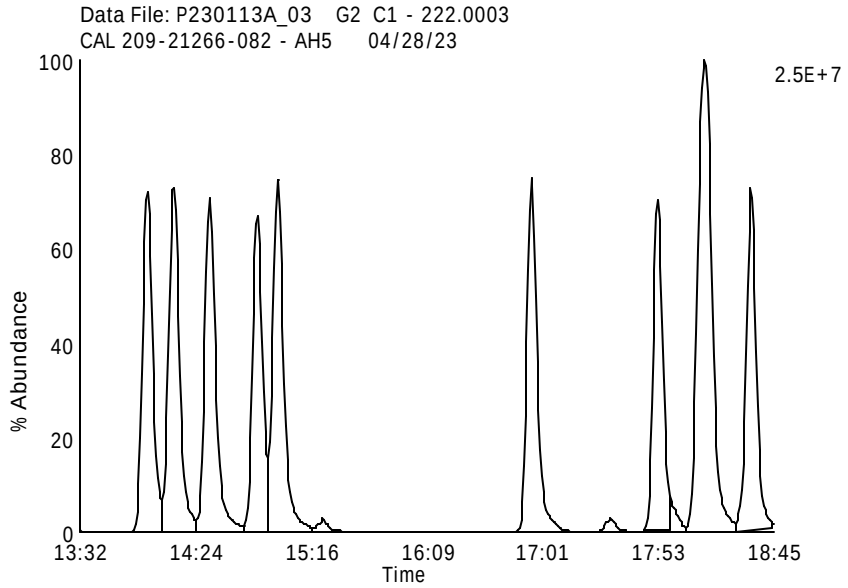


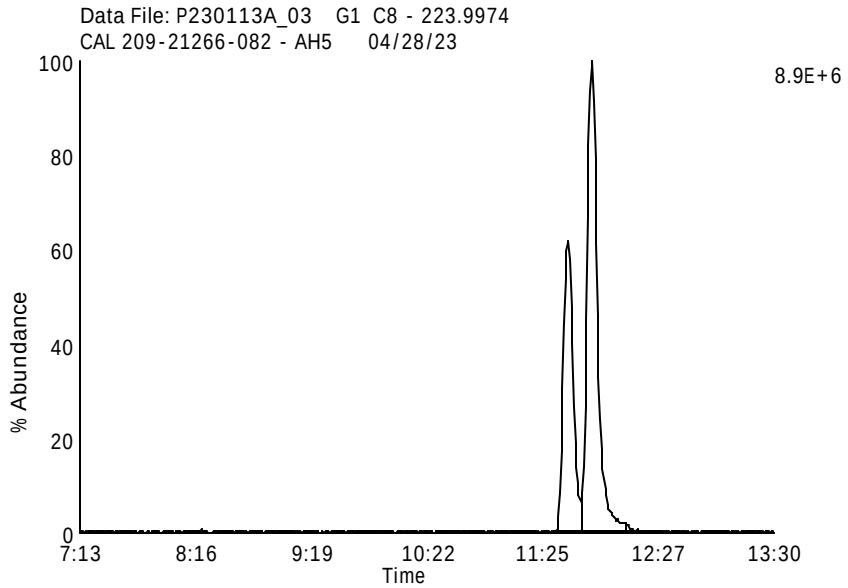
Di Chlorinated Biphenyls

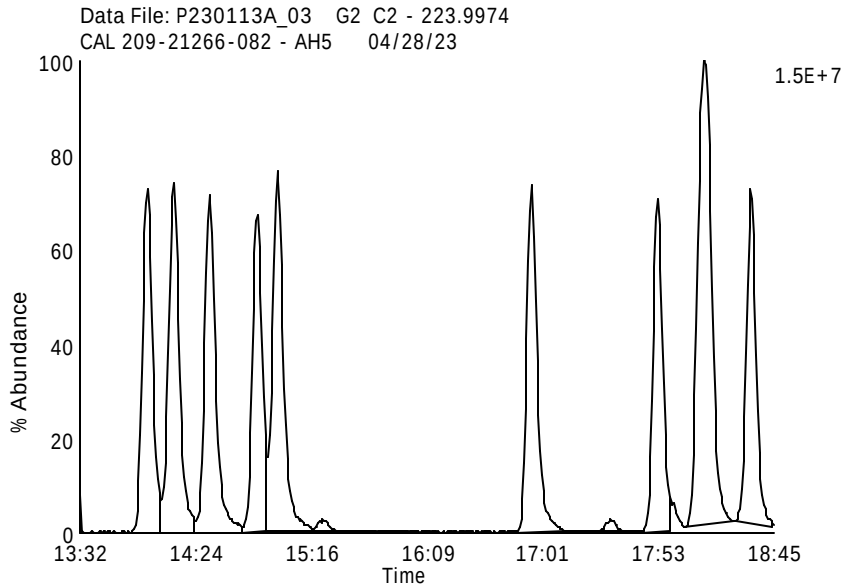
Data File Name: P230113A_03
Date Acquired: 1/13/2023
Sample Description: CAL 209-21266-082 - AH5 04/28/23

Lab Sample ID: 209-21266-082
Instrument: 10MSHR09 (P)
Client Sample ID: 209 Mix





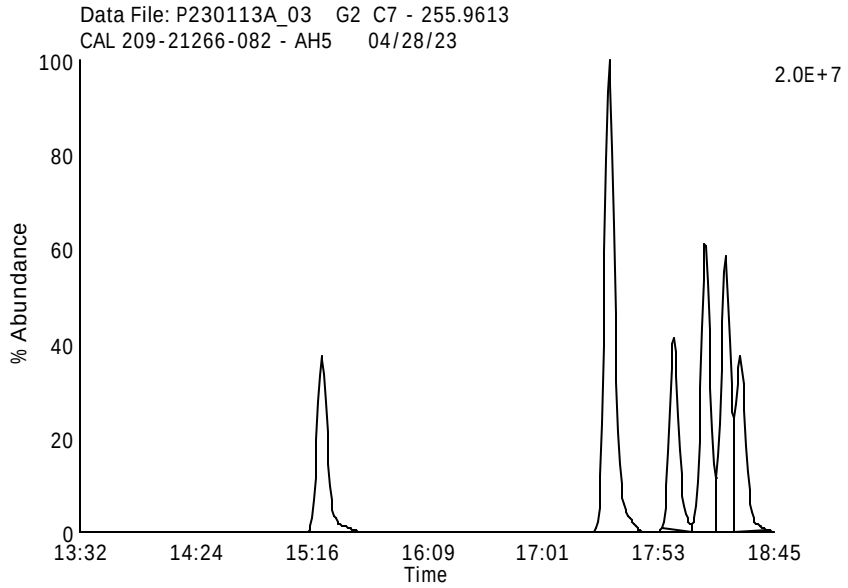


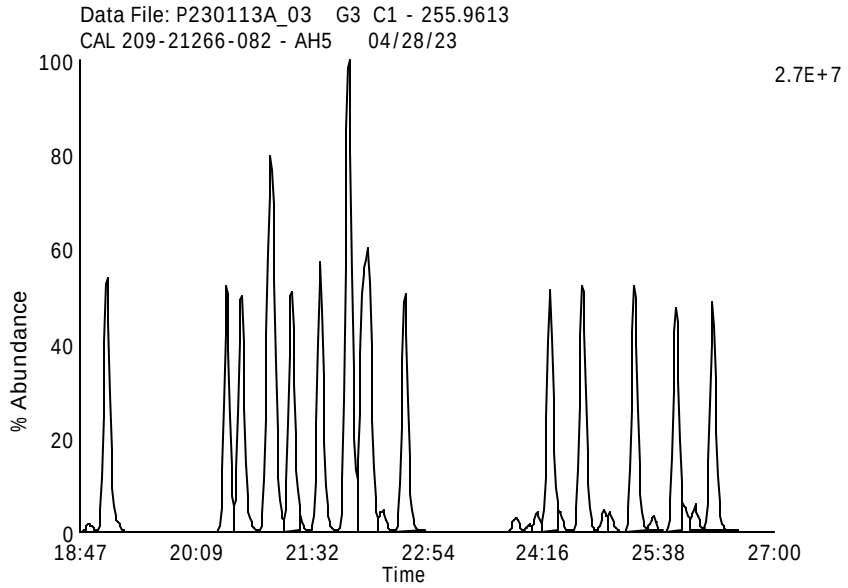


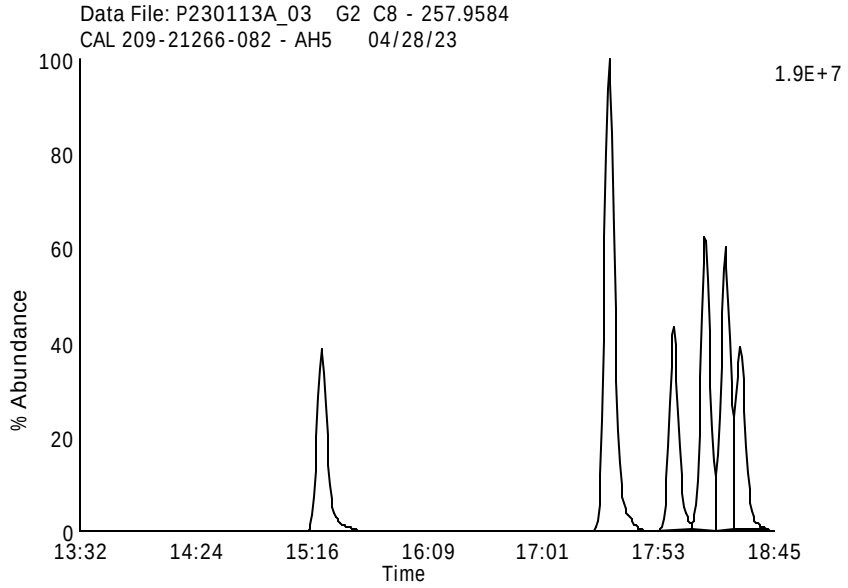
Tri Chlorinated Biphenyls

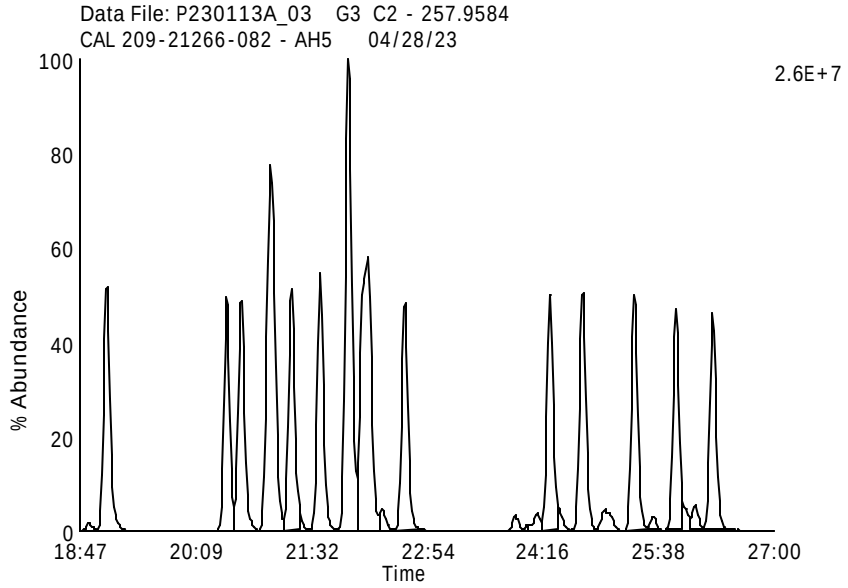
Data File Name: P230113A_03
Date Acquired: 1/13/2023
Sample Description: CAL 209-21266-082 - AH5 04/28/23

Lab Sample ID: 209-21266-082
Instrument: 10MSHR09 (P)
Client Sample ID: 209 Mix





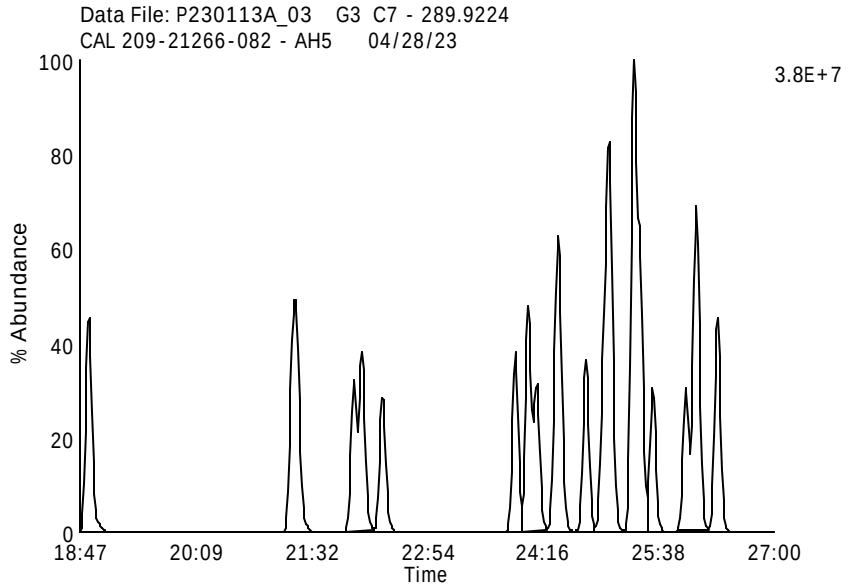


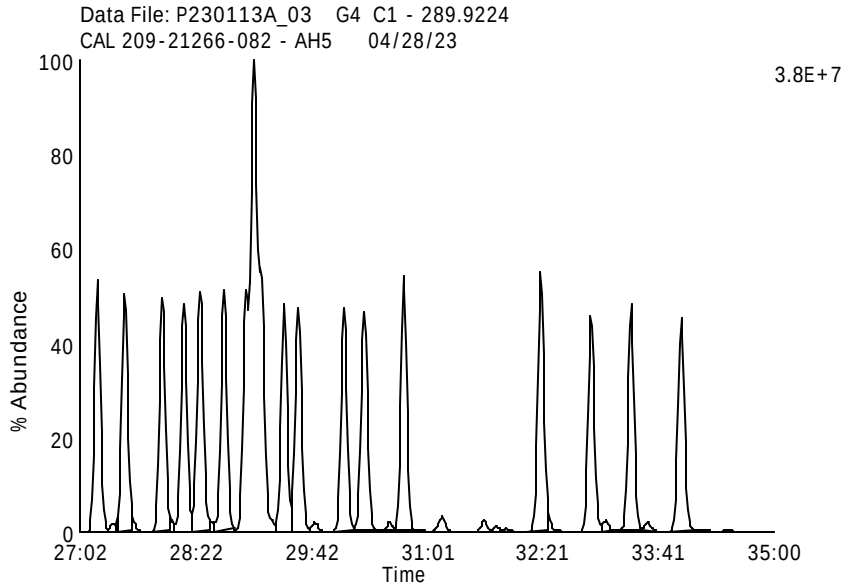


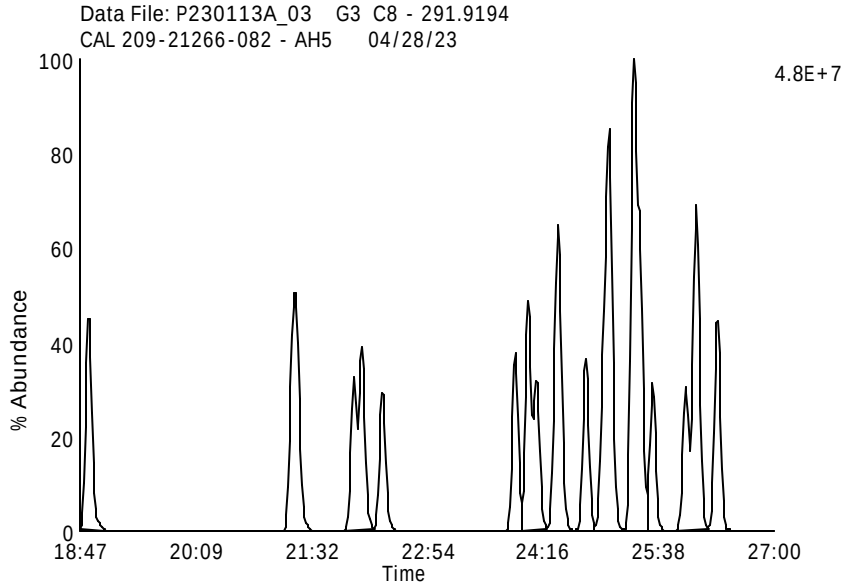
Tetra Chlorinated Biphenyls

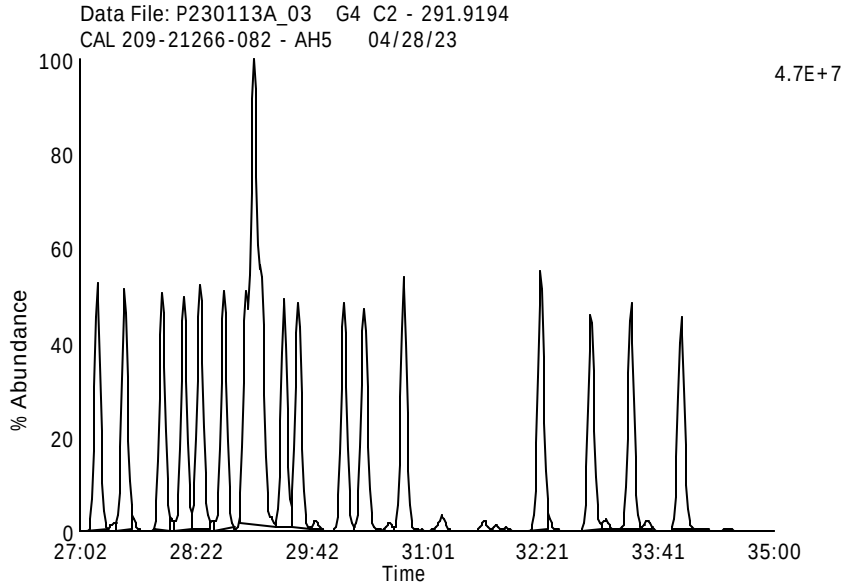
Data File Name: P230113A_03
Date Acquired: 1/13/2023
Sample Description: CAL 209-21266-082 - AH5 04/28/23

Lab Sample ID: 209-21266-082
Instrument: 10MSHR09 (P)
Client Sample ID: 209 Mix







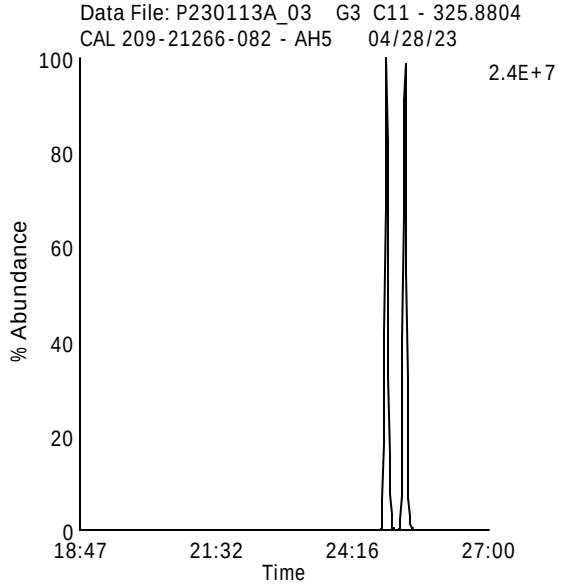


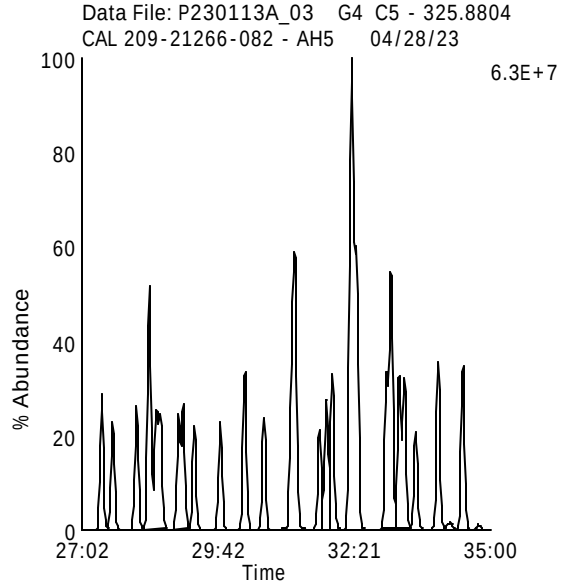
Penta Chlorinated Biphenyls

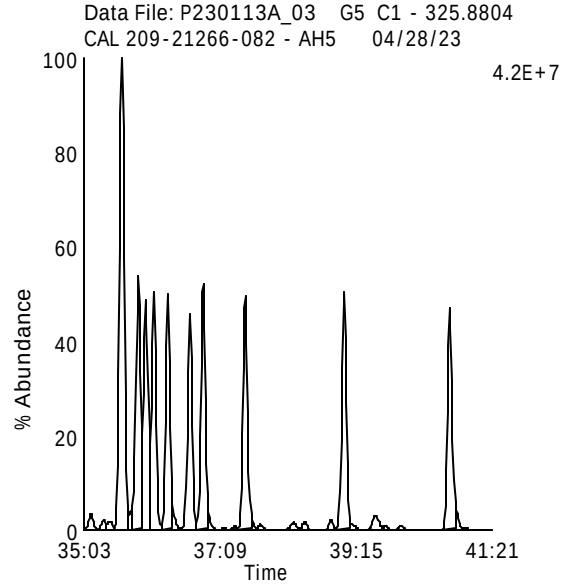
Data File Name: P230113A_03 Lab Sample ID: 209-21266-082

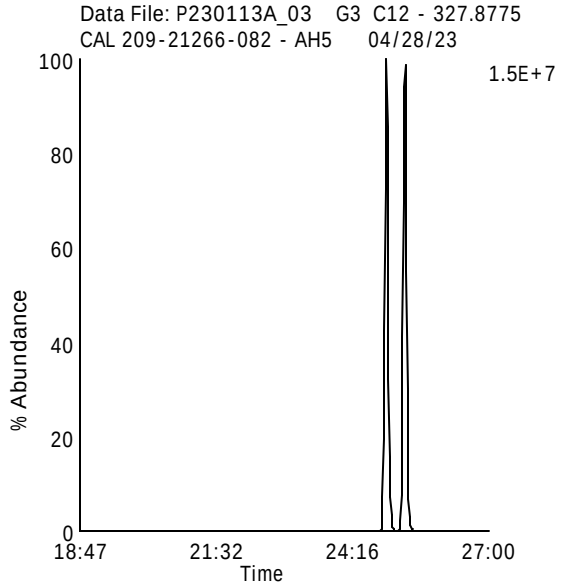
Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

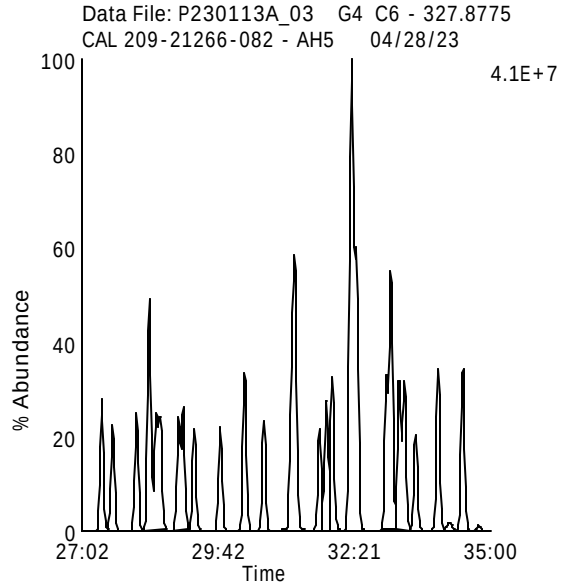
Sample Description: CAL 209-21266-082 - AH5 04/28/23 Client Sample ID: 209 Mix

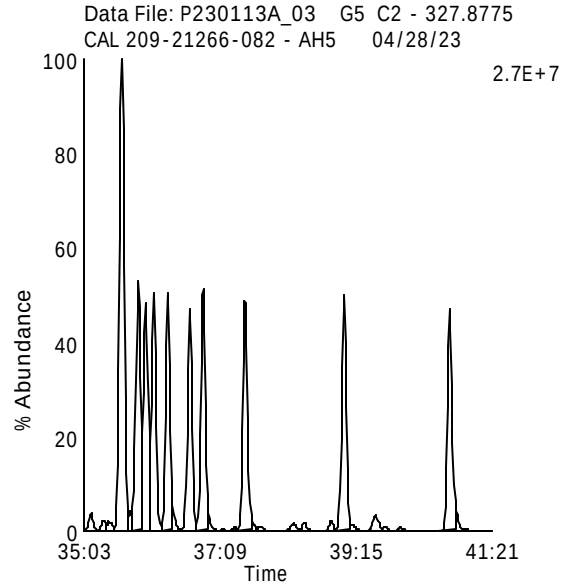










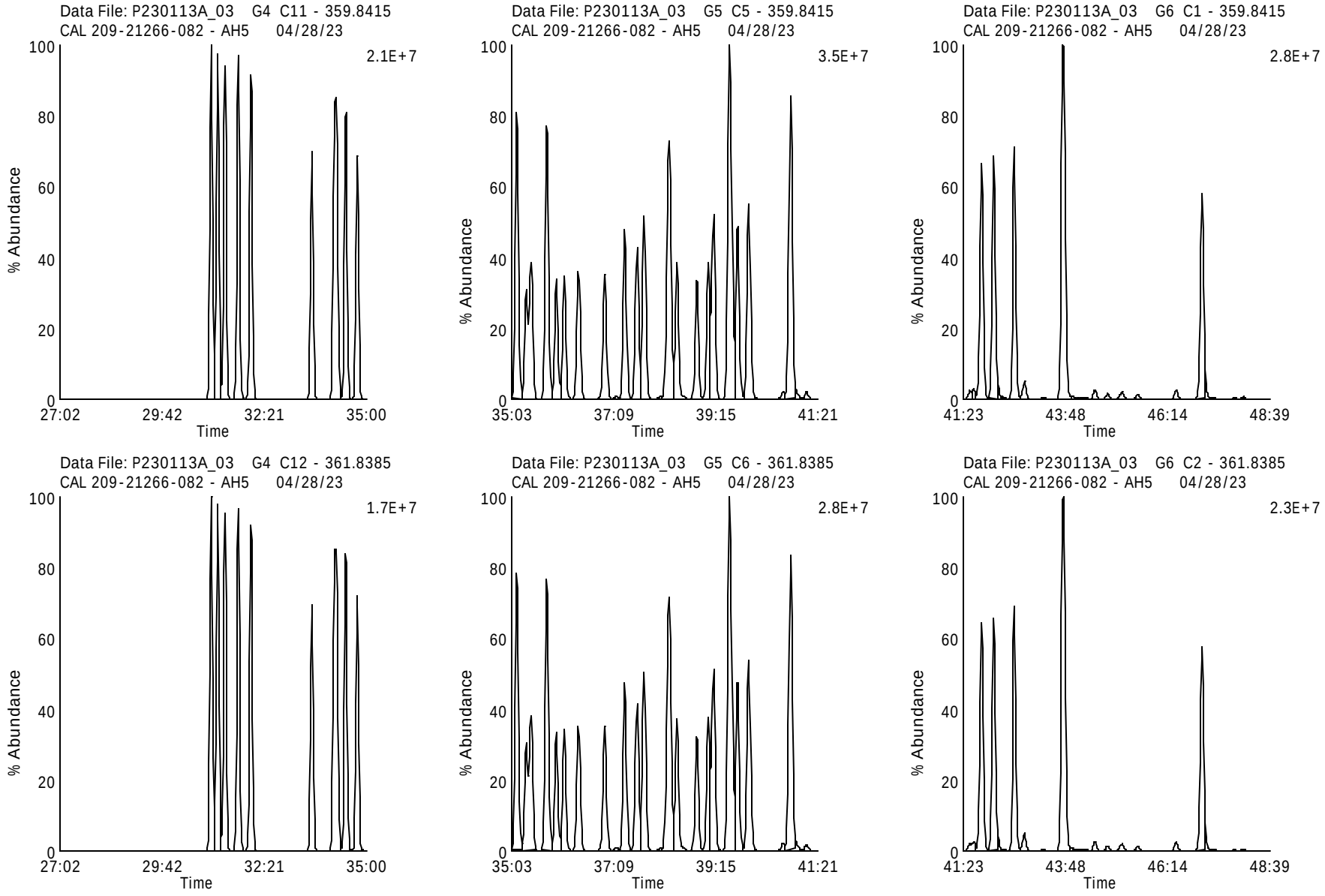


Hexa Chlorinated Biphenyls

Data File Name: P230113A_03 Lab Sample ID: 209-21266-082

Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - AH5 04/28/23 Client Sample ID: 209 Mix

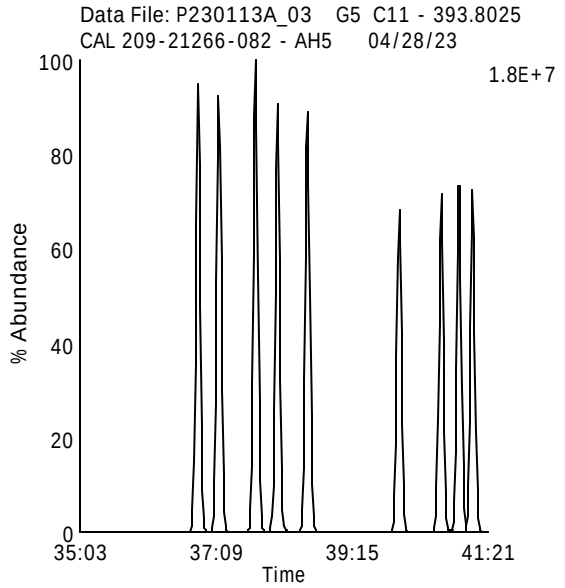


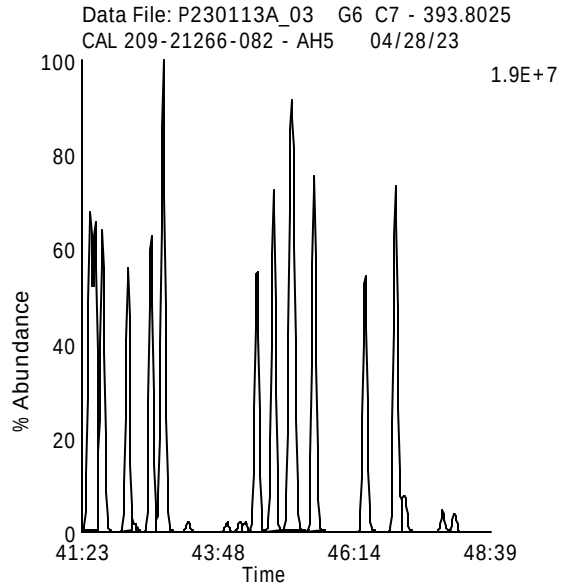
Hepta Chlorinated Biphenyls

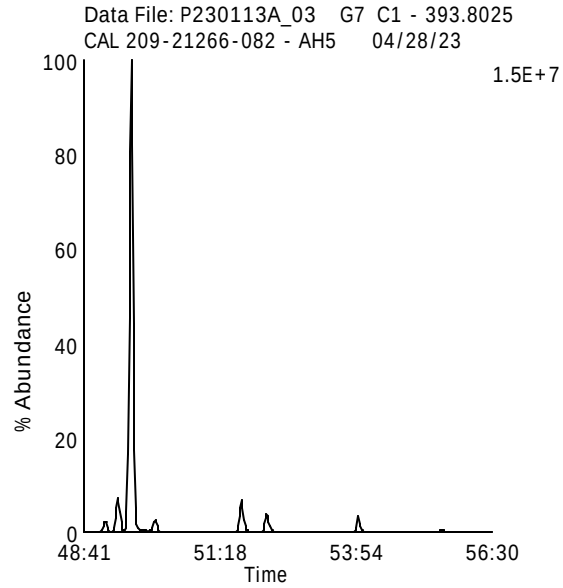
Data File Name: P230113A_03 Lab Sample ID: 209-21266-082

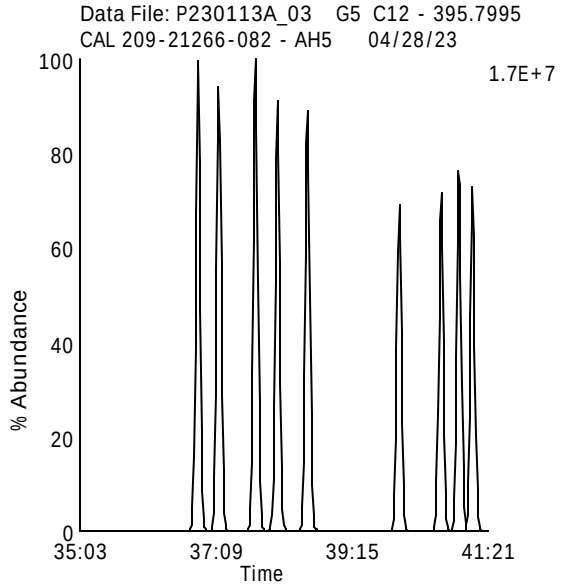
Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

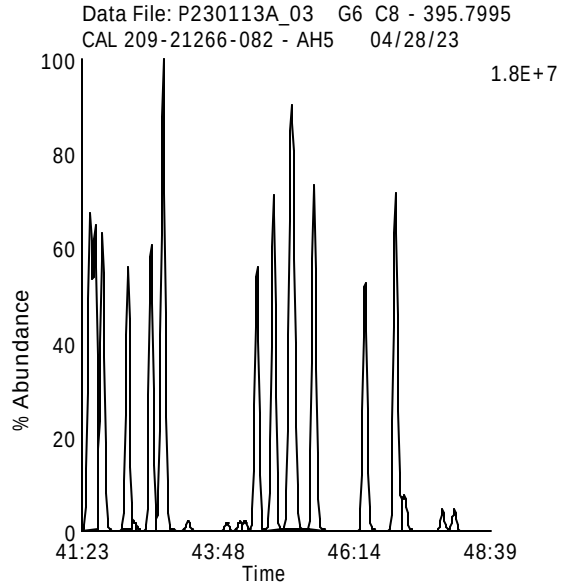
Sample Description: CAL 209-21266-082 - AH5 04/28/23 Client Sample ID: 209 Mix

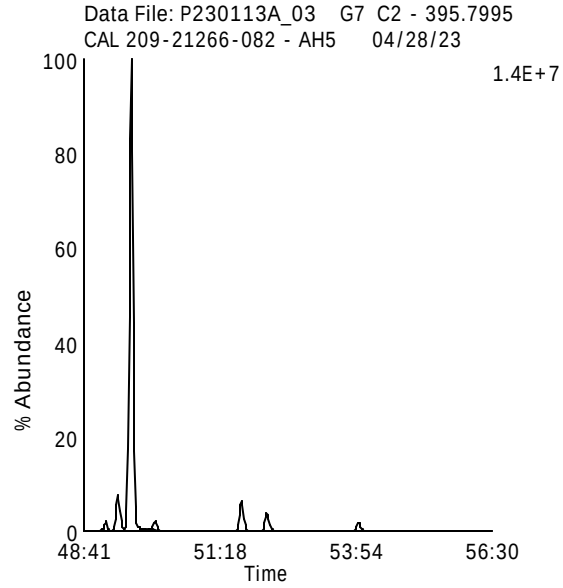










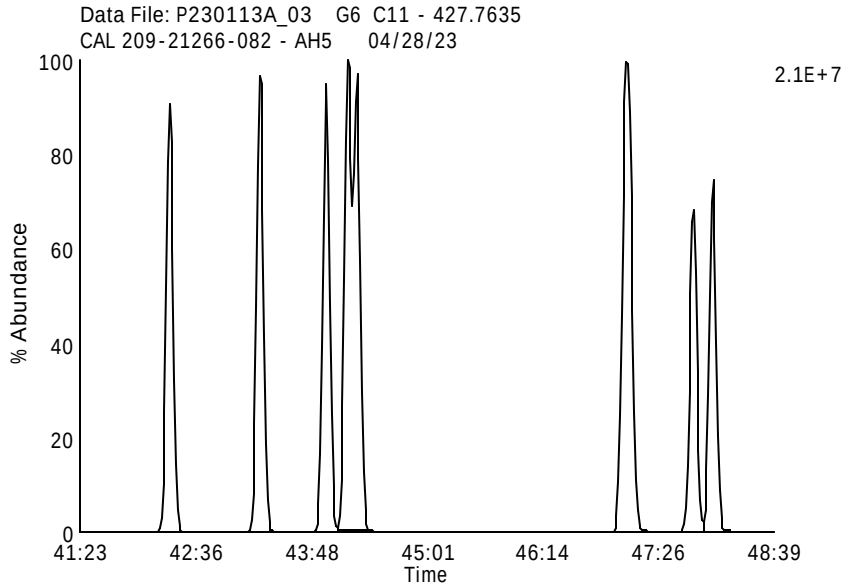


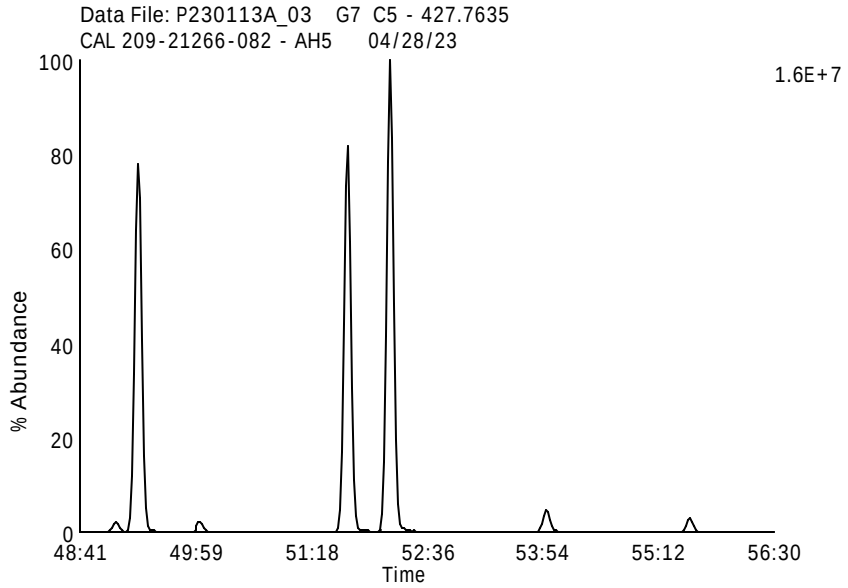
Octa Chlorinated Biphenyls

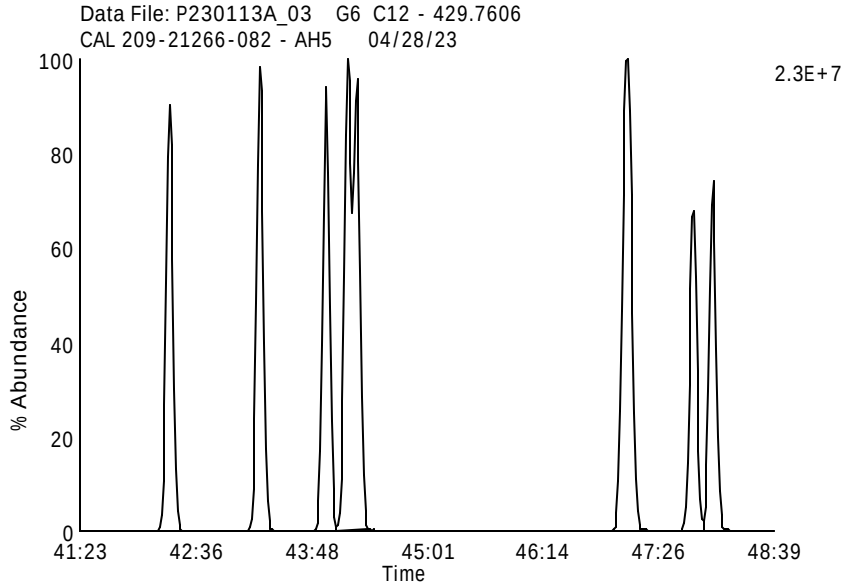
Data File Name: P230113A_03 Lab Sample ID: 209-21266-082

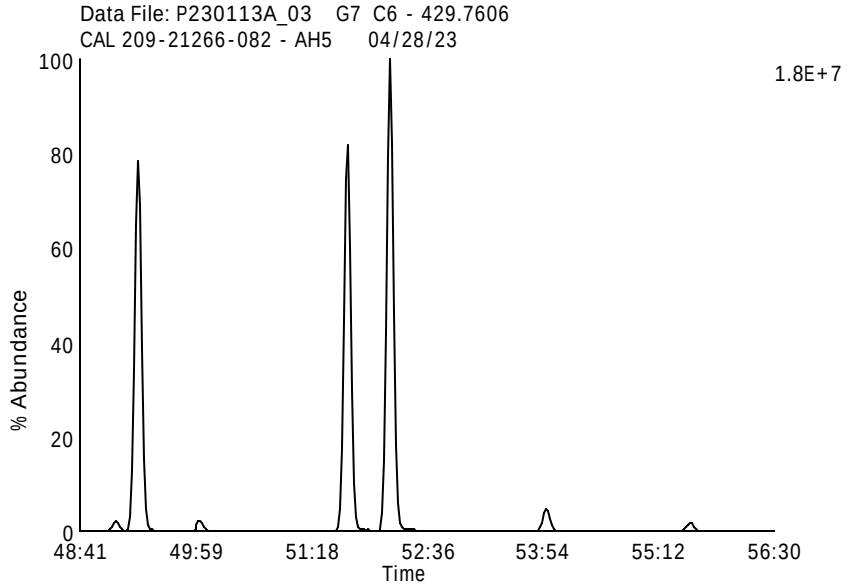
Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - AH5 04/28/23 Client Sample ID: 209 Mix







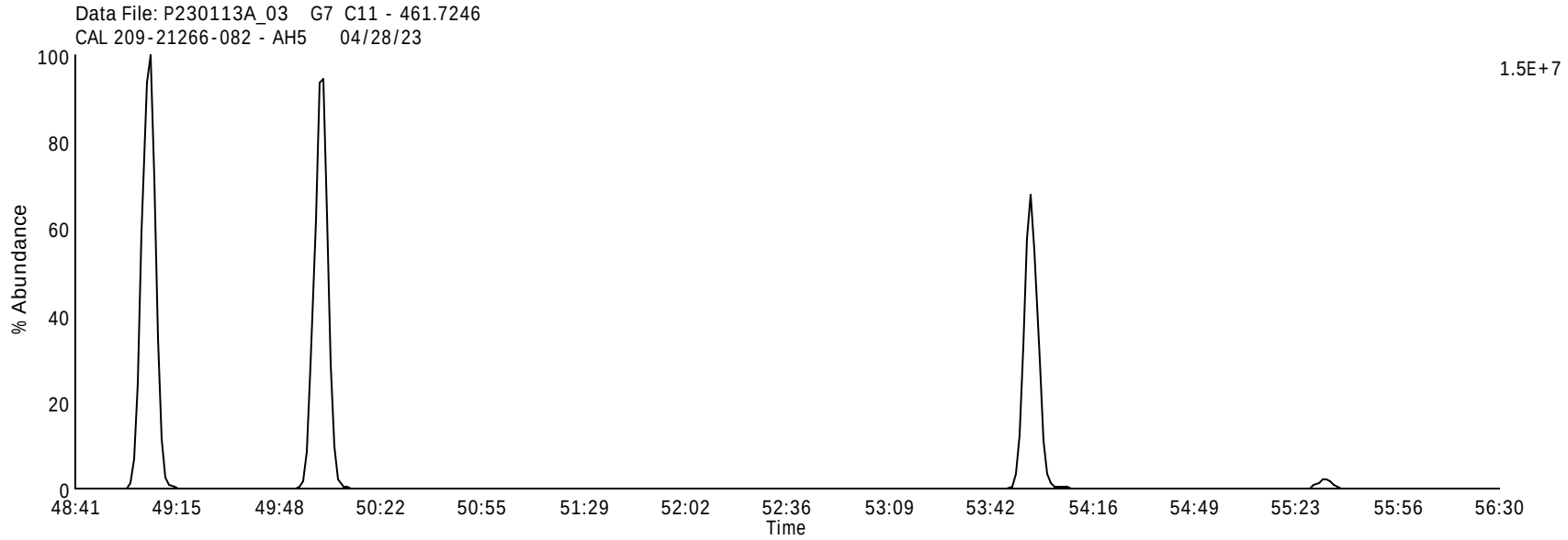


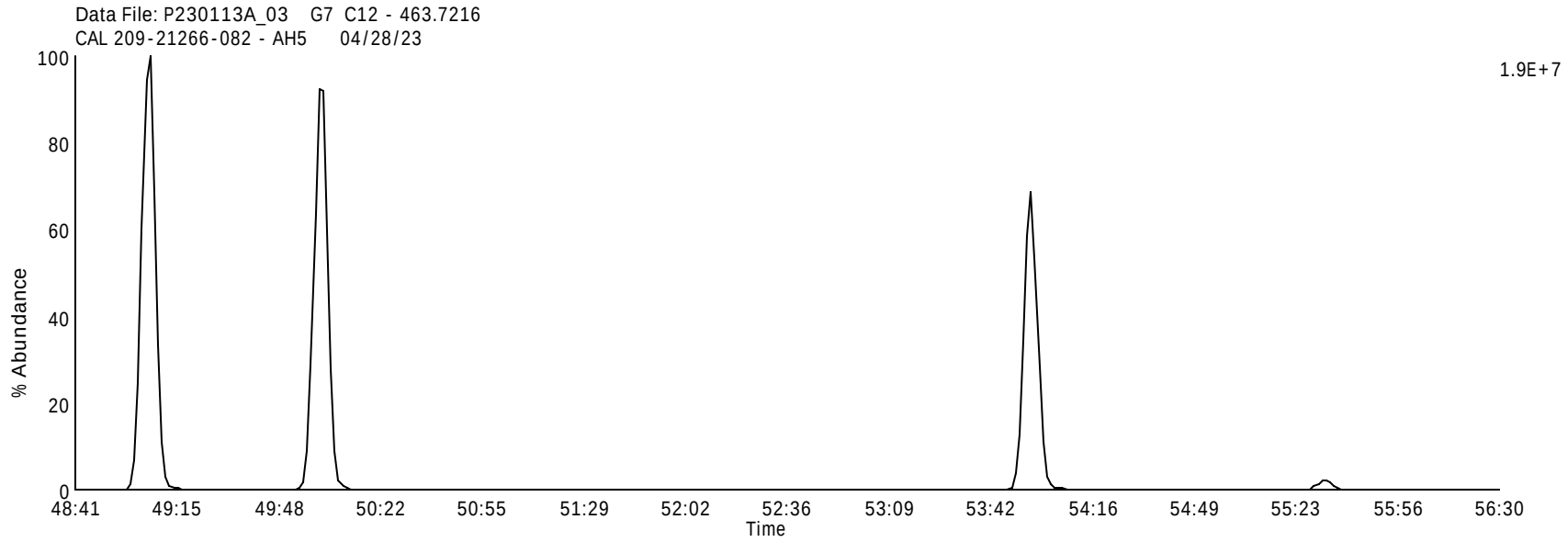
Nona Chlorinated Biphenyls

Data File Name: P230113A_03 Lab Sample ID: 209-21266-082

Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - AH5 04/28/23 Client Sample ID: 209 Mix



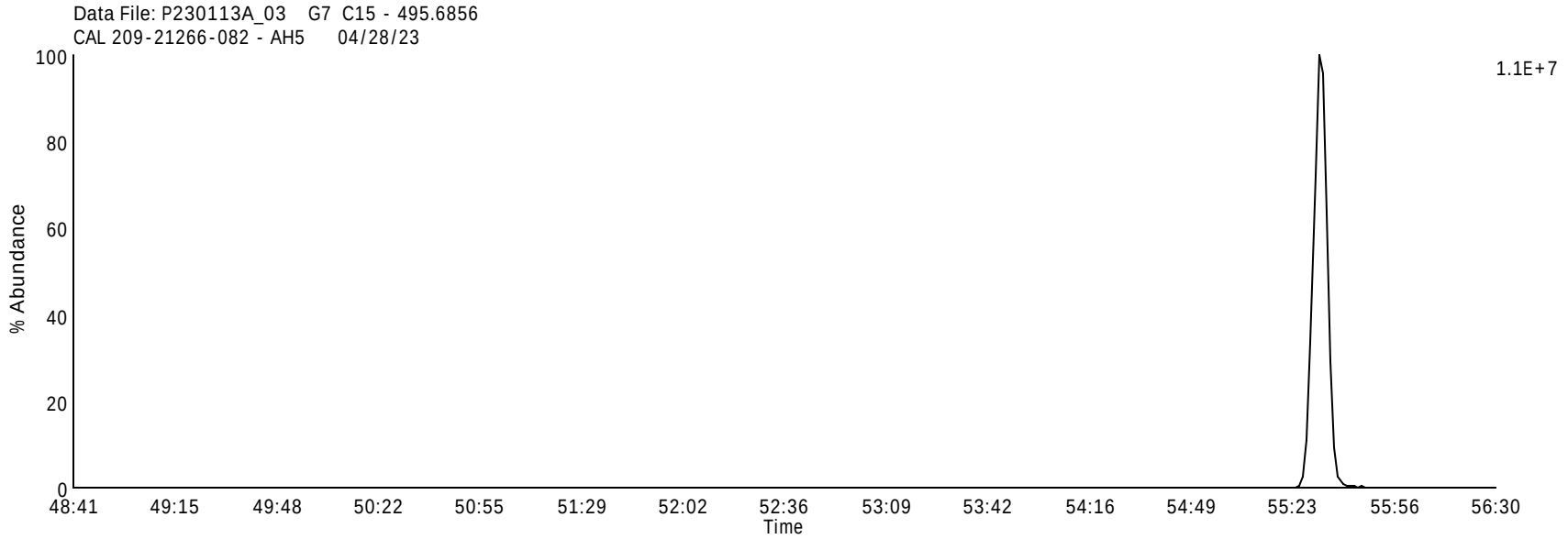


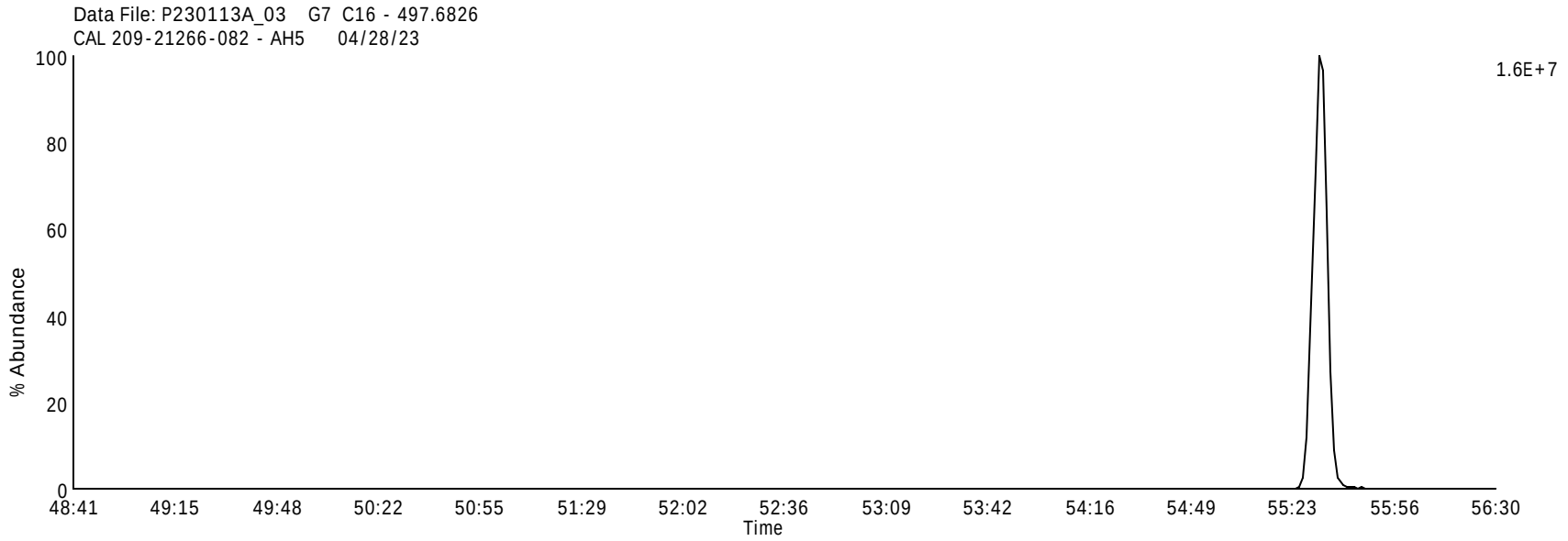
Deca Chlorinated Biphenyl

Data File Name: P230113A_03 Lab Sample ID: 209-21266-082

Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - AH5 04/28/23 Client Sample ID: 209 Mix

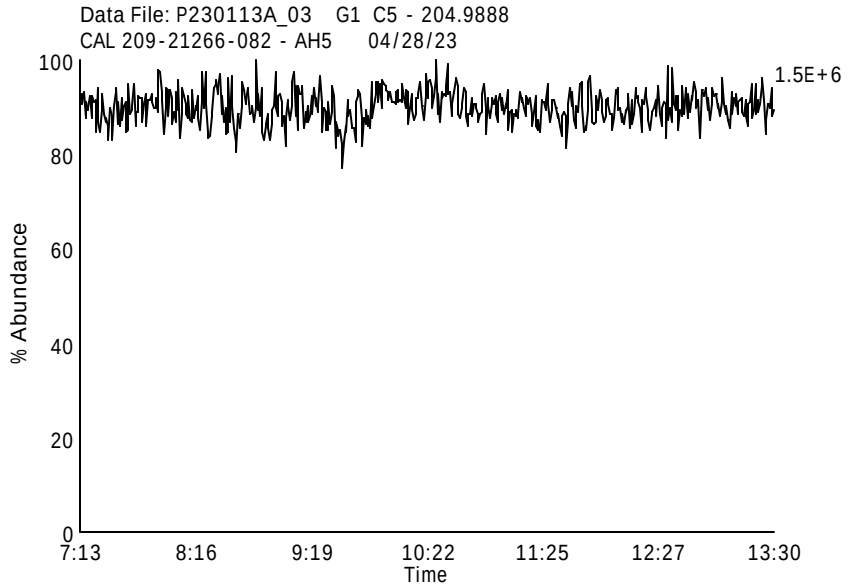


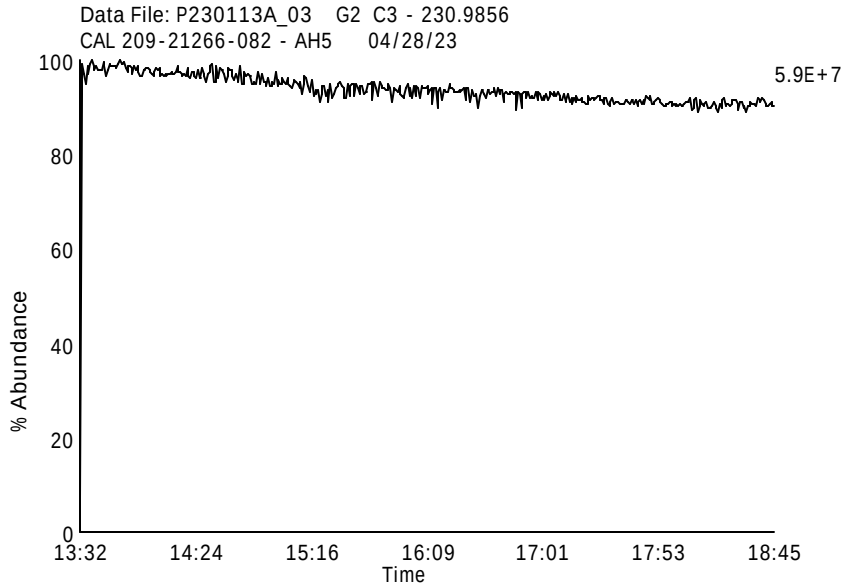


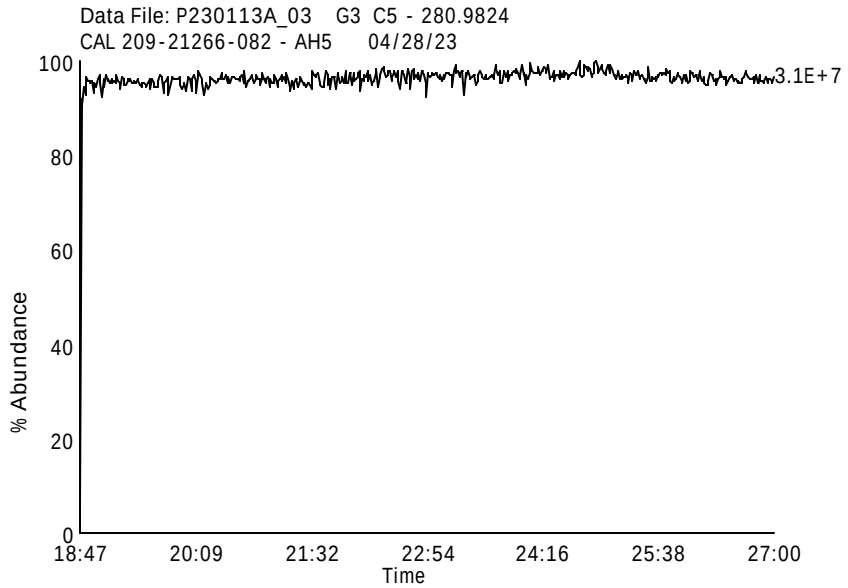
Group 1 - 4 Lock mass

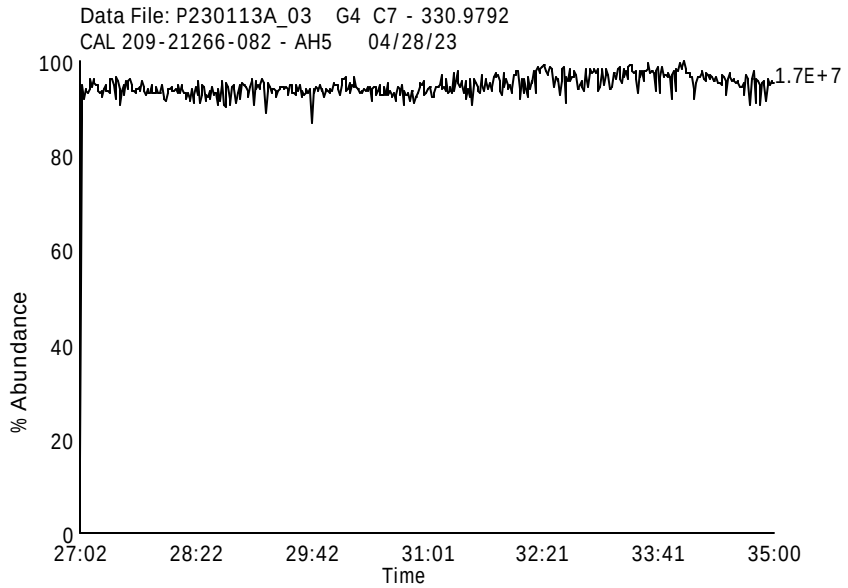
Data File Name: P230113A_03
Date Acquired: 1/13/2023
Sample Description: CAL 209-21266-082 - AH5 04/28/23

Lab Sample ID: 209-21266-082
Instrument: 10MSHR09 (P)
Client Sample ID: 209 Mix





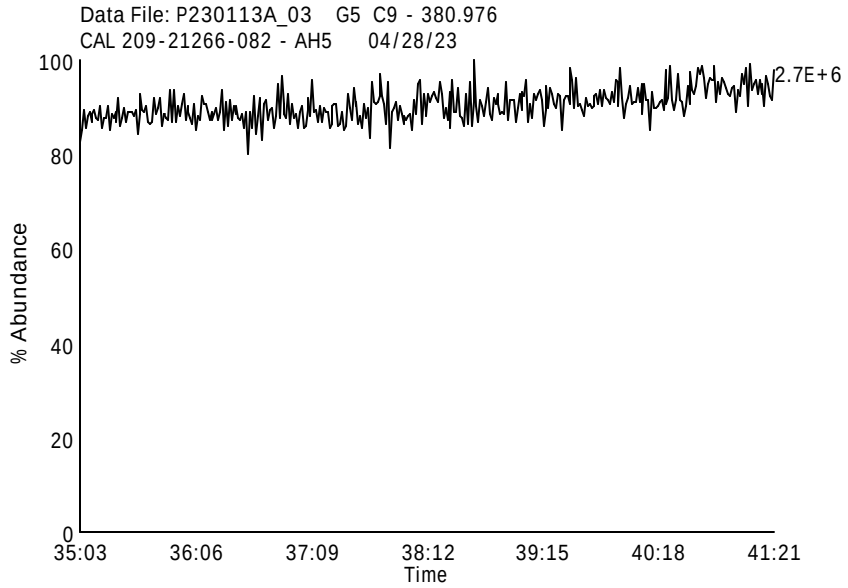


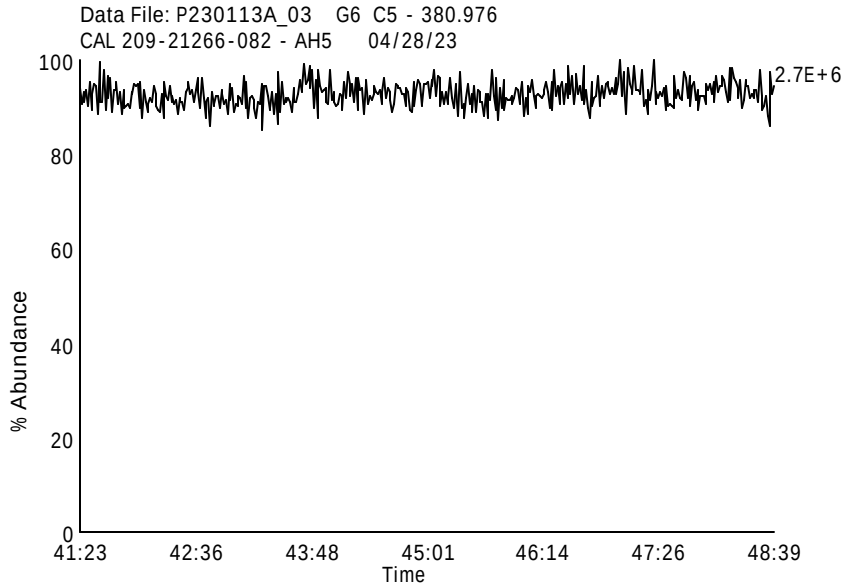


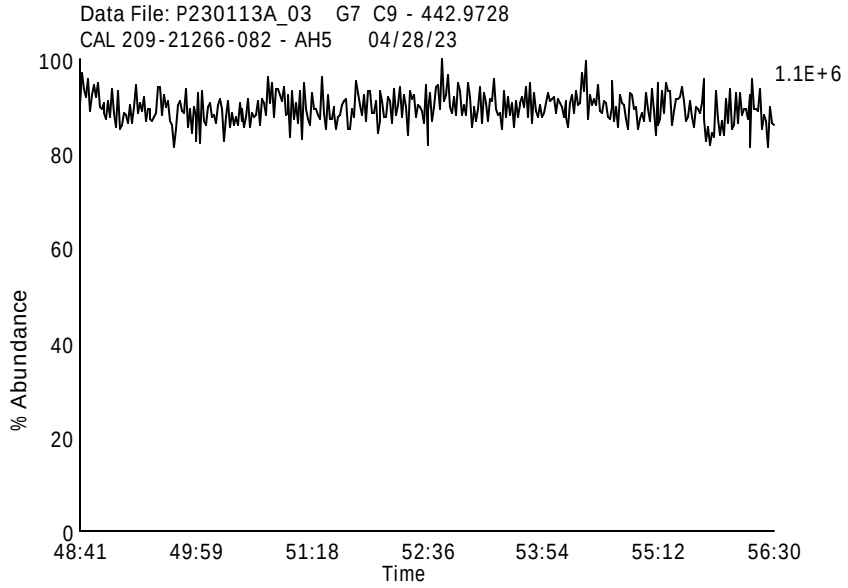
Group 5 - 7 Lock mass

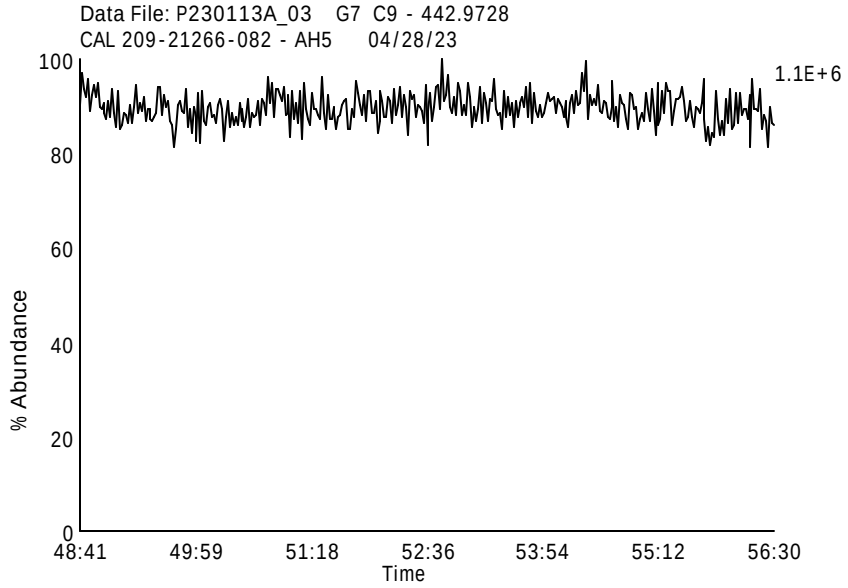
Data File Name: P230113A_03
Date Acquired: 1/13/2023
Sample Description: CAL 209-21266-082 - AH5 04/28/23

Lab Sample ID: 209-21266-082
Instrument: 10MSHR09 (P)
Client Sample ID: 209 Mix







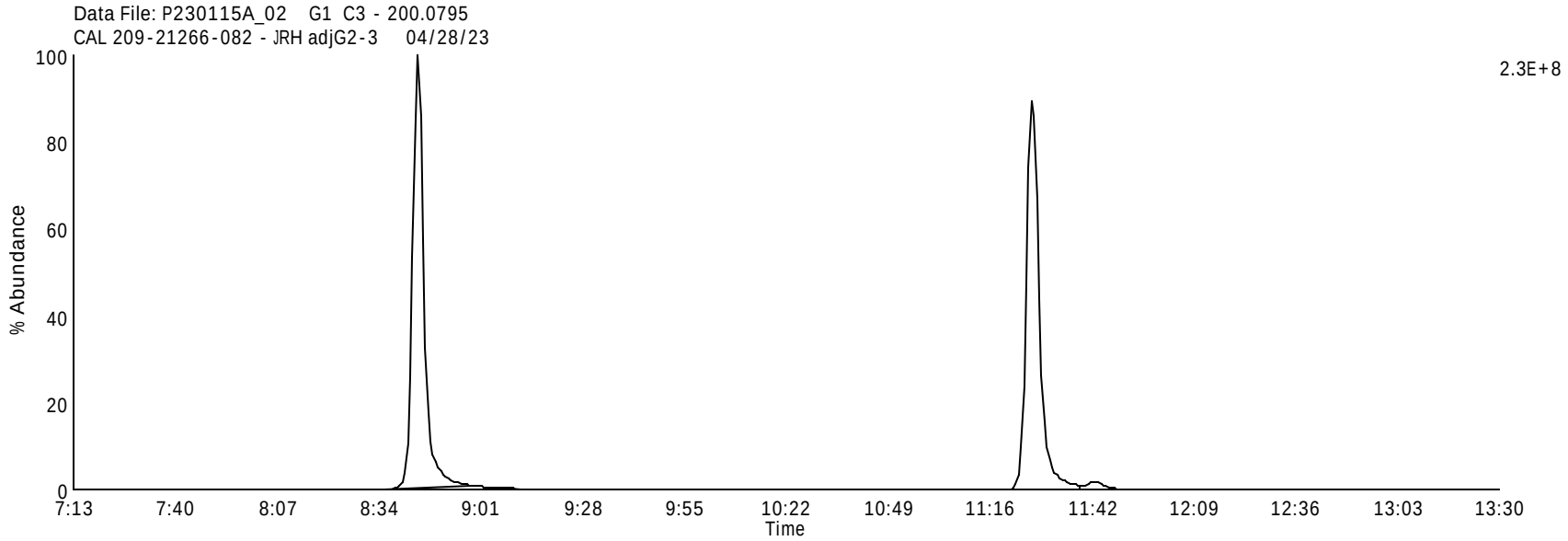


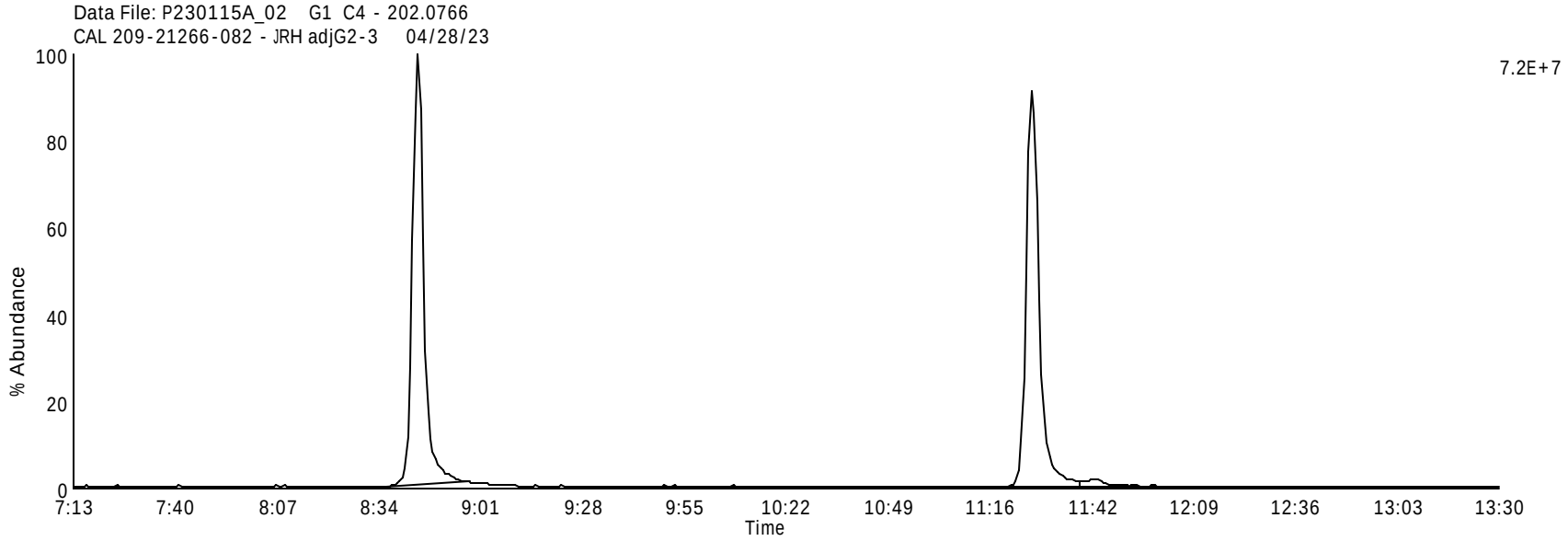
Labeled Mono Chlorinated Biphenyls

Data File Name: P230115A_02 | Lab Sample ID: 209-21266-082

Date Acquired: 1/15/2023 | Instrument: 10MSHR09 (P)

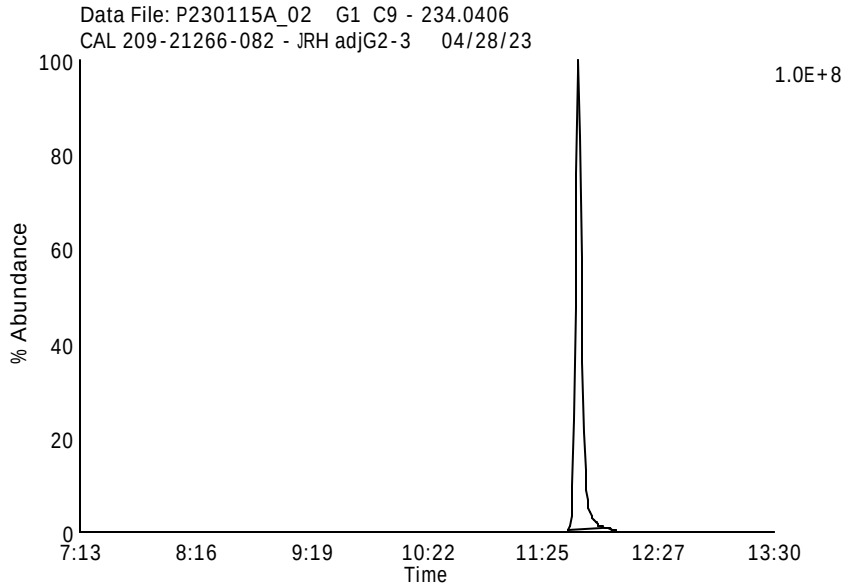
Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23 | Client Sample ID: 209 Mix

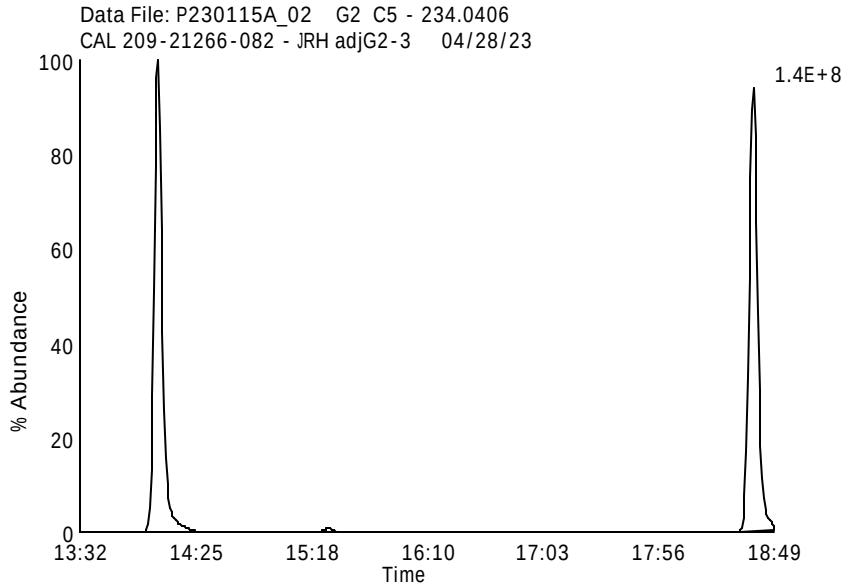


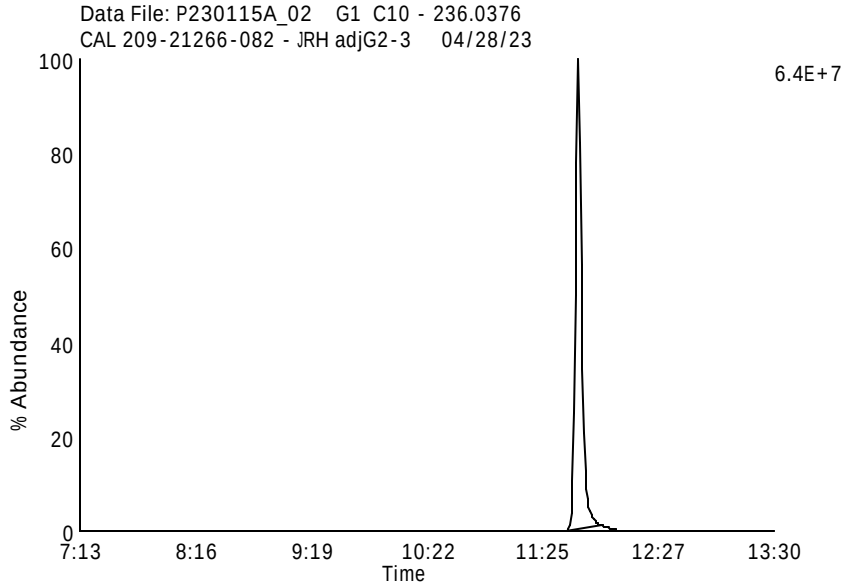


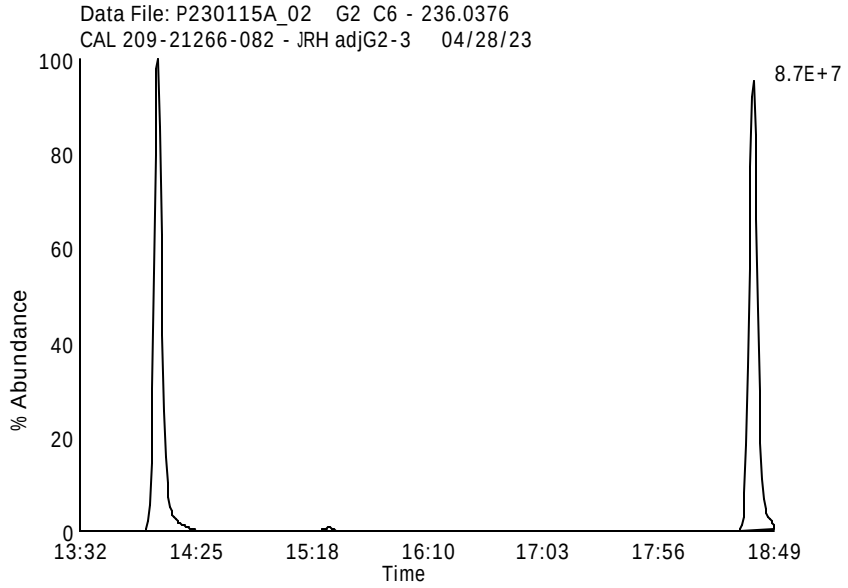
Labeled Di Chlorinated Biphenyls

Data File Name: P230115A_02
Lab Sample ID: 209-21266-082
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23
Client Sample ID: 209 Mix







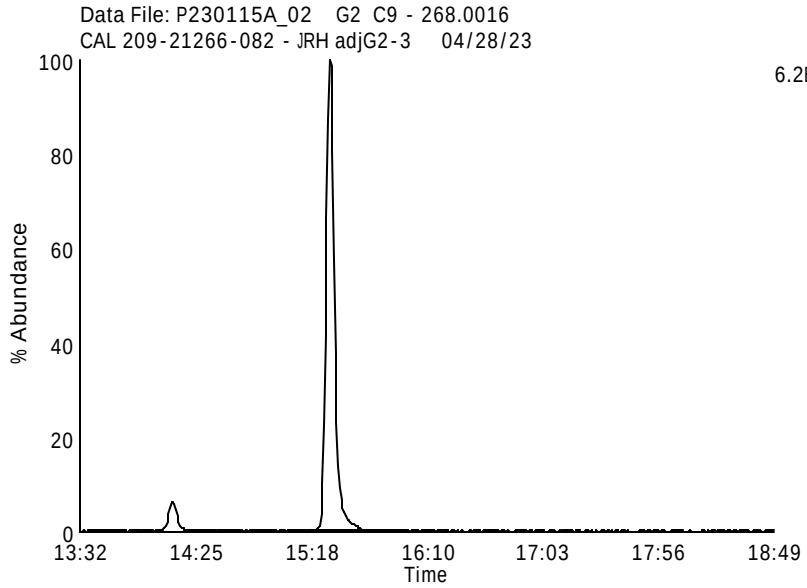


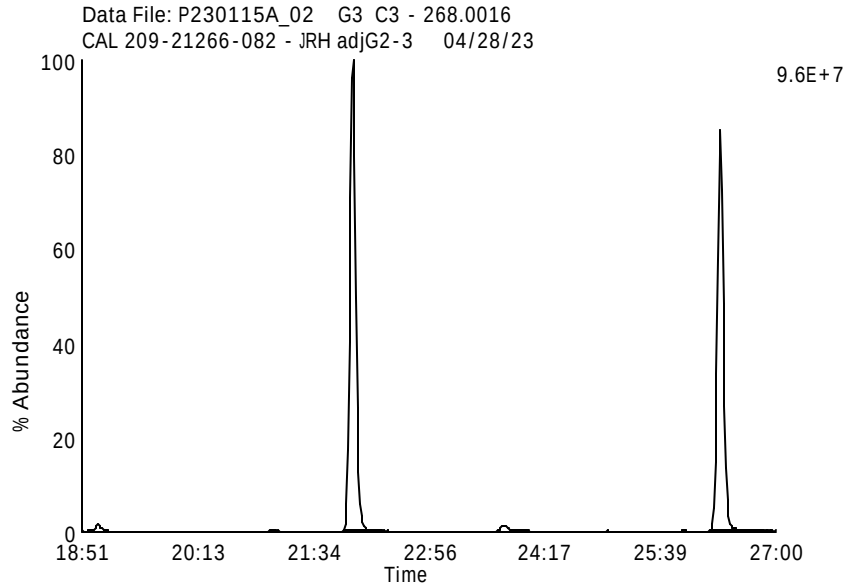
Labeled Tri Chlorinated Biphenyls

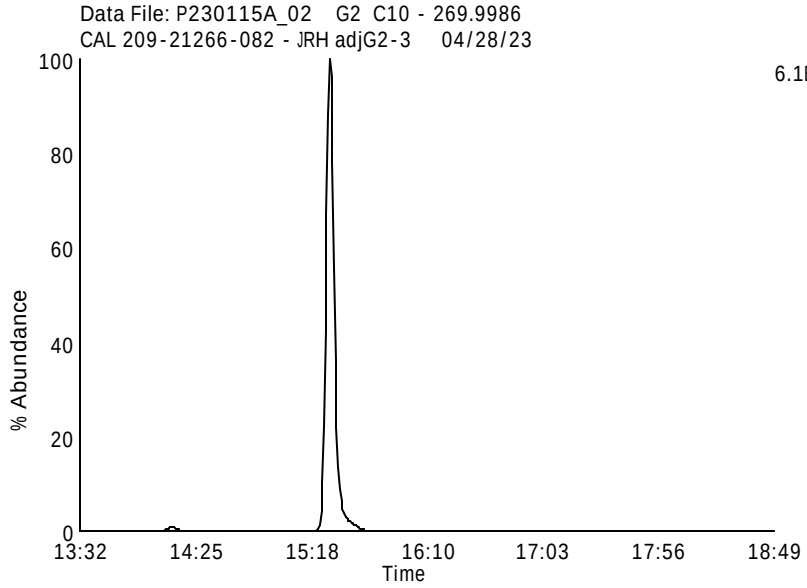
Data File Name: P230115A_02 Lab Sample ID: 209-21266-082

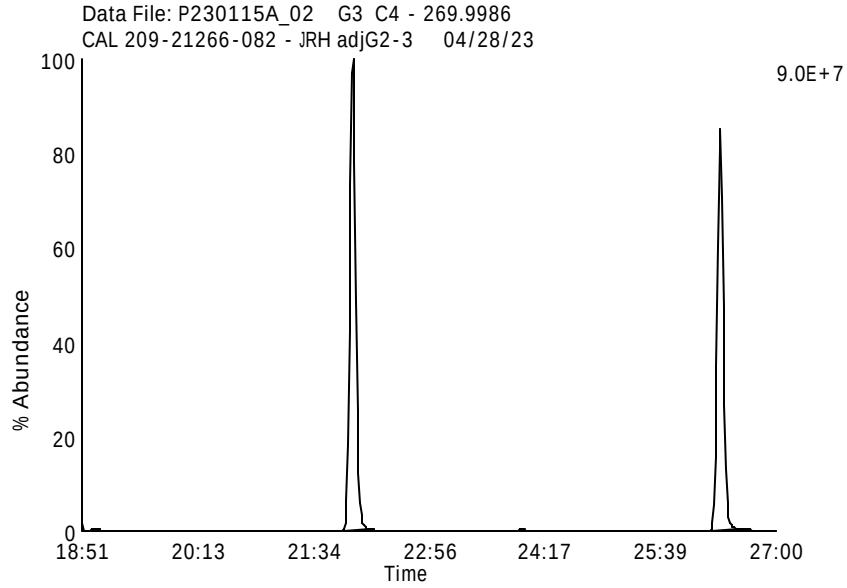
Date Acquired: 1/15/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23 Client Sample ID: 209 Mix







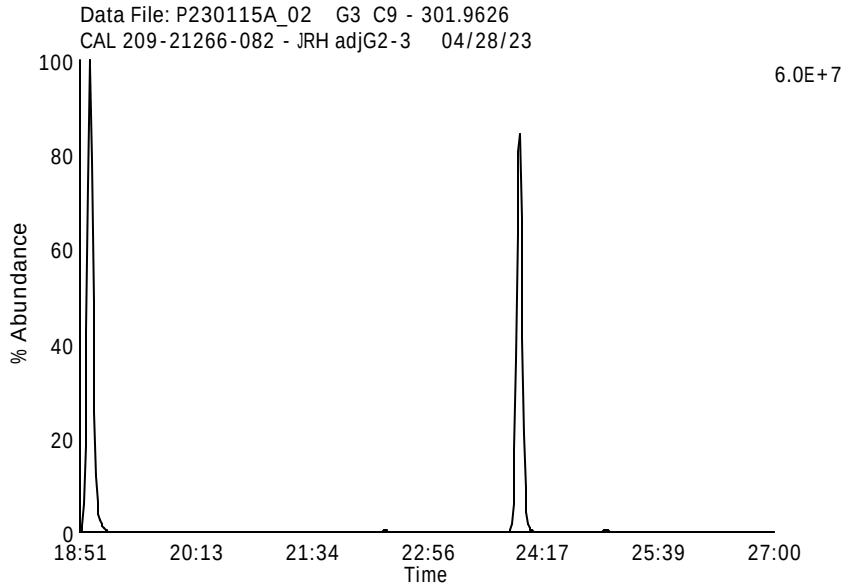


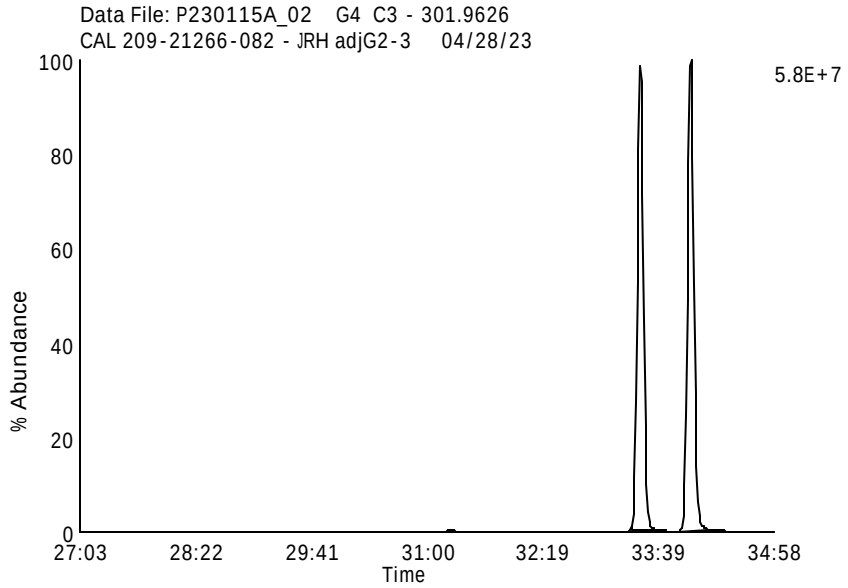
Labeled Tetra Chlorinated Biphenyls

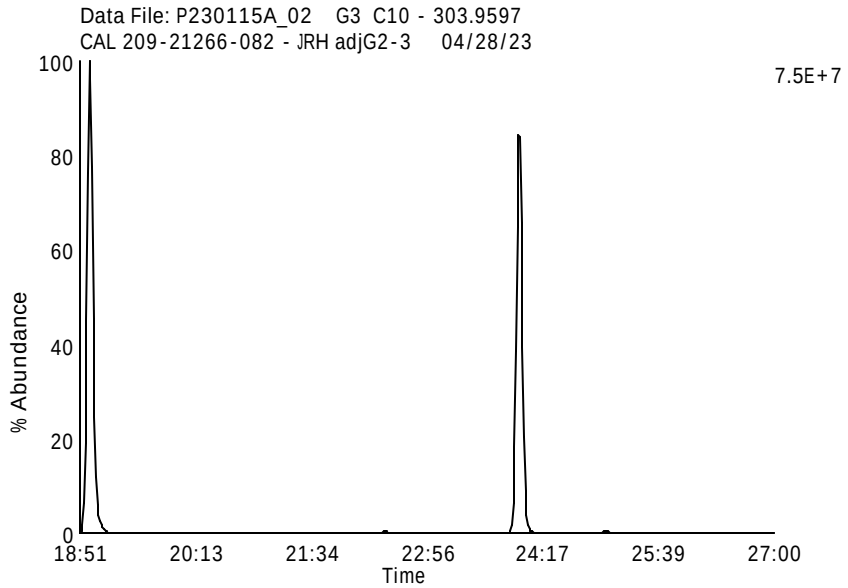
Data File Name: P230115A_02 | Lab Sample ID: 209-21266-082

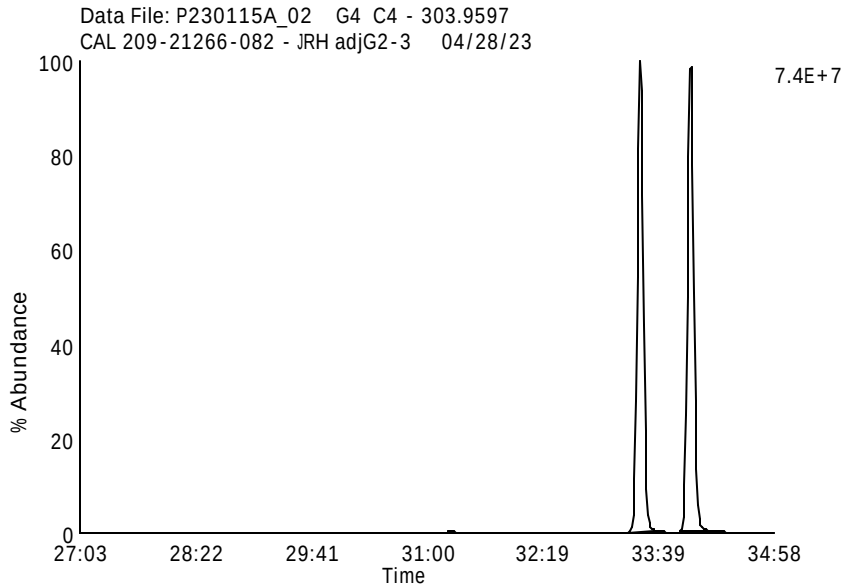
Date Acquired: 1/15/2023 | Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23 | Client Sample ID: 209 Mix







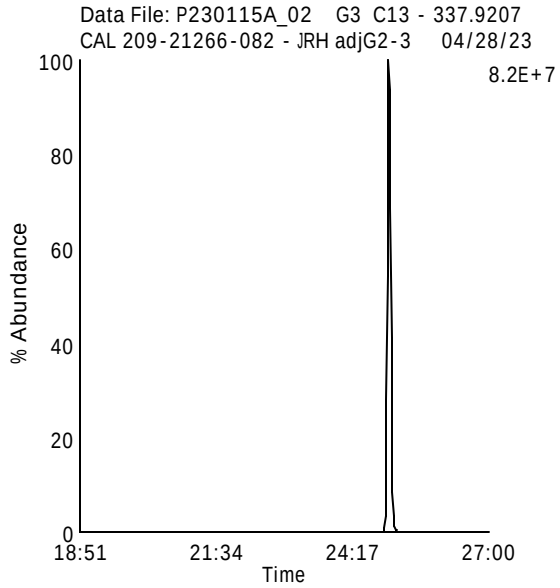


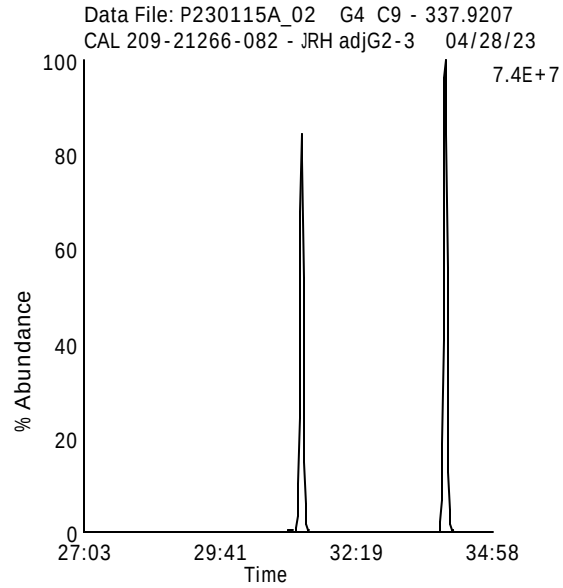
Labeled Penta Chlorinated Biphenyls

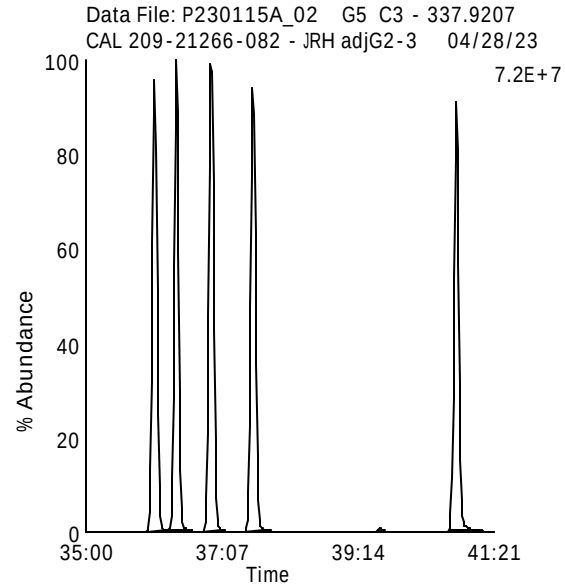
Data File Name: P230115A_02 | Lab Sample ID: 209-21266-082

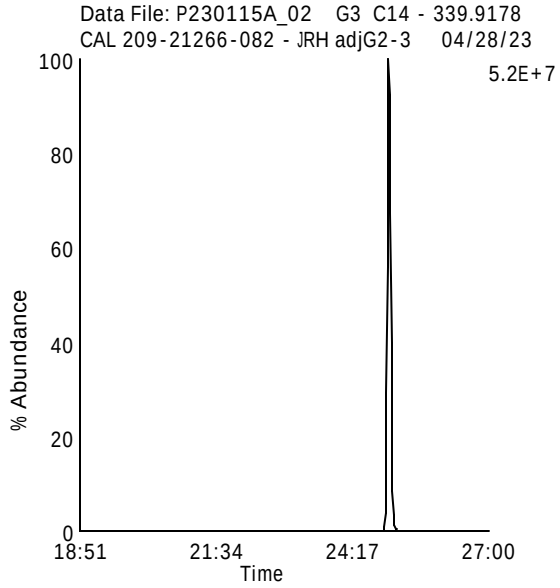
Date Acquired: 1/15/2023 | Instrument: 10MSHR09 (P)

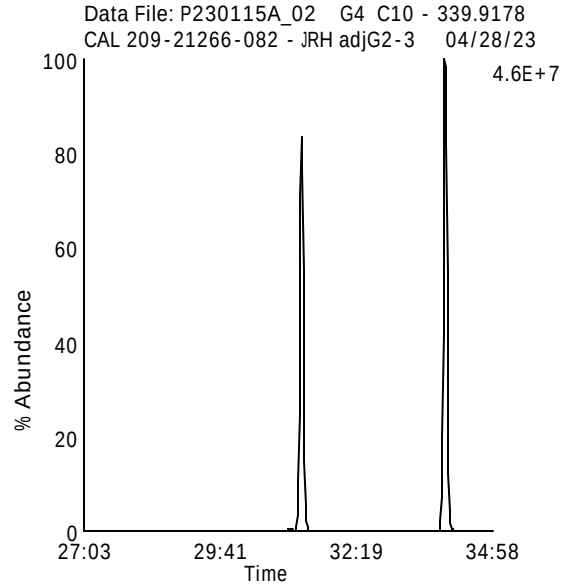
Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23 | Client Sample ID: 209 Mix

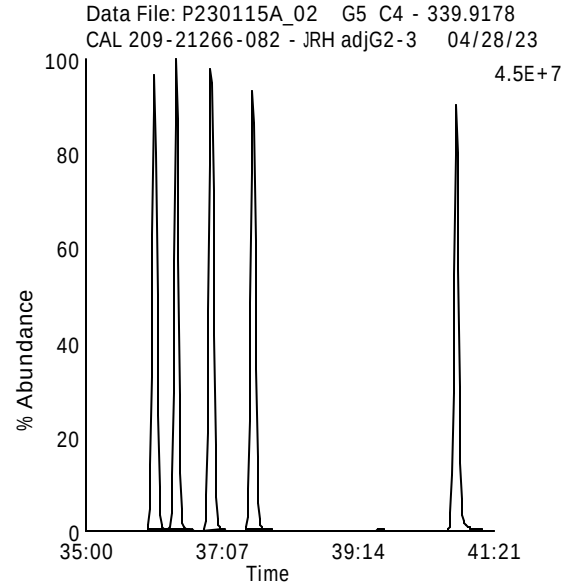










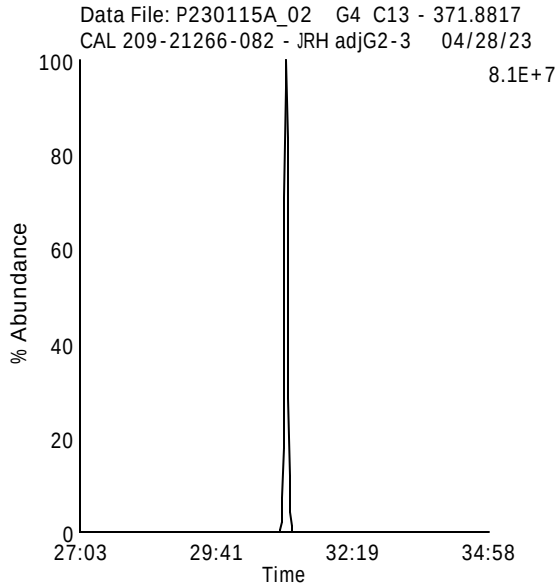


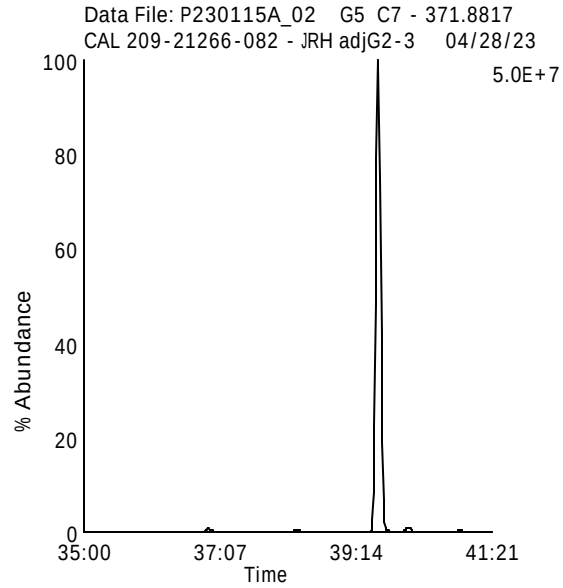
Labeled Hexa Chlorinated Biphenyls

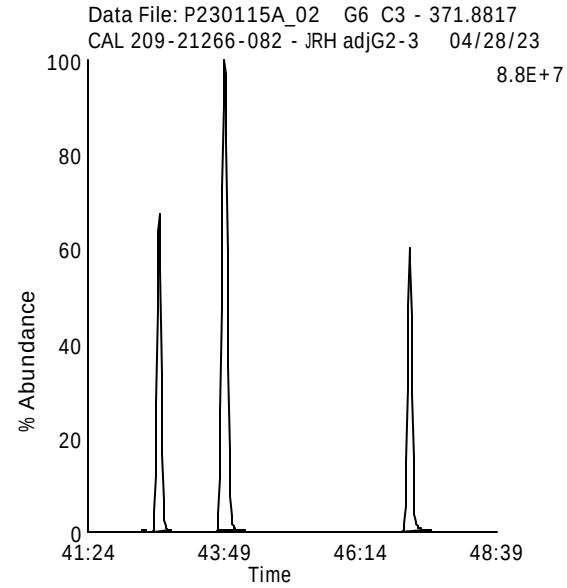
Data File Name: P230115A_02 | Lab Sample ID: 209-21266-082

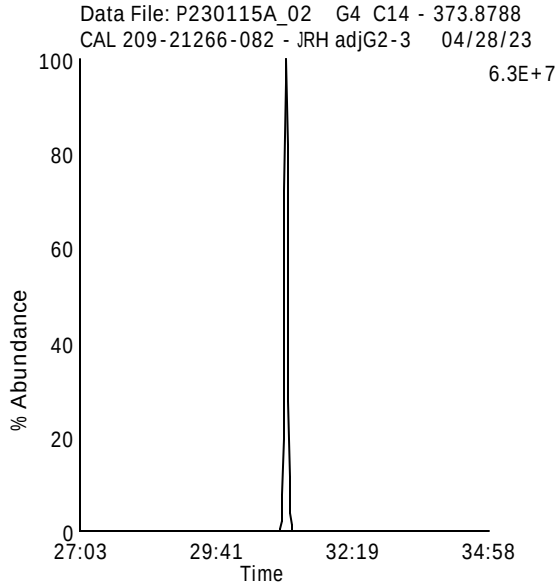
Date Acquired: 1/15/2023 | Instrument: 10MSHR09 (P)

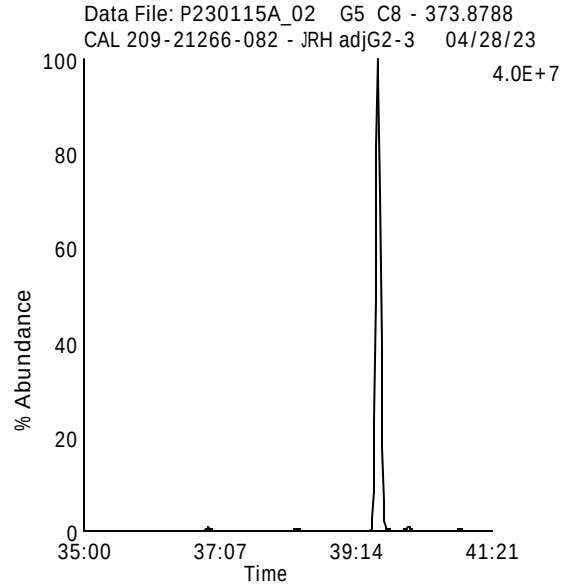
Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23 | Client Sample ID: 209 Mix

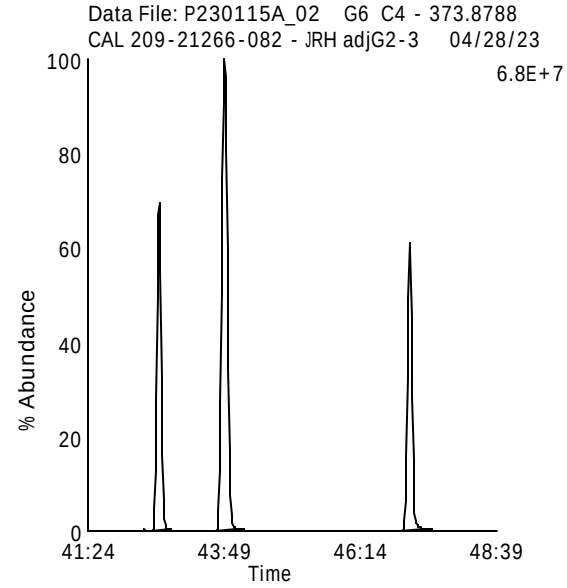










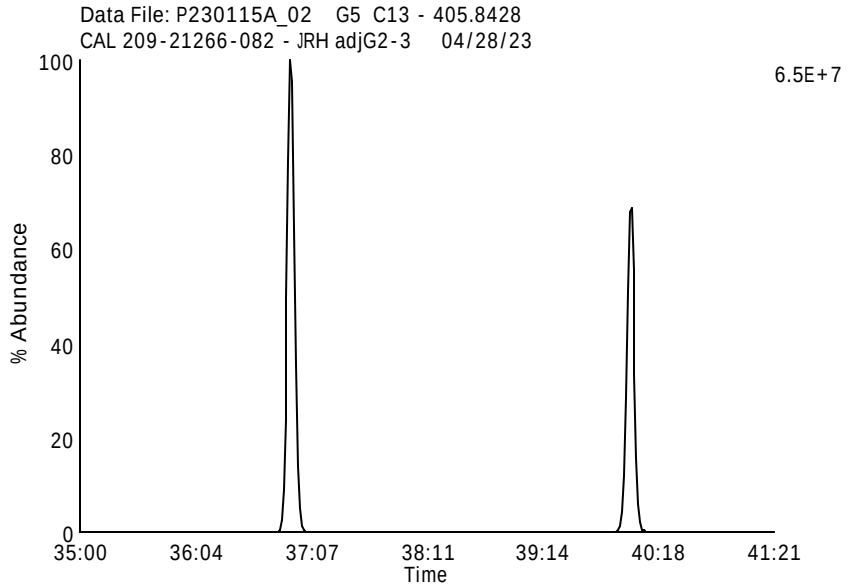


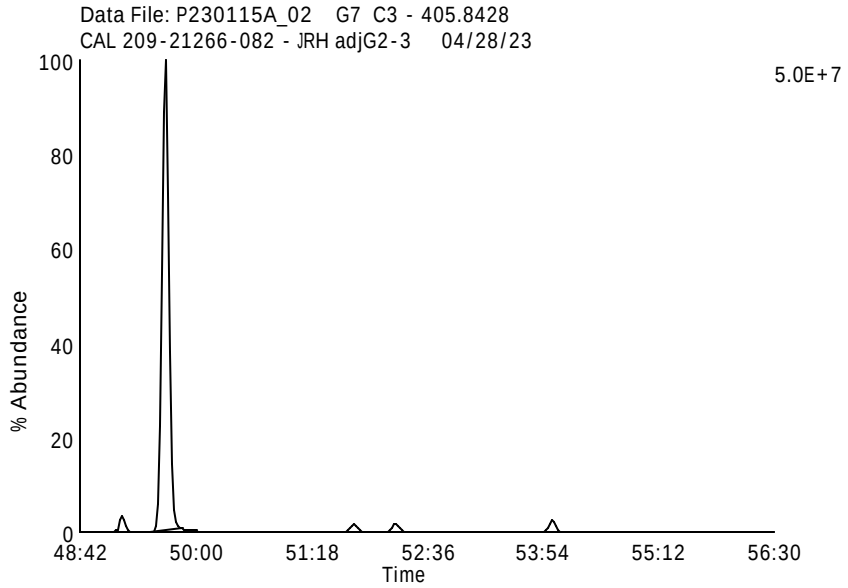
Labeled Hepta Chlorinated Biphenyls

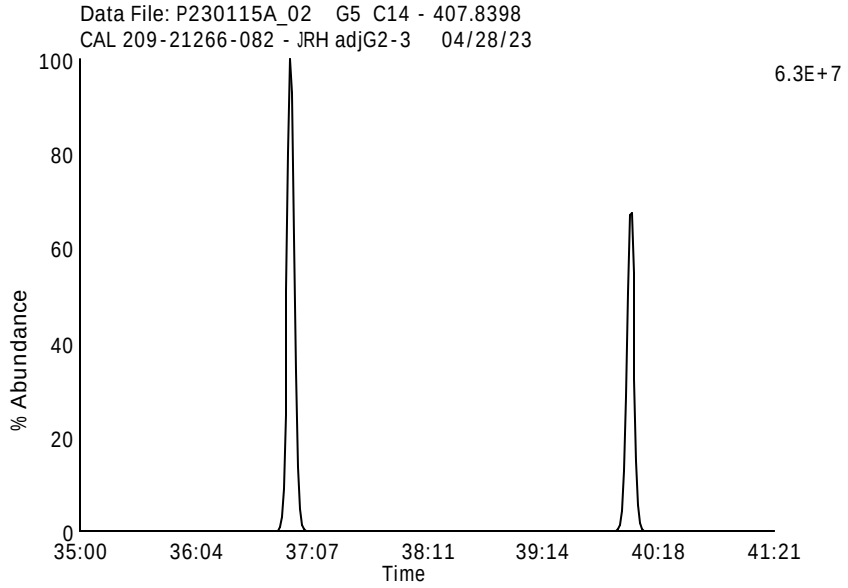
Data File Name: P230115A_02 Lab Sample ID: 209-21266-082

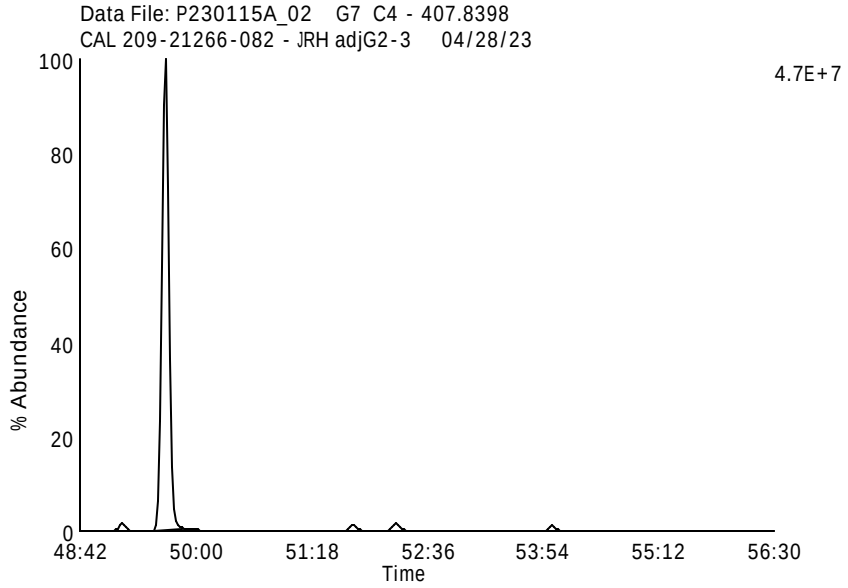
Date Acquired: 1/15/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23 Client Sample ID: 209 Mix



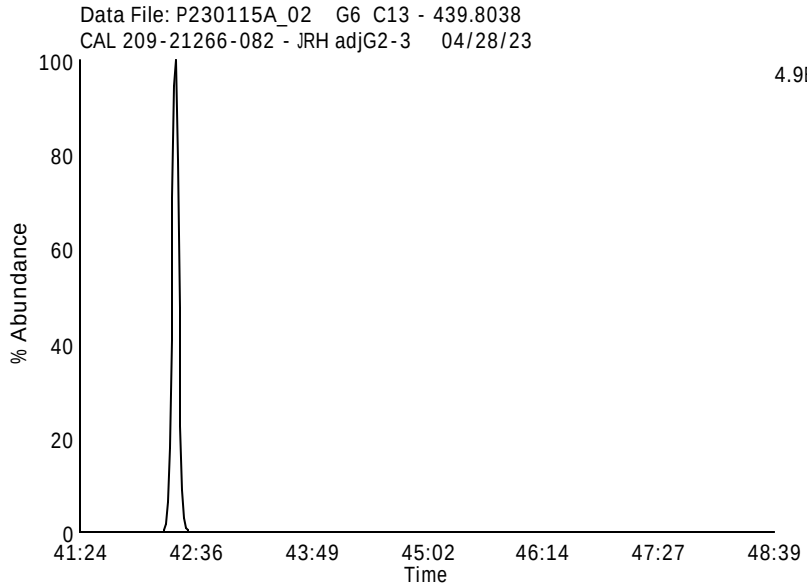


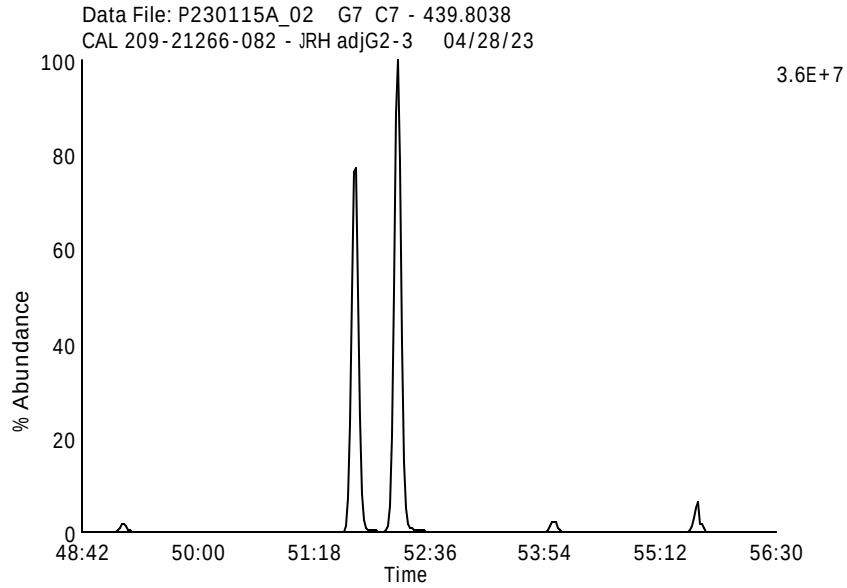


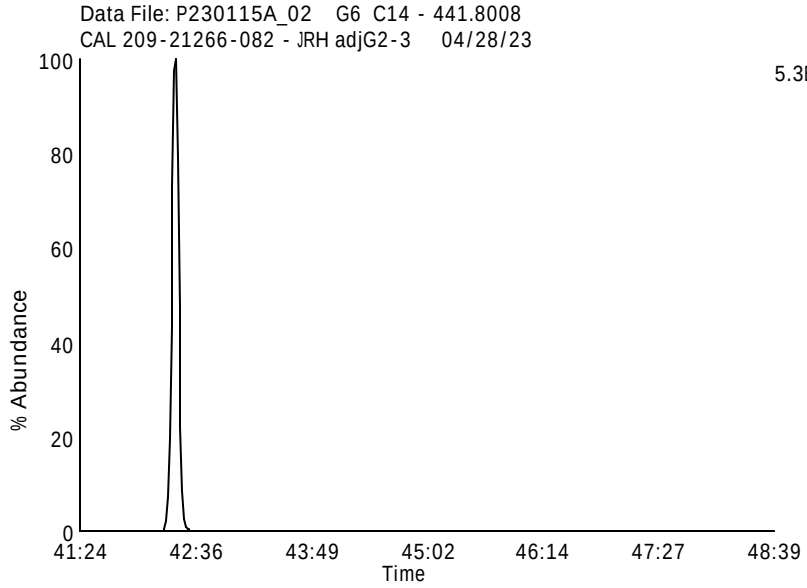


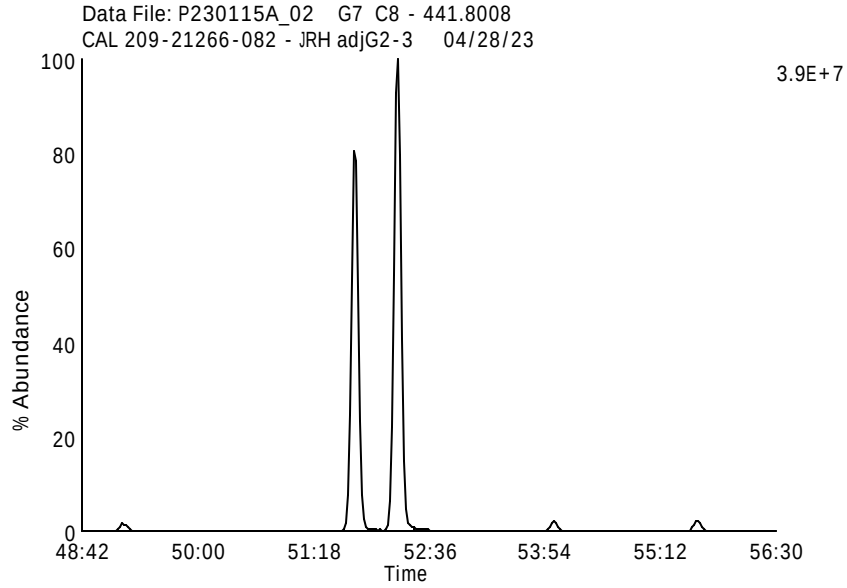
Labeled Octa Chlorinated Biphenyls

Data File Name: P230115A_02
Lab Sample ID: 209-21266-082
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23
Client Sample ID: 209 Mix



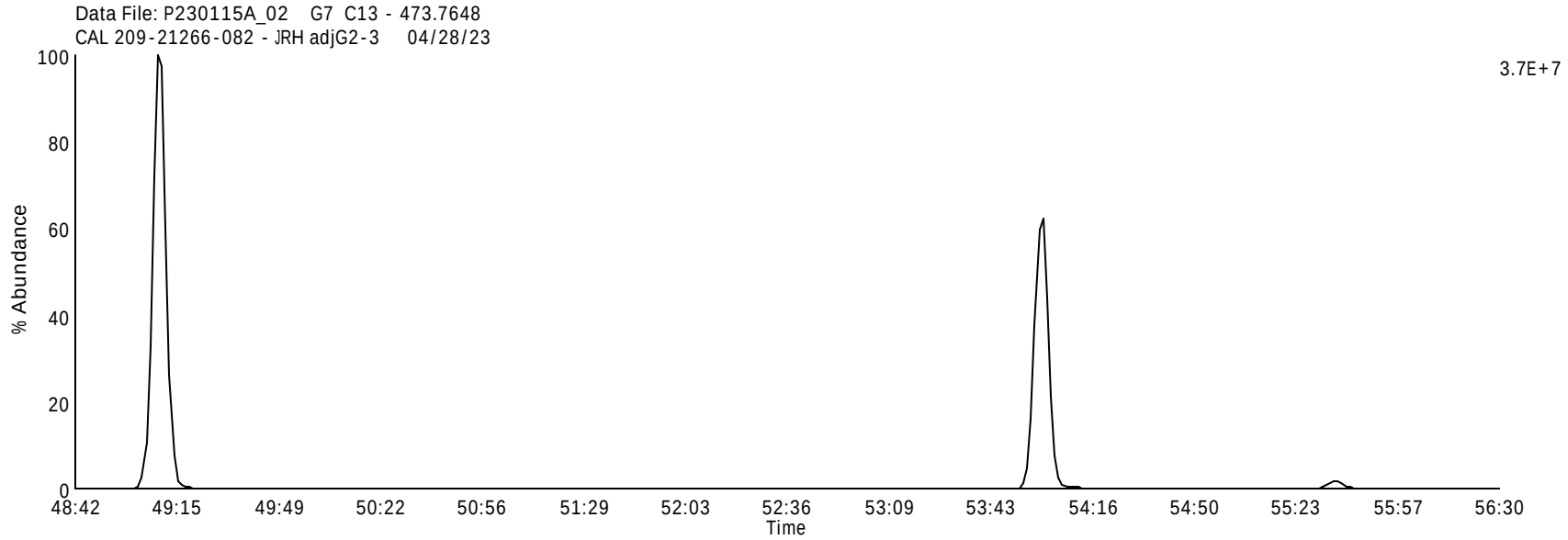


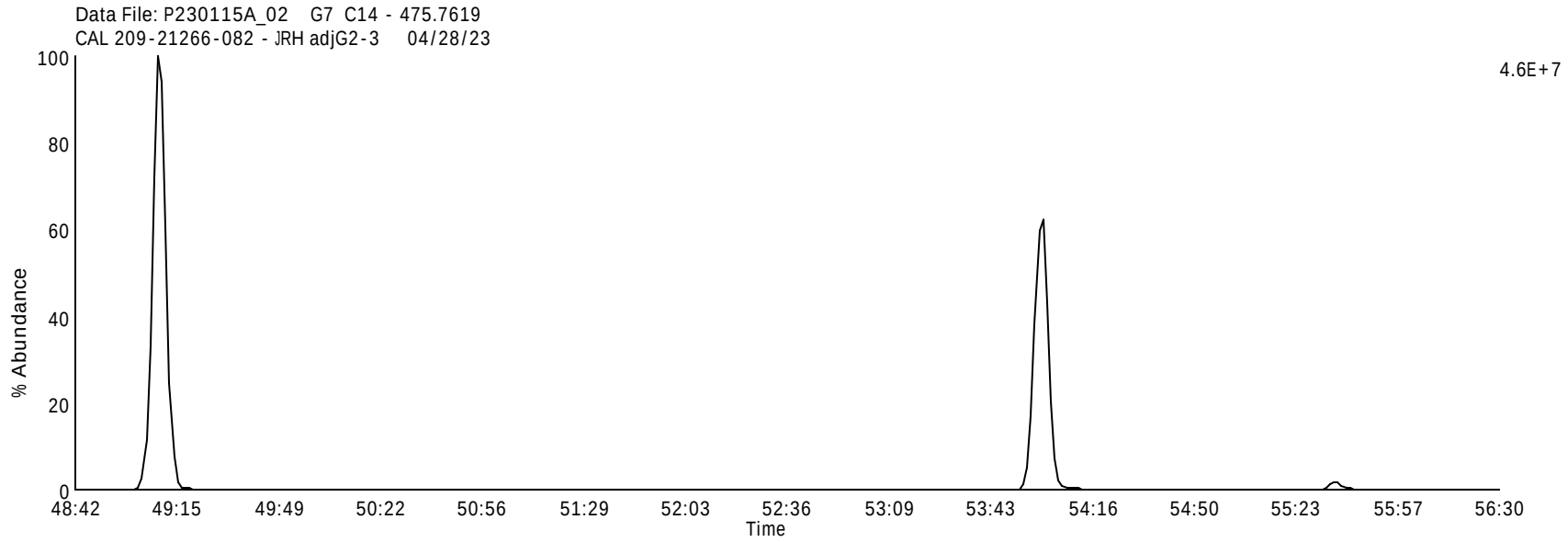




Labeled Nona Chlorinated Biphenyls

Data File Name: P230115A_02	Lab Sample ID: 209-21266-082
Date Acquired: 1/15/2023	Instrument: 10MSHR09 (P)
Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23	Client Sample ID: 209 Mix



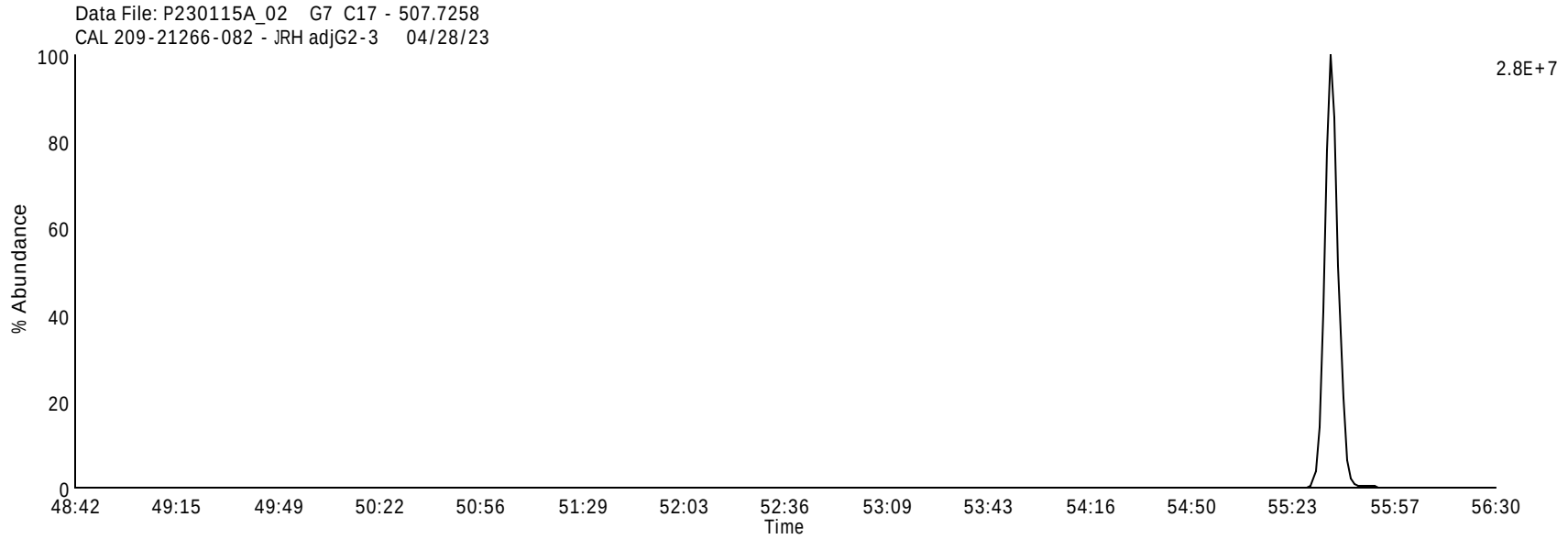


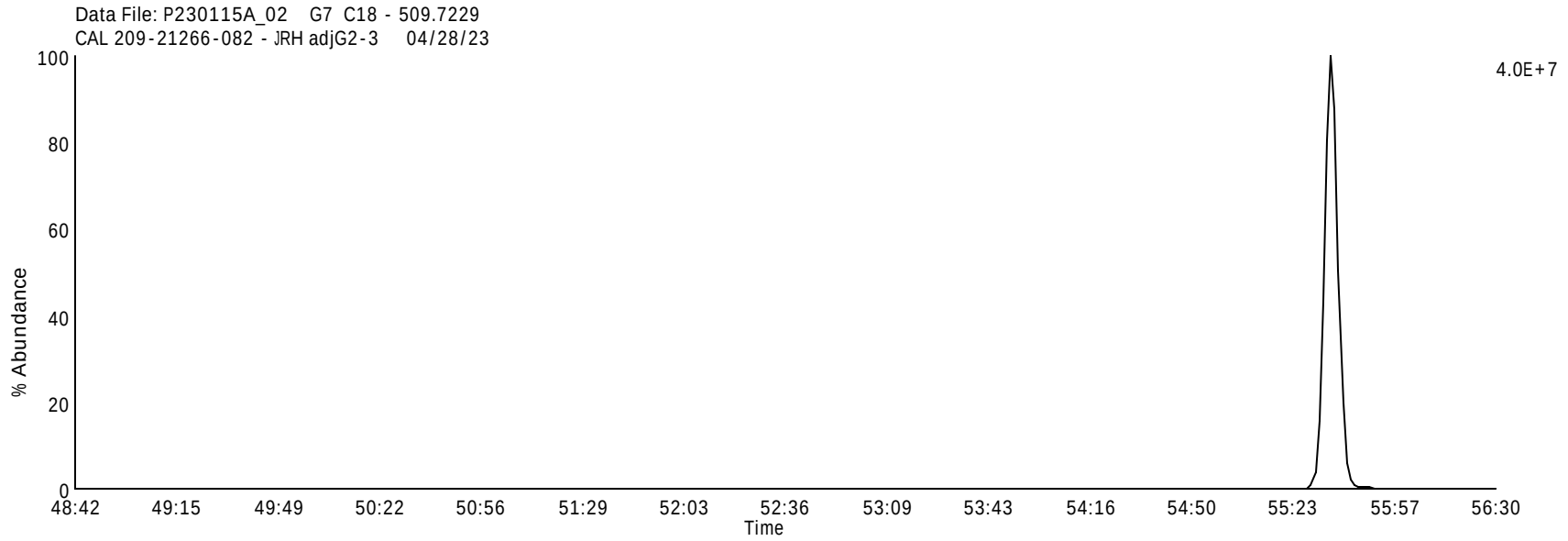
Labeled Deca Chlorinated Biphenyl

Data File Name: P230115A_02 | Lab Sample ID: 209-21266-082

Date Acquired: 1/15/2023 | Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23 | Client Sample ID: 209 Mix



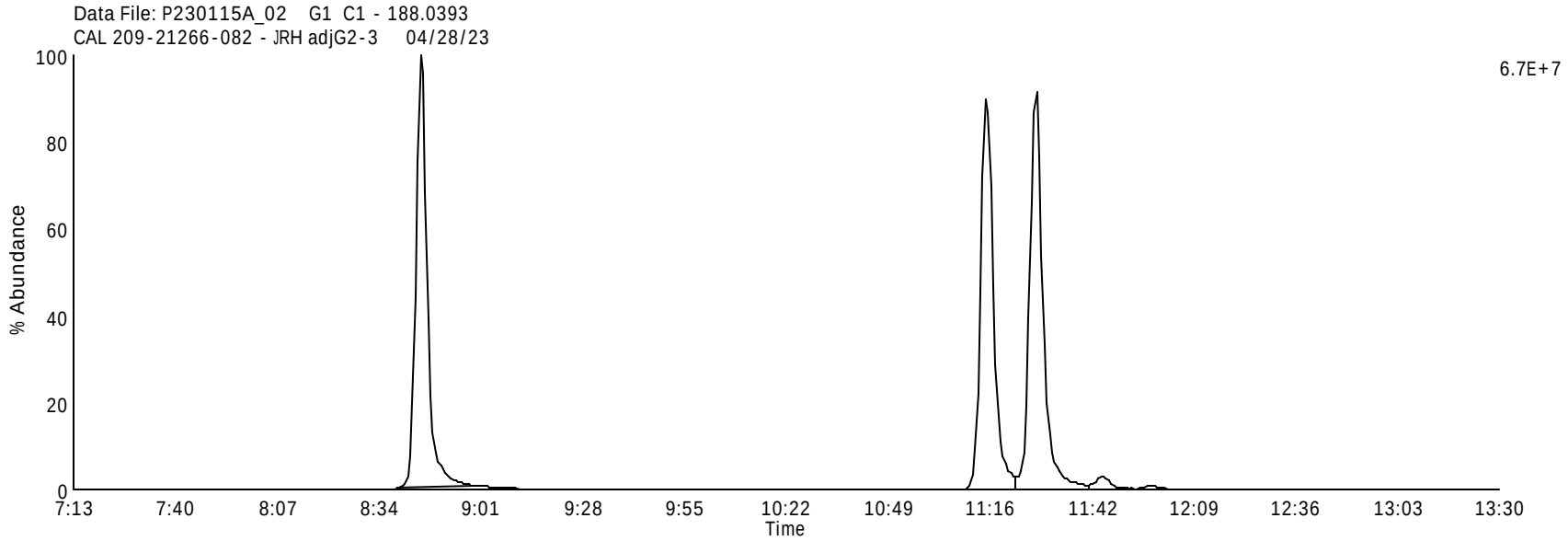


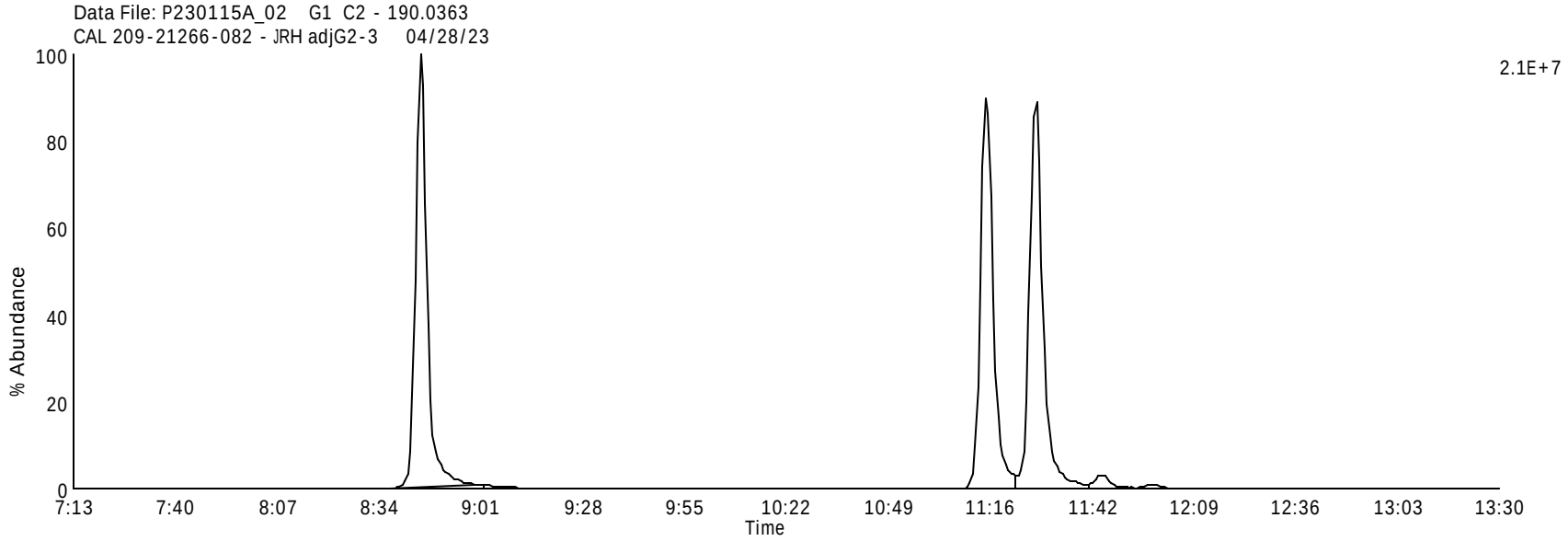
Mono Chlorinated Biphenyls

Data File Name: P230115A_02 | Lab Sample ID: 209-21266-082

Date Acquired: 1/15/2023 | Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23 | Client Sample ID: 209 Mix





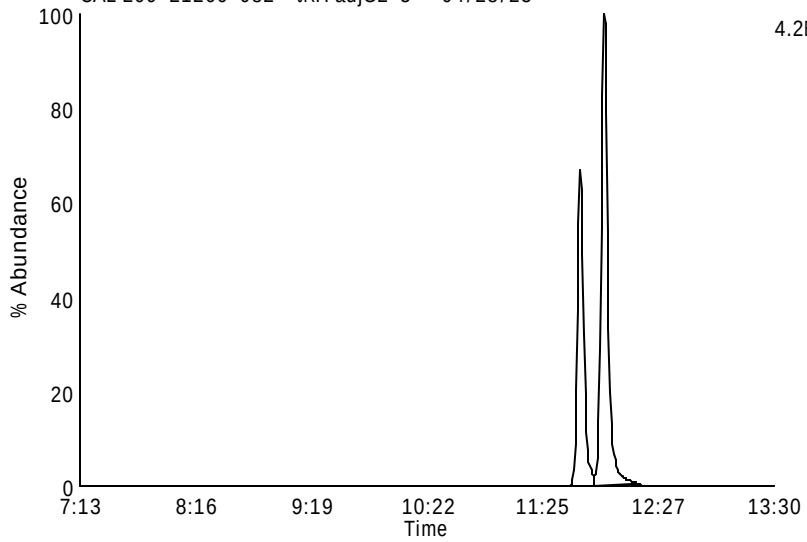
Di Chlorinated Biphenyls

Data File Name: P230115A_02 | Lab Sample ID: 209-21266-082

Date Acquired: 1/15/2023 | Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23 | Client Sample ID: 209 Mix

Data File: P230115A_02 G1 C7 - 222.0003
CAL 209-21266-082 - JRH adjG2-3 04/28/23



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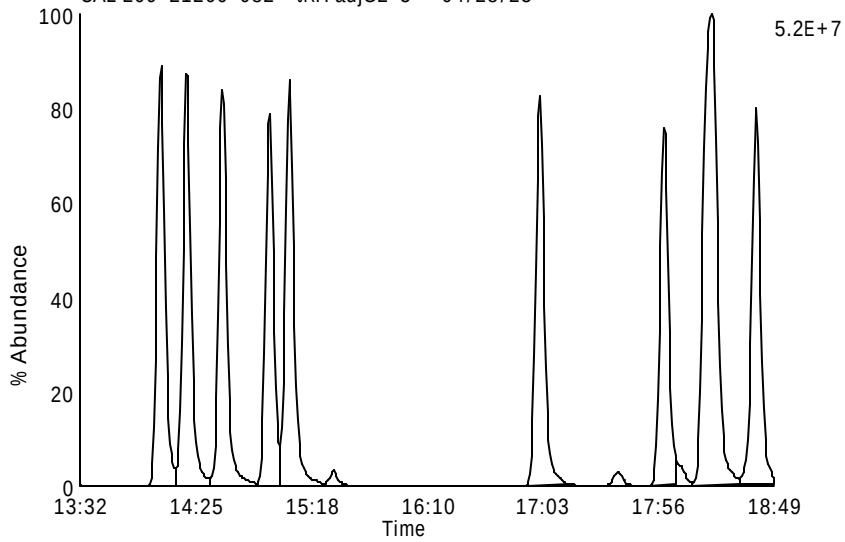
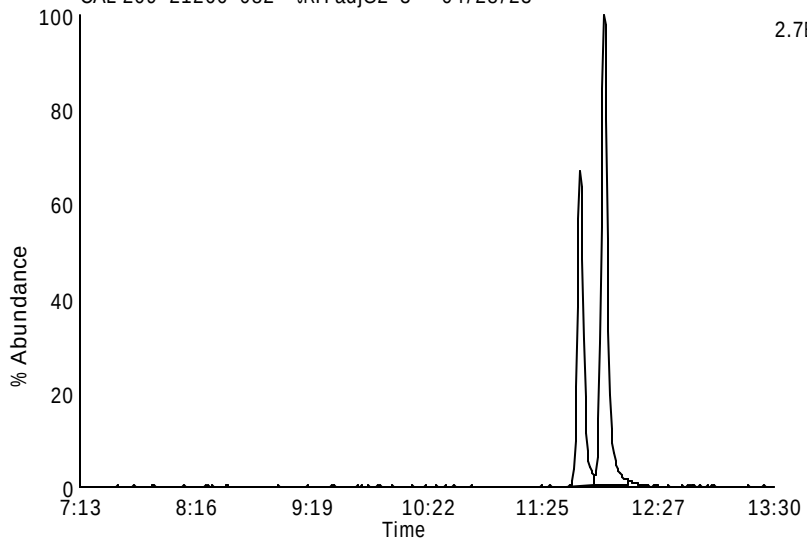
CAL 209-21266-082 - JRH adjG2-3 04/28/23



Data File: P230115A_02 G1 C8 - 223.9974
CAL 209-21266-082 - JRH adjG2-3 04/28/23



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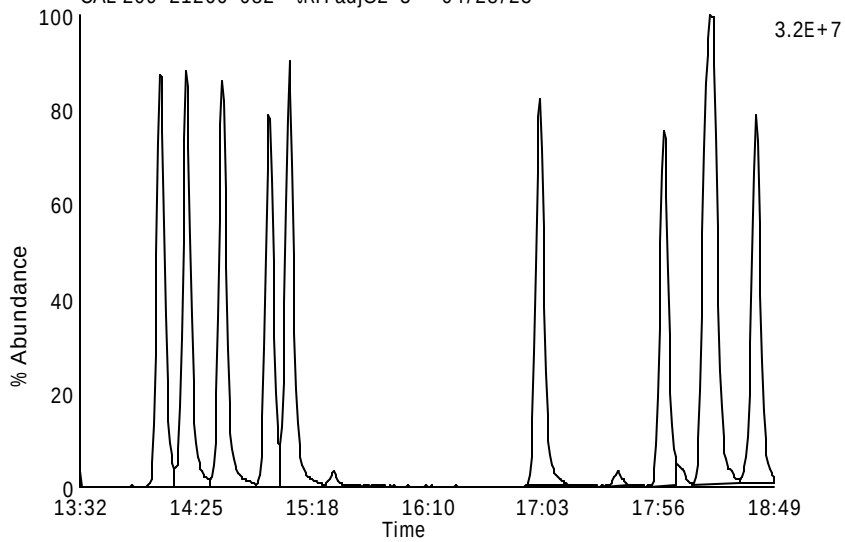
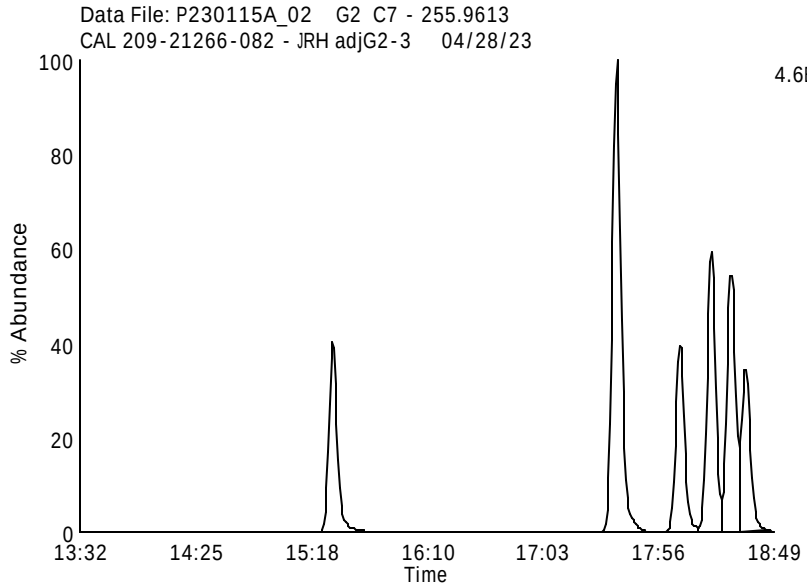
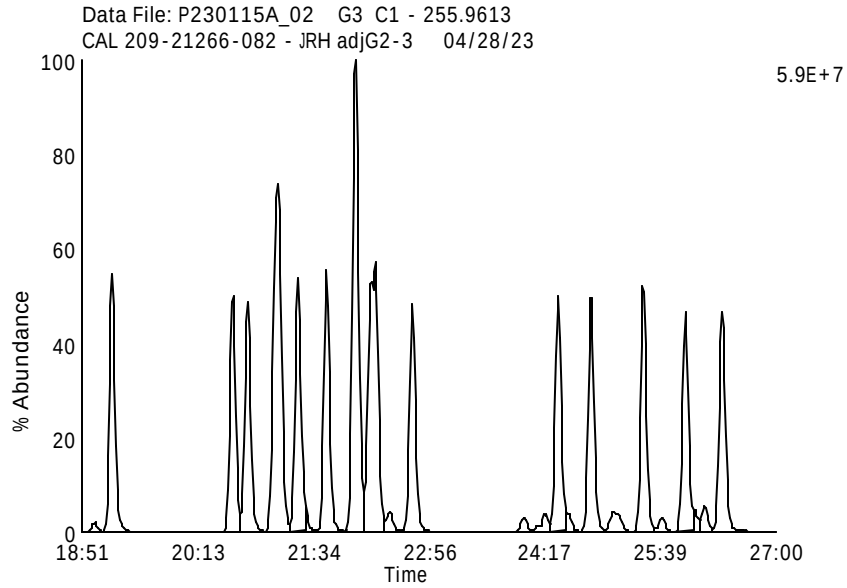
CAL 209-21266-082 - JRH adjG2-3 04/28/23

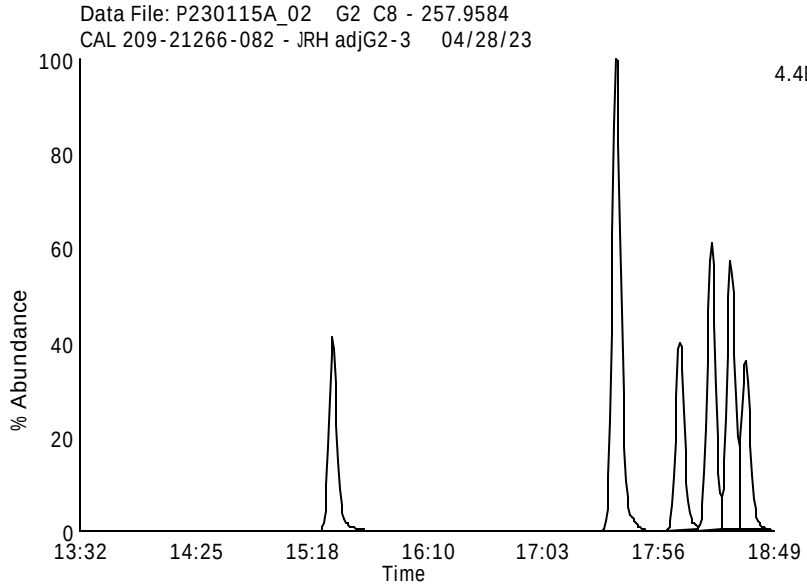


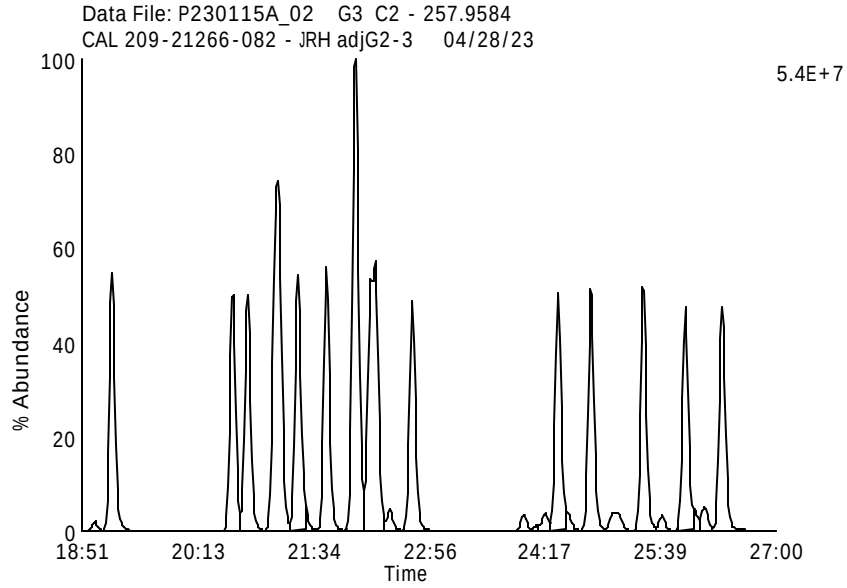
Tri Chlorinated Biphenyls

Data File Name: P230115A_02
Lab Sample ID: 209-21266-082
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23
Client Sample ID: 209 Mix



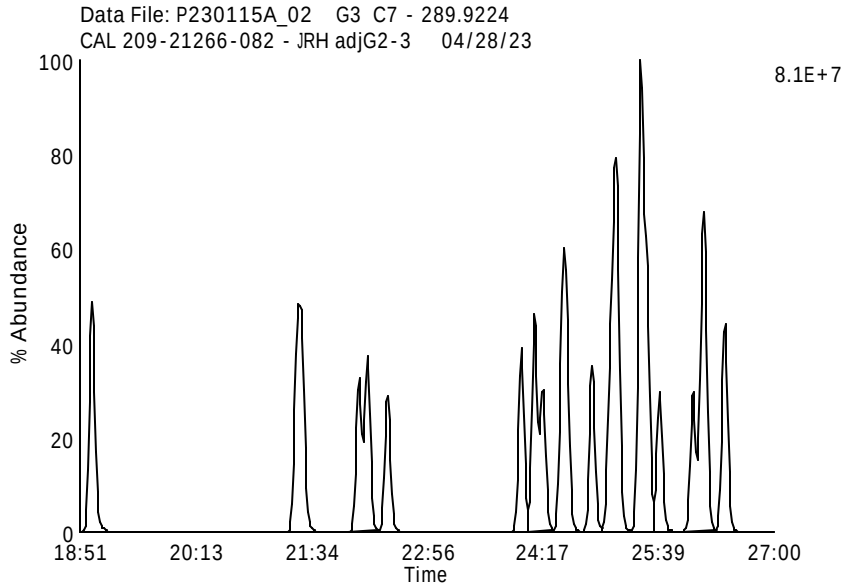


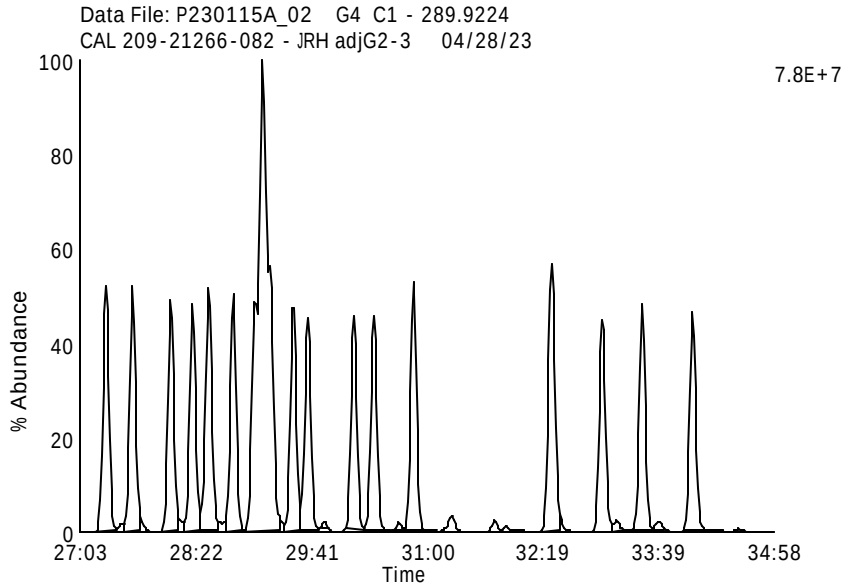


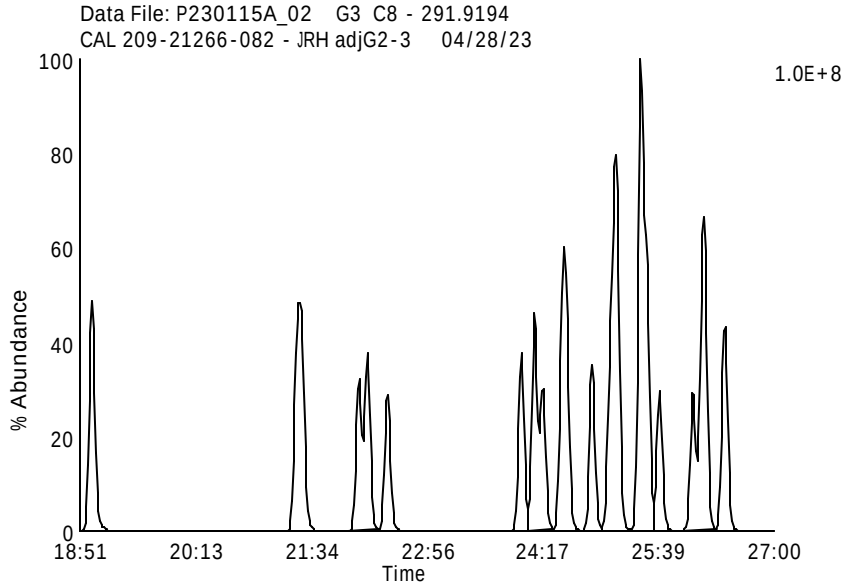


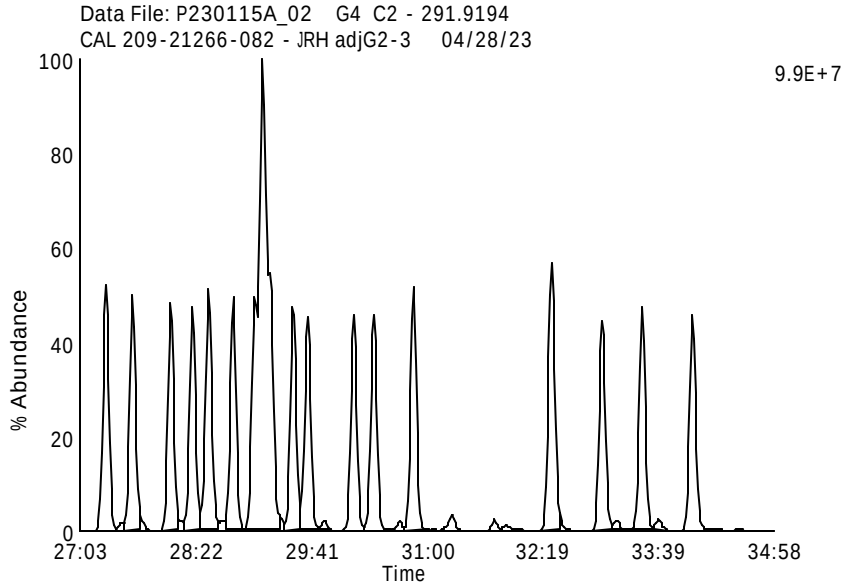
Tetra Chlorinated Biphenyls

Data File Name: P230115A_02
Lab Sample ID: 209-21266-082
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23
Client Sample ID: 209 Mix







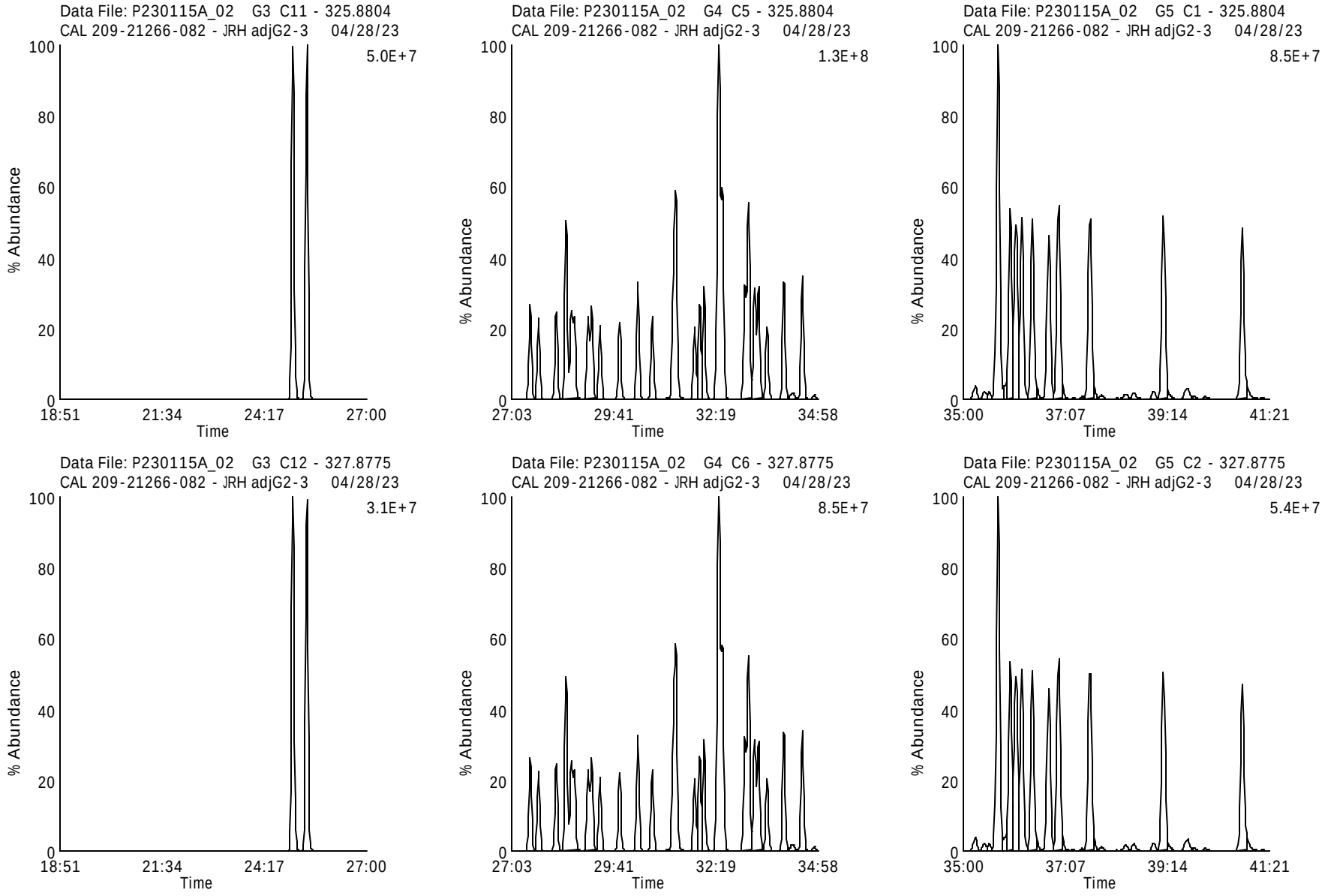


Penta Chlorinated Biphenyls

Data File Name: P230115A_02 Lab Sample ID: 209-21266-082

Date Acquired: 1/15/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23 Client Sample ID: 209 Mix

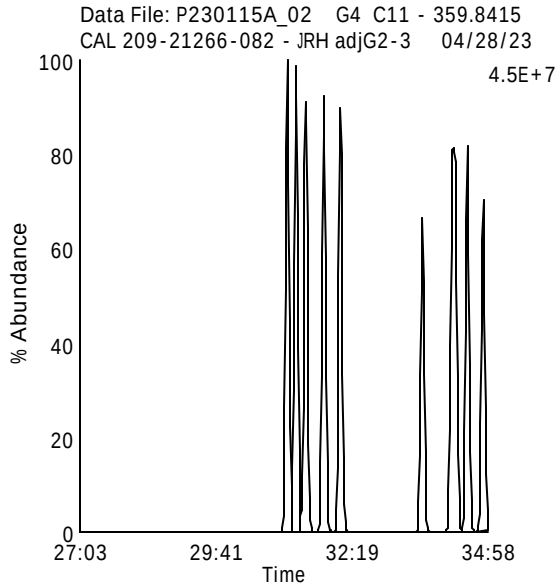


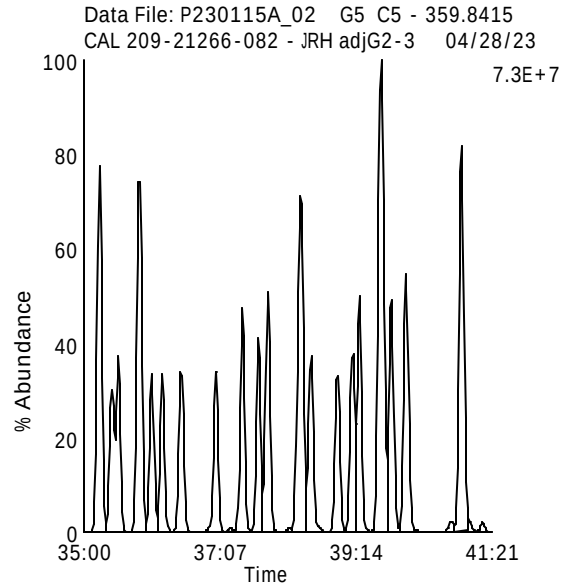
Hexa Chlorinated Biphenyls

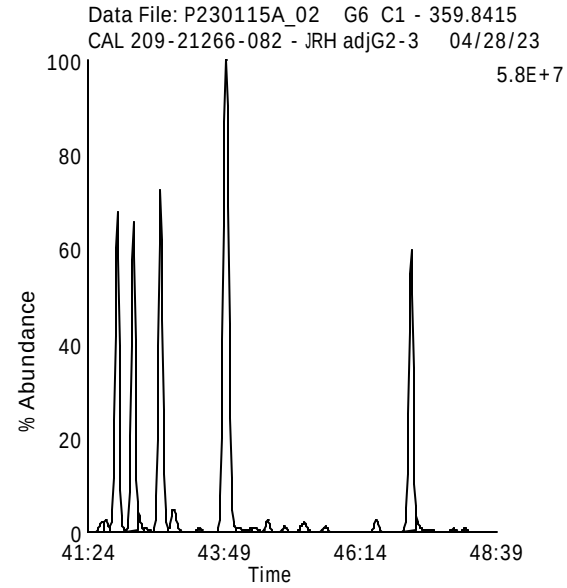
Data File Name: P230115A_02 | Lab Sample ID: 209-21266-082

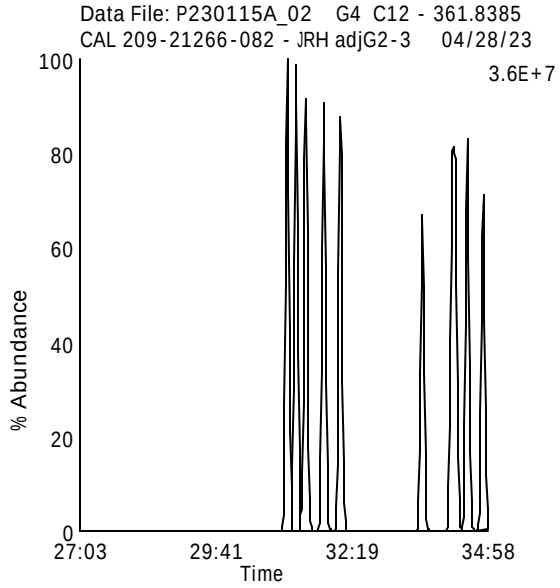
Date Acquired: 1/15/2023 | Instrument: 10MSHR09 (P)

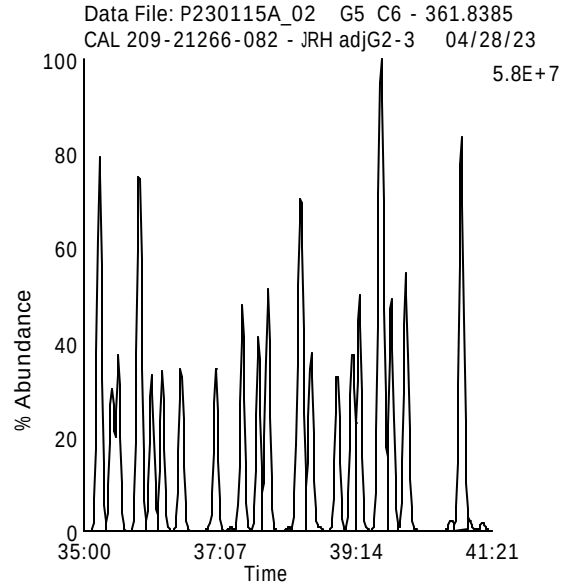
Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23 | Client Sample ID: 209 Mix

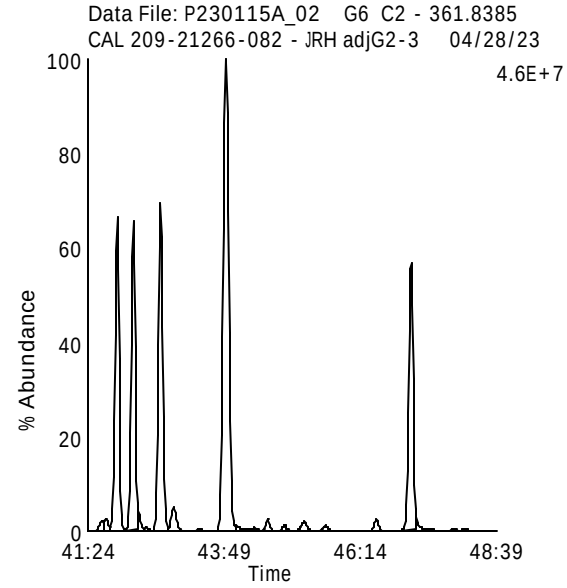










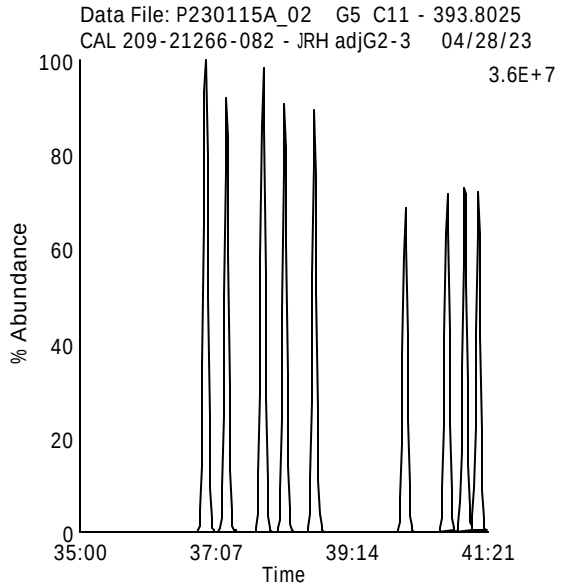


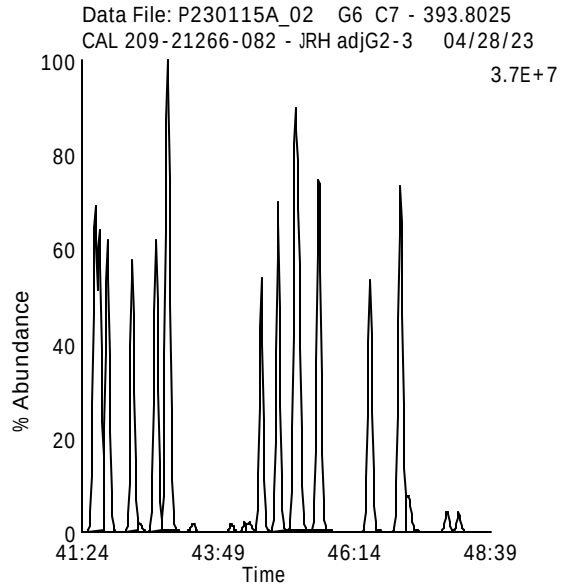
Hepta Chlorinated Biphenyls

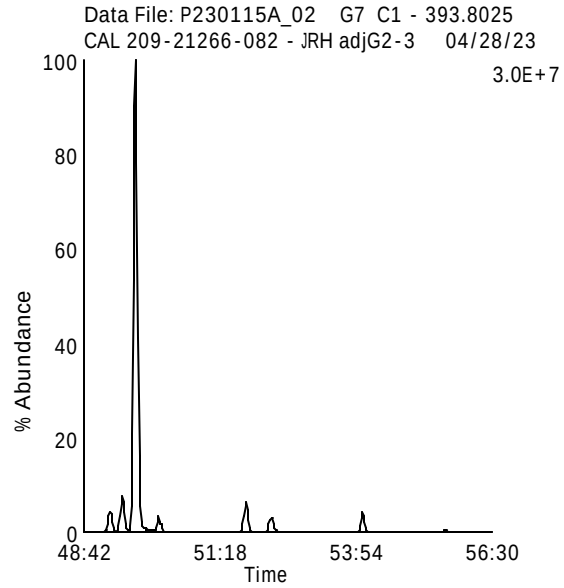
Data File Name: P230115A_02 Lab Sample ID: 209-21266-082

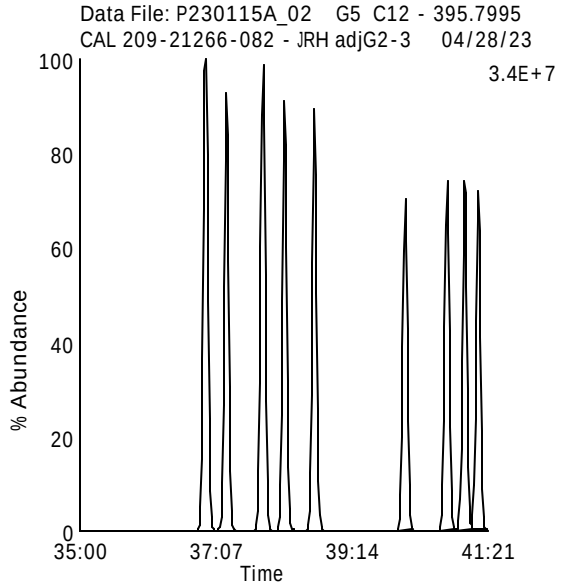
Date Acquired: 1/15/2023 Instrument: 10MSHR09 (P)

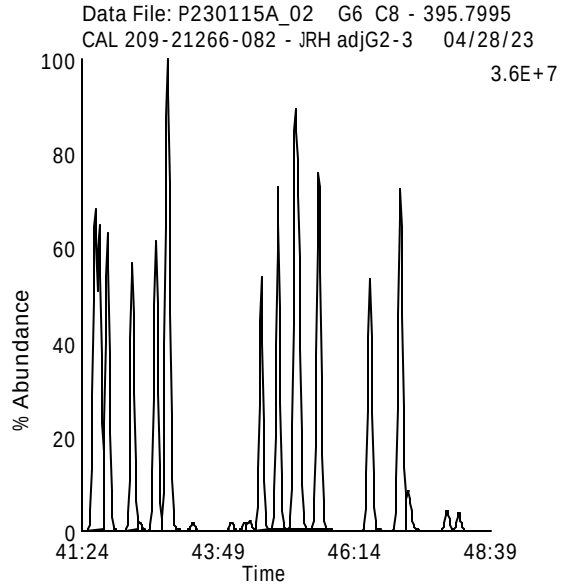
Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23 Client Sample ID: 209 Mix

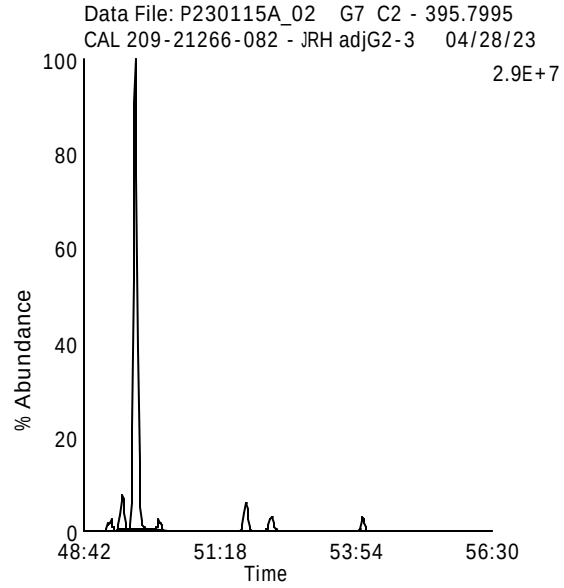










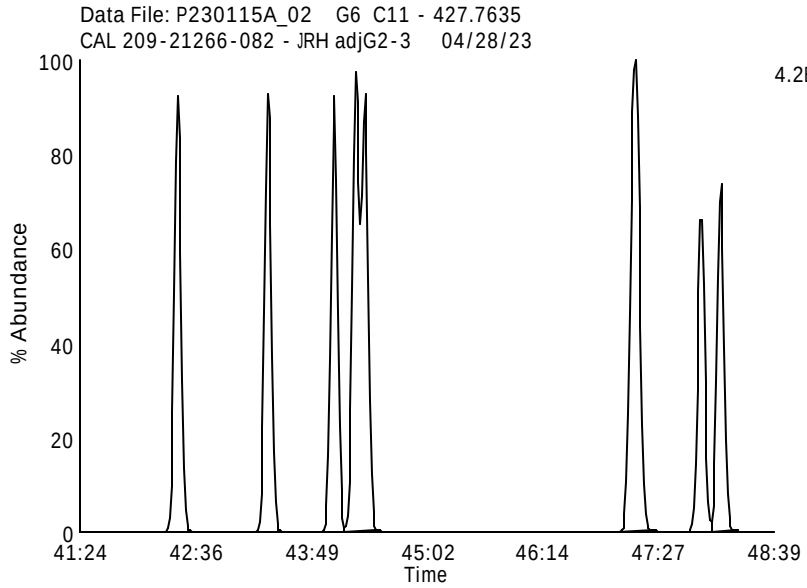


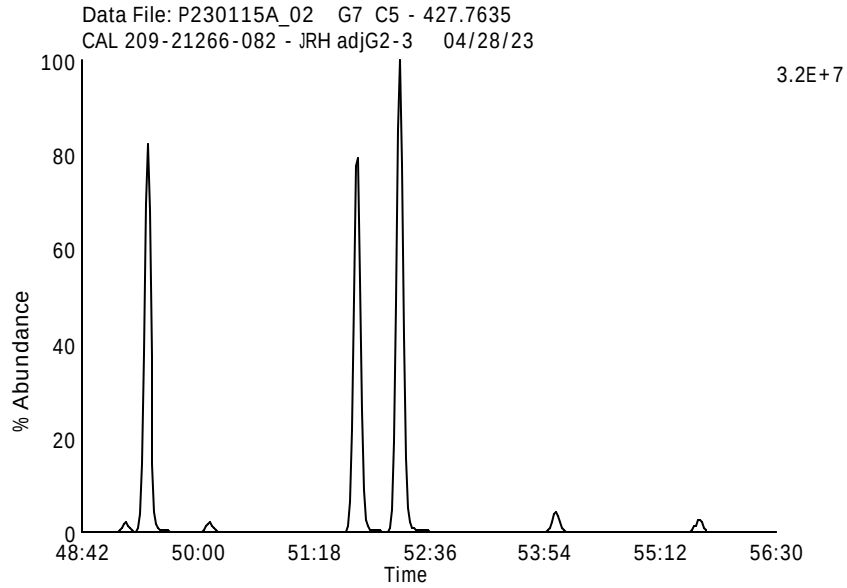
Octa Chlorinated Biphenyls

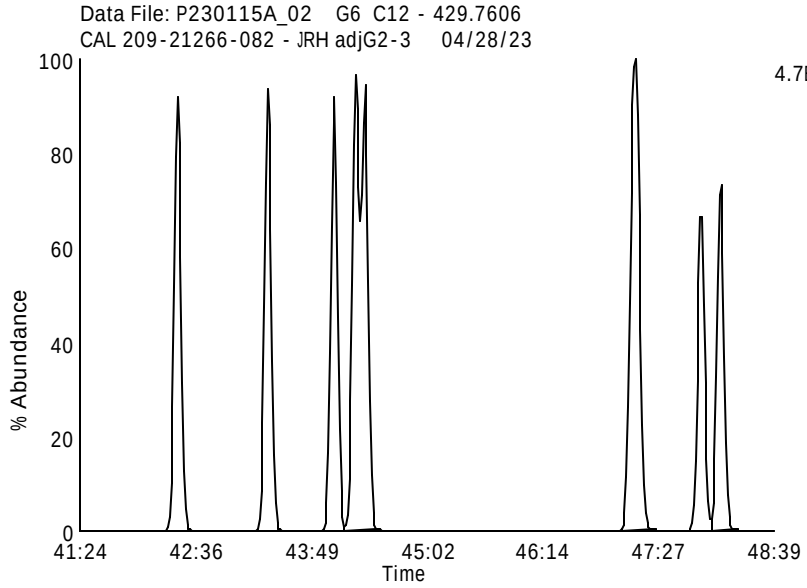
Data File Name: P230115A_02 Lab Sample ID: 209-21266-082

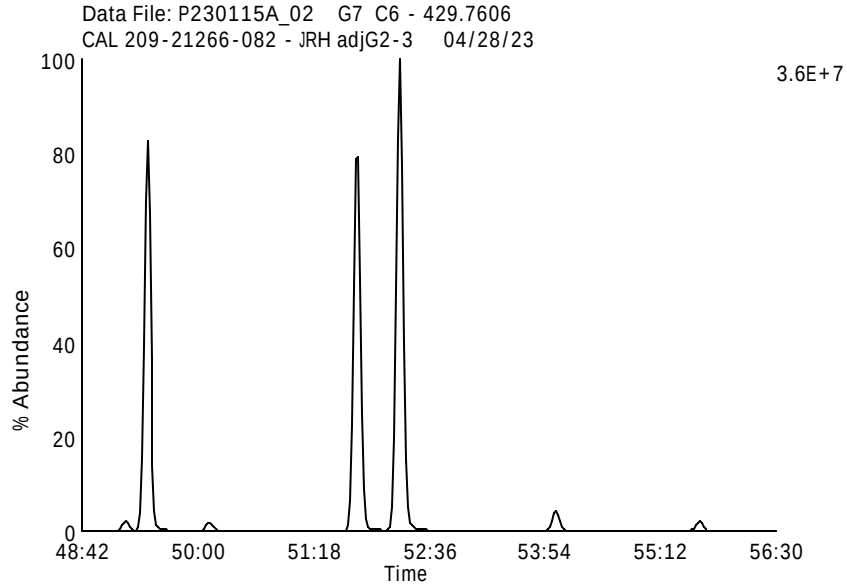
Date Acquired: 1/15/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23 Client Sample ID: 209 Mix







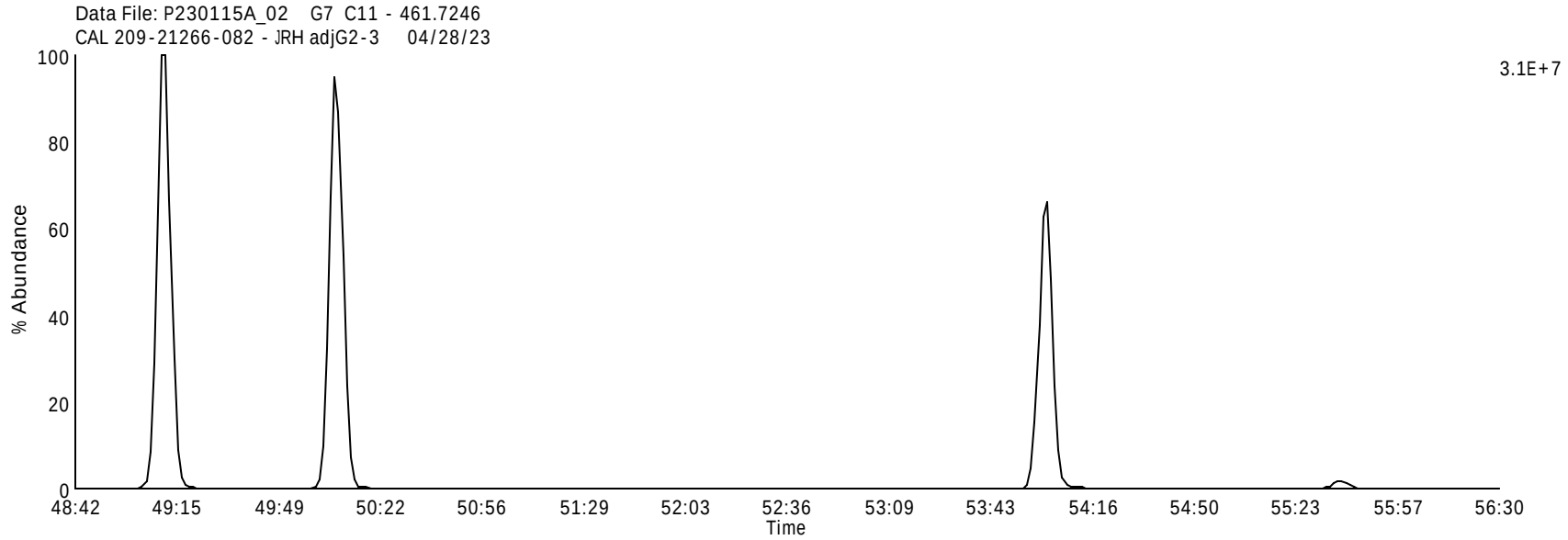


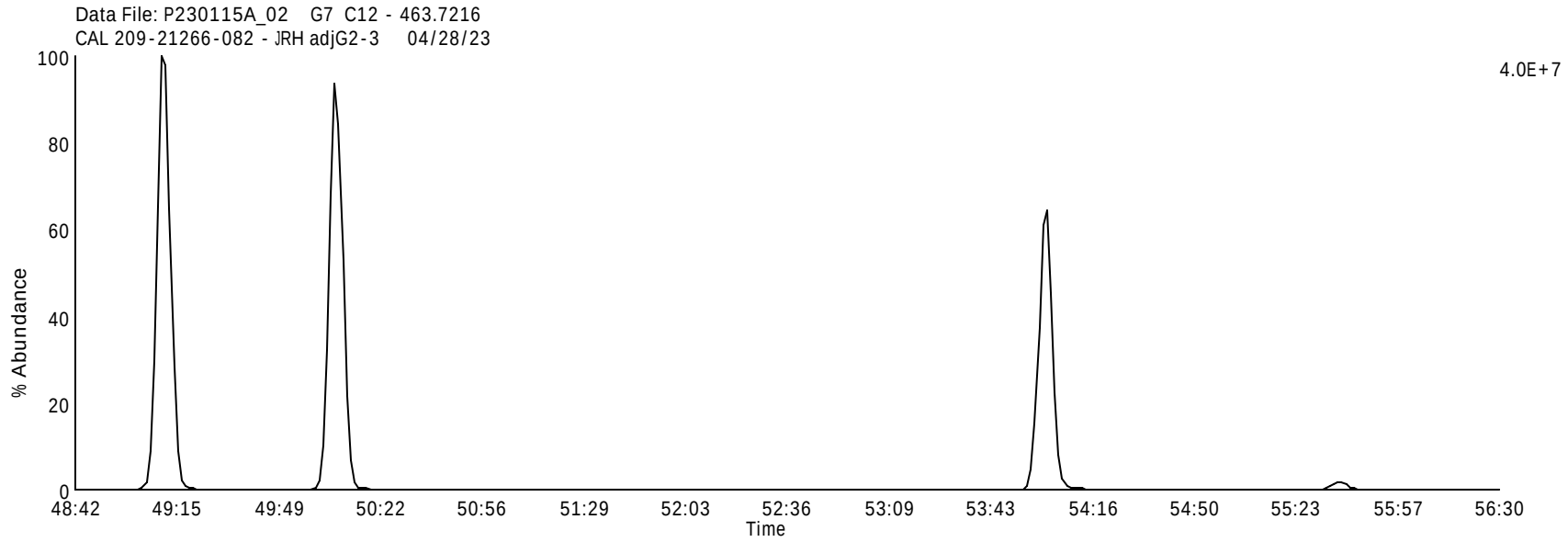
Nona Chlorinated Biphenyls

Data File Name: P230115A_02 | Lab Sample ID: 209-21266-082

Date Acquired: 1/15/2023 | Instrument: 10MSHR09 (P)

Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23 | Client Sample ID: 209 Mix



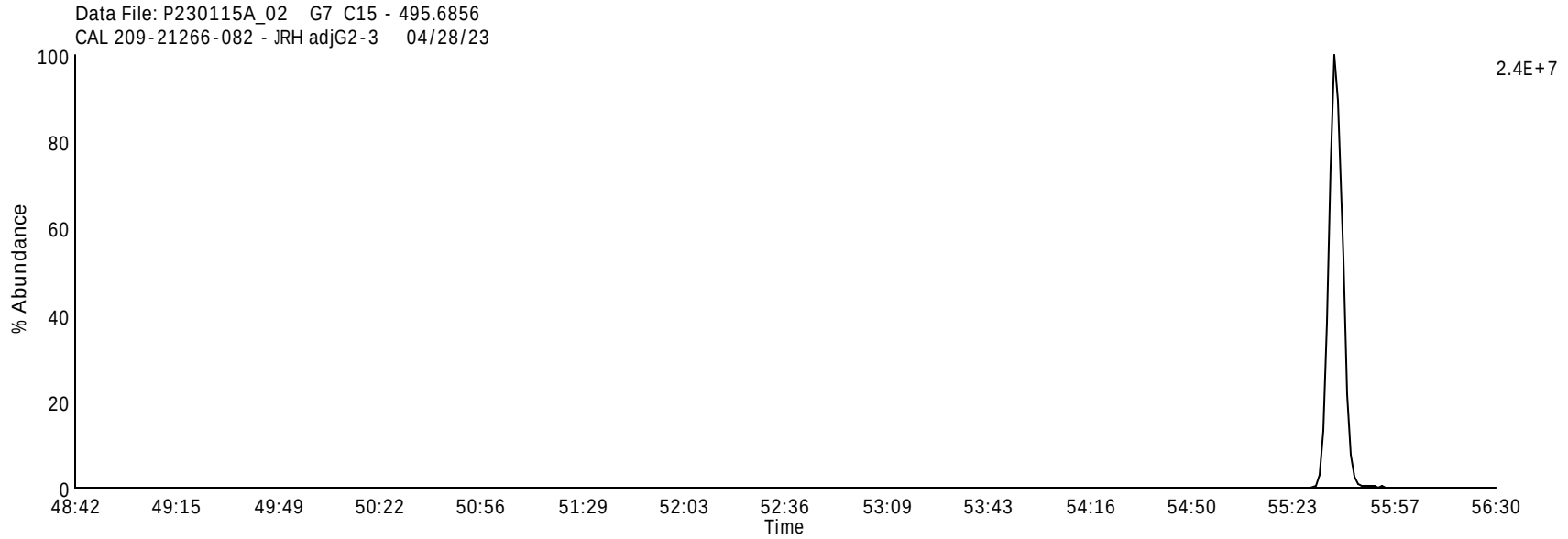


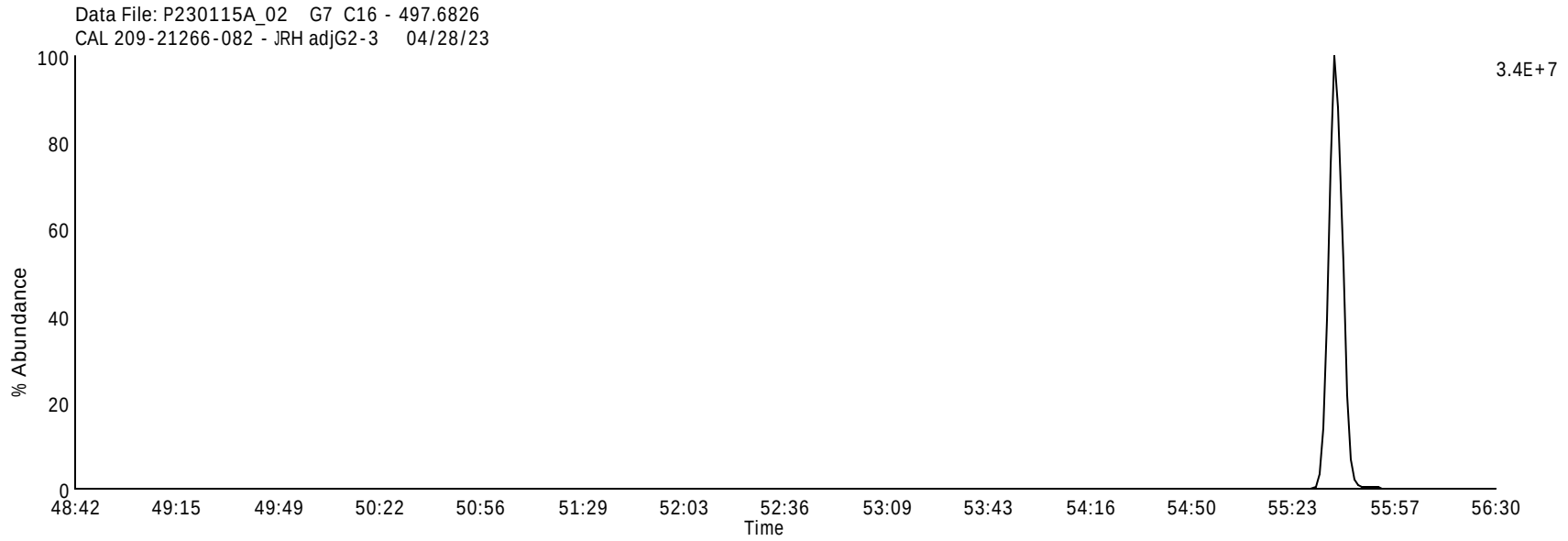
Deca Chlorinated Biphenyl

Data File Name: P230115A_02 | Lab Sample ID: 209-21266-082

Date Acquired: 1/15/2023 | Instrument: 10MSHR09 (P)

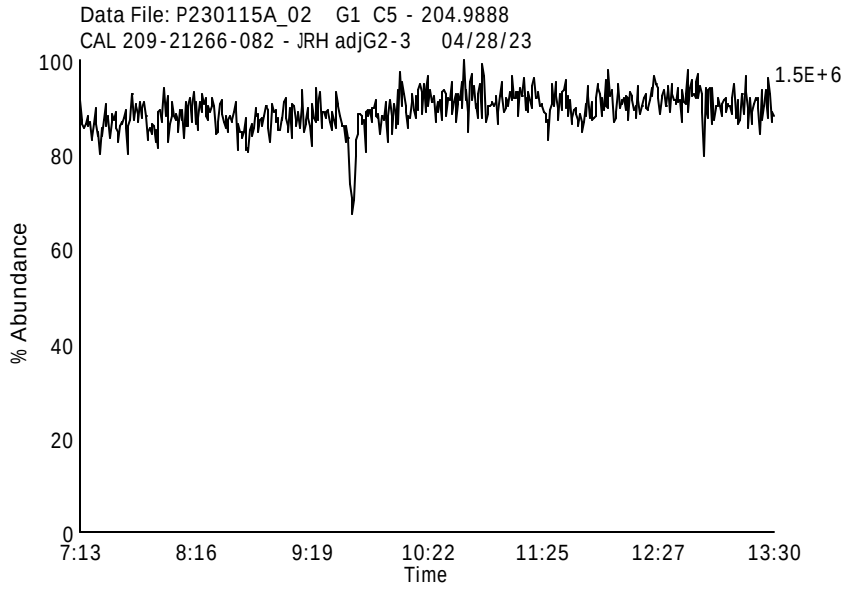
Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23 | Client Sample ID: 209 Mix

