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# Cover Page

**Order ID :** Q2198

**Project ID :** Amtrak Sawtooth Bridges 2025

**Client :** Portal Partners Tri-Venture

| Lab Sample Number | Client Sample Number |
|---|---|
| Q2198-01 | B-202-SB02 |
| Q2198-02 | B-202-SB02 |
| Q2198-03 | B-207-SB02 |
| Q2198-04 | B-207-SB02 |
| Q2198-05 | B-202-GW01 |

I certify that the data package is in compliance with the terms and conditions of the contract,both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : _____

Date: 6/17/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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# DATA REPORTING QUALIFIERS- ORGANIC

For reporting results, the following " Results Qualifiers" are used:

| | |
|---|---|
| Value | If the result is a value greater than or equal to the detection limit, report the value |
| **U** | Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, i.e. "10 U". This is not necessarily the instrument detection limit attainable for this particular sample based on any concentration or dilution that may have been required. |
| **ND** | Indicates the analyte was analyzed for, but not detected |
| **J** | Indicates an estimated value**.** This flag is used:<br>(1) When estimating a concentration for a tentatively identified compound (library search hits, where a 1:1 response is assumed.)<br>(2) When the mass spectral data indicated the identification, however the result was less than the specified detection limit greater than zero. If the detection limit was 10ug/L and a concentration of 3 ug/L was calculated report as 3 J. This is flag is used when similar situation arise on any organic parameter i.e. Pest, PCB and others. |
| **B** | Indicates the analyte was found in the blank as well as the sample report as "12 B". |
| **E** | Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis. |
| **D** | This flag identifies all compounds identified in an analysis at a secondary dilution factor. |
| **P** | This flag is used for Pesticide/PCB target analyte when there is >25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form 1 and flagged with a "P". |
| **N** | This flag indicates presumptive evidence of a compound. This is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It applies to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the flag is not used. |
| **A** | This flag indicates that a Tentatively Identified Compound is a suspected aldol-condensation product. |
| **Q** | Indicates the LCS did not meet the control limits requirements |

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**APPENDIX A**

**QA REVIEW GENERAL DOCUMENTATION**

**Project #:** **Q2198**

| | Completed |
|---|---|
| **For thorough review, the report must have the following:** | |
| **GENERAL:** | |
| **Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)** | ✓ |
| **Check chain-of-custody for proper relinquish/return of samples** | ✓ |
| **Is the chain of custody signed and complete** | ✓ |
| **Check internal chain-of-custody for proper relinquish/return of samples /sample extracts** | ✓ |
| **Collect information for each project id from server. Were all requirements followed** | ✓ |
| **COVER PAGE:** | |
| **Do numbers of samples correspond to the number of samples in the Chain of Custody on login page** | ✓ |
| **Do lab numbers and client Ids on cover page agree with the Chain of Custody** | ✓ |
| **CHAIN OF CUSTODY:** | |
| **Do requested analyses on Chain of Custody agree with form I results** | ✓ |
| **Do requested analyses on Chain of Custody agree with the log-in page** | ✓ |
| **Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody** | ✓ |
| **Were the samples received within hold time** | ✓ |
| **Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle** | ✓ |
| **ANALYTICAL:** | |
| **Was method requirement followed?** | ✓ |
| **Was client requirement followed?** | ✓ |
| **Does the case narrative summarize all QC failure?** | ✓ |
| **All runlogs and manual integration are reviewed for requirements** | ✓ |
| **All manual calculations and /or hand notations verified** | ✓ |

**QA Review Signature:** **KETAN PATEL** **Date:** **06/17/2025**

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# LAB CHRONICLE

| | | | |
|---|---|---|---|
| **OrderID:** | Q2198 | **OrderDate:** | 6/3/2025 2:31:00 PM |
| **Client:** | Portal Partners Tri-Venture | **Project:** | Amtrak Sawtooth Bridges 2025 |
| **Contact:** | Joseph Krupansky | **Location:** | N22,VOA Ref. #2 Soil,VOA Ref. #3 Water |

| LabID | ClientID | Matrix | Test | Method | Sample Date | Prep Date | Anal Date | Received |
|---|---|---|---|---|---|---|---|---|
| **Q2198-01** | **B-202-SB02** | **SOIL** | | | **05/31/25** | | | **06/03/25** |
| | | | PCB | 8082A | | 06/04/25 | 06/04/25 | |
| | | | TPH GC | 8015D | | 06/10/25 | 06/10/25 | |
| | | | EPH | NJEPH | | 06/11/25 | 06/12/25 | |
| **Q2198-02** | **B-202-SB02** | **TCLP** | | | **05/31/25** | | | **06/03/25** |
| | | | TCLP Herbicide | 8151A | | 06/06/25 | 06/09/25 | |
| | | | TCLP Pesticide | 8081B | | 06/06/25 | 06/09/25 | |
| **Q2198-03** | **B-207-SB02** | **SOIL** | | | **06/01/25** | | | **06/03/25** |
| | | | TPH GC | 8015D | | 06/10/25 | 06/10/25 | |
| | | | PCB | 8082A | | 06/04/25 | 06/04/25 | |
| | | | EPH | NJEPH | | 06/11/25 | 06/12/25 | |
| **Q2198-04** | **B-207-SB02** | **TCLP** | | | **06/01/25** | | | **06/03/25** |
| | | | TCLP Herbicide | 8151A | | 06/06/25 | 06/09/25 | |
| | | | TCLP Pesticide | 8081B | | 06/06/25 | 06/09/25 | |
| **Q2198-05** | **B-202-GW01** | **WATER** | | | **05/31/25** | | | **06/03/25** |
| | | | PCB | 8082A | | 06/06/25 | 06/06/25 | |
| | | | EPH | NJEPH | | 06/06/25 | 06/09/25 | |
| | | | EPH | NJEPH | | 06/06/25 | 06/10/25 | |

# QC
# SUMMARY

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# SOIL EPH SURROGATE RECOVERY

Lab Name: CHEMTECH Contract: PORT06

Lab Code: CHEM CASE No.: Q2198 SAS No.: Q2198 SDG No.: Q2198

Run Number: FC060925AL

| Client SAMPLE NO. | 1-chlorooctadecane (SURR) | | | TOT OUT |
|---|---|---|---|---|
| PB168324BL | 60 | | | 0 |
| PB168324BS | 75 | | | 0 |
| PB168324BSD | 78 | | | 0 |
| B-202-GW01 | 125 | | | 0 |

| | QC LIMITS |
|---|---|
| 1-chlorooctadecane (SURR) | (40-140) |

# Column to be used to flag recovery values
* Values outside of contract required QC Limits
D Surrogate diluted out

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## SOIL EPH SURROGATE RECOVERY

Lab Name: CHEMTECH Contract: PORT06

Lab Code: CHEM CASE No.: Q2198 SAS No.: Q2198 SDG No.: Q2198

Run Number: FC061125AL

| Client SAMPLE NO. | 1-chlorooctadecane (SURR) | | | TOT OUT |
|---|---|---|---|---|
| PB168408BL | 60 | | | 0 |
| PB168408BS | 76 | | | 0 |
| PB168408BSD | 77 | | | 0 |
| B-187-SB01MS | 139 | | | 0 |
| B-187-SB01MSD | 136 | | | 0 |
| B-202-SB02 | 76 | | | 0 |
| B-207-SB02 | 103 | | | 0 |

| | QC LIMITS |
|---|---|
| 1-chlorooctadecane (SURR) | (40-140) |

# Column to be used to flag recovery values
* Values outside of contract required QC Limits
D Surrogate diluted out

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## SOIL EPH SURROGATE RECOVERY

Lab Name: CHEMTECH Contract: PORT06

Lab Code: CHEM CASE No.: Q2198 SAS No.: Q2198 SDG No.: Q2198

Run Number: FD060925AR

| Client SAMPLE NO. | 2-Bromonaphthalene (SURR) | 2-Flurobiphenyl (SURR) | ortho-Terphenyl (SURR) | TOT OUT |
|---|---|---|---|---|
| PB168324BL | 62 | 61 | 58 | 0 |
| PB168324BS | 68 | 67 | 57 | 0 |
| PB168324BSD | 63 | 62 | 53 | 0 |

| | QC LIMITS |
|---|---|
| 2-Bromonaphthalene (SURR) | (40-140) |
| 2-Flurobiphenyl (SURR) | (40-140) |
| ortho-Terphenyl (SURR) | (40-140) |

# Column to be used to flag recovery values
* Values outside of contract required QC Limits
D Surrogate diluted out

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## SOIL EPH SURROGATE RECOVERY

Lab Name: CHEMTECH Contract: PORT06

Lab Code: CHEM CASE No.: Q2198 SAS No.: Q2198 SDG No.: Q2198

Run Number: FD061025AR

| Client SAMPLE NO. | 2-Bromonaphthalene (SURR) | 2-Flurobiphenyl (SURR) | ortho-Terphenyl (SURR) | TOT OUT |
|---|---|---|---|---|
| B-202-GW01 | 74 | 71 | 45 | 0 |

| | QC LIMITS |
|---|---|
| 2-Bromonaphthalene (SURR) | (40-140) |
| 2-Flurobiphenyl (SURR) | (40-140) |
| ortho-Terphenyl (SURR) | (40-140) |

# Column to be used to flag recovery values
* Values outside of contract required QC Limits
D Surrogate diluted out

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## SOIL EPH SURROGATE RECOVERY

Lab Name: CHEMTECH Contract: PORT06

Lab Code: CHEM CASE No.: Q2198 SAS No.: Q2198 SDG No.: Q2198

Run Number: FD061125AR

| Client SAMPLE NO. | 2-Bromonaphthalene (SURR) | 2-Flurobiphenyl (SURR) | ortho-Terphenyl (SURR) | TOT OUT |
|---|---|---|---|---|
| PB168408BL | 67 | 65 | 63 | 0 |
| PB168408BS | 73 | 72 | 62 | 0 |
| PB168408BSD | 67 | 66 | 57 | 0 |
| B-202-SB02 | 78 | 78 | 57 | 0 |
| B-207-SB02 | 86 | 85 | 74 | 0 |

| | QC LIMITS |
|---|---|
| 2-Bromonaphthalene (SURR) | (40-140) |
| 2-Flurobiphenyl (SURR) | (40-140) |
| ortho-Terphenyl (SURR) | (40-140) |

# Column to be used to flag recovery values
* Values outside of contract required QC Limits
D Surrogate diluted out

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## SOIL EPH SURROGATE RECOVERY

Lab Name: CHEMTECH Contract: PORT06

Lab Code: CHEM CASE No.: Q2198 SAS No.: Q2198 SDG No.: Q2198

Run Number: FD061325AR

| Client SAMPLE NO. | 2-Bromonaphthalene (SURR) | 2-Flurobiphenyl (SURR) | ortho-Terphenyl (SURR) | TOT OUT |
|---|---|---|---|---|
| B-187-SB01MS | 76 | 74 | 65 | 0 |
| B-187-SB01MSD | 77 | 75 | 66 | 0 |

| | QC LIMITS |
|---|---|
| 2-Bromonaphthalene (SURR) | (40-140) |
| 2-Flurobiphenyl (SURR) | (40-140) |
| ortho-Terphenyl (SURR) | (40-140) |

# Column to be used to flag recovery values
* Values outside of contract required QC Limits
D Surrogate diluted out

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# SOIL EPH SURROGATE RECOVERY

| | QC LIMITS |
|---|---|
| 2-Bromonaphthalene (SURR) | (40-140) |
| 2-Flurobiphenyl (SURR) | (40-140) |
| ortho-Terphenyl (SURR) | (40-140) |

# Column to be used to flag recovery values
* Values outside of contract required QC Limits
D Surrogate diluted out

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## SOLID EPH MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

**Lab Name:** Chemtech **Client:** Portal Partners Tri-Venture

**Lab Code:** CHEM **Cas No:** Q2198 **SAS No :** Q2198 **SDG No:** Q2198

**Sample No :** Q2177-02MS **Datafile:** FC069165.D **Client ID :** B-187-SB01MS

| COMPOUND | SPIKE ADDED mg/kg | SAMPLE CONCENTRATION mg/kg | MS/MSD CONCENTRATION mg/kg | % REC | Qual | QC LIMITS |
|---|---|---|---|---|---|---|
| Aliphatic C9-C12 | 11.9 | 1.10 | 7.50 | 54 | | (40-140) |
| Aliphatic C12-C16 | 7.9 | 3.37 | 9.37 | 76 | | (40-140) |
| Aliphatic C16-C21 | 11.9 | 0.65 | 8.98 | 70 | | (40-140) |
| Aliphatic C21-C28 | 15.8 | 5.91 | 17.2 | 71 | | (40-140) |
| Aliphatic C28-C40 | 23.7 | 6.40 | 22.5 | 68 | | (40-140) |

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## SOLID EPH MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

**Lab Name:** Chemtech **Client:** Portal Partners Tri-Venture

**Lab Code:** CHEM **Cas No:** Q2198 **SAS No :** Q2198 **SDG No:** Q2198

**Sample No :** Q2177-02MSD **Datafile:** FC069166.D **Client ID :** B-187-SB01MSD

| COMPOUND | SPIKE ADDED mg/kg | SAMPLE CONCENTRATION mg/kg | MS/MSD CONCENTRATION mg/kg | % REC | Qual | RPD \| | QC LIMITS | QC Limit Of RPD |
|---|---|---|---|---|---|---|---|---|
| Aliphatic C9-C12 | 11.9 | 1.10 | 7.51 | 54 | | 0.19 \| | (40-140) | 50 |
| Aliphatic C12-C16 | 7.9 | 3.37 | 9.32 | 75 | | 0.79 \| | (40-140) | 50 |
| Aliphatic C16-C21 | 11.9 | 0.65 | 8.85 | 69 | | 1.58 \| | (40-140) | 50 |
| Aliphatic C21-C28 | 15.8 | 5.91 | 16.7 | 68 | | 4.44 \| | (40-140) | 50 |
| Aliphatic C28-C40 | 23.7 | 6.40 | 22.3 | 67 | | 1.19 \| | (40-140) | 50 |

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## SOLID EPH MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

**Lab Name:** Chemtech **Client:** Portal Partners Tri-Venture

**Lab Code:** CHEM **Cas No:** Q2198 **SAS No :** Q2198 **SDG No:** Q2198

**Sample No :** Q2177-02MS **Datafile:** FD049484.D **Client ID :** B-187-SB01MS

| COMPOUND | SPIKE ADDED mg/kg | SAMPLE CONCENTRATION mg/kg | MS/MSD CONCENTRATION mg/kg | % REC | Qual | QC LIMITS |
|---|---|---|---|---|---|---|
| Aromatic C10-C12 | 7.9 | 0.46 | 2.67 | 28 | * | (40-140) |
| Aromatic C12-C16 | 11.9 | 0.63 | 4.47 | 32 | * | (40-140) |
| Aromatic C16-C21 | 19.8 | 2.27 | 10.5 | 42 | | (40-140) |
| Aromatic C21-C36 | 31.6 | 1.89 | 15.7 | 44 | | (40-140) |

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## SOLID EPH MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

**Lab Name:** Chemtech **Client:** Portal Partners Tri-Venture

**Lab Code:** CHEM **Cas No:** Q2198 **SAS No :** Q2198 **SDG No:** Q2198

**Sample No :** Q2177-02MSD **Datafile:** FD049485.D **Client ID :** B-187-SB01MSD

| COMPOUND | SPIKE ADDED mg/kg | SAMPLE CONCENTRATION mg/kg | MS/MSD CONCENTRATION mg/kg | % REC | Qual | RPD \| | QC LIMITS | QC Limit Of RPD |
|---|---|---|---|---|---|---|---|---|
| Aromatic C10-C12 | 7.9 | 0.46 | 2.73 | 29 | * | 2.83 \| | (40-140) | 50 |
| Aromatic C12-C16 | 11.9 | 0.63 | 4.61 | 34 | * | 3.64 \| | (40-140) | 50 |
| Aromatic C16-C21 | 19.8 | 2.27 | 10.6 | 42 | | 1.43 \| | (40-140) | 50 |
| Aromatic C21-C36 | 31.6 | 1.89 | 15.8 | 44 | | 0.91 \| | (40-140) | 50 |

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## WATER EPH LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE RECOVERY

**Lab Name:** Chemtech **Client:** Portal Partners Tri-Venture

**Lab Code:** CHEM **Cas No:** Q2198 **SAS No :** Q2198 **SDG No:** Q2198

**Sample No :** PB168324BS **Datafile:** FC069135.D **Client ID :** PB168324BS

| COMPOUND | SPIKE ADDED ug/l | LCS/LCSD CONCENTRATION ug/l | % REC | Qual | QC LIMITS |
|---|---|---|---|---|---|
| Aliphatic C9-C12 | 300 | 148 | 49 | | (40-140) |
| Aliphatic C12-C16 | 200 | 123 | 62 | | (40-140) |
| Aliphatic C16-C21 | 300 | 209 | 70 | | (40-140) |
| Aliphatic C21-C28 | 400 | 298 | 74 | | (40-140) |
| Aliphatic C28-C40 | 600 | 420 | 70 | | (40-140) |

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## WATER EPH LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE RECOVERY

**Lab Name:** Chemtech **Client:** Portal Partners Tri-Venture

**Lab Code:** CHEM **Cas No:** Q2198 **SAS No :** Q2198 **SDG No:** Q2198

**Sample No :** PB168324BSD **Datafile:** FC069136.D **Client ID :** PB168324BSD

| COMPOUND | SPIKE ADDED ug/l | LCS/LCSD CONCENTRATION ug/l | % REC | Qual | RPD \| | QC LIMITS | QC Limit Of RPD |
|---|---|---|---|---|---|---|---|
| Aliphatic C9-C12 | 300 | 155 | 52 | | 4.7\| | (40-140) | 25 |
| Aliphatic C12-C16 | 200 | 128 | 64 | | 4\| | (40-140) | 25 |
| Aliphatic C16-C21 | 300 | 216 | 72 | | 3.2\| | (40-140) | 25 |
| Aliphatic C21-C28 | 400 | 305 | 76 | | 2.3\| | (40-140) | 25 |
| Aliphatic C28-C40 | 600 | 443 | 74 | | 5.3\| | (40-140) | 25 |

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## SOLID EPH LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE RECOVERY

**Lab Name:** Chemtech **Client:** Portal Partners Tri-Venture

**Lab Code:** CHEM **Cas No:** Q2198 **SAS No :** Q2198 **SDG No:** Q2198

**Sample No :** PB168408BS **Datafile:** FC069158.D **Client ID :** PB168408BS

| COMPOUND | SPIKE ADDED mg/kg | LCS/LCSD CONCENTRATION mg/kg | % REC | Qual | QC LIMITS |
|---|---|---|---|---|---|
| Aliphatic C9-C12 | 10 | 4.97 | 50 | | (40-140) |
| Aliphatic C12-C16 | 6.7 | 4.11 | 62 | | (40-140) |
| Aliphatic C16-C21 | 10 | 7.02 | 70 | | (40-140) |
| Aliphatic C21-C28 | 13.3 | 10.0 | 75 | | (40-140) |
| Aliphatic C28-C40 | 20.0 | 14.6 | 73 | | (40-140) |

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## SOLID EPH LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE RECOVERY

**Lab Name:** Chemtech **Client:** Portal Partners Tri-Venture

**Lab Code:** CHEM **Cas No:** Q2198 **SAS No :** Q2198 **SDG No:** Q2198

**Sample No :** PB168408BSD **Datafile:** FC069159.D **Client ID :** PB168408BSD

| COMPOUND | SPIKE ADDED mg/kg | LCS/LCSD CONCENTRATION mg/kg | % REC | Qual | RPD \| | QC LIMITS | QC Limit Of RPD |
|---|---|---|---|---|---|---|---|
| Aliphatic C9-C12 | 10 | 5.03 | 50 | | 1.3\| | (40-140) | 25 |
| Aliphatic C12-C16 | 6.7 | 4.15 | 62 | | 0.98\| | (40-140) | 25 |
| Aliphatic C16-C21 | 10 | 7.07 | 71 | | 0.8\| | (40-140) | 25 |
| Aliphatic C21-C28 | 13.3 | 10.1 | 76 | | 1.1\| | (40-140) | 25 |
| Aliphatic C28-C40 | 20.0 | 15.0 | 75 | | 2.8\| | (40-140) | 25 |

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## WATER EPH LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE RECOVERY

**Lab Name:** Chemtech **Client:** Portal Partners Tri-Venture

**Lab Code:** CHEM **Cas No:** Q2198 **SAS No :** Q2198 **SDG No:** Q2198

**Sample No :** PB168324BS **Datafile:** FD049416.D **Client ID :** PB168324BS

| COMPOUND | SPIKE ADDED ug/l | LCS/LCSD CONCENTRATION ug/l | % REC | Qual | QC LIMITS |
|---|---|---|---|---|---|
| Aromatic C10-C12 | 200 | 91.0 | 46 | | (40-140) |
| Aromatic C12-C16 | 300 | 143 | 48 | | (40-140) |
| Aromatic C16-C21 | 500 | 271 | 54 | | (40-140) |
| Aromatic C21-C36 | 800 | 515 | 64 | | (40-140) |

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## WATER EPH LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE RECOVERY

**Lab Name:** Chemtech **Client:** Portal Partners Tri-Venture

**Lab Code:** CHEM **Cas No:** Q2198 **SAS No :** Q2198 **SDG No:** Q2198

**Sample No :** PB168324BSD **Datafile:** FD049417.D **Client ID :** PB168324BSD

| COMPOUND | SPIKE ADDED ug/l | LCS/LCSD CONCENTRATION ug/l | % REC | Qual | RPD \| | QC LIMITS | QC Limit Of RPD |
|---|---|---|---|---|---|---|---|
| Aromatic C10-C12 | 200 | 83.6 | 42 | | 8.5\| | (40-140) | 25 |
| Aromatic C12-C16 | 300 | 132 | 44 | | 8.1\| | (40-140) | 25 |
| Aromatic C16-C21 | 500 | 254 | 51 | | 6.5\| | (40-140) | 25 |
| Aromatic C21-C36 | 800 | 494 | 62 | | 4.2\| | (40-140) | 25 |

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## SOLID EPH LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE RECOVERY

**Lab Name:** Chemtech **Client:** Portal Partners Tri-Venture

**Lab Code:** CHEM **Cas No:** Q2198 **SAS No :** Q2198 **SDG No:** Q2198

**Sample No :** PB168408BS **Datafile:** FD049433.D **Client ID :** PB168408BS

| COMPOUND | SPIKE ADDED mg/kg | LCS/LCSD CONCENTRATION mg/kg | % REC | Qual | QC LIMITS |
|---|---|---|---|---|---|
| Aromatic C10-C12 | 6.7 | 3.20 | 48 | | (40-140) |
| Aromatic C12-C16 | 10 | 5.11 | 51 | | (40-140) |
| Aromatic C16-C21 | 16.7 | 9.80 | 59 | | (40-140) |
| Aromatic C21-C36 | 26.6 | 18.5 | 69 | | (40-140) |

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## SOLID EPH LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE RECOVERY

**Lab Name:** Chemtech **Client:** Portal Partners Tri-Venture

**Lab Code:** CHEM **Cas No:** Q2198 **SAS No :** Q2198 **SDG No:** Q2198

**Sample No :** PB168408BSD **Datafile:** FD049434.D **Client ID :** PB168408BSD

| COMPOUND | SPIKE ADDED mg/kg | LCS/LCSD CONCENTRATION mg/kg | % REC | Qual | RPD \| | QC LIMITS | QC Limit Of RPD |
|---|---|---|---|---|---|---|---|
| Aromatic C10-C12 | 6.7 | 2.95 | 44 | | 8\| | (40-140) | 25 |
| Aromatic C12-C16 | 10 | 4.68 | 47 | | 8.7\| | (40-140) | 25 |
| Aromatic C16-C21 | 16.7 | 9.01 | 54 | | 8.3\| | (40-140) | 25 |
| Aromatic C21-C36 | 26.6 | 17.5 | 66 | | 5.5\| | (40-140) | 25 |

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Fax : 908 789 8922

4B

METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB168324BL

Lab Name: CHEMTECH Contract: PORT06

Lab Code: CHEM Case No.: Q2198 SAS No.: Q2198 SDG NO.: Q2198

Instrument ID: FID_C Lab Sample ID: PB168324BL

Matrix: (soil/water) Water Date Extracted: 6/6/2025 9:10:00 AM

Level: (low/med) low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

| EPA SAMPLE NO. | LAB SAMPLE ID |
|---|---|
| PB168324BS | PB168324BS |
| PB168324BSD | PB168324BSD |
| B-202-GW01 | Q2198-05 |

COMMENTS:

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Fax : 908 789 8922

4B

# METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB168408BL

Lab Name: CHEMTECH Contract: PORT06

Lab Code: CHEM Case No.: Q2198 SAS No.: Q2198 SDG NO.: Q2198

Instrument ID: FID_C Lab Sample ID: PB168408BL

Matrix: (soil/water) Solid Date Extracted: 6/11/2025 8:45:00 A

Level: (low/med) low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

| EPA SAMPLE NO. | LAB SAMPLE ID |
|---|---|
| PB168408BS | PB168408BS |
| PB168408BSD | PB168408BSD |
| B-187-SB01MS | Q2177-02MS |
| B-187-SB01MSD | Q2177-02MSD |
| B-202-SB02 | Q2198-01 |
| B-207-SB02 | Q2198-03 |

COMMENTS:

Alliance
TECHNICAL GROUP

# SAMPLE DATA

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Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | 05/31/25 |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | 06/03/25 |
| Client Sample ID: | B-202-SB02 | SDG No.: | Q2198 |
| Lab Sample ID: | Q2198-01 | Matrix: | Solid |
| Analytical Method: | NJEPH | % Solid: | 71.9 |
| Sample Wt/Vol: | 30.05 Units: g | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | | | |

| Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|
| 06/11/25 08:45 | 06/12/25 2:48 | PB168408 |

| CAS Number | Parameter | Conc. | Qualifier | Dilution | MDL | LOQ / CRQL | Units(Dry Weight) | Datafile |
|---|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | 0.30 | J | 1 | 0.19 | 1.39 | mg/kg | FC069171.D |
| Aliphatic C12-C16 | Aliphatic C12-C16 | 0.52 | J | 1 | 0.15 | 0.93 | mg/kg | FC069171.D |
| Aliphatic C16-C21 | Aliphatic C16-C21 | 0.51 | J | 1 | 0.18 | 1.39 | mg/kg | FC069171.D |
| Aliphatic C21-C28 | Aliphatic C21-C28 | 0.74 | U | 1 | 0.74 | 1.85 | mg/kg | FC069171.D |
| Aliphatic C28-C40 | Aliphatic C28-C40 | 1.64 | U | 1 | 1.64 | 2.78 | mg/kg | FC069171.D |
| Aromatic C10-C12 | Aromatic C10-C12 | 0.38 | J | 1 | 0.17 | 0.93 | mg/kg | FD049446.D |
| Aromatic C12-C16 | Aromatic C12-C16 | 0.57 | J | 1 | 0.32 | 1.39 | mg/kg | FD049446.D |
| Aromatic C16-C21 | Aromatic C16-C21 | 3.87 | | 1 | 0.56 | 2.31 | mg/kg | FD049446.D |
| Aromatic C21-C36 | Aromatic C21-C36 | 2.39 | J | 1 | 1.65 | 3.70 | mg/kg | FD049446.D |
| Total AliphaticEPH | Total AliphaticEPH | 2.90 | U | | 2.90 | 8.34 | mg/kg | |
| Total AromaticEPH | Total AromaticEPH | 7.21 | J | | 2.69 | 8.33 | mg/kg | |
| Total EPH | Total EPH | 8.55 | J | | 5.59 | 16.7 | mg/kg | |

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

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Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | 05/31/25 |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | 06/03/25 |
| Client Sample ID: | B-202-SB02 | SDG No.: | Q2198 |
| Lab Sample ID: | Q2198-01 | Matrix: | Solid |
| Analytical Method: | NJEPH | % Solid: | 71.9 |
| Sample Wt/Vol: | 30.05 Units: g | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FC069171.D | 1 | 06/11/25 | 06/12/25 | PB168408 |

| CAS Number | Parameter | | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | | 0.30 | J | 0.19 | 1.39 | mg/kg |
| Aliphatic C12-C16 | Aliphatic C12-C16 | | 0.52 | J | 0.15 | 0.93 | mg/kg |
| Aliphatic C16-C21 | Aliphatic C16-C21 | | 0.51 | J | 0.18 | 1.39 | mg/kg |
| Aliphatic C21-C28 | Aliphatic C21-C28 | | 0.74 | U | 0.74 | 1.85 | mg/kg |
| Aliphatic C28-C40 | Aliphatic C28-C40 | | 1.64 | U | 1.64 | 2.78 | mg/kg |
| **SURROGATES** | | | | | | | |
| 3383-33-2 | 1-chlorooctadecane (SURR) | | 38.0 | | 40 - 140 | 76% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | | 0.00 | | 40 - 140 | 0% | SPK: 50 |

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# Quantitation Report For Aliphatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | Q2198-01 | Acq On: | 12 Jun 2025 02:48 |
| Client Sample ID: | B-202-SB02 | Operator: | YP/AJ |
| Data file: | FC069171.D | Misc: | |
| Instrument: | FID_C | ALS Vial: | 23 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aliphatic C9-C12 | 3.303 | 6.605 | 346355 | 3.276 | 300 | ug/ml |
| Aliphatic C12-C16 | 6.606 | 10.010 | 575063 | 5.639 | 200 | ug/ml |
| Aliphatic C16-C21 | 10.011 | 13.380 | 542966 | 5.548 | 300 | ug/ml |
| Aliphatic C21-C28 | 13.381 | 17.048 | 711682 | 7.587 | 400 | ug/ml |
| Aliphatic C28-C40 | 17.049 | 22.033 | 1572284 | 16.649 | 600 | ug/ml |
| Aliphatic EPH | 3.303 | 22.033 | 3748350 | 38.699 | | ug/ml |
| ortho-Terphenyl (SURR) | 0.000 | 0.000 | 0 | 0 | | ug/ml |
| 1-chlorooctadecane (SURR) | 13.115 | 13.115 | 3406894 | 37.98 | | ug/ml |
| Aliphatic C9-C28 | 3.303 | 17.048 | 2176066 | 22.05 | 1200 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069171.D
Signal(s) : FID1A.ch
Acq On : 12 Jun 2025 02:48
Operator : YP/AJ
Sample : Q2198-01
Misc :
ALS Vial : 23 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
B-202-SB02

Integration File: autoint1.e
Quant Time: Jun 12 06:08:11 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| System Monitoring Compounds | | | |
| 12) S 1-chlorooctadecane (S... | 13.115 | 3406894 | 37.975 ug/ml |
| Spiked Amount 50.000 | | Recovery = 75.95% | |
| Target Compounds | | | |

(f)=RT Delta > 1/2 Window (m)=manual int.

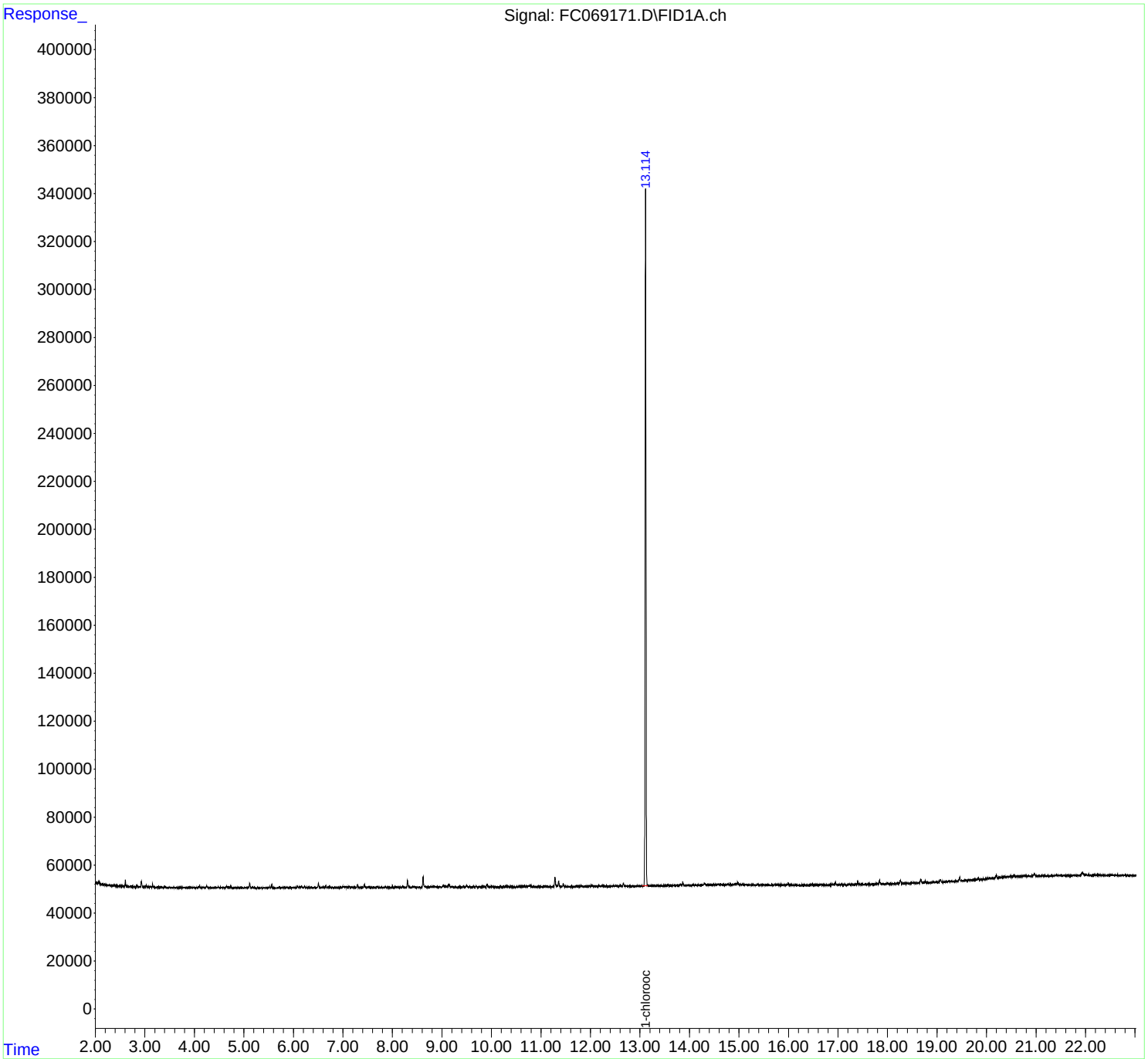
Quantitation Report (QT Reviewed)

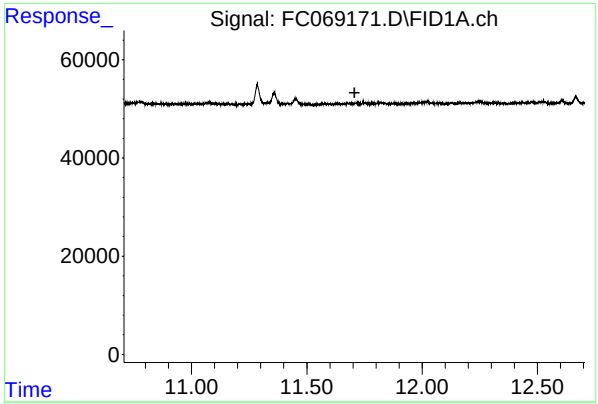
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069171.D
Signal(s) : FID1A.ch
Acq On : 12 Jun 2025 02:48
Operator : YP/AJ
Sample : Q2198-01
Misc :
ALS Vial : 23 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
B-202-SB02

Integration File: autoint1.e
Quant Time: Jun 12 06:08:11 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

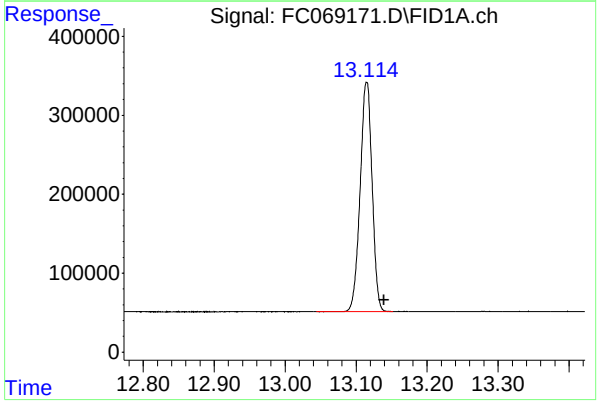





#9 ortho-Terphenyl (SURR)

R.T.: 0.000 min
Exp R.T. : 11.707 min
Response: 0
Conc: N.D.