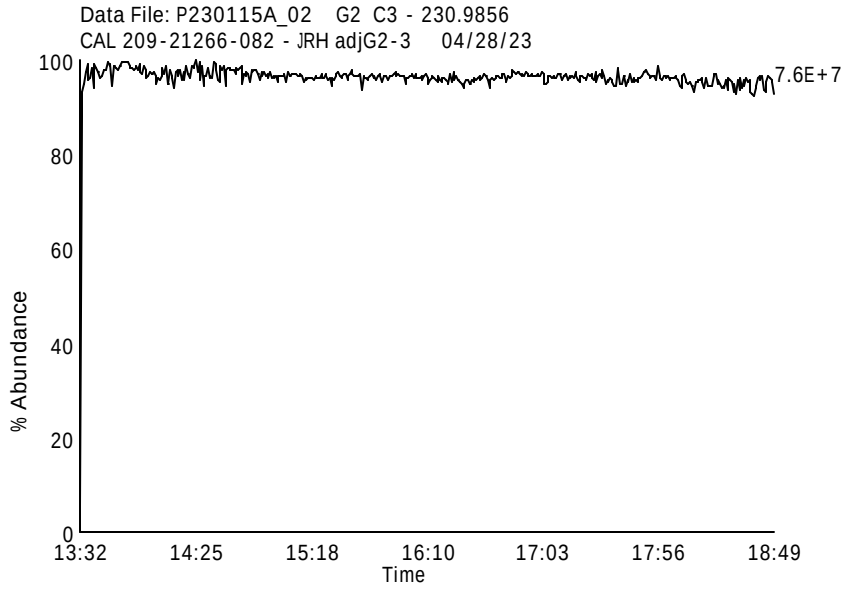


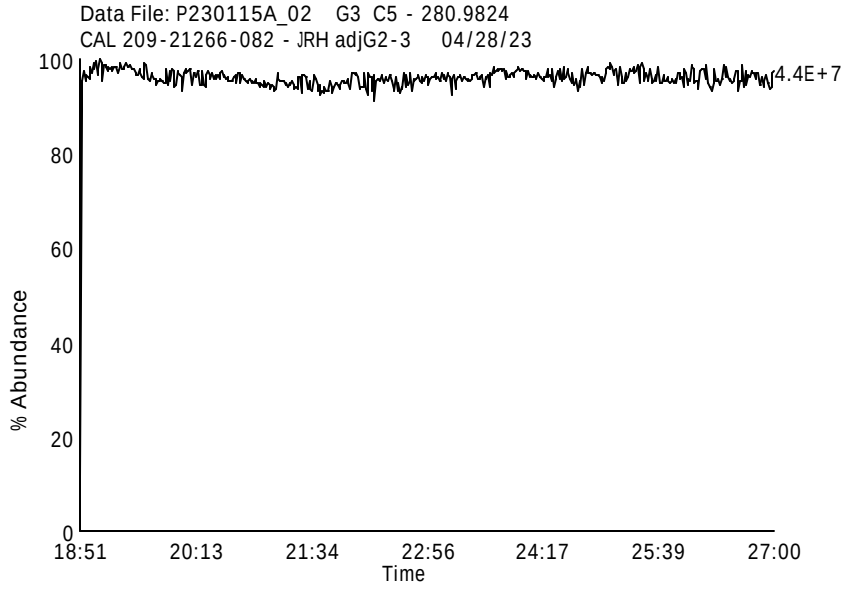


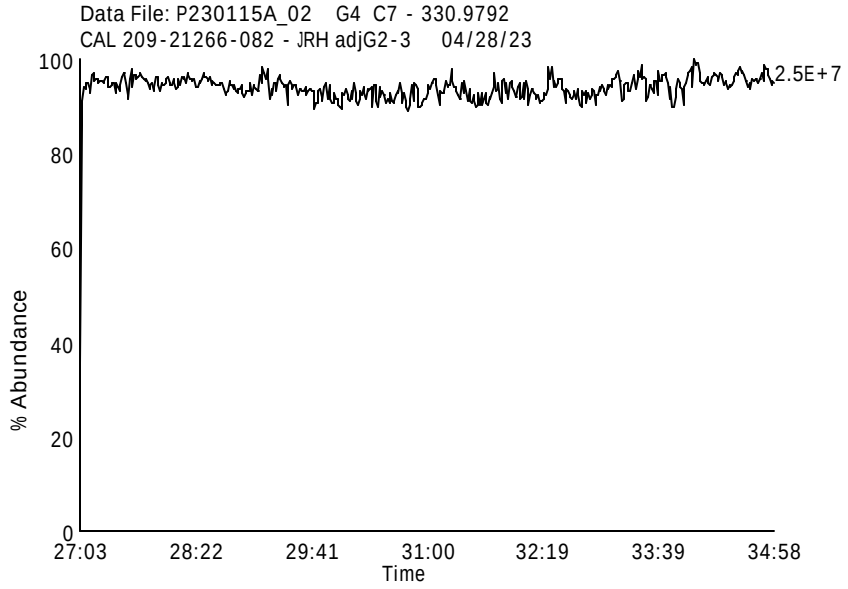
Group 1 - 4 Lock mass

Data File Name: P230115A_02
Lab Sample ID: 209-21266-082
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23
Client Sample ID: 209 Mix



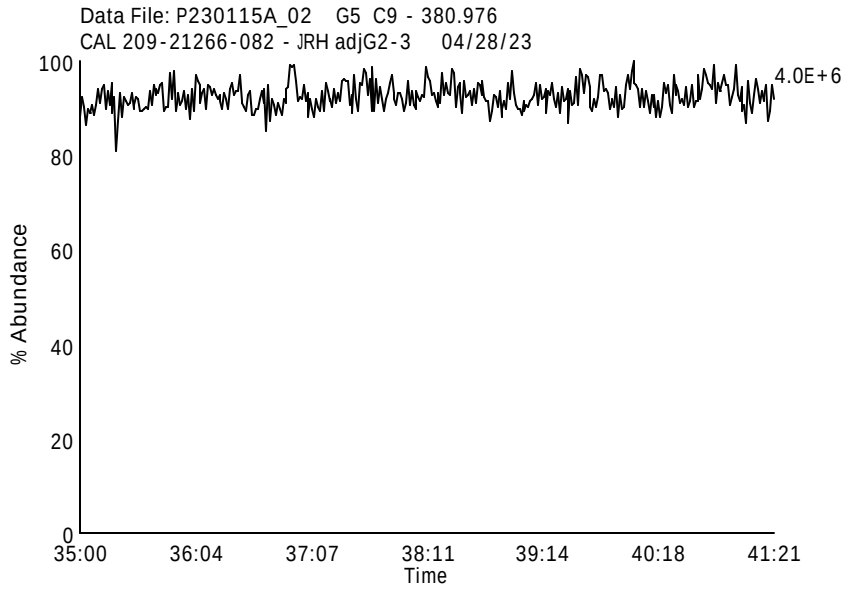


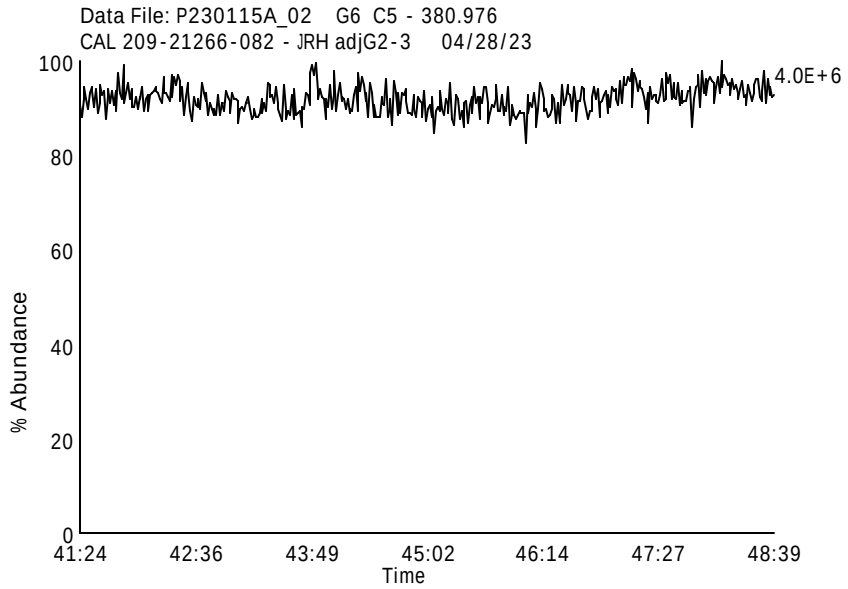


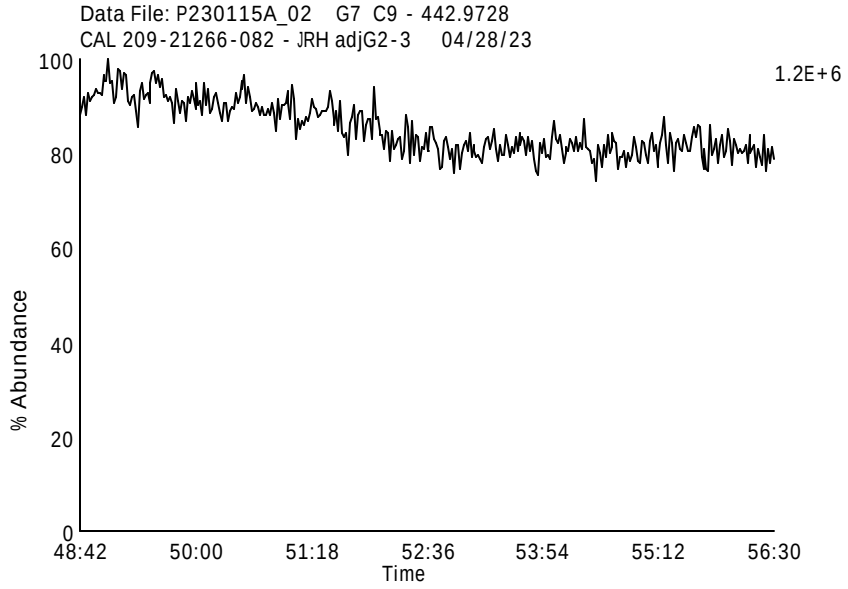


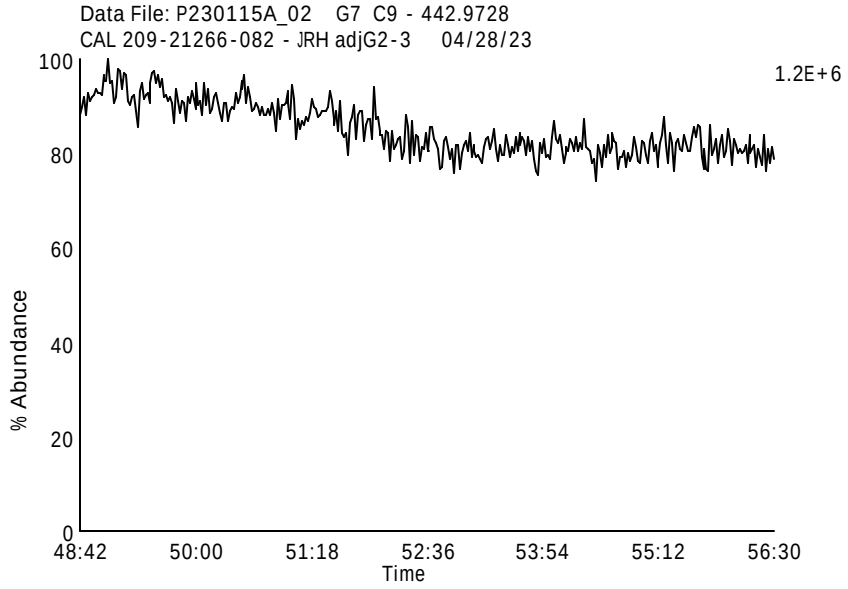
Group 5 - 7 Lock mass

Data File Name: P230115A_02
Lab Sample ID: 209-21266-082
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL 209-21266-082 - JRH adjG2-3 04/28/23
Client Sample ID: 209 Mix







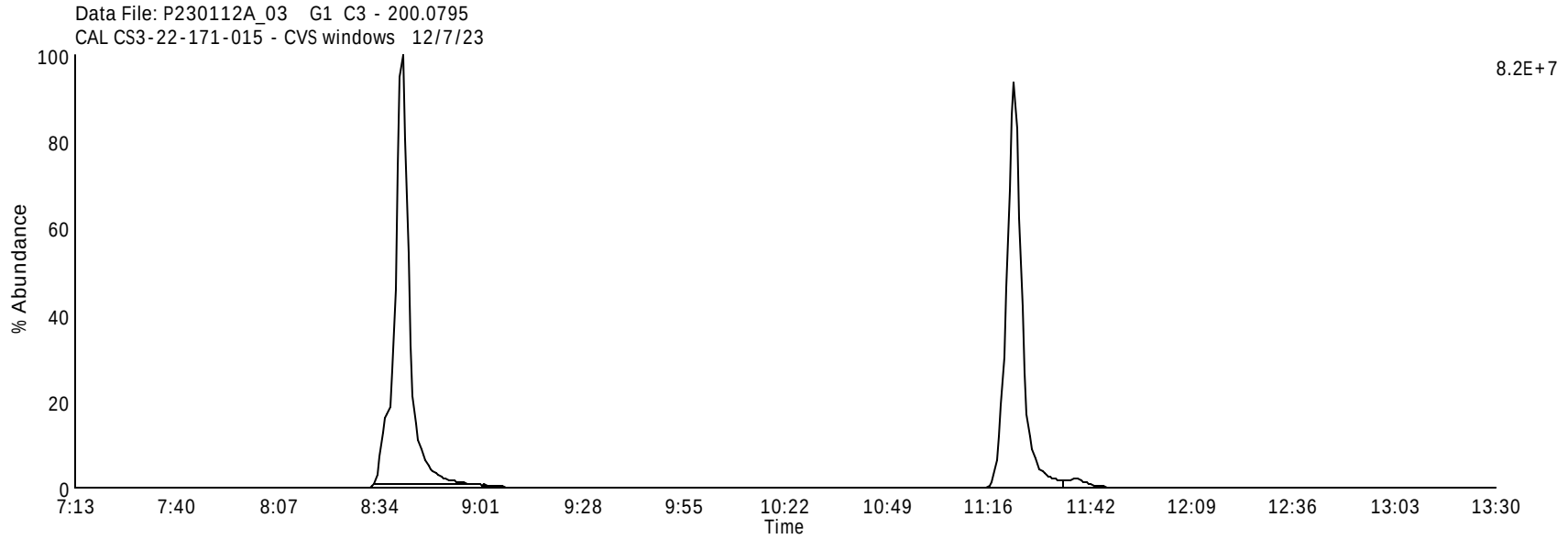


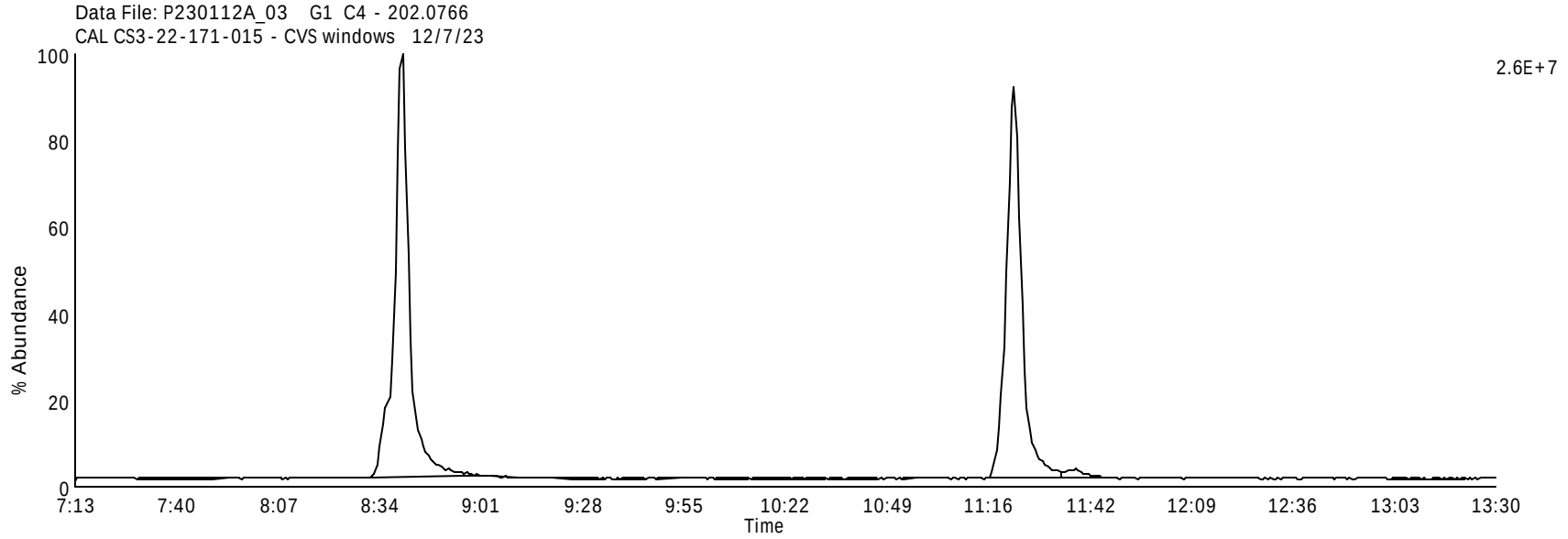
Labeled Mono Chlorinated Biphenyls

Data File Name: P230112A_03 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23

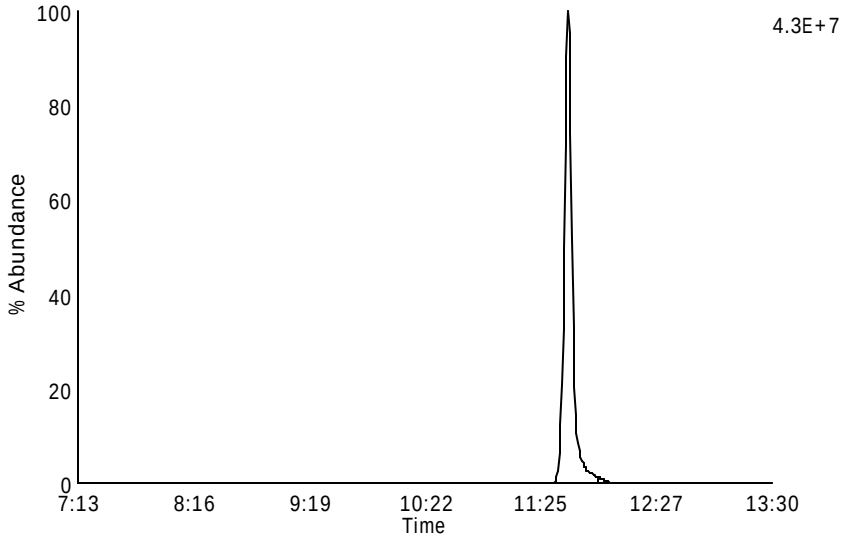




Labeled Di Chlorinated Biphenyls

Data File Name: P230112A_03
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23

Data File: P230112A_03 G1 C9 - 234.0406
CAL CS3-22-171-015 - CVS windows 12/7/23



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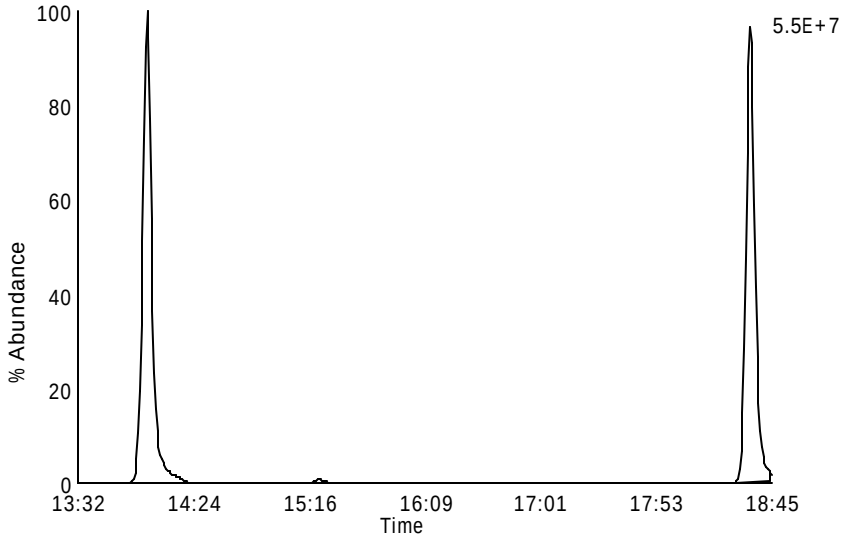
CAL CS3-22-171-015 - CVS windows 12/7/23



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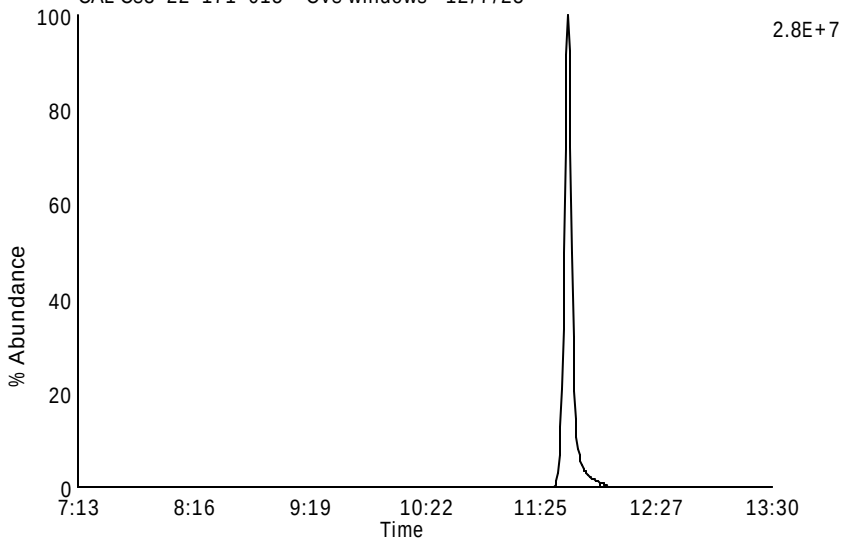
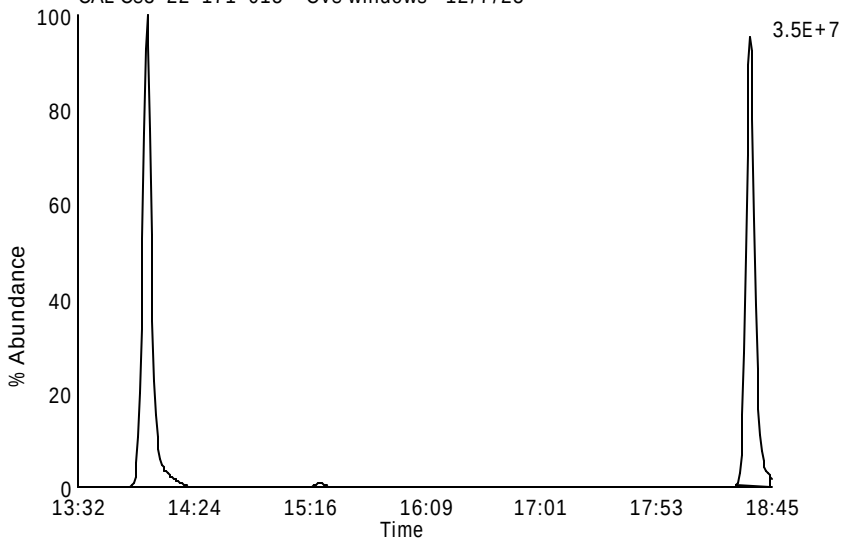
CAL CS3-22-171-015 - CVS windows 12/7/23

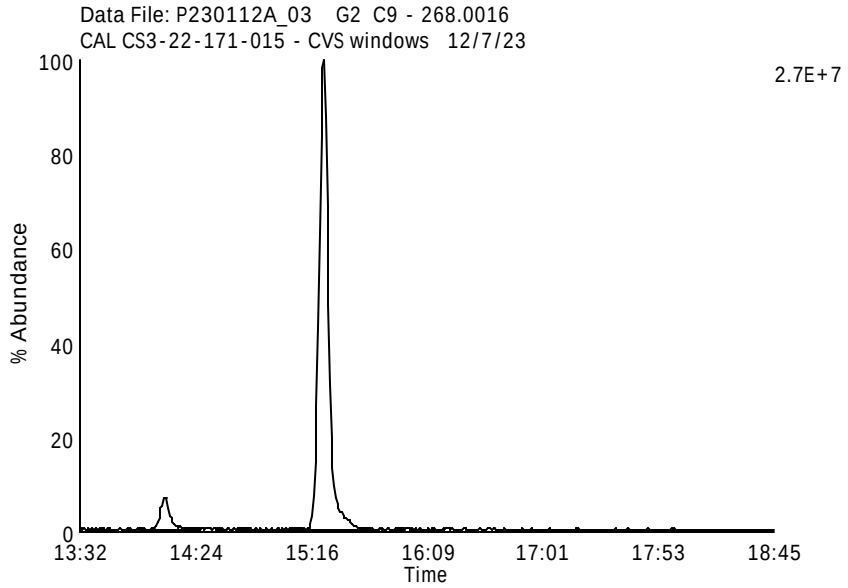


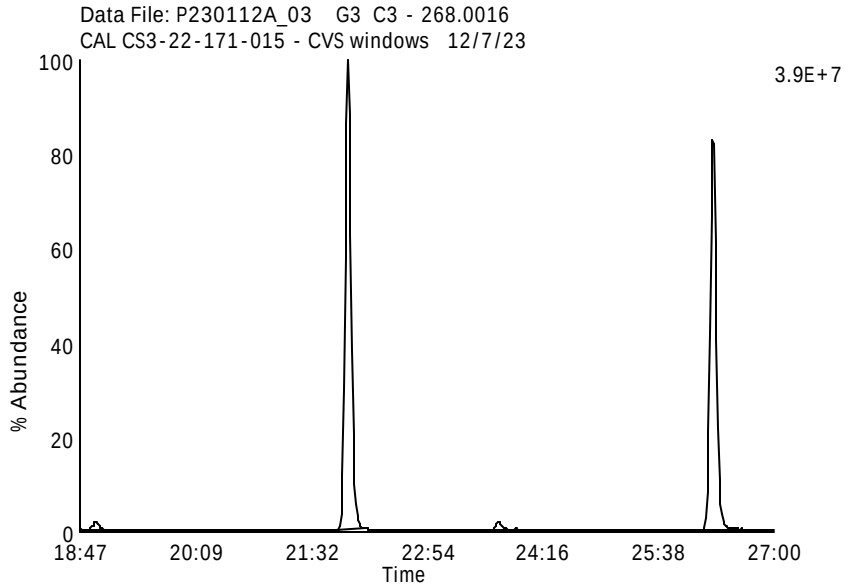
Data File: P230112A_03 G2 C6 - 236.0376
CAL CS3-22-171-015 - CVS windows 12/7/23

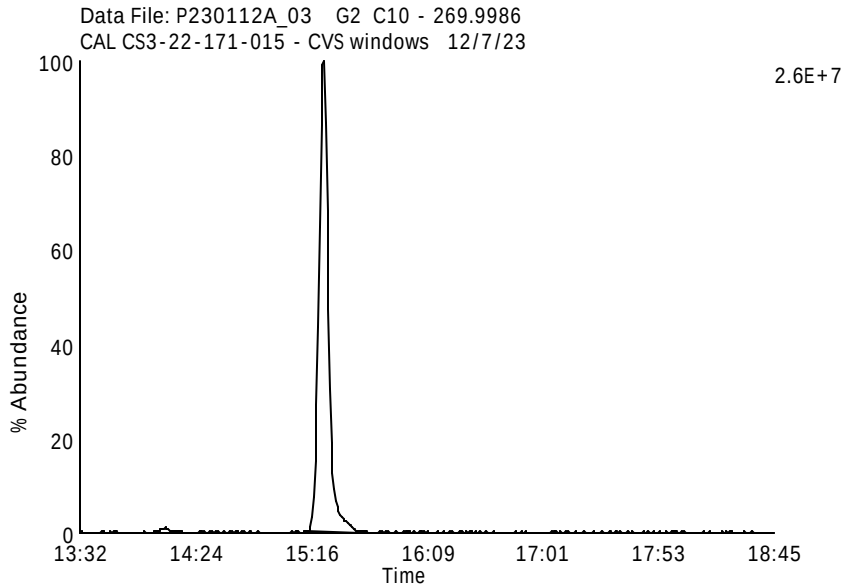


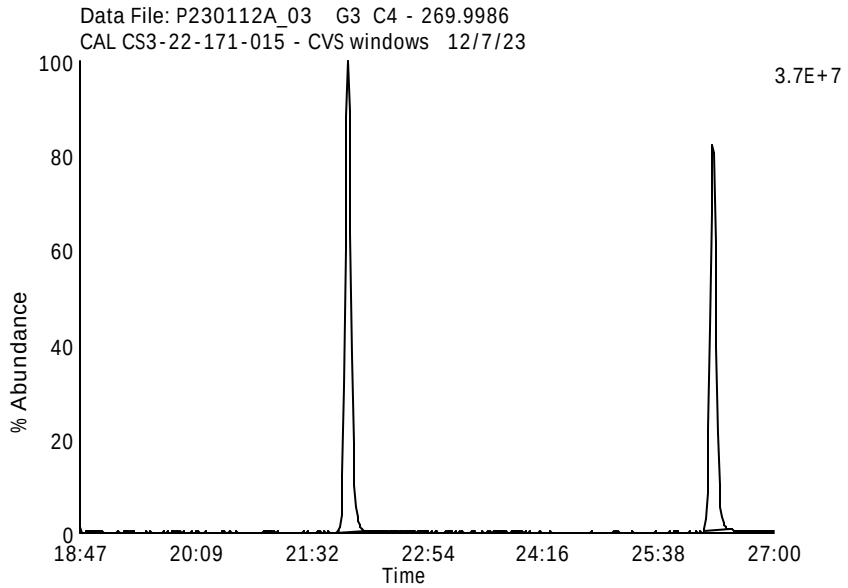
Labeled Tri Chlorinated Biphenyls

Data File Name: P230112A_03
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23







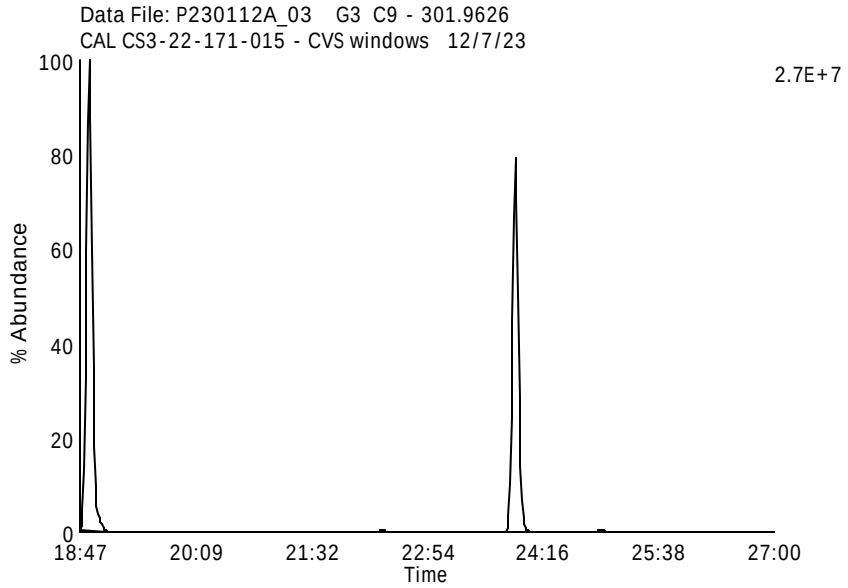


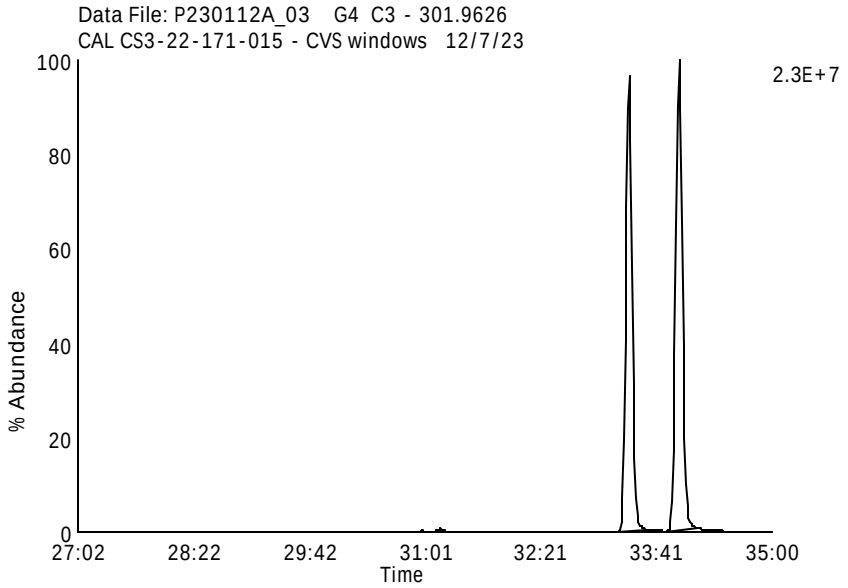
Labeled Tetra Chlorinated Biphenyls

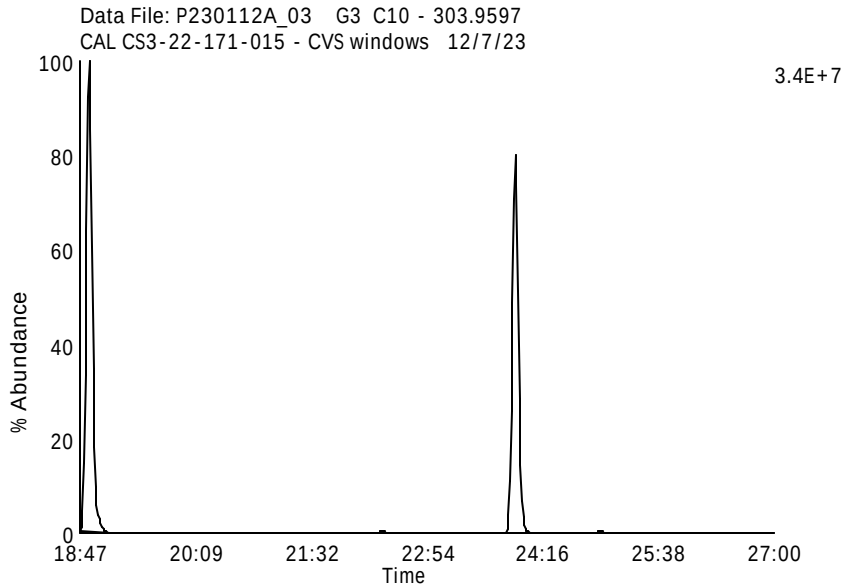
Data File Name: P230112A_03 Lab Sample ID: CS3-22-171-015

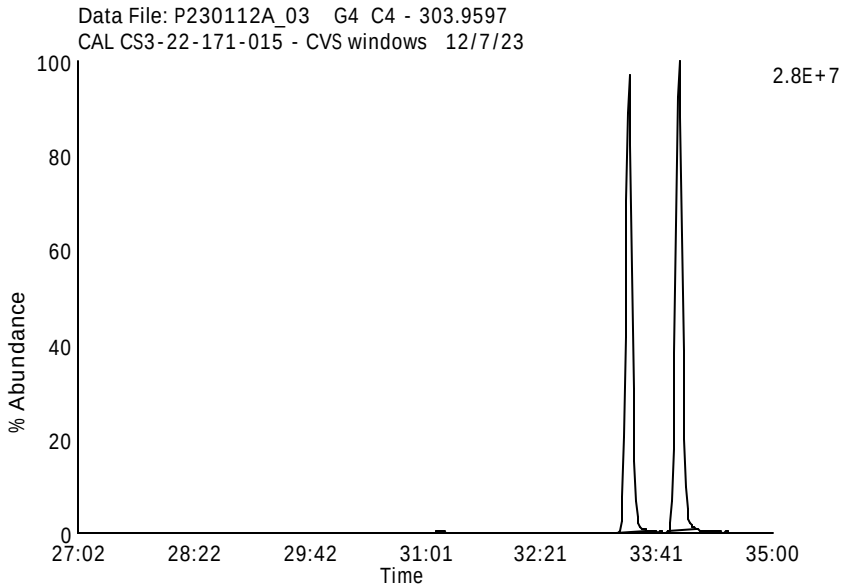
Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23







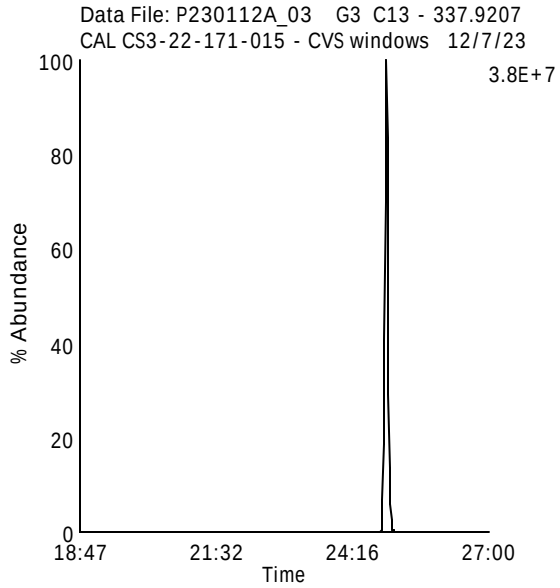


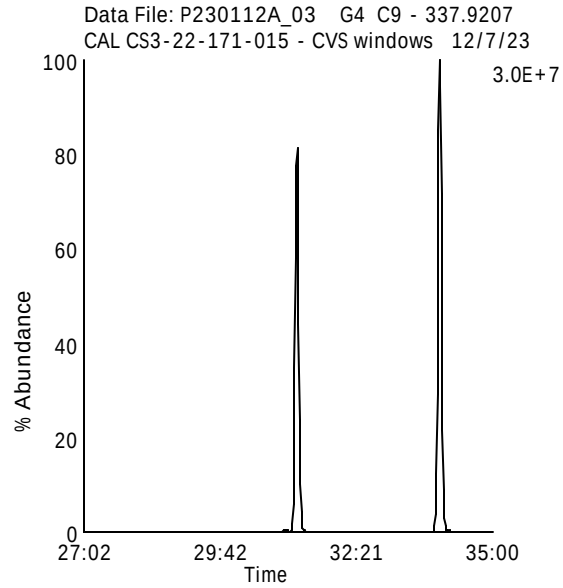
Labeled Penta Chlorinated Biphenyls

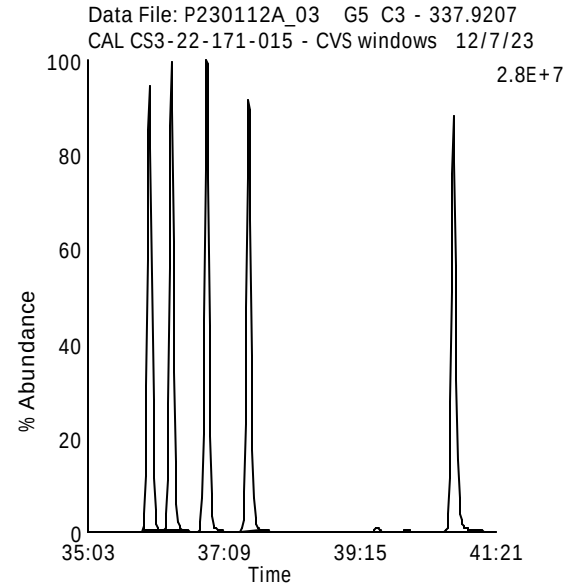
Data File Name: P230112A_03 Lab Sample ID: CS3-22-171-015

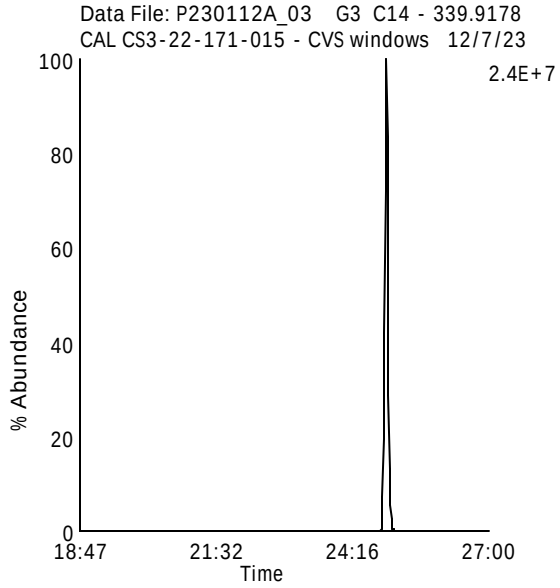
Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

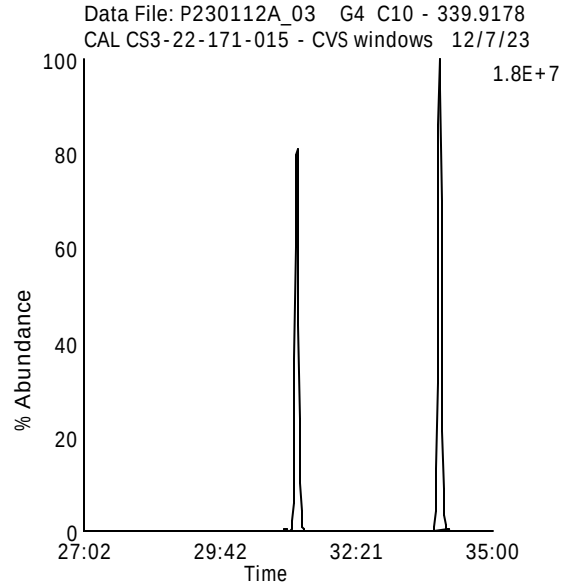
Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23

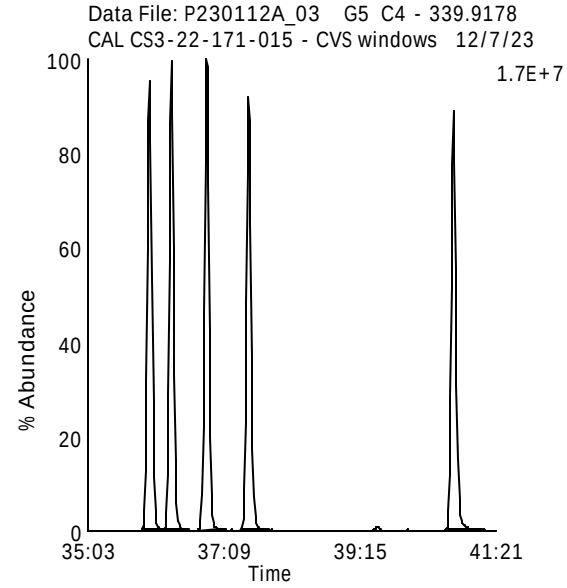










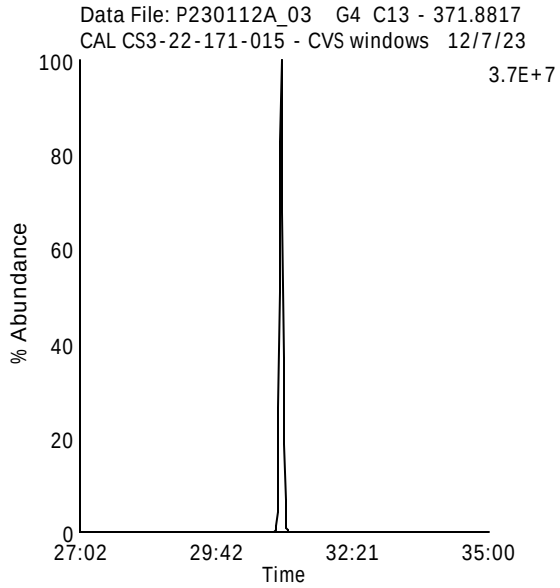


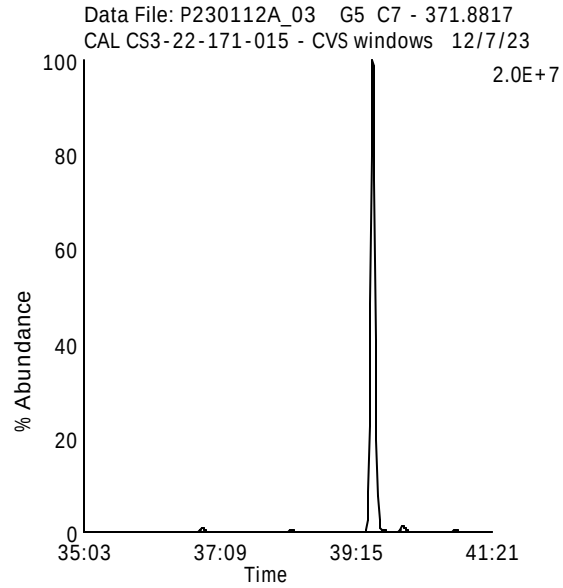
Labeled Hexa Chlorinated Biphenyls

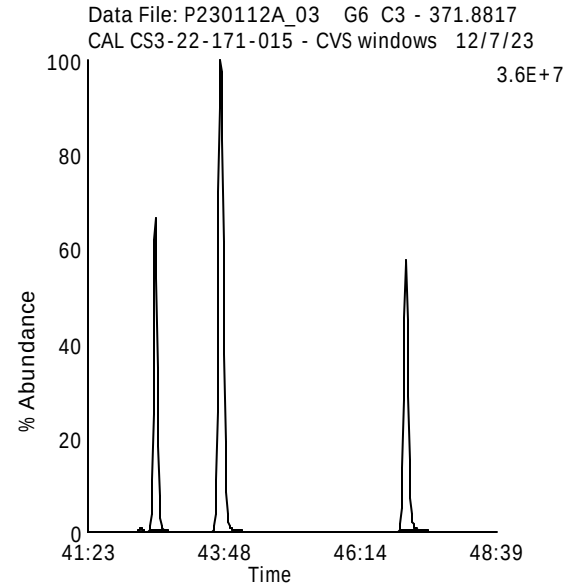
Data File Name: P230112A_03 Lab Sample ID: CS3-22-171-015

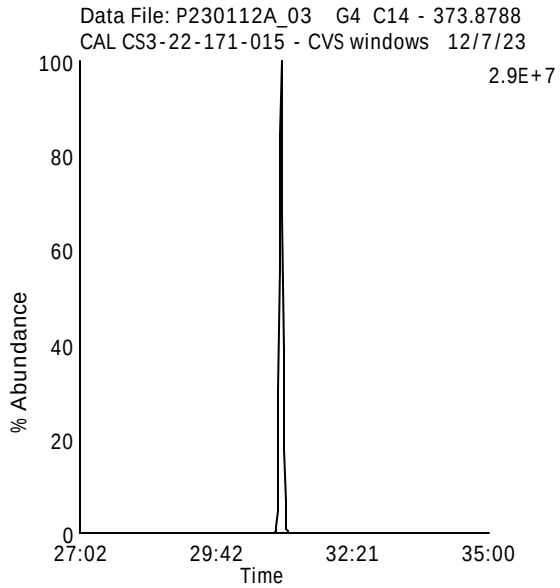
Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

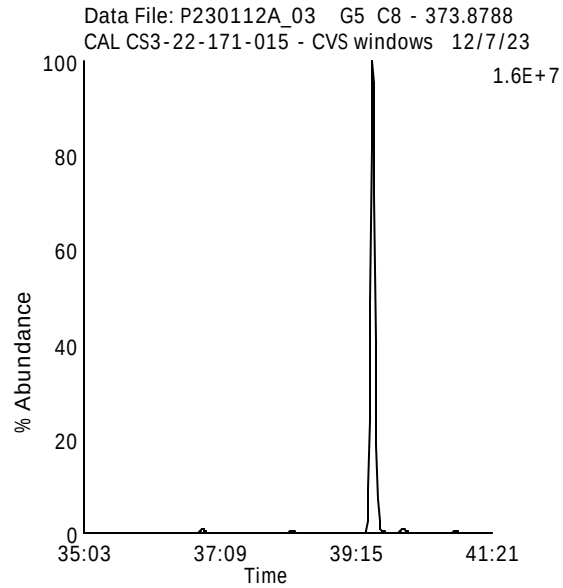
Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23

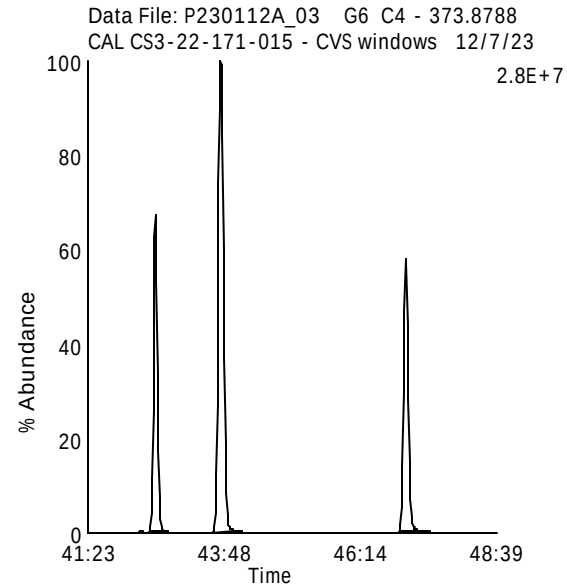










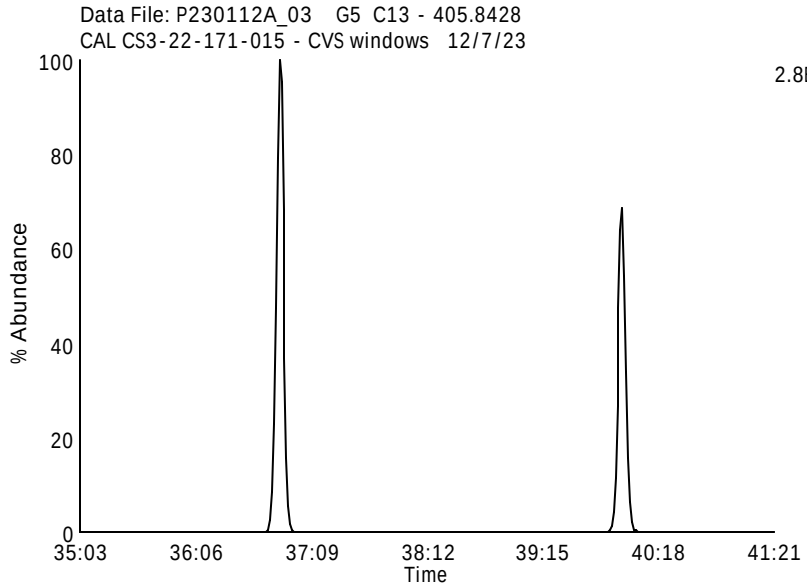


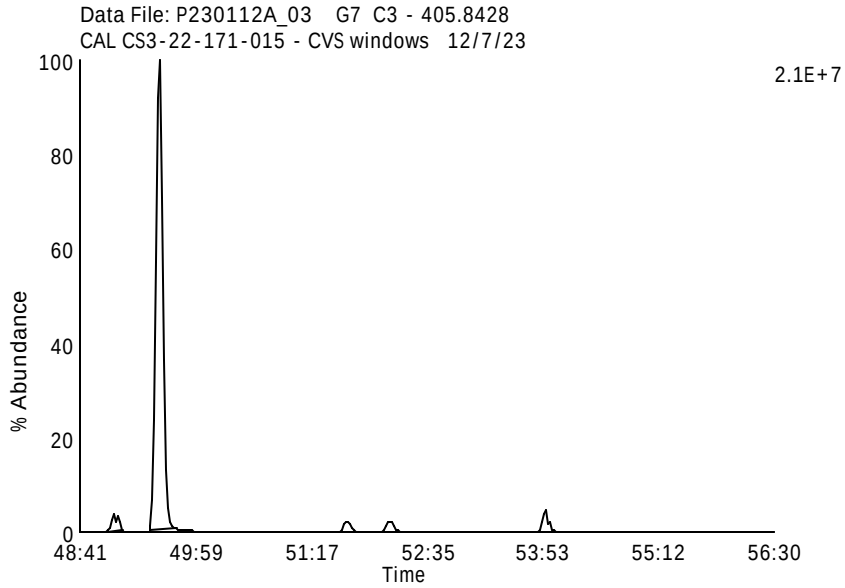
Labeled Hepta Chlorinated Biphenyls

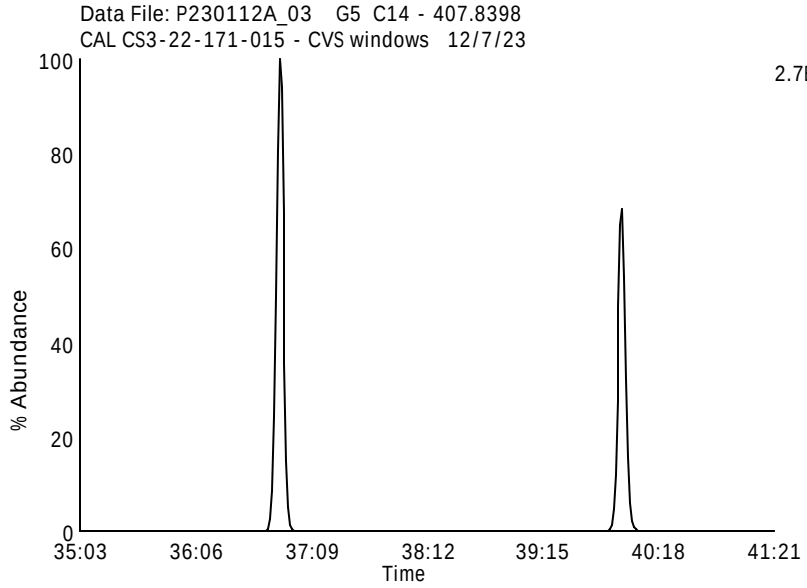
Data File Name: P230112A_03 Lab Sample ID: CS3-22-171-015

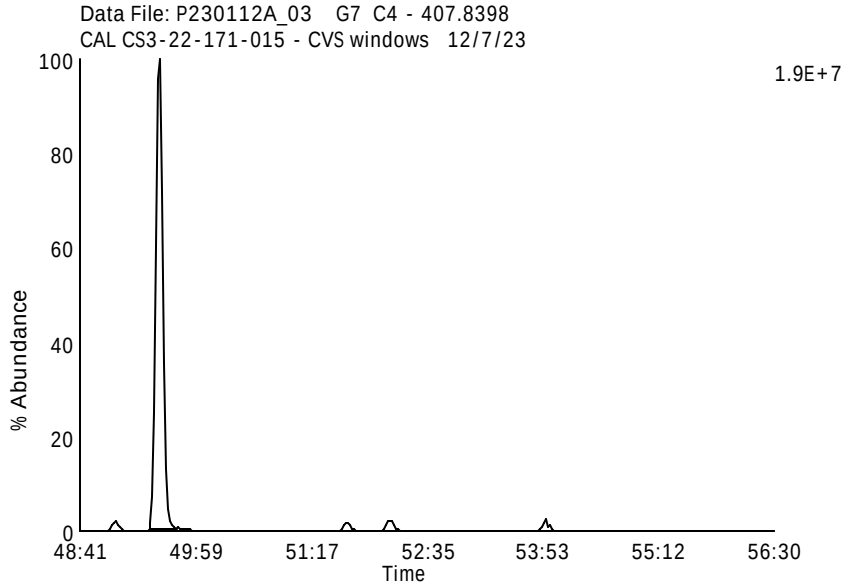
Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23









Labeled Octa Chlorinated Biphenyls

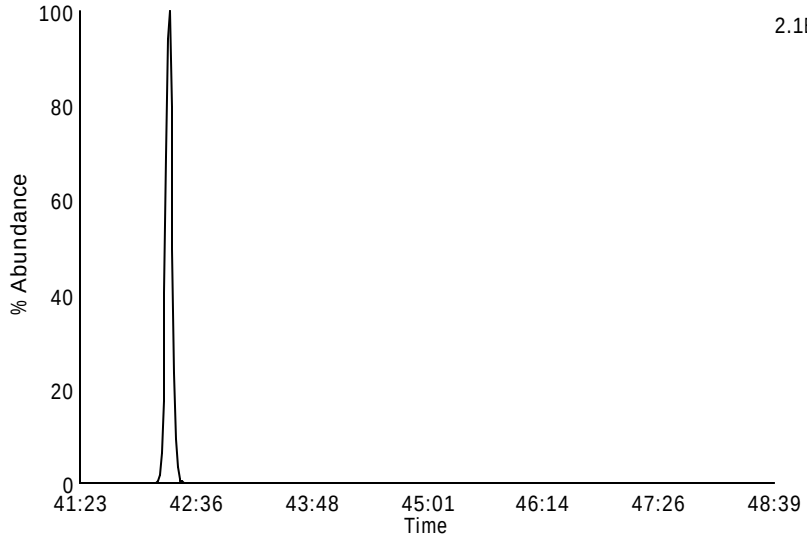
Data File Name: P230112A_03 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23

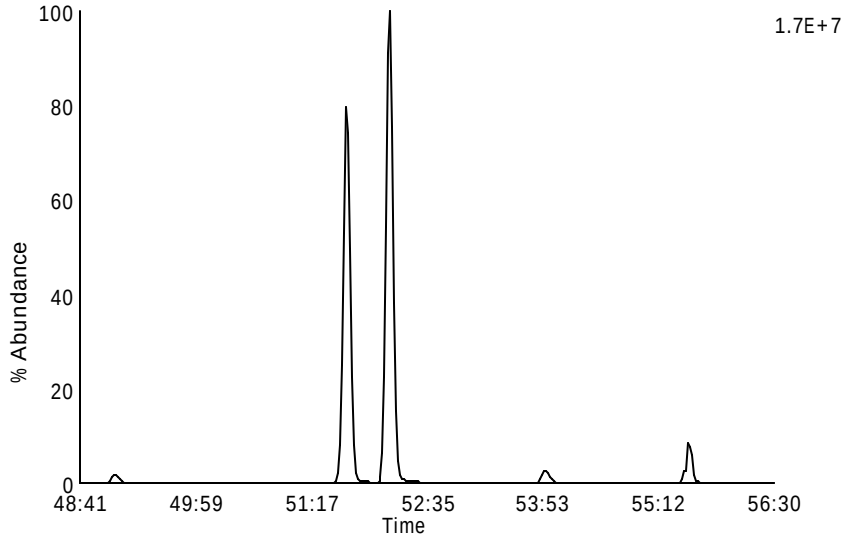
Data File: P230112A_03 G6 C13 - 439.8038

CAL CS3-22-171-015 - CVS windows 12/7/23



Data File: P230112A_03 G7 C7 - 439.8038

CAL CS3-22-171-015 - CVS windows 12/7/23



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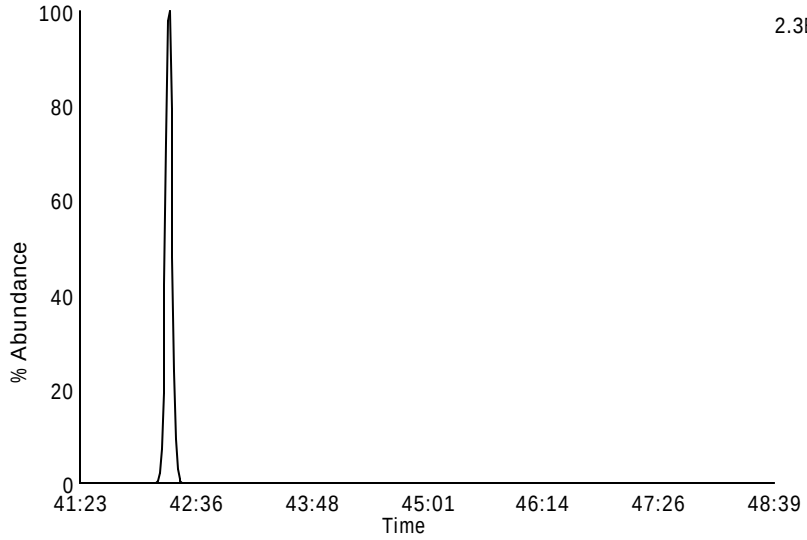
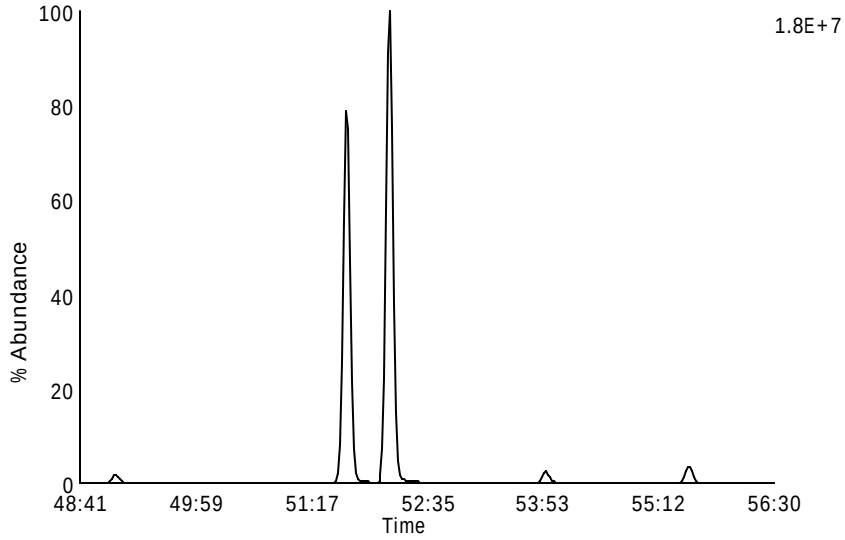
CAL CS3-22-171-015 - CVS windows 12/7/23



Data File: P230112A_03 G7 C8 - 441.8008

CAL CS3-22-171-015 - CVS windows 12/7/23

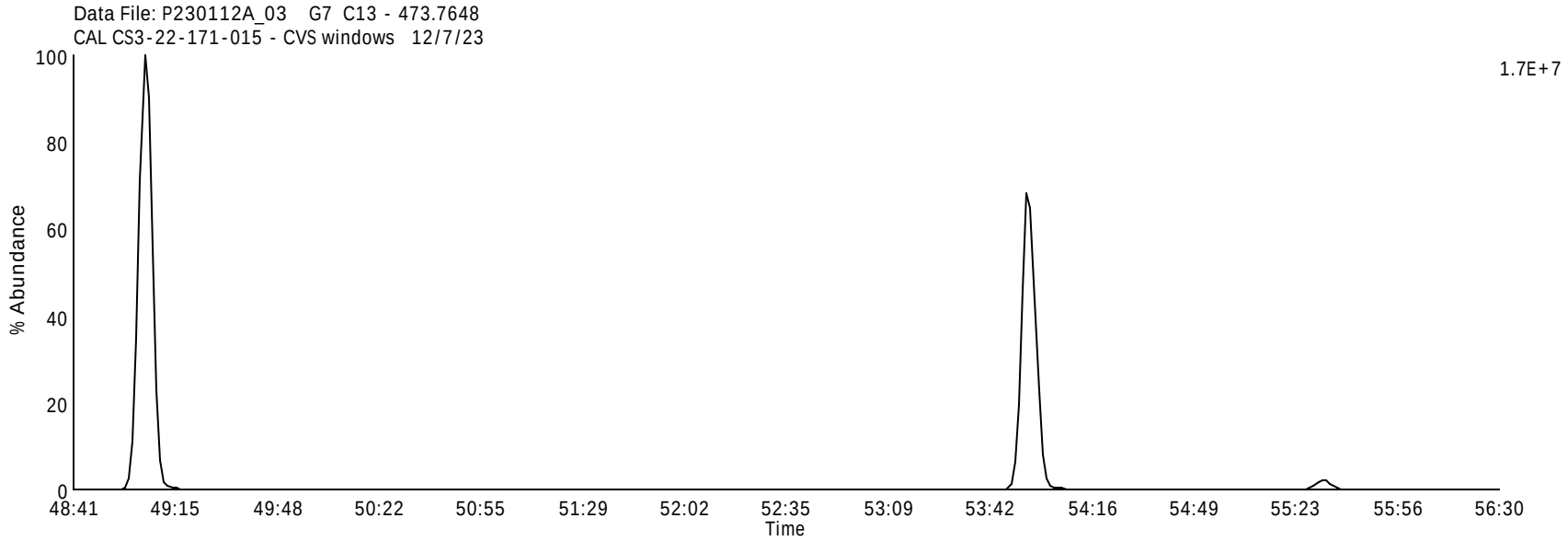


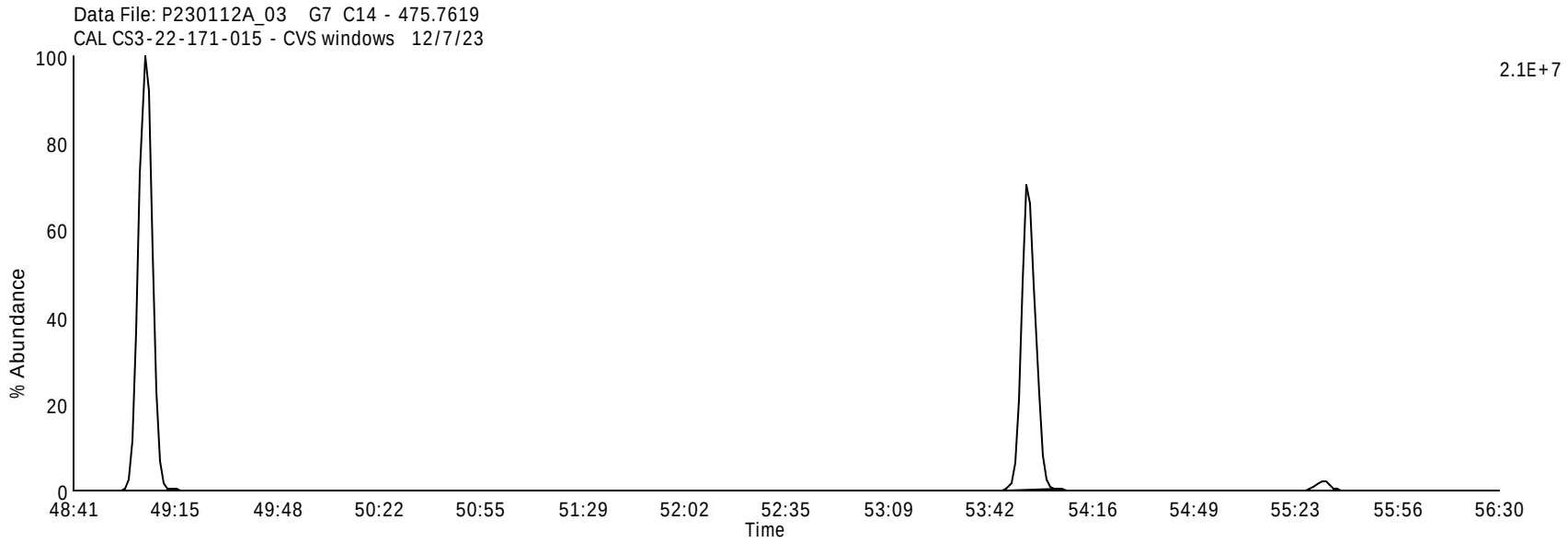
Labeled Nona Chlorinated Biphenyls

Data File Name: P230112A_03 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23



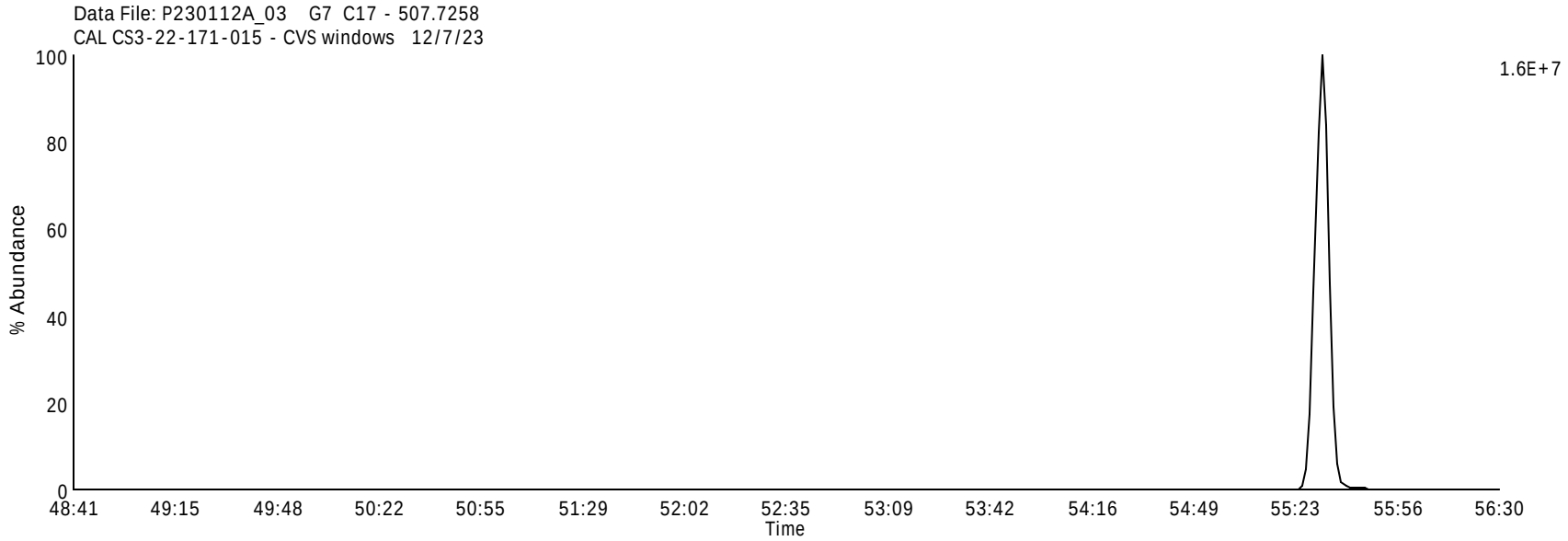


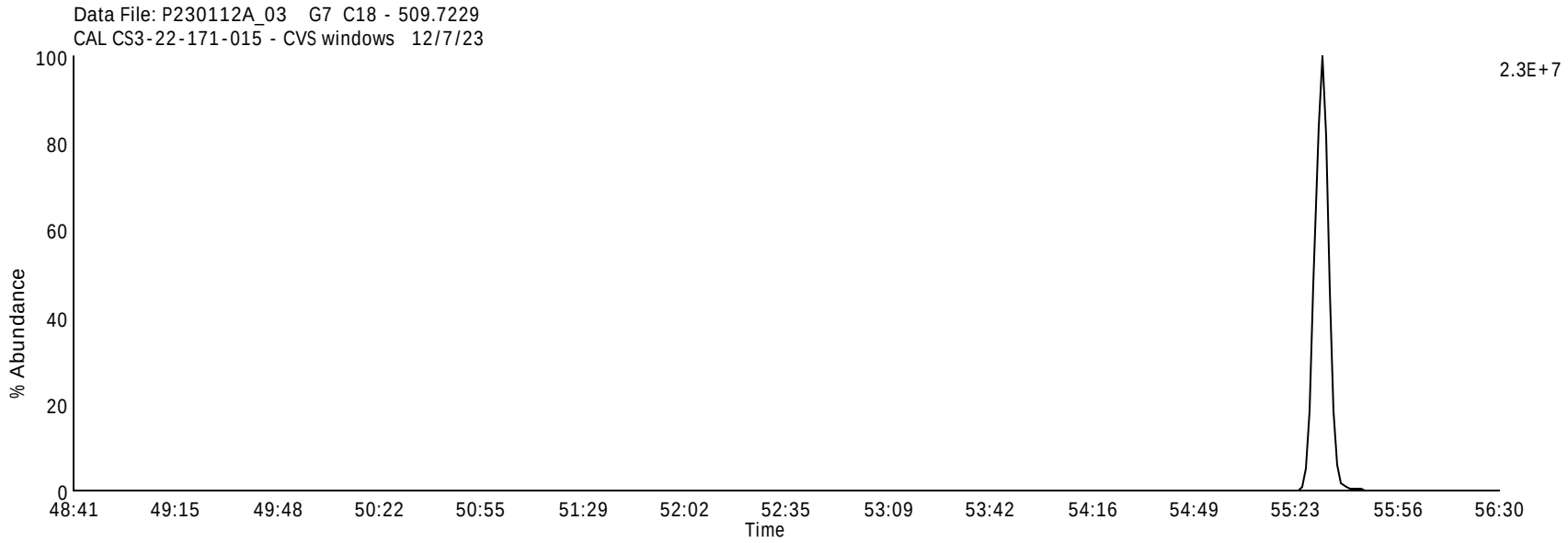
Labeled Deca Chlorinated Biphenyl

Data File Name: P230112A_03 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23



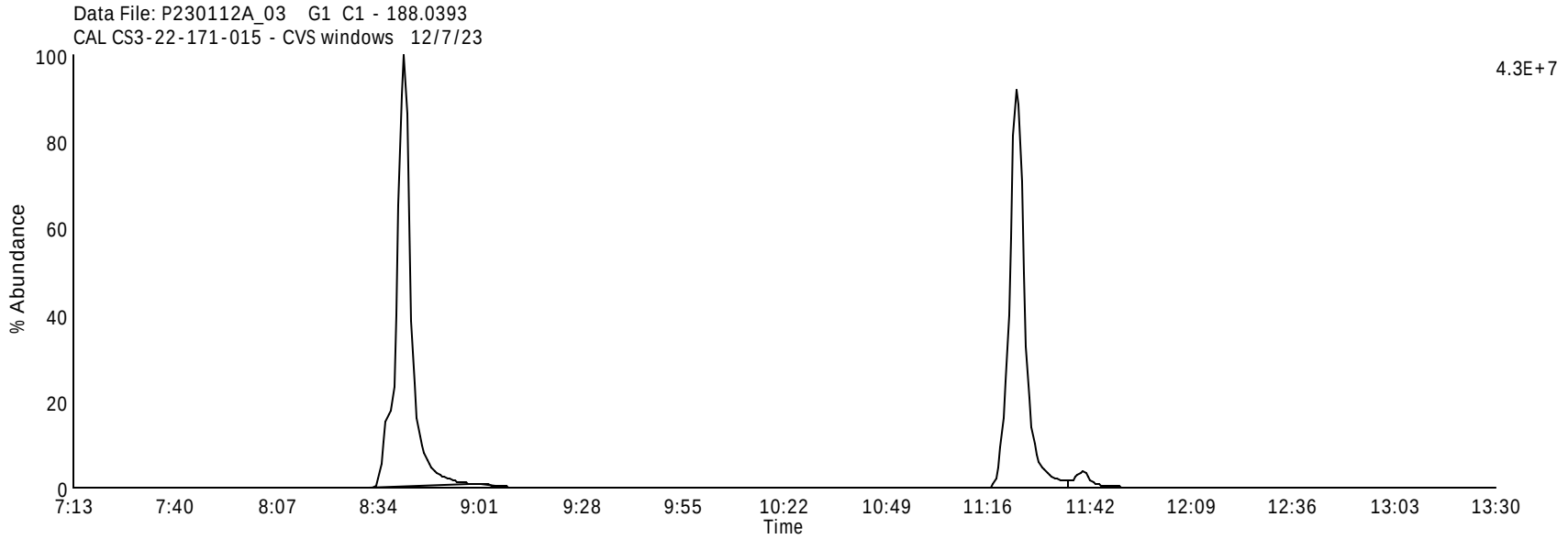


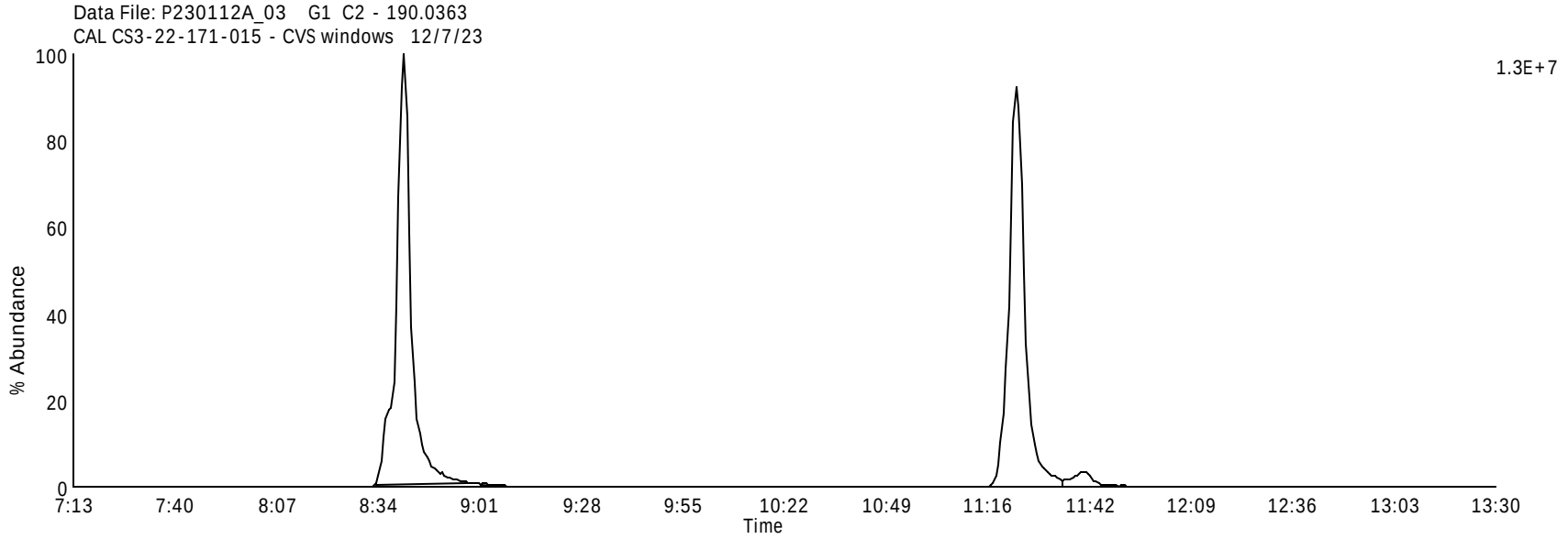
Mono Chlorinated Biphenyls

Data File Name: P230112A_03 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23



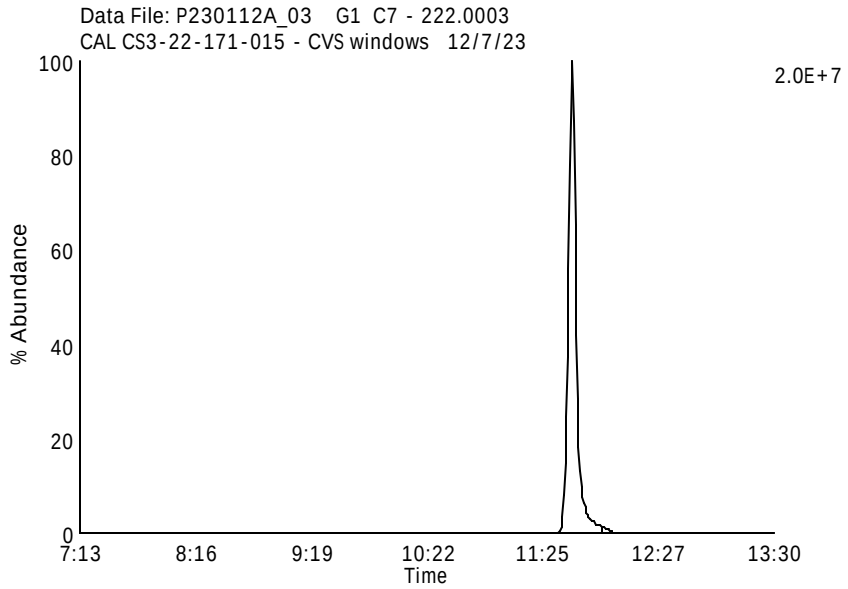


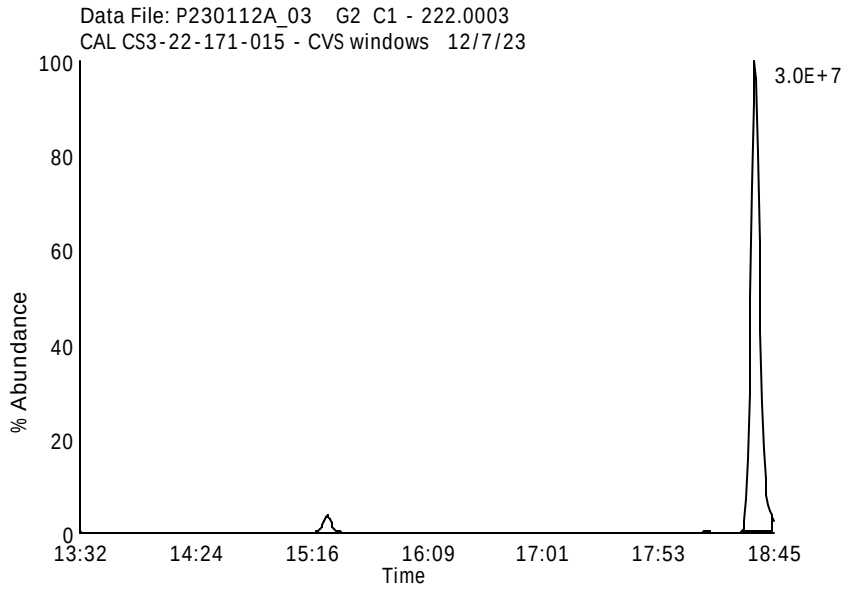
Di Chlorinated Biphenyls

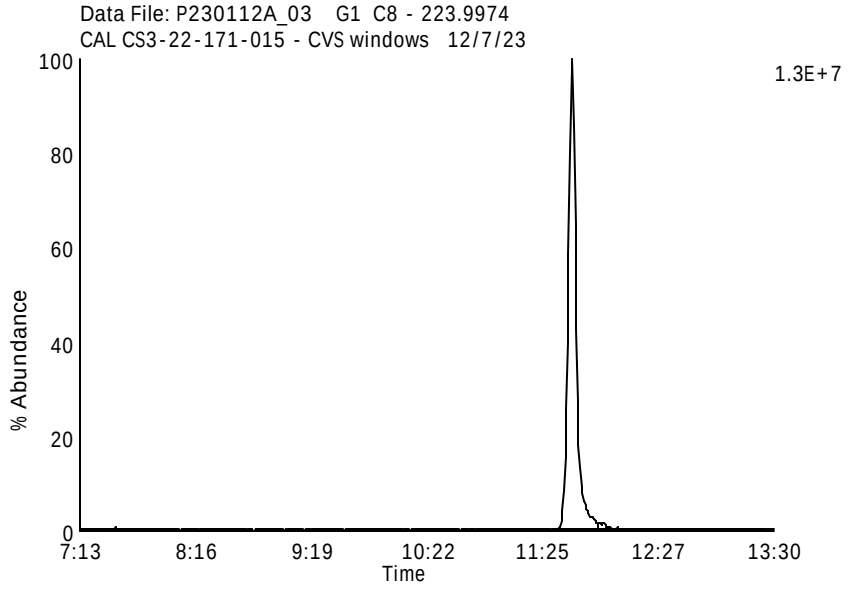
Data File Name: P230112A_03 Lab Sample ID: CS3-22-171-015

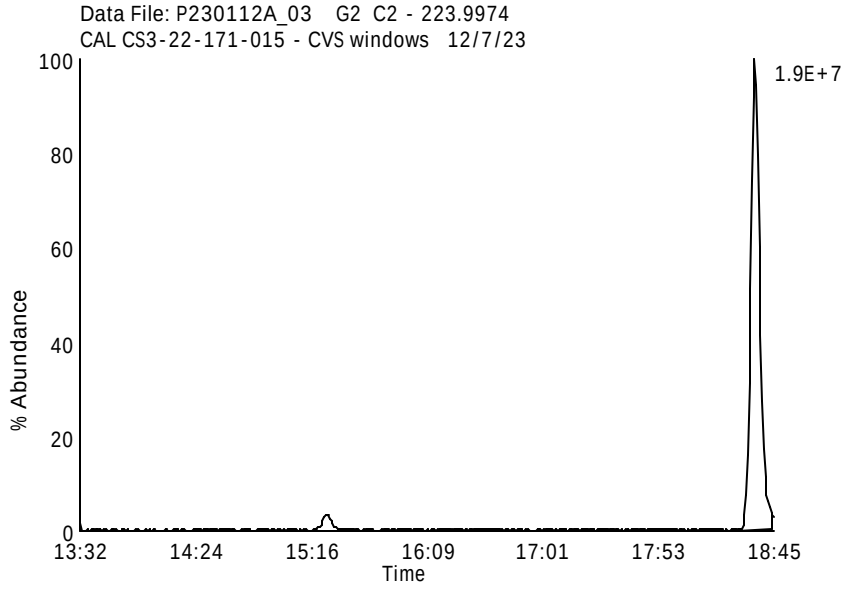
Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23









Tri Chlorinated Biphenyls

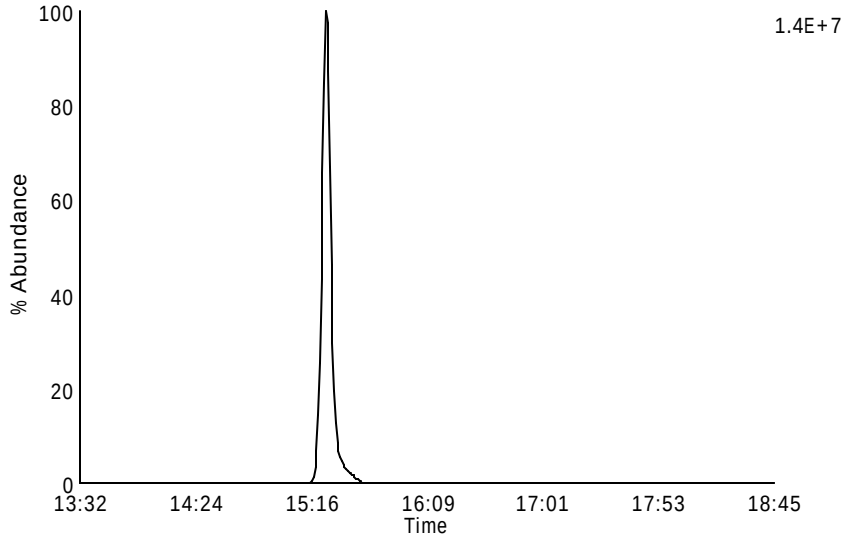
Data File Name: P230112A_03 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23

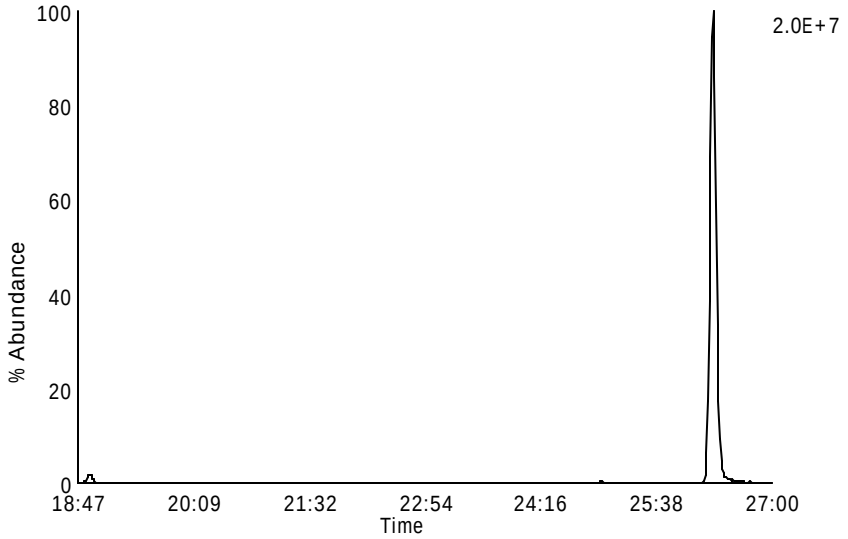
Data File: P230112A_03 G2 C7 - 255.9613

CAL CS3-22-171-015 - CVS windows 12/7/23



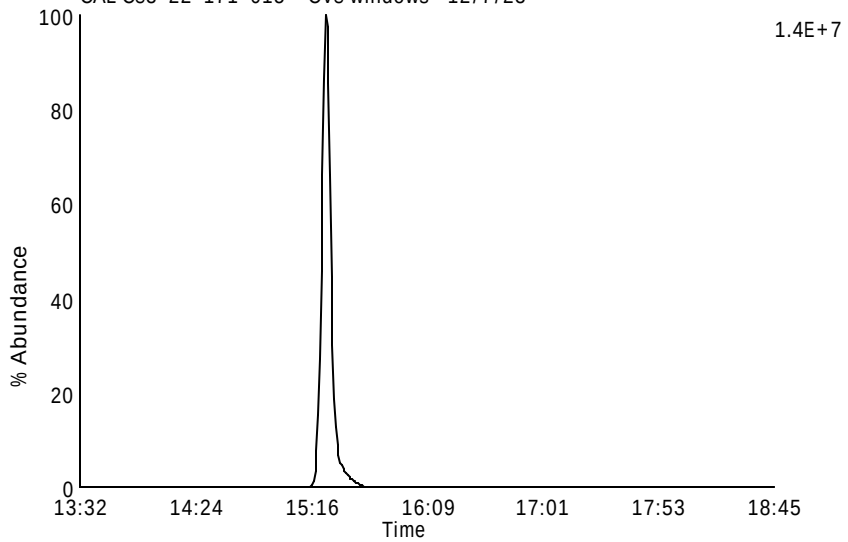
Data File: P230112A_03 G3 C1 - 255.9613

CAL CS3-22-171-015 - CVS windows 12/7/23



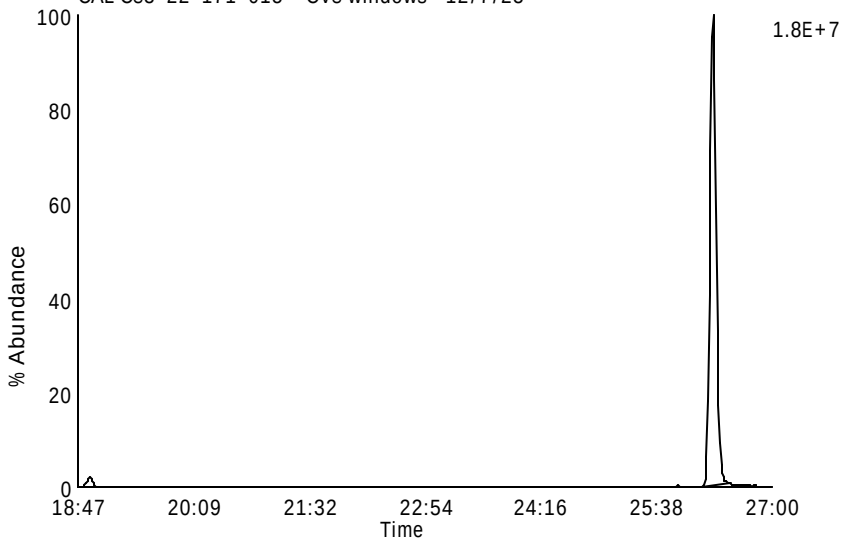
Data File: P230112A_03 G2 C8 - 257.9584

CAL CS3-22-171-015 - CVS windows 12/7/23



Data File: P230112A_03 G3 C2 - 257.9584

CAL CS3-22-171-015 - CVS windows 12/7/23

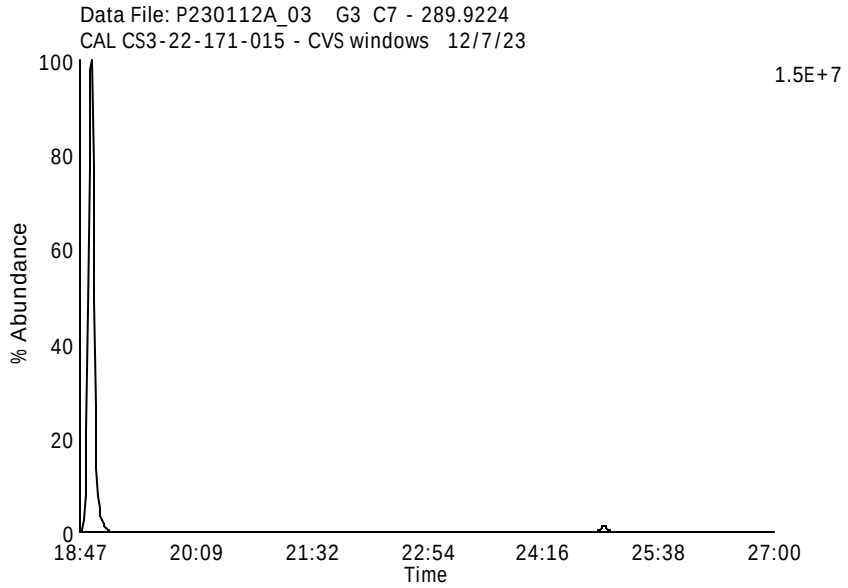


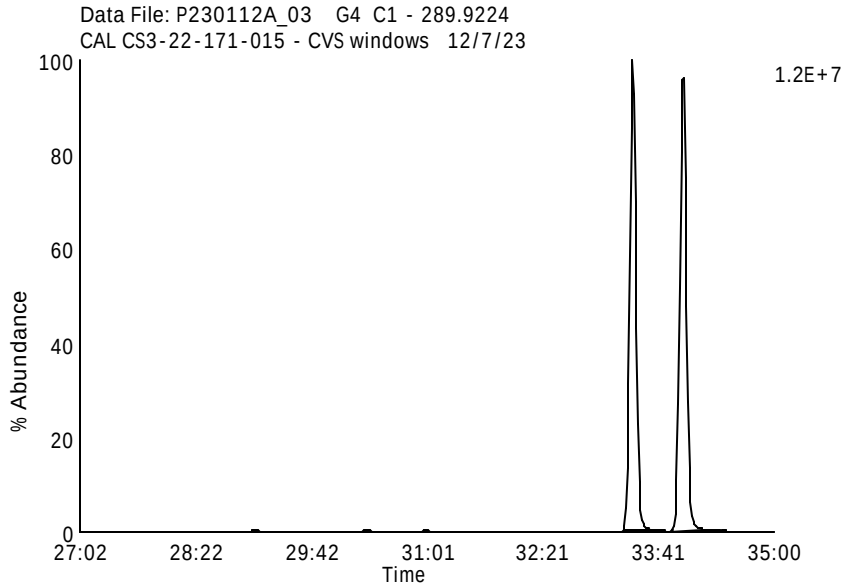
Tetra Chlorinated Biphenyls

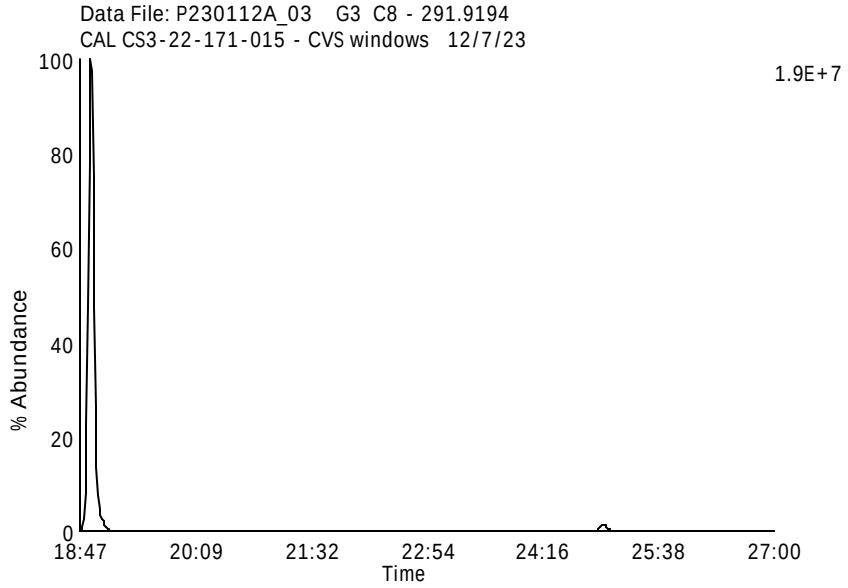
Data File Name: P230112A_03 Lab Sample ID: CS3-22-171-015

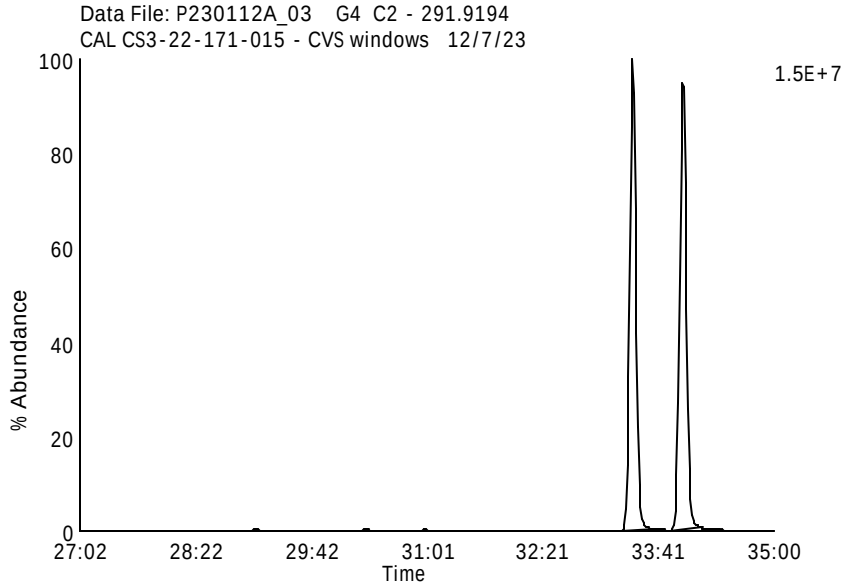
Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23







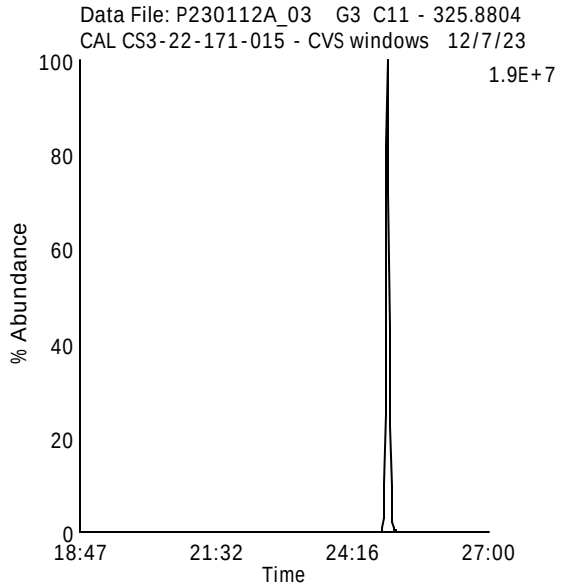


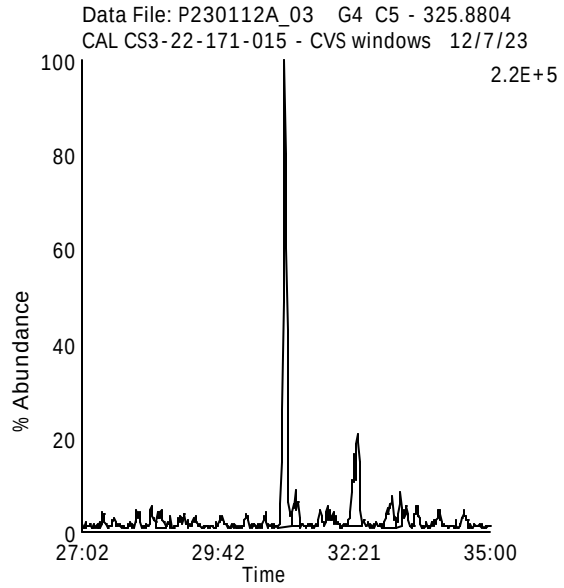
Penta Chlorinated Biphenyls

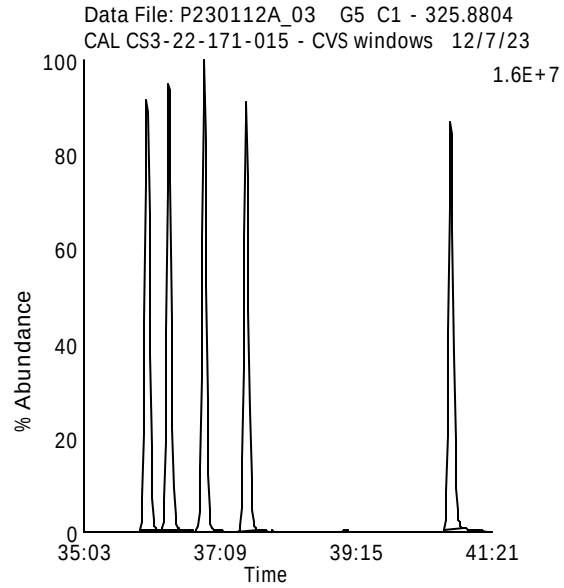
Data File Name: P230112A_03 Lab Sample ID: CS3-22-171-015

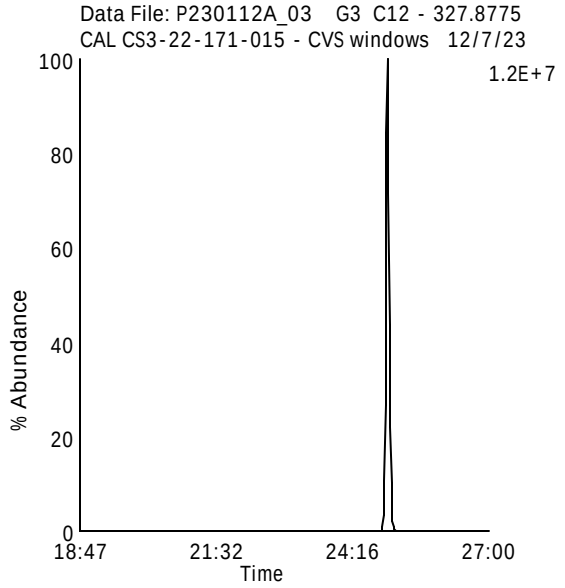
Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

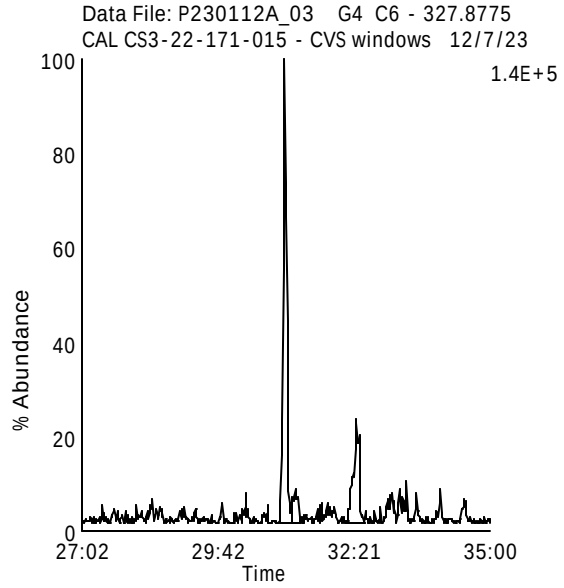
Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23

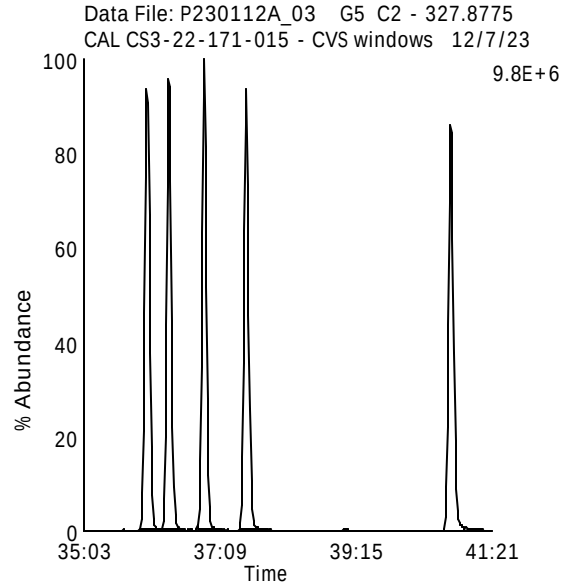










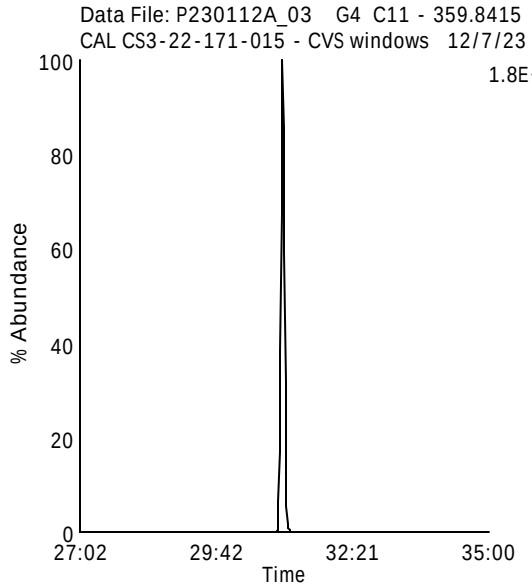


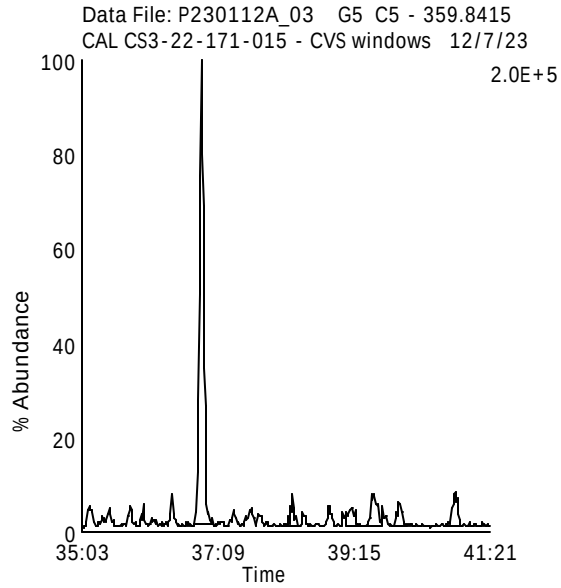
Hexa Chlorinated Biphenyls

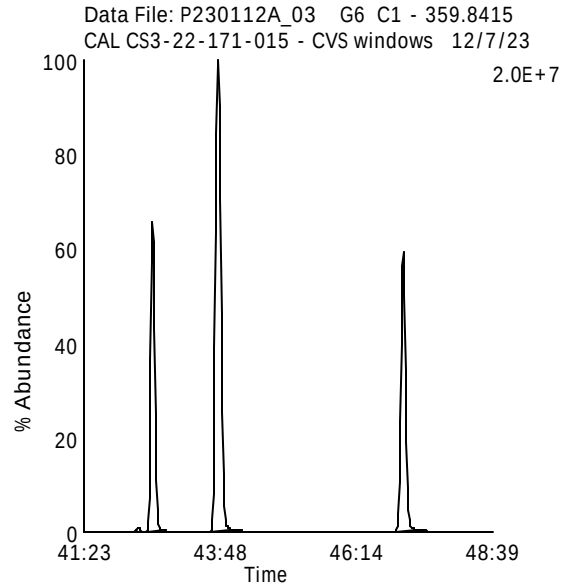
Data File Name: P230112A_03 Lab Sample ID: CS3-22-171-015

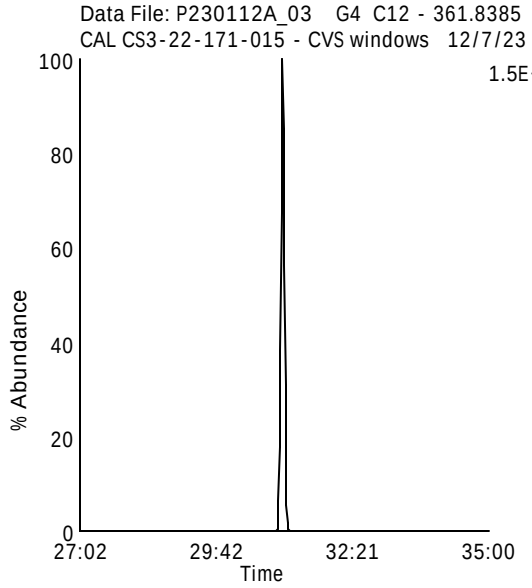
Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

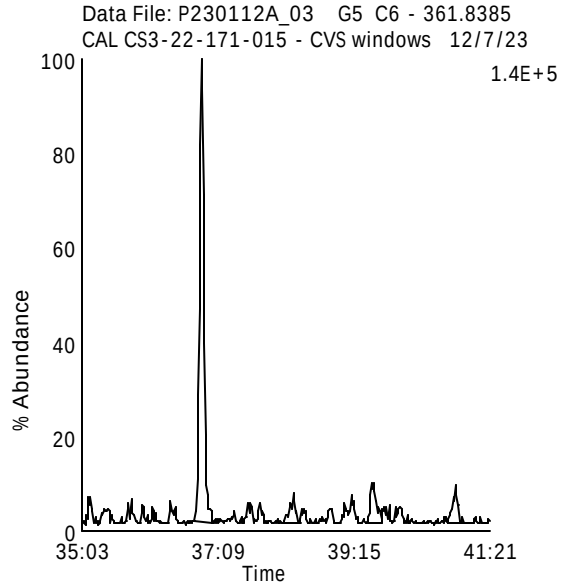
Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23

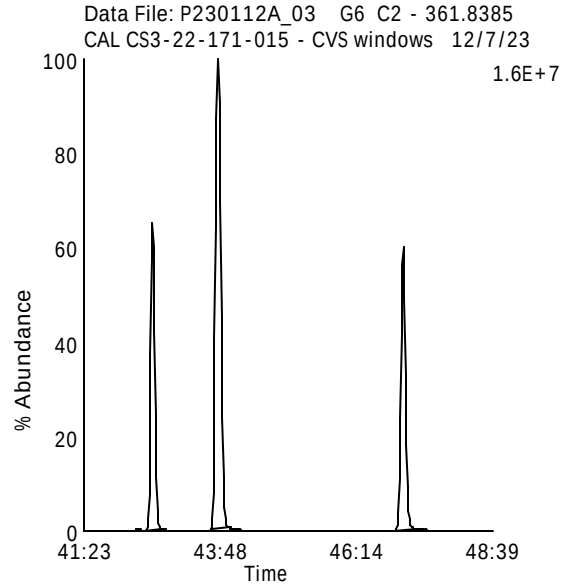










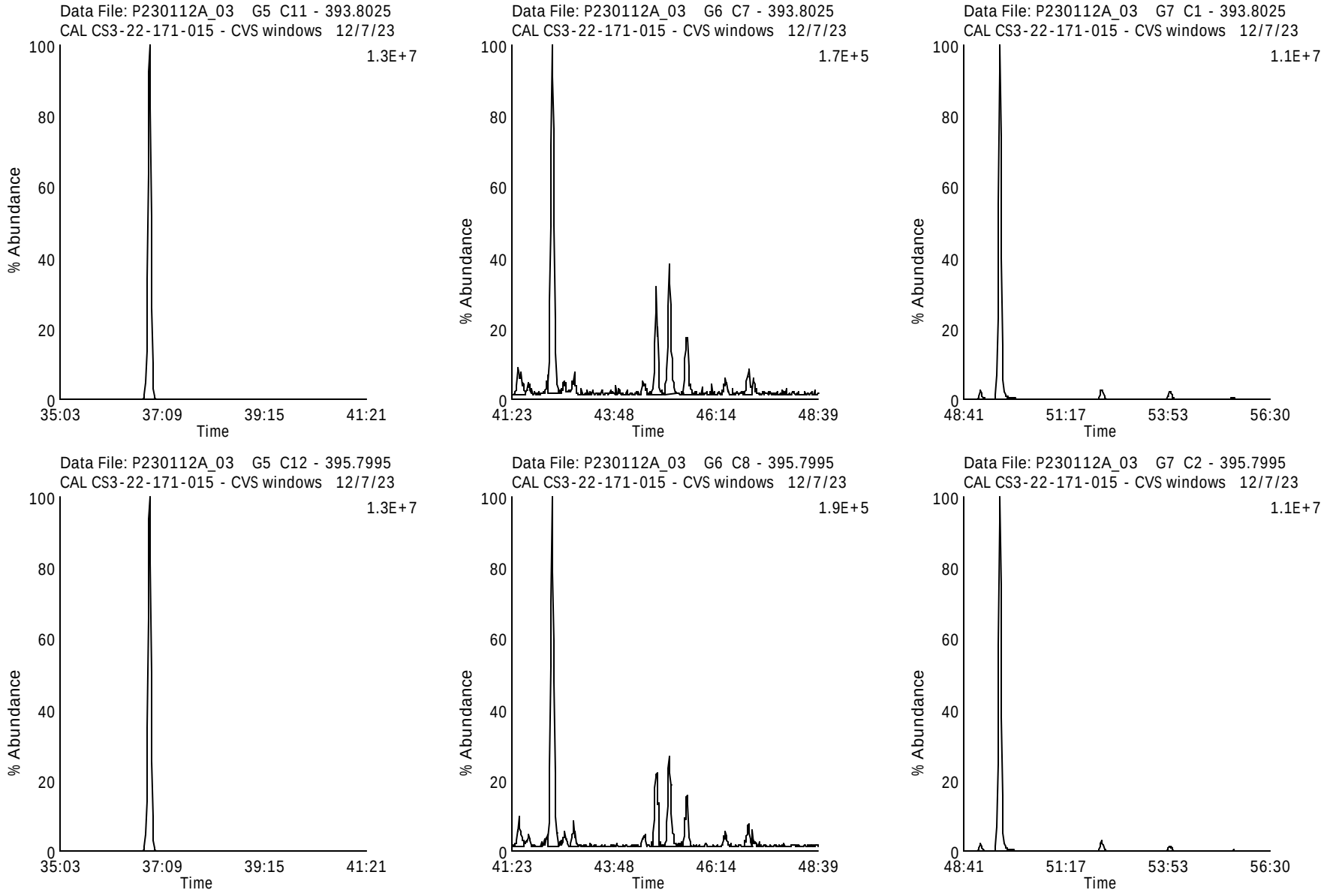


Hepta Chlorinated Biphenyls

Data File Name: P230112A_03 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23

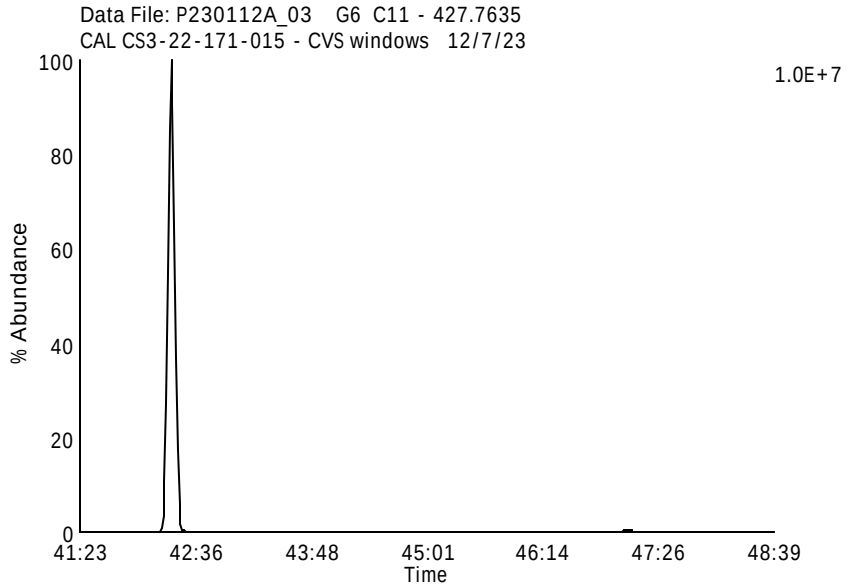


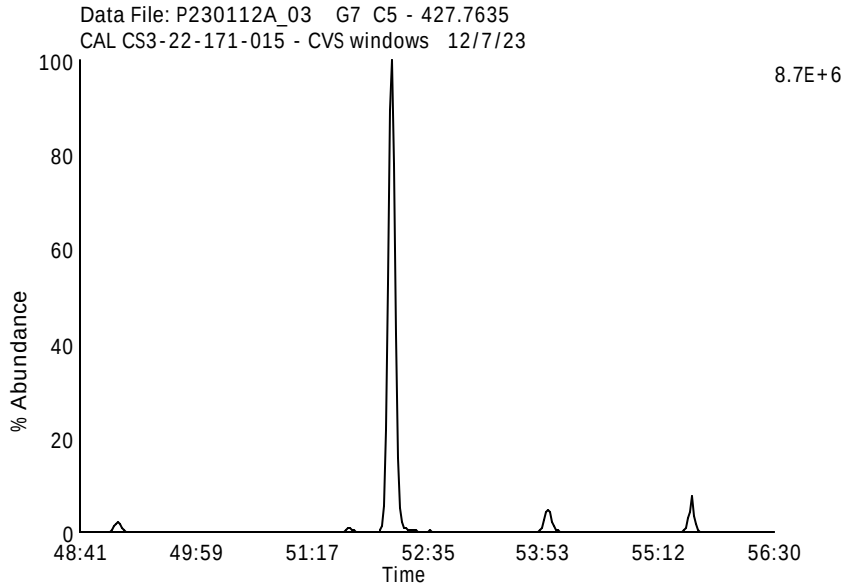
Octa Chlorinated Biphenyls

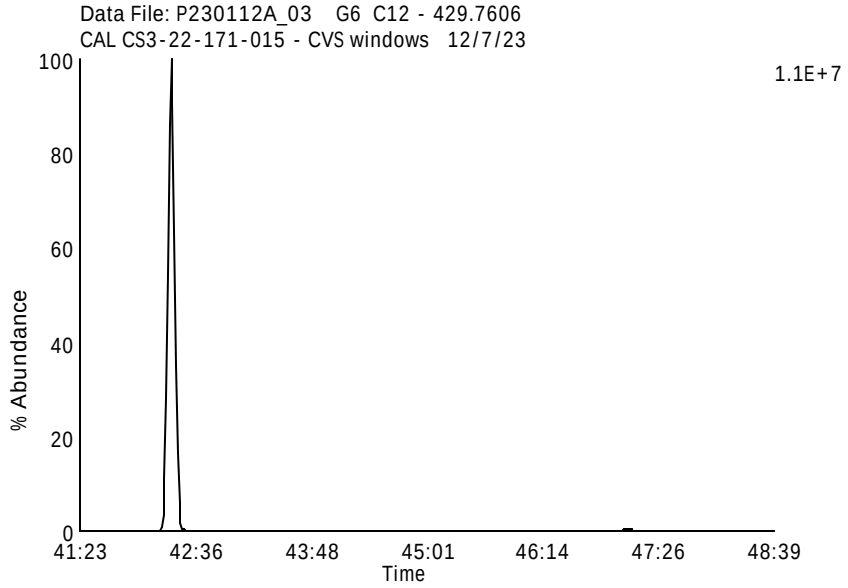
Data File Name: P230112A_03 Lab Sample ID: CS3-22-171-015

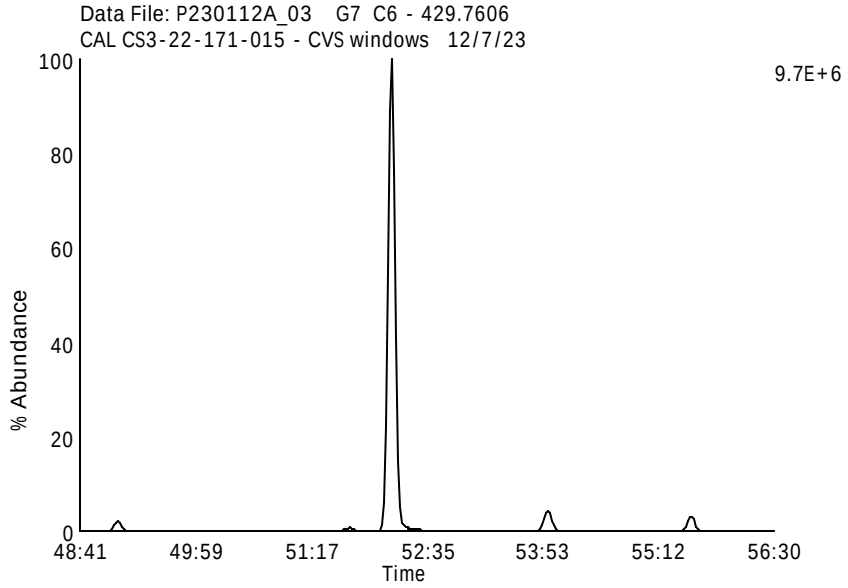
Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23









Nona Chlorinated Biphenyls

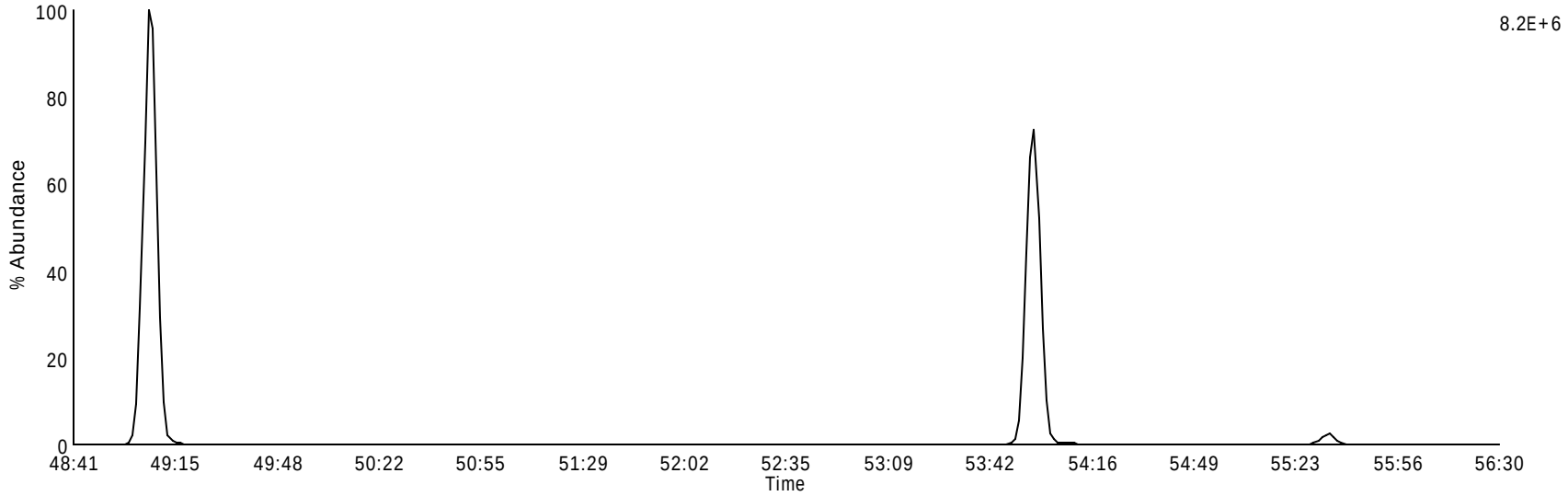
Data File Name: P230112A_03 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23

Data File: P230112A_03 G7 C11 - 461.7246

CAL CS3-22-171-015 - CVS windows 12/7/23



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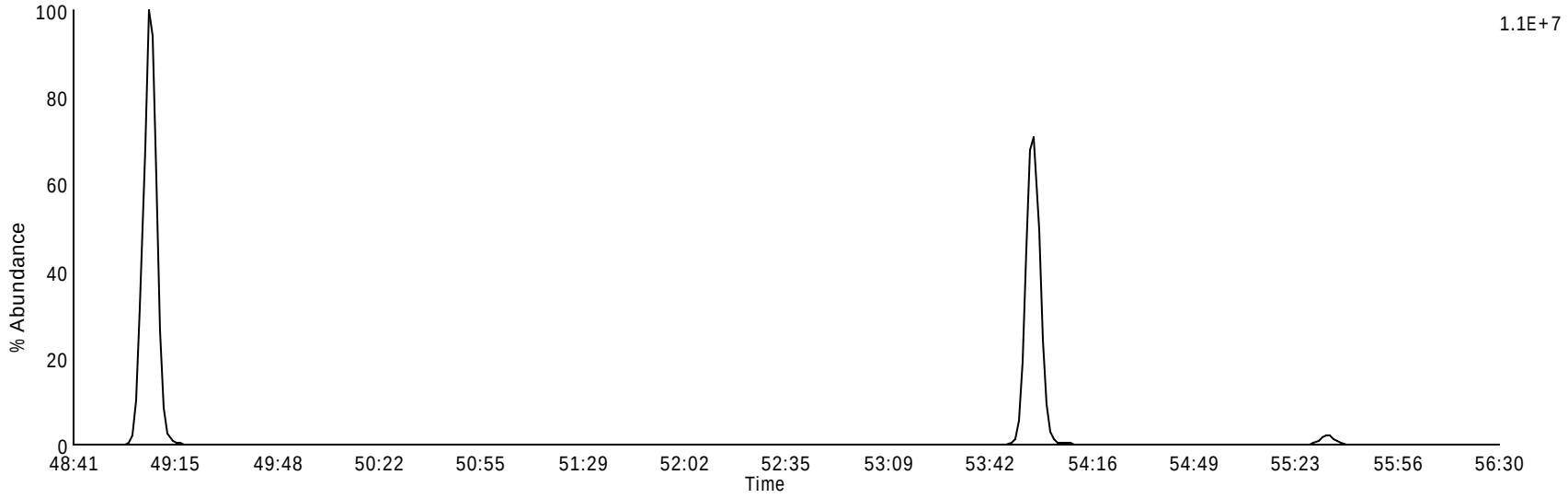
CAL CS3-22-171-015 - CVS windows 12/7/23

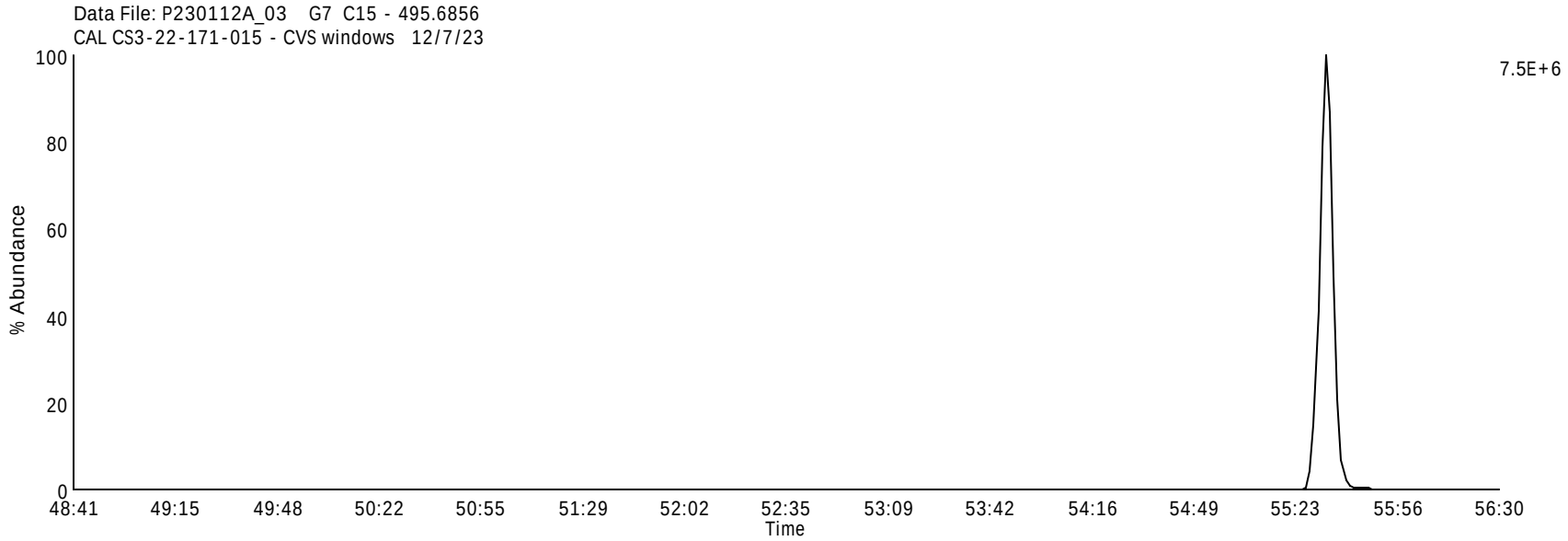


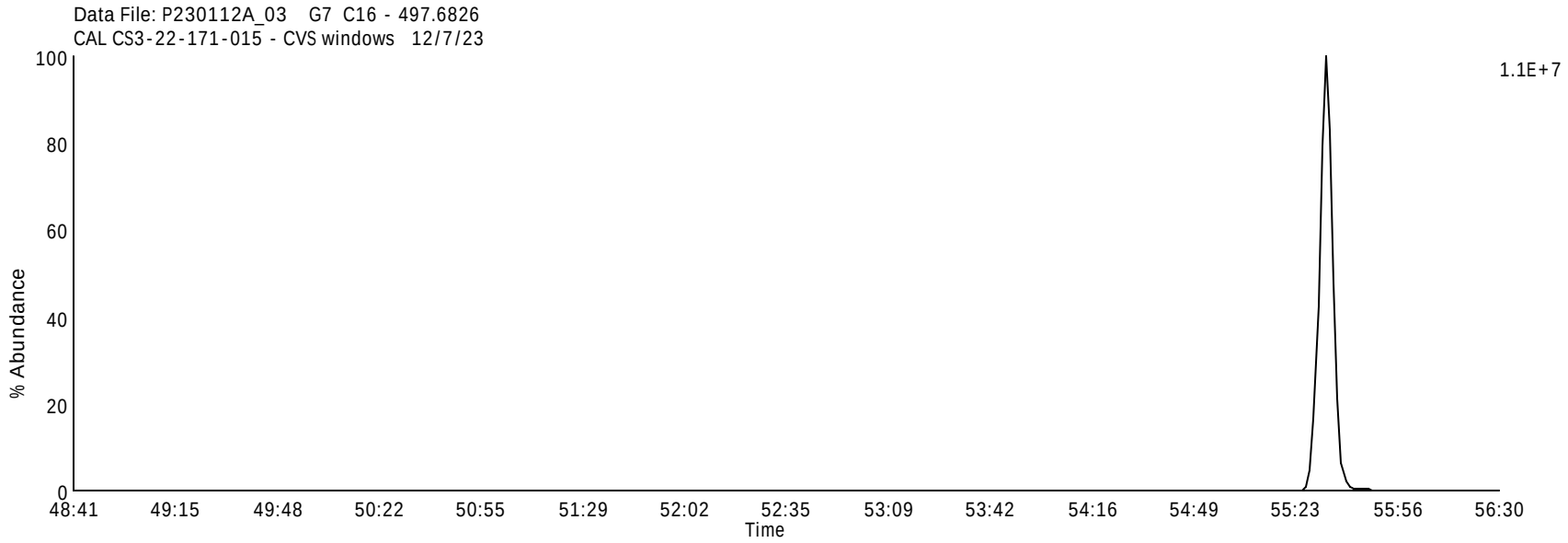
Deca Chlorinated Biphenyl

Data File Name: P230112A_03 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/12/2023 Instrument: 10MSHR09 (P)

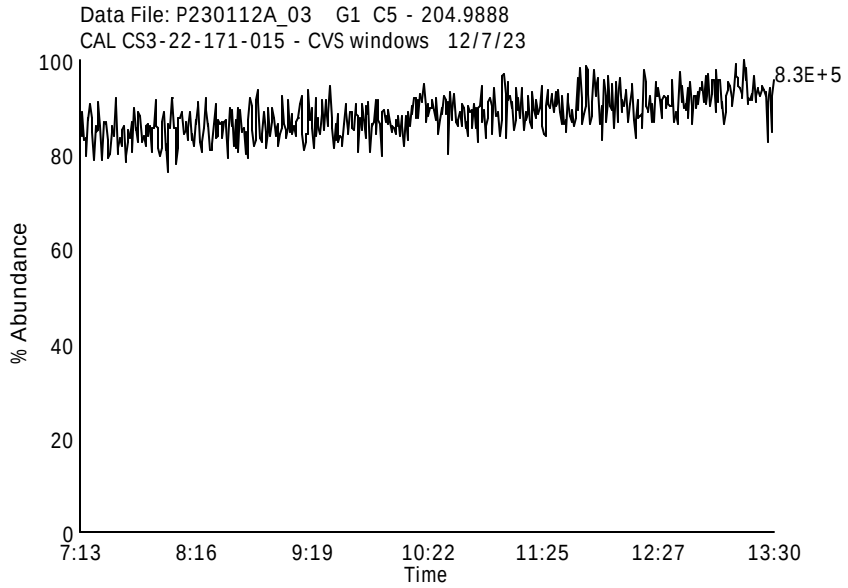
Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23

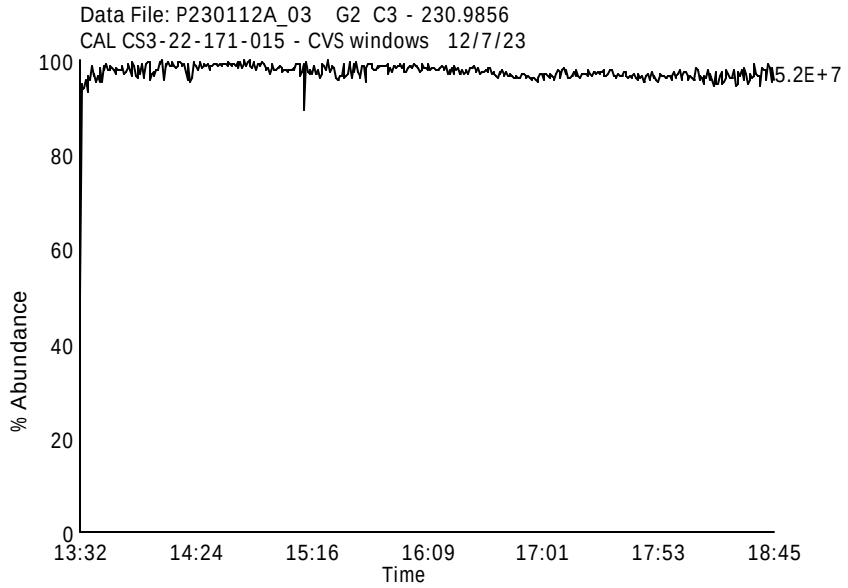


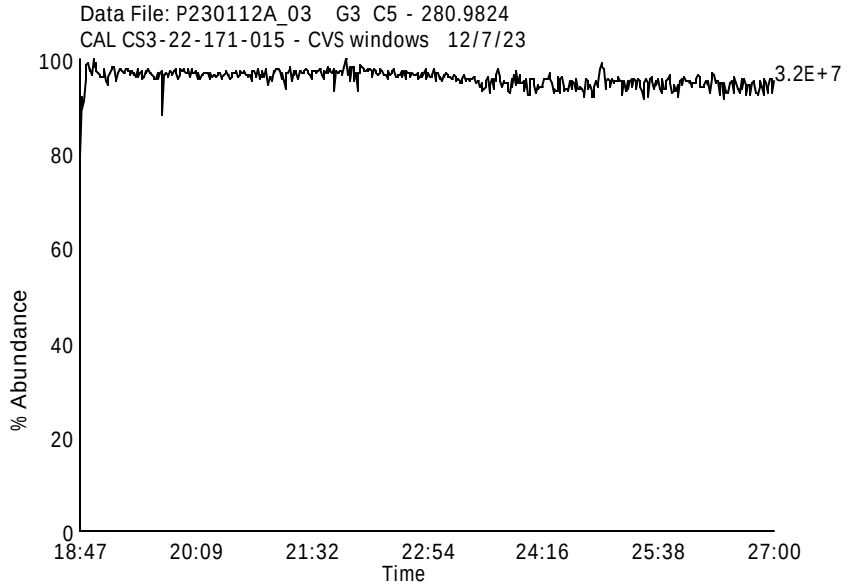


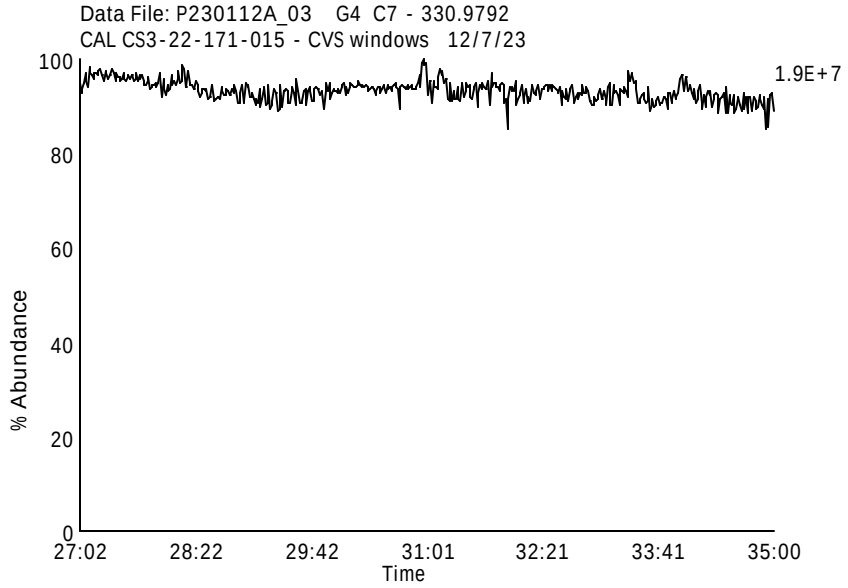
Group 1 - 4 Lock mass

Data File Name: P230112A_03
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23



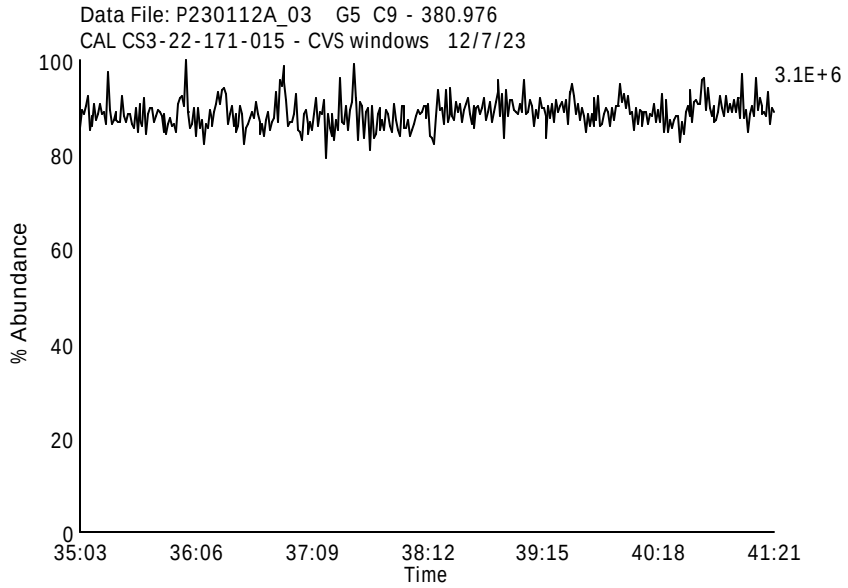


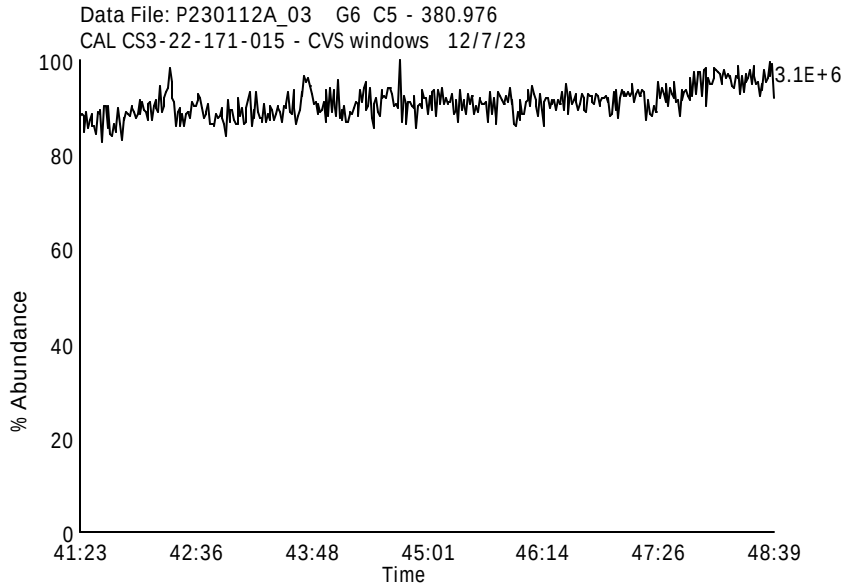


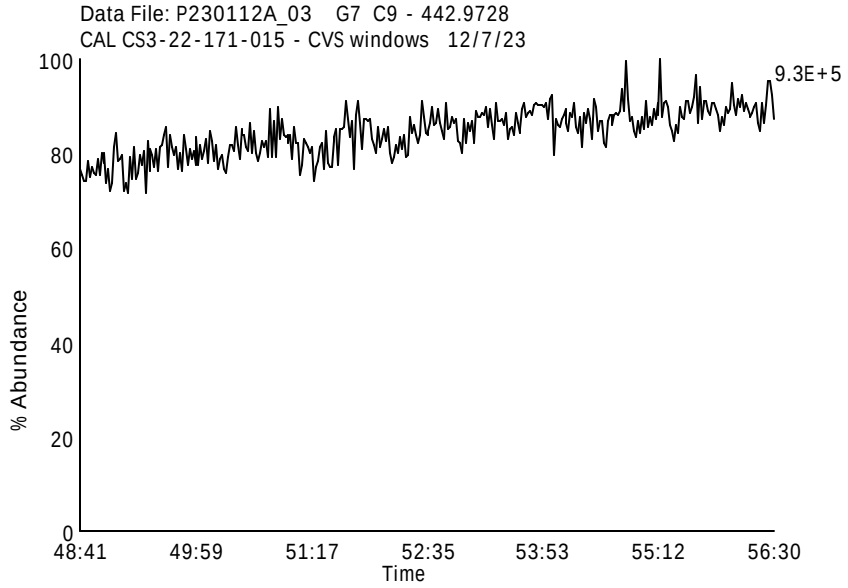


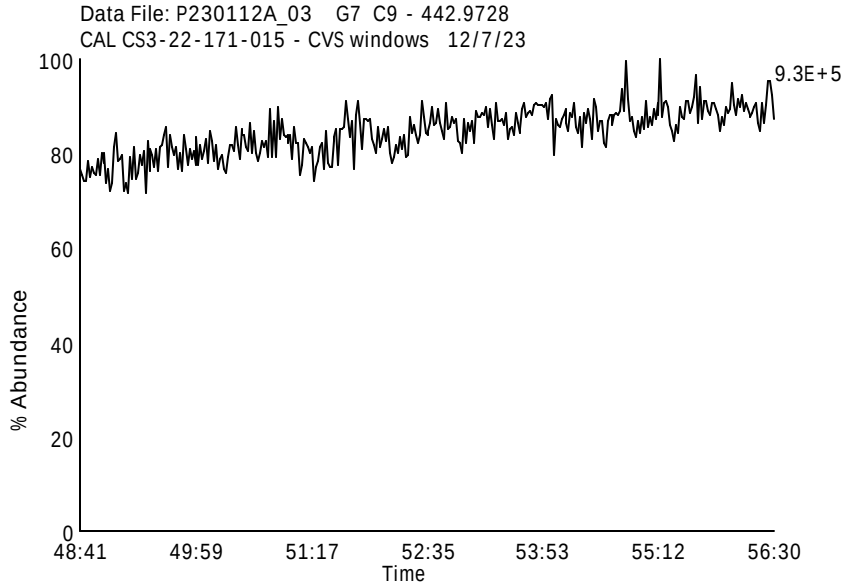
Group 5 - 7 Lock mass

Data File Name: P230112A_03
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - CVS windows 12/7/23







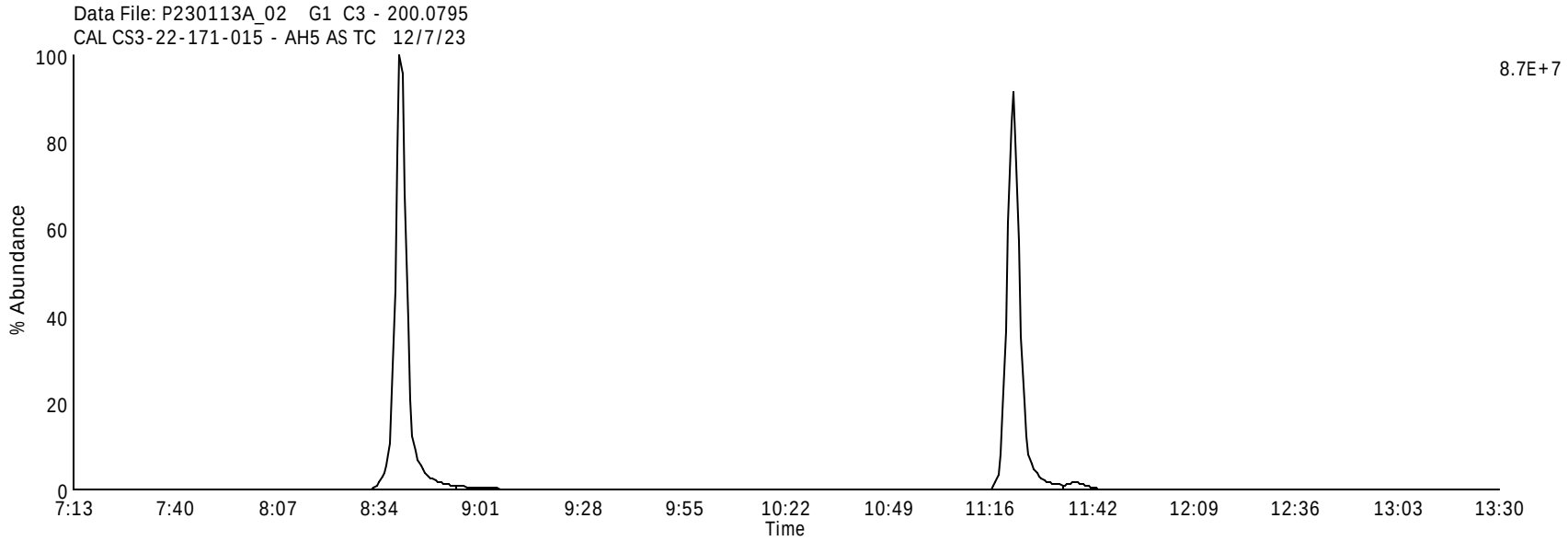


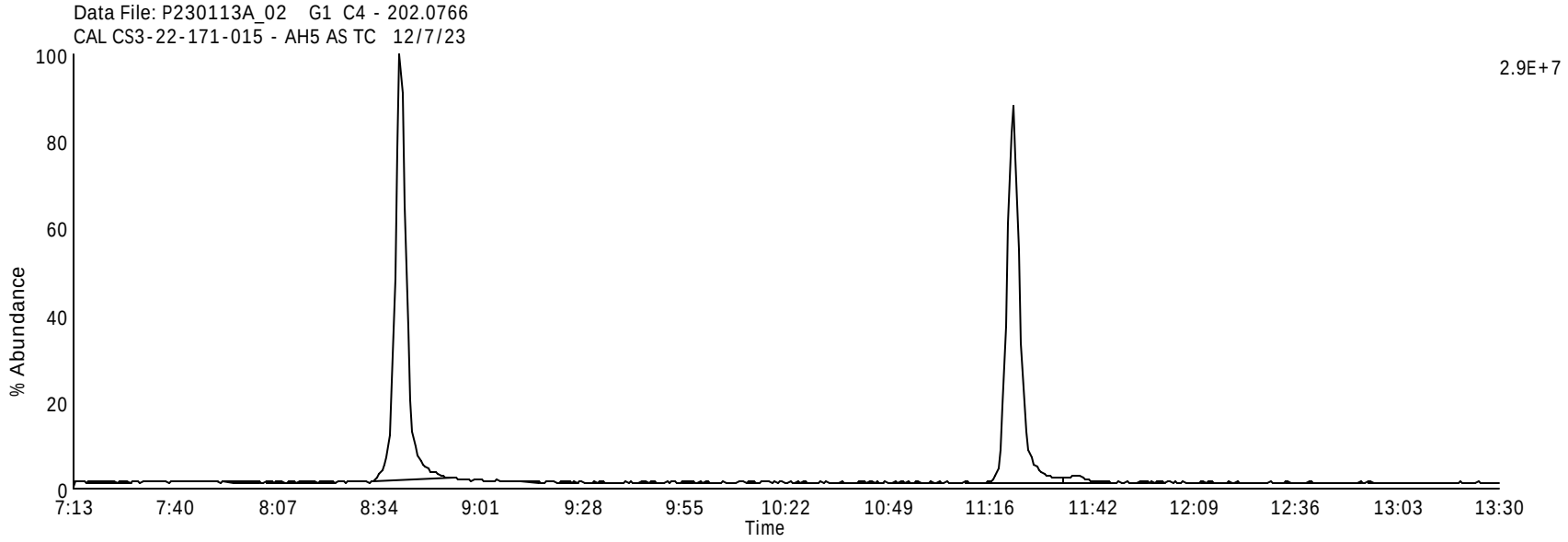
Labeled Mono Chlorinated Biphenyls

Data File Name: P230113A_02 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

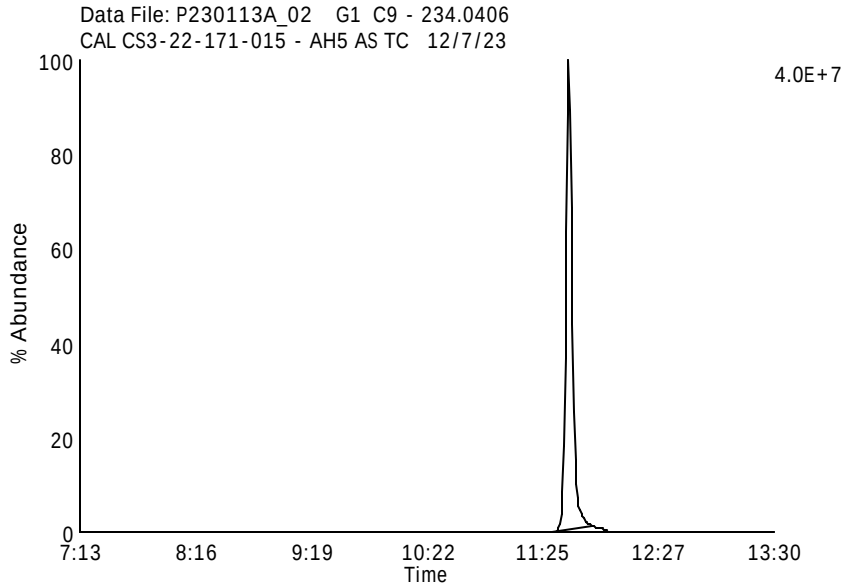
Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23

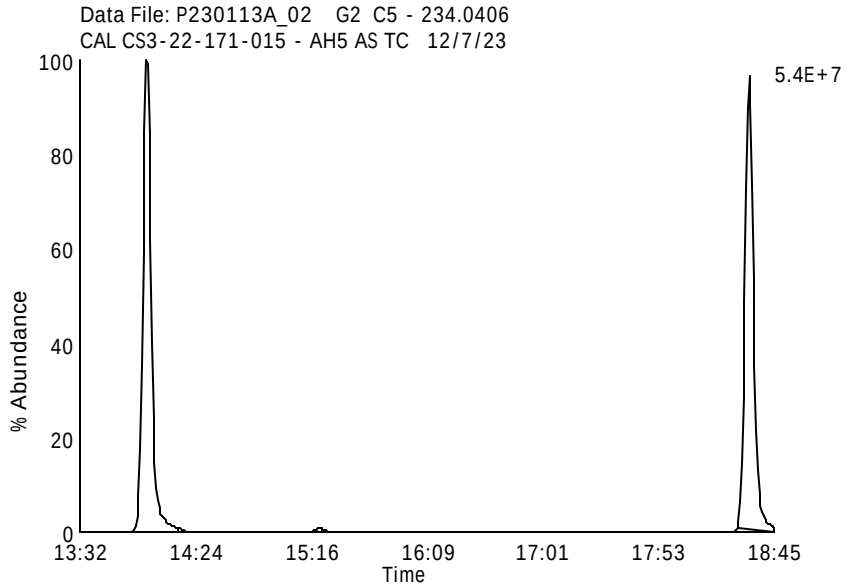


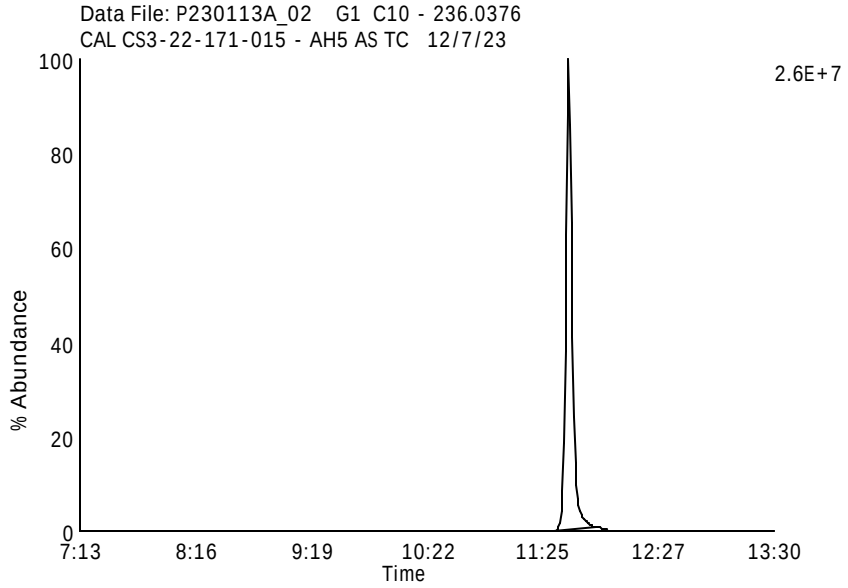


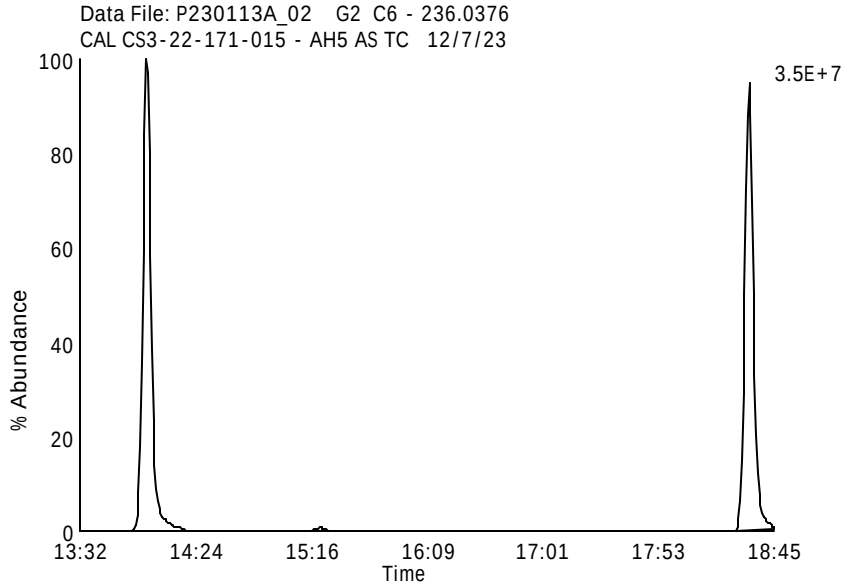
Labeled Di Chlorinated Biphenyls

Data File Name: P230113A_02
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23







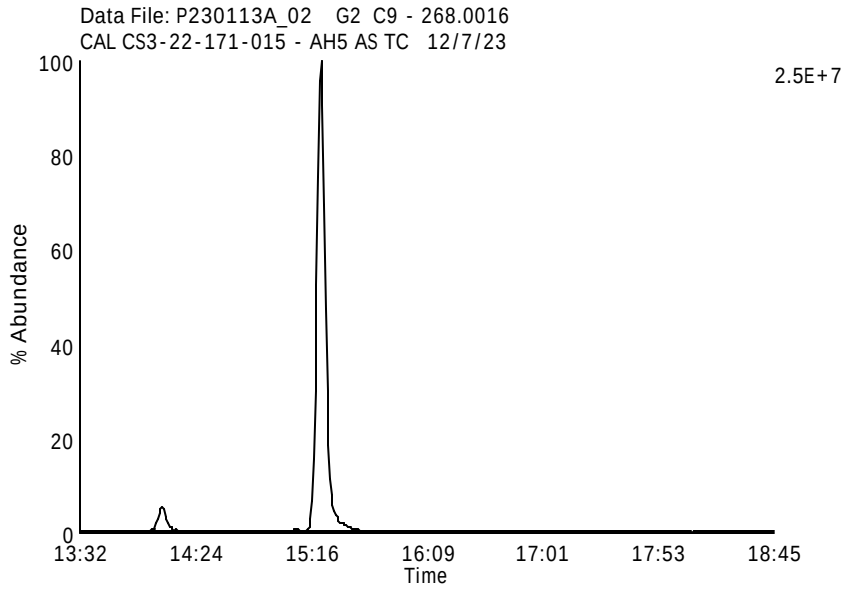


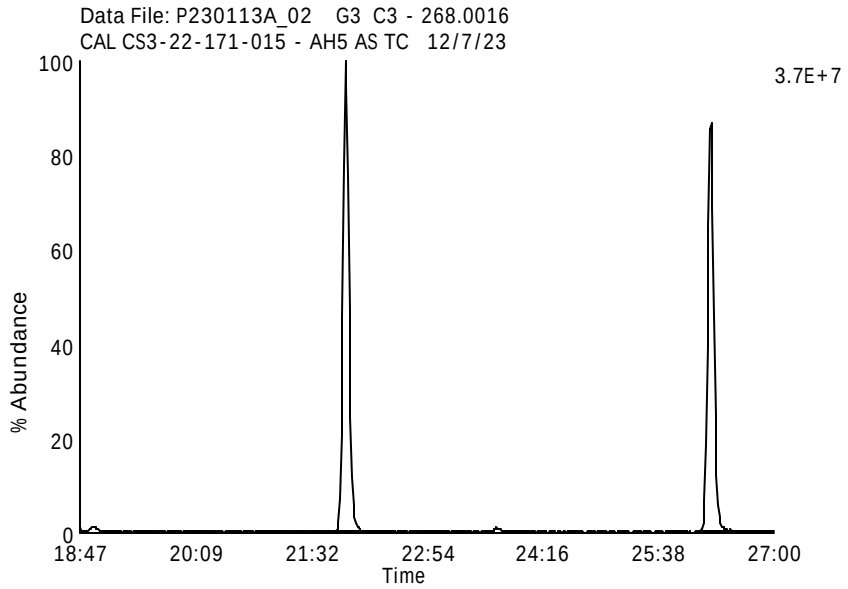
Labeled Tri Chlorinated Biphenyls

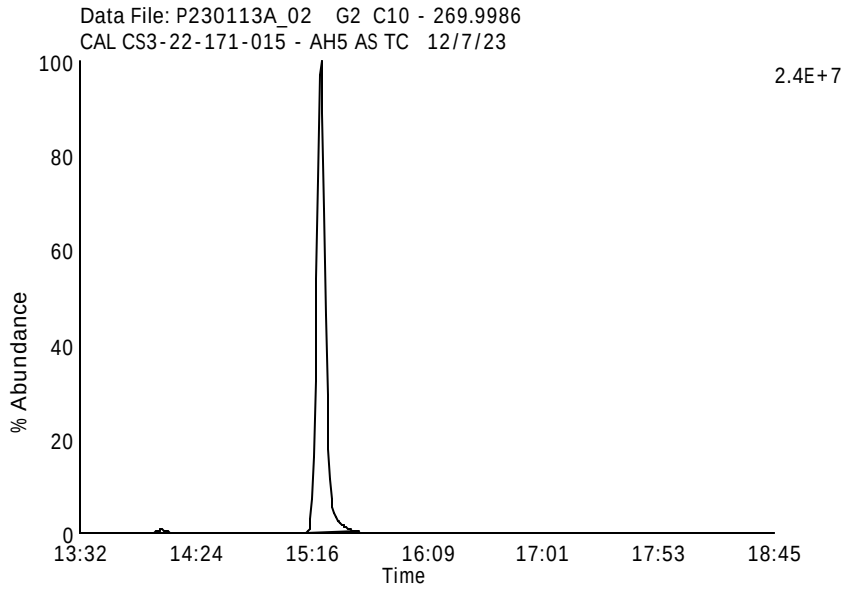
Data File Name: P230113A_02 Lab Sample ID: CS3-22-171-015

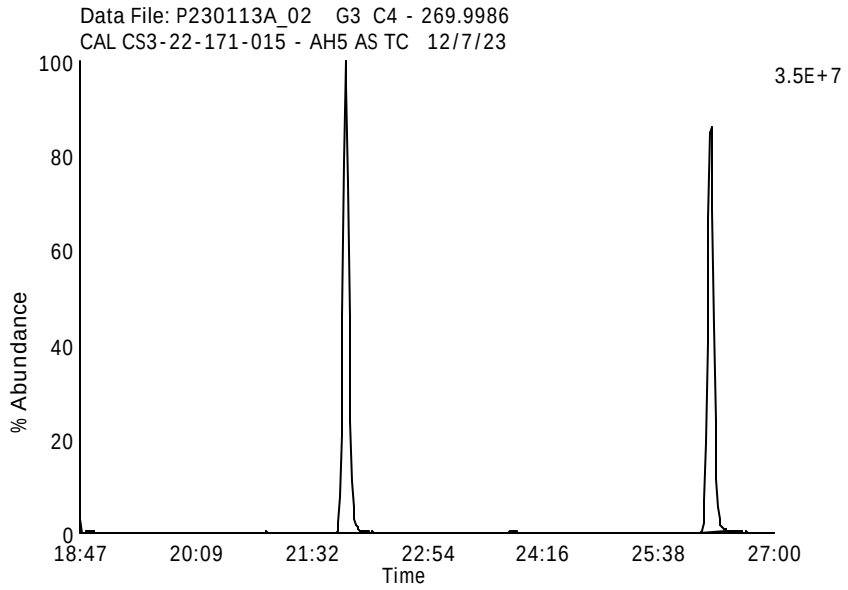
Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23









Labeled Tetra Chlorinated Biphenyls

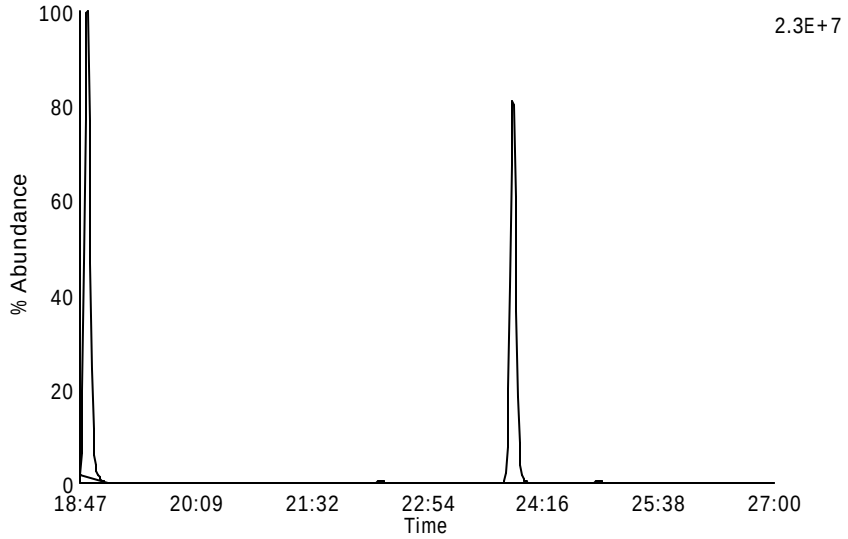
Data File Name: P230113A_02 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23

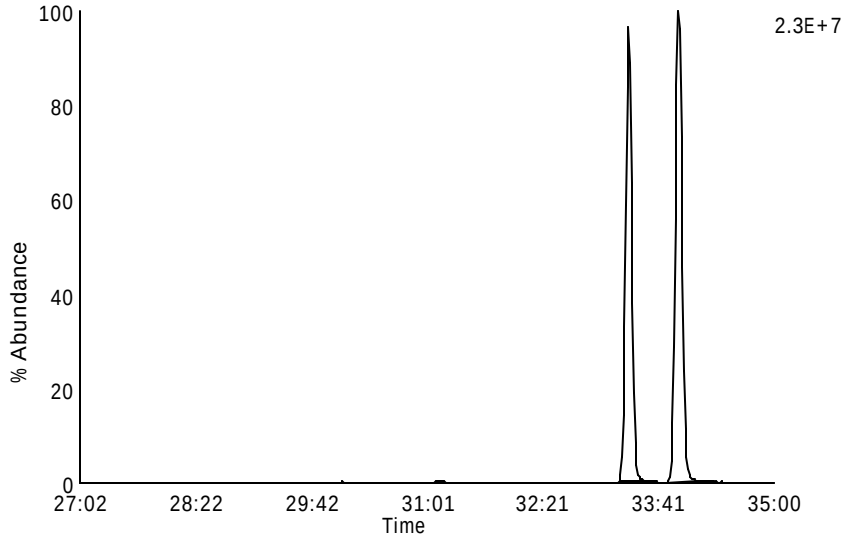
Data File: P230113A_02 G3 C9 - 301.9626

CAL CS3-22-171-015 - AH5 AS TC 12/7/23



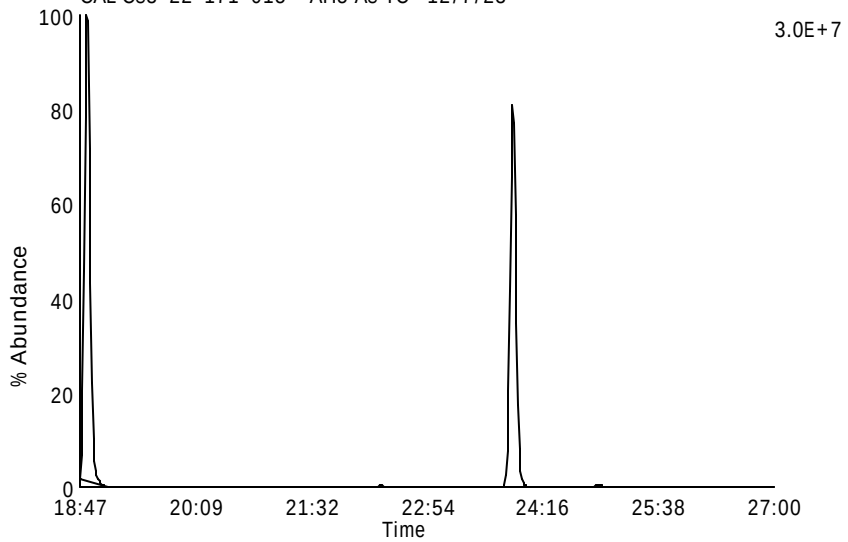
Data File: P230113A_02 G4 C3 - 301.9626

CAL CS3-22-171-015 - AH5 AS TC 12/7/23



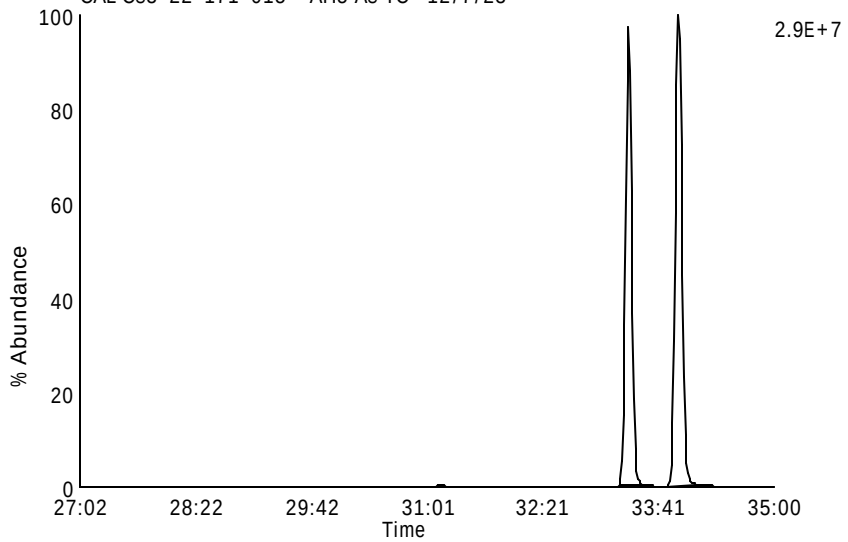
Data File: P230113A_02 G3 C10 - 303.9597

CAL CS3-22-171-015 - AH5 AS TC 12/7/23



Data File: P230113A_02 G4 C4 - 303.9597

CAL CS3-22-171-015 - AH5 AS TC 12/7/23

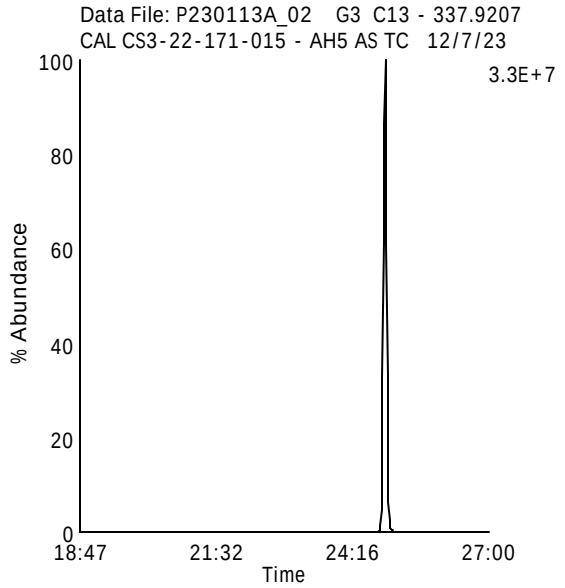


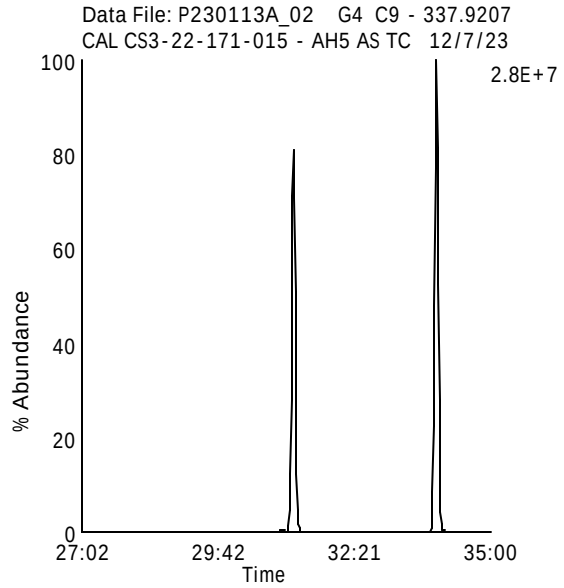
Labeled Penta Chlorinated Biphenyls

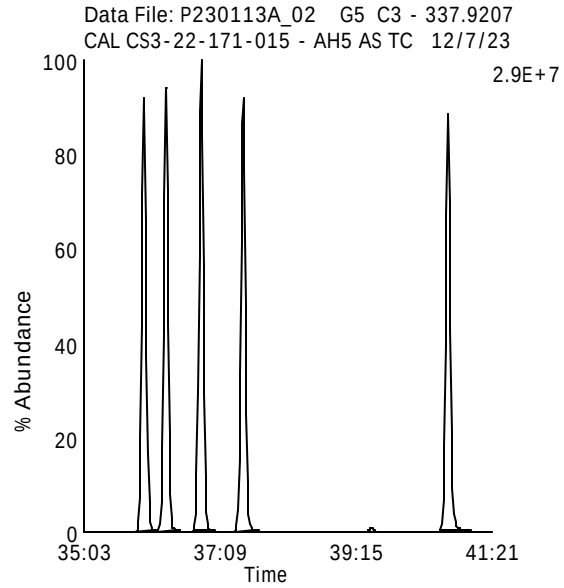
Data File Name: P230113A_02 Lab Sample ID: CS3-22-171-015

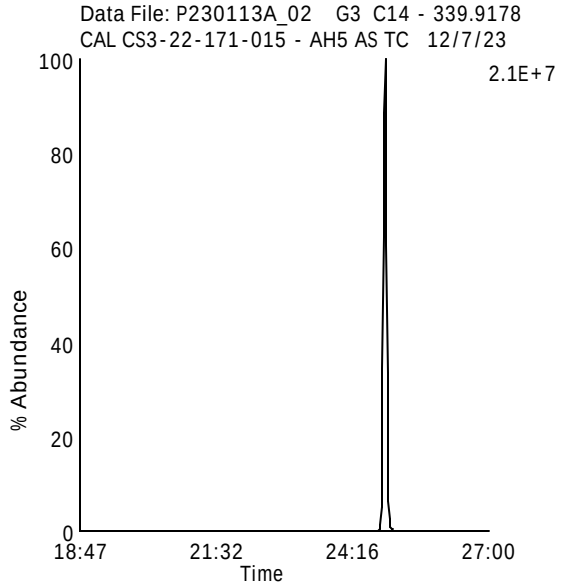
Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

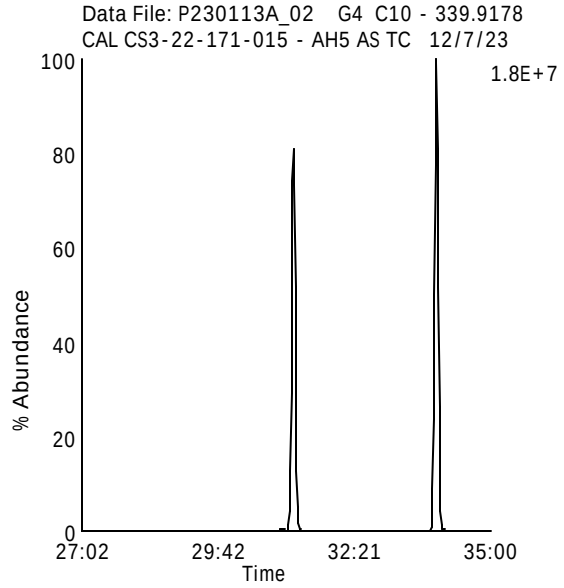
Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23

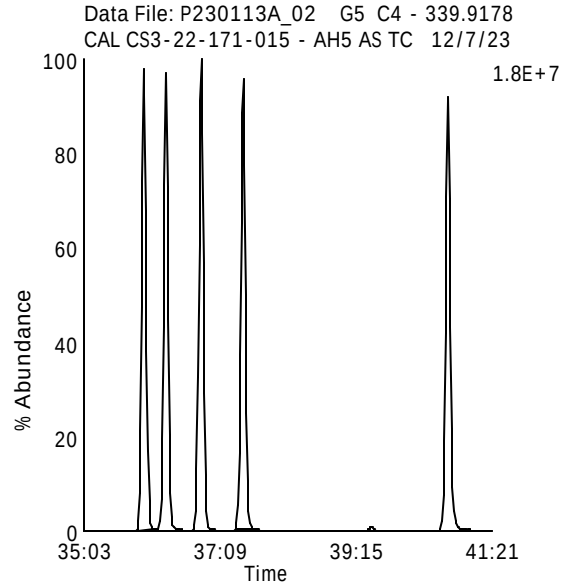










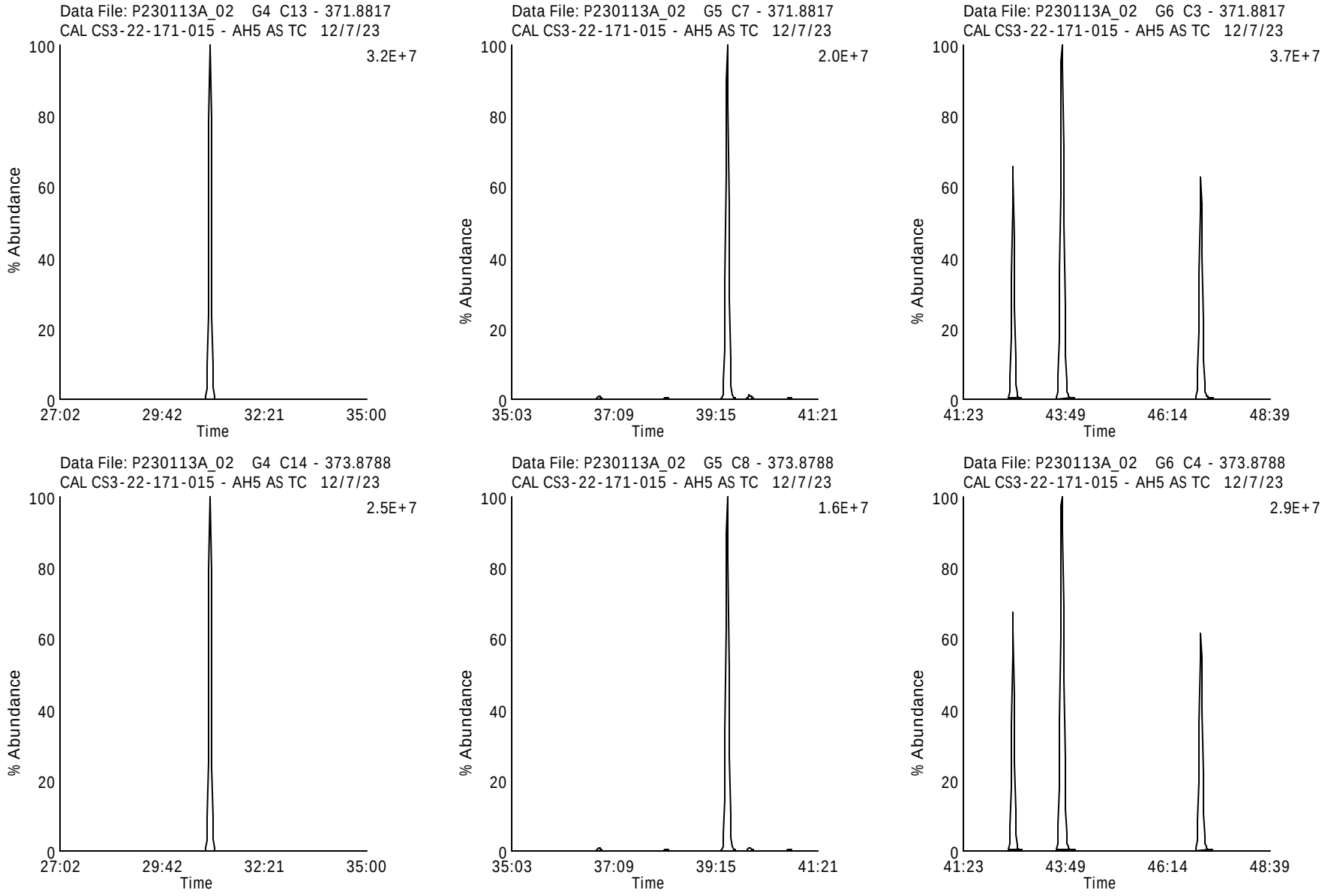


Labeled Hexa Chlorinated Biphenyls

Data File Name: P230113A_02 Lab Sample ID: CS3-22-171-015

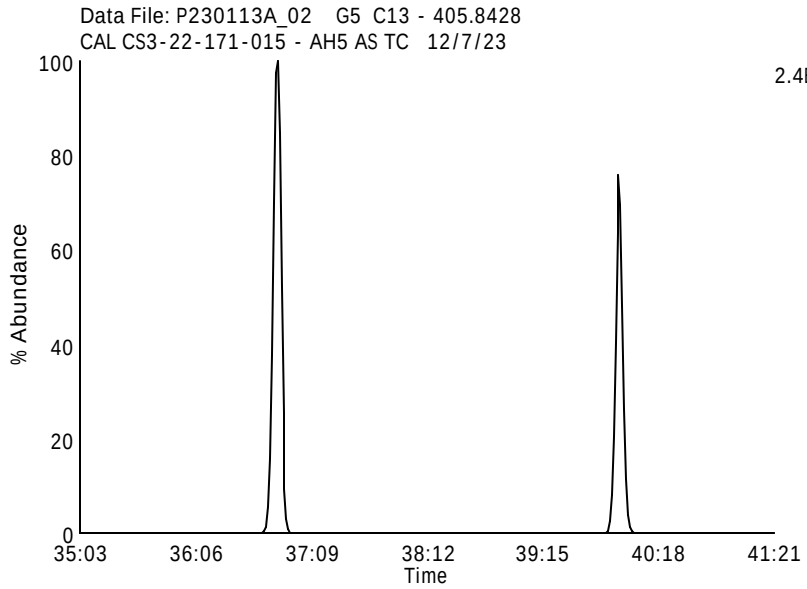
Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

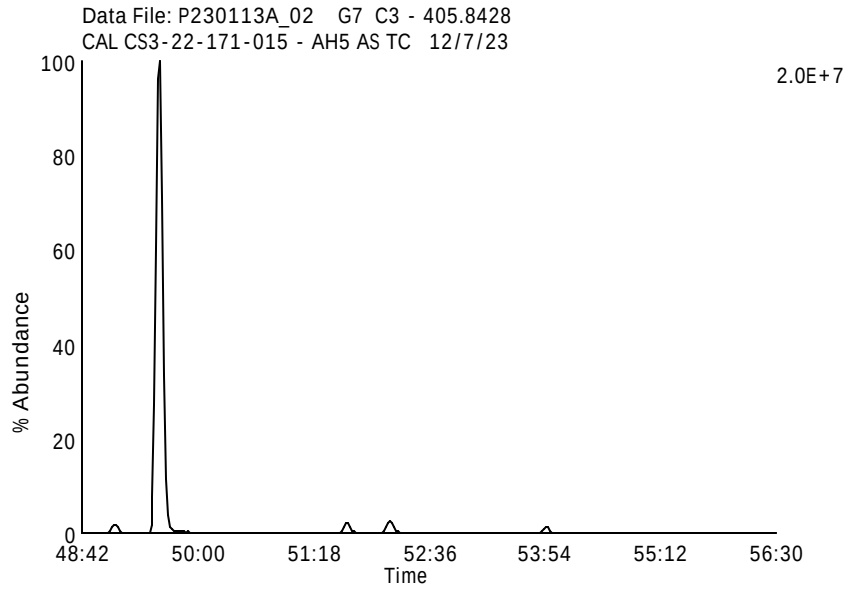
Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23

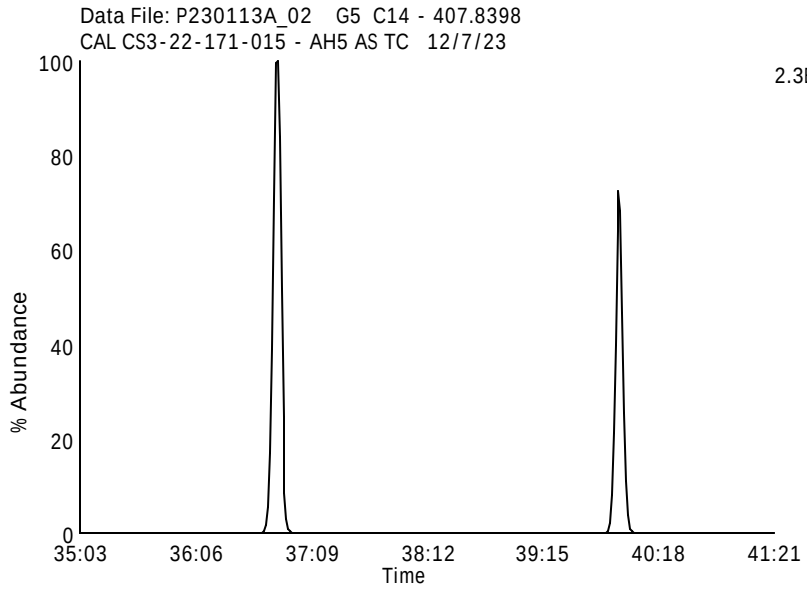


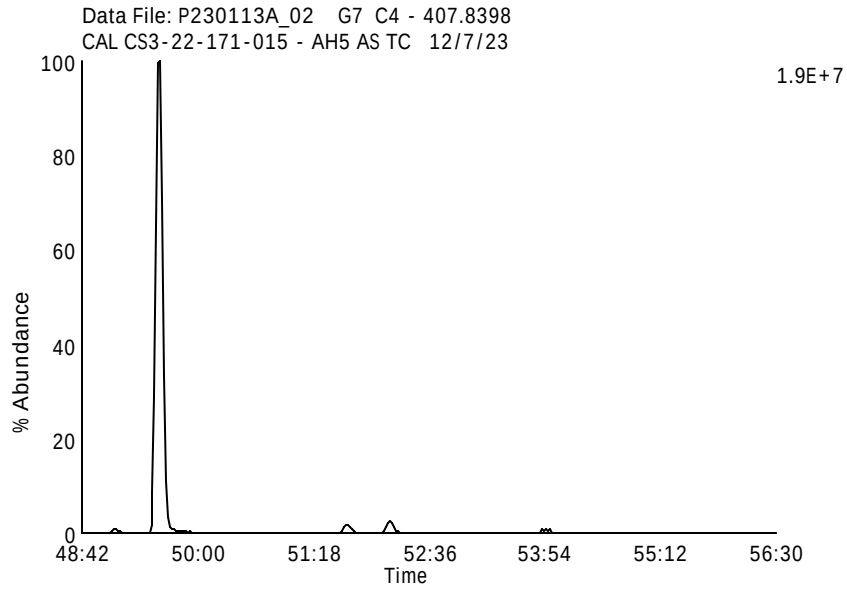
Labeled Hepta Chlorinated Biphenyls

Data File Name: P230113A_02
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23



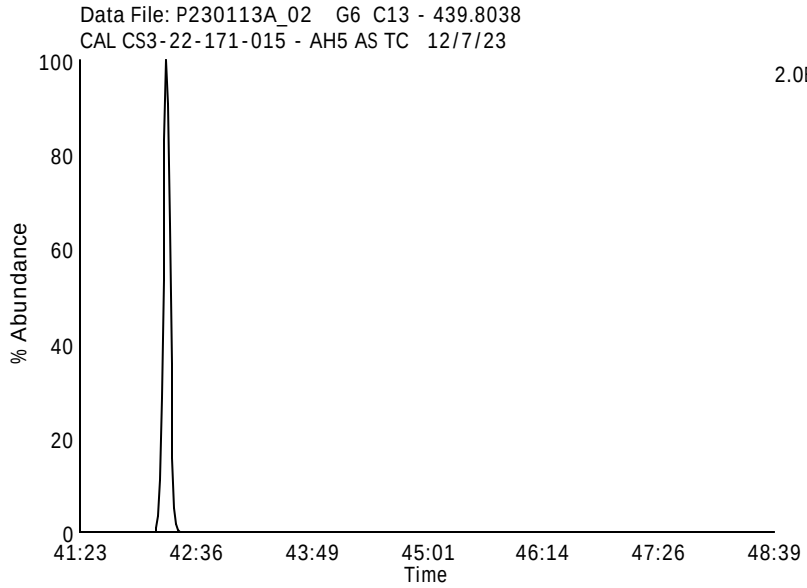


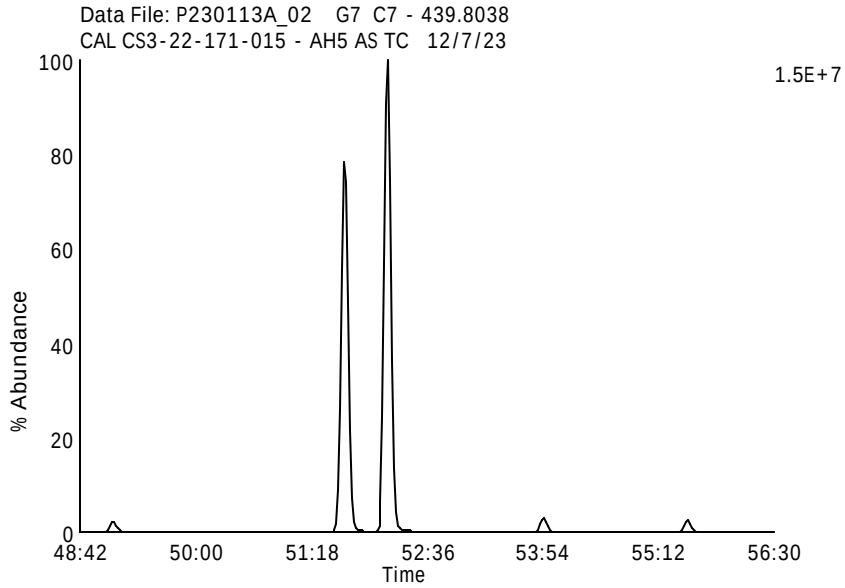


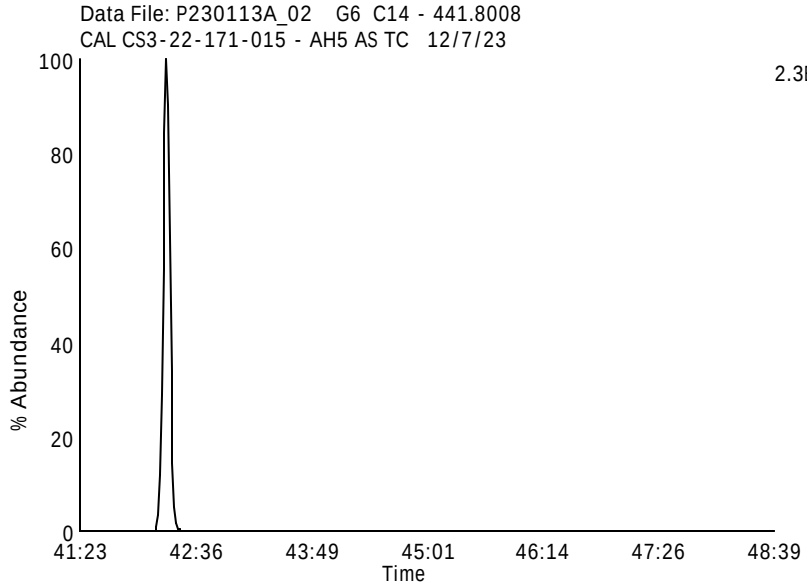


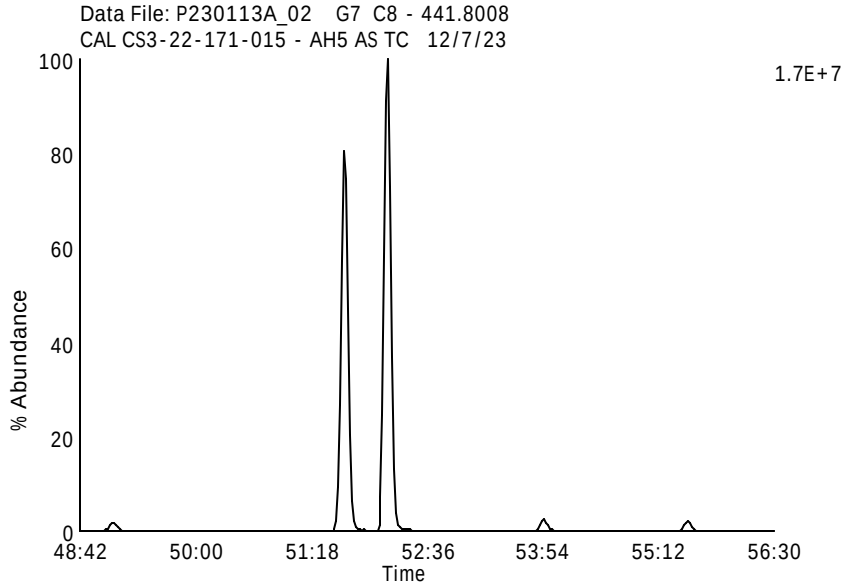
Labeled Octa Chlorinated Biphenyls

Data File Name: P230113A_02
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23







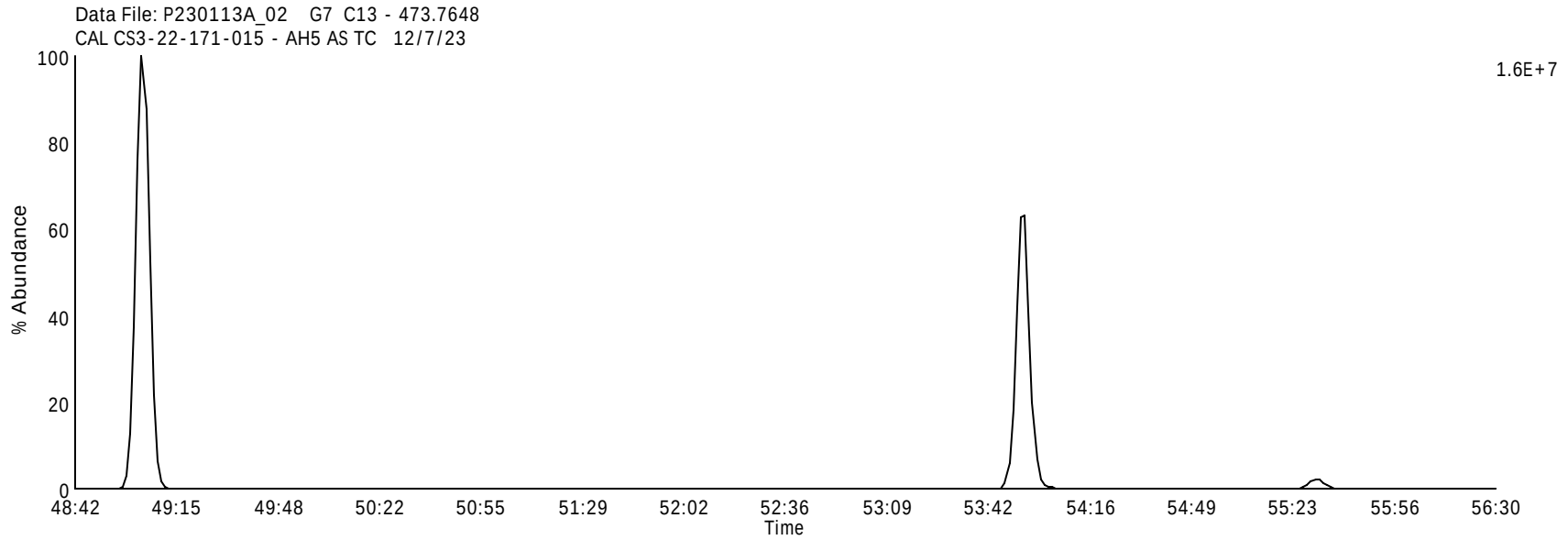


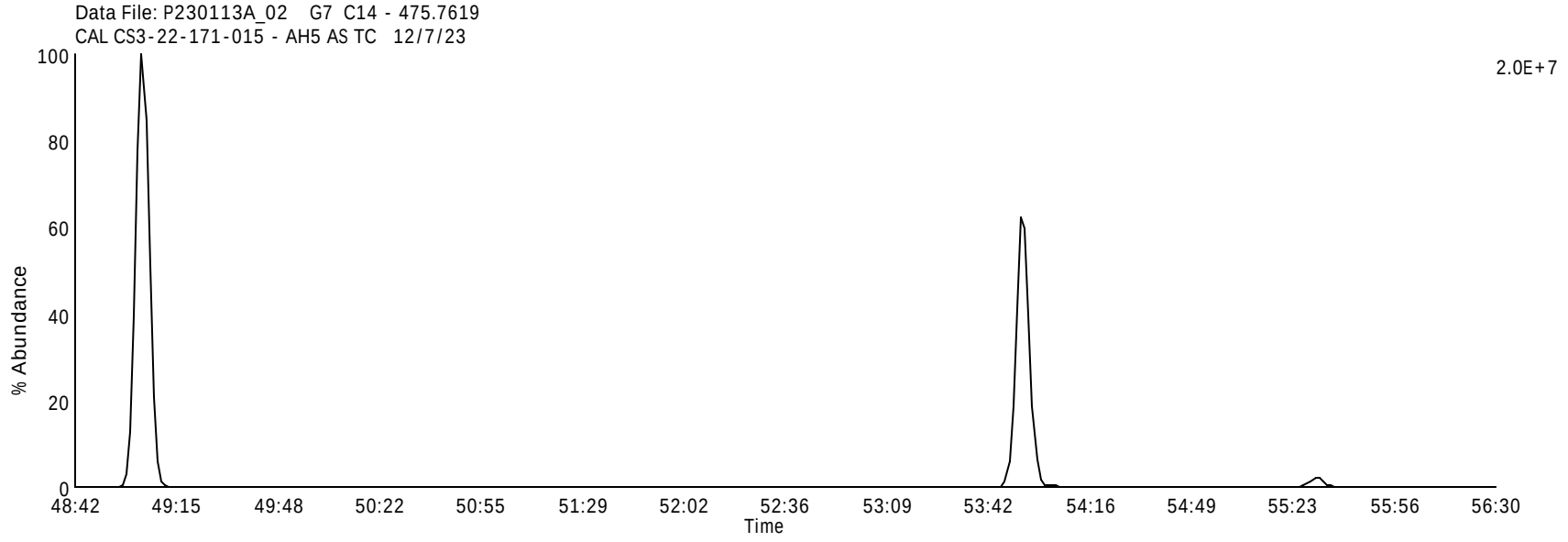
Labeled Nona Chlorinated Biphenyls

Data File Name: P230113A_02 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23



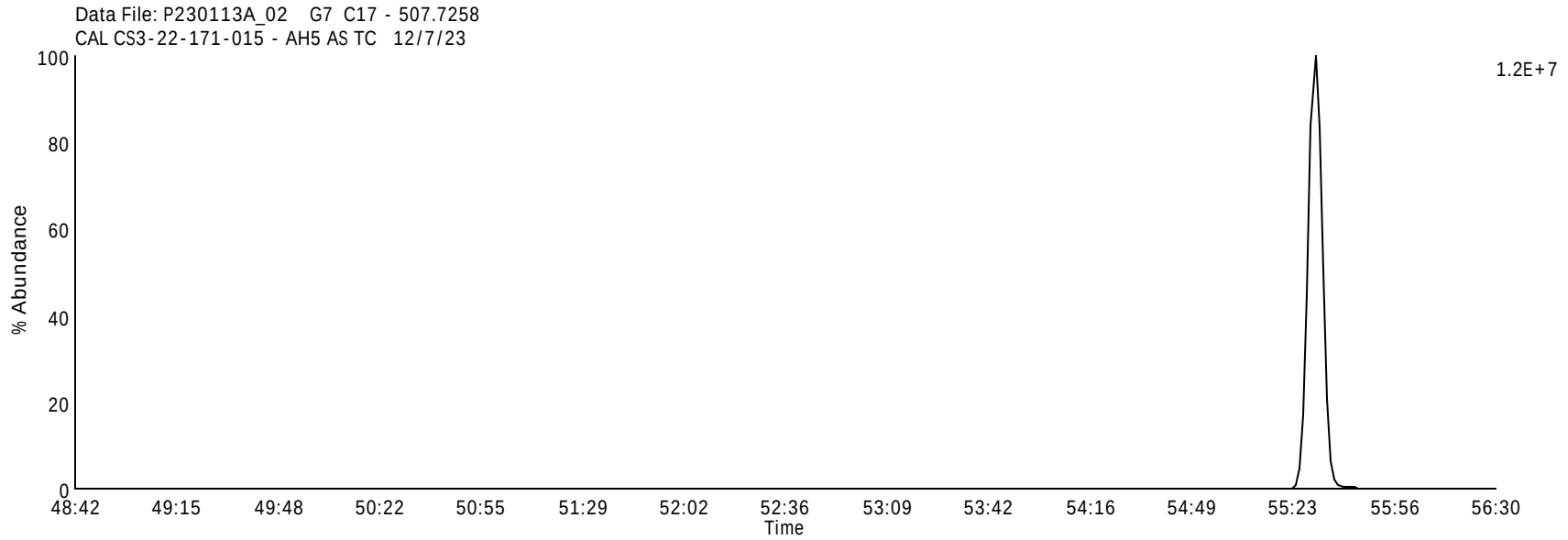


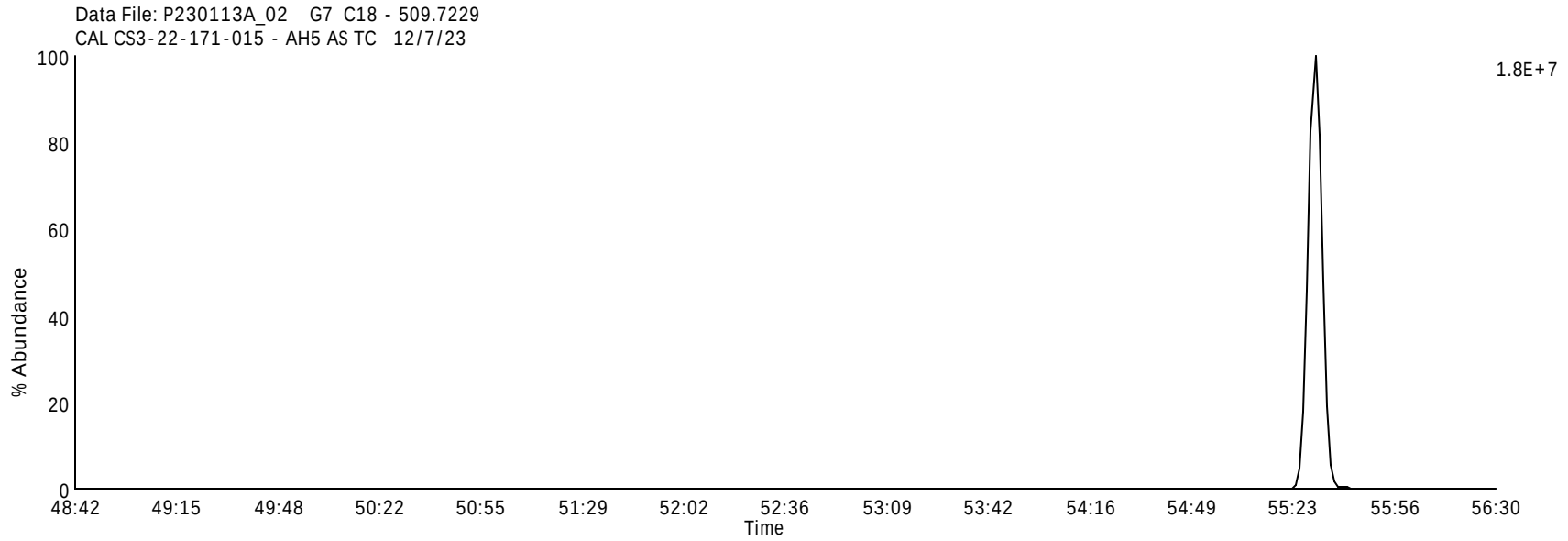
Labeled Deca Chlorinated Biphenyl

Data File Name: P230113A_02 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23



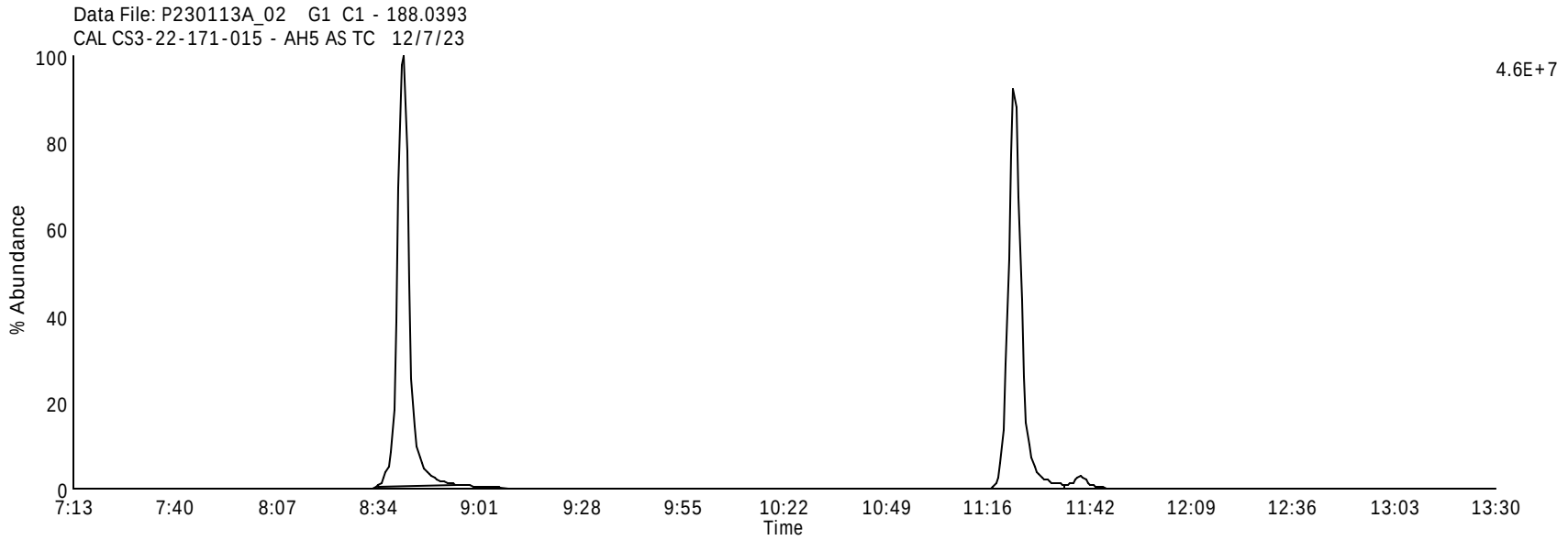


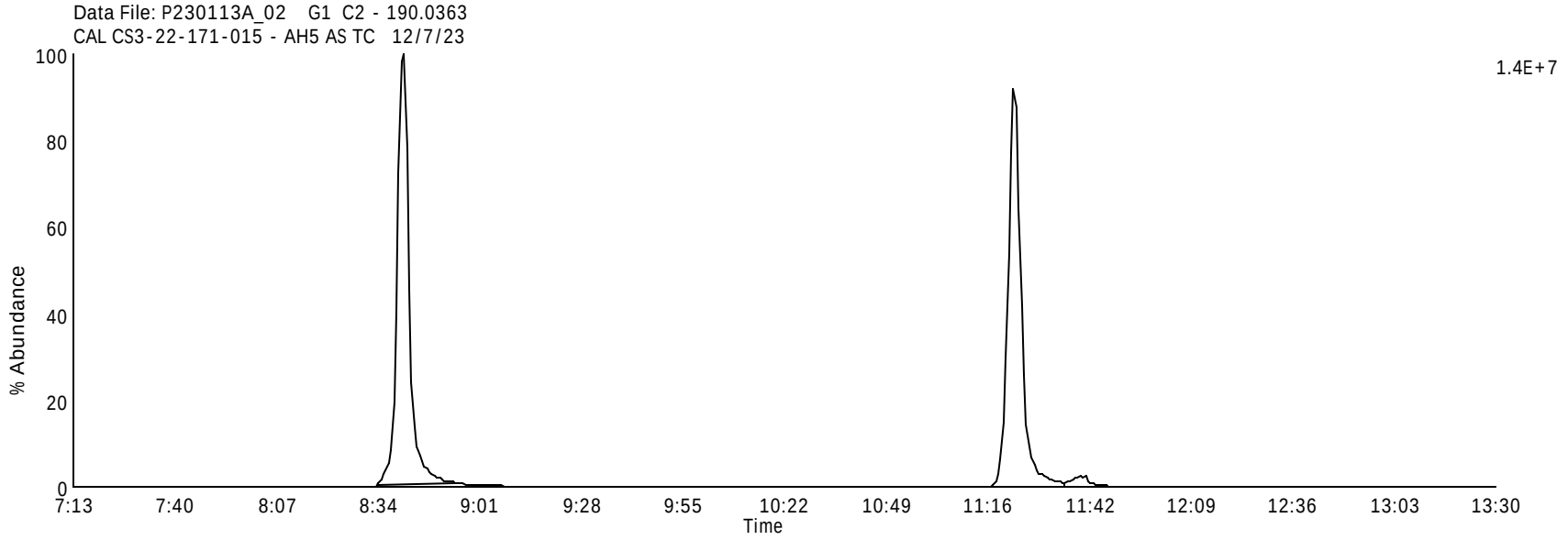
Mono Chlorinated Biphenyls

Data File Name: P230113A_02 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23

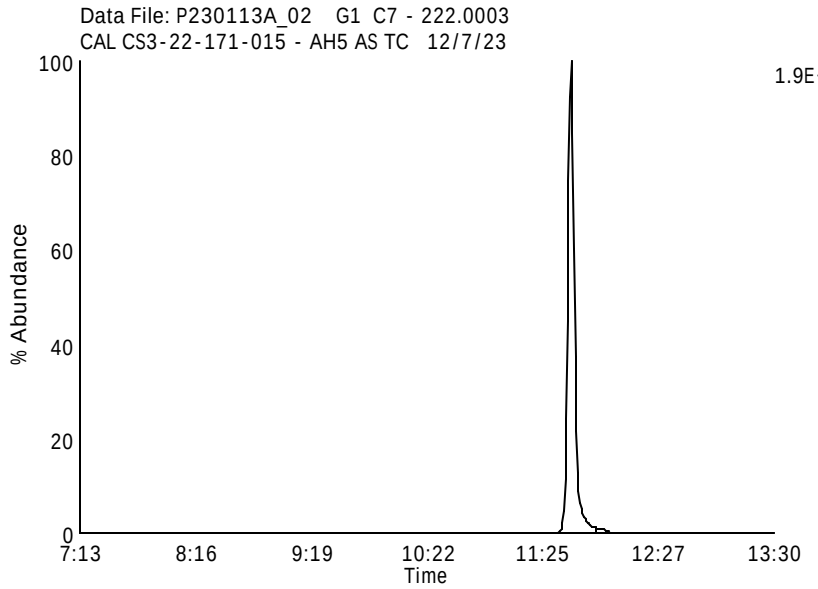


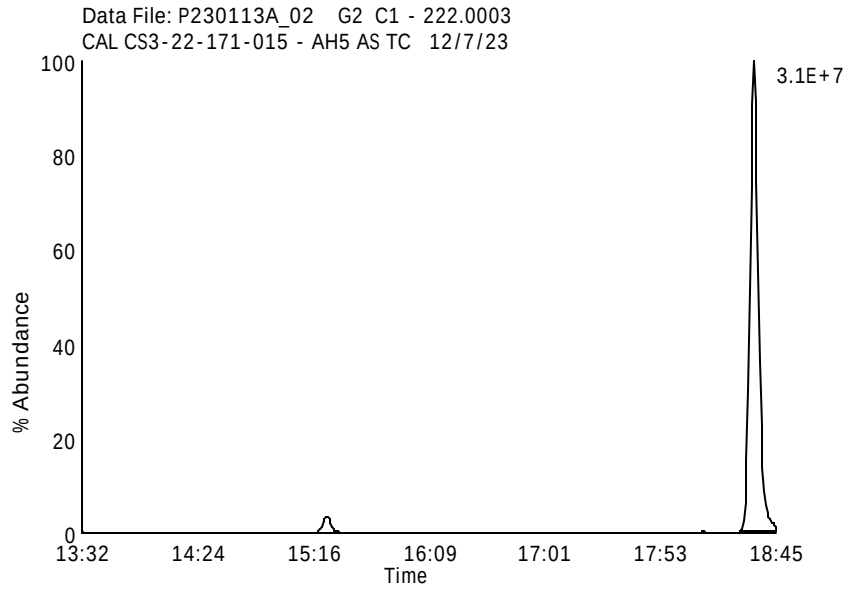


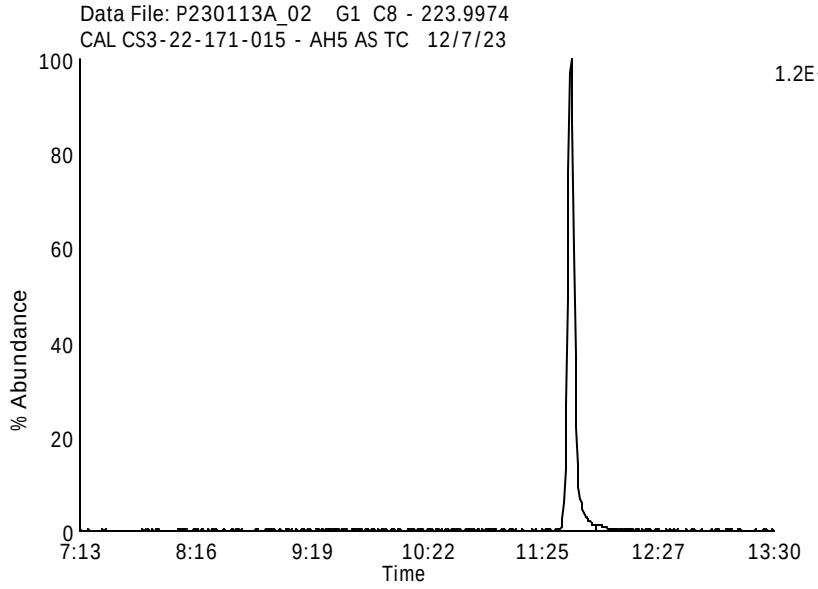
Di Chlorinated Biphenyls

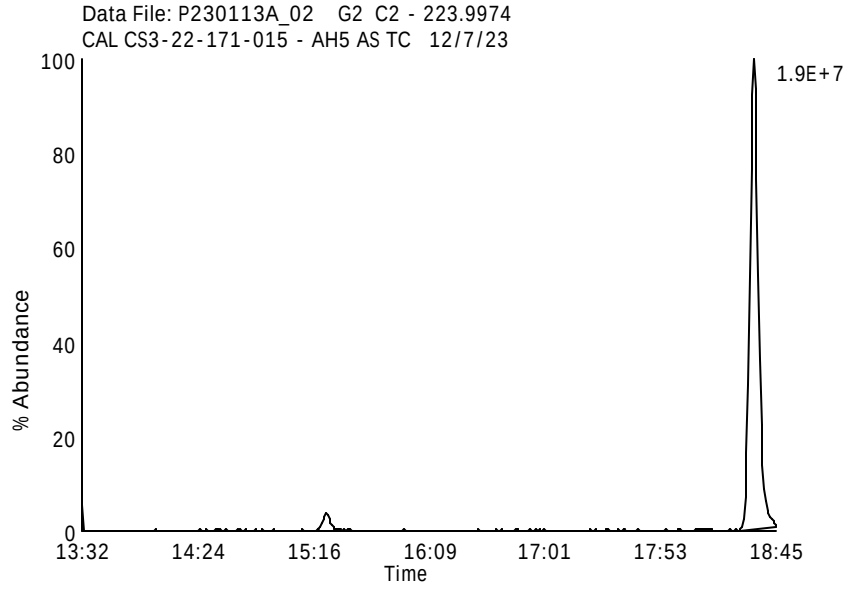
Data File Name: P230113A_02
Date Acquired: 1/13/2023
Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23

Lab Sample ID: CS3-22-171-015
Instrument: 10MSHR09 (P)



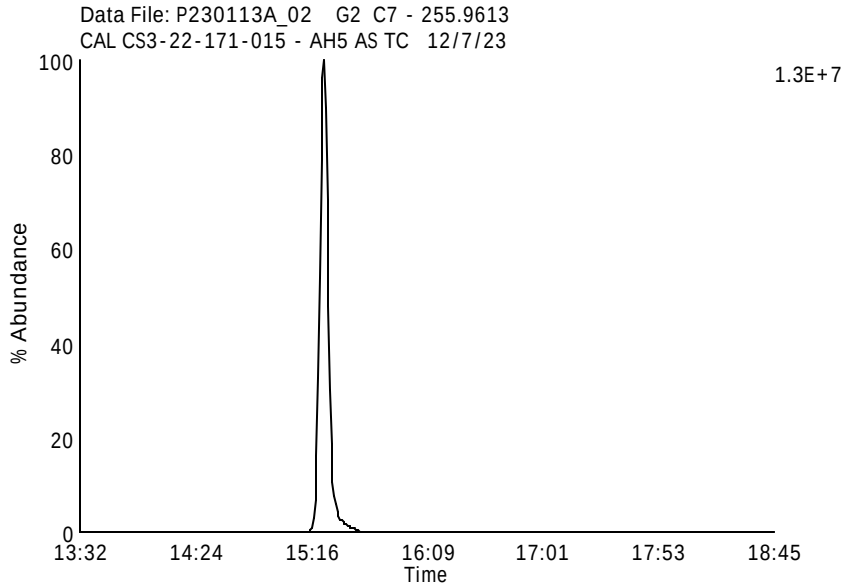


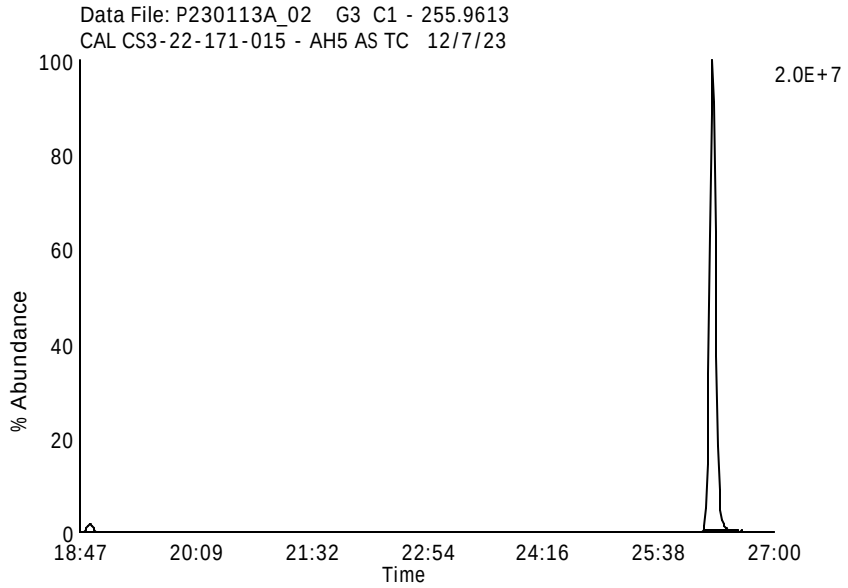


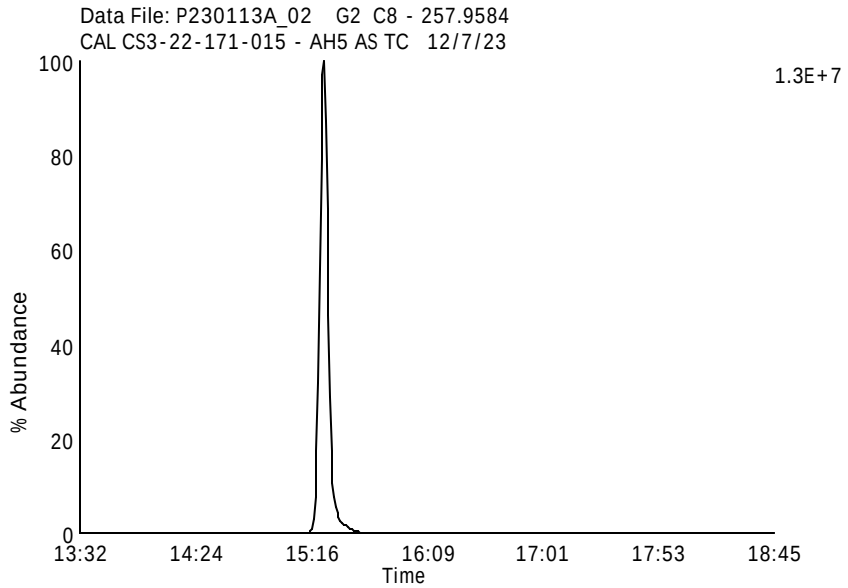


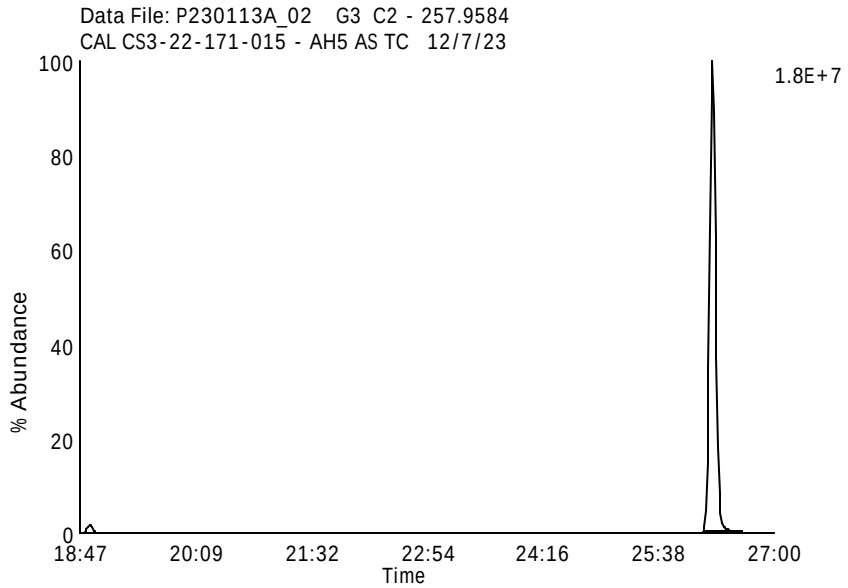
Tri Chlorinated Biphenyls

Data File Name: P230113A_02
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23



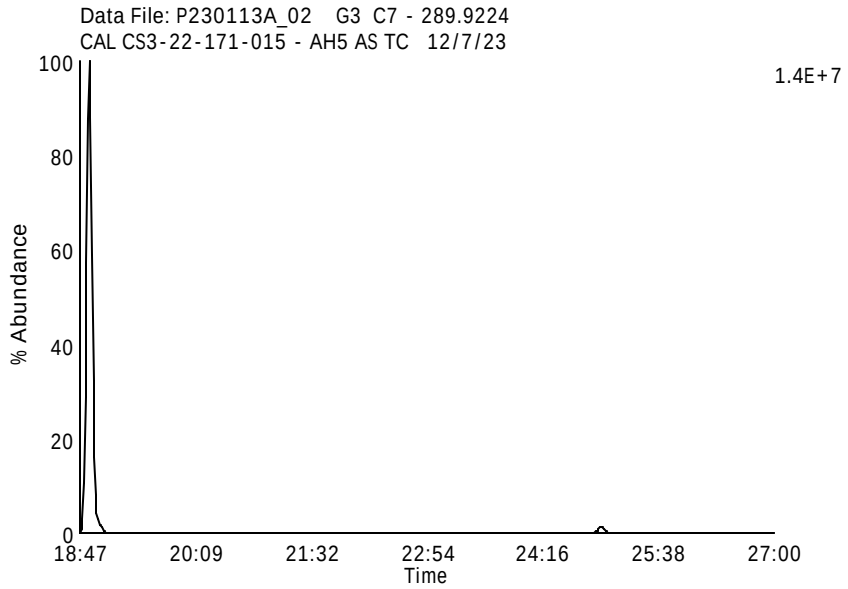


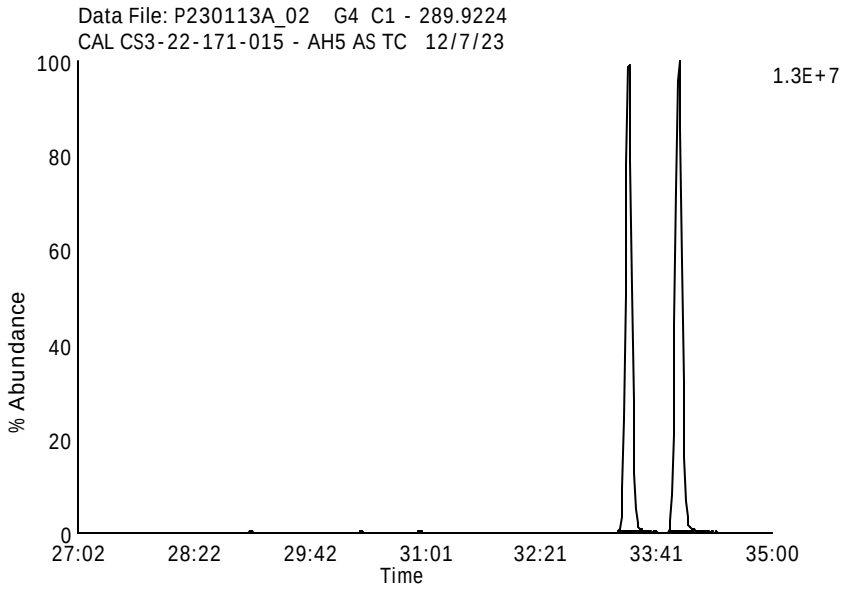


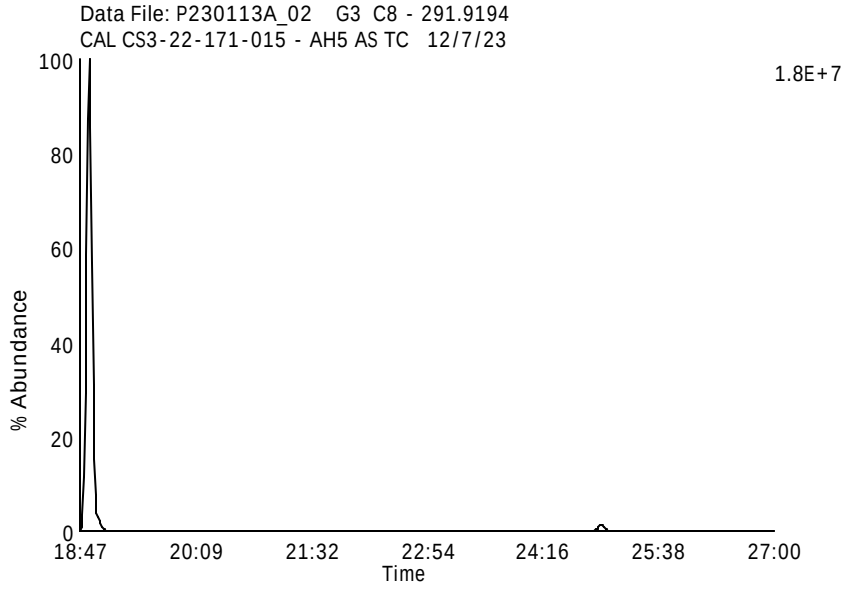


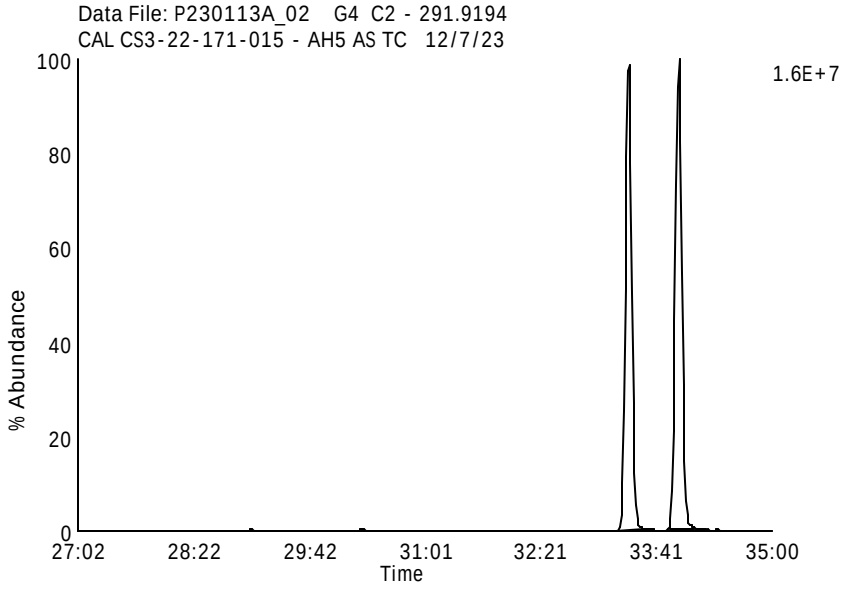
Tetra Chlorinated Biphenyls

Data File Name: P230113A_02
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23







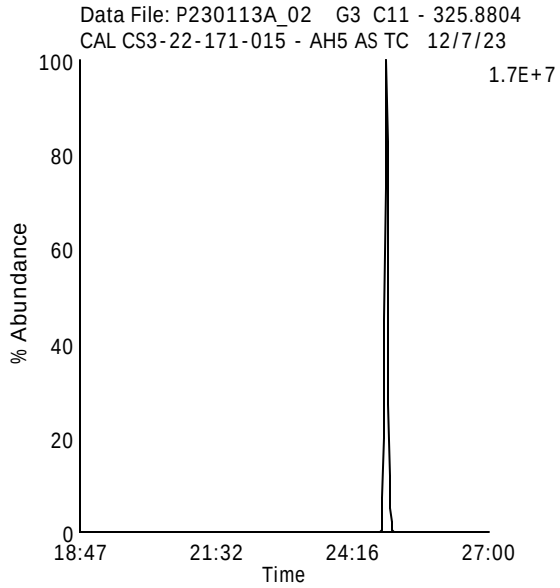


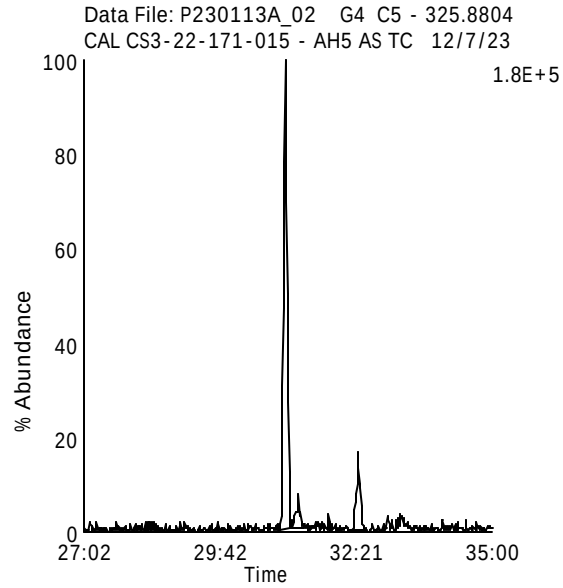
Penta Chlorinated Biphenyls

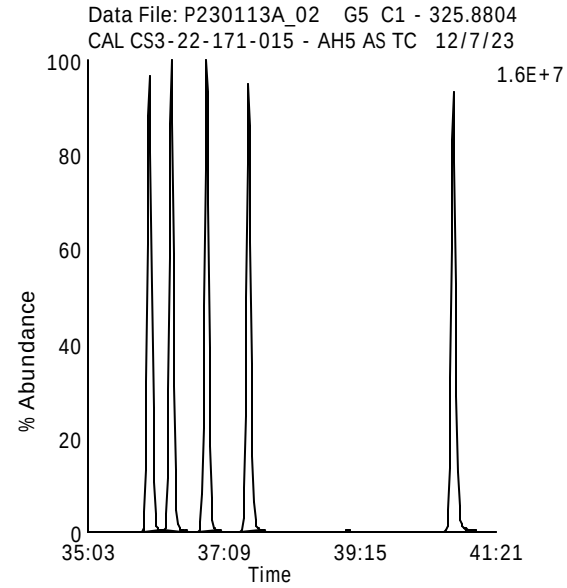
Data File Name: P230113A_02 Lab Sample ID: CS3-22-171-015

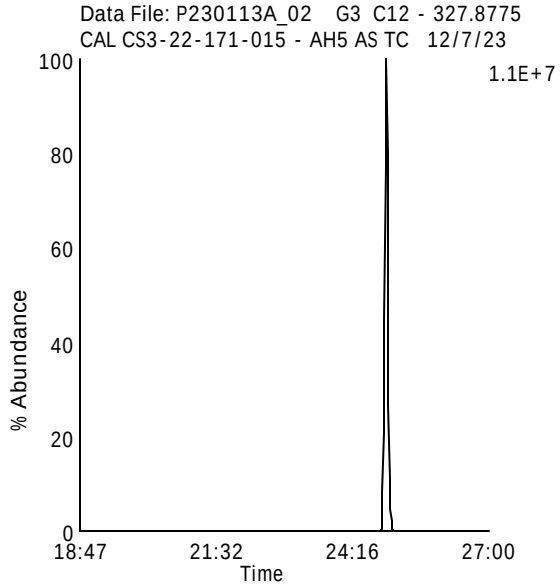
Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

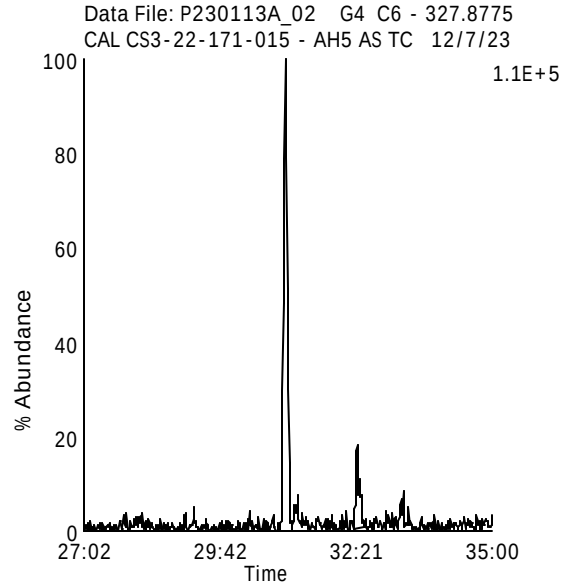
Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23

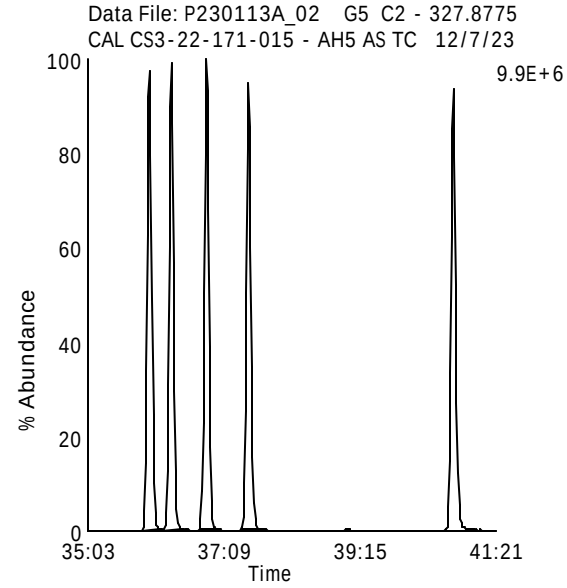










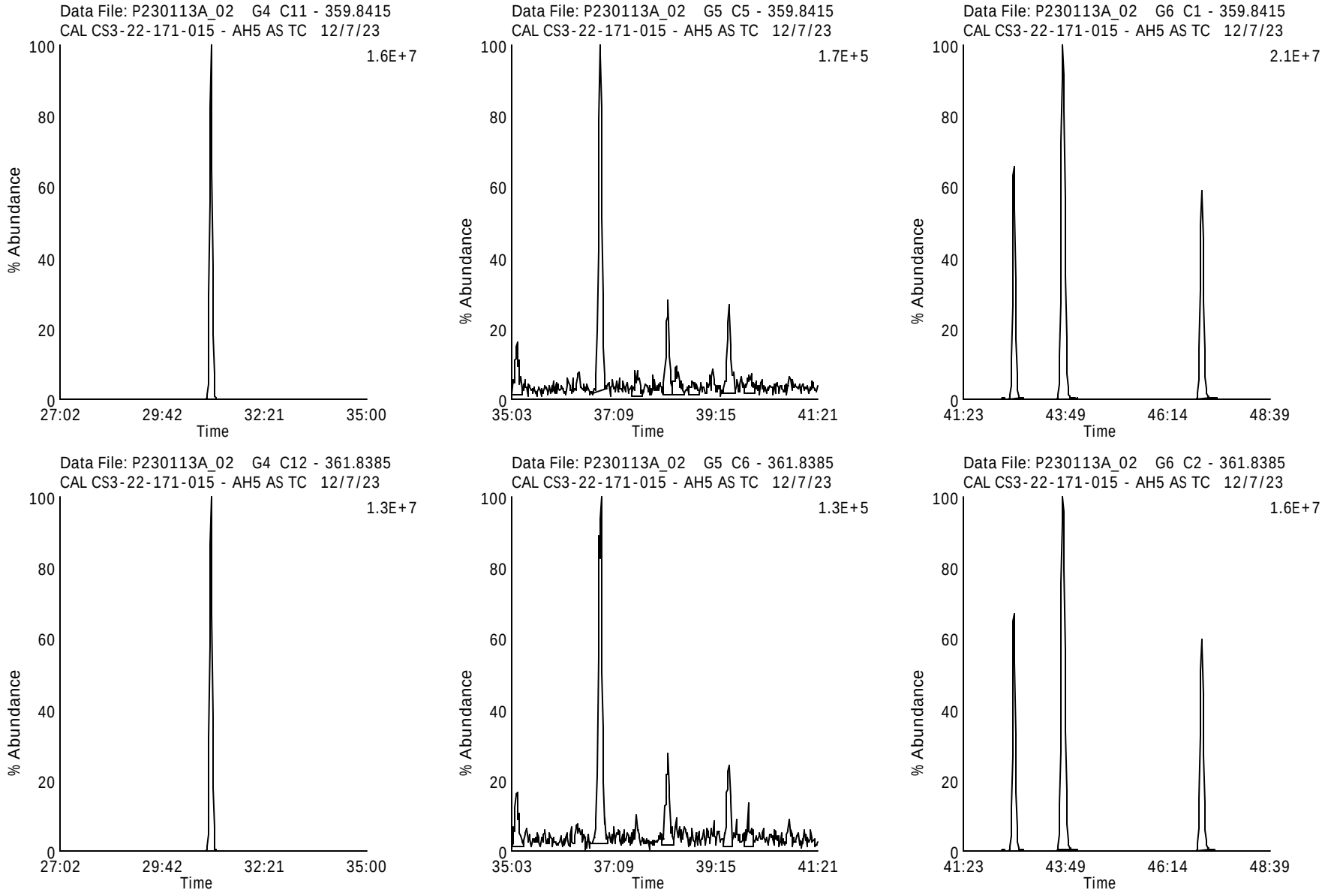


Hexa Chlorinated Biphenyls

Data File Name: P230113A_02 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23

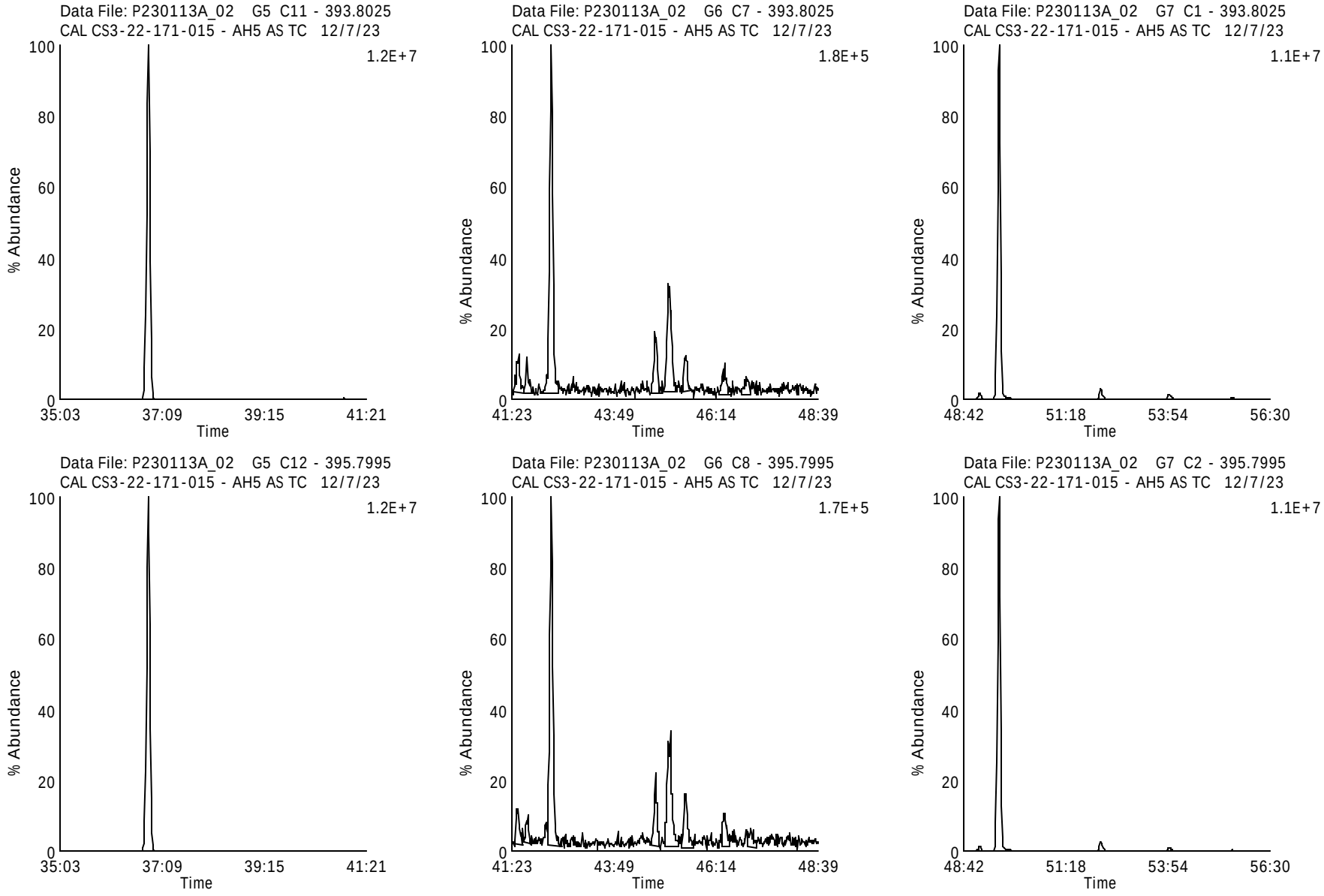


Hepta Chlorinated Biphenyls

Data File Name: P230113A_02 Lab Sample ID: CS3-22-171-015

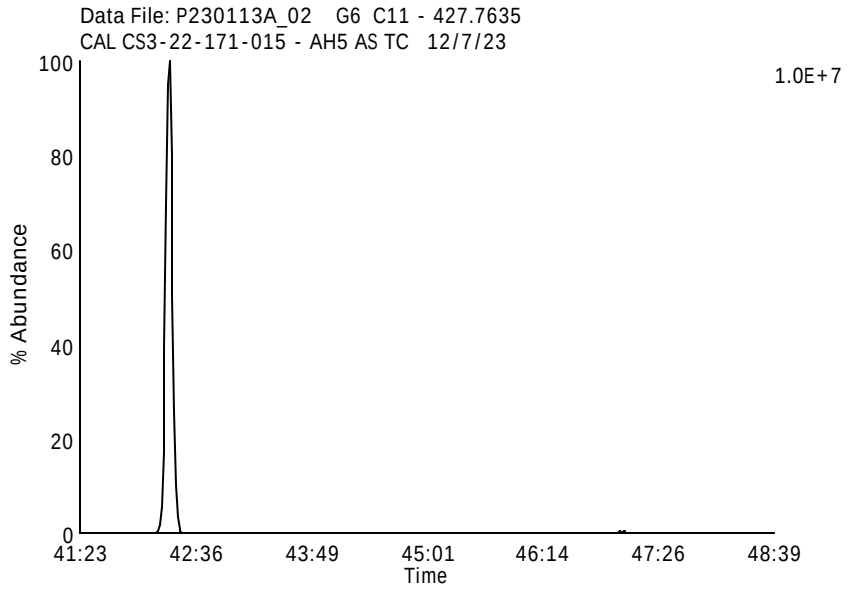
Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

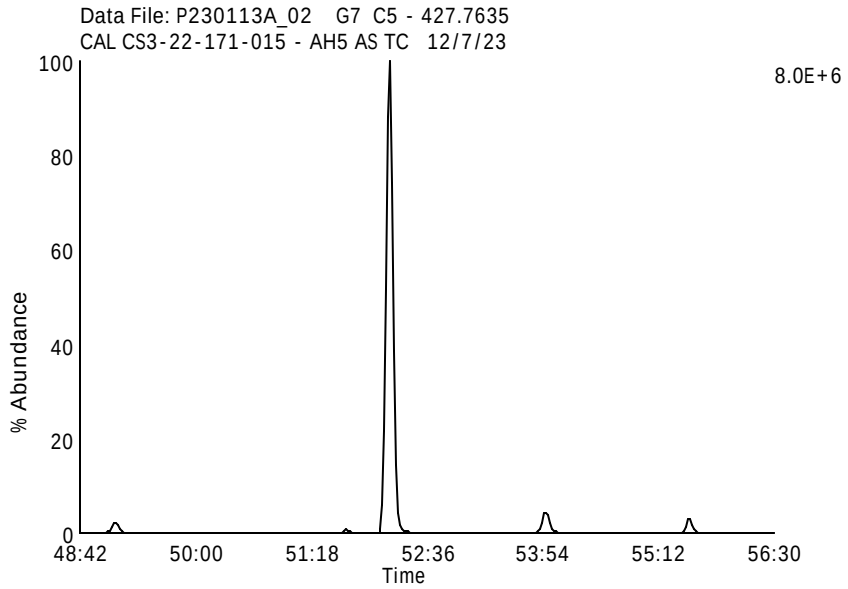
Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23

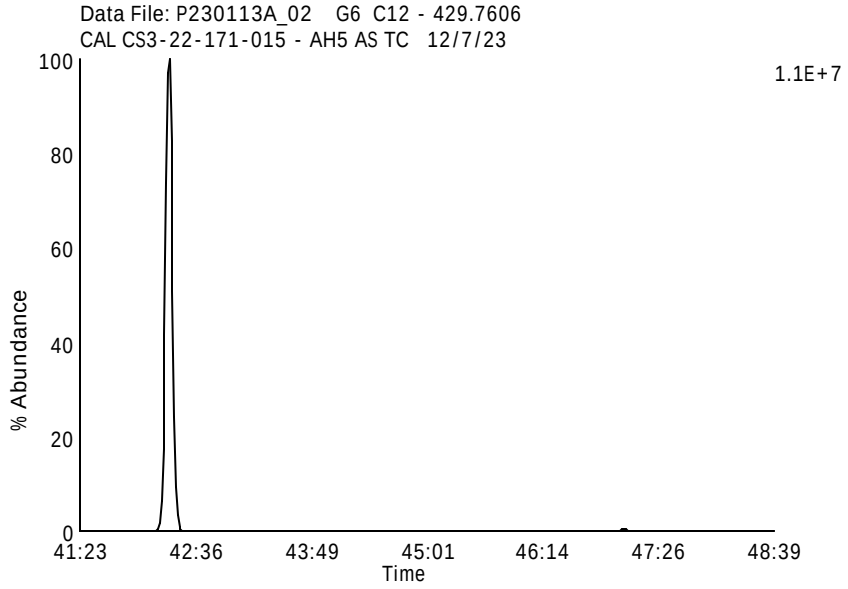


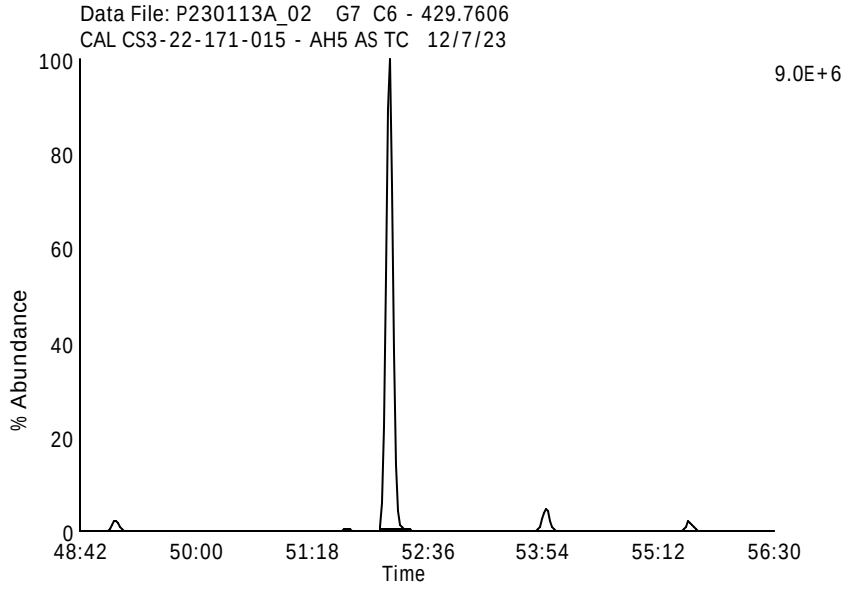
Octa Chlorinated Biphenyls

Data File Name: P230113A_02
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23







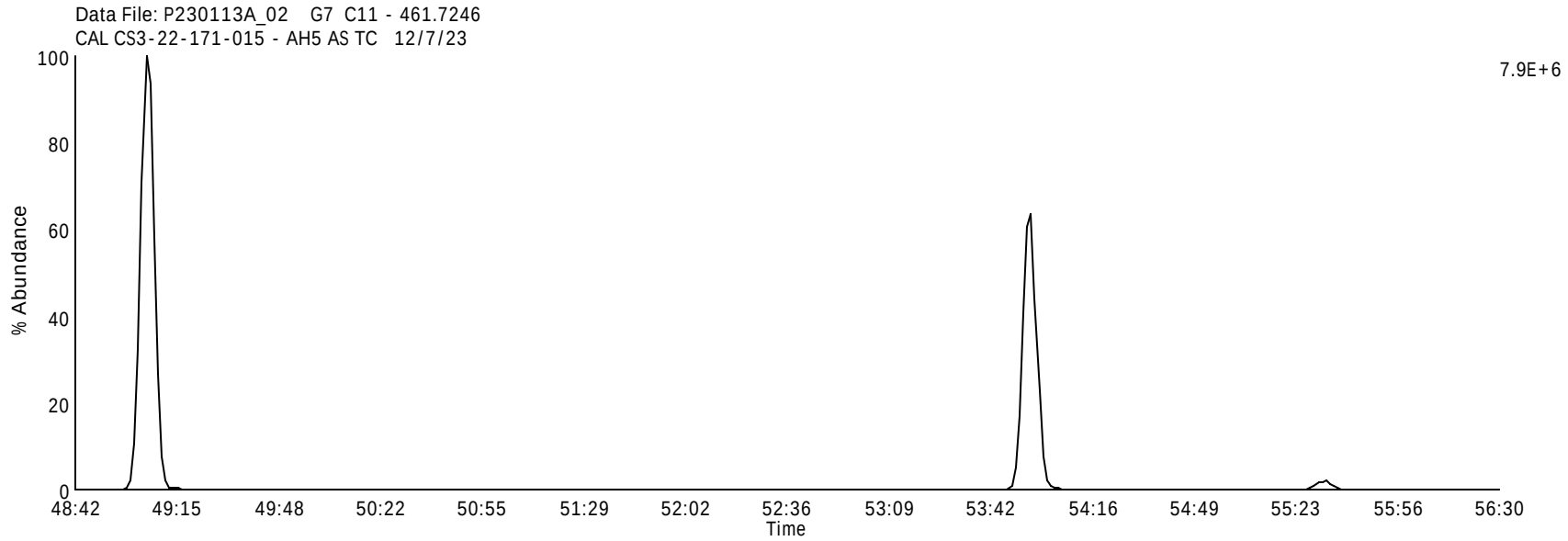


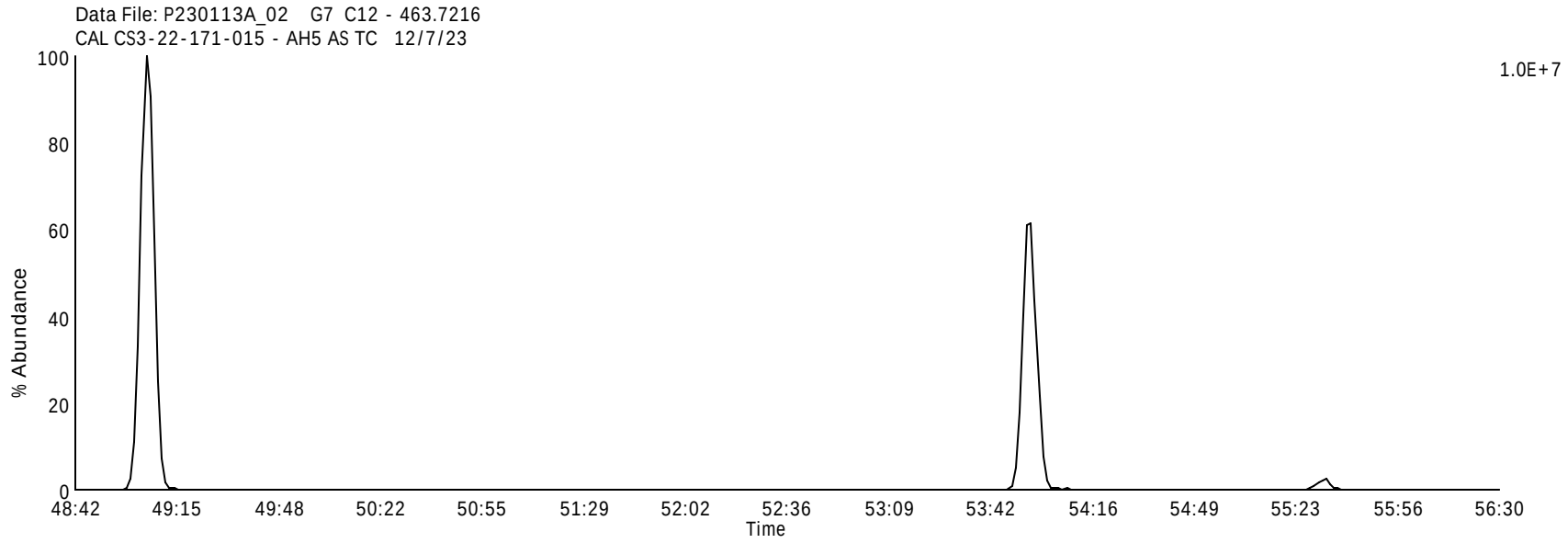
Nona Chlorinated Biphenyls

Data File Name: P230113A_02 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23



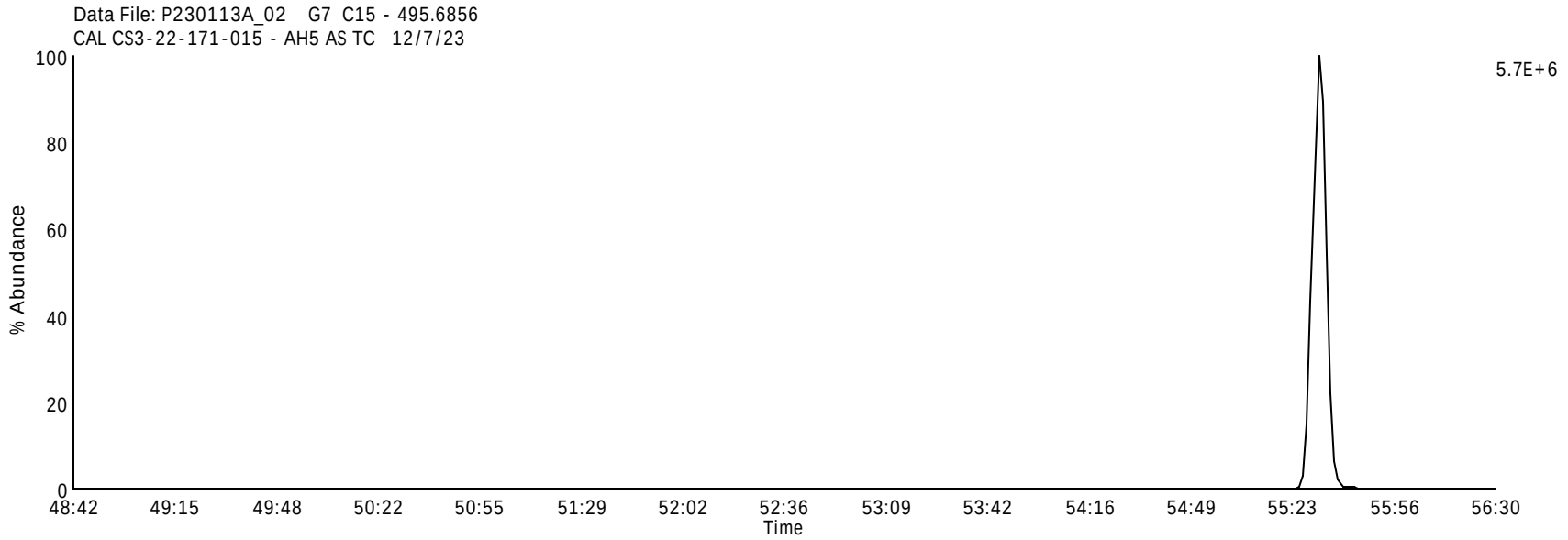


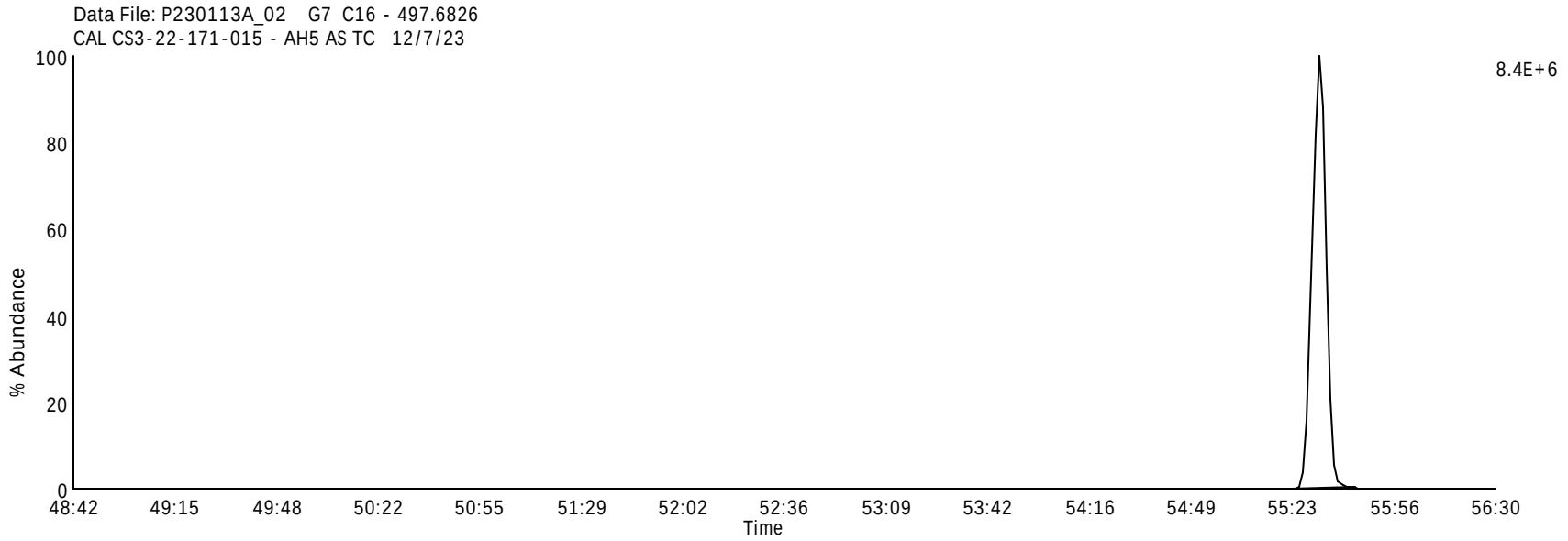
Deca Chlorinated Biphenyl

Data File Name: P230113A_02 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/13/2023 Instrument: 10MSHR09 (P)

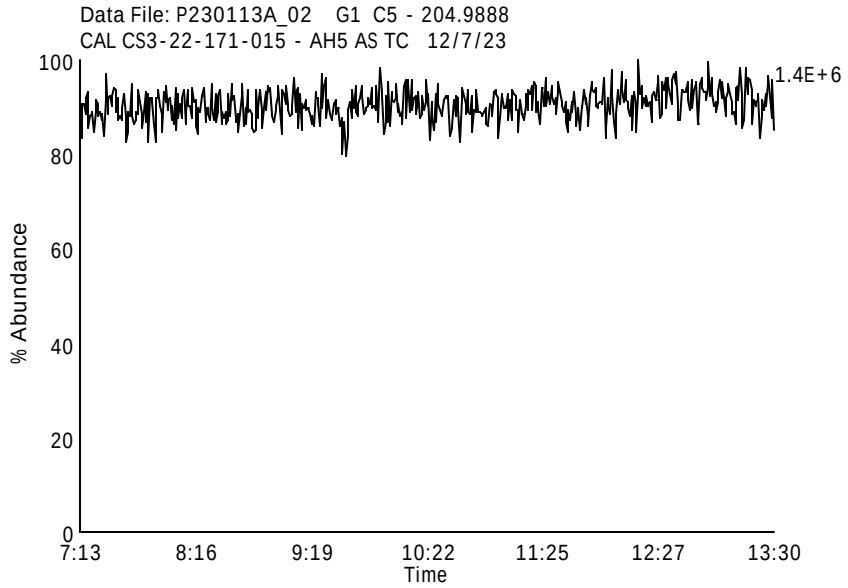
Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23

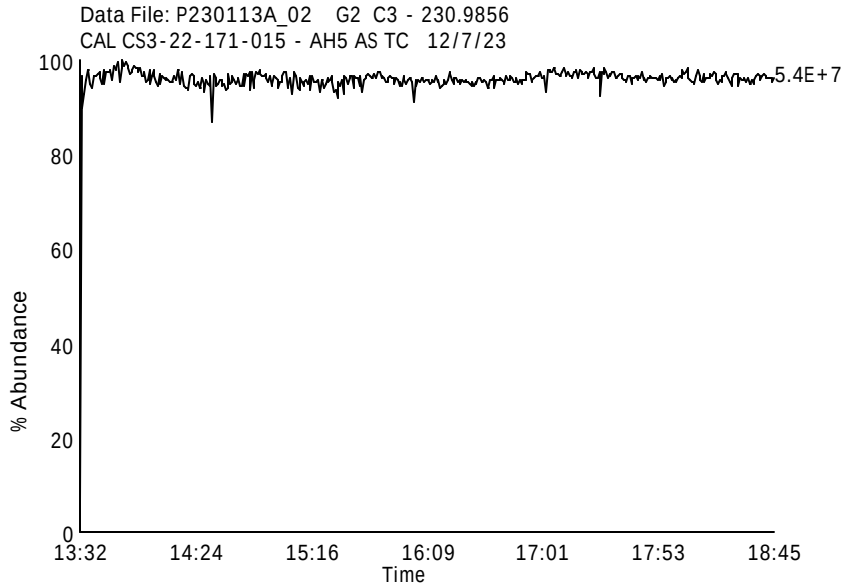


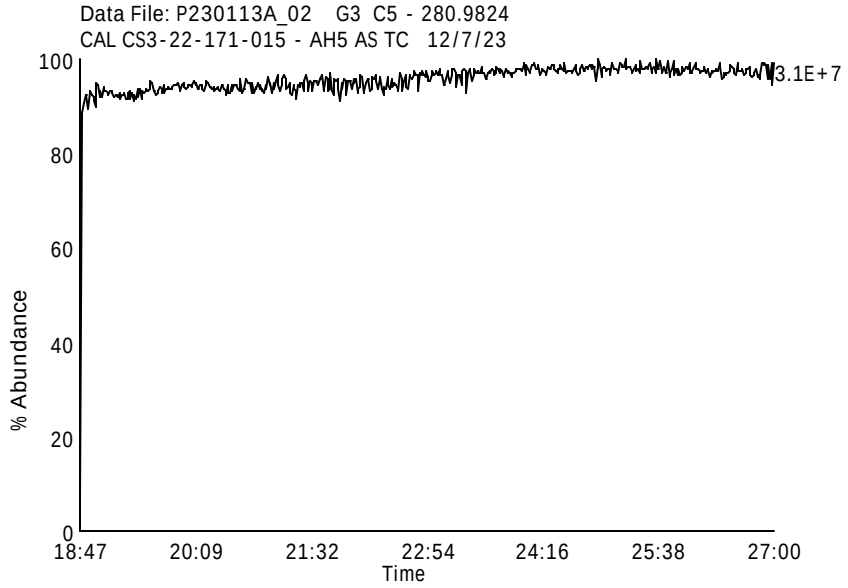


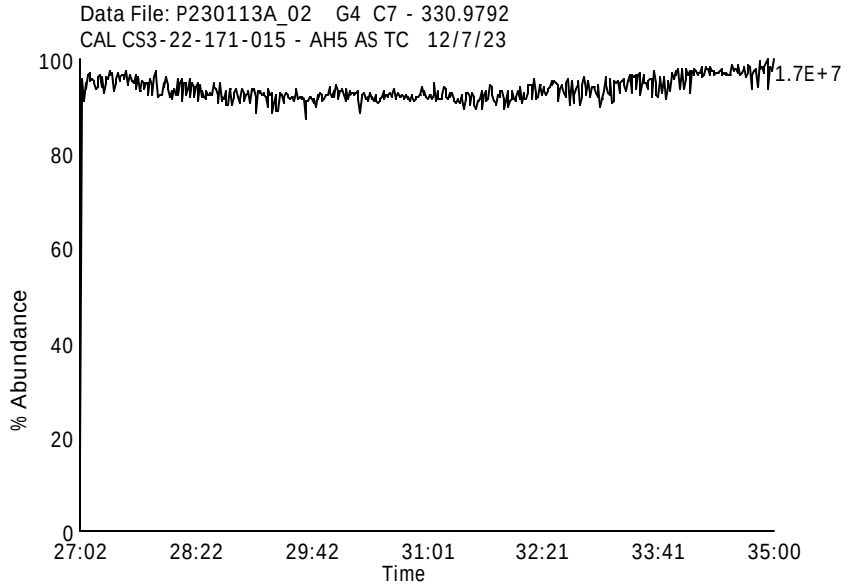
Group 1 - 4 Lock mass

Data File Name: P230113A_02
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23



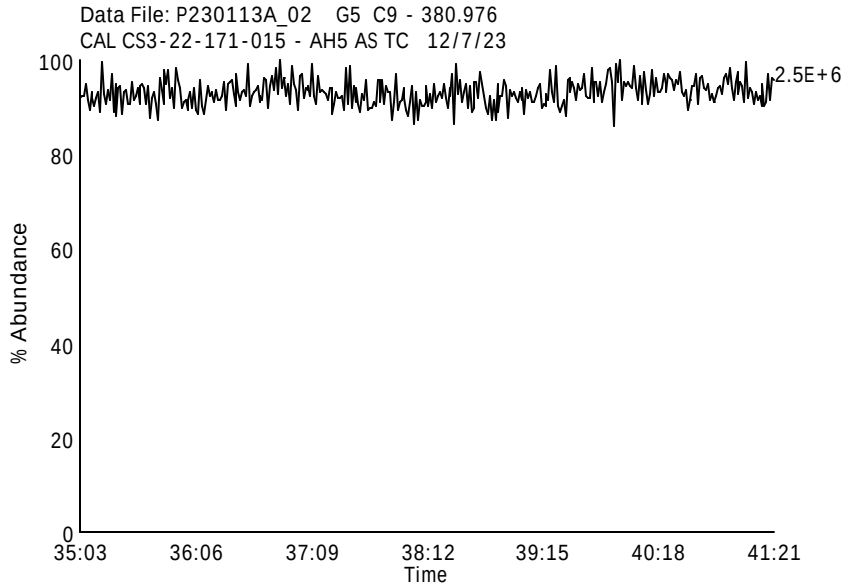


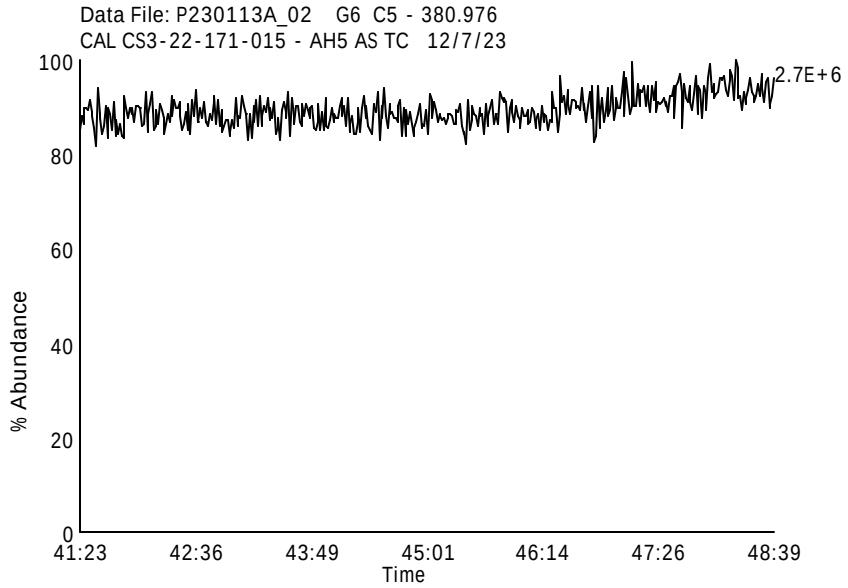


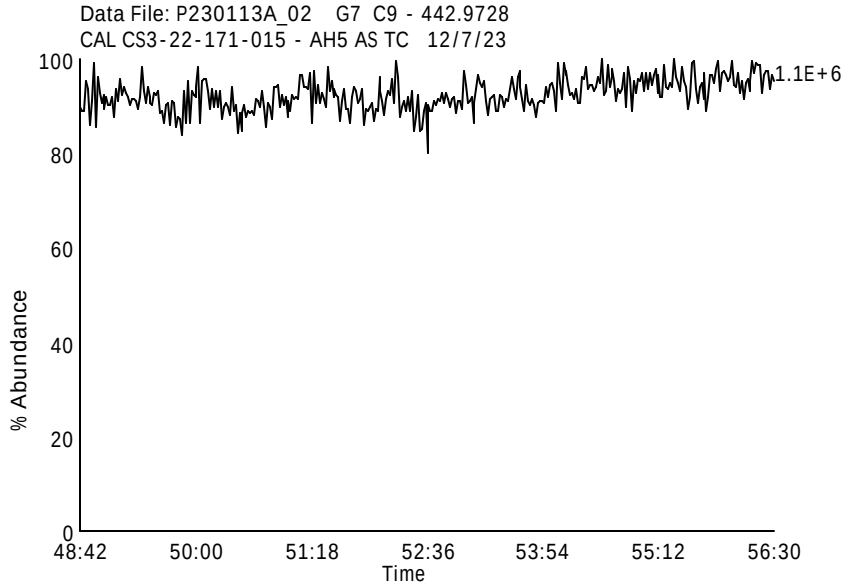


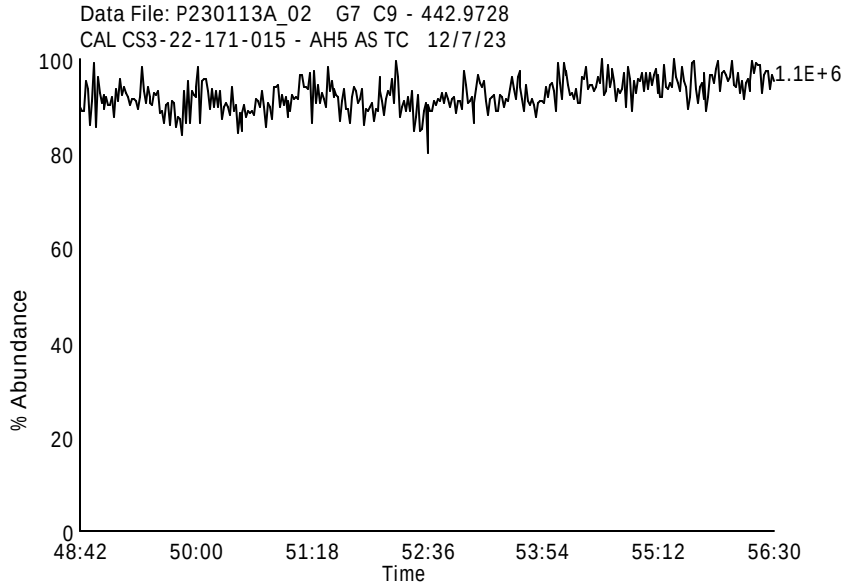
Group 5 - 7 Lock mass

Data File Name: P230113A_02
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/13/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - AH5 AS TC 12/7/23







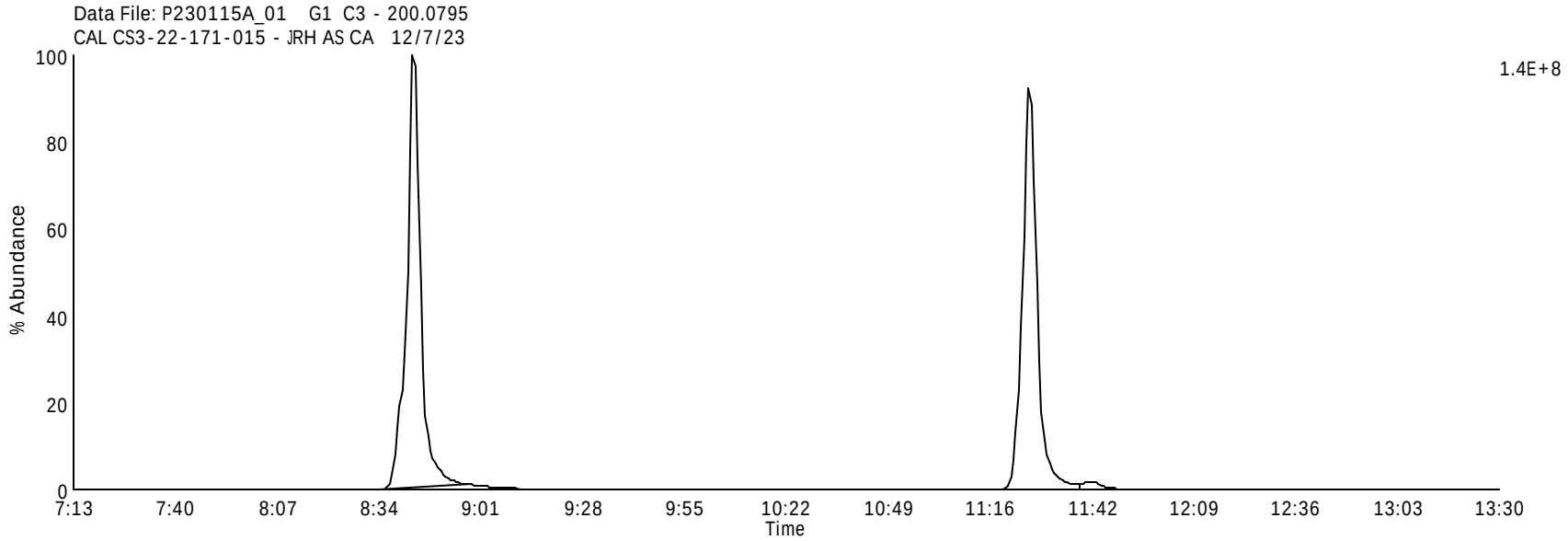


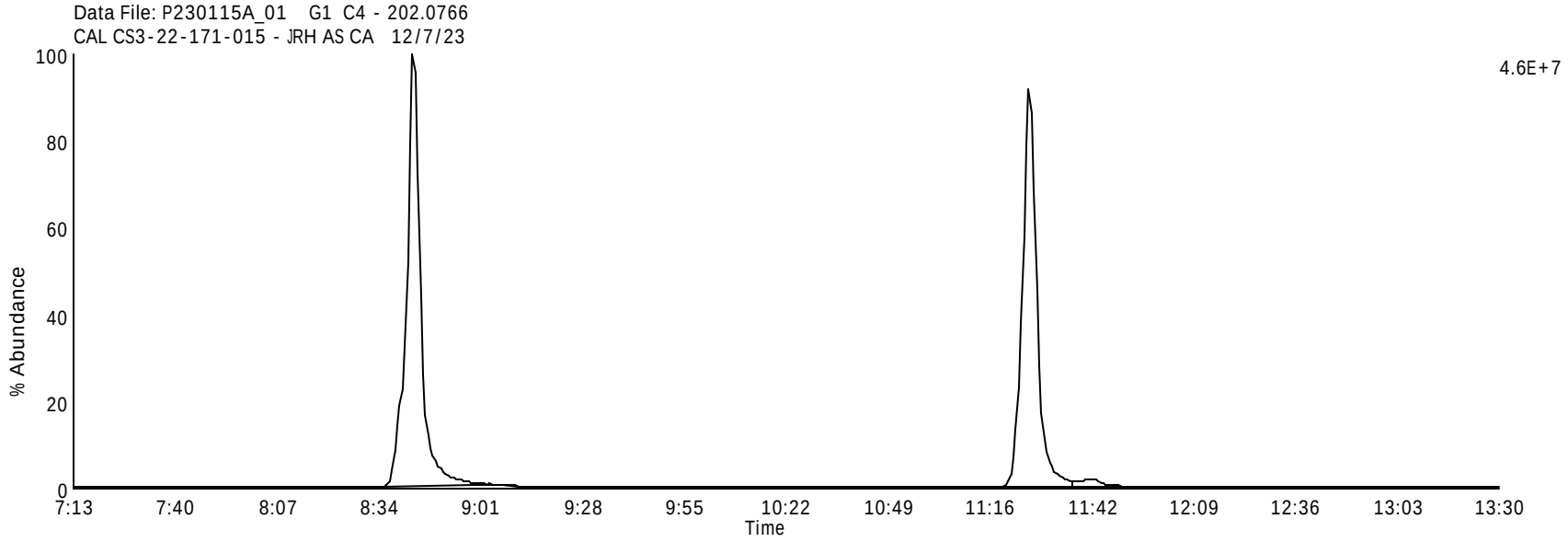
Labeled Mono Chlorinated Biphenyls

Data File Name: P230115A_01 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/15/2023 Instrument: 10MSHR09 (P)

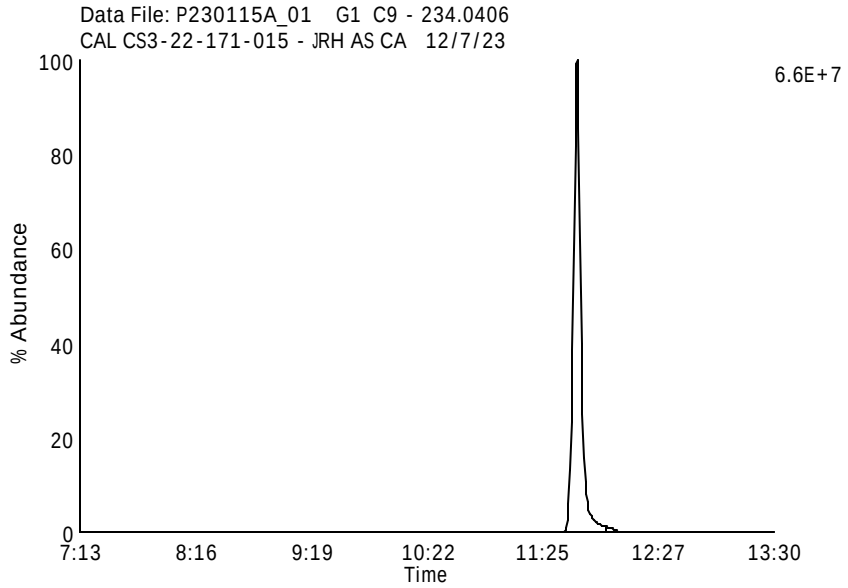
Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23

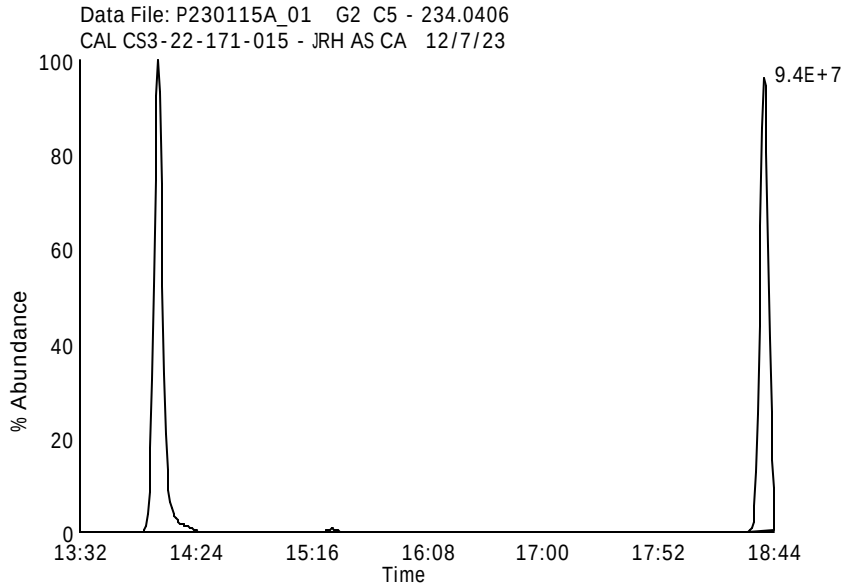


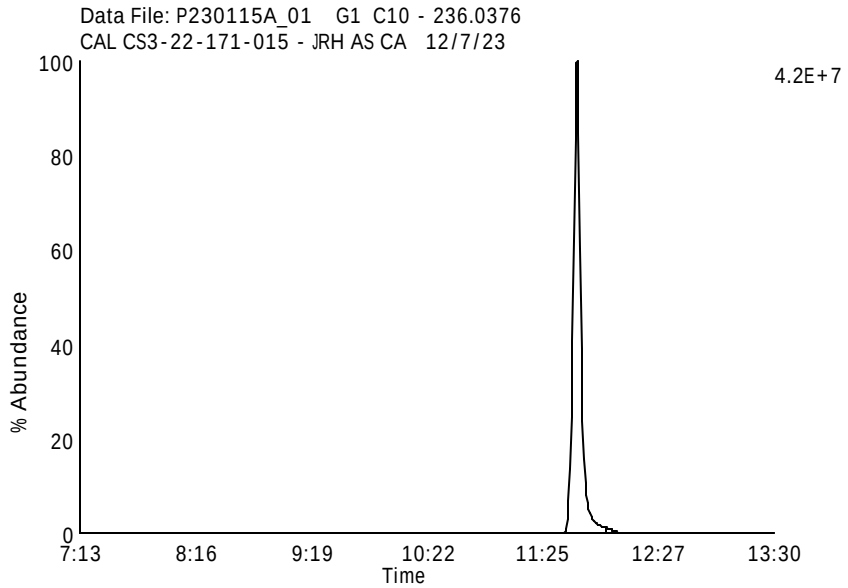


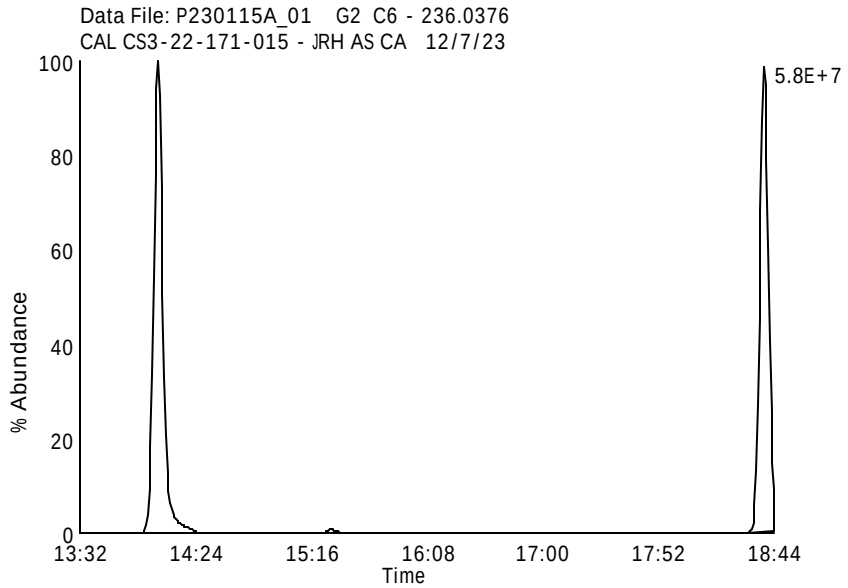
Labeled Di Chlorinated Biphenyls

Data File Name: P230115A_01
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23



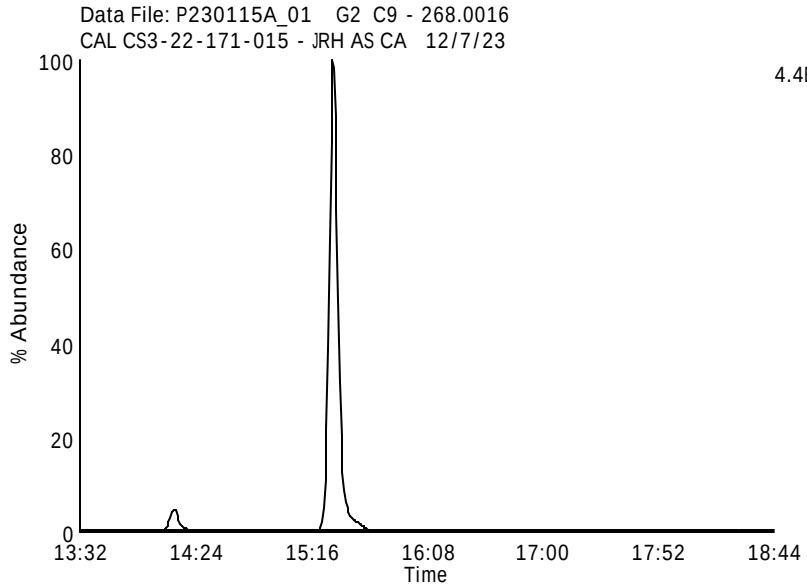


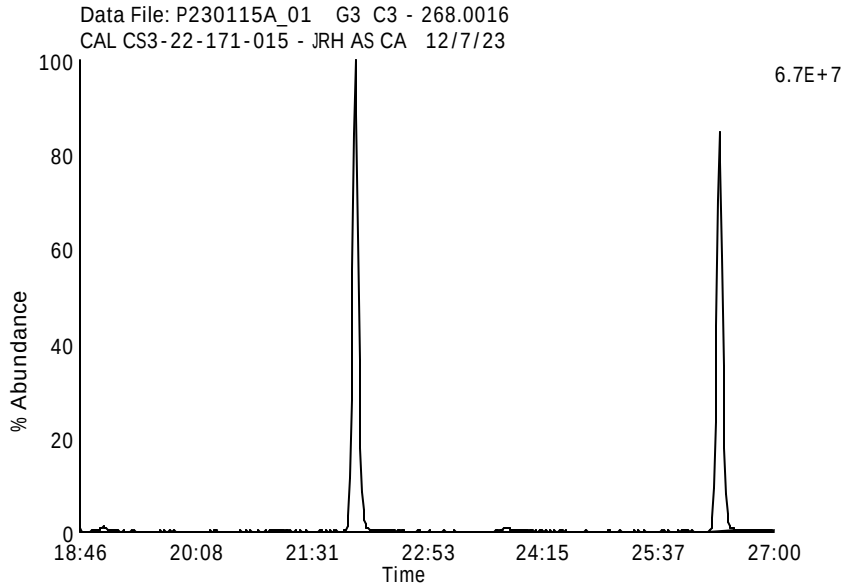


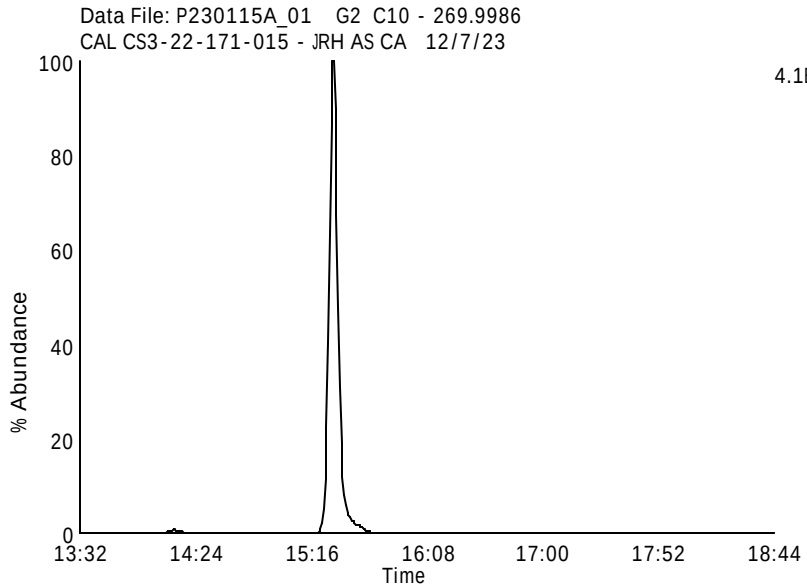


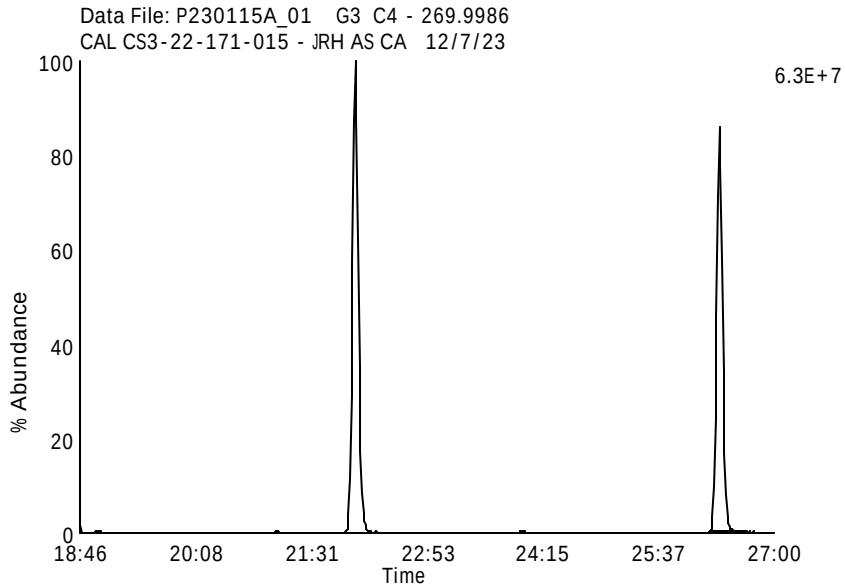
Labeled Tri Chlorinated Biphenyls

Data File Name: P230115A_01
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23



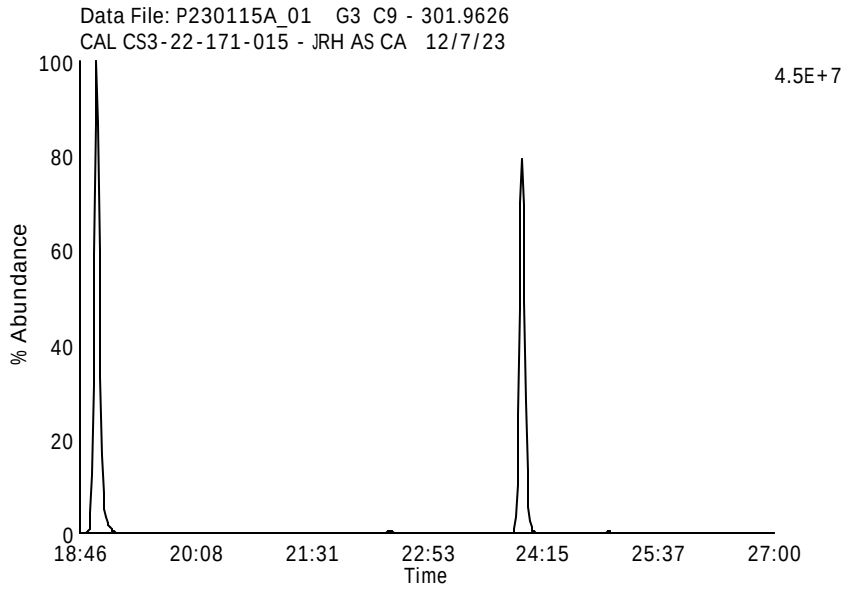


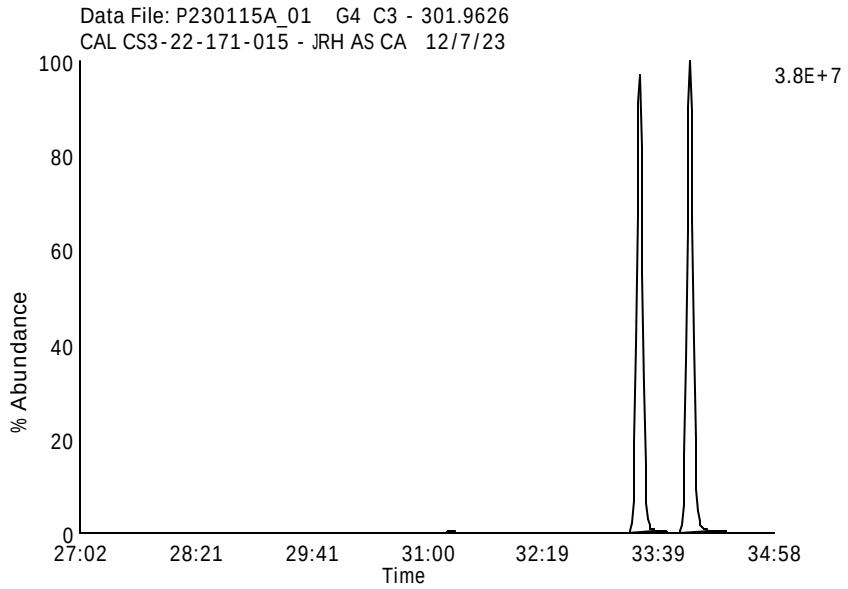


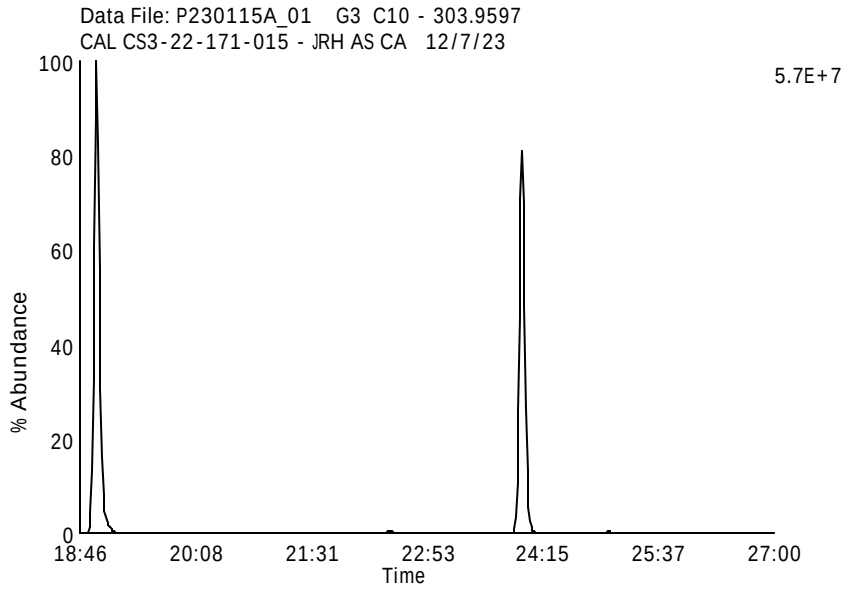


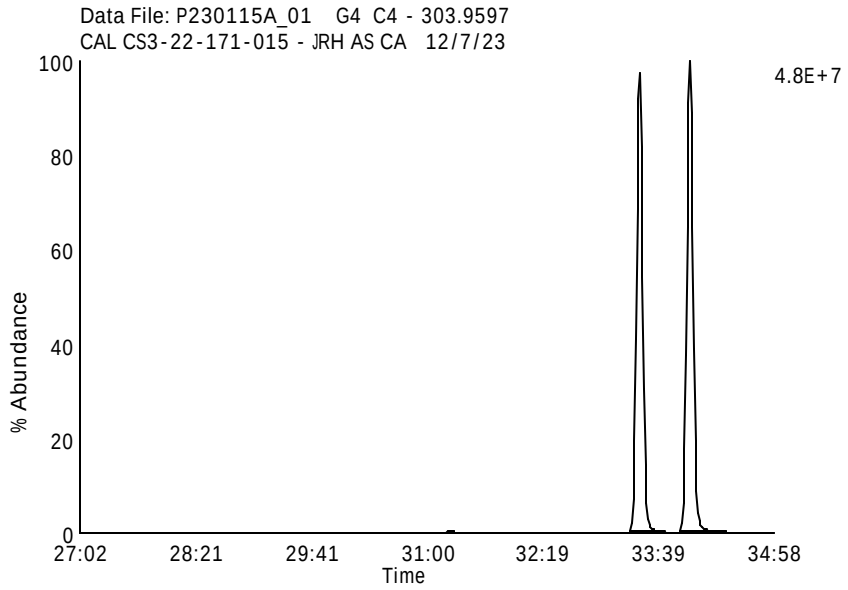
Labeled Tetra Chlorinated Biphenyls

Data File Name: P230115A_01
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23







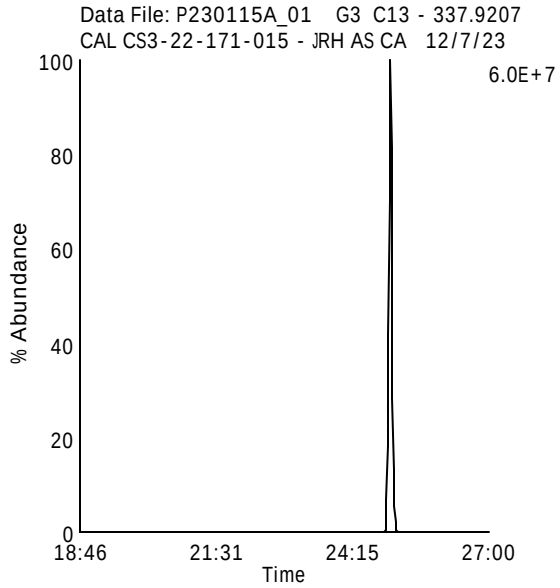


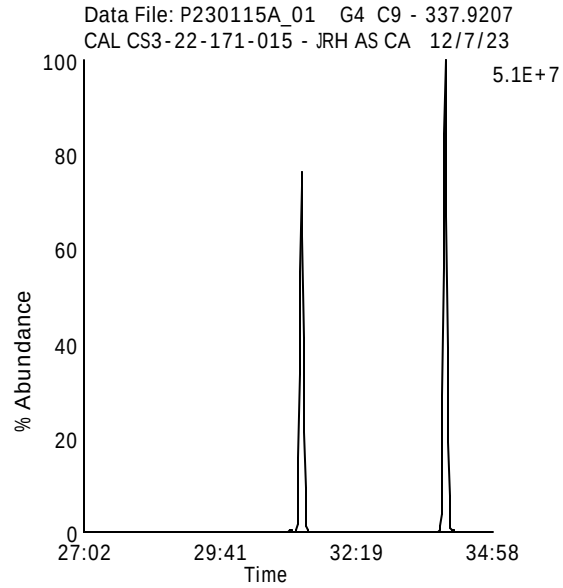
Labeled Penta Chlorinated Biphenyls

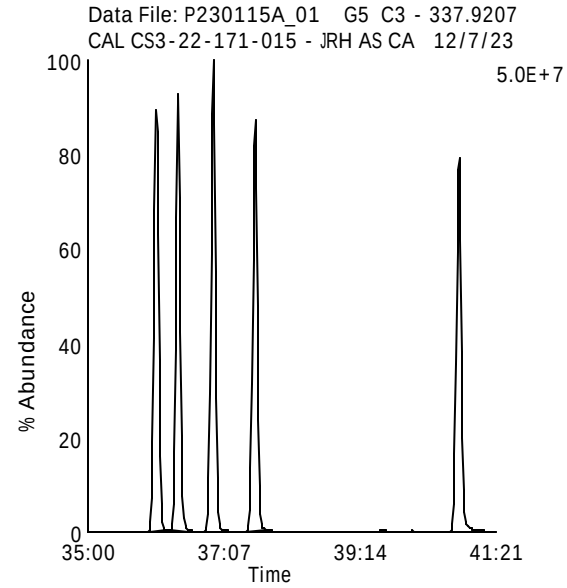
Data File Name: P230115A_01 Lab Sample ID: CS3-22-171-015

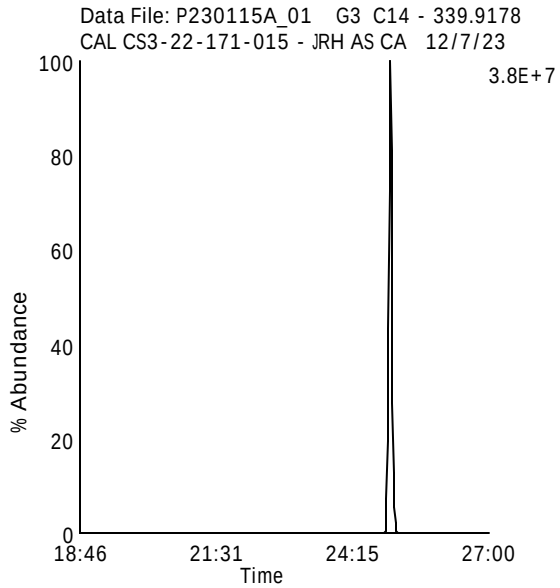
Date Acquired: 1/15/2023 Instrument: 10MSHR09 (P)

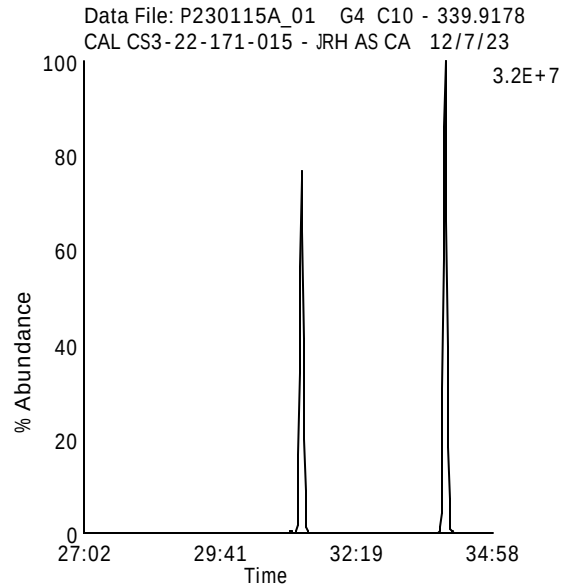
Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23

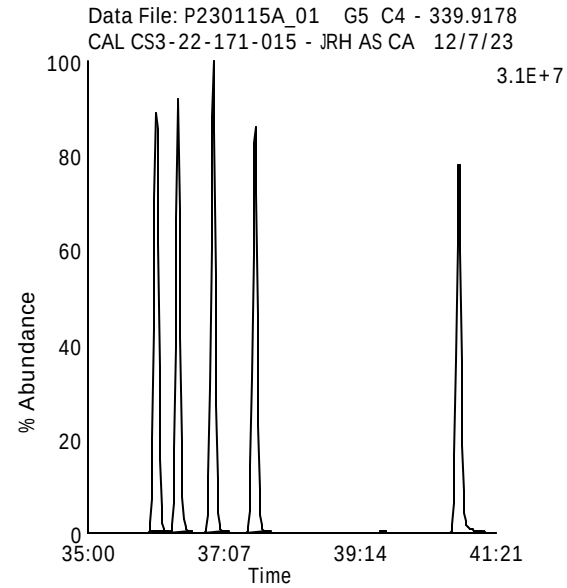












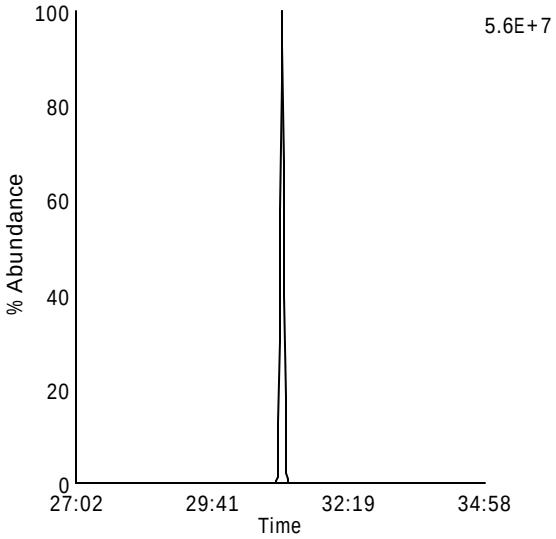
Labeled Hexa Chlorinated Biphenyls

Data File Name: P230115A_01 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/15/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23

Data File: P230115A_01 G4 C13 - 371.8817
CAL CS3-22-171-015 - JRH AS CA 12/7/23



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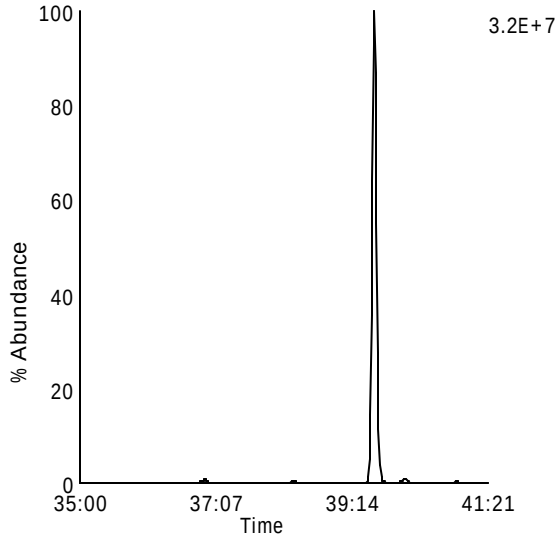
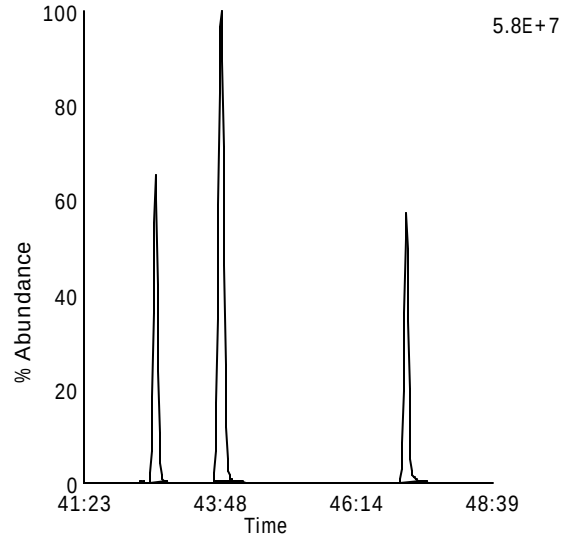
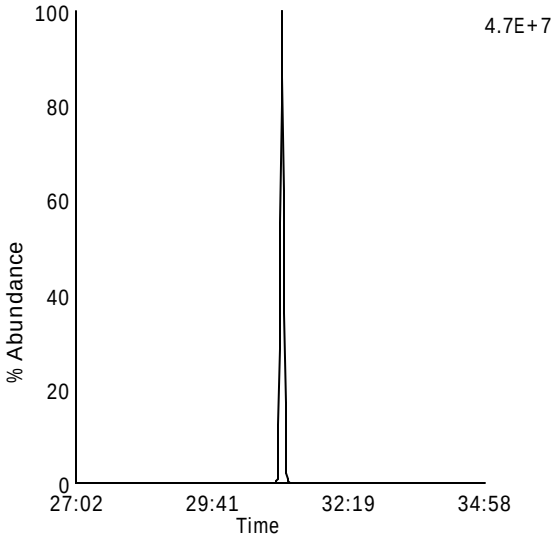
CAL CS3-22-171-015 - JRH AS CA 12/7/23



Data File: P230115A_01 G6 C3 - 371.8817
CAL CS3-22-171-015 - JRH AS CA 12/7/23



Data File: P230115A_01 G4 C14 - 373.8788
CAL CS3-22-171-015 - JRH AS CA 12/7/23



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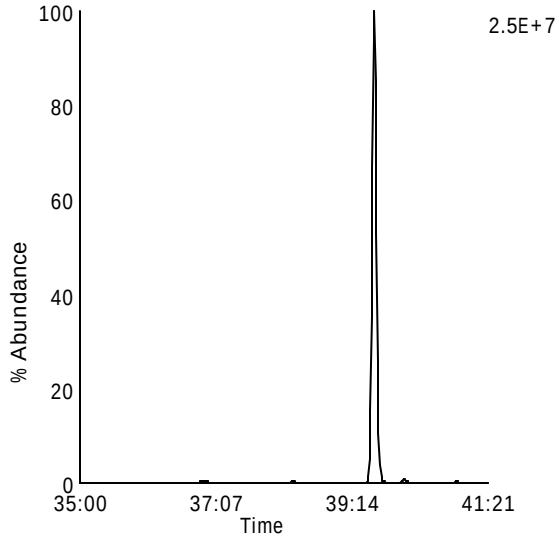
CAL CS3-22-171-015 - JRH AS CA 12/7/23



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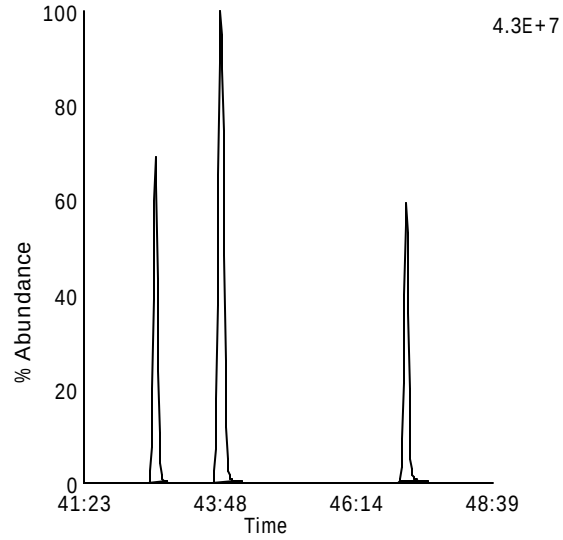
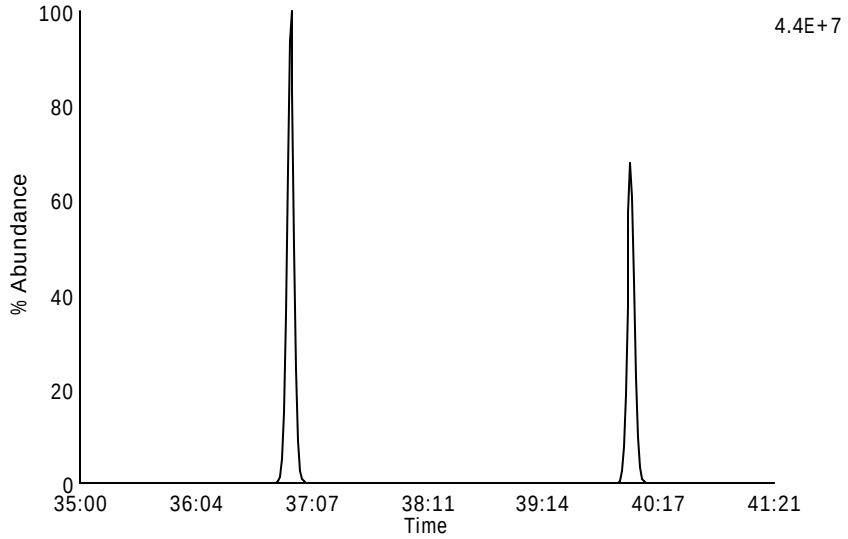
CAL CS3-22-171-015 - JRH AS CA 12/7/23



Labeled Hepta Chlorinated Biphenyls

Data File Name: P230115A_01
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23

Data File: P230115A_01 G5 C13 - 405.8428
CAL CS3-22-171-015 - JRH AS CA 12/7/23



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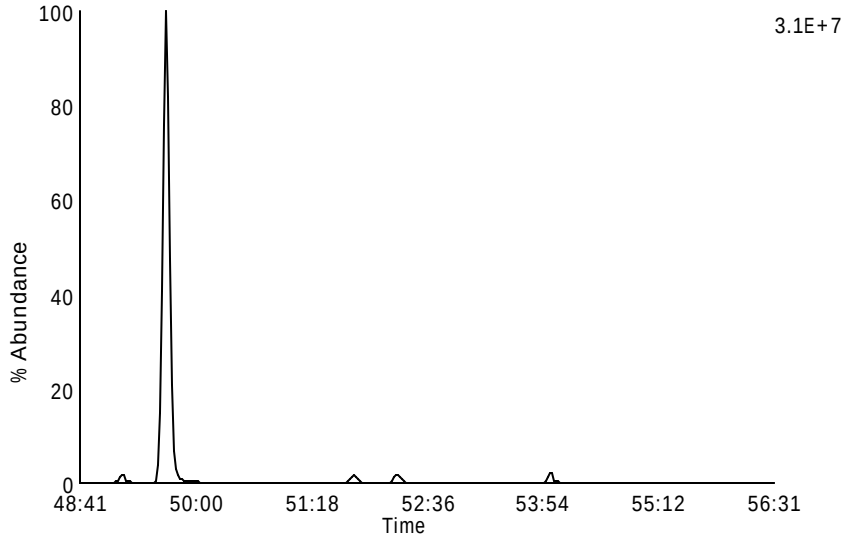
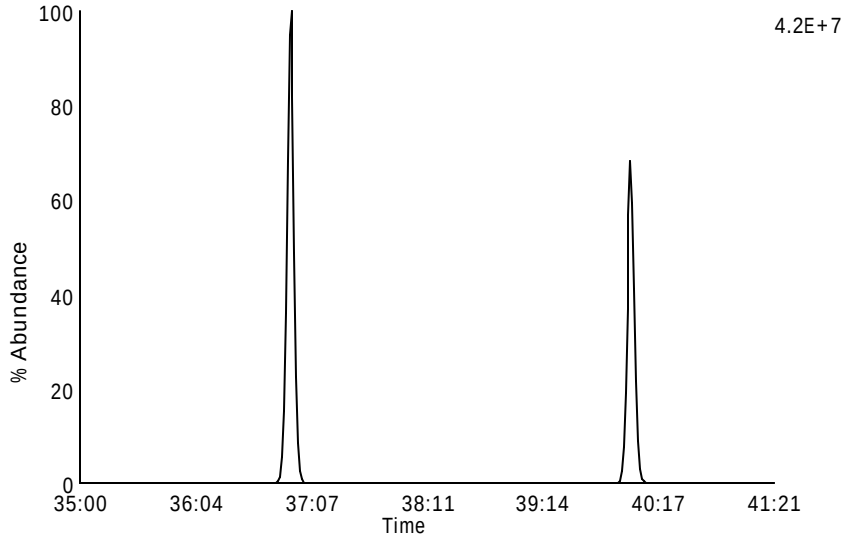
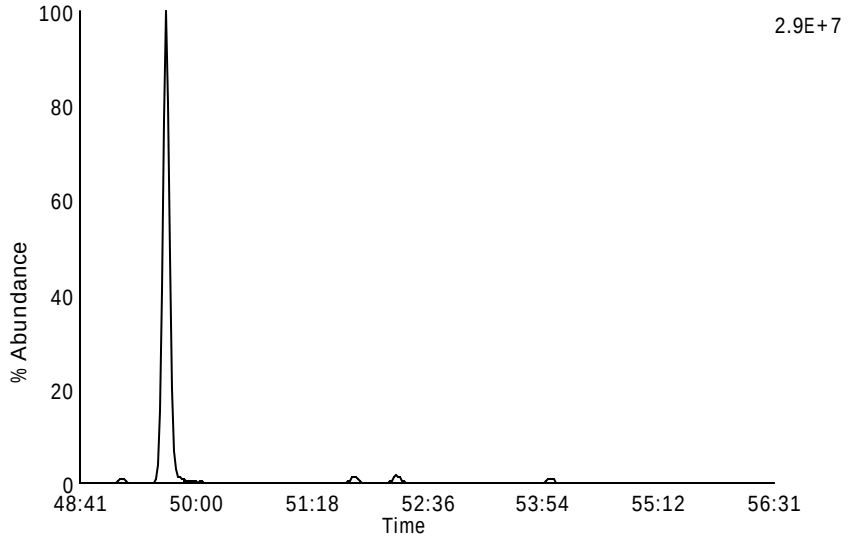
CAL CS3-22-171-015 - JRH AS CA 12/7/23



Data File: P230115A_01 G5 C14 - 407.8398
CAL CS3-22-171-015 - JRH AS CA 12/7/23



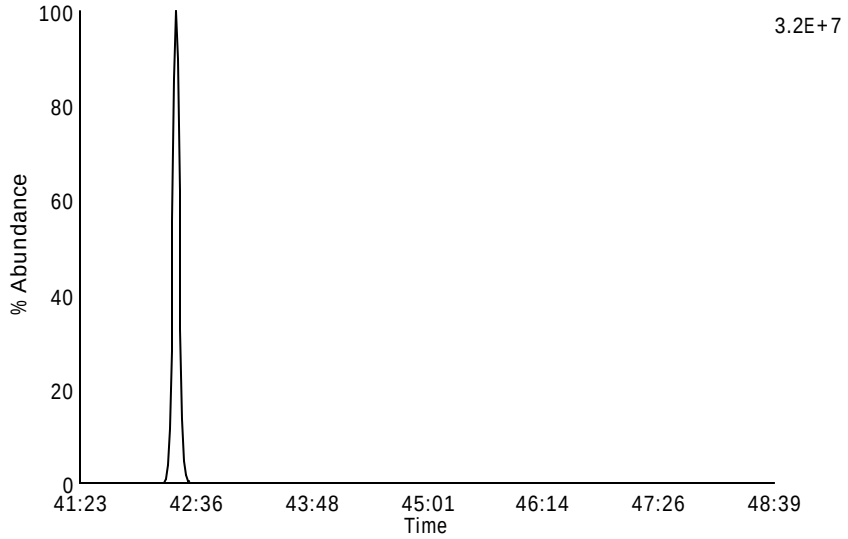
Data File: P230115A_01 G7 C4 - 407.8398
CAL CS3-22-171-015 - JRH AS CA 12/7/23



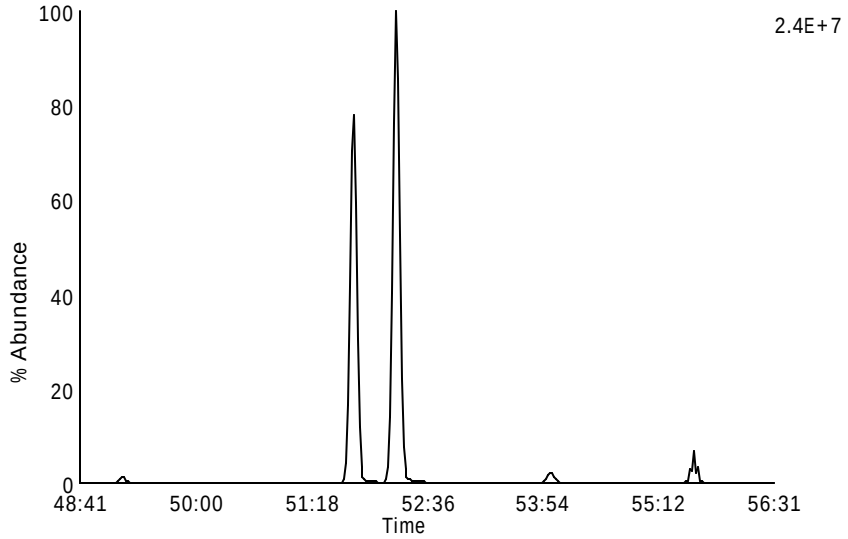
Labeled Octa Chlorinated Biphenyls

Data File Name: P230115A_01
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23

Data File: P230115A_01 G6 C13 - 439.8038
CAL CS3-22-171-015 - JRH AS CA 12/7/23



Data File: P230115A_01 G7 C7 - 439.8038
CAL CS3-22-171-015 - JRH AS CA 12/7/23



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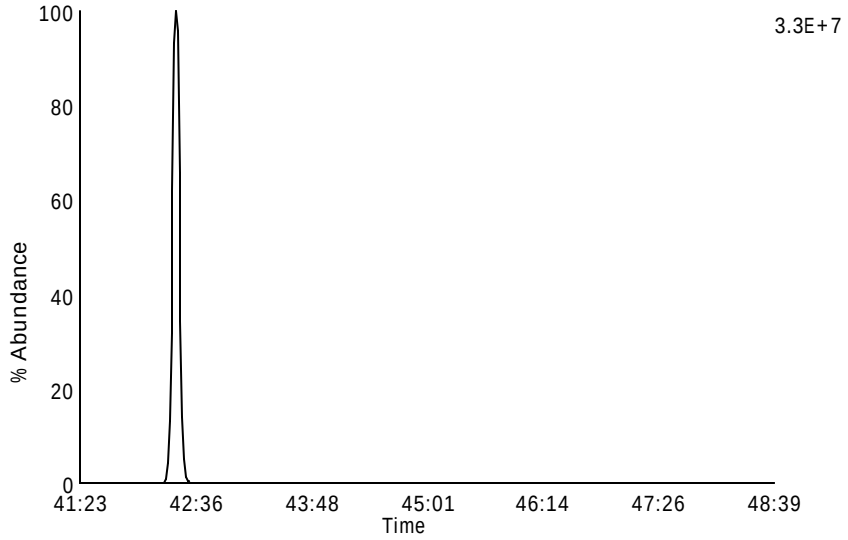
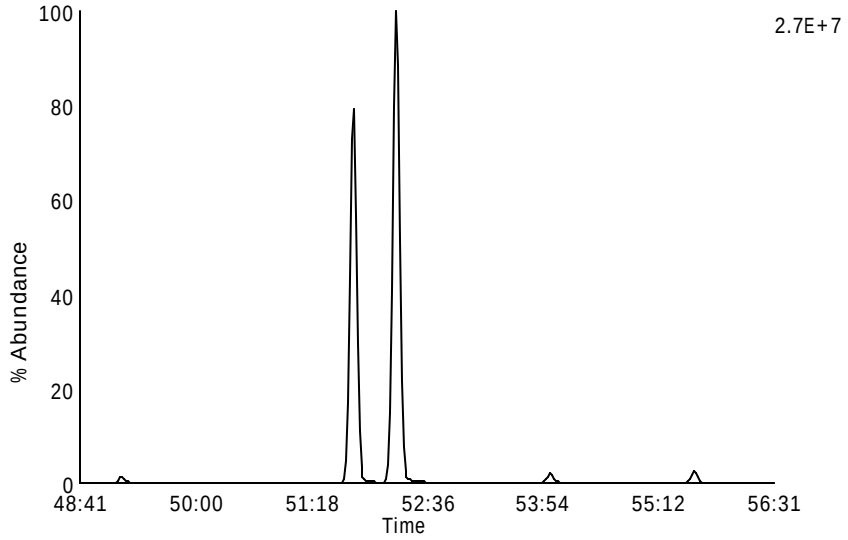
CAL CS3-22-171-015 - JRH AS CA 12/7/23



Data File: P230115A_01 G7 C8 - 441.8008
CAL CS3-22-171-015 - JRH AS CA 12/7/23

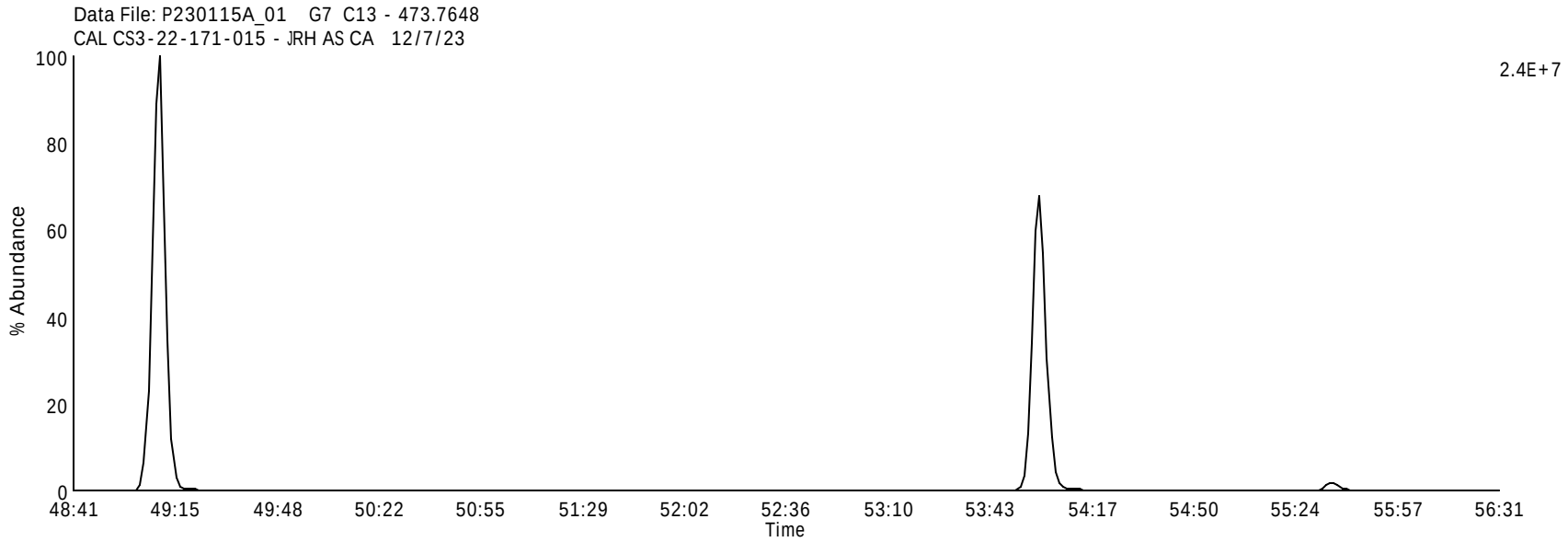


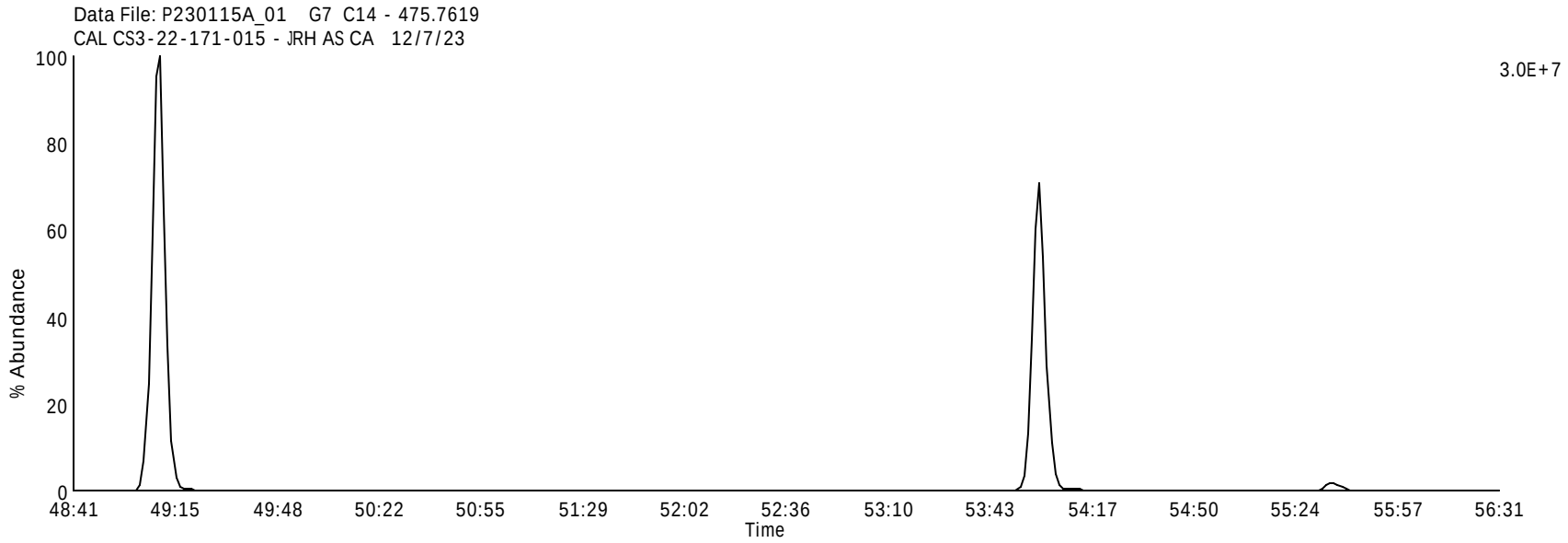
Labeled Nona Chlorinated Biphenyls

Data File Name: P230115A_01 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/15/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23



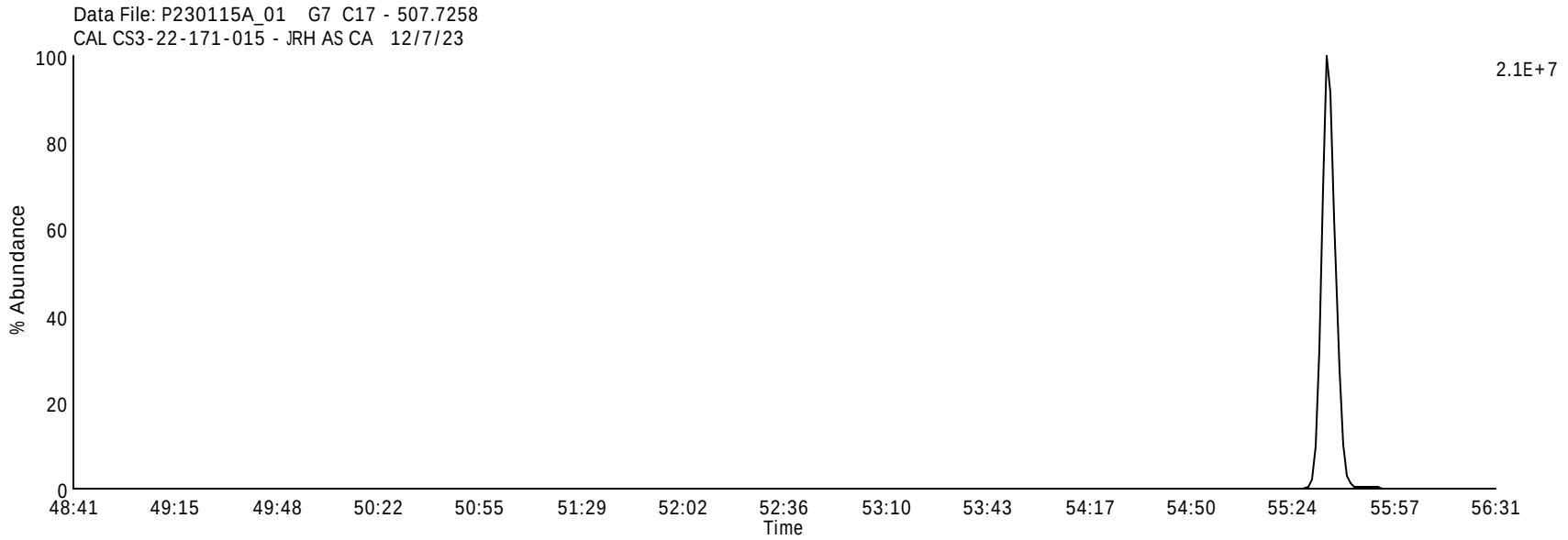


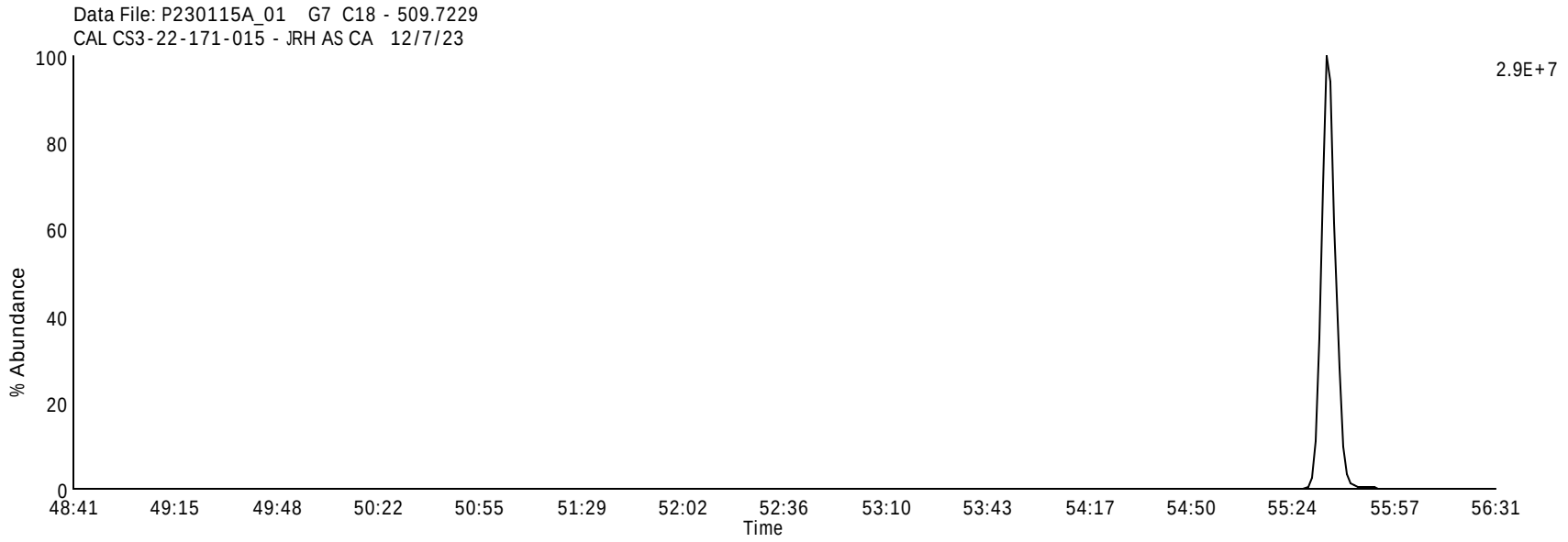
Labeled Deca Chlorinated Biphenyl

Data File Name: P230115A_01 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/15/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23



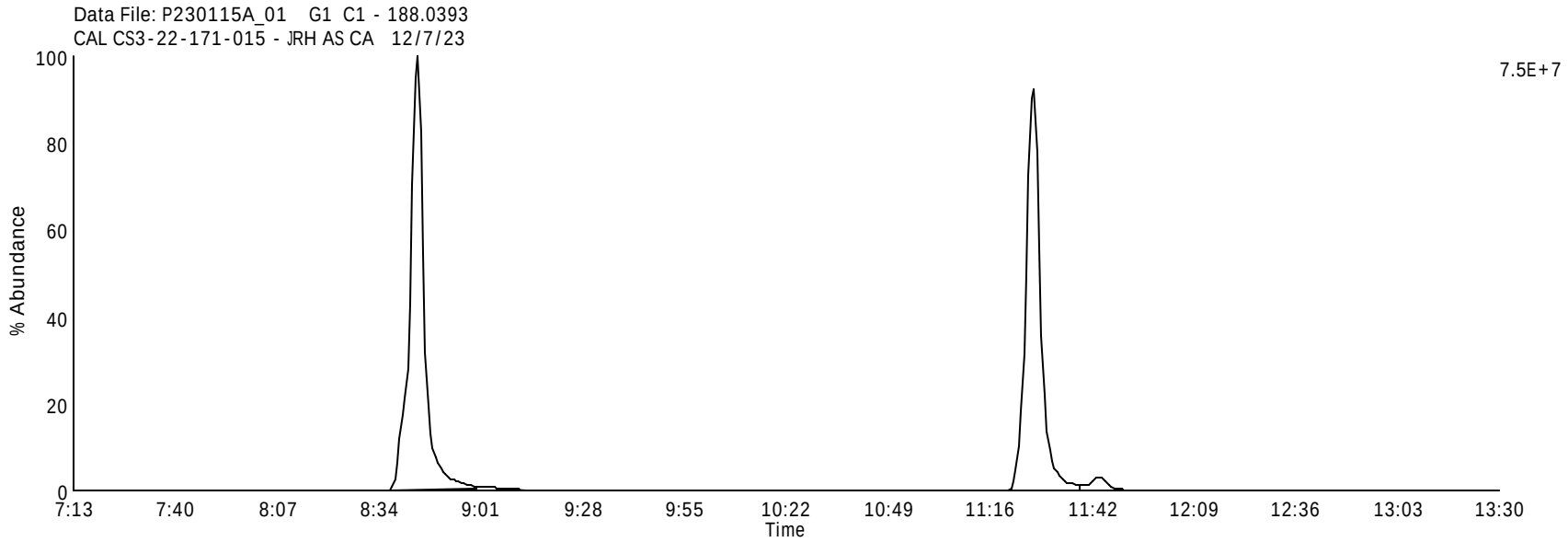


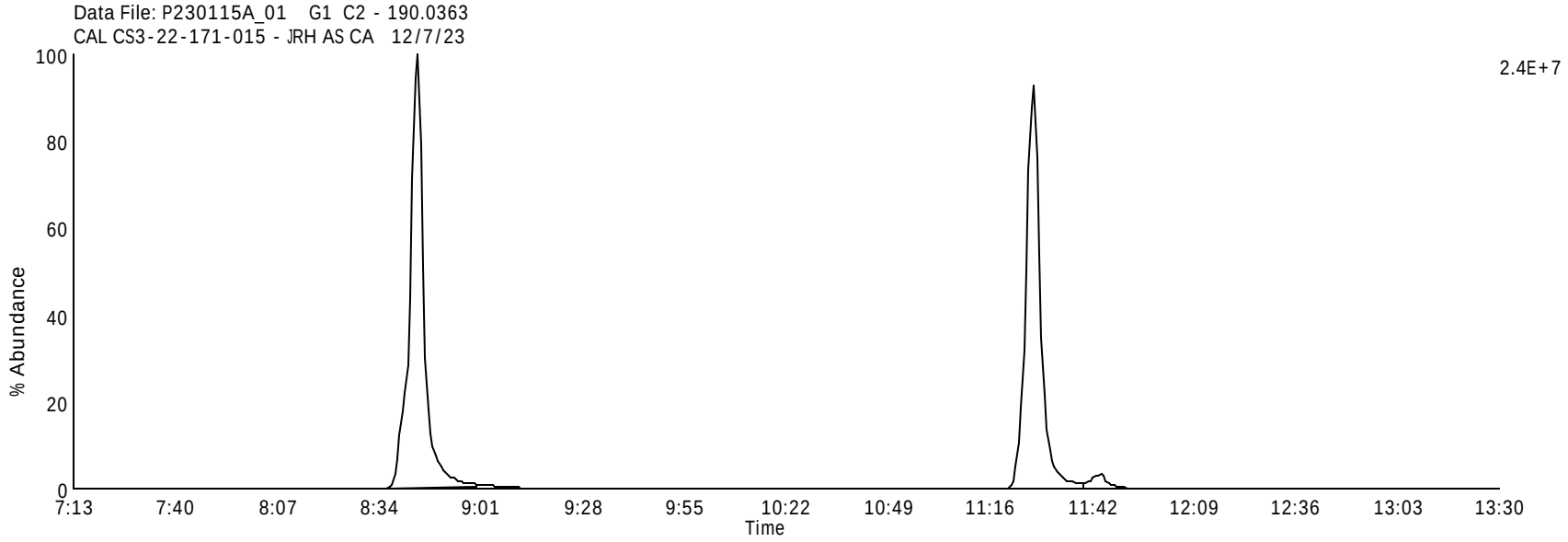
Mono Chlorinated Biphenyls

Data File Name: P230115A_01 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/15/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23



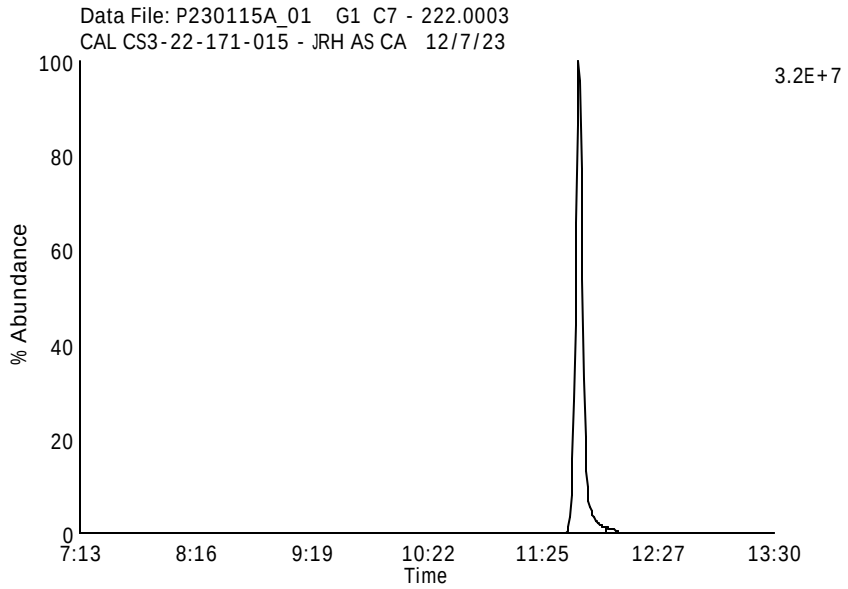


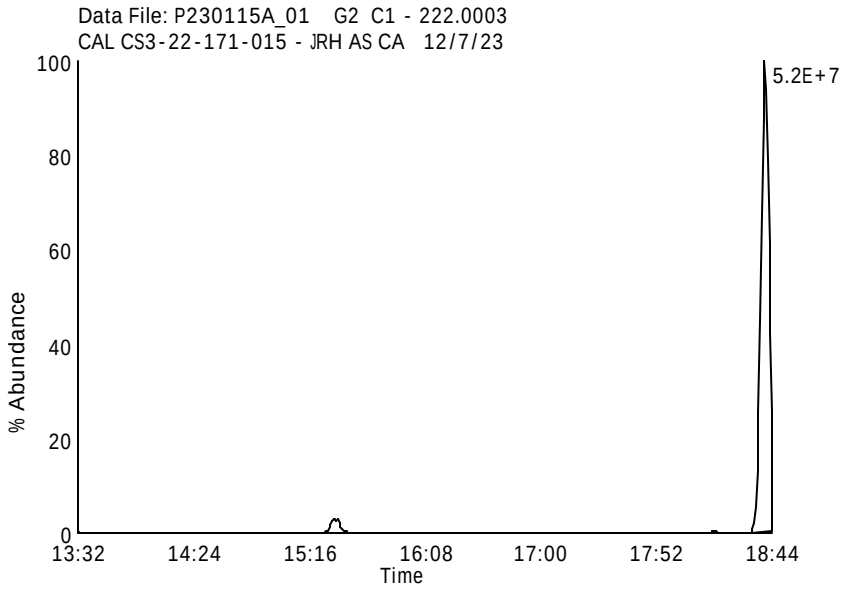
Di Chlorinated Biphenyls

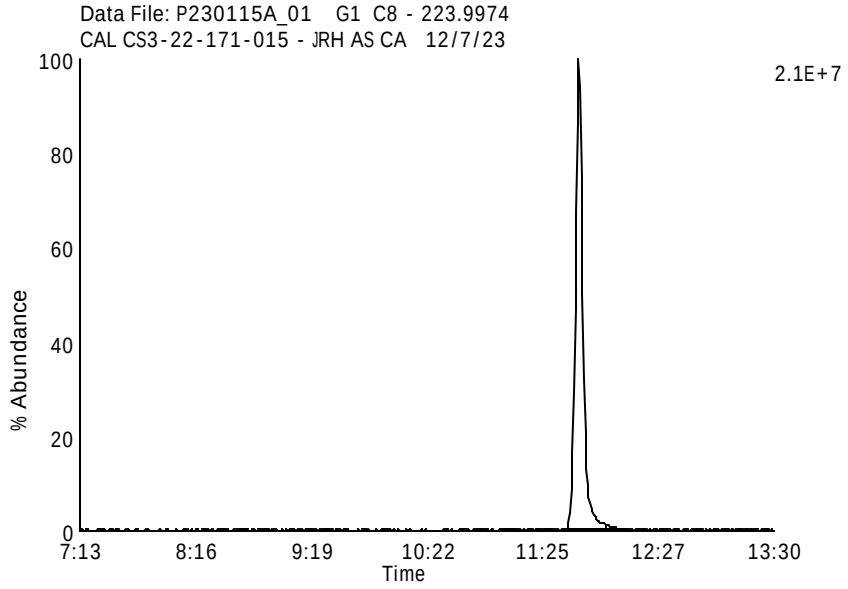
Data File Name: P230115A_01 Lab Sample ID: CS3-22-171-015

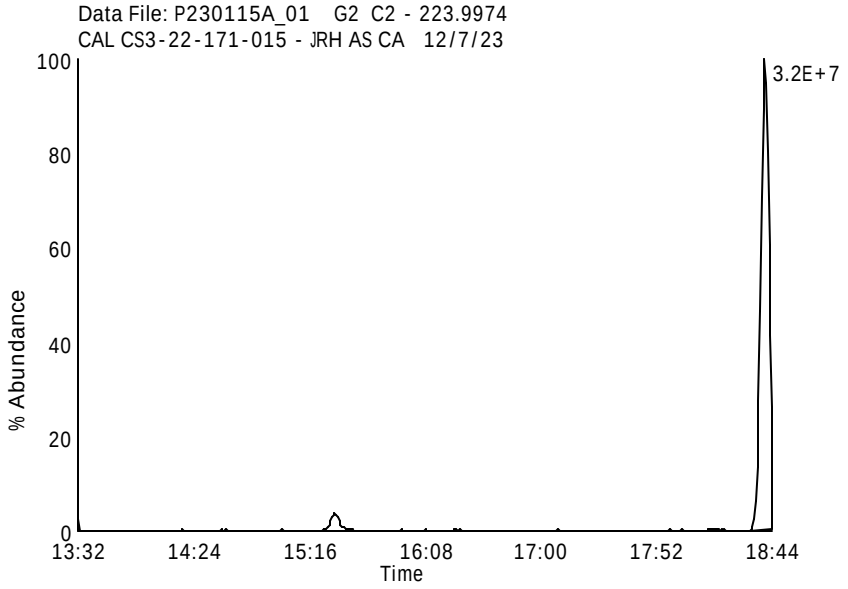
Date Acquired: 1/15/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23



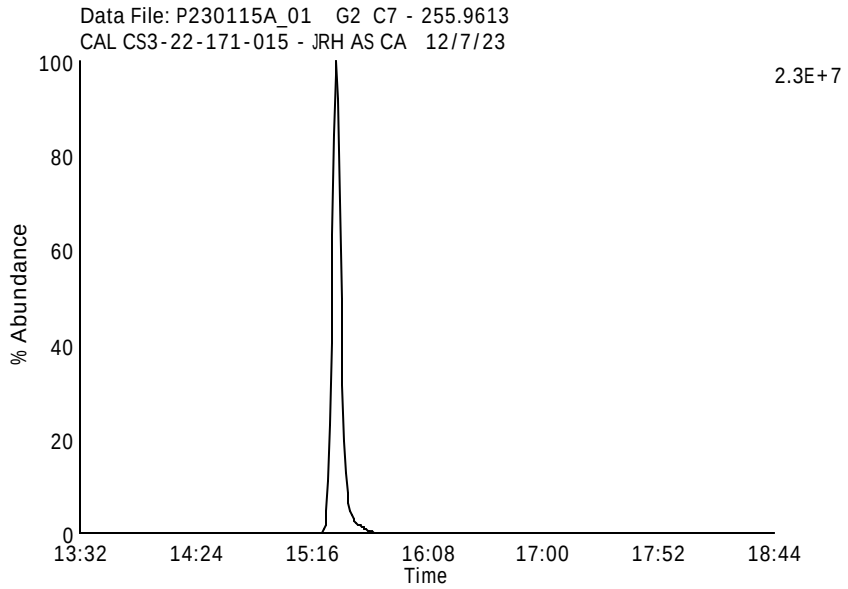


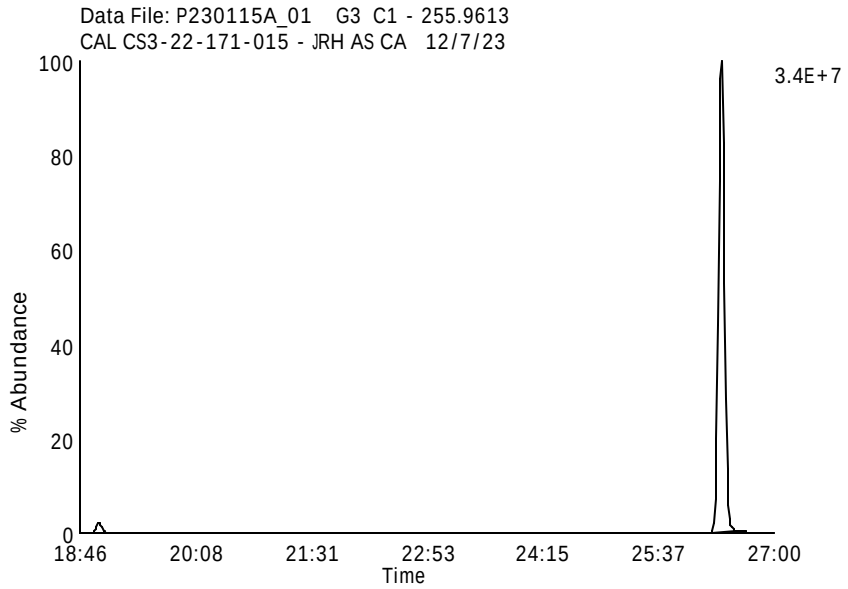


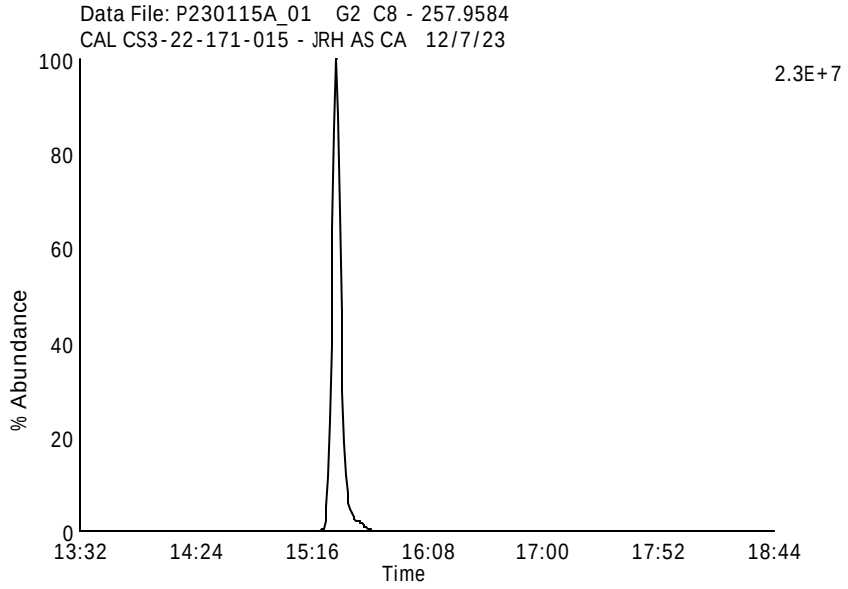


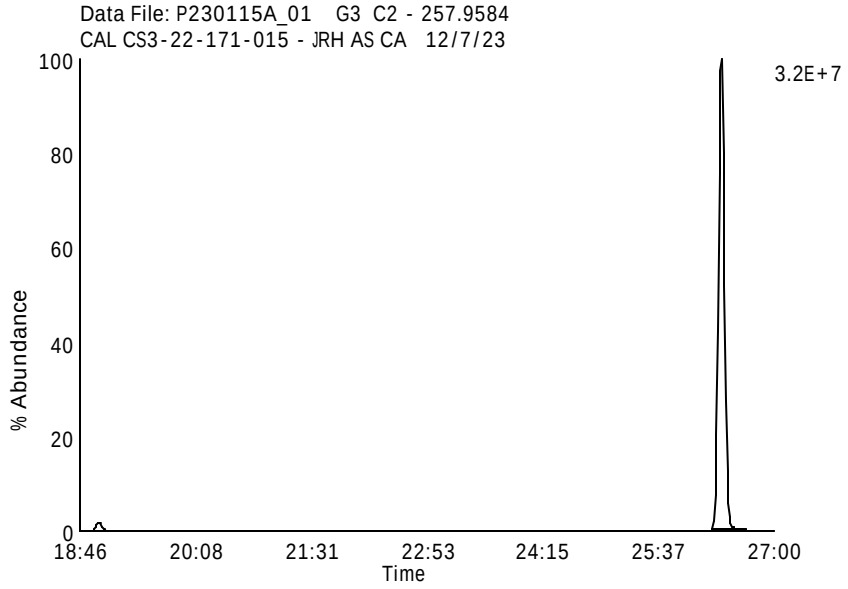
Tri Chlorinated Biphenyls

Data File Name: P230115A_01
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23



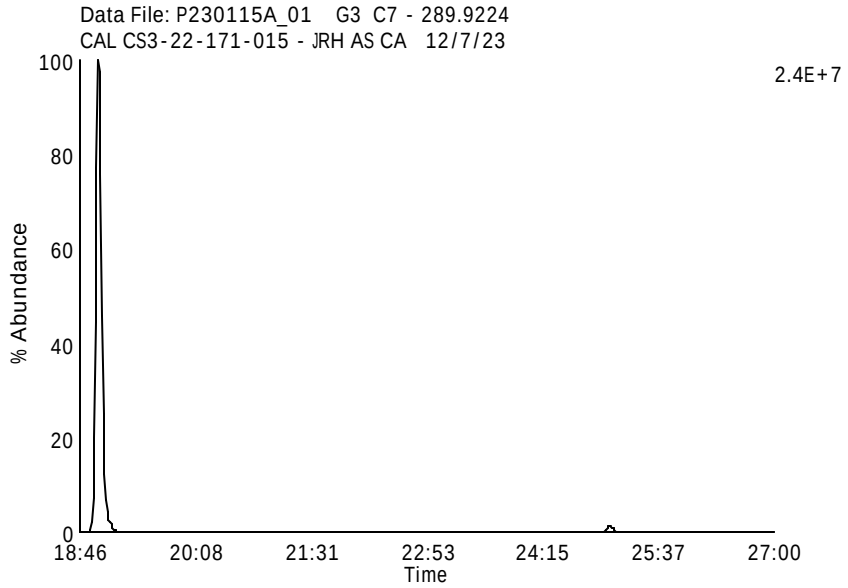


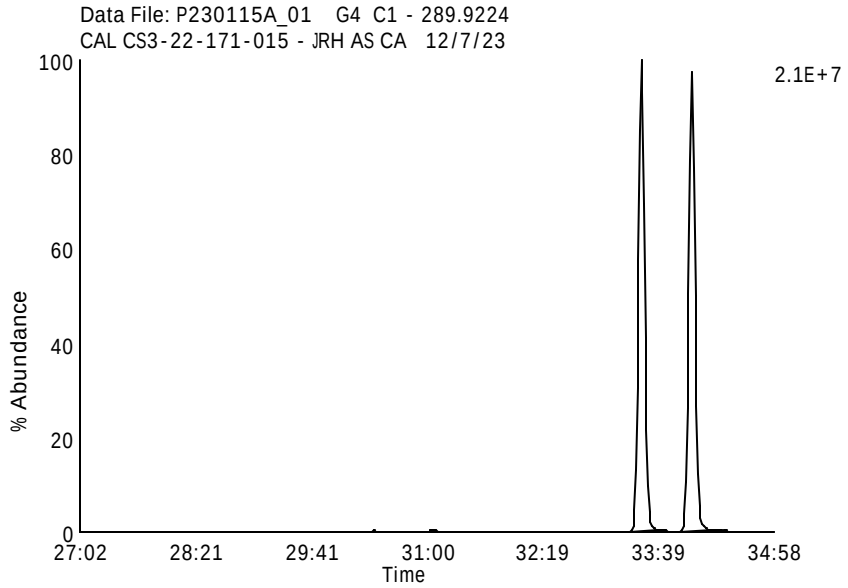


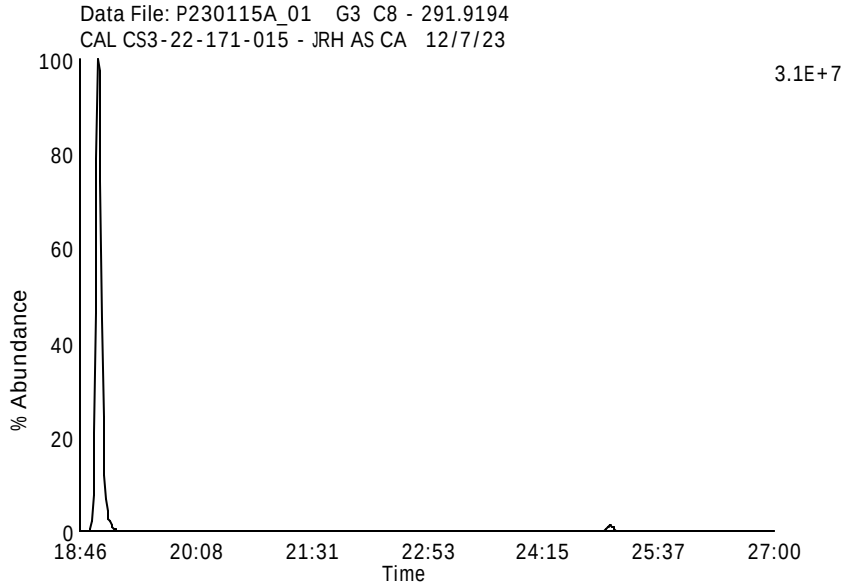


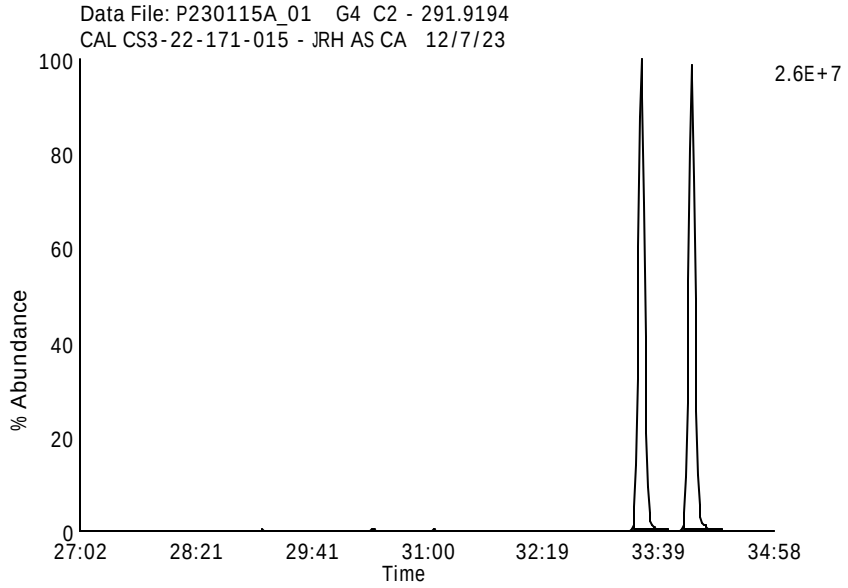
Tetra Chlorinated Biphenyls

Data File Name: P230115A_01
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23







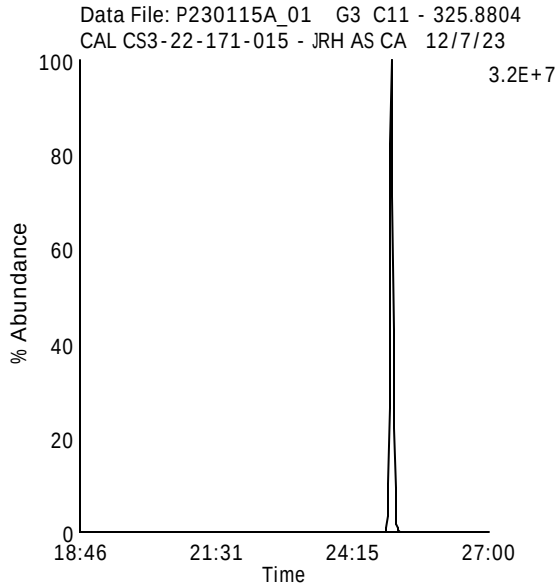


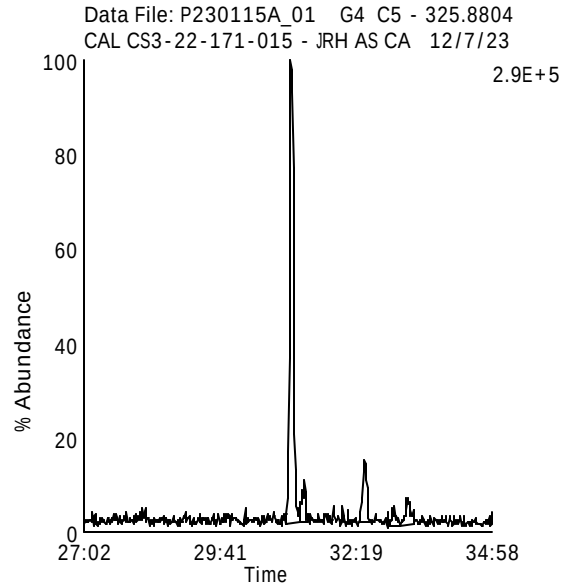
Penta Chlorinated Biphenyls

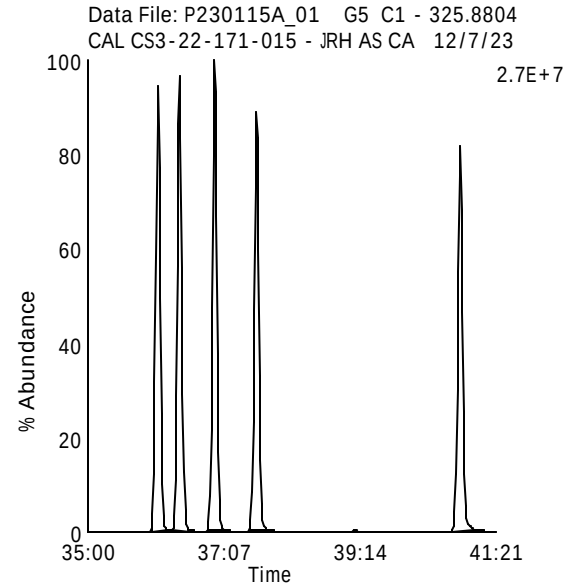
Data File Name: P230115A_01 Lab Sample ID: CS3-22-171-015

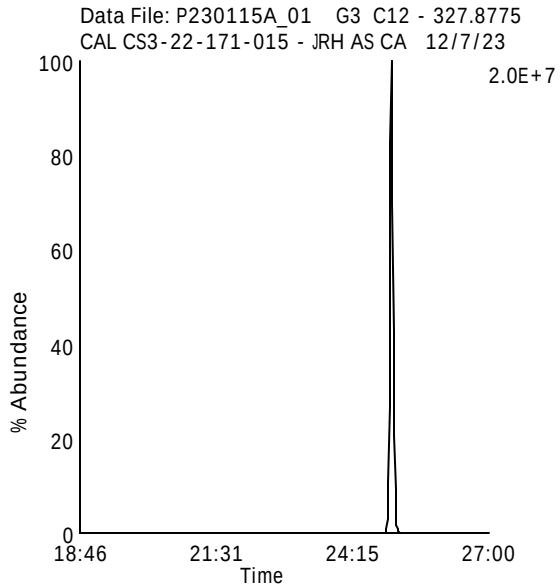
Date Acquired: 1/15/2023 Instrument: 10MSHR09 (P)

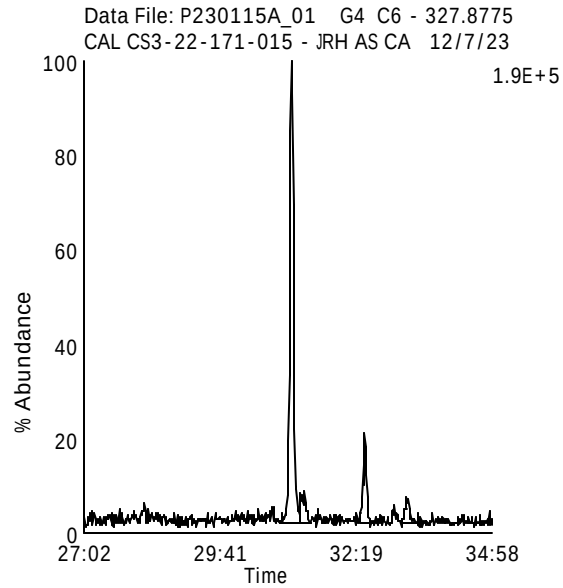
Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23

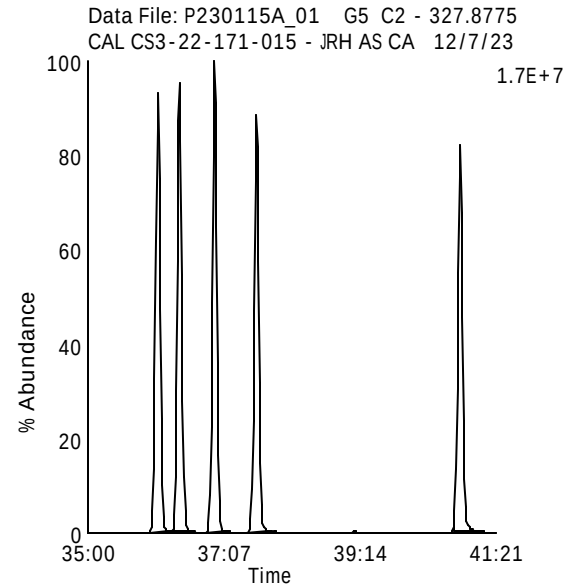










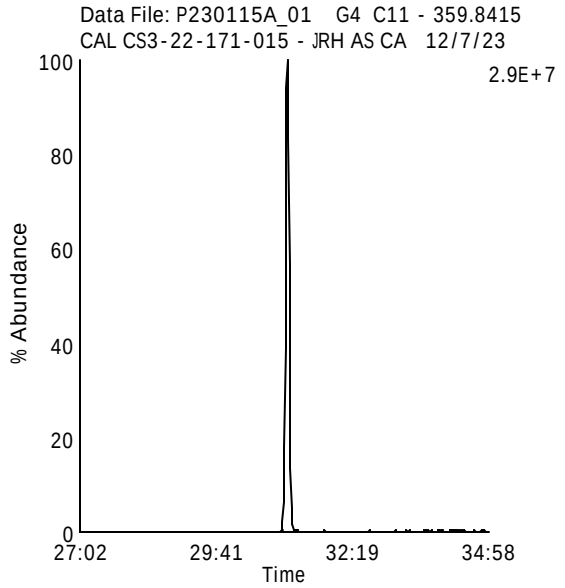


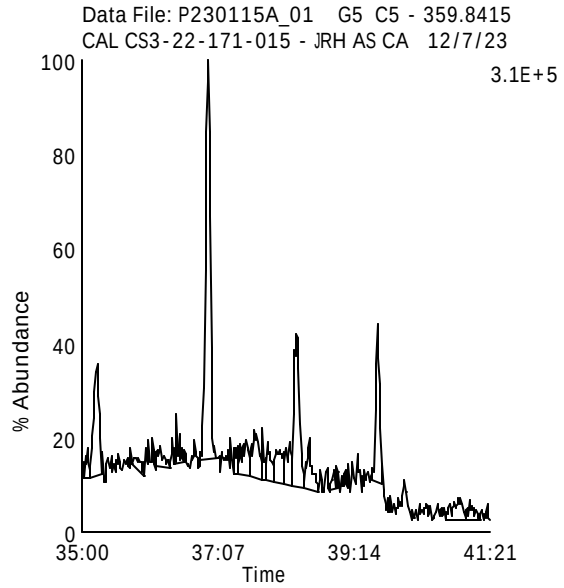
Hexa Chlorinated Biphenyls

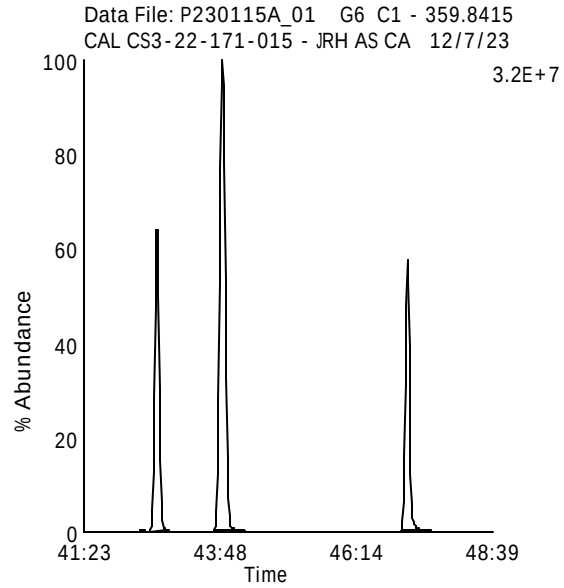
Data File Name: P230115A_01 Lab Sample ID: CS3-22-171-015

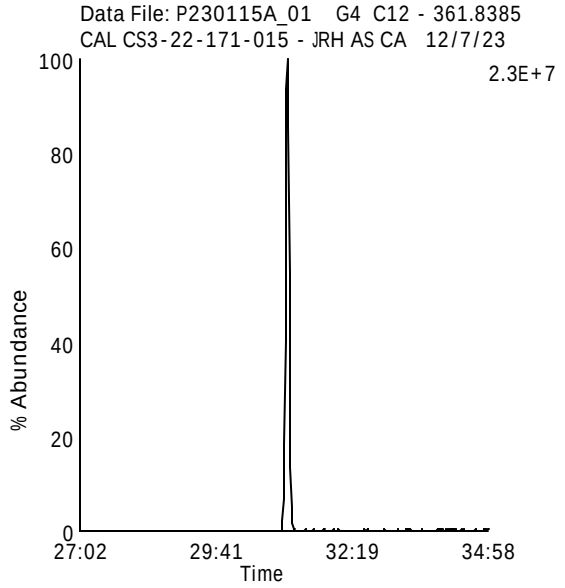
Date Acquired: 1/15/2023 Instrument: 10MSHR09 (P)

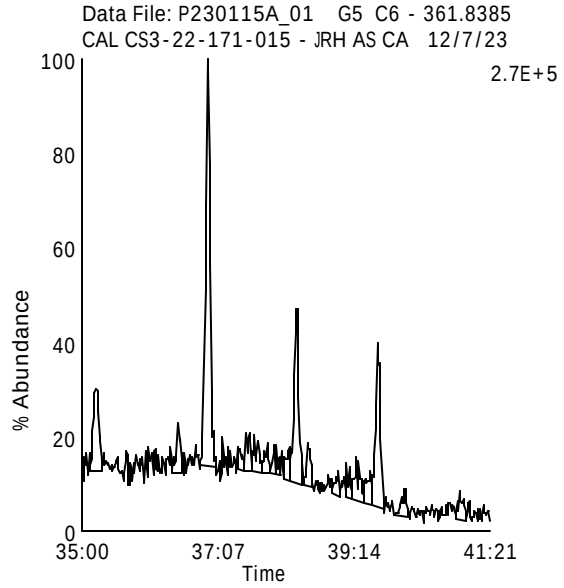
Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23

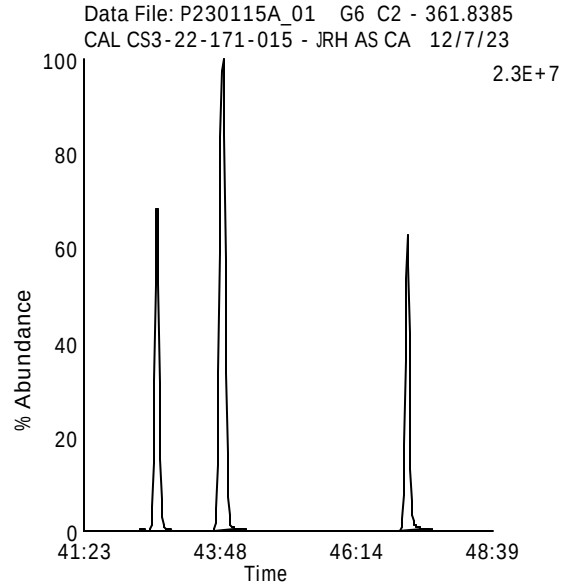










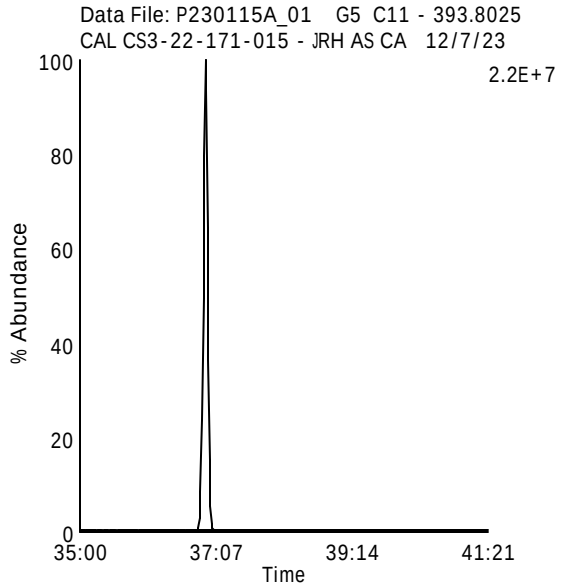


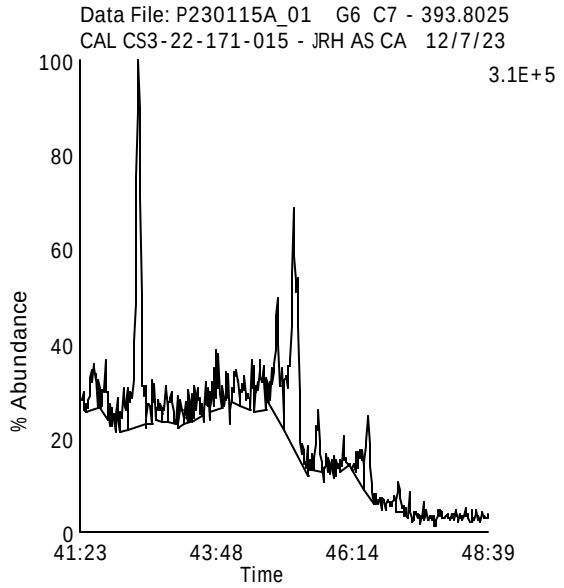
Hepta Chlorinated Biphenyls

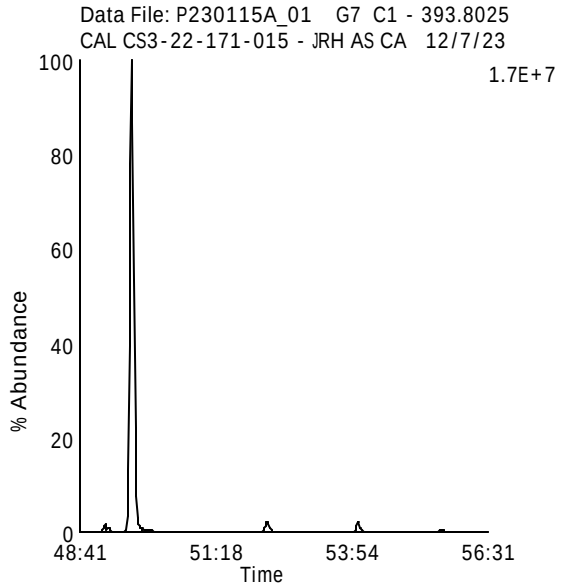
Data File Name: P230115A_01 Lab Sample ID: CS3-22-171-015