**Instrument :**
FID_C
**ClientSampleId :**
B-202-SB02




#12 1-chlorooctadecane (SURR)

R.T.: 13.115 min
Delta R.T.: -0.025 min
Response: 3406894
Conc: 37.98 ug/ml

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069171.D
Signal(s) : FID1A.ch
Acq On : 12 Jun 2025 02:48
Sample : Q2198-01
Misc :
ALS Vial : 23 Sample Multiplier: 1

Integration File: sample.E

Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Title : GC Extractables

Signal : FID1A.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.231 | 3.204 | 3.264 | BV | 103 | 692 | 0.02% | 0.010% |
| 2 | 3.276 | 3.264 | 3.304 | VV | 68 | 878 | 0.03% | 0.012% |
| 3 | 3.309 | 3.304 | 3.335 | VV | 81 | 635 | 0.02% | 0.009% |
| 4 | 3.342 | 3.335 | 3.374 | PV | 102 | 1449 | 0.04% | 0.020% |
| 5 | 3.404 | 3.374 | 3.474 | PV | 317 | 5692 | 0.17% | 0.079% |
| 6 | 3.505 | 3.474 | 3.540 | VV | 135 | 2339 | 0.07% | 0.032% |
| 7 | 3.555 | 3.540 | 3.566 | PV | 111 | 1024 | 0.03% | 0.014% |
| 8 | 3.577 | 3.566 | 3.611 | VV | 131 | 1526 | 0.04% | 0.021% |
| 9 | 3.614 | 3.611 | 3.622 | VV | 98 | 328 | 0.01% | 0.005% |
| 10 | 3.646 | 3.622 | 3.671 | VV | 67 | 1095 | 0.03% | 0.015% |
| 11 | 3.682 | 3.671 | 3.694 | PV | 136 | 798 | 0.02% | 0.011% |
| 12 | 3.733 | 3.694 | 3.748 | VV | 195 | 3096 | 0.09% | 0.043% |
| 13 | 3.752 | 3.748 | 3.774 | VV | 120 | 1214 | 0.04% | 0.017% |
| 14 | 3.780 | 3.774 | 3.808 | VV | 113 | 1734 | 0.05% | 0.024% |
| 15 | 3.821 | 3.808 | 3.871 | VV | 150 | 3344 | 0.10% | 0.046% |
| 16 | 3.905 | 3.871 | 3.918 | VV | 417 | 4782 | 0.14% | 0.066% |
| 17 | 3.924 | 3.918 | 3.962 | VV | 262 | 3766 | 0.11% | 0.052% |
| 18 | 3.989 | 3.962 | 4.049 | VV | 265 | 5509 | 0.16% | 0.076% |
| 19 | 4.081 | 4.049 | 4.093 | VV | 427 | 5003 | 0.15% | 0.069% |
| 20 | 4.107 | 4.093 | 4.155 | VV | 583 | 8821 | 0.26% | 0.122% |
| 21 | 4.176 | 4.155 | 4.192 | VV | 237 | 3124 | 0.09% | 0.043% |
| 22 | 4.202 | 4.192 | 4.214 | VV | 169 | 1532 | 0.04% | 0.021% |
| 23 | 4.247 | 4.214 | 4.284 | VV | 820 | 13600 | 0.40% | 0.188% |
| 24 | 4.293 | 4.284 | 4.348 | VV | 165 | 4065 | 0.12% | 0.056% |
| 25 | 4.357 | 4.348 | 4.378 | VV | 110 | 1025 | 0.03% | 0.014% |
| 26 | 4.409 | 4.378 | 4.449 | PV | 194 | 4929 | 0.14% | 0.068% |
| 27 | 4.481 | 4.449 | 4.502 | VV | 485 | 6733 | 0.20% | 0.093% |
| 28 | 4.526 | 4.502 | 4.548 | VV | 333 | 5087 | 0.15% | 0.070% |
| 29 | 4.593 | 4.548 | 4.618 | VV | 278 | 7294 | 0.21% | 0.101% |
| 30 | 4.649 | 4.618 | 4.690 | VV | 673 | 11940 | 0.35% | 0.165% |
| 31 | 4.705 | 4.690 | 4.719 | VV | 556 | 5700 | 0.17% | 0.079% |
| 32 | 4.736 | 4.719 | 4.778 | VV | 805 | 9149 | 0.27% | 0.127% |
| 33 | 4.787 | 4.778 | 4.803 | VV | 113 | 744 | 0.02% | 0.010% |
| 34 | 4.859 | 4.803 | 4.878 | VV | 180 | 4584 | 0.13% | 0.064% |
| 35 | 4.937 | 4.878 | 4.969 | PV | 174 | 4387 | 0.13% | 0.061% |
| 36 | 4.975 | 4.969 | 4.993 | VV | 54 | 419 | 0.01% | 0.006% |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 37 | 5.008 | 4.993 | 5.025 | VV | 144 | 1206 | 0.04% | 0.017% |
| 38 | 5.040 | 5.025 | 5.070 | VV | 140 | 2435 | 0.07% | 0.034% |
| 39 | 5.118 | 5.070 | 5.154 | VV | 2026 | 27500 | 0.80% | 0.381% |
| 40 | 5.174 | 5.154 | 5.190 | VV | 431 | 4970 | 0.15% | 0.069% |
| 41 | 5.202 | 5.190 | 5.286 | VV | 290 | 5494 | 0.16% | 0.076% |
| 42 | 5.313 | 5.286 | 5.337 | VV | 176 | 2597 | 0.08% | 0.036% |
| 43 | 5.350 | 5.337 | 5.369 | VV | 180 | 1708 | 0.05% | 0.024% |
| 44 | 5.396 | 5.369 | 5.451 | PV | 198 | 3090 | 0.09% | 0.043% |
| 45 | 5.487 | 5.451 | 5.503 | VV | 113 | 2022 | 0.06% | 0.028% |
| 46 | 5.524 | 5.503 | 5.544 | VV | 560 | 6327 | 0.18% | 0.088% |
| 47 | 5.562 | 5.544 | 5.605 | VV | 1112 | 12845 | 0.38% | 0.178% |
| 48 | 5.620 | 5.605 | 5.640 | VV | 222 | 2048 | 0.06% | 0.028% |
| 49 | 5.709 | 5.640 | 5.754 | PV | 319 | 7906 | 0.23% | 0.110% |
| 50 | 5.764 | 5.754 | 5.790 | VV | 170 | 2901 | 0.08% | 0.040% |
| 51 | 5.811 | 5.790 | 5.847 | VV | 419 | 7751 | 0.23% | 0.107% |
| 52 | 5.872 | 5.847 | 5.912 | VV | 343 | 7596 | 0.22% | 0.105% |
| 53 | 5.935 | 5.912 | 5.960 | VV | 232 | 3395 | 0.10% | 0.047% |
| 54 | 5.979 | 5.960 | 6.003 | PV | 269 | 4121 | 0.12% | 0.057% |
| 55 | 6.081 | 6.003 | 6.108 | VV | 744 | 18146 | 0.53% | 0.251% |
| 56 | 6.122 | 6.108 | 6.139 | VV | 555 | 6751 | 0.20% | 0.094% |
| 57 | 6.164 | 6.139 | 6.200 | VV | 944 | 14663 | 0.43% | 0.203% |
| 58 | 6.225 | 6.200 | 6.252 | VV | 764 | 10317 | 0.30% | 0.143% |
| 59 | 6.301 | 6.252 | 6.331 | VV | 346 | 8127 | 0.24% | 0.113% |
| 60 | 6.346 | 6.331 | 6.418 | VV | 228 | 6880 | 0.20% | 0.095% |
| 61 | 6.426 | 6.418 | 6.461 | VV | 136 | 3323 | 0.10% | 0.046% |
| 62 | 6.506 | 6.461 | 6.551 | VV | 2052 | 28175 | 0.82% | 0.390% |
| 63 | 6.557 | 6.551 | 6.574 | VV | 199 | 2126 | 0.06% | 0.029% |
| 64 | 6.592 | 6.574 | 6.609 | VV | 397 | 5468 | 0.16% | 0.076% |
| 65 | 6.626 | 6.609 | 6.637 | VV | 272 | 3800 | 0.11% | 0.053% |
| 66 | 6.656 | 6.637 | 6.680 | VV | 913 | 11817 | 0.35% | 0.164% |
| 67 | 6.692 | 6.680 | 6.718 | VV | 281 | 5028 | 0.15% | 0.070% |
| 68 | 6.729 | 6.718 | 6.771 | VV | 464 | 6175 | 0.18% | 0.086% |
| 69 | 6.788 | 6.771 | 6.815 | VV | 196 | 2694 | 0.08% | 0.037% |
| 70 | 6.838 | 6.815 | 6.877 | VV | 277 | 4834 | 0.14% | 0.067% |
| 71 | 6.902 | 6.877 | 6.933 | VV | 197 | 3918 | 0.11% | 0.054% |
| 72 | 6.949 | 6.933 | 6.981 | VV | 328 | 5344 | 0.16% | 0.074% |
| 73 | 7.005 | 6.981 | 7.040 | VV | 614 | 13170 | 0.38% | 0.183% |
| 74 | 7.064 | 7.040 | 7.098 | VV | 578 | 11253 | 0.33% | 0.156% |
| 75 | 7.130 | 7.098 | 7.155 | VV | 672 | 13486 | 0.39% | 0.187% |
| 76 | 7.169 | 7.155 | 7.196 | VV | 344 | 5514 | 0.16% | 0.076% |
| 77 | 7.211 | 7.196 | 7.224 | VV | 239 | 2902 | 0.08% | 0.040% |
| 78 | 7.238 | 7.224 | 7.258 | VV | 260 | 2977 | 0.09% | 0.041% |
| 79 | 7.293 | 7.258 | 7.329 | VV | 1334 | 18193 | 0.53% | 0.252% |
| 80 | 7.353 | 7.329 | 7.362 | VV | 243 | 3502 | 0.10% | 0.049% |
| 81 | 7.372 | 7.362 | 7.381 | VV | 249 | 2287 | 0.07% | 0.032% |
| 82 | 7.397 | 7.381 | 7.413 | VV | 259 | 4289 | 0.13% | 0.059% |
| 83 | 7.434 | 7.413 | 7.480 | VV | 1221 | 17513 | 0.51% | 0.243% |
| 84 | 7.524 | 7.480 | 7.547 | VV | 355 | 8632 | 0.25% | 0.120% |
| 85 | 7.560 | 7.547 | 7.584 | VV | 120 | 1744 | 0.05% | 0.024% |
| 86 | 7.599 | 7.584 | 7.611 | VV | 143 | 1538 | 0.04% | 0.021% |
| 87 | 7.621 | 7.611 | 7.633 | VV | 141 | 1341 | 0.04% | 0.019% |
| 88 | 7.649 | 7.633 | 7.670 | VV | 126 | 2170 | 0.06% | 0.030% |
| 89 | 7.696 | 7.670 | 7.734 | VV | 610 | 7428 | 0.22% | 0.103% |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 90 | 7.746 | 7.734 | 7.761 | VV | 111 | 1333 | 0.04% | 0.018% |
| 91 | 7.780 | 7.761 | 7.823 | VV | 243 | 5998 | 0.18% | 0.083% |
| 92 | 7.864 | 7.823 | 7.918 | VV | 196 | 8486 | 0.25% | 0.118% |
| 93 | 7.926 | 7.918 | 7.944 | VV | 171 | 1818 | 0.05% | 0.025% |
| 94 | 7.956 | 7.944 | 7.981 | VV | 228 | 2847 | 0.08% | 0.039% |
| 95 | 8.001 | 7.981 | 8.031 | VV | 657 | 8083 | 0.24% | 0.112% |
| 96 | 8.056 | 8.031 | 8.077 | VV | 524 | 7321 | 0.21% | 0.101% |
| 97 | 8.095 | 8.077 | 8.114 | VV | 239 | 3602 | 0.11% | 0.050% |
| 98 | 8.124 | 8.114 | 8.145 | VV | 174 | 2644 | 0.08% | 0.037% |
| 99 | 8.159 | 8.145 | 8.176 | VV | 190 | 2593 | 0.08% | 0.036% |
| 100 | 8.181 | 8.176 | 8.187 | VV | 157 | 989 | 0.03% | 0.014% |
| 101 | 8.212 | 8.187 | 8.274 | VV | 557 | 12092 | 0.35% | 0.168% |
| 102 | 8.306 | 8.274 | 8.360 | VV | 3012 | 41677 | 1.22% | 0.578% |
| 103 | 8.374 | 8.360 | 8.391 | VV | 220 | 2778 | 0.08% | 0.038% |
| 104 | 8.405 | 8.391 | 8.444 | VV | 353 | 8893 | 0.26% | 0.123% |
| 105 | 8.453 | 8.444 | 8.484 | VV | 270 | 4091 | 0.12% | 0.057% |
| 106 | 8.501 | 8.484 | 8.518 | VV | 228 | 3118 | 0.09% | 0.043% |
| 107 | 8.541 | 8.518 | 8.591 | VV | 311 | 5748 | 0.17% | 0.080% |
| 108 | 8.620 | 8.591 | 8.706 | PV | 4574 | 63821 | 1.87% | 0.884% |
| 109 | 8.729 | 8.706 | 8.739 | VV | 257 | 3864 | 0.11% | 0.054% |
| 110 | 8.768 | 8.739 | 8.778 | VV | 376 | 6616 | 0.19% | 0.092% |
| 111 | 8.797 | 8.778 | 8.828 | VV | 467 | 10444 | 0.31% | 0.145% |
| 112 | 8.847 | 8.828 | 8.888 | VV | 584 | 13393 | 0.39% | 0.186% |
| 113 | 8.913 | 8.888 | 8.935 | VV | 253 | 4997 | 0.15% | 0.069% |
| 114 | 8.961 | 8.935 | 8.981 | VV | 260 | 4609 | 0.13% | 0.064% |
| 115 | 9.025 | 8.981 | 9.048 | VV | 991 | 18583 | 0.54% | 0.258% |
| 116 | 9.066 | 9.048 | 9.106 | VV | 628 | 14981 | 0.44% | 0.208% |
| 117 | 9.147 | 9.106 | 9.178 | VV | 1317 | 28622 | 0.84% | 0.397% |
| 118 | 9.187 | 9.178 | 9.204 | VV | 220 | 2820 | 0.08% | 0.039% |
| 119 | 9.218 | 9.204 | 9.243 | VV | 356 | 4826 | 0.14% | 0.067% |
| 120 | 9.267 | 9.243 | 9.299 | VV | 269 | 5161 | 0.15% | 0.072% |
| 121 | 9.351 | 9.299 | 9.401 | VV | 255 | 9576 | 0.28% | 0.133% |
| 122 | 9.432 | 9.401 | 9.451 | VV | 400 | 7795 | 0.23% | 0.108% |
| 123 | 9.462 | 9.451 | 9.472 | VV | 176 | 1577 | 0.05% | 0.022% |
| 124 | 9.499 | 9.472 | 9.534 | VV | 774 | 13494 | 0.39% | 0.187% |
| 125 | 9.568 | 9.534 | 9.613 | VV | 316 | 9126 | 0.27% | 0.126% |
| 126 | 9.638 | 9.613 | 9.665 | VV | 498 | 8155 | 0.24% | 0.113% |
| 127 | 9.690 | 9.665 | 9.731 | VV | 604 | 9721 | 0.28% | 0.135% |
| 128 | 9.782 | 9.731 | 9.813 | VV | 176 | 5399 | 0.16% | 0.075% |
| 129 | 9.832 | 9.813 | 9.858 | VV | 526 | 7397 | 0.22% | 0.103% |
| 130 | 9.866 | 9.858 | 9.880 | VV | 187 | 1714 | 0.05% | 0.024% |
| 131 | 9.911 | 9.880 | 9.956 | VV | 1298 | 20734 | 0.61% | 0.287% |
| 132 | 10.010 | 9.956 | 10.048 | VV | 300 | 11978 | 0.35% | 0.166% |
| 133 | 10.080 | 10.048 | 10.140 | VV | 244 | 7373 | 0.22% | 0.102% |
| 134 | 10.194 | 10.140 | 10.208 | VV | 239 | 5805 | 0.17% | 0.080% |
| 135 | 10.232 | 10.208 | 10.264 | VV | 314 | 7719 | 0.23% | 0.107% |
| 136 | 10.307 | 10.264 | 10.324 | VV | 484 | 11852 | 0.35% | 0.164% |
| 137 | 10.344 | 10.324 | 10.364 | VV | 391 | 6897 | 0.20% | 0.096% |
| 138 | 10.380 | 10.364 | 10.454 | VV | 295 | 10438 | 0.31% | 0.145% |
| 139 | 10.465 | 10.454 | 10.489 | VV | 158 | 2210 | 0.06% | 0.031% |
| 140 | 10.515 | 10.489 | 10.538 | PV | 333 | 5987 | 0.17% | 0.083% |
| 141 | 10.549 | 10.538 | 10.564 | VV | 339 | 4453 | 0.13% | 0.062% |

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|---|---|---|---|---|---|---|---|---|
| 142 | 10.593 | 10.564 | 10.613 | VV | 417 | 9164 | 0.27% | 0.127% |
| 143 | 10.651 | 10.613 | 10.688 | VV | 597 | 16264 | 0.48% | 0.225% |
| 144 | 10.748 | 10.688 | 10.757 | VV | 490 | 14479 | 0.42% | 0.201% |
| 145 | 10.780 | 10.757 | 10.854 | VV | 663 | 20977 | 0.61% | 0.291% |
| 146 | 10.871 | 10.854 | 10.904 | VV | 288 | 6252 | 0.18% | 0.087% |
| 147 | 10.915 | 10.904 | 10.922 | VV | 204 | 1831 | 0.05% | 0.025% |
| 148 | 10.937 | 10.922 | 10.961 | VV | 278 | 5029 | 0.15% | 0.070% |
| 149 | 10.975 | 10.961 | 11.001 | VV | 354 | 5584 | 0.16% | 0.077% |
| 150 | 11.016 | 11.001 | 11.038 | VV | 282 | 5006 | 0.15% | 0.069% |
| 151 | 11.079 | 11.038 | 11.141 | VV | 537 | 16725 | 0.49% | 0.232% |
| 152 | 11.158 | 11.141 | 11.201 | VV | 298 | 5336 | 0.16% | 0.074% |
| 153 | 11.215 | 11.201 | 11.246 | VV | 154 | 3149 | 0.09% | 0.044% |
| 154 | 11.285 | 11.246 | 11.330 | VV | 4085 | 59505 | 1.74% | 0.825% |
| 155 | 11.358 | 11.330 | 11.403 | VV | 2480 | 37929 | 1.11% | 0.526% |
| 156 | 11.451 | 11.403 | 11.481 | VV | 1270 | 21286 | 0.62% | 0.295% |
| 157 | 11.491 | 11.481 | 11.501 | VV | 142 | 1200 | 0.04% | 0.017% |
| 158 | 11.504 | 11.501 | 11.528 | VV | 175 | 1065 | 0.03% | 0.015% |
| 159 | 11.542 | 11.528 | 11.551 | PV | 71 | 665 | 0.02% | 0.009% |
| 160 | 11.579 | 11.551 | 11.607 | VV | 188 | 3426 | 0.10% | 0.047% |
| 161 | 11.677 | 11.607 | 11.700 | VV | 291 | 8964 | 0.26% | 0.124% |
| 162 | 11.714 | 11.700 | 11.734 | VV | 267 | 4222 | 0.12% | 0.059% |
| 163 | 11.746 | 11.734 | 11.771 | VV | 445 | 5818 | 0.17% | 0.081% |
| 164 | 11.781 | 11.771 | 11.795 | VV | 224 | 2719 | 0.08% | 0.038% |
| 165 | 11.813 | 11.795 | 11.861 | VV | 432 | 10125 | 0.30% | 0.140% |
| 166 | 11.879 | 11.861 | 11.964 | VV | 201 | 10855 | 0.32% | 0.150% |
| 167 | 12.021 | 11.964 | 12.057 | VV | 506 | 18800 | 0.55% | 0.261% |
| 168 | 12.069 | 12.057 | 12.111 | VV | 301 | 6735 | 0.20% | 0.093% |
| 169 | 12.124 | 12.111 | 12.149 | VV | 232 | 4072 | 0.12% | 0.056% |
| 170 | 12.166 | 12.149 | 12.207 | VV | 308 | 7910 | 0.23% | 0.110% |
| 171 | 12.250 | 12.207 | 12.288 | VV | 536 | 15797 | 0.46% | 0.219% |
| 172 | 12.314 | 12.288 | 12.341 | VV | 254 | 6859 | 0.20% | 0.095% |
| 173 | 12.357 | 12.341 | 12.378 | VV | 215 | 3170 | 0.09% | 0.044% |
| 174 | 12.404 | 12.378 | 12.416 | VV | 295 | 4262 | 0.12% | 0.059% |
| 175 | 12.476 | 12.416 | 12.498 | VV | 424 | 13663 | 0.40% | 0.189% |
| 176 | 12.527 | 12.498 | 12.554 | VV | 513 | 11041 | 0.32% | 0.153% |
| 177 | 12.566 | 12.554 | 12.571 | VV | 165 | 1310 | 0.04% | 0.018% |
| 178 | 12.607 | 12.571 | 12.631 | VV | 745 | 11708 | 0.34% | 0.162% |
| 179 | 12.666 | 12.631 | 12.698 | VV | 1494 | 20874 | 0.61% | 0.289% |
| 180 | 12.707 | 12.698 | 12.748 | VV | 233 | 5023 | 0.15% | 0.070% |
| 181 | 12.786 | 12.748 | 12.852 | VV | 374 | 10147 | 0.30% | 0.141% |
| 182 | 12.874 | 12.852 | 12.891 | VV | 160 | 2256 | 0.07% | 0.031% |
| 183 | 12.952 | 12.891 | 13.017 | VV | 244 | 12234 | 0.36% | 0.170% |
| 184 | 13.028 | 13.017 | 13.036 | VV | 297 | 2453 | 0.07% | 0.034% |
| 185 | 13.041 | 13.036 | 13.071 | VV | 250 | 4242 | 0.12% | 0.059% |
| 186 | 13.115 | 13.071 | 13.154 | VV | 291844 | 3421231 | 100.00% | 47.411% |
| 187 | 13.166 | 13.154 | 13.178 | VV | 438 | 5362 | 0.16% | 0.074% |
| 188 | 13.183 | 13.178 | 13.204 | VV | 381 | 4189 | 0.12% | 0.058% |
| 189 | 13.239 | 13.204 | 13.255 | VV | 273 | 7542 | 0.22% | 0.105% |
| 190 | 13.280 | 13.255 | 13.317 | VV | 476 | 11607 | 0.34% | 0.161% |
| 191 | 13.332 | 13.317 | 13.379 | VV | 400 | 11401 | 0.33% | 0.158% |
| 192 | 13.402 | 13.379 | 13.460 | VV | 324 | 11817 | 0.35% | 0.164% |
| 193 | 13.494 | 13.460 | 13.526 | VV | 378 | 11600 | 0.34% | 0.161% |
| 194 | 13.554 | 13.526 | 13.598 | VV | 432 | 15156 | 0.44% | 0.210% |

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|---|---|---|---|---|---|---|---|---|
| 195 | 13.671 | 13.598 | 13.701 | VV | 348 | 17218 | 0.50% | 0.239% |
| 196 | 13.728 | 13.701 | 13.771 | VV | 388 | 12759 | 0.37% | 0.177% |
| 197 | 13.815 | 13.771 | 13.838 | VV | 726 | 16921 | 0.49% | 0.234% |
| 198 | 13.867 | 13.838 | 13.906 | VV | 1466 | 25988 | 0.76% | 0.360% |
| 199 | 13.956 | 13.906 | 13.978 | VV | 355 | 12915 | 0.38% | 0.179% |
| 200 | 13.985 | 13.978 | 13.996 | VV | 376 | 3386 | 0.10% | 0.047% |
| 201 | 14.005 | 13.996 | 14.034 | VV | 331 | 6763 | 0.20% | 0.094% |
| 202 | 14.090 | 14.034 | 14.161 | VV | 550 | 31237 | 0.91% | 0.433% |
| 203 | 14.170 | 14.161 | 14.188 | VV | 495 | 6814 | 0.20% | 0.094% |
| 204 | 14.198 | 14.188 | 14.218 | VV | 403 | 6711 | 0.20% | 0.093% |
| 205 | 14.235 | 14.218 | 14.248 | VV | 463 | 7199 | 0.21% | 0.100% |
| 206 | 14.304 | 14.248 | 14.371 | VV | 1311 | 46029 | 1.35% | 0.638% |
| 207 | 14.389 | 14.371 | 14.398 | VV | 567 | 7978 | 0.23% | 0.111% |
| 208 | 14.433 | 14.398 | 14.484 | VV | 695 | 26714 | 0.78% | 0.370% |
| 209 | 14.495 | 14.484 | 14.510 | VV | 543 | 7733 | 0.23% | 0.107% |
| 210 | 14.567 | 14.510 | 14.614 | VV | 589 | 32676 | 0.96% | 0.453% |
| 211 | 14.628 | 14.614 | 14.674 | VV | 759 | 17661 | 0.52% | 0.245% |
| 212 | 14.690 | 14.674 | 14.705 | VV | 568 | 9317 | 0.27% | 0.129% |
| 213 | 14.754 | 14.705 | 14.801 | VV | 576 | 30970 | 0.91% | 0.429% |
| 214 | 14.816 | 14.801 | 14.841 | VV | 601 | 12279 | 0.36% | 0.170% |
| 215 | 14.848 | 14.841 | 14.887 | VV | 491 | 12870 | 0.38% | 0.178% |
| 216 | 14.927 | 14.887 | 14.947 | VV | 969 | 22564 | 0.66% | 0.313% |
| 217 | 14.972 | 14.947 | 15.048 | VV | 1490 | 42371 | 1.24% | 0.587% |
| 218 | 15.051 | 15.048 | 15.064 | VV | 496 | 4238 | 0.12% | 0.059% |
| 219 | 15.138 | 15.100 | 15.229 | VV | 476 | 30345 | 0.89% | 0.421% |
| 220 | 15.243 | 15.229 | 15.299 | VV | 422 | 13946 | 0.41% | 0.193% |
| 221 | 15.313 | 15.299 | 15.341 | VV | 351 | 8013 | 0.23% | 0.111% |
| 222 | 15.385 | 15.341 | 15.441 | VV | 434 | 19830 | 0.58% | 0.275% |
| 223 | 15.462 | 15.441 | 15.471 | VV | 427 | 6381 | 0.19% | 0.088% |
| 224 | 15.494 | 15.471 | 15.595 | VV | 500 | 23680 | 0.69% | 0.328% |
| 225 | 15.616 | 15.595 | 15.649 | VV | 329 | 7569 | 0.22% | 0.105% |
| 226 | 15.664 | 15.649 | 15.711 | VV | 304 | 9274 | 0.27% | 0.129% |
| 227 | 15.767 | 15.711 | 15.778 | VV | 336 | 9799 | 0.29% | 0.136% |
| 228 | 15.795 | 15.778 | 15.831 | VV | 253 | 7114 | 0.21% | 0.099% |
| 229 | 15.861 | 15.831 | 15.882 | VV | 280 | 6877 | 0.20% | 0.095% |
| 230 | 15.921 | 15.882 | 15.935 | VV | 238 | 5856 | 0.17% | 0.081% |
| 231 | 15.956 | 15.935 | 15.972 | VV | 400 | 6612 | 0.19% | 0.092% |
| 232 | 15.995 | 15.972 | 16.119 | VV | 899 | 22501 | 0.66% | 0.312% |
| 233 | 16.164 | 16.119 | 16.181 | VV | 206 | 5111 | 0.15% | 0.071% |
| 234 | 16.218 | 16.181 | 16.254 | VV | 177 | 4202 | 0.12% | 0.058% |
| 235 | 16.269 | 16.254 | 16.350 | VV | 141 | 4325 | 0.13% | 0.060% |
| 236 | 16.391 | 16.350 | 16.410 | VV | 120 | 2953 | 0.09% | 0.041% |
| 237 | 16.429 | 16.410 | 16.461 | VV | 119 | 2599 | 0.08% | 0.036% |
| 238 | 16.480 | 16.461 | 16.515 | VV | 455 | 8237 | 0.24% | 0.114% |
| 239 | 16.522 | 16.515 | 16.548 | VV | 186 | 2407 | 0.07% | 0.033% |
| 240 | 16.656 | 16.548 | 16.701 | VV | 289 | 11377 | 0.33% | 0.158% |
| 241 | 16.775 | 16.701 | 16.807 | VV | 123 | 3764 | 0.11% | 0.052% |
| 242 | 16.843 | 16.807 | 16.860 | PV | 289 | 4055 | 0.12% | 0.056% |
| 243 | 16.947 | 16.860 | 17.022 | VV | 896 | 24971 | 0.73% | 0.346% |
| 244 | 17.061 | 17.022 | 17.094 | VV | 138 | 4094 | 0.12% | 0.057% |
| 245 | 17.100 | 17.094 | 17.131 | VV | 112 | 1331 | 0.04% | 0.018% |
| 246 | 17.159 | 17.131 | 17.191 | VV | 135 | 2557 | 0.07% | 0.035% |

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|---|---|---|---|---|---|---|---|---|
| 247 | 17.227 | 17.191 | 17.278 | PV | 236 | 5939 | 0.17% | 0.082% |
| 248 | 17.291 | 17.278 | 17.308 | VV | 131 | 1920 | 0.06% | 0.027% |
| 249 | 17.336 | 17.308 | 17.351 | VV | 219 | 3361 | 0.10% | 0.047% |
| 250 | 17.399 | 17.351 | 17.458 | VV | 1015 | 19007 | 0.56% | 0.263% |
| 251 | 17.509 | 17.458 | 17.558 | VV | 164 | 6743 | 0.20% | 0.093% |
| 252 | 17.571 | 17.558 | 17.591 | VV | 104 | 1763 | 0.05% | 0.024% |
| 253 | 17.661 | 17.591 | 17.734 | VV | 176 | 7210 | 0.21% | 0.100% |
| 254 | 17.837 | 17.734 | 17.951 | VV | 1442 | 32748 | 0.96% | 0.454% |
| 255 | 18.020 | 17.951 | 18.044 | VV | 237 | 9585 | 0.28% | 0.133% |
| 256 | 18.062 | 18.044 | 18.081 | PV | 116 | 1382 | 0.04% | 0.019% |
| 257 | 18.104 | 18.081 | 18.170 | VV | 109 | 3396 | 0.10% | 0.047% |
| 258 | 18.260 | 18.170 | 18.314 | VV | 1476 | 28118 | 0.82% | 0.390% |
| 259 | 18.356 | 18.314 | 18.374 | VV | 105 | 2211 | 0.06% | 0.031% |
| 260 | 18.388 | 18.374 | 18.424 | PV | 111 | 1789 | 0.05% | 0.025% |
| 261 | 18.526 | 18.424 | 18.544 | PV | 245 | 10051 | 0.29% | 0.139% |
| 262 | 18.609 | 18.544 | 18.628 | VV | 186 | 7253 | 0.21% | 0.101% |
| 263 | 18.671 | 18.628 | 18.734 | VV | 1634 | 29151 | 0.85% | 0.404% |
| 264 | 18.760 | 18.734 | 18.794 | VV | 587 | 9068 | 0.27% | 0.126% |
| 265 | 18.824 | 18.794 | 18.851 | VV | 151 | 3066 | 0.09% | 0.042% |
| 266 | 18.925 | 18.851 | 18.954 | PV | 210 | 5116 | 0.15% | 0.071% |
| 267 | 19.069 | 18.954 | 19.131 | VV | 1112 | 23859 | 0.70% | 0.331% |
| 268 | 19.247 | 19.131 | 19.274 | PV | 243 | 12780 | 0.37% | 0.177% |
| 269 | 19.319 | 19.274 | 19.344 | VV | 203 | 6566 | 0.19% | 0.091% |
| 270 | 19.457 | 19.344 | 19.501 | VV | 1572 | 37525 | 1.10% | 0.520% |
| 271 | 19.658 | 19.501 | 19.674 | VV | 444 | 33398 | 0.98% | 0.463% |
| 272 | 19.702 | 19.674 | 19.728 | VV | 472 | 13735 | 0.40% | 0.190% |
| 273 | 19.746 | 19.728 | 19.794 | VV | 555 | 16678 | 0.49% | 0.231% |
| 274 | 19.833 | 19.794 | 19.864 | VV | 961 | 26034 | 0.76% | 0.361% |
| 275 | 20.110 | 19.864 | 20.144 | VV | 812 | 109605 | 3.20% | 1.519% |
| 276 | 20.197 | 20.144 | 20.231 | VV | 1864 | 57310 | 1.68% | 0.794% |
| 277 | 20.564 | 20.231 | 20.606 | VV | 1436 | 252542 | 7.38% | 3.500% |
| 278 | 20.798 | 20.606 | 20.901 | VV | 1312 | 201862 | 5.90% | 2.797% |
| 279 | 20.968 | 20.901 | 21.004 | VV | 1909 | 80987 | 2.37% | 1.122% |
| 280 | 21.023 | 21.004 | 21.091 | VV | 1096 | 53352 | 1.56% | 0.739% |
| 281 | 21.164 | 21.091 | 21.288 | VV | 1001 | 106871 | 3.12% | 1.481% |
| 282 | 21.418 | 21.288 | 21.464 | VV | 921 | 85885 | 2.51% | 1.190% |
| 283 | 21.486 | 21.464 | 21.594 | VV | 828 | 56209 | 1.64% | 0.779% |
| 284 | 21.605 | 21.594 | 21.621 | VV | 737 | 10710 | 0.31% | 0.148% |
| 285 | 21.631 | 21.621 | 21.661 | VV | 695 | 14957 | 0.44% | 0.207% |
| 286 | 21.752 | 21.661 | 21.771 | VV | 633 | 39933 | 1.17% | 0.553% |
| 287 | 21.809 | 21.771 | 21.884 | VV | 629 | 38485 | 1.12% | 0.533% |
| 288 | 21.937 | 21.884 | 21.987 | VV | 1563 | 57346 | 1.68% | 0.795% |
| 289 | 22.016 | 21.987 | 22.128 | VV | 571 | 38796 | 1.13% | 0.538% |
| 290 | 22.212 | 22.128 | 22.338 | VV | 383 | 39091 | 1.14% | 0.542% |
| 291 | 22.353 | 22.338 | 22.417 | VV | 237 | 5842 | 0.17% | 0.081% |

Sum of corrected areas: 7216082

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | 05/31/25 |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | 06/03/25 |
| Client Sample ID: | B-202-SB02 | SDG No.: | Q2198 |
| Lab Sample ID: | Q2198-01 | Matrix: | Solid |
| Analytical Method: | NJEPH | % Solid: | 71.9 |
| Sample Wt/Vol: | 30.05 Units: g | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FD049446.D | 1 | 06/11/25 | 06/12/25 | PB168408 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| Aromatic C10-C12 | Aromatic C10-C12 | 0.38 | J | 0.17 | 0.93 | mg/kg |
| Aromatic C12-C16 | Aromatic C12-C16 | 0.57 | J | 0.32 | 1.39 | mg/kg |
| Aromatic C16-C21 | Aromatic C16-C21 | 3.87 | | 0.56 | 2.31 | mg/kg |
| Aromatic C21-C36 | Aromatic C21-C36 | 2.39 | J | 1.65 | 3.70 | mg/kg |
| **SURROGATES** | | | | | | |
| 580-13-2 | 2-Bromonaphthalene (SURR) | 39.1 | | 40 - 140 | 78% | SPK: 50 |
| 321-60-8 | 2-Flurobiphenyl (SURR) | 39.0 | | 40 - 140 | 78% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | 28.3 | | 40 - 140 | 57% | SPK: 50 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

# Quantitation Report For Aromatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | Q2198-01 | Acq On: | 12 Jun 2025 02:48 |
| Client Sample ID: | B-202-SB02 | Operator: | YP/AJ |
| Data file: | FD049446.D | Misc: | |
| Instrument: | FID_D | ALS Vial: | 73 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aromatic C10-C12 | 4.424 | 6.168 | 679679 | 4.062 | 200 | ug/ml |
| Aromatic C12-C16 | 6.169 | 8.797 | 1161478 | 6.194 | 300 | ug/ml |
| Aromatic C16-C21 | 8.798 | 13.088 | 7732346 | 41.855 | 500 | ug/ml |
| Aromatic C21-C36 | 13.089 | 18.509 | 3740686 | 25.788 | 800 | ug/ml |
| Aromatic EPH | 4.424 | 18.509 | 13314189 | 77.898 | | ug/ml |
| ortho-Terphenyl (SURR) | 11.644 | 11.644 | 5682762 | 28.31 | | ug/ml |
| 2-Bromonaphthalene (SURR) | 7.734 | 7.734 | 6493936 | 39.06 | | ug/ml |
| 2-Flurobiphenyl (SURR) | 8.599 | 8.599 | 4465390 | 39.03 | | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061125AR\
Data File : FD049446.D
Signal(s) : FID2B.ch
Acq On : 12 Jun 2025 02:48
Operator : YP/AJ
Sample : Q2198-01
Misc :
ALS Vial : 73 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
B-202-SB02

Integration File: autoint1.e
Quant Time: Jun 12 05:03:29 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| **System Monitoring Compounds** | | | |
| 4) S 2-Bromonaphthalene (S... | 7.734 | 6493936 | 39.065 ug/ml |
| Spiked Amount 50.000 | | Recovery = | 78.13% |
| 6) S 2-Flurobiphenyl (SURR) | 8.599 | 4465390 | 39.034 ug/ml |
| Spiked Amount 50.000 Range 0 - 131 | | Recovery = | 78.07% |
| 11) S ortho-Terphenyl (SURR) | 11.644 | 5682762 | 28.312 ug/ml |
| Spiked Amount 50.000 | | Recovery = | 56.62% |
| **Target Compounds** | | | |

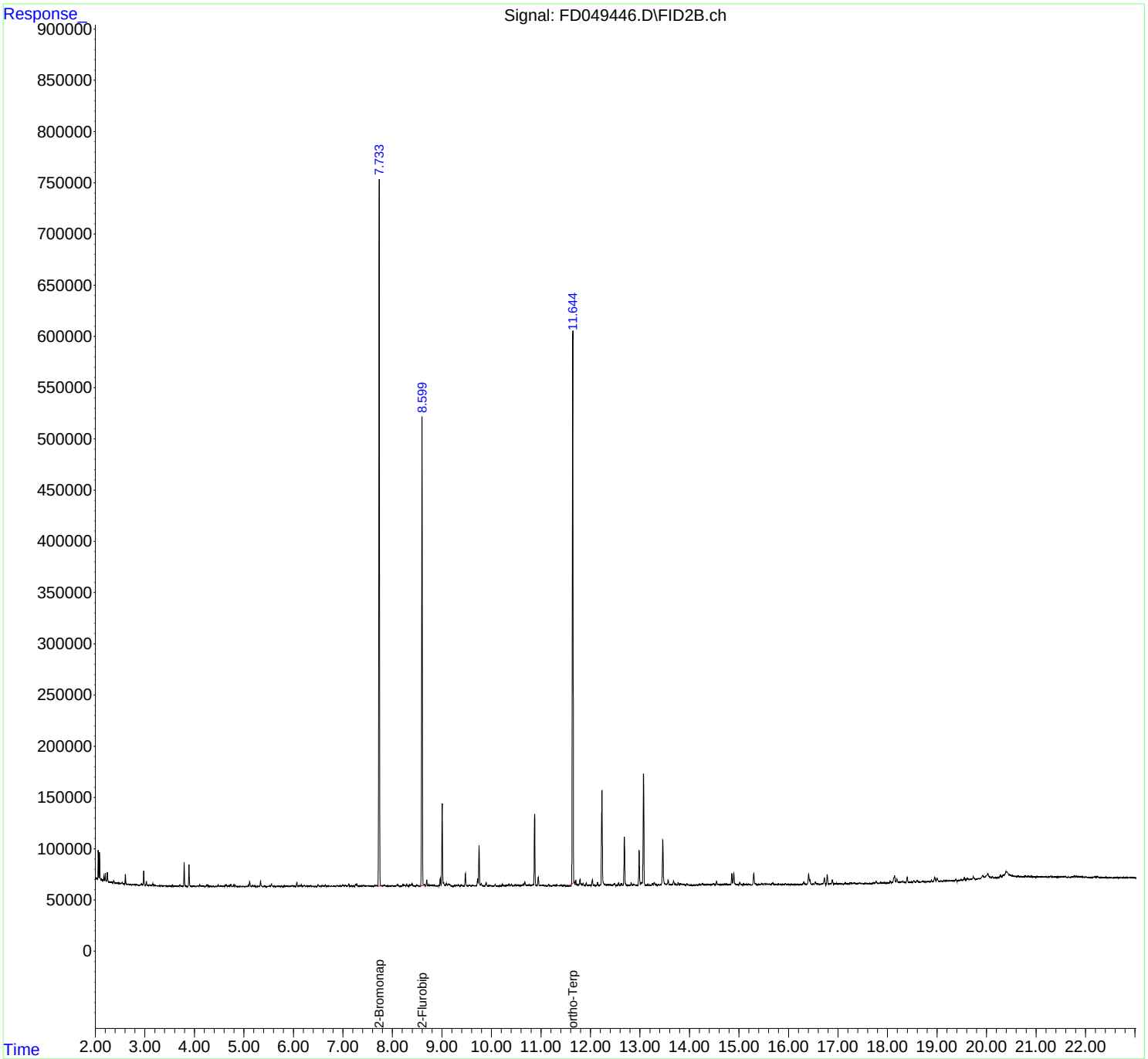
(f)=RT Delta > 1/2 Window (m)=manual int.