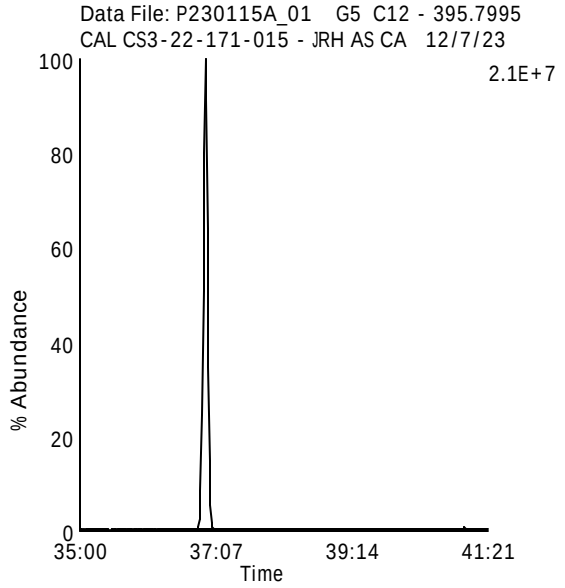
Date Acquired: 1/15/2023 Instrument: 10MSHR09 (P)

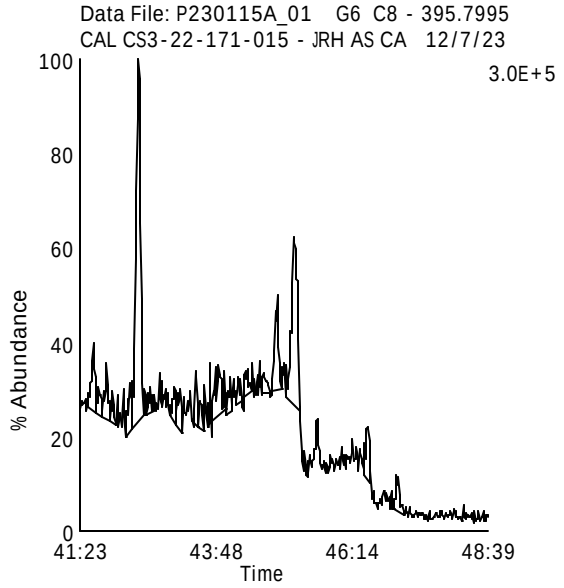
Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23

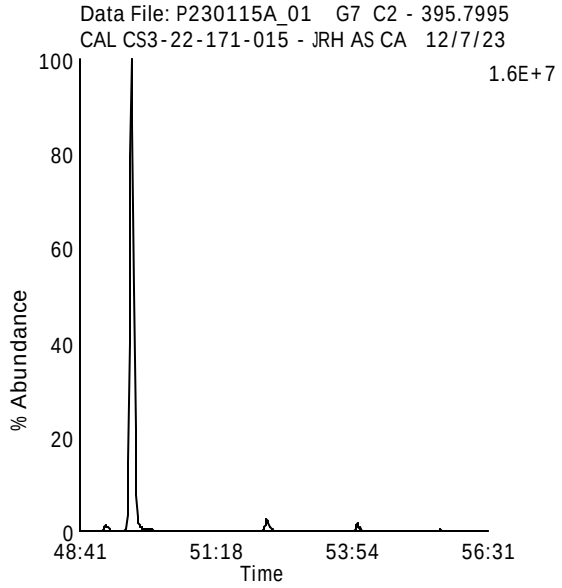






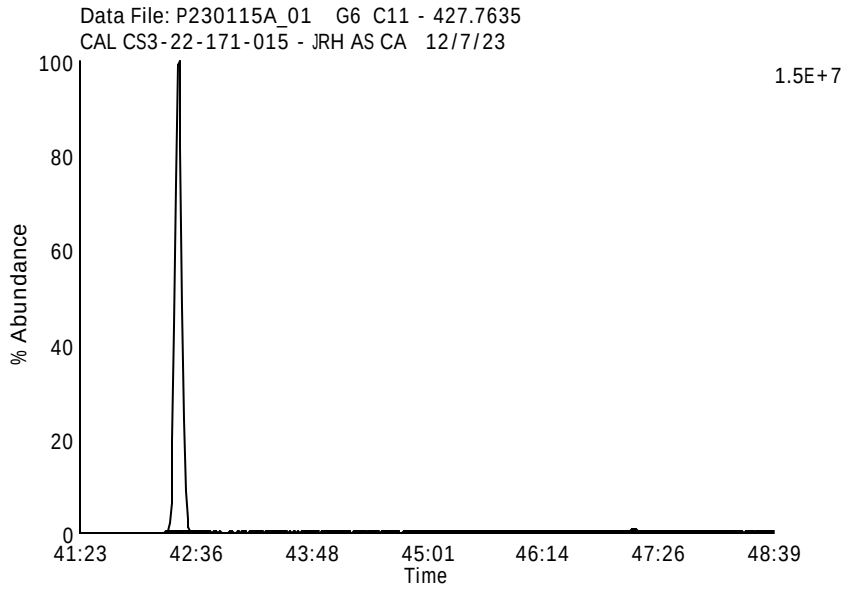


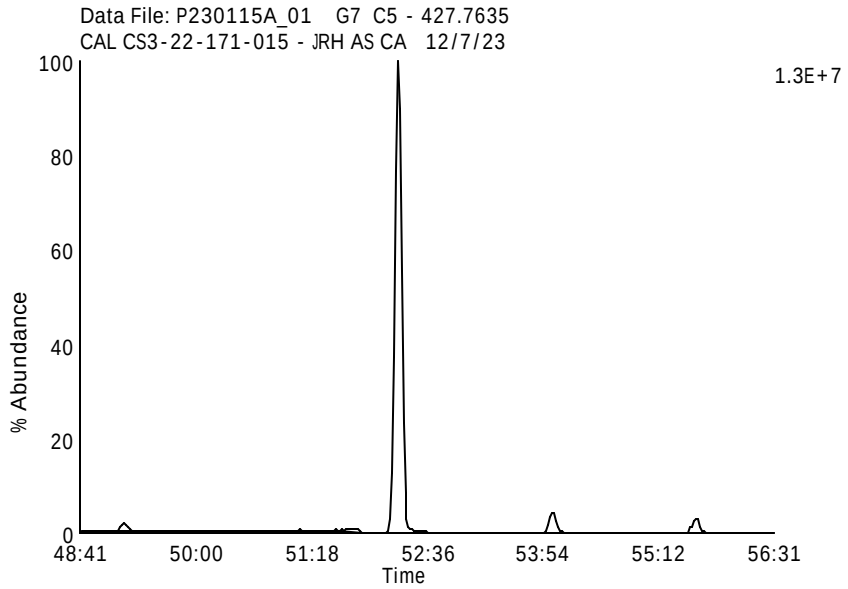


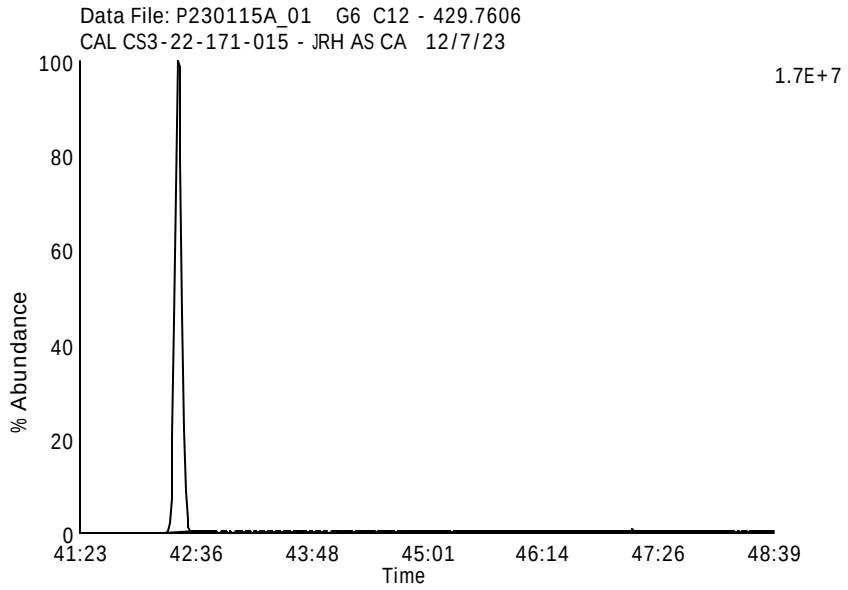


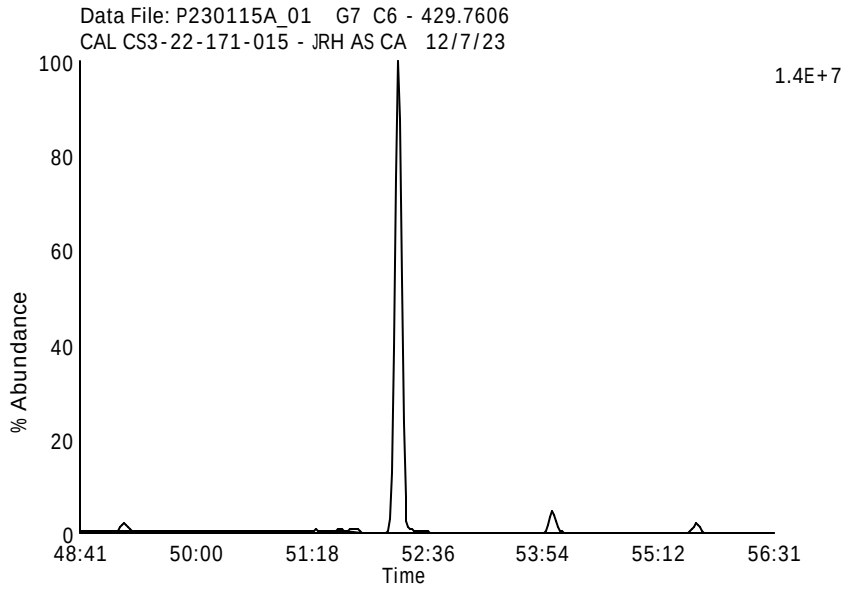
Octa Chlorinated Biphenyls

Data File Name: P230115A_01
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23







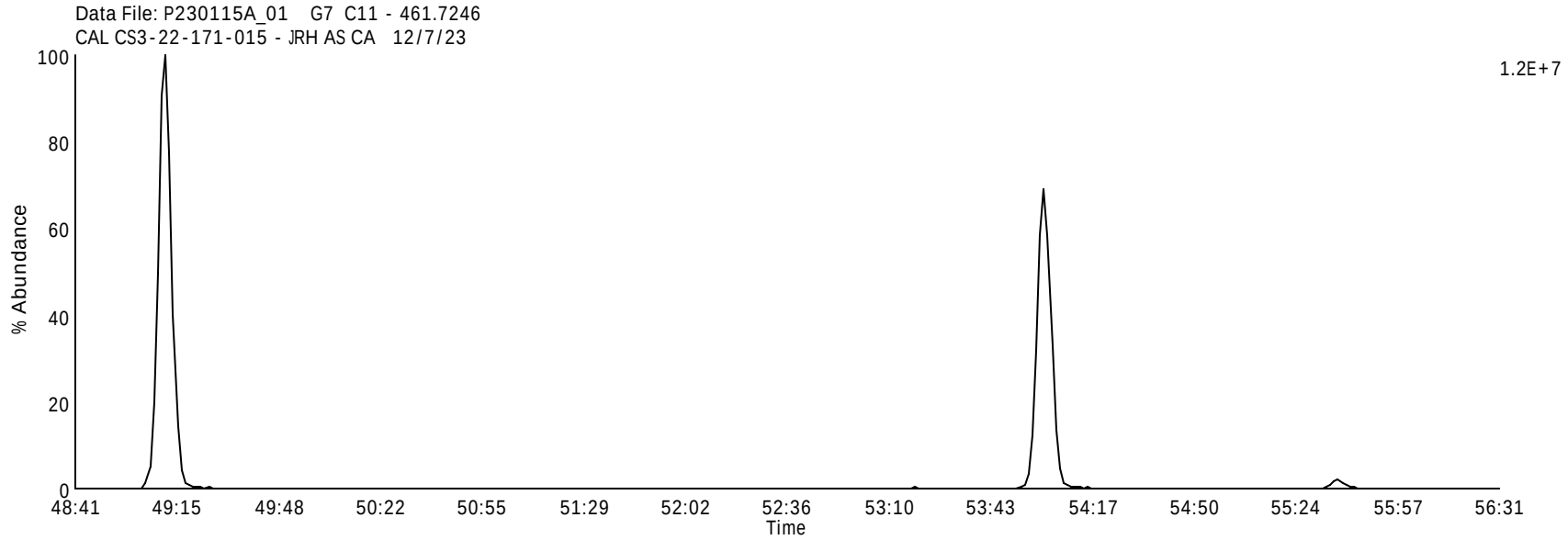


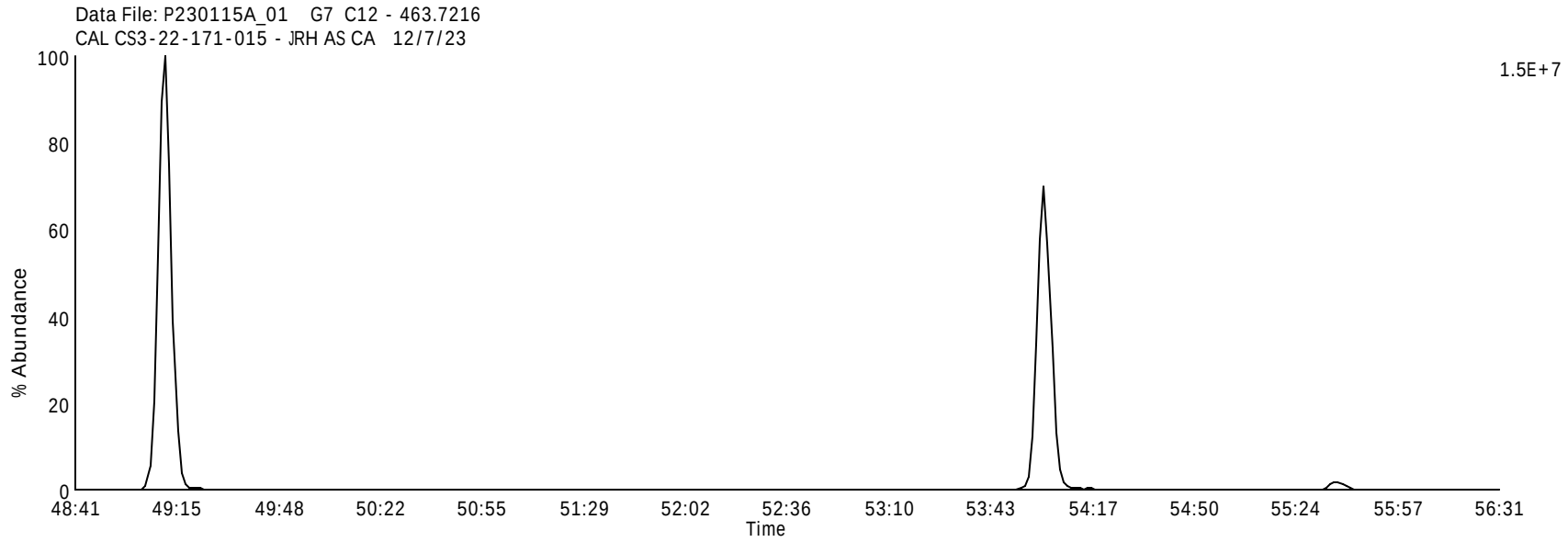
Nona Chlorinated Biphenyls

Data File Name: P230115A_01 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/15/2023 Instrument: 10MSHR09 (P)

Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23



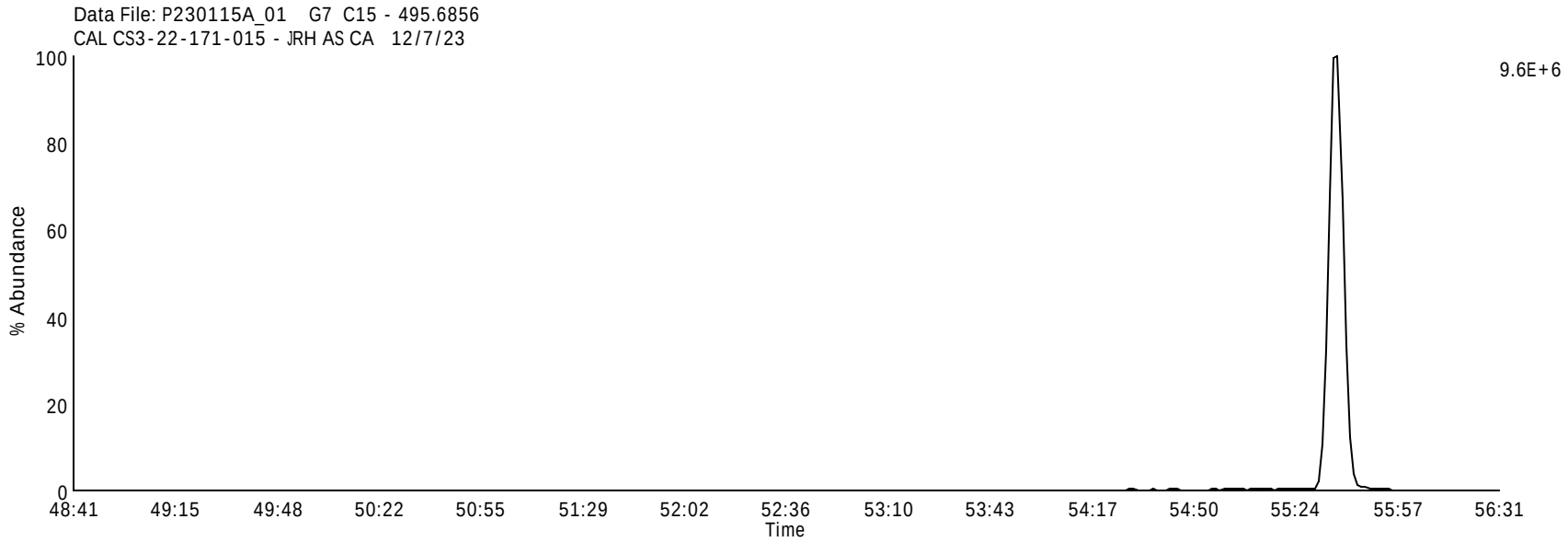


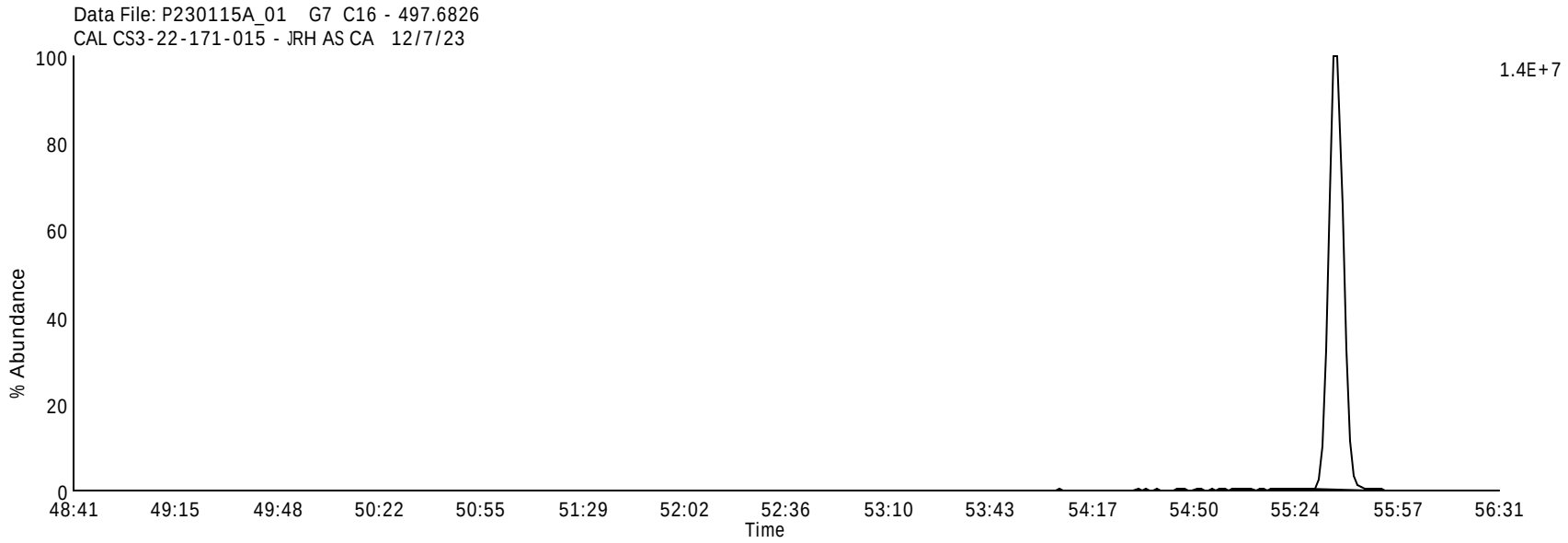
Deca Chlorinated Biphenyl

Data File Name: P230115A_01 Lab Sample ID: CS3-22-171-015

Date Acquired: 1/15/2023 Instrument: 10MSHR09 (P)

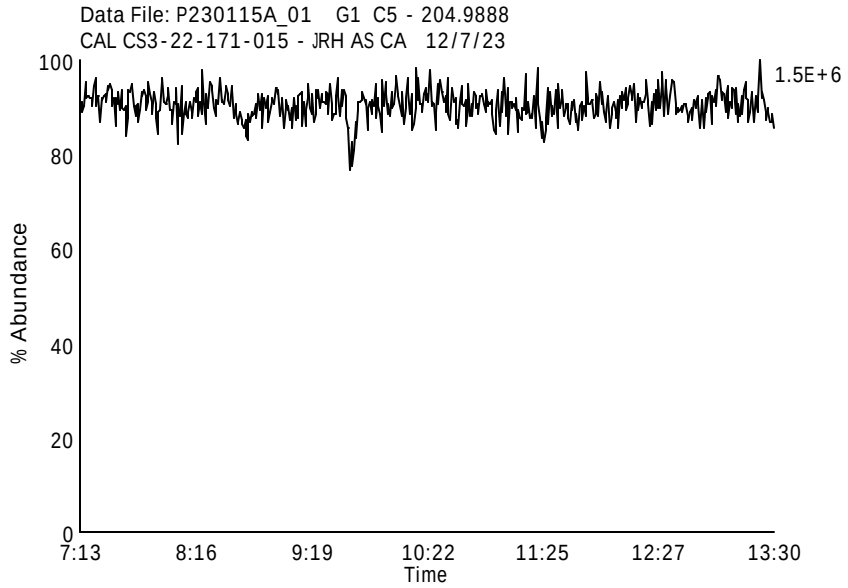
Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23

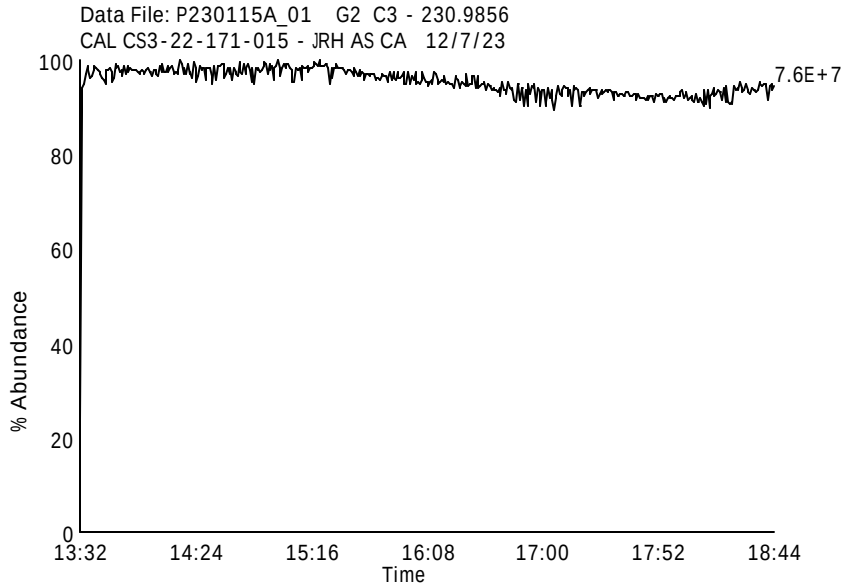


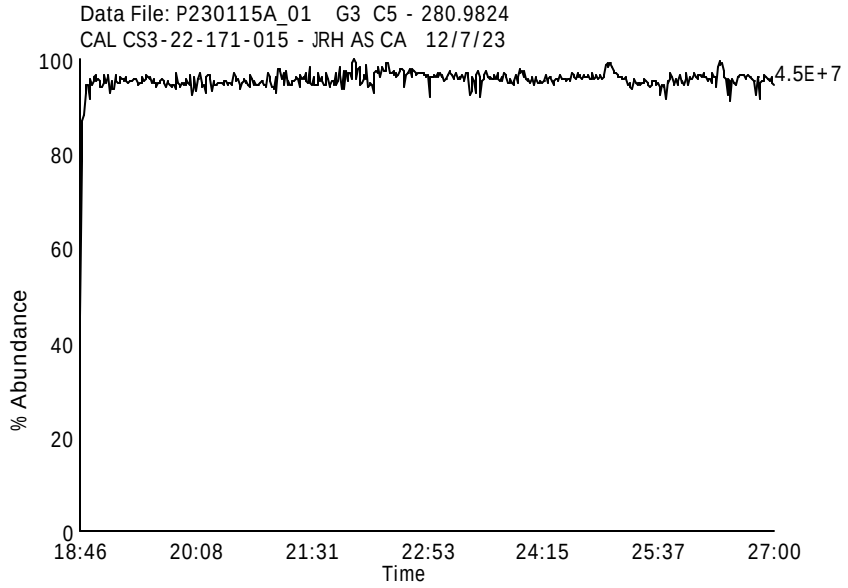


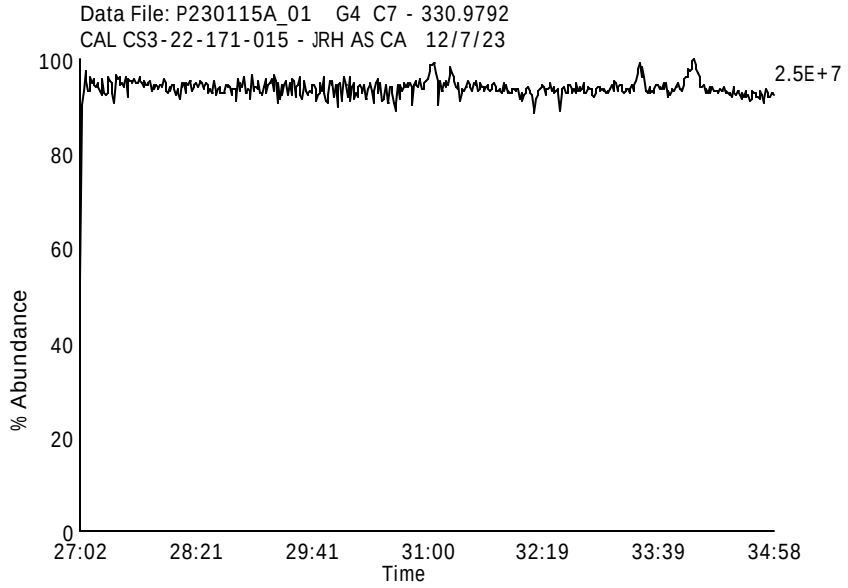
Group 1 - 4 Lock mass

Data File Name: P230115A_01
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23



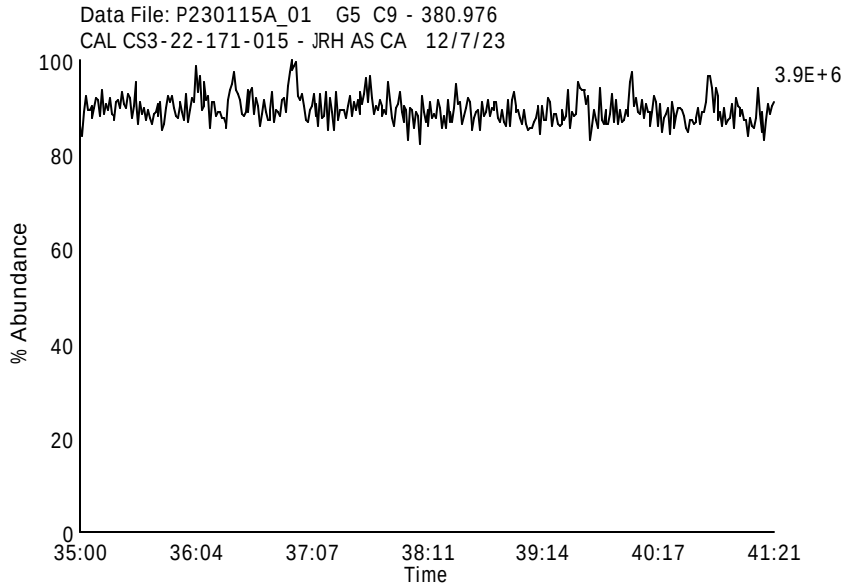


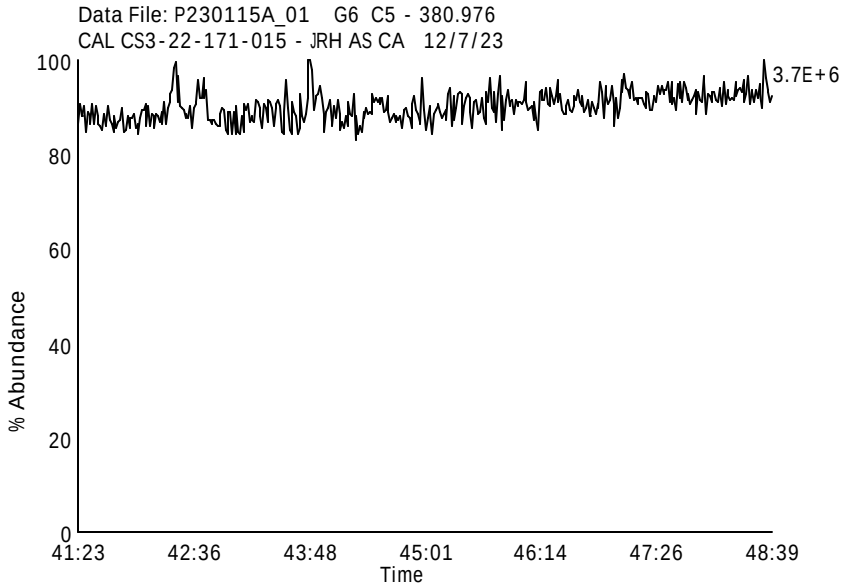


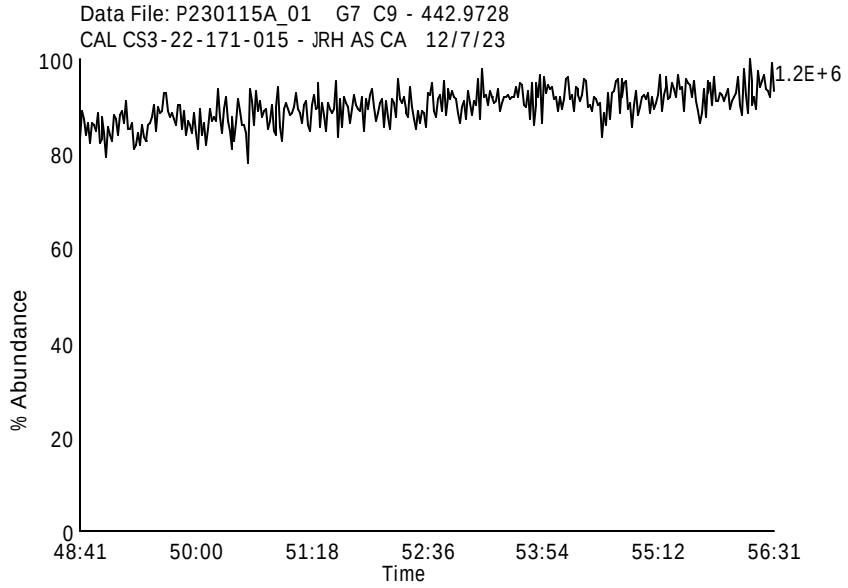


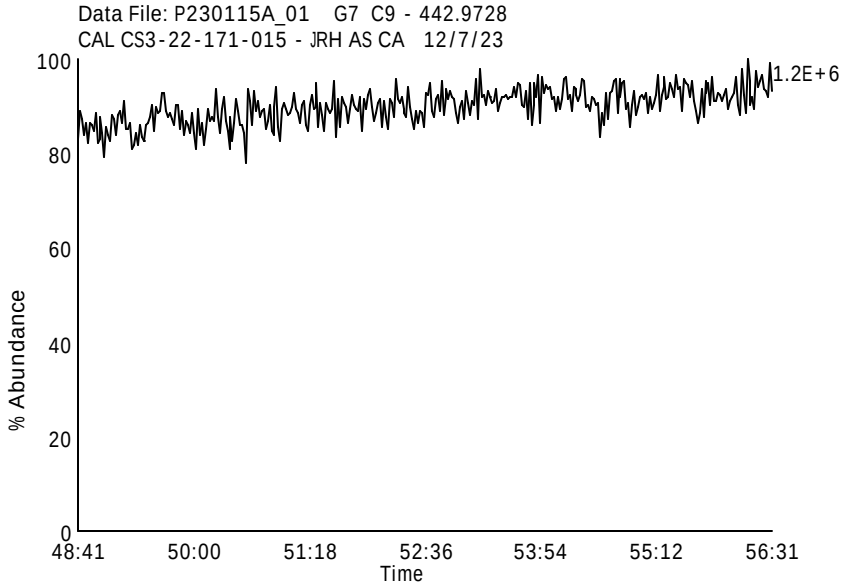
Group 5 - 7 Lock mass

Data File Name: P230115A_01
Lab Sample ID: CS3-22-171-015
Date Acquired: 1/15/2023
Instrument: 10MSHR09 (P)
Sample Description: CAL CS3-22-171-015 - JRH AS CA 12/7/23



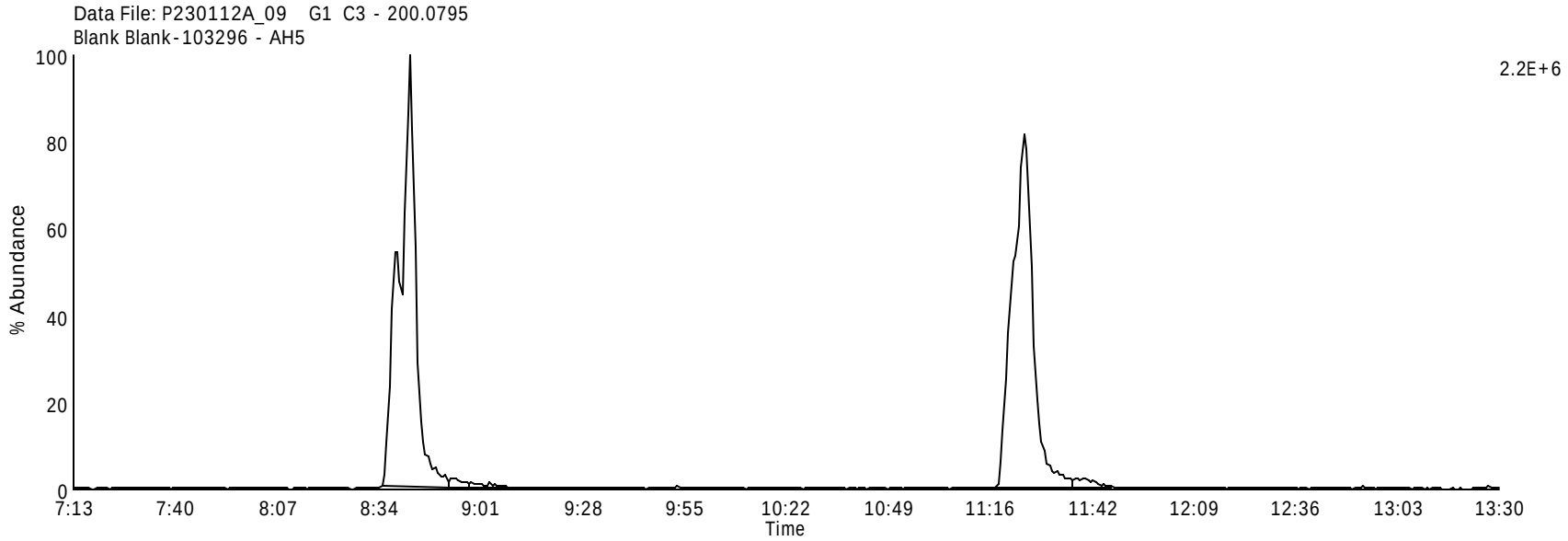


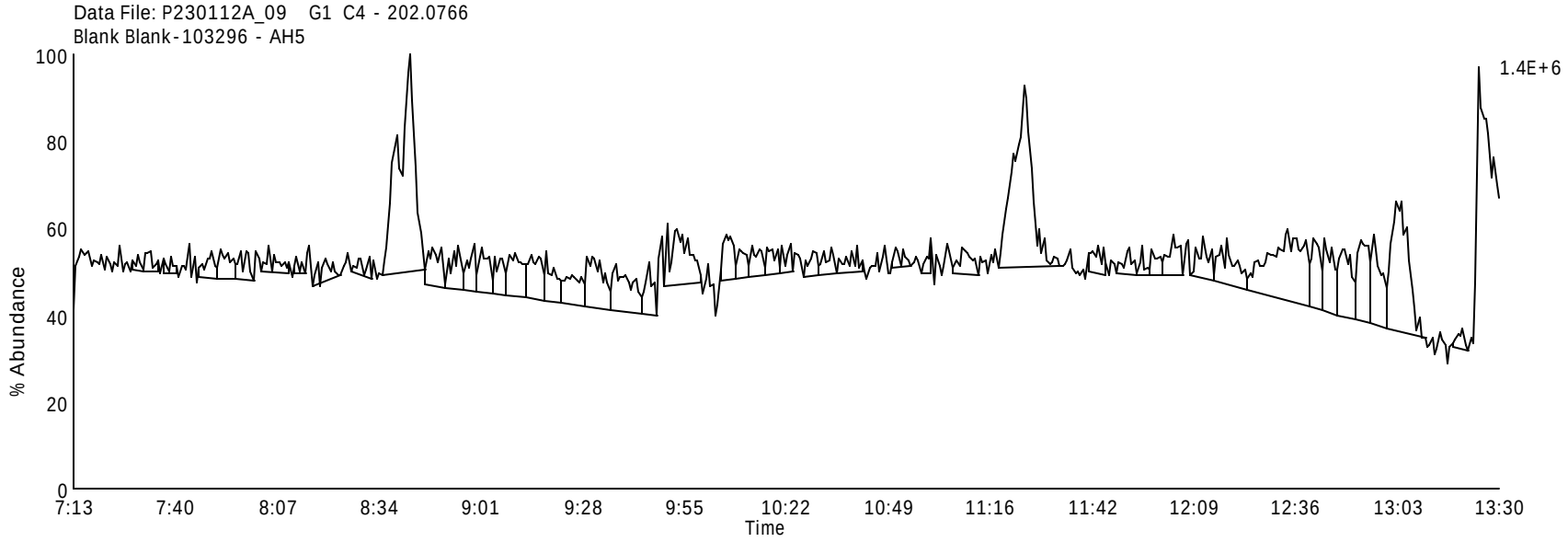




Labeled Mono Chlorinated Biphenyls

Data File Name: P230112A_09
Lab Sample ID: BLANK-103296
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Blank Blank-103296 - AH5
Client Sample ID: CBLKIC

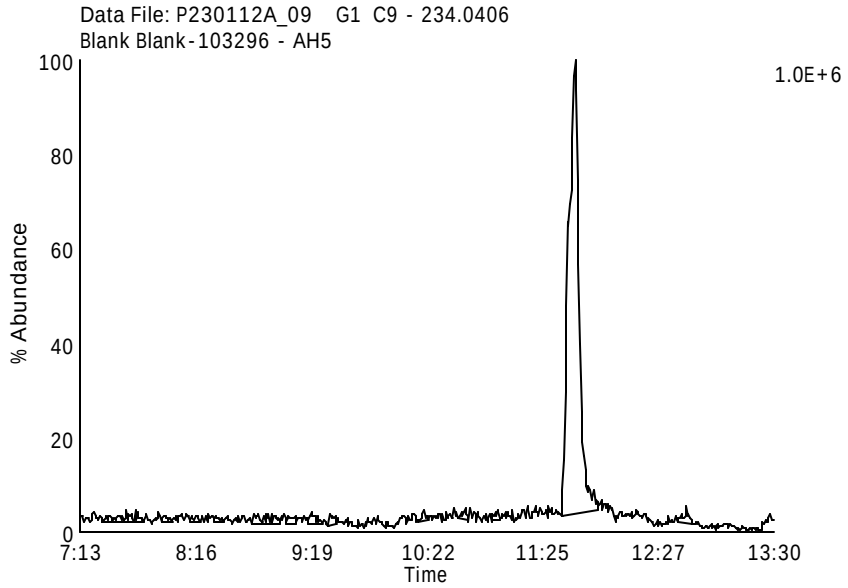


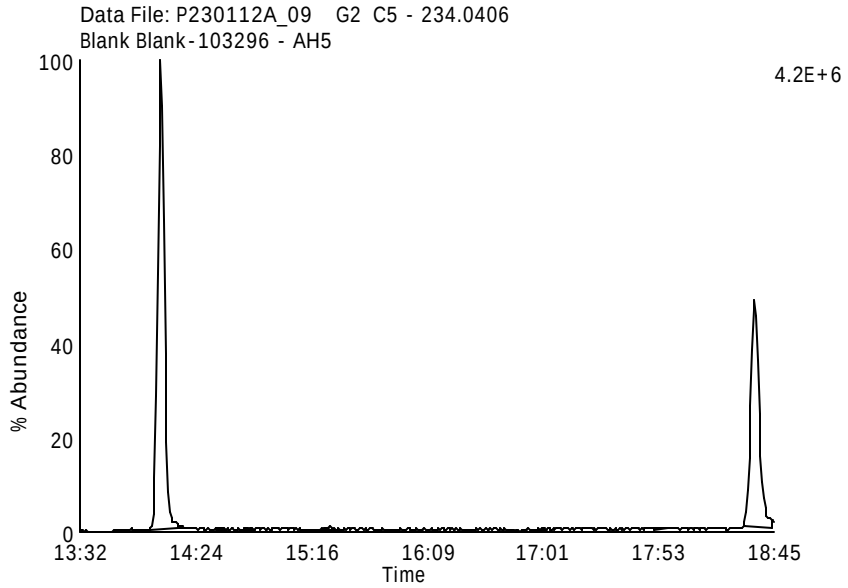


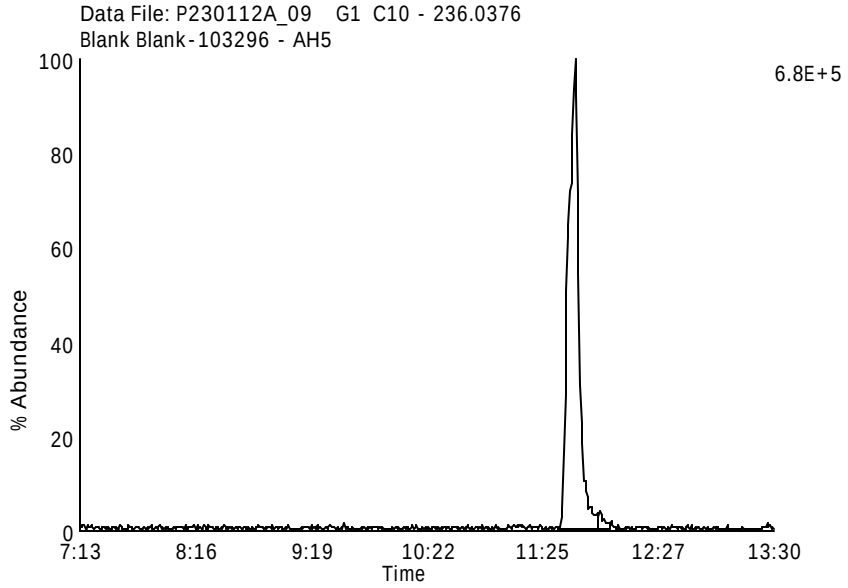
Labeled Di Chlorinated Biphenyls

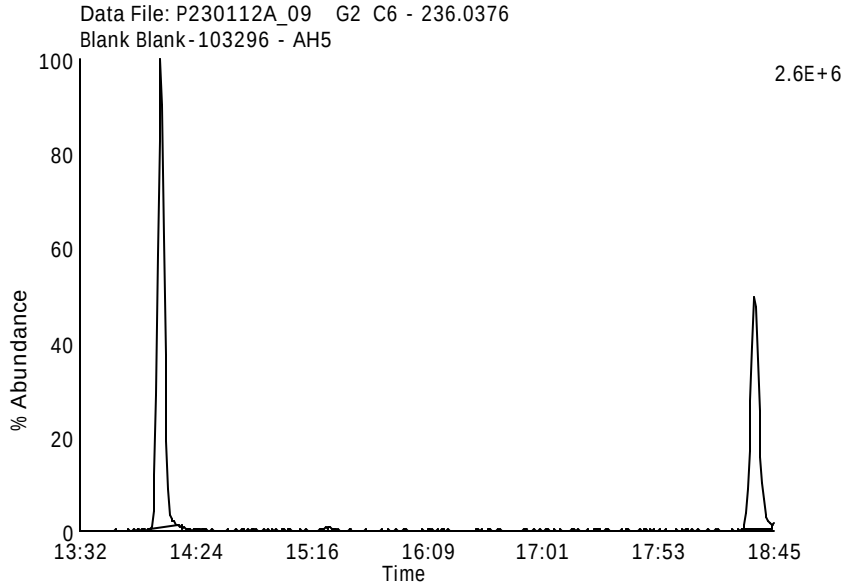
Data File Name: P230112A_09
Date Acquired: 1/12/2023
Sample Description: Blank Blank-103296 - AH5

Lab Sample ID: BLANK-103296
Instrument: 10MSHR09 (P)
Client Sample ID: CBLKIC



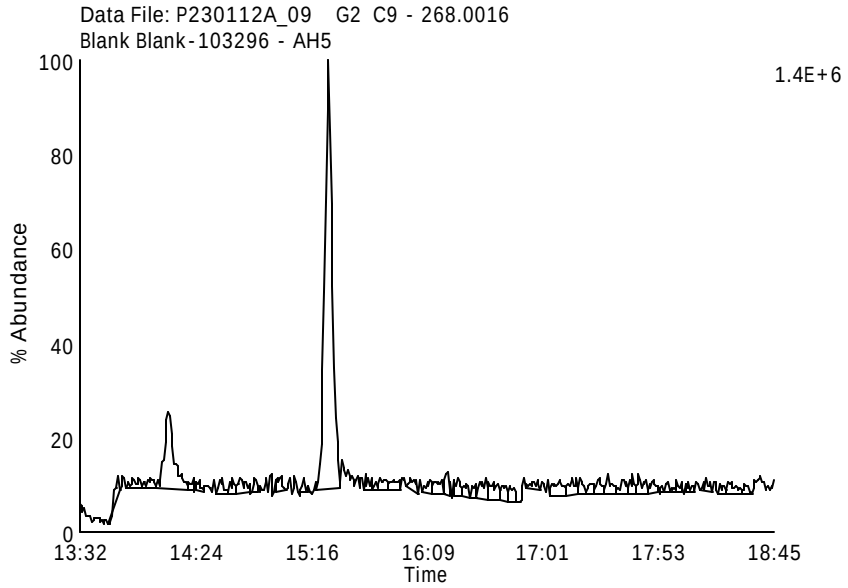


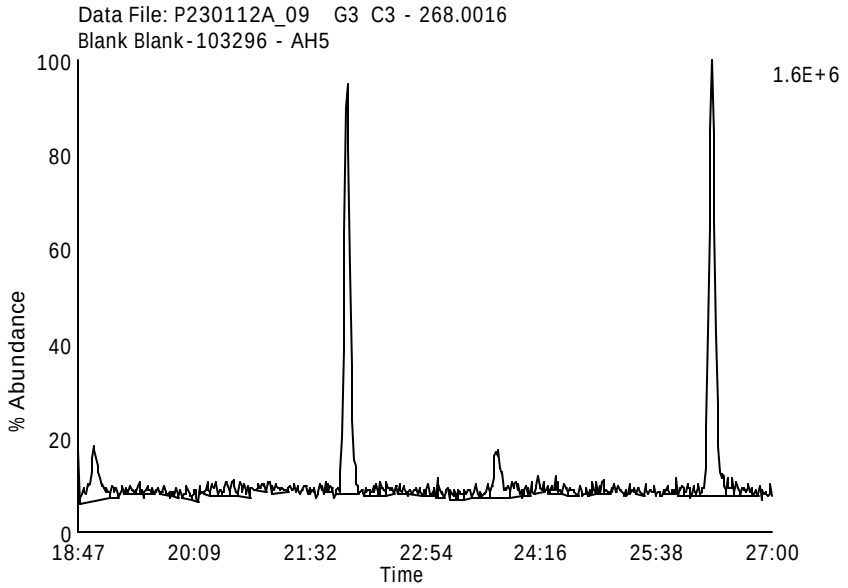


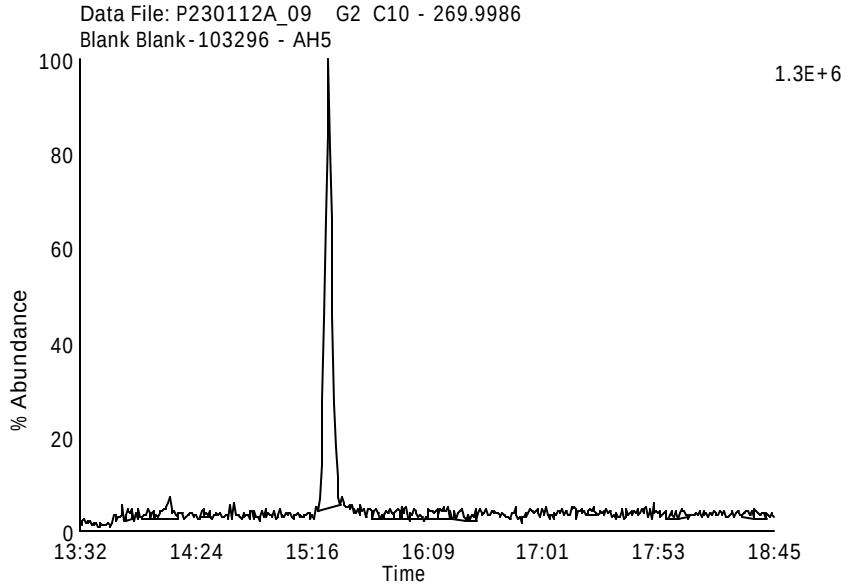


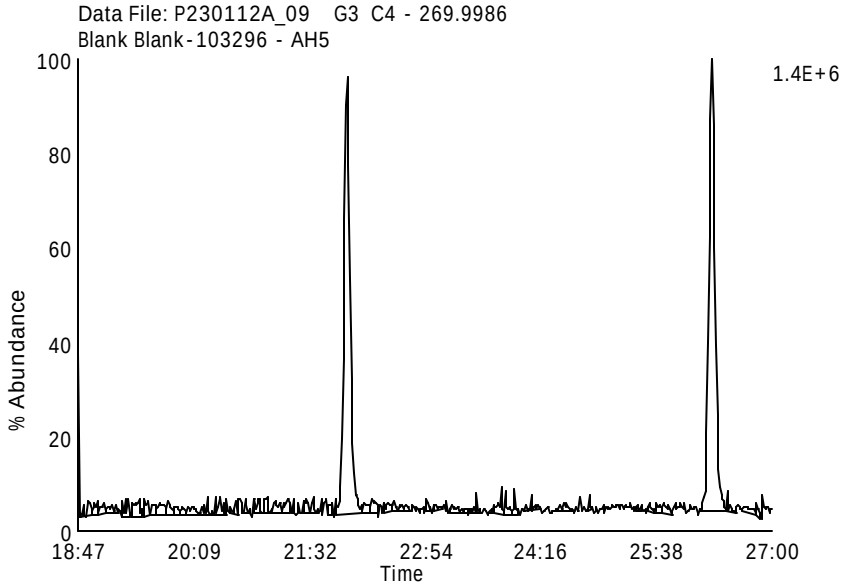
Labeled Tri Chlorinated Biphenyls

Data File Name: P230112A_09
Lab Sample ID: BLANK-103296
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Blank Blank-103296 - AH5
Client Sample ID: CBLKIC



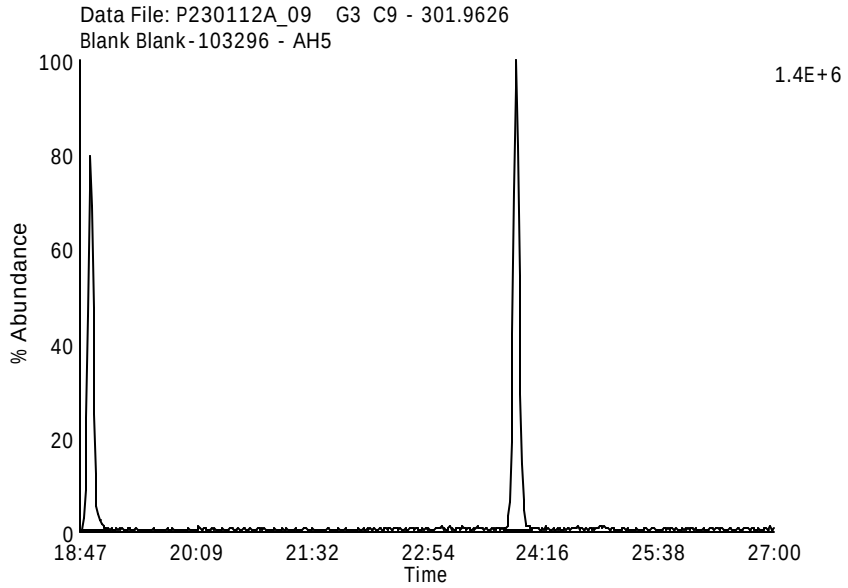


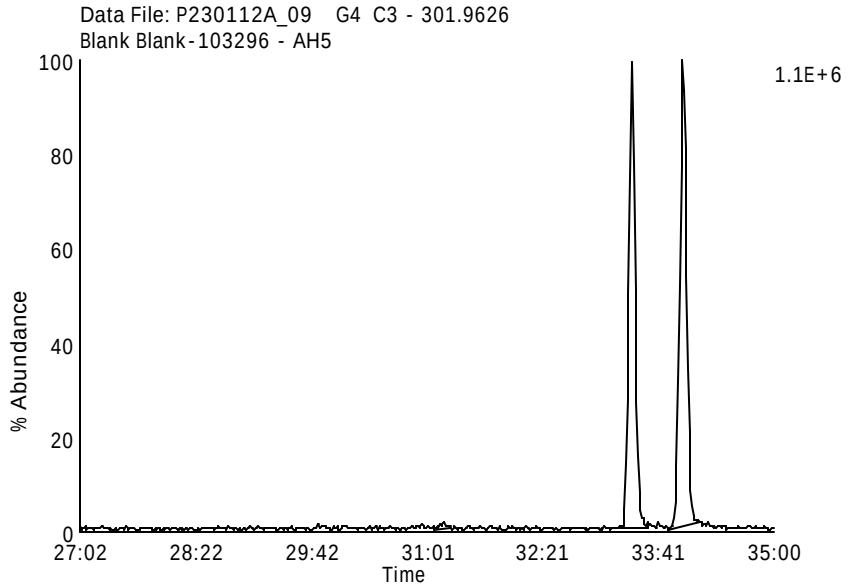


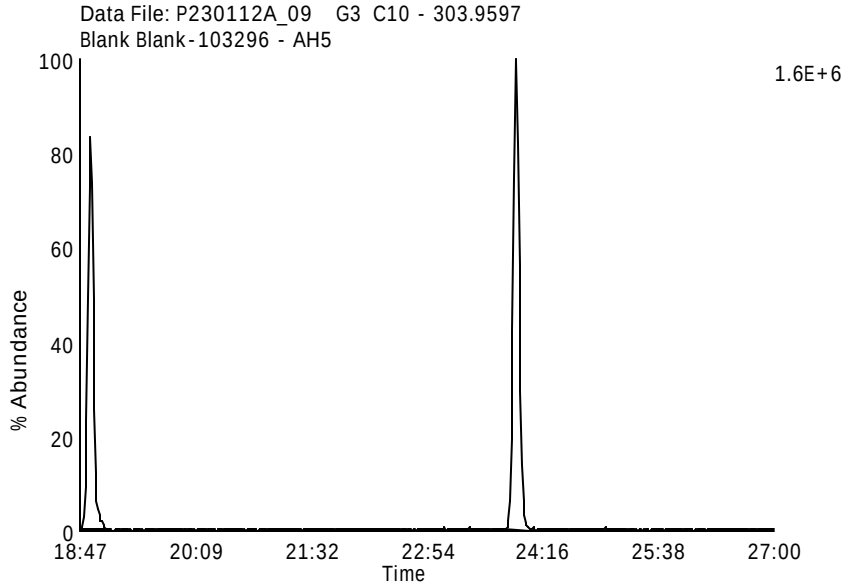


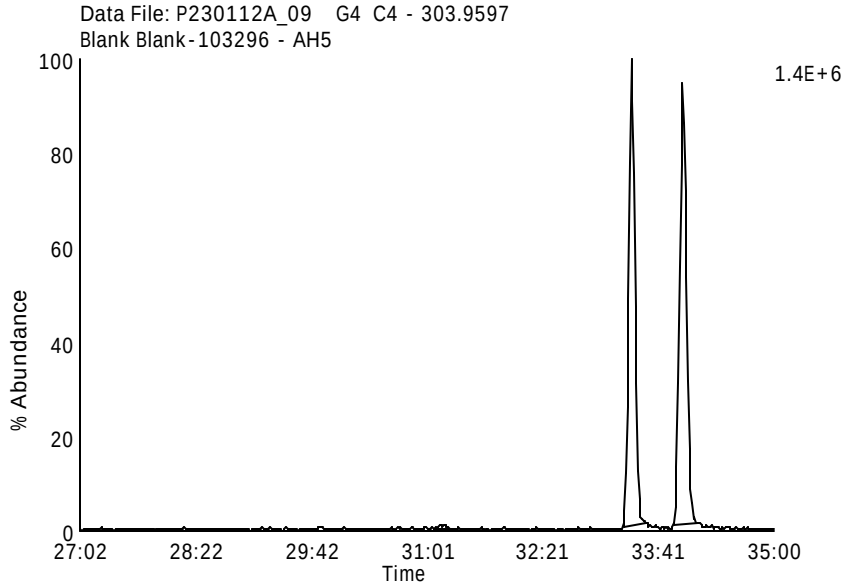
Labeled Tetra Chlorinated Biphenyls

Data File Name: P230112A_09
Lab Sample ID: BLANK-103296
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Blank Blank-103296 - AH5
Client Sample ID: CBLKIC



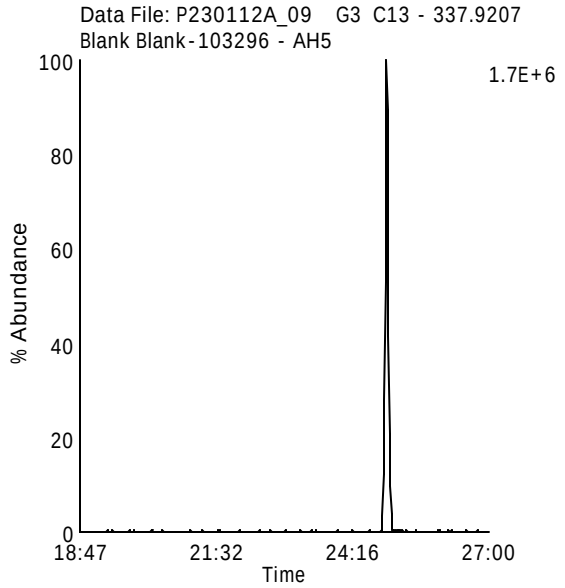


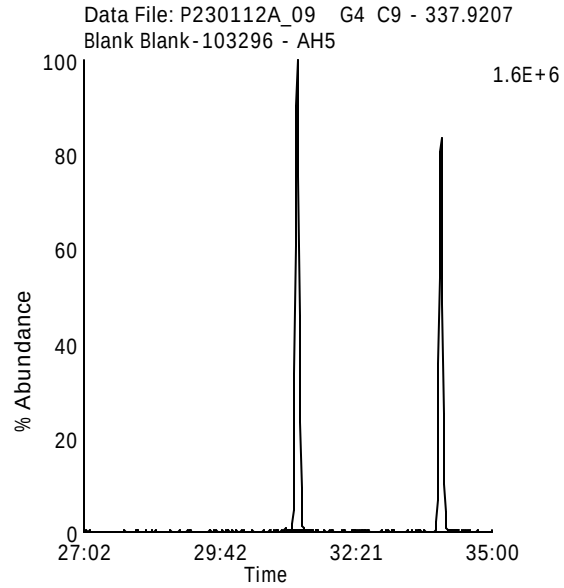


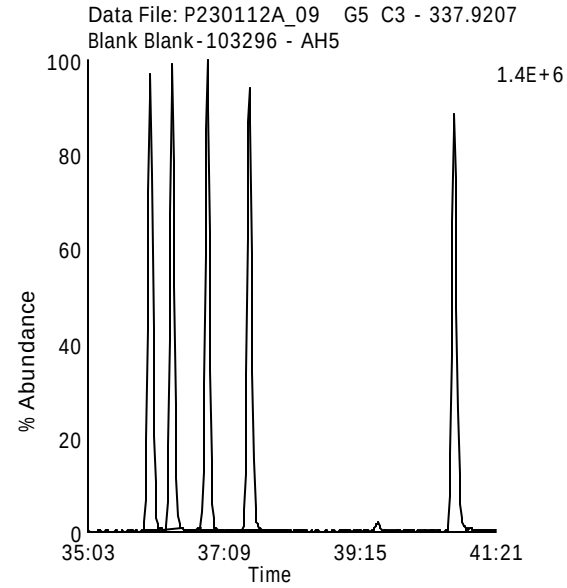


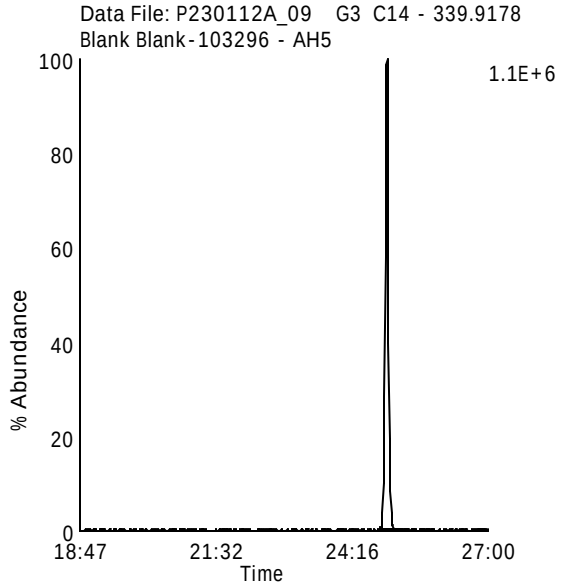
Labeled Penta Chlorinated Biphenyls

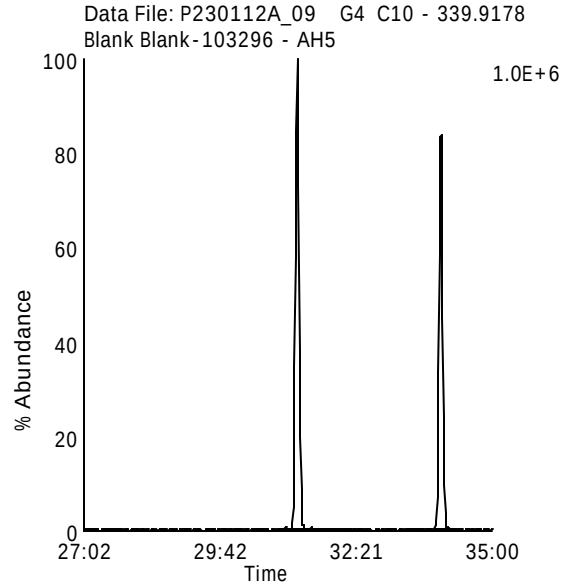
Data File Name: P230112A_09
Lab Sample ID: BLANK-103296
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Blank Blank-103296 - AH5
Client Sample ID: CBLKIC

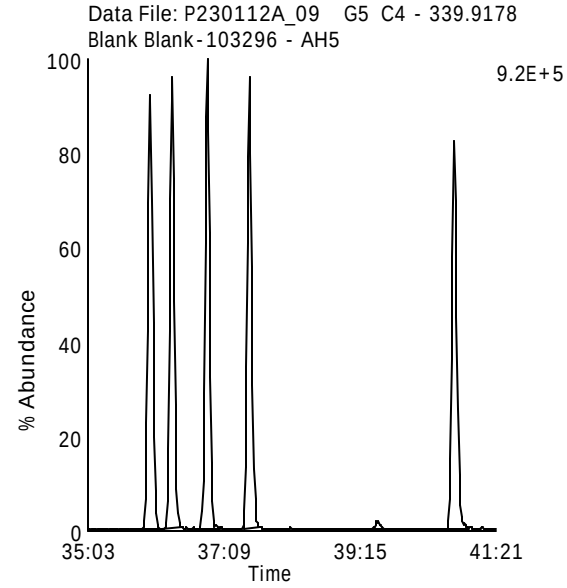






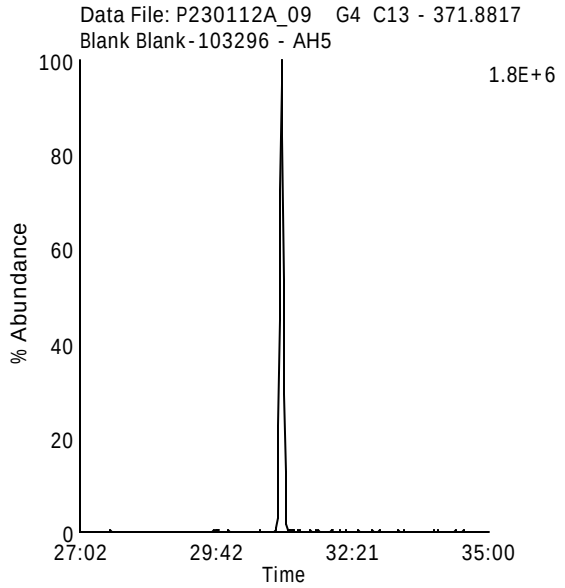


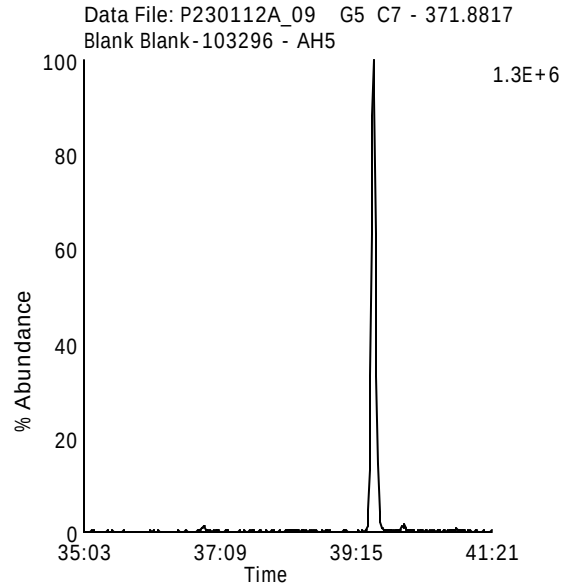


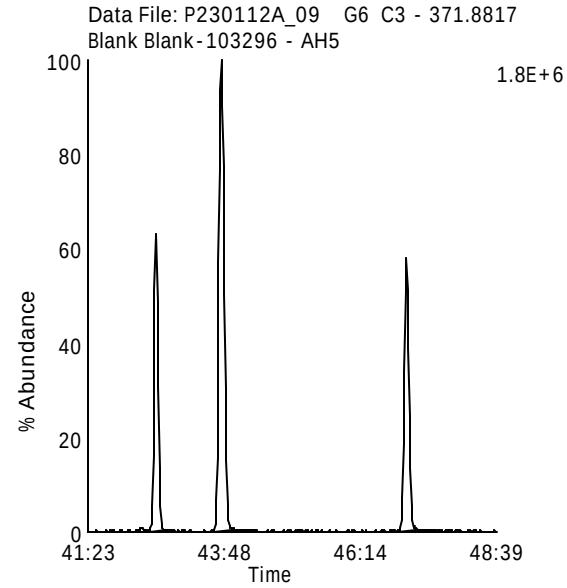


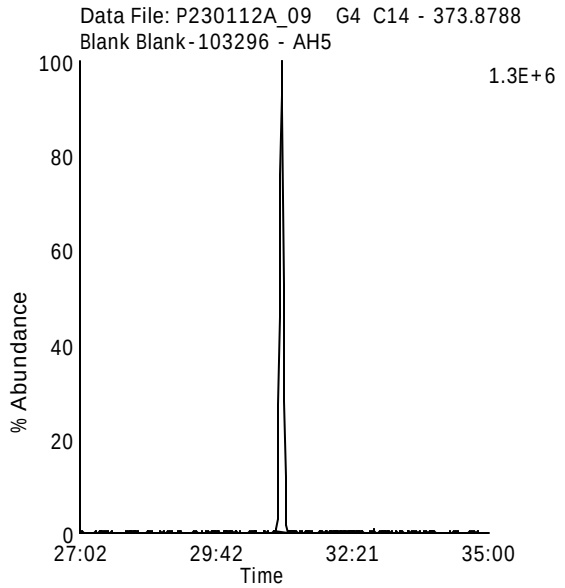
Labeled Hexa Chlorinated Biphenyls

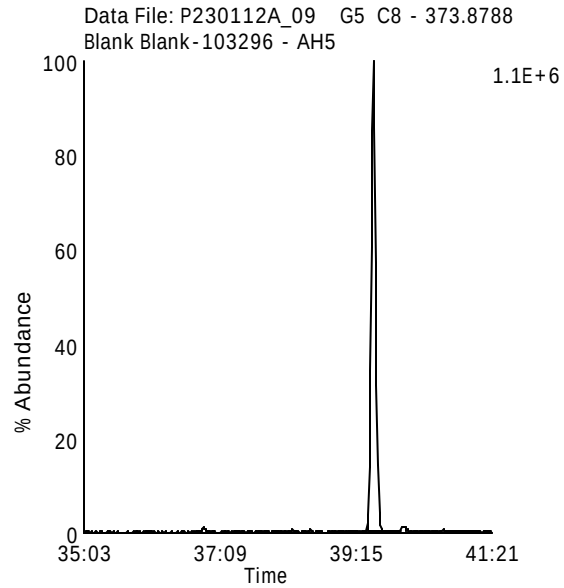
Data File Name: P230112A_09
Lab Sample ID: BLANK-103296
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Blank Blank-103296 - AH5
Client Sample ID: CBLKIC

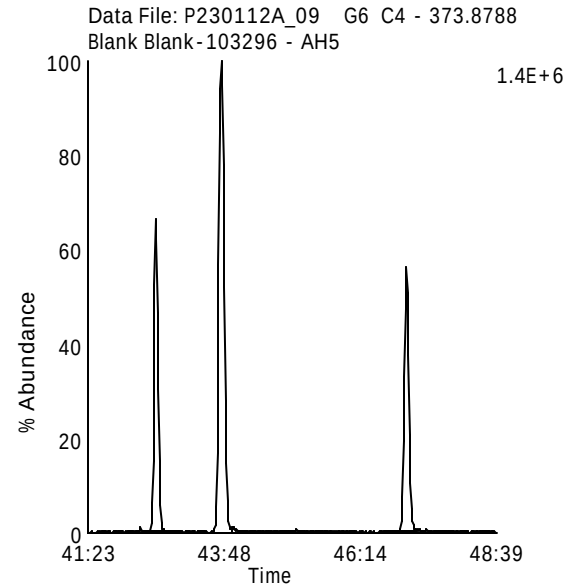








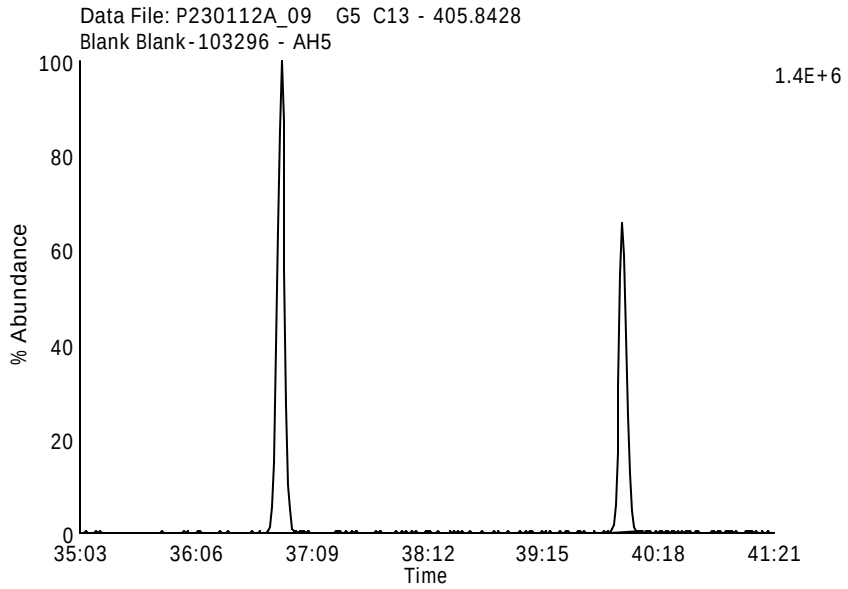


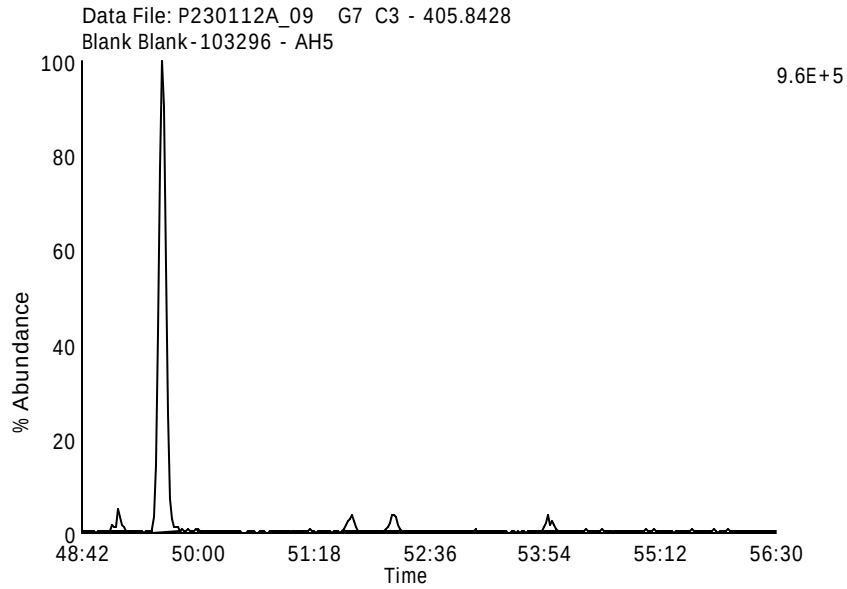


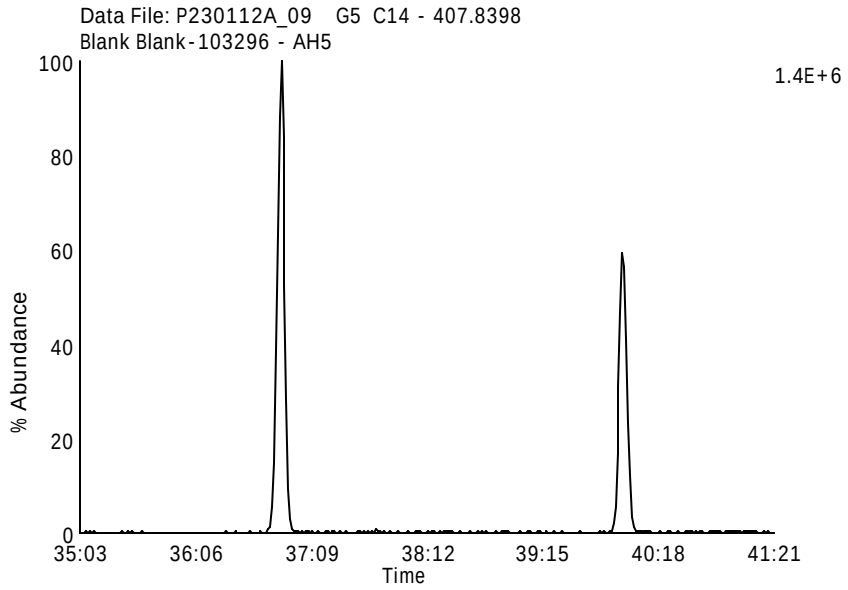
Labeled Hepta Chlorinated Biphenyls

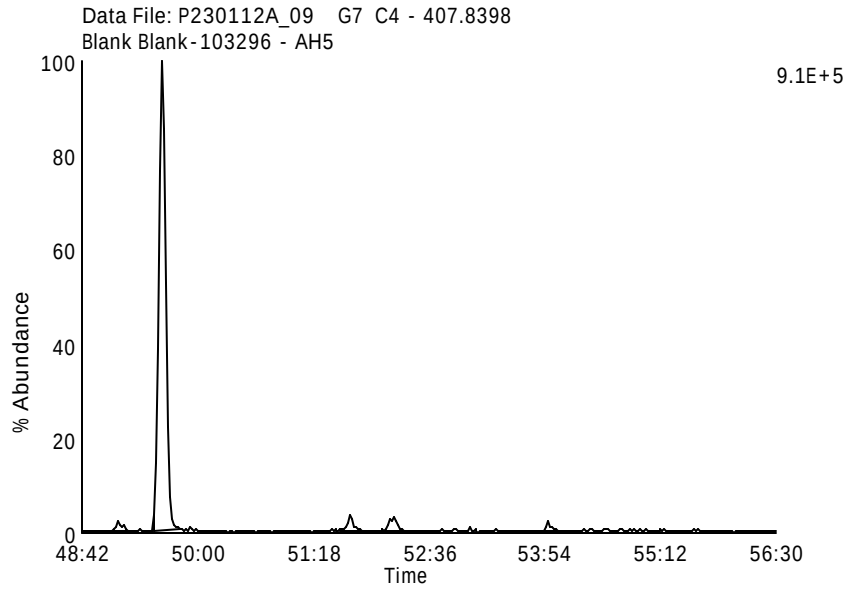
Data File Name: P230112A_09
Date Acquired: 1/12/2023
Sample Description: Blank Blank-103296 - AH5

Lab Sample ID: BLANK-103296
Instrument: 10MSHR09 (P)
Client Sample ID: CBLKIC





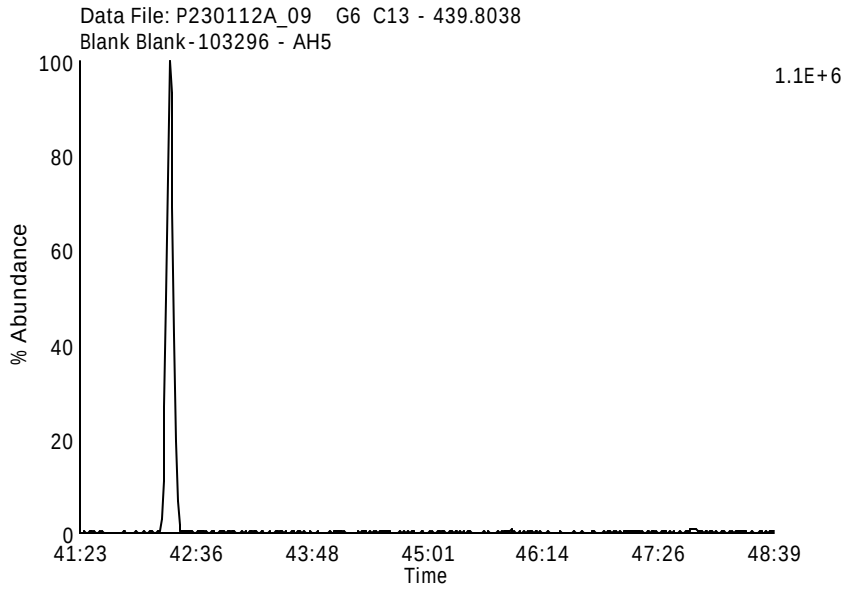


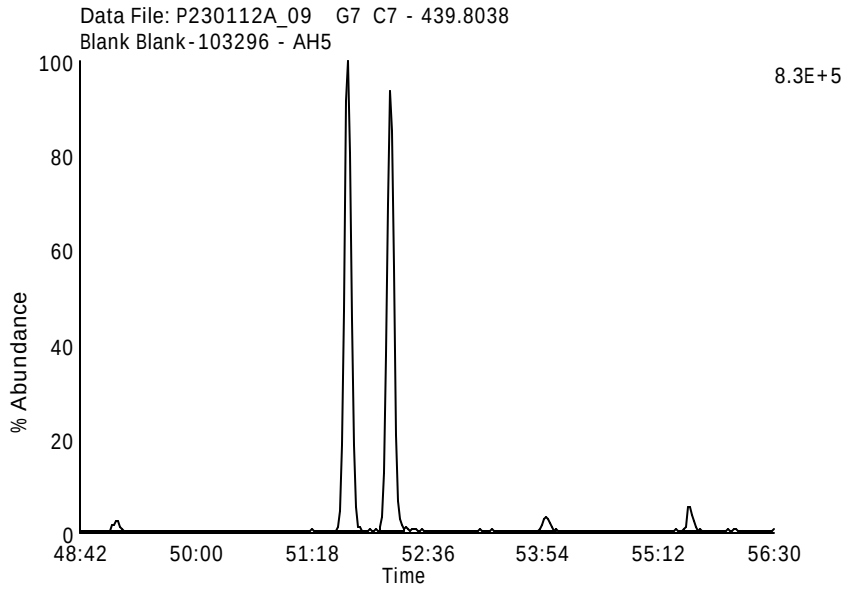


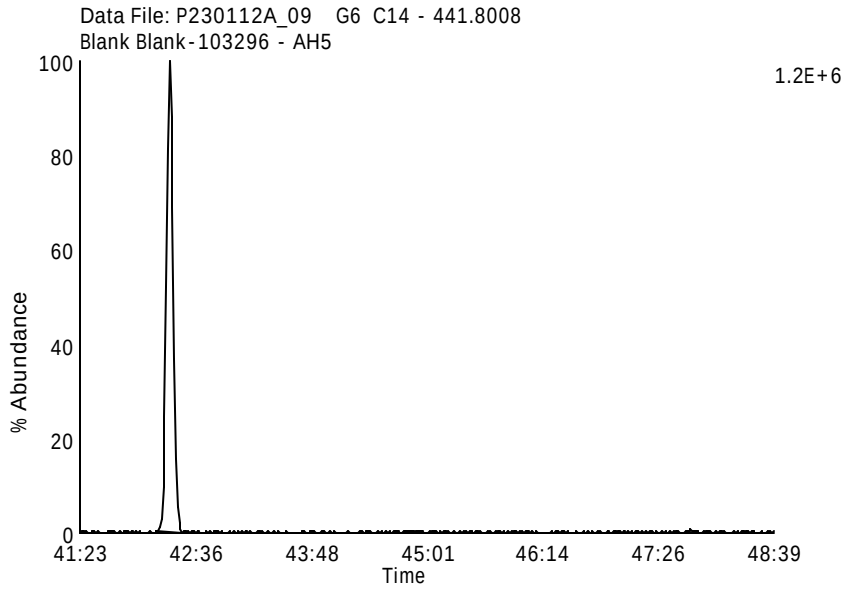
Labeled Octa Chlorinated Biphenyls

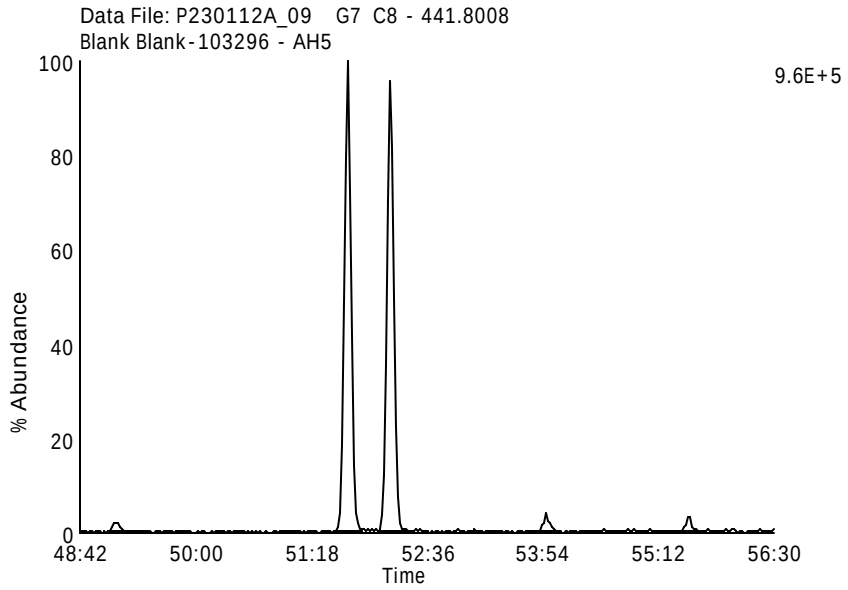
Data File Name: P230112A_09
Date Acquired: 1/12/2023
Sample Description: Blank Blank-103296 - AH5

Lab Sample ID: BLANK-103296
Instrument: 10MSHR09 (P)
Client Sample ID: CBLKIC



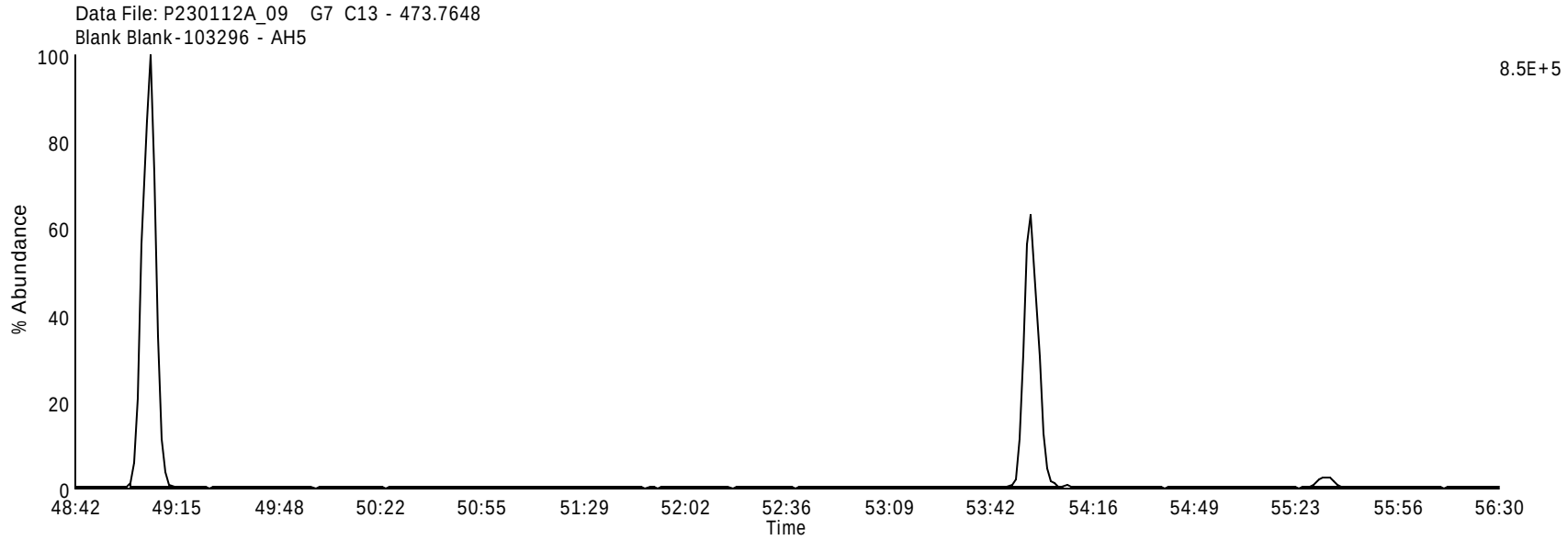


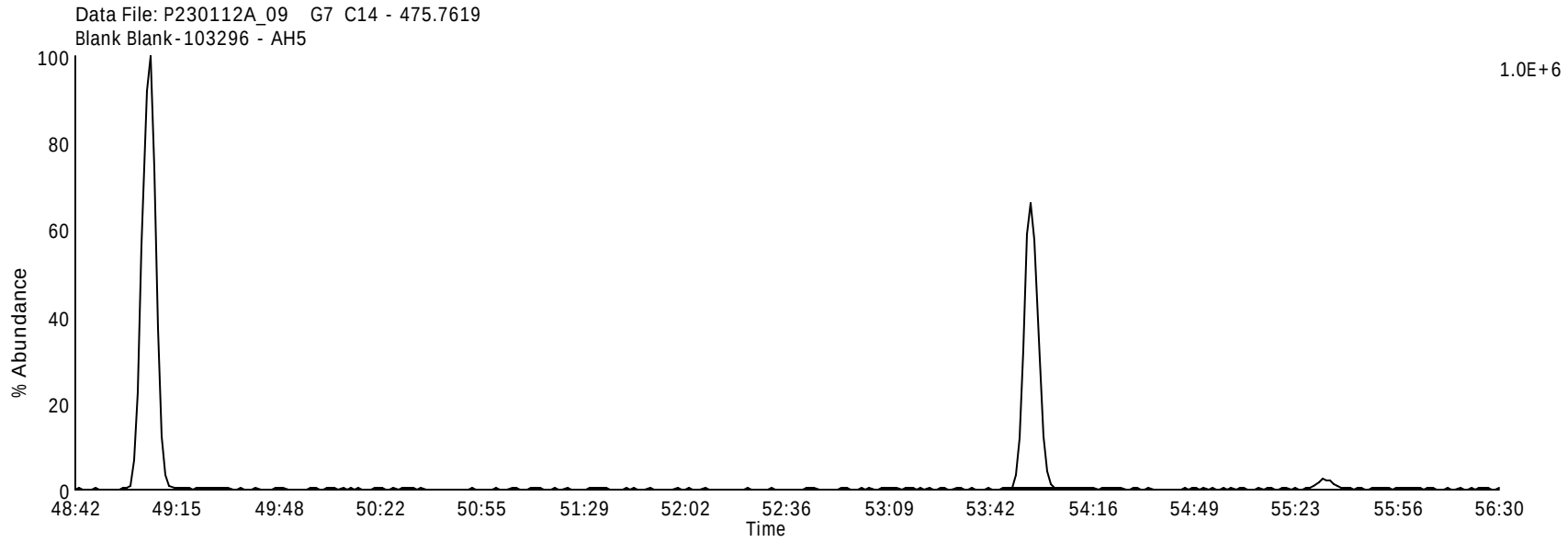




Labeled Nona Chlorinated Biphenyls

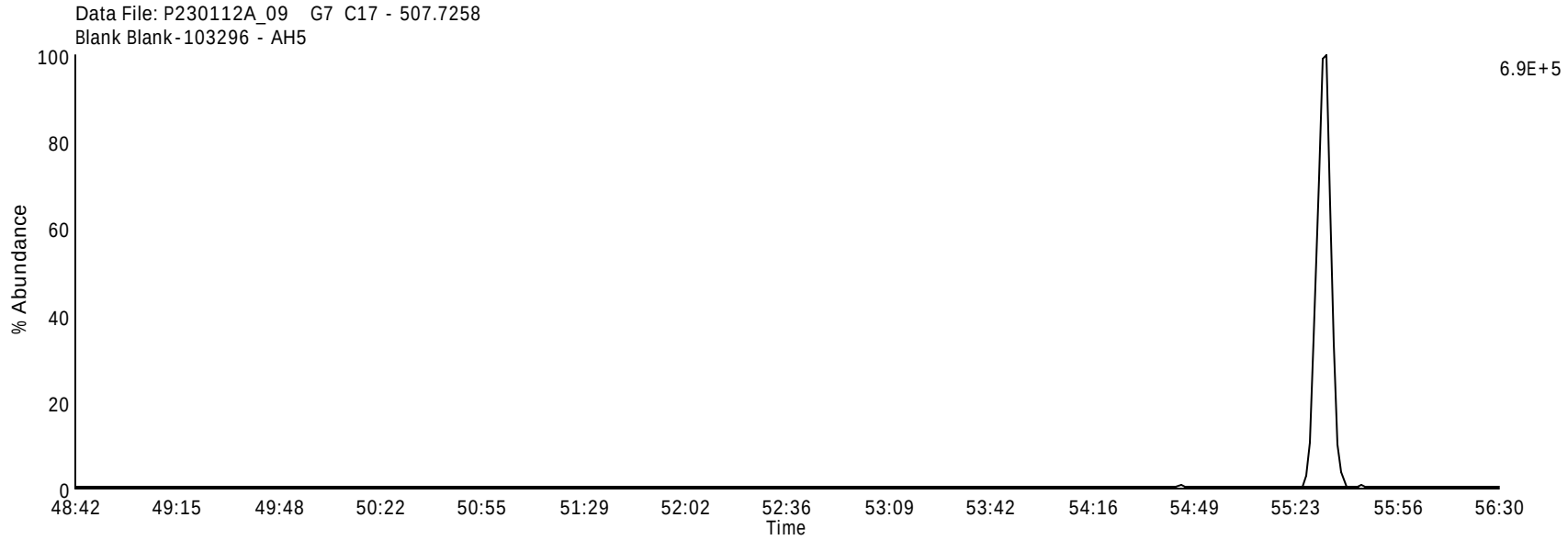
Data File Name: P230112A_09
Lab Sample ID: BLANK-103296
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Blank Blank-103296 - AH5
Client Sample ID: CBLKIC

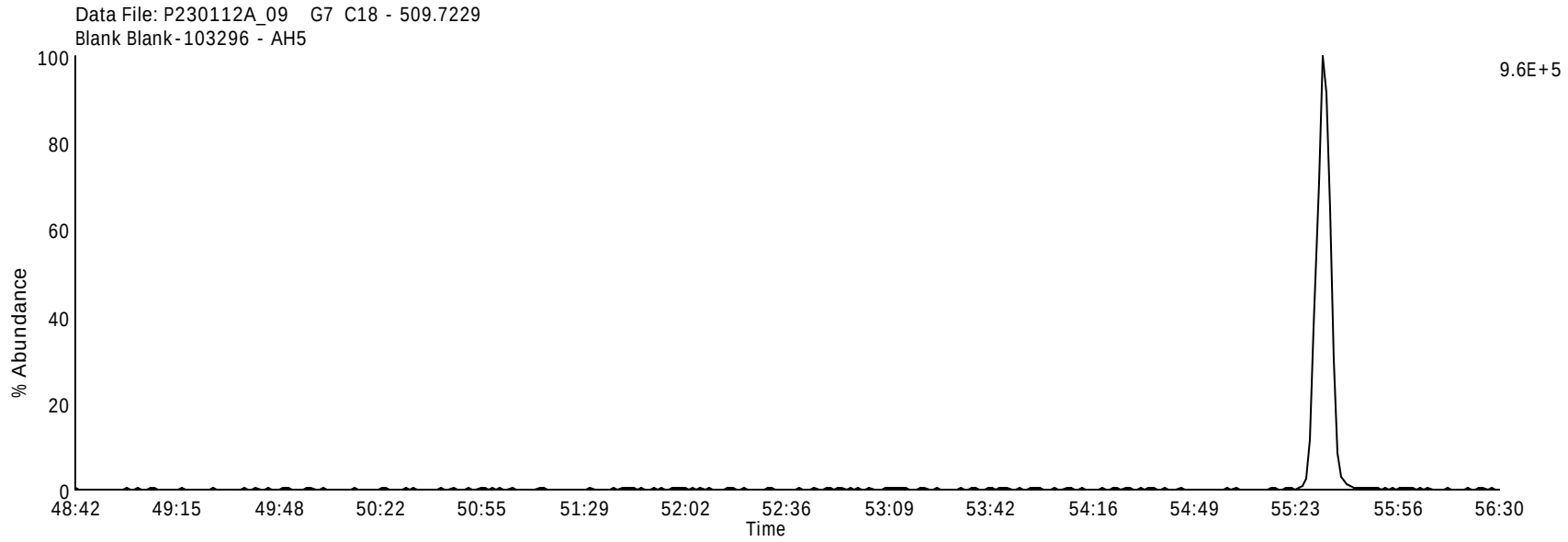




Labeled Deca Chlorinated Biphenyl

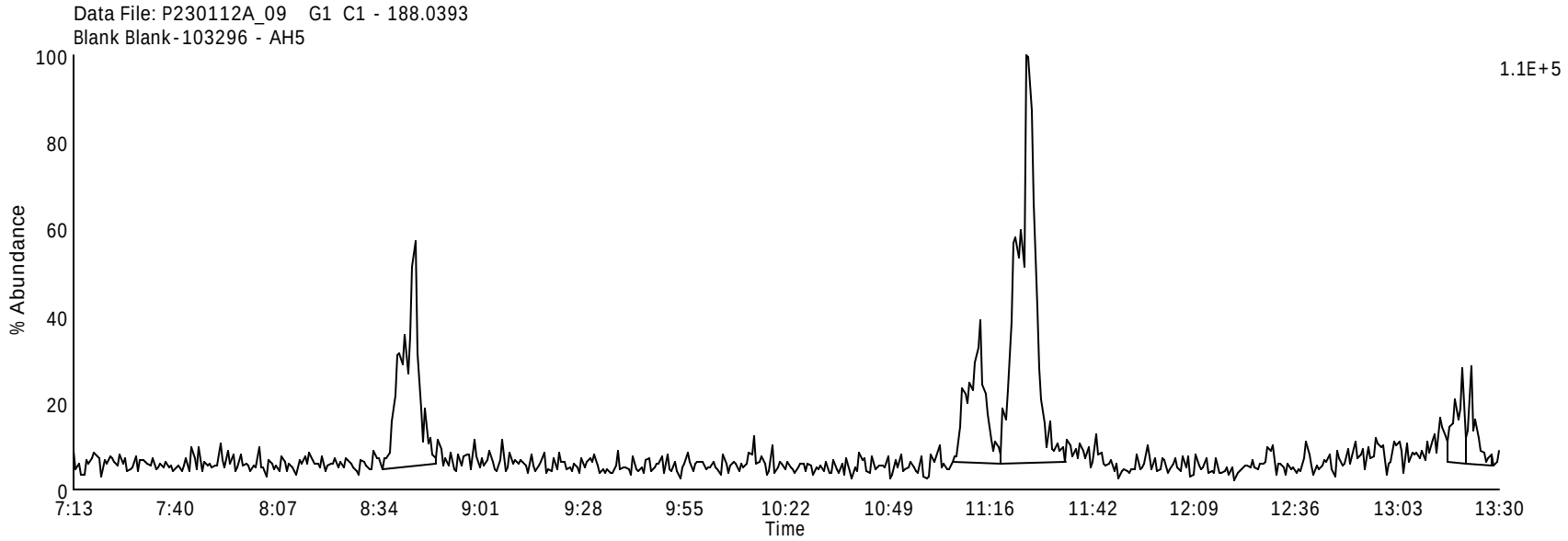
Data File Name: P230112A_09	Lab Sample ID: BLANK-103296
Date Acquired: 1/12/2023	Instrument: 10MSHR09 (P)
Sample Description: Blank Blank-103296 - AH5	Client Sample ID: CBLKIC

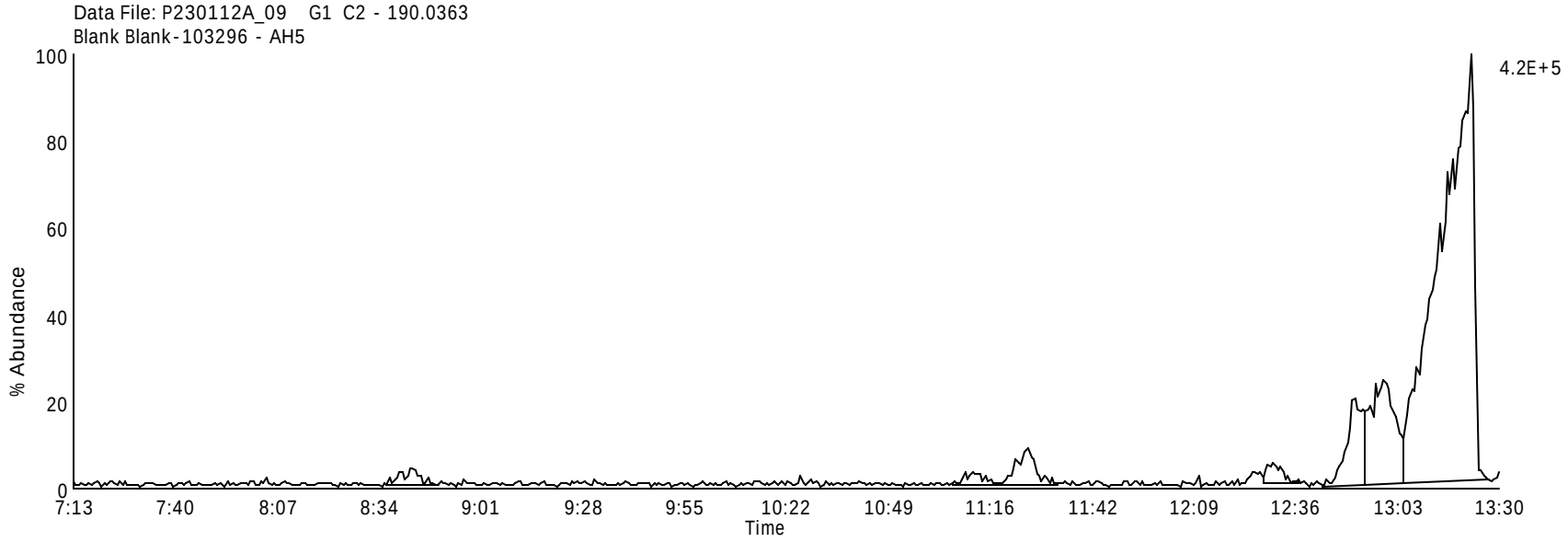




Mono Chlorinated Biphenyls

Data File Name: P230112A_09	Lab Sample ID: BLANK-103296
Date Acquired: 1/12/2023	Instrument: 10MSHR09 (P)
Sample Description: Blank Blank-103296 - AH5	Client Sample ID: CBLKIC

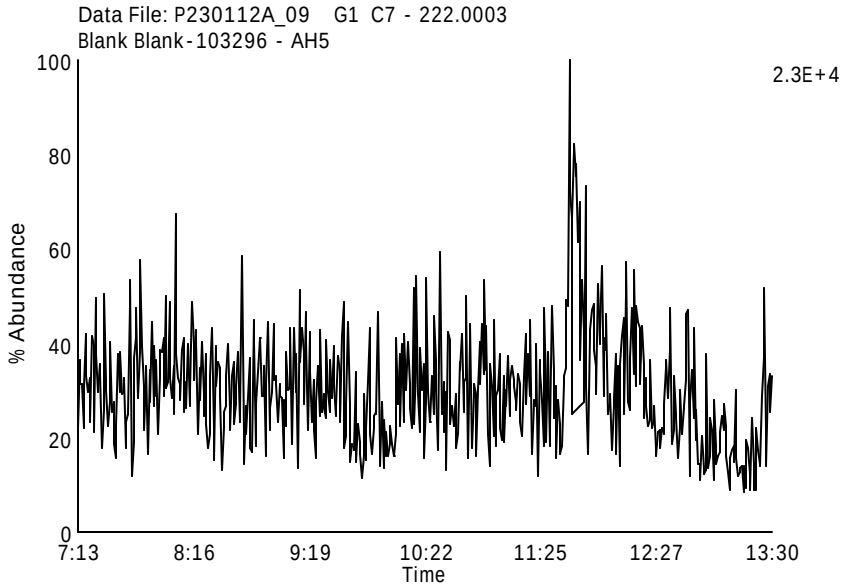


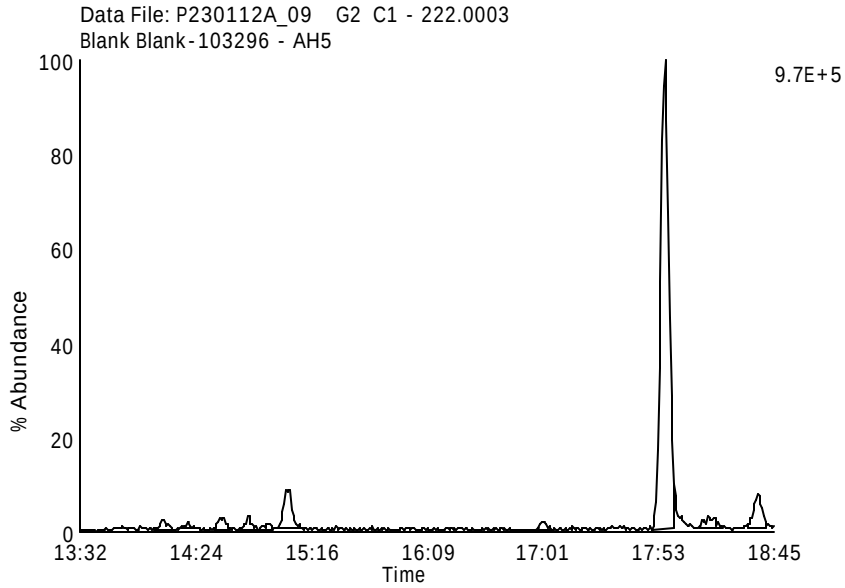


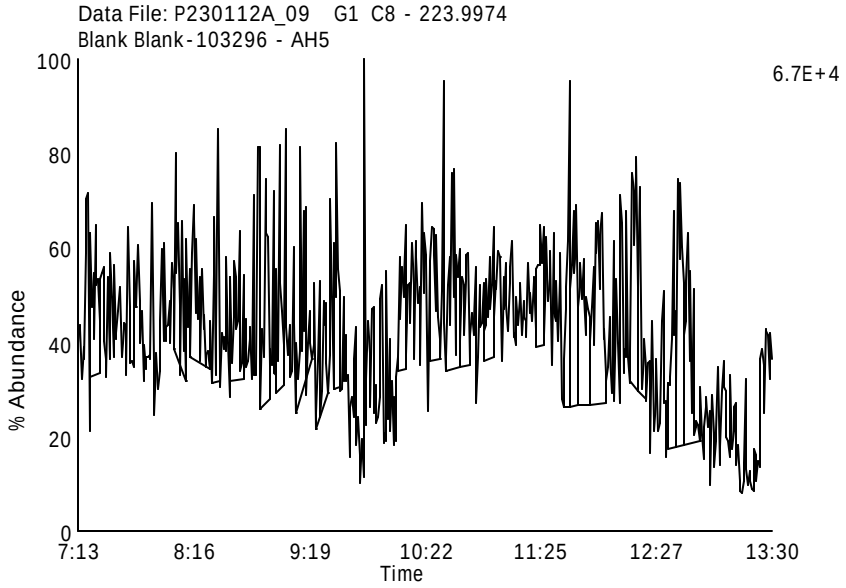
Di Chlorinated Biphenyls

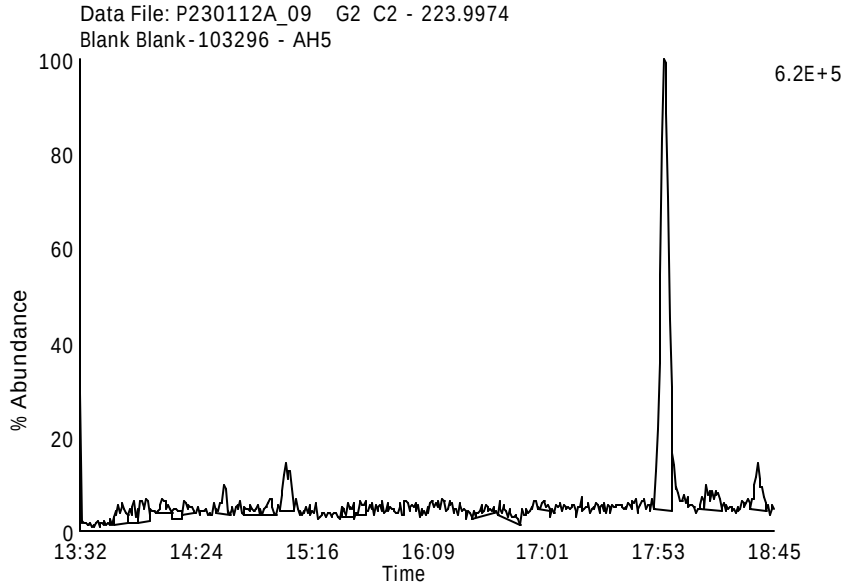
Data File Name: P230112A_09
Date Acquired: 1/12/2023
Sample Description: Blank Blank-103296 - AH5

Lab Sample ID: BLANK-103296
Instrument: 10MSHR09 (P)
Client Sample ID: CBLKIC



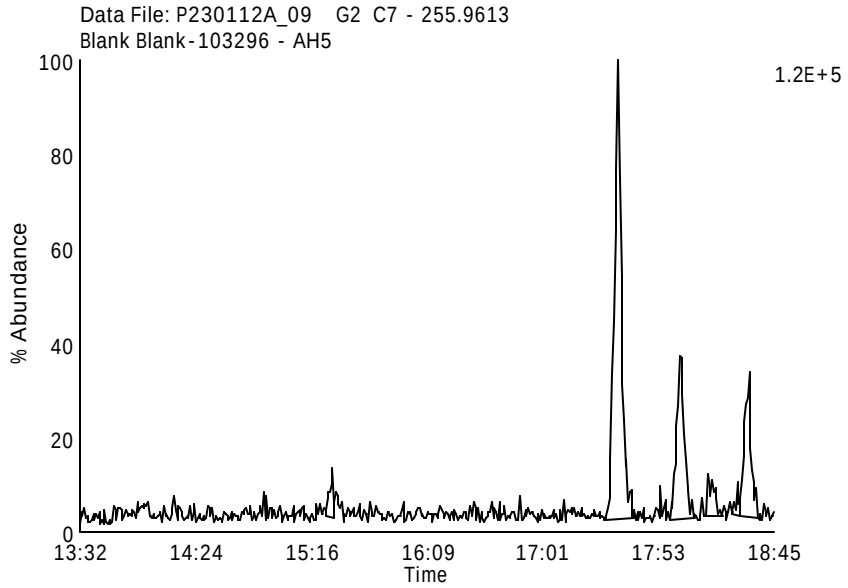


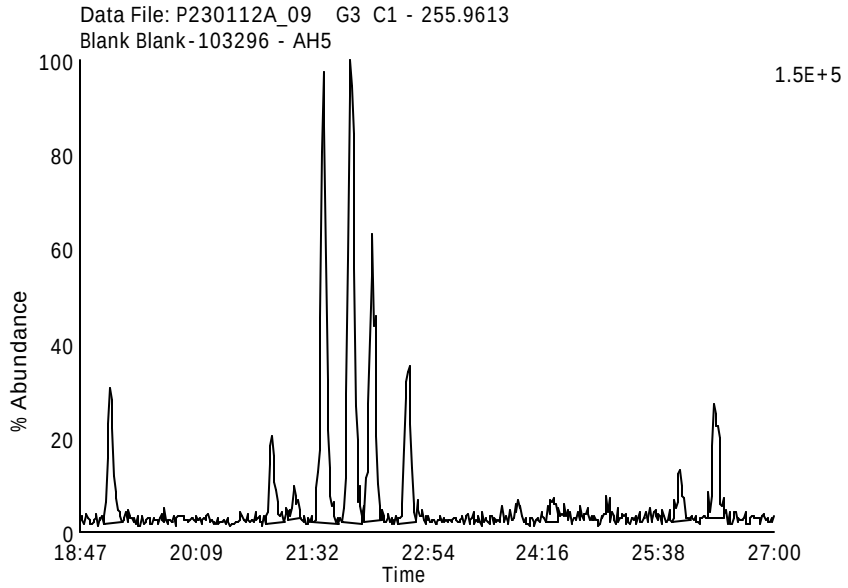


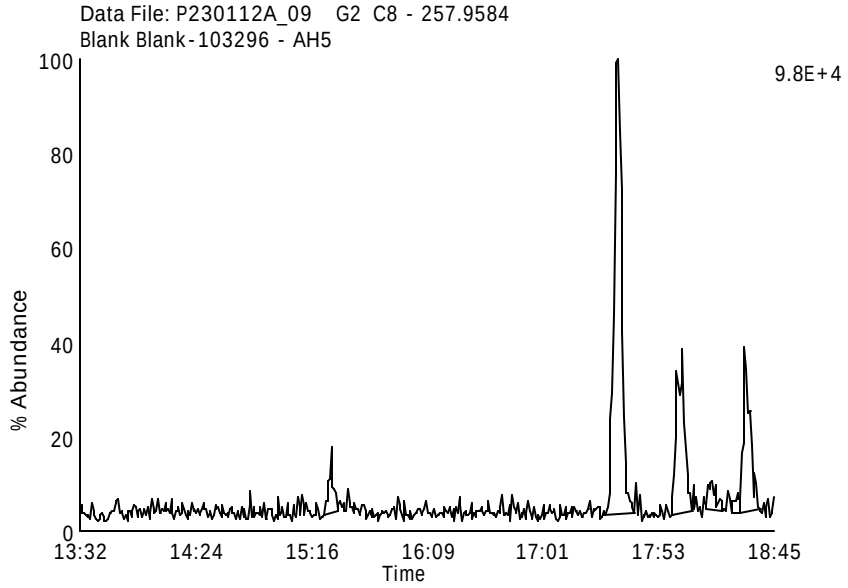


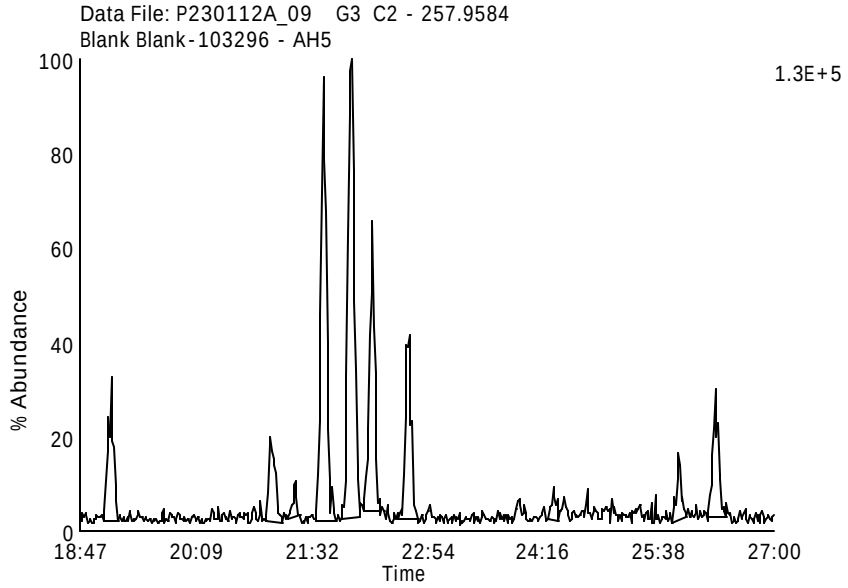
Tri Chlorinated Biphenyls

Data File Name: P230112A_09
Lab Sample ID: BLANK-103296
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Blank Blank-103296 - AH5
Client Sample ID: CBLKIC





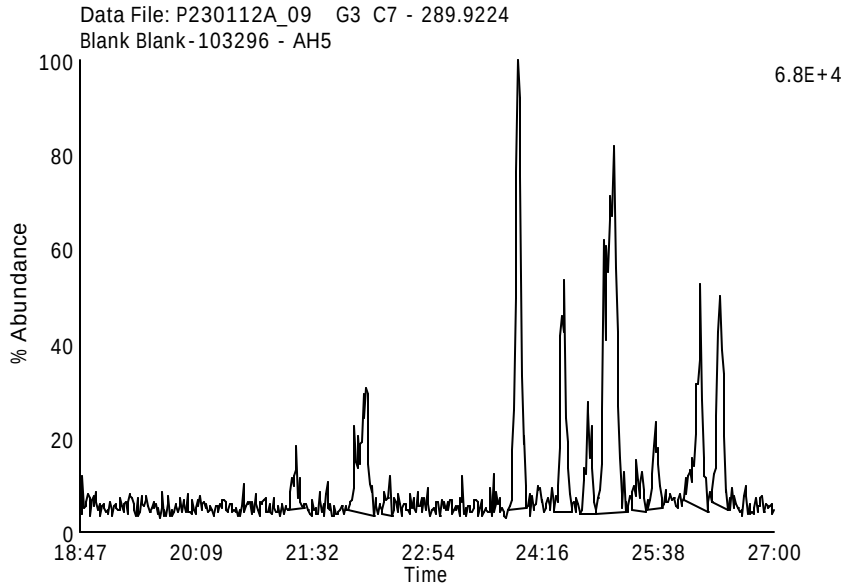


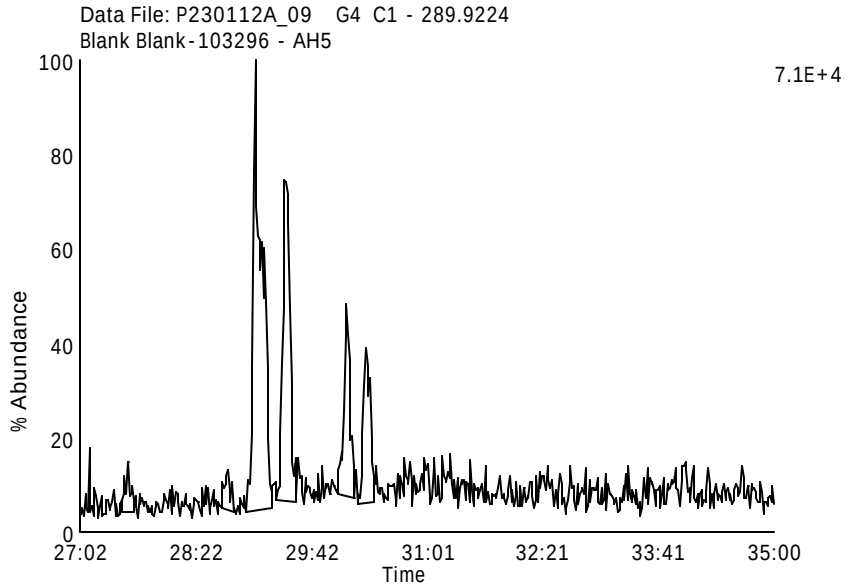


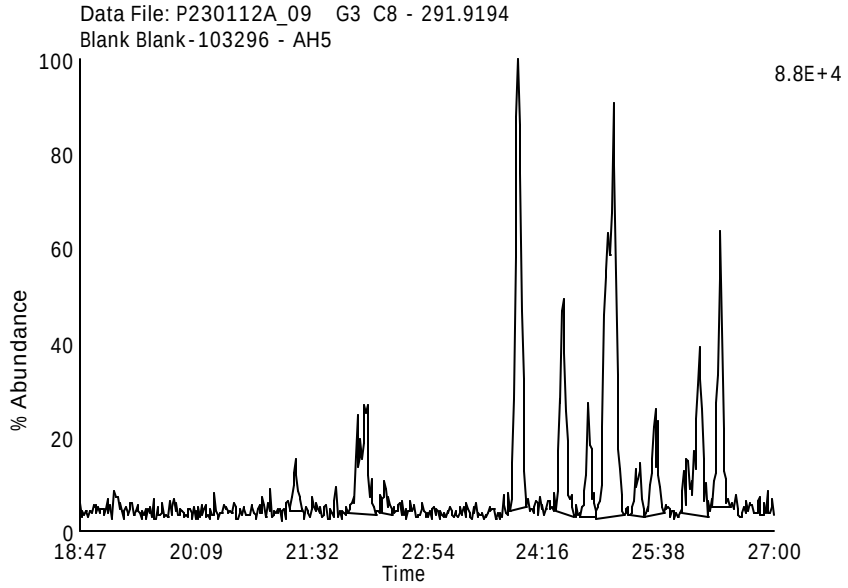
Tetra Chlorinated Biphenyls

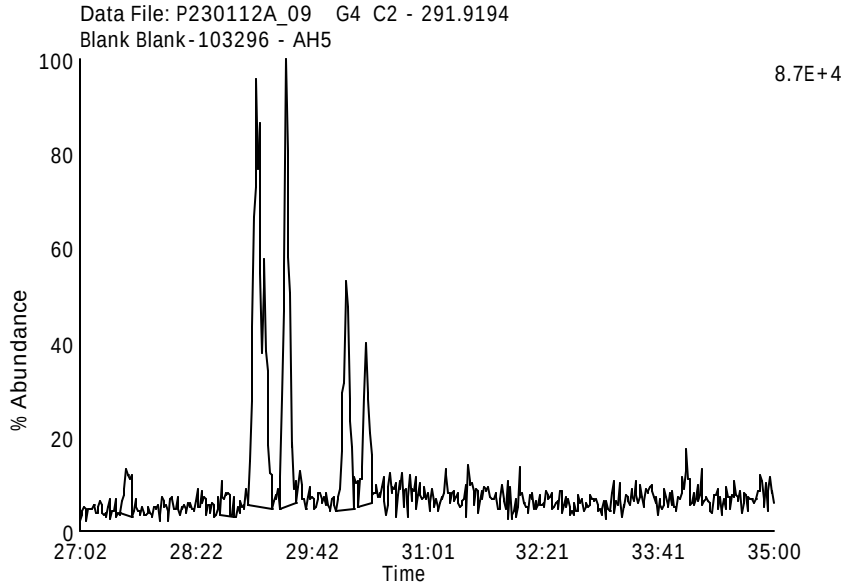
Data File Name: P230112A_09
Date Acquired: 1/12/2023
Sample Description: Blank Blank-103296 - AH5

Lab Sample ID: BLANK-103296
Instrument: 10MSHR09 (P)
Client Sample ID: CBLKIC





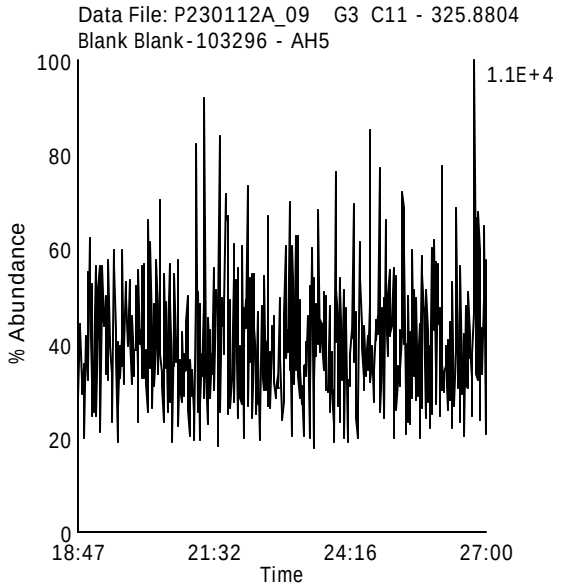


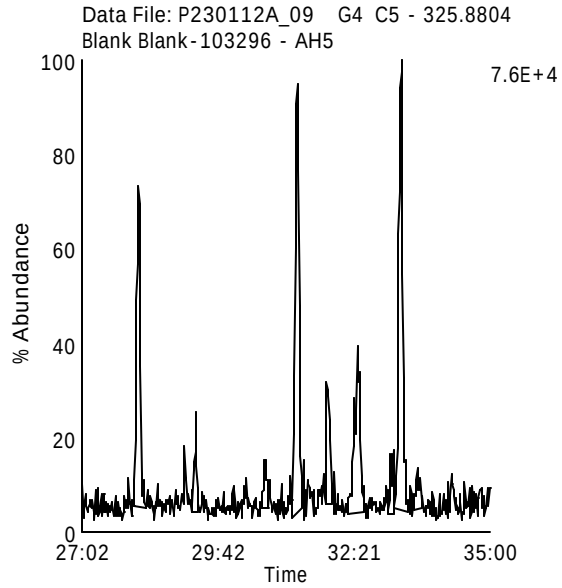


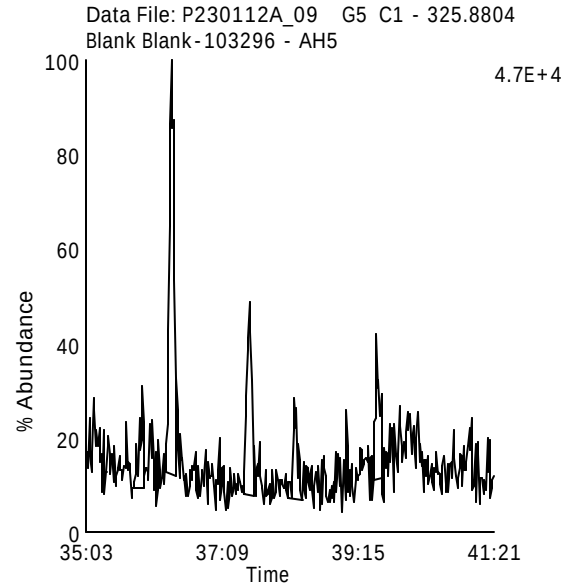
Penta Chlorinated Biphenyls

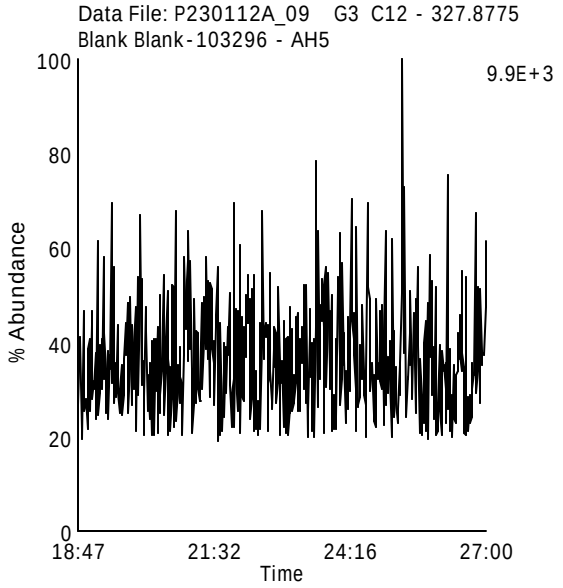
Data File Name: P230112A_09
Date Acquired: 1/12/2023
Sample Description: Blank Blank-103296 - AH5

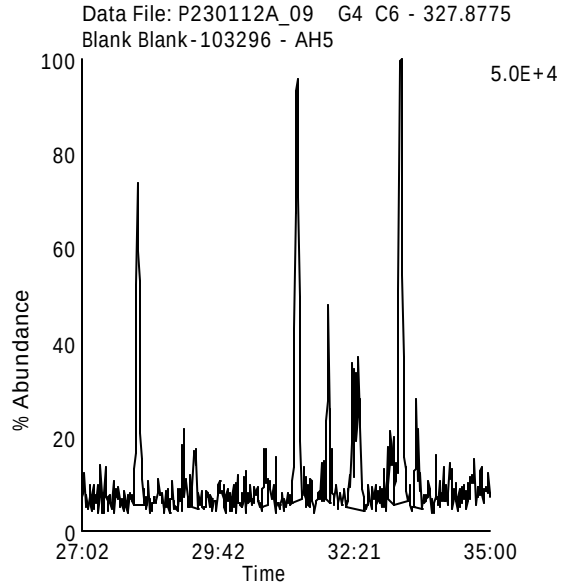
Lab Sample ID: BLANK-103296
Instrument: 10MSHR09 (P)
Client Sample ID: CBLKIC

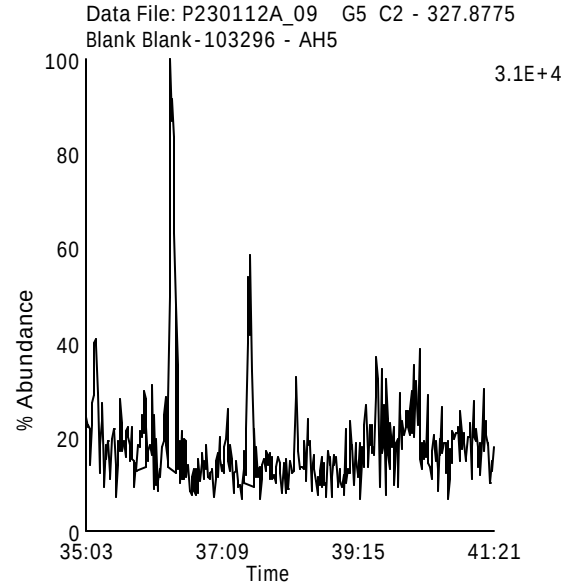










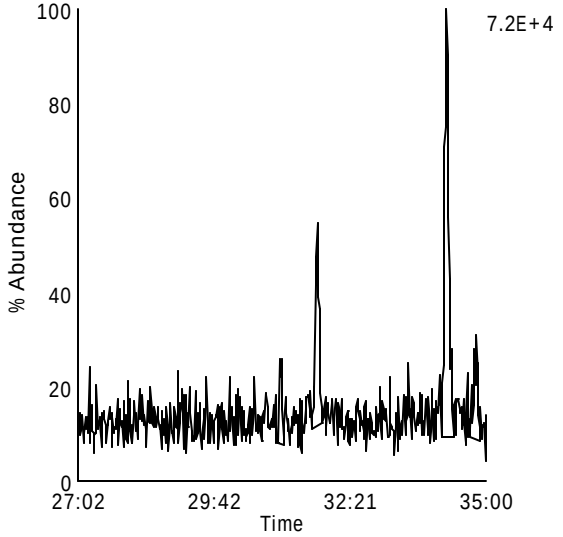


Hexa Chlorinated Biphenyls

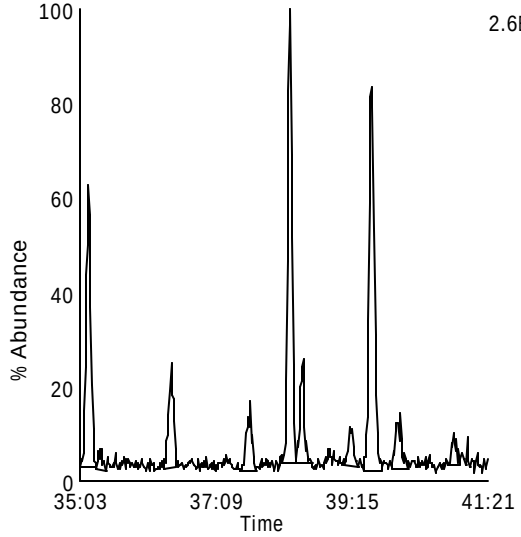
Data File Name: P230112A_09
Date Acquired: 1/12/2023
Sample Description: Blank Blank-103296 - AH5

Lab Sample ID: BLANK-103296
Instrument: 10MSHR09 (P)
Client Sample ID: CBLKIC

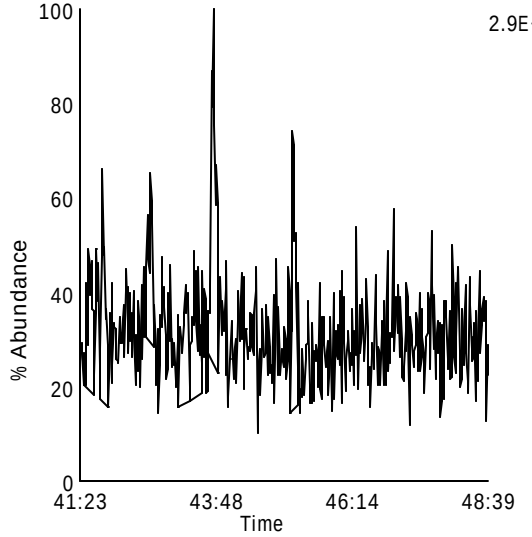
Data File: P230112A_09 G4 C11 - 359.8415
Blank Blank-103296 - AH5



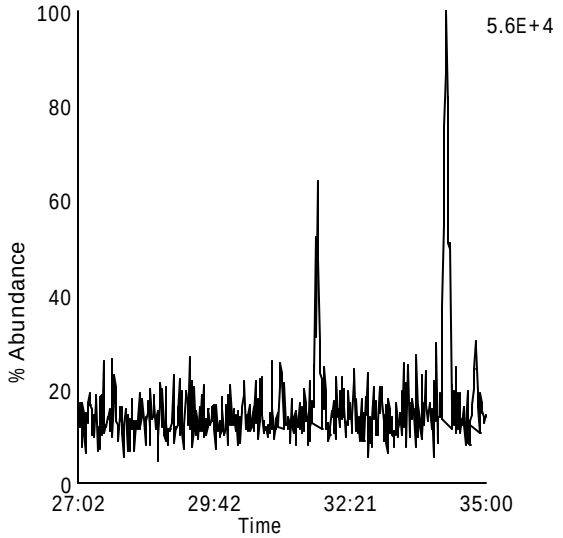
Data File: P230112A_09 G5 C5 - 359.8415
Blank Blank-103296 - AH5



Data File: P230112A_09 G6 C1 - 359.8415
Blank Blank-103296 - AH5



Data File: P230112A_09 G4 C12 - 361.8385
Blank Blank-103296 - AH5



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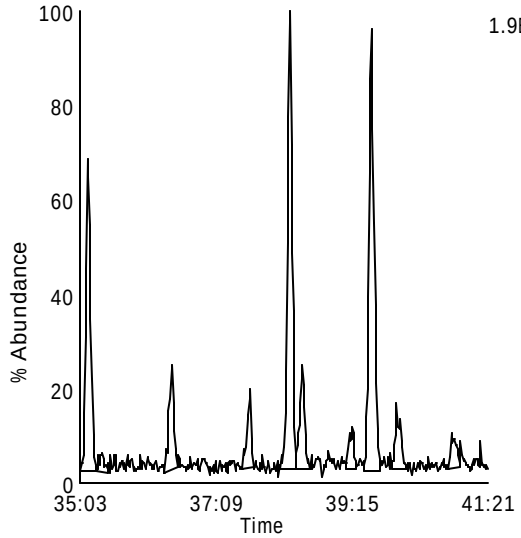

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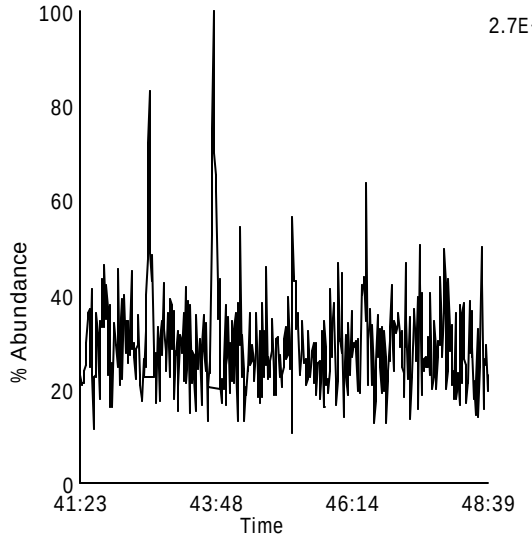
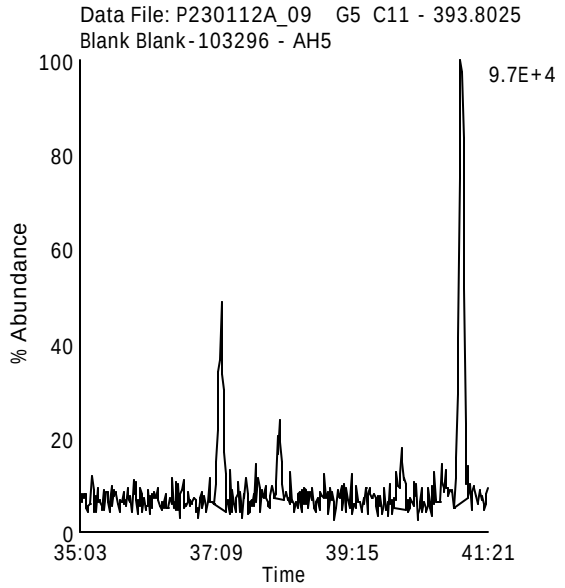
Blank Blank-103296 - AH5

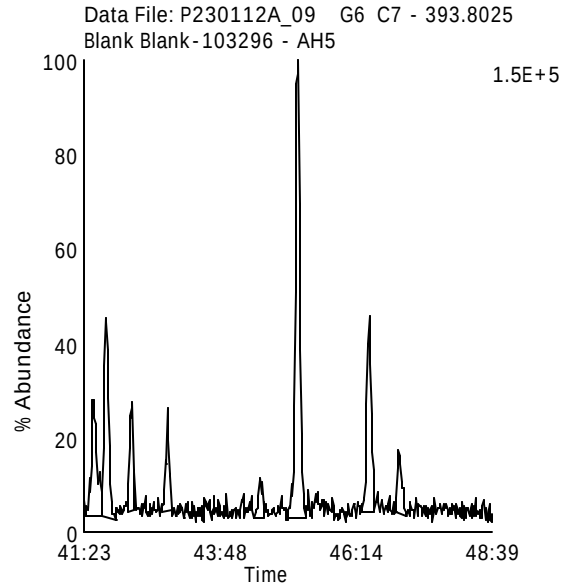


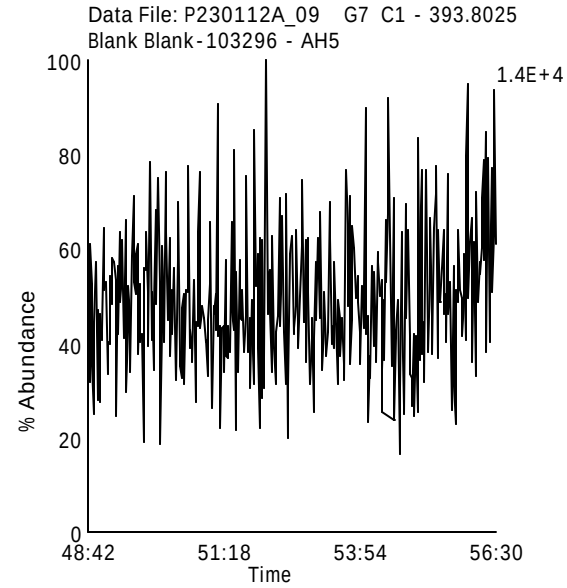
Hepta Chlorinated Biphenyls

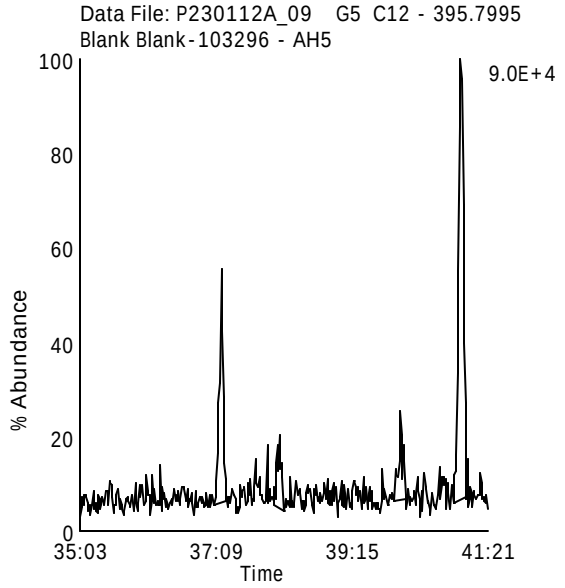
Data File Name: P230112A_09
Date Acquired: 1/12/2023
Sample Description: Blank Blank-103296 - AH5

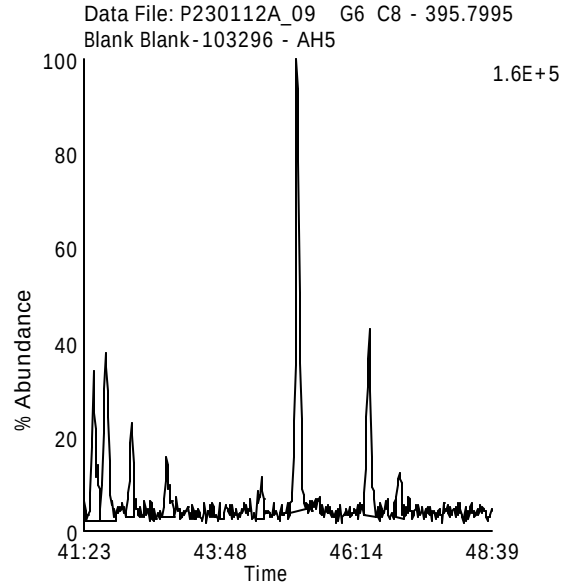
Lab Sample ID: BLANK-103296
Instrument: 10MSHR09 (P)
Client Sample ID: CBLKIC

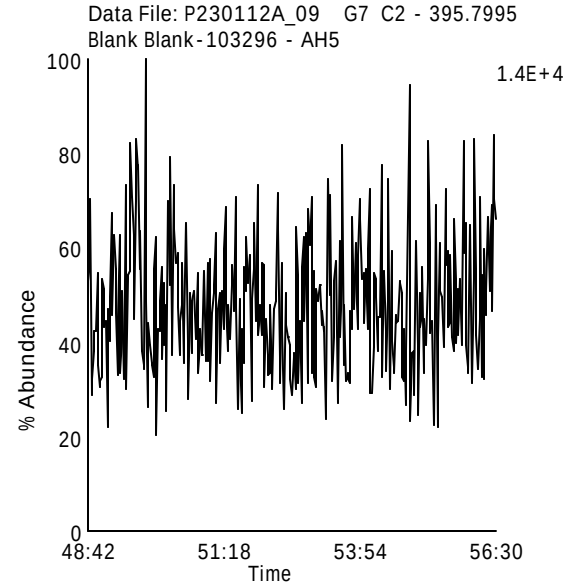








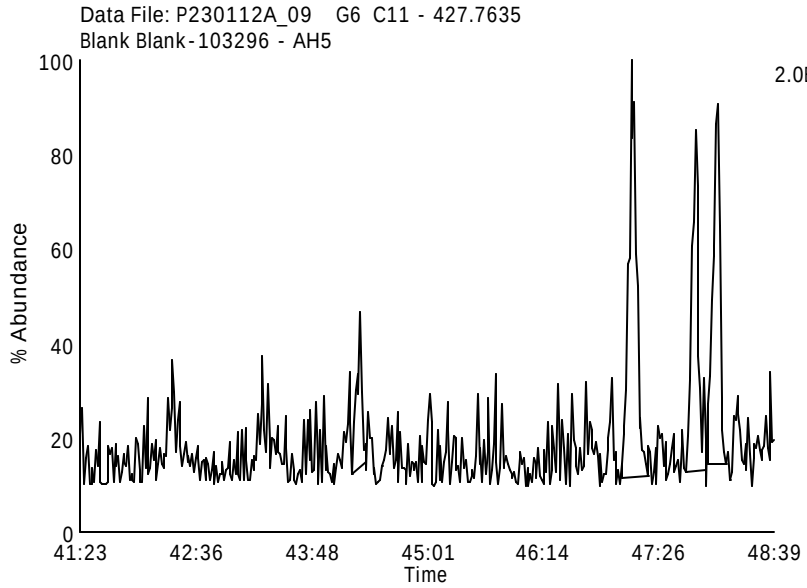


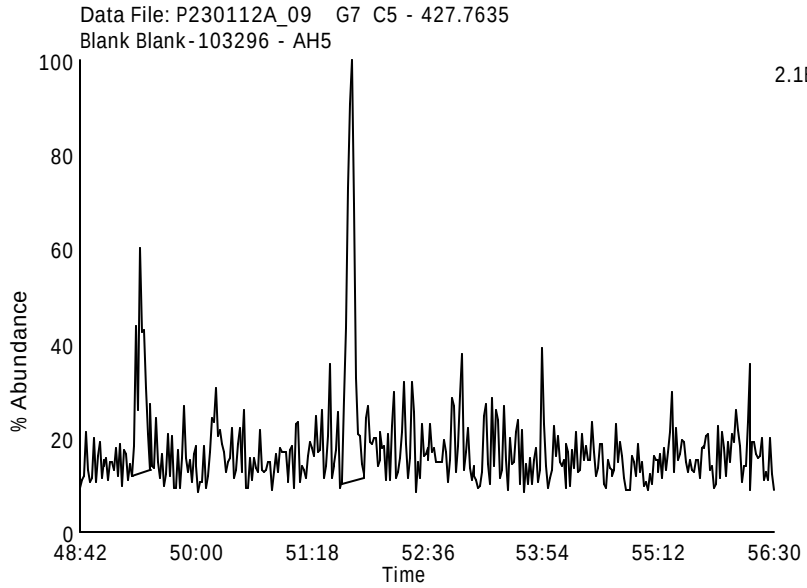


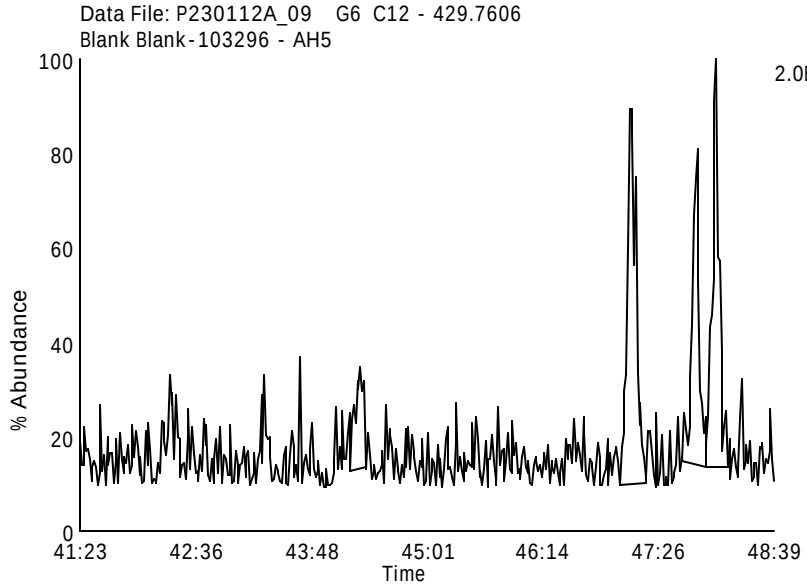
Octa Chlorinated Biphenyls

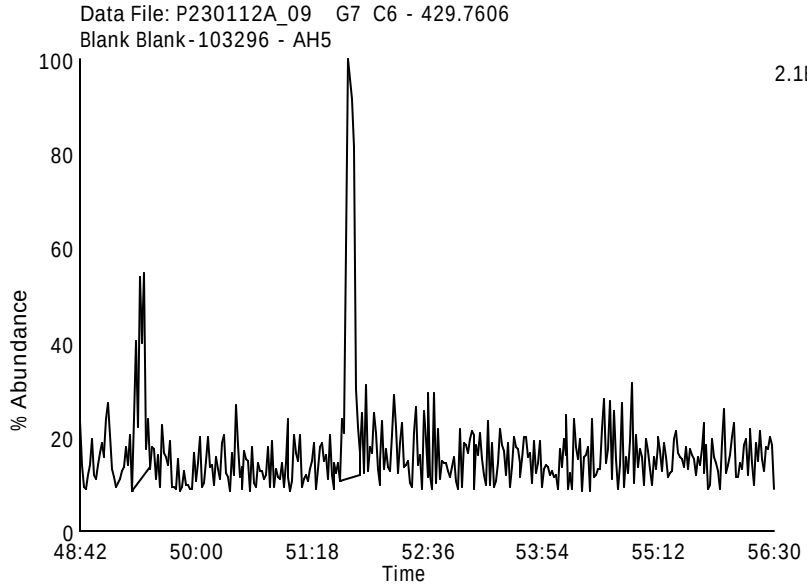
Data File Name: P230112A_09
Date Acquired: 1/12/2023
Sample Description: Blank Blank-103296 - AH5

Lab Sample ID: BLANK-103296
Instrument: 10MSHR09 (P)
Client Sample ID: CBLKIC



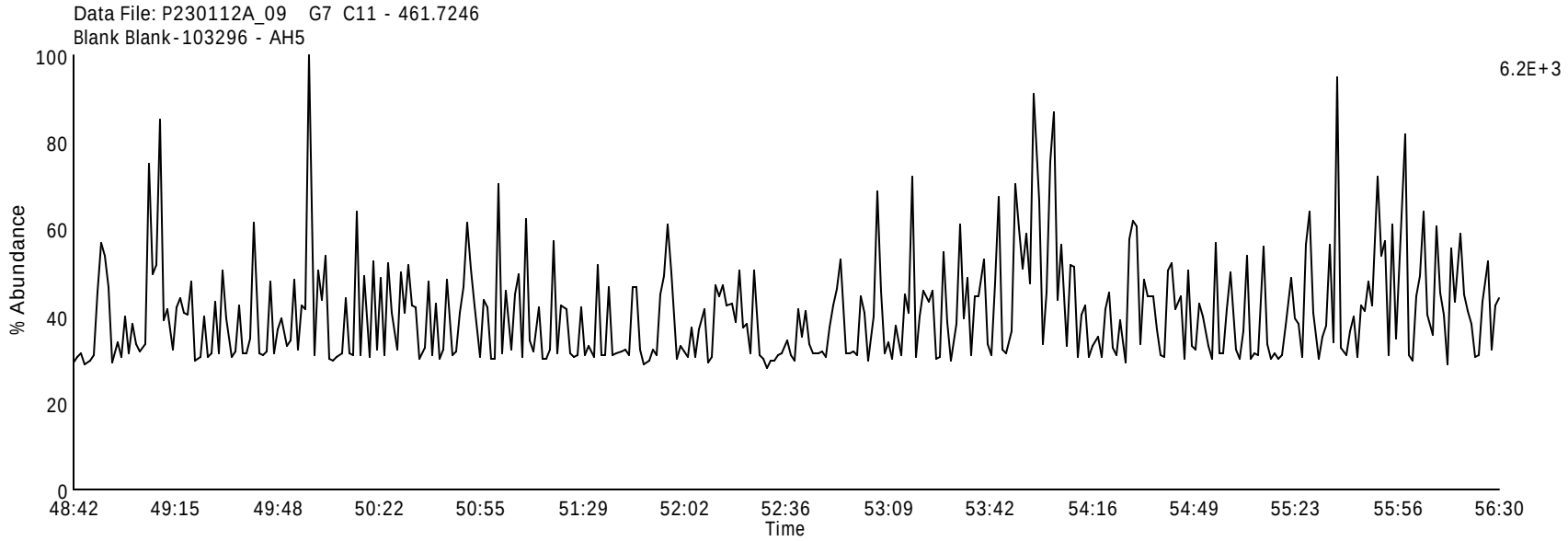


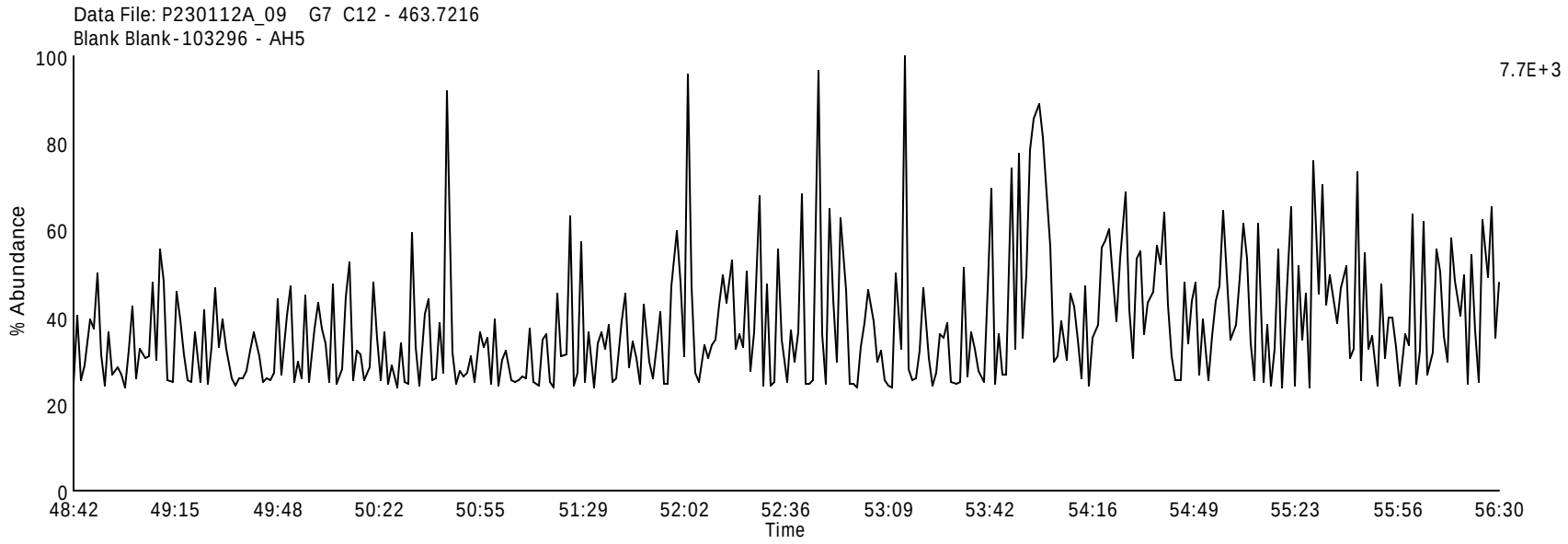




Nona Chlorinated Biphenyls

Data File Name: P230112A_09
Lab Sample ID: BLANK-103296
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Blank Blank-103296 - AH5
Client Sample ID: CBLKIC

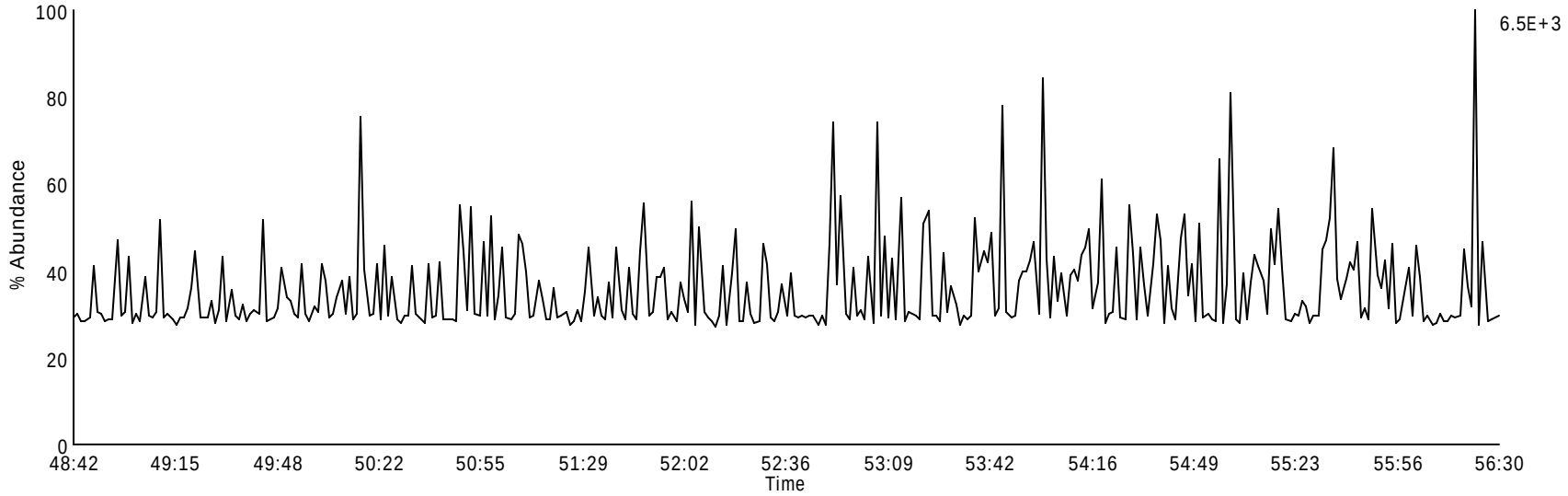




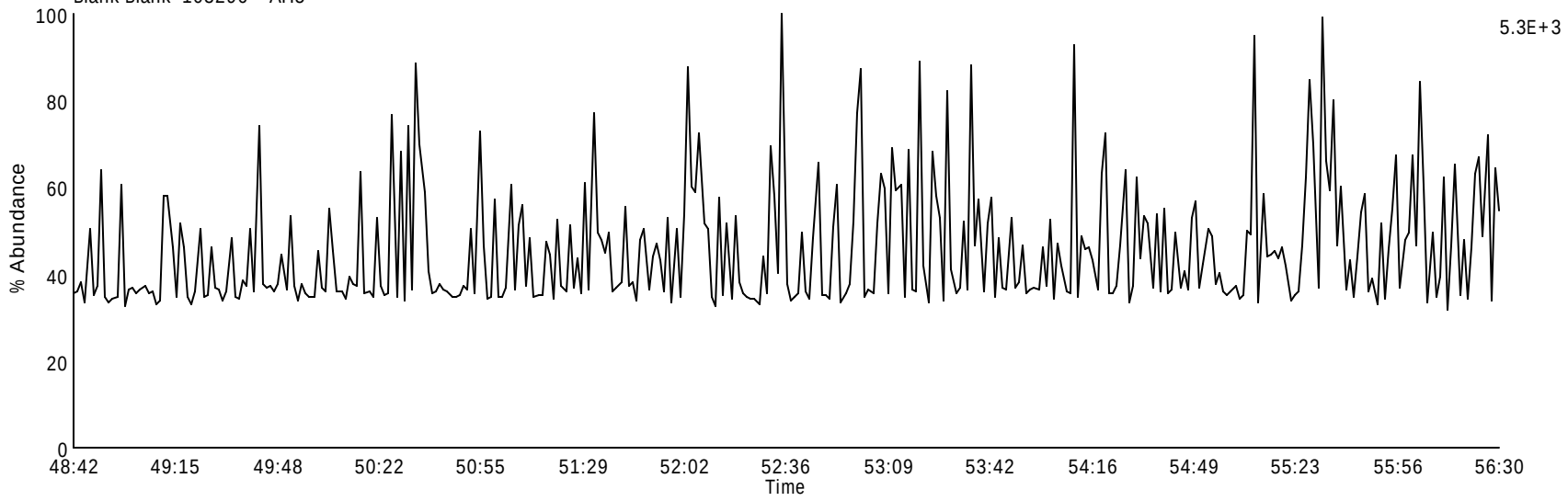
Deca Chlorinated Biphenyl

Data File Name: P230112A_09	Lab Sample ID: BLANK-103296
Date Acquired: 1/12/2023	Instrument: 10MSHR09 (P)
Sample Description: Blank Blank-103296 - AH5	Client Sample ID: CBLKIC

Data File: P230112A_09 G7 C15 - 495.6856
Blank Blank-103296 - AH5



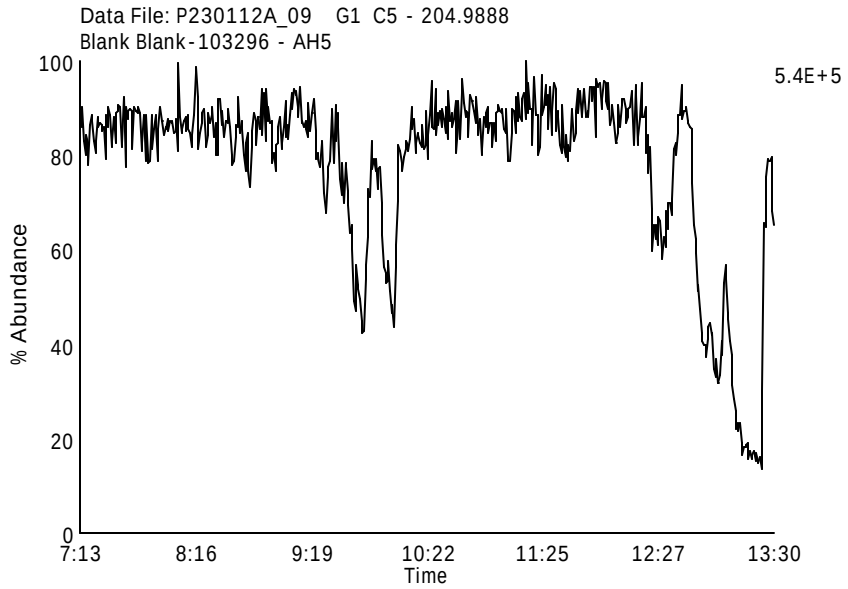
Data File: P230112A_09 G7 C16 - 497.6826
Blank Blank-103296 - AH5

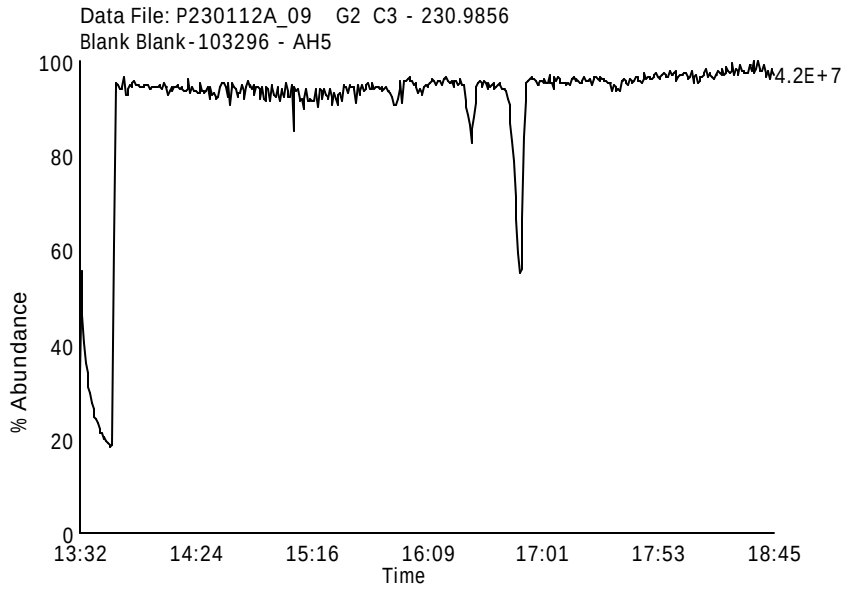


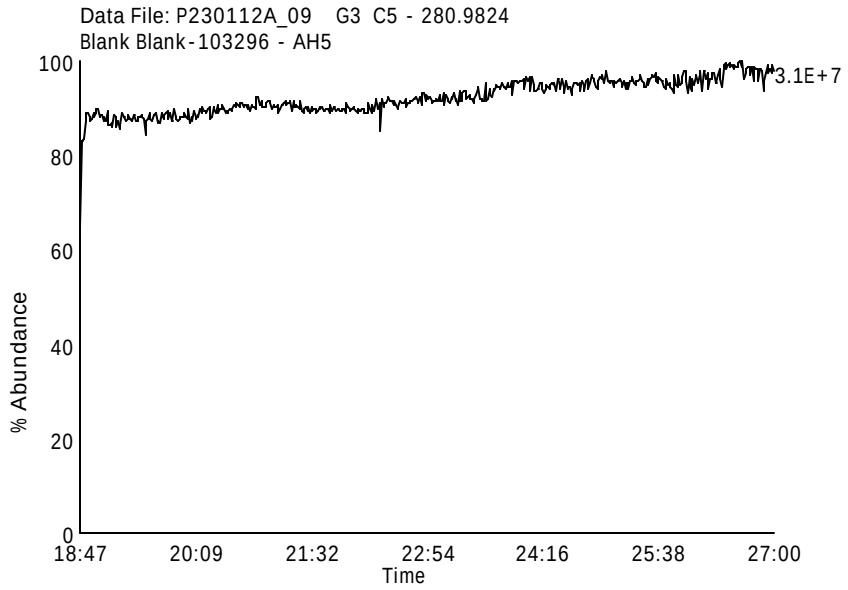
Group 1 - 4 Lock mass

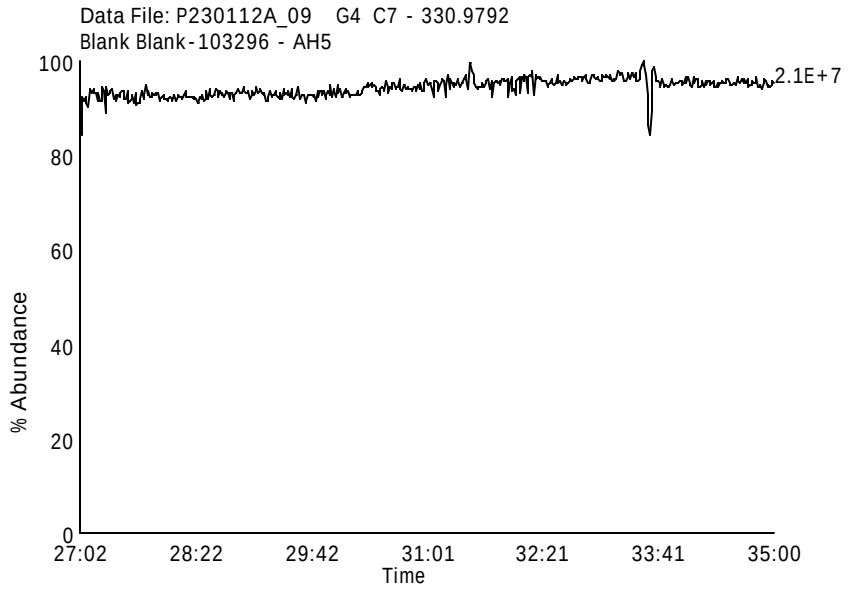
Data File Name: P230112A_09
Date Acquired: 1/12/2023
Sample Description: Blank Blank-103296 - AH5

Lab Sample ID: BLANK-103296
Instrument: 10MSHR09 (P)
Client Sample ID: CBLKIC





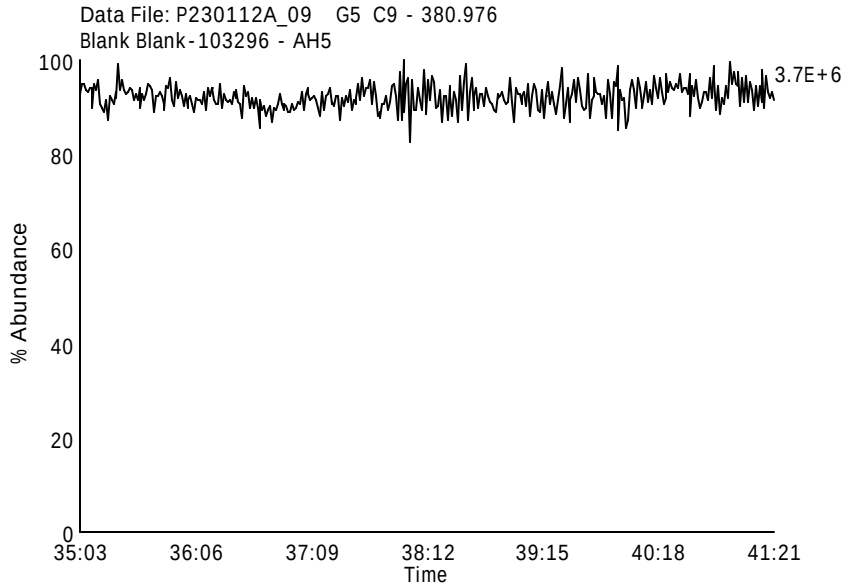


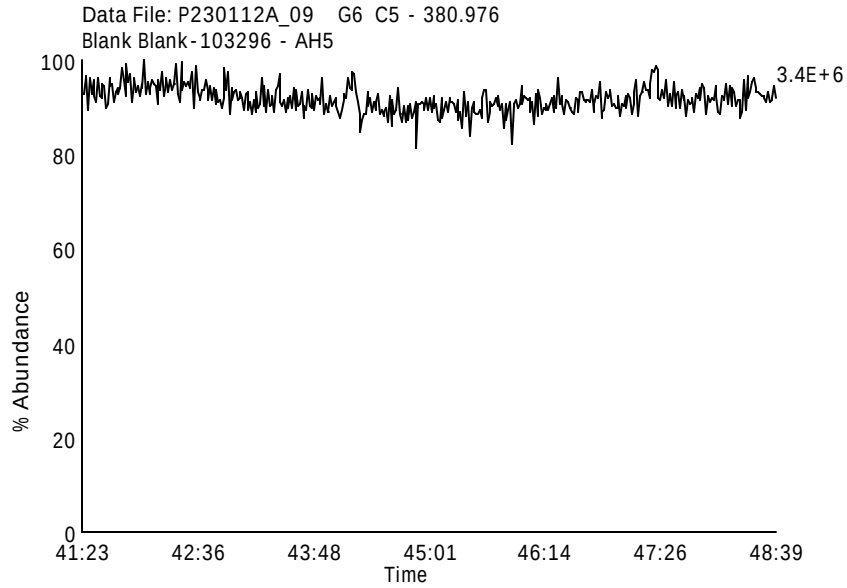


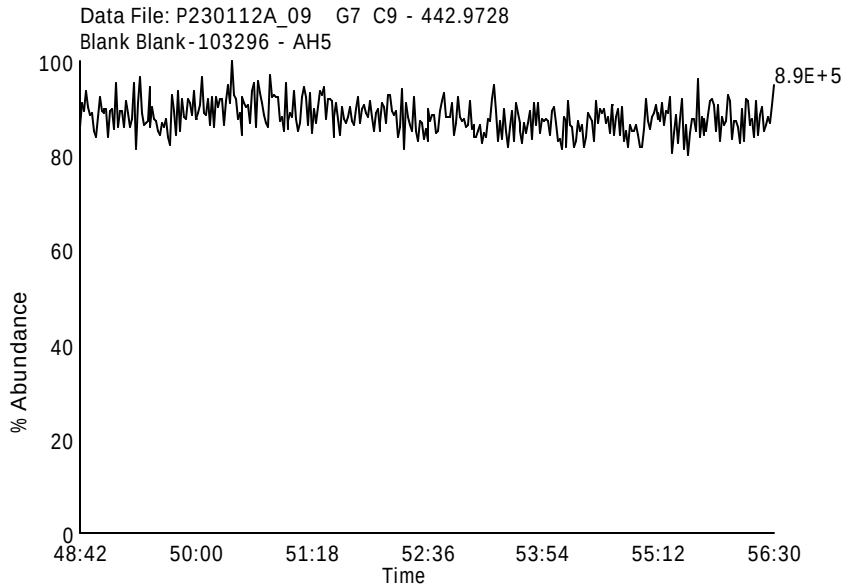
Group 5 - 7 Lock mass

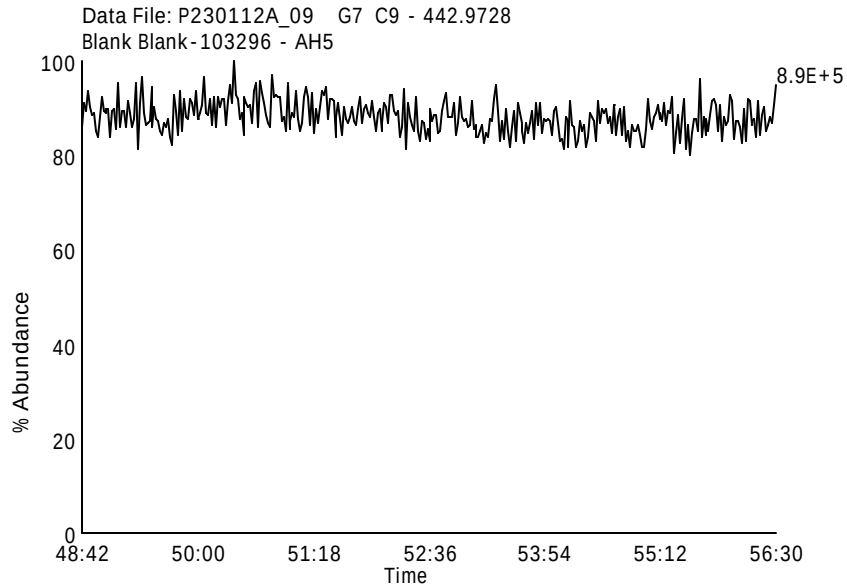
Data File Name: P230112A_09
Date Acquired: 1/12/2023
Sample Description: Blank Blank-103296 - AH5

Lab Sample ID: BLANK-103296
Instrument: 10MSHR09 (P)
Client Sample ID: CBLKIC



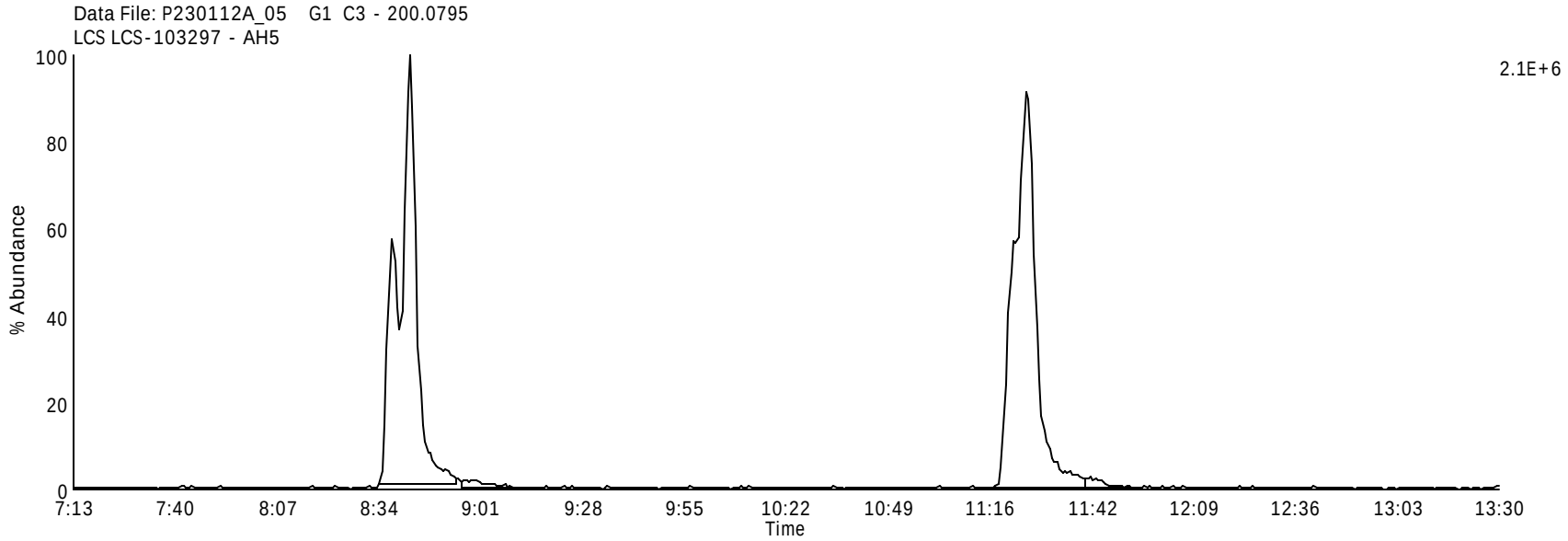


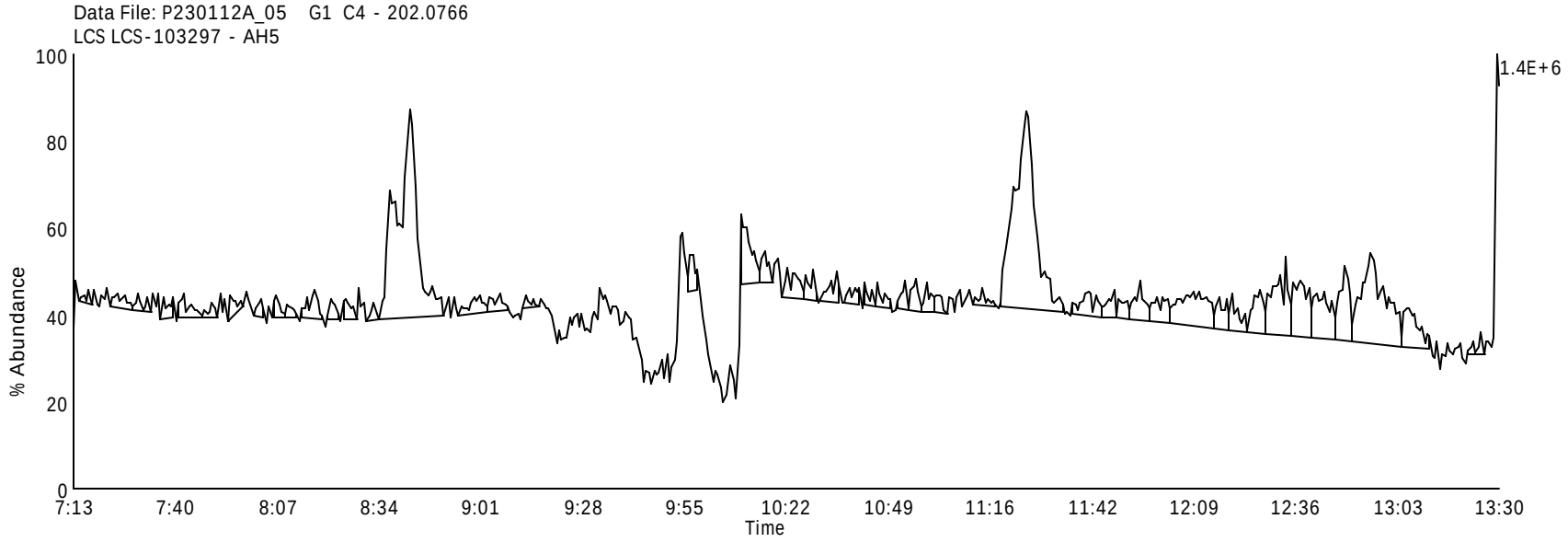




Labeled Mono Chlorinated Biphenyls

Data File Name: P230112A_05
Lab Sample ID: LCS-103297
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: LCS LCS-103297 - AH5
Client Sample ID: CLCSQB

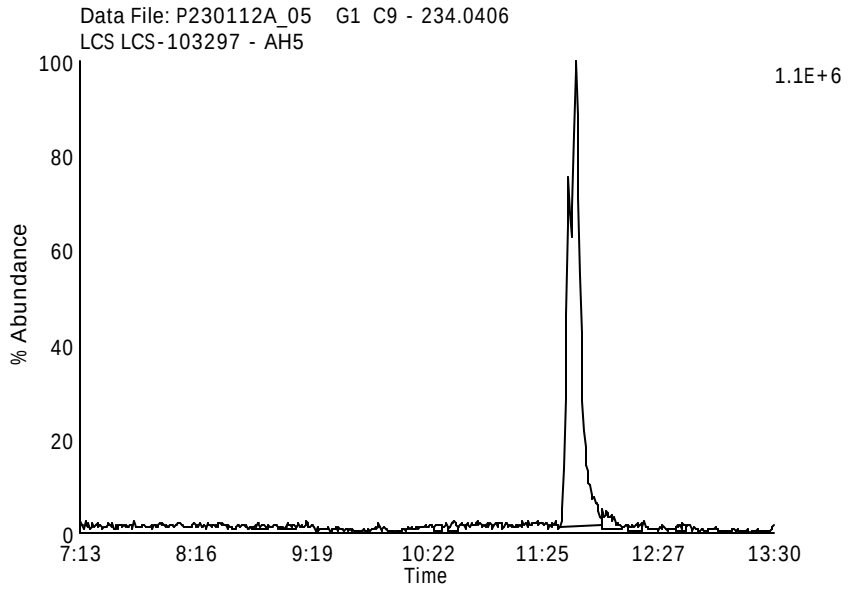


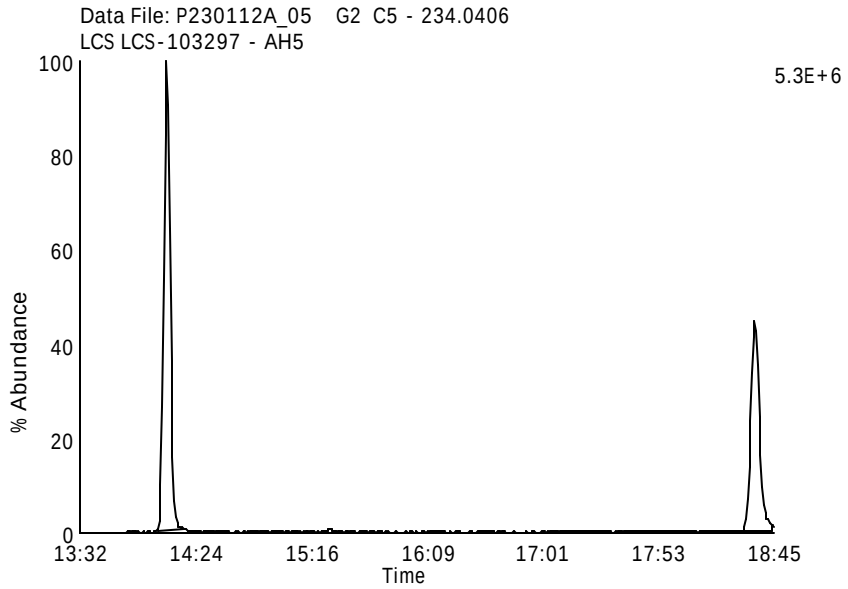


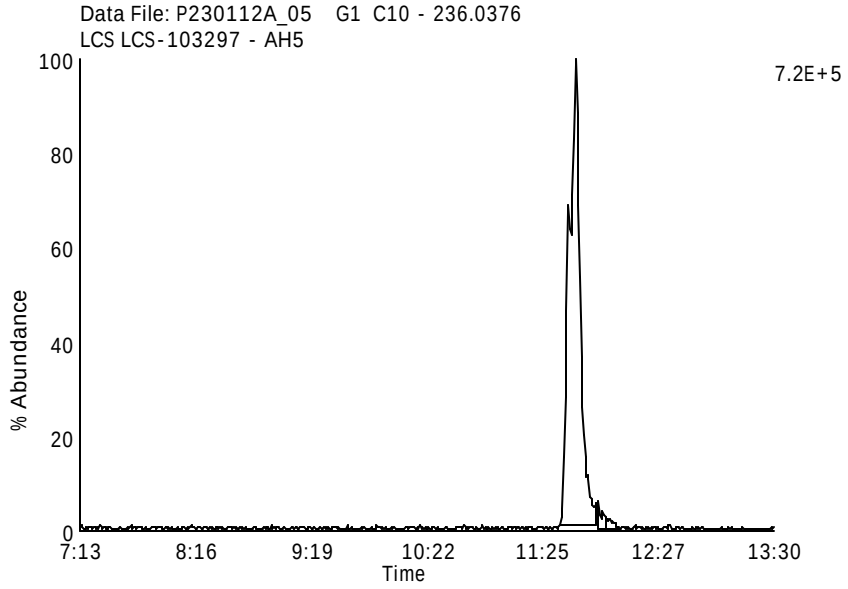
Labeled Di Chlorinated Biphenyls

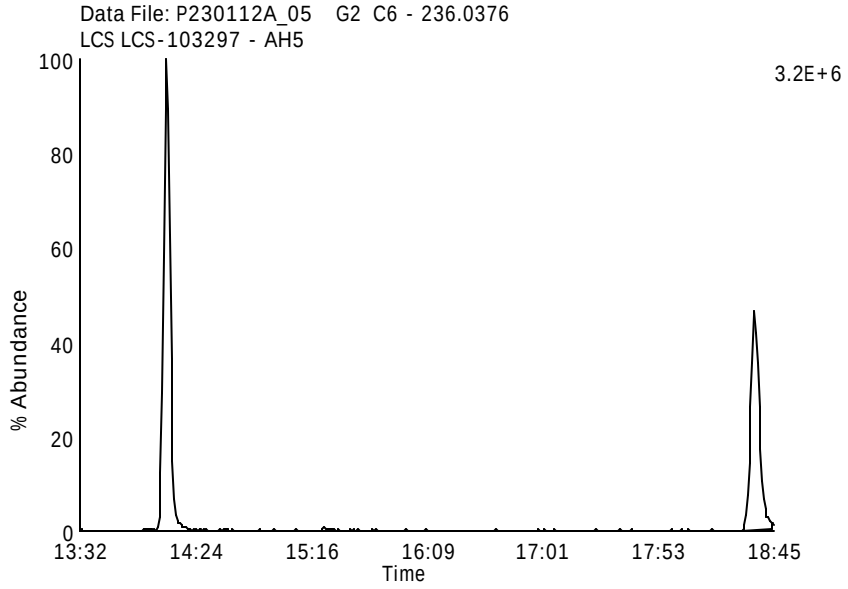
Data File Name: P230112A_05
Date Acquired: 1/12/2023
Sample Description: LCS LCS-103297 - AH5

Lab Sample ID: LCS-103297
Instrument: 10MSHR09 (P)
Client Sample ID: CLCSQB





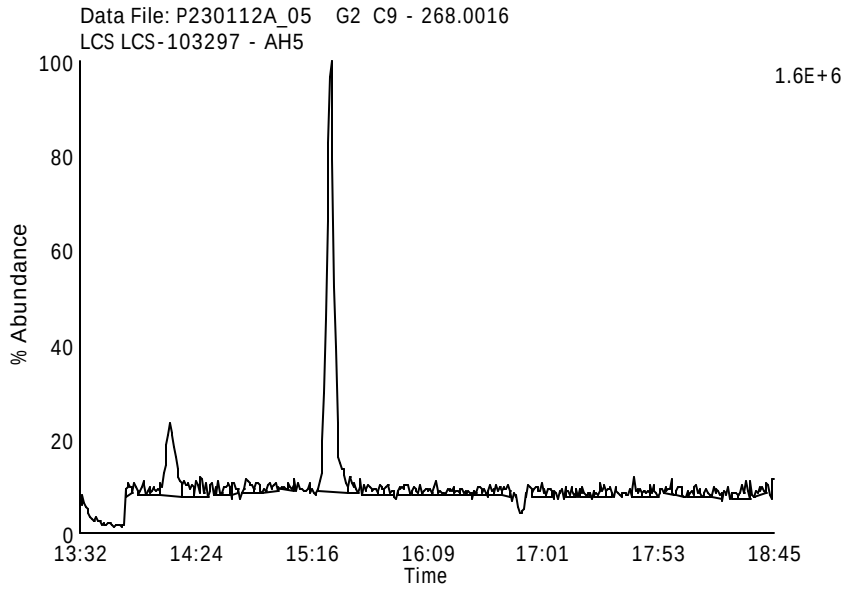


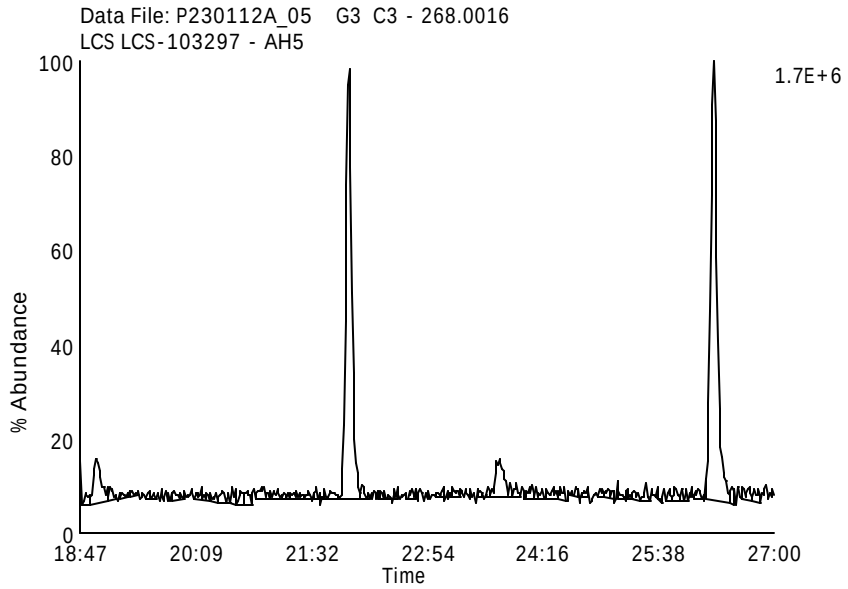


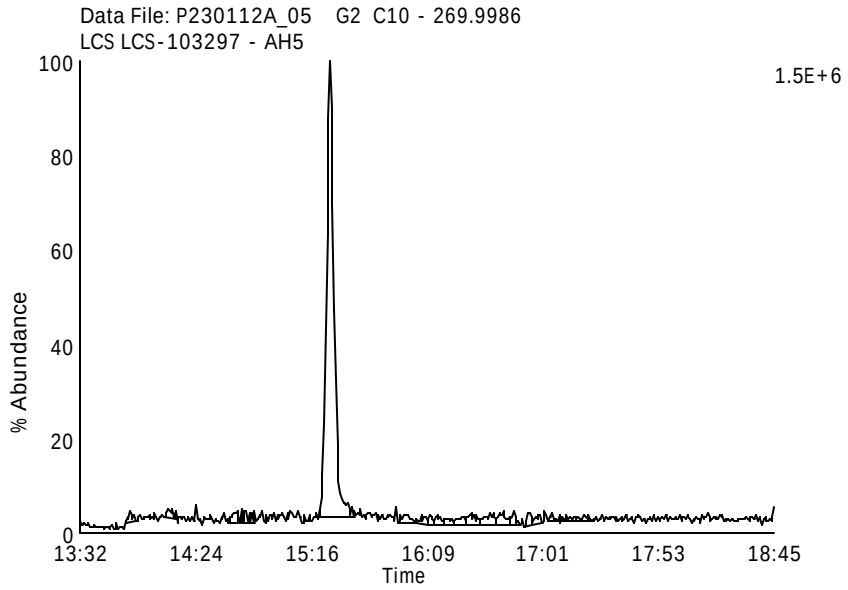
Labeled Tri Chlorinated Biphenyls

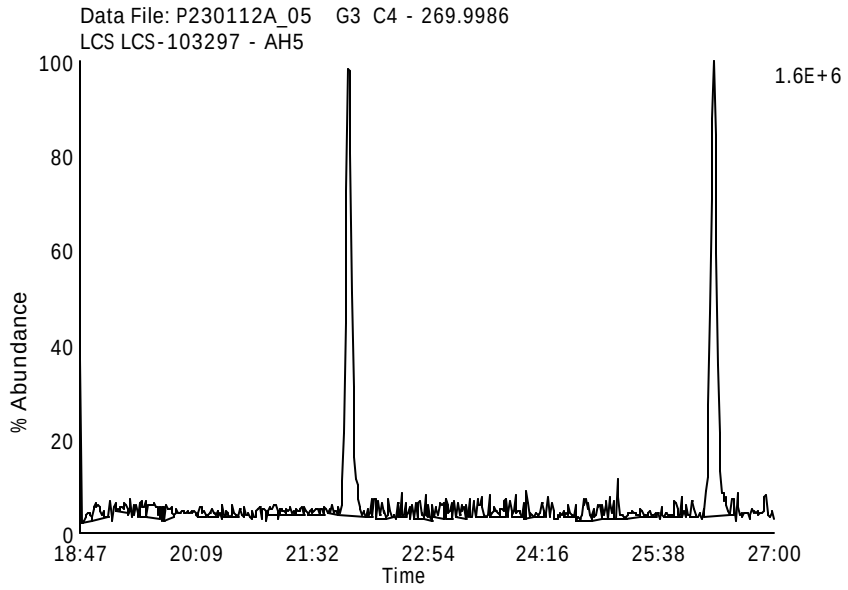
Data File Name: P230112A_05
Date Acquired: 1/12/2023
Sample Description: LCS LCS-103297 - AH5

Lab Sample ID: LCS-103297
Instrument: 10MSHR09 (P)
Client Sample ID: CLCSQB



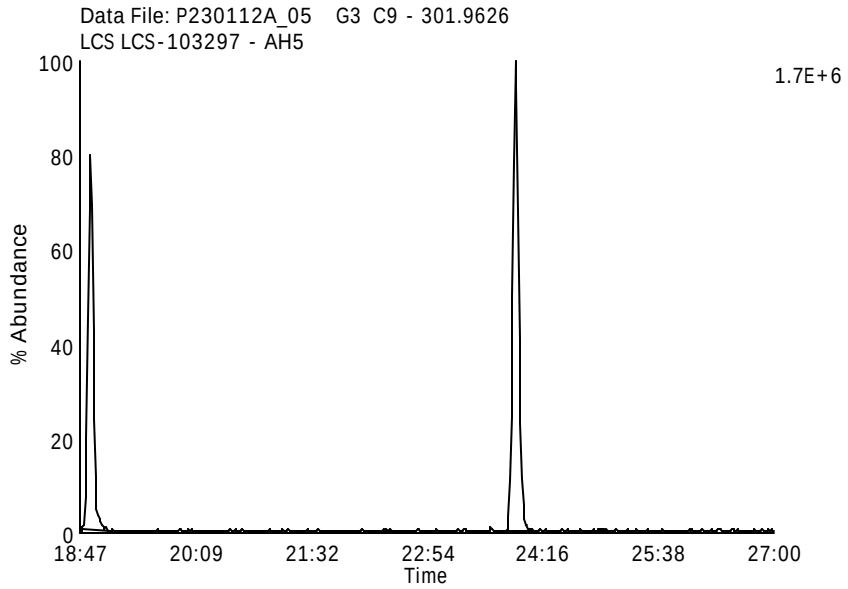


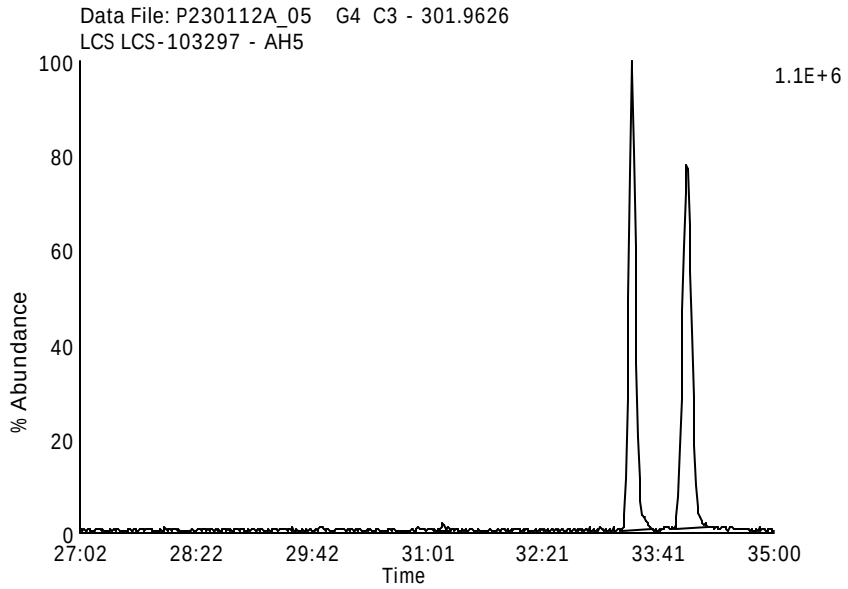


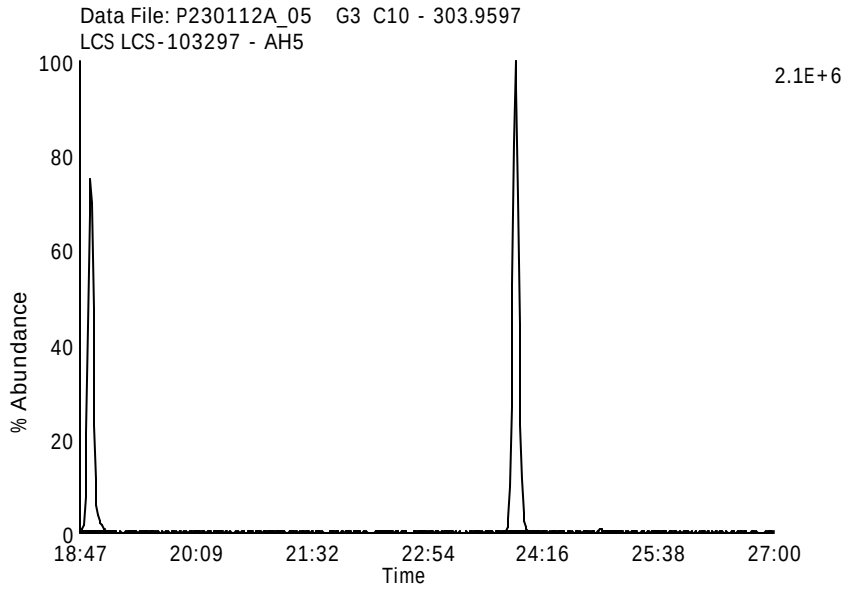


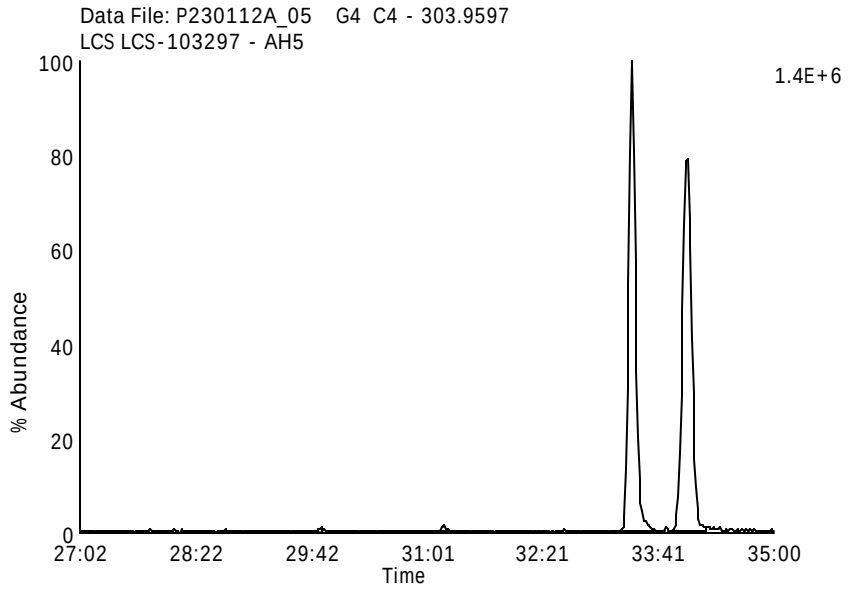
Labeled Tetra Chlorinated Biphenyls

Data File Name: P230112A_05
Lab Sample ID: LCS-103297
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: LCS LCS-103297 - AH5
Client Sample ID: CLCSQB





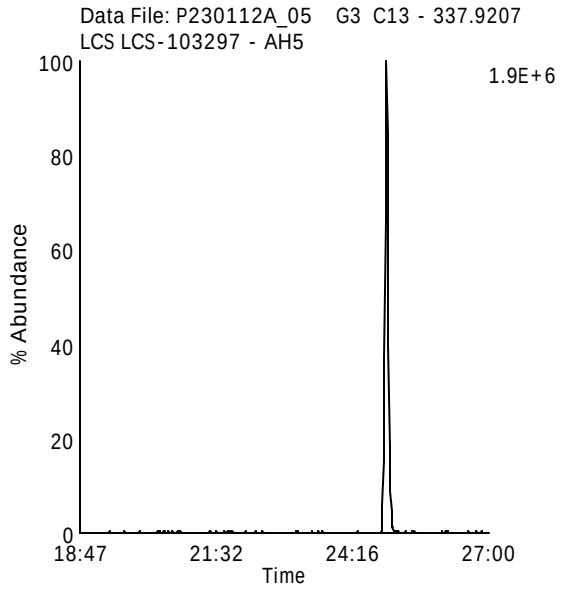


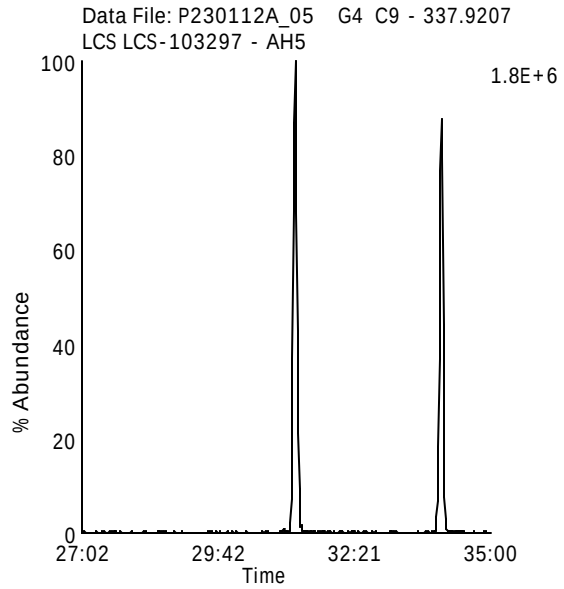


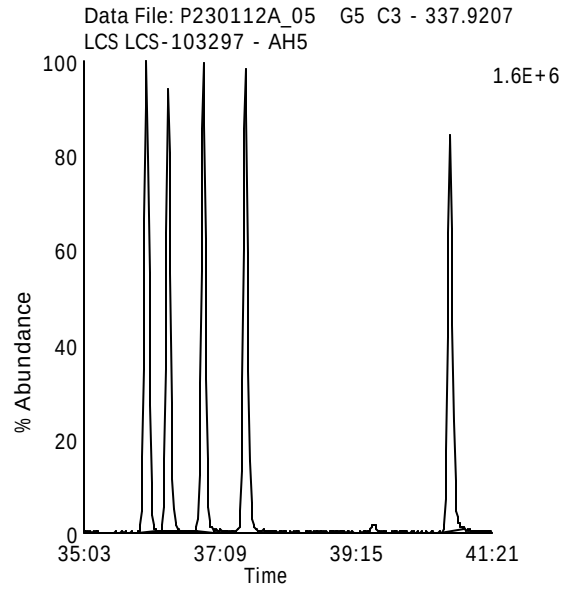
Labeled Penta Chlorinated Biphenyls

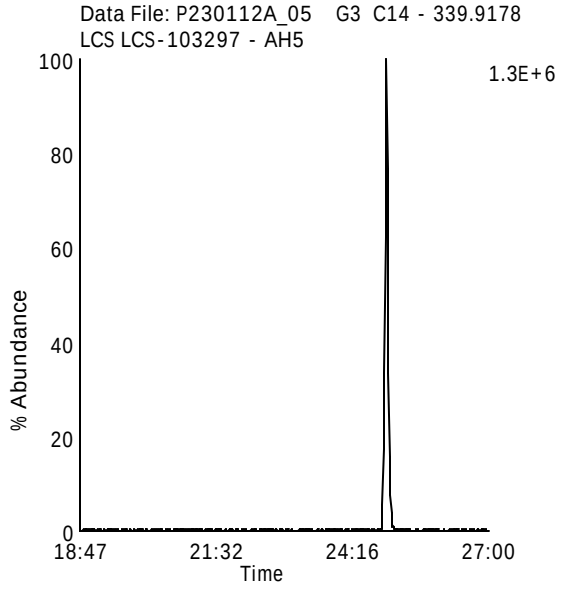
Data File Name: P230112A_05
Date Acquired: 1/12/2023
Sample Description: LCS LCS-103297 - AH5

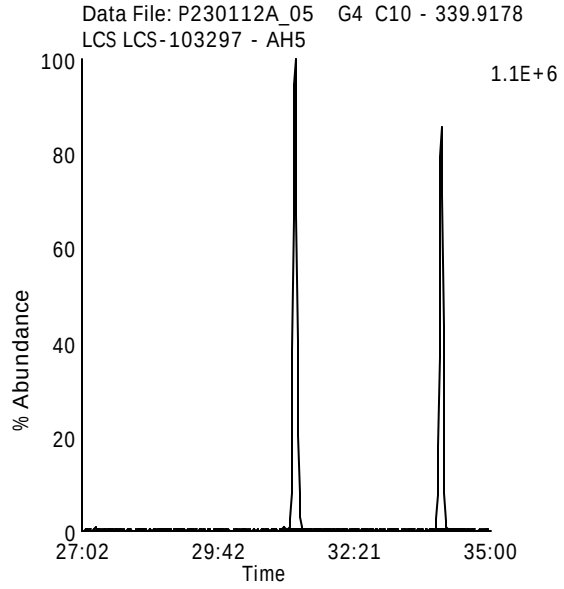
Lab Sample ID: LCS-103297
Instrument: 10MSHR09 (P)
Client Sample ID: CLCSQB

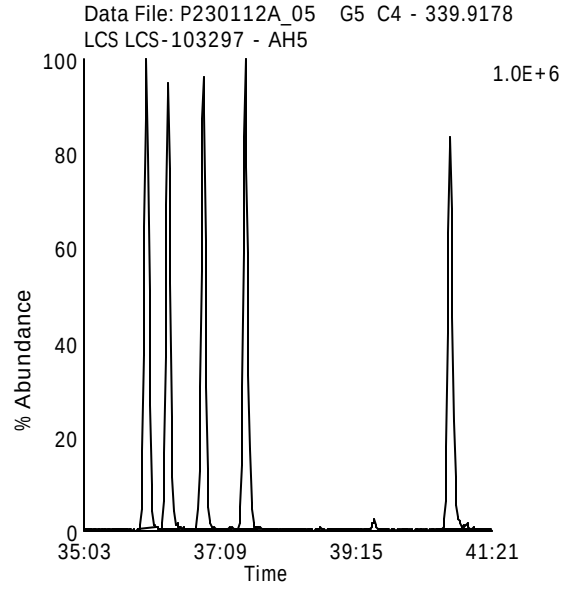






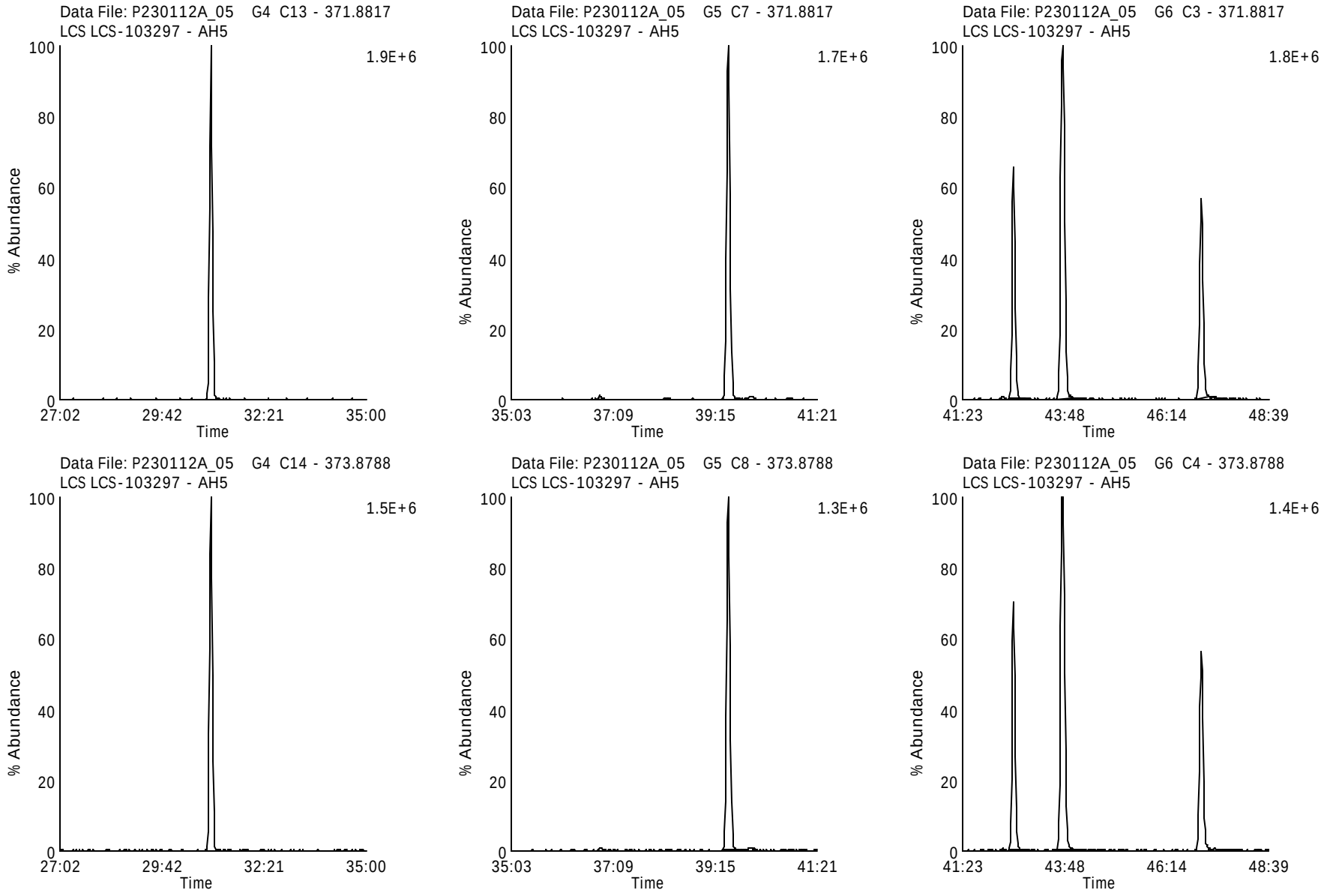






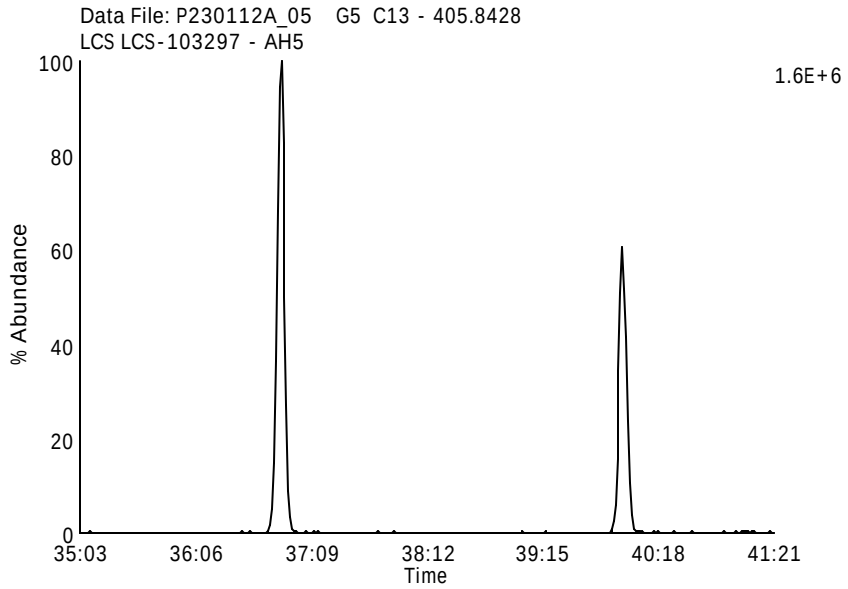
Labeled Hexa Chlorinated Biphenyls

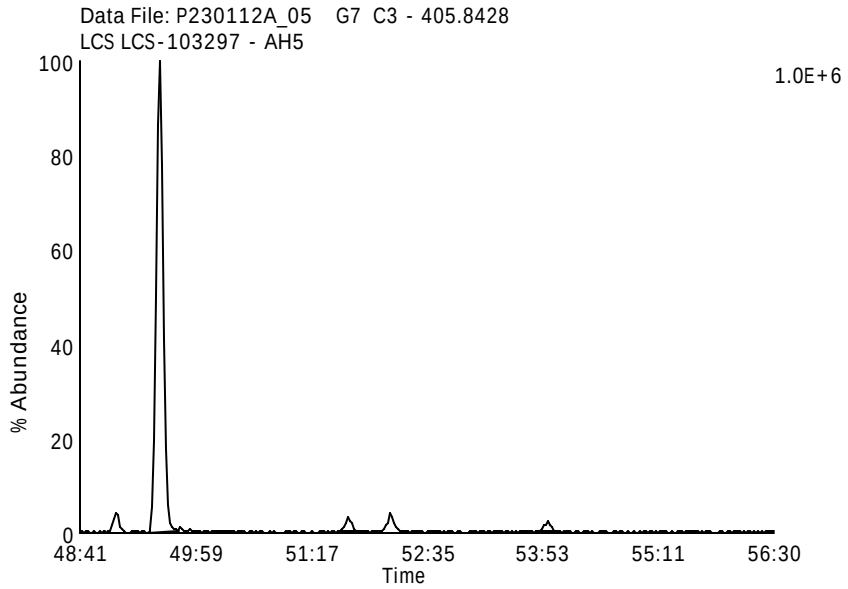
Data File Name: P230112A_05
Lab Sample ID: LCS-103297
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: LCS LCS-103297 - AH5
Client Sample ID: CLCSQB

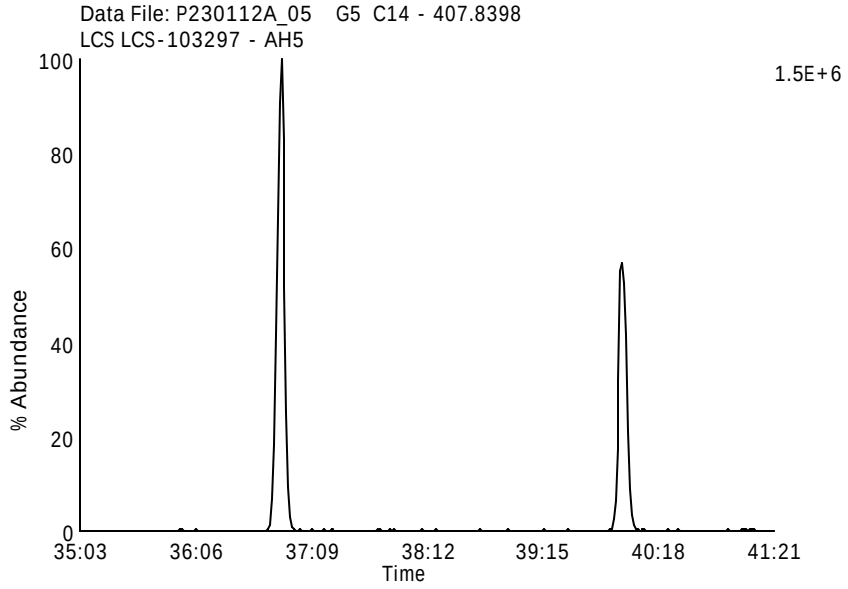


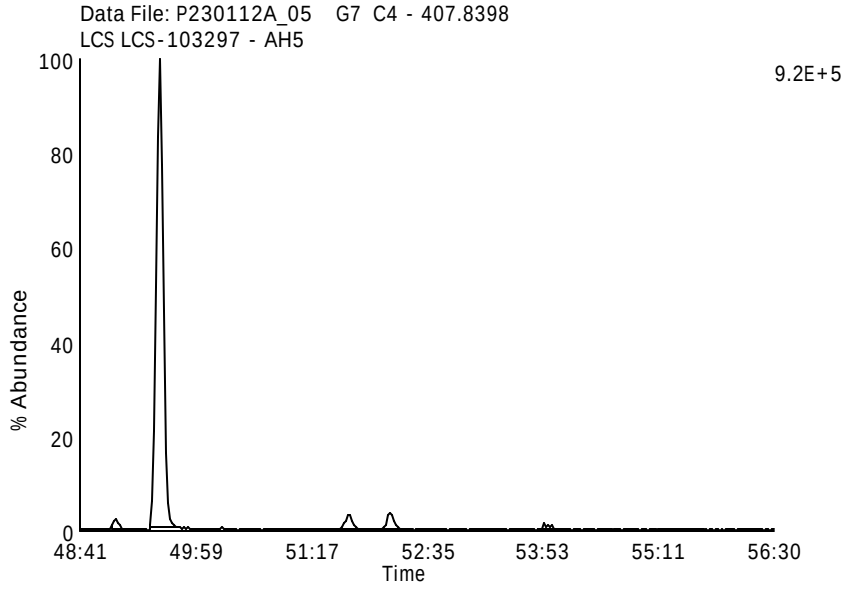
Labeled Hepta Chlorinated Biphenyls

Data File Name: P230112A_05
Lab Sample ID: LCS-103297
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: LCS LCS-103297 - AH5
Client Sample ID: CLCSQB



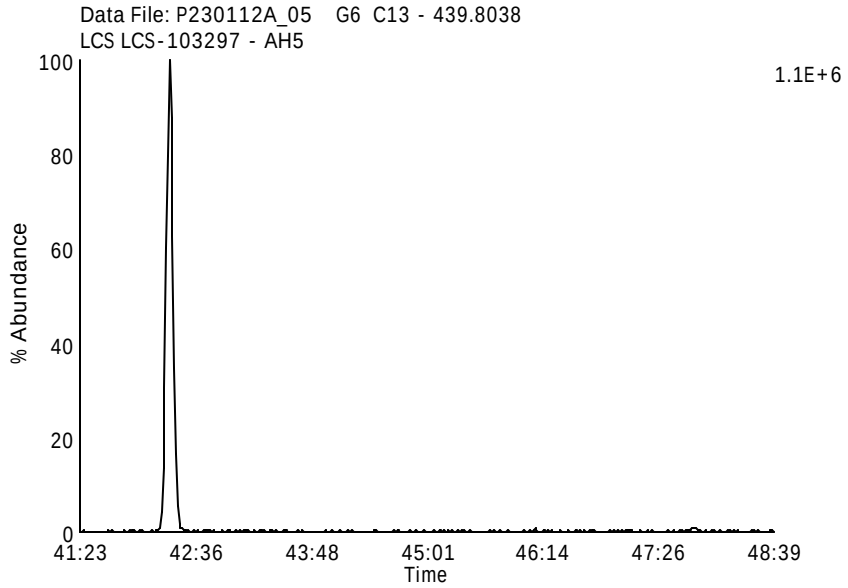


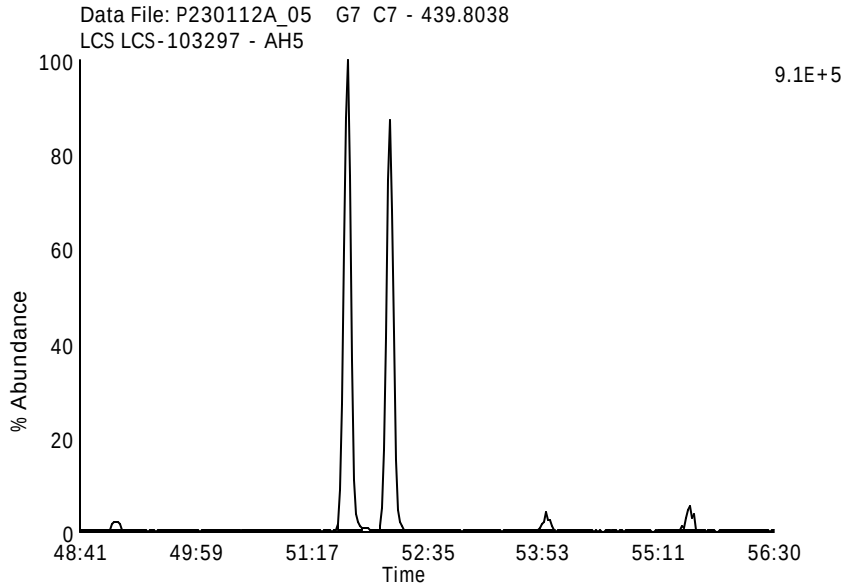


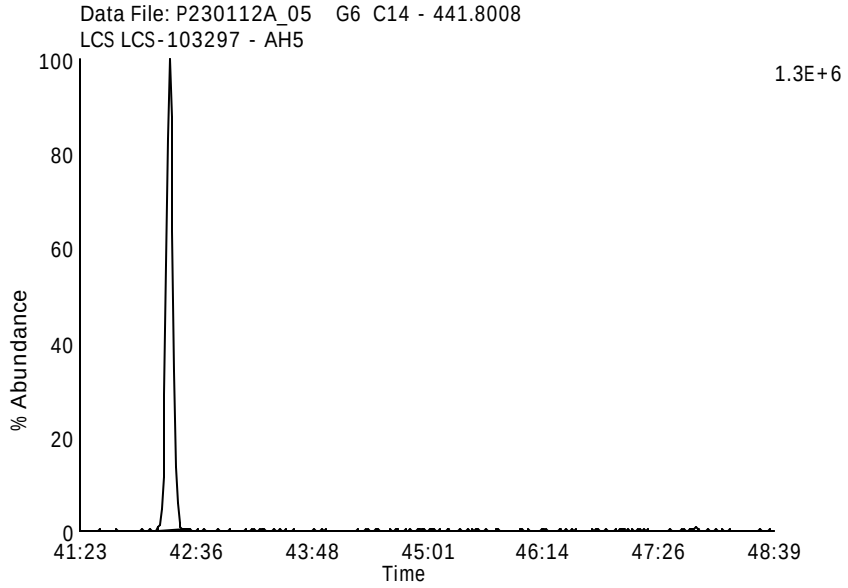


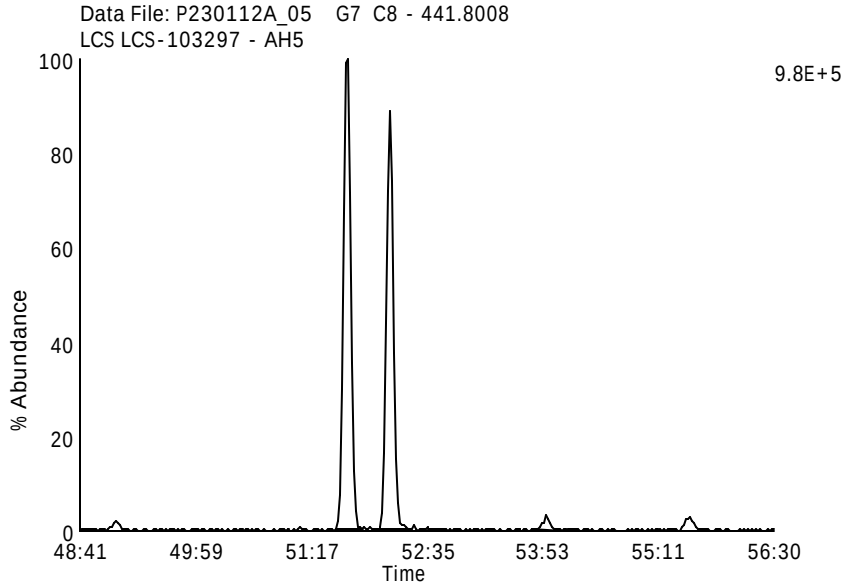
Labeled Octa Chlorinated Biphenyls

Data File Name: P230112A_05
Lab Sample ID: LCS-103297
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: LCS LCS-103297 - AH5
Client Sample ID: CLCSQB



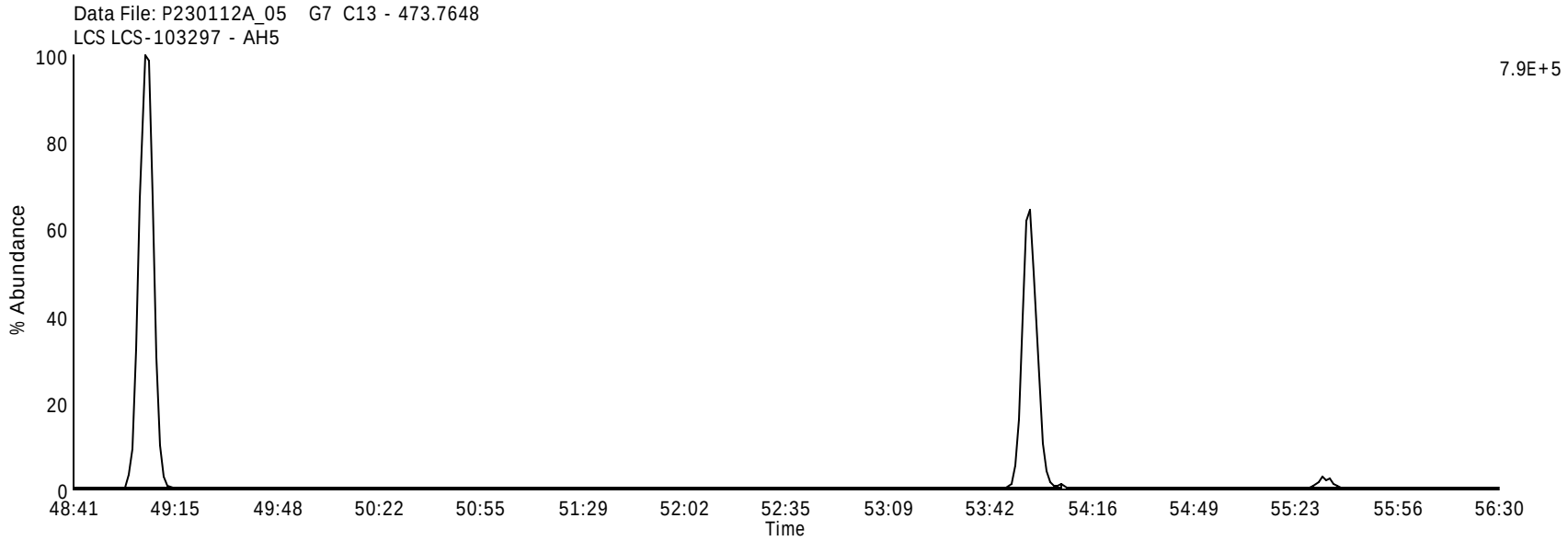


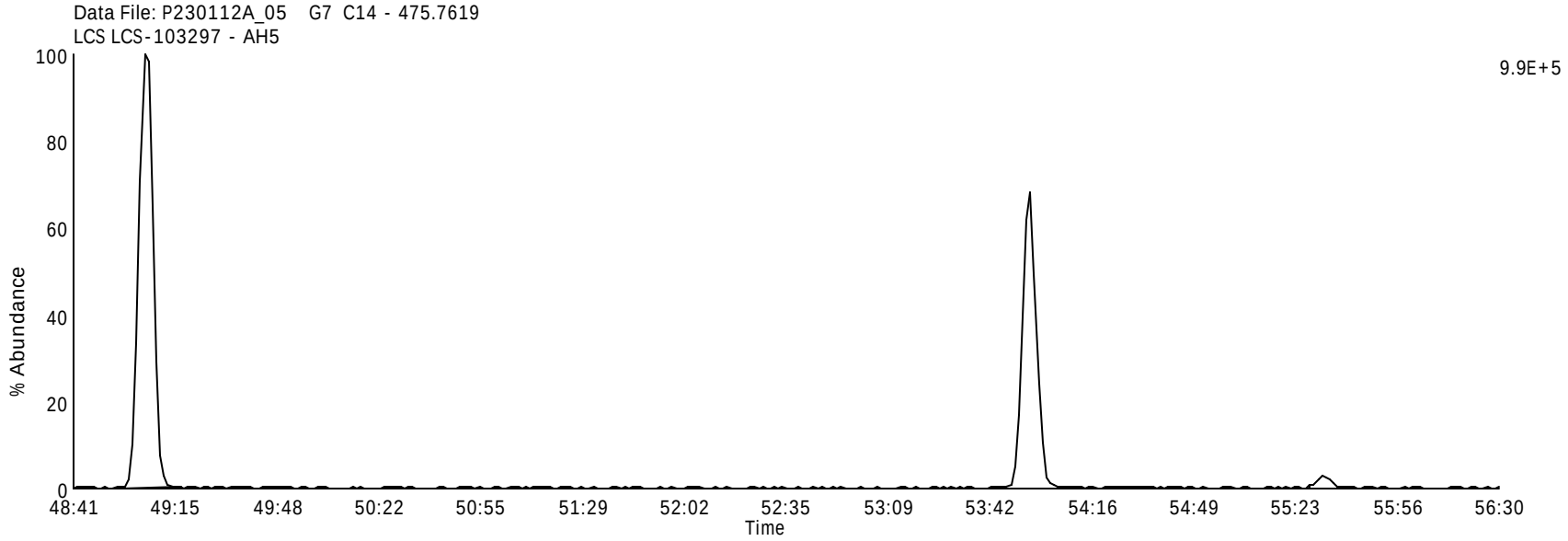




Labeled Nona Chlorinated Biphenyls

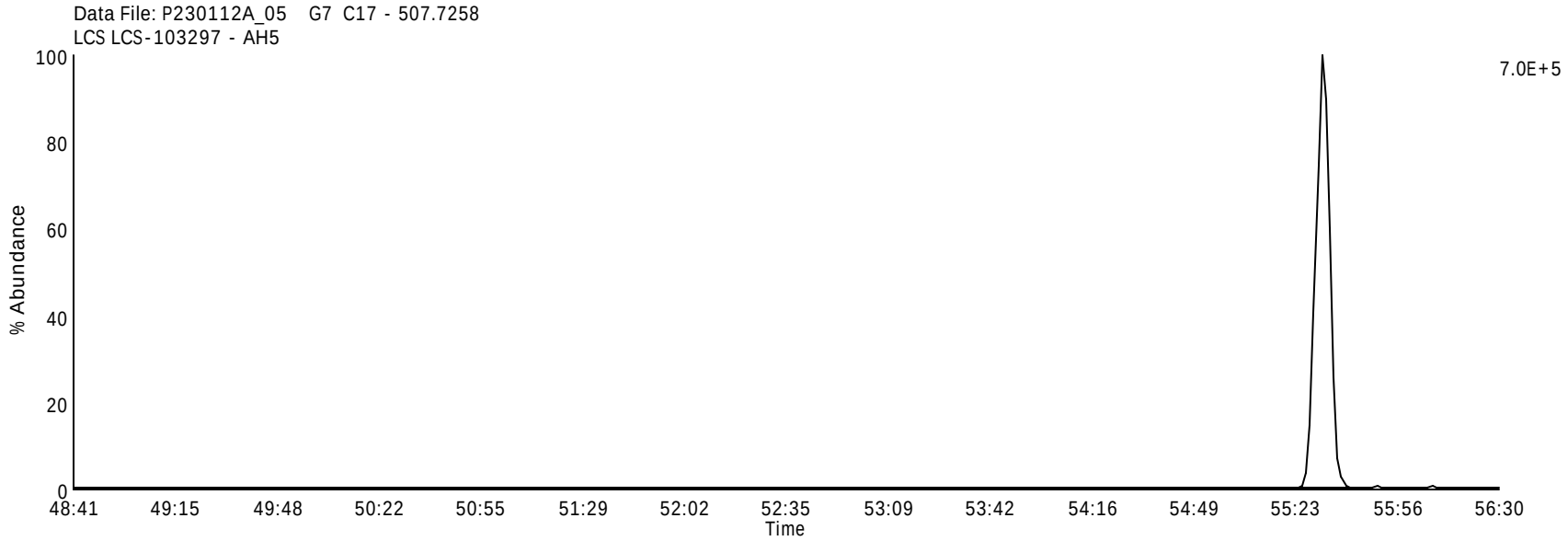
Data File Name: P230112A_05
Lab Sample ID: LCS-103297
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: LCS LCS-103297 - AH5
Client Sample ID: CLCSQB

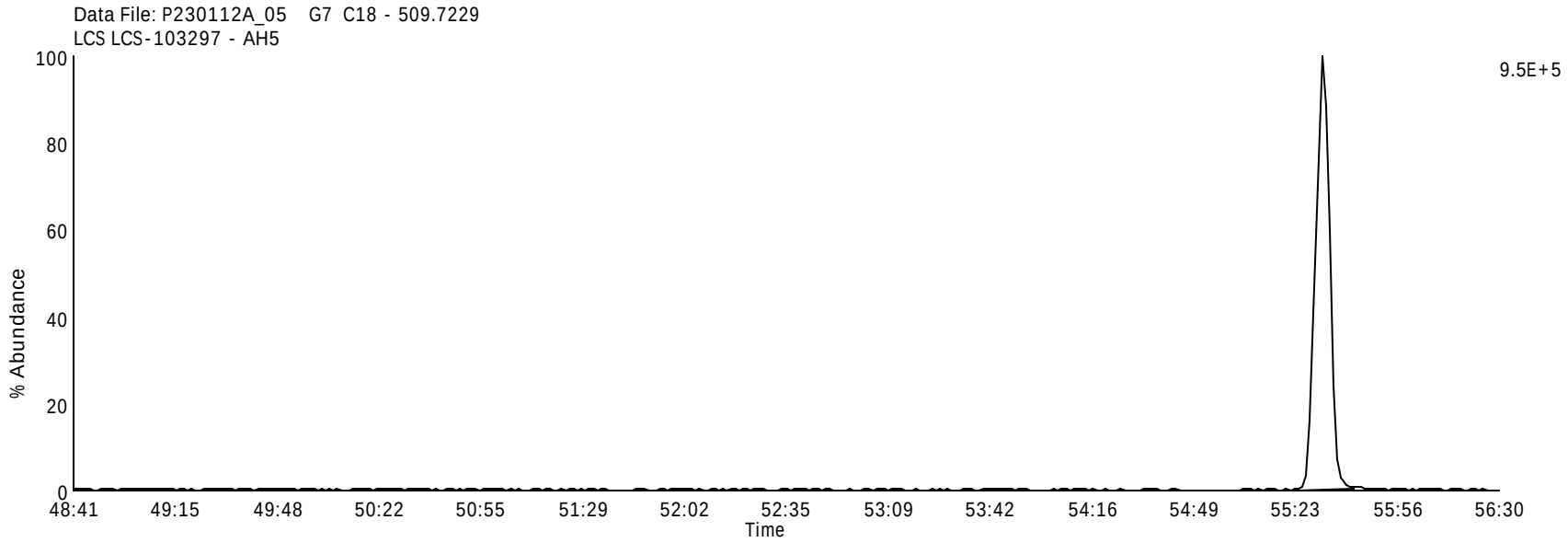




Labeled Deca Chlorinated Biphenyl

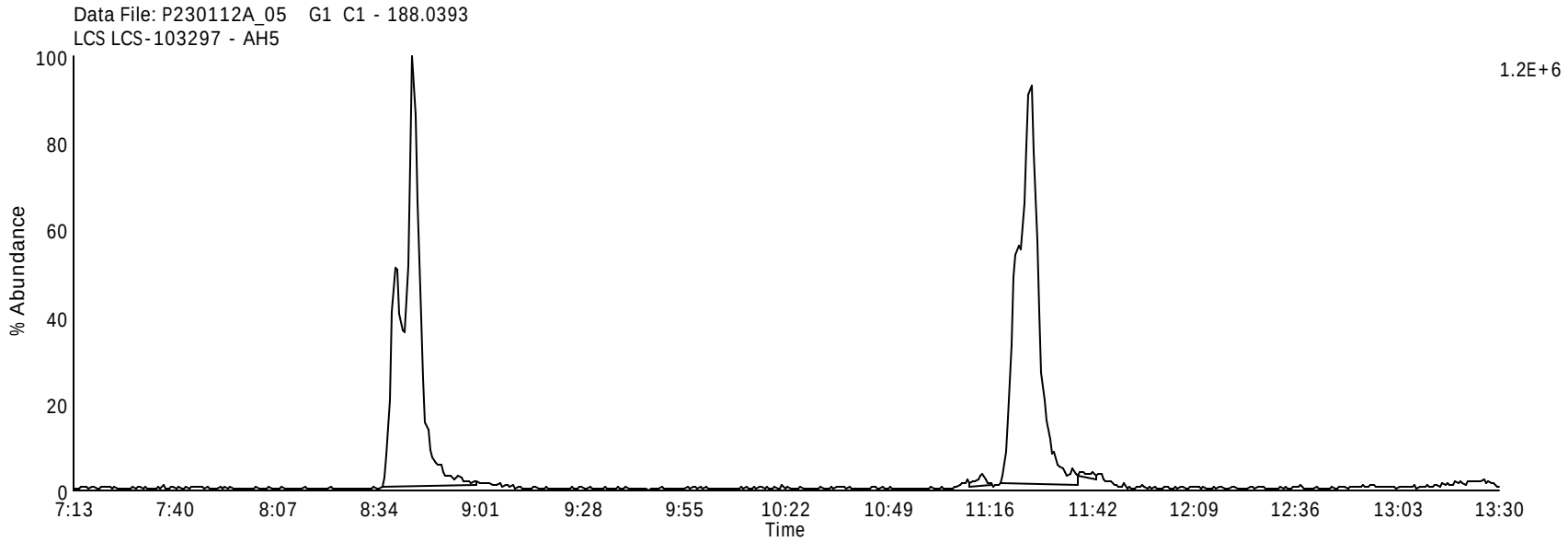
Data File Name: P230112A_05
Lab Sample ID: LCS-103297
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: LCS LCS-103297 - AH5
Client Sample ID: CLCSQB

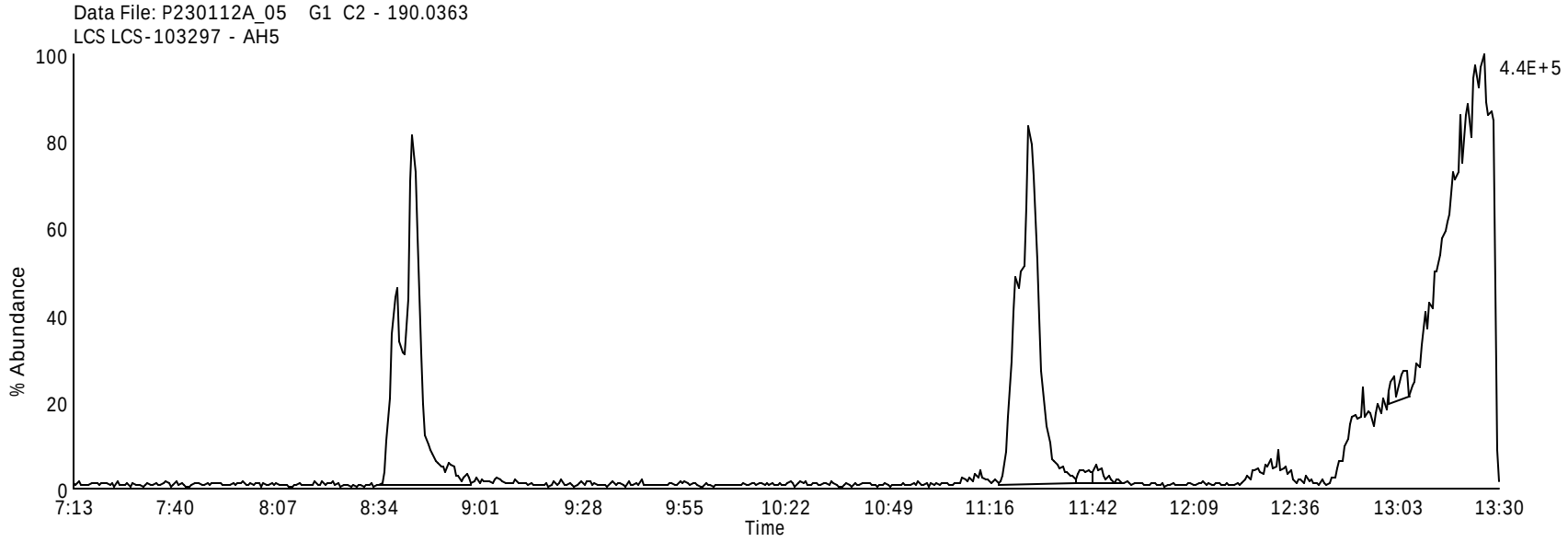




Mono Chlorinated Biphenyls

Data File Name: P230112A_05
Lab Sample ID: LCS-103297
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: LCS LCS-103297 - AH5
Client Sample ID: CLCSQB



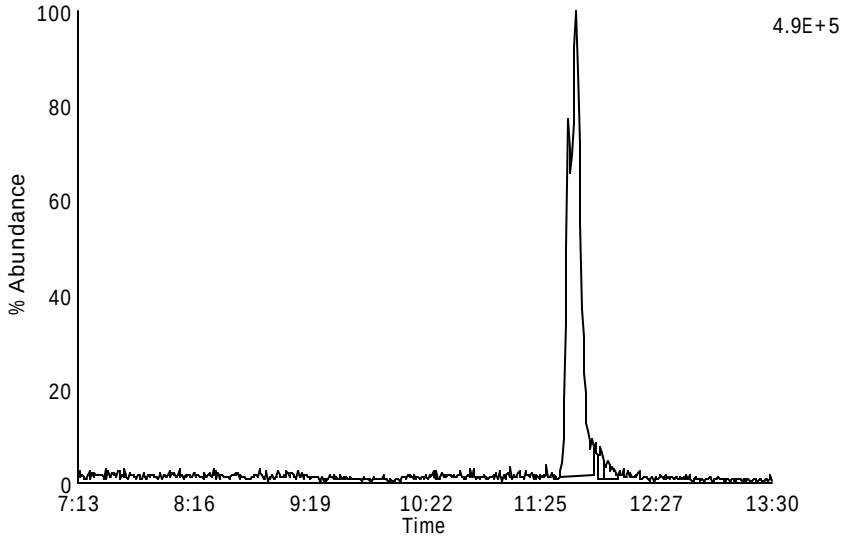


Di Chlorinated Biphenyls

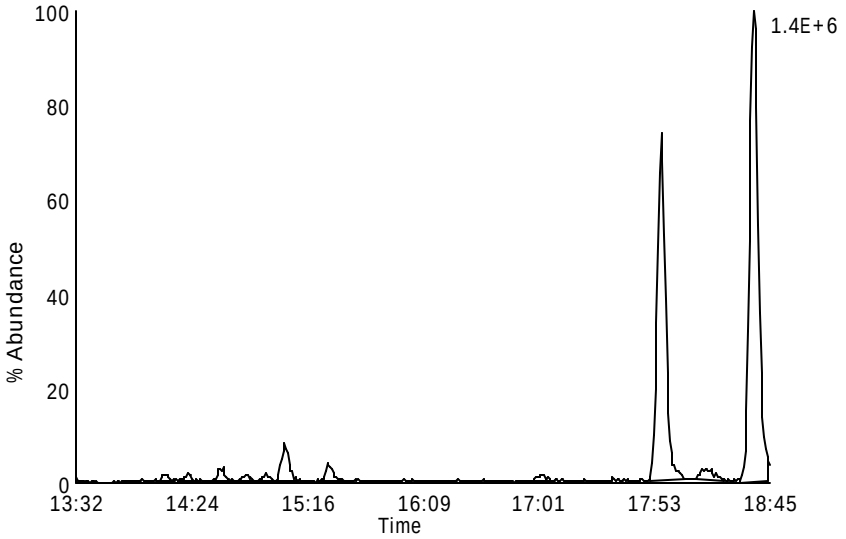
Data File Name: P230112A_05
Date Acquired: 1/12/2023
Sample Description: LCS LCS-103297 - AH5

Lab Sample ID: LCS-103297
Instrument: 10MSHR09 (P)
Client Sample ID: CLCSQB

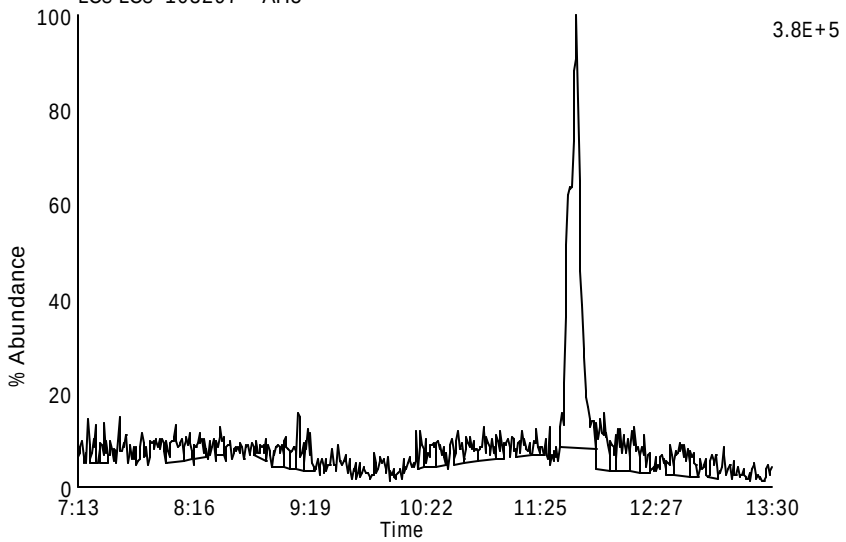
Data File: P230112A_05 G1 C7 - 222.0003
LCS LCS-103297 - AH5



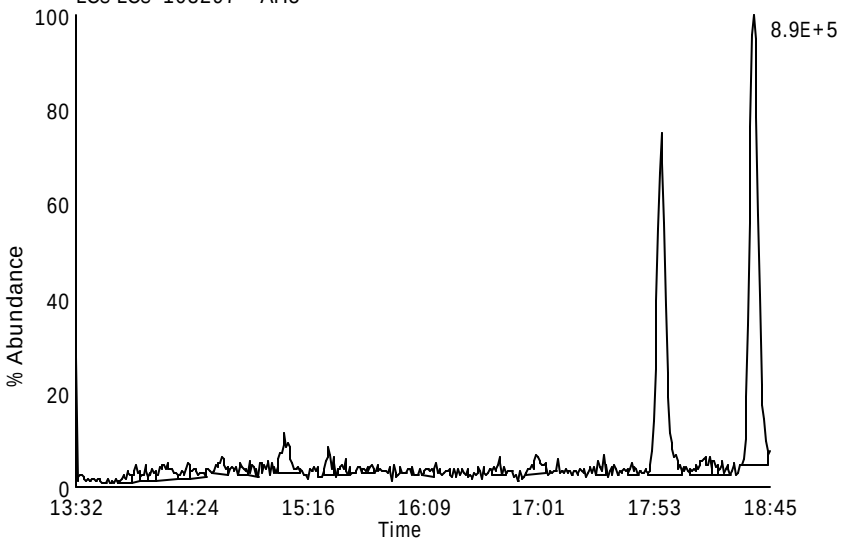
Data File: P230112A_05 G2 C1 - 222.0003
LCS LCS-103297 - AH5



Data File: P230112A_05 G1 C8 - 223.9974
LCS LCS-103297 - AH5



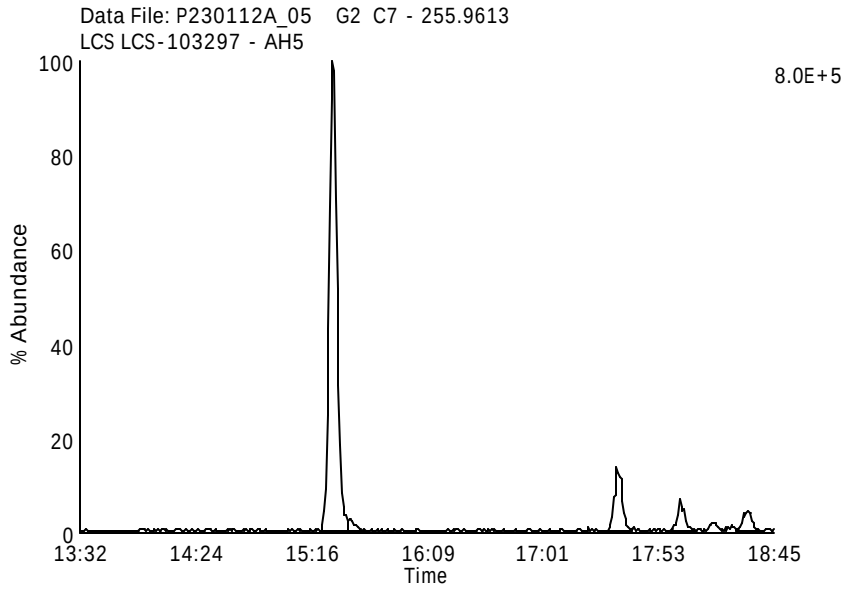
Data File: P230112A_05 G2 C2 - 223.9974
LCS LCS-103297 - AH5

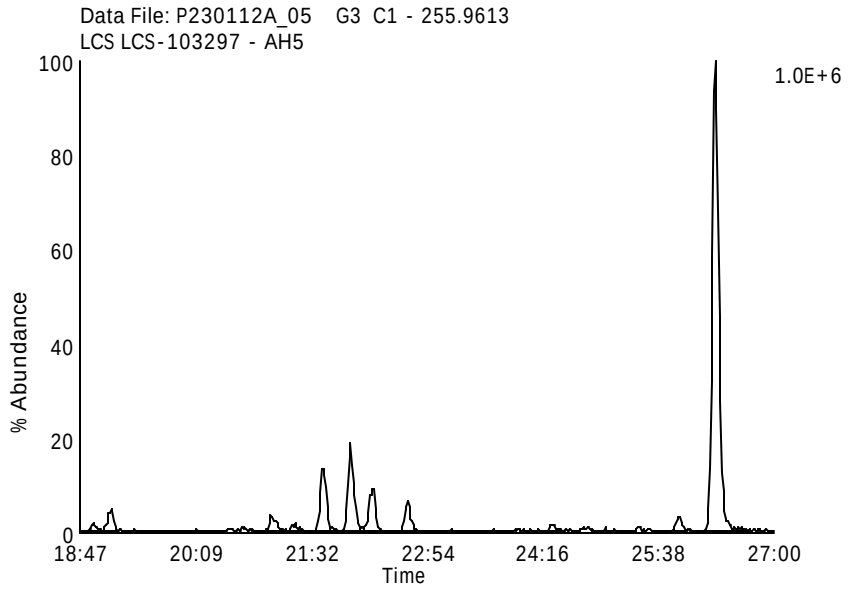


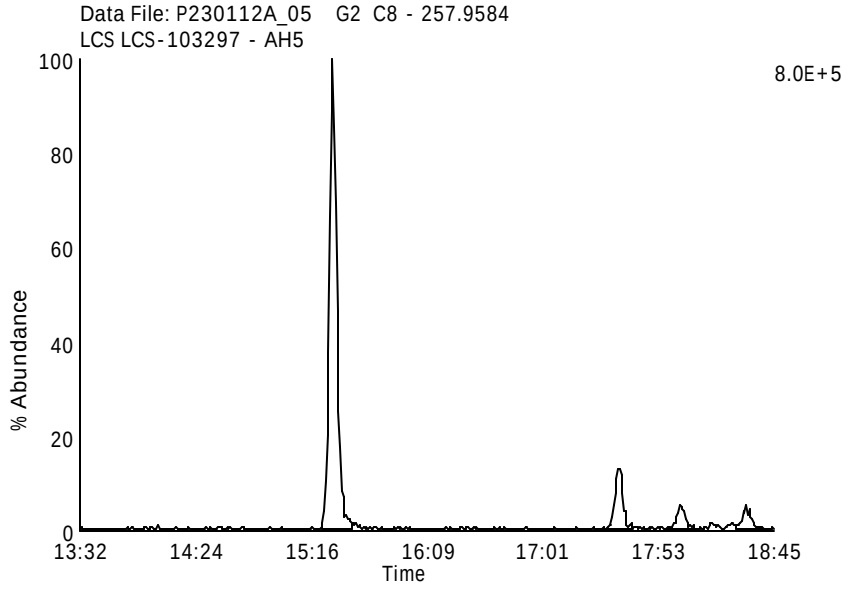
Tri Chlorinated Biphenyls

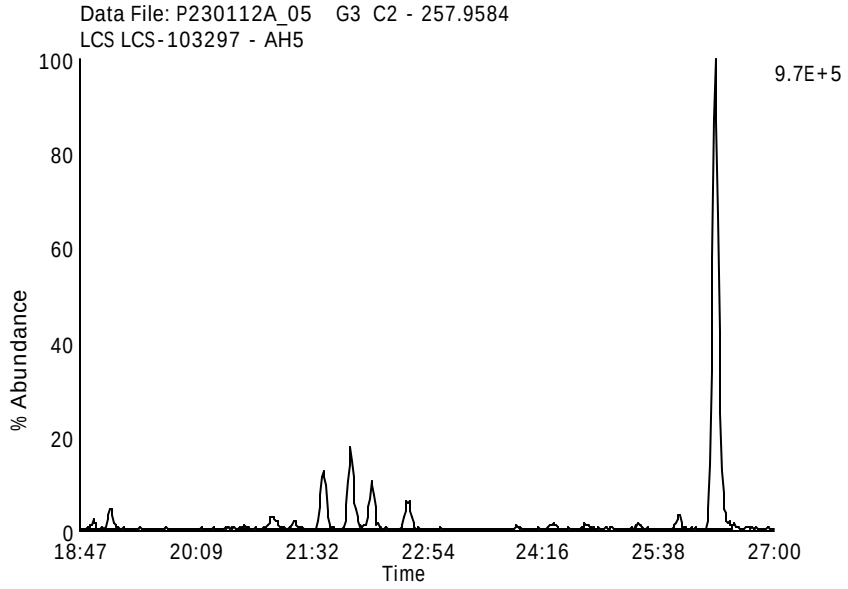
Data File Name: P230112A_05
Date Acquired: 1/12/2023
Sample Description: LCS LCS-103297 - AH5

Lab Sample ID: LCS-103297
Instrument: 10MSHR09 (P)
Client Sample ID: CLCSQB





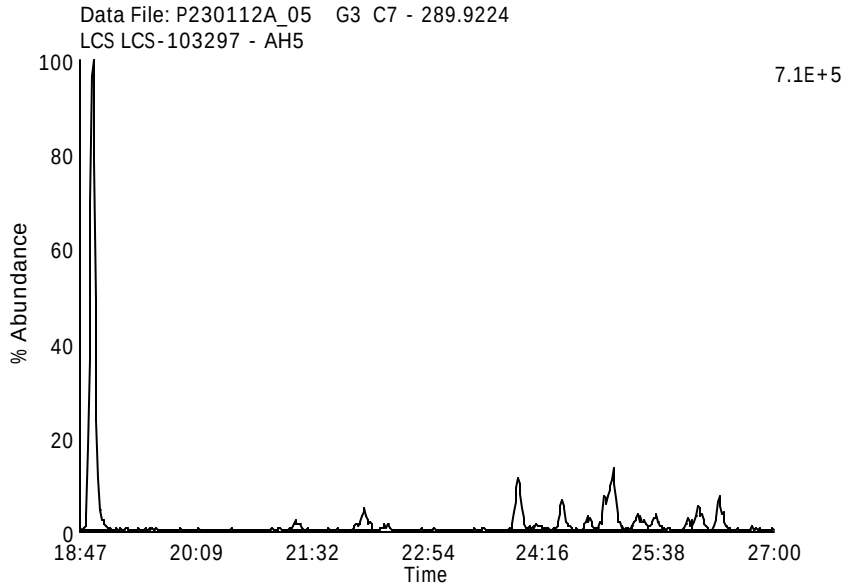


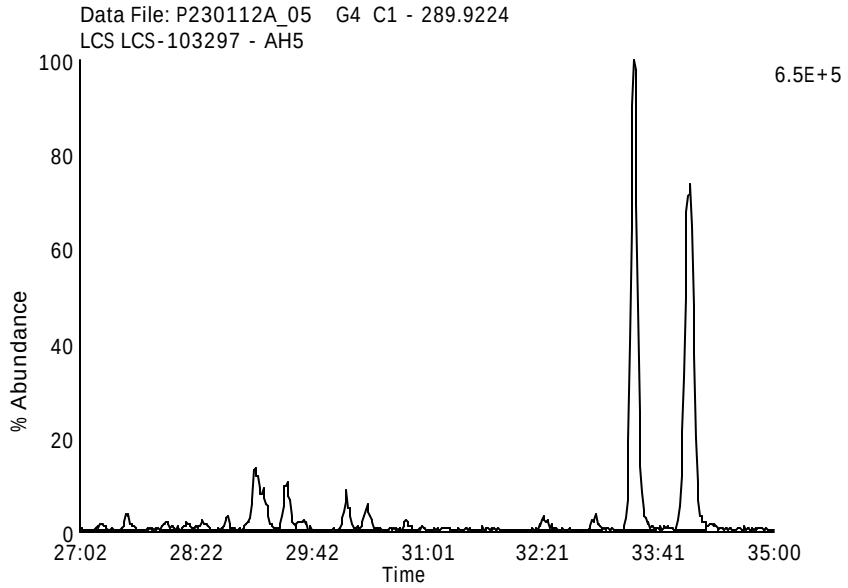


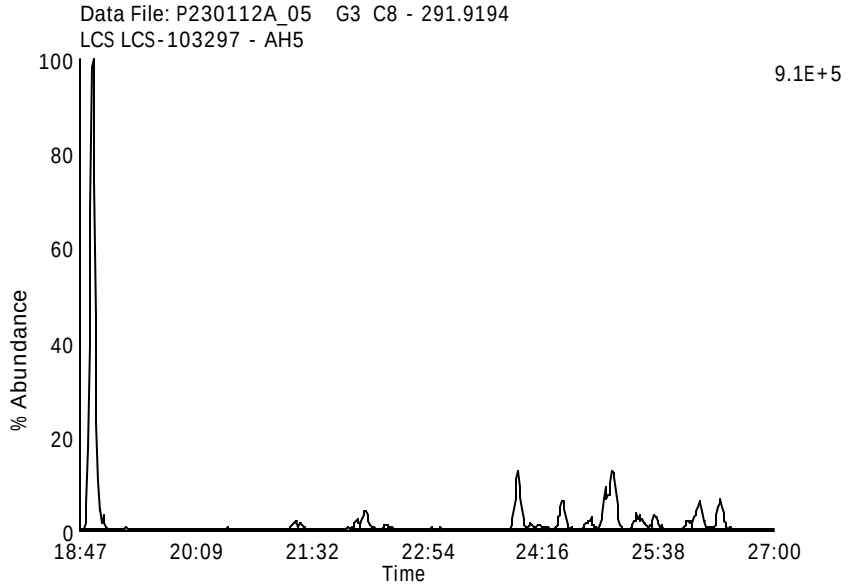
Tetra Chlorinated Biphenyls

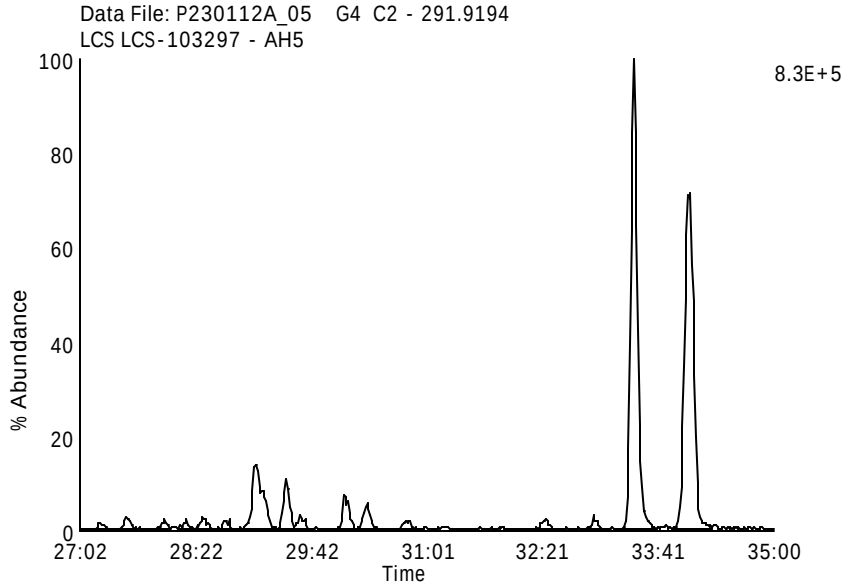
Data File Name: P230112A_05
Date Acquired: 1/12/2023
Sample Description: LCS LCS-103297 - AH5

Lab Sample ID: LCS-103297
Instrument: 10MSHR09 (P)
Client Sample ID: CLCSQB





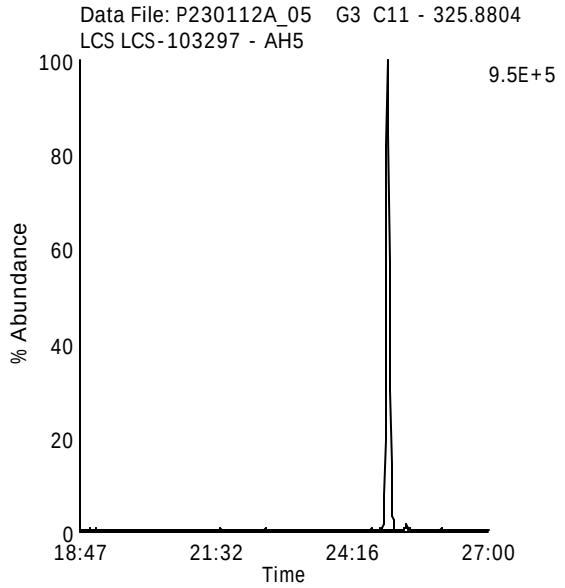


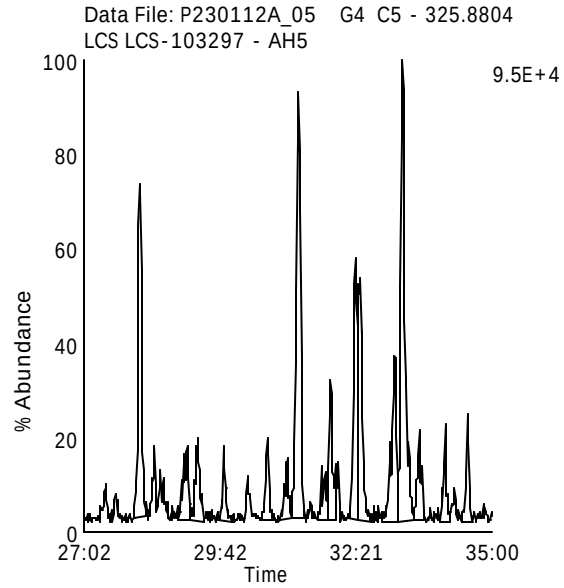


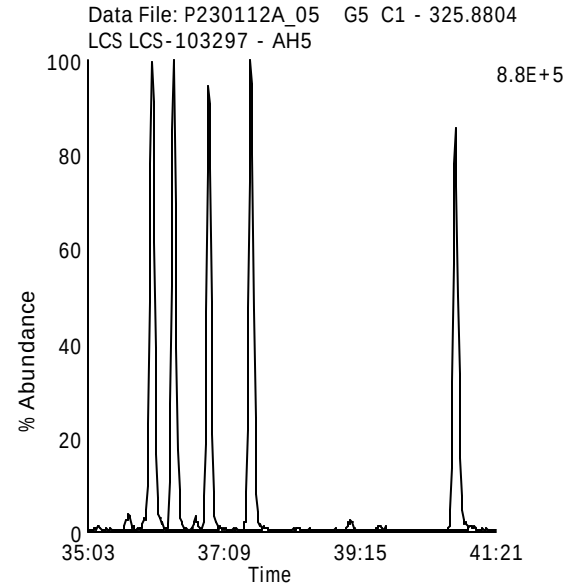
Penta Chlorinated Biphenyls

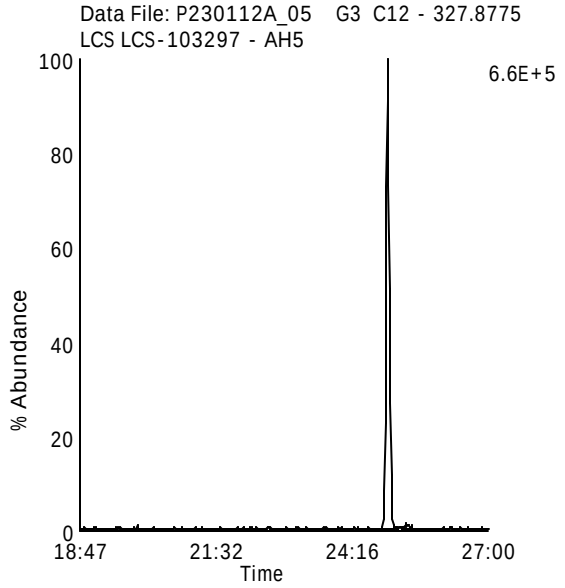
Data File Name: P230112A_05
Date Acquired: 1/12/2023
Sample Description: LCS LCS-103297 - AH5

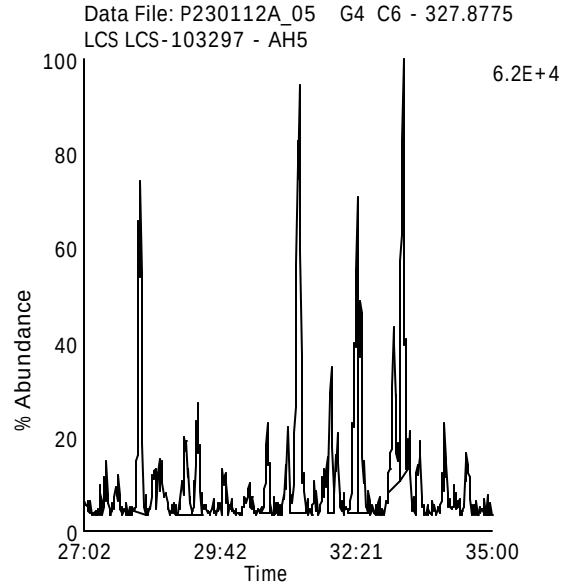
Lab Sample ID: LCS-103297
Instrument: 10MSHR09 (P)
Client Sample ID: CLCSQB

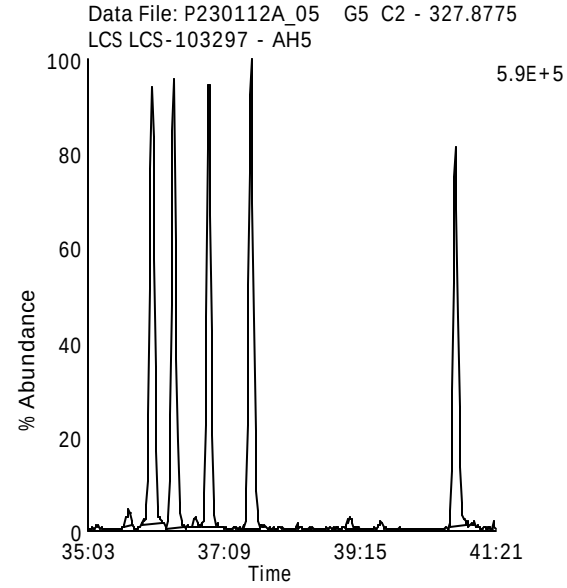








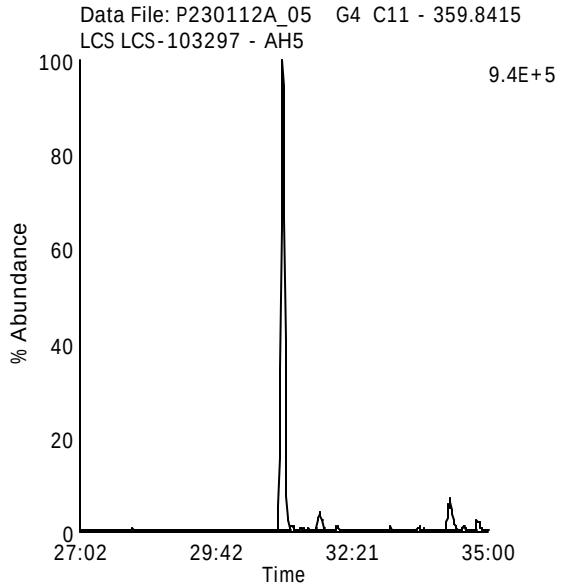


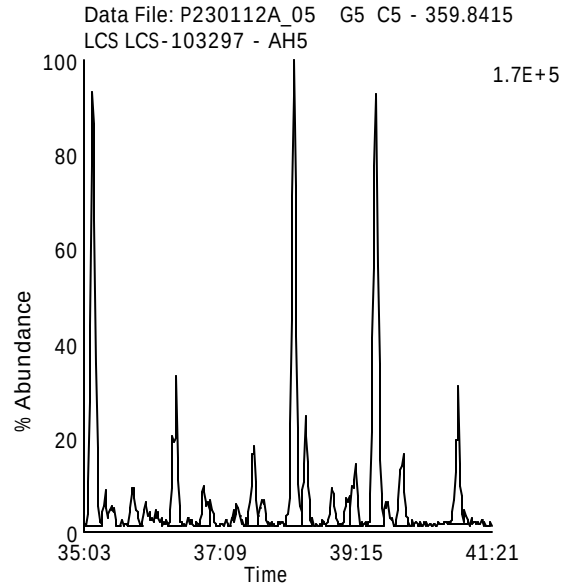


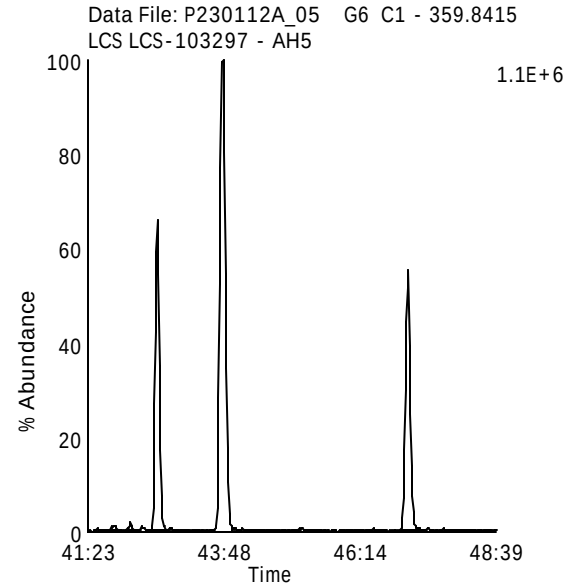
Hexa Chlorinated Biphenyls

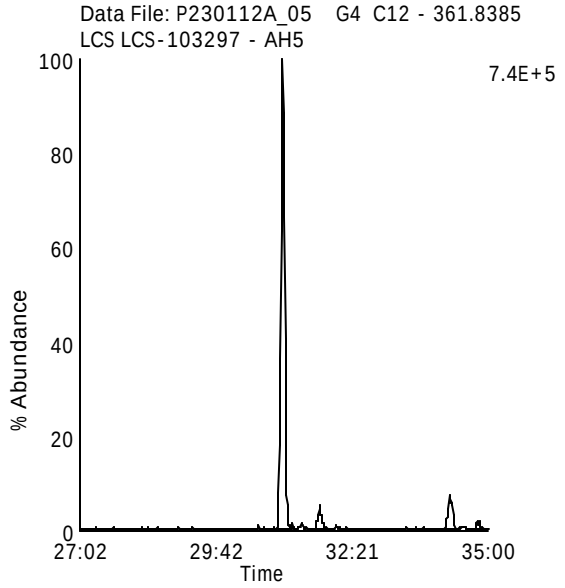
Data File Name: P230112A_05
Date Acquired: 1/12/2023
Sample Description: LCS LCS-103297 - AH5

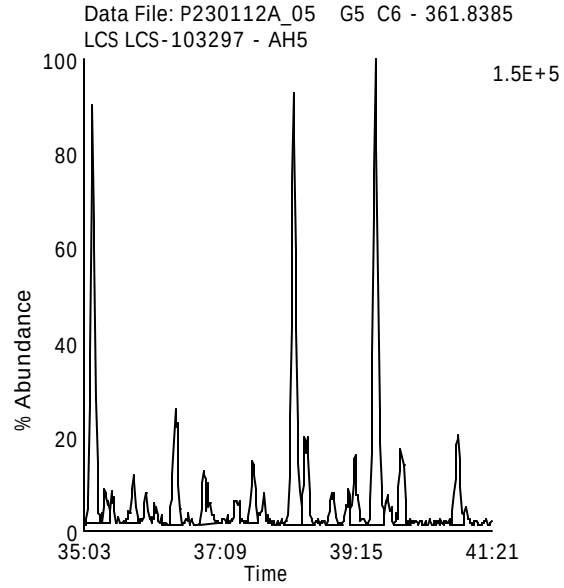
Lab Sample ID: LCS-103297
Instrument: 10MSHR09 (P)
Client Sample ID: CLCSQB

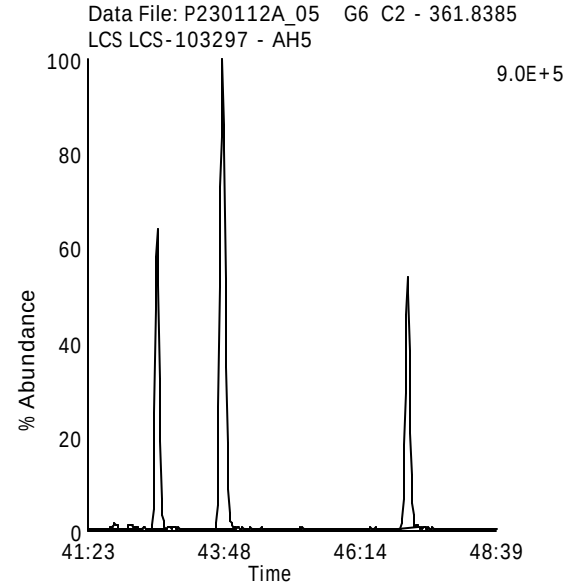






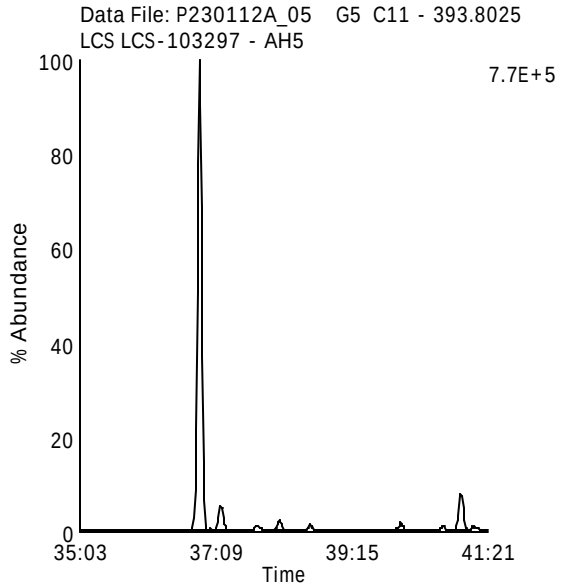


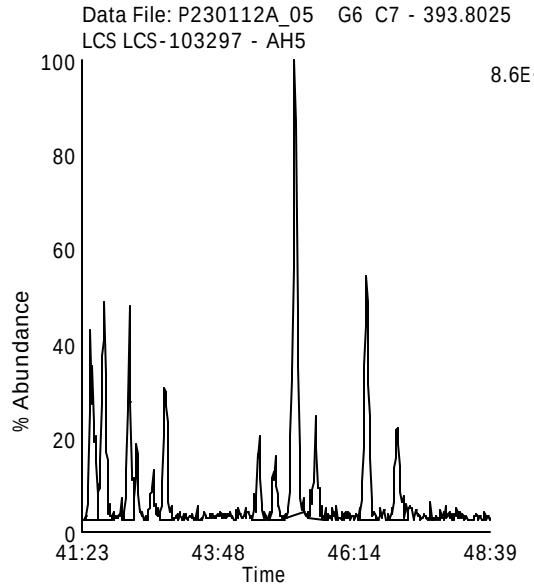


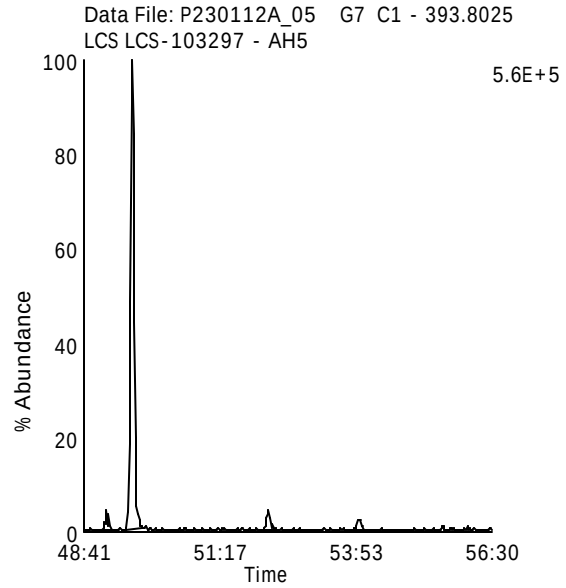


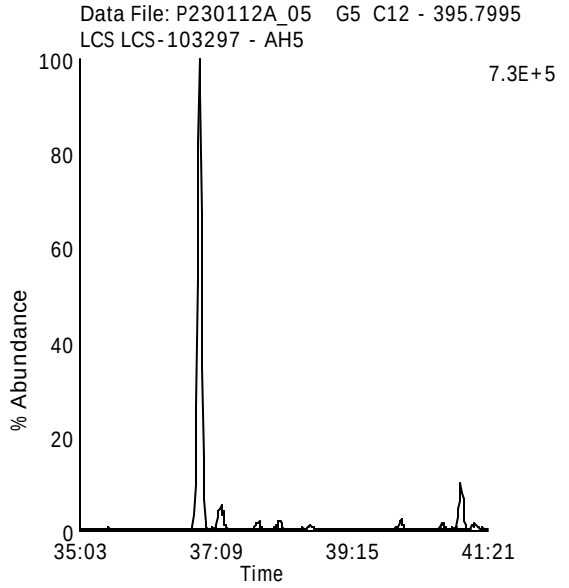
Hepta Chlorinated Biphenyls

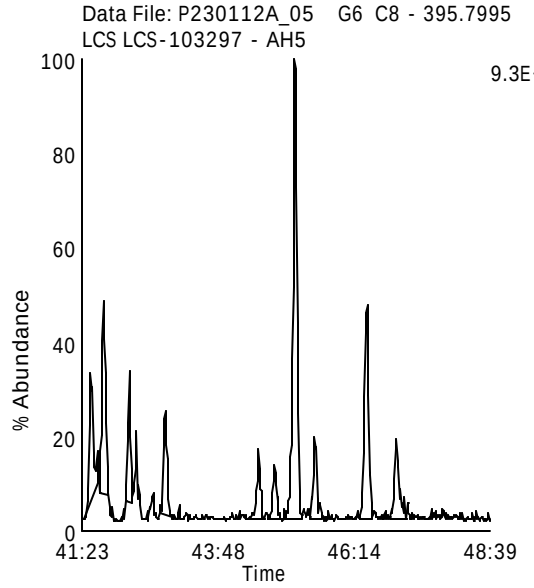
Data File Name: P230112A_05
Lab Sample ID: LCS-103297
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: LCS LCS-103297 - AH5
Client Sample ID: CLCSQB

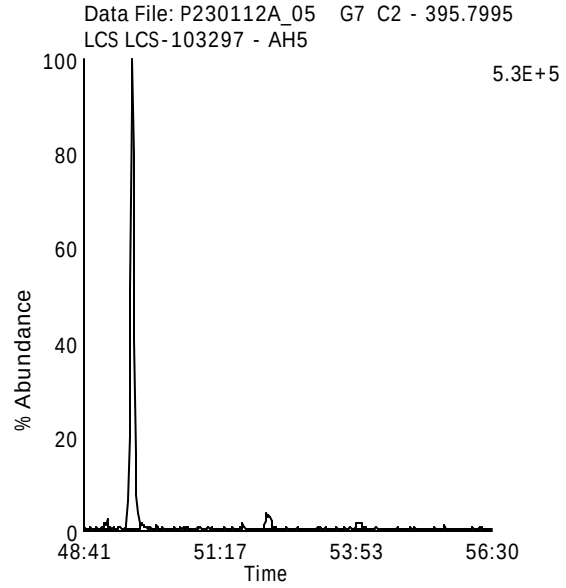








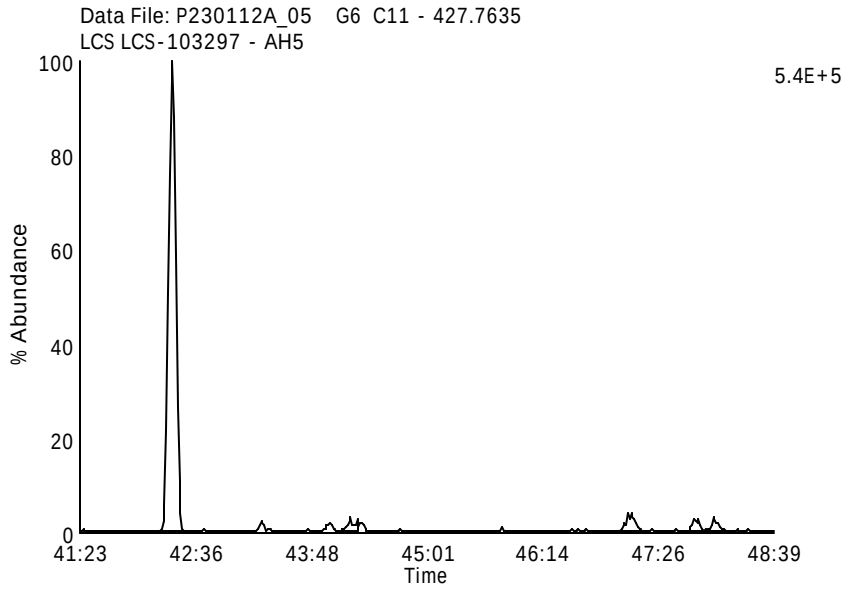


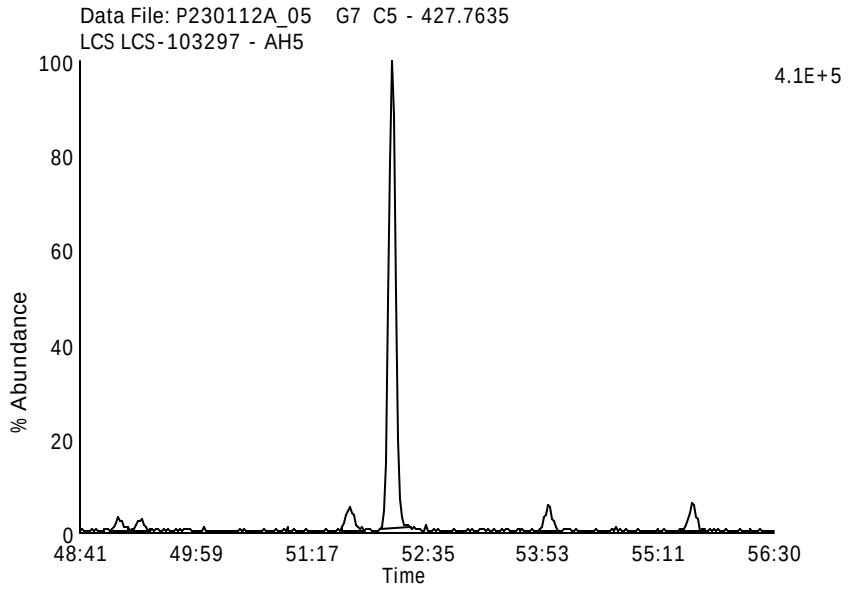


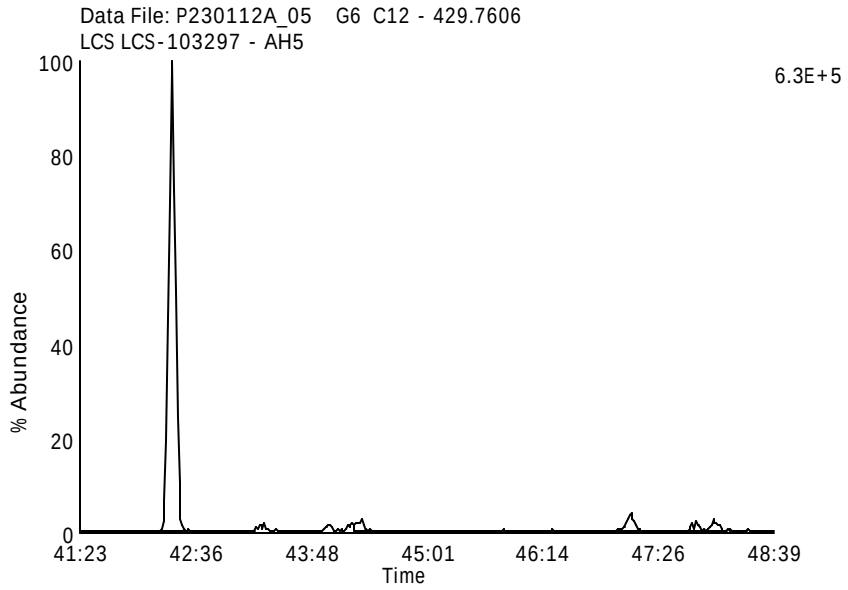
Octa Chlorinated Biphenyls

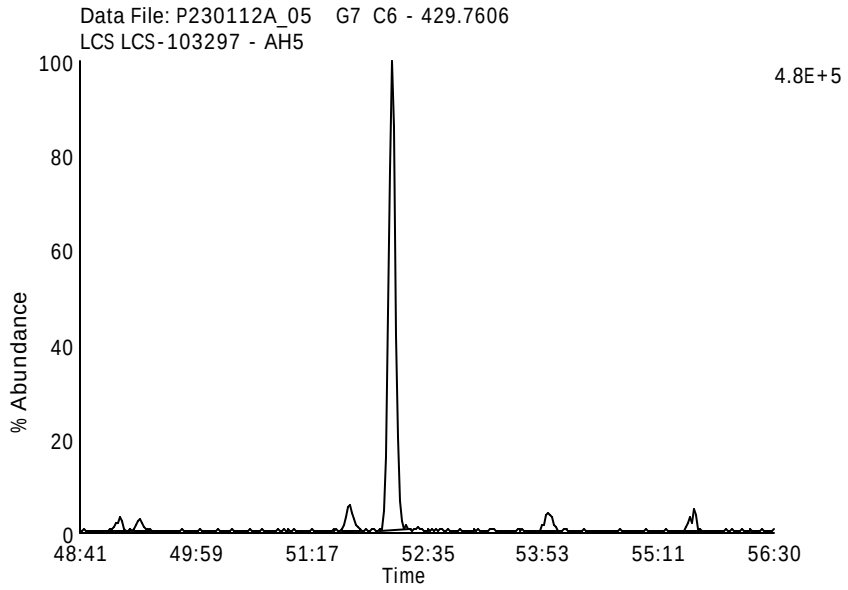
Data File Name: P230112A_05
Date Acquired: 1/12/2023
Sample Description: LCS LCS-103297 - AH5

Lab Sample ID: LCS-103297
Instrument: 10MSHR09 (P)
Client Sample ID: CLCSQB



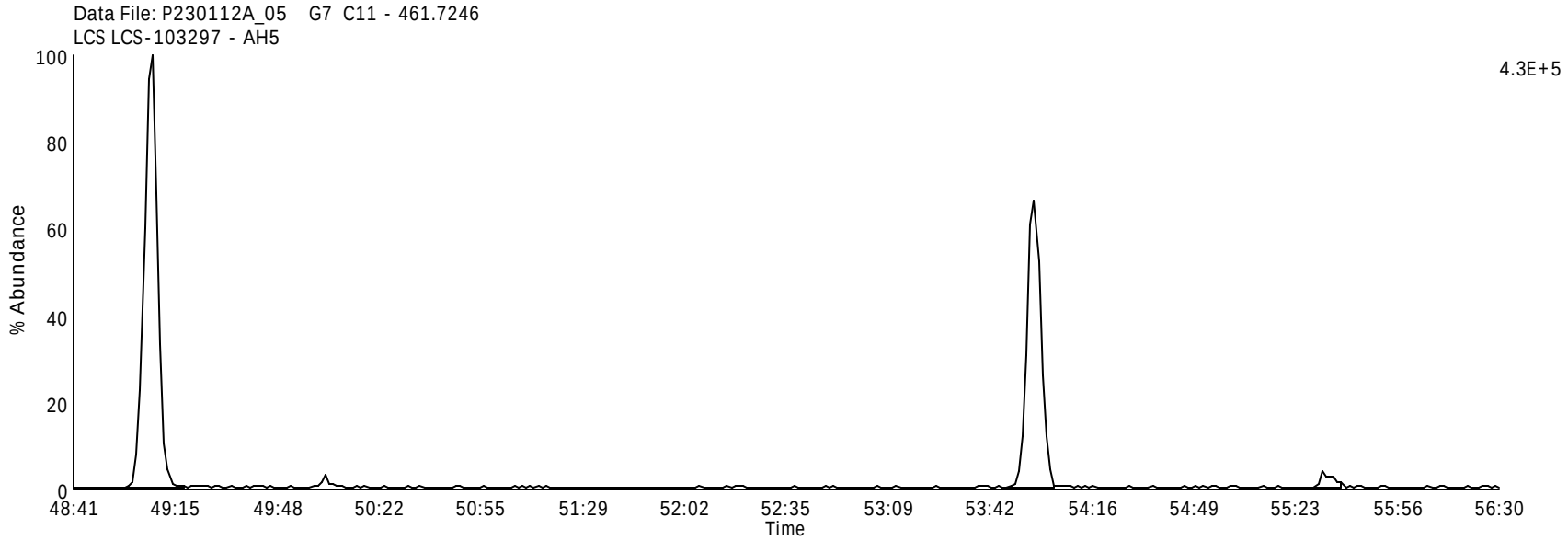


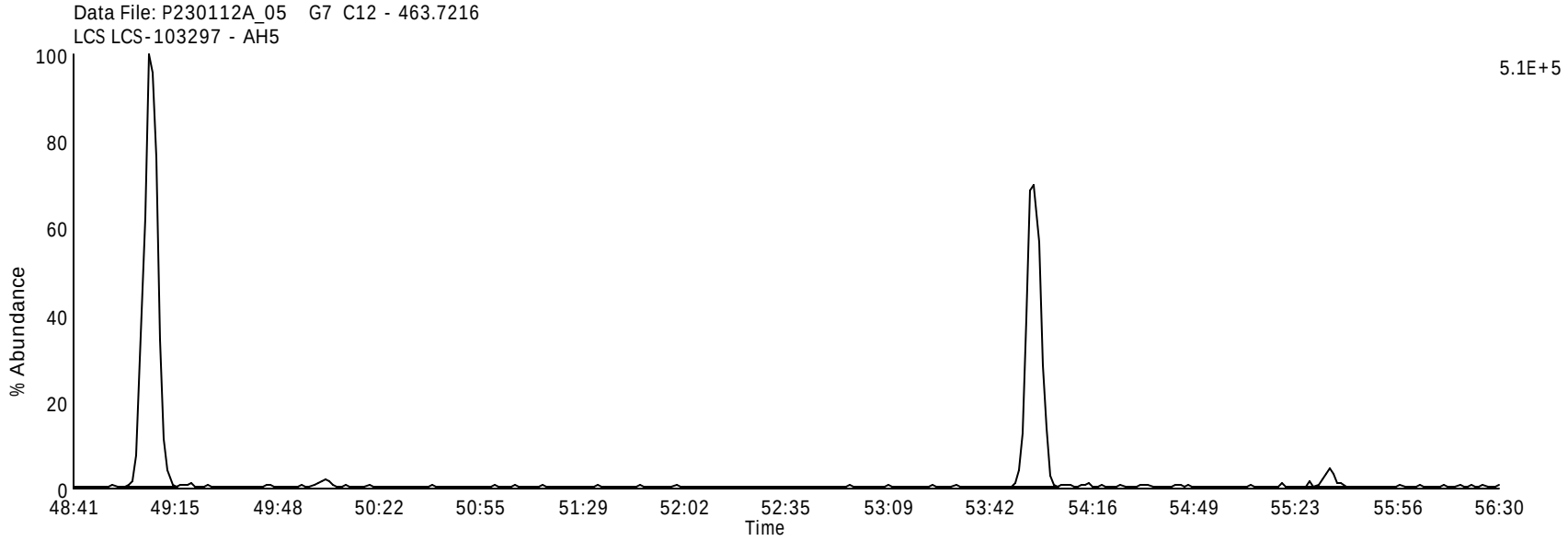




Nona Chlorinated Biphenyls

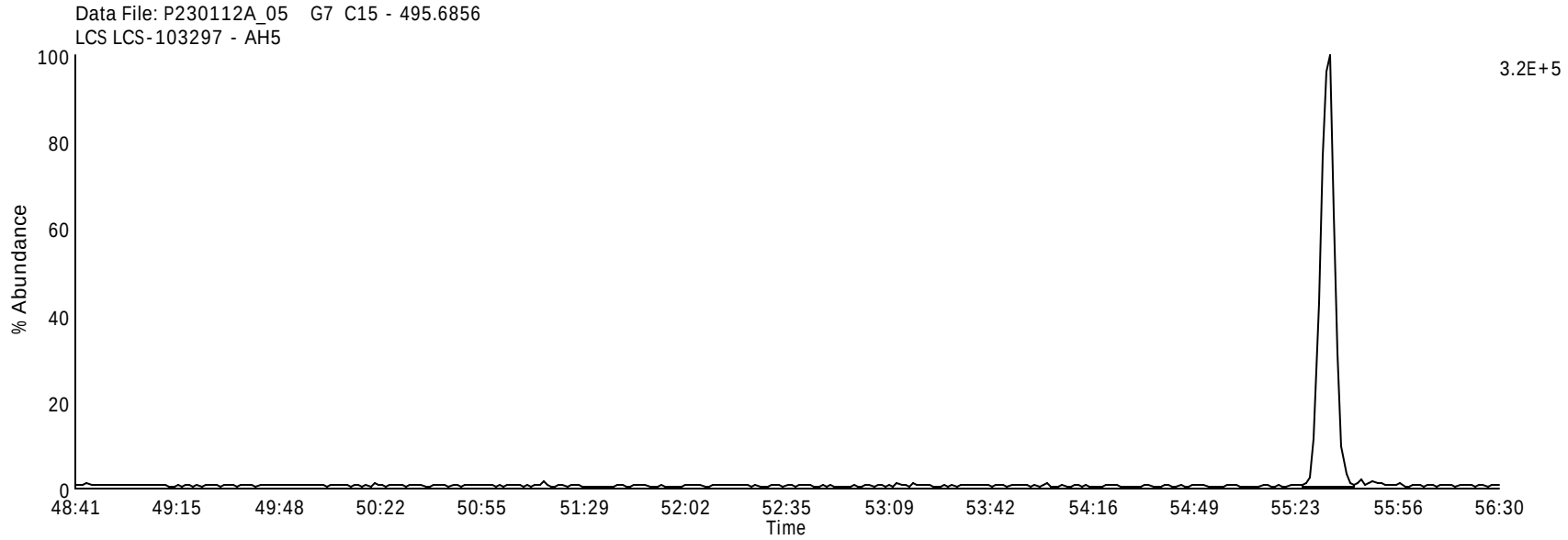
Data File Name: P230112A_05	Lab Sample ID: LCS-103297
Date Acquired: 1/12/2023	Instrument: 10MSHR09 (P)
Sample Description: LCS LCS-103297 - AH5	Client Sample ID: CLCSQB

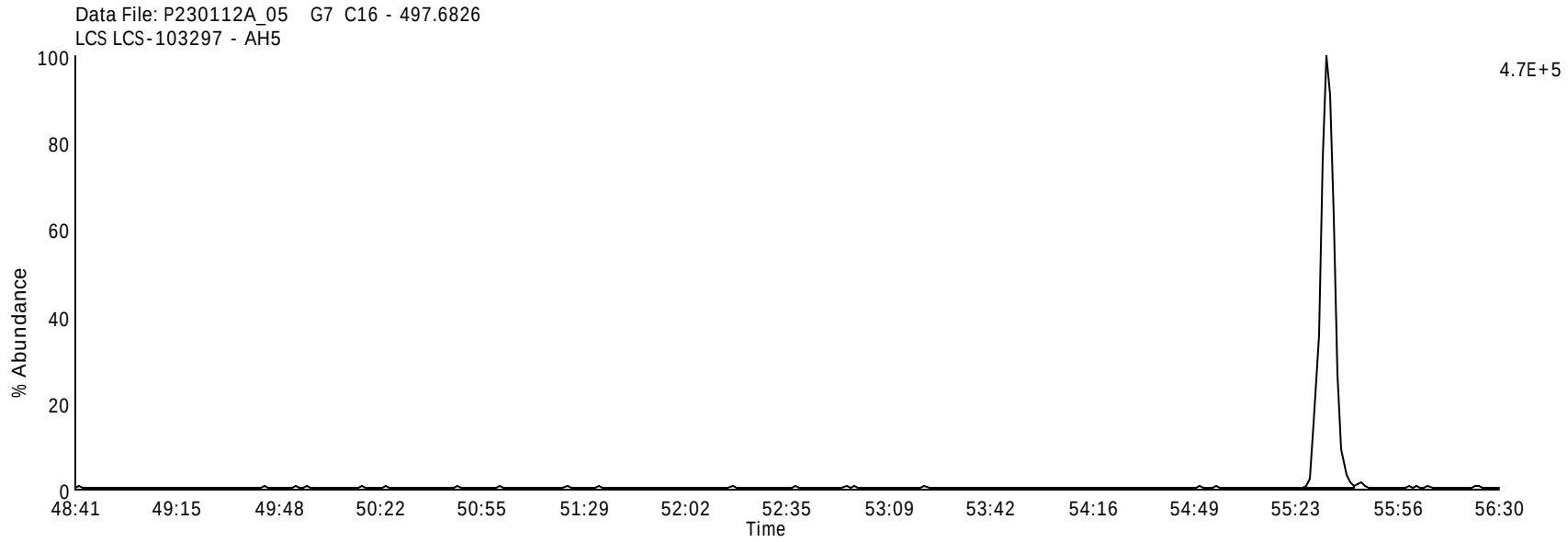




Deca Chlorinated Biphenyl

Data File Name: P230112A_05	Lab Sample ID: LCS-103297
Date Acquired: 1/12/2023	Instrument: 10MSHR09 (P)
Sample Description: LCS LCS-103297 - AH5	Client Sample ID: CLCSQB

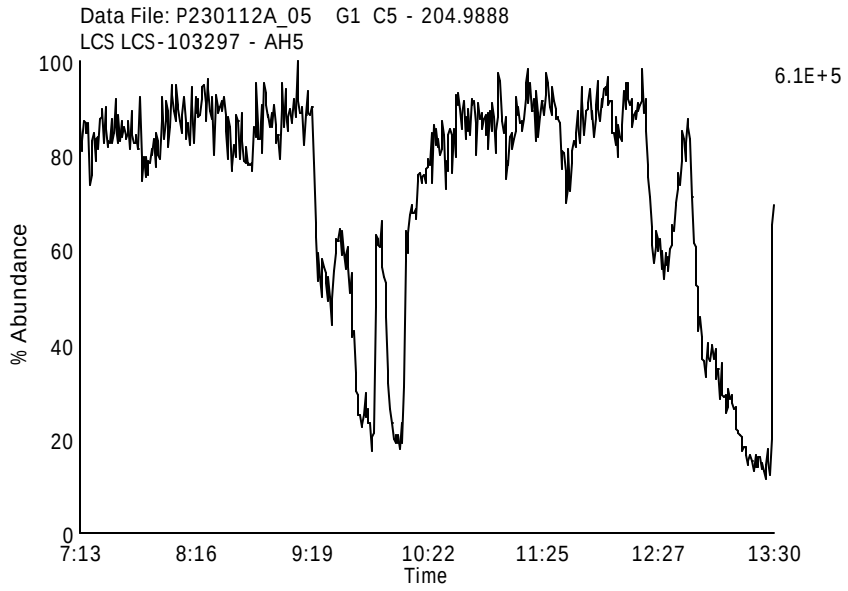


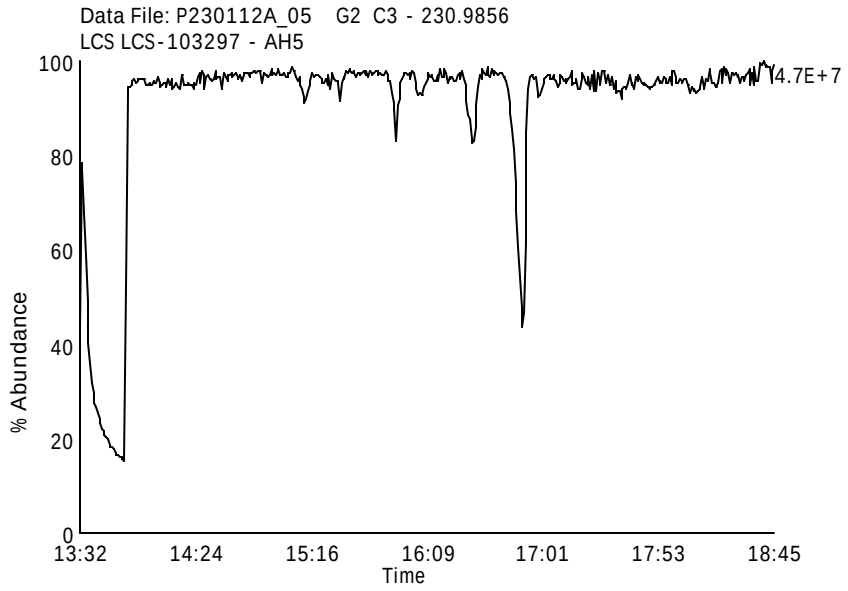


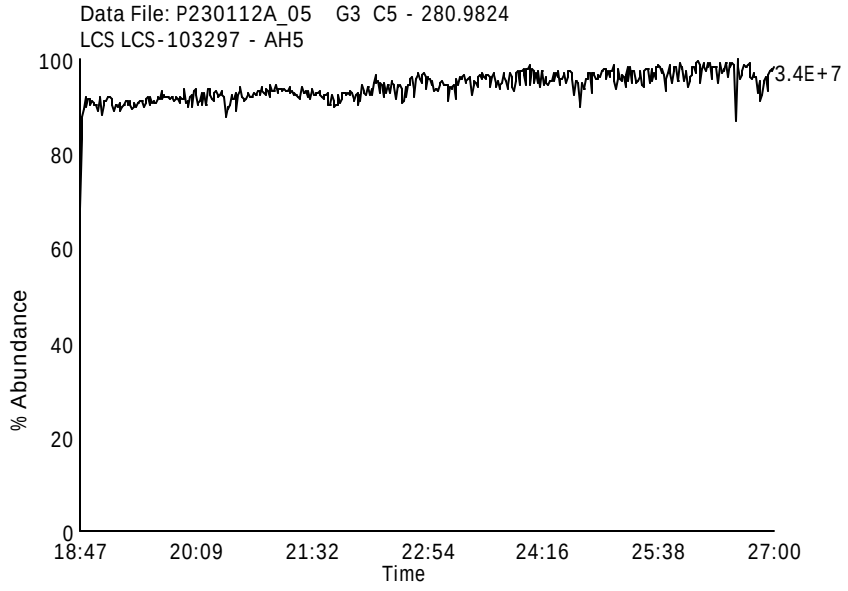
Group 1 - 4 Lock mass

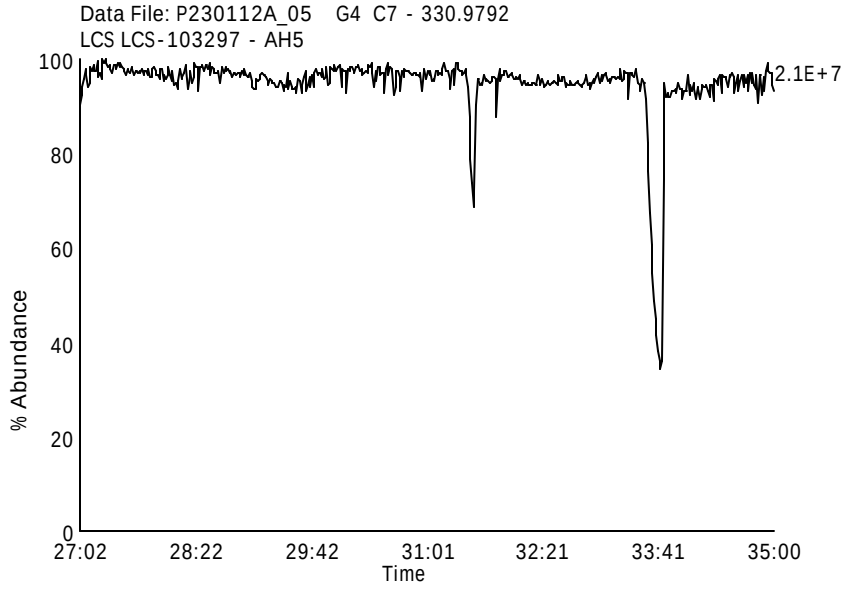
Data File Name: P230112A_05
Date Acquired: 1/12/2023
Sample Description: LCS LCS-103297 - AH5

Lab Sample ID: LCS-103297
Instrument: 10MSHR09 (P)
Client Sample ID: CLCSQB





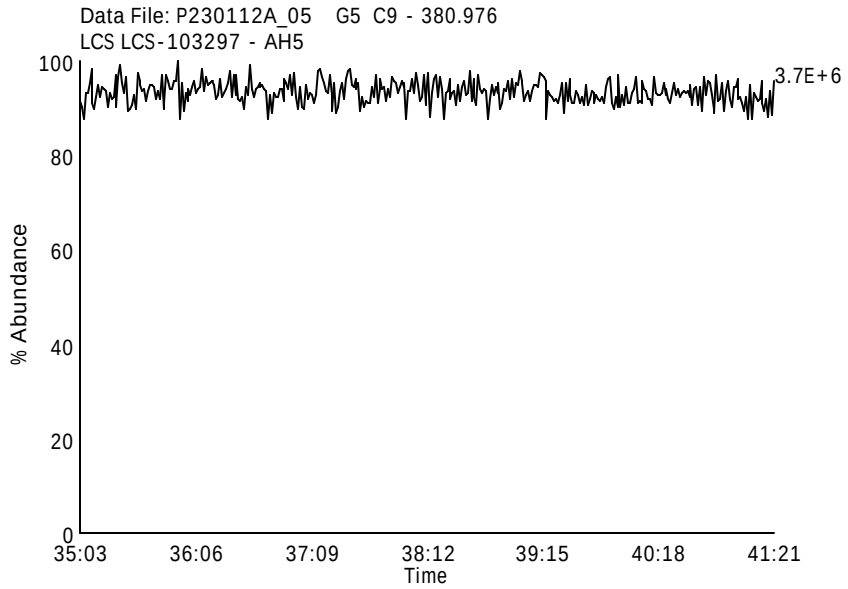


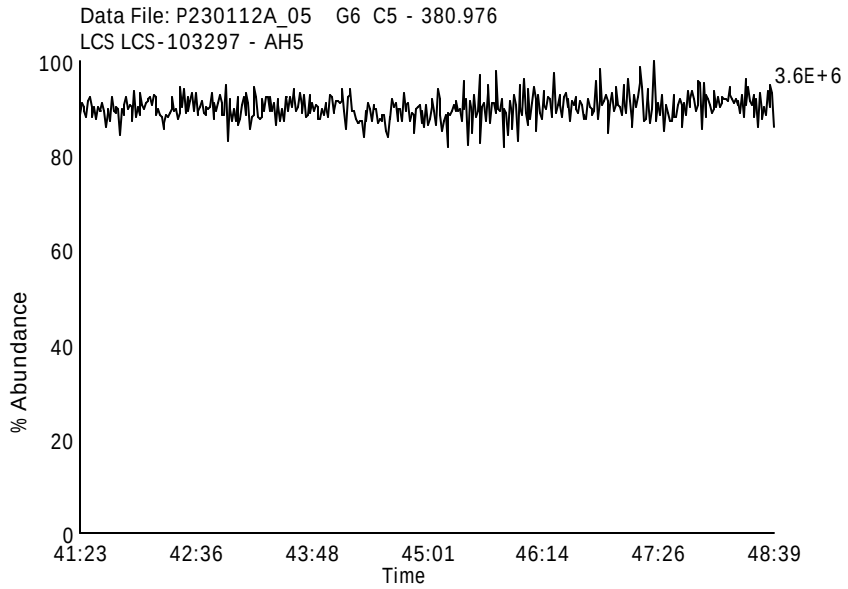


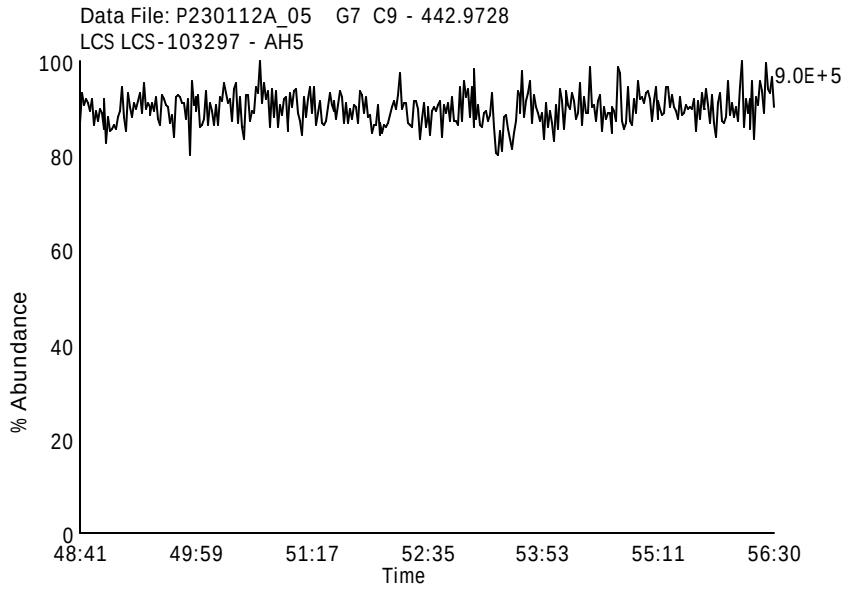
Group 5 - 7 Lock mass

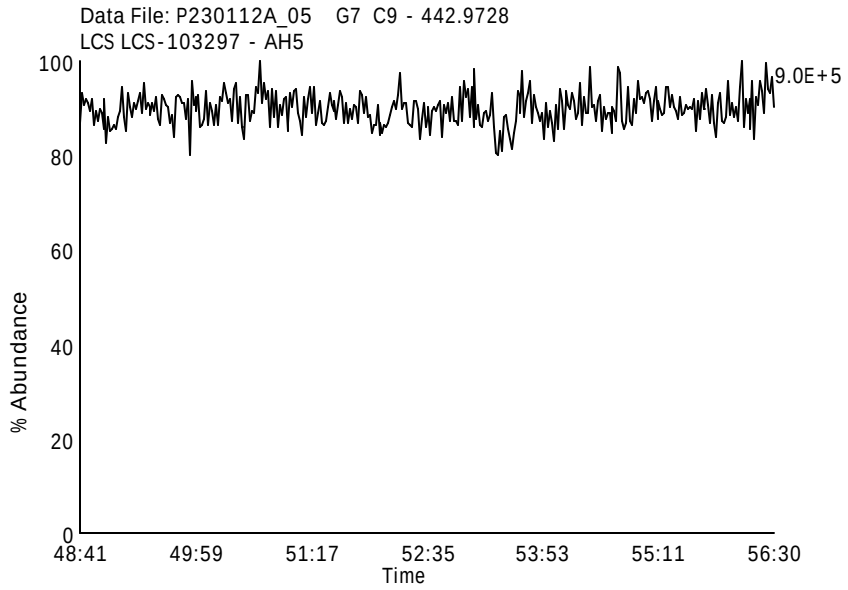
Data File Name: P230112A_05
Date Acquired: 1/12/2023
Sample Description: LCS LCS-103297 - AH5

Lab Sample ID: LCS-103297
Instrument: 10MSHR09 (P)
Client Sample ID: CLCSQB



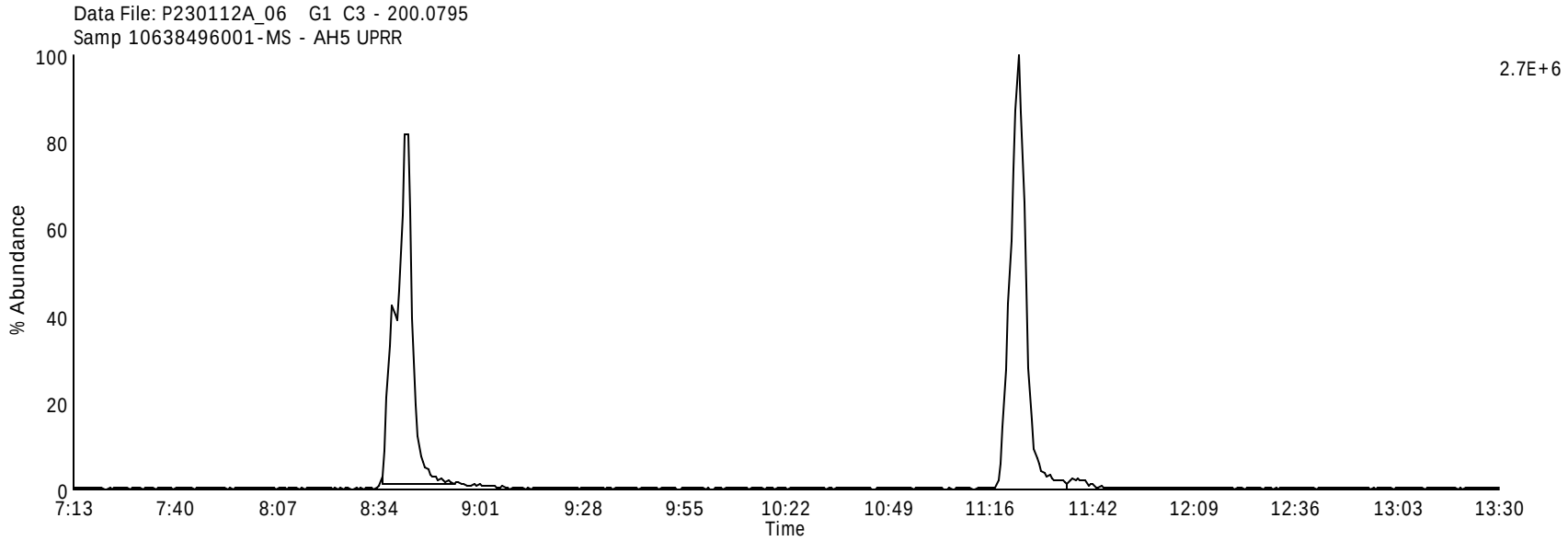


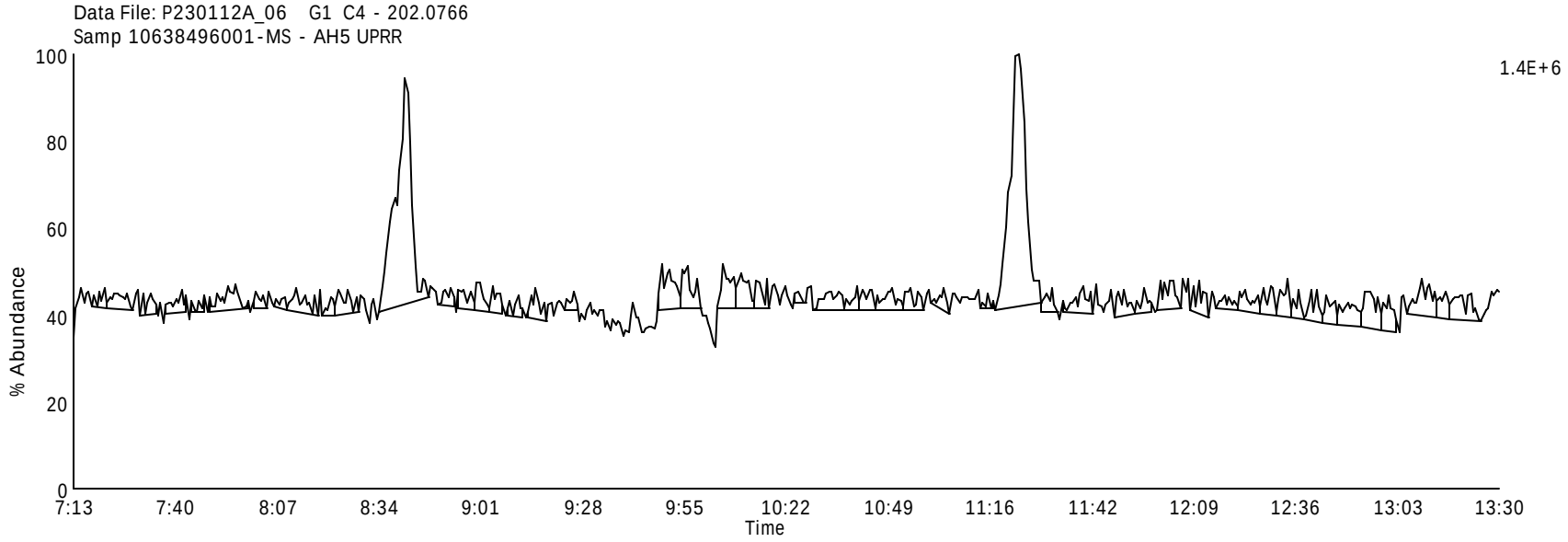




Labeled Mono Chlorinated Biphenyls

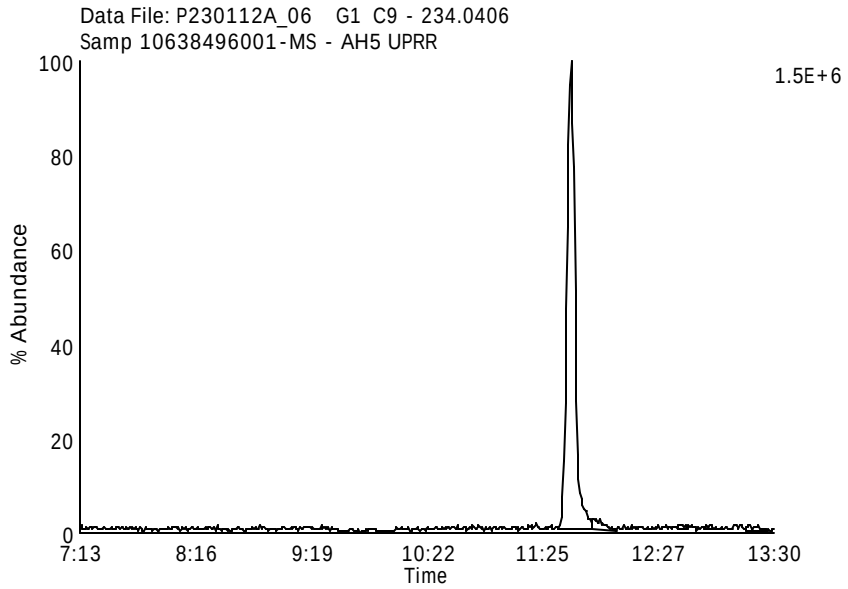
Data File Name: P230112A_06	Lab Sample ID: 10638496001-MS
Date Acquired: 1/12/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MS - AH5 UPRR	Client Sample ID: SB06-1.0-1.5-1022-MS

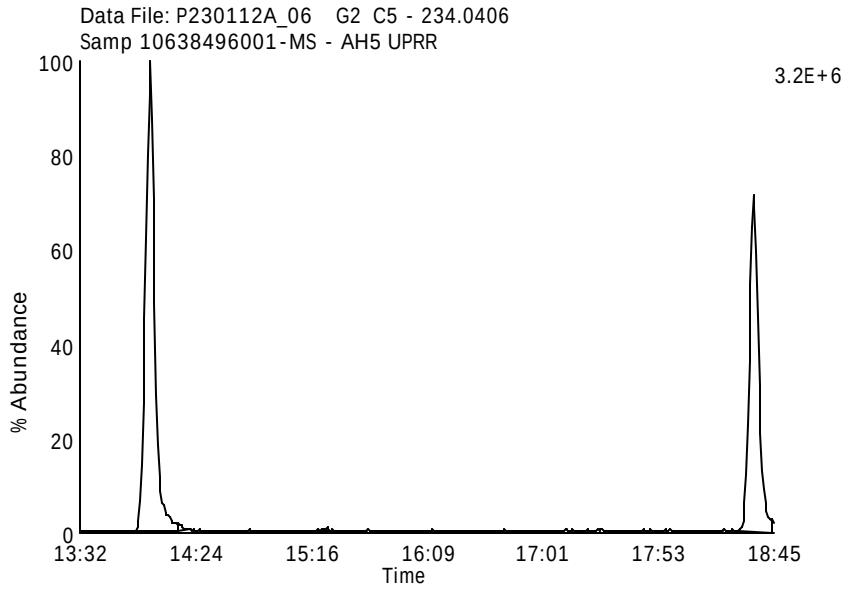


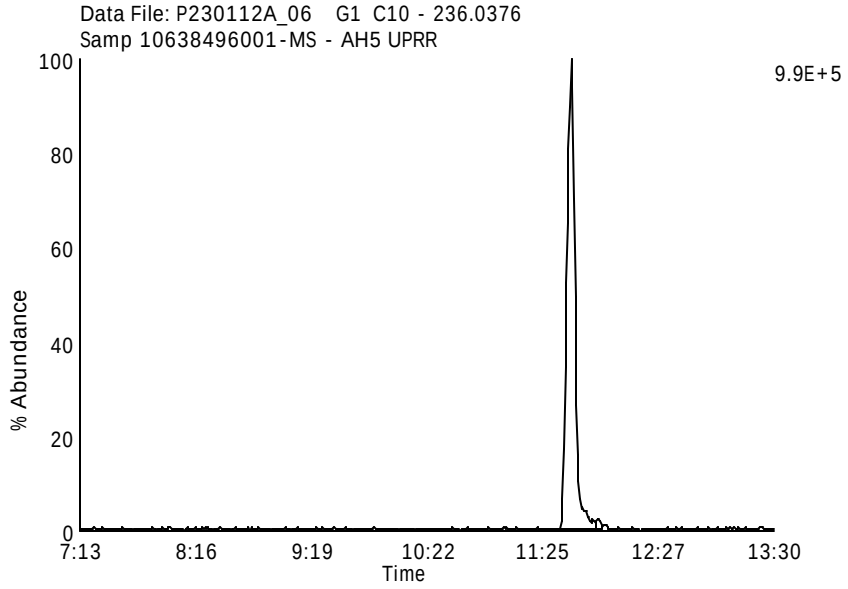


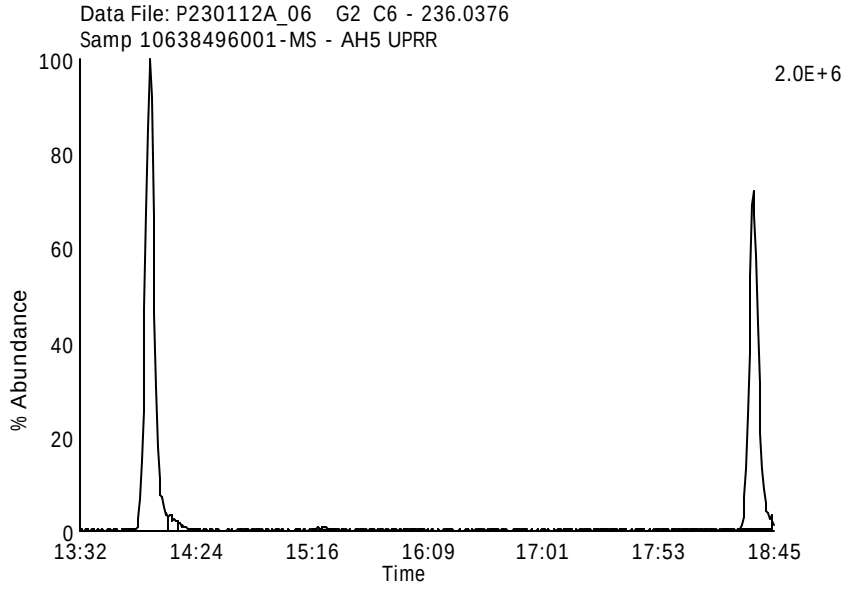
Labeled Di Chlorinated Biphenyls

Data File Name: P230112A_06
Lab Sample ID: 10638496001-MS
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MS - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MS



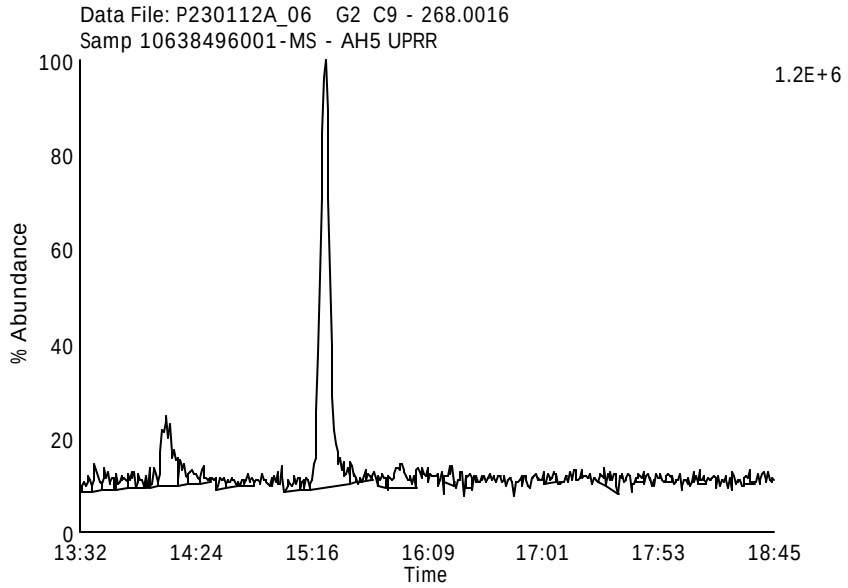


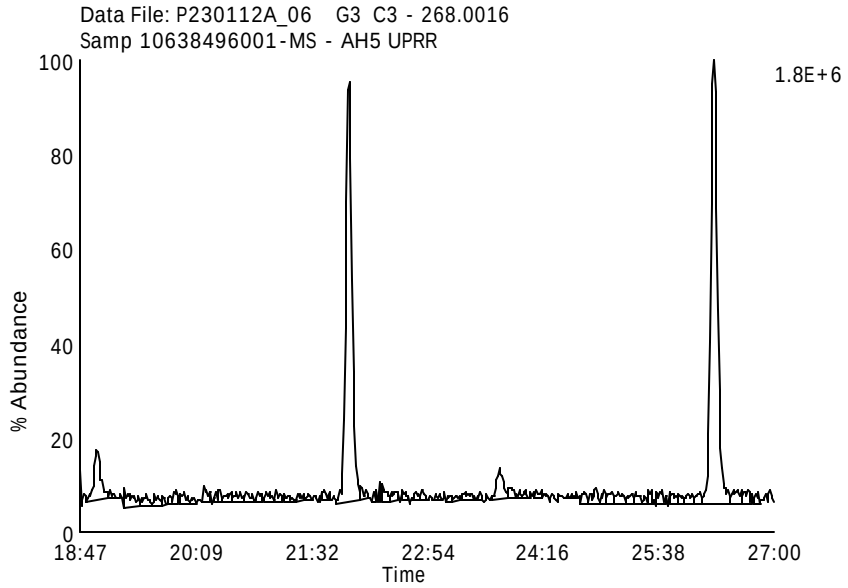


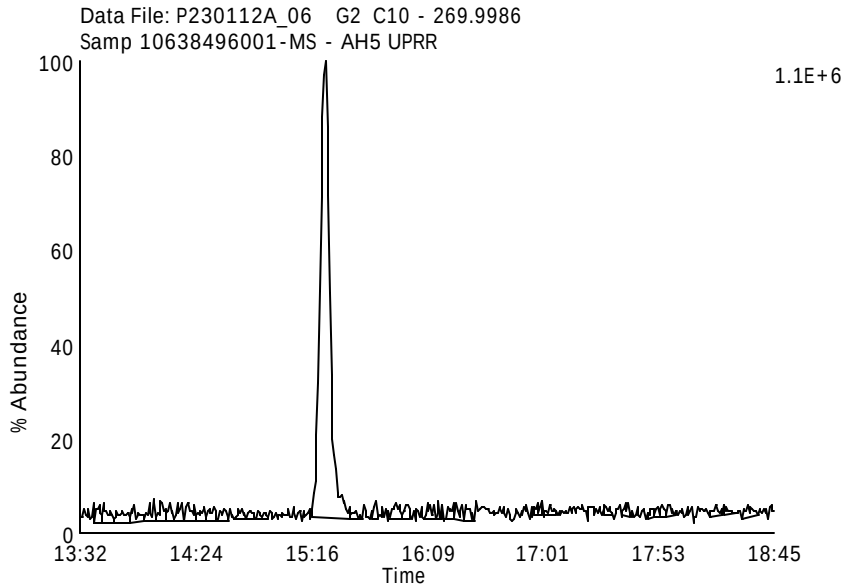


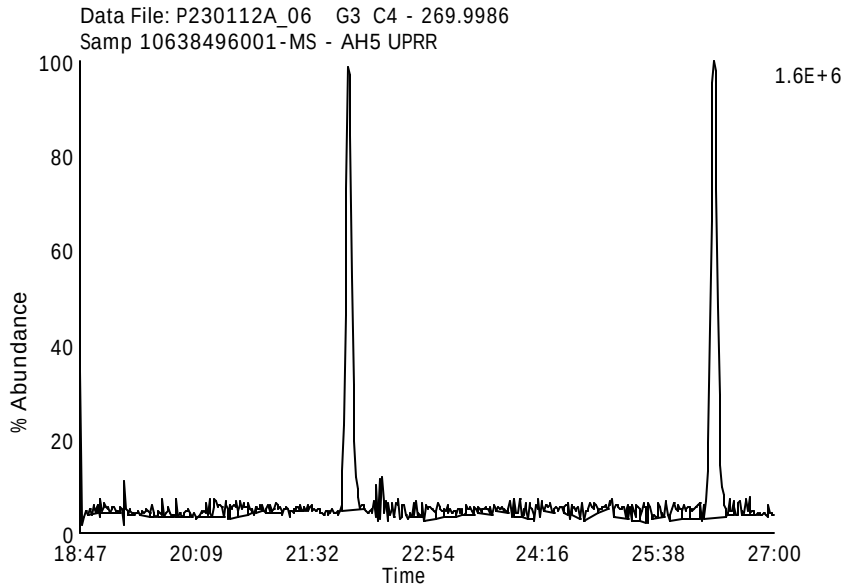
Labeled Tri Chlorinated Biphenyls

Data File Name: P230112A_06
Lab Sample ID: 10638496001-MS
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MS - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MS



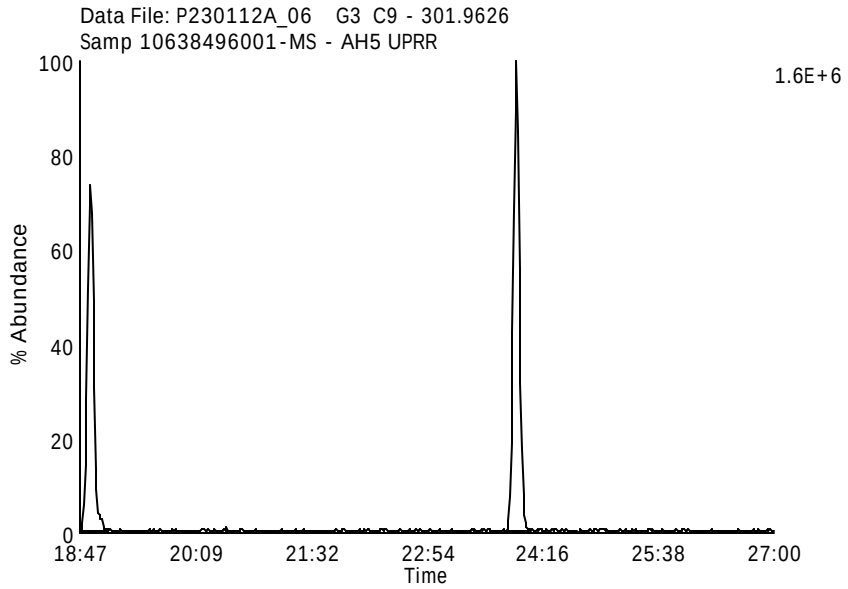


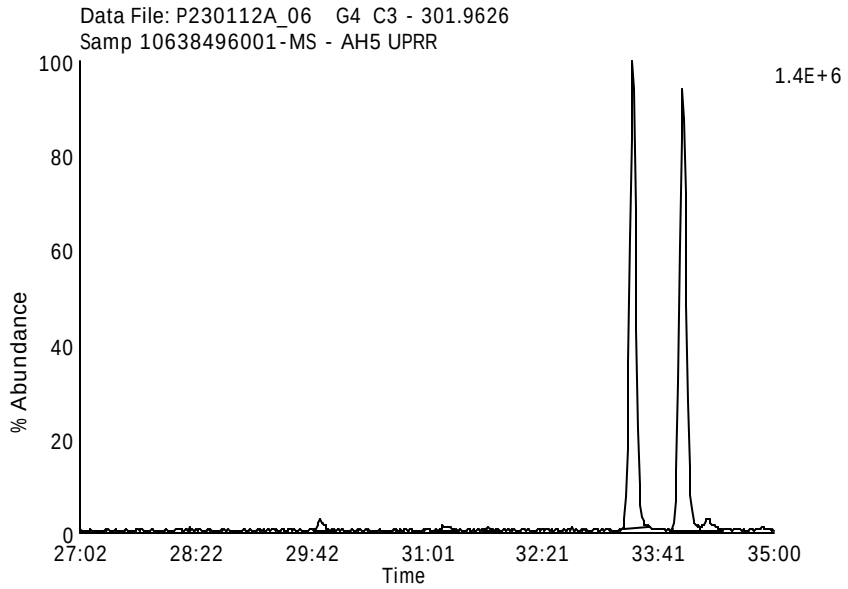


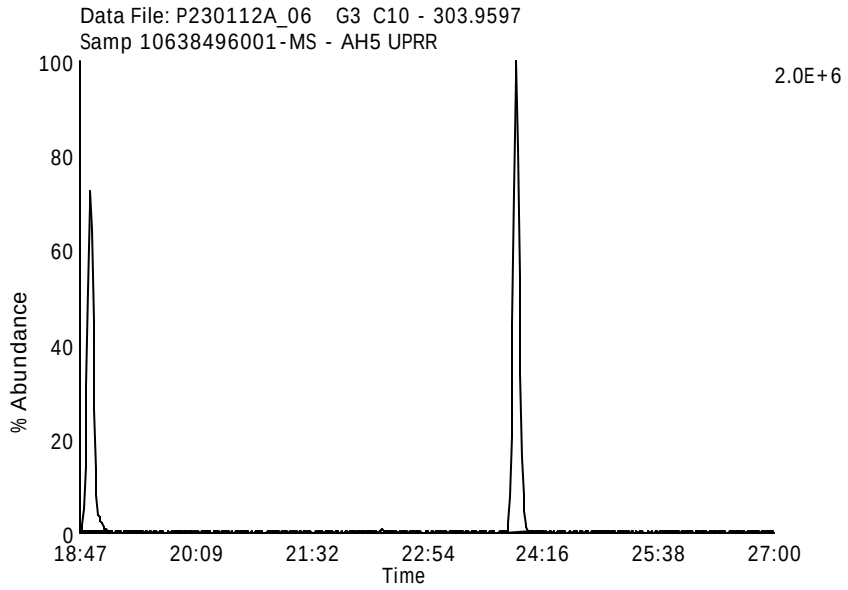


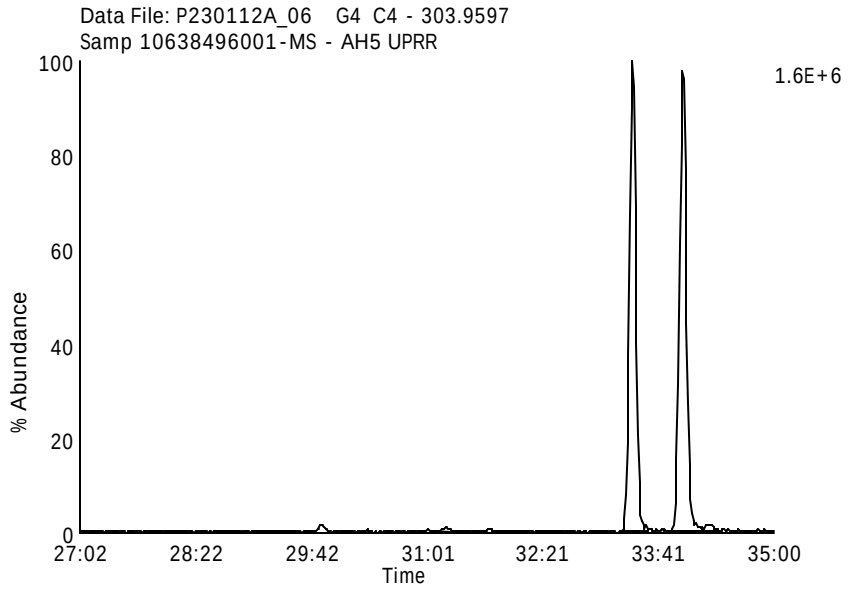
Labeled Tetra Chlorinated Biphenyls

Data File Name: P230112A_06
Lab Sample ID: 10638496001-MS
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MS - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MS



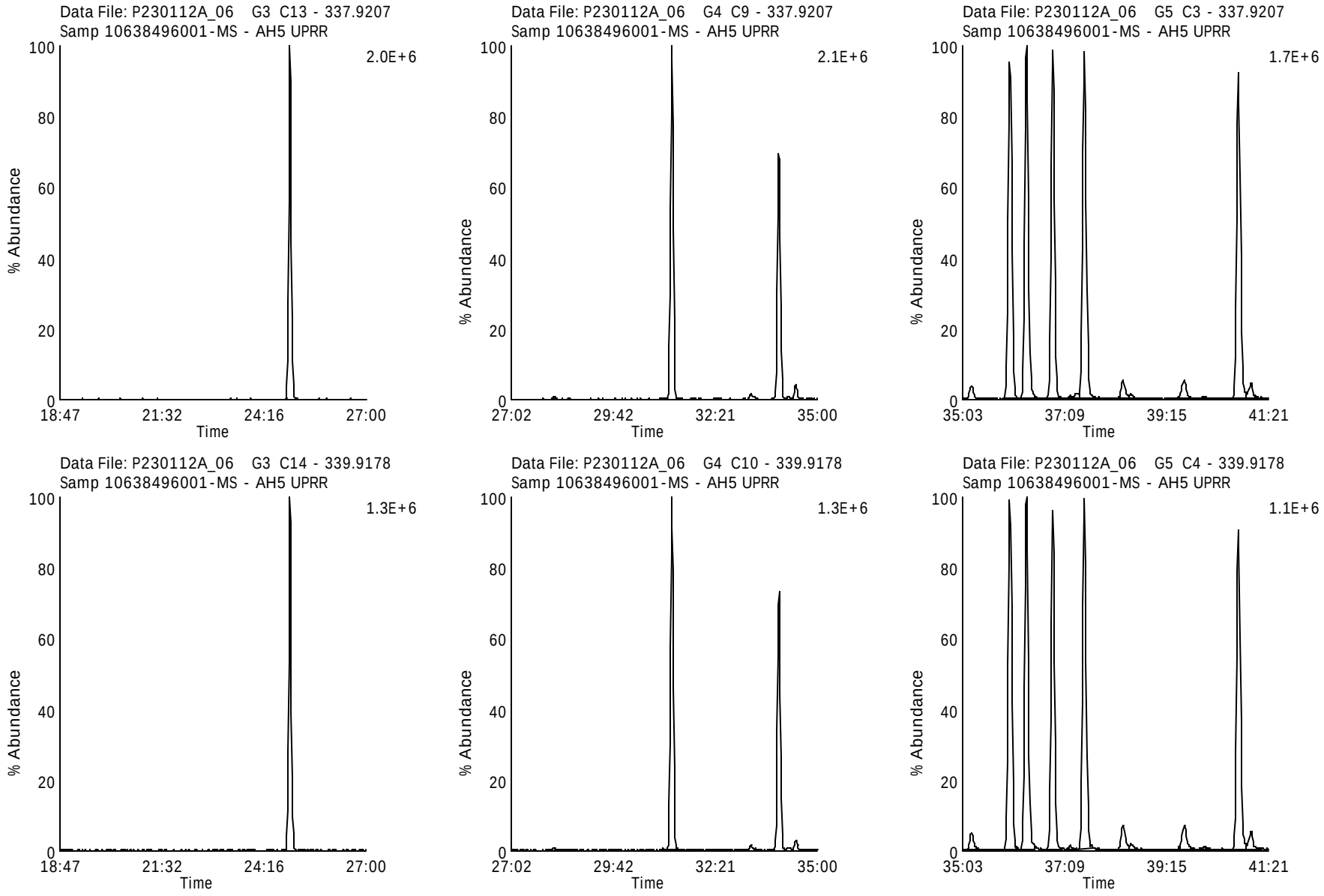






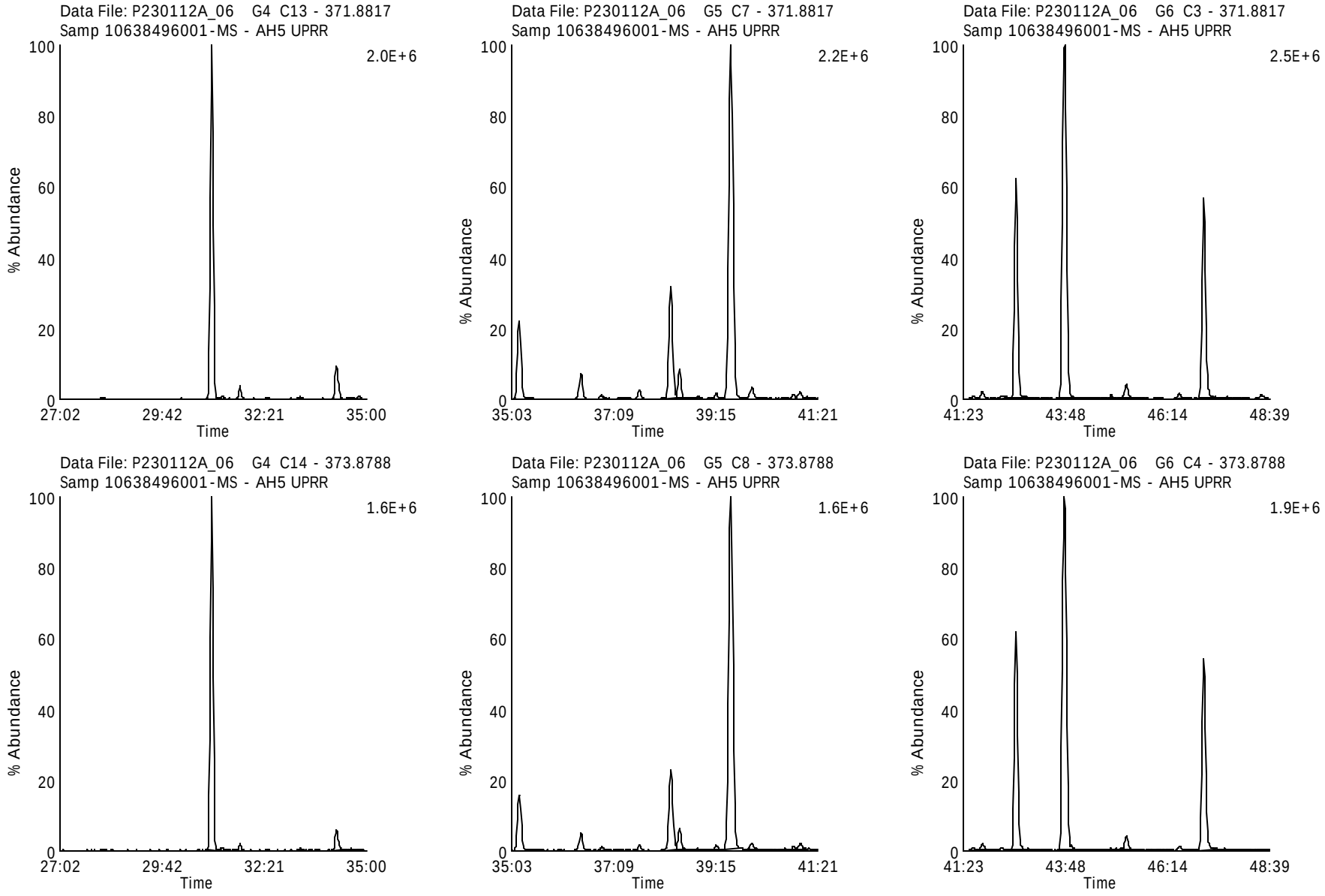
Labeled Penta Chlorinated Biphenyls

Data File Name: P230112A_06
Lab Sample ID: 10638496001-MS
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MS - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MS



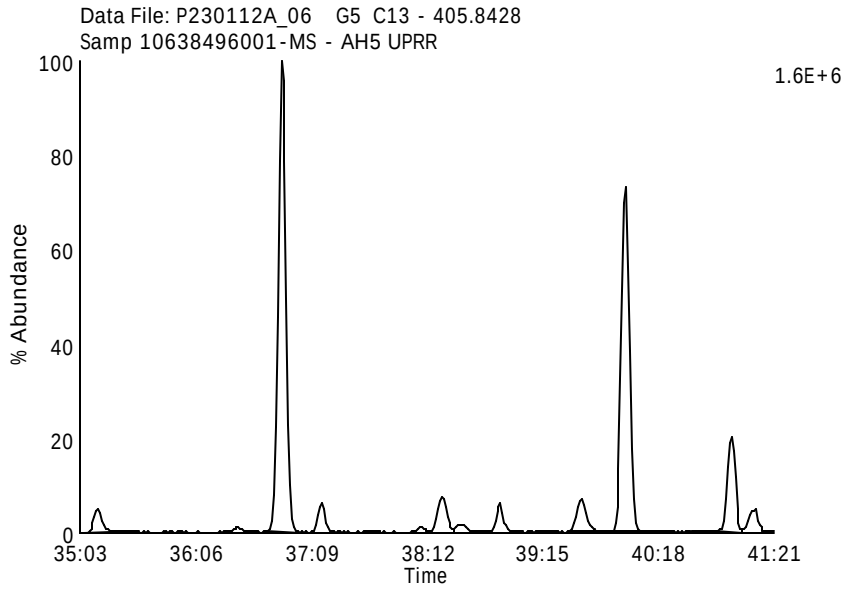
Labeled Hexa Chlorinated Biphenyls

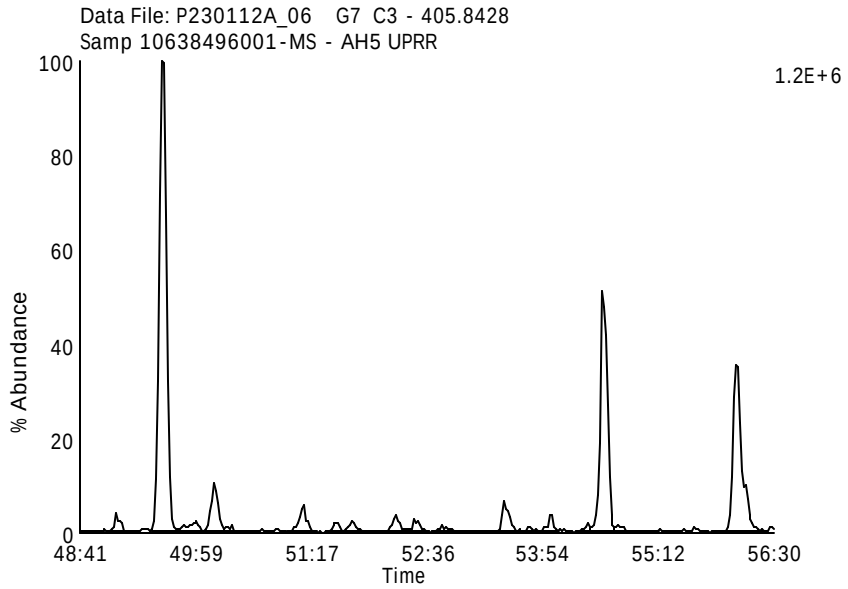
Data File Name: P230112A_06
Lab Sample ID: 10638496001-MS
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MS - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MS

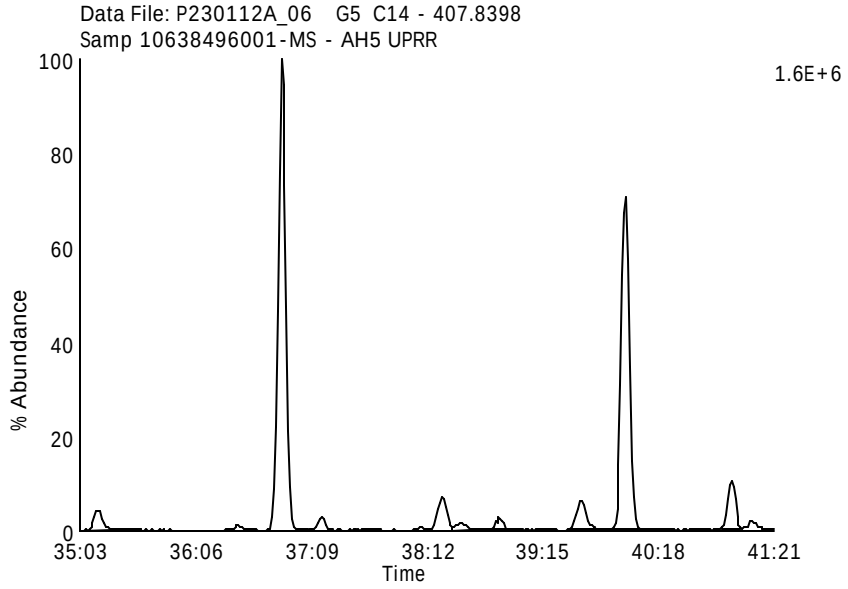


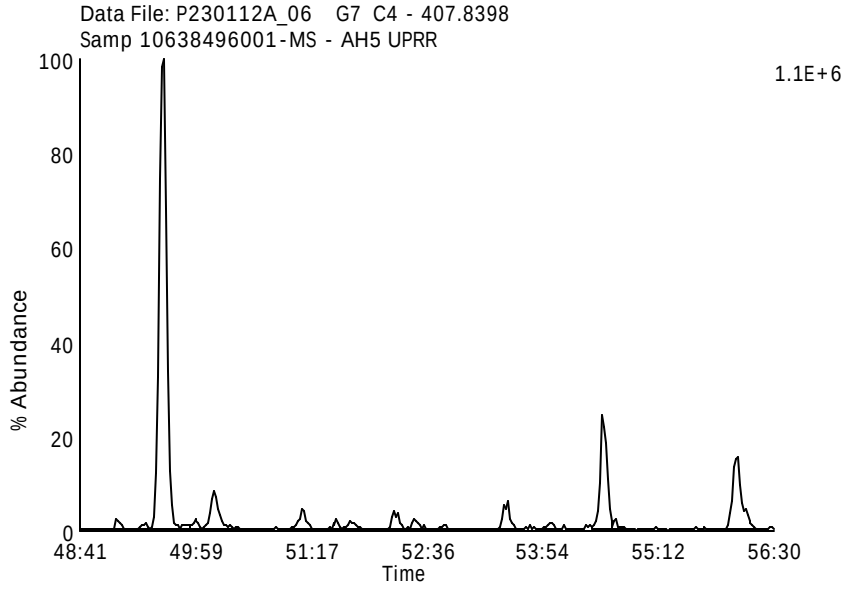
Labeled Hepta Chlorinated Biphenyls

Data File Name: P230112A_06
Lab Sample ID: 10638496001-MS
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MS - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MS



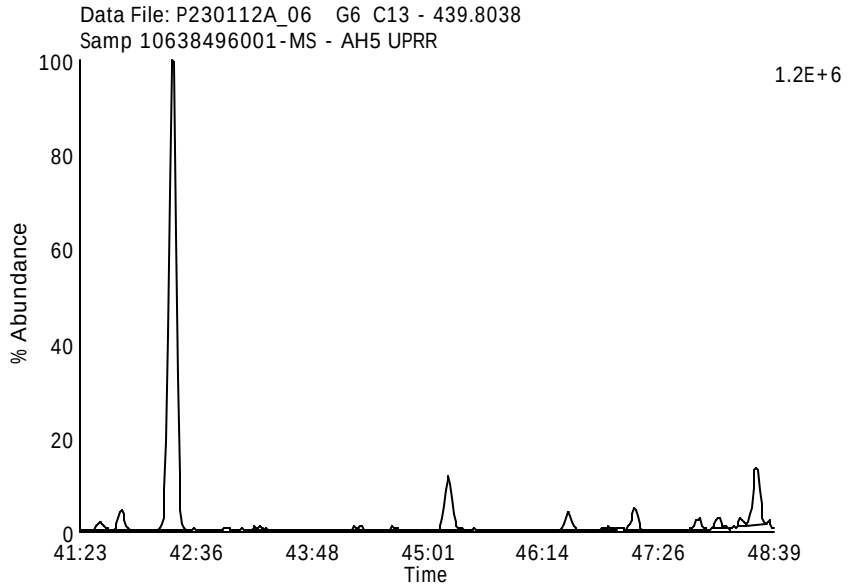


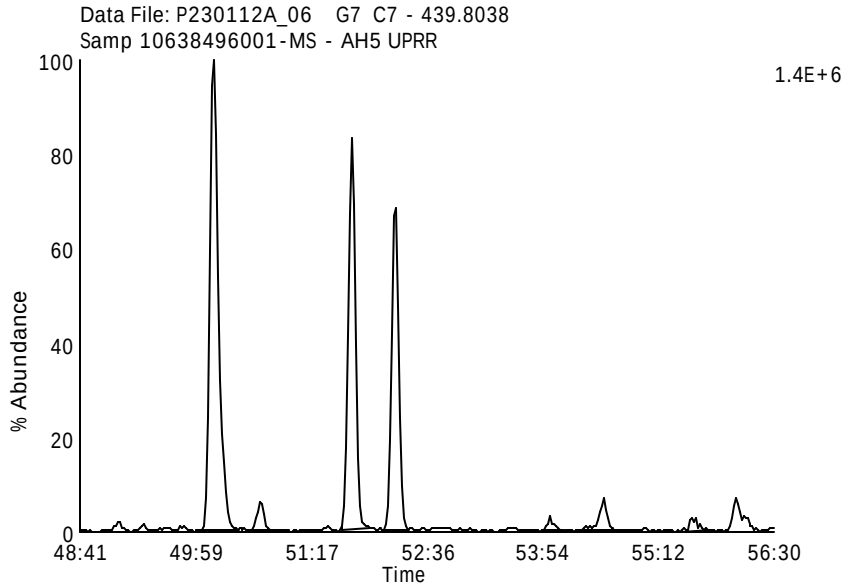


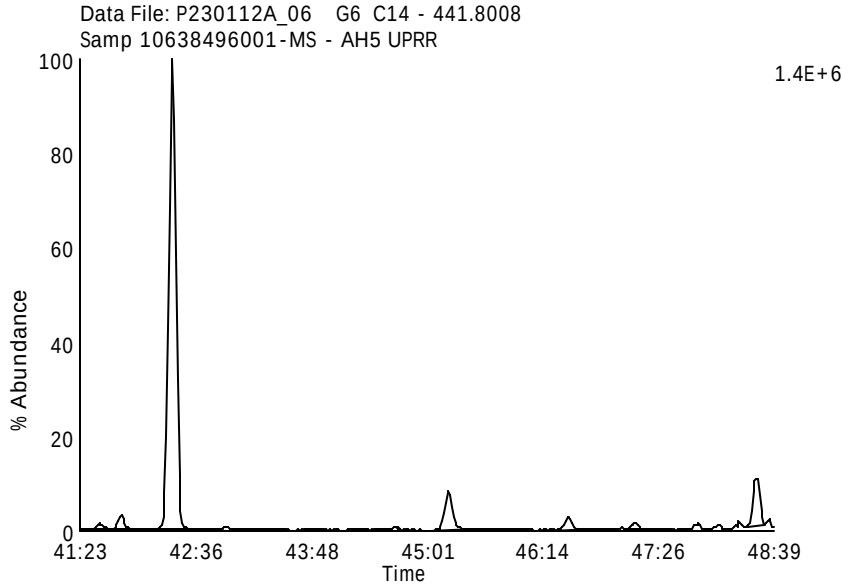


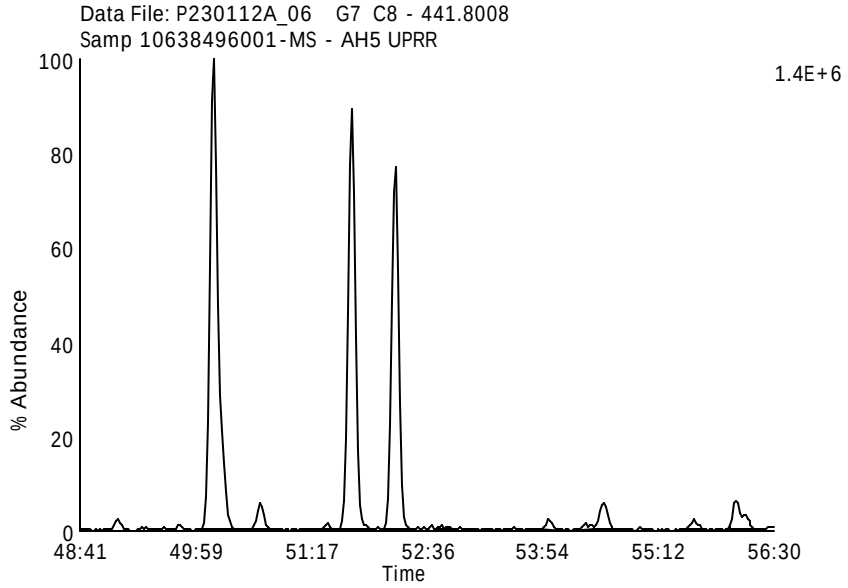
Labeled Octa Chlorinated Biphenyls

Data File Name: P230112A_06
Lab Sample ID: 10638496001-MS
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MS - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MS



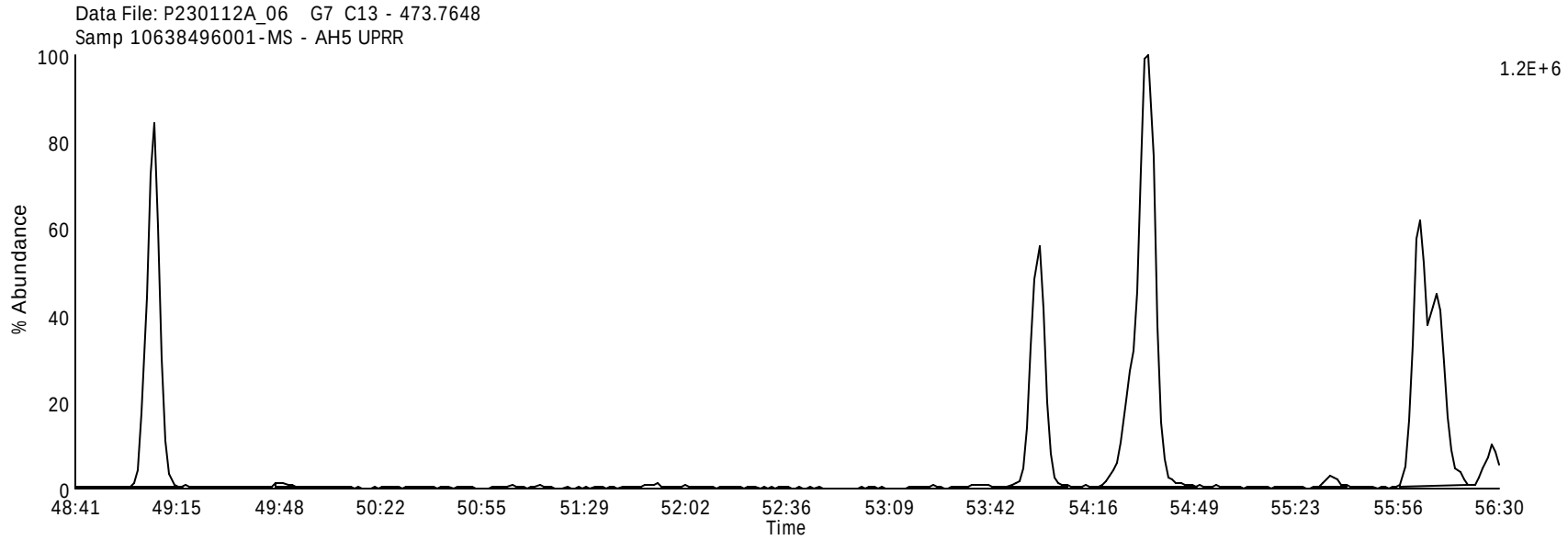


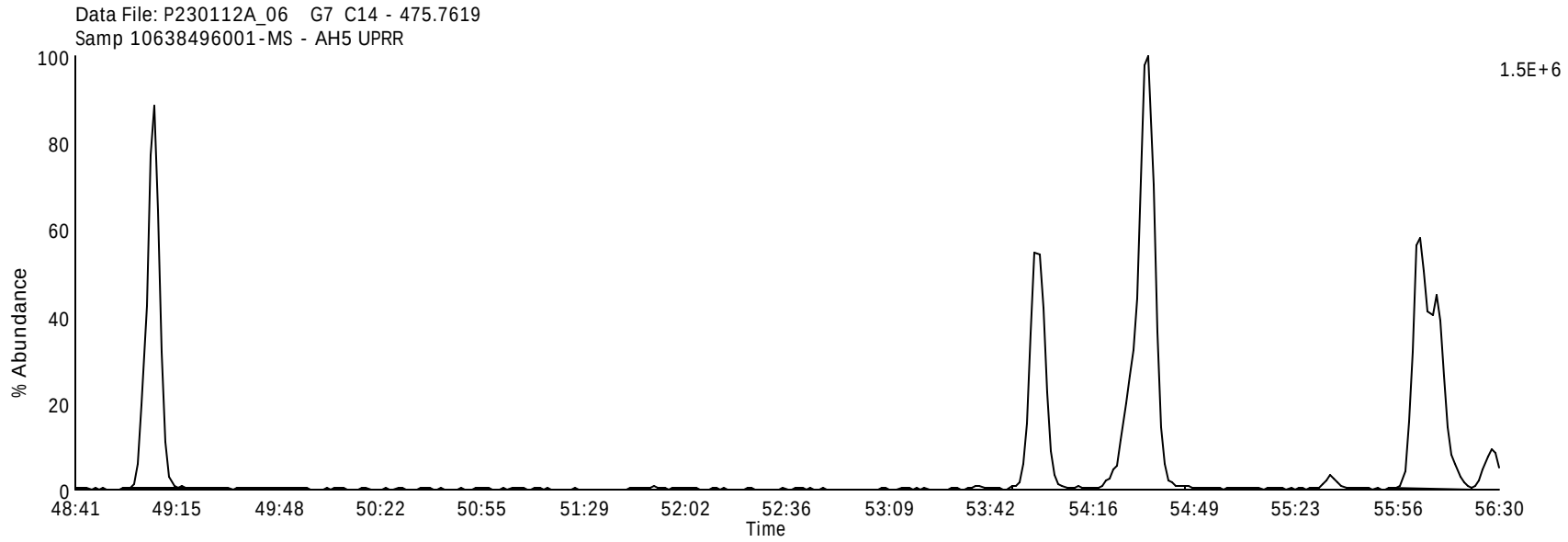




Labeled Nona Chlorinated Biphenyls

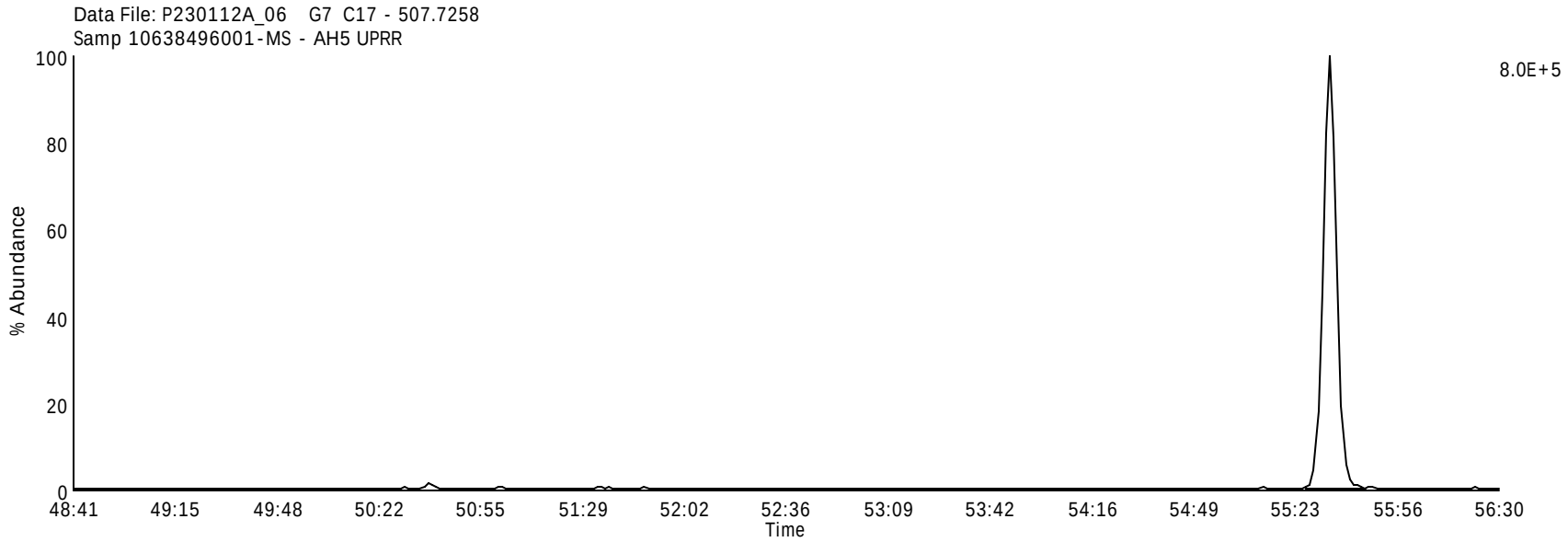
Data File Name: P230112A_06	Lab Sample ID: 10638496001-MS
Date Acquired: 1/12/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MS - AH5 UPRR	Client Sample ID: SB06-1.0-1.5-1022-MS

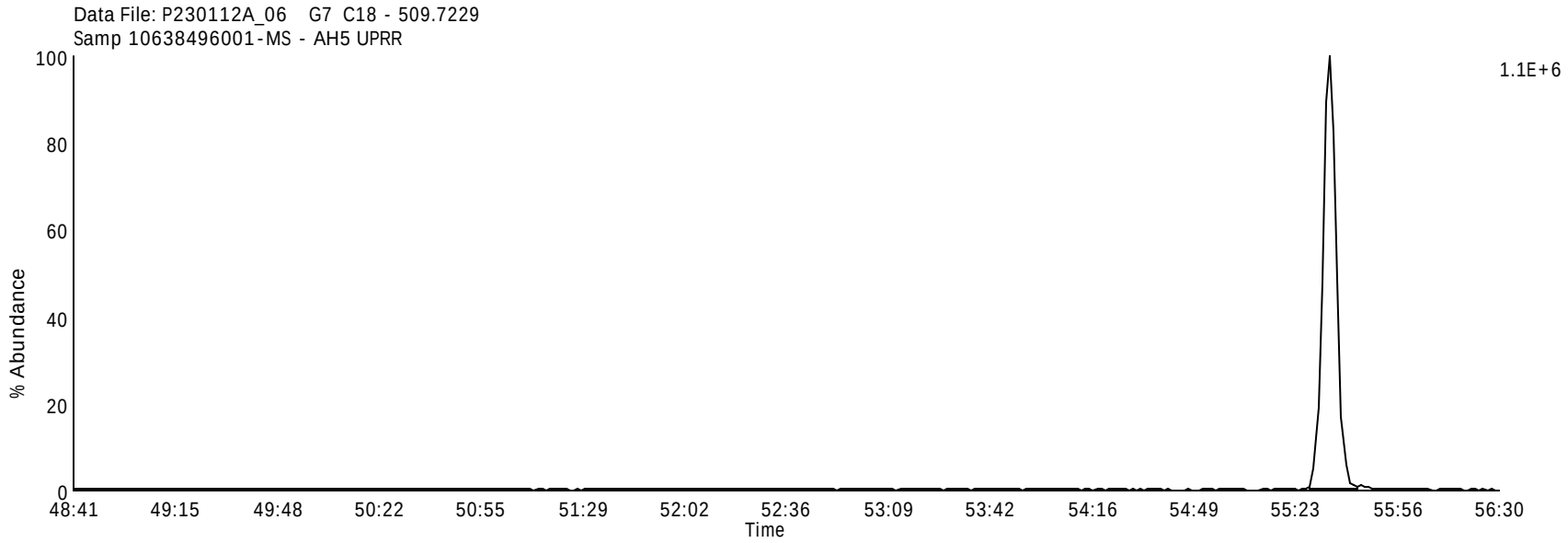




Labeled Deca Chlorinated Biphenyl

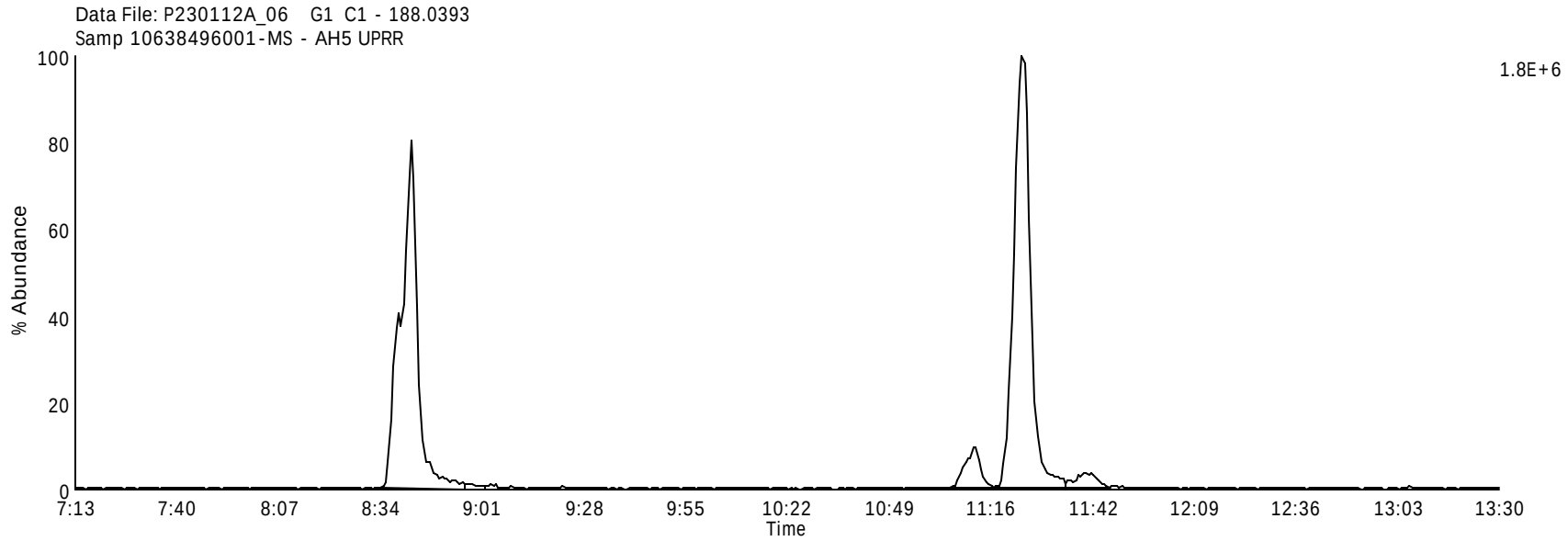
Data File Name: P230112A_06	Lab Sample ID: 10638496001-MS
Date Acquired: 1/12/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MS - AH5 UPRR	Client Sample ID: SB06-1.0-1.5-1022-MS

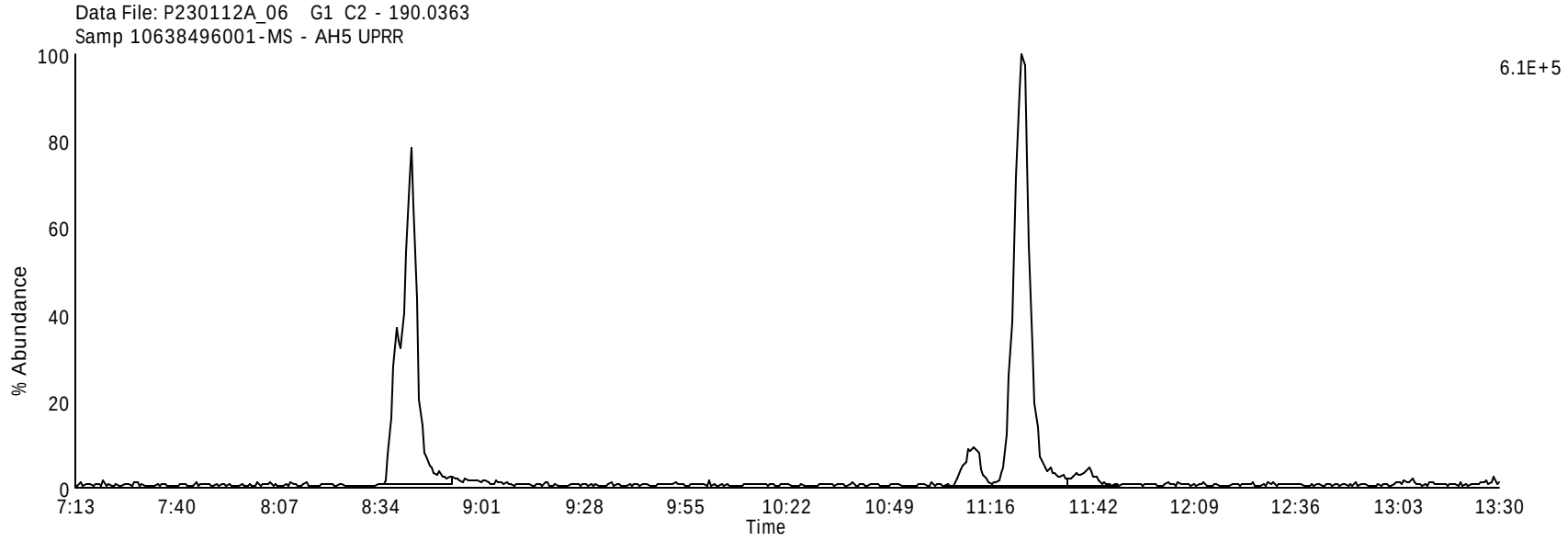




Mono Chlorinated Biphenyls

Data File Name: P230112A_06	Lab Sample ID: 10638496001-MS
Date Acquired: 1/12/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MS - AH5 UPRR	Client Sample ID: SB06-1.0-1.5-1022-MS