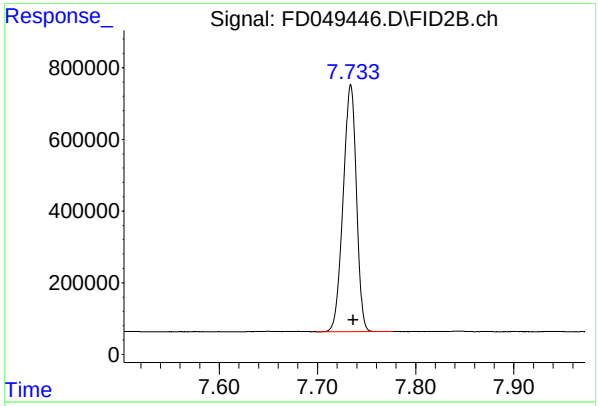
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061125AR\
Data File : FD049446.D
Signal(s) : FID2B.ch
Acq On : 12 Jun 2025 02:48
Operator : YP/AJ
Sample : Q2198-01
Misc :
ALS Vial : 73 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
B-202-SB02

Integration File: autoint1.e
Quant Time: Jun 12 05:03:29 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

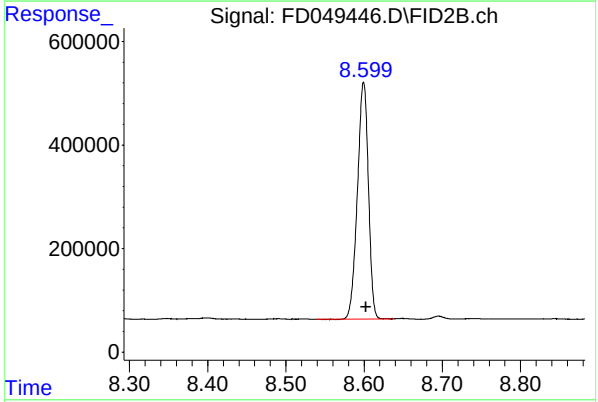





#4 2-Bromonaphthalene (SURR)

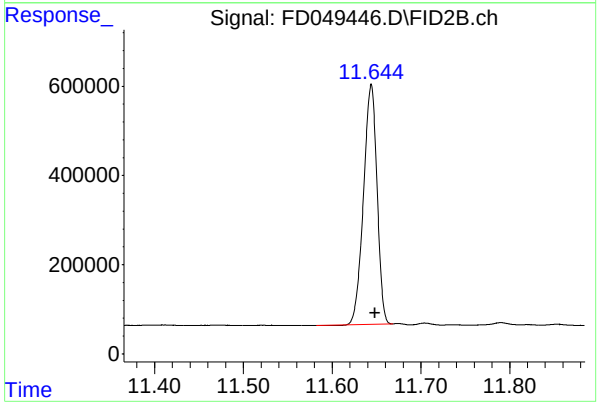
R.T.: 7.734 min
Delta R.T.: -0.002 min
Response: 6493936
Conc: 39.06 ug/ml

**Instrument :**
FID_D
**ClientSampleId :**
B-202-SB02




#6 2-Flurobiphenyl (SURR)

R.T.: 8.599 min
Delta R.T.: -0.003 min
Response: 4465390
Conc: 39.03 ug/ml




#11 ortho-Terphenyl (SURR)

R.T.: 11.644 min
Delta R.T.: -0.004 min
Response: 5682762
Conc: 28.31 ug/ml

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061225AR\
Data File : FD049446.D
Signal(s) : FID2B.ch
Acq On : 12 Jun 2025 02:48
Sample : Q2198-01
Misc :
ALS Vial : 73 Sample Multiplier: 1

Integration File: sample.E

Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Title : GC Extractables

Signal : FID2B.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.258 | 4.250 | 4.271 | BV | 749 | 3887 | 0.06% | 0.013% |
| 2 | 4.283 | 4.271 | 4.310 | PV | 705 | 6468 | 0.10% | 0.021% |
| 3 | 4.320 | 4.310 | 4.329 | PV | 296 | 1835 | 0.03% | 0.006% |
| 4 | 4.332 | 4.329 | 4.369 | VV | 230 | 2789 | 0.04% | 0.009% |
| 5 | 4.376 | 4.369 | 4.398 | VV | 327 | 3300 | 0.05% | 0.011% |
| 6 | 4.442 | 4.406 | 4.453 | VV | 352 | 4846 | 0.07% | 0.016% |
| 7 | 4.481 | 4.453 | 4.508 | VV | 1557 | 19010 | 0.29% | 0.063% |
| 8 | 4.527 | 4.508 | 4.542 | VV | 821 | 10240 | 0.16% | 0.034% |
| 9 | 4.551 | 4.542 | 4.557 | VV | 405 | 2621 | 0.04% | 0.009% |
| 10 | 4.563 | 4.557 | 4.567 | VV | 332 | 1745 | 0.03% | 0.006% |
| 11 | 4.585 | 4.567 | 4.588 | VV | 463 | 4870 | 0.07% | 0.016% |
| 12 | 4.598 | 4.588 | 4.610 | VV | 645 | 6111 | 0.09% | 0.020% |
| 13 | 4.626 | 4.610 | 4.638 | VV | 1821 | 18295 | 0.28% | 0.060% |
| 14 | 4.651 | 4.638 | 4.685 | VV | 1796 | 23349 | 0.36% | 0.077% |
| 15 | 4.706 | 4.685 | 4.722 | VV | 1809 | 20012 | 0.31% | 0.066% |
| 16 | 4.736 | 4.722 | 4.756 | VV | 2539 | 25333 | 0.39% | 0.084% |
| 17 | 4.789 | 4.756 | 4.805 | VV | 1984 | 21026 | 0.32% | 0.069% |
| 18 | 4.817 | 4.805 | 4.843 | VV | 1981 | 20992 | 0.32% | 0.069% |
| 19 | 4.851 | 4.843 | 4.873 | VV | 533 | 5195 | 0.08% | 0.017% |
| 20 | 4.907 | 4.873 | 4.912 | PV | 284 | 4064 | 0.06% | 0.013% |
| 21 | 4.926 | 4.912 | 4.943 | VV | 788 | 8558 | 0.13% | 0.028% |
| 22 | 4.951 | 4.943 | 4.972 | VV | 354 | 4231 | 0.06% | 0.014% |
| 23 | 4.987 | 4.981 | 5.005 | VV | 281 | 3046 | 0.05% | 0.010% |
| 24 | 5.012 | 5.005 | 5.022 | VV | 388 | 2912 | 0.04% | 0.010% |
| 25 | 5.041 | 5.022 | 5.064 | VV | 633 | 9834 | 0.15% | 0.032% |
| 26 | 5.091 | 5.064 | 5.099 | VV | 1147 | 14317 | 0.22% | 0.047% |
| 27 | 5.117 | 5.099 | 5.141 | VV | 5243 | 58652 | 0.90% | 0.193% |
| 28 | 5.145 | 5.141 | 5.150 | VV | 370 | 2066 | 0.03% | 0.007% |
| 29 | 5.174 | 5.150 | 5.194 | VV | 1268 | 18392 | 0.28% | 0.061% |
| 30 | 5.201 | 5.194 | 5.212 | VV | 558 | 5108 | 0.08% | 0.017% |
| 31 | 5.222 | 5.212 | 5.247 | VV | 857 | 9981 | 0.15% | 0.033% |
| 32 | 5.257 | 5.247 | 5.282 | VV | 321 | 4398 | 0.07% | 0.015% |
| 33 | 5.309 | 5.282 | 5.318 | VV | 637 | 7302 | 0.11% | 0.024% |
| 34 | 5.337 | 5.318 | 5.369 | VV | 5726 | 60973 | 0.94% | 0.201% |
| 35 | 5.402 | 5.369 | 5.415 | VV | 419 | 8258 | 0.13% | 0.027% |
| 36 | 5.426 | 5.415 | 5.452 | VV | 416 | 4494 | 0.07% | 0.015% |

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|---|---|---|---|---|---|---|---|---|
| 37 | 5.482 | 5.452 | 5.497 | VV | 452 | 8220 | 0.13% | 0.027% |
| 38 | 5.519 | 5.497 | 5.538 | VV | 1322 | 16150 | 0.25% | 0.053% |
| 39 | 5.558 | 5.538 | 5.583 | VV | 2706 | 32684 | 0.50% | 0.108% |
| 40 | 5.588 | 5.583 | 5.602 | VV | 434 | 3608 | 0.06% | 0.012% |
| 41 | 5.615 | 5.602 | 5.644 | VV | 619 | 8734 | 0.13% | 0.029% |
| 42 | 5.650 | 5.644 | 5.659 | VV | 359 | 2331 | 0.04% | 0.008% |
| 43 | 5.679 | 5.659 | 5.691 | VV | 567 | 7062 | 0.11% | 0.023% |
| 44 | 5.707 | 5.691 | 5.729 | VV | 710 | 7179 | 0.11% | 0.024% |
| 45 | 5.757 | 5.729 | 5.791 | PV | 653 | 11767 | 0.18% | 0.039% |
| 46 | 5.811 | 5.791 | 5.843 | VV | 740 | 15017 | 0.23% | 0.050% |
| 47 | 5.859 | 5.843 | 5.879 | VV | 932 | 12458 | 0.19% | 0.041% |
| 48 | 5.890 | 5.879 | 5.908 | VV | 519 | 5952 | 0.09% | 0.020% |
| 49 | 5.930 | 5.908 | 5.940 | VV | 598 | 6849 | 0.11% | 0.023% |
| 50 | 5.951 | 5.940 | 5.956 | VV | 459 | 3565 | 0.05% | 0.012% |
| 51 | 5.975 | 5.956 | 5.994 | VV | 1316 | 16975 | 0.26% | 0.056% |
| 52 | 6.003 | 5.994 | 6.027 | VV | 611 | 9149 | 0.14% | 0.030% |
| 53 | 6.042 | 6.027 | 6.047 | VV | 590 | 5415 | 0.08% | 0.018% |
| 54 | 6.070 | 6.047 | 6.092 | VV | 4294 | 50194 | 0.77% | 0.166% |
| 55 | 6.115 | 6.092 | 6.137 | VV | 1213 | 18028 | 0.28% | 0.059% |
| 56 | 6.157 | 6.137 | 6.189 | VV | 1871 | 28111 | 0.43% | 0.093% |
| 57 | 6.220 | 6.189 | 6.255 | VV | 1335 | 26923 | 0.41% | 0.089% |
| 58 | 6.264 | 6.255 | 6.270 | VV | 534 | 3817 | 0.06% | 0.013% |
| 59 | 6.288 | 6.270 | 6.328 | VV | 692 | 18270 | 0.28% | 0.060% |
| 60 | 6.345 | 6.328 | 6.375 | VV | 1141 | 19175 | 0.29% | 0.063% |
| 61 | 6.380 | 6.375 | 6.397 | VV | 462 | 3627 | 0.06% | 0.012% |
| 62 | 6.449 | 6.397 | 6.456 | VV | 378 | 7236 | 0.11% | 0.024% |
| 63 | 6.467 | 6.456 | 6.476 | VV | 345 | 2828 | 0.04% | 0.009% |
| 64 | 6.498 | 6.476 | 6.527 | VV | 2147 | 30599 | 0.47% | 0.101% |
| 65 | 6.538 | 6.527 | 6.547 | VV | 558 | 5382 | 0.08% | 0.018% |
| 66 | 6.553 | 6.547 | 6.556 | VV | 514 | 2531 | 0.04% | 0.008% |
| 67 | 6.582 | 6.556 | 6.601 | VV | 1033 | 18348 | 0.28% | 0.061% |
| 68 | 6.619 | 6.601 | 6.629 | VV | 1016 | 11806 | 0.18% | 0.039% |
| 69 | 6.646 | 6.629 | 6.672 | VV | 1840 | 23186 | 0.36% | 0.076% |
| 70 | 6.679 | 6.672 | 6.700 | VV | 694 | 7829 | 0.12% | 0.026% |
| 71 | 6.718 | 6.700 | 6.739 | VV | 1241 | 13354 | 0.20% | 0.044% |
| 72 | 6.745 | 6.739 | 6.750 | VV | 336 | 1620 | 0.02% | 0.005% |
| 73 | 6.760 | 6.750 | 6.769 | VV | 337 | 3126 | 0.05% | 0.010% |
| 74 | 6.779 | 6.769 | 6.795 | VV | 512 | 5689 | 0.09% | 0.019% |
| 75 | 6.807 | 6.795 | 6.814 | VV | 505 | 4190 | 0.06% | 0.014% |
| 76 | 6.825 | 6.814 | 6.853 | VV | 582 | 9809 | 0.15% | 0.032% |
| 77 | 6.860 | 6.853 | 6.865 | VV | 426 | 2383 | 0.04% | 0.008% |
| 78 | 6.887 | 6.865 | 6.915 | VV | 1394 | 20501 | 0.31% | 0.068% |
| 79 | 6.939 | 6.915 | 6.964 | VV | 1019 | 18297 | 0.28% | 0.060% |
| 80 | 6.993 | 6.964 | 7.016 | VV | 1579 | 29763 | 0.46% | 0.098% |
| 81 | 7.036 | 7.016 | 7.044 | VV | 1168 | 16185 | 0.25% | 0.053% |
| 82 | 7.054 | 7.044 | 7.086 | VV | 1334 | 20765 | 0.32% | 0.068% |
| 83 | 7.120 | 7.086 | 7.142 | VV | 2066 | 36978 | 0.57% | 0.122% |
| 84 | 7.156 | 7.142 | 7.164 | VV | 688 | 6760 | 0.10% | 0.022% |
| 85 | 7.169 | 7.164 | 7.175 | VV | 599 | 3841 | 0.06% | 0.013% |
| 86 | 7.185 | 7.175 | 7.200 | VV | 685 | 6049 | 0.09% | 0.020% |
| 87 | 7.206 | 7.200 | 7.210 | VV | 341 | 1688 | 0.03% | 0.006% |
| 88 | 7.222 | 7.210 | 7.242 | VV | 555 | 6771 | 0.10% | 0.022% |
| 89 | 7.258 | 7.242 | 7.268 | VV | 2324 | 24001 | 0.37% | 0.079% |

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|---|---|---|---|---|---|---|---|---|
| 90 | 7.280 | 7.268 | 7.318 | VV | 2927 | 37390 | 0.57% | 0.123% |
| 91 | 7.337 | 7.318 | 7.348 | VV | 851 | 10083 | 0.15% | 0.033% |
| 92 | 7.357 | 7.348 | 7.369 | VV | 804 | 7460 | 0.11% | 0.025% |
| 93 | 7.385 | 7.369 | 7.400 | VV | 958 | 12085 | 0.19% | 0.040% |
| 94 | 7.418 | 7.400 | 7.442 | VV | 1723 | 23823 | 0.37% | 0.079% |
| 95 | 7.451 | 7.442 | 7.466 | VV | 888 | 9981 | 0.15% | 0.033% |
| 96 | 7.492 | 7.466 | 7.496 | VV | 756 | 11213 | 0.17% | 0.037% |
| 97 | 7.511 | 7.496 | 7.530 | VV | 984 | 13875 | 0.21% | 0.046% |
| 98 | 7.535 | 7.530 | 7.544 | VV | 478 | 3252 | 0.05% | 0.011% |
| 99 | 7.561 | 7.544 | 7.572 | VV | 569 | 8288 | 0.13% | 0.027% |
| 100 | 7.575 | 7.572 | 7.587 | VV | 603 | 4590 | 0.07% | 0.015% |
| 101 | 7.592 | 7.587 | 7.597 | VV | 447 | 2607 | 0.04% | 0.009% |
| 102 | 7.599 | 7.597 | 7.618 | VV | 528 | 4149 | 0.06% | 0.014% |
| 103 | 7.649 | 7.618 | 7.664 | VV | 1540 | 23717 | 0.36% | 0.078% |
| 104 | 7.680 | 7.664 | 7.704 | VV | 1441 | 20392 | 0.31% | 0.067% |
| 105 | 7.734 | 7.704 | 7.777 | VV | 689626 | 6516998 | 100.00% | 21.496% |
| 106 | 7.782 | 7.777 | 7.793 | VV | 811 | 6157 | 0.09% | 0.020% |
| 107 | 7.799 | 7.793 | 7.804 | VV | 691 | 4179 | 0.06% | 0.014% |
| 108 | 7.844 | 7.804 | 7.861 | VV | 1648 | 36748 | 0.56% | 0.121% |
| 109 | 7.872 | 7.861 | 7.886 | VV | 699 | 8882 | 0.14% | 0.029% |
| 110 | 7.902 | 7.886 | 7.922 | VV | 730 | 11822 | 0.18% | 0.039% |
| 111 | 7.940 | 7.922 | 7.962 | VV | 658 | 12463 | 0.19% | 0.041% |
| 112 | 7.987 | 7.962 | 8.025 | VV | 1175 | 27769 | 0.43% | 0.092% |
| 113 | 8.042 | 8.025 | 8.057 | VV | 680 | 8598 | 0.13% | 0.028% |
| 114 | 8.072 | 8.057 | 8.080 | VV | 859 | 8408 | 0.13% | 0.028% |
| 115 | 8.097 | 8.080 | 8.102 | VV | 1674 | 16105 | 0.25% | 0.053% |
| 116 | 8.111 | 8.102 | 8.148 | VV | 1579 | 24755 | 0.38% | 0.082% |
| 117 | 8.166 | 8.148 | 8.170 | VV | 425 | 4799 | 0.07% | 0.016% |
| 118 | 8.182 | 8.170 | 8.200 | VV | 835 | 12887 | 0.20% | 0.043% |
| 119 | 8.216 | 8.200 | 8.230 | VV | 2634 | 29913 | 0.46% | 0.099% |
| 120 | 8.243 | 8.230 | 8.265 | VV | 1828 | 23767 | 0.36% | 0.078% |
| 121 | 8.287 | 8.265 | 8.306 | VV | 2460 | 32648 | 0.50% | 0.108% |
| 122 | 8.317 | 8.306 | 8.332 | VV | 702 | 8344 | 0.13% | 0.028% |
| 123 | 8.347 | 8.332 | 8.361 | VV | 1835 | 19919 | 0.31% | 0.066% |
| 124 | 8.400 | 8.361 | 8.426 | VV | 3069 | 61675 | 0.95% | 0.203% |
| 125 | 8.435 | 8.426 | 8.461 | VV | 884 | 13010 | 0.20% | 0.043% |
| 126 | 8.491 | 8.461 | 8.505 | VV | 1429 | 21989 | 0.34% | 0.073% |
| 127 | 8.522 | 8.505 | 8.547 | VV | 942 | 14180 | 0.22% | 0.047% |
| 128 | 8.599 | 8.547 | 8.637 | VV | 458817 | 4507043 | 69.16% | 14.866% |
| 129 | 8.649 | 8.637 | 8.675 | VV | 1978 | 27559 | 0.42% | 0.091% |
| 130 | 8.695 | 8.675 | 8.718 | VV | 6443 | 71310 | 1.09% | 0.235% |
| 131 | 8.741 | 8.718 | 8.757 | VV | 1806 | 30519 | 0.47% | 0.101% |
| 132 | 8.772 | 8.757 | 8.785 | VV | 1154 | 16841 | 0.26% | 0.056% |
| 133 | 8.844 | 8.785 | 8.879 | VV | 1458 | 54006 | 0.83% | 0.178% |
| 134 | 8.888 | 8.879 | 8.896 | VV | 753 | 6686 | 0.10% | 0.022% |
| 135 | 8.904 | 8.896 | 8.920 | VV | 577 | 7595 | 0.12% | 0.025% |
| 136 | 8.934 | 8.920 | 8.948 | VV | 1036 | 13786 | 0.21% | 0.045% |
| 137 | 8.966 | 8.948 | 8.983 | VV | 7691 | 81327 | 1.25% | 0.268% |
| 138 | 9.007 | 8.983 | 9.027 | VV | 80945 | 794170 | 12.19% | 2.619% |
| 139 | 9.036 | 9.027 | 9.057 | VV | 3939 | 47150 | 0.72% | 0.156% |
| 140 | 9.062 | 9.057 | 9.073 | VV | 1424 | 10769 | 0.17% | 0.036% |
| 141 | 9.091 | 9.073 | 9.114 | VV | 2641 | 44474 | 0.68% | 0.147% |

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|---|---|---|---|---|---|---|---|---|
| 142 | 9.129 | 9.114 | 9.150 | VV | 2413 | 42874 | 0.66% | 0.141% |
| 143 | 9.161 | 9.150 | 9.185 | VV | 2158 | 26267 | 0.40% | 0.087% |
| 144 | 9.193 | 9.185 | 9.222 | VV | 842 | 9853 | 0.15% | 0.032% |
| 145 | 9.254 | 9.222 | 9.275 | PV | 1130 | 17818 | 0.27% | 0.059% |
| 146 | 9.293 | 9.275 | 9.309 | VV | 1482 | 19746 | 0.30% | 0.065% |
| 147 | 9.333 | 9.309 | 9.369 | VV | 1413 | 28533 | 0.44% | 0.094% |
| 148 | 9.392 | 9.369 | 9.423 | VV | 1380 | 25808 | 0.40% | 0.085% |
| 149 | 9.439 | 9.423 | 9.452 | VV | 768 | 8583 | 0.13% | 0.028% |
| 150 | 9.475 | 9.452 | 9.515 | VV | 12389 | 137634 | 2.11% | 0.454% |
| 151 | 9.527 | 9.515 | 9.532 | VV | 533 | 4310 | 0.07% | 0.014% |
| 152 | 9.555 | 9.532 | 9.586 | VV | 1483 | 28620 | 0.44% | 0.094% |
| 153 | 9.624 | 9.586 | 9.643 | VV | 991 | 24266 | 0.37% | 0.080% |
| 154 | 9.655 | 9.643 | 9.675 | VV | 818 | 12082 | 0.19% | 0.040% |
| 155 | 9.687 | 9.675 | 9.700 | VV | 886 | 9929 | 0.15% | 0.033% |
| 156 | 9.723 | 9.700 | 9.734 | VV | 7411 | 80776 | 1.24% | 0.266% |
| 157 | 9.752 | 9.734 | 9.775 | VV | 39797 | 408503 | 6.27% | 1.347% |
| 158 | 9.796 | 9.775 | 9.837 | VV | 2740 | 46401 | 0.71% | 0.153% |
| 159 | 9.849 | 9.837 | 9.856 | VV | 525 | 4739 | 0.07% | 0.016% |
| 160 | 9.896 | 9.856 | 9.920 | VV | 3795 | 59410 | 0.91% | 0.196% |
| 161 | 9.923 | 9.920 | 9.941 | VV | 547 | 4330 | 0.07% | 0.014% |
| 162 | 9.960 | 9.941 | 9.982 | VV | 927 | 15339 | 0.24% | 0.051% |
| 163 | 9.991 | 9.982 | 9.995 | VV | 594 | 4024 | 0.06% | 0.013% |
| 164 | 10.001 | 9.995 | 10.012 | VV | 547 | 4607 | 0.07% | 0.015% |
| 165 | 10.017 | 10.012 | 10.028 | VV | 434 | 3091 | 0.05% | 0.010% |
| 166 | 10.036 | 10.028 | 10.041 | VV | 343 | 2046 | 0.03% | 0.007% |
| 167 | 10.077 | 10.041 | 10.101 | VV | 2125 | 29400 | 0.45% | 0.097% |
| 168 | 10.105 | 10.101 | 10.117 | VV | 373 | 2683 | 0.04% | 0.009% |
| 169 | 10.120 | 10.117 | 10.141 | VV | 256 | 2818 | 0.04% | 0.009% |
| 170 | 10.164 | 10.141 | 10.178 | VV | 408 | 5784 | 0.09% | 0.019% |
| 171 | 10.188 | 10.178 | 10.193 | VV | 433 | 2400 | 0.04% | 0.008% |
| 172 | 10.225 | 10.193 | 10.245 | VV | 1822 | 28638 | 0.44% | 0.094% |
| 173 | 10.251 | 10.245 | 10.259 | VV | 614 | 3965 | 0.06% | 0.013% |
| 174 | 10.276 | 10.259 | 10.292 | VV | 842 | 11631 | 0.18% | 0.038% |
| 175 | 10.309 | 10.292 | 10.332 | VV | 1044 | 19548 | 0.30% | 0.064% |
| 176 | 10.354 | 10.332 | 10.380 | VV | 2554 | 38082 | 0.58% | 0.126% |
| 177 | 10.405 | 10.380 | 10.436 | VV | 1618 | 30474 | 0.47% | 0.101% |
| 178 | 10.440 | 10.436 | 10.449 | VV | 511 | 3230 | 0.05% | 0.011% |
| 179 | 10.471 | 10.449 | 10.493 | VV | 1471 | 23950 | 0.37% | 0.079% |
| 180 | 10.501 | 10.493 | 10.520 | VV | 849 | 11979 | 0.18% | 0.040% |
| 181 | 10.525 | 10.520 | 10.544 | VV | 905 | 8437 | 0.13% | 0.028% |
| 182 | 10.556 | 10.544 | 10.562 | VV | 893 | 7346 | 0.11% | 0.024% |
| 183 | 10.567 | 10.562 | 10.585 | VV | 827 | 9041 | 0.14% | 0.030% |
| 184 | 10.602 | 10.585 | 10.610 | VV | 862 | 10271 | 0.16% | 0.034% |
| 185 | 10.619 | 10.610 | 10.625 | VV | 899 | 7172 | 0.11% | 0.024% |
| 186 | 10.642 | 10.625 | 10.654 | VV | 1608 | 20742 | 0.32% | 0.068% |
| 187 | 10.676 | 10.654 | 10.701 | VV | 3710 | 62222 | 0.95% | 0.205% |
| 188 | 10.710 | 10.701 | 10.729 | VV | 962 | 14157 | 0.22% | 0.047% |
| 189 | 10.751 | 10.729 | 10.766 | VV | 1505 | 24455 | 0.38% | 0.081% |
| 190 | 10.772 | 10.766 | 10.794 | VV | 1192 | 14185 | 0.22% | 0.047% |
| 191 | 10.808 | 10.794 | 10.827 | VV | 991 | 15529 | 0.24% | 0.051% |
| 192 | 10.842 | 10.827 | 10.850 | VV | 1766 | 18072 | 0.28% | 0.060% |
| 193 | 10.873 | 10.850 | 10.901 | VV | 70399 | 713632 | 10.95% | 2.354% |
| 194 | 10.908 | 10.901 | 10.922 | VV | 650 | 6866 | 0.11% | 0.023% |

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|---|---|---|---|---|---|---|---|---|
| 195 | 10.947 | 10.922 | 10.974 | VV | 8959 | 103620 | 1.59% | 0.342% |
| 196 | 10.984 | 10.974 | 10.999 | VV | 655 | 8884 | 0.14% | 0.029% |
| 197 | 11.004 | 10.999 | 11.009 | VV | 604 | 3112 | 0.05% | 0.010% |
| 198 | 11.027 | 11.009 | 11.033 | VV | 727 | 9070 | 0.14% | 0.030% |
| 199 | 11.047 | 11.033 | 11.067 | VV | 890 | 14172 | 0.22% | 0.047% |
| 200 | 11.075 | 11.067 | 11.081 | VV | 513 | 3873 | 0.06% | 0.013% |
| 201 | 11.084 | 11.081 | 11.104 | VV | 527 | 4359 | 0.07% | 0.014% |
| 202 | 11.108 | 11.104 | 11.116 | VV | 409 | 2242 | 0.03% | 0.007% |
| 203 | 11.157 | 11.116 | 11.197 | VV | 1775 | 28348 | 0.43% | 0.094% |
| 204 | 11.206 | 11.197 | 11.212 | VV | 219 | 1353 | 0.02% | 0.004% |
| 205 | 11.253 | 11.212 | 11.276 | VV | 850 | 18856 | 0.29% | 0.062% |
| 206 | 11.289 | 11.276 | 11.301 | VV | 588 | 6885 | 0.11% | 0.023% |
| 207 | 11.321 | 11.301 | 11.352 | VV | 1477 | 19263 | 0.30% | 0.064% |
| 208 | 11.369 | 11.352 | 11.378 | VV | 517 | 5939 | 0.09% | 0.020% |
| 209 | 11.410 | 11.378 | 11.445 | VV | 1120 | 24779 | 0.38% | 0.082% |
| 210 | 11.473 | 11.445 | 11.495 | VV | 833 | 13646 | 0.21% | 0.045% |
| 211 | 11.523 | 11.495 | 11.552 | VV | 564 | 9340 | 0.14% | 0.031% |
| 212 | 11.566 | 11.552 | 11.584 | VV | 305 | 3597 | 0.06% | 0.012% |
| 213 | 11.595 | 11.584 | 11.604 | PV | 260 | 1748 | 0.03% | 0.006% |
| 214 | 11.644 | 11.604 | 11.669 | VV | 539706 | 5779317 | 88.68% | 19.062% |
| 215 | 11.674 | 11.669 | 11.689 | VV | 4340 | 38678 | 0.59% | 0.128% |
| 216 | 11.704 | 11.689 | 11.724 | VV | 5489 | 64256 | 0.99% | 0.212% |
| 217 | 11.736 | 11.724 | 11.755 | VV | 1618 | 21077 | 0.32% | 0.070% |
| 218 | 11.790 | 11.755 | 11.813 | VV | 6332 | 98837 | 1.52% | 0.326% |
| 219 | 11.821 | 11.813 | 11.835 | VV | 1837 | 18203 | 0.28% | 0.060% |
| 220 | 11.854 | 11.835 | 11.876 | VV | 2847 | 36107 | 0.55% | 0.119% |
| 221 | 11.914 | 11.876 | 11.949 | VV | 2944 | 44567 | 0.68% | 0.147% |
| 222 | 11.970 | 11.949 | 11.975 | VV | 825 | 10551 | 0.16% | 0.035% |
| 223 | 11.986 | 11.975 | 12.003 | VV | 938 | 12008 | 0.18% | 0.040% |
| 224 | 12.038 | 12.003 | 12.065 | VV | 6107 | 79178 | 1.21% | 0.261% |
| 225 | 12.078 | 12.065 | 12.100 | VV | 1106 | 14556 | 0.22% | 0.048% |
| 226 | 12.109 | 12.100 | 12.113 | VV | 262 | 1623 | 0.02% | 0.005% |
| 227 | 12.143 | 12.113 | 12.166 | VV | 3255 | 40866 | 0.63% | 0.135% |
| 228 | 12.194 | 12.166 | 12.200 | VV | 865 | 10857 | 0.17% | 0.036% |
| 229 | 12.233 | 12.200 | 12.309 | VV | 92797 | 1139789 | 17.49% | 3.759% |
| 230 | 12.317 | 12.309 | 12.334 | VV | 1029 | 14081 | 0.22% | 0.046% |
| 231 | 12.358 | 12.334 | 12.377 | VV | 1154 | 24324 | 0.37% | 0.080% |
| 232 | 12.412 | 12.377 | 12.445 | VV | 1104 | 32860 | 0.50% | 0.108% |
| 233 | 12.488 | 12.445 | 12.513 | VV | 2356 | 50881 | 0.78% | 0.168% |
| 234 | 12.519 | 12.513 | 12.530 | VV | 446 | 2940 | 0.05% | 0.010% |
| 235 | 12.568 | 12.530 | 12.595 | VV | 2813 | 45649 | 0.70% | 0.151% |
| 236 | 12.628 | 12.595 | 12.652 | VV | 2243 | 39504 | 0.61% | 0.130% |
| 237 | 12.685 | 12.652 | 12.742 | VV | 47608 | 549117 | 8.43% | 1.811% |
| 238 | 12.753 | 12.742 | 12.771 | VV | 521 | 6945 | 0.11% | 0.023% |
| 239 | 12.781 | 12.771 | 12.797 | VV | 533 | 6289 | 0.10% | 0.021% |
| 240 | 12.823 | 12.797 | 12.854 | VV | 2824 | 40529 | 0.62% | 0.134% |
| 241 | 12.874 | 12.854 | 12.889 | VV | 1750 | 22630 | 0.35% | 0.075% |
| 242 | 12.898 | 12.889 | 12.940 | VV | 868 | 19012 | 0.29% | 0.063% |
| 243 | 12.945 | 12.940 | 12.959 | VV | 418 | 3933 | 0.06% | 0.013% |
| 244 | 12.983 | 12.959 | 13.006 | VV | 34675 | 381348 | 5.85% | 1.258% |
| 245 | 13.022 | 13.006 | 13.037 | VV | 3185 | 46021 | 0.71% | 0.152% |
| 246 | 13.071 | 13.037 | 13.101 | VV | 109052 | 1295783 | 19.88% | 4.274% |

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|---|---|---|---|---|---|---|---|---|
| 247 | 13.113 | 13.101 | 13.129 | VV | 624 | 8530 | 0.13% | 0.028% |
| 248 | 13.156 | 13.129 | 13.177 | VV | 1287 | 21424 | 0.33% | 0.071% |
| 249 | 13.187 | 13.177 | 13.197 | VV | 625 | 6570 | 0.10% | 0.022% |
| 250 | 13.205 | 13.197 | 13.211 | VV | 509 | 3409 | 0.05% | 0.011% |
| 251 | 13.250 | 13.211 | 13.268 | VV | 1826 | 31969 | 0.49% | 0.105% |
| 252 | 13.289 | 13.268 | 13.314 | VV | 2946 | 44595 | 0.68% | 0.147% |
| 253 | 13.322 | 13.314 | 13.344 | VV | 976 | 12908 | 0.20% | 0.043% |
| 254 | 13.381 | 13.344 | 13.399 | VV | 1385 | 26257 | 0.40% | 0.087% |
| 255 | 13.406 | 13.399 | 13.419 | VV | 819 | 8036 | 0.12% | 0.027% |
| 256 | 13.460 | 13.419 | 13.535 | VV | 44481 | 604709 | 9.28% | 1.995% |
| 257 | 13.569 | 13.535 | 13.604 | VV | 5337 | 92398 | 1.42% | 0.305% |
| 258 | 13.607 | 13.604 | 13.610 | VV | 576 | 2405 | 0.04% | 0.008% |
| 259 | 13.637 | 13.610 | 13.655 | VV | 1185 | 21823 | 0.33% | 0.072% |
| 260 | 13.678 | 13.655 | 13.702 | VV | 4637 | 67542 | 1.04% | 0.223% |
| 261 | 13.718 | 13.702 | 13.737 | VV | 1896 | 23598 | 0.36% | 0.078% |
| 262 | 13.771 | 13.737 | 13.792 | VV | 2864 | 43954 | 0.67% | 0.145% |
| 263 | 13.821 | 13.792 | 13.836 | VV | 1890 | 32335 | 0.50% | 0.107% |
| 264 | 13.849 | 13.836 | 13.868 | VV | 1422 | 18976 | 0.29% | 0.063% |
| 265 | 13.890 | 13.868 | 13.905 | VV | 1408 | 22121 | 0.34% | 0.073% |
| 266 | 13.915 | 13.905 | 13.929 | VV | 600 | 6597 | 0.10% | 0.022% |
| 267 | 13.946 | 13.929 | 13.977 | VV | 1779 | 26728 | 0.41% | 0.088% |
| 268 | 13.984 | 13.977 | 14.012 | VV | 414 | 6883 | 0.11% | 0.023% |
| 269 | 14.015 | 14.012 | 14.020 | VV | 332 | 1118 | 0.02% | 0.004% |
| 270 | 14.027 | 14.020 | 14.045 | VV | 366 | 3987 | 0.06% | 0.013% |
| 271 | 14.056 | 14.045 | 14.062 | VV | 404 | 3244 | 0.05% | 0.011% |
| 272 | 14.063 | 14.062 | 14.083 | VV | 406 | 2585 | 0.04% | 0.009% |
| 273 | 14.100 | 14.083 | 14.140 | VV | 538 | 12042 | 0.18% | 0.040% |
| 274 | 14.147 | 14.140 | 14.160 | VV | 583 | 4966 | 0.08% | 0.016% |
| 275 | 14.172 | 14.160 | 14.188 | VV | 434 | 5890 | 0.09% | 0.019% |
| 276 | 14.208 | 14.188 | 14.234 | VV | 1466 | 21892 | 0.34% | 0.072% |
| 277 | 14.257 | 14.234 | 14.295 | VV | 1853 | 38569 | 0.59% | 0.127% |
| 278 | 14.318 | 14.295 | 14.341 | VV | 780 | 16104 | 0.25% | 0.053% |
| 279 | 14.384 | 14.341 | 14.396 | VV | 899 | 21968 | 0.34% | 0.072% |
| 280 | 14.402 | 14.396 | 14.434 | VV | 868 | 13135 | 0.20% | 0.043% |
| 281 | 14.448 | 14.434 | 14.458 | VV | 727 | 8323 | 0.13% | 0.027% |
| 282 | 14.482 | 14.458 | 14.514 | VV | 1697 | 34804 | 0.53% | 0.115% |
| 283 | 14.520 | 14.514 | 14.527 | VV | 896 | 6425 | 0.10% | 0.021% |
| 284 | 14.546 | 14.527 | 14.569 | VV | 3963 | 53502 | 0.82% | 0.176% |
| 285 | 14.583 | 14.569 | 14.650 | VV | 1137 | 36821 | 0.56% | 0.121% |
| 286 | 14.671 | 14.650 | 14.683 | VV | 737 | 11502 | 0.18% | 0.038% |
| 287 | 14.705 | 14.683 | 14.713 | VV | 947 | 12575 | 0.19% | 0.041% |
| 288 | 14.731 | 14.713 | 14.757 | VV | 1134 | 23030 | 0.35% | 0.076% |
| 289 | 14.762 | 14.757 | 14.795 | VV | 896 | 13221 | 0.20% | 0.044% |
| 290 | 14.808 | 14.795 | 14.828 | VV | 972 | 12681 | 0.19% | 0.042% |
| 291 | 14.853 | 14.828 | 14.872 | VV | 11542 | 136308 | 2.09% | 0.450% |
| 292 | 14.894 | 14.872 | 14.957 | VV | 11694 | 177262 | 2.72% | 0.585% |
| 293 | 14.963 | 14.957 | 14.982 | VV | 649 | 7306 | 0.11% | 0.024% |
| 294 | 15.016 | 14.982 | 15.039 | VV | 2764 | 43508 | 0.67% | 0.144% |
| 295 | 15.045 | 15.039 | 15.070 | VV | 861 | 10063 | 0.15% | 0.033% |
| 296 | 15.092 | 15.070 | 15.117 | VV | 1014 | 15007 | 0.23% | 0.049% |
| 297 | 15.120 | 15.117 | 15.127 | VV | 364 | 1583 | 0.02% | 0.005% |
| 298 | 15.149 | 15.127 | 15.175 | VV | 1183 | 17098 | 0.26% | 0.056% |
| 299 | 15.192 | 15.175 | 15.207 | VV | 838 | 11816 | 0.18% | 0.039% |