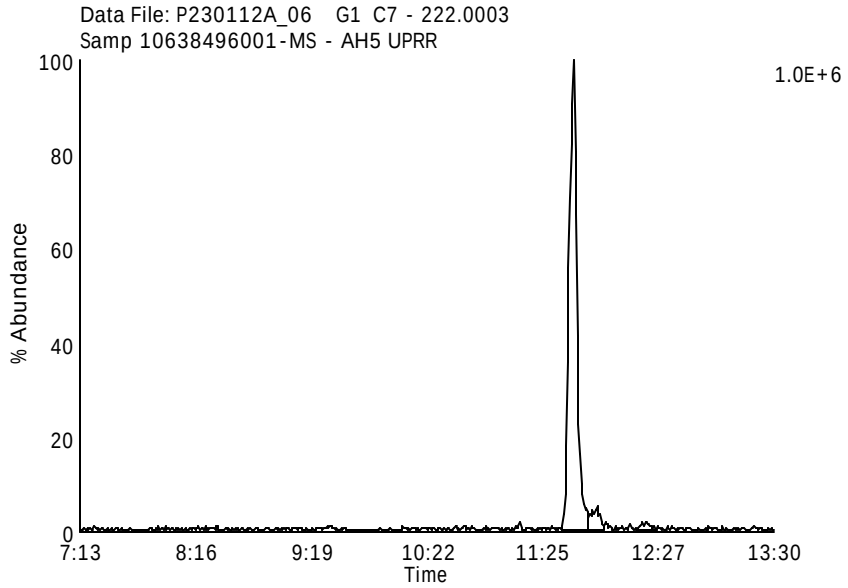


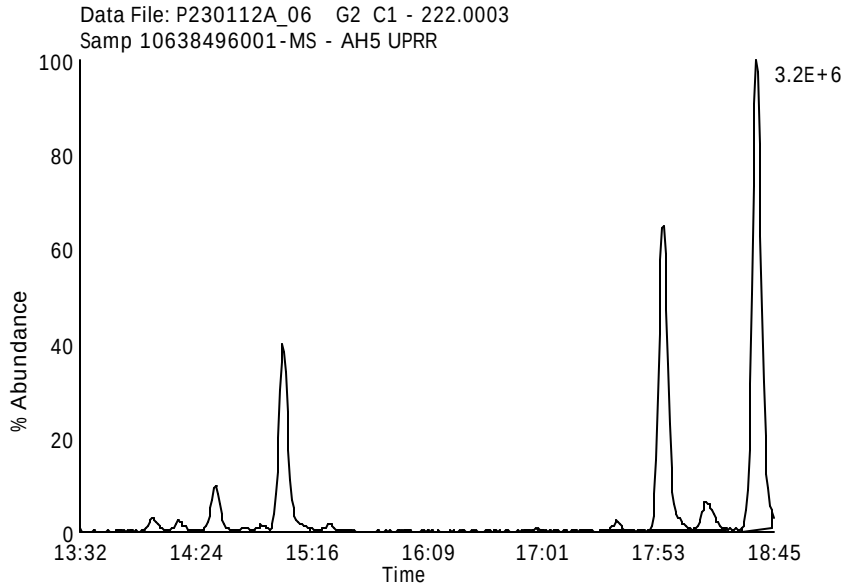


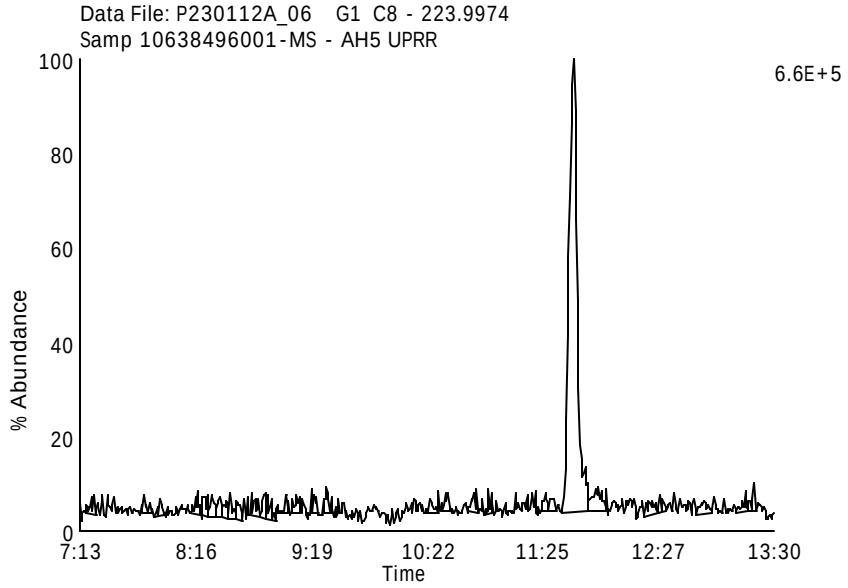
Di Chlorinated Biphenyls

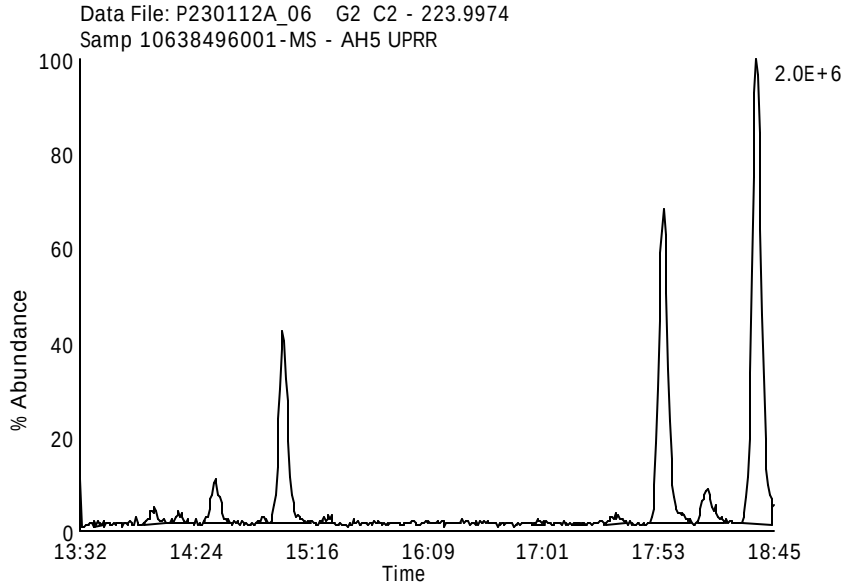
Data File Name: P230112A_06
Date Acquired: 1/12/2023
Sample Description: Samp 10638496001-MS - AH5 UPRR

Lab Sample ID: 10638496001-MS
Instrument: 10MSHR09 (P)
Client Sample ID: SB06-1.0-1.5-1022-MS





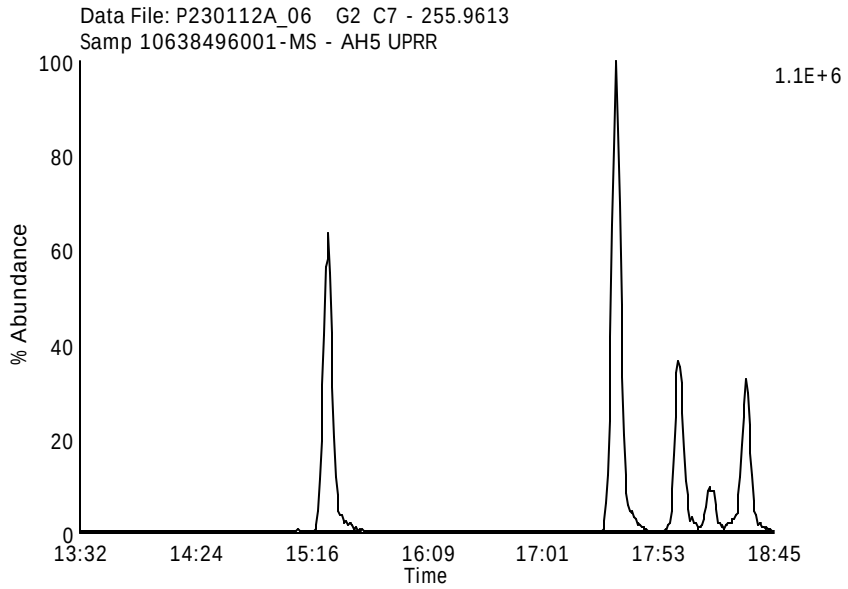


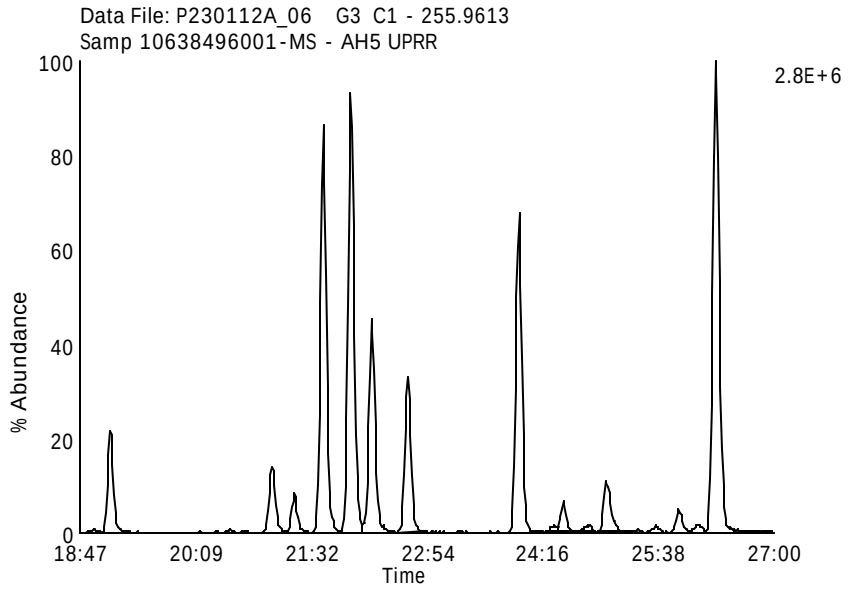


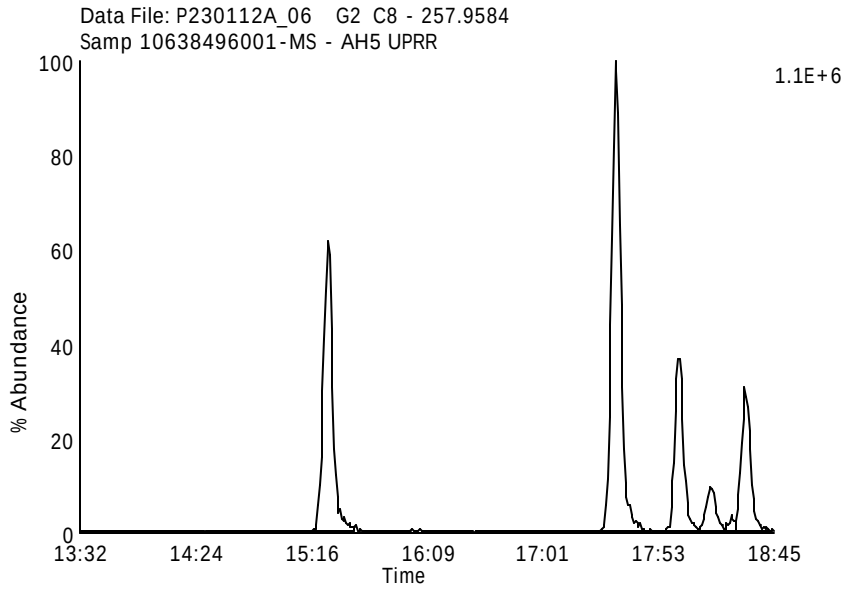
Tri Chlorinated Biphenyls

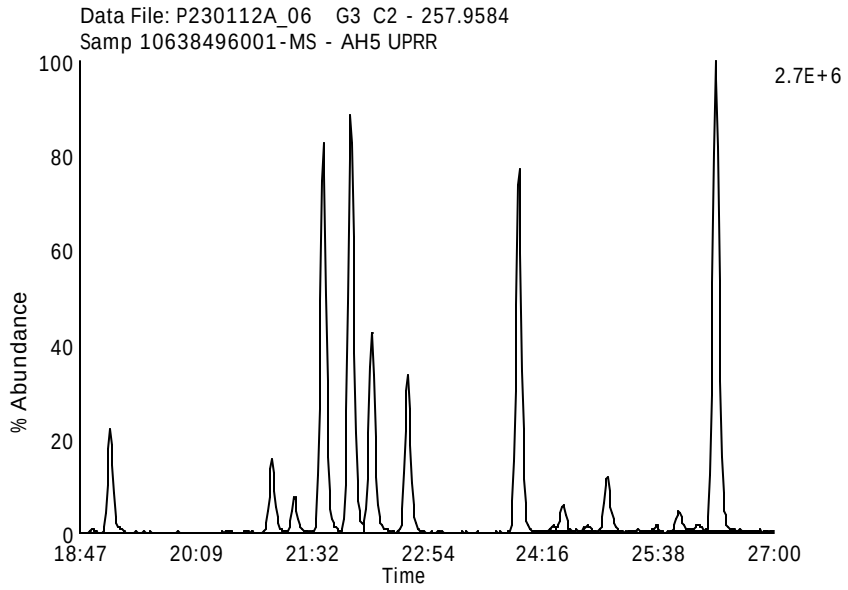
Data File Name: P230112A_06
Date Acquired: 1/12/2023
Sample Description: Samp 10638496001-MS - AH5 UPRR

Lab Sample ID: 10638496001-MS
Instrument: 10MSHR09 (P)
Client Sample ID: SB06-1.0-1.5-1022-MS



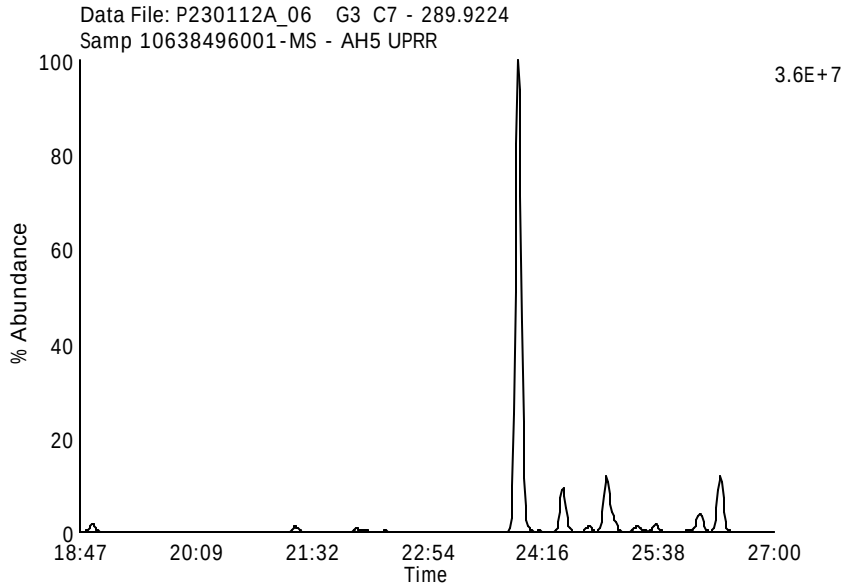


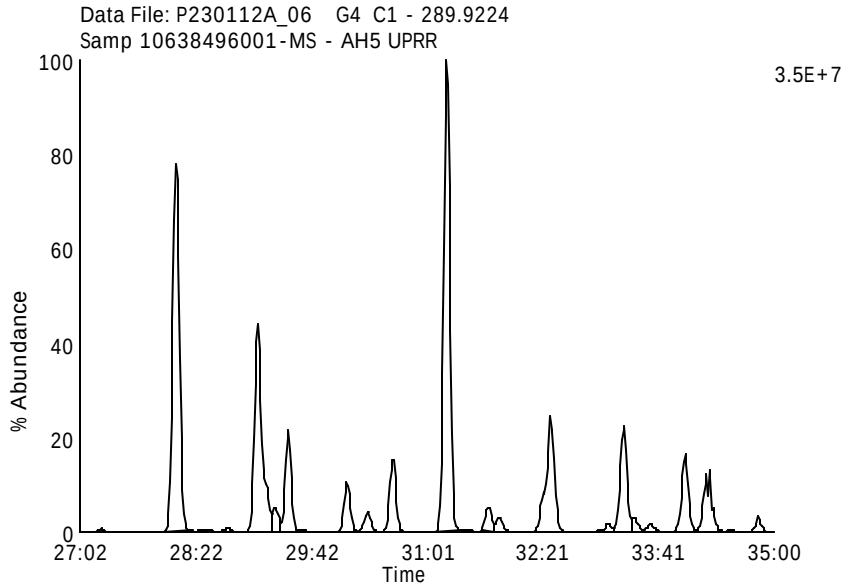


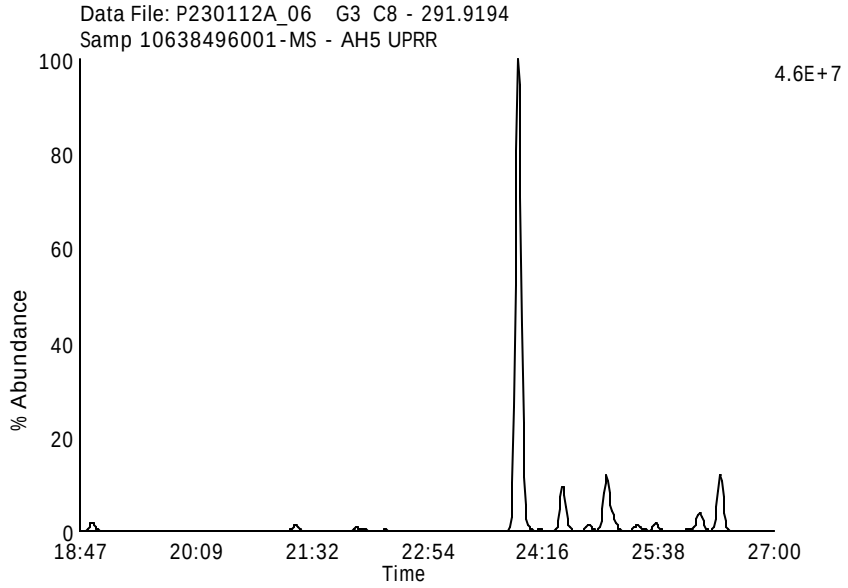


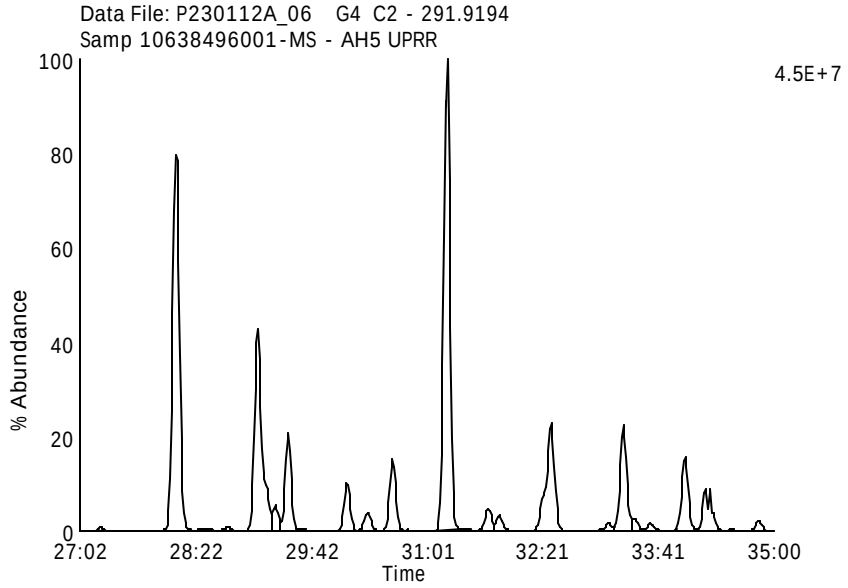
Tetra Chlorinated Biphenyls

Data File Name: P230112A_06
Lab Sample ID: 10638496001-MS
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MS - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MS



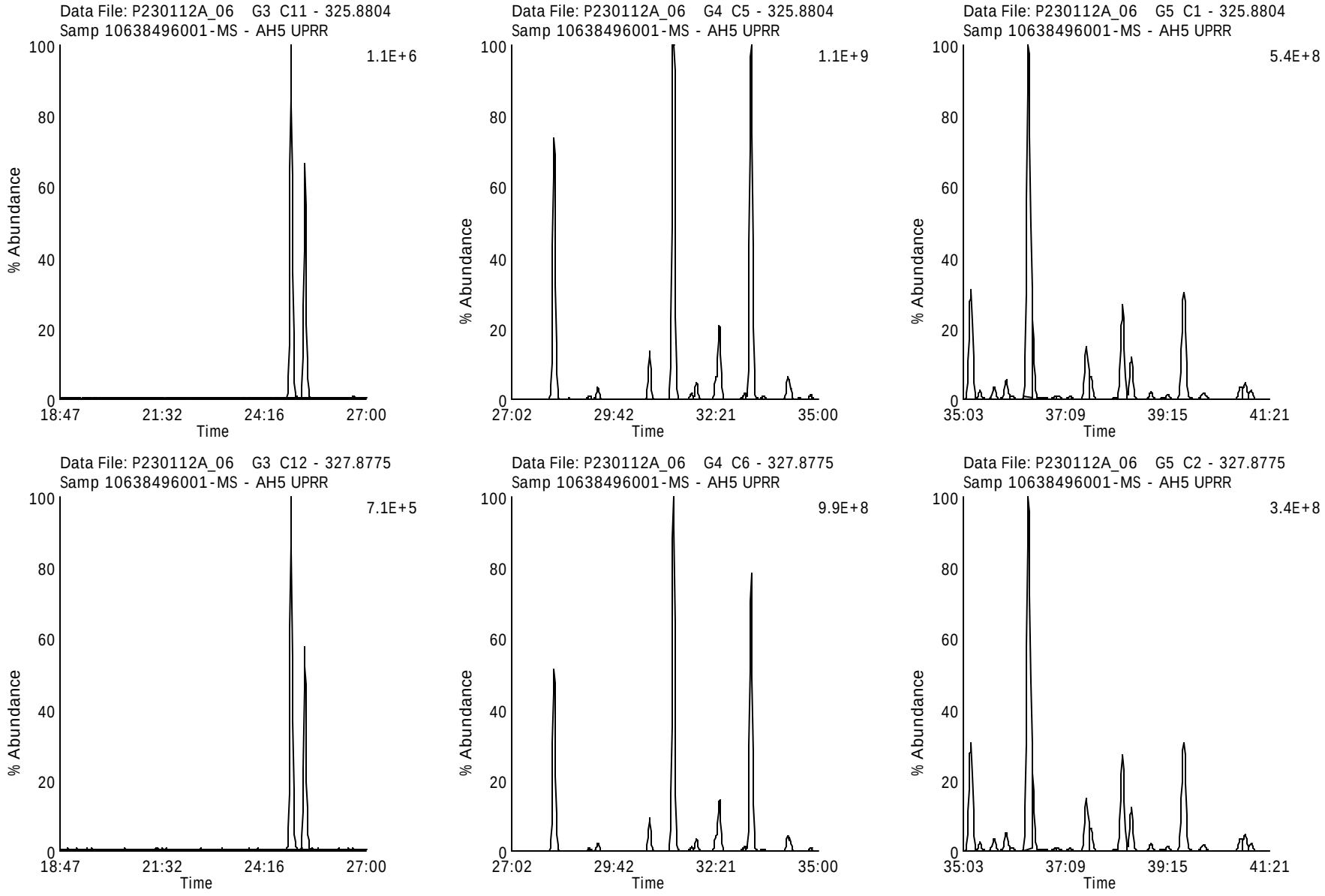






Penta Chlorinated Biphenyls

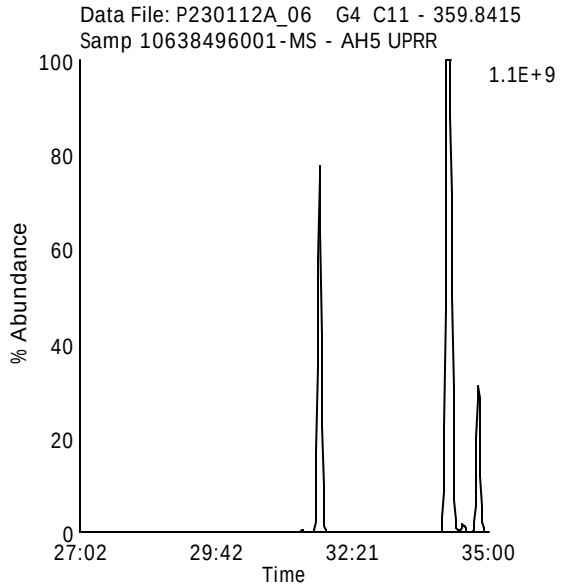
Data File Name: P230112A_06
Lab Sample ID: 10638496001-MS
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MS - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MS

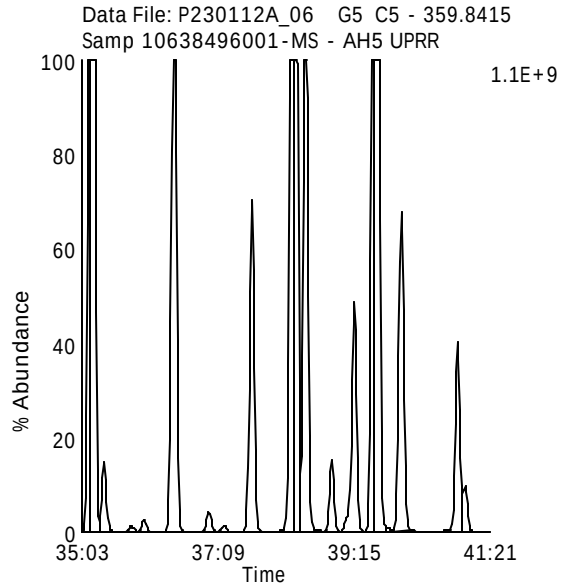


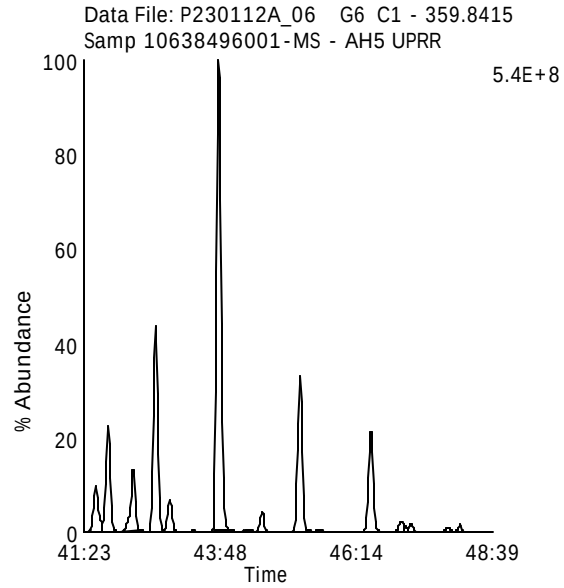
Hexa Chlorinated Biphenyls

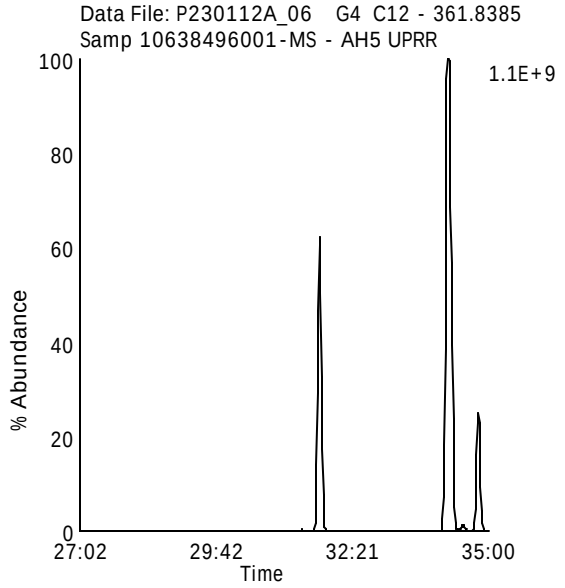
Data File Name: P230112A_06
Date Acquired: 1/12/2023
Sample Description: Samp 10638496001-MS - AH5 UPRR

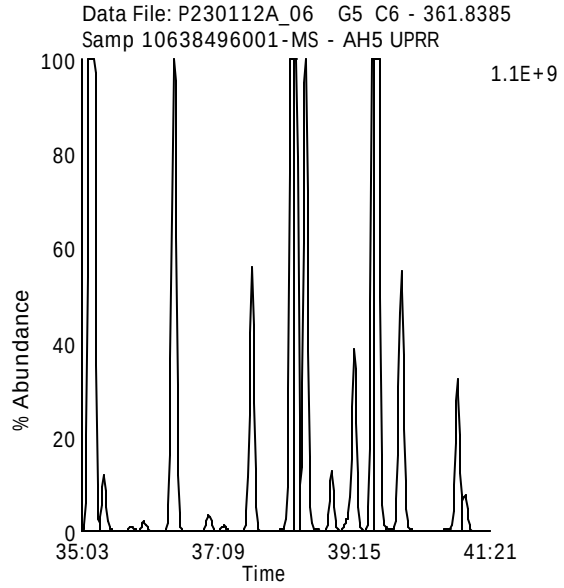
Lab Sample ID: 10638496001-MS
Instrument: 10MSHR09 (P)
Client Sample ID: SB06-1.0-1.5-1022-MS

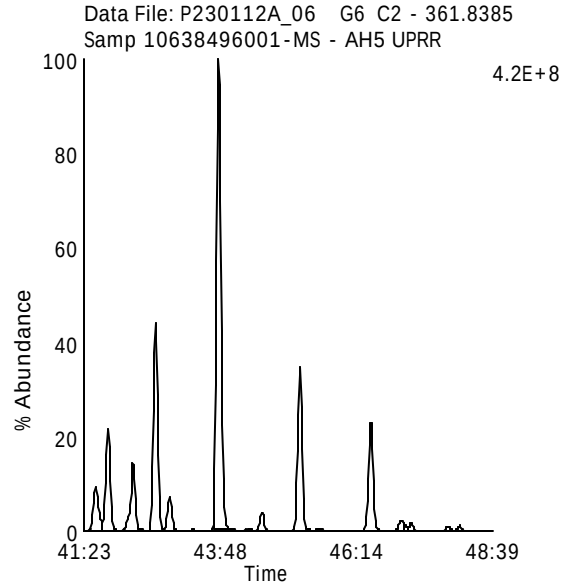








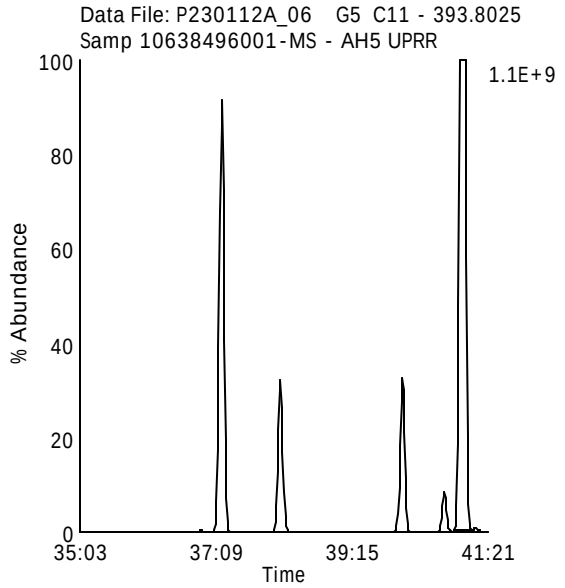


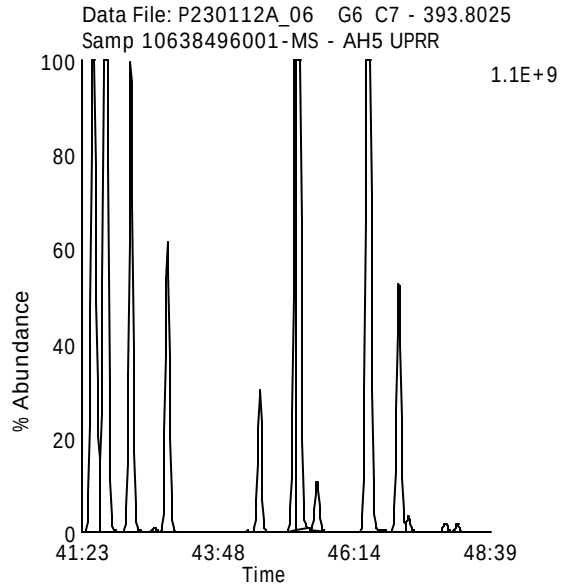


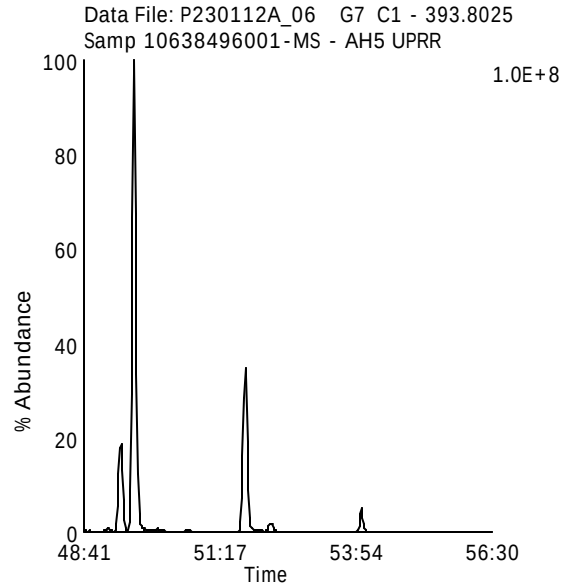
Hepta Chlorinated Biphenyls

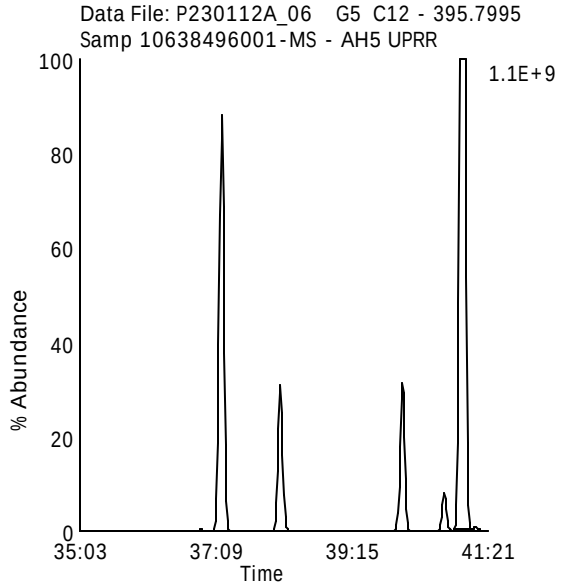
Data File Name: P230112A_06
Date Acquired: 1/12/2023
Sample Description: Samp 10638496001-MS - AH5 UPRR

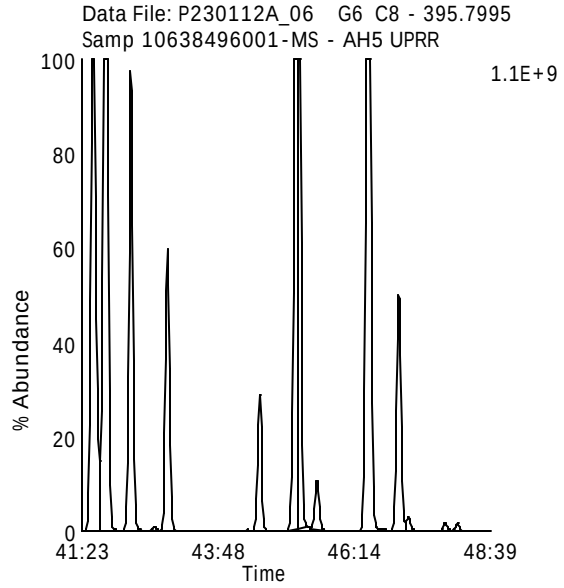
Lab Sample ID: 10638496001-MS
Instrument: 10MSHR09 (P)
Client Sample ID: SB06-1.0-1.5-1022-MS

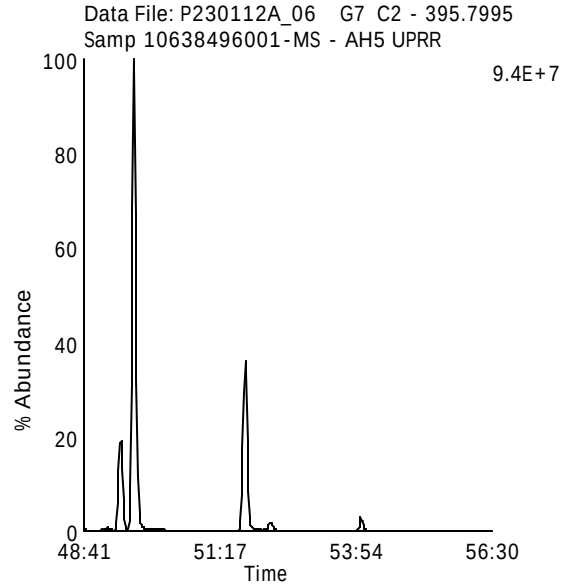






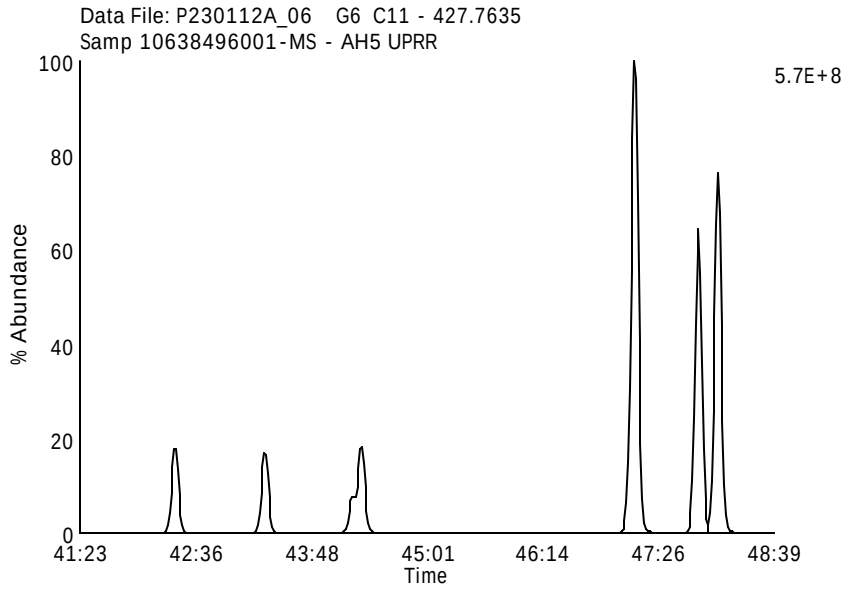


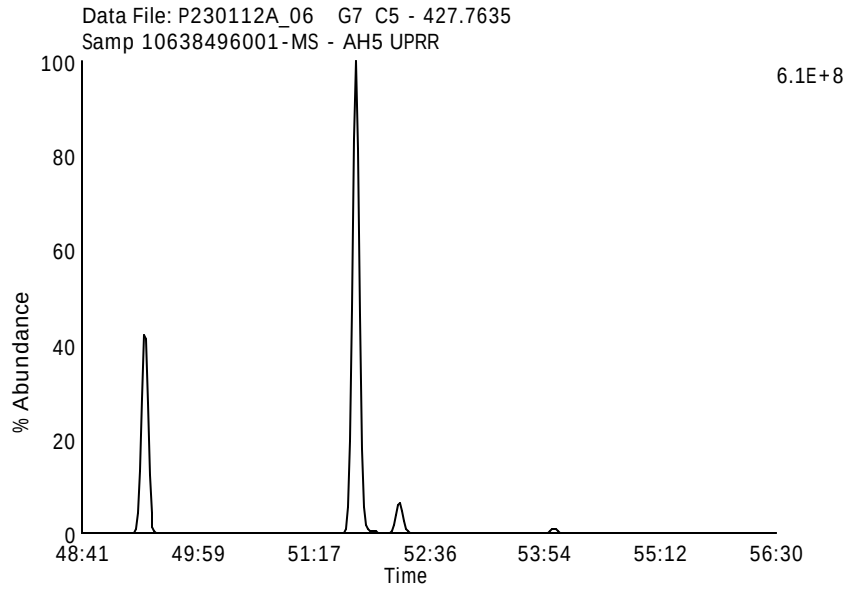


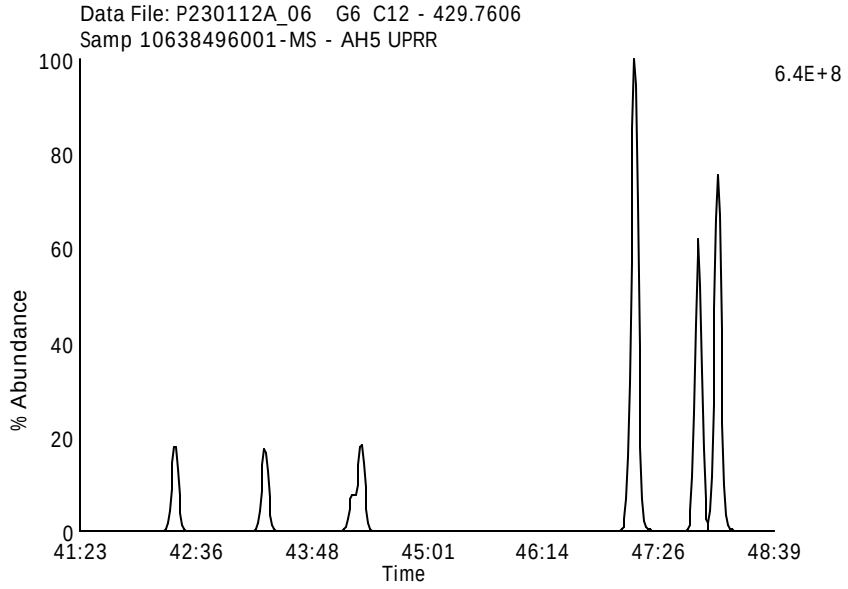


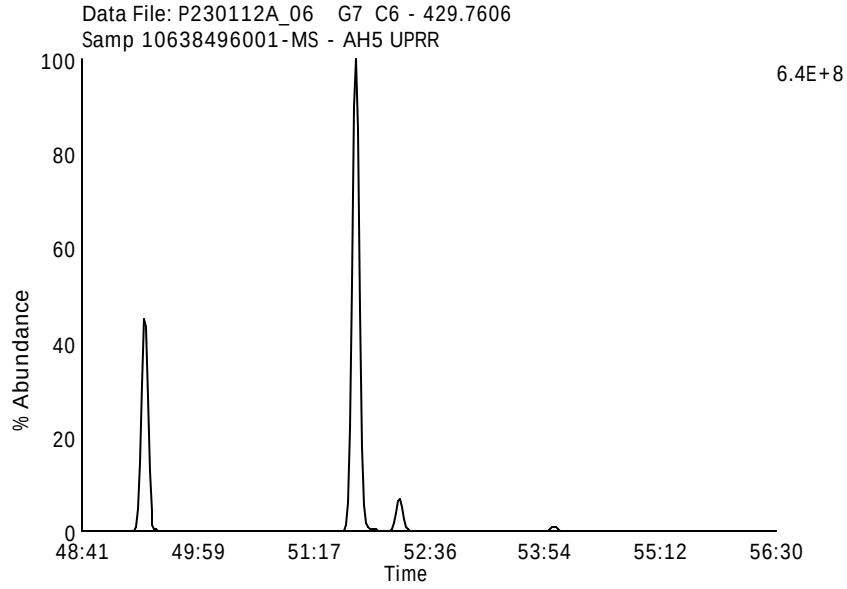
Octa Chlorinated Biphenyls

Data File Name: P230112A_06
Lab Sample ID: 10638496001-MS
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MS - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MS



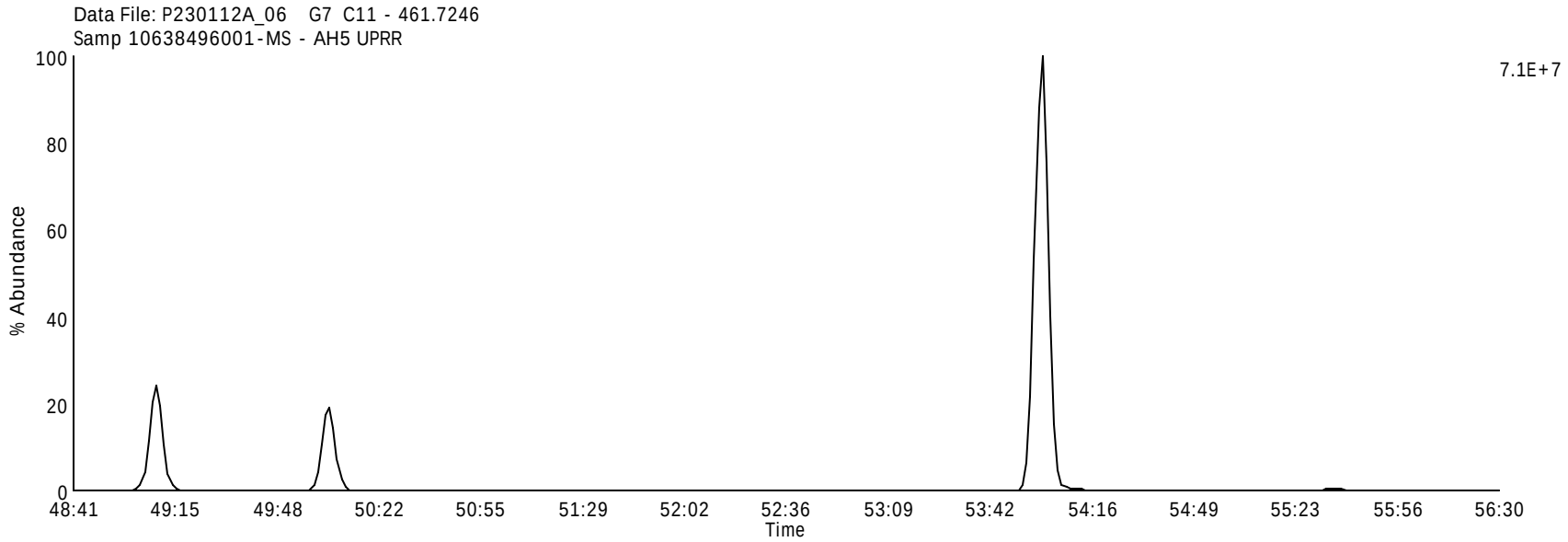


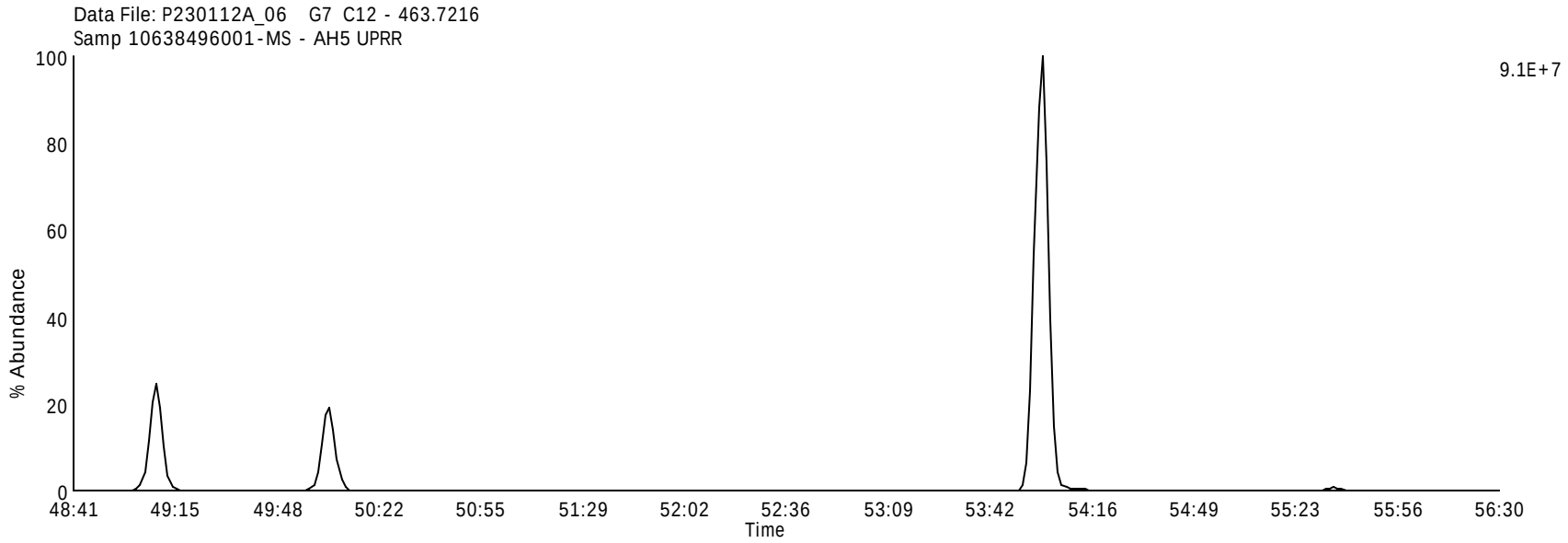




Nona Chlorinated Biphenyls

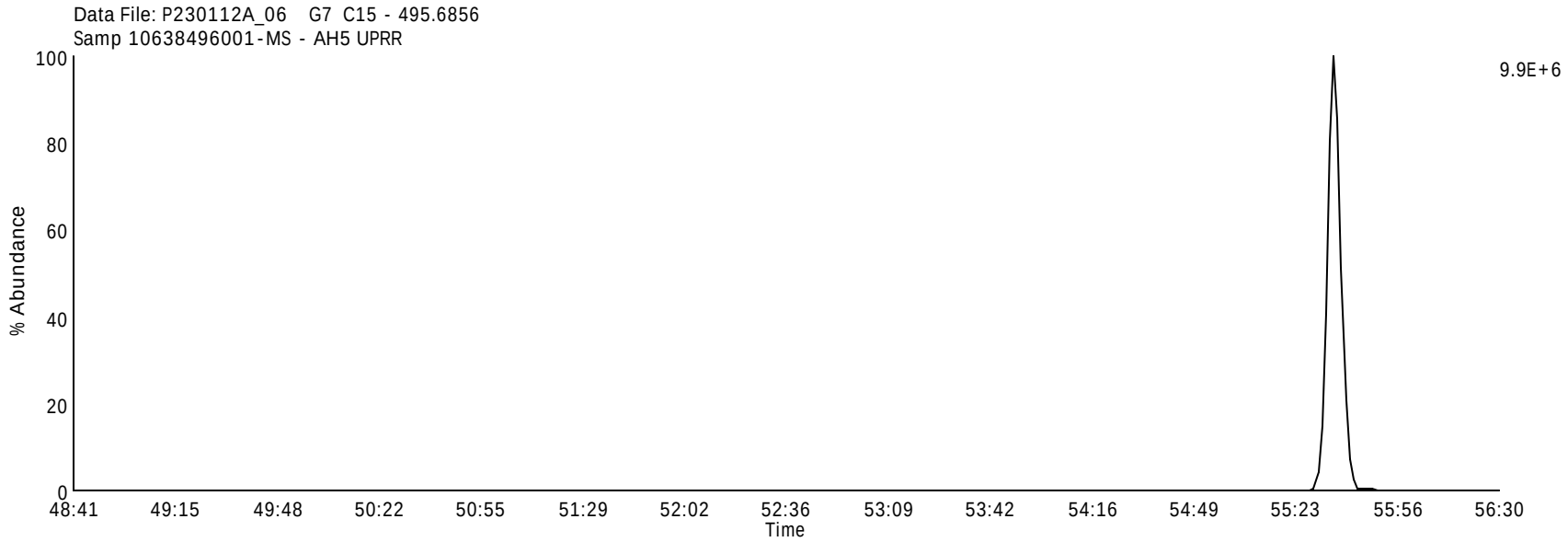
Data File Name: P230112A_06
Lab Sample ID: 10638496001-MS
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MS - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MS

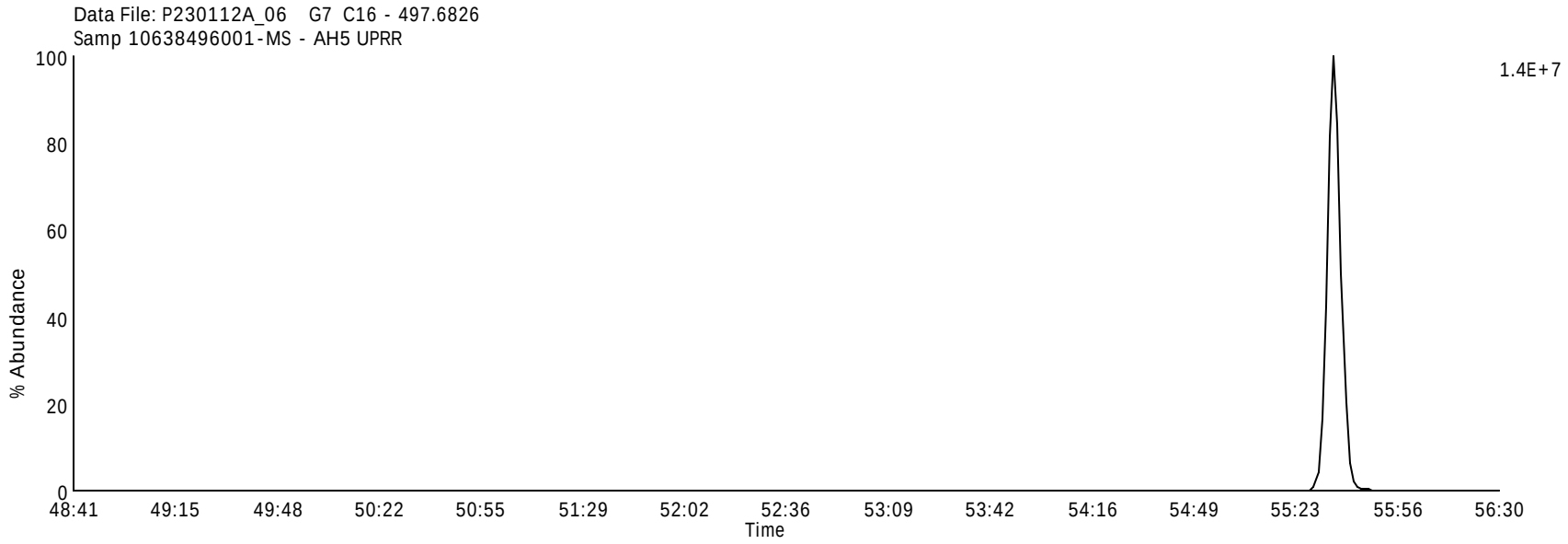




Deca Chlorinated Biphenyl

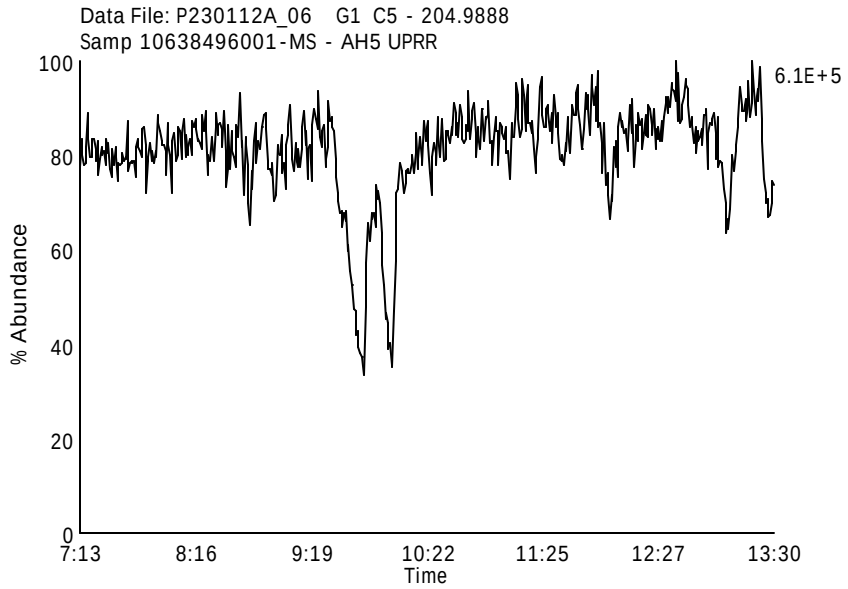
Data File Name: P230112A_06
Lab Sample ID: 10638496001-MS
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MS - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MS

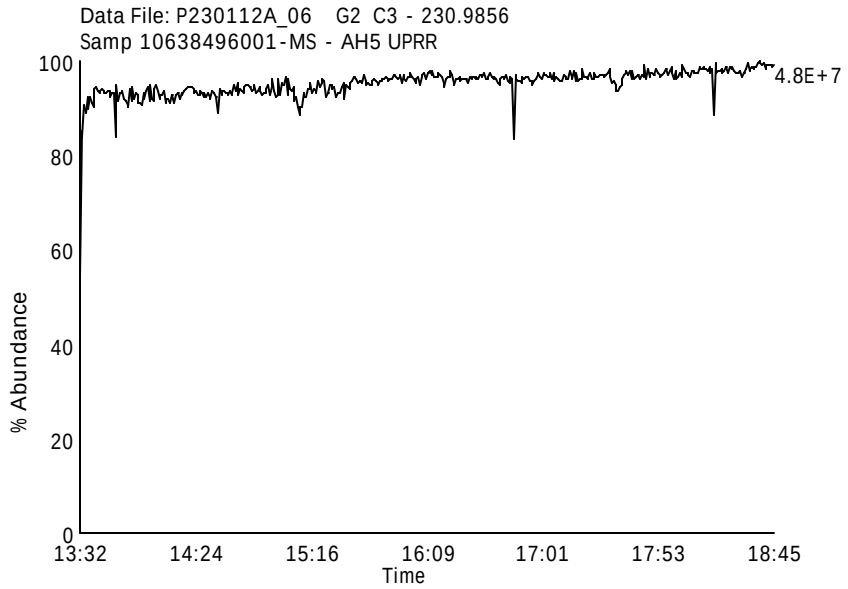


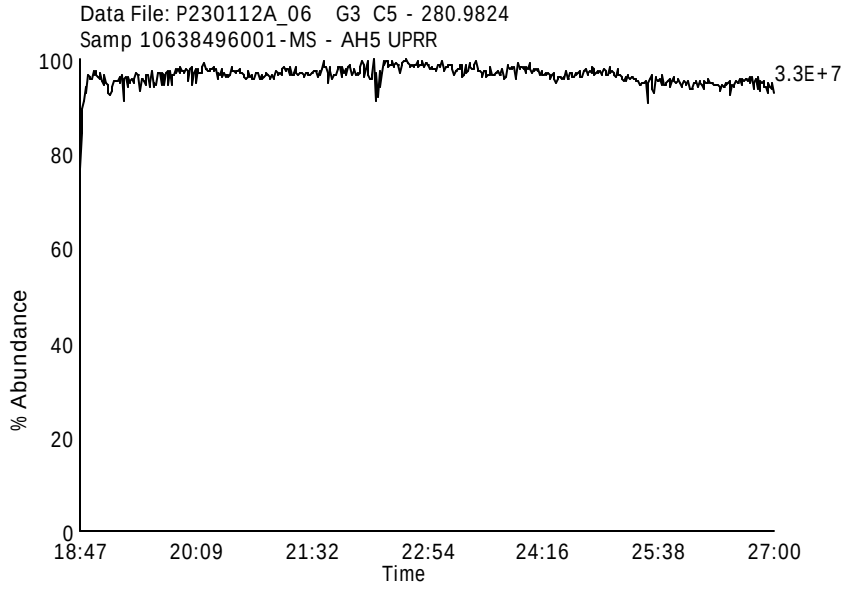


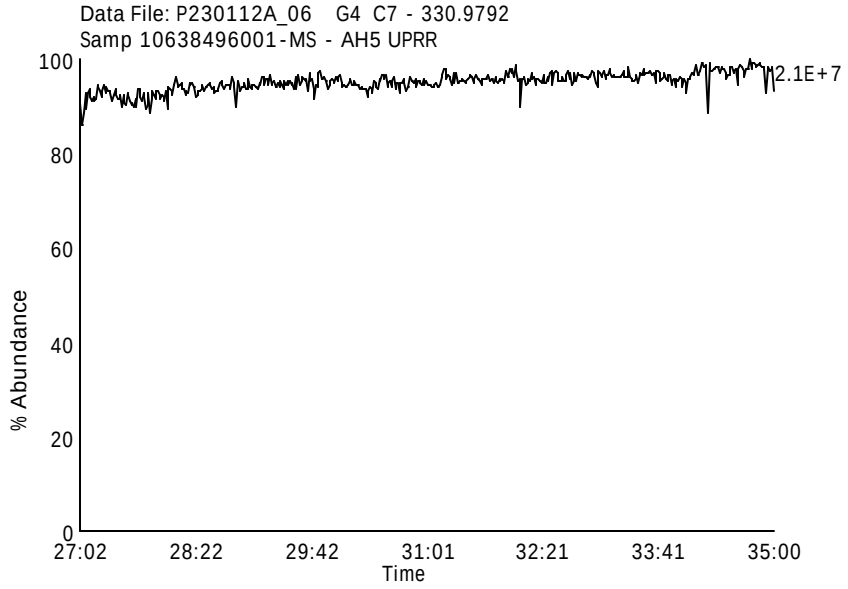
Group 1 - 4 Lock mass

Data File Name: P230112A_06
Lab Sample ID: 10638496001-MS
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MS - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MS



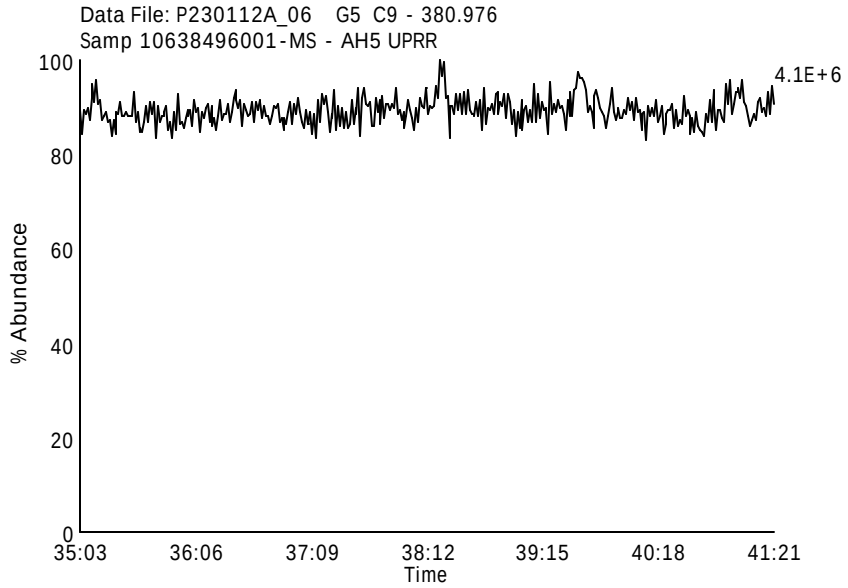


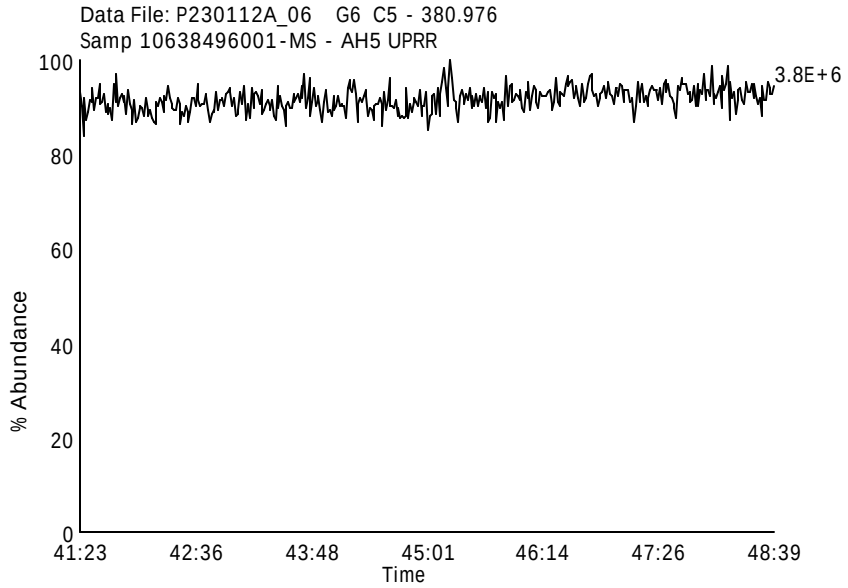


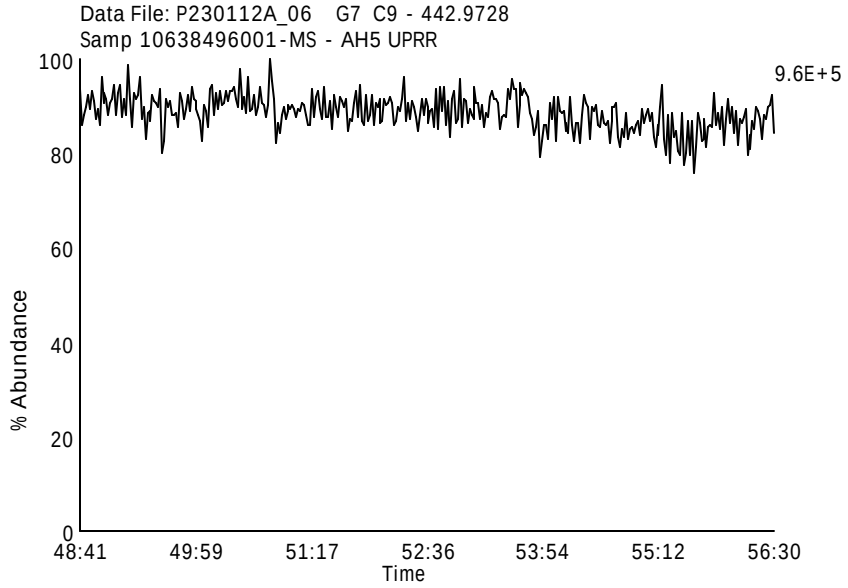


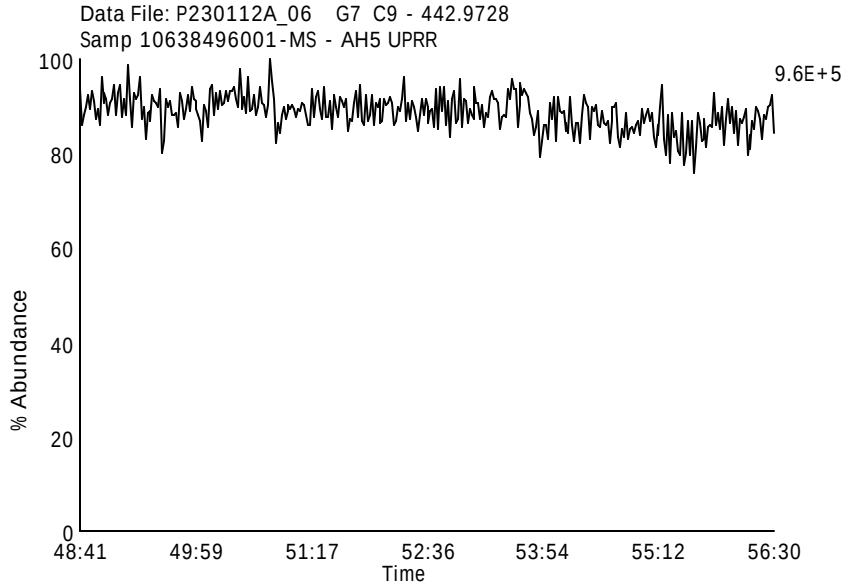
Group 5 - 7 Lock mass

Data File Name: P230112A_06
Lab Sample ID: 10638496001-MS
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MS - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MS



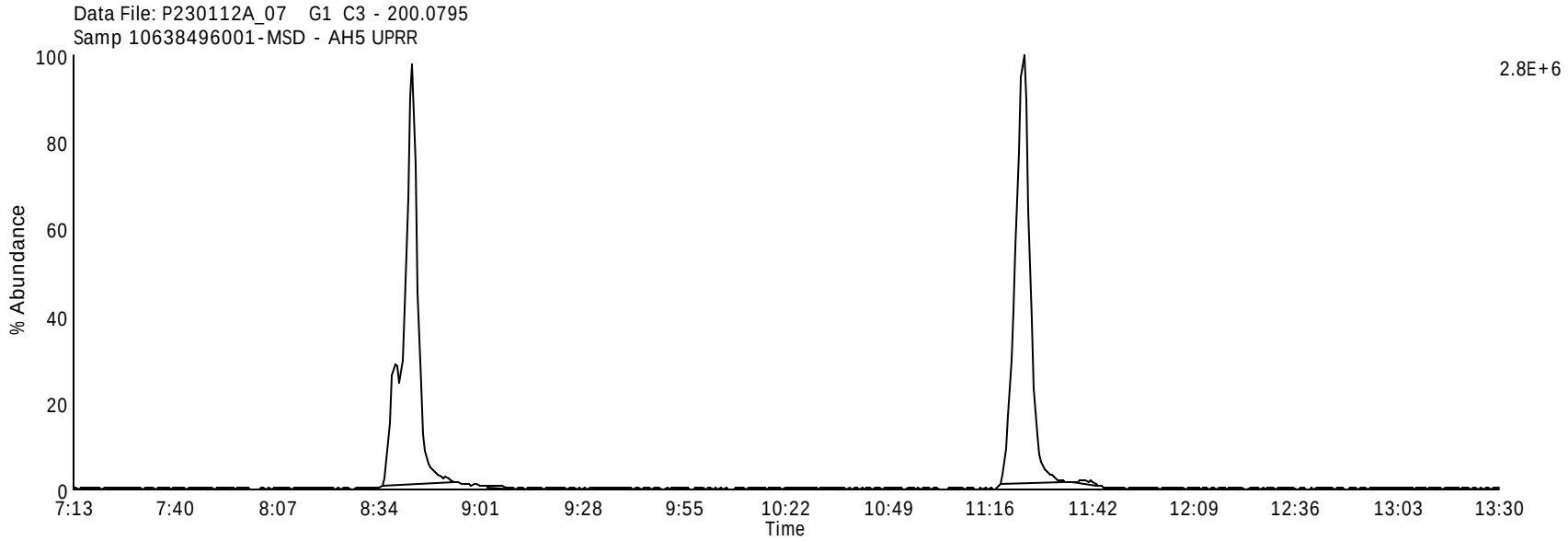


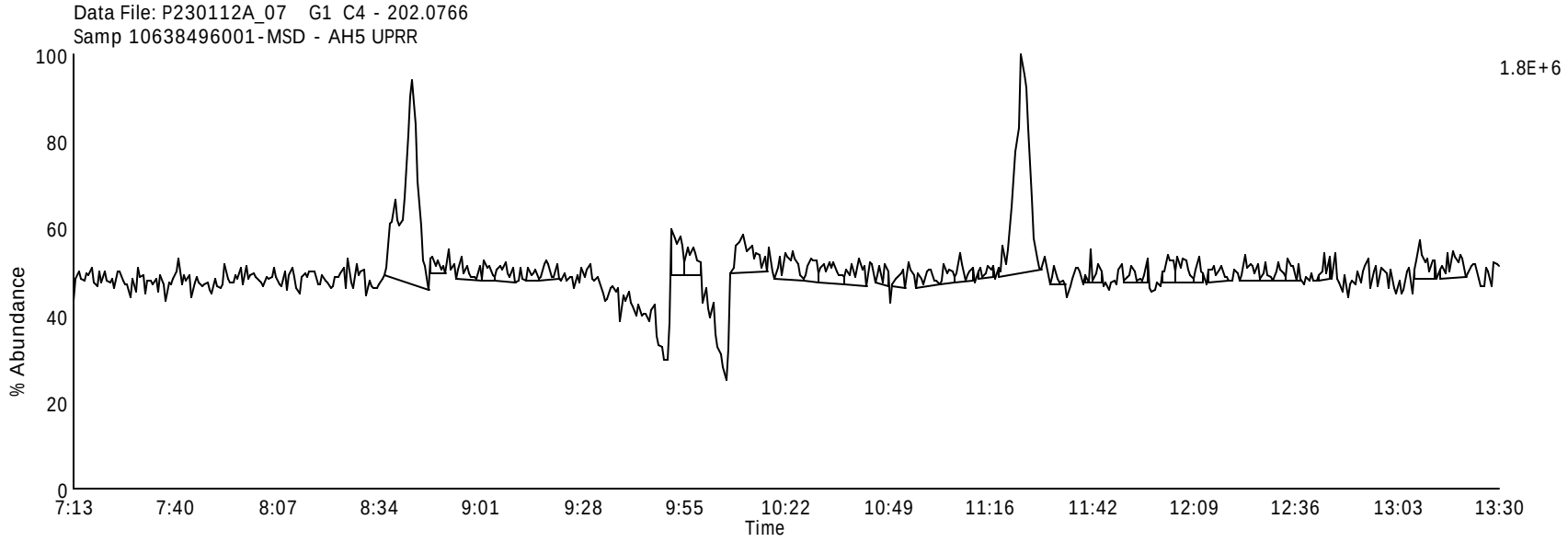




Labeled Mono Chlorinated Biphenyls

Data File Name: P230112A_07	Lab Sample ID: 10638496001-MSD
Date Acquired: 1/12/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MSD - AH5 UPRR	Client Sample ID: SB06-1.0-1.5-1022-MSD

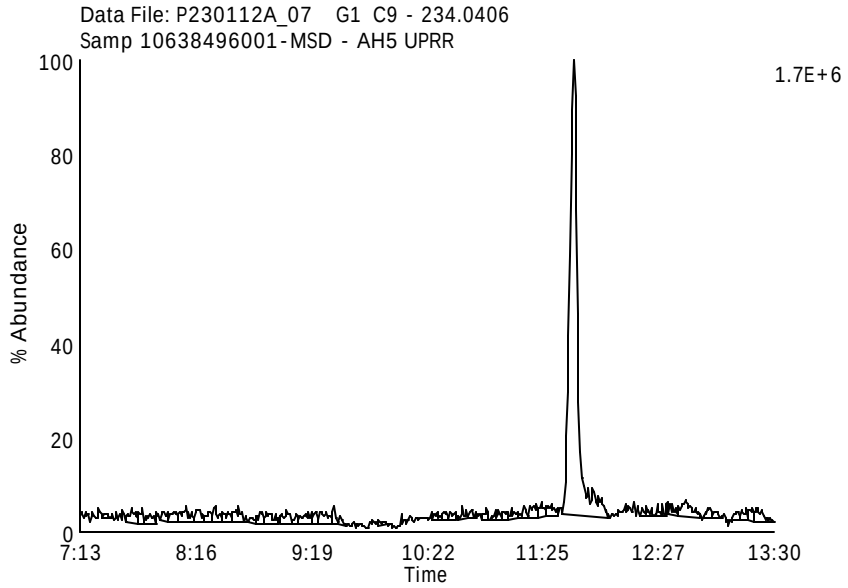


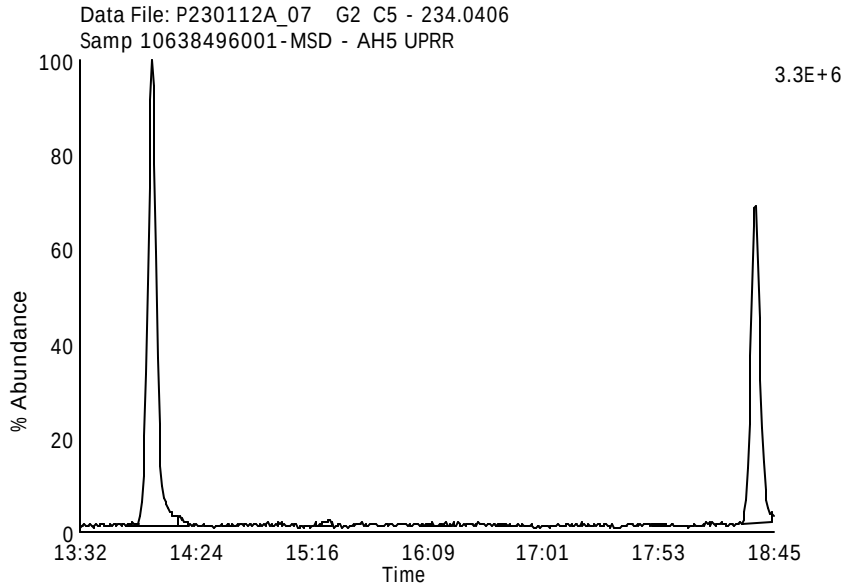


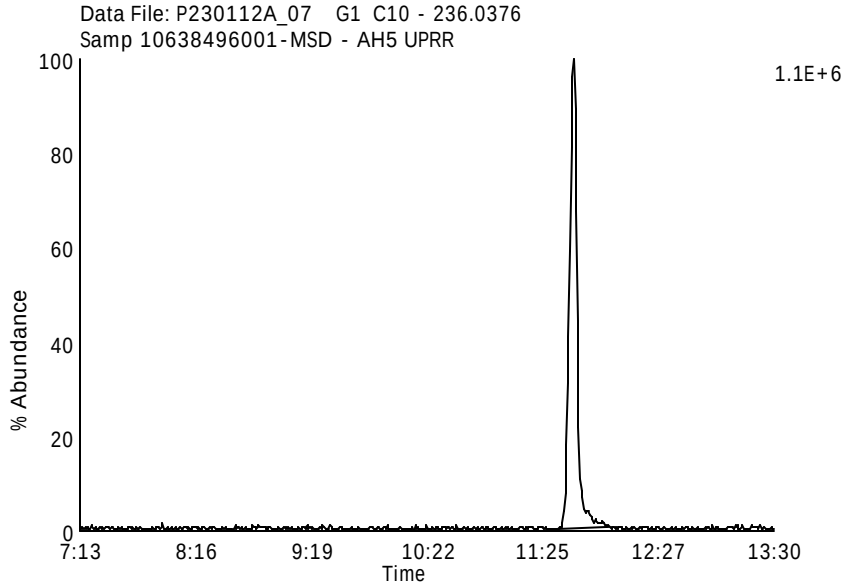
Labeled Di Chlorinated Biphenyls

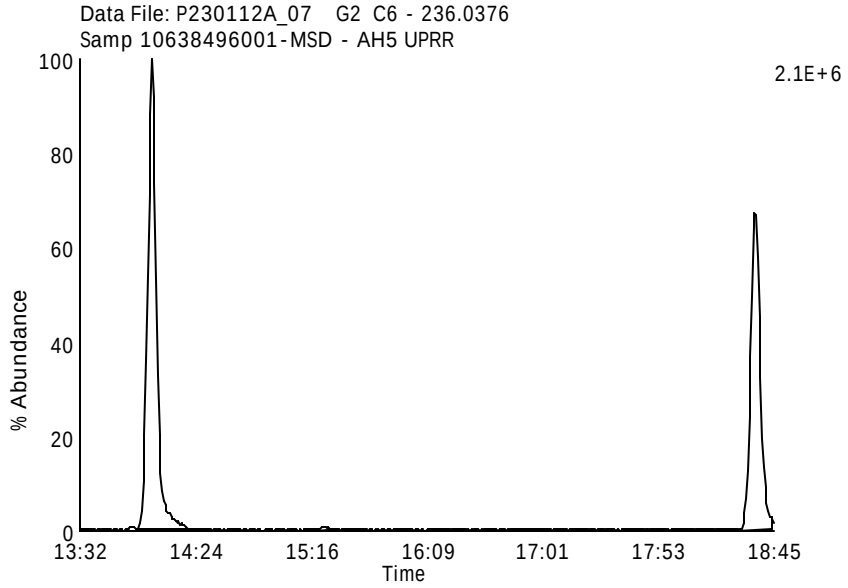
Data File Name: P230112A_07
Date Acquired: 1/12/2023
Sample Description: Samp 10638496001-MSD - AH5 UPRR

Lab Sample ID: 10638496001-MSD
Instrument: 10MSHR09 (P)
Client Sample ID: SB06-1.0-1.5-1022-MSD



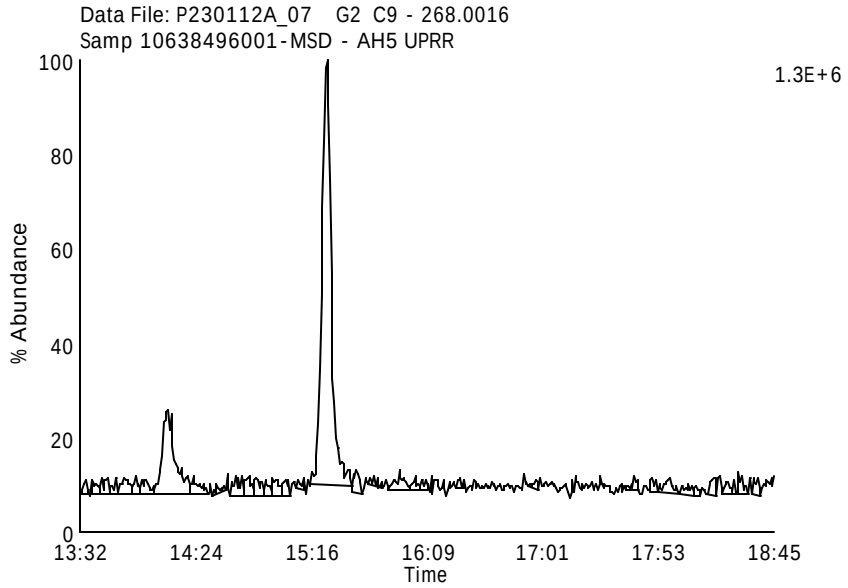


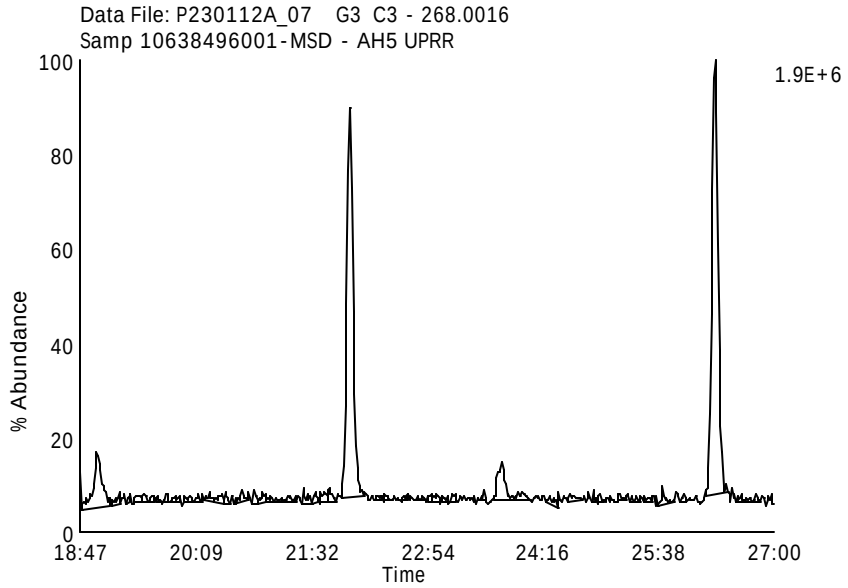


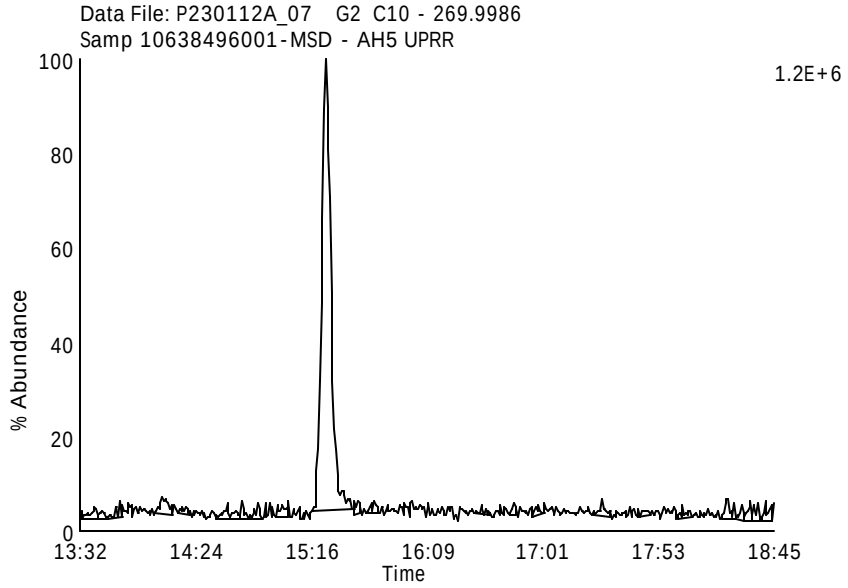


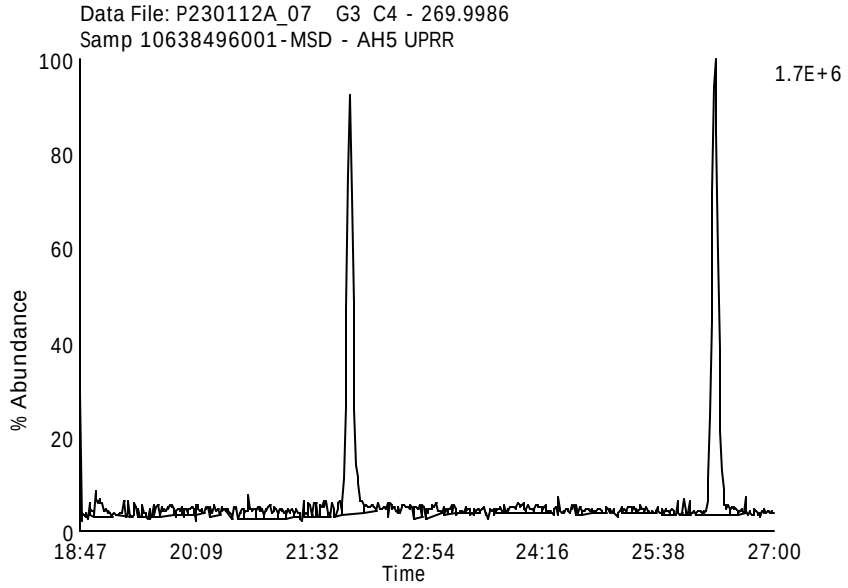
Labeled Tri Chlorinated Biphenyls

Data File Name: P230112A_07
Lab Sample ID: 10638496001-MSD
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MSD - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MSD



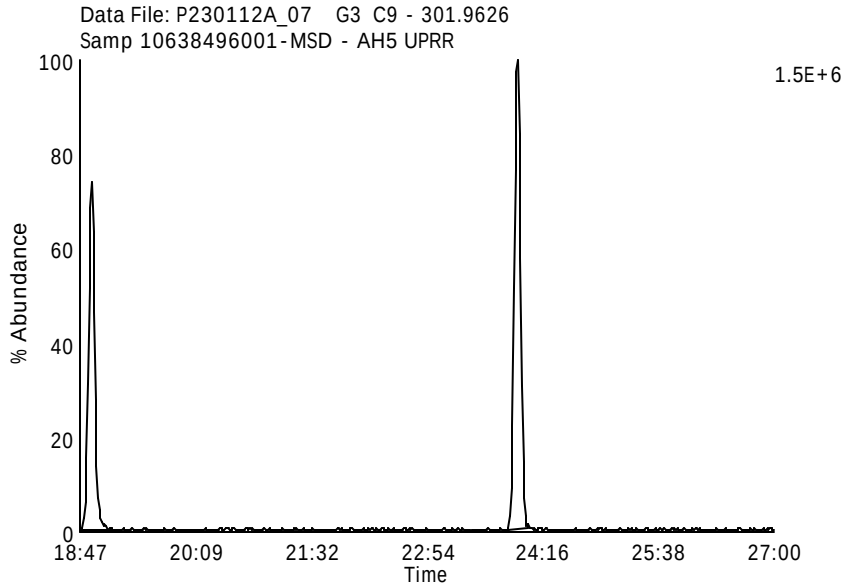


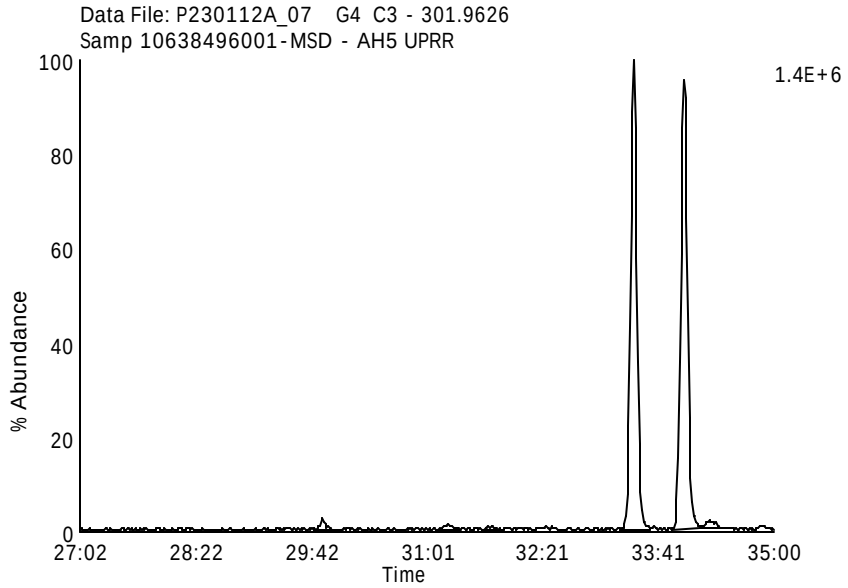


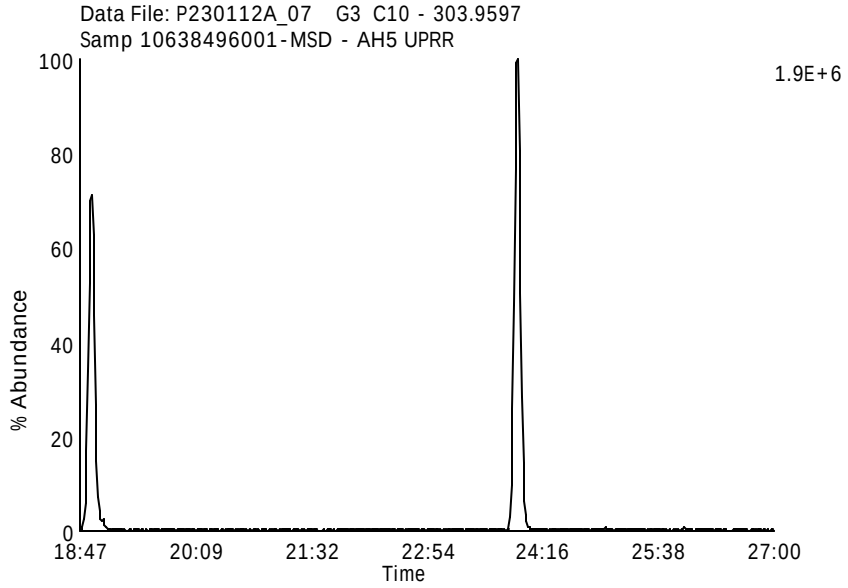


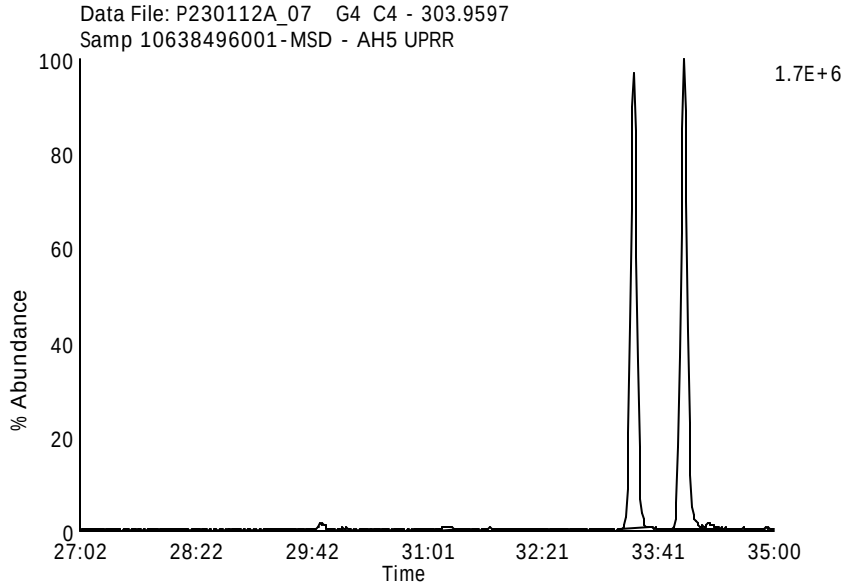
Labeled Tetra Chlorinated Biphenyls

Data File Name: P230112A_07
Lab Sample ID: 10638496001-MSD
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MSD - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MSD



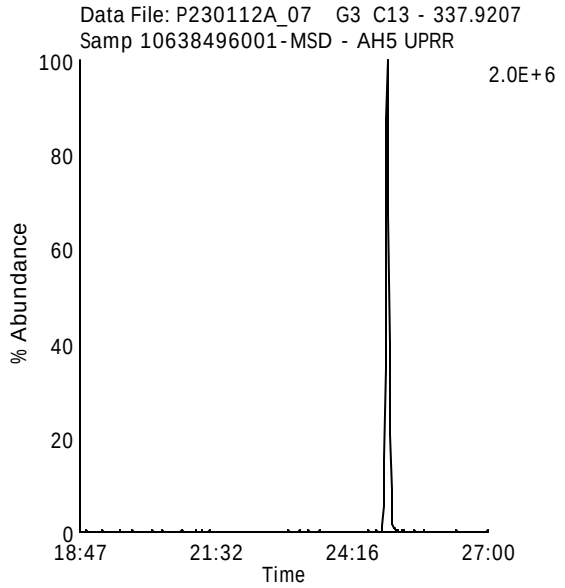


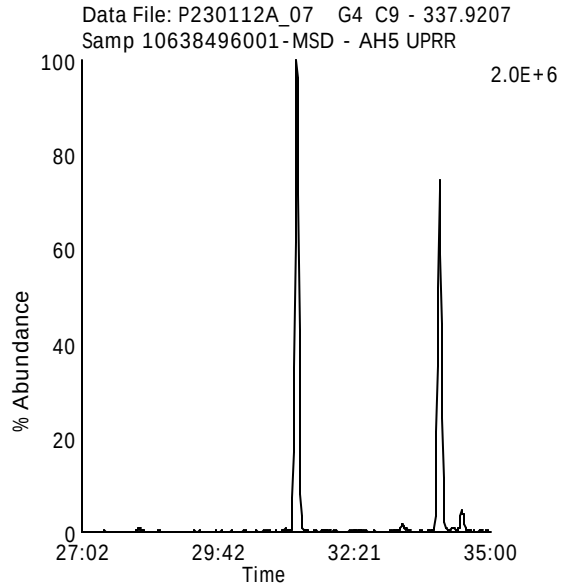


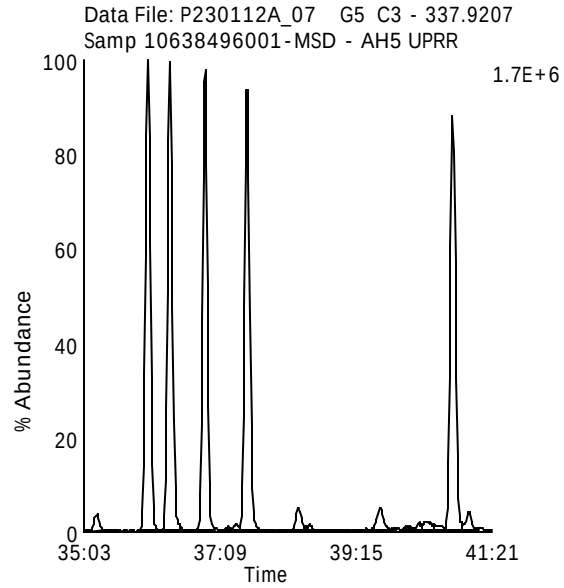


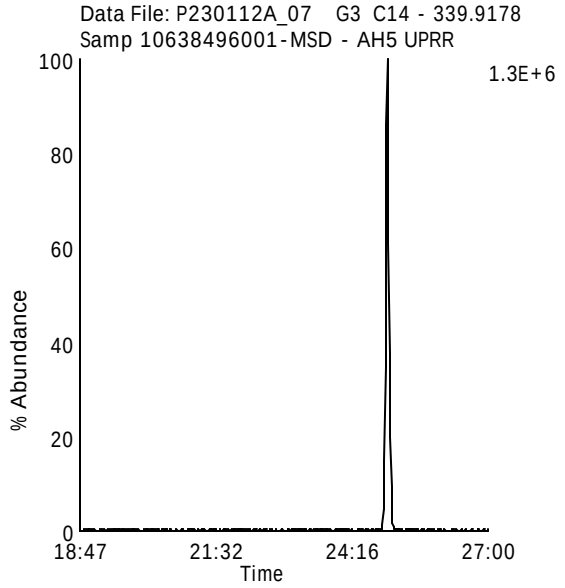
Labeled Penta Chlorinated Biphenyls

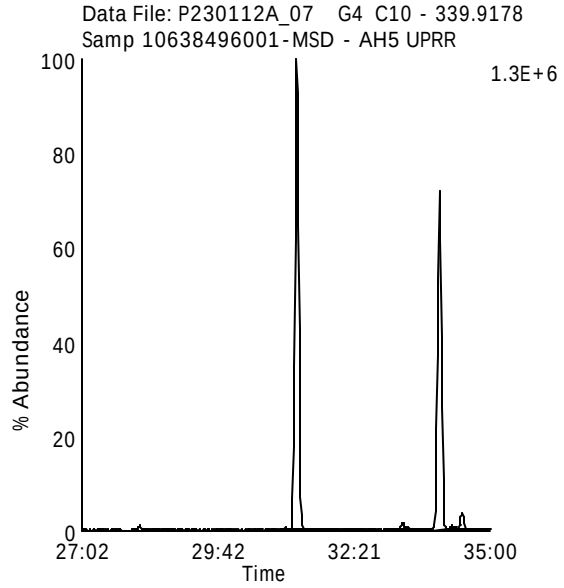
Data File Name: P230112A_07
Lab Sample ID: 10638496001-MSD
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MSD - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MSD

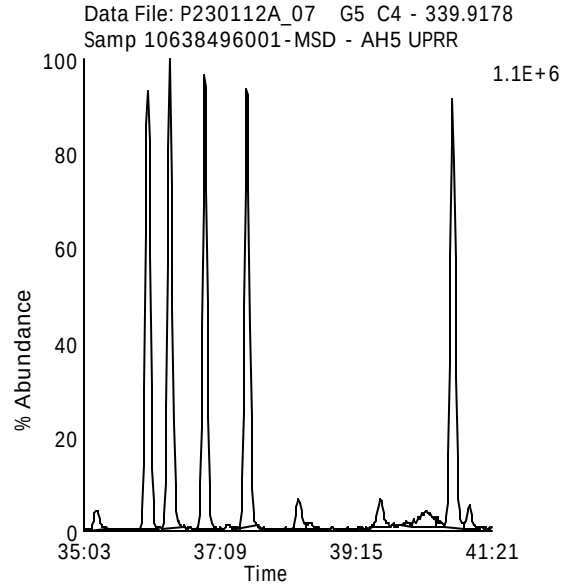






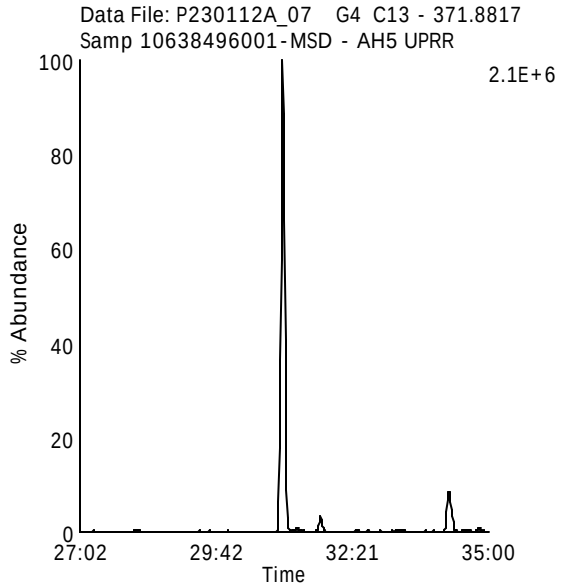


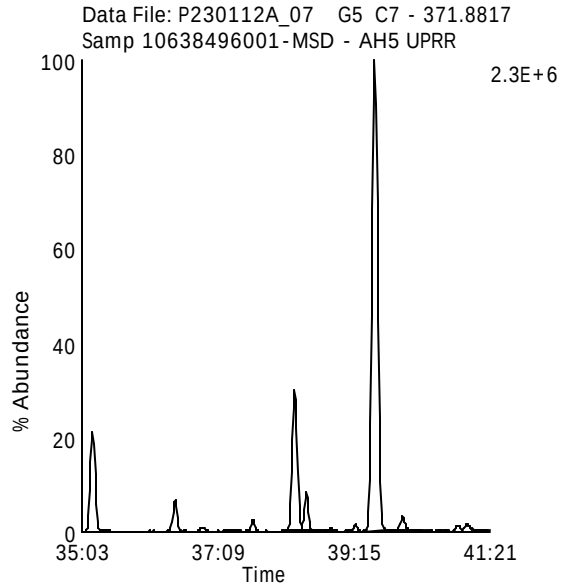


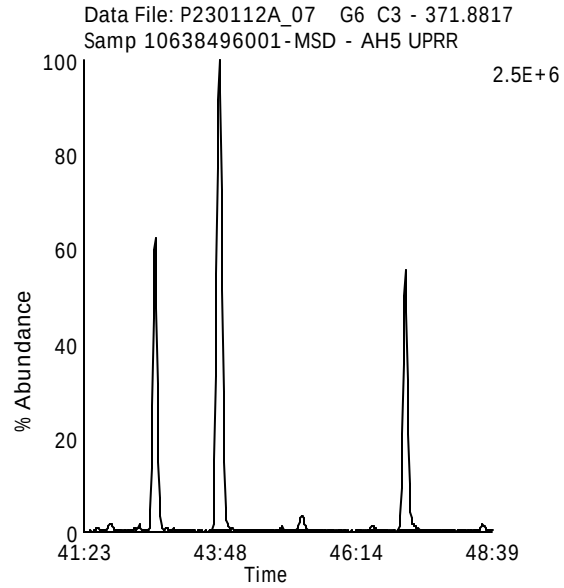


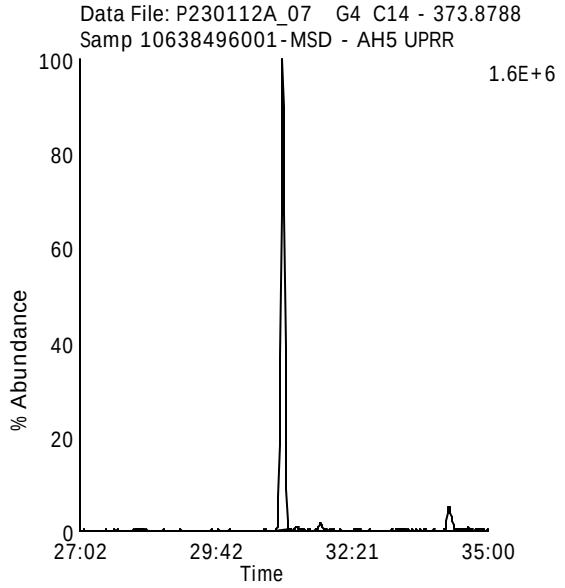
Labeled Hexa Chlorinated Biphenyls

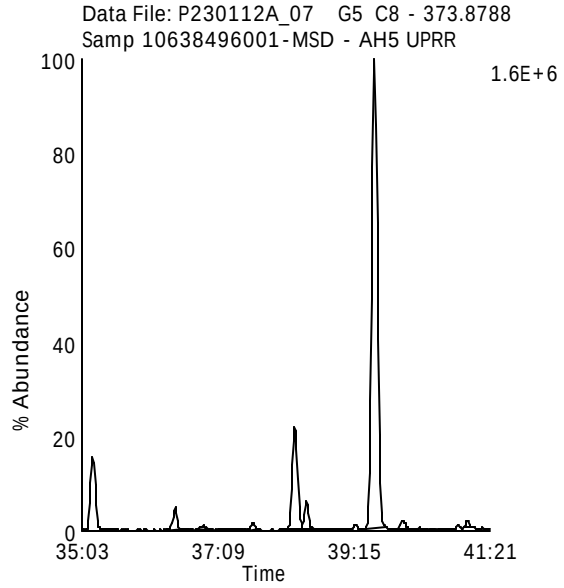
Data File Name: P230112A_07
Lab Sample ID: 10638496001-MSD
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MSD - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MSD

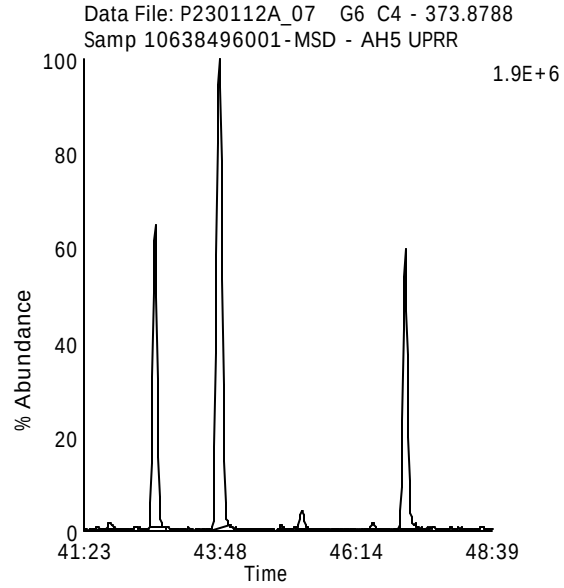






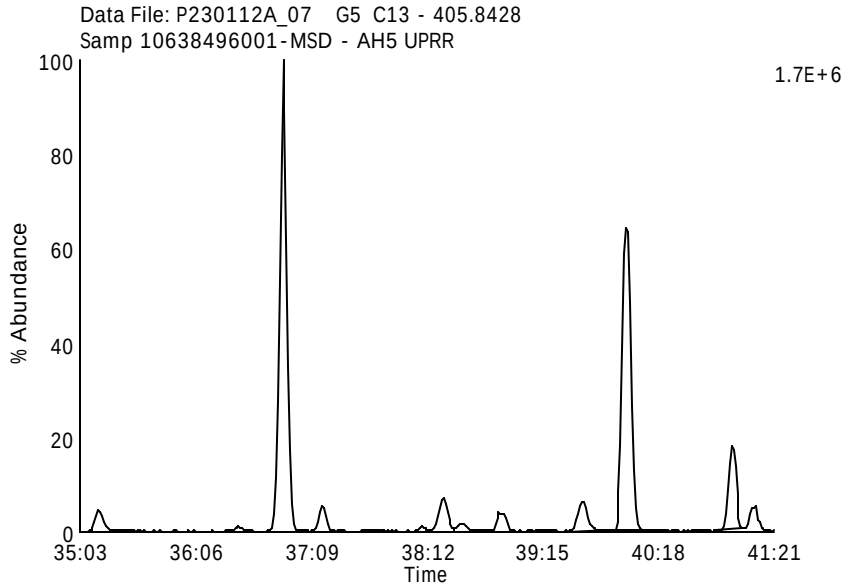


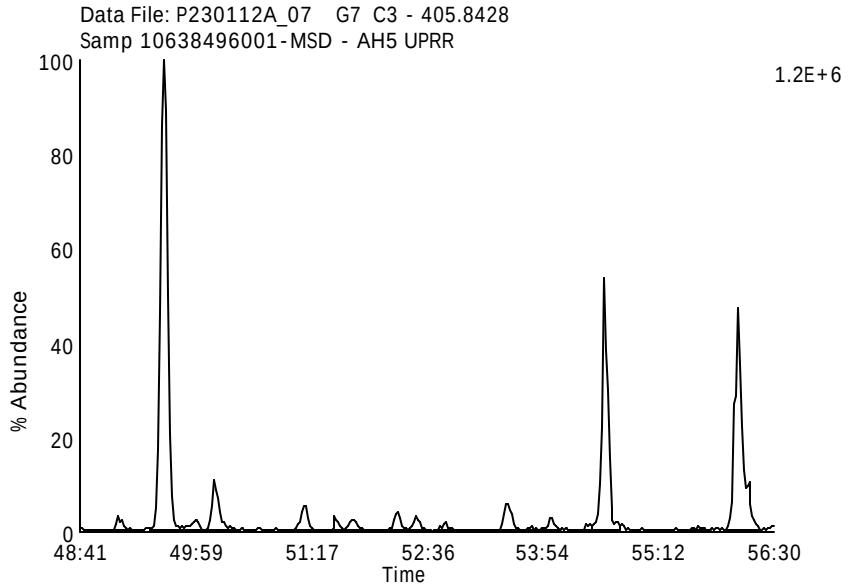


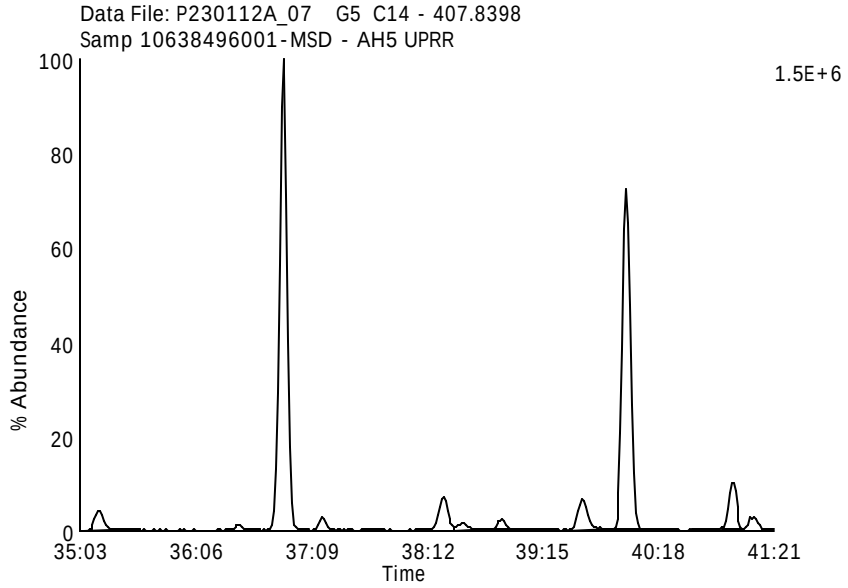


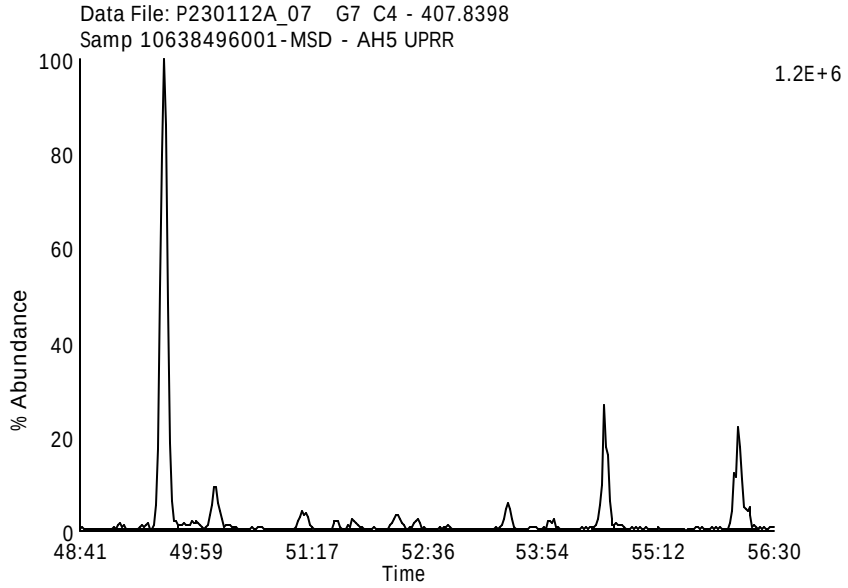
Labeled Hepta Chlorinated Biphenyls

Data File Name: P230112A_07
Lab Sample ID: 10638496001-MSD
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MSD - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MSD



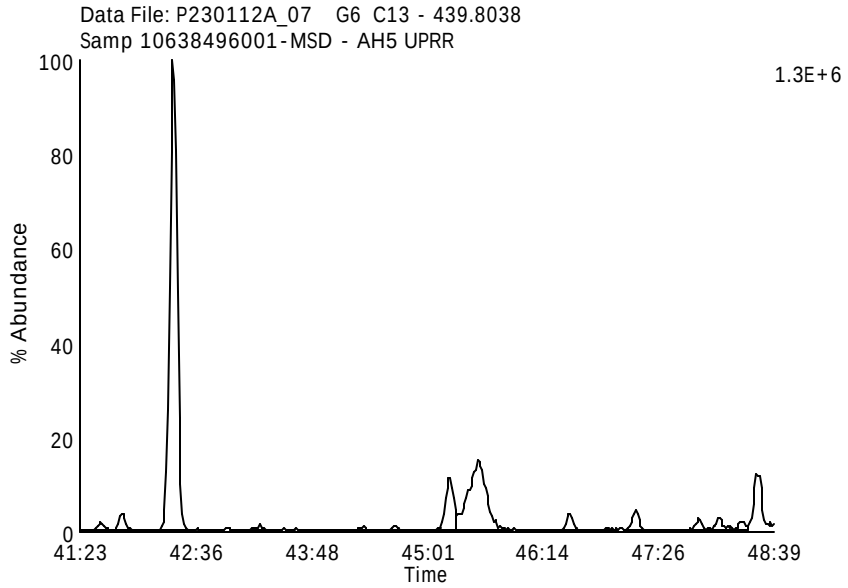


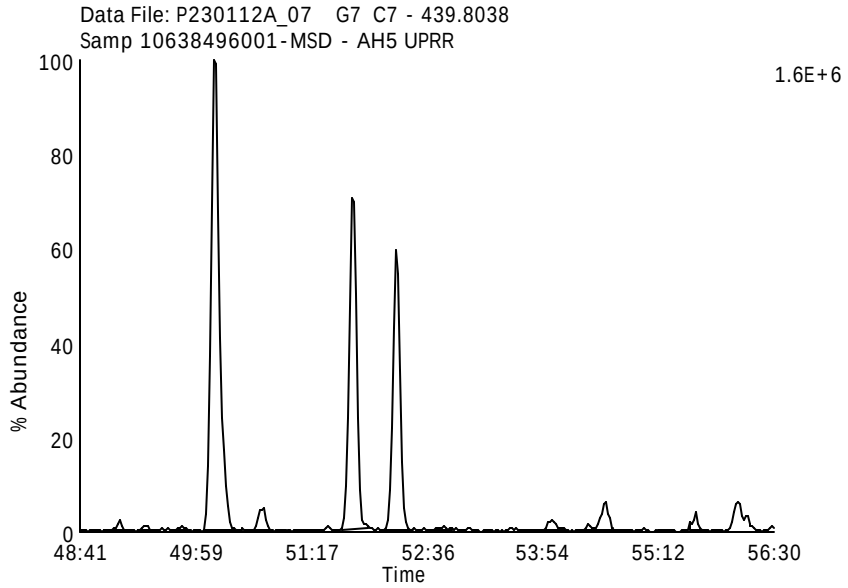


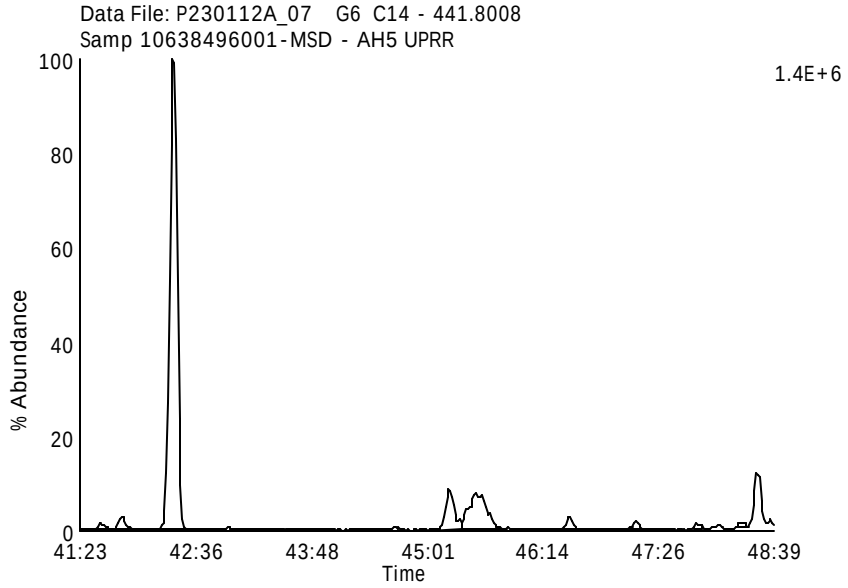


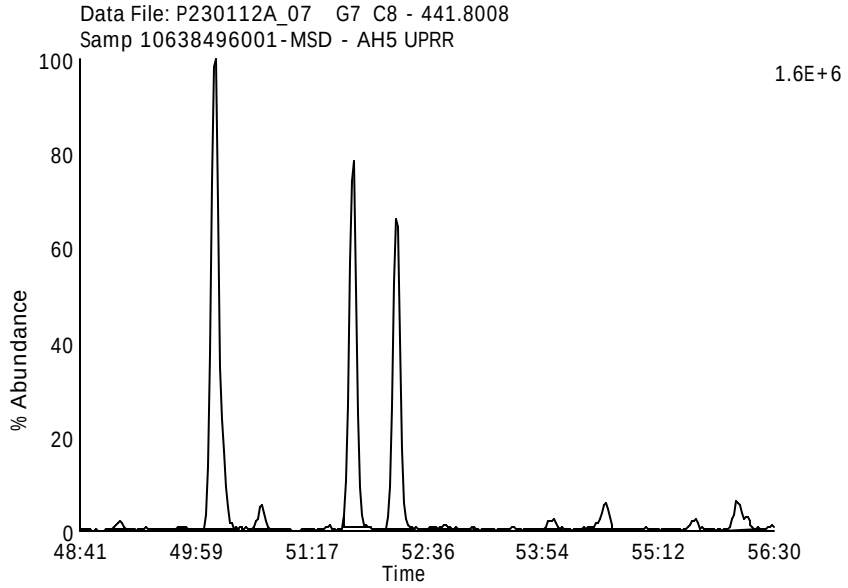
Labeled Octa Chlorinated Biphenyls

Data File Name: P230112A_07
Lab Sample ID: 10638496001-MSD
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MSD - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MSD



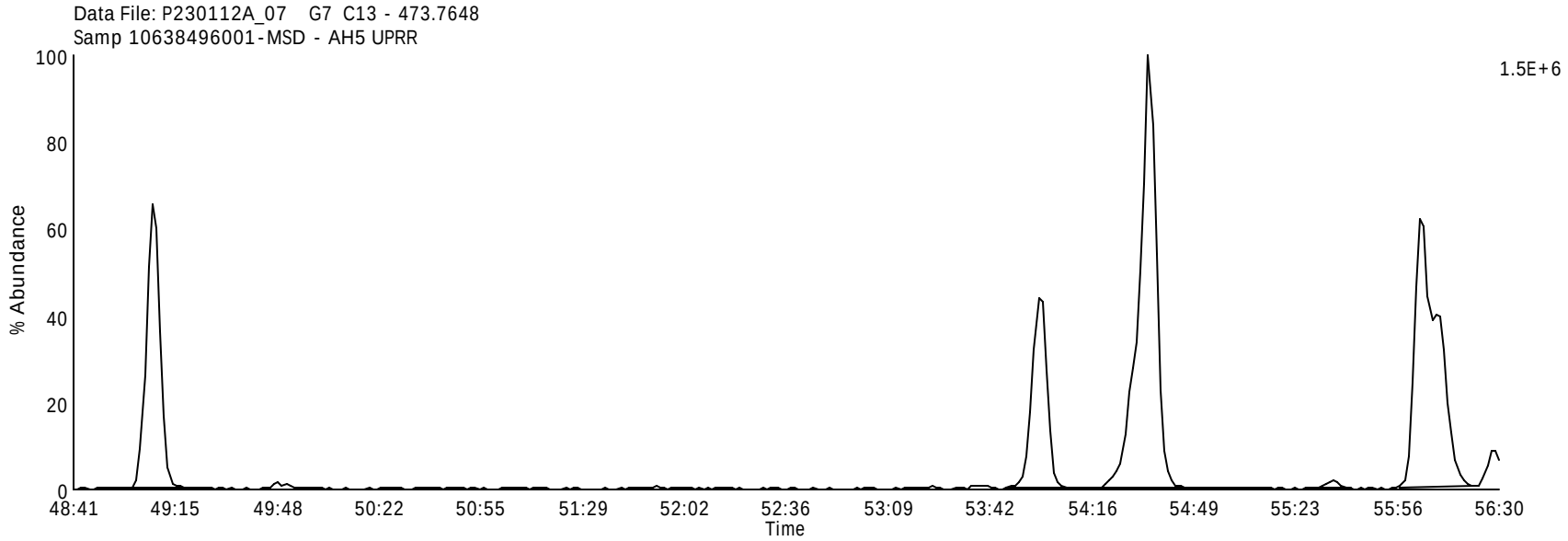


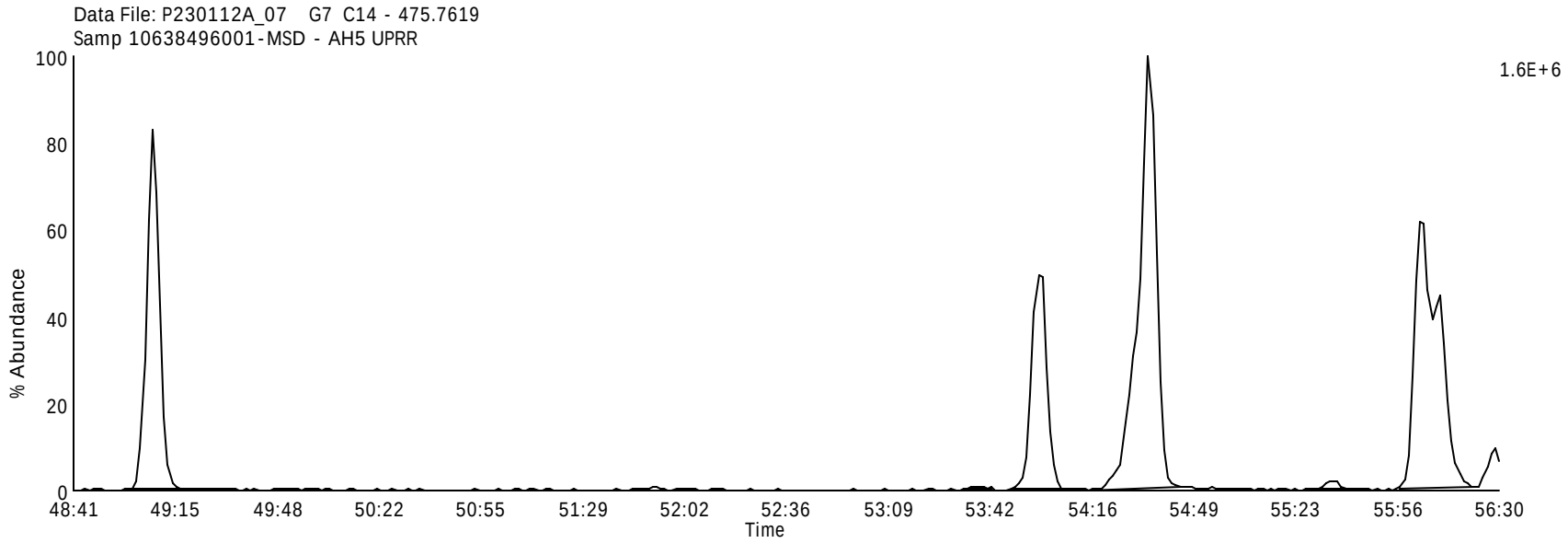




Labeled Nona Chlorinated Biphenyls

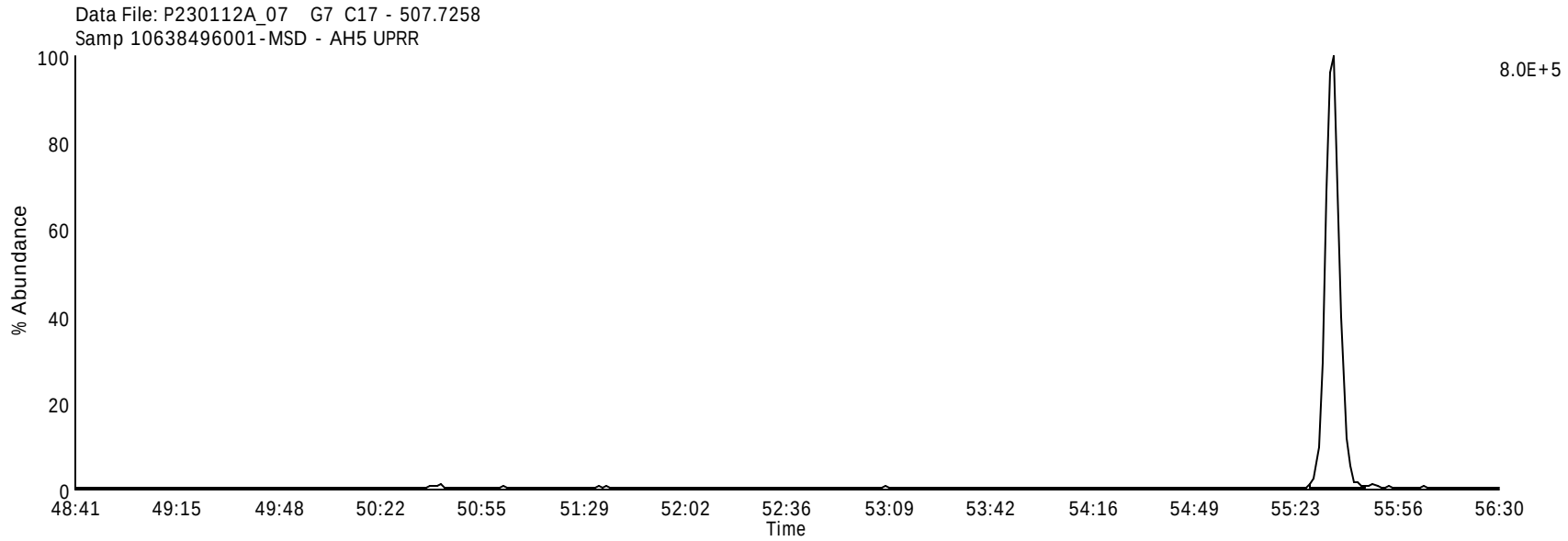
Data File Name: P230112A_07
Lab Sample ID: 10638496001-MSD
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MSD - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MSD

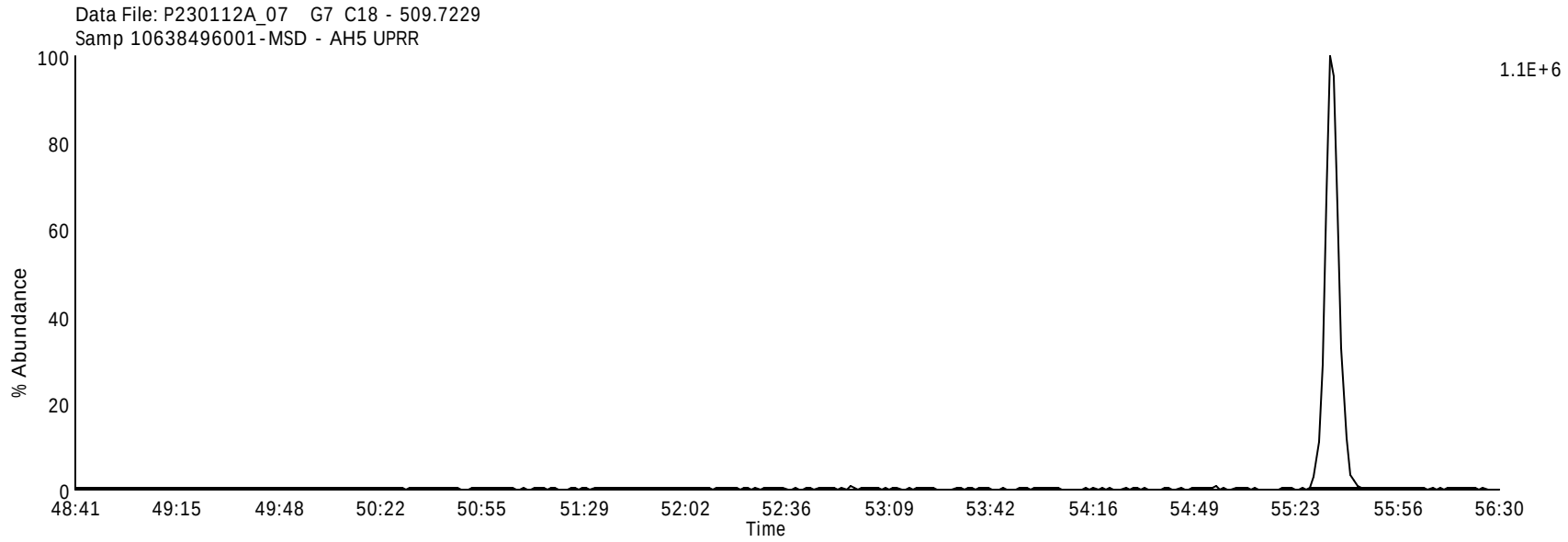




Labeled Deca Chlorinated Biphenyl

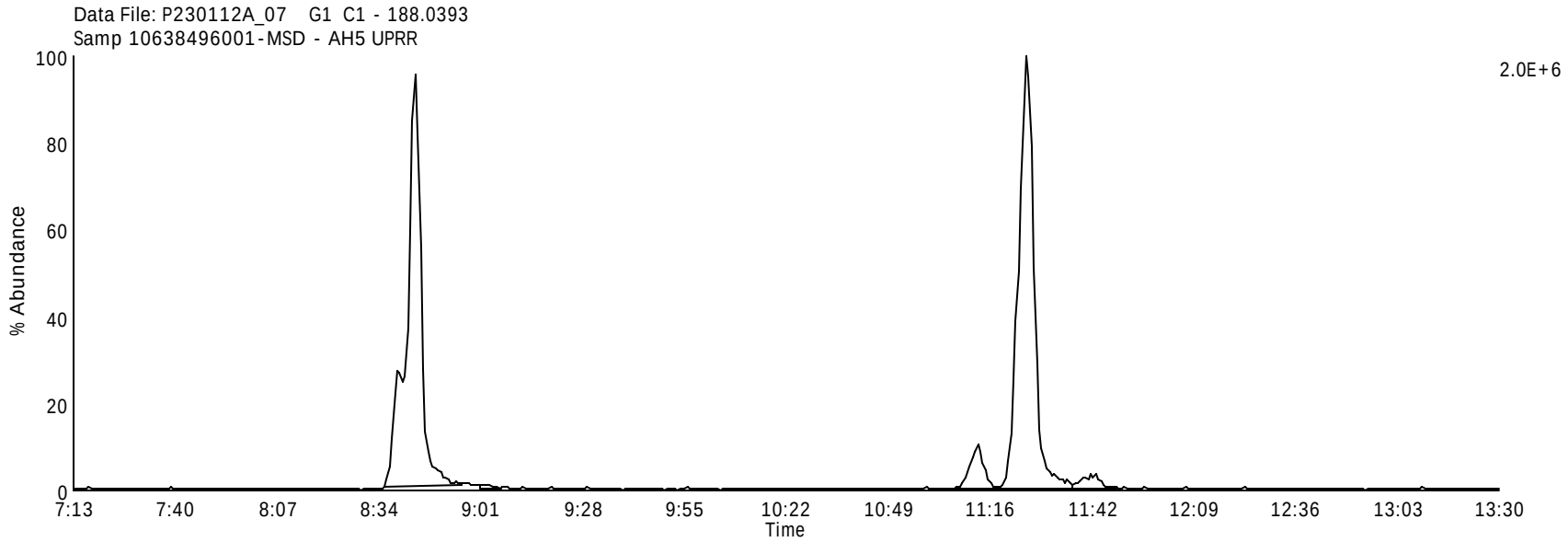
Data File Name: P230112A_07	Lab Sample ID: 10638496001-MSD
Date Acquired: 1/12/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MSD - AH5 UPRR	Client Sample ID: SB06-1.0-1.5-1022-MSD

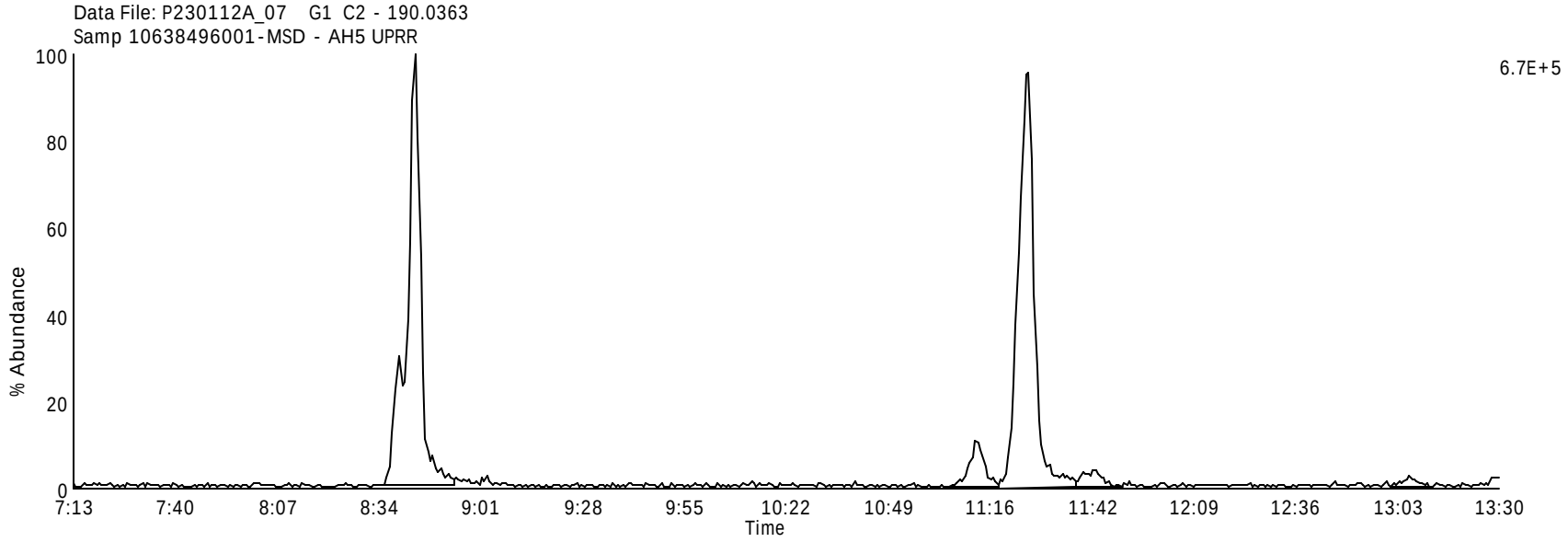




Mono Chlorinated Biphenyls

Data File Name: P230112A_07	Lab Sample ID: 10638496001-MSD
Date Acquired: 1/12/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MSD - AH5 UPRR	Client Sample ID: SB06-1.0-1.5-1022-MSD

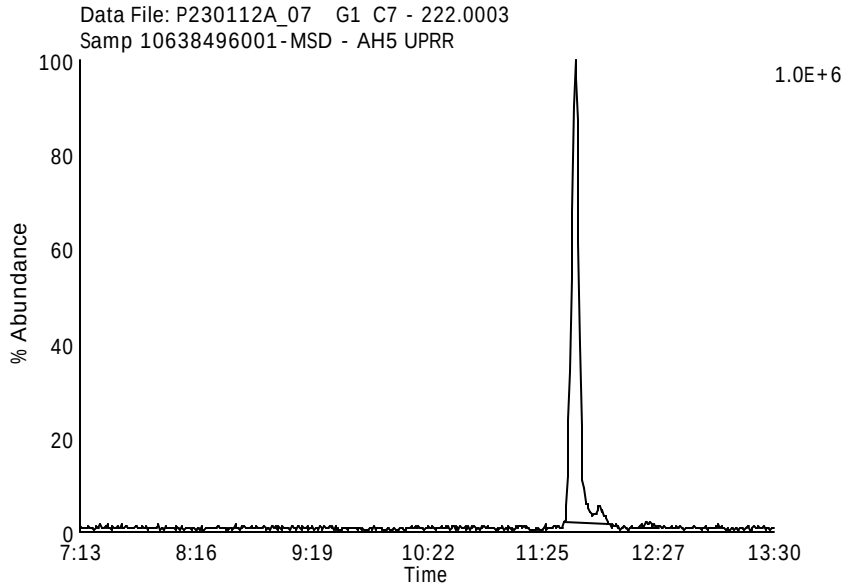


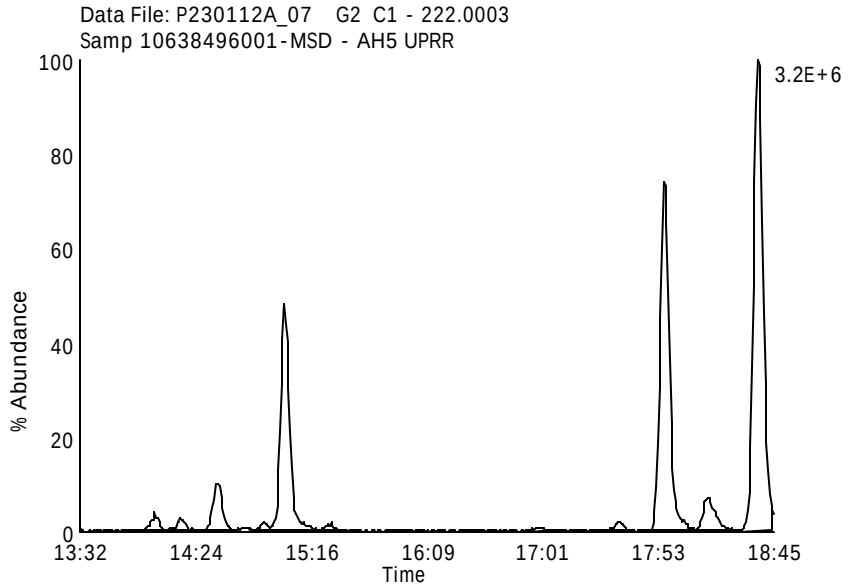


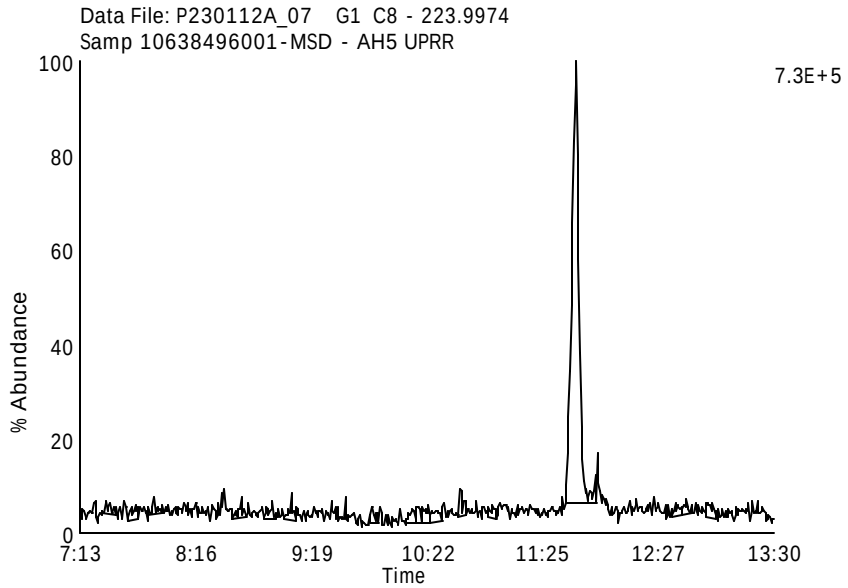
Di Chlorinated Biphenyls

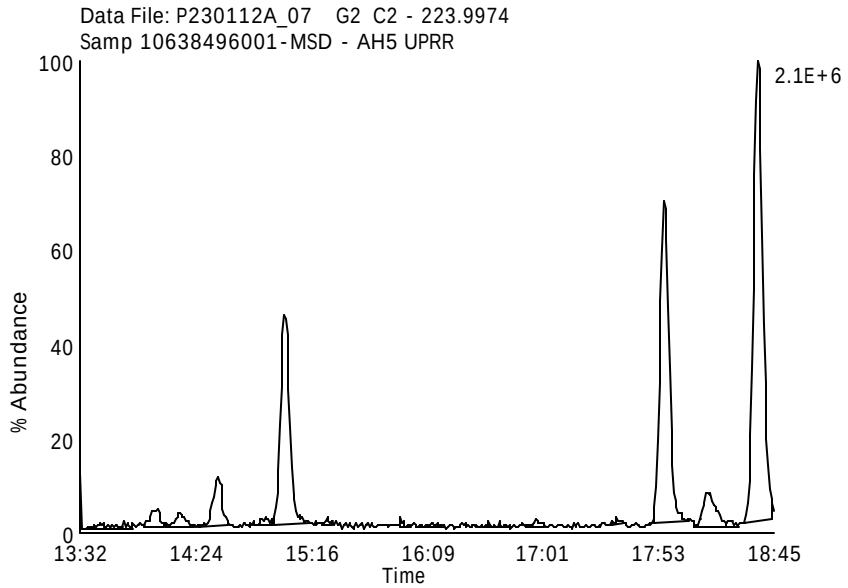
Data File Name: P230112A_07
Date Acquired: 1/12/2023
Sample Description: Samp 10638496001-MSD - AH5 UPRR

Lab Sample ID: 10638496001-MSD
Instrument: 10MSHR09 (P)
Client Sample ID: SB06-1.0-1.5-1022-MSD



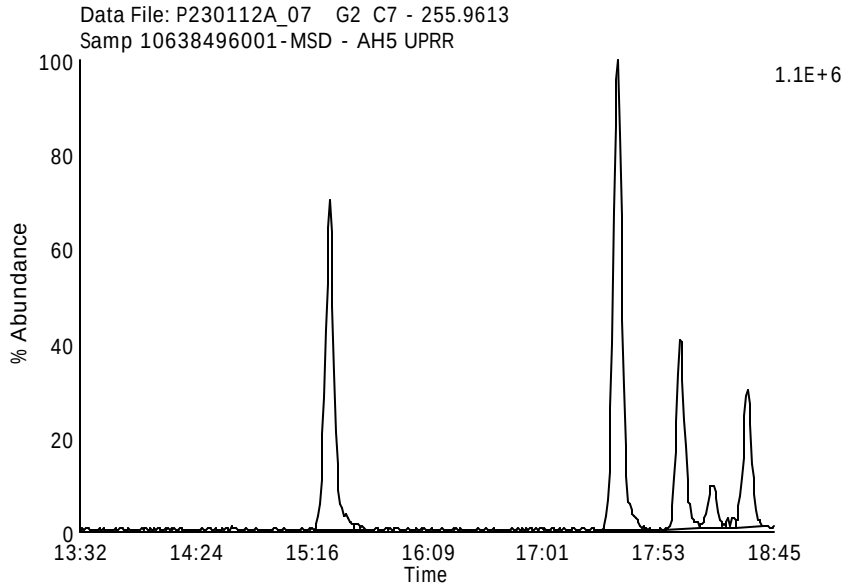


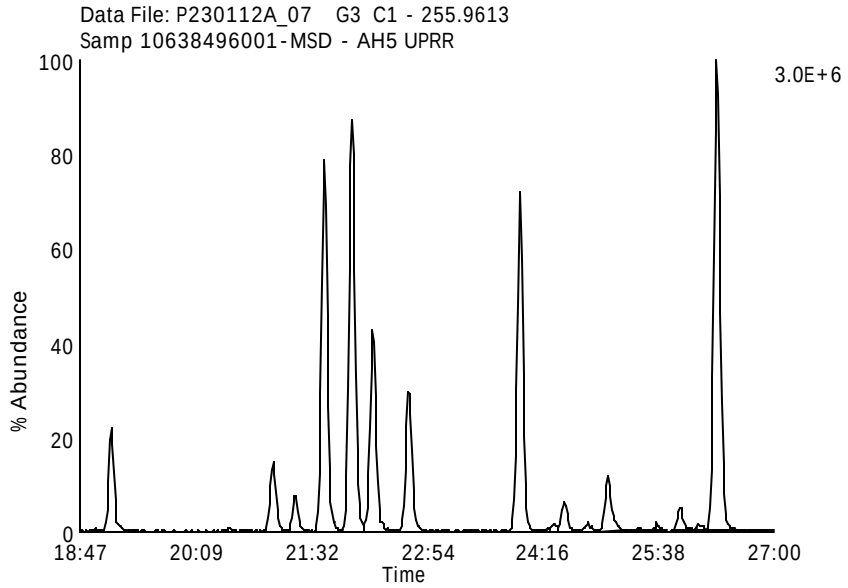


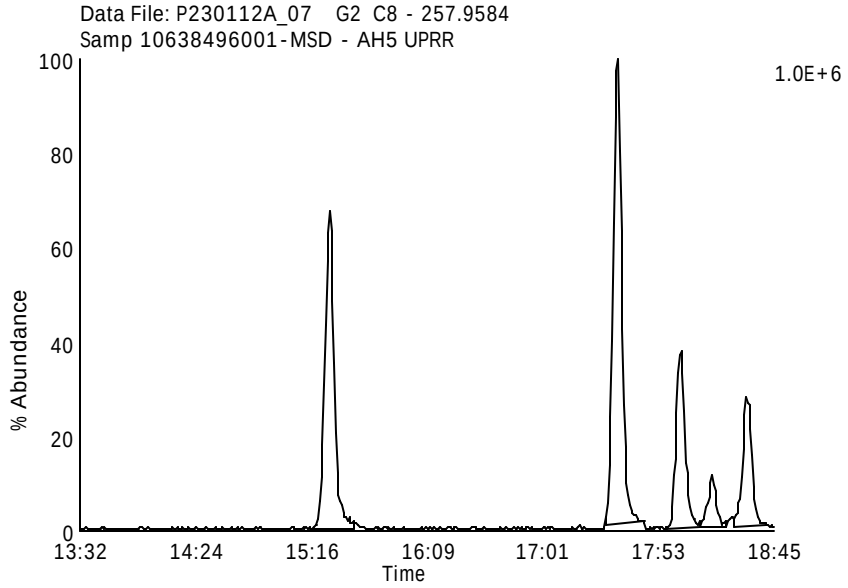


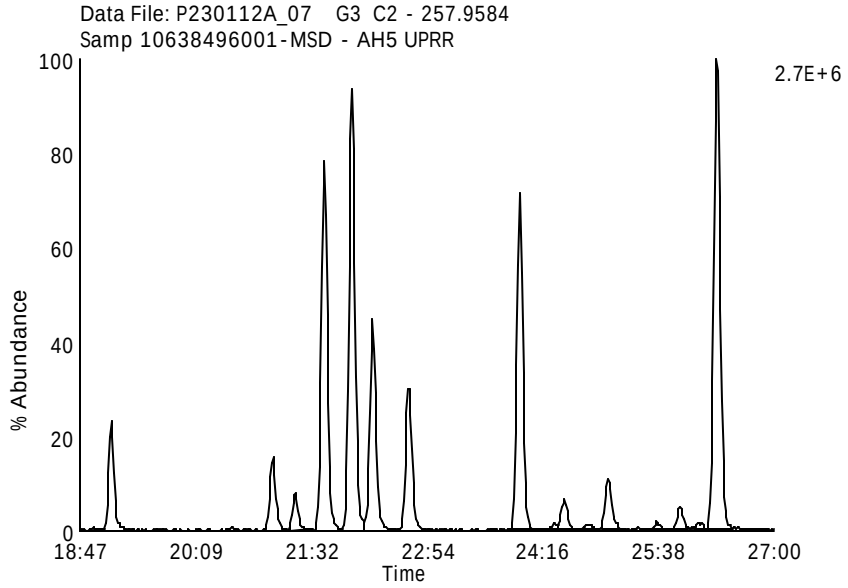
Tri Chlorinated Biphenyls

Data File Name: P230112A_07
Lab Sample ID: 10638496001-MSD
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MSD - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MSD





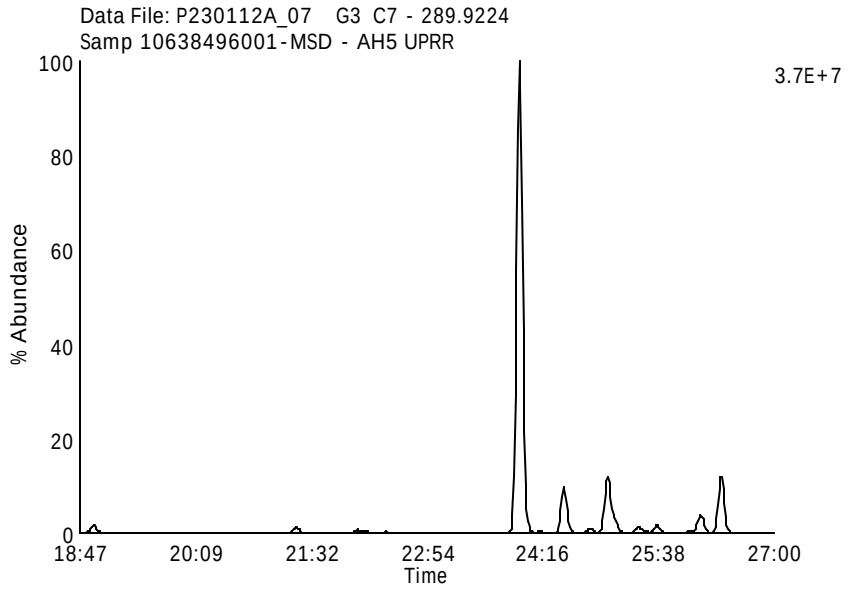


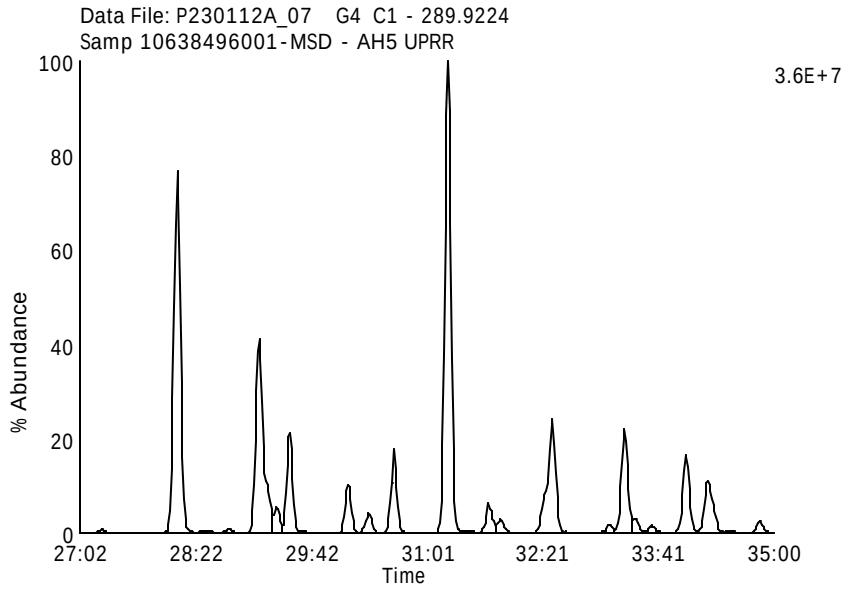


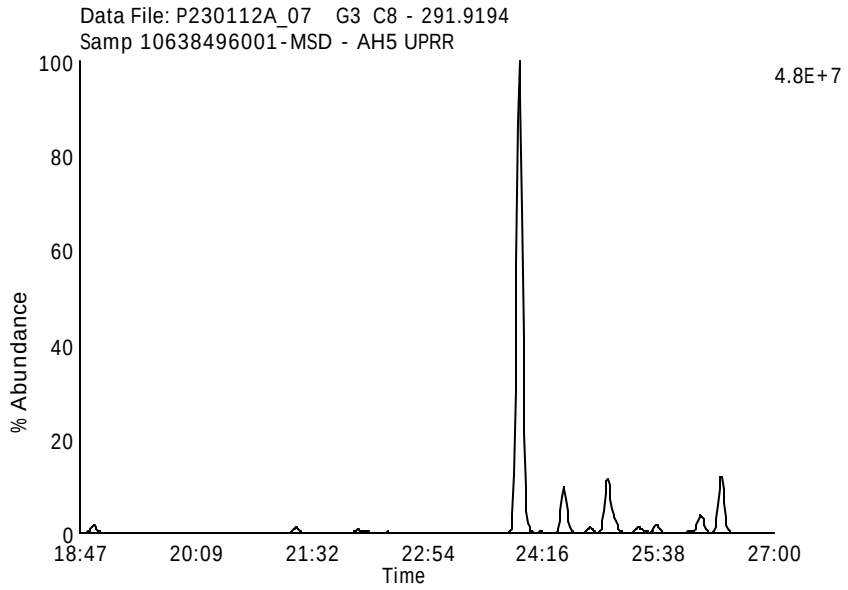
Tetra Chlorinated Biphenyls

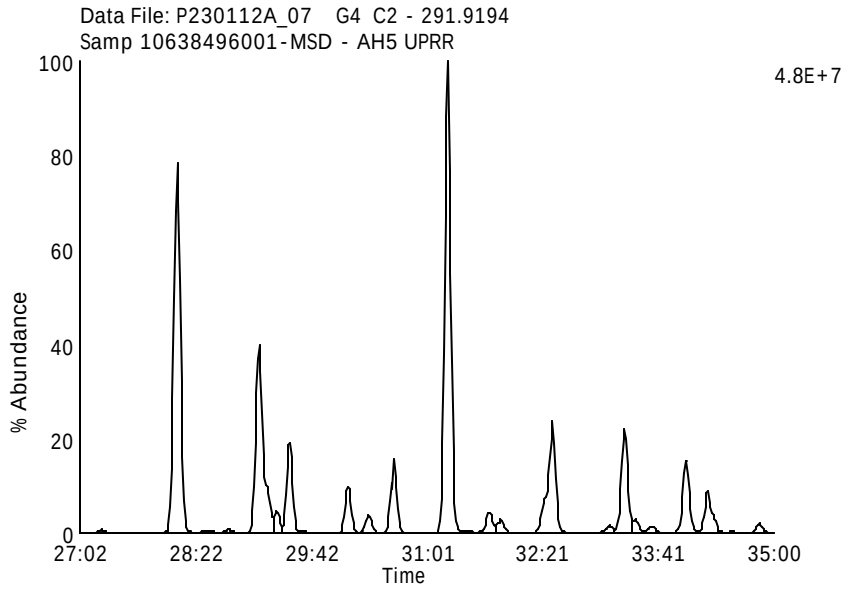
Data File Name: P230112A_07
Date Acquired: 1/12/2023
Sample Description: Samp 10638496001-MSD - AH5 UPRR

Lab Sample ID: 10638496001-MSD
Instrument: 10MSHR09 (P)
Client Sample ID: SB06-1.0-1.5-1022-MSD



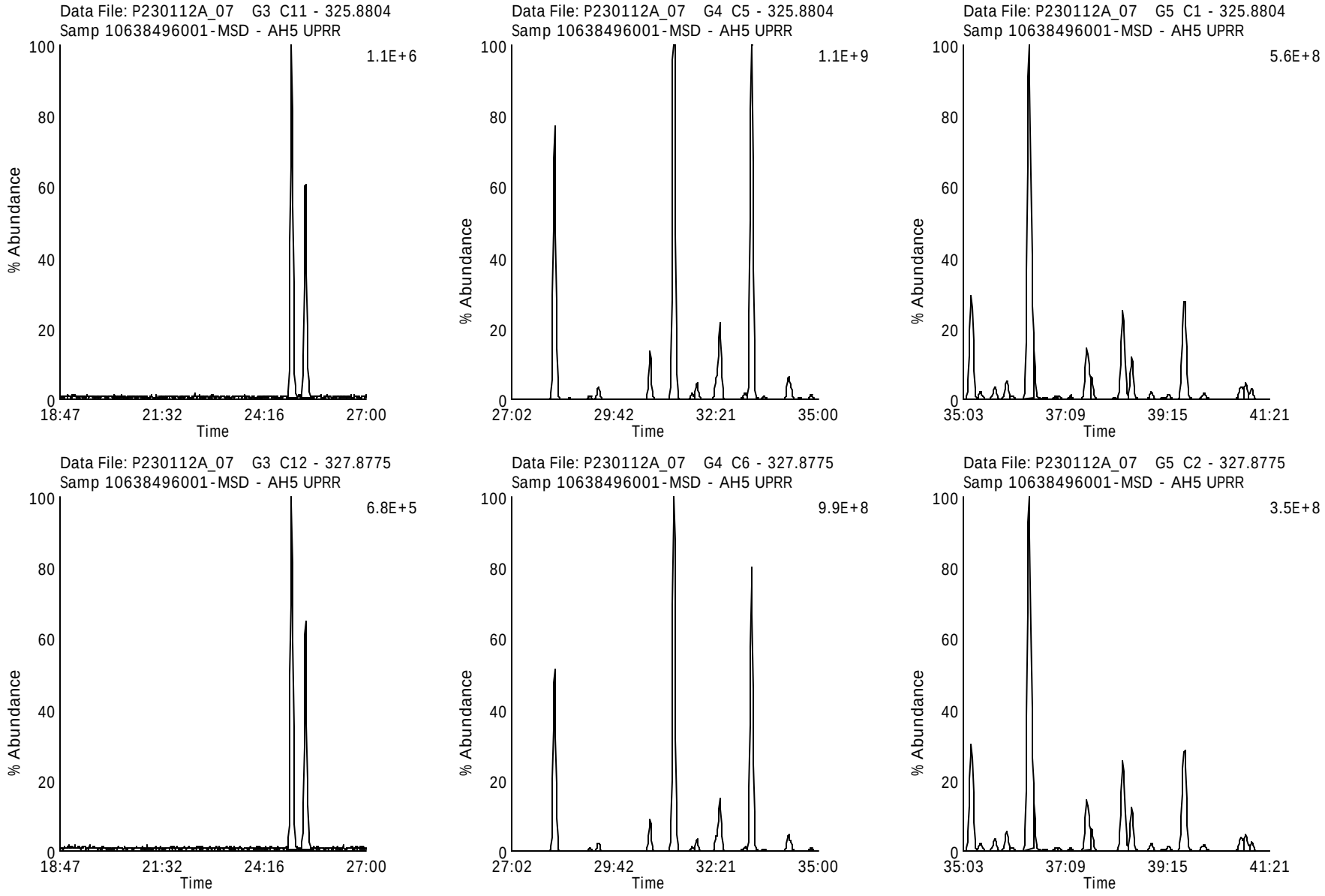






Penta Chlorinated Biphenyls

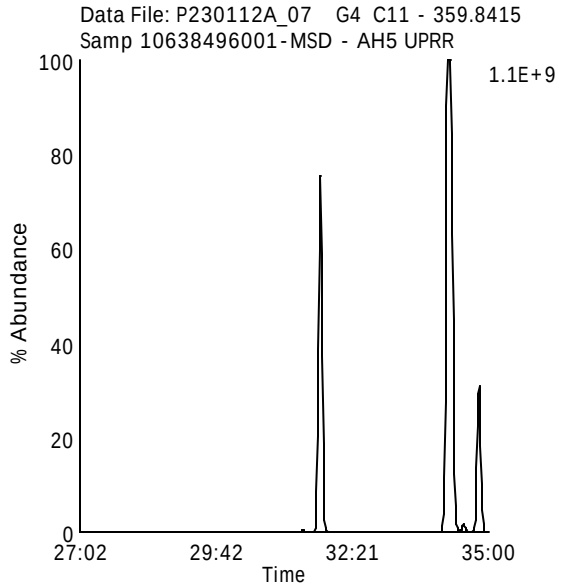
Data File Name: P230112A_07
Lab Sample ID: 10638496001-MSD
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MSD - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MSD

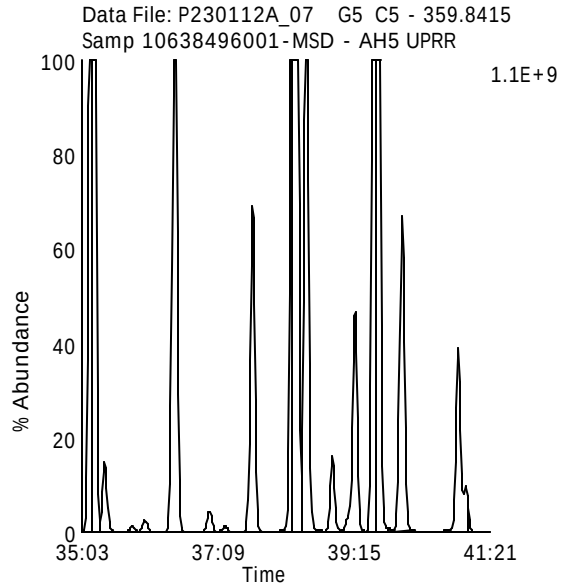


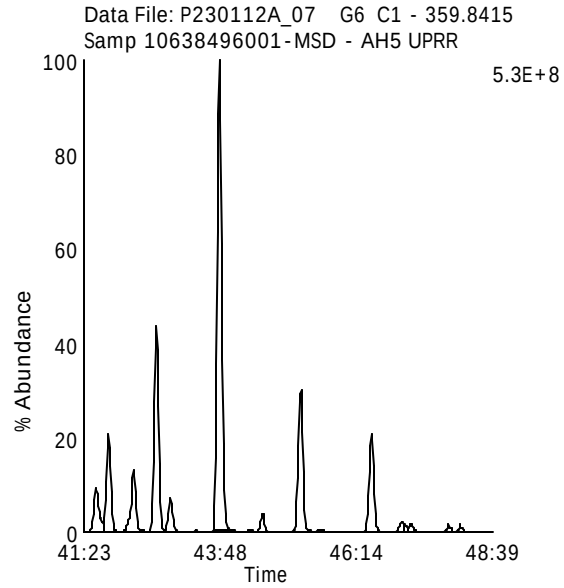
Hexa Chlorinated Biphenyls

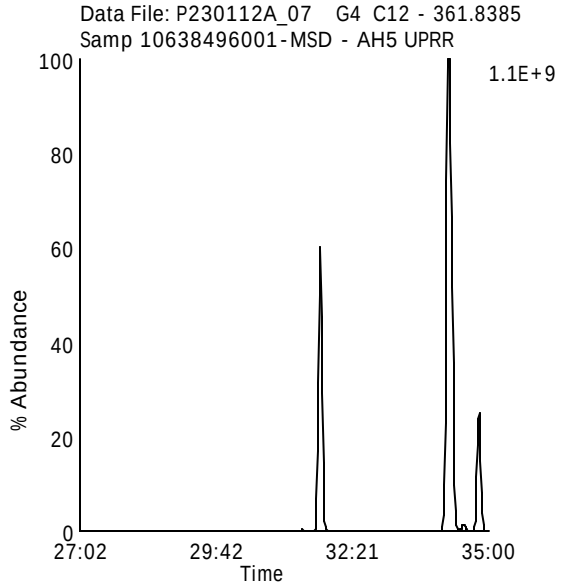
Data File Name: P230112A_07
Date Acquired: 1/12/2023
Sample Description: Samp 10638496001-MSD - AH5 UPRR

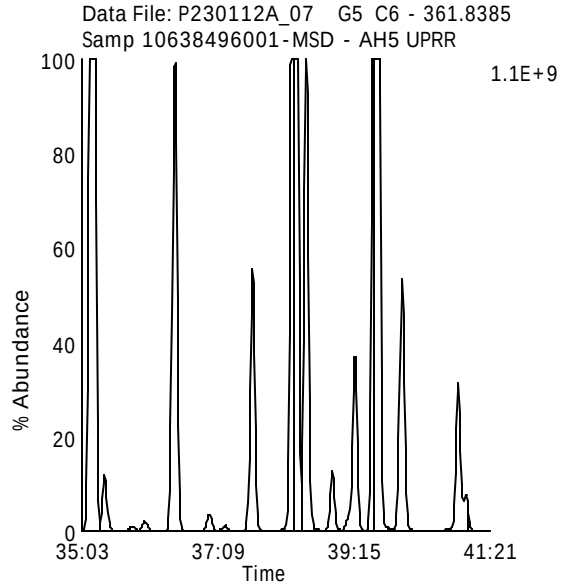
Lab Sample ID: 10638496001-MSD
Instrument: 10MSHR09 (P)
Client Sample ID: SB06-1.0-1.5-1022-MSD

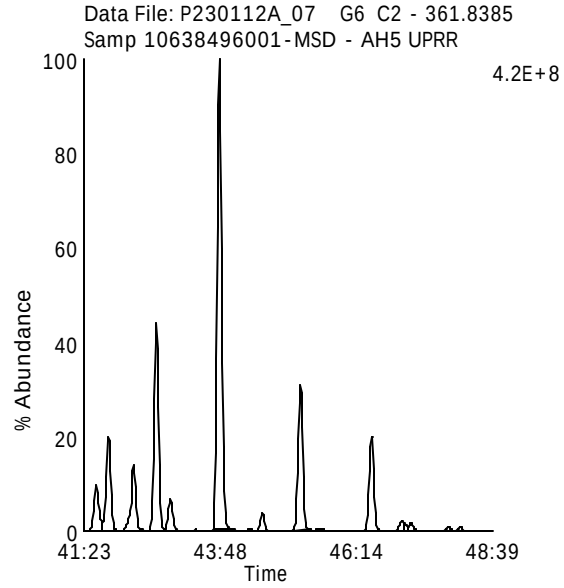






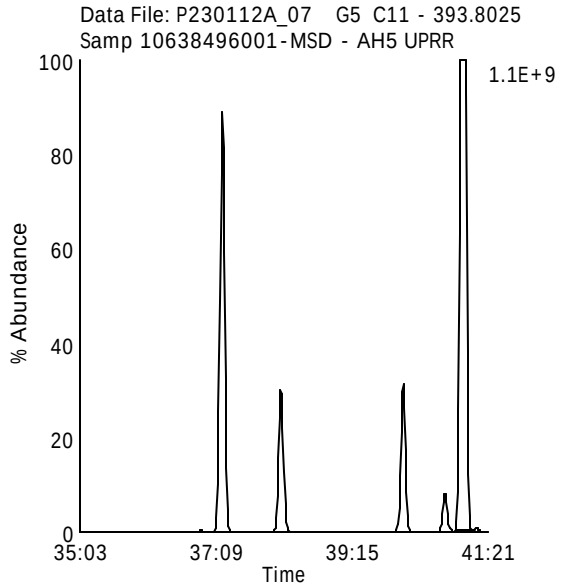


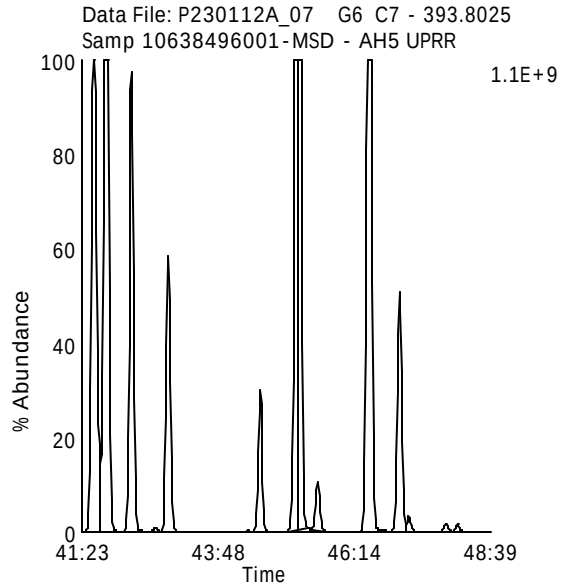


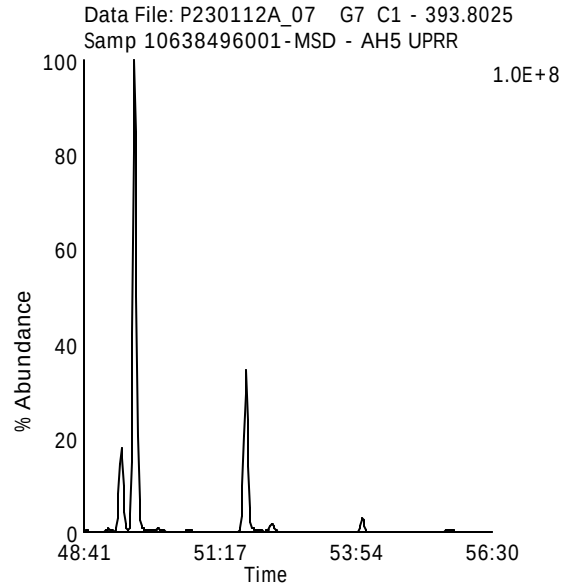


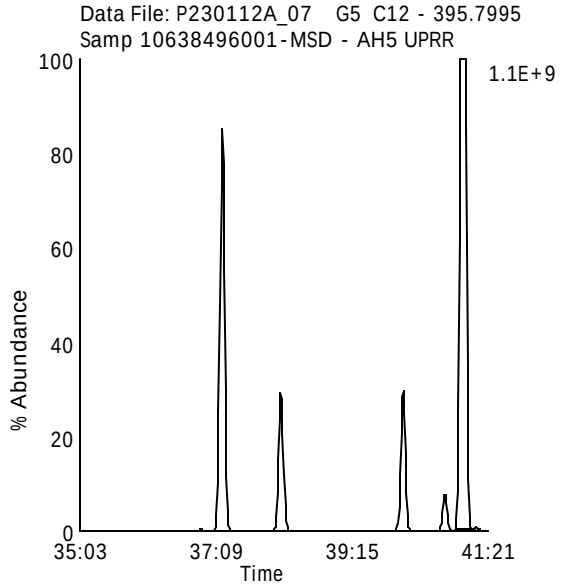
Hepta Chlorinated Biphenyls

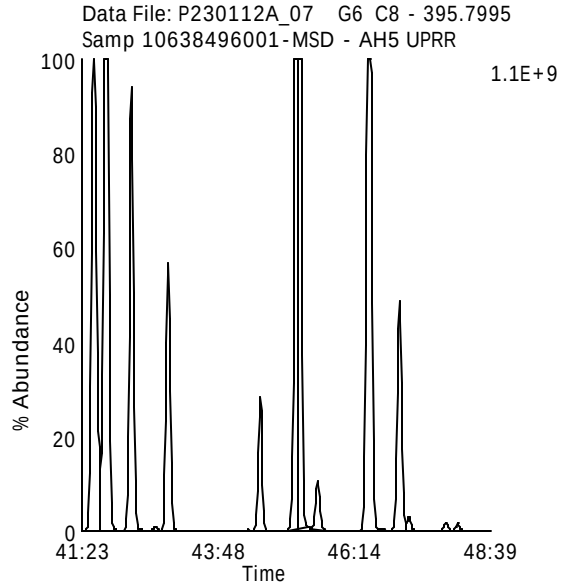
Data File Name: P230112A_07
Lab Sample ID: 10638496001-MSD
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MSD - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MSD

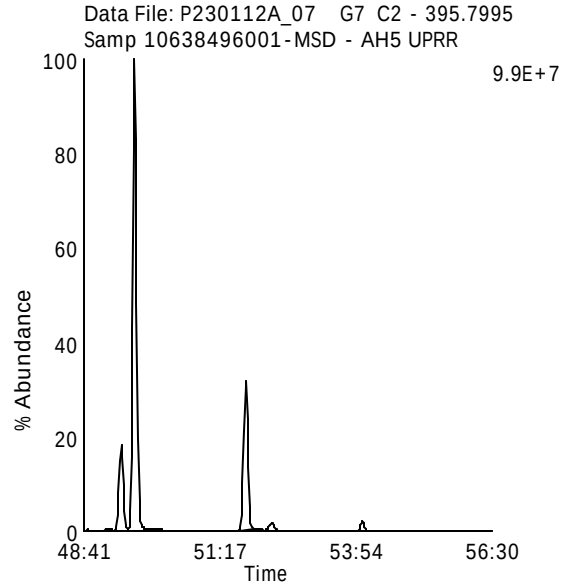






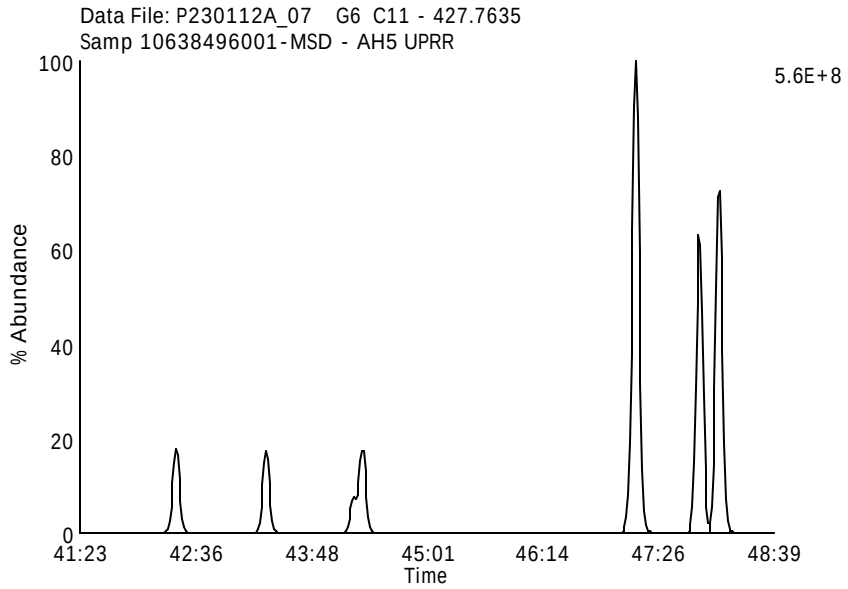


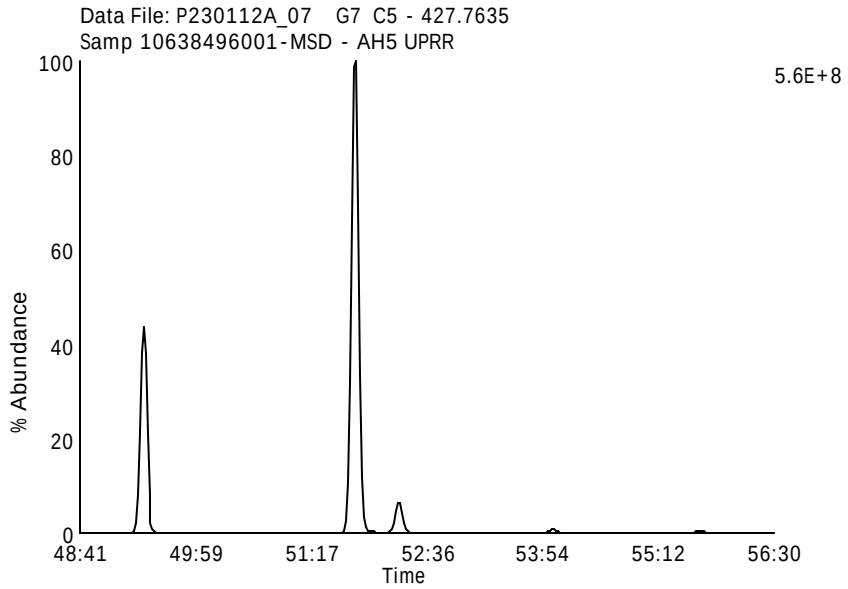


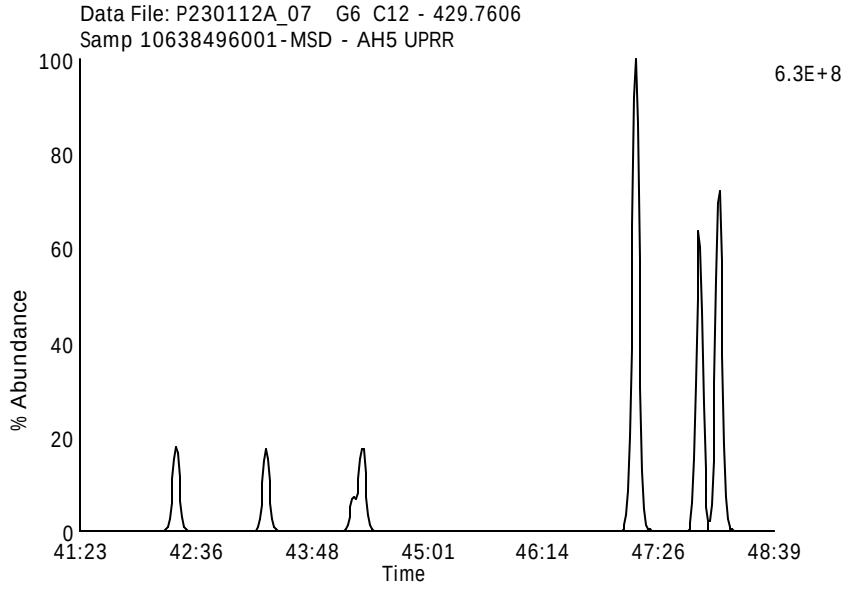


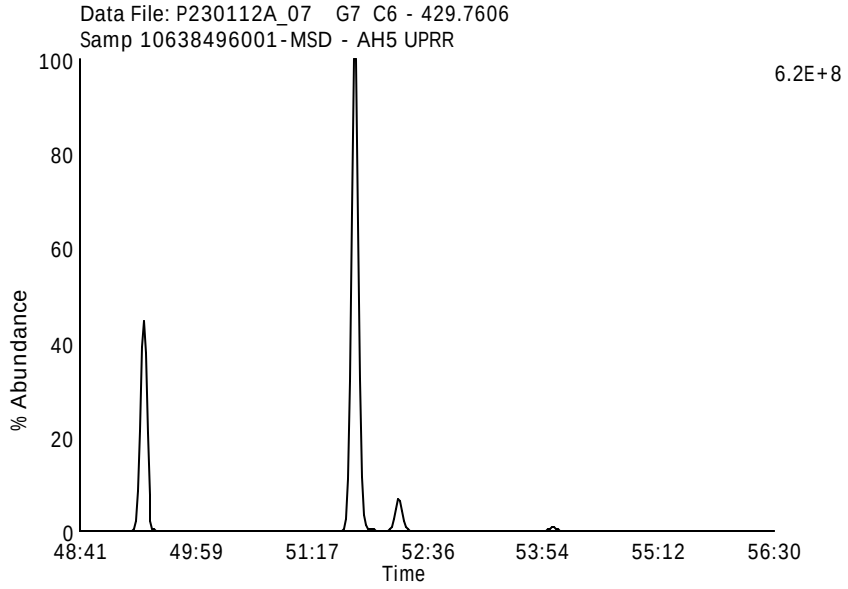
Octa Chlorinated Biphenyls

Data File Name: P230112A_07
Lab Sample ID: 10638496001-MSD
Date Acquired: 1/12/2023
Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MSD - AH5 UPRR
Client Sample ID: SB06-1.0-1.5-1022-MSD



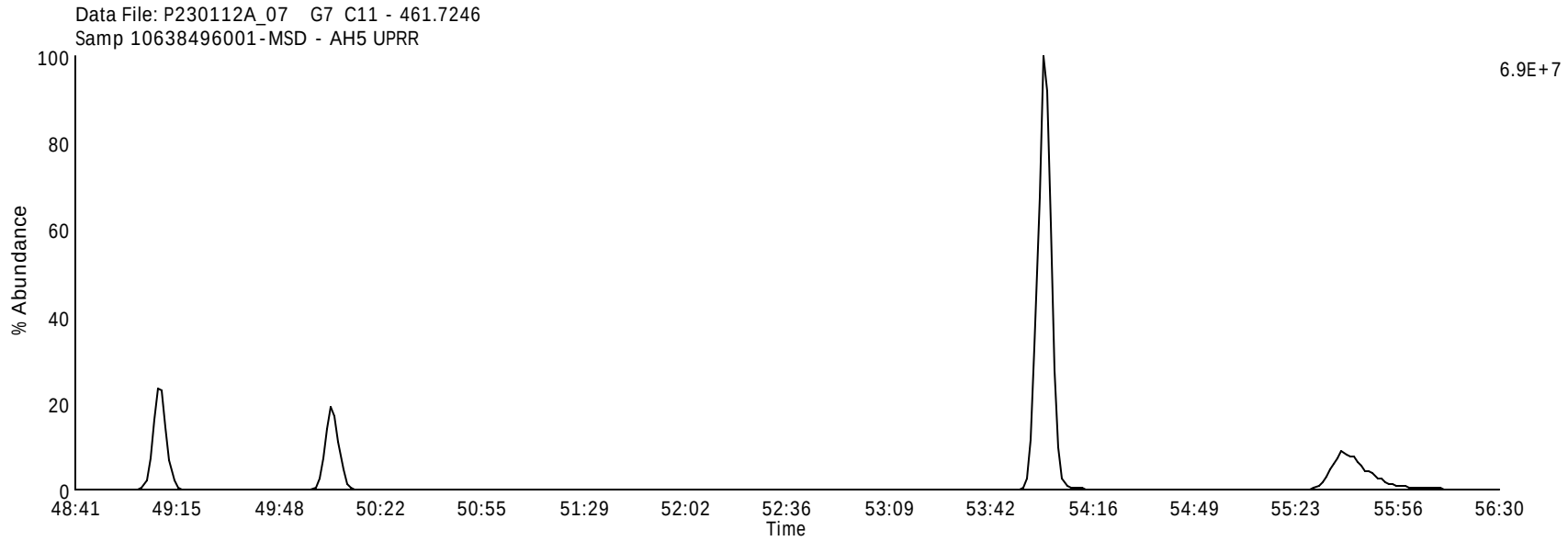


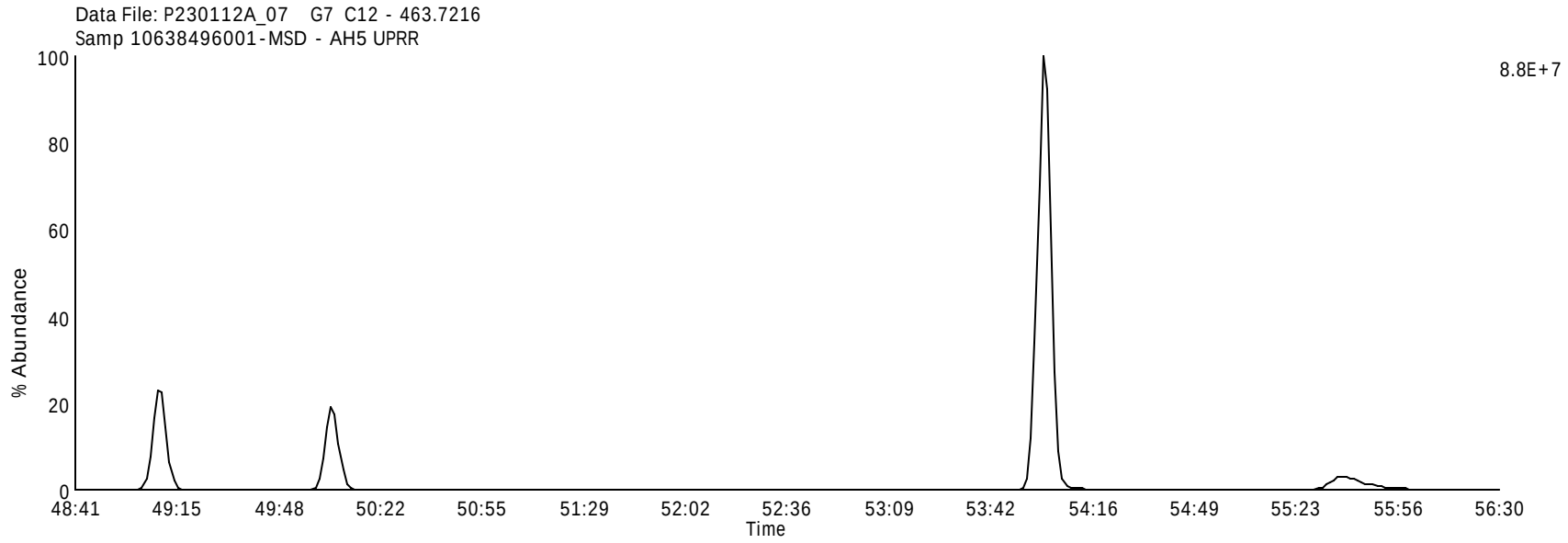




Nona Chlorinated Biphenyls

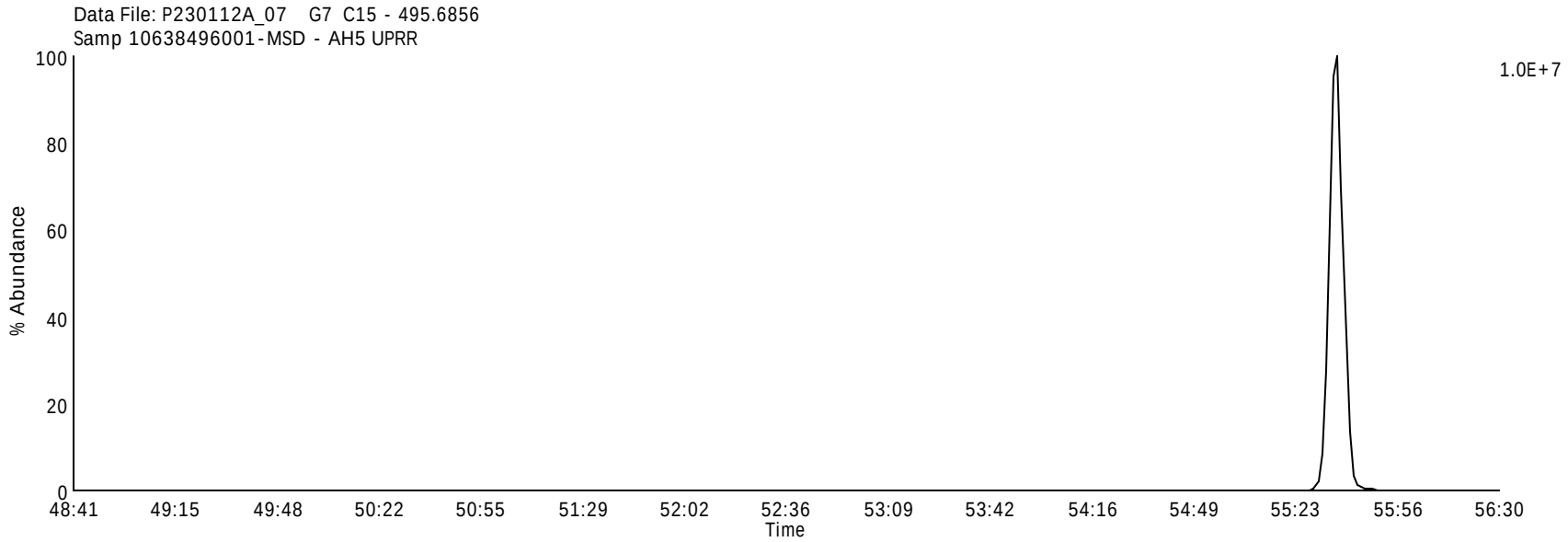
Data File Name: P230112A_07	Lab Sample ID: 10638496001-MSD
Date Acquired: 1/12/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MSD - AH5 UPRR	Client Sample ID: SB06-1.0-1.5-1022-MSD

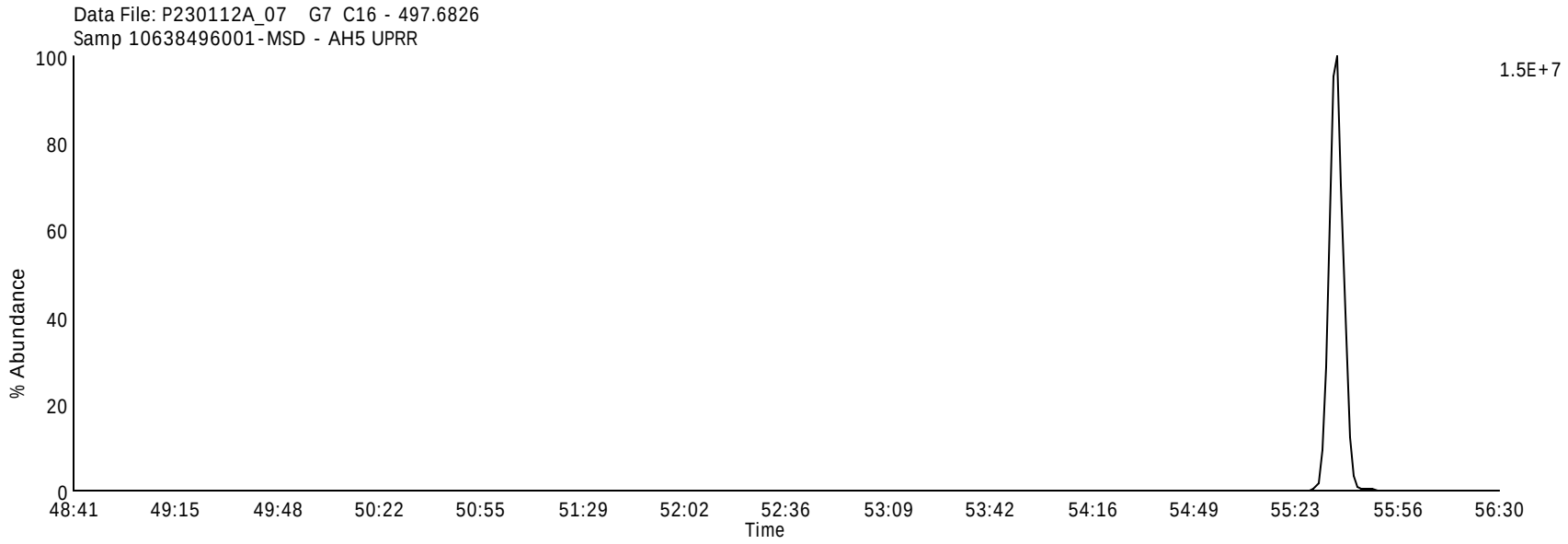




Deca Chlorinated Biphenyl

Data File Name: P230112A_07	Lab Sample ID: 10638496001-MSD
Date Acquired: 1/12/2023	Instrument: 10MSHR09 (P)
Sample Description: Samp 10638496001-MSD - AH5 UPRR	Client Sample ID: SB06-1.0-1.5-1022-MSD

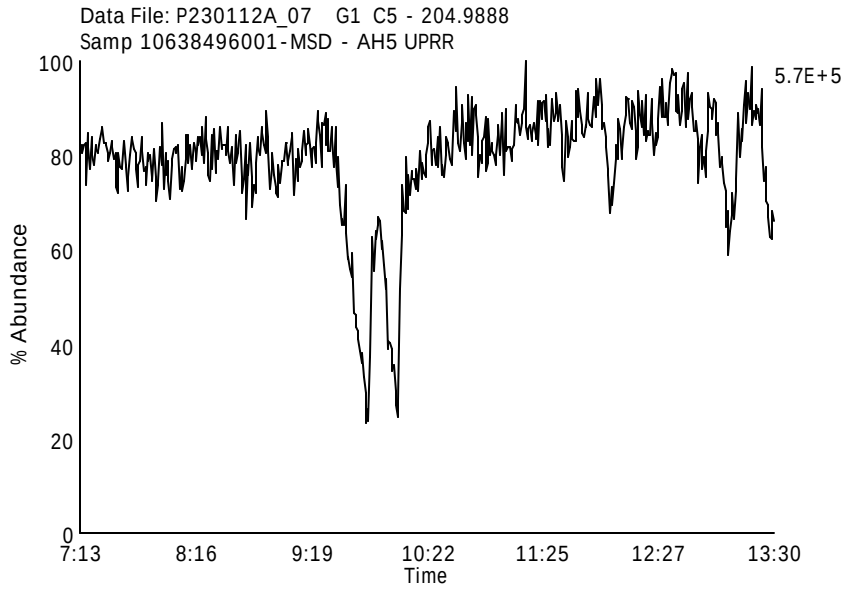


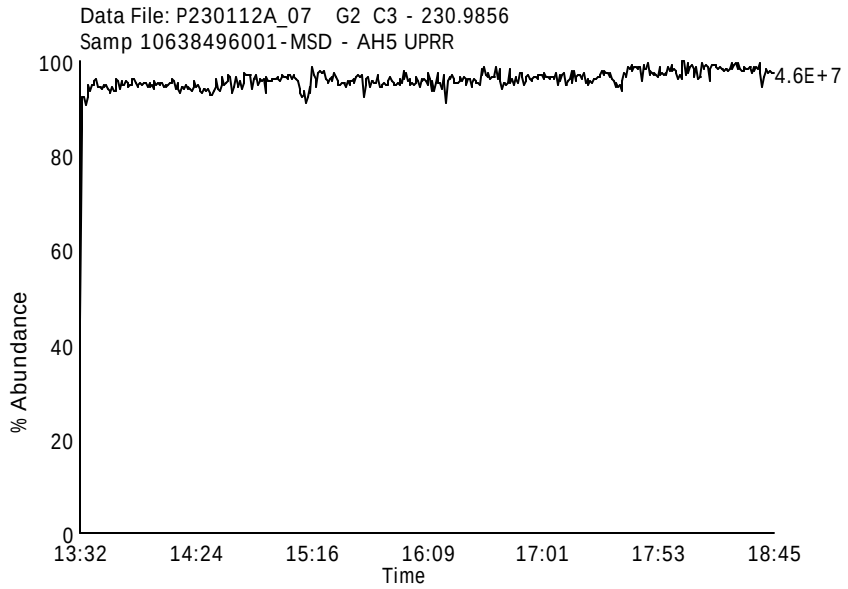


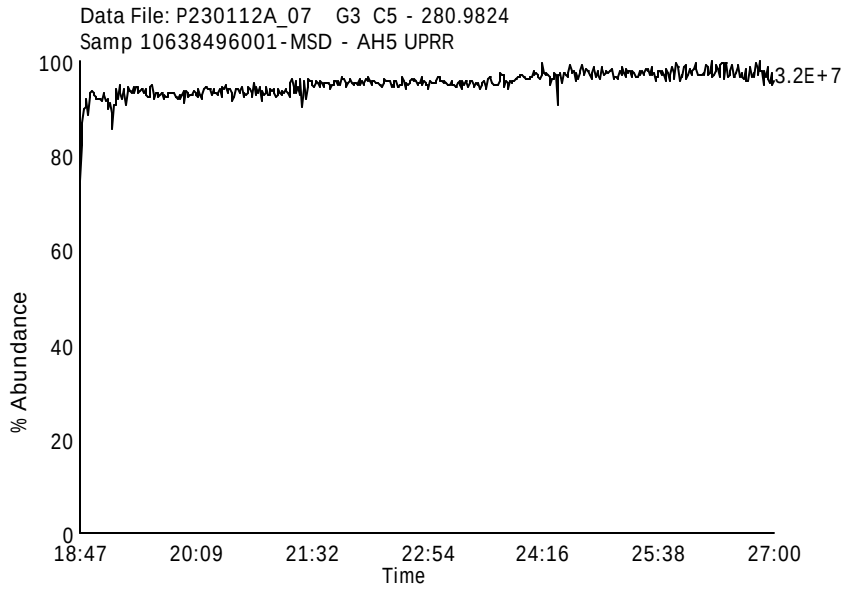
Group 1 - 4 Lock mass

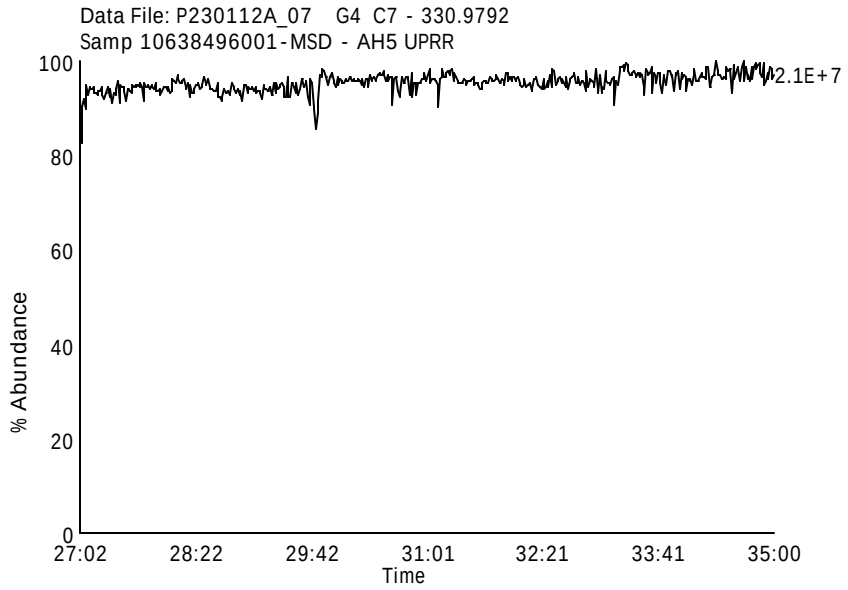
Data File Name: P230112A_07
Date Acquired: 1/12/2023
Sample Description: Samp 10638496001-MSD - AH5 UPRR

Lab Sample ID: 10638496001-MSD
Instrument: 10MSHR09 (P)
Client Sample ID: SB06-1.0-1.5-1022-MSD





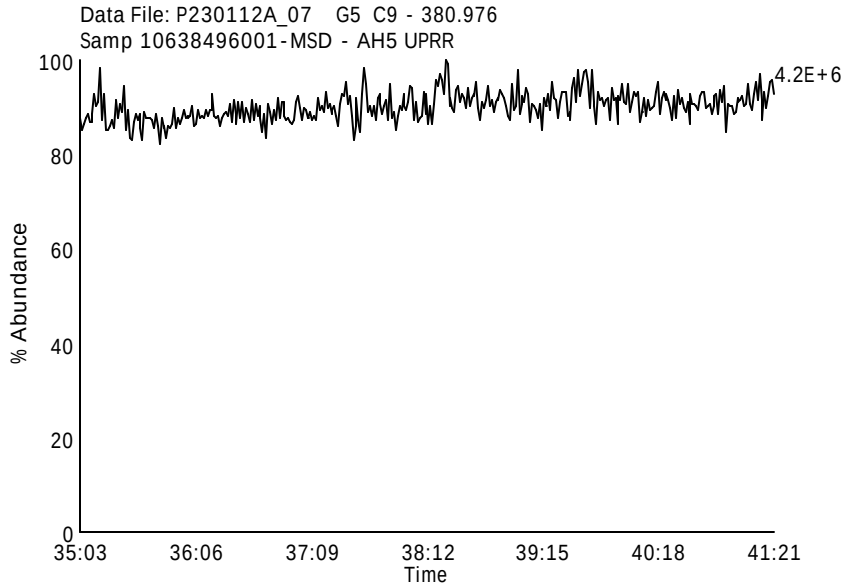


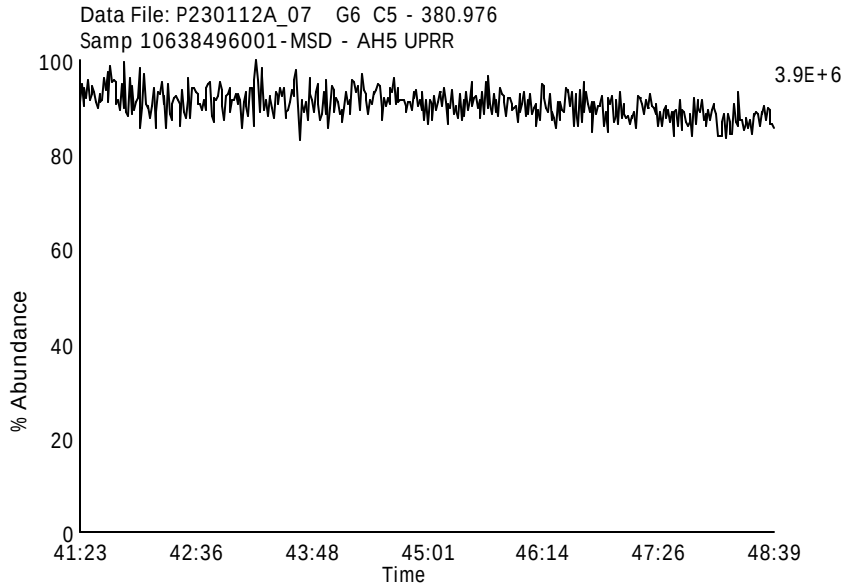


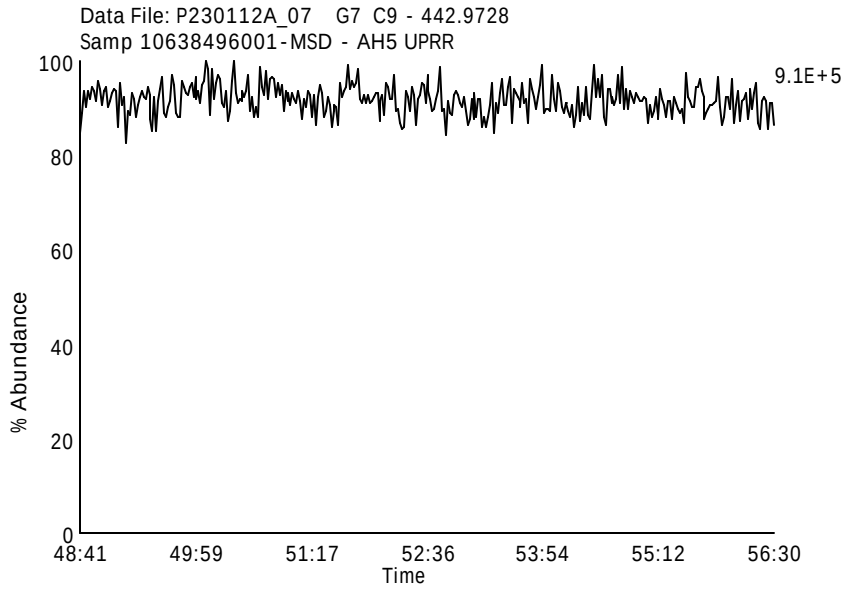
Group 5 - 7 Lock mass

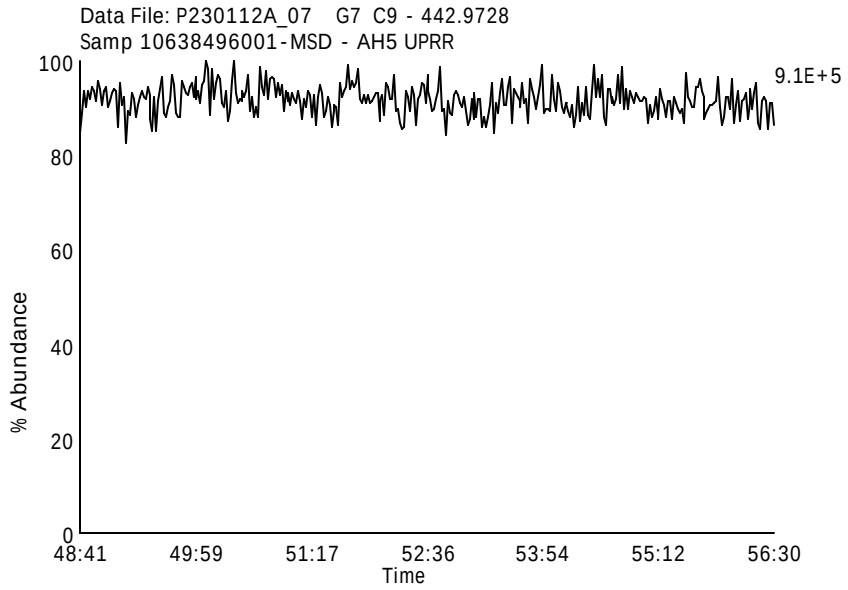
Data File Name: P230112A_07
Date Acquired: 1/12/2023
Sample Description: Samp 10638496001-MSD - AH5 UPRR

Lab Sample ID: 10638496001-MSD
Instrument: 10MSHR09 (P)
Client Sample ID: SB06-1.0-1.5-1022-MSD









Pace Analytical™
www.pacelabs.com

Pace Analytical Services, LLC.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

David Hodson
UPRR_Jacobs
2020 SW 4th Avenue
Portland OR 97201

REPORT OF LABORATORY ANALYSIS FOR PCBs

Report Information:

Pace Project #: 10638496
Sample Receipt Date: 10/18/2022
Client Project #: Portland OR-Peninsula Iron W
Client Sub PO #: 2903-01-Rev1
State Cert #: N/A

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCB Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed by:

January 23, 2023

Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

Report Prepared Date:
January 23, 2023

Report of Laboratory Analysis

This report should not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

The results relate only to the samples included in this report.