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|---|---|---|---|---|---|---|---|---|
| 300 | 15.212 | 15.207 | 15.216 | VV | 546 | 2873 | 0.04% | 0.009% |
| 301 | 15.221 | 15.216 | 15.250 | VV | 531 | 7251 | 0.11% | 0.024% |
| 302 | 15.297 | 15.250 | 15.380 | PV | 11271 | 184969 | 2.84% | 0.610% |
| 303 | 15.391 | 15.380 | 15.421 | VV | 651 | 11566 | 0.18% | 0.038% |
| 304 | 15.460 | 15.421 | 15.476 | VV | 1403 | 27206 | 0.42% | 0.090% |
| 305 | 15.485 | 15.476 | 15.505 | VV | 913 | 13038 | 0.20% | 0.043% |
| 306 | 15.525 | 15.505 | 15.545 | VV | 1828 | 27068 | 0.42% | 0.089% |
| 307 | 15.564 | 15.545 | 15.586 | VV | 1251 | 19466 | 0.30% | 0.064% |
| 308 | 15.607 | 15.586 | 15.624 | VV | 948 | 16421 | 0.25% | 0.054% |
| 309 | 15.685 | 15.624 | 15.717 | VV | 1886 | 53530 | 0.82% | 0.177% |
| 310 | 15.720 | 15.717 | 15.727 | VV | 534 | 2853 | 0.04% | 0.009% |
| 311 | 15.731 | 15.727 | 15.735 | VV | 508 | 2211 | 0.03% | 0.007% |
| 312 | 15.743 | 15.735 | 15.746 | VV | 569 | 3402 | 0.05% | 0.011% |
| 313 | 15.751 | 15.746 | 15.754 | VV | 693 | 2626 | 0.04% | 0.009% |
| 314 | 15.758 | 15.754 | 15.760 | VV | 715 | 2475 | 0.04% | 0.008% |
| 315 | 15.767 | 15.760 | 15.790 | VV | 810 | 11459 | 0.18% | 0.038% |
| 316 | 15.809 | 15.790 | 15.827 | VV | 823 | 13525 | 0.21% | 0.045% |
| 317 | 15.848 | 15.827 | 15.865 | VV | 840 | 12256 | 0.19% | 0.040% |
| 318 | 15.900 | 15.865 | 15.915 | VV | 723 | 15155 | 0.23% | 0.050% |
| 319 | 15.939 | 15.915 | 15.968 | VV | 1242 | 22147 | 0.34% | 0.073% |
| 320 | 15.997 | 15.968 | 16.016 | VV | 576 | 11758 | 0.18% | 0.039% |
| 321 | 16.020 | 16.016 | 16.029 | VV | 356 | 2110 | 0.03% | 0.007% |
| 322 | 16.033 | 16.029 | 16.048 | VV | 309 | 2627 | 0.04% | 0.009% |
| 323 | 16.055 | 16.048 | 16.060 | VV | 331 | 2035 | 0.03% | 0.007% |
| 324 | 16.088 | 16.060 | 16.120 | VV | 476 | 11287 | 0.17% | 0.037% |
| 325 | 16.126 | 16.120 | 16.152 | VV | 514 | 5335 | 0.08% | 0.018% |
| 326 | 16.157 | 16.152 | 16.175 | VV | 341 | 3609 | 0.06% | 0.012% |
| 327 | 16.181 | 16.175 | 16.210 | VV | 434 | 4706 | 0.07% | 0.016% |
| 328 | 16.225 | 16.210 | 16.249 | PV | 420 | 5270 | 0.08% | 0.017% |
| 329 | 16.308 | 16.249 | 16.372 | VV | 2974 | 67977 | 1.04% | 0.224% |
| 330 | 16.405 | 16.372 | 16.424 | VV | 10335 | 149448 | 2.29% | 0.493% |
| 331 | 16.433 | 16.424 | 16.464 | VV | 4893 | 60312 | 0.93% | 0.199% |
| 332 | 16.469 | 16.464 | 16.485 | VV | 399 | 4005 | 0.06% | 0.013% |
| 333 | 16.502 | 16.485 | 16.519 | VV | 795 | 10883 | 0.17% | 0.036% |
| 334 | 16.538 | 16.519 | 16.584 | VV | 2208 | 48579 | 0.75% | 0.160% |
| 335 | 16.587 | 16.584 | 16.595 | VV | 630 | 3866 | 0.06% | 0.013% |
| 336 | 16.598 | 16.595 | 16.624 | VV | 525 | 6656 | 0.10% | 0.022% |
| 337 | 16.658 | 16.624 | 16.670 | VV | 647 | 11419 | 0.18% | 0.038% |
| 338 | 16.725 | 16.670 | 16.755 | VV | 6265 | 100743 | 1.55% | 0.332% |
| 339 | 16.782 | 16.755 | 16.840 | VV | 9127 | 123129 | 1.89% | 0.406% |
| 340 | 16.852 | 16.840 | 16.857 | VV | 688 | 5092 | 0.08% | 0.017% |
| 341 | 16.883 | 16.857 | 16.915 | VV | 4582 | 62292 | 0.96% | 0.205% |
| 342 | 16.935 | 16.915 | 16.964 | VV | 742 | 14724 | 0.23% | 0.049% |
| 343 | 16.969 | 16.964 | 16.982 | VV | 790 | 4262 | 0.07% | 0.014% |
| 344 | 16.987 | 16.982 | 16.992 | VV | 439 | 1865 | 0.03% | 0.006% |
| 345 | 17.006 | 16.992 | 17.011 | VV | 440 | 3659 | 0.06% | 0.012% |
| 346 | 17.036 | 17.011 | 17.067 | VV | 495 | 12557 | 0.19% | 0.041% |
| 347 | 17.079 | 17.067 | 17.108 | VV | 456 | 6906 | 0.11% | 0.023% |
| 348 | 17.152 | 17.117 | 17.184 | VV | 950 | 21643 | 0.33% | 0.071% |
| 349 | 17.186 | 17.184 | 17.189 | VV | 465 | 1234 | 0.02% | 0.004% |
| 350 | 17.193 | 17.189 | 17.217 | VV | 488 | 5006 | 0.08% | 0.017% |
| 351 | 17.251 | 17.217 | 17.269 | VV | 1185 | 22093 | 0.34% | 0.073% |

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|---|---|---|---|---|---|---|---|---|
| 352 | 17.280 | 17.269 | 17.303 | VV | 862 | 13885 | 0.21% | 0.046% |
| 353 | 17.333 | 17.303 | 17.352 | VV | 1142 | 21033 | 0.32% | 0.069% |
| 354 | 17.370 | 17.352 | 17.387 | VV | 598 | 8323 | 0.13% | 0.027% |
| 355 | 17.397 | 17.387 | 17.402 | VV | 479 | 3449 | 0.05% | 0.011% |
| 356 | 17.440 | 17.402 | 17.469 | VV | 899 | 21439 | 0.33% | 0.071% |
| 357 | 17.487 | 17.469 | 17.500 | VV | 398 | 4664 | 0.07% | 0.015% |
| 358 | 17.506 | 17.500 | 17.517 | VV | 247 | 1605 | 0.02% | 0.005% |
| 359 | 17.561 | 17.517 | 17.579 | PV | 646 | 12992 | 0.20% | 0.043% |
| 360 | 17.593 | 17.579 | 17.615 | VV | 274 | 4310 | 0.07% | 0.014% |
| 361 | 17.630 | 17.624 | 17.634 | VV | 261 | 1063 | 0.02% | 0.004% |
| 362 | 17.646 | 17.634 | 17.652 | VV | 337 | 2170 | 0.03% | 0.007% |
| 363 | 17.681 | 17.652 | 17.685 | VV | 201 | 2078 | 0.03% | 0.007% |
| 364 | 17.731 | 17.685 | 17.750 | VV | 682 | 17395 | 0.27% | 0.057% |
| 365 | 17.771 | 17.750 | 17.798 | VV | 1865 | 28069 | 0.43% | 0.093% |
| 366 | 17.805 | 17.798 | 17.819 | VV | 226 | 1770 | 0.03% | 0.006% |
| 367 | 17.860 | 17.819 | 17.867 | VV | 743 | 11996 | 0.18% | 0.040% |
| 368 | 17.870 | 17.867 | 17.900 | VV | 661 | 8394 | 0.13% | 0.028% |
| 369 | 17.912 | 17.900 | 17.920 | VV | 514 | 4692 | 0.07% | 0.015% |
| 370 | 17.943 | 17.920 | 17.958 | VV | 669 | 11994 | 0.18% | 0.040% |
| 371 | 17.962 | 17.958 | 17.969 | VV | 422 | 2552 | 0.04% | 0.008% |
| 372 | 17.973 | 17.969 | 17.978 | VV | 411 | 1649 | 0.03% | 0.005% |
| 373 | 17.981 | 17.978 | 17.988 | VV | 272 | 1812 | 0.03% | 0.006% |
| 374 | 18.000 | 17.988 | 18.029 | VV | 613 | 7642 | 0.12% | 0.025% |
| 375 | 18.054 | 18.029 | 18.072 | VV | 1655 | 23650 | 0.36% | 0.078% |
| 376 | 18.082 | 18.072 | 18.099 | VV | 746 | 8977 | 0.14% | 0.030% |
| 377 | 18.143 | 18.099 | 18.168 | VV | 7165 | 147189 | 2.26% | 0.485% |
| 378 | 18.190 | 18.168 | 18.222 | VV | 3646 | 61521 | 0.94% | 0.203% |
| 379 | 18.278 | 18.222 | 18.296 | VV | 1408 | 29953 | 0.46% | 0.099% |
| 380 | 18.310 | 18.296 | 18.330 | VV | 1453 | 20675 | 0.32% | 0.068% |
| 381 | 18.338 | 18.330 | 18.370 | VV | 597 | 7442 | 0.11% | 0.025% |
| 382 | 18.397 | 18.370 | 18.425 | VV | 5378 | 68566 | 1.05% | 0.226% |
| 383 | 18.436 | 18.425 | 18.458 | VV | 602 | 6740 | 0.10% | 0.022% |
| 384 | 18.464 | 18.458 | 18.467 | VV | 347 | 1443 | 0.02% | 0.005% |
| 385 | 18.476 | 18.467 | 18.508 | VV | 531 | 8868 | 0.14% | 0.029% |
| 386 | 18.530 | 18.508 | 18.557 | VV | 2001 | 29441 | 0.45% | 0.097% |
| 387 | 18.564 | 18.557 | 18.570 | VV | 428 | 2980 | 0.05% | 0.010% |
| 388 | 18.600 | 18.570 | 18.657 | VV | 1972 | 41809 | 0.64% | 0.138% |
| 389 | 18.704 | 18.657 | 18.777 | PV | 840 | 27917 | 0.43% | 0.092% |
| 390 | 18.804 | 18.777 | 18.809 | VV | 514 | 5141 | 0.08% | 0.017% |
| 391 | 18.814 | 18.809 | 18.819 | VV | 473 | 2329 | 0.04% | 0.008% |
| 392 | 18.827 | 18.819 | 18.848 | VV | 481 | 5420 | 0.08% | 0.018% |
| 393 | 18.859 | 18.848 | 18.866 | PV | 331 | 1971 | 0.03% | 0.007% |
| 394 | 18.886 | 18.866 | 18.920 | VV | 1188 | 15481 | 0.24% | 0.051% |
| 395 | 18.952 | 18.920 | 18.978 | PV | 3528 | 49566 | 0.76% | 0.163% |

Sum of corrected areas: 30317877

Aromatic EPH 052425.M Thu Jun 12 05:52:07 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | 06/01/25 |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | 06/03/25 |
| Client Sample ID: | B-207-SB02 | SDG No.: | Q2198 |
| Lab Sample ID: | Q2198-03 | Matrix: | Solid |
| Analytical Method: | NJEPH | % Solid: | 52.1 |
| Sample Wt/Vol: | 30.06 Units: g | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | | | |

| Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|
| 06/11/25 08:45 | 06/12/25 3:27 | PB168408 |

| CAS Number | Parameter | Conc. | Qualifier | Dilution | MDL | LOQ / CRQL | Units(Dry Weight) | Datafile |
|---|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | 0.36 | J | 1 | 0.27 | 1.92 | mg/kg | FC069172.D |
| Aliphatic C12-C16 | Aliphatic C12-C16 | 0.83 | J | 1 | 0.21 | 1.28 | mg/kg | FC069172.D |
| Aliphatic C16-C21 | Aliphatic C16-C21 | 0.62 | J | 1 | 0.25 | 1.92 | mg/kg | FC069172.D |
| Aliphatic C21-C28 | Aliphatic C21-C28 | 1.02 | U | 1 | 1.02 | 2.55 | mg/kg | FC069172.D |
| Aliphatic C28-C40 | Aliphatic C28-C40 | 2.45 | J | 1 | 2.26 | 3.83 | mg/kg | FC069172.D |
| Aromatic C10-C12 | Aromatic C10-C12 | 0.44 | J | 1 | 0.23 | 1.28 | mg/kg | FD049447.D |
| Aromatic C12-C16 | Aromatic C12-C16 | 0.52 | J | 1 | 0.44 | 1.92 | mg/kg | FD049447.D |
| Aromatic C16-C21 | Aromatic C16-C21 | 2.66 | J | 1 | 0.77 | 3.19 | mg/kg | FD049447.D |
| Aromatic C21-C36 | Aromatic C21-C36 | 3.04 | J | 1 | 2.28 | 5.11 | mg/kg | FD049447.D |
| Total AliphaticEPH | Total AliphaticEPH | 4.26 | J | | 4.01 | 11.5 | mg/kg | |
| Total AromaticEPH | Total AromaticEPH | 6.65 | J | | 3.72 | 11.5 | mg/kg | |
| Total EPH | Total EPH | 10.9 | J | | 7.72 | 23.0 | mg/kg | |

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | 06/01/25 |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | 06/03/25 |
| Client Sample ID: | B-207-SB02 | SDG No.: | Q2198 |
| Lab Sample ID: | Q2198-03 | Matrix: | Solid |
| Analytical Method: | NJEPH | % Solid: | 52.1 |
| Sample Wt/Vol: | 30.06 Units: g | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FC069172.D | 1 | 06/11/25 | 06/12/25 | PB168408 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | 0.36 | J | 0.27 | 1.92 | mg/kg |
| Aliphatic C12-C16 | Aliphatic C12-C16 | 0.83 | J | 0.21 | 1.28 | mg/kg |
| Aliphatic C16-C21 | Aliphatic C16-C21 | 0.62 | J | 0.25 | 1.92 | mg/kg |
| Aliphatic C21-C28 | Aliphatic C21-C28 | 1.02 | U | 1.02 | 2.55 | mg/kg |
| Aliphatic C28-C40 | Aliphatic C28-C40 | 2.45 | J | 2.26 | 3.83 | mg/kg |
| **SURROGATES** | | | | | | |
| 3383-33-2 | 1-chlorooctadecane (SURR) | 51.3 | | 40 - 140 | 103% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | 0.00 | | 40 - 140 | 0% | SPK: 50 |

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# Quantitation Report For Aliphatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | Q2198-03 | Acq On: | 12 Jun 2025 03:27 |
| Client Sample ID: | B-207-SB02 | Operator: | YP/AJ |
| Data file: | FC069172.D | Misc: | |
| Instrument: | FID_C | ALS Vial: | 24 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aliphatic C9-C12 | 3.303 | 6.605 | 300108 | 2.839 | 300 | ug/ml |
| Aliphatic C12-C16 | 6.606 | 10.010 | 666338 | 6.534 | 200 | ug/ml |
| Aliphatic C16-C21 | 10.011 | 13.380 | 473479 | 4.838 | 300 | ug/ml |
| Aliphatic C21-C28 | 13.381 | 17.048 | 701712 | 7.481 | 400 | ug/ml |
| Aliphatic C28-C40 | 17.049 | 22.033 | 1814208 | 19.21 | 600 | ug/ml |
| Aliphatic EPH | 3.303 | 22.033 | 3955845 | 40.901 | | ug/ml |
| ortho-Terphenyl (SURR) | 0.000 | 0.000 | 0 | 0 | | ug/ml |
| 1-chlorooctadecane (SURR) | 13.116 | 13.116 | 4598589 | 51.26 | | ug/ml |
| Aliphatic C9-C28 | 3.303 | 17.048 | 2141637 | 21.692 | 1200 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069172.D
Signal(s) : FID1A.ch
Acq On : 12 Jun 2025 03:27
Operator : YP/AJ
Sample : Q2198-03
Misc :
ALS Vial : 24 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
B-207-SB02

Integration File: autoint1.e
Quant Time: Jun 12 06:08:23 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| System Monitoring Compounds | | | |
| 12) S 1-chlorooctadecane (S... | 13.116 | 4598589 | 51.258 ug/ml |
| Spiked Amount 50.000 | | Recovery = 102.52% | |
| Target Compounds | | | |

(f)=RT Delta > 1/2 Window (m)=manual int.

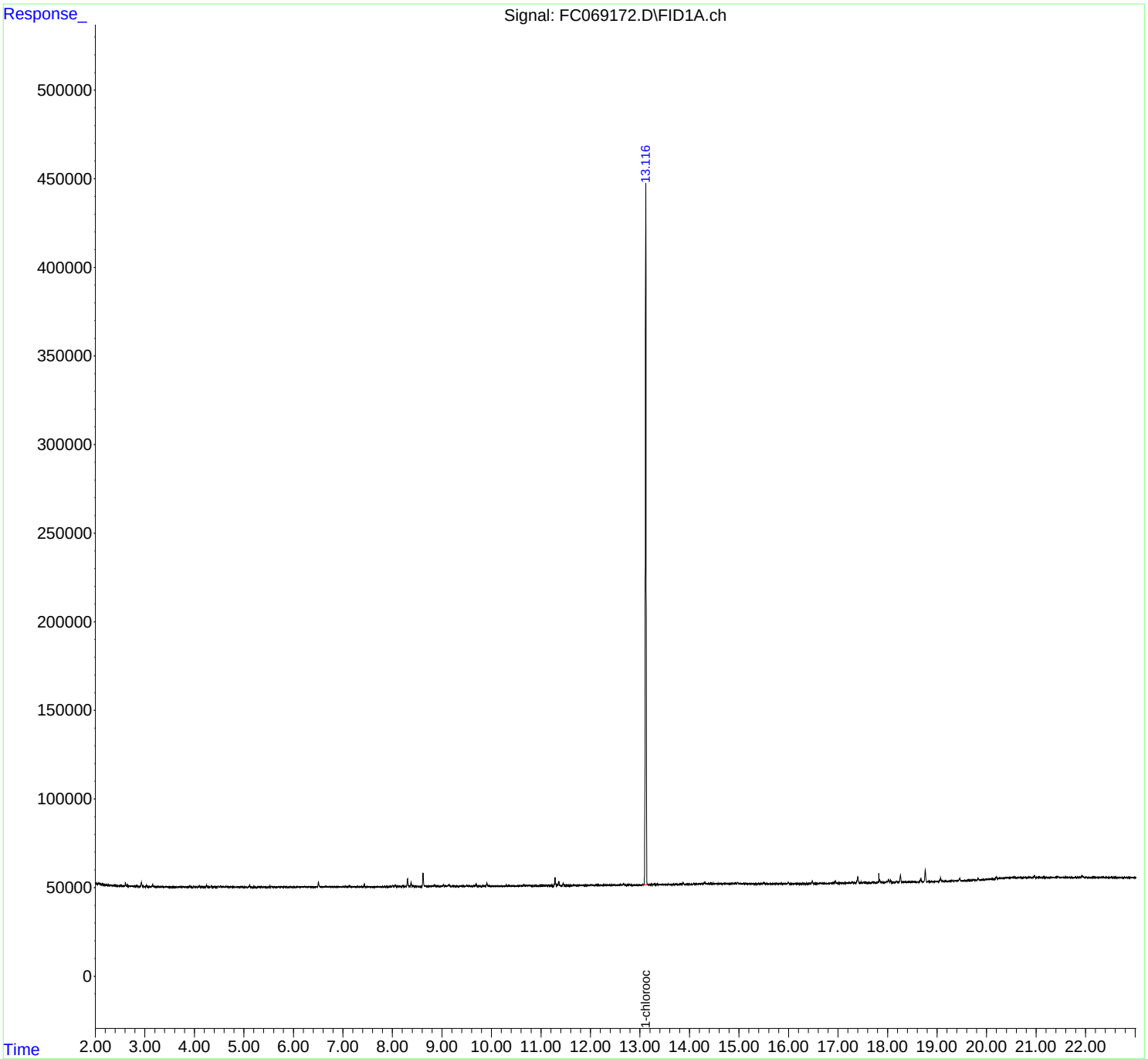
Quantitation Report (QT Reviewed)

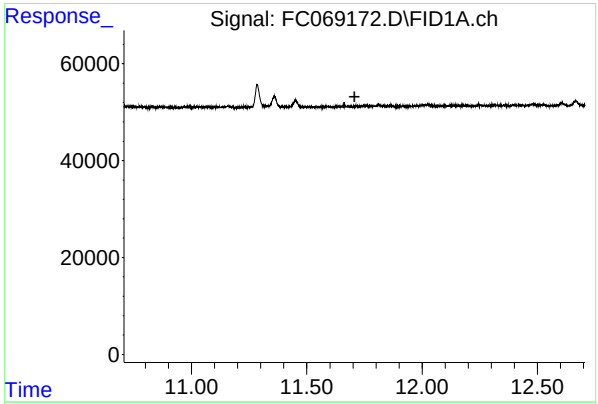
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069172.D
Signal(s) : FID1A.ch
Acq On : 12 Jun 2025 03:27
Operator : YP/AJ
Sample : Q2198-03
Misc :
ALS Vial : 24 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
B-207-SB02

Integration File: autoint1.e
Quant Time: Jun 12 06:08:23 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

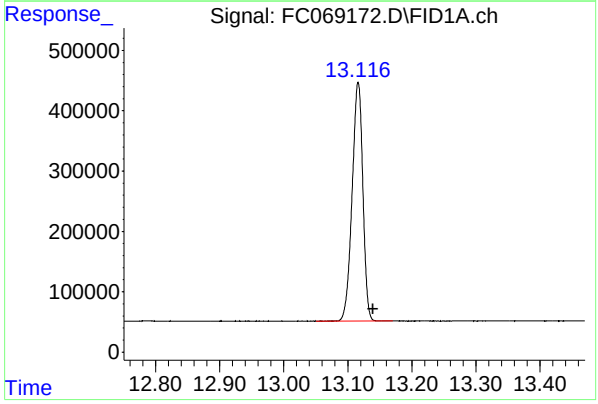





#9 ortho-Terphenyl (SURR)

R.T.: 0.000 min
Exp R.T. : 11.707 min
Response: 0
Conc: N.D.

**Instrument :**
FID_C
**ClientSampleId :**
B-207-SB02




#12 1-chlorooctadecane (SURR)

R.T.: 13.116 min
Delta R.T.: -0.023 min
Response: 4598589
Conc: 51.26 ug/ml

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069172.D
Signal(s) : FID1A.ch
Acq On : 12 Jun 2025 03:27
Sample : Q2198-03
Misc :
ALS Vial : 24 Sample Multiplier: 1

Integration File: sample.E

Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Title : GC Extractables

Signal : FID1A.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.231 | 3.205 | 3.273 | BV | 67 | 86 | 0.00% | 0.001% |
| 2 | 3.284 | 3.273 | 3.310 | PV | 88 | 745 | 0.02% | 0.009% |
| 3 | 3.333 | 3.325 | 3.341 | VV | 103 | 604 | 0.01% | 0.007% |
| 4 | 3.347 | 3.341 | 3.392 | VV | 100 | 2081 | 0.05% | 0.024% |
| 5 | 3.407 | 3.392 | 3.485 | VV | 273 | 4728 | 0.10% | 0.055% |
| 6 | 3.515 | 3.485 | 3.595 | VV | 82 | 2586 | 0.06% | 0.030% |
| 7 | 3.611 | 3.595 | 3.630 | PV | 141 | 1854 | 0.04% | 0.022% |
| 8 | 3.642 | 3.630 | 3.650 | VV | 114 | 932 | 0.02% | 0.011% |
| 9 | 3.677 | 3.650 | 3.704 | VV | 183 | 3682 | 0.08% | 0.043% |
| 10 | 3.735 | 3.704 | 3.769 | VV | 220 | 4741 | 0.10% | 0.055% |
| 11 | 3.784 | 3.769 | 3.807 | VV | 198 | 3125 | 0.07% | 0.036% |
| 12 | 3.821 | 3.807 | 3.865 | VV | 282 | 5438 | 0.12% | 0.063% |
| 13 | 3.874 | 3.865 | 3.887 | VV | 133 | 975 | 0.02% | 0.011% |
| 14 | 3.905 | 3.887 | 3.966 | VV | 646 | 10764 | 0.23% | 0.125% |
| 15 | 3.988 | 3.966 | 4.021 | VV | 395 | 5000 | 0.11% | 0.058% |
| 16 | 4.047 | 4.021 | 4.057 | VV | 105 | 1392 | 0.03% | 0.016% |
| 17 | 4.082 | 4.057 | 4.098 | VV | 519 | 6358 | 0.14% | 0.074% |
| 18 | 4.108 | 4.098 | 4.160 | VV | 483 | 7505 | 0.16% | 0.087% |
| 19 | 4.171 | 4.160 | 4.198 | VV | 149 | 2437 | 0.05% | 0.028% |
| 20 | 4.245 | 4.198 | 4.312 | VV | 1173 | 16891 | 0.37% | 0.196% |
| 21 | 4.341 | 4.312 | 4.365 | VV | 578 | 8116 | 0.18% | 0.094% |
| 22 | 4.377 | 4.365 | 4.387 | VV | 107 | 1275 | 0.03% | 0.015% |
| 23 | 4.410 | 4.387 | 4.455 | VV | 225 | 4839 | 0.10% | 0.056% |
| 24 | 4.481 | 4.455 | 4.500 | VV | 571 | 7132 | 0.15% | 0.083% |
| 25 | 4.527 | 4.500 | 4.547 | VV | 443 | 7562 | 0.16% | 0.088% |
| 26 | 4.558 | 4.547 | 4.571 | VV | 252 | 3072 | 0.07% | 0.036% |
| 27 | 4.587 | 4.571 | 4.618 | VV | 422 | 6167 | 0.13% | 0.072% |
| 28 | 4.649 | 4.618 | 4.691 | VV | 434 | 10043 | 0.22% | 0.117% |
| 29 | 4.705 | 4.691 | 4.720 | VV | 256 | 3043 | 0.07% | 0.035% |
| 30 | 4.736 | 4.720 | 4.756 | VV | 494 | 5330 | 0.12% | 0.062% |
| 31 | 4.771 | 4.756 | 4.819 | VV | 100 | 3226 | 0.07% | 0.037% |
| 32 | 4.838 | 4.819 | 4.847 | VV | 105 | 1366 | 0.03% | 0.016% |
| 33 | 4.862 | 4.847 | 4.886 | VV | 188 | 3161 | 0.07% | 0.037% |
| 34 | 4.901 | 4.886 | 4.918 | VV | 203 | 2525 | 0.05% | 0.029% |
| 35 | 4.933 | 4.918 | 4.951 | VV | 161 | 2438 | 0.05% | 0.028% |
| 36 | 4.960 | 4.951 | 5.003 | VV | 117 | 2296 | 0.05% | 0.027% |

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|---|---|---|---|---|---|---|---|---|
| 37 | 5.014 | 5.003 | 5.073 | VV | 117 | 2923 | 0.06% | 0.034% |
| 38 | 5.091 | 5.073 | 5.100 | VV | 171 | 2448 | 0.05% | 0.028% |
| 39 | 5.118 | 5.100 | 5.157 | VV | 977 | 12805 | 0.28% | 0.149% |
| 40 | 5.176 | 5.157 | 5.191 | PV | 216 | 2436 | 0.05% | 0.028% |
| 41 | 5.202 | 5.191 | 5.258 | VV | 282 | 3717 | 0.08% | 0.043% |
| 42 | 5.267 | 5.258 | 5.291 | PV | 89 | 340 | 0.01% | 0.004% |
| 43 | 5.315 | 5.291 | 5.335 | VV | 72 | 1442 | 0.03% | 0.017% |
| 44 | 5.344 | 5.335 | 5.394 | VV | 134 | 2345 | 0.05% | 0.027% |
| 45 | 5.403 | 5.394 | 5.461 | VV | 152 | 2806 | 0.06% | 0.033% |
| 46 | 5.481 | 5.461 | 5.496 | VV | 124 | 1677 | 0.04% | 0.019% |
| 47 | 5.524 | 5.496 | 5.541 | VV | 514 | 6085 | 0.13% | 0.071% |
| 48 | 5.562 | 5.541 | 5.625 | VB | 499 | 8172 | 0.18% | 0.095% |
| 49 | 5.713 | 5.655 | 5.745 | BV | 209 | 2525 | 0.05% | 0.029% |
| 50 | 5.760 | 5.745 | 5.781 | PV | 100 | 1467 | 0.03% | 0.017% |
| 51 | 5.822 | 5.781 | 5.845 | VV | 214 | 4716 | 0.10% | 0.055% |
| 52 | 5.858 | 5.845 | 5.891 | VV | 142 | 2441 | 0.05% | 0.028% |
| 53 | 5.909 | 5.891 | 5.915 | VV | 104 | 964 | 0.02% | 0.011% |
| 54 | 5.924 | 5.915 | 5.960 | VV | 118 | 1827 | 0.04% | 0.021% |
| 55 | 5.987 | 5.960 | 6.013 | PV | 190 | 2687 | 0.06% | 0.031% |
| 56 | 6.037 | 6.013 | 6.051 | VV | 157 | 2164 | 0.05% | 0.025% |
| 57 | 6.078 | 6.051 | 6.104 | VV | 450 | 6521 | 0.14% | 0.076% |
| 58 | 6.124 | 6.104 | 6.141 | VV | 231 | 3859 | 0.08% | 0.045% |
| 59 | 6.163 | 6.141 | 6.198 | VV | 466 | 7773 | 0.17% | 0.090% |
| 60 | 6.226 | 6.198 | 6.265 | VV | 434 | 8017 | 0.17% | 0.093% |
| 61 | 6.285 | 6.265 | 6.411 | VV | 163 | 8621 | 0.19% | 0.100% |
| 62 | 6.428 | 6.411 | 6.468 | VV | 231 | 3901 | 0.08% | 0.045% |
| 63 | 6.507 | 6.468 | 6.578 | VV | 2991 | 40362 | 0.88% | 0.469% |
| 64 | 6.593 | 6.578 | 6.610 | VV | 159 | 2383 | 0.05% | 0.028% |
| 65 | 6.657 | 6.610 | 6.675 | VV | 448 | 7794 | 0.17% | 0.091% |
| 66 | 6.691 | 6.675 | 6.715 | VV | 217 | 4080 | 0.09% | 0.047% |
| 67 | 6.732 | 6.715 | 6.760 | VV | 268 | 4154 | 0.09% | 0.048% |
| 68 | 6.770 | 6.760 | 6.811 | VV | 162 | 2818 | 0.06% | 0.033% |
| 69 | 6.838 | 6.811 | 6.858 | VV | 150 | 2514 | 0.05% | 0.029% |
| 70 | 6.872 | 6.858 | 6.885 | VV | 118 | 1442 | 0.03% | 0.017% |
| 71 | 6.898 | 6.885 | 6.935 | VV | 181 | 2767 | 0.06% | 0.032% |
| 72 | 6.952 | 6.935 | 6.971 | VV | 187 | 2806 | 0.06% | 0.033% |
| 73 | 6.975 | 6.971 | 6.988 | VV | 129 | 915 | 0.02% | 0.011% |
| 74 | 7.010 | 6.988 | 7.040 | VV | 292 | 6926 | 0.15% | 0.080% |
| 75 | 7.071 | 7.040 | 7.095 | VV | 244 | 6064 | 0.13% | 0.070% |
| 76 | 7.133 | 7.095 | 7.154 | VV | 411 | 9796 | 0.21% | 0.114% |
| 77 | 7.170 | 7.154 | 7.193 | VV | 282 | 4772 | 0.10% | 0.055% |
| 78 | 7.208 | 7.193 | 7.235 | VV | 203 | 3938 | 0.09% | 0.046% |
| 79 | 7.241 | 7.235 | 7.258 | VV | 205 | 1668 | 0.04% | 0.019% |
| 80 | 7.294 | 7.258 | 7.323 | VV | 573 | 8653 | 0.19% | 0.100% |
| 81 | 7.369 | 7.323 | 7.378 | VV | 305 | 5756 | 0.12% | 0.067% |
| 82 | 7.396 | 7.378 | 7.408 | VV | 246 | 3620 | 0.08% | 0.042% |
| 83 | 7.434 | 7.408 | 7.465 | VV | 1482 | 19719 | 0.43% | 0.229% |
| 84 | 7.495 | 7.465 | 7.568 | VV | 273 | 10548 | 0.23% | 0.122% |
| 85 | 7.589 | 7.568 | 7.653 | VV | 169 | 6225 | 0.14% | 0.072% |
| 86 | 7.696 | 7.653 | 7.721 | VV | 288 | 6026 | 0.13% | 0.070% |
| 87 | 7.783 | 7.721 | 7.828 | PV | 221 | 9593 | 0.21% | 0.111% |
| 88 | 7.863 | 7.828 | 7.876 | VV | 246 | 5352 | 0.12% | 0.062% |
| 89 | 7.888 | 7.876 | 7.900 | VV | 251 | 3169 | 0.07% | 0.037% |

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|---|---|---|---|---|---|---|---|---|
| 90 | 7.912 | 7.900 | 7.931 | VV | 282 | 3757 | 0.08% | 0.044% |
| 91 | 7.957 | 7.931 | 7.973 | VV | 258 | 4444 | 0.10% | 0.052% |
| 92 | 8.000 | 7.973 | 8.023 | VV | 823 | 11967 | 0.26% | 0.139% |
| 93 | 8.057 | 8.023 | 8.098 | VV | 1290 | 20455 | 0.44% | 0.238% |
| 94 | 8.126 | 8.098 | 8.145 | VV | 356 | 6563 | 0.14% | 0.076% |
| 95 | 8.157 | 8.145 | 8.188 | VV | 372 | 7017 | 0.15% | 0.081% |
| 96 | 8.212 | 8.188 | 8.260 | VV | 777 | 15032 | 0.33% | 0.175% |
| 97 | 8.306 | 8.260 | 8.353 | VV | 4503 | 62556 | 1.36% | 0.726% |
| 98 | 8.378 | 8.353 | 8.418 | VV | 2556 | 34337 | 0.74% | 0.399% |
| 99 | 8.429 | 8.418 | 8.485 | VV | 412 | 11047 | 0.24% | 0.128% |
| 100 | 8.495 | 8.485 | 8.529 | VV | 267 | 5665 | 0.12% | 0.066% |
| 101 | 8.541 | 8.529 | 8.566 | VV | 183 | 2985 | 0.06% | 0.035% |
| 102 | 8.620 | 8.566 | 8.698 | VV | 7730 | 102484 | 2.22% | 1.190% |
| 103 | 8.727 | 8.698 | 8.778 | VV | 356 | 13600 | 0.29% | 0.158% |
| 104 | 8.798 | 8.778 | 8.828 | VV | 446 | 9419 | 0.20% | 0.109% |
| 105 | 8.845 | 8.828 | 8.901 | VV | 666 | 15848 | 0.34% | 0.184% |
| 106 | 8.907 | 8.901 | 8.941 | VV | 307 | 4325 | 0.09% | 0.050% |
| 107 | 8.962 | 8.941 | 8.985 | VV | 286 | 5177 | 0.11% | 0.060% |
| 108 | 9.028 | 8.985 | 9.050 | VV | 1089 | 19801 | 0.43% | 0.230% |
| 109 | 9.066 | 9.050 | 9.080 | VV | 498 | 6751 | 0.15% | 0.078% |
| 110 | 9.094 | 9.080 | 9.111 | VV | 321 | 5956 | 0.13% | 0.069% |
| 111 | 9.132 | 9.111 | 9.198 | VV | 1098 | 28096 | 0.61% | 0.326% |
| 112 | 9.223 | 9.198 | 9.251 | VV | 298 | 6544 | 0.14% | 0.076% |
| 113 | 9.269 | 9.251 | 9.301 | VV | 271 | 4690 | 0.10% | 0.054% |
| 114 | 9.312 | 9.301 | 9.335 | VV | 230 | 2854 | 0.06% | 0.033% |
| 115 | 9.377 | 9.335 | 9.404 | VV | 298 | 6939 | 0.15% | 0.081% |
| 116 | 9.433 | 9.404 | 9.458 | VV | 440 | 7574 | 0.16% | 0.088% |
| 117 | 9.501 | 9.458 | 9.535 | VV | 574 | 12599 | 0.27% | 0.146% |
| 118 | 9.550 | 9.535 | 9.618 | VV | 503 | 10999 | 0.24% | 0.128% |
| 119 | 9.642 | 9.618 | 9.667 | VV | 490 | 9139 | 0.20% | 0.106% |
| 120 | 9.690 | 9.667 | 9.730 | VV | 1443 | 18274 | 0.40% | 0.212% |
| 121 | 9.755 | 9.730 | 9.771 | PV | 165 | 3122 | 0.07% | 0.036% |
| 122 | 9.782 | 9.771 | 9.805 | VV | 219 | 2378 | 0.05% | 0.028% |
| 123 | 9.830 | 9.805 | 9.862 | PV | 547 | 8314 | 0.18% | 0.097% |
| 124 | 9.872 | 9.862 | 9.882 | VV | 179 | 1568 | 0.03% | 0.018% |
| 125 | 9.911 | 9.882 | 9.948 | VV | 1736 | 24566 | 0.53% | 0.285% |
| 126 | 9.983 | 9.948 | 10.037 | VV | 214 | 8381 | 0.18% | 0.097% |
| 127 | 10.079 | 10.037 | 10.095 | VV | 126 | 2977 | 0.06% | 0.035% |
| 128 | 10.114 | 10.095 | 10.147 | VV | 204 | 3616 | 0.08% | 0.042% |
| 129 | 10.161 | 10.147 | 10.175 | VV | 89 | 1180 | 0.03% | 0.014% |
| 130 | 10.193 | 10.175 | 10.218 | VV | 140 | 2351 | 0.05% | 0.027% |
| 131 | 10.257 | 10.218 | 10.272 | VV | 125 | 3126 | 0.07% | 0.036% |
| 132 | 10.300 | 10.272 | 10.327 | VV | 371 | 7352 | 0.16% | 0.085% |
| 133 | 10.347 | 10.327 | 10.364 | VV | 238 | 3642 | 0.08% | 0.042% |
| 134 | 10.391 | 10.364 | 10.441 | VV | 283 | 7617 | 0.17% | 0.088% |
| 135 | 10.445 | 10.441 | 10.486 | VV | 175 | 2566 | 0.06% | 0.030% |
| 136 | 10.541 | 10.486 | 10.565 | VV | 254 | 6510 | 0.14% | 0.076% |
| 137 | 10.584 | 10.565 | 10.616 | VV | 261 | 6083 | 0.13% | 0.071% |
| 138 | 10.652 | 10.616 | 10.687 | VV | 607 | 12412 | 0.27% | 0.144% |
| 139 | 10.753 | 10.687 | 10.775 | VV | 381 | 15249 | 0.33% | 0.177% |
| 140 | 10.781 | 10.775 | 10.815 | VV | 268 | 4967 | 0.11% | 0.058% |
| 141 | 10.833 | 10.815 | 10.853 | VV | 216 | 4196 | 0.09% | 0.049% |

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|---|---|---|---|---|---|---|---|---|
| 142 | 10.865 | 10.853 | 10.897 | VV | 292 | 5361 | 0.12% | 0.062% |
| 143 | 10.910 | 10.897 | 10.949 | VV | 194 | 3869 | 0.08% | 0.045% |
| 144 | 10.981 | 10.949 | 11.013 | VV | 259 | 6499 | 0.14% | 0.075% |
| 145 | 11.024 | 11.013 | 11.055 | VV | 329 | 5181 | 0.11% | 0.060% |
| 146 | 11.065 | 11.055 | 11.071 | VV | 164 | 1422 | 0.03% | 0.017% |
| 147 | 11.081 | 11.071 | 11.094 | VV | 223 | 2186 | 0.05% | 0.025% |
| 148 | 11.110 | 11.094 | 11.131 | VV | 230 | 3028 | 0.07% | 0.035% |
| 149 | 11.136 | 11.131 | 11.141 | VV | 169 | 757 | 0.02% | 0.009% |
| 150 | 11.158 | 11.141 | 11.191 | VV | 400 | 5116 | 0.11% | 0.059% |
| 151 | 11.285 | 11.191 | 11.321 | VV | 4804 | 67996 | 1.47% | 0.790% |
| 152 | 11.359 | 11.321 | 11.420 | VV | 2382 | 39409 | 0.85% | 0.458% |
| 153 | 11.451 | 11.420 | 11.498 | VV | 1515 | 22230 | 0.48% | 0.258% |
| 154 | 11.508 | 11.498 | 11.551 | VV | 136 | 2611 | 0.06% | 0.030% |
| 155 | 11.586 | 11.551 | 11.619 | PV | 165 | 4496 | 0.10% | 0.052% |
| 156 | 11.635 | 11.619 | 11.644 | VV | 146 | 1717 | 0.04% | 0.020% |
| 157 | 11.661 | 11.644 | 11.672 | VV | 557 | 3787 | 0.08% | 0.044% |
| 158 | 11.678 | 11.672 | 11.695 | VV | 249 | 2133 | 0.05% | 0.025% |
| 159 | 11.714 | 11.695 | 11.725 | VV | 168 | 2631 | 0.06% | 0.031% |
| 160 | 11.757 | 11.725 | 11.788 | VV | 317 | 8272 | 0.18% | 0.096% |
| 161 | 11.811 | 11.788 | 11.839 | VV | 475 | 8327 | 0.18% | 0.097% |
| 162 | 11.847 | 11.839 | 11.858 | VV | 212 | 2298 | 0.05% | 0.027% |
| 163 | 11.863 | 11.858 | 11.898 | VV | 245 | 3928 | 0.09% | 0.046% |
| 164 | 11.905 | 11.898 | 11.918 | VV | 137 | 1749 | 0.04% | 0.020% |
| 165 | 11.923 | 11.918 | 11.929 | VV | 193 | 1037 | 0.02% | 0.012% |
| 166 | 11.935 | 11.929 | 11.942 | VV | 178 | 1050 | 0.02% | 0.012% |
| 167 | 12.026 | 11.942 | 12.065 | VV | 488 | 18698 | 0.41% | 0.217% |
| 168 | 12.079 | 12.065 | 12.095 | VV | 228 | 3002 | 0.07% | 0.035% |
| 169 | 12.130 | 12.095 | 12.212 | VV | 290 | 14240 | 0.31% | 0.165% |
| 170 | 12.246 | 12.212 | 12.281 | VV | 291 | 8440 | 0.18% | 0.098% |
| 171 | 12.320 | 12.281 | 12.338 | VV | 266 | 7070 | 0.15% | 0.082% |
| 172 | 12.359 | 12.338 | 12.380 | VV | 215 | 4874 | 0.11% | 0.057% |
| 173 | 12.398 | 12.380 | 12.434 | VV | 309 | 6753 | 0.15% | 0.078% |
| 174 | 12.441 | 12.434 | 12.451 | VV | 207 | 1819 | 0.04% | 0.021% |
| 175 | 12.479 | 12.451 | 12.518 | VV | 466 | 11039 | 0.24% | 0.128% |
| 176 | 12.528 | 12.518 | 12.553 | VV | 323 | 4334 | 0.09% | 0.050% |
| 177 | 12.607 | 12.553 | 12.635 | VV | 683 | 13589 | 0.29% | 0.158% |
| 178 | 12.666 | 12.635 | 12.751 | VV | 1151 | 21827 | 0.47% | 0.253% |
| 179 | 12.755 | 12.751 | 12.762 | VV | 169 | 778 | 0.02% | 0.009% |
| 180 | 12.786 | 12.762 | 12.844 | VV | 519 | 9918 | 0.22% | 0.115% |
| 181 | 12.861 | 12.844 | 12.886 | VV | 173 | 2877 | 0.06% | 0.033% |
| 182 | 12.944 | 12.886 | 12.975 | VV | 205 | 7599 | 0.16% | 0.088% |
| 183 | 12.999 | 12.975 | 13.044 | VV | 205 | 5998 | 0.13% | 0.070% |
| 184 | 13.056 | 13.044 | 13.060 | VV | 195 | 1817 | 0.04% | 0.021% |
| 185 | 13.116 | 13.060 | 13.151 | VV | 395058 | 4610259 | 100.00% | 53.536% |
| 186 | 13.164 | 13.151 | 13.196 | VV | 382 | 8063 | 0.17% | 0.094% |
| 187 | 13.218 | 13.196 | 13.254 | VV | 345 | 8277 | 0.18% | 0.096% |
| 188 | 13.281 | 13.254 | 13.303 | VV | 589 | 11021 | 0.24% | 0.128% |
| 189 | 13.337 | 13.303 | 13.351 | VV | 380 | 8705 | 0.19% | 0.101% |
| 190 | 13.356 | 13.351 | 13.362 | VV | 318 | 1807 | 0.04% | 0.021% |
| 191 | 13.389 | 13.362 | 13.438 | VV | 384 | 12763 | 0.28% | 0.148% |
| 192 | 13.462 | 13.438 | 13.497 | VV | 321 | 9430 | 0.20% | 0.109% |
| 193 | 13.564 | 13.497 | 13.641 | VV | 350 | 23912 | 0.52% | 0.278% |
| 194 | 13.675 | 13.641 | 13.687 | VV | 388 | 8792 | 0.19% | 0.102% |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 195 | 13.724 | 13.687 | 13.751 | VV | 440 | 13453 | 0.29% | 0.156% |
| 196 | 13.761 | 13.751 | 13.787 | VV | 298 | 6308 | 0.14% | 0.073% |
| 197 | 13.817 | 13.787 | 13.840 | VV | 682 | 14254 | 0.31% | 0.166% |
| 198 | 13.867 | 13.840 | 13.905 | VV | 1162 | 24009 | 0.52% | 0.279% |
| 199 | 13.931 | 13.905 | 14.017 | VV | 438 | 22762 | 0.49% | 0.264% |
| 200 | 14.038 | 14.017 | 14.060 | VV | 396 | 9036 | 0.20% | 0.105% |
| 201 | 14.105 | 14.060 | 14.133 | VV | 553 | 18599 | 0.40% | 0.216% |
| 202 | 14.198 | 14.133 | 14.217 | VV | 481 | 21466 | 0.47% | 0.249% |
| 203 | 14.232 | 14.217 | 14.243 | VV | 480 | 6743 | 0.15% | 0.078% |
| 204 | 14.306 | 14.243 | 14.339 | VV | 1373 | 39299 | 0.85% | 0.456% |
| 205 | 14.348 | 14.339 | 14.356 | VV | 488 | 4863 | 0.11% | 0.056% |
| 206 | 14.386 | 14.356 | 14.405 | VV | 660 | 15417 | 0.33% | 0.179% |
| 207 | 14.433 | 14.405 | 14.458 | VV | 989 | 19634 | 0.43% | 0.228% |
| 208 | 14.515 | 14.458 | 14.537 | VV | 595 | 23637 | 0.51% | 0.274% |
| 209 | 14.552 | 14.537 | 14.591 | VV | 699 | 18902 | 0.41% | 0.219% |
| 210 | 14.601 | 14.591 | 14.620 | VV | 558 | 8908 | 0.19% | 0.103% |
| 211 | 14.636 | 14.620 | 14.657 | VV | 567 | 10645 | 0.23% | 0.124% |
| 212 | 14.694 | 14.657 | 14.729 | VV | 661 | 22449 | 0.49% | 0.261% |
| 213 | 14.747 | 14.729 | 14.763 | VV | 560 | 9612 | 0.21% | 0.112% |
| 214 | 14.818 | 14.763 | 14.829 | VV | 498 | 18133 | 0.39% | 0.211% |
| 215 | 14.835 | 14.829 | 14.847 | VV | 492 | 4873 | 0.11% | 0.057% |
| 216 | 14.872 | 14.847 | 14.895 | VV | 569 | 14537 | 0.32% | 0.169% |
| 217 | 14.928 | 14.895 | 14.948 | VV | 796 | 18751 | 0.41% | 0.218% |
| 218 | 14.972 | 14.948 | 15.009 | VV | 1152 | 24467 | 0.53% | 0.284% |
| 219 | 15.026 | 15.009 | 15.051 | VV | 458 | 9521 | 0.21% | 0.111% |
| 220 | 15.069 | 15.051 | 15.088 | VV | 365 | 7280 | 0.16% | 0.085% |
| 221 | 15.113 | 15.088 | 15.131 | VV | 496 | 9784 | 0.21% | 0.114% |
| 222 | 15.141 | 15.131 | 15.168 | VV | 463 | 7316 | 0.16% | 0.085% |
| 223 | 15.197 | 15.168 | 15.252 | VV | 331 | 14208 | 0.31% | 0.165% |
| 224 | 15.259 | 15.252 | 15.278 | VV | 386 | 4742 | 0.10% | 0.055% |
| 225 | 15.287 | 15.278 | 15.297 | VV | 351 | 3383 | 0.07% | 0.039% |
| 226 | 15.307 | 15.297 | 15.338 | VV | 323 | 6284 | 0.14% | 0.073% |
| 227 | 15.385 | 15.338 | 15.464 | VV | 476 | 17820 | 0.39% | 0.207% |
| 228 | 15.494 | 15.464 | 15.619 | VV | 960 | 27255 | 0.59% | 0.316% |
| 229 | 15.629 | 15.619 | 15.655 | VV | 158 | 2313 | 0.05% | 0.027% |
| 230 | 15.686 | 15.655 | 15.699 | VV | 187 | 3325 | 0.07% | 0.039% |
| 231 | 15.725 | 15.699 | 15.736 | VV | 232 | 3327 | 0.07% | 0.039% |
| 232 | 15.765 | 15.736 | 15.800 | VV | 308 | 7030 | 0.15% | 0.082% |
| 233 | 15.816 | 15.800 | 15.845 | VV | 256 | 4177 | 0.09% | 0.049% |
| 234 | 15.856 | 15.845 | 15.878 | VV | 132 | 2608 | 0.06% | 0.030% |
| 235 | 15.886 | 15.878 | 15.903 | VV | 180 | 2173 | 0.05% | 0.025% |
| 236 | 15.918 | 15.903 | 15.928 | VV | 292 | 2879 | 0.06% | 0.033% |
| 237 | 15.955 | 15.928 | 15.973 | VV | 288 | 6008 | 0.13% | 0.070% |
| 238 | 15.996 | 15.973 | 16.080 | VV | 932 | 16882 | 0.37% | 0.196% |
| 239 | 16.147 | 16.080 | 16.187 | VV | 201 | 6769 | 0.15% | 0.079% |
| 240 | 16.206 | 16.187 | 16.261 | VV | 245 | 3972 | 0.09% | 0.046% |
| 241 | 16.300 | 16.261 | 16.327 | VV | 192 | 3182 | 0.07% | 0.037% |
| 242 | 16.340 | 16.327 | 16.350 | VV | 78 | 741 | 0.02% | 0.009% |
| 243 | 16.368 | 16.350 | 16.386 | PV | 178 | 2304 | 0.05% | 0.027% |
| 244 | 16.398 | 16.386 | 16.409 | VV | 190 | 1240 | 0.03% | 0.014% |
| 245 | 16.481 | 16.409 | 16.528 | VV | 1391 | 25231 | 0.55% | 0.293% |
| 246 | 16.536 | 16.528 | 16.565 | VV | 210 | 2217 | 0.05% | 0.026% |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 247 | 16.586 | 16.565 | 16.610 | VV | 205 | 2916 | 0.06% | 0.034% |
| 248 | 16.645 | 16.610 | 16.724 | VV | 342 | 11356 | 0.25% | 0.132% |
| 249 | 16.745 | 16.724 | 16.776 | PV | 123 | 2321 | 0.05% | 0.027% |
| 250 | 16.837 | 16.776 | 16.858 | VV | 232 | 5807 | 0.13% | 0.067% |
| 251 | 16.946 | 16.858 | 17.019 | VV | 1247 | 29687 | 0.64% | 0.345% |
| 252 | 17.061 | 17.019 | 17.071 | VV | 173 | 3700 | 0.08% | 0.043% |
| 253 | 17.083 | 17.071 | 17.105 | VV | 210 | 2609 | 0.06% | 0.030% |
| 254 | 17.127 | 17.105 | 17.139 | VV | 143 | 1844 | 0.04% | 0.021% |
| 255 | 17.159 | 17.139 | 17.171 | VV | 234 | 2803 | 0.06% | 0.033% |
| 256 | 17.197 | 17.171 | 17.245 | VV | 314 | 9425 | 0.20% | 0.109% |
| 257 | 17.281 | 17.245 | 17.311 | VV | 435 | 11195 | 0.24% | 0.130% |
| 258 | 17.328 | 17.311 | 17.342 | VV | 281 | 4198 | 0.09% | 0.049% |
| 259 | 17.398 | 17.342 | 17.474 | VV | 3503 | 60195 | 1.31% | 0.699% |
| 260 | 17.523 | 17.474 | 17.595 | VV | 403 | 13625 | 0.30% | 0.158% |
| 261 | 17.612 | 17.595 | 17.666 | VV | 185 | 3088 | 0.07% | 0.036% |
| 262 | 17.701 | 17.666 | 17.726 | PV | 321 | 5652 | 0.12% | 0.066% |
| 263 | 17.735 | 17.726 | 17.765 | VV | 186 | 2951 | 0.06% | 0.034% |
| 264 | 17.836 | 17.765 | 17.865 | VV | 1802 | 34654 | 0.75% | 0.402% |
| 265 | 17.892 | 17.865 | 17.921 | VV | 411 | 6578 | 0.14% | 0.076% |
| 266 | 18.021 | 17.921 | 18.043 | VV | 1506 | 38701 | 0.84% | 0.449% |
| 267 | 18.062 | 18.043 | 18.099 | VV | 1293 | 19172 | 0.42% | 0.223% |
| 268 | 18.156 | 18.099 | 18.167 | VV | 200 | 5219 | 0.11% | 0.061% |
| 269 | 18.192 | 18.167 | 18.218 | VV | 641 | 11793 | 0.26% | 0.137% |
| 270 | 18.259 | 18.218 | 18.291 | VV | 3939 | 57484 | 1.25% | 0.668% |
| 271 | 18.360 | 18.291 | 18.385 | PV | 505 | 11698 | 0.25% | 0.136% |
| 272 | 18.394 | 18.385 | 18.455 | VV | 240 | 3750 | 0.08% | 0.044% |
| 273 | 18.524 | 18.455 | 18.590 | VV | 401 | 13399 | 0.29% | 0.156% |
| 274 | 18.604 | 18.590 | 18.621 | VV | 122 | 1525 | 0.03% | 0.018% |
| 275 | 18.671 | 18.621 | 18.719 | VV | 1843 | 30951 | 0.67% | 0.359% |
| 276 | 18.761 | 18.719 | 18.811 | PV | 6737 | 92343 | 2.00% | 1.072% |
| 277 | 18.829 | 18.811 | 18.874 | VV | 467 | 6817 | 0.15% | 0.079% |
| 278 | 18.886 | 18.874 | 18.901 | VV | 94 | 1093 | 0.02% | 0.013% |
| 279 | 18.926 | 18.901 | 18.948 | VV | 173 | 2869 | 0.06% | 0.033% |
| 280 | 19.001 | 18.948 | 19.031 | VV | 234 | 5965 | 0.13% | 0.069% |
| 281 | 19.069 | 19.031 | 19.098 | VV | 2041 | 30567 | 0.66% | 0.355% |
| 282 | 19.115 | 19.098 | 19.151 | VV | 262 | 4842 | 0.11% | 0.056% |
| 283 | 19.187 | 19.151 | 19.220 | VV | 256 | 6019 | 0.13% | 0.070% |
| 284 | 19.247 | 19.220 | 19.278 | VV | 227 | 5646 | 0.12% | 0.066% |
| 285 | 19.285 | 19.278 | 19.298 | VV | 230 | 2177 | 0.05% | 0.025% |
| 286 | 19.322 | 19.298 | 19.345 | VV | 252 | 5335 | 0.12% | 0.062% |
| 287 | 19.364 | 19.345 | 19.376 | VV | 247 | 3271 | 0.07% | 0.038% |
| 288 | 19.398 | 19.376 | 19.411 | VV | 187 | 3388 | 0.07% | 0.039% |
| 289 | 19.456 | 19.411 | 19.495 | VV | 1407 | 28427 | 0.62% | 0.330% |
| 290 | 19.501 | 19.495 | 19.545 | VV | 209 | 4447 | 0.10% | 0.052% |
| 291 | 19.652 | 19.545 | 19.667 | VV | 337 | 15970 | 0.35% | 0.185% |
| 292 | 19.740 | 19.667 | 19.759 | VV | 534 | 20549 | 0.45% | 0.239% |
| 293 | 19.831 | 19.759 | 19.862 | VV | 1291 | 36923 | 0.80% | 0.429% |
| 294 | 19.881 | 19.862 | 19.889 | VV | 493 | 7343 | 0.16% | 0.085% |
| 295 | 20.017 | 19.889 | 20.028 | VV | 687 | 44742 | 0.97% | 0.520% |
| 296 | 20.075 | 20.028 | 20.085 | VV | 789 | 23527 | 0.51% | 0.273% |
| 297 | 20.114 | 20.085 | 20.131 | VV | 858 | 21129 | 0.46% | 0.245% |
| 298 | 20.200 | 20.131 | 20.221 | VV | 1810 | 59740 | 1.30% | 0.694% |
| 299 | 20.258 | 20.221 | 20.271 | VV | 1161 | 32302 | 0.70% | 0.375% |

rteres

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 300 | 20.288 | 20.271 | 20.305 | VV | 1150 | 21617 | 0.47% | 0.251% |
| 301 | 20.382 | 20.305 | 20.394 | VV | 1200 | 61237 | 1.33% | 0.711% |
| 302 | 20.432 | 20.394 | 20.440 | VV | 1262 | 33423 | 0.72% | 0.388% |
| 303 | 20.451 | 20.440 | 20.537 | VV | 1297 | 70199 | 1.52% | 0.815% |
| 304 | 20.562 | 20.537 | 20.605 | VV | 1544 | 52281 | 1.13% | 0.607% |
| 305 | 20.612 | 20.605 | 20.628 | VV | 1206 | 15815 | 0.34% | 0.184% |
| 306 | 20.631 | 20.628 | 20.675 | VV | 1136 | 30637 | 0.66% | 0.356% |
| 307 | 20.687 | 20.675 | 20.701 | VV | 1140 | 17314 | 0.38% | 0.201% |
| 308 | 20.754 | 20.701 | 20.780 | VV | 1227 | 55510 | 1.20% | 0.645% |
| 309 | 20.797 | 20.780 | 20.841 | VV | 1236 | 42569 | 0.92% | 0.494% |
| 310 | 20.854 | 20.841 | 20.901 | VV | 1161 | 38629 | 0.84% | 0.449% |
| 311 | 20.965 | 20.901 | 21.025 | VV | 1785 | 89618 | 1.94% | 1.041% |
| 312 | 21.043 | 21.025 | 21.055 | VV | 1068 | 18218 | 0.40% | 0.212% |
| 313 | 21.062 | 21.055 | 21.081 | VV | 993 | 15560 | 0.34% | 0.181% |
| 314 | 21.090 | 21.081 | 21.183 | VV | 1009 | 57159 | 1.24% | 0.664% |
| 315 | 21.194 | 21.183 | 21.291 | VV | 965 | 57090 | 1.24% | 0.663% |
| 316 | 21.318 | 21.291 | 21.357 | VV | 909 | 34161 | 0.74% | 0.397% |
| 317 | 21.366 | 21.357 | 21.384 | VV | 912 | 13519 | 0.29% | 0.157% |
| 318 | 21.420 | 21.384 | 21.545 | VV | 1081 | 81925 | 1.78% | 0.951% |
| 319 | 21.549 | 21.545 | 21.581 | VV | 808 | 16196 | 0.35% | 0.188% |
| 320 | 21.594 | 21.581 | 21.622 | VV | 726 | 17040 | 0.37% | 0.198% |
| 321 | 21.661 | 21.622 | 21.769 | VV | 706 | 52518 | 1.14% | 0.610% |
| 322 | 21.798 | 21.769 | 21.808 | VV | 625 | 12905 | 0.28% | 0.150% |
| 323 | 21.819 | 21.808 | 21.828 | VV | 524 | 6109 | 0.13% | 0.071% |
| 324 | 21.834 | 21.828 | 21.865 | VV | 602 | 11018 | 0.24% | 0.128% |
| 325 | 21.881 | 21.865 | 21.890 | VV | 491 | 7060 | 0.15% | 0.082% |
| 326 | 21.932 | 21.890 | 22.084 | VV | 1108 | 63241 | 1.37% | 0.734% |
| 327 | 22.100 | 22.084 | 22.135 | VV | 374 | 8895 | 0.19% | 0.103% |
| 328 | 22.160 | 22.135 | 22.205 | VV | 302 | 10129 | 0.22% | 0.118% |
| 329 | 22.222 | 22.205 | 22.256 | VV | 278 | 7090 | 0.15% | 0.082% |
| 330 | 22.263 | 22.256 | 22.269 | VV | 218 | 1487 | 0.03% | 0.017% |
| 331 | 22.298 | 22.269 | 22.342 | VV | 223 | 7456 | 0.16% | 0.087% |
| 332 | 22.350 | 22.342 | 22.360 | VV | 148 | 1075 | 0.02% | 0.012% |
| 333 | 22.376 | 22.360 | 22.395 | VV | 126 | 1751 | 0.04% | 0.020% |
| 334 | 22.406 | 22.395 | 22.415 | PV | 133 | 728 | 0.02% | 0.008% |
| 335 | 22.431 | 22.415 | 22.451 | VBA | 89 | 6039 | 0.13% | 0.070% |

Sum of corrected areas: 8611587

Aliphatic EPH 052425.M Thu Jun 12 07:07:37 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | 06/01/25 |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | 06/03/25 |
| Client Sample ID: | B-207-SB02 | SDG No.: | Q2198 |
| Lab Sample ID: | Q2198-03 | Matrix: | Solid |
| Analytical Method: | NJEPH | % Solid: | 52.1 |
| Sample Wt/Vol: | 30.06 Units: g | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FD049447.D | 1 | 06/11/25 | 06/12/25 | PB168408 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| Aromatic C10-C12 | Aromatic C10-C12 | 0.44 | J | 0.23 | 1.28 | mg/kg |
| Aromatic C12-C16 | Aromatic C12-C16 | 0.52 | J | 0.44 | 1.92 | mg/kg |
| Aromatic C16-C21 | Aromatic C16-C21 | 2.66 | J | 0.77 | 3.19 | mg/kg |
| Aromatic C21-C36 | Aromatic C21-C36 | 3.04 | J | 2.28 | 5.11 | mg/kg |
| **SURROGATES** | | | | | | |
| 580-13-2 | 2-Bromonaphthalene (SURR) | 43.2 | | 40 - 140 | 86% | SPK: 50 |
| 321-60-8 | 2-Flurobiphenyl (SURR) | 42.3 | | 40 - 140 | 85% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | 36.9 | | 40 - 140 | 74% | SPK: 50 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

# Quantitation Report For Aromatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | Q2198-03 | Acq On: | 12 Jun 2025 03:27 |
| Client Sample ID: | B-207-SB02 | Operator: | YP/AJ |
| Data file: | FD049447.D | Misc: | |
| Instrument: | FID_D | ALS Vial: | 74 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aromatic C10-C12 | 4.424 | 6.168 | 570310 | 3.408 | 200 | ug/ml |
| Aromatic C12-C16 | 6.169 | 8.797 | 759368 | 4.049 | 300 | ug/ml |
| Aromatic C16-C21 | 8.798 | 13.088 | 3849368 | 20.837 | 500 | ug/ml |
| Aromatic C21-C36 | 13.089 | 18.509 | 3456759 | 23.83 | 800 | ug/ml |
| Aromatic EPH | 4.424 | 18.509 | 8635805 | 52.124 | | ug/ml |
| 2-Bromonaphthalene (SURR) | 7.735 | 7.735 | 7184963 | 43.22 | | ug/ml |
| 2-Flurobiphenyl (SURR) | 8.600 | 8.600 | 4834587 | 42.26 | | ug/ml |
| ortho-Terphenyl (SURR) | 11.646 | 11.646 | 7408683 | 36.91 | | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061125AR\
Data File : FD049447.D
Signal(s) : FID2B.ch
Acq On : 12 Jun 2025 03:27
Operator : YP/AJ
Sample : Q2198-03
Misc :
ALS Vial : 74 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
B-207-SB02

Integration File: autoint1.e
Quant Time: Jun 12 05:03:44 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| **System Monitoring Compounds** | | | |
| 4) S 2-Bromonaphthalene (S... | 7.735 | 7184963 | 43.222 ug/ml |
| Spiked Amount 50.000 | | Recovery = | 86.44% |
| 6) S 2-Flurobiphenyl (SURR) | 8.600 | 4834587 | 42.262 ug/ml |
| Spiked Amount 50.000 | Range 0 - 131 | Recovery = | 84.52% |
| 11) S ortho-Terphenyl (SURR) | 11.646 | 7408683 | 36.910 ug/ml |
| Spiked Amount 50.000 | | Recovery = | 73.82% |
| **Target Compounds** | | | |

(f)=RT Delta > 1/2 Window (m)=manual int.

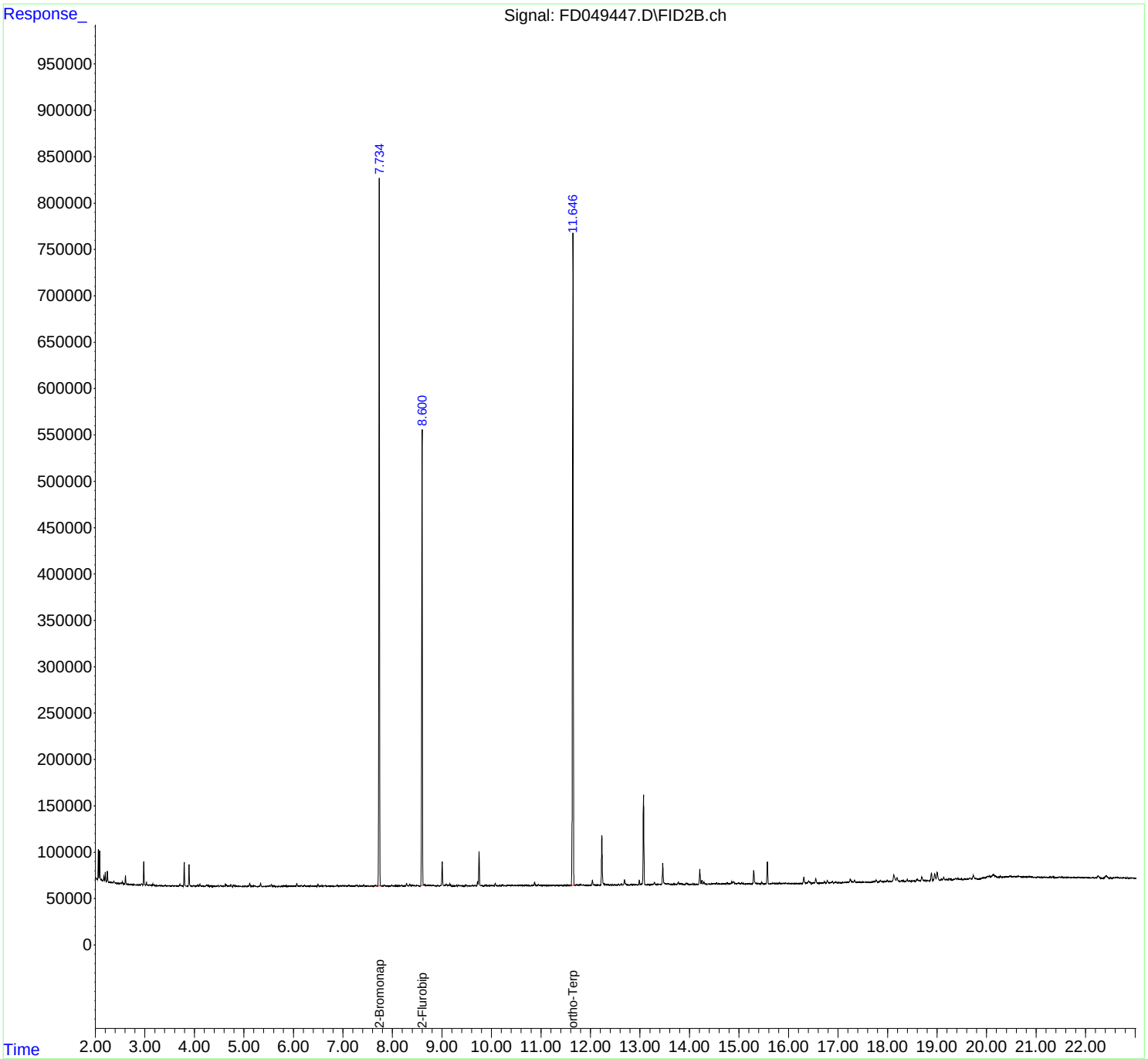
Quantitation Report (QT Reviewed)

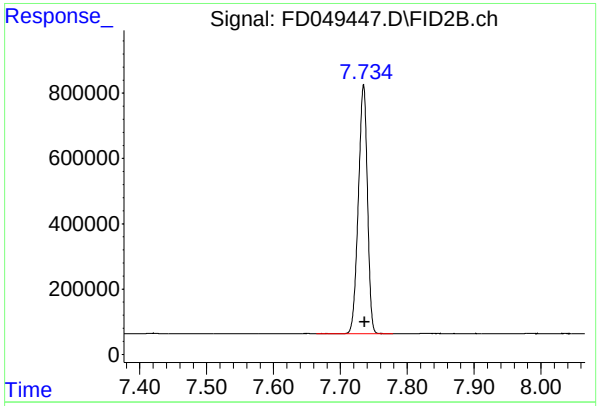
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061125AR\
Data File : FD049447.D
Signal(s) : FID2B.ch
Acq On : 12 Jun 2025 03:27
Operator : YP/AJ
Sample : Q2198-03
Misc :
ALS Vial : 74 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
B-207-SB02

Integration File: autoint1.e
Quant Time: Jun 12 05:03:44 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

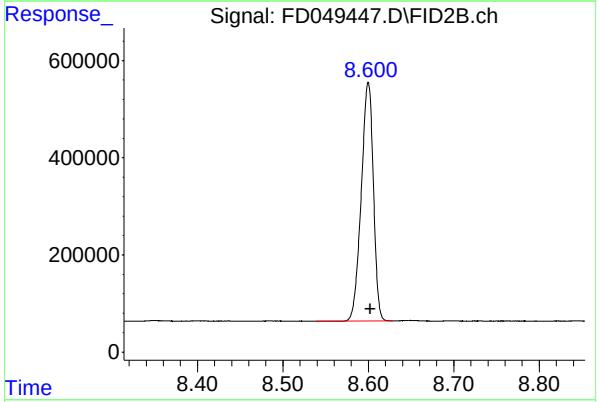





#4 2-Bromonaphthalene (SURR)

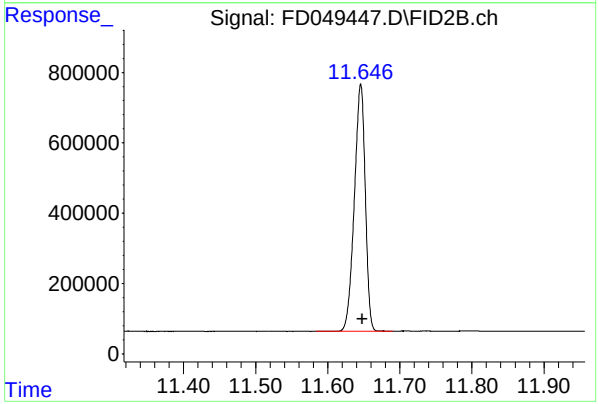
R.T.: 7.735 min
Delta R.T.: -0.002 min
Response: 7184963
Conc: 43.22 ug/ml

**Instrument :**
FID_D
**ClientSampleId :**
B-207-SB02




#6 2-Flurobiphenyl (SURR)

R.T.: 8.600 min
Delta R.T.: -0.002 min
Response: 4834587
Conc: 42.26 ug/ml




#11 ortho-Terphenyl (SURR)

R.T.: 11.646 min
Delta R.T.: -0.003 min
Response: 7408683
Conc: 36.91 ug/ml

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061225AR\
Data File : FD049447.D
Signal(s) : FID2B.ch
Acq On : 12 Jun 2025 03:27
Sample : Q2198-03
Misc :
ALS Vial : 74 Sample Multiplier: 1