Pace Analytical Services, LLC.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on six samples submitted by a representative of Union Pacific Rail Road. The samples were analyzed for the presence or absence of polychlorinated biphenyl (PCB) congeners using USEPA Method 1668C. Reporting limits were set the statistical method detection limits and were not adjusted for the amount of dry sample extracted (per project management). Levels below the calibration range flagged "J" as estimated concentrations.

The dilution level noted on the data tables is being adjusted to allow the correct data flags to populate the electronic deliverables as well as the data tables. Samples and MDL extracts were analyzed at elevated volumes. That volume is being treated as a 1x dilution for calculation purposes, with larger dilutions being factored from that volume.

The recoveries of the isotopically-labeled PCB internal standards in the sample extracts ranged from 21-84%. All of the labeled standard recoveries obtained for this project were within the target ranges specified in Method 1668C. Since the quantification of the native congeners was based on isotope dilution and internal standard methodology, the data were automatically corrected for variation in recovery and accurate values were obtained. Incorrect isotope ratios were obtained for selected PCB congeners. The affected congeners were flagged "I" on the results tables. Selected results were taken from secondary analyses of the extracts at dilution. The affected results were flagged "N2" and "D".

A laboratory method blank was prepared and analyzed with this sample batch as part of our routine quality control procedures. The results show the blank to contain trace levels of selected PCB congeners. The sample extracts contained similar levels of selected congeners, which may have originated in the laboratory. Congeners present at similar level in both the method blank and sample extracts were flagged "B" on the sample results tables.

Laboratory and matrix spike samples were also prepared with this sample batch using reference material that had been fortified with native standards. The results show that the spiked native compounds in the laboratory spike were recovered at 93-106%. Recoveries were more varied in the matrix spikes due to levels present in the sample material used to prepare them. However, relative percent differences ranged from 0.2-16.1%. The LCS recoveries and the matrix spike RPDs were within method limits.

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Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
		Missouri	10100
A2LA	2926.01	Montana	CERT0092
Alabama	40770	Nebraska	NE-OS-18-06
Alaska-DW	MN00064	Nevada	MN00064
Alaska-UST	17-009	New Hampshire	2081
Arizona	AZ0014	New Jersey	MN002
Arkansas - WW	88-0680	New York	11647
Arkansas-DW	MN00064	North Carolina-	27700
California	2929	North Carolina-	530
Colorado	MN00064	North Dakota	R-036
Connecticut	PH-0256	Ohio-DW	41244
Florida	E87605	Ohio-VAP (170	CL101
Georgia	959	Ohio-VAP (180	CL110
Hawaii	MN00064	Oklahoma	9507
Idaho	MN00064	Oregon-Primary	MN300001
Illinois	200011	Oregon-Second	MN200001
Indiana	C-MN-01	Pennsylvania	68-00563
Iowa	368	Puerto Rico	MN00064
Kansas	E-10167	South Carolina	74003
Kentucky-DW	90062	Tennessee	TN02818
Kentucky-WW	90062	Texas	T104704192
Louisiana-DEQ	AI-84596	Utah	MN00064
Louisiana-DW	MN00064	Vermont	VT-027053137
Maine	MN00064	Virginia	460163
Maryland	322	Washington	C486
Michigan	9909	West Virginia-D	382
Minnesota	027-053-137	West Virginia-D	9952C
Minnesota-Ag	via MN 027-053	Wisconsin	999407970
Minnesota-Petr	1240	Wyoming-UST	via A2LA 2926.
Mississippi	MN00064		

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
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www.pacelabs.com

Appendix A

Sample Management

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From: Hodson, David
To: Jennifer Gross
Subject: RE: [EXTERNAL] Portland OR-Peninsula Iron Wor (Pace Project # 10632522)
Date: Friday, December 23, 2022 9:44:07 AM
Attachments: image001.png

CAUTION: This email originated from outside Pace Analytical. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Jenni,

Can you have the following samples analyzed by EPA Method 1668 (PCB congeners)?

- SB06-1.0-1.5-1022
- SB08-0.5-110322
- SB10-0.0-0.5-1022
- SB12-0.0-0.5-1022
- SB13-0.0-0.5-1022
- SB14-1.0-1.5-1022

David J Hodson, P.E. * | Jacobs | Senior Project Manager
M: 1 510 316 2323 | david.hodson@jacobs.com
2020 SW 4th Avenue, Suite 300 | Portland, OR 97201

** Registered in CA, OR, and WA*

From: Paceport Email Notification <jennifer.gross@pacelabs.com>
Sent: Wednesday, December 21, 2022 3:06 PM
To: Jennifer Gross <jennifer.gross@pacelabs.com>; uprr-sysdat@ghd.com; Hodson, David <David.Hodson@jacobs.com>
Subject: [EXTERNAL] Portland OR-Peninsula Iron Wor (Pace Project # 10632522)

Paceport Login

Pace Automated Email Notification

This email contains EDDs and Reports generated by Paceport's automated deliverable service. The attached files have been authorized to be sent to you due to the completion of project 10632522. Your Pace project manager has been CC'ed on this email so that you may request any further assistance.

To access this project's page in paceport click on the following link.
http://paceport.pacelabs.com/ClientPortal/mvc/projectDetails/modelAndView?projectID=10632522&systemID=lims10

Pace Analytical is pleased to announce that we are now accepting samples for analysis of waste

40253331

Pace

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Jacobs for UPRR	Report To:	Hodson, David	Attention:	John DeJong
Address:	2020 SW 4th Avenue, Suite 300	Copy To:		Company Name:	UPRR
	Portland, OR 97201			Address:	4315 E Sprague Ave, Spokane Valley, WA 99212
Email:	david.hodson@jacobs.com	Purchase Order #:	2903-01	Pace Quote:	4700001441 (MA-000166-2022)
Phone:	(510)316-2323 Fax:	Project Name:	Portland OR-Peninsula Iron Works	Pace Project Manager:	jennifer.gross@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	45173

Regulatory Agency: State / Loc: OR / Portland - Multnomah County

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	SB06-0.0-0.5-1022	SL	C	10/17/22	1515	—	—	—	1	X										X	X											001
2	SB06-1.0-1.5-1022			10/17/22	1520																											002
3	SB06-2.5-3.0-1022			"	1430		1525																									003
4	SB04-0.0-0.5-1022			"	1430																											004
5	SB04D-0.0-0.5-1022			"	1435																											005
6	SB04-1.0-1.5-1022			"	1440																											006
7	SB04-2.5-3.0-1022			"	1445																											007
8	SB01-0.0-0.5-1022			"	1100																											008
9	SB01-1.0-1.5-1022			"	1105																											009
10	SB01-2.5-3.0-1022			"	1110																											010
11	SB03-0.0-0.5-1022			"	1200																											011
12	SB030-0.0-0.5-1022			"	1205																											012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Include 1262 & 1268	Jacobs	10/17/22	1600				
Methods 8082 & 1668 - Require chromatograms	Fedex	10/18/22	945		10/18/22	945	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jaclyn Warren

SIGNATURE of SAMPLER: DATE Signed: 10/17/22

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

4053331

CHAIN-OF-CUSTODY / Analytical Request Document

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Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Jacobs for UPRR	Report To:	Hodson, David	Attention:	John DeJong
Address:	2020 SW 4th Avenue, Suite 300	Copy To:		Company Name:	UPRR
	Portland, OR 97201			Address:	4315 E Sprague Ave, Spokane Valley, WA 99212
Email:	david.hodson@jacobs.com	Purchase Order #:	2903-01	Pace Quote:	4700001441 (MA-000166-2022)
Phone:	(510)316-2323 Fax:	Project Name:	Portland OR-Peninsula Iron Works	Pace Project Manager:	jennifer.gross@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	45173

Regulatory Agency: —

State / Location: OR / Portland - Multnomah County

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	SB03-1.0-1.5-1022	SL	C	10/17/2022	1210	—	—	?	1	X										X	X										013
2	SB03-2.5-3.0-1022	↓	↓	↓	1215	↓	↓	↓	↓	↓										↓	↓										014
3	ISM01-0.0-0.2-1022				1228														X		X										015
4	ISM02-0.0-0.2-1022	↓	↓	↓	1425					↓									X		X										016
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Include 1262 & 1268	Jacobs	10/17/22	1100				
Methods 8082 & 1668 - Require chromatograms	FedEx	10/18/22	945		10/18/22	945	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jaclyn Warren

SIGNATURE of SAMPLER: DATE Signed: 10/17/22

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Client Name: Jacobs / Pace MN

Sample Preservation Receipt Form

Project # 40253331

All containers needing preservation have been checked and noted below: ☐Yes ☐No ☐N/A

Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

Pace Lab #	Glass							Plastic						Vials						Jars				General				VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Initial when completed:	Date/ Time:	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2									
001																									1										2.5 / 5
002																									1										2.5 / 5
003																									1										2.5 / 5
004																									1										2.5 / 5
005																									1										2.5 / 5
006																									1										2.5 / 5
007																									1										2.5 / 5
008																									1										2.5 / 5
009																									1										2.5 / 5
010																									1										2.5 / 5
011																									1										2.5 / 5
012																									1										2.5 / 5
013																									1										2.5 / 5
014																									1										2.5 / 5
015																									1										2.5 / 5
016																									1										2.5 / 5
017																									1										2.5 / 5
018																									1										2.5 / 5
019																									1										2.5 / 5
020																									1										2.5 / 5

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other:

Headspace in VOA Vials (>6mm) : ☐Yes ☐No ☒N/A ***If yes look in headspace column**

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	VG9C	40 mL clear ascorbic w/ HCl	JGFU	4 oz amber jar unpres
BG1U	1 liter clear glass	BP3U	250 mL plastic unpres	DG9T	40 mL amber Na Thio	JG9U	9 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP3B	250 mL plastic NaOH	VG9U	40 mL clear vial unpres	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9H	40 mL clear vial HCL	WPFU	4 oz plastic jar unpres
AG5U	100 mL amber glass unpres	BP3S	250 mL plastic H2SO4	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH + Zn	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres					GN 1	
						GN 2	

Page 1 of 4

10/19/22 N.P

Sample Condition Upon Receipt Form (SCUR)

Client Name: Pace MN Project # 40253331

Additional Comments/Resolution:

① SB03-2.5

10/19/22 mp ~~SB03-2.5~~ - 3.0 - 1022 10/17/22 1215

① ~~ISM02-0.0-0.2-1022 10/17/22 1425~~ 10/19/22 mp

① Samples not listed on COC

~~did not receive "ISMA03-0.0-0.2-1022"~~ 10/19/22 mp

10/19/22 mp

Page 2 of 3

Sample Condition Upon Receipt Form (SCUR)

Client Name: _____ Project # 4025333|

Additional Comments/Resolution: Therm 110 No corr.

5923 7141 9678 /2°

5923 7141 9645 /0°

5923 7141 9667 /0°

5923 7141 9656 /0° Sediment in cooler 10/18/22 mp

(1) SB02-0.0-0.5-1022 10/17/22 1345

SB02D-0.0-0.5 1022 10/17/22 1350

SB02-0-1.5-1022 10/17/22 1355

SB02-2.5-3.0-1022 10/17/22 1400

(1) samples not listed on COC

SB03D-0.0-0.5-1022 + SB02-0.0-0.5-1022 received with holes in bags 10/18/22 mp

both samples have water in bag containing the sample + the outer bag.

Both samples in same cooler.

~~SB03-2.5-3.0-1022, sample not listed on COC~~

IsM02-0.0-0.2 ~~1022~~ 10/19/22 mp 10/19/22 mp

10/19/22 mp

3

Page 4 of 4

10/19/22 mp

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO#: 40253331

40253331

Client Name: Jacobs / Pace MN

Courier: ☐ CS Logistics ☒ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☐ Client ☐ Pace Other: _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other _____

Thermometer Used SR - 110 **Type of Ice:** Wet Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: — /Corr: See additional

Temp Blank Present: ☐ yes ☒ no Comments **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Person examining contents:
Date: 10/18/22 Initials: MP
Labeled By Initials: MH

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☒No ☐N/A	2. proj# 10/19/22 MP
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No	5.
- DI VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☒No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume: For Analysis: ☒Yes ☐No MS/MSD: ☐Yes ☒No ☐N/A		8.
Correct Containers Used:	☒Yes ☐No	9.
Correct Type: Pace Green Bay, Pace IR, Non-Pace		
Containers Intact:	☐Yes ☒No	10. See additional comments 10/18/22 MP
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: S	☐Yes ☒No ☐N/A	12. 015" ISM02-0.0-0.2-1022 10/17/22 14:25" per client 10/19/22 MP
Trip Blank Present:	☐Yes ☐No ☒N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: If checked, see attached form for additional comments ☒

Person Contacted: David Hodson Date/Time: 10/19/22

Comments/ Resolution: Client notified of additional samples received but not listed on the coc and samples received with holes in the bags and ice melt in the samples. Lab instructed to proceed with prep and analysis on all samples.

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logi

Page 2 of 2
4 of 4 10/19/22 MP

Internal Transfer Chain of Custody

40253331

Pace Analytical®
www.pacelabs.com

[X] Samples Pre-Logged into eCOC.

State Of Origin: OR
Cert. Needed: [ ] Yes [ ] No

Workorder: 10630039 **Workorder Name:** Portland OR-Peninsula Iron Wor

Owner Received Date: 10/18/2022 **Results Requested By:** 10/27/2022

Report To

Jennifer Gross
Pace Analytical Minnesota
1700 Elm Street
Minneapolis, MN 55414
Phone (612)607-1700

Subcontract To

Pace Analytical Green Bay
1241 Bellevue Street
Suite 9
Green Bay, WI 54302
Phone (920)469-2436

Requested Analysis

WO# : 10630039

10630039

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: UNPRES	MISC / ISM (50 Increments) (PACE-	MISC / Sieving (<2mm) (PACE-GB)	LAB USE ONLY
1	SB06-0.0-0.5-1022	PS	10/17/2022 15:15	10630039001	Solid	1		X	001
2	SB06-1.0-1.5-1022	PS	10/17/2022 15:20	10630039002	Solid	1		X	002
3	SB06-2.5-3.0-1022	PS	10/17/2022 15:25	10630039003	Solid	1		X	003
4	SB04-0.0-0.5-1022	PS	10/17/2022 14:30	10630039004	Solid	1		X	004
5	SB04D-0.0-0.5-1022	PS	10/17/2022 14:35	10630039005	Solid	1		X	005
6	SB04-1.0-1.5-1022	PS	10/17/2022 14:40	10630039006	Solid	1		X	006
7	SB04-2.5-3.0-1022	PS	10/17/2022 14:45	10630039007	Solid	1		X	007
8	SB01-0.0-0.5-1022	PS	10/17/2022 11:00	10630039008	Solid	1		X	008
9	SB01-1.0-1.5-1022	PS	10/17/2022 11:05	10630039009	Solid	1		X	009
10	SB01-2.5-3.0-1022	PS	10/17/2022 11:10	10630039010	Solid	1		X	010
11	SB03-0.0-0.5-1022	PS	10/17/2022 12:00	10630039011	Solid	1		X	011
12	SB03D-0.0-0.5-1022	PS	10/17/2022 12:05	10630039012	Solid	1		X	012
13	SB03-1.0-1.5-1022	PS	10/17/2022 12:10	10630039013	Solid	1		X	013
14	ISM01-0.0-0.2-1022	PS	10/17/2022 12:15	10630039014	Solid	1	X		014
15	ISM03-0.0-0.2-1022	PS	10/17/2022 12:28	10630039015	Solid	1	X		015
16	SB02-0.0-0.5-1022	PS	10/17/2022 13:45	10630039016	Solid	1		X	016
17	SB02D-0.0-0.5-1022	PS	10/17/2022 13:50	10630039017	Solid	1		X	017
18	SB02-1-1.5-1022	PS	10/17/2022 13:55	10630039018	Solid	1		X	018
19	SB02-2.5-3.0-1022	PS	10/17/2022 14:00	10630039019	Solid	1		X	019

Internal Transfer Chain of Custody

40253331

Pace Analytical®
www.pacelabs.com

[X] Samples Pre-Logged into eCOC.

State Of Origin: OR
Cert. Needed: [ ] Yes [ ] No
Owner Received Date: 10/18/2022 Results Requested By: 10/27/2022

Workorder: 10630039 **Workorder Name:** Portland OR-Peninsula Iron Wor

Report To	Subcontract To
Jennifer Gross Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612)607-1700	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Preserved Containers: 2 PLU	Requested Analysis: MISC / ISM (50 Increments) (PACE-	Requested Analysis: MISC / Sieving (<2mm) (PACE-GB)	LAB USE ONLY
20	SB03-2.5-3.0-1022	PS	10/17/2022 12:15	10630039020	Solid	1			X	020
21										
22										
23										
24										

Transfers	Released By	Date/Time	Received By	Date/Time
1	FedEx	10/18/22 945	Mac Arroo Pace	10/18/22 945
2	Matt VanLoon Pace	12/13/22 1300	Pace	12/14/22 14:35
3				

Comments: Forward prepped volume to Pace Mnpls, methods 8082 & possibly 1668.
Hold all additional volume for six months.

Cooler Temperature on Receipt NA °C | **Custody Seal** (Y) or N | **Received on Ice** (Y) or N | **Samples Intact** (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

DC#_Title: ENV-FRM-MIN4-0150 v11_Sample Condition Upon Receipt (SCUR)
Effective Date: 11/16/2022

Sample Condition Upon Receipt | **Client Name:** Pace Green Bay | **Project #:** WO#: 10630039

PM: JMG Due Date: 12/16/22
CLIENT: UPRR_Jacobs

Courier: ☐ FedEx ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☑ Commercial

Tracking Number: _____ ☐ See Exceptions ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other **Temp Blank?** ☐ Yes ☑ No

Thermometer: ☐ T1 (0461) ☐ T2 (1336) ☐ T3 (0459) ☐ T4 (0254) ☐ T5 (0178) ☐ T6 (0235) ☑ T7 (0042) ☐ T8 (0775) ☐ T9(0727) ☐ 01339252/1710 **Type of Ice:** ☐ Wet ☐ Blue ☐ Dry ☑ None ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☑ No **Were All Container Temps Taken?** ☐ Yes ☐ No ☑ N/A

Temp should be above freezing to 6 °C **Cooler temp Read w/Temp Blank:** Amb °C

Correction Factor: add 0.1 **Cooler Temp Corrected w/temp blank:** Amb °C

Average Corrected Temp (no temp blank only): _____ °C ☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: (☐ N/A, water sample/other: _____)

Date/Initials of Person Examining Contents: 12/14/22 ADC

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): ☐ Duluth ☑ Minneapolis ☐ Virginia

				COMMENTS
Chain of Custody Present and Filled Out?	☑ Yes	☐ No		1.
Chain of Custody Relinquished?	☑ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☐ Yes	☐ No	☑ N/A	3.
Samples Arrived within Hold Time?	☑ Yes	☐ No		4. If fecal: ☐ <8 hrs ☐ >8 hr, ≤24 ☐ No
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E.coli ☐ BOD/cBOD ☐ Hex Chrom ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other
Rush Turn Around Time Requested?	☐ Yes	☑ No		6.
Sufficient Sample Volume?	☑ Yes	☐ No		7.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	8.
-Pace Containers Used?	☐ Yes	☑ No		
Containers Intact?	☑ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☑ Yes	☐ No		11. **If no, write ID/Date/Time of container below:** ☐ See Exceptions ENV-FRM-MIN4-0142
Matrix: ☐ Water ☑ Soil ☐ Oil ☐ Other				
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☑ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐ Yes	☐ No	☑ N/A	☐ NaOH ☐ HNO3 ☐ H2SO4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)	☐ Yes	☐ No	☑ N/A	Positive for Residual Chlorine? ☐ Yes ☐ No ☐ See Exceptions ENV-FRM-MIN4-0142
				pH Paper Lot #
				Residual Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in Methyl Mercury Container?	☐ Yes	☐ No	☑ N/A	13.
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☑ N/A	14. ☐ See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☑ N/A	
3-Trip Blanks-Present?	☐ Yes	☐ No	☑ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Jenni Gross **Date:** 12/14/22

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: ADC **Line:** 2

4025420S

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company	Jacobs for UPRR	Report To.	Hodson, David	Attention	John DeJong
Address:	2020 SW 4th Avenue, Suite 300	Copy To		Company Name.	UPRR
	Portland, OR 97201			Address	4315 E Sprague Ave, Spokane Valley, WA 99212
Email	david hodson@jacobs com	Purchase Order #	2903-01	Pace Quote	4700001441 (MA-000166-2022)
Phone	(510)316-2323 Fax.	Project Name.	Portland OR-Peninsula Iron Works	Pace Project Manager	jennifer gross@pacelabs com,
Requested Due Date		Project #.		Pace Profile #:	45173

Regulatory Agency

State / Location: OR / Portland - Multnomah County

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	SB08-0.5-110322	SL	G	11/3/22	845															X	X									001
2	SB08-1-110322	SL	G	11/3/22	910															X	X									002
3	SB08-2.5-110322	SL	G	11/3/22	920															X	X									003
4	TB110322																				X									004
5																														11/4/22 MP
6																														
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*Include 1262 & 1268	David Hodson	11/3/22	1100							
Methods 8082 & 1668 - Require chromatograms	Fedex	11/4/22	0945	Mary Kay Pace	11/4/22	0945	0°	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: DAVID HODSON

SIGNATURE of SAMPLER: [signature] DATE Signed: 11/3/22

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Client Name: Jacobs

Sample Preservation Receipt Form

Project # 40254308

All containers needing preservation have been checked and noted below ☐Yes ☐No ☒N/A

Lab Lot# of pH paper

Lab Std #ID of preservation (if pH adjusted).

Pace Lab #	Glass							Plastic						Vials						Jars				General				VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2							
001																									1								2.5 / 5
002																									1								2.5 / 5
003																									1								2.5 / 5
004																																	2.5 / 5
005																																	2.5 / 5
006																																	2.5 / 5
007																																	2.5 / 5
008																																	2.5 / 5
009																																	2.5 / 5
010																																	2.5 / 5
011																																	2.5 / 5
012																																	2.5 / 5
013																																	2.5 / 5
014																					1/1/4/2												2.5 / 5
015																																	2.5 / 5
016																																	2.5 / 5
017																																	2.5 / 5
018																								2	2								2.5 / 5
019																																	2.5 / 5
020																																	2.5 / 5

Exceptions to preservation check VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other_____ Headspace in VOA Vials (>6mm) ☐Yes ☐No ☒N/A *If yes look in headspace column

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	VG9C	40 mL clear ascorbic w/ HCl	JGFU	4 oz amber jar unpres
BG1U	1 liter clear glass	BP3U	250 mL plastic unpres	DG9T	40 mL amber Na Thio	JG9U	9 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP3B	250 mL plastic NaOH	VG9U	40 mL clear vial unpres	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9H	40 mL clear vial HCL	WPFU	4 oz plastic jar unpres
AG5U	100 mL amber glass unpres	BP3S	250 mL plastic H2SO4	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH + Zn	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres					GN 1	
						GN 2	

Page 1 of 2

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40254308

40254308

Client Name: Jacobs

Courier: ☐ CS Logistics ☒ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☐ Client ☐ Pace Other.

Tracking #: 5923 7141 9689

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other

Thermometer Used SR - 110 **Type of Ice:** (Wet) Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: — /Corr: 0°

Temp Blank Present: ☐ yes ☒ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice

Person examining contents:
Date: 11/4/22 Initials: mp
Labeled By Initials: MH

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☒No ☐N/A	2. proj#, 11/4/22 mp
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time	☒Yes ☐No	5.
- DI VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time
Short Hold Time Analysis (<72hr):	☐Yes ☒No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume: For Analysis: ☒Yes ☐No MS/MSD ☐Yes ☒No ☐N/A		8.
Correct Containers Used:	☒Yes ☐No	9.
Correct Type: (Pace Green Bay) Pace IR, Non-Pace		
Containers Intact:	☒Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☐Yes ☒No ☐N/A	12. No collect date or time 11/4/22 mp
-Includes date/time/ID/Analysis Matrix: S		
Trip Blank Present:	☐Yes ☐No ☒N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time

Comments/ Resolution:

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logi

Page 2 of 2

Internal Transfer Chain of Custody

4025438

Pace Analytical
www.pacelabs.com

[X] Samples Pre-Logged into eCOC.

State Of Origin: OR
Cert. Needed: [ ] Yes [ ] No
Owner Received Date: 11/4/2022 Results Requested By: 11/15/2022

Workorder: 10632522 Workorder Name: Portland OR-Peninsula Iron Wor

Report To	Subcontract To
Jennifer Gross Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612)607-1700	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

WO# : 10632522

10632522

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	MISC / Sieving (<2mm) (PACE-GB)	LAB USE ONLY
1	SB08-0.5-110322	PS	11/3/2022 08:45	10632522001	Solid	1	X	001
2	SB08-1-110322	PS	11/3/2022 09:10	10632522002	Solid	1	X	002
3	SB08-2 5-110322	PS	11/3/2022 09:20	10632522003	Solid	1	X	003
4								
5								

Transfers	Released By	Date/Time	Received By	Date/Time
1	Fedex	11/4/22 0945	[illegible]	11/4/22 0945
2	[illegible]	12/16/22 1700	[illegible]	12/17/22 10:50
3				

Comments

Forward prepped volume to Pace Mnpls, methods 8082 & possibly 1668.
Hold all additional volume for six months.

mh 11/7/22

Cooler Temperature on Receipt 0 °C | Custody Seal (Y) or N | Received on Ice (Y) or (N) | Samples Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

0.9, 11.3, 8.7

2.6, 2.5, 2.8, 3.7

Sample Condition Upon Receipt **Client Name:** Pace Green Bay

Project #: WO#: 10632522
PM: JMG Due Date: 02/12/23
CLIENT: UPRR_Jacobs

Courier: ☐ FedEx ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☒ Commercial Cal HO

Tracking Number: _____ ☐ See Exceptions ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No Seals Intact? ☒ Yes ☐ No Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other Temp Blank? ☒ Yes ☐ No

Thermometer: ☐ T1 (0461) ☐ T2 (1336) ☐ T3 (0459) ☐ T4 (0254) ☐ T5 (0178) ☐ T6 (0235) ☒ T7 (0042) ☐ T8 (0775) ☐ T9(0727) ☐ 01339252/1710

Type of Ice: ☒ Wet ☐ Blue ☐ Dry ☒ None ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☒ No JMG 12/19/22 Were All Container Temps Taken? ☐ Yes ☐ No ☒ N/A JMG 12/19/22

Temp should be above freezing to 6 °C Cooler temp Read w/Temp Blank: 3.5 2.4, 2.8 3.6

Correction Factor: +.1 Cooler Temp Corrected w/temp blank: 3.6, 2.5, 2.8 °C 3.7

Average Corrected Temp (no temp blank only): _____ °C ☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: (☐ N/A, water sample/other: _____) Date/Initials of Person Examining Contents: 12/19/22

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? ☐ Yes ☒ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): ☐ Duluth ☒ Minneapolis ☐ Virginia

			COMMENTS
Chain of Custody Present and Filled Out?	☒ Yes	☐ No	1.
Chain of Custody Relinquished?	☒ Yes	☐ No	2.
Sampler Name and/or Signature on COC?	☐ Yes	☒ No ☐ N/A	3.
Samples Arrived within Hold Time?	☒ Yes	☐ No	4. If fecal: ☐ <8 hrs ☐ >8 hr, <24 ☐ No
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E.coli ☐ BOD/cBOD ☐ Hex Chrom ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other
Rush Turn Around Time Requested?	☒ Yes	☐ No	6. Rush
Sufficient Sample Volume?	☒ Yes	☐ No	7.
Correct Containers Used?	☒ Yes	☐ No ☐ N/A	8.
-Pace Containers Used?	☐ Yes	☒ No	
Containers Intact?	☒ Yes	☐ No	9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No ☒ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☒ Yes	☐ No	11. **If no, write ID/Date/Time of container below:** GN containers added to WOs ☐ See Exceptions ENV-FRM-MIN4-0142
Matrix: ☐ Water ☒ Soil ☐ Oil ☐ Other			
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No ☒ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐ Yes	☐ No ☒ N/A	☐ NaOH ☐ HNO3 ☐ H2SO4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)	☐ Yes	☐ No ☒ N/A	Positive for Residual Chlorine? ☐ Yes ☐ No ☐ See Exceptions ENV-FRM-MIN4-0142
			pH Paper Lot #
			Residual Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in Methyl Mercury Container?	☐ Yes	☐ No ☒ N/A	13.
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No ☒ N/A	14. ☐ See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No ☒ N/A	
3 Trip Blanks Present?	☐ Yes	☐ No ☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No ☒ N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Jenni Gross **Date:** 12/19/22

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: NE **Line:** 1

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-MIN4-0142 v02_Sample Condition Upon Receipt (SCUR) Exception Form
	Effective Date: 09/22/2022

Workorder #: _____

No Temp Blank		
Read Temp	Corrected Temp	Average temp

PM Notified of Out of Temp Cooler? ☐ Yes ☐ No

If yes, indicate who was contacted, date and time.
If no, indicate reason why.

_____

Multiple Cooler Project? ☐ Yes ☐ No

If anything is OVER 6.0° C, you MUST document containers in this section HERE

Tracking Number	Temperature
34247961-4	8.9
34297961-5	11.3
34207961-2	8.7
34297961-1	11.2

Out of Temp Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples										
Sample ID	Type Of Preserve	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance After Addition?		Initials
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	

Comments:

_____

_____

_____

Qualtrax ID: 52763

Pace

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

L1253359

Page : 1 Of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Jacobs for UPRR	Report To:	Hodson, David	Attention:	John DeJong
Address:	2020 SW 4th Avenue, Suite 300	Copy To:		Company Name:	UPRR
	Portland, OR 97201			Address:	4315 E Sprague Ave, Spokane Valley, WA 99212
Email:	david.hodson@jacobs.com	Purchase Order #:	2903-01	Pace Quote:	4700001441 (MA-000166-2022)
Phone:	(510)316-2323 Fax:	Project Name:	Portland OR-Peninsula Iron Works	Pace Project Manager:	jennifer.gross@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	45173

Regulatory Agency: State / Location: OR / Portland - Multnomah County

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analysis Test Y/N	ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	ISM04-0.0-0.2-1022			10/18/22	945				1	X									X		X									*MS/SD	
2	ISM05-0.0-0.2-1022			10/18/22	1205				1	X									X		X										
3	SB10-0.0-0.5-1022			10/18/22	1115				1	X									X	X	X										
4	SB10-1.0-1.5-1022			"	1120				1	X								CN	X	X	X										
5	SB10-2.5-3.0-1022			"	1125				1	X									X	X	X										
6	SB09-0.0-0.5-1022			"	1030				1	X										X	X										
7	SB09-1.0-1.5-1022			"	1035				1	X										X	X										
8	SB09-2.5-3.0-1022			"	1040				1	X										X	X										
9	SB07-0.0-0.5-1022			"	900				1	X										X	X									*MS/SD	
10	SB07-1.0-1.5-1022			"	905				1	X										X	X										
11	SB07-2.5-3.0-1022			"	910				1	X										X	X										
12	SB05-0.0-0.5-1022			"	830				1	X										X	X										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Include 1262 & 1268	Jadyn Warren / Jacobs	10/18/22	1460				
Methods 8082 & 1668 - Require chromatograms	Fedex	10/19/22	1000	Sam Spaeth	10/19/22	1000	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jadyn Warren

SIGNATURE of SAMPLER: DATE Signed: 10/18/22

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

LH253359

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Jacobs for UPRR	Report To:	Hodson, David	Attention:	John DeJong
Address:	2020 SW 4th Avenue, Suite 300	Copy To:		Company Name:	UPRR
	Portland, OR 97201			Address:	4315 E Sprague Ave, Spokane Valley, WA 99212
Email:	david.hodson@jacobs.com	Purchase Order #:	2903-01	Pace Quote:	4700001441 (MA-000166-2022)
Phone:	(510)316-2323 Fax:	Project Name:	Portland OR-Peninsula Iron Works	Pace Project Manager:	jennifer.gross@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	45173

Regulatory Agency

State / Location: OR / Portland - Multnomah County

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	SB05-1.0-1.5-1022			10/18/22	835				1	X										X	X								
2	SB05-2.5-3.0-1022			"	840				1	X										X	X								
3	SB12-0.0-0.5-1022			"	1230				1	X										X	X								MS/MSD
4	SB12D-0.0-0.5-1022			"	1235				1	X										X	X								
5	SB12-1.0-1.5-1022			"	1240				1	X										X	X								
6	SB12-2.5-3.0-1022			"	1245				1	X										X	X								
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Include 1262 & 1268	Jadyn Warren / Jacobs	10/19/22	1400				
Methods 8082 & 1668 - Require chromatograms	Fedex	10/19/22	1000	[signature]	10/19/22	1000	

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Jadyn Warren				
SIGNATURE of SAMPLER:	[signature]				
DATE Signed:	10/18/22				

Client Name: Pace MN

Sample Preservation Receipt Form

Project # 40253359

All containers needing preservation have been checked and noted below: ☐Yes ☐No ☑N/A

Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

Pace Lab #	Glass							Plastic						Vials						Jars				General				VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2							
001																									1								2.5 / 5
002																									1								2.5 / 5
003																									1								2.5 / 5
004																									1								2.5 / 5
005																									1								2.5 / 5
006																									1								2.5 / 5
007																									1								2.5 / 5
008																									1								2.5 / 5
009																									2								2.5 / 5
010																									1								2.5 / 5
011																									1								2.5 / 5
012																									1								2.5 / 5
013																									1								2.5 / 5
014																									1								2.5 / 5
015																									2								2.5 / 5
016																									1								2.5 / 5
017																									1								2.5 / 5
018																									1								2.5 / 5
019																																	2.5 / 5
020										6/19/22 SC																							2.5 / 5

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other:

Headspace in VOA Vials (>6mm) : ☐Yes ☐No ☑N/A ***If yes look in headspace column**

AG1U	1 liter amber glass
BG1U	1 liter clear glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP3U	250 mL plastic unpres
BP3B	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4
BP2Z	500 mL plastic NaOH + Zn

VG9C	40 mL clear ascorbic w/ HCl
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI

JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN 1	
GN 2	

Sample Condition Upon Receipt Form (SCUR)

Client Name: PACE mn Project # LM2533359

Additional Comments/Resolution:

(1) SB-10-1.0-1.5-1022

SB-10-2.5-3.0-1022

SB12-0.0-0.5-1022

SB12-1.0-1.5-1022

SB12D-0.0-0.5-1022

SB10-0.0-0.5-1022

(1) Samples have melt water in them

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40253359

40253359

Client Name: Pace MN

Courier: ☐ CS Logistics ☑ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☐ Client ☐ Pace Other:

Tracking #: 5923 7141 9830 (1)

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used SR - 9 **Type of Ice:** (Wet) Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: 3 /Corr: 3.5 (2)

Temp Blank Present: ☑ yes ☐ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Person examining contents:
Date: 10/19/22 /Initials: SG
Labeled By Initials: NK

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☐No ☑N/A	4. IRWO 10/19/22 SG
Samples Arrived within Hold Time:	☑Yes ☐No	5.
- DI VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☑Yes ☐No MS/MSD: ☑Yes ☐No ☐N/A		8.
Correct Containers Used: Correct Type: Pace Green Bay, Pace IR, Non-Pace	☑Yes ☐No	9.
Containers Intact:	☐Yes ☑No	10. See other SCUR page 10/19/22 SG
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: S	☑Yes ☐No ☐N/A	12.
Trip Blank Present:	☐Yes ☐No ☑N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: David Hodson Date/Time: 10/19/22

Comments/ Resolution: (1) other tracking #s 5923 7141 9829, 5923 7141 9807, 5923 7141 9818 (2) other temps noted according to (1): 2.5→3, 0.5→1, 1→1.5

Client notified of samples received with holes in the bags and ice melt in the samples. Lab instructed to proceed with prep and analysis on all samples. JMG

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logi

40253359

Internal Transfer Chain of Custody

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[x] Samples Pre-Logged into eCOC.

State Of Origin: OR
Cert. Needed: [ ] Yes [ ] No

Workorder: 10630317 **Workorder Name:** Portland OR-Peninsula Iron Wor

Owner Received Date: 10/19/2022 **Results Requested By:** 10/28/2022

Report To

Jennifer Gross
Pace Analytical Minnesota
1700 Elm Street
Minneapolis, MN 55414
Phone (612)607-1700

Subcontract To

Pace Analytical Green Bay
1241 Bellevue Street
Suite 9
Green Bay, WI 54302
Phone (920)469-2436

Requested Analysis

WO#: 10630317

10630317

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Preserved Containers: ZPLU	MISC / ISM (50 Increments) (PACE-	MISC / Sieving (<2mm) (PACE-GB)	LAB USE ONLY
1	ISM04-0.0-0.2-1022	RQS	10/18/2022 09:45	10630317001	Solid	1		X		001
2	ISM05-0.0-0.2-1022	PS	10/18/2022 12:05	10630317002	Solid	1		X		002
3	SB10-0.0-0.5-1022	PS	10/18/2022 11:15	10630317003	Solid	1			X	003
4	SB10-1.0-1.5-1022	PS	10/18/2022 11:20	10630317004	Solid	1			X	004
5	SB10-2.5-3.0-1022	PS	10/18/2022 11:25	10630317005	Solid	1			X	005
6	SB09-0.0-0.5-1022	PS	10/18/2022 10:30	10630317006	Solid	1			X	006
7	SB09-1.0-1.5-1022	PS	10/18/2022 10:35	10630317007	Solid	1			X	007
8	SB09-2.5-3.0-1022	PS	10/18/2022 10:40	10630317008	Solid	1			X	008
9	SB07-0.0-0.5-1022	RQS	10/18/2022 09:00	10630317009	Solid	1			X	009
10	SB07-1.0-1.5-1022	PS	10/18/2022 09:05	10630317010	Solid	1			X	010
11	SB07-2.5-3.0-1022	PS	10/18/2022 09:10	10630317011	Solid	1			X	011
12	SB05-0.0-0.5-1022	PS	10/18/2022 08:30	10630317012	Solid	1			X	012
13	SB05-1.0-1.5-1022	PS	10/18/2022 08:35	10630317013	Solid	1			X	013
14	SB05-2.5-3.0-1022	PS	10/18/2022 08:40	10630317014	Solid	1			X	014
15	SB12-0.0-0.5-1022	RQS	10/18/2022 12:30	10630317015	Solid	1			X	015
16	SB12D-0.0-0.5-1022	PS	10/18/2022 12:35	10630317016	Solid	1			X	016
17	SB12-1.0-1.5-1022	PS	10/18/2022 12:40	10630317017	Solid	1			X	017
18	SB12-2.5-3.0-1022	PS	10/18/2022 12:45	10630317018	Solid	1			X	018

4025 3359

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	Fedex Tampa Prime	10/19/22 1000	[illegible]	10/19/22 1000	Forward prepped volume to Pace Mnpls, methods 8082 & possibly 1668.
2		11/11/22 1700			Hold all additional volume for six months.
3					

Cooler Temperature on Receipt 3.5, 2.5, 1.9 °C	Custody Seal (Y) or N	Received on Ice (Y) or N	Samples Intact Y or (N)

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

0.4, 1.4, 2.2, 0.9
MP Rec
15:30
WPW

Forwarding all Volume that was Sieved.

ISM Samples in c/o 3 jars.

CAS 11/1/22

DC#_Title: ENV-FRM-MIN4-0150 v10_Sample Condition Upon Receipt (SCUR)
Effective Date:

Sample Condition Upon Receipt

Client Name: Pace Green Bay

Project #: **WO# : 10630317**

PM: JMG **Due Date: 11/16/22**

CLIENT: UPRR_Jacobs

Courier: ☐ FedEx ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☒ Commercial Walfco

Tracking Number: _____ ☐ See Exceptions ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No

Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other

Temp Blank? ☒ Yes ☐ No

Thermometer: ☐ T1 (0461) ☐ T2 (1336) ☒ T3 (0459) ☐ T4 (0254) ☐ T5 (0178) ☐ T6 (0235) ☐ T7 (0042) ☐ T8 (0775) ☐ 01339252/1710

Type of Ice: ☒ Wet ☐ Blue ☐ Dry ☐ None ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☐ No **Were All Container Temps Taken?** ☐ Yes ☐ No ☐ N/A

Temp should be above freezing to 6 °C **Cooler temp Read w/Temp Blank:** 0.1, 1.4, 2.2°C ID:9

Correction Factor: TNW **Cooler Temp Corrected w/temp blank:** 0.1, 1.4, 2.2°C ID:9

Average Corrected Temp (no temp blank only): _____ °C ☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: (☐ N/A, water sample/other: _____)

Date/Initials of Person Examining Contents: 11/2/22 M

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? ☐ Yes ☒ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): ☐ Duluth ☒ Minneapolis ☐ Virginia

				COMMENTS
Chain of Custody Present and Filled Out?	☒ Yes	☐ No		1.
Chain of Custody Relinquished?	☒ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☐ Yes	☐ No	☒ N/A	3.
Samples Arrived within Hold Time?	☒ Yes	☐ No		4. If fecal: ☐ <8 hrs ☐ >8 hr, <24 ☐ No
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E.coli ☐ BOD/cBOD ☐ Hex Chrom ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other
Rush Turn Around Time Requested?	☒ Yes	☐ No		6. Lam
Sufficient Sample Volume?	☒ Yes	☐ No		7.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	8.
-Pace Containers Used?	☐ Yes	☒ No		
Containers Intact?	☒ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☒ Yes	☐ No		11. **If no, write ID/Date/Time of container below:** ☐ See Exceptions ENV-FRM-MIN4-0142
Matrix: ☐ Water ☒ Soil ☐ Oil ☐ Other				
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐ Yes	☐ No	☒ N/A	☐ NaOH ☐ HNO3 ☐ H2SO4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)	☐ Yes	☐ No	☒ N/A	Positive for Residual Chlorine? ☐ Yes ☐ No ☐ See Exceptions ENV-FRM-MIN4-0142
				pH Paper Lot #
				Residual Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in Methyl Mercury Container?	☐ Yes	☐ No	☒ N/A	13.
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☒ N/A	14. ☐ See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☒ N/A	
3 Trip Blanks Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Jenni Gross **Date:** 11/2/22

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: NF **Line:** 6

Pace

4025345S

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Page : 1 Of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Jacobs for UPRR	Report To:	Hodson, David	Attention:	John DeJong
Address:	2020 SW 4th Avenue, Suite 300	Copy To:		Company Name:	UPRR
	Portland, OR 97201			Address:	4315 E Sprague Ave, Spokane Valley, WA 99212
Email:	david.hodson@jacobs.com	Purchase Order #:	2903-01	Pace Quote:	4700001441 (MA-000166-2022)
Phone:	(510)316-2323 Fax:	Project Name:	Portland OR-Peninsula Iron Works	Pace Project Manager:	jennifer.gross@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	45173

Regulatory Agency: —

State / Location: OR / Portland - Multnomah County

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	SB14-0.0-0.5-1022			10/19/22	1000				1	X										X	X										001
2	SB14-1.0-1.5-1022			10/19/22	1005																										002
3	SB14-2.5-3.0-1022			10/19/22	1010				1	X										X	X										003
4	SB13-0.0-0.5-1022			10/19/22	1000				1	X	X									X	X	X									004
5	SB13-1.0-1.5-1022			10/19/22	1005				1	X											X	X									005
6	SB13-2.5-3.0-1022			10/19/22	1010				1	X											X	X									006
7	SB11-0.0-0.5-1022			10/19/22	1100				1	X											X	X									007
8	SB11D-0.0-0.5-1022			10/19/22	1105				1	X											X	X									~~008~~ MS/MSD
9	SB11-1.0-1.5-1022			10/19/22	1110					X																					009
10	SB11-2.5-3.0-1022			10/19/22	1115				1	X																					010
11	SB15-0.0-0.5-1022			10/19/22	1200																										011
12	SB15-1.0-1.5-1022			10/19/22	1205					X																					012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Include 1262 & 1268	Jaclyn Warren / Jacobs	10/19/22	1500	1 X			
Methods 8082 & 1668 - Require chromatograms							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jaclyn Warren

SIGNATURE of SAMPLER: [signature] DATE Signed: 10/19/22

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Page 619 of 680

4025345S

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A – Required Client Information:	Section B – Required Project Information:	Section C – Invoice Information:
Company: Jacobs for UPRR	Report To: Hodson, David	Attention: John DeJong
Address: 2020 SW 4th Avenue, Suite 300	Copy To:	Company Name: UPRR
Portland, OR 97201		Address: 4315 E Sprague Ave, Spokane Valley, WA 99212
Email: david.hodson@jacobs.com	Purchase Order #: 2903-01	Pace Quote: 4700001441 (MA-000166-2022)
Phone: (510)316-2323 Fax:	Project Name: Portland OR-Peninsula Iron Works	Pace Project Manager: jennifer.gross@pacelabs.com,
Requested Due Date:	Project #:	Pace Profile #: 45173

Regulatory Agency

State / Location: OR / Portland - Multnomah County

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Y/N	Analyses Test: ISM Prep (Pace Green Bay)	Sieve only (Pace Green Bay)	8082A PCBs*	8015D GRO & DRO/ORO	6010D/7400 Total T22 Metals	8260D VOCs	8270E SVOCs	Moisture/Dry Weight	TCLP 6010D/7471B (HOLD)	TCLP 8260D VOCs (HOLD)	TCLP 8270E SVOCs (HOLD)	HOLD ONLY	MS/MSD Requested	
1	SB15-2.5-3.0-1022			10/19/22	1210				1	X										X	X										013
2	SB16-0.0-0.5-1022			"	1300				1	X										X	X										014
3	SB16-1.0-1.5-1022			"	1305				1	X										X	X										015
4	B16-2.5-3.0-1022			"	1310				1	X										X	X										016
5	SM02-0.0-0.2-1022			"	1400				1	X										X	X										017
6	SM07-0.0-0.2-1022			"	1425				1	X										X	X										018
7	SM07T-0.0-0.2-1022			"	1130				1	X										X	X										019
8	SM07TT-0.0-0.2-1022			"	1125				1	X										X	X										020
9	SM06-0.0-0.2-1022			"	945				1	X										X	X										021
10	EB01-101922-HADS			"	1420				2	X												X										Hand Auger DS
11	EB01-101922-HTISM			"	1430				2	X												X										Hand trowel/DS
12	EB01-101922-HTDS			"	1440				2	X												X										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Include 1262 & 1268	Jaclyn Warren / Jacobs	10/19/22	500				
Methods 8082 & 1668 - Require chromatograms							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jaclyn Warren

SIGNATURE of SAMPLER: [signature] DATE Signed: 10/19/22

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Client Name: Pace MN

Sample Preservation Receipt Form

Project # LIMS 53455

All containers needing preservation have been checked and noted below: ☐Yes ☐No ☑N/A

Lab Lot# of pH paper: Lab Std #ID of preservation (if pH adjusted): Initial when completed: Date/ Time:

Pace Lab #	Glass							Plastic						Vials						Jars				General				VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2							
001																									1								2.5 / 5
002																									1								2.5 / 5
003																									1								2.5 / 5
004																									1								2.5 / 5
005																									1								2.5 / 5
006																									1								2.5 / 5
007																									2								2.5 / 5
008																									1								2.5 / 5
009																									1								2.5 / 5
010																									1								2.5 / 5
011																									1								2.5 / 5
012																									1								2.5 / 5
013																									1								2.5 / 5
014																									1								2.5 / 5
015																									1								2.5 / 5
016																									1								2.5 / 5
017																									1								2.5 / 5
018																									1								2.5 / 5
019																									1								2.5 / 5
020																									1								2.5 / 5

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : ☐Yes ☐No ☑N/A ***If yes look in headspace column**

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	VG9C	40 mL clear ascorbic w/ HCl	JGFU	4 oz amber jar unpres
BG1U	1 liter clear glass	BP3U	250 mL plastic unpres	DG9T	40 mL amber Na Thio	JG9U	9 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP3B	250 mL plastic NaOH	VG9U	40 mL clear vial unpres	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9H	40 mL clear vial HCL	WPFU	4 oz plastic jar unpres
AG5U	100 mL amber glass unpres	BP3S	250 mL plastic H2SO4	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH + Zn	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres					GN 1	
						GN 2	

Page 1 of ____

Client Name: Pace MN

Sample Preservation Receipt Form

Project #: LIR53455

Pace Lab #	Glass							Plastic						Vials						Jars				General				VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2							
021																									1								2.5 / 5
022																																	2.5 / 5
023																																	2.5 / 5
024																																	2.5 / 5
025																																	2.5 / 5
026																																	2.5 / 5
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039																																	2.5 / 5
040																																	2.5 / 5
041																																	2.5 / 5
042																																	2.5 / 5
043																																	2.5 / 5
044																																	2.5 / 5
045																																	2.5 / 5
046																																	2.5 / 5
047																																	2.5 / 5
048																																	2.5 / 5

U 1/20/22 SC

Page 2 of 4

Sample Condition Upon Receipt Form (SCUR)

Client Name: Pace MN Project # 40253455

Additional Comments/Resolution: ① 5923 7141 9760, 5923 7141 9770
5923 7141 9792

② ~~SR-9~~ 3 → 3.5, ~~SR-9~~ 3.5 → 4, ~~SR-9~~ 3 → 3.5

L1025 3455

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

[X] Samples Pre-Logged into eCOC.

State Of Origin: OR

Cert. Needed: [ ] Yes [ ] No

Workorder: 10630481 **Workorder Name:** Portland OR-Peninsula Iron Wor

Owner Received Date: 10/20/2022 **Results Requested By:** 10/31/2022

Report To

Jennifer Gross
Pace Analytical Minnesota
1700 Elm Street
Minneapolis, MN 55414
Phone (612)607-1700

Subcontract To

Pace Analytical Green Bay
1241 Bellevue Street
Suite 9
Green Bay, WI 54302
Phone (920)469-2436

Requ

WO# : 10630481

10630481

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved						MISC / ISM (50 Increments) (PACE-	MISC / Sieving (<2mm) (PACE-GB)												LAB USE ONLY
1	SB14-0.0-0.5-1022	PS	10/19/2022 08:00	10630481001	Solid	1							X												001
2	SB14-1.0-1.5-1022	PS	10/19/2022 08:05	10630481002	Solid	1							X												002
3	SB14-2.5-3.0-1022	PS	10/19/2022 09:10	10630481003	Solid	1							X												003
4	SB13-0.0-0.5-1022	PS	10/19/2022 10:00	10630481004	Solid	1							X												004
5	SB13-1.0-1.5-1022	PS	10/19/2022 10:05	10630481005	Solid	1							X												005
6	SB13-2.5-3.0-1022	PS	10/19/2022 10:10	10630481006	Solid	1							X												006
7	SB11-0.0-0.5-1022	RQS	10/19/2022 11:00	10630481007	Solid	1							X												007
8	SB11D-0.0-0.5-1022	PS	10/19/2022 11:05	10630481008	Solid	1							X												008
9	SB11-1.0-1.5-1022	PS	10/19/2022 11:10	10630481009	Solid	1							X												009
10	SB11-2.5-3.0-1022	PS	10/19/2022 11:15	10630481010	Solid	1							X												010
11	SB15-0.0-0.5-1022	PS	10/19/2022 12:00	10630481011	Solid	1							X												011
12	SB15-1.0-1.5-1022	PS	10/19/2022 12:05	10630481012	Solid	1							X												012
13	SB15-2.5-3.0-1022	PS	10/19/2022 12:10	10630481013	Solid	1							X												013
14	SB16-0.0-0.5-1022	PS	10/19/2022 13:00	10630481014	Solid	1							X												014
15	SB16-1.0-1.5-1022	PS	10/19/2022 13:05	10630481015	Solid	1							X												015
16	SB16-2.5-3.0-1022	PS	10/19/2022 13:10	10630481016	Solid	1							X												016
17	ISM02-0.0-0.2-1022	PS	10/19/2022 14:00	10630481017	Solid	1						X													017
18	ISM07-0.0-0.2-1022	PS	10/19/2022 11:25	10630481018	Solid	1						X													018
19	ISM07T-0.0-0.2-1022	PS	10/19/2022 11:30	10630481019	Solid	1						X													019

40253455

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

[X] Samples Pre-Logged into eCOC.

State Of Origin: OR
Cert. Needed: [ ] Yes [ ] No

Workorder: 10630481 **Workorder Name:** Portland OR-Peninsula Iron Wor

Owner Received Date: 10/20/2022 **Results Requested By:** 10/31/2022

Report To	Subcontract To
Jennifer Gross Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612)607-1700	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Preserved Containers: 2PLU	Requested Analysis: MISC / ISM (50 Increments) (PACE-	Requested Analysis: MISC / Sieving (<2mm) (PACE-GB)	LAB USE ONLY
20	ISM07TT-0.0-0.2-1022	PS	10/19/2022 11:35	10630481020	Solid	1		X		620
21	ISM06-0.0-0.2-1022	PS	10/19/2022 09:25	10630481021	Solid	1		X		621
22										
23										
24										

Transfers	Released By	Date/Time	Received By	Date/Time
1	Fedex	10/20/22 1032	Sampace	10/20/22 1032
2	Maxwell Pace	12/16/22 1700		
3				

Comments

Forward prepped volume to Pace Mnpls, methods 8082 & possibly 1668.

Hold all additional volume for six months.

Cooler Temperature on Receipt 5.5 3.5 °C **Custody Seal** (Y) or N **Received on Ice** (Y) or N **Samples Intact** (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.*
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Condition Upon Receipt

Client Name: Pace Green Bay

Project # WO#: 10630481

PM: JMG Due Date: 02/17/23

CLIENT: UPRR_Jacobs

Courier: ☐ FedEx ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☑ Commercial Cal HCO ☐ See Exceptions ENV-FRM-MIN4-0142

Tracking Number:

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other **Temp Blank?** ☑ Yes ☐ No

Thermometer: ☐ T1 (0461) ☐ T2 (1336) ☐ T3 (0459) ☐ T4 (0254) ☐ T5 (0178) ☐ T6 (0235) ☑ T7 (0042) ☐ T8 (0775) ☐ T9(0727) ☐ 01339252/1710 **Type of Ice:** ☑ ~~Wet~~ ☐ Blue ☐ Dry ☑ None ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☒ No JMG 12/19/22 **Were All Container Temps Taken?** ☐ Yes ☐ No ☒ N/A JMG 12/19/22

Temp should be above freezing to 6 °C **Cooler temp Read w/Temp Blank:** 2.5 2.4 2.5 13.6

Correction Factor: +.1 **Cooler Temp Corrected w/temp blank:** 2.6 2.5 2.8 °C 3.7

Average Corrected Temp (no temp blank only): ____ °C ☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: (☐ N/A, water sample/other: ____) **Date/Initials of Person Examining Contents:** 12/19/22 JMG

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): ☐ Duluth ☑ Minneapolis ☐ Virginia				**COMMENTS**
Chain of Custody Present and Filled Out?	☑ Yes	☐ No		1.
Chain of Custody Relinquished?	☑ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☐ Yes	☑ No	☐ N/A	3.
Samples Arrived within Hold Time?	☑ Yes	☐ No		4. If fecal: ☐ <8 hrs ☐ >8 hr, <24 ☐ No
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E.coli ☐ BOD/cBOD ☐ Hex Chrom ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other ____
Rush Turn Around Time Requested?	☑ Yes	☐ No		6. Late
Sufficient Sample Volume?	☑ Yes	☐ No		7.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	8.
-Pace Containers Used?	☐ Yes	☑ No		
Containers Intact?	☑ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☑ Yes	☐ No		11. **If no, write ID/Date/Time of container below:** 6N containers added to coc/NO ☐ See Exceptions ENV-FRM-MIN4-0142
Matrix: ☐ Water ☑ Soil ☐ Oil ☐ Other				
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☑ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐ Yes	☐ No	☑ N/A	☐ NaOH ☐ HNO3 ☐ H2SO4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)	☐ Yes	☐ No	☑ N/A	Positive for Residual Chlorine? ☐ Yes ☐ No ☐ See Exceptions ENV-FRM-MIN4-0142 **pH Paper Lot #** Residual Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in Methyl Mercury Container?	☐ Yes	☐ No	☑ N/A	13.
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☑ N/A	14. ☐ See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☑ N/A	
3 Trip Blanks Present?	☐ Yes	☐ No	☑ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	Pace Trip Blank Lot # (if purchased): ____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: ____ Date/Time: ____

Comments/Resolution: ____

Project Manager Review: Jenni Gross **Date:** 12/19/22

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: NR **Line:** 7

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-MIN4-0142 v02_Sample Condition Upon Receipt (SCUR) Exception Form
	Effective Date: 09/22/2022

Workorder #: _____

No Temp Blank		
Read Temp	Corrected Temp	Average temp

PM Notified of Out of Temp Cooler? ☐ Yes ☐ No

If yes, indicate who was contacted, date and time.
If no, indicate reason why.

_____

Multiple Cooler Project? ☐ Yes ☐ No

If anything is OVER 6.0° C, you MUST document containers in this section HERE

Tracking Number	Temperature
34247946-4	8.9
34297946-5	11.3
34297946-2	8.7
34297946-1	11.2

Out of Temp Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples

Sample ID	Type Of Preserve	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance After Addition?		Initials
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	

Comments:

_____

_____

_____

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40253455

40253455

Client Name: Pace MN

Courier: ☐ CS Logistics ☑ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco
☐ Client ☐ Pace Other:

Tracking #: 5923 7141 9781 (1)

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used SR - 9 **Type of Ice:** (Wet) Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: 5 /Corr: 5.5 (2)

Temp Blank Present: ☑ yes ☐ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Person examining contents:
Date: 10/20/22 Initials: SG

Labeled By Initials: MP

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished: 10/20/22 SG	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☐No ☑N/A	4. IRWO 10/20/22 SG
Samples Arrived within Hold Time:	☑Yes ☐No	5.
- DI VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☑Yes ☐No MS/MSD: ☑Yes ☐No ☐N/A		8.
Correct Containers Used:	☑Yes ☐No	9.
Correct Type: Pace Green Bay, Pace IR, (Non-Pace)		
Containers Intact:	☑Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: S	☐Yes ☑No ☐N/A	12. IRWO coc 001 time "0800", client coc matches sample time "0900" IRWO coc 002 time "0505", client coc matches sample time "0605" 10/20/22 SG
Trip Blank Present:	☐Yes ☐No ☑N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample login

10/20/22 SG

Page 2 of 3

3 of 4

Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444
www.pacelabs.com

Reporting Flags

A = Reporting Limit based on signal to noise (EDL)

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

H2 = Extracted outside of holding time

I = Isotope ratio out of specification

J = Estimated value

L = Suppressive interference, analyte may be biased low

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
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Appendix B

Sample Analysis Summary

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyl Sample Analysis Results

Client - UPRR_Jacobs

Client's Sample ID	SB06-1.0-1.5-1022		
Lab Sample ID	10638496001		
Filename	P230112A_10		
Injected By	AH5		
Total Amount Extracted	10.4 g	Matrix	Solid
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	10/17/2022 15:20
ICAL ID	P230112A04	Received	10/18/2022 09:45
CCal Filename(s)	P230112A_03	Extracted	01/03/2023 13:30
Method Blank ID	BLANK-103296	Analyzed	01/12/2023 18:26

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	8.635	3.58	2.0	1.12	56	
13C-4-MoCB	3	11.360	3.04	2.0	1.17	59	
13C-2,2'-DiCB	4	11.643	1.60	2.0	1.17	59	
13C-4,4'-DiCB	15	18.593	1.50	2.0	1.22	61	
13C-2,2',6-TrCB	19	15.354	0.94	2.0	1.25	62	
13C-3,4,4'-TrCB	37	26.283	1.01	2.0	1.30	65	
13C-2,2',6,6'-TeCB	54	18.904	0.80	2.0	1.06	53	
13C-3,4,4',5-TeCB	81	33.374	0.81	2.0	1.44	72	
13C-3,3',4,4'-TeCB	77	33.946	0.80	2.0	1.39	69	
13C-2,2',4,6,6'-PeCB	104	24.968	1.52	2.0	1.17	58	
13C-2,3,3',4,4'-PeCB	105	37.550	1.62	2.0	1.38	69	
13C-2,3,4,4',5-PeCB	114	36.896	1.59	2.0	1.32	66	
13C-2,3',4,4',5-PeCB	118	36.360	1.56	2.0	1.30	65	
13C-2,3',4,4',5'-PeCB	123	36.008	1.56	2.0	1.31	66	
13C-3,3',4,4',5-PeCB	126	40.720	1.61	2.0	1.29	65	
13C-2,2',4,4',6,6'-HxCB	155	30.961	1.24	2.0	1.26	63	DN2
13C-HxCB(156/157)	156/157	43.761	1.23	4.0	2.52	63	DN2
13C-2,3',4,4',5,5'-HxCB	167	42.587	1.19	2.0	1.39	69	DN2
13C-3,3',4,4',5,5'-HxCB	169	47.047	1.41	2.0	1.19	60	DN2
13C-2,2',3,4',5,6,6'-HpCB	188	36.864	1.07	2.0	1.41	70	DN2
13C-2,3,3',4,4',5,5'-HpCB	189	49.605	0.99	2.0	1.21	60	DN2
13C-2,2',3,3',5,5',6,6'-OcCB	202	42.351	0.89	2.0	1.37	68	
13C-2,3,3',4,4',5,5',6-OcCB	205	52.213	0.91	2.0	1.18	59	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	53.937	0.84	2.0	1.14	57	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	49.109	0.78	2.0	1.25	62	
13C-DeCB	209	55.553	0.68	2.0	1.04	52	
CleanupStandards							
13C-2,4,4'-TrCB	28	21.951	1.08	2.0	1.12	56	
13C-2,3,3',5,5'-PeCB	111	34.008	1.58	2.0	1.03	52	
13C-2,2',3,3',5,5',6-HpCB	178	39.982	1.05	2.0	0.874	44	
Recovery Standards							
13C-2,5-DiCB	9	14.039	1.61	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	23.931	0.76	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	31.208	1.55	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	39.546	1.38	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	51.717	0.96	2.0	NA	NA	

Conc = Concentration
EML =Method Specified Reporting Limit (1668C)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668C control limits
Nn = Value obtained from additional analyses

Results reported on a total weight basis

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB06-1.0-1.5-1022
Lab Sample ID 10638496001
Filename P230112A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
1		8.669	2.98	18.1	BJ	---	4.56
2		11.146	2.67	11.0	J	---	3.37
3		11.372	3.11	28.9	B	---	4.76
4		11.654	1.79	28.3		---	7.48
5		---	---	ND		---	2.67
6		14.536	1.71	16.4	J	---	3.80
7		14.271	1.48	4.81	J	---	2.89
8		15.045	1.53	74.3		---	6.20
9		14.061	1.35	5.73	J	---	3.20
10		---	---	ND		---	3.68
11		17.896	1.68	159		---	106
12	12/13	18.228	1.49	20.3	J	---	6.45
13	12/13	18.228	1.49	(20.3)	J	---	6.45
14		---	---	ND		---	3.28
15		18.604	1.55	132		---	5.65
16		18.526	0.97	42.6		---	6.94
17		18.018	1.03	48.4		---	7.13
18	18/30	17.543	1.03	99.8		---	14.3
19		15.387	1.03	15.1	J	---	3.10
20	20/28	21.982	1.04	203		---	22.9
21	21/33	22.230	1.10	109		---	13.7
22		22.663	1.09	78.2		---	10.2
23		---	---	ND		---	2.98
24		---	---	ND		---	3.95
25		21.317	1.21	---	IJ	15.6	3.19
26	26/29	21.054	0.97	34.4	J	---	9.52
27		18.261	0.98	8.59	J	---	4.15
28	20/28	21.982	1.04	(203)		---	22.9
29	26/29	21.054	0.97	(34.4)	J	---	9.52
30	18/30	17.543	1.03	(99.8)		---	14.3
31		21.657	1.09	175		---	19.5
32		19.121	1.06	41.4		---	6.63
33	21/33	22.230	1.10	(109)		---	13.7
34		---	---	ND		---	4.17
35		25.880	1.08	12.4	J	---	4.05
36		24.365	0.89	3.15	J	---	2.88
37		26.298	1.05	176		---	7.06
38		---	---	ND		---	2.60
39		24.813	1.16	3.10	J	---	3.08
40	40/41/71	26.128	0.73	238		---	11.1
41	40/41/71	26.128	0.73	(238)		---	11.1
42		25.587	0.85	106		---	5.01
43	43/73	---	---	ND		---	10.4
44	44/47/65	25.014	0.79	626		---	25.0
45	45/51	22.044	0.76	54.1		---	10.4
46		22.369	0.86	12.8	J	---	3.95
47	44/47/65	25.014	0.79	(626)		---	25.0
48		24.798	0.85	55.4		---	3.88

Conc = Concentration
EML =Method Specified Reporting Limit (1668C)
EMPC = Estimated Maximum Possible Concentration
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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB06-1.0-1.5-1022
Lab Sample ID 10638496001
Filename P230112A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
49	49/69	24.504	0.79	403		---	9.43
50	50/53	21.333	0.75	57.2		---	20.8
51	45/51	22.044	0.76	(54.1)		---	10.4
52		23.962	0.78	4470		---	18.0
53	50/53	21.333	0.75	(57.2)		---	20.8
54		---	---	ND		---	5.20
55		29.584	0.85	9.21	J	---	8.14
56		30.110	0.77	422		---	5.30
57		---	---	ND		---	2.22
58		---	---	ND		---	2.70
59	59/62/75	25.370	0.83	54.8	J	---	6.94
60		30.326	0.81	167		---	20.9
61	61/70/74/76	29.058	0.81	2080		---	15.6
62	59/62/75	25.370	0.83	(54.8)	J	---	6.94
63		28.733	0.82	28.6		---	7.66
64		26.360	0.79	487		---	14.0
65	44/47/65	25.014	0.79	(626)		---	25.0
66		29.414	0.82	760		---	12.2
67		28.470	0.77	20.3		---	2.23
68		---	---	ND		---	8.55
69	49/69	24.504	0.79	(403)		---	9.43
70	61/70/74/76	29.058	0.81	(2080)		---	15.6
71	40/41/71	26.128	0.73	(238)		---	11.1
72		27.279	0.81	24.3		---	2.32
73	43/73	---	---	ND		---	10.4
74	61/70/74/76	29.058	0.81	(2080)		---	15.6
75	59/62/75	25.370	0.83	(54.8)	J	---	6.94
76	61/70/74/76	29.058	0.81	(2080)		---	15.6
77		33.977	0.78	599		---	3.39
78		32.925	0.99	---	IJ	3.72	3.33
79		32.337	0.85	230		---	2.62
80		30.791	1.00	---	IJ	4.67	2.46
81		33.389	1.01	---	IJ	15.4	2.30
82		33.575	1.57	1040		---	4.87
83		31.719	1.55	2060		---	3.18
84		29.274	1.57	4290		---	3.21
85	85/116/117	33.095	1.38	1510		---	8.09
86	86/87/97/108/119/125	32.446	1.56	26200		---	15.6
87	86/87/97/108/119/125	32.446	1.56	(26200)		---	15.6
88	88/91	29.058	1.57	1210		---	6.26
89		29.754	1.49	76.1		---	3.75
90	90/101/113	31.239	1.58	137000		---	11.5
91	88/91	29.058	1.57	(1210)		---	6.26
92		30.620	1.59	16000		---	4.31
93	93/98/100/102	28.517	1.54	389		---	11.9
94		27.666	1.56	35.6		---	3.53
95		28.130	1.56	79800		---	14.5
96		25.354	1.55	44.0		---	4.15

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Pace Analytical Services, LLC.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB06-1.0-1.5-1022
Lab Sample ID 10638496001
Filename P230112A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
97	86/87/97/108/119/125	32.446	1.56	(26200)		---	15.6
98	93/98/100/102	28.517	1.54	(389)		---	11.9
99		31.842	1.59	4800		---	4.93
100	93/98/100/102	28.517	1.54	(389)		---	11.9
101	90/101/113	31.239	1.58	(137000)		---	11.5
102	93/98/100/102	28.517	1.54	(389)		---	11.9
103		27.449	1.42	89.6		---	2.98
104		---	---	ND		---	3.30
105		37.567	1.58	7480		---	4.43
106		---	---	ND		---	3.09
107	107/124	35.673	1.58	1570		---	4.72
108	86/87/97/108/119/125	32.446	1.56	(26200)		---	15.6
109		35.907	1.60	2360		---	2.64
110	110/115	33.265	1.56	102000		---	14.0
111		34.023	1.39	28.4		---	2.85
112		---	---	ND		---	3.88
113	90/101/113	31.239	1.58	(137000)		---	11.5
114		36.896	1.50	183		---	3.68
115	110/115	33.265	1.56	(102000)		---	14.0
116	85/116/117	33.095	1.38	(1510)		---	8.09
117	85/116/117	33.095	1.38	(1510)		---	8.09
118		36.377	1.59	47400		---	9.92
119	86/87/97/108/119/125	32.446	1.56	(26200)		---	15.6
120		34.503	1.63	244		---	3.34
121		---	---	ND		---	3.51
122		36.712	1.54	218		---	3.46
123		36.025	1.61	328		---	3.28
124	107/124	35.673	1.58	(1570)		---	4.72
125	86/87/97/108/119/125	32.446	1.56	(26200)		---	15.6
126		40.736	1.62	1820		---	2.75
127		39.110	1.51	127		---	3.25
128	128/166	40.821	1.26	44500	DN2	---	32.9
129	129/138/163	39.547	1.26	684000	DN2	---	62.1
130		38.876	1.25	23500	DN2	---	16.2
131		35.992	1.24	3880	DN2	---	21.9
132		36.445	1.24	180000	DN2	---	27.3
133		36.981	1.26	6100	DN2	---	14.8
134	134/143	35.355	1.26	22000	DN2	---	38.7
135	135/151	34.210	1.24	219000	DN2	---	50.6
136		31.704	1.25	64700	DN2	---	22.9
137		39.094	1.15	2370	DN2	---	18.6
138	129/138/163	39.547	1.26	(684000)	DN2	---	62.1
139	139/140	35.791	1.18	1560	DN2	---	27.5
140	139/140	35.791	1.18	(1560)	DN2	---	27.5
141		38.474	1.25	165000	DN2	---	24.5
142		---	---	ND	DN2	---	18.2
143	134/143	35.355	1.26	(22000)	DN2	---	38.7
144		34.798	1.24	34300	DN2	---	19.9

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB06-1.0-1.5-1022
Lab Sample ID 10638496001
Filename P230112A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
145		---	---	ND	DN2	---	15.8
146		37.652	1.25	81400	DN2	---	19.9
147	147/149	35.171	1.25	487000	DN2	---	58.3
148		33.606	1.32	125	DN2	---	22.4
149	147/149	35.171	1.25	(487000)	DN2	---	58.3
150		31.348	1.19	245	DN2	---	17.7
151	135/151	34.210	1.24	(219000)	DN2	---	50.6
152		31.162	1.16	41.2	JDN2	---	18.2
153	153/168	38.273	1.25	630000	DN2	---	53.5
154		34.488	1.25	1620	DN2	---	18.8
155		---	---	ND	DN2	---	15.5
156	156/157	43.761	1.27	54800	DN2	---	27.1
157	156/157	43.761	1.27	(54800)	DN2	---	27.1
158		39.950	1.24	61600	DN2	---	15.6
159		41.799	1.31	5110	DN2	---	16.0
160		---	---	ND	DN2	---	13.1
161		---	---	ND	DN2	---	14.3
162		42.118	1.19	888	DN2	---	16.5
163	129/138/163	39.547	1.26	(684000)	DN2	---	62.1
164		39.229	1.25	46800	DN2	---	18.2
165		37.384	1.26	57.2	JDN2	---	15.7
166	128/166	40.821	1.26	(44500)	DN2	---	32.9
167		42.620	1.27	23700	DN2	---	18.6
168	153/168	38.273	1.25	(630000)	DN2	---	53.5
169		47.064	1.48	---	IDN2	489	18.7
170		46.444	1.03	328000	DN2	---	23.3
171	171/173	42.872	1.04	105000	DN2	---	37.7
172		44.515	1.04	52300	DN2	---	18.9
173	171/173	42.872	1.04	(105000)	DN2	---	37.7
174		41.782	1.03	289000	DN2	---	28.5
175		40.654	0.93	12100	DN2	---	17.2
176		38.122	1.04	36600	DN2	---	20.9
177		42.218	1.03	181000	DN2	---	23.9
178		40.000	1.01	50400	DN2	---	16.0
179		37.216	1.04	104000	DN2	---	23.7
180	180/193	45.186	1.04	680000	DN2	---	51.1
181		42.637	1.05	1200	DN2	---	15.7
182		41.123	1.11	1060	DN2	---	17.1
183	183/185	41.548	1.03	209000	DN2	---	40.1
184		37.770	1.19	127	DN2	---	17.2
185	183/185	41.548	1.03	(209000)	DN2	---	40.1
186		---	---	ND	DN2	---	19.6
187		40.922	1.02	304000	DN2	---	28.0
188		36.881	1.07	206	DN2	---	15.9
189		49.627	1.07	14400	DN2	---	14.2
190		46.997	1.02	68500	DN2	---	12.5
191		45.538	1.04	13200	DN2	---	14.5
192		---	---	ND	DN2	---	14.5

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Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB06-1.0-1.5-1022
Lab Sample ID 10638496001
Filename P230112A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg	EMPC ng/Kg	EML ng/Kg
193	180/193	45.186	1.04	(680000) DN2	---	51.1
194		51.760	0.89	102000	---	2.70
195		49.368	0.89	49000	---	3.15
196		47.834	0.89	63200	---	1.97
197	197/200	44.313	0.88	18900	---	4.57
198	198/199	47.180	0.89	103000	---	5.35
199	198/199	47.180	0.89	(103000)	---	5.35
200	197/200	44.313	0.88	(18900)	---	4.57
201		43.307	0.89	12800	---	2.71
202		42.368	0.89	14200	---	2.20
203		48.035	0.90	69400	---	3.36
204		43.994	0.91	30.7	---	2.19
205		52.234	0.89	6580	---	2.50
206		53.958	0.79	18100	---	3.42
207		50.079	0.78	2240	---	2.76
208		49.131	0.79	3010	---	2.62
209		55.575	0.68	2250	---	2.95

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Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	SB06-1.0-1.5-1022
Lab Sample ID	10638496001
Filename	P230112A_10

Congener Group	Concentration ng/Kg
Total Monochloro Biphenyls	58.0
Total Dichloro Biphenyls	441
Total Trichloro Biphenyls	1050
Total Tetrachloro Biphenyls	10900
Total Pentachloro Biphenyls	438000
Total Hexachloro Biphenyls	2840000
Total Heptachloro Biphenyls	2450000
Total Octachloro Biphenyls	439000
Total Nonachloro Biphenyls	23400
DecachloroBiphenyls	2250
Total PCBs	6210000

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Method 1668C Polychlorobiphenyl Sample Analysis Results

Client - UPRR_Jacobs

Client's Sample ID	SB08-0.5-110322		
Lab Sample ID	10638496002		
Filename	P230112A_11		
Injected By	AH5		
Total Amount Extracted	10.3 g	Matrix	Solid
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/03/2022 08:45
ICAL ID	P230112A04	Received	11/04/2022 09:45
CCal Filename(s)	P230112A_03	Extracted	01/03/2023 13:30
Method Blank ID	BLANK-103296	Analyzed	01/12/2023 19:26

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	8.692	3.51	2.0	1.34	67	
13C-4-MoCB	3	11.383	3.30	2.0	1.37	69	
13C-2,2'-DiCB	4	11.677	1.59	2.0	1.40	70	
13C-4,4'-DiCB	15	18.594	1.58	2.0	1.46	73	
13C-2,2',6-TrCB	19	15.377	1.06	2.0	1.47	74	
13C-3,4,4'-TrCB	37	26.299	1.05	2.0	1.47	73	
13C-2,2',6,6'-TeCB	54	18.905	0.80	2.0	1.24	62	
13C-3,4,4',5-TeCB	81	33.390	0.80	2.0	1.64	82	
13C-3,3',4,4'-TeCB	77	33.963	0.83	2.0	1.58	79	
13C-2,2',4,6,6'-PeCB	104	24.938	1.37	2.0	1.43	71	DN2
13C-2,3,3',4,4'-PeCB	105	37.534	1.63	2.0	1.64	82	DN2
13C-2,3,4,4',5-PeCB	114	36.881	1.64	2.0	1.53	77	DN2
13C-2,3',4,4',5-PeCB	118	36.327	1.72	2.0	1.57	78	DN2
13C-2,3',4,4',5'-PeCB	123	35.992	1.68	2.0	1.54	77	DN2
13C-3,3',4,4',5-PeCB	126	40.687	1.39	2.0	1.65	83	DN2
13C-2,2',4,4',6,6'-HxCB	155	30.961	1.25	2.0	1.13	57	DN2
13C-HxCB(156/157)	156/157	43.744	1.23	4.0	2.73	68	DN2
13C-2,3',4,4',5,5'-HxCB	167	42.587	1.33	2.0	1.31	66	DN2
13C-3,3',4,4',5,5'-HxCB	169	47.030	1.35	2.0	1.29	64	DN2
13C-2,2',3,4',5,6,6'-HpCB	188	36.864	1.07	2.0	1.26	63	DN2
13C-2,3,3',4,4',5,5'-HpCB	189	49.584	1.22	2.0	1.19	64	IDN2
13C-2,2',3,3',5,5',6,6'-OcCB	202	42.353	0.92	2.0	1.46	73	
13C-2,3,3',4,4',5,5',6-OcCB	205	52.214	0.86	2.0	1.29	64	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	53.960	0.80	2.0	1.18	59	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	49.110	0.80	2.0	1.28	64	
13C-DeCB	209	55.555	0.69	2.0	1.14	57	
CleanupStandards							
13C-2,4,4'-TrCB	28	21.968	1.05	2.0	1.29	64	
13C-2,3,3',5,5'-PeCB	111	34.009	1.54	2.0	1.08	54	
13C-2,2',3,3',5,5',6-HpCB	178	40.000	1.05	2.0	0.833	42	
Recovery Standards							
13C-2,5-DiCB	9	14.073	1.61	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	23.948	0.78	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	31.225	1.60	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	39.564	1.50	2.0	NA	NA	I
13C-2,2',3,3',4,4',5,5'-OcCB	194	51.740	0.88	2.0	NA	NA	

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Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB08-0.5-110322
Lab Sample ID 10638496002
Filename P230112A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
1		8.715	2.66	13.3	BJ	---	4.60
2		11.191	3.42	4.45	J	---	3.40
3		11.406	3.12	24.0	B	---	4.81
4		11.700	1.34	15.1	J	---	7.55
5		---	---	ND		---	2.69
6		14.559	1.79	11.1	J	---	3.83
7		---	---	ND		---	2.92
8		15.068	1.67	48.6		---	6.26
9		14.062	1.66	3.84	J	---	3.23
10		---	---	ND		---	3.72
11		17.930	1.65	125		---	107
12	12/13	18.262	1.37	18.4	J	---	6.52
13	12/13	18.262	1.37	(18.4)	J	---	6.52
14		---	---	ND		---	3.31
15		18.627	1.64	173		---	5.70
16		18.527	1.10	17.7	J	---	7.00
17		18.041	1.12	21.4		---	7.20
18	18/30	17.566	1.10	47.4		---	14.4
19		15.410	0.95	6.18	J	---	3.13
20	20/28	21.999	1.06	127		---	23.2
21	21/33	22.262	1.01	53.9		---	13.8
22		22.664	1.00	40.7		---	10.3
23		---	---	ND		---	3.01
24		---	---	ND		---	3.99
25		21.333	1.02	8.83	J	---	3.22
26	26/29	21.070	1.08	18.5	J	---	9.61
27		18.262	1.11	4.99	J	---	4.19
28	20/28	21.999	1.06	(127)		---	23.2
29	26/29	21.070	1.08	(18.5)	J	---	9.61
30	18/30	17.566	1.10	(47.4)		---	14.4
31		21.674	1.03	84.1		---	19.6
32		19.153	1.04	25.2		---	6.69
33	21/33	22.262	1.01	(53.9)		---	13.8
34		---	---	ND		---	4.21
35		25.897	1.03	10.1	J	---	4.09
36		24.381	1.32	---	IJ	4.29	2.91
37		26.330	1.08	133		---	7.13
38		---	---	ND		---	2.63
39		---	---	ND		---	3.11
40	40/41/71	26.129	0.82	297		---	11.2
41	40/41/71	26.129	0.82	(297)		---	11.2
42		25.618	0.73	126		---	5.06
43	43/73	24.242	0.81	13.1	J	---	10.5
44	44/47/65	25.031	0.77	582		---	25.2
45	45/51	22.060	0.81	57.1		---	10.5
46		22.416	0.81	12.8	J	---	3.99
47	44/47/65	25.031	0.77	(582)		---	25.2
48		24.799	0.73	49.2		---	3.92

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Pace Analytical Services, LLC.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB08-0.5-110322
Lab Sample ID 10638496002
Filename P230112A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
49	49/69	24.504	0.78	294		---	9.52
50	50/53	21.349	0.77	59.6		---	21.0
51	45/51	22.060	0.81	(57.1)		---	10.5
52		23.979	0.78	6790		---	18.2
53	50/53	21.349	0.77	(59.6)		---	21.0
54		---	---	ND		---	5.25
55		---	---	ND		---	8.22
56		30.111	0.80	324		---	5.35
57		---	---	ND		---	2.24
58		---	---	ND		---	2.72
59	59/62/75	25.386	0.79	61.1		---	7.00
60		30.327	0.83	83.4		---	21.1
61	61/70/74/76	29.074	0.80	1150		---	15.8
62	59/62/75	25.386	0.79	(61.1)		---	7.00
63		28.734	0.82	8.03	J	---	7.73
64		26.361	0.76	423		---	14.1
65	44/47/65	25.031	0.77	(582)		---	25.2
66		29.415	0.81	559		---	12.4
67		28.456	0.77	32.1		---	2.25
68		---	---	ND		---	8.63
69	49/69	24.504	0.78	(294)		---	9.52
70	61/70/74/76	29.074	0.80	(1150)		---	15.8
71	40/41/71	26.129	0.82	(297)		---	11.2
72		27.280	0.79	49.5		---	2.34
73	43/73	24.242	0.81	(13.1)	J	---	10.5
74	61/70/74/76	29.074	0.80	(1150)		---	15.8
75	59/62/75	25.386	0.79	(61.1)		---	7.00
76	61/70/74/76	29.074	0.80	(1150)		---	15.8
77		33.978	0.78	988		---	3.42
78		32.957	1.04	---	IJ	4.45	3.37
79		32.339	0.77	324		---	2.65
80		30.792	0.83	8.98	J	---	2.48
81		33.406	0.93	---	IJ	18.8	2.32
82		33.560	1.58	1360	DN2	---	49.2
83		31.704	1.65	4190	DN2	---	32.1
84		29.244	1.58	7720	DN2	---	32.4
85	85/116/117	33.081	1.56	1440	DN2	---	81.7
86	86/87/97/108/119/125	32.431	1.59	42400	DN2	---	158
87	86/87/97/108/119/125	32.431	1.59	(42400)	DN2	---	158
88	88/91	29.043	1.65	1490	DN2	---	63.2
89		29.755	1.42	126	JDN2	---	37.8
90	90/101/113	31.224	1.59	290000	DN2	---	116
91	88/91	29.043	1.65	(1490)	DN2	---	63.2
92		30.605	1.58	34100	DN2	---	43.5
93	93/98/100/102	28.517	1.56	843	DN2	---	121
94		27.682	2.01	---	IJDN2	61.3	35.6
95		28.115	1.57	168000	DN2	---	147
96		25.355	1.51	85.7	JDN2	---	41.9

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB08-0.5-110322
Lab Sample ID 10638496002
Filename P230112A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
97	86/87/97/108/119/125	32.431	1.59	(42400)	DN2	---	158
98	93/98/100/102	28.517	1.56	(843)	DN2	---	121
99		31.827	1.69	5370	DN2	---	49.8
100	93/98/100/102	28.517	1.56	(843)	DN2	---	121
101	90/101/113	31.224	1.59	(290000)	DN2	---	116
102	93/98/100/102	28.517	1.56	(843)	DN2	---	121
103		27.434	1.67	172	JDN2	---	30.1
104		---	---	ND	DN2	---	33.4
105		37.551	1.58	6900	DN2	---	44.7
106		---	---	ND	DN2	---	31.2
107	107/124	35.656	1.57	2070	DN2	---	47.7
108	86/87/97/108/119/125	32.431	1.59	(42400)	DN2	---	158
109		35.908	1.58	3230	DN2	---	26.7
110	110/115	33.251	1.58	199000	DN2	---	141
111		34.008	1.41	49.9	JDN2	---	28.8
112		---	---	ND	DN2	---	39.2
113	90/101/113	31.224	1.59	(290000)	DN2	---	116
114		36.881	1.69	173	JDN2	---	37.2
115	110/115	33.251	1.58	(199000)	DN2	---	141
116	85/116/117	33.081	1.56	(1440)	DN2	---	81.7
117	85/116/117	33.081	1.56	(1440)	DN2	---	81.7
118		36.361	1.59	79000	DN2	---	100
119	86/87/97/108/119/125	32.431	1.59	(42400)	DN2	---	158
120		34.488	1.65	495	DN2	---	33.8
121		---	---	ND	DN2	---	35.4
122		36.679	1.35	382	DN2	---	34.9
123		35.992	1.41	414	DN2	---	33.1
124	107/124	35.656	1.57	(2070)	DN2	---	47.7
125	86/87/97/108/119/125	32.431	1.59	(42400)	DN2	---	158
126		40.703	1.55	2950	DN2	---	27.7
127		39.077	1.46	169	JDN2	---	32.8
128	128/166	40.821	1.25	83800	DN2	---	66.5
129	129/138/163	39.547	1.25	1430000	DN2	---	125
130		38.876	1.24	43100	DN2	---	32.8
131		35.975	1.25	6920	DN2	---	44.3
132		36.444	1.25	368000	DN2	---	55.2
133		36.981	1.21	11400	DN2	---	30.0
134	134/143	35.354	1.25	42500	DN2	---	78.2
135	135/151	34.194	1.24	463000	DN2	---	102
136		31.704	1.24	133000	DN2	---	46.3
137		39.094	1.24	4580	DN2	---	37.5
138	129/138/163	39.547	1.25	(1430000)	DN2	---	125
139	139/140	35.791	1.26	2670	DN2	---	55.5
140	139/140	35.791	1.26	(2670)	DN2	---	55.5
141		38.457	1.25	353000	DN2	---	49.5
142		---	---	ND	DN2	---	36.7
143	134/143	35.354	1.25	(42500)	DN2	---	78.2
144		34.798	1.25	68600	DN2	---	40.3

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Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB08-0.5-110322
Lab Sample ID 10638496002
Filename P230112A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
145		---	---	ND	DN2	---	31.9
146		37.635	1.24	165000	DN2	---	40.2
147	147/149	35.170	1.25	1040000	DN2	---	118
148		33.606	1.35	254	DN2	---	45.1
149	147/149	35.170	1.25	(1040000)	DN2	---	118
150		31.333	1.30	494	DN2	---	35.8
151	135/151	34.194	1.24	(463000)	DN2	---	102
152		31.162	1.05	69.0	JDN2	---	36.7
153	153/168	38.272	1.25	1300000	DN2	---	108
154		34.488	1.24	2990	DN2	---	37.9
155		---	---	ND	DN2	---	31.3
156	156/157	43.761	1.29	94900	DN2	---	54.7
157	156/157	43.761	1.29	(94900)	DN2	---	54.7
158		39.949	1.25	119000	DN2	---	31.5
159		41.765	1.24	20000	DN2	---	32.3
160		---	---	ND	DN2	---	26.4
161		---	---	ND	DN2	---	28.9
162		42.117	1.26	1950	DN2	---	33.4
163	129/138/163	39.547	1.25	(1430000)	DN2	---	125
164		39.211	1.25	88600	DN2	---	36.8
165		---	---	ND	DN2	---	31.7
166	128/166	40.821	1.25	(83800)	DN2	---	66.5
167		42.604	1.28	47200	DN2	---	37.5
168	153/168	38.272	1.25	(1300000)	DN2	---	108
169		47.047	1.48	---	IDN2	1010	37.7
170		46.444	1.04	714000	DN2	---	47.1
171	171/173	42.855	1.04	216000	DN2	---	76.1
172		44.515	1.04	109000	DN2	---	38.2
173	171/173	42.855	1.04	(216000)	DN2	---	76.1
174		41.782	1.05	608000	DN2	---	57.6
175		40.636	1.07	23100	DN2	---	34.7
176		38.121	1.05	71200	DN2	---	42.1
177		42.218	1.04	380000	DN2	---	48.2
178		39.982	1.06	96300	DN2	---	32.4
179		37.199	1.04	203000	DN2	---	47.8
180	180/193	45.186	1.02	1440000	DN2	---	103
181		42.637	0.92	2570	DN2	---	31.6
182		41.123	1.00	2100	DN2	---	34.6
183	183/185	41.547	1.05	446000	DN2	---	80.9
184		37.769	1.01	240	DN2	---	34.8
185	183/185	41.547	1.05	(446000)	DN2	---	80.9
186		---	---	ND	DN2	---	39.6
187		40.921	1.04	623000	DN2	---	56.6
188		36.881	1.05	442	DN2	---	32.2
189		49.605	1.04	28900	DN2	---	28.6
190		46.980	1.05	142000	DN2	---	25.2
191		45.538	1.02	27700	DN2	---	29.4
192		---	---	ND	DN2	---	29.2

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Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	SB08-0.5-110322
Lab Sample ID	10638496002
Filename	P230112A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg	EMPC ng/Kg	EML ng/Kg
193	180/193	45.186	1.02	(1440000) DN2	---	103
194		51.761	0.89	200000	---	2.72
195		49.390	0.89	95000	---	3.18
196		47.852	0.89	126000	---	1.99
197	197/200	44.331	0.89	36000	---	4.61
198	198/199	47.182	0.90	199000	---	5.40
199	198/199	47.182	0.90	(199000)	---	5.40
200	197/200	44.331	0.89	(36000)	---	4.61
201		43.308	0.89	23900	---	2.73
202		42.369	0.89	26200	---	2.22
203		48.054	0.90	134000	---	3.39
204		44.013	0.89	60.6	---	2.21
205		52.235	0.89	12900	---	2.52
206		53.981	0.78	31900	---	3.45
207		50.080	0.78	4170	---	2.78
208		49.132	0.78	4490	---	2.65
209		55.576	0.68	534	---	2.98

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Method 1668C Polychlorobiphenyl Sample Analysis Results

Client Sample ID	SB08-0.5-110322
Lab Sample ID	10638496002
Filename	P230112A_11

Congener Group	Concentration ng/Kg
Total Monochloro Biphenyls	41.7
Total Dichloro Biphenyls	394
Total Trichloro Biphenyls	598
Total Tetrachloro Biphenyls	12300
Total Pentachloro Biphenyls	853000
Total Hexachloro Biphenyls	5890000
Total Heptachloro Biphenyls	5140000
Total Octachloro Biphenyls	853000
Total Nonachloro Biphenyls	40600
DecachloroBiphenyls	534
Total PCBs	12800000

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Method 1668C Polychlorobiphenyl Sample Analysis Results

Client - UPRR_Jacobs

Client's Sample ID	SB10-0.0-0.5-1022		
Lab Sample ID	10638496003		
Filename	P230113A_13		
Injected By	AH5		
Total Amount Extracted	10.2 g	Matrix	Solid
% Moisture	NA	Dilution	10
Dry Weight Extracted	NA	Collected	10/18/2022 11:15
ICAL ID	P230113A03	Received	10/19/2022 10:00
CCal Filename(s)	P230113A_02	Extracted	01/03/2023 13:30
Method Blank ID	BLANK-103296	Analyzed	01/13/2023 21:42

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	8.703	2.87	2.0	1.26	63	D
13C-4-MoCB	3	11.417	2.78	2.0	1.44	72	D
13C-2,2'-DiCB	4	11.688	1.55	2.0	1.27	64	D
13C-4,4'-DiCB	15	18.604	1.45	2.0	1.50	75	D
13C-2,2',6-TrCB	19	15.377	0.96	2.0	1.36	68	D
13C-3,4,4'-TrCB	37	26.282	1.13	2.0	1.55	77	D
13C-2,2',6,6'-TeCB	54	18.889	0.80	2.0	1.21	61	D
13C-3,4,4',5-TeCB	81	33.389	0.88	2.0	1.64	82	D
13C-3,3',4,4'-TeCB	77	33.961	0.87	2.0	1.41	70	D
13C-2,2',4,6,6'-PeCB	104	24.952	1.61	2.0	1.39	70	D
13C-2,3,3',4,4'-PeCB	105	37.567	1.55	2.0	1.63	81	D
13C-2,3,4,4',5-PeCB	114	36.913	1.58	2.0	1.54	77	D
13C-2,3',4,4',5-PeCB	118	36.376	1.56	2.0	1.55	78	D
13C-2,3',4,4',5'-PeCB	123	36.024	1.50	2.0	1.62	81	D
13C-3,3',4,4',5-PeCB	126	40.719	1.66	2.0	1.60	80	D
13C-2,2',4,4',6,6'-HxCB	155	31.043	1.10	2.0	0.416	21	DN2
13C-HxCB(156/157)	156/157	43.814	1.08	4.0	1.03	26	DN2
13C-2,3',4,4',5,5'-HxCB	167	42.674	1.05	2.0	0.618	31	DN2
13C-3,3',4,4',5,5'-HxCB	169	47.134	1.16	2.0	0.530	27	DN2
13C-2,2',3,4',5,6,6'-HpCB	188	36.935	1.25	2.0	0.978	54	IDN2
13C-2,3,3',4,4',5,5'-HpCB	189	49.674	1.15	2.0	1.35	67	DN2
13C-2,2',3,3',5,5',6,6'-OcCB	202	42.334	0.94	2.0	1.46	73	D
13C-2,3,3',4,4',5,5',6-OcCB	205	52.190	1.05	2.0	1.16	63	ID
13C-2,2',3,3',4,4',5,5',6-NoCB	206	53.937	0.81	2.0	1.20	60	D
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	49.109	0.91	2.0	1.09	58	ID
13C-DeCB	209	55.532	0.57	2.0	0.964	54	ID
CleanupStandards							
13C-2,4,4'-TrCB	28	21.951	1.15	2.0	1.29	65	D
13C-2,3,3',5,5'-PeCB	111	34.023	1.78	2.0	1.17	58	D
13C-2,2',3,3',5,5',6-HpCB	178	39.998	1.07	2.0	0.256	13	D
Recovery Standards							
13C-2,5-DiCB	9	14.083	1.70	2.0	NA	NA	D
13C-2,2',5,5'-TeCB	52	23.931	0.87	2.0	NA	NA	D
13C-2,2',4,5,5'-PeCB	101	31.208	1.66	2.0	NA	NA	D
13C-2,2',3,4,4',5'-HxCB	138	39.613	1.91	2.0	NA	NA	ID
13C-2,2',3,3',4,4',5,5'-OcCB	194	51.716	1.07	2.0	NA	NA	ID

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Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB10-0.0-0.5-1022
Lab Sample ID 10638496003
Filename P230113A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
1		8.715	2.84	71.6	JD	---	46.1
2		---	---	ND	D	---	34.1
3		11.439	3.24	144	JD	---	48.2
4		11.711	1.56	85.3	JD	---	75.7
5		---	---	ND	D	---	27.0
6		14.559	1.64	60.0	JD	---	38.4
7		---	---	ND	D	---	29.3
8		15.067	1.57	239	D	---	62.8
9		---	---	ND	D	---	32.4
10		---	---	ND	D	---	37.3
11		---	---	ND	D	---	1070
12	12/13	18.228	1.34	105	JD	---	65.4
13	12/13	18.228	1.34	(105)	JD	---	65.4
14		---	---	ND	D	---	33.2
15		18.615	1.59	1240	D	---	57.2
16		18.515	1.05	118	JD	---	70.2
17		18.029	1.03	112	JD	---	72.2
18	18/30	17.565	0.99	237	JD	---	144
19		15.399	1.14	41.7	JD	---	31.4
20	20/28	21.982	1.07	686	D	---	232
21	21/33	22.245	1.07	285	JD	---	139
22		22.663	1.10	207	D	---	103
23		---	---	ND	D	---	30.1
24		---	---	ND	D	---	40.0
25		21.317	0.93	48.5	JD	---	32.3
26	26/29	21.054	0.99	103	JD	---	96.4
27		---	---	ND	D	---	42.0
28	20/28	21.982	1.07	(686)	D	---	232
29	26/29	21.054	0.99	(103)	JD	---	96.4
30	18/30	17.565	0.99	(237)	JD	---	144
31		21.657	1.07	456	D	---	197
32		19.152	1.03	98.9	JD	---	67.1
33	21/33	22.245	1.07	(285)	JD	---	139
34		---	---	ND	D	---	42.2
35		25.865	1.10	59.9	JD	---	41.0
36		---	---	ND	D	---	29.2
37		26.313	1.11	902	D	---	71.5
38		---	---	ND	D	---	26.3
39		---	---	ND	D	---	31.2
40	40/41/71	26.112	0.76	2260	D	---	112
41	40/41/71	26.112	0.76	(2260)	D	---	112
42		25.587	0.74	447	D	---	50.7
43	43/73	---	---	ND	D	---	105
44	44/47/65	25.014	0.80	1780	D	---	253
45	45/51	22.060	0.79	247	JD	---	105
46		22.400	0.85	77.6	JD	---	40.0
47	44/47/65	25.014	0.80	(1780)	D	---	253
48		24.798	0.74	553	D	---	39.3

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Pace Analytical Services, LLC.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	SB10-0.0-0.5-1022
Lab Sample ID	10638496003
Filename	P230113A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
49	49/69	24.488	0.82	1010	D	---	95.5
50	50/53	21.333	0.81	244	JD	---	211
51	45/51	22.060	0.79	(247)	JD	---	105
52		23.962	0.79	15000	D	---	182
53	50/53	21.333	0.81	(244)	JD	---	211
54		---	---	ND	D	---	52.7
55		---	---	ND	D	---	82.4
56		30.094	0.81	2760	D	---	53.7
57		---	---	ND	D	---	22.4
58		---	---	ND	D	---	27.3
59	59/62/75	25.370	0.78	314	JD	---	70.2
60		30.326	0.87	486	D	---	212
61	61/70/74/76	29.058	0.81	7920	D	---	158
62	59/62/75	25.370	0.78	(314)	JD	---	70.2
63		28.718	0.77	86.3	JD	---	77.6
64		26.344	0.77	1160	D	---	141
65	44/47/65	25.014	0.80	(1780)	D	---	253
66		29.413	0.81	2630	D	---	124
67		28.439	0.82	263	D	---	22.5
68		---	---	ND	D	---	86.5
69	49/69	24.488	0.82	(1010)	D	---	95.5
70	61/70/74/76	29.058	0.81	(7920)	D	---	158
71	40/41/71	26.112	0.76	(2260)	D	---	112
72		27.279	0.72	253	D	---	23.5
73	43/73	---	---	ND	D	---	105
74	61/70/74/76	29.058	0.81	(7920)	D	---	158
75	59/62/75	25.370	0.78	(314)	JD	---	70.2
76	61/70/74/76	29.058	0.81	(7920)	D	---	158
77		33.977	0.78	15400	D	---	34.3
78		32.940	0.70	37.9	JD	---	33.8
79		32.337	0.80	1300	D	---	26.5
80		---	---	ND	D	---	24.9
81		33.404	0.85	246	D	---	23.3
82		33.575	1.45	5030	D	---	49.4
83		31.718	1.61	28000	D	---	32.2
84		29.259	1.59	18800	D	---	32.5
85	85/116/117	33.095	1.56	6150	D	---	82.0
86	86/87/97/108/119/125	32.445	1.56	120000	D	---	158
87	86/87/97/108/119/125	32.445	1.56	(120000)	D	---	158
88	88/91	29.042	1.56	8050	D	---	63.4
89		29.769	1.62	633	D	---	38.0
90	90/101/113	31.239	1.58	1130000	D	---	116
91	88/91	29.042	1.56	(8050)	D	---	63.4
92		30.620	1.59	198000	D	---	43.6
93	93/98/100/102	28.516	1.54	5500	D	---	121
94		27.666	1.59	838	D	---	35.7
95		28.130	1.57	440000	D	---	147
96		25.354	1.55	718	D	---	42.0

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Pace Analytical Services, LLC.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB10-0.0-0.5-1022
Lab Sample ID 10638496003
Filename P230113A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
97	86/87/97/108/119/125	32.445	1.56	(120000)	D	---	158
98	93/98/100/102	28.516	1.54	(5500)	D	---	121
99		31.842	1.57	25100	D	---	50.0
100	93/98/100/102	28.516	1.54	(5500)	D	---	121
101	90/101/113	31.239	1.58	(1130000)	D	---	116
102	93/98/100/102	28.516	1.54	(5500)	D	---	121
103		27.465	1.61	891	D	---	30.1
104		---	---	ND	D	---	33.5
105		37.567	1.58	35700	D	---	44.9
106		---	---	ND	D	---	31.3
107	107/124	35.672	1.60	21700	D	---	47.8
108	86/87/97/108/119/125	32.445	1.56	(120000)	D	---	158
109		35.924	1.58	32100	D	---	26.7
110	110/115	33.265	1.57	877000	D	---	141
111		34.039	1.48	454	D	---	28.9
112		---	---	ND	D	---	39.3
113	90/101/113	31.239	1.58	(1130000)	D	---	116
114		36.947	1.53	2180	D	---	37.3
115	110/115	33.265	1.57	(877000)	D	---	141
116	85/116/117	33.095	1.56	(6150)	D	---	82.0
117	85/116/117	33.095	1.56	(6150)	D	---	82.0
118		36.393	1.59	602000	D	---	100
119	86/87/97/108/119/125	32.445	1.56	(120000)	D	---	158
120		34.518	1.52	4690	D	---	33.9
121		---	---	ND	D	---	35.5
122		36.729	1.59	2840	D	---	35.0
123		36.024	1.54	2520	D	---	33.2
124	107/124	35.672	1.60	(21700)	D	---	47.8
125	86/87/97/108/119/125	32.445	1.56	(120000)	D	---	158
126		40.753	1.60	46900	D	---	27.8
127		39.126	1.70	1160	D	---	32.9
128	128/166	40.909	1.25	603000	DN2	---	334
129	129/138/163	39.634	1.25	11300000	DN2	---	629
130		38.964	1.27	369000	DN2	---	164
131		36.063	1.22	40200	DN2	---	222
132		36.532	1.25	2820000	DN2	---	277
133		37.069	1.25	98400	DN2	---	150
134	134/143	35.459	1.24	363000	DN2	---	392
135	135/151	34.292	1.26	4060000	DN2	---	512
136		31.786	1.22	1060000	DN2	---	232
137		39.198	1.24	47800	DN2	---	188
138	129/138/163	39.634	1.25	(11300000)	DN2	---	629
139	139/140	35.879	1.20	31200	DN2	---	279
140	139/140	35.879	1.20	(31200)	DN2	---	279
141		38.561	1.25	3080000	DN2	---	248
142		---	---	ND	DN2	---	184
143	134/143	35.459	1.24	(363000)	DN2	---	392
144		34.896	1.23	524000	DN2	---	202

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB10-0.0-0.5-1022
Lab Sample ID 10638496003
Filename P230113A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
145		---	---	ND	DN2	---	160
146		37.739	1.25	1450000	DN2	---	201
147	147/149	35.258	1.25	7880000	DN2	---	590
148		33.689	1.18	3060	DN2	---	226
149	147/149	35.258	1.25	(7880000)	DN2	---	590
150		31.430	1.22	5250	DN2	---	180
151	135/151	34.292	1.26	(4060000)	DN2	---	512
152		31.260	1.23	782	JDN2	---	184
153	153/168	38.377	1.25	10800000	DN2	---	541
154		34.571	1.22	28500	DN2	---	190
155		---	---	ND	DN2	---	157
156	156/157	43.848	1.29	834000	DN2	---	274
157	156/157	43.848	1.29	(834000)	DN2	---	274
158		40.037	1.25	1030000	DN2	---	158
159		41.886	1.26	181000	DN2	---	162
160		---	---	ND	DN2	---	132
161		---	---	ND	DN2	---	145
162		42.205	1.27	22000	DN2	---	167
163	129/138/163	39.634	1.25	(11300000)	DN2	---	629
164		39.316	1.26	857000	DN2	---	184
165		---	---	ND	DN2	---	159
166	128/166	40.909	1.25	(603000)	DN2	---	334
167		42.708	1.28	341000	DN2	---	188
168	153/168	38.377	1.25	(10800000)	DN2	---	541
169		47.134	1.47	---	IDN2	8020	189
170		46.531	1.02	6290000	DN2	---	236
171	171/173	42.959	1.04	1870000	DN2	---	381
172		44.603	1.04	922000	DN2	---	192
173	171/173	42.959	1.04	(1870000)	DN2	---	381
174		41.869	1.05	5500000	DN2	---	289
175		40.741	1.05	191000	DN2	---	174
176		38.209	1.03	655000	DN2	---	211
177		42.306	1.04	3180000	DN2	---	242
178		40.087	1.05	833000	DN2	---	162
179		37.304	1.04	1790000	DN2	---	240
180	180/193	45.273	1.03	12500000	DN2	---	517
181		42.725	0.97	22600	DN2	---	159
182		41.210	0.98	24200	DN2	---	174
183	183/185	41.635	1.02	4030000	DN2	---	406
184		37.857	0.96	2550	DN2	---	175
185	183/185	41.635	1.02	(4030000)	DN2	---	406
186		---	---	ND	DN2	---	199
187		41.009	1.06	5560000	DN2	---	284
188		36.968	1.02	4840	DN2	---	161
189		49.695	1.06	206000	DN2	---	143
190		47.084	1.05	1200000	DN2	---	126
191		45.625	1.10	221000	DN2	---	147
192		---	---	ND	DN2	---	146

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Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	SB10-0.0-0.5-1022
Lab Sample ID	10638496003
Filename	P230113A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
193	180/193	45.273	1.03	(12500000)	DN2	---	517
194		51.738	0.90	1870000	D	---	27.3
195		49.367	0.89	797000	D	---	31.9
196		47.834	0.91	1010000	D	---	20.0
197	197/200	44.330	0.89	280000	D	---	46.2
198	198/199	47.180	0.91	1630000	D	---	54.1
199	198/199	47.180	0.91	(1630000)	D	---	54.1
200	197/200	44.330	0.89	(280000)	D	---	46.2
201		43.307	0.90	190000	D	---	27.4
202		42.368	0.89	229000	D	---	22.2
203		48.052	0.91	1070000	D	---	34.0
204		43.994	0.90	527	D	---	22.1
205		52.212	0.89	116000	D	---	25.3
206		53.958	0.79	277000	D	---	34.6
207		50.078	0.77	37200	D	---	27.9
208		49.130	0.77	42500	D	---	26.5
209		55.575	0.68	3900	D	---	29.9

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Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	SB10-0.0-0.5-1022
Lab Sample ID	10638496003
Filename	P230113A_13

Congener Group	Concentration ng/Kg
Total Monochloro Biphenyls	216
Total Dichloro Biphenyls	1730
Total Trichloro Biphenyls	3360
Total Tetrachloro Biphenyls	54400
Total Pentachloro Biphenyls	3620000
Total Hexachloro Biphenyls	47800000
Total Heptachloro Biphenyls	45000000
Total Octachloro Biphenyls	7190000
Total Nonachloro Biphenyls	357000
DecachloroBiphenyls	3900
Total PCBs	104000000

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Method 1668C Polychlorobiphenyl Sample Analysis Results

Client - UPRR_Jacobs

Client's Sample ID	SB12-0.0-0.5-1022		
Lab Sample ID	10638496004		
Filename	P230113A_11		
Injected By	AH5		
Total Amount Extracted	10.4 g	Matrix	Solid
% Moisture	NA	Dilution	10
Dry Weight Extracted	NA	Collected	10/18/2022 12:30
ICAL ID	P230113A03	Received	10/19/2022 10:00
CCal Filename(s)	P230113A_02	Extracted	01/03/2023 13:30
Method Blank ID	BLANK-103296	Analyzed	01/13/2023 19:43

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	8.692	3.46	2.0	1.02	51	D
13C-4-MoCB	3	11.395	3.55	2.0	1.07	54	D
13C-2,2'-DiCB	4	11.666	1.60	2.0	1.12	56	D
13C-4,4'-DiCB	15	18.594	1.74	2.0	1.35	68	D
13C-2,2',6-TrCB	19	15.355	1.15	2.0	1.29	64	D
13C-3,4,4'-TrCB	37	26.268	1.20	2.0	1.55	78	D
13C-2,2',6,6'-TeCB	54	18.905	0.89	2.0	1.27	64	D
13C-3,4,4',5-TeCB	81	33.360	0.80	2.0	1.68	84	D
13C-3,3',4,4'-TeCB	77	33.948	0.88	2.0	1.58	79	D
13C-2,2',4,6,6'-PeCB	104	24.938	1.63	2.0	1.15	58	D
13C-2,3,3',4,4'-PeCB	105	37.537	1.54	2.0	1.50	75	D
13C-2,3,4,4',5-PeCB	114	36.883	1.61	2.0	1.47	73	D
13C-2,3',4,4',5-PeCB	118	36.347	1.71	2.0	1.48	74	D
13C-2,3',4,4',5'-PeCB	123	35.994	1.44	2.0	1.43	72	D
13C-3,3',4,4',5-PeCB	126	40.706	1.47	2.0	1.51	75	D
13C-2,2',4,4',6,6'-HxCB	155	30.962	1.13	2.0	0.838	42	D
13C-HxCB(156/157)	156/157	43.763	1.33	4.0	2.03	51	D
13C-2,3',4,4',5,5'-HxCB	167	42.606	1.18	2.0	1.11	55	D
13C-3,3',4,4',5,5'-HxCB	169	47.033	1.23	2.0	1.16	58	D
13C-2,2',3,4',5,6,6'-HpCB	188	36.850	1.17	2.0	1.33	66	D
13C-2,3,3',4,4',5,5'-HpCB	189	49.608	1.07	2.0	1.51	76	D
13C-2,2',3,3',5,5',6,6'-OcCB	202	42.321	0.92	2.0	1.39	69	D
13C-2,3,3',4,4',5,5',6-OcCB	205	52.194	0.85	2.0	1.46	73	D
13C-2,2',3,3',4,4',5,5',6-NoCB	206	53.918	0.89	2.0	1.34	67	D
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	49.069	0.85	2.0	1.29	64	D
13C-DeCB	209	55.535	0.61	2.0	1.17	58	D
CleanupStandards							
13C-2,4,4'-TrCB	28	21.968	0.93	2.0	1.18	59	D
13C-2,3,3',5,5'-PeCB	111	33.994	1.47	2.0	1.08	54	D
13C-2,2',3,3',5,5',6-HpCB	178	39.985	1.05	2.0	0.886	44	D
Recovery Standards							
13C-2,5-DiCB	9	14.051	1.73	2.0	NA	NA	D
13C-2,2',5,5'-TeCB	52	23.948	0.82	2.0	NA	NA	D
13C-2,2',4,5,5'-PeCB	101	31.194	1.48	2.0	NA	NA	D
13C-2,2',3,4,4',5'-HxCB	138	39.549	1.61	2.0	NA	NA	ID
13C-2,2',3,3',4,4',5,5'-OcCB	194	51.677	0.85	2.0	NA	NA	D

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Pace Analytical Services, LLC.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	SB12-0.0-0.5-1022
Lab Sample ID	10638496004
Filename	P230113A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
1		8.703	2.97	54.3	JD	---	45.4
2		---	---	ND	D	---	33.6
3		11.406	3.09	73.3	BJD	---	47.5
4		---	---	ND	D	---	74.5
5		---	---	ND	D	---	26.6
6		---	---	ND	D	---	37.8
7		---	---	ND	D	---	28.8
8		15.057	1.62	112	JD	---	61.9
9		---	---	ND	D	---	31.9
10		---	---	ND	D	---	36.7
11		---	---	ND	D	---	1060
12	12/13	---	---	ND	D	---	64.4
13	12/13	---	---	ND	D	---	64.4
14		---	---	ND	D	---	32.7
15		18.605	1.60	457	D	---	56.3
16		---	---	ND	D	---	69.2
17		---	---	ND	D	---	71.1
18	18/30	---	---	ND	D	---	142
19		---	---	ND	D	---	30.9
20	20/28	21.983	1.10	334	JD	---	229
21	21/33	---	---	ND	D	---	136
22		22.680	1.05	114	JD	---	102
23		---	---	ND	D	---	29.7
24		---	---	ND	D	---	39.4
25		---	---	ND	D	---	31.8
26	26/29	---	---	ND	D	---	94.9
27		---	---	ND	D	---	41.4
28	20/28	21.983	1.10	(334)	JD	---	229
29	26/29	---	---	ND	D	---	94.9
30	18/30	---	---	ND	D	---	142
31		21.659	1.09	282	D	---	194
32		---	---	ND	D	---	66.1
33	21/33	---	---	ND	D	---	136
34		---	---	ND	D	---	41.6
35		---	---	ND	D	---	40.3
36		---	---	ND	D	---	28.7
37		26.299	1.13	464	D	---	70.4
38		---	---	ND	D	---	25.9
39		---	---	ND	D	---	30.7
40	40/41/71	26.098	0.73	349	JD	---	110
41	40/41/71	26.098	0.73	(349)	JD	---	110
42		25.572	0.87	181	JD	---	50.0
43	43/73	---	---	ND	D	---	104
44	44/47/65	25.000	0.79	981	D	---	249
45	45/51	---	---	ND	D	---	104
46		---	---	ND	D	---	39.4
47	44/47/65	25.000	0.79	(981)	D	---	249
48		24.799	0.90	---	IJD	87.9	38.7

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB12-0.0-0.5-1022
Lab Sample ID 10638496004
Filename P230113A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
49	49/69	24.505	0.78	854	D	---	94.0
50	50/53	---	---	ND	D	---	207
51	45/51	---	---	ND	D	---	104
52		23.963	0.79	5890	D	---	180
53	50/53	---	---	ND	D	---	207
54		---	---	ND	D	---	51.9
55		---	---	ND	D	---	81.2
56		30.080	0.80	723	D	---	52.8
57		---	---	ND	D	---	22.1
58		---	---	ND	D	---	26.9
59	59/62/75	25.371	0.77	81.8	JD	---	69.2
60		30.328	0.73	222	D	---	208
61	61/70/74/76	29.044	0.80	3400	D	---	156
62	59/62/75	25.371	0.77	(81.8)	JD	---	69.2
63		---	---	ND	D	---	76.4
64		26.346	0.82	509	D	---	139
65	44/47/65	25.000	0.79	(981)	D	---	249
66		29.399	0.82	1170	D	---	122
67		28.440	0.86	38.8	JD	---	22.2
68		---	---	ND	D	---	85.2
69	49/69	24.505	0.78	(854)	D	---	94.0
70	61/70/74/76	29.044	0.80	(3400)	D	---	156
71	40/41/71	26.098	0.73	(349)	JD	---	110
72		27.265	0.80	78.8	JD	---	23.2
73	43/73	---	---	ND	D	---	104
74	61/70/74/76	29.044	0.80	(3400)	D	---	156
75	59/62/75	25.371	0.77	(81.8)	JD	---	69.2
76	61/70/74/76	29.044	0.80	(3400)	D	---	156
77		33.963	0.81	3730	D	---	33.8
78		---	---	ND	D	---	33.2
79		32.339	0.83	821	D	---	26.1
80		---	---	ND	D	---	24.5
81		33.391	0.74	80.6	JD	---	23.0
82		33.576	1.69	2760	D	---	48.6
83		31.705	1.44	5570	D	---	31.7
84		29.260	1.54	9090	D	---	32.0
85	85/116/117	33.066	1.43	3670	D	---	80.7
86	86/87/97/108/119/125	32.432	1.56	71800	D	---	156
87	86/87/97/108/119/125	32.432	1.56	(71800)	D	---	156
88	88/91	29.044	1.54	3430	D	---	62.4
89		29.755	1.43	233	D	---	37.4
90	90/101/113	31.225	1.55	400000	D	---	114
91	88/91	29.044	1.54	(3430)	D	---	62.4
92		30.606	1.56	44200	D	---	42.9
93	93/98/100/102	28.502	1.54	1330	D	---	119
94		27.652	1.43	126	JD	---	35.2
95		28.115	1.56	192000	D	---	145
96		25.356	1.48	108	JD	---	41.4

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB12-0.0-0.5-1022
Lab Sample ID 10638496004
Filename P230113A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
97	86/87/97/108/119/125	32.432	1.56	(71800)	D	---	156
98	93/98/100/102	28.502	1.54	(1330)	D	---	119
99		31.828	1.52	13600	D	---	49.2
100	93/98/100/102	28.502	1.54	(1330)	D	---	119
101	90/101/113	31.225	1.55	(400000)	D	---	114
102	93/98/100/102	28.502	1.54	(1330)	D	---	119
103		27.451	1.48	416	D	---	29.7
104		---	---	ND	D	---	32.9
105		37.554	1.58	23100	D	---	44.2
106		---	---	ND	D	---	30.8
107	107/124	35.659	1.62	5720	D	---	47.1
108	86/87/97/108/119/125	32.432	1.56	(71800)	D	---	156
109		35.894	1.59	8710	D	---	26.3
110	110/115	33.252	1.56	286000	D	---	139
111		---	---	ND	D	---	28.4
112		---	---	ND	D	---	38.7
113	90/101/113	31.225	1.55	(400000)	D	---	114
114		36.883	1.44	446	D	---	36.7
115	110/115	33.252	1.56	(286000)	D	---	139
116	85/116/117	33.066	1.43	(3670)	D	---	80.7
117	85/116/117	33.066	1.43	(3670)	D	---	80.7
118		36.363	1.58	143000	D	---	98.9
119	86/87/97/108/119/125	32.432	1.56	(71800)	D	---	156
120		34.505	1.57	1000	D	---	33.3
121		---	---	ND	D	---	35.0
122		36.699	1.68	857	D	---	34.5
123		36.011	1.65	845	D	---	32.7
124	107/124	35.659	1.62	(5720)	D	---	47.1
125	86/87/97/108/119/125	32.432	1.56	(71800)	D	---	156
126		40.723	1.54	9210	D	---	27.4
127		39.097	1.62	433	D	---	32.4
128	128/166	40.824	1.25	153000	D	---	65.7
129	129/138/163	39.549	1.24	2360000	D	---	124
130		38.879	1.25	78700	D	---	32.4
131		35.978	1.25	10500	D	---	43.7
132		36.447	1.25	560000	D	---	54.5
133		36.984	1.26	19800	D	---	29.6
134	134/143	35.357	1.28	65000	D	---	77.2
135	135/151	34.195	1.24	677000	D	---	101
136		31.705	1.25	176000	D	---	45.7
137		39.113	1.39	11500	D	---	37.1
138	129/138/163	39.549	1.24	(2360000)	D	---	124
139	139/140	35.793	1.27	5650	D	---	54.9
140	139/140	35.793	1.27	(5650)	D	---	54.9
141		38.476	1.25	548000	D	---	48.9
142		---	---	ND	D	---	36.2
143	134/143	35.357	1.28	(65000)	D	---	77.2
144		34.799	1.23	92200	D	---	39.8

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Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB12-0.0-0.5-1022
Lab Sample ID 10638496004
Filename P230113A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
145		32.029	1.35	111	JD	---	31.5
146		37.654	1.26	274000	D	---	39.7
147	147/149	35.173	1.25	1550000	D	---	116
148		33.607	1.24	544	D	---	44.6
149	147/149	35.173	1.25	(1550000)	D	---	116
150		31.349	1.24	1030	D	---	35.4
151	135/151	34.195	1.24	(677000)	D	---	101
152		31.163	1.25	183	JD	---	36.2
153	153/168	38.275	1.23	2130000	D	---	107
154		34.489	1.27	6890	D	---	37.5
155		---	---	ND	D	---	30.9
156	156/157	43.763	1.26	186000	D	---	54.0
157	156/157	43.763	1.26	(186000)	D	---	54.0
158		39.952	1.25	189000	D	---	31.1
159		41.801	1.28	27600	D	---	31.9
160		---	---	ND	D	---	26.0
161		---	---	ND	D	---	28.5
162		42.120	1.27	4770	D	---	32.9
163	129/138/163	39.549	1.24	(2360000)	D	---	124
164		39.231	1.25	155000	D	---	36.3
165		37.403	1.43	336	D	---	31.3
166	128/166	40.824	1.25	(153000)	D	---	65.7
167		42.623	1.28	80400	D	---	37.1
168	153/168	38.275	1.23	(2130000)	D	---	107
169		47.066	1.46	---	ID	2070	37.3
170		46.446	1.05	1150000	D	---	46.5
171	171/173	42.874	1.04	329000	D	---	75.1
172		44.518	1.05	180000	D	---	37.8
173	171/173	42.874	1.04	(329000)	D	---	75.1
174		41.785	1.05	939000	D	---	56.9
175		40.639	1.05	31300	D	---	34.3
176		38.124	1.04	103000	D	---	41.6
177		42.237	1.05	618000	D	---	47.6
178		40.002	1.03	162000	D	---	32.0
179		37.218	1.04	318000	D	---	47.2
180	180/193	45.188	1.05	2210000	D	---	102
181		42.657	1.04	3750	D	---	31.2
182		41.142	1.05	4350	D	---	34.2
183	183/185	41.550	1.05	639000	D	---	79.9
184		37.772	1.16	466	D	---	34.4
185	183/185	41.550	1.05	(639000)	D	---	79.9
186		---	---	ND	D	---	39.1
187		40.924	1.02	935000	D	---	55.9
188		36.900	1.05	1010	D	---	31.8
189		49.608	1.06	47000	D	---	28.2
190		46.999	1.05	250000	D	---	24.9
191		45.540	1.03	40600	D	---	29.0
192		---	---	ND	D	---	28.8

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Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	SB12-0.0-0.5-1022
Lab Sample ID	10638496004
Filename	P230113A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
193	180/193	45.188	1.05	(2210000)	D	---	102
194		51.742	0.89	386000	D	---	26.9
195		49.371	0.89	174000	D	---	31.4
196		47.821	0.89	183000	D	---	19.7
197	197/200	44.299	0.89	53100	D	---	45.5
198	198/199	47.167	0.90	334000	D	---	53.3
199	198/199	47.167	0.90	(334000)	D	---	53.3
200	197/200	44.299	0.89	(53100)	D	---	45.5
201		43.293	0.88	32900	D	---	27.0
202		42.354	0.89	48600	D	---	21.9
203		48.022	0.90	226000	D	---	33.5
204		43.981	0.96	109	JD	---	21.8
205		52.216	0.89	23000	D	---	24.9
206		53.940	0.79	57700	D	---	34.1
207		50.061	0.80	7050	D	---	27.5
208		49.112	0.79	8960	D	---	26.1
209		55.556	0.67	1610	D	---	29.4

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Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	SB12-0.0-0.5-1022
Lab Sample ID	10638496004
Filename	P230113A_11

Congener Group	Concentration ng/Kg
Total Monochloro Biphenyls	128
Total Dichloro Biphenyls	569
Total Trichloro Biphenyls	1190
Total Tetrachloro Biphenyls	19100
Total Pentachloro Biphenyls	1230000
Total Hexachloro Biphenyls	9360000
Total Heptachloro Biphenyls	7960000
Total Octachloro Biphenyls	1460000
Total Nonachloro Biphenyls	73700
DecachloroBiphenyls	1610
Total PCBs	20100000

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Results reported on a total weight basis

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Method 1668C Polychlorobiphenyl Sample Analysis Results

Client - UPRR_Jacobs

Client's Sample ID	SB13-0.0-0.5-1022		
Lab Sample ID	10638496005		
Filename	P230113A_05		
Injected By	AH5		
Total Amount Extracted	10.2 g	Matrix	Solid
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	10/19/2022 10:00
ICAL ID	P230113A03	Received	10/20/2022 10:30
CCal Filename(s)	P230113A_02	Extracted	01/03/2023 13:30
Method Blank ID	BLANK-103296	Analyzed	01/13/2023 13:46

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.715	3.43	2.0	0.787	39
13C-4-MoCB	3	11.406	3.07	2.0	1.01	50
13C-2,2'-DiCB	4	11.688	1.60	2.0	0.953	48
13C-4,4'-DiCB	15	18.604	1.58	2.0	1.34	67
13C-2,2',6-TrCB	19	15.388	1.07	2.0	1.05	53
13C-3,4,4'-TrCB	37	26.283	1.09	2.0	1.42	71
13C-2,2',6,6'-TeCB	54	18.920	0.81	2.0	1.04	52
13C-3,4,4',5-TeCB	81	33.390	0.79	2.0	1.47	73
13C-3,3',4,4'-TeCB	77	33.962	0.82	2.0	1.47	73
13C-2,2',4,6,6'-PeCB	104	24.968	1.56	2.0	1.21	61
13C-2,3,3',4,4'-PeCB	105	37.551	1.59	2.0	1.36	68
13C-2,3,4,4',5-PeCB	114	36.897	1.62	2.0	1.35	67
13C-2,3',4,4',5-PeCB	118	36.361	1.59	2.0	1.27	64
13C-2,3',4,4',5'-PeCB	123	36.026	1.53	2.0	1.35	67
13C-3,3',4,4',5-PeCB	126	40.754	1.55	2.0	1.35	67
13C-2,2',4,4',6,6'-HxCB	155	30.992	1.29	2.0	1.16	58
13C-HxCB(156/157)	156/157	43.794	1.28	4.0	2.40	60
13C-2,3',4,4',5,5'-HxCB	167	42.704	1.29	2.0	1.24	62
13C-3,3',4,4',5,5'-HxCB	169	47.114	1.25	2.0	1.10	55
13C-2,2',3,4',5,6,6'-HpCB	188	36.864	1.04	2.0	1.43	72
13C-2,3,3',4,4',5,5'-HpCB	189	49.627	1.07	2.0	1.20	60
13C-2,2',3,3',5,5',6,6'-OcCB	202	42.369	0.92	2.0	1.32	66
13C-2,3,3',4,4',5,5',6-OcCB	205	52.299	0.92	2.0	1.17	58
13C-2,2',3,3',4,4',5,5',6-NoCB	206	53.980	0.80	2.0	1.10	55
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	49.109	0.82	2.0	1.24	62
13C-DeCB	209	55.575	0.73	2.0	1.08	54
CleanupStandards						
13C-2,4,4'-TrCB	28	21.967	1.08	2.0	1.18	59
13C-2,3,3',5,5'-PeCB	111	34.024	1.53	2.0	1.07	54
13C-2,2',3,3',5,5',6-HpCB	178	39.999	1.06	2.0	1.07	54
Recovery Standards						
13C-2,5-DiCB	9	14.073	1.49	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	23.947	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.224	1.62	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	39.530	1.31	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	51.760	0.90	2.0	NA	NA

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Pace Analytical Services, LLC.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	SB13-0.0-0.5-1022
Lab Sample ID	10638496005
Filename	P230113A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
1		8.726	2.95	10.8	BJ	---	4.65
2		11.214	3.45	8.12	J	---	3.44
3		11.417	2.91	16.6	BJ	---	4.85
4		11.700	1.51	28.8		---	7.62
5		---	---	ND		---	2.72
6		14.559	1.43	13.3	J	---	3.87
7		---	---	ND		---	2.95
8		15.067	1.53	57.1		---	6.33
9		---	---	ND		---	3.26
10		---	---	ND		---	3.75
11		---	---	ND		---	108
12	12/13	18.239	1.40	12.8	J	---	6.58
13	12/13	18.239	1.40	(12.8)	J	---	6.58
14		---	---	ND		---	3.34
15		18.637	1.68	126		---	5.76
16		18.538	1.03	42.8		---	7.07
17		18.052	0.99	34.1		---	7.27
18	18/30	17.565	1.04	72.8		---	14.5
19		15.399	1.01	13.6	J	---	3.16
20	20/28	21.998	1.07	152		---	23.4
21	21/33	22.246	1.08	83.4		---	13.9
22		22.663	1.10	59.4		---	10.4
23		---	---	ND		---	3.04
24		---	---	ND		---	4.03
25		21.333	1.13	11.5	J	---	3.25
26	26/29	21.039	1.09	26.5	J	---	9.71
27		18.284	1.19	6.64	J	---	4.23
28	20/28	21.998	1.07	(152)		---	23.4
29	26/29	21.039	1.09	(26.5)	J	---	9.71
30	18/30	17.565	1.04	(72.8)		---	14.5
31		21.658	1.06	134		---	19.8
32		19.167	1.03	22.0		---	6.76
33	21/33	22.246	1.08	(83.4)		---	13.9
34		---	---	ND		---	4.25
35		25.881	1.11	7.78	J	---	4.13
36		---	---	ND		---	2.94
37		26.314	1.11	124		---	7.20
38		---	---	ND		---	2.65
39		---	---	ND		---	3.14
40	40/41/71	26.113	0.81	111		---	11.3
41	40/41/71	26.113	0.81	(111)		---	11.3
42		25.603	0.77	55.8		---	5.11
43	43/73	---	---	ND		---	10.6
44	44/47/65	25.015	0.81	330		---	25.4
45	45/51	22.045	0.77	34.8	J	---	10.6
46		22.400	0.84	11.8	J	---	4.03
47	44/47/65	25.015	0.81	(330)		---	25.4
48		24.798	0.78	33.3		---	3.96

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	SB13-0.0-0.5-1022
Lab Sample ID	10638496005
Filename	P230113A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
49	49/69	24.504	0.78	190		---	9.62
50	50/53	21.333	0.81	29.3	J	---	21.2
51	45/51	22.045	0.77	(34.8)	J	---	10.6
52		23.978	0.77	694		---	18.4
53	50/53	21.333	0.81	(29.3)	J	---	21.2
54		---	---	ND		---	5.30
55		---	---	ND		---	8.30
56		30.111	0.81	113		---	5.40
57		---	---	ND		---	2.26
58		---	---	ND		---	2.75
59	59/62/75	25.371	0.77	19.9	J	---	7.07
60		30.343	0.82	58.8		---	21.3
61	61/70/74/76	29.136	0.80	795		---	15.9
62	59/62/75	25.371	0.77	(19.9)	J	---	7.07
63		28.765	0.77	10.8	J	---	7.81
64		26.361	0.80	131		---	14.2
65	44/47/65	25.015	0.81	(330)		---	25.4
66		29.492	0.81	250		---	12.5
67		28.471	0.68	7.59	J	---	2.27
68		---	---	ND		---	8.71
69	49/69	24.504	0.78	(190)		---	9.62
70	61/70/74/76	29.136	0.80	(795)		---	15.9
71	40/41/71	26.113	0.81	(111)		---	11.3
72		27.280	0.71	2.72	J	---	2.37
73	43/73	---	---	ND		---	10.6
74	61/70/74/76	29.136	0.80	(795)		---	15.9
75	59/62/75	25.371	0.77	(19.9)	J	---	7.07
76	61/70/74/76	29.136	0.80	(795)		---	15.9
77		33.993	0.81	135		---	3.46
78		---	---	ND		---	3.40
79		32.338	0.65	28.3		---	2.67
80		---	---	ND		---	2.50
81		33.390	0.89	7.50	J	---	2.35
82		33.591	1.51	333		---	4.97
83		31.719	1.67	201		---	3.24
84		29.337	1.56	673		---	3.27
85	85/116/117	33.111	1.54	660		---	8.25
86	86/87/97/108/119/125	32.446	1.55	2340		---	15.9
87	86/87/97/108/119/125	32.446	1.55	(2340)		---	15.9
88	88/91	29.090	1.56	389		---	6.39
89		29.801	1.40	15.1	J	---	3.82
90	90/101/113	31.255	1.57	4810		---	11.7
91	88/91	29.090	1.56	(389)		---	6.39
92		30.636	1.52	886		---	4.39
93	93/98/100/102	28.533	1.60	72.0	J	---	12.2
94		27.682	1.62	8.55	J	---	3.60
95		28.146	1.55	3250		---	14.8
96		25.340	1.57	8.59	J	---	4.23

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB13-0.0-0.5-1022
Lab Sample ID 10638496005
Filename P230113A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
97	86/87/97/108/119/125	32.446	1.55	(2340)		---	15.9
98	93/98/100/102	28.533	1.60	(72.0)	J	---	12.2
99		31.858	1.56	1180		---	5.03
100	93/98/100/102	28.533	1.60	(72.0)	J	---	12.2
101	90/101/113	31.255	1.57	(4810)		---	11.7
102	93/98/100/102	28.533	1.60	(72.0)	J	---	12.2
103		27.465	1.56	15.5	J	---	3.04
104		---	---	ND		---	3.37
105		37.568	1.59	2250		---	4.52
106		---	---	ND		---	3.15
107	107/124	35.690	1.61	209		---	4.81
108	86/87/97/108/119/125	32.446	1.55	(2340)		---	15.9
109		35.925	1.64	306		---	2.69
110	110/115	33.266	1.57	6460		---	14.2
111		---	---	ND		---	2.91
112		---	---	ND		---	3.96
113	90/101/113	31.255	1.57	(4810)		---	11.7
114		36.931	1.65	88.8		---	3.75
115	110/115	33.266	1.57	(6460)		---	14.2
116	85/116/117	33.111	1.54	(660)		---	8.25
117	85/116/117	33.111	1.54	(660)		---	8.25
118		36.377	1.59	4560		---	10.1
119	86/87/97/108/119/125	32.446	1.55	(2340)		---	15.9
120		34.535	1.76	14.2	J	---	3.41
121		---	---	ND		---	3.58
122		36.713	1.61	52.1		---	3.53
123		36.042	1.61	88.6		---	3.34
124	107/124	35.690	1.61	(209)		---	4.81
125	86/87/97/108/119/125	32.446	1.55	(2340)		---	15.9
126		40.754	1.60	78.3		---	2.80
127		39.127	1.39	15.9	J	---	3.31
128	128/166	40.854	1.24	2280		---	6.72
129	129/138/163	39.563	1.26	22000		---	12.7
130		38.893	1.31	1010		---	3.31
131		36.009	1.26	144		---	4.47
132		36.461	1.25	4890		---	5.57
133		36.998	1.28	231		---	3.03
134	134/143	35.388	1.25	753		---	7.90
135	135/151	34.225	1.25	6450		---	10.3
136		31.735	1.25	1650		---	4.68
137		39.111	1.35	451		---	3.79
138	129/138/163	39.563	1.26	(22000)		---	12.7
139	139/140	35.807	1.25	160		---	5.61
140	139/140	35.807	1.25	(160)		---	5.61
141		38.490	1.26	4310		---	5.00
142		---	---	ND		---	3.70
143	134/143	35.388	1.25	(753)		---	7.90
144		34.828	1.25	789		---	4.07

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Tel: 612-607-1700
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Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB13-0.0-0.5-1022
Lab Sample ID 10638496005
Filename P230113A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
145		---	---	ND		---	3.22
146		37.669	1.25	2590		---	4.06
147	147/149	35.187	1.25	13800		---	11.9
148		33.622	1.12	11.5	J	---	4.56
149	147/149	35.187	1.25	(13800)		---	11.9
150		31.394	1.25	16.3	J	---	3.61
151	135/151	34.225	1.25	(6450)		---	10.3
152		31.193	1.38	6.12	J	---	3.70
153	153/168	38.306	1.25	17400		---	10.9
154		34.519	1.37	103		---	3.83
155		---	---	ND		---	3.16
156	156/157	43.794	1.28	2190		---	5.52
157	156/157	43.794	1.28	(2190)		---	5.52
158		39.982	1.26	1820		---	3.18
159		41.815	1.27	315		---	3.26
160		---	---	ND		---	2.66
161		---	---	ND		---	2.92
162		42.167	1.27	32.0		---	3.37
163	129/138/163	39.563	1.26	(22000)		---	12.7
164		39.245	1.26	1460		---	3.71
165		---	---	ND		---	3.20
166	128/166	40.854	1.24	(2280)		---	6.72
167		42.737	1.29	875		---	3.79
168	153/168	38.306	1.25	(17400)		---	10.9
169		47.097	1.47	---	I	30.5	3.81
170		46.477	1.04	10100		---	4.75
171	171/173	42.972	1.04	2530		---	7.68
172		44.548	1.03	1760		---	3.86
173	171/173	42.972	1.04	(2530)		---	7.68
174		41.815	1.03	9570		---	5.82
175		40.687	1.01	332		---	3.51
176		38.138	1.04	924		---	4.25
177		42.268	1.04	5520		---	4.87
178		40.033	1.05	1960		---	3.27
179		37.216	1.03	3650		---	4.82
180	180/193	45.219	1.04	23600		---	10.4
181		42.737	1.00	46.0		---	3.19
182		41.156	1.14	52.4		---	3.50
183	183/185	41.581	1.04	6050		---	8.17
184		37.769	0.92	6.71	J	---	3.52
185	183/185	41.581	1.04	(6050)		---	8.17
186		---	---	ND		---	4.00
187		40.955	1.04	12100		---	5.72
188		36.897	1.00	12.7	J	---	3.25
189		49.648	1.06	427		---	2.89
190		47.047	1.05	2140		---	2.54
191		45.571	1.04	382		---	2.97
192		---	---	ND		---	2.95

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Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	SB13-0.0-0.5-1022
Lab Sample ID	10638496005
Filename	P230113A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg	EMPC ng/Kg	EML ng/Kg
193	180/193	45.219	1.04	(23600)	---	10.4
194		51.782	0.88	6410	---	2.75
195		49.389	0.87	2330	---	3.21
196		47.852	0.90	2970	---	2.01
197	197/200	44.331	0.89	960	---	4.66
198	198/199	47.197	0.89	7250	---	5.45
199	198/199	47.197	0.89	(7250)	---	5.45
200	197/200	44.331	0.89	(960)	---	4.66
201		43.358	0.93	698	---	2.76
202		42.385	0.89	1190	---	2.24
203		48.053	0.89	4140	---	3.43
204		---	---	ND	---	2.23
205		52.321	0.93	371	---	2.54
206		54.002	0.79	3970	---	3.49
207		50.079	0.75	311	---	2.81
208		49.131	0.78	1070	---	2.67
209		55.597	0.69	2060	---	3.01

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Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	SB13-0.0-0.5-1022
Lab Sample ID	10638496005
Filename	P230113A_05

Congener Group	Concentration ng/Kg
Total Monochloro Biphenyls	35.5
Total Dichloro Biphenyls	238
Total Trichloro Biphenyls	790
Total Tetrachloro Biphenyls	3050
Total Pentachloro Biphenyls	29000
Total Hexachloro Biphenyls	85700
Total Heptachloro Biphenyls	81000
Total Octachloro Biphenyls	26300
Total Nonachloro Biphenyls	5350
DecachloroBiphenyls	2060
Total PCBs	234000

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Method 1668C Polychlorobiphenyl Sample Analysis Results

Client - UPRR_Jacobs

Client's Sample ID	SB14-1.0-1.5-1022		
Lab Sample ID	10638496006		
Filename	P230113A_06		
Injected By	AH5		
Total Amount Extracted	10.8 g	Matrix	Solid
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	10/19/2022 08:05
ICAL ID	P230113A03	Received	10/20/2022 10:30
CCal Filename(s)	P230113A_02	Extracted	01/03/2023 13:30
Method Blank ID	BLANK-103296	Analyzed	01/13/2023 14:45

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.703	3.00	2.0	0.757	38
13C-4-MoCB	3	11.406	3.24	2.0	0.893	45
13C-2,2'-DiCB	4	11.677	1.60	2.0	0.826	41
13C-4,4'-DiCB	15	18.593	1.64	2.0	1.11	55
13C-2,2',6-TrCB	19	15.377	1.11	2.0	0.899	45
13C-3,4,4'-TrCB	37	26.283	1.03	2.0	1.11	55
13C-2,2',6,6'-TeCB	54	18.904	0.79	2.0	0.823	41
13C-3,4,4',5-TeCB	81	33.374	0.79	2.0	1.15	58
13C-3,3',4,4'-TeCB	77	33.946	0.82	2.0	1.14	57
13C-2,2',4,6,6'-PeCB	104	24.952	1.62	2.0	1.02	51
13C-2,3,3',4,4'-PeCB	105	37.534	1.56	2.0	1.15	57
13C-2,3,4,4',5-PeCB	114	36.896	1.60	2.0	1.13	57
13C-2,3',4,4',5-PeCB	118	36.343	1.51	2.0	1.08	54
13C-2,3',4,4',5'-PeCB	123	36.008	1.55	2.0	1.18	59
13C-3,3',4,4',5-PeCB	126	40.719	1.58	2.0	1.13	57
13C-2,2',4,4',6,6'-HxCB	155	30.976	1.26	2.0	0.997	50
13C-HxCB(156/157)	156/157	43.776	1.24	4.0	1.97	49
13C-2,3',4,4',5,5'-HxCB	167	42.636	1.32	2.0	1.07	53
13C-3,3',4,4',5,5'-HxCB	169	47.063	1.27	2.0	0.899	45
13C-2,2',3,4',5,6,6'-HpCB	188	36.863	1.06	2.0	1.21	61
13C-2,3,3',4,4',5,5'-HpCB	189	49.604	1.10	2.0	1.06	53
13C-2,2',3,3',5,5',6,6'-OcCB	202	42.334	0.90	2.0	1.13	56
13C-2,3,3',4,4',5,5',6-OcCB	205	52.234	0.88	2.0	0.992	50
13C-2,2',3,3',4,4',5,5',6-NoCB	206	53.936	0.78	2.0	0.943	47
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	49.087	0.78	2.0	1.06	53
13C-DeCB	209	55.531	0.70	2.0	0.929	46
CleanupStandards						
13C-2,4,4'-TrCB	28	21.967	1.07	2.0	0.931	47
13C-2,3,3',5,5'-PeCB	111	33.993	1.70	2.0	0.878	44
13C-2,2',3,3',5,5',6-HpCB	178	39.981	1.03	2.0	0.899	45
Recovery Standards						
13C-2,5-DiCB	9	14.072	1.61	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	23.947	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.208	1.57	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	39.529	1.25	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	51.738	0.88	2.0	NA	NA

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Pace Analytical Services, LLC.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB14-1.0-1.5-1022
Lab Sample ID 10638496006
Filename P230113A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
1		8.726	2.83	11.1	BJ	---	4.36
2		11.202	3.57	10.6	J	---	3.23
3		11.417	3.05	23.2	B	---	4.55
4		11.700	1.23	---	IJ	12.1	7.15
5		---	---	ND		---	2.55
6		14.570	1.65	6.54	J	---	3.63
7		---	---	ND		---	2.76
8		15.056	1.67	29.6		---	5.94
9		---	---	ND		---	3.06
10		---	---	ND		---	3.52
11		17.919	1.54	115		---	101
12	12/13	18.239	1.34	9.97	J	---	6.18
13	12/13	18.239	1.34	(9.97)	J	---	6.18
14		---	---	ND		---	3.13
15		18.626	1.55	75.2		---	5.40
16		18.527	0.98	16.2	J	---	6.64
17		18.018	1.08	16.9	J	---	6.82
18	18/30	17.554	1.10	32.5	J	---	13.6
19		15.388	1.05	4.93	J	---	2.97
20	20/28	21.983	1.08	92.9		---	21.9
21	21/33	22.230	1.07	43.2		---	13.1
22		22.663	1.04	34.6		---	9.77
23		---	---	ND		---	2.85
24		---	---	ND		---	3.78
25		21.317	0.97	6.44	J	---	3.05
26	26/29	21.054	1.06	13.6	J	---	9.11
27		---	---	ND		---	3.97
28	20/28	21.983	1.08	(92.9)		---	21.9
29	26/29	21.054	1.06	(13.6)	J	---	9.11
30	18/30	17.554	1.10	(32.5)	J	---	13.6
31		21.658	1.09	81.9		---	18.6
32		19.136	1.04	11.0	J	---	6.34
33	21/33	22.230	1.07	(43.2)		---	13.1
34		---	---	ND		---	3.99
35		25.865	0.95	6.42	J	---	3.87
36		---	---	ND		---	2.76
37		26.313	1.05	79.5		---	6.76
38		---	---	ND		---	2.49
39		---	---	ND		---	2.95
40	40/41/71	26.097	0.81	68.9		---	10.6
41	40/41/71	26.097	0.81	(68.9)		---	10.6
42		25.602	0.85	37.8		---	4.79
43	43/73	---	---	ND		---	9.95
44	44/47/65	25.014	0.76	291		---	23.9
45	45/51	22.060	0.79	18.8	J	---	9.95
46		22.400	0.82	5.83	J	---	3.78
47	44/47/65	25.014	0.76	(291)		---	23.9
48		24.798	0.84	19.0		---	3.71

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Tel: 612-607-1700
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Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB14-1.0-1.5-1022
Lab Sample ID 10638496006
Filename P230113A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
49	49/69	24.488	0.77	168		---	9.02
50	50/53	---	---	ND		---	19.9
51	45/51	22.060	0.79	(18.8)	J	---	9.95
52		23.962	0.79	723		---	17.2
53	50/53	---	---	ND		---	19.9
54		---	---	ND		---	4.98
55		---	---	ND		---	7.79
56		30.094	0.82	83.3		---	5.07
57		---	---	ND		---	2.12
58		---	---	ND		---	2.58
59	59/62/75	25.370	0.76	10.8	J	---	6.64
60		30.326	0.79	40.1		---	20.0
61	61/70/74/76	29.073	0.81	642		---	14.9
62	59/62/75	25.370	0.76	(10.8)	J	---	6.64
63		28.733	0.84	8.78	J	---	7.33
64		26.360	0.80	122		---	13.4
65	44/47/65	25.014	0.76	(291)		---	23.9
66		29.429	0.81	180		---	11.7
67		28.470	0.77	3.30	J	---	2.13
68		---	---	ND		---	8.18
69	49/69	24.488	0.77	(168)		---	9.02
70	61/70/74/76	29.073	0.81	(642)		---	14.9
71	40/41/71	26.097	0.81	(68.9)		---	10.6
72		27.279	0.70	2.95	J	---	2.22
73	43/73	---	---	ND		---	9.95
74	61/70/74/76	29.073	0.81	(642)		---	14.9
75	59/62/75	25.370	0.76	(10.8)	J	---	6.64
76	61/70/74/76	29.073	0.81	(642)		---	14.9
77		33.961	0.86	38.4		---	3.24
78		---	---	ND		---	3.19
79		32.337	0.80	12.4	J	---	2.51
80		---	---	ND		---	2.35
81		33.374	0.85	3.45	J	---	2.20
82		33.575	1.61	151		---	4.66
83		31.703	1.54	84.5		---	3.04
84		29.290	1.51	356		---	3.07
85	85/116/117	33.095	1.60	305		---	7.74
86	86/87/97/108/119/125	32.430	1.54	1040		---	14.9
87	86/87/97/108/119/125	32.430	1.54	(1040)		---	14.9
88	88/91	29.058	1.66	187		---	5.99
89		29.754	1.39	9.44	J	---	3.59
90	90/101/113	31.239	1.57	2110		---	11.0
91	88/91	29.058	1.66	(187)		---	5.99
92		30.620	1.58	354		---	4.12
93	93/98/100/102	28.517	1.43	35.4	J	---	11.4
94		27.666	1.77	4.22	J	---	3.37
95		28.130	1.54	1520		---	13.9
96		25.354	1.42	6.12	J	---	3.97

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Tel: 612-607-1700
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Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB14-1.0-1.5-1022
Lab Sample ID 10638496006
Filename P230113A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
97	86/87/97/108/119/125	32.430	1.54	(1040)		---	14.9
98	93/98/100/102	28.517	1.43	(35.4)	J	---	11.4
99		31.842	1.56	654		---	4.72
100	93/98/100/102	28.517	1.43	(35.4)	J	---	11.4
101	90/101/113	31.239	1.57	(2110)		---	11.0
102	93/98/100/102	28.517	1.43	(35.4)	J	---	11.4
103		27.434	1.45	6.00	J	---	2.85
104		---	---	ND		---	3.16
105		37.567	1.59	676		---	4.24
106		---	---	ND		---	2.96
107	107/124	35.656	1.58	96.4		---	4.52
108	86/87/97/108/119/125	32.430	1.54	(1040)		---	14.9
109		35.907	1.52	115		---	2.53
110	110/115	33.250	1.59	2780		---	13.4
111		---	---	ND		---	2.73
112		---	---	ND		---	3.71
113	90/101/113	31.239	1.57	(2110)		---	11.0
114		36.913	1.54	36.0		---	3.52
115	110/115	33.250	1.59	(2780)		---	13.4
116	85/116/117	33.095	1.60	(305)		---	7.74
117	85/116/117	33.095	1.60	(305)		---	7.74
118		36.376	1.59	1620		---	9.49
119	86/87/97/108/119/125	32.430	1.54	(1040)		---	14.9
120		34.503	1.56	5.80	J	---	3.20
121		---	---	ND		---	3.35
122		36.712	1.50	21.7		---	3.31
123		36.041	1.52	38.7		---	3.13
124	107/124	35.656	1.58	(96.4)		---	4.52
125	86/87/97/108/119/125	32.430	1.54	(1040)		---	14.9
126		40.719	1.55	19.6		---	2.63
127		39.110	1.34	6.04	J	---	3.11
128	128/166	40.820	1.23	792		---	6.30
129	129/138/163	39.546	1.24	9880		---	11.9
130		38.891	1.27	386		---	3.11
131		35.991	1.26	54.3		---	4.19
132		36.444	1.25	1980		---	5.23
133		36.997	1.30	103		---	2.84
134	134/143	35.371	1.25	279		---	7.41
135	135/151	34.209	1.24	2730		---	9.68
136		31.703	1.23	686		---	4.39
137		39.110	1.22	144		---	3.56
138	129/138/163	39.546	1.24	(9880)		---	11.9
139	139/140	35.790	1.28	56.5		---	5.26
140	139/140	35.790	1.28	(56.5)		---	5.26
141		38.472	1.25	1890		---	4.69
142		---	---	ND		---	3.47
143	134/143	35.371	1.25	(279)		---	7.41
144		34.797	1.23	337		---	3.82

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Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID SB14-1.0-1.5-1022
Lab Sample ID 10638496006
Filename P230113A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg		EMPC ng/Kg	EML ng/Kg
145		---	---	ND		---	3.02
146		37.651	1.24	1190		---	3.81
147	147/149	35.169	1.26	6220		---	11.2
148		33.606	1.33	5.85	J	---	4.28
149	147/149	35.169	1.26	(6220)		---	11.2
150		31.363	1.40	4.78	J	---	3.39
151	135/151	34.209	1.24	(2730)		---	9.68
152		---	---	ND		---	3.47
153	153/168	38.288	1.25	8200		---	10.2
154		34.503	1.28	30.8		---	3.59
155		---	---	ND		---	2.97
156	156/157	43.759	1.23	763		---	5.18
157	156/157	43.759	1.23	(763)		---	5.18
158		39.965	1.22	764		---	2.99
159		41.798	1.22	142		---	3.06
160		---	---	ND		---	2.50
161		---	---	ND		---	2.74
162		42.133	1.34	22.4		---	3.16
163	129/138/163	39.546	1.24	(9880)		---	11.9
164		39.227	1.24	654		---	3.48
165		---	---	ND		---	3.00
166	128/166	40.820	1.23	(792)		---	6.30
167		42.653	1.29	335		---	3.56
168	153/168	38.288	1.25	(8200)		---	10.2
169		47.063	1.55	---	IJ	10.2	3.58
170		46.459	1.04	3950		---	4.46
171	171/173	42.904	1.02	1080		---	7.21
172		44.514	1.04	688		---	3.62
173	171/173	42.904	1.02	(1080)		---	7.21
174		41.781	1.02	3750		---	5.46
175		40.652	1.03	145		---	3.29
176		38.120	1.05	419		---	3.99
177		42.250	1.02	2390		---	4.57
178		39.998	1.02	802		---	3.07
179		37.215	1.03	1510		---	4.53
180	180/193	45.185	1.04	9010		---	9.77
181		42.669	1.01	15.8	J	---	3.00
182		41.139	1.04	18.0	J	---	3.28
183	183/185	41.563	1.02	2420		---	7.67
184		---	---	ND		---	3.30
185	183/185	41.563	1.02	(2420)		---	7.67
186		---	---	ND		---	3.75
187		40.937	1.04	4840		---	5.36
188		36.896	0.96	4.70	J	---	3.05
189		49.626	1.05	170		---	2.71
190		46.995	1.03	826		---	2.39
191		45.554	1.00	145		---	2.78
192		---	---	ND		---	2.76

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Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	SB14-1.0-1.5-1022
Lab Sample ID	10638496006
Filename	P230113A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg	EMPC ng/Kg	EML ng/Kg
193	180/193	45.185	1.04	(9010)	---	9.77
194		51.759	0.88	1870	---	2.58
195		49.367	0.90	780	---	3.01
196		47.834	0.89	912	---	1.89
197	197/200	44.313	0.90	312	---	4.37
198	198/199	47.163	0.89	2150	---	5.12
199	198/199	47.163	0.89	(2150)	---	5.12
200	197/200	44.313	0.90	(312)	---	4.37
201		43.307	0.89	208	---	2.59
202		42.368	0.88	368	---	2.10
203		48.035	0.90	1260	---	3.22
204		---	---	ND	---	2.09
205		52.255	0.91	125	---	2.39
206		53.958	0.76	904	---	3.27
207		50.057	0.75	102	---	2.64
208		49.108	0.78	289	---	2.51
209		55.574	0.68	1570	---	2.82

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Method 1668C Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	SB14-1.0-1.5-1022
Lab Sample ID	10638496006
Filename	P230113A_06

Congener Group	Concentration ng/Kg
Total Monochloro Biphenyls	44.9
Total Dichloro Biphenyls	237
Total Trichloro Biphenyls	440
Total Tetrachloro Biphenyls	2480
Total Pentachloro Biphenyls	12200
Total Hexachloro Biphenyls	37700
Total Heptachloro Biphenyls	32200
Total Octachloro Biphenyls	7980
Total Nonachloro Biphenyls	1300
DecachloroBiphenyls	1570
Total PCBs	96100

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID	BLANK-103296		
Filename	P230112A_09		
Injected By	AH5	Matrix	Solid
Total Amount Extracted	10.8 g	Extracted	01/03/2023 13:30
ICAL ID	P230112A04	Analyzed	01/12/2023 17:27
CCal Filename(s)	P230112A_03	Dilution	NA

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.715	3.02	2.0	1.23	62
13C-4-MoCB	3	11.417	3.26	2.0	1.22	61
13C-2,2'-DiCB	4	11.711	1.46	2.0	1.32	66
13C-4,4'-DiCB	15	18.615	1.55	2.0	1.28	64
13C-2,2',6-TrCB	19	15.410	1.11	2.0	1.37	68
13C-3,4,4'-TrCB	37	26.299	1.06	2.0	1.35	67
13C-2,2',6,6'-TeCB	54	18.920	0.81	2.0	1.18	59
13C-3,4,4',5-TeCB	81	33.390	0.82	2.0	1.47	73
13C-3,3',4,4'-TeCB	77	33.962	0.83	2.0	1.44	72
13C-2,2',4,6,6'-PeCB	104	24.969	1.59	2.0	1.43	71
13C-2,3,3',4,4'-PeCB	105	37.551	1.57	2.0	1.56	78
13C-2,3,4,4',5-PeCB	114	36.897	1.53	2.0	1.56	78
13C-2,3',4,4',5-PeCB	118	36.361	1.56	2.0	1.44	72
13C-2,3',4,4',5'-PeCB	123	36.025	1.56	2.0	1.56	78
13C-3,3',4,4',5-PeCB	126	40.720	1.61	2.0	1.52	76
13C-2,2',4,4',6,6'-HxCB	155	30.992	1.28	2.0	1.41	71
13C-HxCB (156/157)	156/157	43.777	1.26	4.0	2.73	68
13C-2,3',4,4',5,5'-HxCB	167	42.620	1.27	2.0	1.40	70
13C-3,3',4,4',5,5'-HxCB	169	47.064	1.35	2.0	1.27	63
13C-2,2',3,4',5,6,6'-HpCB	188	36.881	1.01	2.0	1.68	84
13C-2,3,3',4,4',5,5'-HpCB	189	49.605	1.09	2.0	1.47	73
13C-2,2',3,3',5,5',6,6'-OcCB	202	42.335	0.89	2.0	1.58	79
13C-2,3,3',4,4',5,5',6-OcCB	205	52.192	0.89	2.0	1.48	74
13C-2,2',3,3',4,4',5,5',6-NoCB	206	53.937	0.79	2.0	1.40	70
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	49.110	0.80	2.0	1.53	76
13C-DeCB	209	55.554	0.73	2.0	1.43	72
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.983	0.98	2.0	1.16	58
13C-2,3,3',5,5'-PeCB	111	34.024	1.50	2.0	1.22	61
13C-2,2',3,3',5,5',6-HpCB	178	39.983	1.07	2.0	1.31	65
Recovery Standards						
13C-2,5-DiCB	9	14.150	1.62	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	23.963	0.82	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.209	1.59	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	39.530	1.24	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	51.717	0.94	2.0	NA	NA

Conc = Concentration
EML =Method Specified Reporting Limit (1668C)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668C control limits
Nn = Value obtained from additional analyses

Results reported on a total weight basis

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-103296
Filename P230112A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg	EMPC ng/Kg	EML ng/Kg
1		8.737	2.88	4.47	---	4.40
2		---	---	ND	---	3.26
3		11.429	2.96	9.22	---	4.60
4		---	---	ND	---	7.22
5		---	---	ND	---	2.58
6		---	---	ND	---	3.67
7		---	---	ND	---	2.79
8		---	---	ND	---	5.99
9		---	---	ND	---	3.09
10		---	---	ND	---	3.55
11		---	---	ND	---	102
12	12/13	---	---	ND	---	6.23
13	12/13	---	---	ND	---	6.23
14		---	---	ND	---	3.16
15		---	---	ND	---	5.45
16		---	---	ND	---	6.70
17		---	---	ND	---	6.88
18	18/30	---	---	ND	---	13.8
19		---	---	ND	---	3.00
20	20/28	---	---	ND	---	22.1
21	21/33	---	---	ND	---	13.2
22		---	---	ND	---	9.86
23		---	---	ND	---	2.87
24		---	---	ND	---	3.81
25		---	---	ND	---	3.08
26	26/29	---	---	ND	---	9.19
27		---	---	ND	---	4.01
28	20/28	---	---	ND	---	22.1
29	26/29	---	---	ND	---	9.19
30	18/30	---	---	ND	---	13.8
31		---	---	ND	---	18.8
32		---	---	ND	---	6.40
33	21/33	---	---	ND	---	13.2
34		---	---	ND	---	4.03
35		---	---	ND	---	3.91
36		---	---	ND	---	2.78
37		---	---	ND	---	6.82
38		---	---	ND	---	2.51
39		---	---	ND	---	2.98
40	40/41/71	---	---	ND	---	10.7
41	40/41/71	---	---	ND	---	10.7
42		---	---	ND	---	4.84
43	43/73	---	---	ND	---	10.0
44	44/47/65	---	---	ND	---	24.1
45	45/51	---	---	ND	---	10.0

Conc = Concentration
EML =Method Specified Reporting Limit (1668C)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668C control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference

Results reported on a total weight basis

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Method 1668C Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-103296
Filename P230112A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg	EMPC ng/Kg	EML ng/Kg
46		---	---	ND	---	3.81
47	44/47/65	---	---	ND	---	24.1
48		---	---	ND	---	3.75
49	49/69	---	---	ND	---	9.11
50	50/53	---	---	ND	---	20.1
51	45/51	---	---	ND	---	10.0
52		---	---	ND	---	17.4
53	50/53	---	---	ND	---	20.1
54		---	---	ND	---	5.02
55		---	---	ND	---	7.86
56		---	---	ND	---	5.12
57		---	---	ND	---	2.14
58		---	---	ND	---	2.60
59	59/62/75	---	---	ND	---	6.70
60		---	---	ND	---	20.2
61	61/70/74/76	---	---	ND	---	15.1
62	59/62/75	---	---	ND	---	6.70
63		---	---	ND	---	7.40
64		---	---	ND	---	13.5
65	44/47/65	---	---	ND	---	24.1
66		---	---	ND	---	11.8
67		---	---	ND	---	2.15
68		---	---	ND	---	8.25
69	49/69	---	---	ND	---	9.11
70	61/70/74/76	---	---	ND	---	15.1
71	40/41/71	---	---	ND	---	10.7
72		---	---	ND	---	2.24
73	43/73	---	---	ND	---	10.0
74	61/70/74/76	---	---	ND	---	15.1
75	59/62/75	---	---	ND	---	6.70
76	61/70/74/76	---	---	ND	---	15.1
77		---	---	ND	---	3.27
78		---	---	ND	---	3.22
79		---	---	ND	---	2.53
80		---	---	ND	---	2.37
81		---	---	ND	---	2.22
82		---	---	ND	---	4.71
83		---	---	ND	---	3.07
84		---	---	ND	---	3.10
85	85/116/117	---	---	ND	---	7.81
86	86/87/97/108/119/125	---	---	ND	---	15.1
87	86/87/97/108/119/125	---	---	ND	---	15.1
88	88/91	---	---	ND	---	6.05
89		---	---	ND	---	3.62
90	90/101/113	---	---	ND	---	11.1

Conc = Concentration
EML =Method Specified Reporting Limit (1668C)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668C control limits
ng/L = Nanograms per liter

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Method 1668C Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-103296
Filename P230112A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg	EMPC ng/Kg	EML ng/Kg
91	88/91	---	---	ND	---	6.05
92		---	---	ND	---	4.16
93	93/98/100/102	---	---	ND	---	11.5
94		---	---	ND	---	3.40
95		---	---	ND	---	14.0
96		---	---	ND	---	4.01
97	86/87/97/108/119/125	---	---	ND	---	15.1
98	93/98/100/102	---	---	ND	---	11.5
99		---	---	ND	---	4.76
100	93/98/100/102	---	---	ND	---	11.5
101	90/101/113	---	---	ND	---	11.1
102	93/98/100/102	---	---	ND	---	11.5
103		---	---	ND	---	2.87
104		---	---	ND	---	3.19
105		---	---	ND	---	4.28
106		---	---	ND	---	2.99
107	107/124	---	---	ND	---	4.56
108	86/87/97/108/119/125	---	---	ND	---	15.1
109		---	---	ND	---	2.55
110	110/115	---	---	ND	---	13.5
111		---	---	ND	---	2.75
112		---	---	ND	---	3.75
113	90/101/113	---	---	ND	---	11.1
114		---	---	ND	---	3.55
115	110/115	---	---	ND	---	13.5
116	85/116/117	---	---	ND	---	7.81
117	85/116/117	---	---	ND	---	7.81
118		---	---	ND	---	9.58
119	86/87/97/108/119/125	---	---	ND	---	15.1
120		---	---	ND	---	3.23
121		---	---	ND	---	3.39
122		---	---	ND	---	3.34
123		---	---	ND	---	3.16
124	107/124	---	---	ND	---	4.56
125	86/87/97/108/119/125	---	---	ND	---	15.1
126		---	---	ND	---	2.65
127		---	---	ND	---	3.13
128	128/166	---	---	ND	---	6.36
129	129/138/163	39.563	1.23	37.7	---	12.0
130		---	---	ND	---	3.13
131		---	---	ND	---	4.23
132		36.461	1.33	10.0	---	5.27
133		---	---	ND	---	2.87
134	134/143	---	---	ND	---	7.48
135	135/151	34.241	1.19	10.9	---	9.77

Conc = Concentration
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Method 1668C Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-103296
Filename P230112A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg	EMPC ng/Kg	EML ng/Kg
136		---	---	ND	---	4.43
137		---	---	ND	---	3.59
138	129/138/163	39.563	1.23	(37.7)	---	12.0
139	139/140	---	---	ND	---	5.31
140	139/140	---	---	ND	---	5.31
141		38.507	1.17	9.25	---	4.73
142		---	---	ND	---	3.51
143	134/143	---	---	ND	---	7.48
144		---	---	ND	---	3.85
145		---	---	ND	---	3.05
146		37.685	1.34	5.62	---	3.84
147	147/149	35.187	1.19	24.1	---	11.3
148		---	---	ND	---	4.32
149	147/149	35.187	1.19	(24.1)	---	11.3
150		---	---	ND	---	3.42
151	135/151	34.241	1.19	(10.9)	---	9.77
152		---	---	ND	---	3.51
153	153/168	38.306	1.23	32.7	---	10.3
154		---	---	ND	---	3.63
155		---	---	ND	---	3.00
156	156/157	---	---	ND	---	5.23
157	156/157	---	---	ND	---	5.23
158		39.999	1.33	4.13	---	3.01
159		---	---	ND	---	3.09
160		---	---	ND	---	2.52
161		---	---	ND	---	2.76
162		---	---	ND	---	3.19
163	129/138/163	39.563	1.23	(37.7)	---	12.0
164		---	---	ND	---	3.52
165		---	---	ND	---	3.03
166	128/166	---	---	ND	---	6.36
167		---	---	ND	---	3.59
168	153/168	38.306	1.23	(32.7)	---	10.3
169		---	---	ND	---	3.61
170		46.477	1.02	14.5	---	4.50
171	171/173	---	---	ND	---	7.27
172		---	---	ND	---	3.66
173	171/173	---	---	ND	---	7.27
174		41.782	0.98	13.6	---	5.51
175		---	---	ND	---	3.32
176		---	---	ND	---	4.03
177		42.235	1.00	7.36	---	4.61
178		---	---	ND	---	3.10
179		37.233	1.23	---	4.78	4.57
180	180/193	45.219	1.07	31.0	---	9.86

Conc = Concentration
EML =Method Specified Reporting Limit (1668C)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668C control limits
ng/L = Nanograms per liter

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Method 1668C Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-103296
Filename P230112A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/Kg	EMPC ng/Kg	EML ng/Kg
181		---	---	ND	---	3.02
182		---	---	ND	---	3.31
183	183/185	41.564	0.98	10.5	---	7.74
184		---	---	ND	---	3.33
185	183/185	41.564	0.98	(10.5)	---	7.74
186		---	---	ND	---	3.79
187		40.938	1.08	15.7	---	5.41
188		---	---	ND	---	3.08
189		---	---	ND	---	2.73
190		46.997	1.22	---	2.77	2.41
191		---	---	ND	---	2.81
192		---	---	ND	---	2.79
193	180/193	45.219	1.07	(31.0)	---	9.86
194		51.761	0.91	4.43	---	2.60
195		---	---	ND	---	3.04
196		47.835	0.99	2.88	---	1.91
197	197/200	---	---	ND	---	4.41
198	198/199	---	---	ND	---	5.16
199	198/199	---	---	ND	---	5.16
200	197/200	---	---	ND	---	4.41
201		---	---	ND	---	2.61
202		---	---	ND	---	2.12
203		---	---	ND	---	3.25
204		---	---	ND	---	2.11
205		---	---	ND	---	2.41
206		---	---	ND	---	3.30
207		---	---	ND	---	2.66
208		---	---	ND	---	2.53
209		---	---	ND	---	2.85

Conc = Concentration
EML =Method Specified Reporting Limit (1668C)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668C control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
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RT = Retention Time
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Results reported on a total weight basis

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Method 1668C Polychlorobiphenyl
Blank Analysis Results

Client Sample ID	CBLKIC
Lab Sample ID	BLANK-103296
Filename	P230112A_09

Congener Group	Concentration ng/Kg
Total Monochloro Biphenyls	13.7
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	134
Total Heptachloro Biphenyls	92.8
Total Octachloro Biphenyls	7.32
Total Nonachloro Biphenyls	ND
DecachloroBiphenyls	ND
Total PCBs	248

ND = Not Detected
Results reported on a total weight basis

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Method 1668C Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCS-103297		
Filename	P230112A_05	Matrix	Solid
Total Amount Extracted	10.3 g	Dilution	NA
ICAL ID	P230112A04	Extracted	01/03/2023 13:30
CCal Filename(s)	P230112A_03	Analyzed	01/12/2023 13:28
Method Blank ID	BLANK-103296	Injected By	AH5

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	1.02	102	2.0	1.08	54
3	1.0	0.981	98	2.0	1.17	59
4	1.0	0.972	97	2.0	1.23	61
15	1.0	1.03	103	2.0	1.22	61
19	1.0	1.04	104	2.0	1.35	67
37	1.0	1.00	100	2.0	1.35	68
54	1.0	1.02	102	2.0	1.12	56
81	1.0	1.01	101	2.0	1.38	69
77	1.0	0.997	100	2.0	1.39	69
104	1.0	0.936	94	2.0	1.43	71
105	1.0	1.06	106	2.0	1.53	77
114	1.0	0.991	99	2.0	1.46	73
118	1.0	1.04	104	2.0	1.36	68
123	1.0	0.988	99	2.0	1.49	75
126	1.0	1.01	101	2.0	1.40	70
155	1.0	0.978	98	2.0	1.25	63
156/157	2.0	2.05	103	4.0	2.32	58
167	1.0	1.02	102	2.0	1.19	59
169	1.0	1.04	104	2.0	1.06	53
188	1.0	0.983	98	2.0	1.65	82
189	1.0	1.02	102	2.0	1.37	69
202	1.0	1.06	106	2.0	1.46	73
205	1.0	0.979	98	2.0	1.32	66
206	1.0	1.01	101	2.0	1.25	62
208	1.0	1.02	102	2.0	1.38	69
209	1.0	0.929	93	2.0	1.27	63

R = Recovery outside of method 1668C control limits
Nn = Result obtained from alternate analysis
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
ng = Nanograms
I = Interference

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyls
Matrix Spike Analysis Results

Client - UPRR_Jacobs

Lab Sample ID	10638496001-MS		
Filename	P230112A_06	Matrix	Solid
Total Amount Extracted	10.7 g	Dilution	NA
ICAL ID	P230112A04	Extracted	01/03/2023 13:30
CCal Filename(s)	P230112A_03	Analyzed	01/12/2023 14:28
Method Blank ID	BLANK-103296	Injected By	AH5

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	1.28	109	2.0	1.07	54
3	1.0	1.32	101	2.0	1.24	62
4	1.0	1.33	102	2.0	1.31	65
15	1.0	2.45	105	2.0	1.40	70
19	1.0	1.17	101	2.0	1.41	71
37	1.0	2.69	81	2.0	1.49	75
54	1.0	1.04	104	2.0	1.18	59
81	1.0	1.27	127	2.0	1.56	78
77	1.0	7.67	128	2.0	1.54	77
104	1.0	0.970	97	2.0	1.32	66
105	1.0	84.9	511	2.0	1.53	77
114	1.0	3.93	198	2.0	1.47	74
118	1.0	551	4557	2.0	1.47	74
123	1.0	5.32	183	2.0	1.47	73
126	1.0	20.0	56	2.0	1.45	73
155	1.0	1.06	106	2.0	0.908	45
156/157	2.0	620	1830	4.0	2.01	50
167	1.0	267	1442	2.0	0.983	49
169	1.0	5.65	565	2.0	0.939	47
188	1.0	3.05	85	2.0	1.44	72
189	1.0	153	0	2.0	1.34	67
202	1.0	158	739	2.0	1.45	72
205	1.0	76.3	613	2.0	1.30	65
206	1.0	197	404	2.0	1.27	64
208	1.0	34.1	199	2.0	1.32	66
209	1.0	24.2	27	2.0	1.16	58

R = Recovery outside of method 1668C control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
ng = Nanograms

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Pace Analytical Services, LLC.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668C Polychlorobiphenyls
Matrix Spike Analysis Results

Client - UPRR_Jacobs

Lab Sample ID	10638496001-MSD		
Filename	P230112A_07	Matrix	Solid
Total Amount Extracted	10.7 g	Dilution	NA
ICAL ID	P230112A04	Extracted	01/03/2023 13:30
CCal Filename(s)	P230112A_03	Analyzed	01/12/2023 15:28
Method Blank ID	BLANK-103296	Injected By	AH5

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	1.38	119	2.0	1.16	58
3	1.0	1.45	115	2.0	1.21	60
4	1.0	1.29	98	2.0	1.35	67
15	1.0	2.49	109	2.0	1.37	69
19	1.0	1.18	102	2.0	1.41	71
37	1.0	2.90	102	2.0	1.41	70
54	1.0	1.05	105	2.0	1.16	58
81	1.0	1.26	126	2.0	1.59	80
77	1.0	7.92	153	2.0	1.57	78
104	1.0	0.972	97	2.0	1.30	65
105	1.0	86.5	680	2.0	1.54	77
114	1.0	3.90	195	2.0	1.51	76
118	1.0	569	6356	2.0	1.48	74
123	1.0	4.66	117	2.0	1.51	75
126	1.0	21.0	156	2.0	1.50	75
155	1.0	1.05	105	2.0	0.933	47
156/157	2.0	607	1178	4.0	2.01	50
167	1.0	264	1151	2.0	1.01	50
169	1.0	4.81	481	2.0	0.965	48
188	1.0	3.19	99	2.0	1.39	70
189	1.0	147	0	2.0	1.35	68
202	1.0	151	0	2.0	1.44	72
205	1.0	74.1	388	2.0	1.28	64
206	1.0	192	0	2.0	1.25	62
208	1.0	32.6	42	2.0	1.31	66
209	1.0	25.1	117	2.0	1.16	58

R = Recovery outside of method 1668C control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
ng = Nanograms

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Method PCB1668-209 Spike Sample Results

Client - UPRR_Jacobs

Client Sample ID	SB06-1.0-1.5-1022		
Lab Sample ID	10638496001	Sample Filename	P230112A_10
MS ID	10638496001-MS	MS Filename	P230112A_06
MSD ID	10638496001-MSD	MSD Filename	P230112A_07

	Quantity	Unspiked Sample Contribution		Quantity Measured			Subtracted Recovery	
	Spiked	to MS	to MSD	MS	MSD		MS	MSD
Analyte	(ng)	(ng)	(ng)	(ng)	(ng)	RPD	(%)	(%)
2-MoCB	1.00	0.193	0.193	1.28	1.38	7.6	109	119
4-MoCB	1.00	0.308	0.308	1.32	1.45	9.6	101	115
2,2'-DiCB	1.00	0.301	0.301	1.33	1.29	3.1	102	98
4,4'-DiCB	1.00	1.40	1.40	2.45	2.49	1.8	105	109
2,2',6-TrCB	1.00	0.161	0.161	1.17	1.18	0.6	101	102
3,4,4'-TrCB	1.00	1.88	1.88	2.69	2.90	7.4	81	102
2,2',6,6'-TeCB	1.00	ND	ND	1.04	1.05	0.6	104	105
3,3',4,4'-TeCB	1.00	6.39	6.39	7.67	7.92	3.2	128	153
3,4,4',5-TeCB	1.00	ND	ND	1.27	1.26	0.6	127	126
2,2',4,6,6'-PeCB	1.00	ND	ND	0.97	0.97	0.2	97	97
2,3,3',4,4'-PeCB	1.00	79.7	79.7	84.86	86.55	2.0	511	680
2,3,4,4',5-PeCB	1.00	1.95	1.95	3.93	3.90	0.7	198	195
2,3',4,4',5-PeCB	1.00	505	505	550.56	568.55	3.2	4557	6356
2,3',4,4',5'-PeCB	1.00	3.50	3.50	5.32	4.66	13.2	183	117
3,3',4,4',5-PeCB	1.00	19.4	19.4	19.99	21.00	4.9	56	156
2,2',4,4',6,6'-HxCB	1.00	ND	ND	1.06	1.05	0.9	106	105
(156/157)	2.00	584	584	620.47	607.43	2.1	1830	1178
2,3',4,4',5,5'-HxCB	1.00	253	253	267.08	264.17	1.1	1442	1151
3,3',4,4',5,5'-HxCB	1.00	ND	ND	5.65	4.81	16.1	565	481
2,2',3,4',5,6,6'-HpCB	1.00	2.20	2.20	3.05	3.19	4.4	85	99
2,3,3',4,4',5,5'-HpCB	1.00	154	154	153.06	147.12	4.0	0	0
2,2',3,3',5,5',6,6'-OcCB	1.00	151	151	158.25	150.86	4.8	739	0
2,3,3',4,4',5,5',6-OcCB	1.00	70.2	70.2	76.32	74.07	3.0	613	388
2,2',3,3',4,4',5,5',6-NoCB	1.00	193	193	197.20	192.37	2.5	404	0
2,2',3,3',4,5,5',6,6'-NoCB	1.00	32.1	32.1	34.12	32.55	4.7	199	42
Decachlorobiphenyl	1.00	23.9	23.9	24.21	25.11	3.7	27	117

Quantity Spiked - the amount of analyte spiked into the spiked samples
Unspiked Sample Contribution - calculated based on the amount found in the sample and the extracted amounts of the spiked and unspiked samples
Quantity Measured - the total amount of analyte measured in the spiked samples
RPD - the Relative Percent Difference of the spiked sample Quantity Measured values
Subtracted Recovery - calculated after subtracting the unspiked sample contribution

Technical Memorandum

February 02, 2023

To	David Hodson	**Tel**	1 206 914 3141
Copy to	Jesse Orth, Julie Lidstone	**Email**	Jeffrey.Cloud@ghd.com
From	Jeffrey Cloud/eew/1461	**Ref. No.**	11183954-95-03-2903
Subject	**Analytical Results and Reduced Validation of Reports 10630039, 10630317, 10630481, 10630503, 10630729, 10632522 and 10638496 Surface Soil Sampling Union Pacific Railroad (UPRR) – Peninsula Iron Works Portland, Oregon October – November 2022**		

1. Introduction

This document details a reduced validation of analytical results for soil samples collected in support of the Surface Soil Sampling at the Peninsula Iron Works site in Portland, Oregon during October and November 2022. Samples were submitted to Pace Analytical Services, located in Minneapolis, Minnesota. A sample collection and analysis summary is presented in Table 1. A summary of the analytical methodology is presented in Table 2. The validated analytical results are summarized in Table 3.