Integration File: sample.E

Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Title : GC Extractables

Signal : FID2B.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.326 | 4.312 | 4.331 | PV | 439 | 2837 | 0.04% | 0.010% |
| 2 | 4.335 | 4.331 | 4.356 | VV | 361 | 2484 | 0.03% | 0.009% |
| 3 | 4.375 | 4.365 | 4.382 | VV | 337 | 2048 | 0.03% | 0.007% |
| 4 | 4.391 | 4.382 | 4.402 | VV | 327 | 2589 | 0.03% | 0.009% |
| 5 | 4.414 | 4.402 | 4.427 | VV | 254 | 3170 | 0.04% | 0.011% |
| 6 | 4.432 | 4.427 | 4.452 | VV | 395 | 3757 | 0.05% | 0.013% |
| 7 | 4.482 | 4.452 | 4.510 | VV | 1536 | 19452 | 0.26% | 0.068% |
| 8 | 4.527 | 4.510 | 4.549 | VV | 1184 | 14662 | 0.20% | 0.051% |
| 9 | 4.557 | 4.549 | 4.573 | VV | 565 | 6072 | 0.08% | 0.021% |
| 10 | 4.583 | 4.573 | 4.611 | VV | 495 | 8347 | 0.11% | 0.029% |
| 11 | 4.626 | 4.611 | 4.640 | VV | 2723 | 26867 | 0.36% | 0.094% |
| 12 | 4.651 | 4.640 | 4.689 | VV | 1756 | 21975 | 0.30% | 0.077% |
| 13 | 4.706 | 4.689 | 4.720 | VV | 1285 | 13998 | 0.19% | 0.049% |
| 14 | 4.736 | 4.720 | 4.753 | VV | 2404 | 23352 | 0.31% | 0.082% |
| 15 | 4.762 | 4.753 | 4.772 | VV | 362 | 2788 | 0.04% | 0.010% |
| 16 | 4.788 | 4.772 | 4.803 | VV | 1800 | 18405 | 0.25% | 0.064% |
| 17 | 4.817 | 4.803 | 4.847 | VV | 1635 | 20021 | 0.27% | 0.070% |
| 18 | 4.861 | 4.847 | 4.884 | VV | 567 | 8142 | 0.11% | 0.029% |
| 19 | 4.888 | 4.884 | 4.913 | VV | 345 | 4949 | 0.07% | 0.017% |
| 20 | 4.925 | 4.913 | 4.960 | VV | 540 | 8864 | 0.12% | 0.031% |
| 21 | 4.986 | 4.960 | 5.002 | PV | 582 | 7101 | 0.10% | 0.025% |
| 22 | 5.014 | 5.002 | 5.027 | VV | 487 | 5530 | 0.07% | 0.019% |
| 23 | 5.032 | 5.027 | 5.060 | VV | 531 | 5786 | 0.08% | 0.020% |
| 24 | 5.067 | 5.060 | 5.073 | VV | 376 | 1964 | 0.03% | 0.007% |
| 25 | 5.088 | 5.073 | 5.100 | VV | 947 | 9909 | 0.13% | 0.035% |
| 26 | 5.118 | 5.100 | 5.136 | VV | 3573 | 40549 | 0.55% | 0.142% |
| 27 | 5.140 | 5.136 | 5.150 | VV | 597 | 3554 | 0.05% | 0.012% |
| 28 | 5.177 | 5.150 | 5.189 | VV | 986 | 13317 | 0.18% | 0.047% |
| 29 | 5.200 | 5.189 | 5.210 | VV | 827 | 7427 | 0.10% | 0.026% |
| 30 | 5.220 | 5.210 | 5.252 | VV | 878 | 12534 | 0.17% | 0.044% |
| 31 | 5.257 | 5.252 | 5.287 | VV | 294 | 2786 | 0.04% | 0.010% |
| 32 | 5.303 | 5.287 | 5.319 | VV | 400 | 4399 | 0.06% | 0.015% |
| 33 | 5.338 | 5.319 | 5.380 | VV | 3639 | 40459 | 0.54% | 0.142% |
| 34 | 5.397 | 5.380 | 5.419 | VV | 527 | 7365 | 0.10% | 0.026% |
| 35 | 5.476 | 5.444 | 5.507 | VV | 621 | 11885 | 0.16% | 0.042% |
| 36 | 5.521 | 5.507 | 5.538 | VV | 1229 | 12588 | 0.17% | 0.044% |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 37 | 5.556 | 5.538 | 5.577 | VV | 2157 | 26185 | 0.35% | 0.092% |
| 38 | 5.589 | 5.577 | 5.605 | VV | 625 | 6542 | 0.09% | 0.023% |
| 39 | 5.614 | 5.605 | 5.642 | VV | 461 | 6231 | 0.08% | 0.022% |
| 40 | 5.658 | 5.642 | 5.664 | VV | 228 | 2238 | 0.03% | 0.008% |
| 41 | 5.668 | 5.664 | 5.692 | VV | 366 | 3464 | 0.05% | 0.012% |
| 42 | 5.698 | 5.692 | 5.701 | VV | 278 | 1159 | 0.02% | 0.004% |
| 43 | 5.710 | 5.701 | 5.722 | VV | 402 | 3396 | 0.05% | 0.012% |
| 44 | 5.730 | 5.722 | 5.739 | VV | 200 | 1658 | 0.02% | 0.006% |
| 45 | 5.758 | 5.739 | 5.780 | VV | 534 | 7339 | 0.10% | 0.026% |
| 46 | 5.815 | 5.789 | 5.836 | VV | 583 | 11958 | 0.16% | 0.042% |
| 47 | 5.858 | 5.836 | 5.877 | VV | 648 | 10665 | 0.14% | 0.037% |
| 48 | 5.887 | 5.877 | 5.903 | VV | 409 | 4260 | 0.06% | 0.015% |
| 49 | 5.913 | 5.903 | 5.921 | VV | 287 | 2440 | 0.03% | 0.009% |
| 50 | 5.930 | 5.921 | 5.942 | VV | 372 | 3038 | 0.04% | 0.011% |
| 51 | 5.971 | 5.942 | 5.994 | VV | 538 | 10416 | 0.14% | 0.036% |
| 52 | 6.013 | 5.994 | 6.028 | VV | 576 | 8779 | 0.12% | 0.031% |
| 53 | 6.034 | 6.028 | 6.052 | VV | 565 | 5823 | 0.08% | 0.020% |
| 54 | 6.069 | 6.052 | 6.090 | VV | 3374 | 35204 | 0.47% | 0.123% |
| 55 | 6.114 | 6.090 | 6.128 | VV | 845 | 11873 | 0.16% | 0.042% |
| 56 | 6.133 | 6.128 | 6.144 | VV | 439 | 3150 | 0.04% | 0.011% |
| 57 | 6.158 | 6.144 | 6.176 | VV | 1428 | 15688 | 0.21% | 0.055% |
| 58 | 6.180 | 6.176 | 6.193 | VV | 437 | 3336 | 0.04% | 0.012% |
| 59 | 6.222 | 6.193 | 6.265 | VV | 1254 | 22212 | 0.30% | 0.078% |
| 60 | 6.288 | 6.265 | 6.316 | VV | 580 | 9750 | 0.13% | 0.034% |
| 61 | 6.321 | 6.316 | 6.330 | VV | 327 | 2344 | 0.03% | 0.008% |
| 62 | 6.345 | 6.330 | 6.380 | VV | 1054 | 13399 | 0.18% | 0.047% |
| 63 | 6.384 | 6.380 | 6.402 | VV | 204 | 1641 | 0.02% | 0.006% |
| 64 | 6.421 | 6.409 | 6.457 | VV | 357 | 6281 | 0.08% | 0.022% |
| 65 | 6.469 | 6.465 | 6.476 | VV | 302 | 1545 | 0.02% | 0.005% |
| 66 | 6.497 | 6.476 | 6.520 | VV | 2726 | 30436 | 0.41% | 0.107% |
| 67 | 6.539 | 6.520 | 6.552 | VV | 354 | 5264 | 0.07% | 0.018% |
| 68 | 6.580 | 6.552 | 6.599 | VV | 790 | 13410 | 0.18% | 0.047% |
| 69 | 6.615 | 6.599 | 6.630 | VV | 871 | 9463 | 0.13% | 0.033% |
| 70 | 6.646 | 6.630 | 6.667 | VV | 1280 | 14476 | 0.19% | 0.051% |
| 71 | 6.680 | 6.667 | 6.701 | VV | 333 | 3805 | 0.05% | 0.013% |
| 72 | 6.719 | 6.701 | 6.743 | VV | 903 | 9363 | 0.13% | 0.033% |
| 73 | 6.767 | 6.743 | 6.781 | VV | 371 | 6021 | 0.08% | 0.021% |
| 74 | 6.787 | 6.781 | 6.795 | VV | 406 | 2708 | 0.04% | 0.009% |
| 75 | 6.802 | 6.795 | 6.808 | VV | 260 | 1541 | 0.02% | 0.005% |
| 76 | 6.823 | 6.808 | 6.829 | VV | 427 | 3349 | 0.05% | 0.012% |
| 77 | 6.833 | 6.829 | 6.844 | VV | 327 | 1956 | 0.03% | 0.007% |
| 78 | 6.885 | 6.844 | 6.909 | VV | 1297 | 21234 | 0.29% | 0.074% |
| 79 | 6.942 | 6.909 | 6.973 | VV | 704 | 16524 | 0.22% | 0.058% |
| 80 | 6.996 | 6.973 | 7.017 | VV | 1052 | 17491 | 0.24% | 0.061% |
| 81 | 7.031 | 7.017 | 7.034 | VV | 819 | 7238 | 0.10% | 0.025% |
| 82 | 7.038 | 7.034 | 7.047 | VV | 781 | 5465 | 0.07% | 0.019% |
| 83 | 7.057 | 7.047 | 7.074 | VV | 886 | 9395 | 0.13% | 0.033% |
| 84 | 7.121 | 7.074 | 7.147 | VV | 1670 | 31336 | 0.42% | 0.110% |
| 85 | 7.151 | 7.147 | 7.160 | VV | 472 | 3522 | 0.05% | 0.012% |
| 86 | 7.172 | 7.160 | 7.184 | VV | 718 | 7484 | 0.10% | 0.026% |
| 87 | 7.191 | 7.184 | 7.234 | VV | 479 | 9330 | 0.13% | 0.033% |
| 88 | 7.261 | 7.234 | 7.267 | VV | 744 | 8167 | 0.11% | 0.029% |
| 89 | 7.282 | 7.267 | 7.324 | VV | 1254 | 20783 | 0.28% | 0.073% |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 90 | 7.336 | 7.324 | 7.356 | VV | 778 | 9025 | 0.12% | 0.032% |
| 91 | 7.386 | 7.356 | 7.404 | VV | 553 | 8992 | 0.12% | 0.031% |
| 92 | 7.420 | 7.404 | 7.438 | VV | 1704 | 17059 | 0.23% | 0.060% |
| 93 | 7.454 | 7.438 | 7.464 | VV | 274 | 3814 | 0.05% | 0.013% |
| 94 | 7.472 | 7.464 | 7.500 | VV | 339 | 5768 | 0.08% | 0.020% |
| 95 | 7.511 | 7.500 | 7.526 | VV | 495 | 5076 | 0.07% | 0.018% |
| 96 | 7.537 | 7.526 | 7.545 | VV | 276 | 2487 | 0.03% | 0.009% |
| 97 | 7.549 | 7.545 | 7.553 | VV | 296 | 1048 | 0.01% | 0.004% |
| 98 | 7.568 | 7.553 | 7.577 | VV | 482 | 5124 | 0.07% | 0.018% |
| 99 | 7.580 | 7.577 | 7.589 | VV | 462 | 2230 | 0.03% | 0.008% |
| 100 | 7.595 | 7.589 | 7.601 | VV | 343 | 1351 | 0.02% | 0.005% |
| 101 | 7.612 | 7.601 | 7.623 | VV | 480 | 3235 | 0.04% | 0.011% |
| 102 | 7.652 | 7.623 | 7.665 | VV | 890 | 11969 | 0.16% | 0.042% |
| 103 | 7.680 | 7.665 | 7.693 | VV | 721 | 8378 | 0.11% | 0.029% |
| 104 | 7.735 | 7.693 | 7.792 | VV | 764524 | 7205472 | 97.03% | 25.235% |
| 105 | 7.827 | 7.792 | 7.865 | VV | 1067 | 26230 | 0.35% | 0.092% |
| 106 | 7.871 | 7.865 | 7.886 | VV | 683 | 5282 | 0.07% | 0.018% |
| 107 | 7.902 | 7.886 | 7.922 | VV | 591 | 8177 | 0.11% | 0.029% |
| 108 | 7.949 | 7.922 | 7.960 | VV | 414 | 6787 | 0.09% | 0.024% |
| 109 | 7.987 | 7.960 | 8.009 | VV | 1055 | 17015 | 0.23% | 0.060% |
| 110 | 8.014 | 8.009 | 8.024 | VV | 496 | 3295 | 0.04% | 0.012% |
| 111 | 8.041 | 8.024 | 8.056 | VV | 736 | 10190 | 0.14% | 0.036% |
| 112 | 8.071 | 8.056 | 8.096 | VV | 743 | 11488 | 0.15% | 0.040% |
| 113 | 8.099 | 8.096 | 8.104 | VV | 406 | 1822 | 0.02% | 0.006% |
| 114 | 8.136 | 8.104 | 8.149 | VV | 566 | 11886 | 0.16% | 0.042% |
| 115 | 8.154 | 8.149 | 8.170 | VV | 461 | 5305 | 0.07% | 0.019% |
| 116 | 8.190 | 8.170 | 8.212 | VV | 891 | 13487 | 0.18% | 0.047% |
| 117 | 8.247 | 8.212 | 8.261 | VV | 532 | 9322 | 0.13% | 0.033% |
| 118 | 8.287 | 8.261 | 8.311 | VV | 3021 | 37471 | 0.50% | 0.131% |
| 119 | 8.319 | 8.311 | 8.329 | VV | 453 | 3967 | 0.05% | 0.014% |
| 120 | 8.349 | 8.329 | 8.377 | VV | 1771 | 28766 | 0.39% | 0.101% |
| 121 | 8.381 | 8.377 | 8.384 | VV | 718 | 2869 | 0.04% | 0.010% |
| 122 | 8.400 | 8.384 | 8.420 | VV | 852 | 16108 | 0.22% | 0.056% |
| 123 | 8.426 | 8.420 | 8.465 | VV | 757 | 14600 | 0.20% | 0.051% |
| 124 | 8.485 | 8.465 | 8.504 | VV | 1007 | 14911 | 0.20% | 0.052% |
| 125 | 8.522 | 8.504 | 8.552 | VV | 658 | 13244 | 0.18% | 0.046% |
| 126 | 8.600 | 8.552 | 8.629 | VV | 492040 | 4873145 | 65.62% | 17.067% |
| 127 | 8.649 | 8.629 | 8.681 | VV | 1999 | 38425 | 0.52% | 0.135% |
| 128 | 8.696 | 8.681 | 8.717 | VV | 1165 | 16997 | 0.23% | 0.060% |
| 129 | 8.731 | 8.717 | 8.737 | VV | 815 | 7985 | 0.11% | 0.028% |
| 130 | 8.756 | 8.737 | 8.760 | VV | 748 | 8950 | 0.12% | 0.031% |
| 131 | 8.764 | 8.760 | 8.788 | VV | 693 | 11370 | 0.15% | 0.040% |
| 132 | 8.795 | 8.788 | 8.812 | VV | 666 | 7594 | 0.10% | 0.027% |
| 133 | 8.821 | 8.812 | 8.834 | VV | 697 | 8031 | 0.11% | 0.028% |
| 134 | 8.845 | 8.834 | 8.861 | VV | 812 | 10099 | 0.14% | 0.035% |
| 135 | 8.909 | 8.861 | 8.922 | VV | 857 | 16771 | 0.23% | 0.059% |
| 136 | 8.939 | 8.922 | 8.957 | VV | 448 | 6816 | 0.09% | 0.024% |
| 137 | 8.968 | 8.957 | 8.980 | VV | 804 | 8115 | 0.11% | 0.028% |
| 138 | 9.007 | 8.980 | 9.054 | VV | 26331 | 280279 | 3.77% | 0.982% |
| 139 | 9.058 | 9.054 | 9.072 | VV | 894 | 8628 | 0.12% | 0.030% |
| 140 | 9.090 | 9.072 | 9.117 | VV | 2354 | 34988 | 0.47% | 0.123% |
| 141 | 9.127 | 9.117 | 9.143 | VV | 968 | 12339 | 0.17% | 0.043% |

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|---|---|---|---|---|---|---|---|---|
| 142 | 9.161 | 9.143 | 9.186 | VV | 2053 | 25304 | 0.34% | 0.089% |
| 143 | 9.192 | 9.186 | 9.214 | VV | 318 | 4224 | 0.06% | 0.015% |
| 144 | 9.239 | 9.214 | 9.245 | VV | 340 | 3546 | 0.05% | 0.012% |
| 145 | 9.247 | 9.245 | 9.267 | VV | 307 | 2074 | 0.03% | 0.007% |
| 146 | 9.298 | 9.267 | 9.315 | VV | 752 | 9440 | 0.13% | 0.033% |
| 147 | 9.334 | 9.315 | 9.375 | VV | 811 | 15412 | 0.21% | 0.054% |
| 148 | 9.386 | 9.375 | 9.394 | VV | 470 | 3892 | 0.05% | 0.014% |
| 149 | 9.401 | 9.394 | 9.408 | VV | 454 | 3213 | 0.04% | 0.011% |
| 150 | 9.412 | 9.408 | 9.440 | VV | 315 | 3739 | 0.05% | 0.013% |
| 151 | 9.477 | 9.440 | 9.505 | VV | 1290 | 20780 | 0.28% | 0.073% |
| 152 | 9.521 | 9.505 | 9.531 | VV | 535 | 5808 | 0.08% | 0.020% |
| 153 | 9.535 | 9.531 | 9.543 | VV | 394 | 2216 | 0.03% | 0.008% |
| 154 | 9.553 | 9.543 | 9.563 | VV | 416 | 3966 | 0.05% | 0.014% |
| 155 | 9.569 | 9.563 | 9.586 | VV | 542 | 4225 | 0.06% | 0.015% |
| 156 | 9.619 | 9.586 | 9.644 | VV | 653 | 14364 | 0.19% | 0.050% |
| 157 | 9.664 | 9.644 | 9.685 | VV | 1068 | 12917 | 0.17% | 0.045% |
| 158 | 9.722 | 9.685 | 9.733 | VV | 5014 | 55202 | 0.74% | 0.193% |
| 159 | 9.752 | 9.733 | 9.790 | VV | 37290 | 376030 | 5.06% | 1.317% |
| 160 | 9.797 | 9.790 | 9.817 | VV | 655 | 8095 | 0.11% | 0.028% |
| 161 | 9.822 | 9.817 | 9.848 | VV | 396 | 3715 | 0.05% | 0.013% |
| 162 | 9.884 | 9.848 | 9.920 | PV | 1444 | 26773 | 0.36% | 0.094% |
| 163 | 9.928 | 9.920 | 9.934 | VV | 313 | 1876 | 0.03% | 0.007% |
| 164 | 9.947 | 9.934 | 9.962 | VV | 296 | 3871 | 0.05% | 0.014% |
| 165 | 9.983 | 9.962 | 9.990 | VV | 496 | 7040 | 0.09% | 0.025% |
| 166 | 9.994 | 9.990 | 9.998 | VV | 531 | 1975 | 0.03% | 0.007% |
| 167 | 10.003 | 9.998 | 10.040 | VV | 531 | 7321 | 0.10% | 0.026% |
| 168 | 10.078 | 10.040 | 10.107 | VV | 2985 | 37866 | 0.51% | 0.133% |
| 169 | 10.111 | 10.107 | 10.127 | VV | 448 | 3188 | 0.04% | 0.011% |
| 170 | 10.132 | 10.127 | 10.136 | VV | 277 | 1103 | 0.01% | 0.004% |
| 171 | 10.141 | 10.136 | 10.155 | VV | 366 | 2734 | 0.04% | 0.010% |
| 172 | 10.172 | 10.155 | 10.192 | VV | 848 | 9964 | 0.13% | 0.035% |
| 173 | 10.225 | 10.192 | 10.244 | VV | 1546 | 21932 | 0.30% | 0.077% |
| 174 | 10.246 | 10.244 | 10.261 | VV | 402 | 3375 | 0.05% | 0.012% |
| 175 | 10.277 | 10.261 | 10.295 | VV | 446 | 5926 | 0.08% | 0.021% |
| 176 | 10.312 | 10.295 | 10.332 | VV | 512 | 9424 | 0.13% | 0.033% |
| 177 | 10.343 | 10.332 | 10.383 | VV | 675 | 14920 | 0.20% | 0.052% |
| 178 | 10.407 | 10.383 | 10.429 | VV | 1013 | 16670 | 0.22% | 0.058% |
| 179 | 10.432 | 10.429 | 10.452 | VV | 612 | 5745 | 0.08% | 0.020% |
| 180 | 10.466 | 10.452 | 10.494 | VV | 912 | 12745 | 0.17% | 0.045% |
| 181 | 10.501 | 10.494 | 10.513 | VV | 589 | 5662 | 0.08% | 0.020% |
| 182 | 10.522 | 10.513 | 10.537 | VV | 630 | 6481 | 0.09% | 0.023% |
| 183 | 10.542 | 10.537 | 10.546 | VV | 468 | 2248 | 0.03% | 0.008% |
| 184 | 10.557 | 10.546 | 10.566 | VV | 498 | 4697 | 0.06% | 0.016% |
| 185 | 10.573 | 10.566 | 10.587 | VV | 451 | 4795 | 0.06% | 0.017% |
| 186 | 10.605 | 10.587 | 10.633 | VV | 725 | 14133 | 0.19% | 0.049% |
| 187 | 10.645 | 10.633 | 10.654 | VV | 501 | 4884 | 0.07% | 0.017% |
| 188 | 10.677 | 10.654 | 10.702 | VV | 866 | 15713 | 0.21% | 0.055% |
| 189 | 10.708 | 10.702 | 10.737 | VV | 637 | 10636 | 0.14% | 0.037% |
| 190 | 10.756 | 10.737 | 10.797 | VV | 539 | 12333 | 0.17% | 0.043% |
| 191 | 10.810 | 10.797 | 10.825 | VV | 643 | 8706 | 0.12% | 0.030% |
| 192 | 10.841 | 10.825 | 10.857 | VV | 1011 | 11814 | 0.16% | 0.041% |
| 193 | 10.874 | 10.857 | 10.901 | VV | 4157 | 46801 | 0.63% | 0.164% |
| 194 | 10.906 | 10.901 | 10.920 | VV | 433 | 3991 | 0.05% | 0.014% |

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|---|---|---|---|---|---|---|---|---|
| 195 | 10.947 | 10.920 | 10.979 | VV | 1591 | 26023 | 0.35% | 0.091% |
| 196 | 10.991 | 10.979 | 11.015 | VV | 671 | 8633 | 0.12% | 0.030% |
| 197 | 11.021 | 11.015 | 11.033 | VV | 388 | 3130 | 0.04% | 0.011% |
| 198 | 11.041 | 11.033 | 11.046 | VV | 409 | 2578 | 0.03% | 0.009% |
| 199 | 11.070 | 11.046 | 11.089 | VV | 523 | 9923 | 0.13% | 0.035% |
| 200 | 11.134 | 11.089 | 11.169 | VV | 483 | 16133 | 0.22% | 0.057% |
| 201 | 11.180 | 11.169 | 11.199 | VV | 530 | 6066 | 0.08% | 0.021% |
| 202 | 11.216 | 11.199 | 11.229 | VV | 460 | 5359 | 0.07% | 0.019% |
| 203 | 11.253 | 11.229 | 11.282 | VV | 778 | 15932 | 0.21% | 0.056% |
| 204 | 11.292 | 11.282 | 11.302 | VV | 458 | 4532 | 0.06% | 0.016% |
| 205 | 11.323 | 11.302 | 11.360 | VV | 1054 | 16700 | 0.22% | 0.058% |
| 206 | 11.369 | 11.360 | 11.384 | PV | 342 | 3196 | 0.04% | 0.011% |
| 207 | 11.413 | 11.384 | 11.435 | VV | 517 | 11565 | 0.16% | 0.041% |
| 208 | 11.476 | 11.435 | 11.500 | VV | 748 | 13889 | 0.19% | 0.049% |
| 209 | 11.525 | 11.500 | 11.544 | VV | 460 | 8138 | 0.11% | 0.029% |
| 210 | 11.564 | 11.544 | 11.577 | VV | 354 | 5015 | 0.07% | 0.018% |
| 211 | 11.587 | 11.577 | 11.598 | VV | 290 | 2500 | 0.03% | 0.009% |
| 212 | 11.646 | 11.598 | 11.690 | VV | 703521 | 7426332 | 100.00% | 26.009% |
| 213 | 11.710 | 11.690 | 11.725 | VV | 1029 | 15965 | 0.21% | 0.056% |
| 214 | 11.736 | 11.725 | 11.760 | VV | 985 | 14824 | 0.20% | 0.052% |
| 215 | 11.799 | 11.760 | 11.837 | VV | 1544 | 36490 | 0.49% | 0.128% |
| 216 | 11.856 | 11.837 | 11.887 | VV | 597 | 11230 | 0.15% | 0.039% |
| 217 | 11.896 | 11.887 | 11.903 | VV | 303 | 2188 | 0.03% | 0.008% |
| 218 | 11.926 | 11.903 | 11.946 | VV | 344 | 5868 | 0.08% | 0.021% |
| 219 | 11.973 | 11.946 | 12.010 | VV | 451 | 12014 | 0.16% | 0.042% |
| 220 | 12.039 | 12.010 | 12.065 | VV | 5698 | 69661 | 0.94% | 0.244% |
| 221 | 12.079 | 12.065 | 12.105 | VV | 1189 | 13875 | 0.19% | 0.049% |
| 222 | 12.144 | 12.105 | 12.165 | VV | 846 | 15833 | 0.21% | 0.055% |
| 223 | 12.173 | 12.165 | 12.184 | VV | 421 | 4169 | 0.06% | 0.015% |
| 224 | 12.230 | 12.184 | 12.305 | VV | 53959 | 645450 | 8.69% | 2.261% |
| 225 | 12.318 | 12.305 | 12.332 | VV | 900 | 12703 | 0.17% | 0.044% |
| 226 | 12.350 | 12.332 | 12.394 | VV | 1029 | 25878 | 0.35% | 0.091% |
| 227 | 12.398 | 12.394 | 12.422 | VV | 644 | 8158 | 0.11% | 0.029% |
| 228 | 12.433 | 12.422 | 12.454 | VV | 642 | 8219 | 0.11% | 0.029% |
| 229 | 12.487 | 12.454 | 12.520 | VV | 848 | 20388 | 0.27% | 0.071% |
| 230 | 12.567 | 12.520 | 12.594 | VV | 1427 | 27769 | 0.37% | 0.097% |
| 231 | 12.627 | 12.594 | 12.647 | VV | 1516 | 25468 | 0.34% | 0.089% |
| 232 | 12.687 | 12.647 | 12.737 | VV | 5999 | 100337 | 1.35% | 0.351% |
| 233 | 12.754 | 12.737 | 12.800 | VV | 624 | 13324 | 0.18% | 0.047% |
| 234 | 12.820 | 12.800 | 12.842 | VV | 1384 | 16878 | 0.23% | 0.059% |
| 235 | 12.857 | 12.842 | 12.892 | VV | 709 | 14945 | 0.20% | 0.052% |
| 236 | 12.896 | 12.892 | 12.959 | VV | 510 | 14523 | 0.20% | 0.051% |
| 237 | 12.984 | 12.959 | 13.007 | VV | 5164 | 60132 | 0.81% | 0.211% |
| 238 | 13.028 | 13.007 | 13.039 | VV | 1217 | 18809 | 0.25% | 0.066% |
| 239 | 13.071 | 13.039 | 13.107 | VV | 97570 | 1163388 | 15.67% | 4.074% |
| 240 | 13.126 | 13.107 | 13.139 | VV | 509 | 7744 | 0.10% | 0.027% |
| 241 | 13.158 | 13.139 | 13.174 | VV | 671 | 9485 | 0.13% | 0.033% |
| 242 | 13.184 | 13.174 | 13.205 | VV | 515 | 7687 | 0.10% | 0.027% |
| 243 | 13.253 | 13.205 | 13.266 | VV | 865 | 18593 | 0.25% | 0.065% |
| 244 | 13.290 | 13.266 | 13.314 | VV | 3023 | 43496 | 0.59% | 0.152% |
| 245 | 13.320 | 13.314 | 13.337 | VV | 800 | 10476 | 0.14% | 0.037% |
| 246 | 13.352 | 13.337 | 13.365 | VV | 991 | 12112 | 0.16% | 0.042% |

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|---|---|---|---|---|---|---|---|---|
| 247 | 13.383 | 13.365 | 13.400 | VV | 876 | 16015 | 0.22% | 0.056% |
| 248 | 13.408 | 13.400 | 13.422 | VV | 840 | 9232 | 0.12% | 0.032% |
| 249 | 13.460 | 13.422 | 13.554 | VV | 23089 | 342028 | 4.61% | 1.198% |
| 250 | 13.571 | 13.554 | 13.599 | VV | 1603 | 28899 | 0.39% | 0.101% |
| 251 | 13.618 | 13.599 | 13.627 | VV | 715 | 10217 | 0.14% | 0.036% |
| 252 | 13.643 | 13.627 | 13.658 | VV | 827 | 11992 | 0.16% | 0.042% |
| 253 | 13.683 | 13.658 | 13.704 | VV | 1065 | 20288 | 0.27% | 0.071% |
| 254 | 13.716 | 13.704 | 13.742 | VV | 850 | 12297 | 0.17% | 0.043% |
| 255 | 13.774 | 13.742 | 13.796 | VV | 3030 | 45071 | 0.61% | 0.158% |
| 256 | 13.821 | 13.796 | 13.840 | VV | 1315 | 23679 | 0.32% | 0.083% |
| 257 | 13.850 | 13.840 | 13.875 | VV | 962 | 14791 | 0.20% | 0.052% |
| 258 | 13.887 | 13.875 | 13.906 | VV | 707 | 9775 | 0.13% | 0.034% |
| 259 | 13.946 | 13.906 | 14.010 | VV | 1744 | 47876 | 0.64% | 0.168% |
| 260 | 14.033 | 14.010 | 14.050 | VV | 901 | 11905 | 0.16% | 0.042% |
| 261 | 14.067 | 14.050 | 14.089 | VV | 967 | 13972 | 0.19% | 0.049% |
| 262 | 14.109 | 14.089 | 14.142 | VV | 619 | 12548 | 0.17% | 0.044% |
| 263 | 14.148 | 14.142 | 14.169 | VV | 442 | 4869 | 0.07% | 0.017% |
| 264 | 14.207 | 14.169 | 14.234 | VV | 16380 | 205488 | 2.77% | 0.720% |
| 265 | 14.251 | 14.234 | 14.274 | VV | 4854 | 66141 | 0.89% | 0.232% |
| 266 | 14.293 | 14.274 | 14.363 | VV | 2386 | 52329 | 0.70% | 0.183% |
| 267 | 14.391 | 14.363 | 14.404 | VV | 723 | 13502 | 0.18% | 0.047% |
| 268 | 14.413 | 14.404 | 14.428 | VV | 696 | 7760 | 0.10% | 0.027% |
| 269 | 14.445 | 14.428 | 14.464 | VV | 877 | 14858 | 0.20% | 0.052% |
| 270 | 14.491 | 14.464 | 14.528 | VV | 1267 | 35935 | 0.48% | 0.126% |
| 271 | 14.546 | 14.528 | 14.570 | VV | 1601 | 24458 | 0.33% | 0.086% |
| 272 | 14.599 | 14.570 | 14.643 | VV | 876 | 29203 | 0.39% | 0.102% |
| 273 | 14.659 | 14.643 | 14.684 | VV | 792 | 14934 | 0.20% | 0.052% |
| 274 | 14.696 | 14.684 | 14.737 | VV | 670 | 19124 | 0.26% | 0.067% |
| 275 | 14.758 | 14.737 | 14.787 | VV | 1961 | 33403 | 0.45% | 0.117% |
| 276 | 14.809 | 14.787 | 14.827 | VV | 959 | 18336 | 0.25% | 0.064% |
| 277 | 14.855 | 14.827 | 14.872 | VV | 2874 | 46453 | 0.63% | 0.163% |
| 278 | 14.893 | 14.872 | 14.949 | VV | 2968 | 70506 | 0.95% | 0.247% |
| 279 | 14.966 | 14.949 | 14.973 | VV | 1221 | 12585 | 0.17% | 0.044% |
| 280 | 14.990 | 14.973 | 15.009 | VV | 1814 | 26758 | 0.36% | 0.094% |
| 281 | 15.016 | 15.009 | 15.032 | VV | 1000 | 10433 | 0.14% | 0.037% |
| 282 | 15.055 | 15.032 | 15.078 | VV | 1466 | 24397 | 0.33% | 0.085% |
| 283 | 15.094 | 15.078 | 15.130 | VV | 991 | 13999 | 0.19% | 0.049% |
| 284 | 15.149 | 15.130 | 15.164 | VV | 699 | 9397 | 0.13% | 0.033% |
| 285 | 15.194 | 15.164 | 15.205 | VV | 703 | 12509 | 0.17% | 0.044% |
| 286 | 15.217 | 15.205 | 15.267 | VV | 761 | 13715 | 0.18% | 0.048% |
| 287 | 15.296 | 15.267 | 15.380 | VV | 14642 | 227104 | 3.06% | 0.795% |
| 288 | 15.394 | 15.380 | 15.417 | VV | 858 | 11540 | 0.16% | 0.040% |
| 289 | 15.458 | 15.417 | 15.479 | VV | 1895 | 29675 | 0.40% | 0.104% |
| 290 | 15.488 | 15.479 | 15.507 | PV | 330 | 4128 | 0.06% | 0.014% |
| 291 | 15.526 | 15.507 | 15.544 | VV | 670 | 9028 | 0.12% | 0.032% |
| 292 | 15.571 | 15.544 | 15.625 | VV | 24249 | 285005 | 3.84% | 0.998% |
| 293 | 15.670 | 15.625 | 15.682 | VV | 773 | 13646 | 0.18% | 0.048% |
| 294 | 15.705 | 15.682 | 15.734 | VV | 844 | 19395 | 0.26% | 0.068% |
| 295 | 15.780 | 15.734 | 15.797 | VV | 626 | 18841 | 0.25% | 0.066% |
| 296 | 15.818 | 15.797 | 15.854 | VV | 749 | 17274 | 0.23% | 0.060% |
| 297 | 15.903 | 15.854 | 15.915 | VV | 741 | 17214 | 0.23% | 0.060% |
| 298 | 15.939 | 15.915 | 15.979 | VV | 994 | 16591 | 0.22% | 0.058% |
| 299 | 15.999 | 15.979 | 16.028 | VV | 707 | 11399 | 0.15% | 0.040% |

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|---|---|---|---|---|---|---|---|---|
| 300 | 16.060 | 16.028 | 16.070 | VV | 178 | 3476 | 0.05% | 0.012% |
| 301 | 16.080 | 16.070 | 16.109 | VV | 191 | 2974 | 0.04% | 0.010% |
| 302 | 16.149 | 16.109 | 16.160 | VV | 276 | 4500 | 0.06% | 0.016% |
| 303 | 16.167 | 16.160 | 16.182 | VV | 232 | 1231 | 0.02% | 0.004% |
| 304 | 16.202 | 16.182 | 16.217 | VV | 260 | 2645 | 0.04% | 0.009% |
| 305 | 16.229 | 16.217 | 16.262 | VV | 344 | 4129 | 0.06% | 0.014% |
| 306 | 16.308 | 16.262 | 16.347 | VV | 6780 | 105329 | 1.42% | 0.369% |
| 307 | 16.356 | 16.347 | 16.380 | VV | 731 | 11868 | 0.16% | 0.042% |
| 308 | 16.403 | 16.380 | 16.425 | VV | 3020 | 49311 | 0.66% | 0.173% |
| 309 | 16.432 | 16.425 | 16.464 | VV | 1533 | 17454 | 0.24% | 0.061% |
| 310 | 16.501 | 16.464 | 16.522 | VV | 910 | 16164 | 0.22% | 0.057% |
| 311 | 16.549 | 16.522 | 16.615 | VV | 5359 | 79359 | 1.07% | 0.278% |
| 312 | 16.725 | 16.615 | 16.758 | PV | 1759 | 38835 | 0.52% | 0.136% |
| 313 | 16.783 | 16.758 | 16.827 | VV | 3175 | 48775 | 0.66% | 0.171% |
| 314 | 16.886 | 16.827 | 16.919 | VV | 1879 | 43873 | 0.59% | 0.154% |
| 315 | 16.959 | 16.919 | 16.989 | VV | 1112 | 27885 | 0.38% | 0.098% |
| 316 | 17.012 | 16.989 | 17.021 | VV | 425 | 6310 | 0.08% | 0.022% |
| 317 | 17.034 | 17.021 | 17.050 | VV | 466 | 6605 | 0.09% | 0.023% |
| 318 | 17.090 | 17.050 | 17.112 | VV | 425 | 10345 | 0.14% | 0.036% |
| 319 | 17.153 | 17.112 | 17.197 | VV | 774 | 28761 | 0.39% | 0.101% |
| 320 | 17.247 | 17.197 | 17.307 | VV | 4030 | 100135 | 1.35% | 0.351% |
| 321 | 17.330 | 17.307 | 17.379 | VV | 2337 | 44803 | 0.60% | 0.157% |
| 322 | 17.404 | 17.379 | 17.436 | VV | 701 | 18082 | 0.24% | 0.063% |
| 323 | 17.445 | 17.436 | 17.479 | VV | 731 | 10868 | 0.15% | 0.038% |
| 324 | 17.510 | 17.479 | 17.543 | VV | 726 | 18082 | 0.24% | 0.063% |
| 325 | 17.557 | 17.543 | 17.579 | VV | 542 | 8465 | 0.11% | 0.030% |
| 326 | 17.592 | 17.579 | 17.600 | VV | 367 | 3659 | 0.05% | 0.013% |
| 327 | 17.616 | 17.600 | 17.645 | VV | 463 | 7539 | 0.10% | 0.026% |
| 328 | 17.650 | 17.645 | 17.672 | VV | 274 | 2618 | 0.04% | 0.009% |
| 329 | 17.771 | 17.672 | 17.805 | PV | 2377 | 63534 | 0.86% | 0.223% |
| 330 | 17.858 | 17.805 | 17.887 | VV | 1912 | 42338 | 0.57% | 0.148% |
| 331 | 17.912 | 17.887 | 17.939 | VV | 647 | 15200 | 0.20% | 0.053% |
| 332 | 17.957 | 17.939 | 17.970 | VV | 735 | 10316 | 0.14% | 0.036% |
| 333 | 17.995 | 17.970 | 18.029 | VV | 1774 | 30803 | 0.41% | 0.108% |
| 334 | 18.053 | 18.029 | 18.079 | VV | 852 | 15484 | 0.21% | 0.054% |
| 335 | 18.126 | 18.079 | 18.172 | VV | 7638 | 177132 | 2.39% | 0.620% |
| 336 | 18.191 | 18.172 | 18.220 | VV | 4641 | 77100 | 1.04% | 0.270% |
| 337 | 18.229 | 18.220 | 18.254 | VV | 593 | 9295 | 0.13% | 0.033% |
| 338 | 18.280 | 18.254 | 18.358 | VV | 1159 | 38817 | 0.52% | 0.136% |
| 339 | 18.397 | 18.358 | 18.432 | VV | 2188 | 35320 | 0.48% | 0.124% |
| 340 | 18.450 | 18.432 | 18.479 | VV | 404 | 8735 | 0.12% | 0.031% |
| 341 | 18.498 | 18.479 | 18.510 | VV | 475 | 6495 | 0.09% | 0.023% |
| 342 | 18.536 | 18.510 | 18.558 | VV | 900 | 14703 | 0.20% | 0.051% |
| 343 | 18.600 | 18.558 | 18.662 | VV | 2280 | 59041 | 0.80% | 0.207% |
| 344 | 18.692 | 18.662 | 18.742 | VV | 4417 | 85754 | 1.15% | 0.300% |
| 345 | 18.763 | 18.742 | 18.787 | VV | 809 | 13159 | 0.18% | 0.046% |
| 346 | 18.805 | 18.787 | 18.843 | PV | 535 | 9850 | 0.13% | 0.034% |
| 347 | 18.886 | 18.843 | 18.917 | PV | 8214 | 120113 | 1.62% | 0.421% |
| 348 | 18.952 | 18.917 | 18.978 | PV | 6503 | 96822 | 1.30% | 0.339% |