Standard GHD report deliverables were submitted by the laboratory. The analytical results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody forms, finished report forms, method blank data, recovery data from surrogate spikes, laboratory control samples, matrix spikes and field QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 2 and applicable guidance from the document entitled "National Functional Guidelines for Organic Superfund Methods Data Review", USEPA 540-R-20-005, November 2020.

2. Sample Holding Time and Preservation

The sample holding time criteria and sample preservation requirements for the analyses are summarized in the methods. The 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 sample containers were properly preserved, delivered on ice and stored by the laboratory at the required temperature (0-6°C).

3. 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 with the exception of a few analytes present at low concentrations. The associated sample results with concentrations similar to the blank were qualified as non-detect due to contamination as evidenced by the blank (see Table 4).

4. 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 extraction. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices. Due to necessary sample dilutions, surrogate recoveries were not assessed for some samples.

All samples submitted for PCBs and PCB congeners analysis were spiked with the appropriate number of surrogate compounds prior to sample extraction.

Surrogate recoveries were assessed against the control limits. All surrogate recoveries met the associated criteria.

5. Laboratory Control Sample Analyses

Laboratory control samples (LCS)/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 or LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS and LCS/LCSD contained all analytes of interest. All LCS and LCS/LCSD recoveries and RPDs were within associated control limits, demonstrating acceptable analytical accuracy and precision (where applicable).

6. Matrix Spike Analyses

To evaluate the effects of sample matrices on the preparation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as matrix spike (MS)/matrix spike duplicate (MSD) samples. The RPD between the MS and MSD is used to assess analytical precision. MS/MSD analyses were performed as specified in Table 1. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed.

The MS/MSD samples were spiked with the analytes of interest. All percent recoveries and RPD values were within the associated control limits, demonstrating acceptable analytical accuracy and precision with the

exception of two high (PCB 114) 2,3,4,4',5-pentachlorobiphenyl recoveries. The associated sample result was qualified as estimated due to the implied high bias (see Table 5).

7. Field QA/QC Samples

The field QA/QC consisted of three equipment blank samples and five field duplicate sample sets.

7.1 Equipment Blank Sample Analysis

To assess field decontamination procedures, ambient conditions at the site, and cleanliness of sample containers, three equipment blanks were submitted for analysis, as identified in Table 1. All results were non-detect for the analytes of interest.

7.2 Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, five field duplicate samples were collected and submitted "blind" to the laboratory, as specified in Table 1. The RPD associated with these duplicate samples must be less than 50 percent. If the reported concentration in both the investigative sample and its duplicate are less than five times the reporting limit (RL), the evaluation criterion is one times the RL value.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision with two exceptions. The associated sample results and their duplicates were qualified as estimated due to variability (see Table 6).

8. Analyte Reporting

Data were reported down to the laboratory's quantitation limit (QL), which is defined as the method detection limit (MDL) with sample-specific adjustments for dilutions, aliquot size, volumes, etc. Positive analyte detections less than the RL but greater than the QL were reported as estimated (J) in Table 3. Non-detect results were presented as non-detect at the QL in Table 3.

All soil results were reported on a wet weight basis.

9. Conclusion

Based on the assessment detailed in the foregoing, the summarized data are acceptable with the specific qualifications noted herein.

Regards

Jeffrey Cloud
Data Management Team – Data Validator

Table 1

Sample Collection and Analysis Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

							Analysis/Parameters		
Sample Identification	**Location**	**Matrix**	**Initial Sample Depth (ft BGS)**	**Final Sample Depth (ft BGS)**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**PCB Congeners**	**PCBs**	**Comments**
ISM01-0.0-0.2-1022	ISM-01	Soil	0	0.2	10/17/2022	12:15		X	
ISM02-0.0-0.2-1022	ISM-02	Soil	0	0.2	10/19/2022	14:00		X	
ISM03-0.0-0.2-1022	ISM-03	Soil	0	0.2	10/17/2022	12:28		X	
ISM04-0.0-0.2-1022	ISM-04	Soil	0	0.2	10/18/2022	09:45		X	MS/MSD
ISM05-0.0-0.2-1022	ISM-05	Soil	0	0.2	10/18/2022	12:05		X	
ISM06-0.0-0.2-1022	ISM-06	Soil	0	0.2	10/19/2022	09:25		X	
ISM07-0.0-0.2-1022	ISM-07	Soil	0	0.2	10/19/2022	11:25		X	
ISM07T-0.0-0.2-1022	ISM-07	Soil	0	0.2	10/19/2022	11:30		X	
ISM07TT-0.0-0.2-1022	ISM-07	Soil	0	0.2	10/19/2022	11:35		X	
ISM08-0.0-0.2-1022	ISM-08	Soil	0	0.2	10/20/2022	10:00		X	MS/MSD
SB01-1.0-1.5-1022	SB-01	Soil	1	1.5	10/17/2022	11:05		X	
SB01-2.5-3.0-1022	SB-01	Soil	2.5	3	10/17/2022	11:10		X	
SB01-0.0-0.5-1022	SB-01	Soil	0	0.5	10/17/2022	11:00		X	
SB02-1-1.5-1022	SB-02	Soil	1	1.5	10/17/2022	13:55		X	
SB02-2.5-3.0-1022	SB-02	Soil	2.5	3	10/17/2022	14:00		X	

Table 1

Sample Collection and Analysis Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

							Analysis/Parameters		
Sample Identification	**Location**	**Matrix**	**Initial Sample Depth (ft BGS)**	**Final Sample Depth (ft BGS)**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**PCB Congeners**	**PCBs**	**Comments**
SB02-0.0-0.5-1022	SB-02	Soil	0	0.5	10/17/2022	13:45		X	
SB02D-0.0-0.5-1022	SB-02	Soil	0	0.5	10/17/2022	13:50		X	FD (SB02-2.5-3.0-1022)
SB03-1.0-1.5-1022	SB-03	Soil	1	1.5	10/17/2022	12:10		X	
SB03-2.5-3.0-1022	SB-03	Soil	2.5	3	10/17/2022	12:15		X	
SB03-0.0-0.5-1022	SB-03	Soil	0	0.5	10/17/2022	12:00		X	
SB03D-0.0-0.5-1022	SB-03	Soil	0	0.5	10/17/2022	12:05		X	FD (SB03-0.0-0.5-1022)
SB04-1.0-1.5-1022	SB-04	Soil	1	1.5	10/17/2022	14:40		X	
SB04-2.5-3.0-1022	SB-04	Soil	2.5	3	10/17/2022	14:45		X	
SB04-0.0-0.5-1022	SB-04	Soil	0	0.5	10/17/2022	14:30		X	
SB04D-0.0-0.5-1022	SB-04	Soil	0	0.5	10/17/2022	14:35		X	FD (SB04-0.0-0.5-1022)
SB05-1.0-1.5-1022	SB-05	Soil	1	1.5	10/18/2022	08:35		X	
SB05-2.5-3.0-1022	SB-05	Soil	2.5	3	10/18/2022	08:40		X	
SB05-0.0-0.5-1022	SB-05	Soil	0	0.5	10/18/2022	08:30		X	
SB06-1.0-1.5-1022	SB-06	Soil	1	1.5	10/17/2022	15:20	X	X	MS/MSD
SB06-2.5-3.0-1022	SB-06	Soil	2.5	3	10/17/2022	15:25		X	

Table 1

Sample Collection and Analysis Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

							Analysis/Parameters		
Sample Identification	**Location**	**Matrix**	**Initial Sample Depth (ft BGS)**	**Final Sample Depth (ft BGS)**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**PCB Congeners**	**PCBs**	**Comments**
SB06-0.0-0.5-1022	SB-06	Soil	0	0.5	10/17/2022	15:15		X	MS/MSD
SB07-1.0-1.5-1022	SB-07	Soil	1	1.5	10/18/2022	09:05		X	
SB07-2.5-3.0-1022	SB-07	Soil	2.5	3	10/18/2022	09:10		X	
SB07-0.0-0.5-1022	SB-07	Soil	0	0.5	10/18/2022	09:00		X	MS/MSD
SB08-1-110322	SB-08	Soil	1	1.5	11/03/2022	09:10		X	
SB08-2.5-110322	SB-08	Soil	2.5	3	11/03/2022	09:20		X	
SB08-0.5-110322	SB-08	Soil	0	0.5	11/03/2022	08:45	X	X	MS/MSD
SB09-1.0-1.5-1022	SB-09	Soil	1	1.5	10/18/2022	10:35		X	
SB09-2.5-3.0-1022	SB-09	Soil	2.5	3	10/18/2022	10:40		X	
SB09-0.0-0.5-1022	SB-09	Soil	0	0.5	10/18/2022	10:30		X	
SB10-1.0-1.5-1022	SB-10	Soil	1	1.5	10/18/2022	11:20		X	
SB10-2.5-3.0-1022	SB-10	Soil	2.5	3	10/18/2022	11:25		X	
SB10-0.0-0.5-1022	SB-10	Soil	0	0.5	10/18/2022	11:15	X	X	
SB11-1.0-1.5-1022	SB-11	Soil	1	1.5	10/19/2022	11:10		X	
SB11-2.5-3.0-1022	SB-11	Soil	2.5	3	10/19/2022	11:15		X	

Table 1

Sample Collection and Analysis Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

							Analysis/Parameters		
Sample Identification	**Location**	**Matrix**	**Initial Sample Depth (ft BGS)**	**Final Sample Depth (ft BGS)**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**PCB Congeners**	**PCBs**	**Comments**
SB11-0.0-0.5-1022	SB-11	Soil	0	0.5	10/19/2022	11:00		X	MS/MSD
SB11D-0.0-0.5-1022	SB-11	Soil	0	0.5	10/19/2022	11:05		X	FD (SB11-0.0-0.5-1022)
SB12-1.0-1.5-1022	SB-12	Soil	1	1.5	10/18/2022	12:40		X	
SB12-2.5-3.0-1022	SB-12	Soil	2.5	3	10/18/2022	12:45		X	
SB12-0.0-0.5-1022	SB-12	Soil	0	0.5	10/18/2022	12:30	X	X	MS/MSD
SB12D-0.0-0.5-1022	SB-12	Soil	0	0.5	10/18/2022	12:35		X	FD (SB12-0.0-0.5-1022)
SB13-1.0-1.5-1022	SB-13	Soil	1	1.5	10/19/2022	10:05		X	
SB13-2.5-3.0-1022	SB-13	Soil	2.5	3	10/19/2022	10:10		X	
SB13-0.0-0.5-1022	SB-13	Soil	0	0.5	10/19/2022	10:00	X	X	
SB14-1.0-1.5-1022	SB-14	Soil	1	1.5	10/19/2022	08:05	X	X	
SB14-2.5-3.0-1022	SB-14	Soil	2.5	3	10/19/2022	09:10		X	
SB14-0.0-0.5-1022	SB-14	Soil	0	0.5	10/19/2022	08:00		X	
SB15-1.0-1.5-1022	SB-15	Soil	1	1.5	10/19/2022	12:05		X	
SB15-2.5-3.0-1022	SB-15	Soil	2.5	3	10/19/2022	12:10		X	
SB15-0.0-0.5-1022	SB-15	Soil	0	0.5	10/19/2022	12:00		X	

Table 1

Sample Collection and Analysis Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

							Analysis/Parameters		
Sample Identification	**Location**	**Matrix**	**Initial Sample Depth (ft BGS)**	**Final Sample Depth (ft BGS)**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**PCB Congeners**	**PCBs**	**Comments**
SB16-1.0-1.5-1022	SB-16	Soil	1	1.5	10/19/2022	13:05		X	
SB16-2.5-3.0-1022	SB-16	Soil	2.5	3	10/19/2022	13:10		X	
SB16-0.0-0.5-1022	SB-16	Soil	0	0.5	10/19/2022	13:00		X	
EB01-101922-HADS	--	Water	--	--	10/19/2022	14:20		X	Equipment Blank
EB01-101922-HTISM	--	Water	--	--	10/19/2022	14:30		X	Equipment Blank
EB01-101922-HTDS	--	Water	--	--	10/19/2022	14:40		X	Equipment Blank

Notes:

ft BGS - Feet below ground surface
FD - Field Duplicate sample of sample in parenthesis
MS/MSD - Matrix Spike/Matrix Spike Duplicate
PCBs - Polychlorinated Biphenyls
"--" - Not Applicable

Table 2

Analytical Methods
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Parameter	Method	Matrix
PCBs	SW-846 8082A[(1)]	Soil Water
PCB Congeners	SW-846 1668C[(1)]	Soil

Notes:

PCBs - Polychlorinated Biphenyls

(1) - SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**ISM-01**	**ISM-02**	**ISM-03**	**ISM-04**	**ISM-05**	**ISM-06**
Sample Name:		**ISM01-0.0-0.2-1022**	**ISM02-0.0-0.2-1022**	**ISM03-0.0-0.2-1022**	**ISM04-0.0-0.2-1022**	**ISM05-0.0-0.2-1022**	**ISM06-0.0-0.2-1022**
Sample Date:		**10/17/2022**	**10/19/2022**	**10/17/2022**	**10/18/2022**	**10/18/2022**	**10/19/2022**
Depth:		**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**
Parameters	**Unit**						
PCBs							
(PCB 1) 2-Chlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 10) 2,6-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 103) 2,2',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 104) 2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 105) 2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 106) 2,3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 107/124) Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 109) 2,3,3',4,6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 11) 3,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 110/115) 2,3,3',4',6-Pentachlorobiphenyl/2,3,4,4',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 111) 2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 112) 2,3,3',5,6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 114) 2,3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 118) 2,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 12/13) 3,4-Dichlorobiphenyl/3,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 120) 2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 121) 2,3',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 122) 2,3,3',4',5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 123) 2',3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 126) 3,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 127) 3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 128/166) 2,2',3,3',4,4'-Hexachlorobiphenyl/2,3,4,4',5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 129/138/163) Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 130) 2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 131) 2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 132) 2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 133) 2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 134/143) 2,2',3,3',5,6-Hexachlorobiphenyl/2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**ISM-01**	**ISM-02**	**ISM-03**	**ISM-04**	**ISM-05**	**ISM-06**
Sample Name:		**ISM01-0.0-0.2-1022**	**ISM02-0.0-0.2-1022**	**ISM03-0.0-0.2-1022**	**ISM04-0.0-0.2-1022**	**ISM05-0.0-0.2-1022**	**ISM06-0.0-0.2-1022**
Sample Date:		**10/17/2022**	**10/19/2022**	**10/17/2022**	**10/18/2022**	**10/18/2022**	**10/19/2022**
Depth:		**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**
Parameters	**Unit**						
PCBs (Continued)							
(PCB 135/151) 2,2',3,3',5,6'-Hexachlorobiphenyl/2,2',3,5,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 136) 2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 137) 2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 139/140) 2,2',3,4,4',6-Hexachlorobiphenyl/2,2',3,4,4',6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 14) 3,5-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 141) 2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 142) 2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 144) 2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 145) 2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 146) 2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 147/149) 2,2',3,4',5,6-Hexachlorobiphenyl/2,2',3,4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 148) 2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 15) 4,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 150) 2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 152) 2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 153/168) 2,2',4,4',5,5'-Hexachlorobiphenyl/2,3',4,4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 154) 2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 155) 2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 156/157) 2,3,3',4,4',5-Hexachlorobiphenyl/2,3,3',4,4',5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 158) 2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 159) 2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 16) 2,2',3-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 160) 2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 161) 2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 162) 2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 164) 2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 165) 2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 167) 2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**ISM-01**	**ISM-02**	**ISM-03**	**ISM-04**	**ISM-05**	**ISM-06**
Sample Name:		**ISM01-0.0-0.2-1022**	**ISM02-0.0-0.2-1022**	**ISM03-0.0-0.2-1022**	**ISM04-0.0-0.2-1022**	**ISM05-0.0-0.2-1022**	**ISM06-0.0-0.2-1022**
Sample Date:		**10/17/2022**	**10/19/2022**	**10/17/2022**	**10/18/2022**	**10/18/2022**	**10/19/2022**
Depth:		**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**
Parameters	**Unit**						
PCBs (Continued)							
(PCB 169) 3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 17) 2,2',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 170) 2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 171/173) 2,2',3,3',4,4',6-Heptachlorobiphenyl/2,2',3,3',4,5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 172) 2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 174) 2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 175) 2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 176) 2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 177) 2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 178) 2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 179) 2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 18/30) 2,2',5-Trichlorobiphenyl/2,4,6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 180/193) 2,2',3,4,4',5,5'-Heptachlorobiphenyl/2,3,3',4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 181) 2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 182) 2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 183/185) 2,2',3,4,4',5',6-Heptachlorobiphenyl/2,2',3,4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 184) 2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 186) 2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 187) 2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 188) 2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 189) 2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 19) 2,2',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 190) 2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 191) 2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 192) 2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 194) 2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**ISM-01**	**ISM-02**	**ISM-03**	**ISM-04**	**ISM-05**	**ISM-06**
Sample Name:		**ISM01-0.0-0.2-1022**	**ISM02-0.0-0.2-1022**	**ISM03-0.0-0.2-1022**	**ISM04-0.0-0.2-1022**	**ISM05-0.0-0.2-1022**	**ISM06-0.0-0.2-1022**
Sample Date:		**10/17/2022**	**10/19/2022**	**10/17/2022**	**10/18/2022**	**10/18/2022**	**10/19/2022**
Depth:		**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**
Parameters	**Unit**						
PCBs (Continued)							
(PCB 195) 2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 196) 2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 197/200) 2,2',3,3',4,4',6,6'-Octachlorobiphenyl/2,2',3,3',4,5,6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 198/199) 2,2',3,3',4,5,5',6-Octachlorobiphenyl/2,2',3,3',4,5,5',6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 2) 3-Chlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 20/28) 2,3,3'-Trichlorobiphenyl/2,4,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 201) 2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 202) 2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 203) 2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 204) 2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 205) 2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 206) 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 207) 2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 208) 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 209) Decachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 21/33) 2,3,4-Trichlorobiphenyl/2',3,4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 22) 2,3,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 23) 2,3,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 24) 2,3,6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 25) 2,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 26/29) 2,3',5-Trichlorobipheny/2,4,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 27) 2,3',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 3) 4-Monochlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 31) 2,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 32) 2,4',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 34) 2,3',5'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 35) 3,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		ISM-01	ISM-02	ISM-03	ISM-04	ISM-05	ISM-06
Sample Name:		ISM01-0.0-0.2-1022	ISM02-0.0-0.2-1022	ISM03-0.0-0.2-1022	ISM04-0.0-0.2-1022	ISM05-0.0-0.2-1022	ISM06-0.0-0.2-1022
Sample Date:		10/17/2022	10/19/2022	10/17/2022	10/18/2022	10/18/2022	10/19/2022
Depth:		0-0.2 ft BGS	0-0.2 ft BGS	0-0.2 ft BGS	0-0.2 ft BGS	0-0.2 ft BGS	0-0.2 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 36) 3,3',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 37) 3,4,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 38) 3,4,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 39) 3,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 4) 2,2'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 40/41/71) 2,2',3,3'-TeCB/ 2,2',3,4-TeCB/2,3',4',6-TeCB	ng/kg	--	--	--	--	--	--
(PCB 42) 2,2',3,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 43/73) 2,2',3,5-Tetrachlorobiphenyl/2,3',5',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 44/47/65) 2,2',3,5'-Tetrachlorobiphenyl/2,2',4,4'-Tetrachlorobiphenyl/2,3,5,6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 45/51) 2,2',3,6-Tetrachlorobiphenyl/2,2',4,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 46) 2,2',3,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 48) 2,2',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 49/69) 2,2',4,5'-Tetrachlorobiphenyl/2,3',4,6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 5) 2,3-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 50/53) 2,2',4,6-Tetrachlorobipheny/2,2',5,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 52) 2,2',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 54) 2,2',6,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 55) 2,3,3',4-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 56) 2,3,3',4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 57) 2,3,3',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 58) 2,3,3',5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 59/62/75) 2,3,3',6-Tetrachlorobiphenyl/2,3,4,6-Tetrachlorobiphenyl/ 2,4,4',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 6) 2,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 60) 2,3,4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 61/70/74/76) 2,3,4,5-Tetrachlorobiphenyl/2,3',4',5-Tetrachlorobiphenyl/2,4,4',5-Tetrachlorobiphenyl/2,3',4',5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 63) 2,3,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	ISM-01	ISM-02	ISM-03	ISM-04	ISM-05	ISM-06
	Sample Name:	ISM01-0.0-0.2-1022	ISM02-0.0-0.2-1022	ISM03-0.0-0.2-1022	ISM04-0.0-0.2-1022	ISM05-0.0-0.2-1022	ISM06-0.0-0.2-1022
	Sample Date:	10/17/2022	10/19/2022	10/17/2022	10/18/2022	10/18/2022	10/19/2022
	Depth:	0-0.2 ft BGS	0-0.2 ft BGS	0-0.2 ft BGS	0-0.2 ft BGS	0-0.2 ft BGS	0-0.2 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 64) 2,3,4',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 66) 2,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 67) 2,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 68) 2,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 7) 2,4-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 72) 2,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 77) 3,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 78) 3,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 79) 3,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 8) 2,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 80) 3,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 81) 3,4,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 82) 2,2',3,3',4-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 83) 2,2',3,3',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 84) 2,2',3,3',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 85/116/117) 2,2',3,4,4'-PeCB/2,3,4,5,6-PeCB/2,3,4',5,6-PeCB Pentachlorobiphenyl/2,2',3',4,5-Pentachlorobiphenyl/2,3,3',4,5'-Pentachlorobiphenyl/2,3',4,4',6-Pentachlorobiphenyl/2',3,4,5,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 88/91) 2,2',3,4,6-Pentachlorobiphenyl/2,2',3,4',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 89) 2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 9) 2,5-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 90/101/113) 2,2',3,4',5-Pentachlorobiphenyl/2,2',4,5,5'-Pentachlorobiphenyl/2,3,3',5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 92) 2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 93/98/100/102) Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 94) 2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 95) 2,2',3,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 96) 2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	ISM-01	ISM-02	ISM-03	ISM-04	ISM-05	ISM-06
	Sample Name:	ISM01-0.0-0.2-1022	ISM02-0.0-0.2-1022	ISM03-0.0-0.2-1022	ISM04-0.0-0.2-1022	ISM05-0.0-0.2-1022	ISM06-0.0-0.2-1022
	Sample Date:	10/17/2022	10/19/2022	10/17/2022	10/18/2022	10/18/2022	10/19/2022
	Depth:	0-0.2 ft BGS	0-0.2 ft BGS	0-0.2 ft BGS	0-0.2 ft BGS	0-0.2 ft BGS	0-0.2 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 99) 2,2',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
Aroclor-1016 (PCB-1016)	µg/kg	<21.0	<20.5	<20.8	<21.0	<21.1	<20.9
Aroclor-1221 (PCB-1221)	µg/kg	<34.2	<33.4	<34.0	<34.3	<34.4	<34.1
Aroclor-1232 (PCB-1232)	µg/kg	<29.3	<28.6	<29.1	<29.4	<29.5	<29.2
Aroclor-1242 (PCB-1242)	µg/kg	<30.6	<29.9	<30.4	<30.7	<30.8	<30.5
Aroclor-1248 (PCB-1248)	µg/kg	<25.3	<24.7	<25.1	<25.4	<25.4	<25.2
Aroclor-1254 (PCB-1254)	µg/kg	<24.7	<24.1	<24.5	<24.8	<24.8	<24.6
Aroclor-1260 (PCB-1260)	µg/kg	5730	267	12600	11100	5880	631
Aroclor-1262 (PCB-1262)	µg/kg	<32.6	<31.8	<32.4	<32.7	<32.8	<32.4
Aroclor-1268 (PCB-1268)	µg/kg	<23.8	<23.3	<23.6	<23.9	<23.9	<23.7

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
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	Location ID:	ISM-07	ISM-07	ISM-07	ISM-08	SB-01	SB-01
	Sample Name:	ISM07-0.0-0.2-1022	ISM07T-0.0-0.2-1022	ISM07TT-0.0-0.2-1022	ISM08-0.0-0.2-1022	SB01-1.0-1.5-1022	SB01-2.5-3.0-1022
	Sample Date:	10/19/2022	10/19/2022	10/19/2022	10/20/2022	10/17/2022	10/17/2022
	Depth:	0-0.2 ft BGS	0-0.2 ft BGS	0-0.2 ft BGS	0-0.2 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS
Parameters	**Unit**						
PCBs							
(PCB 1) 2-Chlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 10) 2,6-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 103) 2,2',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 104) 2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 105) 2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 106) 2,3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 107/124) Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 109) 2,3,3',4,6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 11) 3,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 110/115) 2,3,3',4',6-Pentachlorobiphenyl/2,3,4,4',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 111) 2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 112) 2,3,3',5,6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 114) 2,3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 118) 2,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 12/13) 3,4-Dichlorobiphenyl/3,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 120) 2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 121) 2,3',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 122) 2,3,3',4',5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 123) 2',3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 126) 3,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 127) 3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 128/166) 2,2',3,3',4,4'-Hexachlorobiphenyl/2,3,4,4',5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 129/138/163) Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 130) 2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 131) 2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 132) 2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 133) 2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 134/143) 2,2',3,3',5,6-Hexachlorobiphenyl/2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**ISM-07**	**ISM-07**	**ISM-07**	**ISM-08**	**SB-01**	**SB-01**
Sample Name:		**ISM07-0.0-0.2-1022**	**ISM07T-0.0-0.2-1022**	**ISM07TT-0.0-0.2-1022**	**ISM08-0.0-0.2-1022**	**SB01-1.0-1.5-1022**	**SB01-2.5-3.0-1022**
Sample Date:		**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/20/2022**	**10/17/2022**	**10/17/2022**
Depth:		**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
Parameters	**Unit**						
PCBs (Continued)							
(PCB 135/151) 2,2',3,3',5,6'-Hexachlorobiphenyl/2,2',3,5,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 136) 2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 137) 2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 139/140) 2,2',3,4,4',6-Hexachlorobiphenyl/2,2',3,4,4',6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 14) 3,5-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 141) 2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 142) 2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 144) 2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 145) 2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 146) 2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 147/149) 2,2',3,4',5,6-Hexachlorobiphenyl/2,2',3,4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 148) 2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 15) 4,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 150) 2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 152) 2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 153/168) 2,2',4,4',5,5'-Hexachlorobiphenyl/2,3',4,4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 154) 2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 155) 2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 156/157) 2,3,3',4,4',5-Hexachlorobiphenyl/2,3,3',4,4',5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 158) 2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 159) 2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 16) 2,2',3-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 160) 2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 161) 2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 162) 2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 164) 2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 165) 2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 167) 2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
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Location ID:		**ISM-07**	**ISM-07**	**ISM-07**	**ISM-08**	**SB-01**	**SB-01**
Sample Name:		**ISM07-0.0-0.2-1022**	**ISM07T-0.0-0.2-1022**	**ISM07TT-0.0-0.2-1022**	**ISM08-0.0-0.2-1022**	**SB01-1.0-1.5-1022**	**SB01-2.5-3.0-1022**
Sample Date:		**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/20/2022**	**10/17/2022**	**10/17/2022**
Depth:		**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
Parameters	**Unit**						
PCBs (Continued)							
(PCB 169) 3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 17) 2,2',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 170) 2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 171/173) 2,2',3,3',4,4',6-Heptachlorobiphenyl/2,2',3,3',4,5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 172) 2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 174) 2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 175) 2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 176) 2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 177) 2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 178) 2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 179) 2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 18/30) 2,2',5-Trichlorobiphenyl/2,4,6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 180/193) 2,2',3,4,4',5,5'-Heptachlorobiphenyl/2,3,3',4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 181) 2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 182) 2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 183/185) 2,2',3,4,4',5',6-Heptachlorobiphenyl/2,2',3,4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 184) 2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 186) 2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 187) 2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 188) 2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 189) 2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 19) 2,2',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 190) 2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 191) 2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 192) 2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 194) 2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**ISM-07**	**ISM-07**	**ISM-07**	**ISM-08**	**SB-01**	**SB-01**
Sample Name:		**ISM07-0.0-0.2-1022**	**ISM07T-0.0-0.2-1022**	**ISM07TT-0.0-0.2-1022**	**ISM08-0.0-0.2-1022**	**SB01-1.0-1.5-1022**	**SB01-2.5-3.0-1022**
Sample Date:		**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/20/2022**	**10/17/2022**	**10/17/2022**
Depth:		**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
Parameters	**Unit**						
PCBs (Continued)							
(PCB 195) 2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 196) 2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 197/200) 2,2',3,3',4,4',6,6'-Octachlorobiphenyl/2,2',3,3',4,5,6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 198/199) 2,2',3,3',4,5,5',6-Octachlorobiphenyl/2,2',3,3',4,5,5',6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 2) 3-Chlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 20/28) 2,3,3'-Trichlorobiphenyl/2,4,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 201) 2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 202) 2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 203) 2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 204) 2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 205) 2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 206) 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 207) 2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 208) 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 209) Decachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 21/33) 2,3,4-Trichlorobiphenyl/2',3,4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 22) 2,3,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 23) 2,3,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 24) 2,3,6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 25) 2,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 26/29) 2,3',5-Trichlorobipheny/2,4,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 27) 2,3',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 3) 4-Monochlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 31) 2,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 32) 2,4',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 34) 2,3',5'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 35) 3,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
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Location ID:		**ISM-07**	**ISM-07**	**ISM-07**	**ISM-08**	**SB-01**	**SB-01**
Sample Name:		**ISM07-0.0-0.2-1022**	**ISM07T-0.0-0.2-1022**	**ISM07TT-0.0-0.2-1022**	**ISM08-0.0-0.2-1022**	**SB01-1.0-1.5-1022**	**SB01-2.5-3.0-1022**
Sample Date:		**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/20/2022**	**10/17/2022**	**10/17/2022**
Depth:		**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**	**0-0.2 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
Parameters	**Unit**						
PCBs (Continued)							
(PCB 36) 3,3',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 37) 3,4,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 38) 3,4,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 39) 3,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 4) 2,2'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 40/41/71) 2,2',3,3'-TeCB/ 2,2',3,4-TeCB/2,3',4',6-TeCB	ng/kg	--	--	--	--	--	--
(PCB 42) 2,2',3,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 43/73) 2,2',3,5-Tetrachlorobiphenyl/2,3',5',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 44/47/65) 2,2',3,5'-Tetrachlorobiphenyl/2,2',4,4'-Tetrachlorobiphenyl/2,3,5,6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 45/51) 2,2',3,6-Tetrachlorobiphenyl/2,2',4,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 46) 2,2',3,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 48) 2,2',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 49/69) 2,2',4,5'-Tetrachlorobiphenyl/2,3',4,6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 5) 2,3-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 50/53) 2,2',4,6-Tetrachlorobipheny/2,2',5,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 52) 2,2',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 54) 2,2',6,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 55) 2,3,3',4-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 56) 2,3,3',4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 57) 2,3,3',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 58) 2,3,3',5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 59/62/75) 2,3,3',6-Tetrachlorobiphenyl/2,3,4,6-Tetrachlorobiphenyl/ 2,4,4',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 6) 2,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 60) 2,3,4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 61/70/74/76) 2,3,4,5-Tetrachlorobiphenyl/2,3',4',5-Tetrachlorobiphenyl/2,4,4',5-Tetrachlorobiphenyl/2,3',4',5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 63) 2,3,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	ISM-07	ISM-07	ISM-07	ISM-08	SB-01	SB-01
	Sample Name:	ISM07-0.0-0.2-1022	ISM07T-0.0-0.2-1022	ISM07TT-0.0-0.2-1022	ISM08-0.0-0.2-1022	SB01-1.0-1.5-1022	SB01-2.5-3.0-1022
	Sample Date:	10/19/2022	10/19/2022	10/19/2022	10/20/2022	10/17/2022	10/17/2022
	Depth:	0-0.2 ft BGS	0-0.2 ft BGS	0-0.2 ft BGS	0-0.2 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 64) 2,3,4',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 66) 2,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 67) 2,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 68) 2,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 7) 2,4-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 72) 2,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 77) 3,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 78) 3,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 79) 3,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 8) 2,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 80) 3,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 81) 3,4,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 82) 2,2',3,3',4-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 83) 2,2',3,3',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 84) 2,2',3,3',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 85/116/117) 2,2',3,4,4'-PeCB/2,3,4,5,6-PeCB/2,3,4',5,6-PeCB Pentachlorobiphenyl/2,2',3',4,5-Pentachlorobiphenyl/2,3,3',4,5'-Pentachlorobiphenyl/2,3',4,4',6-Pentachlorobiphenyl/2',3,4,5,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 88/91) 2,2',3,4,6-Pentachlorobiphenyl/2,2',3,4',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 89) 2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 9) 2,5-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 90/101/113) 2,2',3,4',5-Pentachlorobiphenyl/2,2',4,5,5'-Pentachlorobiphenyl/2,3,3',5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 92) 2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 93/98/100/102) Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 94) 2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 95) 2,2',3,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 96) 2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	ISM-07	ISM-07	ISM-07	ISM-08	SB-01	SB-01
	Sample Name:	ISM07-0.0-0.2-1022	ISM07T-0.0-0.2-1022	ISM07TT-0.0-0.2-1022	ISM08-0.0-0.2-1022	SB01-1.0-1.5-1022	SB01-2.5-3.0-1022
	Sample Date:	10/19/2022	10/19/2022	10/19/2022	10/20/2022	10/17/2022	10/17/2022
	Depth:	0-0.2 ft BGS	0-0.2 ft BGS	0-0.2 ft BGS	0-0.2 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 99) 2,2',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
Aroclor-1016 (PCB-1016)	µg/kg	<20.6	<21.0	<20.8	<21.1	<21.0	<21.1
Aroclor-1221 (PCB-1221)	µg/kg	<33.6	<34.3	<34.0	<34.4	<34.2	<34.4
Aroclor-1232 (PCB-1232)	µg/kg	<28.7	<29.3	<29.1	<29.5	<29.3	<29.4
Aroclor-1242 (PCB-1242)	µg/kg	<30.1	<30.7	<30.4	<30.8	<30.6	<30.8
Aroclor-1248 (PCB-1248)	µg/kg	<24.8	<25.3	<25.1	<25.4	<25.3	<25.4
Aroclor-1254 (PCB-1254)	µg/kg	<24.2	<24.7	<24.5	<24.9	<24.7	<24.8
Aroclor-1260 (PCB-1260)	µg/kg	189	179	185	122	2440	73.1
Aroclor-1262 (PCB-1262)	µg/kg	<32.0	<32.6	<32.3	<32.8	<32.6	<32.7
Aroclor-1268 (PCB-1268)	µg/kg	<23.3	<23.8	<23.6	<24.0	<23.8	<23.9

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-01	SB-02	SB-02	SB-02	SB-02	SB-03
	Sample Name:	SB01-0.0-0.5-1022	SB02-1-1.5-1022	SB02-2.5-3.0-1022	SB02-0.0-0.5-1022	SB02D-0.0-0.5-1022	SB03-1.0-1.5-1022
	Sample Date:	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022
	Depth:	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS
Parameters	**Unit**						
PCBs							
(PCB 1) 2-Chlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 10) 2,6-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 103) 2,2',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 104) 2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 105) 2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 106) 2,3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 107/124) Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 109) 2,3,3',4,6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 11) 3,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 110/115) 2,3,3',4',6-Pentachlorobiphenyl/2,3,4,4',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 111) 2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 112) 2,3,3',5,6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 114) 2,3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 118) 2,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 12/13) 3,4-Dichlorobiphenyl/3,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 120) 2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 121) 2,3',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 122) 2,3,3',4',5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 123) 2',3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 126) 3,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 127) 3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 128/166) 2,2',3,3',4,4'-Hexachlorobiphenyl/2,3,4,4',5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 129/138/163) Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 130) 2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 131) 2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 132) 2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 133) 2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 134/143) 2,2',3,3',5,6-Hexachlorobiphenyl/2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
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Location ID:		**SB-01**	**SB-02**	**SB-02**	**SB-02**	**SB-02**	**SB-03**
Sample Name:		**SB01-0.0-0.5-1022**	**SB02-1-1.5-1022**	**SB02-2.5-3.0-1022**	**SB02-0.0-0.5-1022**	**SB02D-0.0-0.5-1022**	**SB03-1.0-1.5-1022**
Sample Date:		**10/17/2022**	**10/17/2022**	**10/17/2022**	**10/17/2022**	**10/17/2022**	**10/17/2022**
Depth:		**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**	**0-0.5 ft BGS Duplicate**	**1-1.5 ft BGS**
Parameters	**Unit**						
PCBs (Continued)							
(PCB 135/151) 2,2',3,3',5,6'-Hexachlorobiphenyl/2,2',3,5,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 136) 2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 137) 2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 139/140) 2,2',3,4,4',6-Hexachlorobiphenyl/2,2',3,4,4',6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 14) 3,5-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 141) 2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 142) 2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 144) 2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 145) 2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 146) 2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 147/149) 2,2',3,4',5,6-Hexachlorobiphenyl/2,2',3,4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 148) 2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 15) 4,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 150) 2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 152) 2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 153/168) 2,2',4,4',5,5'-Hexachlorobiphenyl/2,3',4,4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 154) 2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 155) 2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 156/157) 2,3,3',4,4',5-Hexachlorobiphenyl/2,3,3',4,4',5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 158) 2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 159) 2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 16) 2,2',3-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 160) 2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 161) 2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 162) 2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 164) 2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 165) 2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 167) 2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-01	SB-02	SB-02	SB-02	SB-02	SB-03
	Sample Name:	SB01-0.0-0.5-1022	SB02-1-1.5-1022	SB02-2.5-3.0-1022	SB02-0.0-0.5-1022	SB02D-0.0-0.5-1022	SB03-1.0-1.5-1022
	Sample Date:	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022
	Depth:	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 169) 3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 17) 2,2',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 170) 2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 171/173) 2,2',3,3',4,4',6-Heptachlorobiphenyl/2,2',3,3',4,5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 172) 2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 174) 2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 175) 2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 176) 2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 177) 2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 178) 2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 179) 2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 18/30) 2,2',5-Trichlorobiphenyl/2,4,6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 180/193) 2,2',3,4,4',5,5'-Heptachlorobiphenyl/2,3,3',4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 181) 2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 182) 2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 183/185) 2,2',3,4,4',5',6-Heptachlorobiphenyl/2,2',3,4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 184) 2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 186) 2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 187) 2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 188) 2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 189) 2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 19) 2,2',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 190) 2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 191) 2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 192) 2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 194) 2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
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	Location ID:	SB-01	SB-02	SB-02	SB-02	SB-02	SB-03
	Sample Name:	SB01-0.0-0.5-1022	SB02-1-1.5-1022	SB02-2.5-3.0-1022	SB02-0.0-0.5-1022	SB02D-0.0-0.5-1022	SB03-1.0-1.5-1022
	Sample Date:	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022
	Depth:	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 195) 2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 196) 2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 197/200) 2,2',3,3',4,4',6,6'-Octachlorobiphenyl/2,2',3,3',4,5,6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 198/199) 2,2',3,3',4,5,5',6-Octachlorobiphenyl/2,2',3,3',4,5,5',6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 2) 3-Chlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 20/28) 2,3,3'-Trichlorobiphenyl/2,4,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 201) 2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 202) 2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 203) 2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 204) 2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 205) 2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 206) 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 207) 2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 208) 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 209) Decachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 21/33) 2,3,4-Trichlorobiphenyl/2',3,4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 22) 2,3,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 23) 2,3,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 24) 2,3,6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 25) 2,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 26/29) 2,3',5-Trichlorobipheny/2,4,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 27) 2,3',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 3) 4-Monochlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 31) 2,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 32) 2,4',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 34) 2,3',5'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 35) 3,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-01	SB-02	SB-02	SB-02	SB-02	SB-03
	Sample Name:	SB01-0.0-0.5-1022	SB02-1-1.5-1022	SB02-2.5-3.0-1022	SB02-0.0-0.5-1022	SB02D-0.0-0.5-1022	SB03-1.0-1.5-1022
	Sample Date:	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022
	Depth:	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 36) 3,3',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 37) 3,4,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 38) 3,4,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 39) 3,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 4) 2,2'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 40/41/71) 2,2',3,3'-TeCB/ 2,2',3,4-TeCB/2,3',4',6-TeCB	ng/kg	--	--	--	--	--	--
(PCB 42) 2,2',3,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 43/73) 2,2',3,5-Tetrachlorobiphenyl/2,3',5',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 44/47/65) 2,2',3,5'-Tetrachlorobiphenyl/2,2',4,4'-Tetrachlorobiphenyl/2,3,5,6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 45/51) 2,2',3,6-Tetrachlorobiphenyl/2,2',4,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 46) 2,2',3,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 48) 2,2',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 49/69) 2,2',4,5'-Tetrachlorobiphenyl/2,3',4,6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 5) 2,3-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 50/53) 2,2',4,6-Tetrachlorobipheny/2,2',5,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 52) 2,2',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 54) 2,2',6,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 55) 2,3,3',4-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 56) 2,3,3',4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 57) 2,3,3',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 58) 2,3,3',5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 59/62/75) 2,3,3',6-Tetrachlorobiphenyl/2,3,4,6-Tetrachlorobiphenyl/ 2,4,4',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 6) 2,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 60) 2,3,4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 61/70/74/76) 2,3,4,5-Tetrachlorobiphenyl/2,3',4',5-Tetrachlorobiphenyl/2,4,4',5-Tetrachlorobiphenyl/2,3',4',5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 63) 2,3,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-01	SB-02	SB-02	SB-02	SB-02	SB-03
	Sample Name:	SB01-0.0-0.5-1022	SB02-1-1.5-1022	SB02-2.5-3.0-1022	SB02-0.0-0.5-1022	SB02D-0.0-0.5-1022	SB03-1.0-1.5-1022
	Sample Date:	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022
	Depth:	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 64) 2,3,4',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 66) 2,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 67) 2,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 68) 2,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 7) 2,4-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 72) 2,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 77) 3,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 78) 3,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 79) 3,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 8) 2,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 80) 3,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 81) 3,4,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 82) 2,2',3,3',4-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 83) 2,2',3,3',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 84) 2,2',3,3',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 85/116/117) 2,2',3,4,4'-PeCB/2,3,4,5,6-PeCB/2,3,4',5,6-PeCB Pentachlorobiphenyl/2,2',3',4,5-Pentachlorobiphenyl/2,3,3',4,5'-Pentachlorobiphenyl/2,3',4,4',6-Pentachlorobiphenyl/2',3,4,5,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 88/91) 2,2',3,4,6-Pentachlorobiphenyl/2,2',3,4',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 89) 2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 9) 2,5-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 90/101/113) 2,2',3,4',5-Pentachlorobiphenyl/2,2',4,5,5'-Pentachlorobiphenyl/2,3,3',5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 92) 2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 93/98/100/102) Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 94) 2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 95) 2,2',3,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 96) 2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-01	SB-02	SB-02	SB-02	SB-02	SB-03
	Sample Name:	SB01-0.0-0.5-1022	SB02-1-1.5-1022	SB02-2.5-3.0-1022	SB02-0.0-0.5-1022	SB02D-0.0-0.5-1022	SB03-1.0-1.5-1022
	Sample Date:	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022
	Depth:	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 99) 2,2',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
Aroclor-1016 (PCB-1016)	µg/kg	<20.2	<21.1	<21.0	<21.1	<20.6	<21.0
Aroclor-1221 (PCB-1221)	µg/kg	<33.0	<34.4	<34.2	<34.4	<33.6	<34.3
Aroclor-1232 (PCB-1232)	µg/kg	<28.2	<29.5	<29.3	<29.5	<28.7	<29.3
Aroclor-1242 (PCB-1242)	µg/kg	<29.5	<30.8	<30.7	<30.8	<30.1	<30.7
Aroclor-1248 (PCB-1248)	µg/kg	<24.4	<25.4	<25.3	<25.4	<24.8	<25.3
Aroclor-1254 (PCB-1254)	µg/kg	<23.8	<24.8	<24.7	<24.8	<24.2	<24.7
Aroclor-1260 (PCB-1260)	µg/kg	18900	1120	477	11500 J	6740 J	250
Aroclor-1262 (PCB-1262)	µg/kg	<31.4	<32.8	<32.6	<32.8	<32.0	<32.6
Aroclor-1268 (PCB-1268)	µg/kg	<22.9	<23.9	<23.8	<23.9	<23.3	<23.8

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
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	Location ID:	SB-03	SB-03	SB-03	SB-04	SB-04	SB-04
	Sample Name:	SB03-2.5-3.0-1022	SB03-0.0-0.5-1022	SB03D-0.0-0.5-1022	SB04-1.0-1.5-1022	SB04-2.5-3.0-1022	SB04-0.0-0.5-1022
	Sample Date:	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022
	Depth:	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS
Parameters	**Unit**						
PCBs							
(PCB 1) 2-Chlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 10) 2,6-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 103) 2,2',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 104) 2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 105) 2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 106) 2,3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 107/124) Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 109) 2,3,3',4,6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 11) 3,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 110/115) 2,3,3',4',6-Pentachlorobiphenyl/2,3,4,4',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 111) 2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 112) 2,3,3',5,6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 114) 2,3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 118) 2,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 12/13) 3,4-Dichlorobiphenyl/3,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 120) 2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 121) 2,3',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 122) 2,3,3',4',5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 123) 2',3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 126) 3,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 127) 3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 128/166) 2,2',3,3',4,4'-Hexachlorobiphenyl/2,3,4,4',5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 129/138/163) Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 130) 2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 131) 2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 132) 2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 133) 2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 134/143) 2,2',3,3',5,6-Hexachlorobiphenyl/2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-03	SB-03	SB-03	SB-04	SB-04	SB-04
	Sample Name:	SB03-2.5-3.0-1022	SB03-0.0-0.5-1022	SB03D-0.0-0.5-1022	SB04-1.0-1.5-1022	SB04-2.5-3.0-1022	SB04-0.0-0.5-1022
	Sample Date:	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022
	Depth:	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 135/151) 2,2',3,3',5,6'-Hexachlorobiphenyl/2,2',3,5,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 136) 2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 137) 2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 139/140) 2,2',3,4,4',6-Hexachlorobiphenyl/2,2',3,4,4',6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 14) 3,5-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 141) 2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 142) 2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 144) 2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 145) 2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 146) 2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 147/149) 2,2',3,4',5,6-Hexachlorobiphenyl/2,2',3,4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 148) 2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 15) 4,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 150) 2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 152) 2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 153/168) 2,2',4,4',5,5'-Hexachlorobiphenyl/2,3',4,4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 154) 2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 155) 2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 156/157) 2,3,3',4,4',5-Hexachlorobiphenyl/2,3,3',4,4',5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 158) 2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 159) 2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 16) 2,2',3-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 160) 2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 161) 2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 162) 2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 164) 2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 165) 2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 167) 2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-03	SB-03	SB-03	SB-04	SB-04	SB-04
	Sample Name:	SB03-2.5-3.0-1022	SB03-0.0-0.5-1022	SB03D-0.0-0.5-1022	SB04-1.0-1.5-1022	SB04-2.5-3.0-1022	SB04-0.0-0.5-1022
	Sample Date:	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022
	Depth:	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 169) 3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 17) 2,2',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 170) 2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 171/173) 2,2',3,3',4,4',6-Heptachlorobiphenyl/2,2',3,3',4,5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 172) 2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 174) 2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 175) 2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 176) 2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 177) 2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 178) 2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 179) 2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 18/30) 2,2',5-Trichlorobiphenyl/2,4,6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 180/193) 2,2',3,4,4',5,5'-Heptachlorobiphenyl/2,3,3',4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 181) 2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 182) 2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 183/185) 2,2',3,4,4',5',6-Heptachlorobiphenyl/2,2',3,4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 184) 2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 186) 2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 187) 2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 188) 2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 189) 2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 19) 2,2',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 190) 2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 191) 2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 192) 2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 194) 2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-03	SB-03	SB-03	SB-04	SB-04	SB-04
	Sample Name:	SB03-2.5-3.0-1022	SB03-0.0-0.5-1022	SB03D-0.0-0.5-1022	SB04-1.0-1.5-1022	SB04-2.5-3.0-1022	SB04-0.0-0.5-1022
	Sample Date:	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022
	Depth:	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 195) 2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 196) 2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 197/200) 2,2',3,3',4,4',6,6'-Octachlorobiphenyl/2,2',3,3',4,5,6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 198/199) 2,2',3,3',4,5,5',6-Octachlorobiphenyl/2,2',3,3',4,5,5',6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 2) 3-Chlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 20/28) 2,3,3'-Trichlorobiphenyl/2,4,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 201) 2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 202) 2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 203) 2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 204) 2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 205) 2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 206) 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 207) 2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 208) 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 209) Decachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 21/33) 2,3,4-Trichlorobiphenyl/2',3,4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 22) 2,3,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 23) 2,3,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 24) 2,3,6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 25) 2,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 26/29) 2,3',5-Trichlorobipheny/2,4,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 27) 2,3',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 3) 4-Monochlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 31) 2,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 32) 2,4',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 34) 2,3',5'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 35) 3,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		SB-03	SB-03	SB-03	SB-04	SB-04	SB-04
Sample Name:		SB03-2.5-3.0-1022	SB03-0.0-0.5-1022	SB03D-0.0-0.5-1022	SB04-1.0-1.5-1022	SB04-2.5-3.0-1022	SB04-0.0-0.5-1022
Sample Date:		10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022
Depth:		2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 36) 3,3',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 37) 3,4,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 38) 3,4,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 39) 3,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 4) 2,2'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 40/41/71) 2,2',3,3'-TeCB/ 2,2',3,4-TeCB/2,3',4',6-TeCB	ng/kg	--	--	--	--	--	--
(PCB 42) 2,2',3,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 43/73) 2,2',3,5-Tetrachlorobiphenyl/2,3',5',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 44/47/65) 2,2',3,5'-Tetrachlorobiphenyl/2,2',4,4'-Tetrachlorobiphenyl/2,3,5,6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 45/51) 2,2',3,6-Tetrachlorobiphenyl/2,2',4,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 46) 2,2',3,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 48) 2,2',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 49/69) 2,2',4,5'-Tetrachlorobiphenyl/2,3',4,6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 5) 2,3-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 50/53) 2,2',4,6-Tetrachlorobipheny/2,2',5,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 52) 2,2',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 54) 2,2',6,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 55) 2,3,3',4-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 56) 2,3,3',4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 57) 2,3,3',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 58) 2,3,3',5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 59/62/75) 2,3,3',6-Tetrachlorobiphenyl/2,3,4,6-Tetrachlorobiphenyl/ 2,4,4',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 6) 2,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 60) 2,3,4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 61/70/74/76) 2,3,4,5-Tetrachlorobiphenyl/2,3',4',5-Tetrachlorobiphenyl/2,4,4',5-Tetrachlorobiphenyl/2,3',4',5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 63) 2,3,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-03	SB-03	SB-03	SB-04	SB-04	SB-04
	Sample Name:	SB03-2.5-3.0-1022	SB03-0.0-0.5-1022	SB03D-0.0-0.5-1022	SB04-1.0-1.5-1022	SB04-2.5-3.0-1022	SB04-0.0-0.5-1022
	Sample Date:	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022
	Depth:	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 64) 2,3,4',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 66) 2,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 67) 2,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 68) 2,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 7) 2,4-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 72) 2,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 77) 3,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 78) 3,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 79) 3,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 8) 2,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 80) 3,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 81) 3,4,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 82) 2,2',3,3',4-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 83) 2,2',3,3',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 84) 2,2',3,3',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 85/116/117) 2,2',3,4,4'-PeCB/2,3,4,5,6-PeCB/2,3,4',5,6-PeCB Pentachlorobiphenyl/2,2',3',4,5-Pentachlorobiphenyl/2,3,3',4,5'-Pentachlorobiphenyl/2,3',4,4',6-Pentachlorobiphenyl/2',3,4,5,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 88/91) 2,2',3,4,6-Pentachlorobiphenyl/2,2',3,4',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 89) 2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 9) 2,5-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 90/101/113) 2,2',3,4',5-Pentachlorobiphenyl/2,2',4,5,5'-Pentachlorobiphenyl/2,3,3',5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 92) 2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 93/98/100/102) Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 94) 2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 95) 2,2',3,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 96) 2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-03	SB-03	SB-03	SB-04	SB-04	SB-04
	Sample Name:	SB03-2.5-3.0-1022	SB03-0.0-0.5-1022	SB03D-0.0-0.5-1022	SB04-1.0-1.5-1022	SB04-2.5-3.0-1022	SB04-0.0-0.5-1022
	Sample Date:	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022
	Depth:	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 99) 2,2',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
Aroclor-1016 (PCB-1016)	µg/kg	<20.8	<21.1	<20.6	<21.1	<20.6	<20.7
Aroclor-1221 (PCB-1221)	µg/kg	<33.9	<34.4	<33.5	<34.4	<33.6	<33.7
Aroclor-1232 (PCB-1232)	µg/kg	<29.0	<29.5	<28.7	<29.5	<28.8	<28.9
Aroclor-1242 (PCB-1242)	µg/kg	<30.4	<30.8	<30.0	<30.8	<30.1	<30.2
Aroclor-1248 (PCB-1248)	µg/kg	<25.0	<25.4	<24.8	<25.4	<24.9	<24.9
Aroclor-1254 (PCB-1254)	µg/kg	<24.5	<24.8	<24.2	<24.9	<24.3	<24.3
Aroclor-1260 (PCB-1260)	µg/kg	<17.5	161	262	2660	434	433 J
Aroclor-1262 (PCB-1262)	µg/kg	<32.3	<32.8	<31.9	<32.8	<32.0	<32.1
Aroclor-1268 (PCB-1268)	µg/kg	<23.6	<23.9	<23.3	<24.0	<23.4	<23.4

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
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Location ID:		**SB-04**	**SB-05**	**SB-05**	**SB-05**	**SB-06**	**SB-06**
Sample Name:		**SB04D-0.0-0.5-1022**	**SB05-1.0-1.5-1022**	**SB05-2.5-3.0-1022**	**SB05-0.0-0.5-1022**	**SB06-1.0-1.5-1022**	**SB06-2.5-3.0-1022**
Sample Date:		**10/17/2022**	**10/18/2022**	**10/18/2022**	**10/18/2022**	**10/17/2022**	**10/17/2022**
Depth:		**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
		Duplicate					
Parameters	**Unit**						
PCBs							
(PCB 1) 2-Chlorobiphenyl	ng/kg	--	--	--	--	<18.1 J	--
(PCB 10) 2,6-Dichlorobiphenyl	ng/kg	--	--	--	--	<3.68	--
(PCB 103) 2,2',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	89.6	--
(PCB 104) 2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	<3.30	--
(PCB 105) 2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	--	--	--	--	7480	--
(PCB 106) 2,3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	--	--	<3.09	--
(PCB 107/124) Pentachlorobiphenyl	ng/kg	--	--	--	--	1570	--
(PCB 109) 2,3,3',4,6-Pentachlorobiphenyl	ng/kg	--	--	--	--	2360	--
(PCB 11) 3,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	159	--
(PCB 110/115) 2,3,3',4',6-Pentachlorobiphenyl/2,3,4,4',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	102000	--
(PCB 111) 2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	28.4	--
(PCB 112) 2,3,3',5,6-Pentachlorobiphenyl	ng/kg	--	--	--	--	<3.88	--
(PCB 114) 2,3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	183 J+	--
(PCB 118) 2,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	47400	--
(PCB 12/13) 3,4-Dichlorobiphenyl/3,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	20.3 J	--
(PCB 120) 2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	244	--
(PCB 121) 2,3',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	<3.51	--
(PCB 122) 2,3,3',4',5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	218	--
(PCB 123) 2',3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	328	--
(PCB 126) 3,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	1820	--
(PCB 127) 3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	127	--
(PCB 128/166) 2,2',3,3',4,4'-Hexachlorobiphenyl/2,3,4,4',5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	44500	--
(PCB 129/138/163) Hexachlorobiphenyl	ng/kg	--	--	--	--	684000	--
(PCB 130) 2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	23500	--
(PCB 131) 2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	3880	--
(PCB 132) 2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	180000	--
(PCB 133) 2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	6100	--
(PCB 134/143) 2,2',3,3',5,6-Hexachlorobiphenyl/2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	22000	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
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Location ID:		**SB-04**	**SB-05**	**SB-05**	**SB-05**	**SB-06**	**SB-06**
Sample Name:		**SB04D-0.0-0.5-1022**	**SB05-1.0-1.5-1022**	**SB05-2.5-3.0-1022**	**SB05-0.0-0.5-1022**	**SB06-1.0-1.5-1022**	**SB06-2.5-3.0-1022**
Sample Date:		**10/17/2022**	**10/18/2022**	**10/18/2022**	**10/18/2022**	**10/17/2022**	**10/17/2022**
Depth:		**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
		Duplicate					
Parameters	**Unit**						
PCBs (Continued)							
(PCB 135/151) 2,2',3,3',5,6'-Hexachlorobiphenyl/2,2',3,5,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	219000	--
(PCB 136) 2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	64700	--
(PCB 137) 2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	--	--	--	--	2370	--
(PCB 139/140) 2,2',3,4,4',6-Hexachlorobiphenyl/2,2',3,4,4',6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	1560	--
(PCB 14) 3,5-Dichlorobiphenyl	ng/kg	--	--	--	--	<3.28	--
(PCB 141) 2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	165000	--
(PCB 142) 2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	<18.2	--
(PCB 144) 2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	34300	--
(PCB 145) 2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	<15.8	--
(PCB 146) 2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	81400	--
(PCB 147/149) 2,2',3,4',5,6-Hexachlorobiphenyl/2,2',3,4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	487000	--
(PCB 148) 2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	125	--
(PCB 15) 4,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	132	--
(PCB 150) 2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	245	--
(PCB 152) 2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	41.2 J	--
(PCB 153/168) 2,2',4,4',5,5'-Hexachlorobiphenyl/2,3',4,4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	630000	--
(PCB 154) 2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	1620	--
(PCB 155) 2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	<15.5	--
(PCB 156/157) 2,3,3',4,4',5-Hexachlorobiphenyl/2,3,3',4,4',5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	54800	--
(PCB 158) 2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	61600	--
(PCB 159) 2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	5110	--
(PCB 16) 2,2',3-Trichlorobiphenyl	ng/kg	--	--	--	--	42.6	--
(PCB 160) 2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	<13.1	--
(PCB 161) 2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	<14.3	--
(PCB 162) 2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	888	--
(PCB 164) 2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	46800	--
(PCB 165) 2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	57.2 J	--
(PCB 167) 2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	23700	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-04	SB-05	SB-05	SB-05	SB-06	SB-06
	Sample Name:	SB04D-0.0-0.5-1022	SB05-1.0-1.5-1022	SB05-2.5-3.0-1022	SB05-0.0-0.5-1022	SB06-1.0-1.5-1022	SB06-2.5-3.0-1022
	Sample Date:	10/17/2022	10/18/2022	10/18/2022	10/18/2022	10/17/2022	10/17/2022
	Depth:	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS
		Duplicate					
Parameters	**Unit**						
PCBs (Continued)							
(PCB 169) 3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	489	--
(PCB 17) 2,2',4-Trichlorobiphenyl	ng/kg	--	--	--	--	48.4	--
(PCB 170) 2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	--	--	--	--	328000	--
(PCB 171/173) 2,2',3,3',4,4',6-Heptachlorobiphenyl/2,2',3,3',4,5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	105000	--
(PCB 172) 2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	52300	--
(PCB 174) 2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	289000	--
(PCB 175) 2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	12100	--
(PCB 176) 2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	36600	--
(PCB 177) 2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	181000	--
(PCB 178) 2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	50400	--
(PCB 179) 2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	104000	--
(PCB 18/30) 2,2',5-Trichlorobiphenyl/2,4,6-Trichlorobiphenyl	ng/kg	--	--	--	--	99.8	--
(PCB 180/193) 2,2',3,4,4',5,5'-Heptachlorobiphenyl/2,3,3',4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	680000	--
(PCB 181) 2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	1200	--
(PCB 182) 2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	1060	--
(PCB 183/185) 2,2',3,4,4',5',6-Heptachlorobiphenyl/2,2',3,4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	209000	--
(PCB 184) 2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	127	--
(PCB 186) 2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	<19.6	--
(PCB 187) 2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	304000	--
(PCB 188) 2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	206	--
(PCB 189) 2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	14400	--
(PCB 19) 2,2',6-Trichlorobiphenyl	ng/kg	--	--	--	--	15.1 J	--
(PCB 190) 2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	68500	--
(PCB 191) 2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	13200	--
(PCB 192) 2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	<14.5	--
(PCB 194) 2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	--	--	--	--	102000	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-04	SB-05	SB-05	SB-05	SB-06	SB-06
	Sample Name:	SB04D-0.0-0.5-1022	SB05-1.0-1.5-1022	SB05-2.5-3.0-1022	SB05-0.0-0.5-1022	SB06-1.0-1.5-1022	SB06-2.5-3.0-1022
	Sample Date:	10/17/2022	10/18/2022	10/18/2022	10/18/2022	10/17/2022	10/17/2022
	Depth:	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS
		Duplicate					
Parameters	**Unit**						
PCBs (Continued)							
(PCB 195) 2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	--	--	--	--	49000	--
(PCB 196) 2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	63200	--
(PCB 197/200) 2,2',3,3',4,4',6,6'-Octachlorobiphenyl/2,2',3,3',4,5,6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	18900	--
(PCB 198/199) 2,2',3,3',4,5,5',6-Octachlorobiphenyl/2,2',3,3',4,5,5',6'-Octachlorobiphenyl	ng/kg	--	--	--	--	103000	--
(PCB 2) 3-Chlorobiphenyl	ng/kg	--	--	--	--	11.0 J	--
(PCB 20/28) 2,3,3'-Trichlorobiphenyl/2,4,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	203	--
(PCB 201) 2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	12800	--
(PCB 202) 2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	14200	--
(PCB 203) 2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	69400	--
(PCB 204) 2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	30.7	--
(PCB 205) 2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	6580	--
(PCB 206) 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	--	--	--	--	18100	--
(PCB 207) 2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	2240	--
(PCB 208) 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	3010	--
(PCB 209) Decachlorobiphenyl	ng/kg	--	--	--	--	2250	--
(PCB 21/33) 2,3,4-Trichlorobiphenyl/2',3,4-Trichlorobiphenyl	ng/kg	--	--	--	--	109	--
(PCB 22) 2,3,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	78.2	--
(PCB 23) 2,3,5-Trichlorobiphenyl	ng/kg	--	--	--	--	<2.98	--
(PCB 24) 2,3,6-Trichlorobiphenyl	ng/kg	--	--	--	--	<3.95	--
(PCB 25) 2,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	15.6	--
(PCB 26/29) 2,3',5-Trichlorobipheny/2,4,5-Trichlorobiphenyl	ng/kg	--	--	--	--	34.4 J	--
(PCB 27) 2,3',6-Trichlorobiphenyl	ng/kg	--	--	--	--	8.59 J	--
(PCB 3) 4-Monochlorobiphenyl	ng/kg	--	--	--	--	28.9	--
(PCB 31) 2,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	175	--
(PCB 32) 2,4',6-Trichlorobiphenyl	ng/kg	--	--	--	--	41.4	--
(PCB 34) 2,3',5'-Trichlorobiphenyl	ng/kg	--	--	--	--	<4.17	--
(PCB 35) 3,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	12.4 J	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		SB-04	SB-05	SB-05	SB-05	SB-06	SB-06
Sample Name:		SB04D-0.0-0.5-1022	SB05-1.0-1.5-1022	SB05-2.5-3.0-1022	SB05-0.0-0.5-1022	SB06-1.0-1.5-1022	SB06-2.5-3.0-1022
Sample Date:		10/17/2022	10/18/2022	10/18/2022	10/18/2022	10/17/2022	10/17/2022
Depth:		0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS
		Duplicate					
Parameters	**Unit**						
PCBs (Continued)							
(PCB 36) 3,3',5-Trichlorobiphenyl	ng/kg	--	--	--	--	3.15 J	--
(PCB 37) 3,4,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	176	--
(PCB 38) 3,4,5-Trichlorobiphenyl	ng/kg	--	--	--	--	<2.60	--
(PCB 39) 3,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	3.10 J	--
(PCB 4) 2,2'-Dichlorobiphenyl	ng/kg	--	--	--	--	28.3	--
(PCB 40/41/71) 2,2',3,3'-TeCB/ 2,2',3,4-TeCB/2,3',4',6-TeCB	ng/kg	--	--	--	--	238	--
(PCB 42) 2,2',3,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	106	--
(PCB 43/73) 2,2',3,5-Tetrachlorobiphenyl/2,3',5',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	<10.4	--
(PCB 44/47/65) 2,2',3,5'-Tetrachlorobiphenyl/2,2',4,4'-Tetrachlorobiphenyl/2,3,5,6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	626	--
(PCB 45/51) 2,2',3,6-Tetrachlorobiphenyl/2,2',4,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	54.1	--
(PCB 46) 2,2',3,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	12.8 J	--
(PCB 48) 2,2',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	55.4	--
(PCB 49/69) 2,2',4,5'-Tetrachlorobiphenyl/2,3',4,6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	403	--
(PCB 5) 2,3-Dichlorobiphenyl	ng/kg	--	--	--	--	<2.67	--
(PCB 50/53) 2,2',4,6-Tetrachlorobipheny/2,2',5,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	57.2	--
(PCB 52) 2,2',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	4470	--
(PCB 54) 2,2',6,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	<5.20	--
(PCB 55) 2,3,3',4-Tetrachlorobiphenyl	ng/kg	--	--	--	--	9.21 J	--
(PCB 56) 2,3,3',4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	422	--
(PCB 57) 2,3,3',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	<2.22	--
(PCB 58) 2,3,3',5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	<2.70	--
(PCB 59/62/75) 2,3,3',6-Tetrachlorobiphenyl/2,3,4,6-Tetrachlorobiphenyl/ 2,4,4',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	54.8 J	--
(PCB 6) 2,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	16.4 J	--
(PCB 60) 2,3,4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	167	--
(PCB 61/70/74/76) 2,3,4,5-Tetrachlorobiphenyl/2,3',4',5-Tetrachlorobiphenyl/2,4,4',5-Tetrachlorobiphenyl/2,3',4',5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	2080	--
(PCB 63) 2,3,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	28.6	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		SB-04	SB-05	SB-05	SB-05	SB-06	SB-06
Sample Name:		SB04D-0.0-0.5-1022	SB05-1.0-1.5-1022	SB05-2.5-3.0-1022	SB05-0.0-0.5-1022	SB06-1.0-1.5-1022	SB06-2.5-3.0-1022
Sample Date:		10/17/2022	10/18/2022	10/18/2022	10/18/2022	10/17/2022	10/17/2022
Depth:		0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS
		Duplicate					
Parameters	**Unit**						
PCBs (Continued)							
(PCB 64) 2,3,4',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	487	--
(PCB 66) 2,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	760	--
(PCB 67) 2,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	20.3	--
(PCB 68) 2,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	<8.55	--
(PCB 7) 2,4-Dichlorobiphenyl	ng/kg	--	--	--	--	4.81 J	--
(PCB 72) 2,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	24.3	--
(PCB 77) 3,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	599	--
(PCB 78) 3,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	3.72	--
(PCB 79) 3,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	230	--
(PCB 8) 2,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	74.3	--
(PCB 80) 3,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	4.67	--
(PCB 81) 3,4,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	15.4	--
(PCB 82) 2,2',3,3',4-Pentachlorobiphenyl	ng/kg	--	--	--	--	1040	--
(PCB 83) 2,2',3,3',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	2060	--
(PCB 84) 2,2',3,3',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	4290	--
(PCB 85/116/117) 2,2',3,4,4'-PeCB/2,3,4,5,6-PeCB/2,3,4',5,6-PeCB Pentachlorobiphenyl/2,2',3',4,5-Pentachlorobiphenyl/2,3,3',4,5'-Pentachlorobiphenyl/2,3',4,4',6-Pentachlorobiphenyl/2',3,4,5,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	1510	--
(PCB 88/91) 2,2',3,4,6-Pentachlorobiphenyl/2,2',3,4',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	26200	--
(PCB 89) 2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	1210	--
(PCB 9) 2,5-Dichlorobiphenyl	ng/kg	--	--	--	--	76.1	--
(PCB 90/101/113) 2,2',3,4',5-Pentachlorobiphenyl/2,2',4,5,5'-Pentachlorobiphenyl/2,3,3',5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	5.73 J	--
(PCB 92) 2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	137000	--
(PCB 93/98/100/102) Pentachlorobiphenyl	ng/kg	--	--	--	--	16000	--
(PCB 94) 2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	389	--
(PCB 95) 2,2',3,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	35.6	--
(PCB 96) 2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	79800	--
						44.0	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-04	SB-05	SB-05	SB-05	SB-06	SB-06
	Sample Name:	SB04D-0.0-0.5-1022	SB05-1.0-1.5-1022	SB05-2.5-3.0-1022	SB05-0.0-0.5-1022	SB06-1.0-1.5-1022	SB06-2.5-3.0-1022
	Sample Date:	10/17/2022	10/18/2022	10/18/2022	10/18/2022	10/17/2022	10/17/2022
	Depth:	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS
		Duplicate					
Parameters	**Unit**						
PCBs (Continued)							
(PCB 99) 2,2',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	4800	--
Aroclor-1016 (PCB-1016)	µg/kg	<21.0	<21.1	<21.0	<21.1	<20.6	<21.1
Aroclor-1221 (PCB-1221)	µg/kg	<34.2	<34.4	<34.2	<34.4	<33.7	<34.4
Aroclor-1232 (PCB-1232)	µg/kg	<29.3	<29.4	<29.3	<29.4	<28.8	<29.4
Aroclor-1242 (PCB-1242)	µg/kg	<30.7	<30.8	<30.6	<30.8	<30.1	<30.8
Aroclor-1248 (PCB-1248)	µg/kg	<25.3	<25.4	<25.3	<25.4	<24.9	<25.4
Aroclor-1254 (PCB-1254)	µg/kg	<24.7	<24.8	<24.7	<24.8	<24.3	<24.8
Aroclor-1260 (PCB-1260)	µg/kg	244 J	335	<17.7	920	10500	199
Aroclor-1262 (PCB-1262)	µg/kg	<32.6	<32.7	<32.6	<32.7	<32.0	<32.7
Aroclor-1268 (PCB-1268)	µg/kg	<23.8	<23.9	<23.8	<23.9	<23.4	<23.9

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**SB-06**	**SB-07**	**SB-07**	**SB-07**	**SB-08**	**SB-08**
Sample Name:		**SB06-0.0-0.5-1022**	**SB07-1.0-1.5-1022**	**SB07-2.5-3.0-1022**	**SB07-0.0-0.5-1022**	**SB08-1-110322**	**SB08-2.5-110322**
Sample Date:		**10/17/2022**	**10/18/2022**	**10/18/2022**	**10/18/2022**	**11/03/2022**	**11/03/2022**
Depth:		**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
Parameters	**Unit**						
PCBs							
(PCB 1) 2-Chlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 10) 2,6-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 103) 2,2',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 104) 2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 105) 2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 106) 2,3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 107/124) Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 109) 2,3,3',4,6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 11) 3,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 110/115) 2,3,3',4',6-Pentachlorobiphenyl/2,3,4,4',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 111) 2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 112) 2,3,3',5,6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 114) 2,3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 118) 2,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 12/13) 3,4-Dichlorobiphenyl/3,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 120) 2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 121) 2,3',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 122) 2,3,3',4',5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 123) 2',3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 126) 3,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 127) 3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 128/166) 2,2',3,3',4,4'-Hexachlorobiphenyl/2,3,4,4',5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 129/138/163) Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 130) 2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 131) 2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 132) 2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 133) 2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 134/143) 2,2',3,3',5,6-Hexachlorobiphenyl/2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**SB-06**	**SB-07**	**SB-07**	**SB-07**	**SB-08**	**SB-08**
Sample Name:		**SB06-0.0-0.5-1022**	**SB07-1.0-1.5-1022**	**SB07-2.5-3.0-1022**	**SB07-0.0-0.5-1022**	**SB08-1-110322**	**SB08-2.5-110322**
Sample Date:		**10/17/2022**	**10/18/2022**	**10/18/2022**	**10/18/2022**	**11/03/2022**	**11/03/2022**
Depth:		**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
Parameters	**Unit**						
PCBs (Continued)							
(PCB 135/151) 2,2',3,3',5,6'-Hexachlorobiphenyl/2,2',3,5,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 136) 2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 137) 2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 139/140) 2,2',3,4,4',6-Hexachlorobiphenyl/2,2',3,4,4',6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 14) 3,5-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 141) 2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 142) 2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 144) 2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 145) 2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 146) 2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 147/149) 2,2',3,4',5,6-Hexachlorobiphenyl/2,2',3,4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 148) 2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 15) 4,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 150) 2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 152) 2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 153/168) 2,2',4,4',5,5'-Hexachlorobiphenyl/2,3',4,4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 154) 2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 155) 2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 156/157) 2,3,3',4,4',5-Hexachlorobiphenyl/2,3,3',4,4',5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 158) 2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 159) 2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 16) 2,2',3-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 160) 2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 161) 2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 162) 2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 164) 2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 165) 2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 167) 2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-06	SB-07	SB-07	SB-07	SB-08	SB-08
	Sample Name:	SB06-0.0-0.5-1022	SB07-1.0-1.5-1022	SB07-2.5-3.0-1022	SB07-0.0-0.5-1022	SB08-1-110322	SB08-2.5-110322
	Sample Date:	10/17/2022	10/18/2022	10/18/2022	10/18/2022	11/03/2022	11/03/2022
	Depth:	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 169) 3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 17) 2,2',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 170) 2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 171/173) 2,2',3,3',4,4',6-Heptachlorobiphenyl/2,2',3,3',4,5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 172) 2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 174) 2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 175) 2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 176) 2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 177) 2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 178) 2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 179) 2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 18/30) 2,2',5-Trichlorobiphenyl/2,4,6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 180/193) 2,2',3,4,4',5,5'-Heptachlorobiphenyl/2,3,3',4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 181) 2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 182) 2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 183/185) 2,2',3,4,4',5',6-Heptachlorobiphenyl/2,2',3,4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 184) 2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 186) 2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 187) 2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 188) 2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 189) 2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 19) 2,2',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 190) 2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 191) 2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 192) 2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 194) 2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**SB-06**	**SB-07**	**SB-07**	**SB-07**	**SB-08**	**SB-08**
Sample Name:		**SB06-0.0-0.5-1022**	**SB07-1.0-1.5-1022**	**SB07-2.5-3.0-1022**	**SB07-0.0-0.5-1022**	**SB08-1-110322**	**SB08-2.5-110322**
Sample Date:		**10/17/2022**	**10/18/2022**	**10/18/2022**	**10/18/2022**	**11/03/2022**	**11/03/2022**
Depth:		**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
Parameters	**Unit**						
PCBs (Continued)							
(PCB 195) 2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 196) 2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 197/200) 2,2',3,3',4,4',6,6'-Octachlorobiphenyl/2,2',3,3',4,5,6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 198/199) 2,2',3,3',4,5,5',6-Octachlorobiphenyl/2,2',3,3',4,5,5',6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 2) 3-Chlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 20/28) 2,3,3'-Trichlorobiphenyl/2,4,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 201) 2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 202) 2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 203) 2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 204) 2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 205) 2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 206) 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 207) 2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 208) 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 209) Decachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 21/33) 2,3,4-Trichlorobiphenyl/2',3,4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 22) 2,3,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 23) 2,3,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 24) 2,3,6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 25) 2,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 26/29) 2,3',5-Trichlorobipheny/2,4,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 27) 2,3',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 3) 4-Monochlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 31) 2,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 32) 2,4',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 34) 2,3',5'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 35) 3,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**SB-06**	**SB-07**	**SB-07**	**SB-07**	**SB-08**	**SB-08**
Sample Name:		**SB06-0.0-0.5-1022**	**SB07-1.0-1.5-1022**	**SB07-2.5-3.0-1022**	**SB07-0.0-0.5-1022**	**SB08-1-110322**	**SB08-2.5-110322**
Sample Date:		**10/17/2022**	**10/18/2022**	**10/18/2022**	**10/18/2022**	**11/03/2022**	**11/03/2022**
Depth:		**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
Parameters	**Unit**						
PCBs (Continued)							
(PCB 36) 3,3',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 37) 3,4,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 38) 3,4,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 39) 3,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 4) 2,2'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 40/41/71) 2,2',3,3'-TeCB/ 2,2',3,4-TeCB/2,3',4',6-TeCB	ng/kg	--	--	--	--	--	--
(PCB 42) 2,2',3,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 43/73) 2,2',3,5-Tetrachlorobiphenyl/2,3',5',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 44/47/65) 2,2',3,5'-Tetrachlorobiphenyl/2,2',4,4'-Tetrachlorobiphenyl/2,3,5,6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 45/51) 2,2',3,6-Tetrachlorobiphenyl/2,2',4,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 46) 2,2',3,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 48) 2,2',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 49/69) 2,2',4,5'-Tetrachlorobiphenyl/2,3',4,6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 5) 2,3-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 50/53) 2,2',4,6-Tetrachlorobipheny/2,2',5,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 52) 2,2',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 54) 2,2',6,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 55) 2,3,3',4-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 56) 2,3,3',4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 57) 2,3,3',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 58) 2,3,3',5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 59/62/75) 2,3,3',6-Tetrachlorobiphenyl/2,3,4,6-Tetrachlorobiphenyl/ 2,4,4',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 6) 2,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 60) 2,3,4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 61/70/74/76) 2,3,4,5-Tetrachlorobiphenyl/2,3',4',5-Tetrachlorobiphenyl/2,4,4',5-Tetrachlorobiphenyl/2,3',4',5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 63) 2,3,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
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Location ID:		**SB-06**	**SB-07**	**SB-07**	**SB-07**	**SB-08**	**SB-08**
Sample Name:		**SB06-0.0-0.5-1022**	**SB07-1.0-1.5-1022**	**SB07-2.5-3.0-1022**	**SB07-0.0-0.5-1022**	**SB08-1-110322**	**SB08-2.5-110322**
Sample Date:		**10/17/2022**	**10/18/2022**	**10/18/2022**	**10/18/2022**	**11/03/2022**	**11/03/2022**
Depth:		**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
Parameters	**Unit**						
PCBs (Continued)							
(PCB 64) 2,3,4',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 66) 2,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 67) 2,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 68) 2,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 7) 2,4-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 72) 2,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 77) 3,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 78) 3,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 79) 3,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 8) 2,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 80) 3,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 81) 3,4,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 82) 2,2',3,3',4-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 83) 2,2',3,3',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 84) 2,2',3,3',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 85/116/117) 2,2',3,4,4'-PeCB/2,3,4,5,6-PeCB/2,3,4',5,6-PeCB Pentachlorobiphenyl/2,2',3',4,5-Pentachlorobiphenyl/2,3,3',4,5'-Pentachlorobiphenyl/2,3',4,4',6-Pentachlorobiphenyl/2',3,4,5,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 88/91) 2,2',3,4,6-Pentachlorobiphenyl/2,2',3,4',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 89) 2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 9) 2,5-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 90/101/113) 2,2',3,4',5-Pentachlorobiphenyl/2,2',4,5,5'-Pentachlorobiphenyl/2,3,3',5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 92) 2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 93/98/100/102) Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 94) 2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 95) 2,2',3,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
(PCB 96) 2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-06	SB-07	SB-07	SB-07	SB-08	SB-08
	Sample Name:	SB06-0.0-0.5-1022	SB07-1.0-1.5-1022	SB07-2.5-3.0-1022	SB07-0.0-0.5-1022	SB08-1-110322	SB08-2.5-110322
	Sample Date:	10/17/2022	10/18/2022	10/18/2022	10/18/2022	11/03/2022	11/03/2022
	Depth:	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 99) 2,2',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
Aroclor-1016 (PCB-1016)	µg/kg	<21.2	<20.4	<21.0	<21.0	<21.2	<21.0
Aroclor-1221 (PCB-1221)	µg/kg	<34.5	<33.3	<34.3	<34.2	<34.5	<34.3
Aroclor-1232 (PCB-1232)	µg/kg	<29.6	<28.5	<29.4	<29.3	<29.6	<29.4
Aroclor-1242 (PCB-1242)	µg/kg	<30.9	<29.8	<30.7	<30.7	<30.9	<30.7
Aroclor-1248 (PCB-1248)	µg/kg	<25.5	<24.6	<25.3	<25.3	<25.5	<25.3
Aroclor-1254 (PCB-1254)	µg/kg	<24.9	<24.0	<24.8	<24.7	<24.9	<24.8
Aroclor-1260 (PCB-1260)	µg/kg	4670	178	34.1 J	1850	4550	290
Aroclor-1262 (PCB-1262)	µg/kg	<32.8	<31.7	<32.7	<32.6	<32.8	<32.7
Aroclor-1268 (PCB-1268)	µg/kg	<24.0	<23.1	<23.9	<23.8	<24.0	<23.9

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**SB-08**	**SB-09**	**SB-09**	**SB-09**	**SB-10**	**SB-10**
Sample Name:		**SB08-0.5-110322**	**SB09-1.0-1.5-1022**	**SB09-2.5-3.0-1022**	**SB09-0.0-0.5-1022**	**SB10-1.0-1.5-1022**	**SB10-2.5-3.0-1022**
Sample Date:		**11/03/2022**	**10/18/2022**	**10/18/2022**	**10/18/2022**	**10/18/2022**	**10/18/2022**
Depth:		**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
Parameters	**Unit**						
PCBs							
(PCB 1) 2-Chlorobiphenyl	ng/kg	<13.3 J	--	--	--	--	--
(PCB 10) 2,6-Dichlorobiphenyl	ng/kg	<3.72	--	--	--	--	--
(PCB 103) 2,2',4,5',6-Pentachlorobiphenyl	ng/kg	172 J	--	--	--	--	--
(PCB 104) 2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	<33.4	--	--	--	--	--
(PCB 105) 2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	6900	--	--	--	--	--
(PCB 106) 2,3,3',4,5-Pentachlorobiphenyl	ng/kg	<31.2	--	--	--	--	--
(PCB 107/124) Pentachlorobiphenyl	ng/kg	2070	--	--	--	--	--
(PCB 109) 2,3,3',4,6-Pentachlorobiphenyl	ng/kg	3230	--	--	--	--	--
(PCB 11) 3,3'-Dichlorobiphenyl	ng/kg	125	--	--	--	--	--
(PCB 110/115) 2,3,3',4',6-Pentachlorobiphenyl/2,3,4,4',6-Pentachlorobiphenyl	ng/kg	199000	--	--	--	--	--
(PCB 111) 2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	49.9 J	--	--	--	--	--
(PCB 112) 2,3,3',5,6-Pentachlorobiphenyl	ng/kg	<39.2	--	--	--	--	--
(PCB 114) 2,3,4,4',5-Pentachlorobiphenyl	ng/kg	173 J	--	--	--	--	--
(PCB 118) 2,3',4,4',5-Pentachlorobiphenyl	ng/kg	79000	--	--	--	--	--
(PCB 12/13) 3,4-Dichlorobiphenyl/3,4'-Dichlorobiphenyl	ng/kg	18.4 J	--	--	--	--	--
(PCB 120) 2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	495	--	--	--	--	--
(PCB 121) 2,3',4,5',6-Pentachlorobiphenyl	ng/kg	<35.4	--	--	--	--	--
(PCB 122) 2,3,3',4',5'-Pentachlorobiphenyl	ng/kg	382	--	--	--	--	--
(PCB 123) 2',3,4,4',5-Pentachlorobiphenyl	ng/kg	414	--	--	--	--	--
(PCB 126) 3,3',4,4',5-Pentachlorobiphenyl	ng/kg	2950	--	--	--	--	--
(PCB 127) 3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	169 J	--	--	--	--	--
(PCB 128/166) 2,2',3,3',4,4'-Hexachlorobiphenyl/2,3,4,4',5,6-Hexachlorobiphenyl	ng/kg	83800	--	--	--	--	--
(PCB 129/138/163) Hexachlorobiphenyl	ng/kg	1430000	--	--	--	--	--
(PCB 130) 2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	43100	--	--	--	--	--
(PCB 131) 2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	6920	--	--	--	--	--
(PCB 132) 2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	368000	--	--	--	--	--
(PCB 133) 2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	11400	--	--	--	--	--
(PCB 134/143) 2,2',3,3',5,6-Hexachlorobiphenyl/2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	42500	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**SB-08**	**SB-09**	**SB-09**	**SB-09**	**SB-10**	**SB-10**
Sample Name:		**SB08-0.5-110322**	**SB09-1.0-1.5-1022**	**SB09-2.5-3.0-1022**	**SB09-0.0-0.5-1022**	**SB10-1.0-1.5-1022**	**SB10-2.5-3.0-1022**
Sample Date:		**11/03/2022**	**10/18/2022**	**10/18/2022**	**10/18/2022**	**10/18/2022**	**10/18/2022**
Depth:		**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
Parameters	**Unit**						
PCBs (Continued)							
(PCB 135/151) 2,2',3,3',5,6'-Hexachlorobiphenyl/2,2',3,5,5',6-Hexachlorobiphenyl	ng/kg	463000	--	--	--	--	--
(PCB 136) 2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	133000	--	--	--	--	--
(PCB 137) 2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	4580	--	--	--	--	--
(PCB 139/140) 2,2',3,4,4',6-Hexachlorobiphenyl/2,2',3,4,4',6'-Hexachlorobiphenyl	ng/kg	2670	--	--	--	--	--
(PCB 14) 3,5-Dichlorobiphenyl	ng/kg	<3.31	--	--	--	--	--
(PCB 141) 2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	353000	--	--	--	--	--
(PCB 142) 2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	<36.7	--	--	--	--	--
(PCB 144) 2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	68600	--	--	--	--	--
(PCB 145) 2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	<31.9	--	--	--	--	--
(PCB 146) 2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	165000	--	--	--	--	--
(PCB 147/149) 2,2',3,4',5,6-Hexachlorobiphenyl/2,2',3,4',5',6-Hexachlorobiphenyl	ng/kg	1040000	--	--	--	--	--
(PCB 148) 2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	254	--	--	--	--	--
(PCB 15) 4,4'-Dichlorobiphenyl	ng/kg	173	--	--	--	--	--
(PCB 150) 2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	494	--	--	--	--	--
(PCB 152) 2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	69.0 J	--	--	--	--	--
(PCB 153/168) 2,2',4,4',5,5'-Hexachlorobiphenyl/2,3',4,4',5',6-Hexachlorobiphenyl	ng/kg	1300000	--	--	--	--	--
(PCB 154) 2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	2990	--	--	--	--	--
(PCB 155) 2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	<31.3	--	--	--	--	--
(PCB 156/157) 2,3,3',4,4',5-Hexachlorobiphenyl/2,3,3',4,4',5'-Hexachlorobiphenyl	ng/kg	94900	--	--	--	--	--
(PCB 158) 2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	119000	--	--	--	--	--
(PCB 159) 2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	20000	--	--	--	--	--
(PCB 16) 2,2',3-Trichlorobiphenyl	ng/kg	17.7 J	--	--	--	--	--
(PCB 160) 2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	<26.4	--	--	--	--	--
(PCB 161) 2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	<28.9	--	--	--	--	--
(PCB 162) 2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	1950	--	--	--	--	--
(PCB 164) 2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	88600	--	--	--	--	--
(PCB 165) 2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	<31.7	--	--	--	--	--
(PCB 167) 2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	47200	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-08	SB-09	SB-09	SB-09	SB-10	SB-10
	Sample Name:	SB08-0.5-110322	SB09-1.0-1.5-1022	SB09-2.5-3.0-1022	SB09-0.0-0.5-1022	SB10-1.0-1.5-1022	SB10-2.5-3.0-1022
	Sample Date:	11/03/2022	10/18/2022	10/18/2022	10/18/2022	10/18/2022	10/18/2022
	Depth:	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 169) 3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	1010	--	--	--	--	--
(PCB 17) 2,2',4-Trichlorobiphenyl	ng/kg	21.4	--	--	--	--	--
(PCB 170) 2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	714000	--	--	--	--	--
(PCB 171/173) 2,2',3,3',4,4',6-Heptachlorobiphenyl/2,2',3,3',4,5,6-Heptachlorobiphenyl	ng/kg	216000	--	--	--	--	--
(PCB 172) 2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	109000	--	--	--	--	--
(PCB 174) 2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	608000	--	--	--	--	--
(PCB 175) 2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	23100	--	--	--	--	--
(PCB 176) 2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	71200	--	--	--	--	--
(PCB 177) 2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	380000	--	--	--	--	--
(PCB 178) 2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	96300	--	--	--	--	--
(PCB 179) 2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	203000	--	--	--	--	--
(PCB 18/30) 2,2',5-Trichlorobiphenyl/2,4,6-Trichlorobiphenyl	ng/kg	47.4	--	--	--	--	--
(PCB 180/193) 2,2',3,4,4',5,5'-Heptachlorobiphenyl/2,3,3',4',5,5',6-Heptachlorobiphenyl	ng/kg	1440000	--	--	--	--	--
(PCB 181) 2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	2570	--	--	--	--	--
(PCB 182) 2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	2100	--	--	--	--	--
(PCB 183/185) 2,2',3,4,4',5',6-Heptachlorobiphenyl/2,2',3,4,5,5',6-Heptachlorobiphenyl	ng/kg	446000	--	--	--	--	--
(PCB 184) 2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	240	--	--	--	--	--
(PCB 186) 2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	<39.6	--	--	--	--	--
(PCB 187) 2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	623000	--	--	--	--	--
(PCB 188) 2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	442	--	--	--	--	--
(PCB 189) 2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	28900	--	--	--	--	--
(PCB 19) 2,2',6-Trichlorobiphenyl	ng/kg	6.18 J	--	--	--	--	--
(PCB 190) 2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	142000	--	--	--	--	--
(PCB 191) 2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	27700	--	--	--	--	--
(PCB 192) 2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	<29.2	--	--	--	--	--
(PCB 194) 2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	200000	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**SB-08**	**SB-09**	**SB-09**	**SB-09**	**SB-10**	**SB-10**
Sample Name:		**SB08-0.5-110322**	**SB09-1.0-1.5-1022**	**SB09-2.5-3.0-1022**	**SB09-0.0-0.5-1022**	**SB10-1.0-1.5-1022**	**SB10-2.5-3.0-1022**
Sample Date:		**11/03/2022**	**10/18/2022**	**10/18/2022**	**10/18/2022**	**10/18/2022**	**10/18/2022**
Depth:		**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
Parameters	**Unit**						
PCBs (Continued)							
(PCB 195) 2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	95000	--	--	--	--	--
(PCB 196) 2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	126000	--	--	--	--	--
(PCB 197/200) 2,2',3,3',4,4',6,6'-Octachlorobiphenyl/2,2',3,3',4,5,6,6'-Octachlorobiphenyl	ng/kg	36000	--	--	--	--	--
(PCB 198/199) 2,2',3,3',4,5,5',6-Octachlorobiphenyl/2,2',3,3',4,5,5',6'-Octachlorobiphenyl	ng/kg	199000	--	--	--	--	--
(PCB 2) 3-Chlorobiphenyl	ng/kg	4.45 J	--	--	--	--	--
(PCB 20/28) 2,3,3'-Trichlorobiphenyl/2,4,4'-Trichlorobiphenyl	ng/kg	127	--	--	--	--	--
(PCB 201) 2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	23900	--	--	--	--	--
(PCB 202) 2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	26200	--	--	--	--	--
(PCB 203) 2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	134000	--	--	--	--	--
(PCB 204) 2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	60.6	--	--	--	--	--
(PCB 205) 2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	12900	--	--	--	--	--
(PCB 206) 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	31900	--	--	--	--	--
(PCB 207) 2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	4170	--	--	--	--	--
(PCB 208) 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	4490	--	--	--	--	--
(PCB 209) Decachlorobiphenyl	ng/kg	534	--	--	--	--	--
(PCB 21/33) 2,3,4-Trichlorobiphenyl/2',3,4-Trichlorobiphenyl	ng/kg	53.9	--	--	--	--	--
(PCB 22) 2,3,4'-Trichlorobiphenyl	ng/kg	40.7	--	--	--	--	--
(PCB 23) 2,3,5-Trichlorobiphenyl	ng/kg	<3.01	--	--	--	--	--
(PCB 24) 2,3,6-Trichlorobiphenyl	ng/kg	<3.99	--	--	--	--	--
(PCB 25) 2,3',4-Trichlorobiphenyl	ng/kg	8.83 J	--	--	--	--	--
(PCB 26/29) 2,3',5-Trichlorobipheny/2,4,5-Trichlorobiphenyl	ng/kg	18.5 J	--	--	--	--	--
(PCB 27) 2,3',6-Trichlorobiphenyl	ng/kg	4.99 J	--	--	--	--	--
(PCB 3) 4-Monochlorobiphenyl	ng/kg	24.0	--	--	--	--	--
(PCB 31) 2,4',5-Trichlorobiphenyl	ng/kg	84.1	--	--	--	--	--
(PCB 32) 2,4',6-Trichlorobiphenyl	ng/kg	25.2	--	--	--	--	--
(PCB 34) 2,3',5'-Trichlorobiphenyl	ng/kg	<4.21	--	--	--	--	--
(PCB 35) 3,3',4-Trichlorobiphenyl	ng/kg	10.1 J	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**SB-08**	**SB-09**	**SB-09**	**SB-09**	**SB-10**	**SB-10**
Sample Name:		**SB08-0.5-110322**	**SB09-1.0-1.5-1022**	**SB09-2.5-3.0-1022**	**SB09-0.0-0.5-1022**	**SB10-1.0-1.5-1022**	**SB10-2.5-3.0-1022**
Sample Date:		**11/03/2022**	**10/18/2022**	**10/18/2022**	**10/18/2022**	**10/18/2022**	**10/18/2022**
Depth:		**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
Parameters	**Unit**						
PCBs (Continued)							
(PCB 36) 3,3',5-Trichlorobiphenyl	ng/kg	4.29	--	--	--	--	--
(PCB 37) 3,4,4'-Trichlorobiphenyl	ng/kg	133	--	--	--	--	--
(PCB 38) 3,4,5-Trichlorobiphenyl	ng/kg	<2.63	--	--	--	--	--
(PCB 39) 3,4',5-Trichlorobiphenyl	ng/kg	<3.11	--	--	--	--	--
(PCB 4) 2,2'-Dichlorobiphenyl	ng/kg	15.1 J	--	--	--	--	--
(PCB 40/41/71) 2,2',3,3'-TeCB/ 2,2',3,4-TeCB/2,3',4',6-TeCB	ng/kg	297	--	--	--	--	--
(PCB 42) 2,2',3,4'-Tetrachlorobiphenyl	ng/kg	126	--	--	--	--	--
(PCB 43/73) 2,2',3,5-Tetrachlorobiphenyl/2,3',5',6-Tetrachlorobiphenyl	ng/kg	13.1 J	--	--	--	--	--
(PCB 44/47/65) 2,2',3,5'-Tetrachlorobiphenyl/2,2',4,4'-Tetrachlorobiphenyl/2,3,5,6-Tetrachlorobiphenyl	ng/kg	582	--	--	--	--	--
(PCB 45/51) 2,2',3,6-Tetrachlorobiphenyl/2,2',4,6'-Tetrachlorobiphenyl	ng/kg	57.1	--	--	--	--	--
(PCB 46) 2,2',3,6'-Tetrachlorobiphenyl	ng/kg	12.8 J	--	--	--	--	--
(PCB 48) 2,2',4,5-Tetrachlorobiphenyl	ng/kg	49.2	--	--	--	--	--
(PCB 49/69) 2,2',4,5'-Tetrachlorobiphenyl/2,3',4,6-Tetrachlorobiphenyl	ng/kg	294	--	--	--	--	--
(PCB 5) 2,3-Dichlorobiphenyl	ng/kg	<2.69	--	--	--	--	--
(PCB 50/53) 2,2',4,6-Tetrachlorobipheny/2,2',5,6'-Tetrachlorobiphenyl	ng/kg	59.6	--	--	--	--	--
(PCB 52) 2,2',5,5'-Tetrachlorobiphenyl	ng/kg	6790	--	--	--	--	--
(PCB 54) 2,2',6,6'-Tetrachlorobiphenyl	ng/kg	<5.25	--	--	--	--	--
(PCB 55) 2,3,3',4-Tetrachlorobiphenyl	ng/kg	<8.22	--	--	--	--	--
(PCB 56) 2,3,3',4'-Tetrachlorobiphenyl	ng/kg	324	--	--	--	--	--
(PCB 57) 2,3,3',5-Tetrachlorobiphenyl	ng/kg	<2.24	--	--	--	--	--
(PCB 58) 2,3,3',5'-Tetrachlorobiphenyl	ng/kg	<2.72	--	--	--	--	--
(PCB 59/62/75) 2,3,3',6-Tetrachlorobiphenyl/2,3,4,6-Tetrachlorobiphenyl/ 2,4,4',6-Tetrachlorobiphenyl	ng/kg	61.1	--	--	--	--	--
(PCB 6) 2,3'-Dichlorobiphenyl	ng/kg	11.1 J	--	--	--	--	--
(PCB 60) 2,3,4,4'-Tetrachlorobiphenyl	ng/kg	83.4	--	--	--	--	--
(PCB 61/70/74/76) 2,3,4,5-Tetrachlorobiphenyl/2,3',4',5-Tetrachlorobiphenyl/2,4,4',5-Tetrachlorobiphenyl/2,3',4',5'-Tetrachlorobiphenyl	ng/kg	1150	--	--	--	--	--
(PCB 63) 2,3,4',5-Tetrachlorobiphenyl	ng/kg	8.03 J	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		SB-08	SB-09	SB-09	SB-09	SB-10	SB-10
Sample Name:		SB08-0.5-110322	SB09-1.0-1.5-1022	SB09-2.5-3.0-1022	SB09-0.0-0.5-1022	SB10-1.0-1.5-1022	SB10-2.5-3.0-1022
Sample Date:		11/03/2022	10/18/2022	10/18/2022	10/18/2022	10/18/2022	10/18/2022
Depth:		0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 64) 2,3,4',6-Tetrachlorobiphenyl	ng/kg	423	--	--	--	--	--
(PCB 66) 2,3',4,4'-Tetrachlorobiphenyl	ng/kg	559	--	--	--	--	--
(PCB 67) 2,3',4,5-Tetrachlorobiphenyl	ng/kg	32.1	--	--	--	--	--
(PCB 68) 2,3',4,5'-Tetrachlorobiphenyl	ng/kg	<8.63	--	--	--	--	--
(PCB 7) 2,4-Dichlorobiphenyl	ng/kg	<2.92	--	--	--	--	--
(PCB 72) 2,3',5,5'-Tetrachlorobiphenyl	ng/kg	49.5	--	--	--	--	--
(PCB 77) 3,3',4,4'-Tetrachlorobiphenyl	ng/kg	988	--	--	--	--	--
(PCB 78) 3,3',4,5-Tetrachlorobiphenyl	ng/kg	4.45	--	--	--	--	--
(PCB 79) 3,3',4,5'-Tetrachlorobiphenyl	ng/kg	324	--	--	--	--	--
(PCB 8) 2,4'-Dichlorobiphenyl	ng/kg	48.6	--	--	--	--	--
(PCB 80) 3,3',5,5'-Tetrachlorobiphenyl	ng/kg	8.98 J	--	--	--	--	--
(PCB 81) 3,4,4',5-Tetrachlorobiphenyl	ng/kg	18.8	--	--	--	--	--
(PCB 82) 2,2',3,3',4-Pentachlorobiphenyl	ng/kg	1360	--	--	--	--	--
(PCB 83) 2,2',3,3',5-Pentachlorobiphenyl	ng/kg	4190	--	--	--	--	--
(PCB 84) 2,2',3,3',6-Pentachlorobiphenyl	ng/kg	7720	--	--	--	--	--
(PCB 85/116/117) 2,2',3,4,4'-PeCB/2,3,4,5,6-PeCB/2,3,4',5,6-PeCB Pentachlorobiphenyl/2,2',3',4,5-Pentachlorobiphenyl/2,3,3',4,5'-Pentachlorobiphenyl/2,3',4,4',6-Pentachlorobiphenyl/2',3,4,5,6'-Pentachlorobiphenyl	ng/kg	1440	--	--	--	--	--
(PCB 88/91) 2,2',3,4,6-Pentachlorobiphenyl/2,2',3,4',6-Pentachlorobiphenyl	ng/kg	42400	--	--	--	--	--
(PCB 89) 2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	1490	--	--	--	--	--
(PCB 9) 2,5-Dichlorobiphenyl	ng/kg	126 J	--	--	--	--	--
(PCB 90/101/113) 2,2',3,4',5-Pentachlorobiphenyl/2,2',4,5,5'-Pentachlorobiphenyl/2,3,3',5',6-Pentachlorobiphenyl	ng/kg	3.84 J	--	--	--	--	--
(PCB 92) 2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	290000	--	--	--	--	--
(PCB 93/98/100/102) Pentachlorobiphenyl	ng/kg	34100	--	--	--	--	--
(PCB 94) 2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	843	--	--	--	--	--
(PCB 95) 2,2',3,5',6-Pentachlorobiphenyl	ng/kg	61.3	--	--	--	--	--
(PCB 96) 2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	168000	--	--	--	--	--
	ng/kg	85.7 J	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-08	SB-09	SB-09	SB-09	SB-10	SB-10
	Sample Name:	SB08-0.5-110322	SB09-1.0-1.5-1022	SB09-2.5-3.0-1022	SB09-0.0-0.5-1022	SB10-1.0-1.5-1022	SB10-2.5-3.0-1022
	Sample Date:	11/03/2022	10/18/2022	10/18/2022	10/18/2022	10/18/2022	10/18/2022
	Depth:	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 99) 2,2',4,4',5-Pentachlorobiphenyl	ng/kg	5370	--	--	--	--	--
Aroclor-1016 (PCB-1016)	µg/kg	<20.7	<21.1	<21.0	<21.0	<21.1	<20.7
Aroclor-1221 (PCB-1221)	µg/kg	<33.8	<34.4	<34.2	<34.3	<34.4	<33.8
Aroclor-1232 (PCB-1232)	µg/kg	<28.9	<29.5	<29.3	<29.4	<29.5	<28.9
Aroclor-1242 (PCB-1242)	µg/kg	<30.2	<30.8	<30.7	<30.7	<30.8	<30.3
Aroclor-1248 (PCB-1248)	µg/kg	<25.0	<25.4	<25.3	<25.3	<25.4	<25.0
Aroclor-1254 (PCB-1254)	µg/kg	<24.4	<24.8	<24.7	<24.8	<24.8	<24.4
Aroclor-1260 (PCB-1260)	µg/kg	15200	893	226	9440	35100	305
Aroclor-1262 (PCB-1262)	µg/kg	<32.1	<32.8	<32.6	<32.7	<32.8	<32.2
Aroclor-1268 (PCB-1268)	µg/kg	<23.5	<23.9	<23.8	<23.9	<23.9	<23.5

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		SB-10	SB-11	SB-11	SB-11	SB-11	SB-12
Sample Name:		SB10-0.0-0.5-1022	SB11-1.0-1.5-1022	SB11-2.5-3.0-1022	SB11-0.0-0.5-1022	SB11D-0.0-0.5-1022	SB12-1.0-1.5-1022
Sample Date:		10/18/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/18/2022
Depth:		0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS
Parameters	**Unit**						
PCBs							
(PCB 1) 2-Chlorobiphenyl	ng/kg	<71.6 J	--	--	--	--	--
(PCB 10) 2,6-Dichlorobiphenyl	ng/kg	<37.3	--	--	--	--	--
(PCB 103) 2,2',4,5',6-Pentachlorobiphenyl	ng/kg	891	--	--	--	--	--
(PCB 104) 2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	<33.5	--	--	--	--	--
(PCB 105) 2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	35700	--	--	--	--	--
(PCB 106) 2,3,3',4,5-Pentachlorobiphenyl	ng/kg	<31.3	--	--	--	--	--
(PCB 107/124) Pentachlorobiphenyl	ng/kg	21700	--	--	--	--	--
(PCB 109) 2,3,3',4,6-Pentachlorobiphenyl	ng/kg	32100	--	--	--	--	--
(PCB 11) 3,3'-Dichlorobiphenyl	ng/kg	<1070	--	--	--	--	--
(PCB 110/115) 2,3,3',4',6-Pentachlorobiphenyl/2,3,4,4',6-Pentachlorobiphenyl	ng/kg	877000	--	--	--	--	--
(PCB 111) 2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	454	--	--	--	--	--
(PCB 112) 2,3,3',5,6-Pentachlorobiphenyl	ng/kg	<39.3	--	--	--	--	--
(PCB 114) 2,3,4,4',5-Pentachlorobiphenyl	ng/kg	2180	--	--	--	--	--
(PCB 118) 2,3',4,4',5-Pentachlorobiphenyl	ng/kg	602000	--	--	--	--	--
(PCB 12/13) 3,4-Dichlorobiphenyl/3,4'-Dichlorobiphenyl	ng/kg	105 J	--	--	--	--	--
(PCB 120) 2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	4690	--	--	--	--	--
(PCB 121) 2,3',4,5',6-Pentachlorobiphenyl	ng/kg	<35.5	--	--	--	--	--
(PCB 122) 2,3,3',4',5'-Pentachlorobiphenyl	ng/kg	2840	--	--	--	--	--
(PCB 123) 2',3,4,4',5-Pentachlorobiphenyl	ng/kg	2520	--	--	--	--	--
(PCB 126) 3,3',4,4',5-Pentachlorobiphenyl	ng/kg	46900	--	--	--	--	--
(PCB 127) 3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	1160	--	--	--	--	--
(PCB 128/166) 2,2',3,3',4,4'-Hexachlorobiphenyl/2,3,4,4',5,6-Hexachlorobiphenyl	ng/kg	603000	--	--	--	--	--
(PCB 129/138/163) Hexachlorobiphenyl	ng/kg	11300000	--	--	--	--	--
(PCB 130) 2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	369000	--	--	--	--	--
(PCB 131) 2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	40200	--	--	--	--	--
(PCB 132) 2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	2820000	--	--	--	--	--
(PCB 133) 2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	98400	--	--	--	--	--
(PCB 134/143) 2,2',3,3',5,6-Hexachlorobiphenyl/2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	363000	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**SB-10**	**SB-11**	**SB-11**	**SB-11**	**SB-11**	**SB-12**
Sample Name:		**SB10-0.0-0.5-1022**	**SB11-1.0-1.5-1022**	**SB11-2.5-3.0-1022**	**SB11-0.0-0.5-1022**	**SB11D-0.0-0.5-1022**	**SB12-1.0-1.5-1022**
Sample Date:		**10/18/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/18/2022**
Depth:		**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**	**0-0.5 ft BGS Duplicate**	**1-1.5 ft BGS**
Parameters	**Unit**						
PCBs (Continued)							
(PCB 135/151) 2,2',3,3',5,6'-Hexachlorobiphenyl/2,2',3,5,5',6-Hexachlorobiphenyl	ng/kg	4060000	--	--	--	--	--
(PCB 136) 2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	1060000	--	--	--	--	--
(PCB 137) 2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	47800	--	--	--	--	--
(PCB 139/140) 2,2',3,4,4',6-Hexachlorobiphenyl/2,2',3,4,4',6'-Hexachlorobiphenyl	ng/kg	31200	--	--	--	--	--
(PCB 14) 3,5-Dichlorobiphenyl	ng/kg	<33.2	--	--	--	--	--
(PCB 141) 2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	3080000	--	--	--	--	--
(PCB 142) 2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	<184	--	--	--	--	--
(PCB 144) 2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	524000	--	--	--	--	--
(PCB 145) 2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	<160	--	--	--	--	--
(PCB 146) 2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	1450000	--	--	--	--	--
(PCB 147/149) 2,2',3,4',5,6-Hexachlorobiphenyl/2,2',3,4',5',6-Hexachlorobiphenyl	ng/kg	7880000	--	--	--	--	--
(PCB 148) 2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	3060	--	--	--	--	--
(PCB 15) 4,4'-Dichlorobiphenyl	ng/kg	1240	--	--	--	--	--
(PCB 150) 2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	5250	--	--	--	--	--
(PCB 152) 2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	782 J	--	--	--	--	--
(PCB 153/168) 2,2',4,4',5,5'-Hexachlorobiphenyl/2,3',4,4',5',6-Hexachlorobiphenyl	ng/kg	10800000	--	--	--	--	--
(PCB 154) 2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	28500	--	--	--	--	--
(PCB 155) 2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	<157	--	--	--	--	--
(PCB 156/157) 2,3,3',4,4',5-Hexachlorobiphenyl/2,3,3',4,4',5'-Hexachlorobiphenyl	ng/kg	834000	--	--	--	--	--
(PCB 158) 2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	1030000	--	--	--	--	--
(PCB 159) 2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	181000	--	--	--	--	--
(PCB 16) 2,2',3-Trichlorobiphenyl	ng/kg	118 J	--	--	--	--	--
(PCB 160) 2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	<132	--	--	--	--	--
(PCB 161) 2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	<145	--	--	--	--	--
(PCB 162) 2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	22000	--	--	--	--	--
(PCB 164) 2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	857000	--	--	--	--	--
(PCB 165) 2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	<159	--	--	--	--	--
(PCB 167) 2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	341000	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-10	SB-11	SB-11	SB-11	SB-11	SB-12
	Sample Name:	SB10-0.0-0.5-1022	SB11-1.0-1.5-1022	SB11-2.5-3.0-1022	SB11-0.0-0.5-1022	SB11D-0.0-0.5-1022	SB12-1.0-1.5-1022
	Sample Date:	10/18/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/18/2022
	Depth:	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 169) 3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	8020	--	--	--	--	--
(PCB 17) 2,2',4-Trichlorobiphenyl	ng/kg	112 J	--	--	--	--	--
(PCB 170) 2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	6290000	--	--	--	--	--
(PCB 171/173) 2,2',3,3',4,4',6-Heptachlorobiphenyl/2,2',3,3',4,5,6-Heptachlorobiphenyl	ng/kg	1870000	--	--	--	--	--
(PCB 172) 2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	922000	--	--	--	--	--
(PCB 174) 2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	5500000	--	--	--	--	--
(PCB 175) 2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	191000	--	--	--	--	--
(PCB 176) 2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	655000	--	--	--	--	--
(PCB 177) 2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	3180000	--	--	--	--	--
(PCB 178) 2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	833000	--	--	--	--	--
(PCB 179) 2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	1790000	--	--	--	--	--
(PCB 18/30) 2,2',5-Trichlorobiphenyl/2,4,6-Trichlorobiphenyl	ng/kg	237 J	--	--	--	--	--
(PCB 180/193) 2,2',3,4,4',5,5'-Heptachlorobiphenyl/2,3,3',4',5,5',6-Heptachlorobiphenyl	ng/kg	12500000	--	--	--	--	--
(PCB 181) 2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	22600	--	--	--	--	--
(PCB 182) 2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	24200	--	--	--	--	--
(PCB 183/185) 2,2',3,4,4',5',6-Heptachlorobiphenyl/2,2',3,4,5,5',6-Heptachlorobiphenyl	ng/kg	4030000	--	--	--	--	--
(PCB 184) 2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	2550	--	--	--	--	--
(PCB 186) 2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	<199	--	--	--	--	--
(PCB 187) 2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	5560000	--	--	--	--	--
(PCB 188) 2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	4840	--	--	--	--	--
(PCB 189) 2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	206000	--	--	--	--	--
(PCB 19) 2,2',6-Trichlorobiphenyl	ng/kg	41.7 J	--	--	--	--	--
(PCB 190) 2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	1200000	--	--	--	--	--
(PCB 191) 2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	221000	--	--	--	--	--
(PCB 192) 2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	<146	--	--	--	--	--
(PCB 194) 2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	1870000	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-10	SB-11	SB-11	SB-11	SB-11	SB-12
	Sample Name:	SB10-0.0-0.5-1022	SB11-1.0-1.5-1022	SB11-2.5-3.0-1022	SB11-0.0-0.5-1022	SB11D-0.0-0.5-1022	SB12-1.0-1.5-1022
	Sample Date:	10/18/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/18/2022
	Depth:	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 195) 2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	797000	--	--	--	--	--
(PCB 196) 2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	1010000	--	--	--	--	--
(PCB 197/200) 2,2',3,3',4,4',6,6'-Octachlorobiphenyl/2,2',3,3',4,5,6,6'-Octachlorobiphenyl	ng/kg	280000	--	--	--	--	--
(PCB 198/199) 2,2',3,3',4,5,5',6-Octachlorobiphenyl/2,2',3,3',4,5,5',6'-Octachlorobiphenyl	ng/kg	1630000	--	--	--	--	--
(PCB 2) 3-Chlorobiphenyl	ng/kg	<34.1	--	--	--	--	--
(PCB 20/28) 2,3,3'-Trichlorobiphenyl/2,4,4'-Trichlorobiphenyl	ng/kg	686	--	--	--	--	--
(PCB 201) 2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	190000	--	--	--	--	--
(PCB 202) 2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	229000	--	--	--	--	--
(PCB 203) 2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	1070000	--	--	--	--	--
(PCB 204) 2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	527	--	--	--	--	--
(PCB 205) 2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	116000	--	--	--	--	--
(PCB 206) 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	277000	--	--	--	--	--
(PCB 207) 2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	37200	--	--	--	--	--
(PCB 208) 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	42500	--	--	--	--	--
(PCB 209) Decachlorobiphenyl	ng/kg	3900	--	--	--	--	--
(PCB 21/33) 2,3,4-Trichlorobiphenyl/2',3,4-Trichlorobiphenyl	ng/kg	285 J	--	--	--	--	--
(PCB 22) 2,3,4'-Trichlorobiphenyl	ng/kg	207	--	--	--	--	--
(PCB 23) 2,3,5-Trichlorobiphenyl	ng/kg	<30.1	--	--	--	--	--
(PCB 24) 2,3,6-Trichlorobiphenyl	ng/kg	<40.0	--	--	--	--	--
(PCB 25) 2,3',4-Trichlorobiphenyl	ng/kg	48.5 J	--	--	--	--	--
(PCB 26/29) 2,3',5-Trichlorobipheny/2,4,5-Trichlorobiphenyl	ng/kg	103 J	--	--	--	--	--
(PCB 27) 2,3',6-Trichlorobiphenyl	ng/kg	<42.0	--	--	--	--	--
(PCB 3) 4-Monochlorobiphenyl	ng/kg	<144 J	--	--	--	--	--
(PCB 31) 2,4',5-Trichlorobiphenyl	ng/kg	456	--	--	--	--	--
(PCB 32) 2,4',6-Trichlorobiphenyl	ng/kg	98.9 J	--	--	--	--	--
(PCB 34) 2,3',5'-Trichlorobiphenyl	ng/kg	<42.2	--	--	--	--	--
(PCB 35) 3,3',4-Trichlorobiphenyl	ng/kg	59.9 J	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		SB-10	SB-11	SB-11	SB-11	SB-11	SB-12
Sample Name:		SB10-0.0-0.5-1022	SB11-1.0-1.5-1022	SB11-2.5-3.0-1022	SB11-0.0-0.5-1022	SB11D-0.0-0.5-1022	SB12-1.0-1.5-1022
Sample Date:		10/18/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/18/2022
Depth:		0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 36) 3,3',5-Trichlorobiphenyl	ng/kg	<29.2	--	--	--	--	--
(PCB 37) 3,4,4'-Trichlorobiphenyl	ng/kg	902	--	--	--	--	--
(PCB 38) 3,4,5-Trichlorobiphenyl	ng/kg	<26.3	--	--	--	--	--
(PCB 39) 3,4',5-Trichlorobiphenyl	ng/kg	<31.2	--	--	--	--	--
(PCB 4) 2,2'-Dichlorobiphenyl	ng/kg	85.3 J	--	--	--	--	--
(PCB 40/41/71) 2,2',3,3'-TeCB/ 2,2',3,4-TeCB/2,3',4',6-TeCB	ng/kg	2260	--	--	--	--	--
(PCB 42) 2,2',3,4'-Tetrachlorobiphenyl	ng/kg	447	--	--	--	--	--
(PCB 43/73) 2,2',3,5-Tetrachlorobiphenyl/2,3',5',6-Tetrachlorobiphenyl	ng/kg	<105	--	--	--	--	--
(PCB 44/47/65) 2,2',3,5'-Tetrachlorobiphenyl/2,2',4,4'-Tetrachlorobiphenyl/2,3,5,6-Tetrachlorobiphenyl	ng/kg	1780	--	--	--	--	--
(PCB 45/51) 2,2',3,6-Tetrachlorobiphenyl/2,2',4,6'-Tetrachlorobiphenyl	ng/kg	247 J	--	--	--	--	--
(PCB 46) 2,2',3,6'-Tetrachlorobiphenyl	ng/kg	77.6 J	--	--	--	--	--
(PCB 48) 2,2',4,5-Tetrachlorobiphenyl	ng/kg	553	--	--	--	--	--
(PCB 49/69) 2,2',4,5'-Tetrachlorobiphenyl/2,3',4,6-Tetrachlorobiphenyl	ng/kg	1010	--	--	--	--	--
(PCB 5) 2,3-Dichlorobiphenyl	ng/kg	<27.0	--	--	--	--	--
(PCB 50/53) 2,2',4,6-Tetrachlorobipheny/2,2',5,6'-Tetrachlorobiphenyl	ng/kg	244 J	--	--	--	--	--
(PCB 52) 2,2',5,5'-Tetrachlorobiphenyl	ng/kg	15000	--	--	--	--	--
(PCB 54) 2,2',6,6'-Tetrachlorobiphenyl	ng/kg	<52.7	--	--	--	--	--
(PCB 55) 2,3,3',4-Tetrachlorobiphenyl	ng/kg	<82.4	--	--	--	--	--
(PCB 56) 2,3,3',4'-Tetrachlorobiphenyl	ng/kg	2760	--	--	--	--	--
(PCB 57) 2,3,3',5-Tetrachlorobiphenyl	ng/kg	<22.4	--	--	--	--	--
(PCB 58) 2,3,3',5'-Tetrachlorobiphenyl	ng/kg	<27.3	--	--	--	--	--
(PCB 59/62/75) 2,3,3',6-Tetrachlorobiphenyl/2,3,4,6-Tetrachlorobiphenyl/ 2,4,4',6-Tetrachlorobiphenyl	ng/kg	314 J	--	--	--	--	--
(PCB 6) 2,3'-Dichlorobiphenyl	ng/kg	60.0 J	--	--	--	--	--
(PCB 60) 2,3,4,4'-Tetrachlorobiphenyl	ng/kg	486	--	--	--	--	--
(PCB 61/70/74/76) 2,3,4,5-Tetrachlorobiphenyl/2,3',4',5-Tetrachlorobiphenyl/2,4,4',5-Tetrachlorobiphenyl/2,3',4',5'-Tetrachlorobiphenyl	ng/kg	7920	--	--	--	--	--
(PCB 63) 2,3,4',5-Tetrachlorobiphenyl	ng/kg	86.3 J	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-10	SB-11	SB-11	SB-11	SB-11	SB-12
	Sample Name:	SB10-0.0-0.5-1022	SB11-1.0-1.5-1022	SB11-2.5-3.0-1022	SB11-0.0-0.5-1022	SB11D-0.0-0.5-1022	SB12-1.0-1.5-1022
	Sample Date:	10/18/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/18/2022
	Depth:	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 64) 2,3,4',6-Tetrachlorobiphenyl	ng/kg	1160	--	--	--	--	--
(PCB 66) 2,3',4,4'-Tetrachlorobiphenyl	ng/kg	2630	--	--	--	--	--
(PCB 67) 2,3',4,5-Tetrachlorobiphenyl	ng/kg	263	--	--	--	--	--
(PCB 68) 2,3',4,5'-Tetrachlorobiphenyl	ng/kg	<86.5	--	--	--	--	--
(PCB 7) 2,4-Dichlorobiphenyl	ng/kg	<29.3	--	--	--	--	--
(PCB 72) 2,3',5,5'-Tetrachlorobiphenyl	ng/kg	253	--	--	--	--	--
(PCB 77) 3,3',4,4'-Tetrachlorobiphenyl	ng/kg	15400	--	--	--	--	--
(PCB 78) 3,3',4,5-Tetrachlorobiphenyl	ng/kg	37.9 J	--	--	--	--	--
(PCB 79) 3,3',4,5'-Tetrachlorobiphenyl	ng/kg	1300	--	--	--	--	--
(PCB 8) 2,4'-Dichlorobiphenyl	ng/kg	239	--	--	--	--	--
(PCB 80) 3,3',5,5'-Tetrachlorobiphenyl	ng/kg	<24.9	--	--	--	--	--
(PCB 81) 3,4,4',5-Tetrachlorobiphenyl	ng/kg	246	--	--	--	--	--
(PCB 82) 2,2',3,3',4-Pentachlorobiphenyl	ng/kg	5030	--	--	--	--	--
(PCB 83) 2,2',3,3',5-Pentachlorobiphenyl	ng/kg	28000	--	--	--	--	--
(PCB 84) 2,2',3,3',6-Pentachlorobiphenyl	ng/kg	18800	--	--	--	--	--
(PCB 85/116/117) 2,2',3,4,4'-PeCB/2,3,4,5,6-PeCB/2,3,4',5,6-PeCB Pentachlorobiphenyl/2,2',3',4,5-Pentachlorobiphenyl/2,3,3',4,5'-Pentachlorobiphenyl/2,3',4,4',6-Pentachlorobiphenyl/2',3,4,5,6'-Pentachlorobiphenyl	ng/kg	6150	--	--	--	--	--
(PCB 88/91) 2,2',3,4,6-Pentachlorobiphenyl/2,2',3,4',6-Pentachlorobiphenyl	ng/kg	8050	--	--	--	--	--
(PCB 89) 2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	633	--	--	--	--	--
(PCB 9) 2,5-Dichlorobiphenyl	ng/kg	<32.4	--	--	--	--	--
(PCB 90/101/113) 2,2',3,4',5-Pentachlorobiphenyl/2,2',4,5,5'-Pentachlorobiphenyl/2,3,3',5',6-Pentachlorobiphenyl	ng/kg	1130000	--	--	--	--	--
(PCB 92) 2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	198000	--	--	--	--	--
(PCB 93/98/100/102) Pentachlorobiphenyl	ng/kg	5500	--	--	--	--	--
(PCB 94) 2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	838	--	--	--	--	--
(PCB 95) 2,2',3,5',6-Pentachlorobiphenyl	ng/kg	440000	--	--	--	--	--
(PCB 96) 2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	718	--	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-10	SB-11	SB-11	SB-11	SB-11	SB-12
	Sample Name:	SB10-0.0-0.5-1022	SB11-1.0-1.5-1022	SB11-2.5-3.0-1022	SB11-0.0-0.5-1022	SB11D-0.0-0.5-1022	SB12-1.0-1.5-1022
	Sample Date:	10/18/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/18/2022
	Depth:	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 99) 2,2',4,4',5-Pentachlorobiphenyl	ng/kg	25100	--	--	--	--	--
Aroclor-1016 (PCB-1016)	µg/kg	<20.4	<20.5	<20.7	<20.8	<20.9	<20.7
Aroclor-1221 (PCB-1221)	µg/kg	<33.2	<33.5	<33.8	<34.0	<34.2	<33.8
Aroclor-1232 (PCB-1232)	µg/kg	<28.4	<28.7	<29.0	<29.1	<29.3	<28.9
Aroclor-1242 (PCB-1242)	µg/kg	<29.7	<30.0	<30.3	<30.4	<30.6	<30.3
Aroclor-1248 (PCB-1248)	µg/kg	<24.5	<24.7	<25.0	<25.1	<25.2	<25.0
Aroclor-1254 (PCB-1254)	µg/kg	<24.0	<24.2	<24.4	<24.5	<24.7	<24.4
Aroclor-1260 (PCB-1260)	µg/kg	124000	482	103	4110	3210	2810
Aroclor-1262 (PCB-1262)	µg/kg	<31.6	<31.9	<32.2	<32.3	<32.5	<32.2
Aroclor-1268 (PCB-1268)	µg/kg	<23.1	<23.3	<23.5	<23.6	<23.8	<23.5

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**SB-12**	**SB-12**	**SB-12**	**SB-13**	**SB-13**	**SB-13**
Sample Name:		**SB12-2.5-3.0-1022**	**SB12-0.0-0.5-1022**	**SB12D-0.0-0.5-1022**	**SB13-1.0-1.5-1022**	**SB13-2.5-3.0-1022**	**SB13-0.0-0.5-1022**
Sample Date:		**10/18/2022**	**10/18/2022**	**10/18/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**
Depth:		**2.5-3 ft BGS**	**0-0.5 ft BGS**	**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**
				Duplicate			
Parameters	**Unit**						
PCBs							
(PCB 1) 2-Chlorobiphenyl	ng/kg	--	<54.3 J	--	--	--	<10.8 J
(PCB 10) 2,6-Dichlorobiphenyl	ng/kg	--	<36.7	--	--	--	<3.75
(PCB 103) 2,2',4,5',6-Pentachlorobiphenyl	ng/kg	--	416	--	--	--	15.5 J
(PCB 104) 2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	--	<32.9	--	--	--	<3.37
(PCB 105) 2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	--	23100	--	--	--	2250
(PCB 106) 2,3,3',4,5-Pentachlorobiphenyl	ng/kg	--	<30.8	--	--	--	<3.15
(PCB 107/124) Pentachlorobiphenyl	ng/kg	--	5720	--	--	--	209
(PCB 109) 2,3,3',4,6-Pentachlorobiphenyl	ng/kg	--	8710	--	--	--	306
(PCB 11) 3,3'-Dichlorobiphenyl	ng/kg	--	<1060	--	--	--	<108
(PCB 110/115) 2,3,3',4',6-Pentachlorobiphenyl/2,3,4,4',6-Pentachlorobiphenyl	ng/kg	--	286000	--	--	--	6460
(PCB 111) 2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	--	<28.4	--	--	--	<2.91
(PCB 112) 2,3,3',5,6-Pentachlorobiphenyl	ng/kg	--	<38.7	--	--	--	<3.96
(PCB 114) 2,3,4,4',5-Pentachlorobiphenyl	ng/kg	--	446	--	--	--	88.8
(PCB 118) 2,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	143000	--	--	--	4560
(PCB 12/13) 3,4-Dichlorobiphenyl/3,4'-Dichlorobiphenyl	ng/kg	--	<64.4	--	--	--	12.8 J
(PCB 120) 2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	1000	--	--	--	14.2 J
(PCB 121) 2,3',4,5',6-Pentachlorobiphenyl	ng/kg	--	<35.0	--	--	--	<3.58
(PCB 122) 2,3,3',4',5'-Pentachlorobiphenyl	ng/kg	--	857	--	--	--	52.1
(PCB 123) 2',3,4,4',5-Pentachlorobiphenyl	ng/kg	--	845	--	--	--	88.6
(PCB 126) 3,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	9210	--	--	--	78.3
(PCB 127) 3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	433	--	--	--	15.9 J
(PCB 128/166) 2,2',3,3',4,4'-Hexachlorobiphenyl/2,3,4,4',5,6-Hexachlorobiphenyl	ng/kg	--	153000	--	--	--	2280
(PCB 129/138/163) Hexachlorobiphenyl	ng/kg	--	2360000	--	--	--	22000
(PCB 130) 2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	--	78700	--	--	--	1010
(PCB 131) 2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	--	10500	--	--	--	144
(PCB 132) 2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	--	560000	--	--	--	4890
(PCB 133) 2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	--	19800	--	--	--	231
(PCB 134/143) 2,2',3,3',5,6-Hexachlorobiphenyl/2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	--	65000	--	--	--	753

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
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Location ID:		**SB-12**	**SB-12**	**SB-12**	**SB-13**	**SB-13**	**SB-13**
Sample Name:		**SB12-2.5-3.0-1022**	**SB12-0.0-0.5-1022**	**SB12D-0.0-0.5-1022**	**SB13-1.0-1.5-1022**	**SB13-2.5-3.0-1022**	**SB13-0.0-0.5-1022**
Sample Date:		**10/18/2022**	**10/18/2022**	**10/18/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**
Depth:		**2.5-3 ft BGS**	**0-0.5 ft BGS**	**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**
				Duplicate			
Parameters	**Unit**						
PCBs (Continued)							
(PCB 135/151) 2,2',3,3',5,6'-Hexachlorobiphenyl/2,2',3,5,5',6-Hexachlorobiphenyl	ng/kg	--	677000	--	--	--	6450
(PCB 136) 2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	--	176000	--	--	--	1650
(PCB 137) 2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	--	11500	--	--	--	451
(PCB 139/140) 2,2',3,4,4',6-Hexachlorobiphenyl/2,2',3,4,4',6'-Hexachlorobiphenyl	ng/kg	--	5650	--	--	--	160
(PCB 14) 3,5-Dichlorobiphenyl	ng/kg	--	<32.7	--	--	--	<3.34
(PCB 141) 2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	--	548000	--	--	--	4310
(PCB 142) 2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	--	<36.2	--	--	--	<3.70
(PCB 144) 2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	--	92200	--	--	--	789
(PCB 145) 2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	--	111 J	--	--	--	<3.22
(PCB 146) 2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	--	274000	--	--	--	2590
(PCB 147/149) 2,2',3,4',5,6-Hexachlorobiphenyl/2,2',3,4',5',6-Hexachlorobiphenyl	ng/kg	--	1550000	--	--	--	13800
(PCB 148) 2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	--	544	--	--	--	11.5 J
(PCB 15) 4,4'-Dichlorobiphenyl	ng/kg	--	457	--	--	--	126
(PCB 150) 2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	--	1030	--	--	--	16.3 J
(PCB 152) 2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	--	183 J	--	--	--	6.12 J
(PCB 153/168) 2,2',4,4',5,5'-Hexachlorobiphenyl/2,3',4,4',5',6-Hexachlorobiphenyl	ng/kg	--	2130000	--	--	--	17400
(PCB 154) 2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	--	6890	--	--	--	103
(PCB 155) 2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	--	<30.9	--	--	--	<3.16
(PCB 156/157) 2,3,3',4,4',5-Hexachlorobiphenyl/2,3,3',4,4',5'-Hexachlorobiphenyl	ng/kg	--	186000	--	--	--	2190
(PCB 158) 2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	--	189000	--	--	--	1820
(PCB 159) 2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	--	27600	--	--	--	315
(PCB 16) 2,2',3-Trichlorobiphenyl	ng/kg	--	<69.2	--	--	--	42.8
(PCB 160) 2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	--	<26.0	--	--	--	<2.66
(PCB 161) 2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	--	<28.5	--	--	--	<2.92
(PCB 162) 2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	--	4770	--	--	--	32.0
(PCB 164) 2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	--	155000	--	--	--	1460
(PCB 165) 2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	--	336	--	--	--	<3.20
(PCB 167) 2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	80400	--	--	--	875

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-12	SB-12	SB-12	SB-13	SB-13	SB-13
	Sample Name:	SB12-2.5-3.0-1022	SB12-0.0-0.5-1022	SB12D-0.0-0.5-1022	SB13-1.0-1.5-1022	SB13-2.5-3.0-1022	SB13-0.0-0.5-1022
	Sample Date:	10/18/2022	10/18/2022	10/18/2022	10/19/2022	10/19/2022	10/19/2022
	Depth:	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 169) 3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	2070	--	--	--	30.5
(PCB 17) 2,2',4-Trichlorobiphenyl	ng/kg	--	<71.1	--	--	--	34.1
(PCB 170) 2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	--	1150000	--	--	--	10100
(PCB 171/173) 2,2',3,3',4,4',6-Heptachlorobiphenyl/2,2',3,3',4,5,6-Heptachlorobiphenyl	ng/kg	--	329000	--	--	--	2530
(PCB 172) 2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	--	180000	--	--	--	1760
(PCB 174) 2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	--	939000	--	--	--	9570
(PCB 175) 2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	--	31300	--	--	--	332
(PCB 176) 2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	--	103000	--	--	--	924
(PCB 177) 2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	--	618000	--	--	--	5520
(PCB 178) 2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	--	162000	--	--	--	1960
(PCB 179) 2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	--	318000	--	--	--	3650
(PCB 18/30) 2,2',5-Trichlorobiphenyl/2,4,6-Trichlorobiphenyl	ng/kg	--	<142	--	--	--	72.8
(PCB 180/193) 2,2',3,4,4',5,5'-Heptachlorobiphenyl/2,3,3',4',5,5',6-Heptachlorobiphenyl	ng/kg	--	2210000	--	--	--	23600
(PCB 181) 2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	--	3750	--	--	--	46.0
(PCB 182) 2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	--	4350	--	--	--	52.4
(PCB 183/185) 2,2',3,4,4',5',6-Heptachlorobiphenyl/2,2',3,4,5,5',6-Heptachlorobiphenyl	ng/kg	--	639000	--	--	--	6050
(PCB 184) 2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	--	466	--	--	--	6.71 J
(PCB 186) 2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	--	<39.1	--	--	--	<4.00
(PCB 187) 2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	--	935000	--	--	--	12100
(PCB 188) 2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	--	1010	--	--	--	12.7 J
(PCB 189) 2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	--	47000	--	--	--	427
(PCB 19) 2,2',6-Trichlorobiphenyl	ng/kg	--	<30.9	--	--	--	13.6 J
(PCB 190) 2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	--	250000	--	--	--	2140
(PCB 191) 2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	--	40600	--	--	--	382
(PCB 192) 2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	--	<28.8	--	--	--	<2.95
(PCB 194) 2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	--	386000	--	--	--	6410

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-12	SB-12	SB-12	SB-13	SB-13	SB-13
	Sample Name:	SB12-2.5-3.0-1022	SB12-0.0-0.5-1022	SB12D-0.0-0.5-1022	SB13-1.0-1.5-1022	SB13-2.5-3.0-1022	SB13-0.0-0.5-1022
	Sample Date:	10/18/2022	10/18/2022	10/18/2022	10/19/2022	10/19/2022	10/19/2022
	Depth:	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 195) 2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	--	174000	--	--	--	2330
(PCB 196) 2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	--	183000	--	--	--	2970
(PCB 197/200) 2,2',3,3',4,4',6,6'-Octachlorobiphenyl/2,2',3,3',4,5,6,6'-Octachlorobiphenyl	ng/kg	--	53100	--	--	--	960
(PCB 198/199) 2,2',3,3',4,5,5',6-Octachlorobiphenyl/2,2',3,3',4,5,5',6'-Octachlorobiphenyl	ng/kg	--	334000	--	--	--	7250
(PCB 2) 3-Chlorobiphenyl	ng/kg	--	<33.6	--	--	--	8.12 J
(PCB 20/28) 2,3,3'-Trichlorobiphenyl/2,4,4'-Trichlorobiphenyl	ng/kg	--	334 J	--	--	--	152
(PCB 201) 2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	--	32900	--	--	--	698
(PCB 202) 2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	--	48600	--	--	--	1190
(PCB 203) 2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	226000	--	--	--	4140
(PCB 204) 2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	--	109 J	--	--	--	<2.23
(PCB 205) 2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	23000	--	--	--	371
(PCB 206) 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	--	57700	--	--	--	3970
(PCB 207) 2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	--	7050	--	--	--	311
(PCB 208) 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	--	8960	--	--	--	1070
(PCB 209) Decachlorobiphenyl	ng/kg	--	1610	--	--	--	2060
(PCB 21/33) 2,3,4-Trichlorobiphenyl/2',3,4-Trichlorobiphenyl	ng/kg	--	<136	--	--	--	83.4
(PCB 22) 2,3,4'-Trichlorobiphenyl	ng/kg	--	114 J	--	--	--	59.4
(PCB 23) 2,3,5-Trichlorobiphenyl	ng/kg	--	<29.7	--	--	--	<3.04
(PCB 24) 2,3,6-Trichlorobiphenyl	ng/kg	--	<39.4	--	--	--	<4.03
(PCB 25) 2,3',4-Trichlorobiphenyl	ng/kg	--	<31.8	--	--	--	11.5 J
(PCB 26/29) 2,3',5-Trichlorobipheny/2,4,5-Trichlorobiphenyl	ng/kg	--	<94.9	--	--	--	26.5 J
(PCB 27) 2,3',6-Trichlorobiphenyl	ng/kg	--	<41.4	--	--	--	6.64 J
(PCB 3) 4-Monochlorobiphenyl	ng/kg	--	<73.3 J	--	--	--	<16.6 J
(PCB 31) 2,4',5-Trichlorobiphenyl	ng/kg	--	282	--	--	--	134
(PCB 32) 2,4',6-Trichlorobiphenyl	ng/kg	--	<66.1	--	--	--	22.0
(PCB 34) 2,3',5'-Trichlorobiphenyl	ng/kg	--	<41.6	--	--	--	<4.25
(PCB 35) 3,3',4-Trichlorobiphenyl	ng/kg	--	<40.3	--	--	--	7.78 J

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		SB-12	SB-12	SB-12	SB-13	SB-13	SB-13
Sample Name:		SB12-2.5-3.0-1022	SB12-0.0-0.5-1022	SB12D-0.0-0.5-1022	SB13-1.0-1.5-1022	SB13-2.5-3.0-1022	SB13-0.0-0.5-1022
Sample Date:		10/18/2022	10/18/2022	10/18/2022	10/19/2022	10/19/2022	10/19/2022
Depth:		2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 36) 3,3',5-Trichlorobiphenyl	ng/kg	--	<28.7	--	--	--	<2.94
(PCB 37) 3,4,4'-Trichlorobiphenyl	ng/kg	--	464	--	--	--	124
(PCB 38) 3,4,5-Trichlorobiphenyl	ng/kg	--	<25.9	--	--	--	<2.65
(PCB 39) 3,4',5-Trichlorobiphenyl	ng/kg	--	<30.7	--	--	--	<3.14
(PCB 4) 2,2'-Dichlorobiphenyl	ng/kg	--	<74.5	--	--	--	28.8
(PCB 40/41/71) 2,2',3,3'-TeCB/ 2,2',3,4-TeCB/2,3',4',6-TeCB	ng/kg	--	349 J	--	--	--	111
(PCB 42) 2,2',3,4'-Tetrachlorobiphenyl	ng/kg	--	181 J	--	--	--	55.8
(PCB 43/73) 2,2',3,5-Tetrachlorobiphenyl/2,3',5',6-Tetrachlorobiphenyl	ng/kg	--	<104	--	--	--	<10.6
(PCB 44/47/65) 2,2',3,5'-Tetrachlorobiphenyl/2,2',4,4'-Tetrachlorobiphenyl/2,3,5,6-Tetrachlorobiphenyl	ng/kg	--	981	--	--	--	330
(PCB 45/51) 2,2',3,6-Tetrachlorobiphenyl/2,2',4,6'-Tetrachlorobiphenyl	ng/kg	--	<104	--	--	--	34.8 J
(PCB 46) 2,2',3,6'-Tetrachlorobiphenyl	ng/kg	--	<39.4	--	--	--	11.8 J
(PCB 48) 2,2',4,5-Tetrachlorobiphenyl	ng/kg	--	87.9	--	--	--	33.3
(PCB 49/69) 2,2',4,5'-Tetrachlorobiphenyl/2,3',4,6-Tetrachlorobiphenyl	ng/kg	--	854	--	--	--	190
(PCB 5) 2,3-Dichlorobiphenyl	ng/kg	--	<26.6	--	--	--	<2.72
(PCB 50/53) 2,2',4,6-Tetrachlorobipheny/2,2',5,6'-Tetrachlorobiphenyl	ng/kg	--	<207	--	--	--	29.3 J
(PCB 52) 2,2',5,5'-Tetrachlorobiphenyl	ng/kg	--	5890	--	--	--	694
(PCB 54) 2,2',6,6'-Tetrachlorobiphenyl	ng/kg	--	<51.9	--	--	--	<5.30
(PCB 55) 2,3,3',4-Tetrachlorobiphenyl	ng/kg	--	<81.2	--	--	--	<8.30
(PCB 56) 2,3,3',4'-Tetrachlorobiphenyl	ng/kg	--	723	--	--	--	113
(PCB 57) 2,3,3',5-Tetrachlorobiphenyl	ng/kg	--	<22.1	--	--	--	<2.26
(PCB 58) 2,3,3',5'-Tetrachlorobiphenyl	ng/kg	--	<26.9	--	--	--	<2.75
(PCB 59/62/75) 2,3,3',6-Tetrachlorobiphenyl/2,3,4,6-Tetrachlorobiphenyl/ 2,4,4',6-Tetrachlorobiphenyl	ng/kg	--	81.8 J	--	--	--	19.9 J
(PCB 6) 2,3'-Dichlorobiphenyl	ng/kg	--	<37.8	--	--	--	13.3 J
(PCB 60) 2,3,4,4'-Tetrachlorobiphenyl	ng/kg	--	222	--	--	--	58.8
(PCB 61/70/74/76) 2,3,4,5-Tetrachlorobiphenyl/2,3',4',5-Tetrachlorobiphenyl/2,4,4',5-Tetrachlorobiphenyl/2,3',4',5'-Tetrachlorobiphenyl	ng/kg	--	3400	--	--	--	795
(PCB 63) 2,3,4',5-Tetrachlorobiphenyl	ng/kg	--	<76.4	--	--	--	10.8 J

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
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Location ID:		SB-12	SB-12	SB-12	SB-13	SB-13	SB-13
Sample Name:		SB12-2.5-3.0-1022	SB12-0.0-0.5-1022	SB12D-0.0-0.5-1022	SB13-1.0-1.5-1022	SB13-2.5-3.0-1022	SB13-0.0-0.5-1022
Sample Date:		10/18/2022	10/18/2022	10/18/2022	10/19/2022	10/19/2022	10/19/2022
Depth:		2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 64) 2,3,4',6-Tetrachlorobiphenyl	ng/kg	--	509	--	--	--	131
(PCB 66) 2,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	1170	--	--	--	250
(PCB 67) 2,3',4,5-Tetrachlorobiphenyl	ng/kg	--	38.8 J	--	--	--	7.59 J
(PCB 68) 2,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	<85.2	--	--	--	<8.71
(PCB 7) 2,4-Dichlorobiphenyl	ng/kg	--	<28.8	--	--	--	<2.95
(PCB 72) 2,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	78.8 J	--	--	--	2.72 J
(PCB 77) 3,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	3730	--	--	--	135
(PCB 78) 3,3',4,5-Tetrachlorobiphenyl	ng/kg	--	<33.2	--	--	--	<3.40
(PCB 79) 3,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	821	--	--	--	28.3
(PCB 8) 2,4'-Dichlorobiphenyl	ng/kg	--	112 J	--	--	--	57.1
(PCB 80) 3,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	<24.5	--	--	--	<2.50
(PCB 81) 3,4,4',5-Tetrachlorobiphenyl	ng/kg	--	80.6 J	--	--	--	7.50 J
(PCB 82) 2,2',3,3',4-Pentachlorobiphenyl	ng/kg	--	2760	--	--	--	333
(PCB 83) 2,2',3,3',5-Pentachlorobiphenyl	ng/kg	--	5570	--	--	--	201
(PCB 84) 2,2',3,3',6-Pentachlorobiphenyl	ng/kg	--	9090	--	--	--	673
(PCB 85/116/117) 2,2',3,4,4'-PeCB/2,3,4,5,6-PeCB/2,3,4',5,6-PeCB Pentachlorobiphenyl/2,2',3',4,5-Pentachlorobiphenyl/2,3,3',4,5'-Pentachlorobiphenyl/2,3',4,4',6-Pentachlorobiphenyl/2',3,4,5,6'-Pentachlorobiphenyl	ng/kg	--	3670	--	--	--	660
(PCB 88/91) 2,2',3,4,6-Pentachlorobiphenyl/2,2',3,4',6-Pentachlorobiphenyl	ng/kg	--	71800	--	--	--	2340
(PCB 89) 2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	--	3430	--	--	--	389
(PCB 9) 2,5-Dichlorobiphenyl	ng/kg	--	233	--	--	--	15.1 J
(PCB 90/101/113) 2,2',3,4',5-Pentachlorobiphenyl/2,2',4,5,5'-Pentachlorobiphenyl/2,3,3',5',6-Pentachlorobiphenyl	ng/kg	--	<31.9	--	--	--	<3.26
(PCB 92) 2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	--	400000	--	--	--	4810
(PCB 93/98/100/102) Pentachlorobiphenyl	ng/kg	--	44200	--	--	--	886
(PCB 94) 2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	--	1330	--	--	--	72.0 J
(PCB 95) 2,2',3,5',6-Pentachlorobiphenyl	ng/kg	--	126 J	--	--	--	8.55 J
(PCB 96) 2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	--	192000	--	--	--	3250
	ng/kg	--	108 J	--	--	--	8.59 J

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

	Location ID:	SB-12	SB-12	SB-12	SB-13	SB-13	SB-13
	Sample Name:	SB12-2.5-3.0-1022	SB12-0.0-0.5-1022	SB12D-0.0-0.5-1022	SB13-1.0-1.5-1022	SB13-2.5-3.0-1022	SB13-0.0-0.5-1022
	Sample Date:	10/18/2022	10/18/2022	10/18/2022	10/19/2022	10/19/2022	10/19/2022
	Depth:	2.5-3 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS Duplicate	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS
Parameters	**Unit**						
PCBs (Continued)							
(PCB 99) 2,2',4,4',5-Pentachlorobiphenyl	ng/kg	--	13600	--	--	--	1180
Aroclor-1016 (PCB-1016)	µg/kg	<21.0	<21.1	<20.8	<20.8	<21.0	<21.1
Aroclor-1221 (PCB-1221)	µg/kg	<34.3	<34.5	<33.9	<34.0	<34.3	<34.4
Aroclor-1232 (PCB-1232)	µg/kg	<29.4	<29.5	<29.0	<29.1	<29.4	<29.5
Aroclor-1242 (PCB-1242)	µg/kg	<30.7	<30.9	<30.3	<30.4	<30.7	<30.8
Aroclor-1248 (PCB-1248)	µg/kg	<25.4	<25.5	<25.0	<25.1	<25.4	<25.4
Aroclor-1254 (PCB-1254)	µg/kg	<24.8	<24.9	<24.4	<24.5	<24.8	<24.9
Aroclor-1260 (PCB-1260)	µg/kg	162	30800	38600	52.6	19.3 J	224
Aroclor-1262 (PCB-1262)	µg/kg	<32.7	<32.8	<32.2	<32.3	<32.7	<32.8
Aroclor-1268 (PCB-1268)	µg/kg	<23.9	<24.0	<23.6	<23.6	<23.9	<24.0

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
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Location ID:		**SB-14**	**SB-14**	**SB-14**	**SB-15**	**SB-15**
Sample Name:		**SB14-1.0-1.5-1022**	**SB14-2.5-3.0-1022**	**SB14-0.0-0.5-1022**	**SB15-1.0-1.5-1022**	**SB15-2.5-3.0-1022**
Sample Date:		**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**
Depth:		**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
Parameters	**Unit**					
PCBs						
(PCB 1) 2-Chlorobiphenyl	ng/kg	<11.1 J	--	--	--	--
(PCB 10) 2,6-Dichlorobiphenyl	ng/kg	<3.52	--	--	--	--
(PCB 103) 2,2',4,5',6-Pentachlorobiphenyl	ng/kg	6.00 J	--	--	--	--
(PCB 104) 2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	<3.16	--	--	--	--
(PCB 105) 2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	676	--	--	--	--
(PCB 106) 2,3,3',4,5-Pentachlorobiphenyl	ng/kg	<2.96	--	--	--	--
(PCB 107/124) Pentachlorobiphenyl	ng/kg	96.4	--	--	--	--
(PCB 109) 2,3,3',4,6-Pentachlorobiphenyl	ng/kg	115	--	--	--	--
(PCB 11) 3,3'-Dichlorobiphenyl	ng/kg	115	--	--	--	--
(PCB 110/115) 2,3,3',4',6-Pentachlorobiphenyl/2,3,4,4',6-Pentachlorobiphenyl	ng/kg	2780	--	--	--	--
(PCB 111) 2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	<2.73	--	--	--	--
(PCB 112) 2,3,3',5,6-Pentachlorobiphenyl	ng/kg	<3.71	--	--	--	--
(PCB 114) 2,3,4,4',5-Pentachlorobiphenyl	ng/kg	36.0	--	--	--	--
(PCB 118) 2,3',4,4',5-Pentachlorobiphenyl	ng/kg	1620	--	--	--	--
(PCB 12/13) 3,4-Dichlorobiphenyl/3,4'-Dichlorobiphenyl	ng/kg	9.97 J	--	--	--	--
(PCB 120) 2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	5.80 J	--	--	--	--
(PCB 121) 2,3',4,5',6-Pentachlorobiphenyl	ng/kg	<3.35	--	--	--	--
(PCB 122) 2,3,3',4',5'-Pentachlorobiphenyl	ng/kg	21.7	--	--	--	--
(PCB 123) 2',3,4,4',5-Pentachlorobiphenyl	ng/kg	38.7	--	--	--	--
(PCB 126) 3,3',4,4',5-Pentachlorobiphenyl	ng/kg	19.6	--	--	--	--
(PCB 127) 3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	6.04 J	--	--	--	--
(PCB 128/166) 2,2',3,3',4,4'-Hexachlorobiphenyl/2,3,4,4',5,6-Hexachlorobiphenyl	ng/kg	792	--	--	--	--
(PCB 129/138/163) Hexachlorobiphenyl	ng/kg	9880	--	--	--	--
(PCB 130) 2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	386	--	--	--	--
(PCB 131) 2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	54.3	--	--	--	--
(PCB 132) 2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	1980	--	--	--	--
(PCB 133) 2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	103	--	--	--	--
(PCB 134/143) 2,2',3,3',5,6-Hexachlorobiphenyl/2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	279	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**SB-14**	**SB-14**	**SB-14**	**SB-15**	**SB-15**
Sample Name:		**SB14-1.0-1.5-1022**	**SB14-2.5-3.0-1022**	**SB14-0.0-0.5-1022**	**SB15-1.0-1.5-1022**	**SB15-2.5-3.0-1022**
Sample Date:		**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**
Depth:		**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
Parameters	**Unit**					
PCBs (Continued)						
(PCB 135/151) 2,2',3,3',5,6'-Hexachlorobiphenyl/2,2',3,5,5',6-Hexachlorobiphenyl	ng/kg	2730	--	--	--	--
(PCB 136) 2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	686	--	--	--	--
(PCB 137) 2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	144	--	--	--	--
(PCB 139/140) 2,2',3,4,4',6-Hexachlorobiphenyl/2,2',3,4,4',6'-Hexachlorobiphenyl	ng/kg	56.5	--	--	--	--
(PCB 14) 3,5-Dichlorobiphenyl	ng/kg	<3.13	--	--	--	--
(PCB 141) 2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	1890	--	--	--	--
(PCB 142) 2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	<3.47	--	--	--	--
(PCB 144) 2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	337	--	--	--	--
(PCB 145) 2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	<3.02	--	--	--	--
(PCB 146) 2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	1190	--	--	--	--
(PCB 147/149) 2,2',3,4',5,6-Hexachlorobiphenyl/2,2',3,4',5',6-Hexachlorobiphenyl	ng/kg	6220	--	--	--	--
(PCB 148) 2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	5.85 J	--	--	--	--
(PCB 15) 4,4'-Dichlorobiphenyl	ng/kg	75.2	--	--	--	--
(PCB 150) 2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	4.78 J	--	--	--	--
(PCB 152) 2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	<3.47	--	--	--	--
(PCB 153/168) 2,2',4,4',5,5'-Hexachlorobiphenyl/2,3',4,4',5',6-Hexachlorobiphenyl	ng/kg	8200	--	--	--	--
(PCB 154) 2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	30.8	--	--	--	--
(PCB 155) 2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	<2.97	--	--	--	--
(PCB 156/157) 2,3,3',4,4',5-Hexachlorobiphenyl/2,3,3',4,4',5'-Hexachlorobiphenyl	ng/kg	763	--	--	--	--
(PCB 158) 2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	764	--	--	--	--
(PCB 159) 2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	142	--	--	--	--
(PCB 16) 2,2',3-Trichlorobiphenyl	ng/kg	16.2 J	--	--	--	--
(PCB 160) 2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	<2.50	--	--	--	--
(PCB 161) 2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	<2.74	--	--	--	--
(PCB 162) 2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	22.4	--	--	--	--
(PCB 164) 2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	654	--	--	--	--
(PCB 165) 2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	<3.00	--	--	--	--
(PCB 167) 2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	335	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**SB-14**	**SB-14**	**SB-14**	**SB-15**	**SB-15**
Sample Name:		**SB14-1.0-1.5-1022**	**SB14-2.5-3.0-1022**	**SB14-0.0-0.5-1022**	**SB15-1.0-1.5-1022**	**SB15-2.5-3.0-1022**
Sample Date:		**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**
Depth:		**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
Parameters	**Unit**					
PCBs (Continued)						
(PCB 169) 3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	10.2	--	--	--	--
(PCB 17) 2,2',4-Trichlorobiphenyl	ng/kg	16.9 J	--	--	--	--
(PCB 170) 2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	3950	--	--	--	--
(PCB 171/173) 2,2',3,3',4,4',6-Heptachlorobiphenyl/2,2',3,3',4,5,6-Heptachlorobiphenyl	ng/kg	1080	--	--	--	--
(PCB 172) 2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	688	--	--	--	--
(PCB 174) 2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	3750	--	--	--	--
(PCB 175) 2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	145	--	--	--	--
(PCB 176) 2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	419	--	--	--	--
(PCB 177) 2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	2390	--	--	--	--
(PCB 178) 2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	802	--	--	--	--
(PCB 179) 2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	1510	--	--	--	--
(PCB 18/30) 2,2',5-Trichlorobiphenyl/2,4,6-Trichlorobiphenyl	ng/kg	32.5 J	--	--	--	--
(PCB 180/193) 2,2',3,4,4',5,5'-Heptachlorobiphenyl/2,3,3',4',5,5',6-Heptachlorobiphenyl	ng/kg	9010	--	--	--	--
(PCB 181) 2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	15.8 J	--	--	--	--
(PCB 182) 2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	18.0 J	--	--	--	--
(PCB 183/185) 2,2',3,4,4',5',6-Heptachlorobiphenyl/2,2',3,4,5,5',6-Heptachlorobiphenyl	ng/kg	2420	--	--	--	--
(PCB 184) 2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	<3.30	--	--	--	--
(PCB 186) 2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	<3.75	--	--	--	--
(PCB 187) 2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	4840	--	--	--	--
(PCB 188) 2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	4.70 J	--	--	--	--
(PCB 189) 2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	170	--	--	--	--
(PCB 19) 2,2',6-Trichlorobiphenyl	ng/kg	4.93 J	--	--	--	--
(PCB 190) 2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	826	--	--	--	--
(PCB 191) 2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	145	--	--	--	--
(PCB 192) 2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	<2.76	--	--	--	--
(PCB 194) 2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	1870	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**SB-14**	**SB-14**	**SB-14**	**SB-15**	**SB-15**
Sample Name:		**SB14-1.0-1.5-1022**	**SB14-2.5-3.0-1022**	**SB14-0.0-0.5-1022**	**SB15-1.0-1.5-1022**	**SB15-2.5-3.0-1022**
Sample Date:		**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**
Depth:		**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
Parameters	**Unit**					
PCBs (Continued)						
(PCB 195) 2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	780	--	--	--	--
(PCB 196) 2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	912	--	--	--	--
(PCB 197/200) 2,2',3,3',4,4',6,6'-Octachlorobiphenyl/2,2',3,3',4,5,6,6'-Octachlorobiphenyl	ng/kg	312	--	--	--	--
(PCB 198/199) 2,2',3,3',4,5,5',6-Octachlorobiphenyl/2,2',3,3',4,5,5',6'-Octachlorobiphenyl	ng/kg	2150	--	--	--	--
(PCB 2) 3-Chlorobiphenyl	ng/kg	10.6 J	--	--	--	--
(PCB 20/28) 2,3,3'-Trichlorobiphenyl/2,4,4'-Trichlorobiphenyl	ng/kg	92.9	--	--	--	--
(PCB 201) 2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	208	--	--	--	--
(PCB 202) 2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	368	--	--	--	--
(PCB 203) 2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	1260	--	--	--	--
(PCB 204) 2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	<2.09	--	--	--	--
(PCB 205) 2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	125	--	--	--	--
(PCB 206) 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	904	--	--	--	--
(PCB 207) 2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	102	--	--	--	--
(PCB 208) 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	289	--	--	--	--
(PCB 209) Decachlorobiphenyl	ng/kg	1570	--	--	--	--
(PCB 21/33) 2,3,4-Trichlorobiphenyl/2',3,4-Trichlorobiphenyl	ng/kg	43.2	--	--	--	--
(PCB 22) 2,3,4'-Trichlorobiphenyl	ng/kg	34.6	--	--	--	--
(PCB 23) 2,3,5-Trichlorobiphenyl	ng/kg	<2.85	--	--	--	--
(PCB 24) 2,3,6-Trichlorobiphenyl	ng/kg	<3.78	--	--	--	--
(PCB 25) 2,3',4-Trichlorobiphenyl	ng/kg	6.44 J	--	--	--	--
(PCB 26/29) 2,3',5-Trichlorobipheny/2,4,5-Trichlorobiphenyl	ng/kg	13.6 J	--	--	--	--
(PCB 27) 2,3',6-Trichlorobiphenyl	ng/kg	<3.97	--	--	--	--
(PCB 3) 4-Monochlorobiphenyl	ng/kg	23.2	--	--	--	--
(PCB 31) 2,4',5-Trichlorobiphenyl	ng/kg	81.9	--	--	--	--
(PCB 32) 2,4',6-Trichlorobiphenyl	ng/kg	11.0 J	--	--	--	--
(PCB 34) 2,3',5'-Trichlorobiphenyl	ng/kg	<3.99	--	--	--	--
(PCB 35) 3,3',4-Trichlorobiphenyl	ng/kg	6.42 J	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**SB-14**	**SB-14**	**SB-14**	**SB-15**	**SB-15**
Sample Name:		**SB14-1.0-1.5-1022**	**SB14-2.5-3.0-1022**	**SB14-0.0-0.5-1022**	**SB15-1.0-1.5-1022**	**SB15-2.5-3.0-1022**
Sample Date:		**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**
Depth:		**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
Parameters	**Unit**					
PCBs (Continued)						
(PCB 36) 3,3',5-Trichlorobiphenyl	ng/kg	<2.76	--	--	--	--
(PCB 37) 3,4,4'-Trichlorobiphenyl	ng/kg	79.5	--	--	--	--
(PCB 38) 3,4,5-Trichlorobiphenyl	ng/kg	<2.49	--	--	--	--
(PCB 39) 3,4',5-Trichlorobiphenyl	ng/kg	<2.95	--	--	--	--
(PCB 4) 2,2'-Dichlorobiphenyl	ng/kg	12.1	--	--	--	--
(PCB 40/41/71) 2,2',3,3'-TeCB/ 2,2',3,4-TeCB/2,3',4',6-TeCB	ng/kg	68.9	--	--	--	--
(PCB 42) 2,2',3,4'-Tetrachlorobiphenyl	ng/kg	37.8	--	--	--	--
(PCB 43/73) 2,2',3,5-Tetrachlorobiphenyl/2,3',5',6-Tetrachlorobiphenyl	ng/kg	<9.95	--	--	--	--
(PCB 44/47/65) 2,2',3,5'-Tetrachlorobiphenyl/2,2',4,4'-Tetrachlorobiphenyl/2,3,5,6-Tetrachlorobiphenyl	ng/kg	291	--	--	--	--
(PCB 45/51) 2,2',3,6-Tetrachlorobiphenyl/2,2',4,6'-Tetrachlorobiphenyl	ng/kg	18.8 J	--	--	--	--
(PCB 46) 2,2',3,6'-Tetrachlorobiphenyl	ng/kg	5.83 J	--	--	--	--
(PCB 48) 2,2',4,5-Tetrachlorobiphenyl	ng/kg	19.0	--	--	--	--
(PCB 49/69) 2,2',4,5'-Tetrachlorobiphenyl/2,3',4,6-Tetrachlorobiphenyl	ng/kg	168	--	--	--	--
(PCB 5) 2,3-Dichlorobiphenyl	ng/kg	<2.55	--	--	--	--
(PCB 50/53) 2,2',4,6-Tetrachlorobipheny/2,2',5,6'-Tetrachlorobiphenyl	ng/kg	<19.9	--	--	--	--
(PCB 52) 2,2',5,5'-Tetrachlorobiphenyl	ng/kg	723	--	--	--	--
(PCB 54) 2,2',6,6'-Tetrachlorobiphenyl	ng/kg	<4.98	--	--	--	--
(PCB 55) 2,3,3',4-Tetrachlorobiphenyl	ng/kg	<7.79	--	--	--	--
(PCB 56) 2,3,3',4'-Tetrachlorobiphenyl	ng/kg	83.3	--	--	--	--
(PCB 57) 2,3,3',5-Tetrachlorobiphenyl	ng/kg	<2.12	--	--	--	--
(PCB 58) 2,3,3',5'-Tetrachlorobiphenyl	ng/kg	<2.58	--	--	--	--
(PCB 59/62/75) 2,3,3',6-Tetrachlorobiphenyl/2,3,4,6-Tetrachlorobiphenyl/ 2,4,4',6-Tetrachlorobiphenyl	ng/kg	10.8 J	--	--	--	--
(PCB 6) 2,3'-Dichlorobiphenyl	ng/kg	6.54 J	--	--	--	--
(PCB 60) 2,3,4,4'-Tetrachlorobiphenyl	ng/kg	40.1	--	--	--	--
(PCB 61/70/74/76) 2,3,4,5-Tetrachlorobiphenyl/2,3',4',5-Tetrachlorobiphenyl/2,4,4',5-Tetrachlorobiphenyl/2,3',4',5'-Tetrachlorobiphenyl	ng/kg	642	--	--	--	--
(PCB 63) 2,3,4',5-Tetrachlorobiphenyl	ng/kg	8.78 J	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**SB-14**	**SB-14**	**SB-14**	**SB-15**	**SB-15**
Sample Name:		**SB14-1.0-1.5-1022**	**SB14-2.5-3.0-1022**	**SB14-0.0-0.5-1022**	**SB15-1.0-1.5-1022**	**SB15-2.5-3.0-1022**
Sample Date:		**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**
Depth:		**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
Parameters	**Unit**					
PCBs (Continued)						
(PCB 64) 2,3,4',6-Tetrachlorobiphenyl	ng/kg	122	--	--	--	--
(PCB 66) 2,3',4,4'-Tetrachlorobiphenyl	ng/kg	180	--	--	--	--
(PCB 67) 2,3',4,5-Tetrachlorobiphenyl	ng/kg	3.30 J	--	--	--	--
(PCB 68) 2,3',4,5'-Tetrachlorobiphenyl	ng/kg	<8.18	--	--	--	--
(PCB 7) 2,4-Dichlorobiphenyl	ng/kg	<2.76	--	--	--	--
(PCB 72) 2,3',5,5'-Tetrachlorobiphenyl	ng/kg	2.95 J	--	--	--	--
(PCB 77) 3,3',4,4'-Tetrachlorobiphenyl	ng/kg	38.4	--	--	--	--
(PCB 78) 3,3',4,5-Tetrachlorobiphenyl	ng/kg	<3.19	--	--	--	--
(PCB 79) 3,3',4,5'-Tetrachlorobiphenyl	ng/kg	12.4 J	--	--	--	--
(PCB 8) 2,4'-Dichlorobiphenyl	ng/kg	29.6	--	--	--	--
(PCB 80) 3,3',5,5'-Tetrachlorobiphenyl	ng/kg	<2.35	--	--	--	--
(PCB 81) 3,4,4',5-Tetrachlorobiphenyl	ng/kg	3.45 J	--	--	--	--
(PCB 82) 2,2',3,3',4-Pentachlorobiphenyl	ng/kg	151	--	--	--	--
(PCB 83) 2,2',3,3',5-Pentachlorobiphenyl	ng/kg	84.5	--	--	--	--
(PCB 84) 2,2',3,3',6-Pentachlorobiphenyl	ng/kg	356	--	--	--	--
(PCB 85/116/117) 2,2',3,4,4'-PeCB/2,3,4,5,6-PeCB/2,3,4',5,6-PeCB	ng/kg	305	--	--	--	--
Pentachlorobiphenyl/2,2',3',4,5-Pentachlorobiphenyl/2,3,3',4,5'-Pentachlorobiphenyl/2,3',4,4',6-Pentachlorobiphenyl/2',3,4,5,6'-Pentachlorobiphenyl	ng/kg	1040	--	--	--	--
(PCB 88/91) 2,2',3,4,6-Pentachlorobiphenyl/2,2',3,4',6-Pentachlorobiphenyl	ng/kg	187	--	--	--	--
(PCB 89) 2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	9.44 J	--	--	--	--
(PCB 9) 2,5-Dichlorobiphenyl	ng/kg	<3.06	--	--	--	--
(PCB 90/101/113) 2,2',3,4',5-Pentachlorobiphenyl/2,2',4,5,5'-Pentachlorobiphenyl/2,3,3',5',6-Pentachlorobiphenyl	ng/kg	2110	--	--	--	--
(PCB 92) 2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	354	--	--	--	--
(PCB 93/98/100/102) Pentachlorobiphenyl	ng/kg	35.4 J	--	--	--	--
(PCB 94) 2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	4.22 J	--	--	--	--
(PCB 95) 2,2',3,5',6-Pentachlorobiphenyl	ng/kg	1520	--	--	--	--
(PCB 96) 2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	6.12 J	--	--	--	--

Table 3

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**SB-14**	**SB-14**	**SB-14**	**SB-15**	**SB-15**
Sample Name:		**SB14-1.0-1.5-1022**	**SB14-2.5-3.0-1022**	**SB14-0.0-0.5-1022**	**SB15-1.0-1.5-1022**	**SB15-2.5-3.0-1022**
Sample Date:		**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**
Depth:		**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**
Parameters	**Unit**					
PCBs (Continued)						
(PCB 99) 2,2',4,4',5-Pentachlorobiphenyl	ng/kg	654	--	--	--	--
Aroclor-1016 (PCB-1016)	µg/kg	<21.1	<20.8	<20.6	<20.4	<21.0
Aroclor-1221 (PCB-1221)	µg/kg	<34.4	<33.9	<33.6	<33.3	<34.2
Aroclor-1232 (PCB-1232)	µg/kg	<29.4	<29.0	<28.8	<28.5	<29.3
Aroclor-1242 (PCB-1242)	µg/kg	<30.8	<30.3	<30.1	<29.8	<30.7
Aroclor-1248 (PCB-1248)	µg/kg	<25.4	<25.0	<24.8	<24.6	<25.3
Aroclor-1254 (PCB-1254)	µg/kg	<24.8	<24.4	<24.2	<24.0	<24.7
Aroclor-1260 (PCB-1260)	µg/kg	124	163	296	65.2	175
Aroclor-1262 (PCB-1262)	µg/kg	<32.7	<32.2	<32.0	<31.7	<32.6
Aroclor-1268 (PCB-1268)	µg/kg	<23.9	<23.6	<23.4	<23.1	<23.8

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
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Location ID:		**SB-15**	**SB-16**	**SB-16**	**SB-16**
Sample Name:		**SB15-0.0-0.5-1022**	**SB16-1.0-1.5-1022**	**SB16-2.5-3.0-1022**	**SB16-0.0-0.5-1022**
Sample Date:		**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**
Depth:		**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**
Parameters	**Unit**				
PCBs					
(PCB 1) 2-Chlorobiphenyl	ng/kg	--	--	--	--
(PCB 10) 2,6-Dichlorobiphenyl	ng/kg	--	--	--	--
(PCB 103) 2,2',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 104) 2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 105) 2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 106) 2,3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 107/124) Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 109) 2,3,3',4,6-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 11) 3,3'-Dichlorobiphenyl	ng/kg	--	--	--	--
(PCB 110/115) 2,3,3',4',6-Pentachlorobiphenyl/2,3,4,4',6-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 111) 2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 112) 2,3,3',5,6-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 114) 2,3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 118) 2,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 12/13) 3,4-Dichlorobiphenyl/3,4'-Dichlorobiphenyl	ng/kg	--	--	--	--
(PCB 120) 2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 121) 2,3',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 122) 2,3,3',4',5'-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 123) 2',3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 126) 3,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 127) 3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 128/166) 2,2',3,3',4,4'-Hexachlorobiphenyl/2,3,4,4',5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 129/138/163) Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 130) 2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 131) 2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 132) 2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 133) 2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 134/143) 2,2',3,3',5,6-Hexachlorobiphenyl/2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--

Analytical Results Summary
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Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
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Location ID:		**SB-15**	**SB-16**	**SB-16**	**SB-16**
Sample Name:		**SB15-0.0-0.5-1022**	**SB16-1.0-1.5-1022**	**SB16-2.5-3.0-1022**	**SB16-0.0-0.5-1022**
Sample Date:		**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**
Depth:		**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**
Parameters	**Unit**				
PCBs (Continued)					
(PCB 135/151) 2,2',3,3',5,6'-Hexachlorobiphenyl/2,2',3,5,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 136) 2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 137) 2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 139/140) 2,2',3,4,4',6-Hexachlorobiphenyl/2,2',3,4,4',6'-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 14) 3,5-Dichlorobiphenyl	ng/kg	--	--	--	--
(PCB 141) 2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 142) 2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 144) 2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 145) 2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 146) 2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 147/149) 2,2',3,4',5,6-Hexachlorobiphenyl/2,2',3,4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 148) 2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 15) 4,4'-Dichlorobiphenyl	ng/kg	--	--	--	--
(PCB 150) 2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 152) 2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 153/168) 2,2',4,4',5,5'-Hexachlorobiphenyl/2,3',4,4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 154) 2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 155) 2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 156/157) 2,3,3',4,4',5-Hexachlorobiphenyl/2,3,3',4,4',5'-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 158) 2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 159) 2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 16) 2,2',3-Trichlorobiphenyl	ng/kg	--	--	--	--
(PCB 160) 2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 161) 2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 162) 2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 164) 2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 165) 2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 167) 2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--

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Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
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	Location ID:	SB-15	SB-16	SB-16	SB-16
	Sample Name:	SB15-0.0-0.5-1022	SB16-1.0-1.5-1022	SB16-2.5-3.0-1022	SB16-0.0-0.5-1022
	Sample Date:	10/19/2022	10/19/2022	10/19/2022	10/19/2022
	Depth:	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS
Parameters	**Unit**				
PCBs (Continued)					
(PCB 169) 3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--
(PCB 17) 2,2',4-Trichlorobiphenyl	ng/kg	--	--	--	--
(PCB 170) 2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 171/173) 2,2',3,3',4,4',6-Heptachlorobiphenyl/2,2',3,3',4,5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 172) 2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 174) 2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 175) 2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 176) 2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 177) 2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 178) 2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 179) 2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 18/30) 2,2',5-Trichlorobiphenyl/2,4,6-Trichlorobiphenyl	ng/kg	--	--	--	--
(PCB 180/193) 2,2',3,4,4',5,5'-Heptachlorobiphenyl/2,3,3',4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 181) 2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 182) 2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 183/185) 2,2',3,4,4',5',6-Heptachlorobiphenyl/2,2',3,4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 184) 2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 186) 2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 187) 2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 188) 2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 189) 2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 19) 2,2',6-Trichlorobiphenyl	ng/kg	--	--	--	--
(PCB 190) 2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 191) 2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 192) 2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--
(PCB 194) 2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
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Location ID:		**SB-15**	**SB-16**	**SB-16**	**SB-16**
Sample Name:		**SB15-0.0-0.5-1022**	**SB16-1.0-1.5-1022**	**SB16-2.5-3.0-1022**	**SB16-0.0-0.5-1022**
Sample Date:		**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**
Depth:		**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**
Parameters	**Unit**				
PCBs (Continued)					
(PCB 195) 2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	--	--	--	--
(PCB 196) 2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	--	--	--	--
(PCB 197/200) 2,2',3,3',4,4',6,6'-Octachlorobiphenyl/2,2',3,3',4,5,6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--
(PCB 198/199) 2,2',3,3',4,5,5',6-Octachlorobiphenyl/2,2',3,3',4,5,5',6'-Octachlorobiphenyl	ng/kg	--	--	--	--
(PCB 2) 3-Chlorobiphenyl	ng/kg	--	--	--	--
(PCB 20/28) 2,3,3'-Trichlorobiphenyl/2,4,4'-Trichlorobiphenyl	ng/kg	--	--	--	--
(PCB 201) 2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--
(PCB 202) 2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--
(PCB 203) 2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--
(PCB 204) 2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--
(PCB 205) 2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--
(PCB 206) 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	--	--	--	--
(PCB 207) 2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--
(PCB 208) 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--
(PCB 209) Decachlorobiphenyl	ng/kg	--	--	--	--
(PCB 21/33) 2,3,4-Trichlorobiphenyl/2',3,4-Trichlorobiphenyl	ng/kg	--	--	--	--
(PCB 22) 2,3,4'-Trichlorobiphenyl	ng/kg	--	--	--	--
(PCB 23) 2,3,5-Trichlorobiphenyl	ng/kg	--	--	--	--
(PCB 24) 2,3,6-Trichlorobiphenyl	ng/kg	--	--	--	--
(PCB 25) 2,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--
(PCB 26/29) 2,3',5-Trichlorobipheny/2,4,5-Trichlorobiphenyl	ng/kg	--	--	--	--
(PCB 27) 2,3',6-Trichlorobiphenyl	ng/kg	--	--	--	--
(PCB 3) 4-Monochlorobiphenyl	ng/kg	--	--	--	--
(PCB 31) 2,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--
(PCB 32) 2,4',6-Trichlorobiphenyl	ng/kg	--	--	--	--
(PCB 34) 2,3',5'-Trichlorobiphenyl	ng/kg	--	--	--	--
(PCB 35) 3,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--

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Location ID:		**SB-15**	**SB-16**	**SB-16**	**SB-16**
Sample Name:		**SB15-0.0-0.5-1022**	**SB16-1.0-1.5-1022**	**SB16-2.5-3.0-1022**	**SB16-0.0-0.5-1022**
Sample Date:		**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**
Depth:		**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**
Parameters	**Unit**				
PCBs (Continued)					
(PCB 36) 3,3',5-Trichlorobiphenyl	ng/kg	--	--	--	--
(PCB 37) 3,4,4'-Trichlorobiphenyl	ng/kg	--	--	--	--
(PCB 38) 3,4,5-Trichlorobiphenyl	ng/kg	--	--	--	--
(PCB 39) 3,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--
(PCB 4) 2,2'-Dichlorobiphenyl	ng/kg	--	--	--	--
(PCB 40/41/71) 2,2',3,3'-TeCB/ 2,2',3,4-TeCB/2,3',4',6-TeCB	ng/kg	--	--	--	--
(PCB 42) 2,2',3,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 43/73) 2,2',3,5-Tetrachlorobiphenyl/2,3',5',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 44/47/65) 2,2',3,5'-Tetrachlorobiphenyl/2,2',4,4'-Tetrachlorobiphenyl/2,3,5,6-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 45/51) 2,2',3,6-Tetrachlorobiphenyl/2,2',4,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 46) 2,2',3,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 48) 2,2',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 49/69) 2,2',4,5'-Tetrachlorobiphenyl/2,3',4,6-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 5) 2,3-Dichlorobiphenyl	ng/kg	--	--	--	--
(PCB 50/53) 2,2',4,6-Tetrachlorobipheny/2,2',5,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 52) 2,2',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 54) 2,2',6,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 55) 2,3,3',4-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 56) 2,3,3',4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 57) 2,3,3',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 58) 2,3,3',5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 59/62/75) 2,3,3',6-Tetrachlorobiphenyl/2,3,4,6-Tetrachlorobiphenyl/ 2,4,4',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 6) 2,3'-Dichlorobiphenyl	ng/kg	--	--	--	--
(PCB 60) 2,3,4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 61/70/74/76) 2,3,4,5-Tetrachlorobiphenyl/2,3',4',5-Tetrachlorobiphenyl/2,4,4',5-Tetrachlorobiphenyl/2,3',4',5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 63) 2,3,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
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Location ID:	SB-15	SB-16	SB-16	SB-16
Sample Name:	SB15-0.0-0.5-1022	SB16-1.0-1.5-1022	SB16-2.5-3.0-1022	SB16-0.0-0.5-1022
Sample Date:	10/19/2022	10/19/2022	10/19/2022	10/19/2022
Depth:	0-0.5 ft BGS	1-1.5 ft BGS	2.5-3 ft BGS	0-0.5 ft BGS
Parameters	**Unit**			
PCBs (Continued)				
(PCB 64) 2,3,4',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 66) 2,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 67) 2,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 68) 2,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 7) 2,4-Dichlorobiphenyl	ng/kg	--	--	--	--
(PCB 72) 2,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 77) 3,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 78) 3,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 79) 3,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 8) 2,4'-Dichlorobiphenyl	ng/kg	--	--	--	--
(PCB 80) 3,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 81) 3,4,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--
(PCB 82) 2,2',3,3',4-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 83) 2,2',3,3',5-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 84) 2,2',3,3',6-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 85/116/117) 2,2',3,4,4'-PeCB/2,3,4,5,6-PeCB/2,3,4',5,6-PeCB Pentachlorobiphenyl/2,2',3',4,5-Pentachlorobiphenyl/2,3,3',4,5'-Pentachlorobiphenyl/2,3',4,4',6-Pentachlorobiphenyl/2',3,4,5,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 88/91) 2,2',3,4,6-Pentachlorobiphenyl/2,2',3,4',6-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 89) 2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 9) 2,5-Dichlorobiphenyl	ng/kg	--	--	--	--
(PCB 90/101/113) 2,2',3,4',5-Pentachlorobiphenyl/2,2',4,5,5'-Pentachlorobiphenyl/2,3,3',5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 92) 2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 93/98/100/102) Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 94) 2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 95) 2,2',3,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--
(PCB 96) 2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--

Table 3

Analytical Results Summary
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Location ID:		**SB-15**	**SB-16**	**SB-16**	**SB-16**
Sample Name:		**SB15-0.0-0.5-1022**	**SB16-1.0-1.5-1022**	**SB16-2.5-3.0-1022**	**SB16-0.0-0.5-1022**
Sample Date:		**10/19/2022**	**10/19/2022**	**10/19/2022**	**10/19/2022**
Depth:		**0-0.5 ft BGS**	**1-1.5 ft BGS**	**2.5-3 ft BGS**	**0-0.5 ft BGS**
Parameters	**Unit**				
PCBs (Continued)					
(PCB 99) 2,2',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--
Aroclor-1016 (PCB-1016)	µg/kg	<20.9	<20.8	<20.9	<20.1
Aroclor-1221 (PCB-1221)	µg/kg	<34.2	<33.9	<34.1	<32.9
Aroclor-1232 (PCB-1232)	µg/kg	<29.3	<29.0	<29.2	<28.1
Aroclor-1242 (PCB-1242)	µg/kg	<30.6	<30.4	<30.5	<29.4
Aroclor-1248 (PCB-1248)	µg/kg	<25.2	<25.0	<25.2	<24.3
Aroclor-1254 (PCB-1254)	µg/kg	<24.7	<24.5	<24.6	<23.7
Aroclor-1260 (PCB-1260)	µg/kg	339	104	389	260
Aroclor-1262 (PCB-1262)	µg/kg	<32.5	<32.3	<32.4	<31.3
Aroclor-1268 (PCB-1268)	µg/kg	<23.8	<23.6	<23.7	<22.9

Notes:

ft BGS - Feet Below Ground Surface
< - Not detected at the associated reporting limit
J - Estimated concentration
J+ - Estimated concentration; implied high bias
<() J - Not detected; associated reporting limit is estimated
"--" - Not analyzed
PCBs - Polychlorinated Biphenyls

Table 4

Qualified Sample Results Due to Analyte Concentrations in the Method Blanks
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Parameter	Analysis Date (mm/dd/yyyy)	Analyte	Blank Result *	Sample ID	Original Result	Qualified Result	Units
PCBs	01/12/2023	(PCB 1) 2-Chlorobiphenyl	44.7 J	SB10-0.0-0.5-1022	71.6 J	<71.6 J	ng/kg
				SB12-0.0-0.5-1022	54.3 J	<54.3 J	ng/kg
			4.47 J	SB06-1.0-1.5-1022	18.1 J	<18.1 J	ng/kg
				SB08-0.5-110322	13.3 J	<13.3 J	ng/kg
				SB13-0.0-0.5-1022	10.8 J	<10.8 J	ng/kg
				SB14-1.0-1.5-1022	11.1 J	<11.1 J	ng/kg
	01/13/2023	(PCB 3) 4-Monochlorobiphenyl	92.2 J	SB10-0.0-0.5-1022	144 J	<144 J	ng/kg
				SB12-0.0-0.5-1022	73.3 J	<73.3 J	ng/kg
			9.22 J	SB13-0.0-0.5-1022	16.6 J	<16.6 J	ng/kg

Notes:

* - Blank result adjusted for sample factors where applicable

J - Estimated concentration

<() J - Not detected; associated concentration is estimated

PCBs - Polychlorinated Biphenyls

Table 5

Qualified Sample Results Due to Outlying MS/MSD Results
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Paramete	Sample ID	Analyte	MS % Recovery	MSD % Recovery	RPD (percent)	Control Limits % Recovery	Control Limits RPD	Qualified Result	Units
PCBs	SB06-1.0-1.5-1022	(PCB 114) 2,3,4,4',5-Pentachlorobiphenyl	198	195	1	60.0-135.0	20	183 J+	ng/kg

Notes:

MS - Matrix Spike
MSD - Matrix Spike Duplicate
RPD - Relative Percent Difference
J+ - Estimated concentration; implied high bias
PCBs - Polychlorinated Biphenyls

Table 6

Qualified Sample Data Due to Variability in Field Duplicate Results
Surface Soil Sampling
Union Pacific Railroad (UPRR) - Peninsula Iron Works
Portland, Oregon
October - November 2022

Parameter	Analyte	RPD	Sample ID	Qualified Result	Field Duplicate Sample ID	Qualified Result	Units
PCBs	Aroclor-1260 (PCB-1260)	173.6	SB02-0.0-0.5-1022	11500 J	SB02D-0.0-0.5-1022	6740 J	µg/kg
		55.8	SB04-0.0-0.5-1022	433 J	SB04D-0.0-0.5-1022	244 J	µg/kg

Notes:

RPD - Relative Percent Difference (i.e., >50% for waters/air or >100% for soils)
J - Estimated concentration
PCBs - Polychlorinated Biphenyls