Sum of corrected areas: 28553321

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | 05/31/25 |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | 06/03/25 |
| Client Sample ID: | B-202-GW01 | SDG No.: | Q2198 |
| Lab Sample ID: | Q2198-05 | Matrix: | Water |
| Analytical Method: | NJEPH | % Solid: | 0 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | SW3510 | | |

| Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|
| 06/06/25 09:10 | 06/09/25 18:58 | PB168324 |

| CAS Number | Parameter | Conc. | Qualifier | Dilution | MDL | LOQ / CRQL | Units | Datafile |
|---|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | 8.41 | J | 1 | 8.36 | 30.3 | ug/l | FC069138.D |
| Aliphatic C12-C16 | Aliphatic C12-C16 | 13.6 | U | 1 | 13.6 | 20.2 | ug/l | FC069138.D |
| Aliphatic C16-C21 | Aliphatic C16-C21 | 13.5 | J | 1 | 8.42 | 30.3 | ug/l | FC069138.D |
| Aliphatic C21-C28 | Aliphatic C21-C28 | 17.7 | J | 1 | 12.6 | 40.4 | ug/l | FC069138.D |
| Aliphatic C28-C40 | Aliphatic C28-C40 | 45.9 | J | 1 | 24.0 | 60.6 | ug/l | FC069138.D |
| Aromatic C10-C12 | Aromatic C10-C12 | 9.15 | J | 1 | 2.09 | 20.2 | ug/l | FD049425.D |
| Aromatic C12-C16 | Aromatic C12-C16 | 13.3 | J | 1 | 4.30 | 30.3 | ug/l | FD049425.D |
| Aromatic C16-C21 | Aromatic C16-C21 | 37.0 | J | 1 | 8.35 | 50.5 | ug/l | FD049425.D |
| Aromatic C21-C36 | Aromatic C21-C36 | 42.4 | J | 1 | 24.0 | 80.8 | ug/l | FD049425.D |
| Total AliphaticEPH | Total AliphaticEPH | 85.5 | J | | 67.0 | 182 | ug/l | |
| Total AromaticEPH | Total AromaticEPH | 102 | J | | 38.7 | 182 | ug/l | |
| Total EPH | Total EPH | 187 | J | | 106 | 364 | ug/l | |

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | 05/31/25 |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | 06/03/25 |
| Client Sample ID: | B-202-GW01 | SDG No.: | Q2198 |
| Lab Sample ID: | Q2198-05 | Matrix: | Water |
| Analytical Method: | NJEPH | % Solid: | 0 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | SW3510 | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FC069138.D | 1 | 06/06/25 | 06/09/25 | PB168324 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | 8.41 | J | 8.36 | 30.3 | ug/l |
| Aliphatic C12-C16 | Aliphatic C12-C16 | 13.6 | U | 13.6 | 20.2 | ug/l |
| Aliphatic C16-C21 | Aliphatic C16-C21 | 13.5 | J | 8.42 | 30.3 | ug/l |
| Aliphatic C21-C28 | Aliphatic C21-C28 | 17.7 | J | 12.6 | 40.4 | ug/l |
| Aliphatic C28-C40 | Aliphatic C28-C40 | 45.9 | J | 24.0 | 60.6 | ug/l |
| **SURROGATES** | | | | | | |
| 3383-33-2 | 1-chlorooctadecane (SURR) | 62.3 | | 40 - 140 | 125% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | 0.00 | | 40 - 140 | 0% | SPK: 50 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

# Quantitation Report For Aliphatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | Q2198-05 | Acq On: | 09 Jun 2025 18:58 |
| Client Sample ID: | B-202-GW01 | Operator: | YP/AJ |
| Data file: | FC069138.D | Misc: | |
| Instrument: | FID_C | ALS Vial: | 15 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aliphatic C9-C12 | 3.299 | 6.602 | 440128 | 4.163 | 300 | ug/ml |
| Aliphatic C12-C16 | 6.603 | 10.008 | 661041 | 6.482 | 200 | ug/ml |
| Aliphatic C16-C21 | 10.009 | 13.379 | 654679 | 6.69 | 300 | ug/ml |
| Aliphatic C21-C28 | 13.380 | 17.047 | 823828 | 8.782 | 400 | ug/ml |
| Aliphatic C28-C40 | 17.048 | 22.037 | 2147319 | 22.738 | 600 | ug/ml |
| Aliphatic EPH | 3.299 | 22.037 | 4726995 | 48.855 | | ug/ml |
| ortho-Terphenyl (SURR) | 0.000 | 0.000 | 0 | 0 | | ug/ml |
| 1-chlorooctadecane (SURR) | 13.116 | 13.116 | 5587369 | 62.28 | | ug/ml |
| Aliphatic C9-C28 | 3.299 | 17.047 | 2579676 | 26.117 | 1200 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC060925AL\
Data File : FC069138.D
Signal(s) : FID1A.ch
Acq On : 09 Jun 2025 18:58
Operator : YP/AJ
Sample : Q2198-05
Misc :
ALS Vial : 15 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
B-202-GW01

Integration File: autoint1.e
Quant Time: Jun 10 05:24:43 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| System Monitoring Compounds | | | |
| 12) S 1-chlorooctadecane (S... | 13.116 | 5587369 | 62.280 ug/ml |
| Spiked Amount 50.000 | | Recovery = 124.56% | |
| Target Compounds | | | |

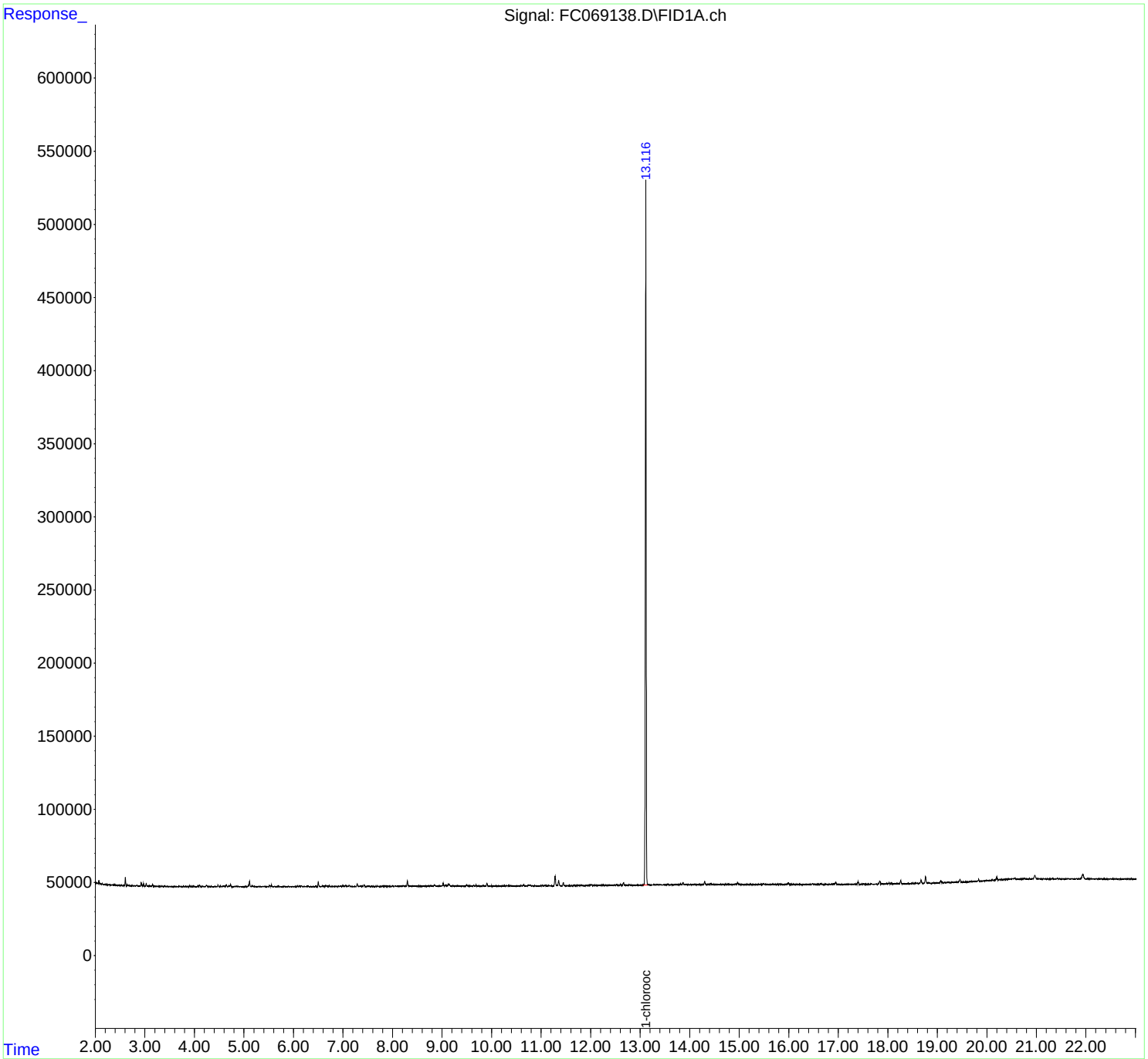
(f)=RT Delta > 1/2 Window (m)=manual int.

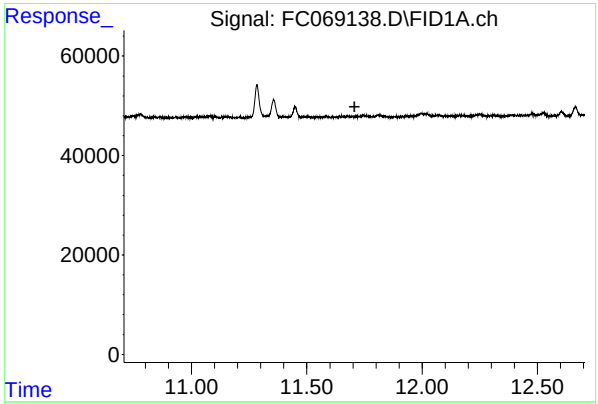
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC060925AL\
Data File : FC069138.D
Signal(s) : FID1A.ch
Acq On : 09 Jun 2025 18:58
Operator : YP/AJ
Sample : Q2198-05
Misc :
ALS Vial : 15 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
B-202-GW01

Integration File: autoint1.e
Quant Time: Jun 10 05:24:43 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

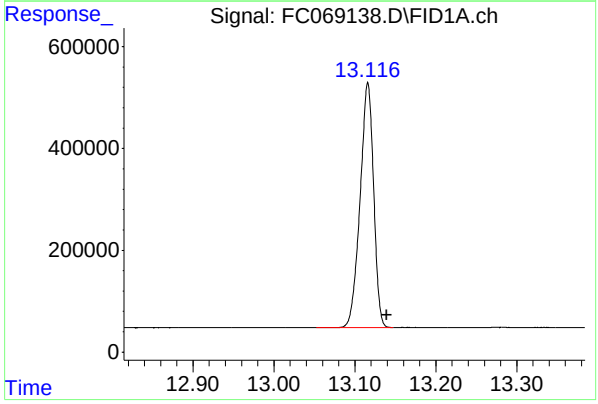





#9 ortho-Terphenyl (SURR)

R.T.: 0.000 min
Exp R.T. : 11.707 min
Response: 0
Conc: N.D.

**Instrument :**
FID_C
**ClientSampleId :**
B-202-GW01




#12 1-chlorooctadecane (SURR)

R.T.: 13.116 min
Delta R.T.: -0.023 min
Response: 5587369
Conc: 62.28 ug/ml

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC060925AL\
Data File : FC069138.D
Signal(s) : FID1A.ch
Acq On : 09 Jun 2025 18:58
Sample : Q2198-05
Misc :
ALS Vial : 15 Sample Multiplier: 1

Integration File: sample.E

Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Title : GC Extractables

Signal : FID1A.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.404 | 3.332 | 3.441 | PV | 587 | 6544 | 0.12% | 0.063% |
| 2 | 3.449 | 3.441 | 3.489 | VV | 84 | 1165 | 0.02% | 0.011% |
| 3 | 3.504 | 3.489 | 3.535 | PV | 130 | 1394 | 0.02% | 0.013% |
| 4 | 3.542 | 3.535 | 3.571 | VV | 89 | 892 | 0.02% | 0.009% |
| 5 | 3.578 | 3.571 | 3.597 | VV | 72 | 657 | 0.01% | 0.006% |
| 6 | 3.607 | 3.597 | 3.625 | VV | 120 | 903 | 0.02% | 0.009% |
| 7 | 3.681 | 3.625 | 3.715 | VV | 205 | 4193 | 0.07% | 0.040% |
| 8 | 3.729 | 3.715 | 3.751 | VV | 384 | 3722 | 0.07% | 0.036% |
| 9 | 3.778 | 3.751 | 3.808 | PV | 243 | 4924 | 0.09% | 0.047% |
| 10 | 3.819 | 3.808 | 3.838 | VV | 196 | 2150 | 0.04% | 0.021% |
| 11 | 3.845 | 3.838 | 3.881 | VV | 131 | 2123 | 0.04% | 0.020% |
| 12 | 3.901 | 3.881 | 3.939 | VV | 542 | 8143 | 0.14% | 0.078% |
| 13 | 3.949 | 3.939 | 3.963 | VV | 100 | 1230 | 0.02% | 0.012% |
| 14 | 3.985 | 3.963 | 4.033 | VV | 366 | 5317 | 0.09% | 0.051% |
| 15 | 4.076 | 4.033 | 4.091 | VV | 656 | 8061 | 0.14% | 0.078% |
| 16 | 4.103 | 4.091 | 4.143 | VV | 1228 | 12683 | 0.23% | 0.122% |
| 17 | 4.171 | 4.143 | 4.208 | VV | 260 | 3525 | 0.06% | 0.034% |
| 18 | 4.244 | 4.208 | 4.275 | VV | 1093 | 17819 | 0.32% | 0.171% |
| 19 | 4.285 | 4.275 | 4.315 | VV | 157 | 2718 | 0.05% | 0.026% |
| 20 | 4.322 | 4.315 | 4.331 | VV | 145 | 1152 | 0.02% | 0.011% |
| 21 | 4.338 | 4.331 | 4.361 | VV | 248 | 2310 | 0.04% | 0.022% |
| 22 | 4.409 | 4.361 | 4.453 | PV | 197 | 6407 | 0.11% | 0.062% |
| 23 | 4.477 | 4.453 | 4.502 | VV | 1214 | 13264 | 0.24% | 0.128% |
| 24 | 4.521 | 4.502 | 4.539 | VV | 412 | 5339 | 0.09% | 0.051% |
| 25 | 4.586 | 4.539 | 4.615 | VV | 456 | 10433 | 0.19% | 0.100% |
| 26 | 4.645 | 4.615 | 4.672 | VV | 1255 | 17976 | 0.32% | 0.173% |
| 27 | 4.702 | 4.672 | 4.716 | VV | 901 | 11082 | 0.20% | 0.107% |
| 28 | 4.732 | 4.716 | 4.795 | VV | 1712 | 19372 | 0.34% | 0.186% |
| 29 | 4.858 | 4.795 | 4.877 | VV | 300 | 8024 | 0.14% | 0.077% |
| 30 | 4.898 | 4.877 | 4.917 | VV | 269 | 4116 | 0.07% | 0.040% |
| 31 | 4.929 | 4.917 | 4.995 | VV | 230 | 4230 | 0.08% | 0.041% |
| 32 | 5.036 | 4.995 | 5.059 | VV | 281 | 5320 | 0.09% | 0.051% |
| 33 | 5.086 | 5.059 | 5.094 | VV | 698 | 6960 | 0.12% | 0.067% |
| 34 | 5.113 | 5.094 | 5.145 | VV | 3868 | 44448 | 0.79% | 0.428% |
| 35 | 5.170 | 5.145 | 5.187 | VV | 755 | 10014 | 0.18% | 0.096% |
| 36 | 5.198 | 5.187 | 5.215 | VV | 387 | 4217 | 0.07% | 0.041% |

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|---|---|---|---|---|---|---|---|---|
| 37 | 5.223 | 5.215 | 5.238 | VV | 231 | 1711 | 0.03% | 0.016% |
| 38 | 5.307 | 5.238 | 5.323 | PV | 282 | 6812 | 0.12% | 0.066% |
| 39 | 5.341 | 5.323 | 5.376 | VV | 197 | 4634 | 0.08% | 0.045% |
| 40 | 5.391 | 5.376 | 5.402 | VV | 226 | 2635 | 0.05% | 0.025% |
| 41 | 5.417 | 5.402 | 5.434 | VV | 188 | 3082 | 0.05% | 0.030% |
| 42 | 5.486 | 5.434 | 5.500 | VV | 186 | 5350 | 0.10% | 0.051% |
| 43 | 5.518 | 5.500 | 5.537 | VV | 915 | 10481 | 0.19% | 0.101% |
| 44 | 5.558 | 5.537 | 5.585 | VV | 1333 | 15974 | 0.28% | 0.154% |
| 45 | 5.616 | 5.585 | 5.641 | VV | 360 | 4872 | 0.09% | 0.047% |
| 46 | 5.704 | 5.641 | 5.725 | VV | 318 | 8751 | 0.16% | 0.084% |
| 47 | 5.737 | 5.725 | 5.785 | VV | 153 | 3568 | 0.06% | 0.034% |
| 48 | 5.810 | 5.785 | 5.847 | VV | 358 | 7737 | 0.14% | 0.074% |
| 49 | 5.859 | 5.847 | 5.877 | VV | 193 | 2349 | 0.04% | 0.023% |
| 50 | 5.899 | 5.877 | 5.921 | VV | 191 | 3585 | 0.06% | 0.034% |
| 51 | 5.933 | 5.921 | 5.953 | VV | 96 | 1669 | 0.03% | 0.016% |
| 52 | 5.973 | 5.953 | 6.001 | VV | 164 | 3028 | 0.05% | 0.029% |
| 53 | 6.021 | 6.001 | 6.055 | VV | 186 | 3897 | 0.07% | 0.037% |
| 54 | 6.073 | 6.055 | 6.098 | VV | 442 | 6268 | 0.11% | 0.060% |
| 55 | 6.117 | 6.098 | 6.141 | VV | 326 | 5197 | 0.09% | 0.050% |
| 56 | 6.159 | 6.141 | 6.193 | VV | 744 | 9521 | 0.17% | 0.092% |
| 57 | 6.221 | 6.193 | 6.251 | VV | 384 | 5838 | 0.10% | 0.056% |
| 58 | 6.292 | 6.251 | 6.330 | VV | 339 | 7830 | 0.14% | 0.075% |
| 59 | 6.345 | 6.330 | 6.377 | VV | 134 | 2066 | 0.04% | 0.020% |
| 60 | 6.388 | 6.377 | 6.399 | PV | 99 | 962 | 0.02% | 0.009% |
| 61 | 6.409 | 6.399 | 6.438 | VV | 93 | 1895 | 0.03% | 0.018% |
| 62 | 6.502 | 6.438 | 6.563 | VV | 3288 | 41015 | 0.73% | 0.395% |
| 63 | 6.587 | 6.563 | 6.604 | VV | 546 | 6574 | 0.12% | 0.063% |
| 64 | 6.621 | 6.604 | 6.634 | VV | 341 | 4325 | 0.08% | 0.042% |
| 65 | 6.652 | 6.634 | 6.671 | VV | 1068 | 11774 | 0.21% | 0.113% |
| 66 | 6.685 | 6.671 | 6.707 | VV | 304 | 4469 | 0.08% | 0.043% |
| 67 | 6.725 | 6.707 | 6.748 | VV | 523 | 6468 | 0.11% | 0.062% |
| 68 | 6.782 | 6.748 | 6.808 | VV | 137 | 3218 | 0.06% | 0.031% |
| 69 | 6.813 | 6.808 | 6.825 | VV | 155 | 1015 | 0.02% | 0.010% |
| 70 | 6.836 | 6.825 | 6.847 | VV | 150 | 1403 | 0.02% | 0.013% |
| 71 | 6.865 | 6.847 | 6.921 | VV | 200 | 3949 | 0.07% | 0.038% |
| 72 | 6.945 | 6.921 | 6.981 | VV | 511 | 8051 | 0.14% | 0.077% |
| 73 | 6.999 | 6.981 | 7.034 | VV | 712 | 12992 | 0.23% | 0.125% |
| 74 | 7.048 | 7.034 | 7.089 | VV | 546 | 12303 | 0.22% | 0.118% |
| 75 | 7.126 | 7.089 | 7.157 | VV | 934 | 16008 | 0.28% | 0.154% |
| 76 | 7.166 | 7.157 | 7.180 | VV | 203 | 1778 | 0.03% | 0.017% |
| 77 | 7.205 | 7.180 | 7.221 | VV | 192 | 2772 | 0.05% | 0.027% |
| 78 | 7.230 | 7.221 | 7.258 | VV | 167 | 2203 | 0.04% | 0.021% |
| 79 | 7.289 | 7.258 | 7.326 | VV | 2007 | 24539 | 0.44% | 0.236% |
| 80 | 7.367 | 7.326 | 7.381 | VV | 285 | 6691 | 0.12% | 0.064% |
| 81 | 7.394 | 7.381 | 7.407 | VV | 358 | 3599 | 0.06% | 0.035% |
| 82 | 7.428 | 7.407 | 7.475 | VV | 1390 | 19267 | 0.34% | 0.185% |
| 83 | 7.492 | 7.475 | 7.508 | VV | 287 | 4658 | 0.08% | 0.045% |
| 84 | 7.519 | 7.508 | 7.571 | VV | 411 | 6454 | 0.11% | 0.062% |
| 85 | 7.586 | 7.571 | 7.631 | VV | 139 | 2997 | 0.05% | 0.029% |
| 86 | 7.648 | 7.631 | 7.665 | VV | 168 | 1606 | 0.03% | 0.015% |
| 87 | 7.691 | 7.665 | 7.721 | VV | 693 | 8503 | 0.15% | 0.082% |
| 88 | 7.729 | 7.721 | 7.734 | VV | 67 | 549 | 0.01% | 0.005% |
| 89 | 7.773 | 7.734 | 7.814 | VV | 222 | 6535 | 0.12% | 0.063% |

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|---|---|---|---|---|---|---|---|---|
| 90 | 7.842 | 7.814 | 7.870 | VV | 234 | 5369 | 0.10% | 0.052% |
| 91 | 7.888 | 7.870 | 7.933 | VV | 228 | 5753 | 0.10% | 0.055% |
| 92 | 7.952 | 7.933 | 7.975 | VV | 307 | 3649 | 0.06% | 0.035% |
| 93 | 7.997 | 7.975 | 8.031 | VV | 666 | 9902 | 0.18% | 0.095% |
| 94 | 8.053 | 8.031 | 8.071 | VV | 582 | 6943 | 0.12% | 0.067% |
| 95 | 8.088 | 8.071 | 8.102 | VV | 279 | 3677 | 0.07% | 0.035% |
| 96 | 8.125 | 8.102 | 8.142 | VV | 301 | 5159 | 0.09% | 0.050% |
| 97 | 8.158 | 8.142 | 8.185 | VV | 220 | 5002 | 0.09% | 0.048% |
| 98 | 8.209 | 8.185 | 8.272 | VV | 684 | 18590 | 0.33% | 0.179% |
| 99 | 8.302 | 8.272 | 8.360 | VV | 3938 | 54314 | 0.97% | 0.522% |
| 100 | 8.374 | 8.360 | 8.475 | VV | 473 | 22183 | 0.39% | 0.213% |
| 101 | 8.496 | 8.475 | 8.518 | VV | 315 | 5407 | 0.10% | 0.052% |
| 102 | 8.538 | 8.518 | 8.566 | VV | 401 | 6244 | 0.11% | 0.060% |
| 103 | 8.583 | 8.566 | 8.601 | VV | 110 | 2071 | 0.04% | 0.020% |
| 104 | 8.656 | 8.601 | 8.691 | VV | 347 | 12303 | 0.22% | 0.118% |
| 105 | 8.722 | 8.691 | 8.741 | VV | 331 | 7854 | 0.14% | 0.076% |
| 106 | 8.763 | 8.741 | 8.778 | VV | 527 | 8955 | 0.16% | 0.086% |
| 107 | 8.795 | 8.778 | 8.818 | VV | 500 | 10091 | 0.18% | 0.097% |
| 108 | 8.842 | 8.818 | 8.879 | VV | 834 | 18674 | 0.33% | 0.180% |
| 109 | 8.906 | 8.879 | 8.934 | VV | 325 | 8237 | 0.15% | 0.079% |
| 110 | 8.960 | 8.934 | 8.978 | VV | 407 | 7081 | 0.13% | 0.068% |
| 111 | 9.025 | 8.978 | 9.045 | VV | 2146 | 34191 | 0.61% | 0.329% |
| 112 | 9.064 | 9.045 | 9.099 | VV | 772 | 18127 | 0.32% | 0.174% |
| 113 | 9.143 | 9.099 | 9.198 | VV | 1580 | 44520 | 0.79% | 0.428% |
| 114 | 9.214 | 9.198 | 9.245 | VV | 522 | 8436 | 0.15% | 0.081% |
| 115 | 9.263 | 9.245 | 9.288 | VV | 370 | 6777 | 0.12% | 0.065% |
| 116 | 9.313 | 9.288 | 9.330 | VV | 264 | 5233 | 0.09% | 0.050% |
| 117 | 9.350 | 9.330 | 9.401 | VV | 275 | 8856 | 0.16% | 0.085% |
| 118 | 9.427 | 9.401 | 9.449 | VV | 413 | 8899 | 0.16% | 0.086% |
| 119 | 9.462 | 9.449 | 9.472 | VV | 255 | 2769 | 0.05% | 0.027% |
| 120 | 9.497 | 9.472 | 9.531 | VV | 859 | 16426 | 0.29% | 0.158% |
| 121 | 9.546 | 9.531 | 9.578 | VV | 478 | 8893 | 0.16% | 0.086% |
| 122 | 9.584 | 9.578 | 9.613 | VV | 317 | 5343 | 0.09% | 0.051% |
| 123 | 9.636 | 9.613 | 9.659 | VV | 536 | 9555 | 0.17% | 0.092% |
| 124 | 9.687 | 9.659 | 9.798 | VV | 747 | 20935 | 0.37% | 0.201% |
| 125 | 9.827 | 9.798 | 9.880 | VV | 527 | 13163 | 0.23% | 0.127% |
| 126 | 9.908 | 9.880 | 9.957 | VV | 2157 | 30802 | 0.55% | 0.296% |
| 127 | 9.975 | 9.957 | 9.991 | VV | 320 | 4524 | 0.08% | 0.044% |
| 128 | 10.005 | 9.991 | 10.045 | VV | 485 | 8008 | 0.14% | 0.077% |
| 129 | 10.057 | 10.045 | 10.068 | VV | 218 | 2475 | 0.04% | 0.024% |
| 130 | 10.080 | 10.068 | 10.104 | VV | 231 | 3388 | 0.06% | 0.033% |
| 131 | 10.125 | 10.104 | 10.147 | PV | 160 | 3145 | 0.06% | 0.030% |
| 132 | 10.192 | 10.147 | 10.205 | VV | 270 | 5549 | 0.10% | 0.053% |
| 133 | 10.233 | 10.205 | 10.245 | VV | 320 | 5636 | 0.10% | 0.054% |
| 134 | 10.253 | 10.245 | 10.268 | VV | 306 | 3283 | 0.06% | 0.032% |
| 135 | 10.302 | 10.268 | 10.322 | VV | 486 | 10475 | 0.19% | 0.101% |
| 136 | 10.343 | 10.322 | 10.361 | VV | 405 | 6264 | 0.11% | 0.060% |
| 137 | 10.391 | 10.361 | 10.408 | VV | 337 | 6485 | 0.12% | 0.062% |
| 138 | 10.417 | 10.408 | 10.455 | VV | 226 | 4181 | 0.07% | 0.040% |
| 139 | 10.468 | 10.455 | 10.480 | VV | 143 | 1763 | 0.03% | 0.017% |
| 140 | 10.512 | 10.480 | 10.524 | VV | 307 | 4774 | 0.08% | 0.046% |
| 141 | 10.542 | 10.524 | 10.563 | VV | 307 | 5611 | 0.10% | 0.054% |

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|---|---|---|---|---|---|---|---|---|
| 142 | 10.593 | 10.563 | 10.611 | VV | 362 | 8190 | 0.15% | 0.079% |
| 143 | 10.649 | 10.611 | 10.685 | VV | 799 | 17313 | 0.31% | 0.167% |
| 144 | 10.779 | 10.685 | 10.814 | VV | 838 | 29430 | 0.52% | 0.283% |
| 145 | 10.840 | 10.814 | 10.850 | VV | 234 | 3769 | 0.07% | 0.036% |
| 146 | 10.864 | 10.850 | 10.890 | VV | 243 | 3847 | 0.07% | 0.037% |
| 147 | 10.900 | 10.890 | 10.911 | VV | 166 | 1707 | 0.03% | 0.016% |
| 148 | 10.933 | 10.911 | 10.953 | VV | 206 | 2904 | 0.05% | 0.028% |
| 149 | 10.973 | 10.953 | 11.001 | VV | 236 | 4734 | 0.08% | 0.046% |
| 150 | 11.019 | 11.001 | 11.028 | VV | 296 | 3165 | 0.06% | 0.030% |
| 151 | 11.037 | 11.028 | 11.055 | VV | 270 | 3848 | 0.07% | 0.037% |
| 152 | 11.076 | 11.055 | 11.095 | VV | 409 | 7216 | 0.13% | 0.069% |
| 153 | 11.104 | 11.095 | 11.125 | VV | 294 | 2875 | 0.05% | 0.028% |
| 154 | 11.157 | 11.125 | 11.225 | VV | 220 | 7477 | 0.13% | 0.072% |
| 155 | 11.284 | 11.225 | 11.317 | VV | 6706 | 91602 | 1.63% | 0.881% |
| 156 | 11.356 | 11.317 | 11.387 | VV | 3643 | 53201 | 0.95% | 0.512% |
| 157 | 11.402 | 11.387 | 11.420 | VV | 202 | 3363 | 0.06% | 0.032% |
| 158 | 11.449 | 11.420 | 11.485 | VV | 2145 | 28200 | 0.50% | 0.271% |
| 159 | 11.505 | 11.485 | 11.531 | VV | 226 | 3757 | 0.07% | 0.036% |
| 160 | 11.541 | 11.531 | 11.563 | VV | 131 | 1713 | 0.03% | 0.016% |
| 161 | 11.584 | 11.563 | 11.604 | VV | 260 | 3279 | 0.06% | 0.032% |
| 162 | 11.678 | 11.604 | 11.688 | VV | 282 | 7939 | 0.14% | 0.076% |
| 163 | 11.714 | 11.688 | 11.727 | VV | 250 | 4535 | 0.08% | 0.044% |
| 164 | 11.745 | 11.727 | 11.780 | VV | 454 | 8893 | 0.16% | 0.086% |
| 165 | 11.810 | 11.780 | 11.874 | VV | 459 | 12461 | 0.22% | 0.120% |
| 166 | 11.884 | 11.874 | 11.898 | VV | 127 | 1417 | 0.03% | 0.014% |
| 167 | 11.912 | 11.898 | 11.929 | VV | 198 | 2699 | 0.05% | 0.026% |
| 168 | 11.955 | 11.929 | 11.968 | VV | 235 | 4646 | 0.08% | 0.045% |
| 169 | 11.997 | 11.968 | 12.008 | VV | 819 | 12526 | 0.22% | 0.120% |
| 170 | 12.020 | 12.008 | 12.050 | VV | 687 | 11253 | 0.20% | 0.108% |
| 171 | 12.072 | 12.050 | 12.111 | VV | 420 | 9957 | 0.18% | 0.096% |
| 172 | 12.127 | 12.111 | 12.141 | VV | 281 | 4185 | 0.07% | 0.040% |
| 173 | 12.168 | 12.141 | 12.210 | VV | 317 | 10728 | 0.19% | 0.103% |
| 174 | 12.248 | 12.210 | 12.284 | VV | 530 | 15244 | 0.27% | 0.147% |
| 175 | 12.307 | 12.284 | 12.341 | VV | 289 | 7509 | 0.13% | 0.072% |
| 176 | 12.391 | 12.341 | 12.420 | VV | 355 | 11470 | 0.20% | 0.110% |
| 177 | 12.477 | 12.420 | 12.501 | VV | 609 | 17575 | 0.31% | 0.169% |
| 178 | 12.526 | 12.501 | 12.558 | VV | 791 | 15280 | 0.27% | 0.147% |
| 179 | 12.604 | 12.558 | 12.637 | VV | 971 | 17921 | 0.32% | 0.172% |
| 180 | 12.665 | 12.637 | 12.718 | VV | 1984 | 34218 | 0.61% | 0.329% |
| 181 | 12.727 | 12.718 | 12.757 | VV | 382 | 6817 | 0.12% | 0.066% |
| 182 | 12.785 | 12.757 | 12.865 | VV | 676 | 18978 | 0.34% | 0.183% |
| 183 | 12.925 | 12.865 | 12.948 | VV | 390 | 12683 | 0.23% | 0.122% |
| 184 | 12.959 | 12.948 | 12.974 | VV | 315 | 4557 | 0.08% | 0.044% |
| 185 | 12.985 | 12.974 | 13.008 | VV | 378 | 5773 | 0.10% | 0.056% |
| 186 | 13.031 | 13.008 | 13.045 | VV | 383 | 6354 | 0.11% | 0.061% |
| 187 | 13.116 | 13.045 | 13.207 | VV | 478912 | 5627042 | 100.00% | 54.126% |
| 188 | 13.219 | 13.207 | 13.235 | VV | 443 | 6194 | 0.11% | 0.060% |
| 189 | 13.278 | 13.235 | 13.311 | VV | 837 | 23339 | 0.41% | 0.224% |
| 190 | 13.334 | 13.311 | 13.364 | VV | 594 | 14909 | 0.26% | 0.143% |
| 191 | 13.384 | 13.364 | 13.448 | VV | 501 | 20536 | 0.36% | 0.198% |
| 192 | 13.502 | 13.448 | 13.521 | VV | 498 | 18779 | 0.33% | 0.181% |
| 193 | 13.552 | 13.521 | 13.603 | VV | 595 | 22050 | 0.39% | 0.212% |
| 194 | 13.660 | 13.603 | 13.696 | VV | 461 | 21690 | 0.39% | 0.209% |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 195 | 13.721 | 13.696 | 13.753 | VV | 598 | 16616 | 0.30% | 0.160% |
| 196 | 13.765 | 13.753 | 13.772 | VV | 473 | 4664 | 0.08% | 0.045% |
| 197 | 13.813 | 13.772 | 13.840 | VV | 1114 | 25834 | 0.46% | 0.248% |
| 198 | 13.865 | 13.840 | 13.911 | VV | 1873 | 36271 | 0.64% | 0.349% |
| 199 | 13.927 | 13.911 | 13.944 | VV | 554 | 9368 | 0.17% | 0.090% |
| 200 | 13.956 | 13.944 | 14.041 | VV | 485 | 21880 | 0.39% | 0.210% |
| 201 | 14.081 | 14.059 | 14.114 | VV | 541 | 14371 | 0.26% | 0.138% |
| 202 | 14.143 | 14.114 | 14.185 | VV | 468 | 18027 | 0.32% | 0.173% |
| 203 | 14.198 | 14.185 | 14.209 | VV | 487 | 6180 | 0.11% | 0.059% |
| 204 | 14.226 | 14.209 | 14.261 | VV | 455 | 13325 | 0.24% | 0.128% |
| 205 | 14.302 | 14.261 | 14.336 | VV | 2294 | 43975 | 0.78% | 0.423% |
| 206 | 14.346 | 14.336 | 14.357 | VV | 512 | 6125 | 0.11% | 0.059% |
| 207 | 14.387 | 14.357 | 14.403 | VV | 590 | 13292 | 0.24% | 0.128% |
| 208 | 14.428 | 14.403 | 14.472 | VV | 980 | 24862 | 0.44% | 0.239% |
| 209 | 14.493 | 14.472 | 14.537 | VV | 561 | 18739 | 0.33% | 0.180% |
| 210 | 14.558 | 14.537 | 14.575 | VV | 517 | 10780 | 0.19% | 0.104% |
| 211 | 14.580 | 14.575 | 14.611 | VV | 485 | 9447 | 0.17% | 0.091% |
| 212 | 14.633 | 14.611 | 14.673 | VV | 486 | 16535 | 0.29% | 0.159% |
| 213 | 14.692 | 14.673 | 14.731 | VV | 536 | 16604 | 0.30% | 0.160% |
| 214 | 14.743 | 14.731 | 14.777 | VV | 518 | 12398 | 0.22% | 0.119% |
| 215 | 14.787 | 14.777 | 14.799 | VV | 453 | 5921 | 0.11% | 0.057% |
| 216 | 14.823 | 14.799 | 14.859 | VV | 424 | 13400 | 0.24% | 0.129% |
| 217 | 14.927 | 14.859 | 14.945 | VV | 836 | 25257 | 0.45% | 0.243% |
| 218 | 14.970 | 14.945 | 15.008 | VV | 1745 | 32156 | 0.57% | 0.309% |
| 219 | 15.028 | 15.008 | 15.051 | VV | 417 | 9598 | 0.17% | 0.092% |
| 220 | 15.055 | 15.051 | 15.121 | VV | 349 | 11385 | 0.20% | 0.110% |
| 221 | 15.143 | 15.121 | 15.165 | VV | 428 | 8599 | 0.15% | 0.083% |
| 222 | 15.172 | 15.165 | 15.188 | VV | 380 | 4835 | 0.09% | 0.047% |
| 223 | 15.194 | 15.188 | 15.203 | VV | 329 | 2827 | 0.05% | 0.027% |
| 224 | 15.222 | 15.203 | 15.265 | VV | 426 | 11663 | 0.21% | 0.112% |
| 225 | 15.292 | 15.265 | 15.304 | VV | 352 | 6363 | 0.11% | 0.061% |
| 226 | 15.320 | 15.304 | 15.341 | VV | 305 | 5452 | 0.10% | 0.052% |
| 227 | 15.363 | 15.341 | 15.368 | VV | 311 | 4049 | 0.07% | 0.039% |
| 228 | 15.398 | 15.368 | 15.425 | VV | 424 | 11105 | 0.20% | 0.107% |
| 229 | 15.494 | 15.425 | 15.519 | VV | 825 | 24283 | 0.43% | 0.234% |
| 230 | 15.545 | 15.519 | 15.618 | VV | 356 | 15383 | 0.27% | 0.148% |
| 231 | 15.628 | 15.618 | 15.635 | VV | 226 | 1905 | 0.03% | 0.018% |
| 232 | 15.681 | 15.635 | 15.707 | VV | 389 | 12623 | 0.22% | 0.121% |
| 233 | 15.721 | 15.707 | 15.744 | VV | 344 | 5735 | 0.10% | 0.055% |
| 234 | 15.768 | 15.744 | 15.791 | VV | 377 | 7944 | 0.14% | 0.076% |
| 235 | 15.812 | 15.791 | 15.842 | VV | 343 | 8936 | 0.16% | 0.086% |
| 236 | 15.852 | 15.842 | 15.882 | VV | 328 | 6476 | 0.12% | 0.062% |
| 237 | 15.888 | 15.882 | 15.898 | VV | 272 | 2288 | 0.04% | 0.022% |
| 238 | 15.923 | 15.898 | 15.935 | VV | 339 | 6538 | 0.12% | 0.063% |
| 239 | 15.957 | 15.935 | 15.971 | VV | 594 | 9480 | 0.17% | 0.091% |
| 240 | 15.994 | 15.971 | 16.021 | VV | 1256 | 20142 | 0.36% | 0.194% |
| 241 | 16.034 | 16.021 | 16.091 | VV | 300 | 7524 | 0.13% | 0.072% |
| 242 | 16.098 | 16.091 | 16.115 | VV | 205 | 2498 | 0.04% | 0.024% |
| 243 | 16.126 | 16.115 | 16.148 | VV | 237 | 3772 | 0.07% | 0.036% |
| 244 | 16.170 | 16.148 | 16.191 | VV | 310 | 5416 | 0.10% | 0.052% |
| 245 | 16.221 | 16.191 | 16.265 | VV | 215 | 6217 | 0.11% | 0.060% |
| 246 | 16.334 | 16.265 | 16.357 | VV | 237 | 7054 | 0.13% | 0.068% |

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|---|---|---|---|---|---|---|---|---|
| 247 | 16.368 | 16.357 | 16.375 | VV | 212 | 1861 | 0.03% | 0.018% |
| 248 | 16.392 | 16.375 | 16.401 | VV | 235 | 3022 | 0.05% | 0.029% |
| 249 | 16.410 | 16.401 | 16.429 | VV | 238 | 2631 | 0.05% | 0.025% |
| 250 | 16.480 | 16.429 | 16.571 | VV | 802 | 22821 | 0.41% | 0.220% |
| 251 | 16.588 | 16.571 | 16.607 | VV | 133 | 2615 | 0.05% | 0.025% |
| 252 | 16.650 | 16.607 | 16.663 | VV | 373 | 8069 | 0.14% | 0.078% |
| 253 | 16.671 | 16.663 | 16.718 | VV | 323 | 6190 | 0.11% | 0.060% |
| 254 | 16.756 | 16.718 | 16.772 | VV | 241 | 5121 | 0.09% | 0.049% |
| 255 | 16.781 | 16.772 | 16.802 | VV | 183 | 2707 | 0.05% | 0.026% |
| 256 | 16.820 | 16.802 | 16.829 | VV | 200 | 2340 | 0.04% | 0.023% |
| 257 | 16.835 | 16.829 | 16.893 | VV | 184 | 5620 | 0.10% | 0.054% |
| 258 | 16.915 | 16.893 | 16.928 | VV | 487 | 6772 | 0.12% | 0.065% |
| 259 | 16.947 | 16.928 | 16.988 | VV | 1453 | 21698 | 0.39% | 0.209% |
| 260 | 16.994 | 16.988 | 17.027 | VV | 153 | 2007 | 0.04% | 0.019% |
| 261 | 17.038 | 17.027 | 17.058 | VV | 93 | 1182 | 0.02% | 0.011% |
| 262 | 17.067 | 17.058 | 17.087 | PV | 98 | 1209 | 0.02% | 0.012% |
| 263 | 17.123 | 17.087 | 17.143 | VV | 168 | 3024 | 0.05% | 0.029% |
| 264 | 17.154 | 17.143 | 17.201 | VV | 146 | 2356 | 0.04% | 0.023% |
| 265 | 17.221 | 17.201 | 17.232 | VV | 152 | 1600 | 0.03% | 0.015% |
| 266 | 17.245 | 17.232 | 17.261 | VV | 139 | 1275 | 0.02% | 0.012% |
| 267 | 17.276 | 17.261 | 17.305 | VV | 109 | 1840 | 0.03% | 0.018% |
| 268 | 17.329 | 17.305 | 17.371 | PV | 141 | 3823 | 0.07% | 0.037% |
| 269 | 17.398 | 17.371 | 17.451 | VV | 1850 | 28019 | 0.50% | 0.270% |
| 270 | 17.454 | 17.451 | 17.468 | VV | 136 | 646 | 0.01% | 0.006% |
| 271 | 17.501 | 17.468 | 17.515 | PV | 160 | 3230 | 0.06% | 0.031% |
| 272 | 17.522 | 17.515 | 17.539 | VV | 234 | 2237 | 0.04% | 0.022% |
| 273 | 17.549 | 17.539 | 17.554 | VV | 123 | 1051 | 0.02% | 0.010% |
| 274 | 17.562 | 17.554 | 17.632 | VV | 142 | 3249 | 0.06% | 0.031% |
| 275 | 17.672 | 17.632 | 17.697 | VV | 134 | 2733 | 0.05% | 0.026% |
| 276 | 17.706 | 17.697 | 17.751 | PV | 88 | 1155 | 0.02% | 0.011% |
| 277 | 17.837 | 17.751 | 17.868 | VV | 2104 | 34943 | 0.62% | 0.336% |
| 278 | 17.888 | 17.868 | 17.933 | VV | 156 | 3400 | 0.06% | 0.033% |
| 279 | 17.986 | 17.933 | 18.001 | PV | 272 | 6195 | 0.11% | 0.060% |
| 280 | 18.022 | 18.001 | 18.044 | VV | 775 | 11187 | 0.20% | 0.108% |
| 281 | 18.061 | 18.044 | 18.088 | VV | 471 | 6642 | 0.12% | 0.064% |
| 282 | 18.111 | 18.088 | 18.142 | VV | 211 | 3594 | 0.06% | 0.035% |
| 283 | 18.164 | 18.142 | 18.175 | VV | 191 | 2336 | 0.04% | 0.022% |
| 284 | 18.191 | 18.175 | 18.230 | VV | 305 | 5968 | 0.11% | 0.057% |
| 285 | 18.260 | 18.230 | 18.346 | PV | 2382 | 36189 | 0.64% | 0.348% |
| 286 | 18.358 | 18.346 | 18.378 | VV | 126 | 1516 | 0.03% | 0.015% |
| 287 | 18.414 | 18.378 | 18.443 | VV | 125 | 2813 | 0.05% | 0.027% |
| 288 | 18.452 | 18.443 | 18.485 | PV | 113 | 2358 | 0.04% | 0.023% |
| 289 | 18.525 | 18.485 | 18.561 | VV | 298 | 9600 | 0.17% | 0.092% |
| 290 | 18.608 | 18.561 | 18.625 | VV | 218 | 5867 | 0.10% | 0.056% |
| 291 | 18.672 | 18.625 | 18.727 | VV | 2511 | 41847 | 0.74% | 0.403% |
| 292 | 18.762 | 18.727 | 18.804 | VV | 4750 | 66530 | 1.18% | 0.640% |
| 293 | 18.830 | 18.804 | 18.862 | VV | 374 | 6255 | 0.11% | 0.060% |
| 294 | 18.931 | 18.862 | 18.953 | PV | 258 | 6252 | 0.11% | 0.060% |
| 295 | 19.001 | 18.953 | 19.026 | VV | 280 | 7652 | 0.14% | 0.074% |
| 296 | 19.070 | 19.026 | 19.111 | VV | 1686 | 31338 | 0.56% | 0.301% |
| 297 | 19.119 | 19.111 | 19.124 | VV | 208 | 1675 | 0.03% | 0.016% |
| 298 | 19.132 | 19.124 | 19.137 | VV | 220 | 1607 | 0.03% | 0.015% |
| 299 | 19.148 | 19.137 | 19.157 | VV | 235 | 2514 | 0.04% | 0.024% |

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|---|---|---|---|---|---|---|---|---|
| 300 | 19.195 | 19.157 | 19.205 | VV | 299 | 7306 | 0.13% | 0.070% |
| 301 | 19.216 | 19.205 | 19.224 | VV | 257 | 2697 | 0.05% | 0.026% |
| 302 | 19.241 | 19.224 | 19.258 | VV | 344 | 5700 | 0.10% | 0.055% |
| 303 | 19.271 | 19.258 | 19.291 | VV | 282 | 5023 | 0.09% | 0.048% |
| 304 | 19.323 | 19.291 | 19.341 | VV | 352 | 8084 | 0.14% | 0.078% |
| 305 | 19.376 | 19.341 | 19.411 | VV | 374 | 13040 | 0.23% | 0.125% |
| 306 | 19.458 | 19.411 | 19.501 | VV | 2266 | 48041 | 0.85% | 0.462% |
| 307 | 19.514 | 19.501 | 19.525 | VV | 380 | 5250 | 0.09% | 0.050% |
| 308 | 19.548 | 19.525 | 19.586 | VV | 402 | 12601 | 0.22% | 0.121% |
| 309 | 19.755 | 19.586 | 19.788 | VV | 696 | 62189 | 1.11% | 0.598% |
| 310 | 19.834 | 19.788 | 19.905 | VV | 1513 | 56862 | 1.01% | 0.547% |
| 311 | 20.019 | 19.905 | 20.045 | VV | 996 | 69680 | 1.24% | 0.670% |
| 312 | 20.113 | 20.045 | 20.128 | VV | 1288 | 53679 | 0.95% | 0.516% |
| 313 | 20.139 | 20.128 | 20.158 | VV | 1109 | 19684 | 0.35% | 0.189% |
| 314 | 20.199 | 20.158 | 20.243 | VV | 3137 | 91581 | 1.63% | 0.881% |
| 315 | 20.256 | 20.243 | 20.288 | VV | 1442 | 36932 | 0.66% | 0.355% |
| 316 | 20.308 | 20.288 | 20.318 | VV | 1471 | 24747 | 0.44% | 0.238% |
| 317 | 20.424 | 20.318 | 20.443 | VV | 1609 | 108399 | 1.93% | 1.043% |
| 318 | 20.506 | 20.443 | 20.538 | VV | 1820 | 95597 | 1.70% | 0.920% |
| 319 | 20.566 | 20.538 | 20.609 | VV | 1972 | 71013 | 1.26% | 0.683% |
| 320 | 20.616 | 20.609 | 20.632 | VV | 1464 | 19949 | 0.35% | 0.192% |
| 321 | 20.649 | 20.632 | 20.676 | VV | 1489 | 37969 | 0.67% | 0.365% |
| 322 | 20.764 | 20.676 | 20.795 | VV | 1714 | 108839 | 1.93% | 1.047% |
| 323 | 20.812 | 20.795 | 20.829 | VV | 1467 | 30170 | 0.54% | 0.290% |
| 324 | 20.855 | 20.829 | 20.866 | VV | 1540 | 31581 | 0.56% | 0.304% |
| 325 | 20.877 | 20.866 | 20.918 | VV | 1471 | 43960 | 0.78% | 0.423% |
| 326 | 20.968 | 20.918 | 21.015 | VV | 3792 | 121895 | 2.17% | 1.172% |
| 327 | 21.030 | 21.015 | 21.098 | VV | 1263 | 60364 | 1.07% | 0.581% |
| 328 | 21.104 | 21.098 | 21.128 | VV | 1202 | 20786 | 0.37% | 0.200% |
| 329 | 21.139 | 21.128 | 21.148 | VV | 1216 | 13812 | 0.25% | 0.133% |
| 330 | 21.156 | 21.148 | 21.182 | VV | 1202 | 23454 | 0.42% | 0.226% |
| 331 | 21.197 | 21.182 | 21.215 | VV | 1160 | 22147 | 0.39% | 0.213% |
| 332 | 21.225 | 21.215 | 21.255 | VV | 1102 | 25067 | 0.45% | 0.241% |
| 333 | 21.308 | 21.255 | 21.318 | VV | 1059 | 38360 | 0.68% | 0.369% |
| 334 | 21.338 | 21.318 | 21.364 | VV | 1059 | 28321 | 0.50% | 0.272% |
| 335 | 21.377 | 21.364 | 21.391 | VV | 1069 | 16229 | 0.29% | 0.156% |
| 336 | 21.420 | 21.391 | 21.478 | VV | 1128 | 51989 | 0.92% | 0.500% |
| 337 | 21.489 | 21.478 | 21.505 | VV | 924 | 14217 | 0.25% | 0.137% |
| 338 | 21.513 | 21.505 | 21.548 | VV | 877 | 20610 | 0.37% | 0.198% |
| 339 | 21.555 | 21.548 | 21.562 | VV | 762 | 6329 | 0.11% | 0.061% |
| 340 | 21.653 | 21.562 | 21.681 | VV | 856 | 55979 | 0.99% | 0.538% |
| 341 | 21.701 | 21.681 | 21.728 | VV | 774 | 19727 | 0.35% | 0.190% |
| 342 | 21.739 | 21.728 | 21.748 | VV | 713 | 8070 | 0.14% | 0.078% |
| 343 | 21.751 | 21.748 | 21.770 | VV | 707 | 8726 | 0.16% | 0.084% |
| 344 | 21.792 | 21.770 | 21.865 | VV | 725 | 34072 | 0.61% | 0.328% |
| 345 | 21.937 | 21.865 | 22.026 | VV | 3610 | 120889 | 2.15% | 1.163% |
| 346 | 22.036 | 22.026 | 22.071 | VV | 420 | 9978 | 0.18% | 0.096% |
| 347 | 22.160 | 22.071 | 22.175 | VV | 333 | 19050 | 0.34% | 0.183% |
| 348 | 22.214 | 22.175 | 22.273 | VV | 308 | 14235 | 0.25% | 0.137% |
| 349 | 22.289 | 22.273 | 22.366 | VV | 263 | 8932 | 0.16% | 0.086% |

Sum of corrected areas: 10396252

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Portal Partners Tri-Venture | | Date Collected: | 05/31/25 | |
| Project: | Amtrak Sawtooth Bridges 2025 | | Date Received: | 06/03/25 | |
| Client Sample ID: | B-202-GW01 | | SDG No.: | Q2198 | |
| Lab Sample ID: | Q2198-05 | | Matrix: | Water | |
| Analytical Method: | NJEPH | | % Solid: | 0 | |
| Sample Wt/Vol: | 990 | Units: mL | Final Vol: | 2000 | uL |
| Soil Aliquot Vol: | | uL | Test: | EPH | |
| Prep Method : | SW3510 | | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FD049425.D | 1 | 06/06/25 | 06/10/25 | PB168324 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| Aromatic C10-C12 | Aromatic C10-C12 | 9.15 | J | 2.09 | 20.2 | ug/l |
| Aromatic C12-C16 | Aromatic C12-C16 | 13.3 | J | 4.30 | 30.3 | ug/l |
| Aromatic C16-C21 | Aromatic C16-C21 | 37.0 | J | 8.35 | 50.5 | ug/l |
| Aromatic C21-C36 | Aromatic C21-C36 | 42.4 | J | 24.0 | 80.8 | ug/l |
| **SURROGATES** | | | | | | |
| 580-13-2 | 2-Bromonaphthalene (SURR) | 37.2 | | 40 - 140 | 74% | SPK: 50 |
| 321-60-8 | 2-Flurobiphenyl (SURR) | 35.3 | | 40 - 140 | 71% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | 22.3 | | 40 - 140 | 45% | SPK: 50 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

# Quantitation Report For Aromatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | Q2198-05 | Acq On: | 10 Jun 2025 11:50 |
| Client Sample ID: | B-202-GW01 | Operator: | YP/AJ |
| Data file: | FD049425.D | Misc: | |
| Instrument: | FID_D | ALS Vial: | 61 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aromatic C10-C12 | 4.425 | 6.169 | 757874 | 4.529 | 200 | ug/ml |
| Aromatic C12-C16 | 6.170 | 8.798 | 1232842 | 6.574 | 300 | ug/ml |
| Aromatic C16-C21 | 8.799 | 13.089 | 3387704 | 18.338 | 500 | ug/ml |
| Aromatic C21-C36 | 13.090 | 18.511 | 3044293 | 20.987 | 800 | ug/ml |
| Aromatic EPH | 4.425 | 18.511 | 8422713 | 50.427 | | ug/ml |
| 2-Bromonaphthalene (SURR) | 7.732 | 7.732 | 6191325 | 37.24 | | ug/ml |
| 2-Flurobiphenyl (SURR) | 8.598 | 8.598 | 4035092 | 35.27 | | ug/ml |
| ortho-Terphenyl (SURR) | 11.642 | 11.642 | 4467631 | 22.26 | | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061025AR\
Data File : FD049425.D
Signal(s) : FID2B.ch
Acq On : 10 Jun 2025 11:50
Operator : YP/AJ
Sample : Q2198-05
Misc :
ALS Vial : 61 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
B-202-GW01

Integration File: autoint1.e
Quant Time: Jun 11 01:07:20 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| System Monitoring Compounds | | | |
| 4) S 2-Bromonaphthalene (S... | 7.732 | 6191325 | 37.245 ug/ml |
| Spiked Amount 50.000 | | Recovery = | 74.49% |
| 6) S 2-Flurobiphenyl (SURR) | 8.598 | 4035092 | 35.273 ug/ml |
| Spiked Amount 50.000 Range | 0 - 131 | Recovery = | 70.55% |
| 11) S ortho-Terphenyl (SURR) | 11.642 | 4467631 | 22.258 ug/ml |
| Spiked Amount 50.000 | | Recovery = | 44.52% |
| Target Compounds | | | |

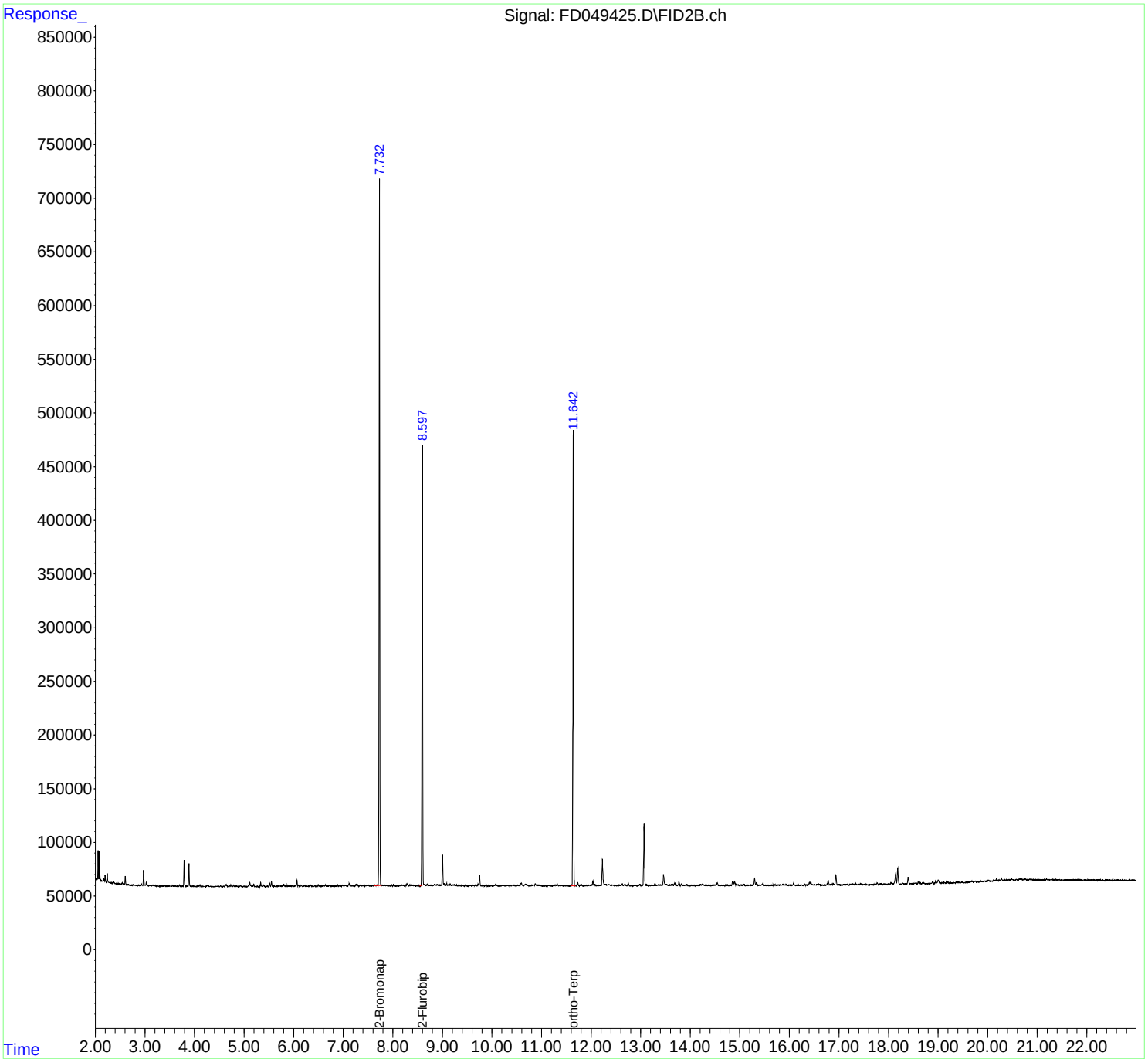
(f)=RT Delta > 1/2 Window (m)=manual int.

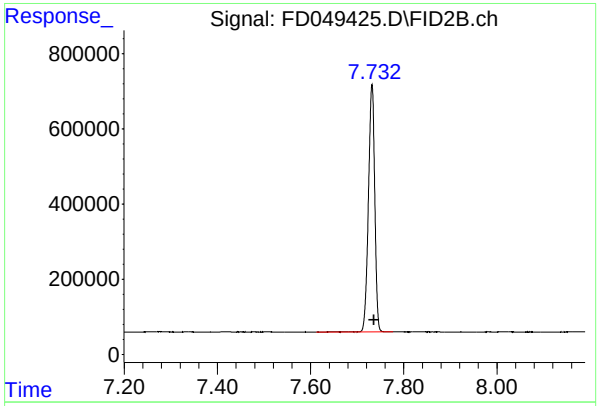
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061025AR\
Data File : FD049425.D
Signal(s) : FID2B.ch
Acq On : 10 Jun 2025 11:50
Operator : YP/AJ
Sample : Q2198-05
Misc :
ALS Vial : 61 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
B-202-GW01

Integration File: autoint1.e
Quant Time: Jun 11 01:07:20 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

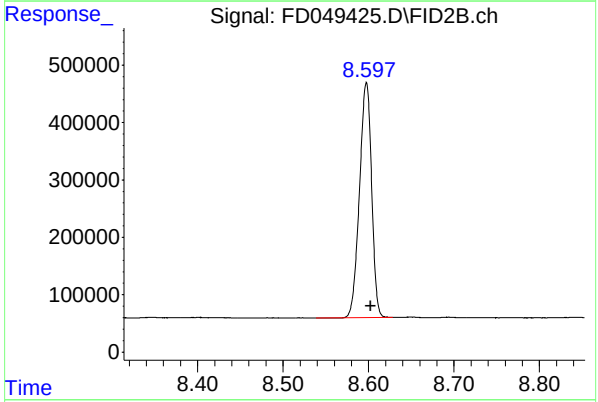





#4 2-Bromonaphthalene (SURR)

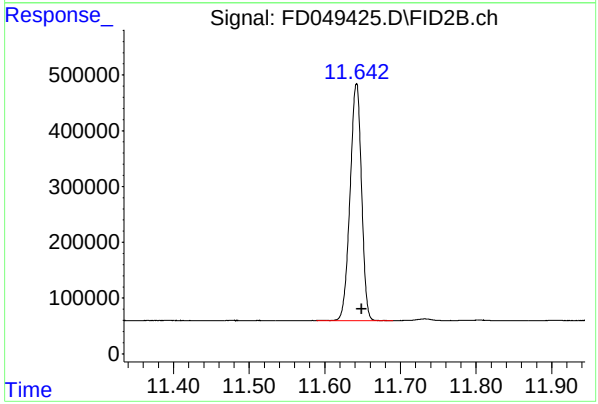
R.T.: 7.732 min
Delta R.T.: -0.005 min
Response: 6191325
Conc: 37.24 ug/ml

**Instrument :**
FID_D
**ClientSampleId :**
B-202-GW01




#6 2-Flurobiphenyl (SURR)

R.T.: 8.598 min
Delta R.T.: -0.005 min
Response: 4035092
Conc: 35.27 ug/ml




#11 ortho-Terphenyl (SURR)

R.T.: 11.642 min
Delta R.T.: -0.006 min
Response: 4467631
Conc: 22.26 ug/ml

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061025AR\
Data File : FD049425.D
Signal(s) : FID2B.ch
Acq On : 10 Jun 2025 11:50
Sample : Q2198-05
Misc :
ALS Vial : 61 Sample Multiplier: 1

Integration File: sample.E

Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Title : GC Extractables

Signal : FID2B.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.321 | 4.302 | 4.332 | PV | 253 | 2384 | 0.04% | 0.010% |
| 2 | 4.346 | 4.332 | 4.362 | VV | 89 | 1731 | 0.03% | 0.007% |
| 3 | 4.370 | 4.362 | 4.391 | VV | 328 | 3156 | 0.05% | 0.013% |
| 4 | 4.402 | 4.391 | 4.407 | PV | 265 | 1316 | 0.02% | 0.006% |
| 5 | 4.421 | 4.407 | 4.444 | VV | 454 | 6217 | 0.10% | 0.027% |
| 6 | 4.448 | 4.444 | 4.455 | VV | 332 | 1892 | 0.03% | 0.008% |
| 7 | 4.478 | 4.455 | 4.503 | VV | 1346 | 15754 | 0.25% | 0.067% |
| 8 | 4.524 | 4.503 | 4.549 | VV | 849 | 9863 | 0.16% | 0.042% |
| 9 | 4.561 | 4.549 | 4.575 | VV | 256 | 3369 | 0.05% | 0.014% |
| 10 | 4.591 | 4.575 | 4.609 | VV | 444 | 5541 | 0.09% | 0.024% |
| 11 | 4.624 | 4.609 | 4.639 | VV | 2306 | 22612 | 0.36% | 0.096% |
| 12 | 4.647 | 4.639 | 4.668 | VV | 1535 | 15555 | 0.25% | 0.066% |
| 13 | 4.682 | 4.668 | 4.688 | VV | 385 | 3454 | 0.06% | 0.015% |
| 14 | 4.704 | 4.688 | 4.719 | VV | 1367 | 13421 | 0.22% | 0.057% |
| 15 | 4.733 | 4.719 | 4.758 | VV | 2187 | 21476 | 0.34% | 0.092% |
| 16 | 4.763 | 4.758 | 4.770 | VV | 343 | 1715 | 0.03% | 0.007% |
| 17 | 4.785 | 4.770 | 4.801 | VV | 1818 | 15712 | 0.25% | 0.067% |
| 18 | 4.815 | 4.801 | 4.842 | VV | 1429 | 17434 | 0.28% | 0.074% |
| 19 | 4.860 | 4.842 | 4.881 | VV | 795 | 9872 | 0.16% | 0.042% |
| 20 | 4.899 | 4.881 | 4.913 | PV | 468 | 5986 | 0.10% | 0.026% |
| 21 | 4.931 | 4.913 | 4.948 | VV | 997 | 12632 | 0.20% | 0.054% |
| 22 | 4.952 | 4.948 | 4.963 | VV | 166 | 1292 | 0.02% | 0.006% |
| 23 | 4.968 | 4.963 | 4.975 | VV | 294 | 1085 | 0.02% | 0.005% |
| 24 | 5.009 | 4.975 | 5.025 | VV | 656 | 9264 | 0.15% | 0.040% |
| 25 | 5.029 | 5.025 | 5.033 | VV | 332 | 1360 | 0.02% | 0.006% |
| 26 | 5.037 | 5.033 | 5.064 | VV | 344 | 4611 | 0.07% | 0.020% |
| 27 | 5.089 | 5.064 | 5.098 | VV | 1194 | 12945 | 0.21% | 0.055% |
| 28 | 5.116 | 5.098 | 5.157 | VV | 4008 | 59505 | 0.96% | 0.254% |
| 29 | 5.172 | 5.157 | 5.183 | VV | 1044 | 11542 | 0.19% | 0.049% |
| 30 | 5.197 | 5.183 | 5.215 | VV | 2409 | 23331 | 0.37% | 0.100% |
| 31 | 5.219 | 5.215 | 5.234 | VV | 382 | 3224 | 0.05% | 0.014% |
| 32 | 5.240 | 5.234 | 5.269 | VV | 407 | 5457 | 0.09% | 0.023% |
| 33 | 5.303 | 5.269 | 5.316 | VV | 491 | 7769 | 0.12% | 0.033% |
| 34 | 5.335 | 5.316 | 5.369 | VV | 3912 | 42873 | 0.69% | 0.183% |
| 35 | 5.394 | 5.369 | 5.425 | VV | 1127 | 18753 | 0.30% | 0.080% |
| 36 | 5.474 | 5.425 | 5.492 | VV | 768 | 15063 | 0.24% | 0.064% |

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|---|---|---|---|---|---|---|---|---|
| 37 | 5.519 | 5.492 | 5.534 | VV | 2968 | 32732 | 0.53% | 0.140% |
| 38 | 5.553 | 5.534 | 5.582 | VV | 4770 | 51634 | 0.83% | 0.220% |
| 39 | 5.613 | 5.582 | 5.635 | VV | 729 | 14413 | 0.23% | 0.062% |
| 40 | 5.643 | 5.635 | 5.653 | VV | 432 | 3570 | 0.06% | 0.015% |
| 41 | 5.681 | 5.653 | 5.687 | VV | 580 | 9292 | 0.15% | 0.040% |
| 42 | 5.705 | 5.687 | 5.722 | VV | 1333 | 17153 | 0.28% | 0.073% |
| 43 | 5.729 | 5.722 | 5.744 | VV | 639 | 7133 | 0.11% | 0.030% |
| 44 | 5.755 | 5.744 | 5.773 | VV | 749 | 10522 | 0.17% | 0.045% |
| 45 | 5.802 | 5.773 | 5.835 | VV | 1830 | 36053 | 0.58% | 0.154% |
| 46 | 5.853 | 5.835 | 5.874 | VV | 1965 | 22388 | 0.36% | 0.096% |
| 47 | 5.890 | 5.874 | 5.905 | VV | 820 | 8790 | 0.14% | 0.038% |
| 48 | 5.923 | 5.905 | 5.935 | VV | 686 | 9167 | 0.15% | 0.039% |
| 49 | 5.940 | 5.935 | 5.953 | VV | 558 | 5627 | 0.09% | 0.024% |
| 50 | 5.972 | 5.953 | 5.989 | VV | 1118 | 15422 | 0.25% | 0.066% |
| 51 | 5.994 | 5.989 | 5.997 | VV | 395 | 1612 | 0.03% | 0.007% |
| 52 | 6.010 | 5.997 | 6.017 | VV | 643 | 6377 | 0.10% | 0.027% |
| 53 | 6.029 | 6.017 | 6.048 | VV | 834 | 11786 | 0.19% | 0.050% |
| 54 | 6.067 | 6.048 | 6.087 | VV | 6032 | 62843 | 1.01% | 0.268% |
| 55 | 6.098 | 6.087 | 6.123 | VV | 1050 | 15931 | 0.26% | 0.068% |
| 56 | 6.129 | 6.123 | 6.134 | VV | 523 | 2689 | 0.04% | 0.011% |
| 57 | 6.154 | 6.134 | 6.177 | VV | 1287 | 18378 | 0.29% | 0.078% |
| 58 | 6.198 | 6.177 | 6.205 | VV | 652 | 8899 | 0.14% | 0.038% |
| 59 | 6.217 | 6.205 | 6.251 | VV | 780 | 16408 | 0.26% | 0.070% |
| 60 | 6.258 | 6.251 | 6.264 | VV | 505 | 3152 | 0.05% | 0.013% |
| 61 | 6.267 | 6.264 | 6.277 | VV | 565 | 3727 | 0.06% | 0.016% |
| 62 | 6.294 | 6.277 | 6.304 | VV | 604 | 7842 | 0.13% | 0.033% |
| 63 | 6.320 | 6.304 | 6.326 | VV | 1146 | 10559 | 0.17% | 0.045% |
| 64 | 6.329 | 6.326 | 6.332 | VV | 975 | 3776 | 0.06% | 0.016% |
| 65 | 6.342 | 6.332 | 6.383 | VV | 1224 | 19379 | 0.31% | 0.083% |
| 66 | 6.389 | 6.383 | 6.400 | VV | 366 | 2799 | 0.04% | 0.012% |
| 67 | 6.421 | 6.400 | 6.443 | VV | 885 | 12932 | 0.21% | 0.055% |
| 68 | 6.449 | 6.443 | 6.460 | VV | 536 | 4220 | 0.07% | 0.018% |
| 69 | 6.463 | 6.460 | 6.474 | VV | 520 | 2874 | 0.05% | 0.012% |
| 70 | 6.496 | 6.474 | 6.532 | VV | 2049 | 31392 | 0.50% | 0.134% |
| 71 | 6.538 | 6.532 | 6.548 | VV | 598 | 4610 | 0.07% | 0.020% |
| 72 | 6.559 | 6.548 | 6.565 | VV | 605 | 5182 | 0.08% | 0.022% |
| 73 | 6.579 | 6.565 | 6.602 | VV | 779 | 13116 | 0.21% | 0.056% |
| 74 | 6.614 | 6.602 | 6.628 | VV | 998 | 11942 | 0.19% | 0.051% |
| 75 | 6.644 | 6.628 | 6.662 | VV | 1542 | 20138 | 0.32% | 0.086% |
| 76 | 6.674 | 6.662 | 6.702 | VV | 556 | 11411 | 0.18% | 0.049% |
| 77 | 6.718 | 6.702 | 6.742 | VV | 969 | 13675 | 0.22% | 0.058% |
| 78 | 6.773 | 6.742 | 6.788 | VV | 630 | 12888 | 0.21% | 0.055% |
| 79 | 6.794 | 6.788 | 6.807 | VV | 571 | 5658 | 0.09% | 0.024% |
| 80 | 6.813 | 6.807 | 6.827 | VV | 667 | 6273 | 0.10% | 0.027% |
| 81 | 6.832 | 6.827 | 6.839 | VV | 592 | 3562 | 0.06% | 0.015% |
| 82 | 6.885 | 6.839 | 6.912 | VV | 1541 | 31469 | 0.51% | 0.134% |
| 83 | 6.936 | 6.912 | 6.964 | VV | 1045 | 22249 | 0.36% | 0.095% |
| 84 | 6.969 | 6.964 | 6.972 | VV | 550 | 2402 | 0.04% | 0.010% |
| 85 | 6.989 | 6.972 | 7.016 | VV | 1269 | 24186 | 0.39% | 0.103% |
| 86 | 7.032 | 7.016 | 7.044 | VV | 1083 | 13727 | 0.22% | 0.059% |
| 87 | 7.051 | 7.044 | 7.070 | VV | 974 | 13710 | 0.22% | 0.059% |
| 88 | 7.077 | 7.070 | 7.091 | VV | 942 | 8905 | 0.14% | 0.038% |
| 89 | 7.120 | 7.091 | 7.145 | VV | 2784 | 44152 | 0.71% | 0.188% |

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|---|---|---|---|---|---|---|---|---|
| 90 | 7.172 | 7.145 | 7.177 | VV | 694 | 11848 | 0.19% | 0.051% |
| 91 | 7.183 | 7.177 | 7.188 | VV | 734 | 4791 | 0.08% | 0.020% |
| 92 | 7.198 | 7.188 | 7.217 | VV | 882 | 12869 | 0.21% | 0.055% |
| 93 | 7.225 | 7.217 | 7.236 | VV | 791 | 8071 | 0.13% | 0.034% |
| 94 | 7.258 | 7.236 | 7.263 | VV | 1697 | 19050 | 0.31% | 0.081% |
| 95 | 7.277 | 7.263 | 7.318 | VV | 1861 | 39563 | 0.64% | 0.169% |
| 96 | 7.337 | 7.318 | 7.352 | VV | 1145 | 18477 | 0.30% | 0.079% |
| 97 | 7.358 | 7.352 | 7.373 | VV | 861 | 9417 | 0.15% | 0.040% |
| 98 | 7.385 | 7.373 | 7.401 | VV | 865 | 12461 | 0.20% | 0.053% |
| 99 | 7.417 | 7.401 | 7.435 | VV | 1658 | 23473 | 0.38% | 0.100% |
| 100 | 7.451 | 7.435 | 7.463 | VV | 978 | 13828 | 0.22% | 0.059% |
| 101 | 7.479 | 7.463 | 7.491 | VV | 994 | 14142 | 0.23% | 0.060% |
| 102 | 7.506 | 7.491 | 7.529 | VV | 1130 | 19379 | 0.31% | 0.083% |
| 103 | 7.534 | 7.529 | 7.547 | VV | 657 | 6827 | 0.11% | 0.029% |
| 104 | 7.568 | 7.547 | 7.572 | VV | 805 | 10949 | 0.18% | 0.047% |
| 105 | 7.580 | 7.572 | 7.585 | VV | 769 | 5882 | 0.09% | 0.025% |
| 106 | 7.589 | 7.585 | 7.602 | VV | 797 | 7221 | 0.12% | 0.031% |
| 107 | 7.617 | 7.602 | 7.622 | VV | 806 | 8679 | 0.14% | 0.037% |
| 108 | 7.626 | 7.622 | 7.630 | VV | 838 | 3532 | 0.06% | 0.015% |
| 109 | 7.647 | 7.630 | 7.662 | VV | 1321 | 20061 | 0.32% | 0.086% |
| 110 | 7.678 | 7.662 | 7.694 | VV | 1285 | 20068 | 0.32% | 0.086% |
| 111 | 7.732 | 7.694 | 7.787 | VV | 658947 | 6230066 | 100.00% | 26.586% |
| 112 | 7.791 | 7.787 | 7.808 | VV | 1118 | 12911 | 0.21% | 0.055% |
| 113 | 7.828 | 7.808 | 7.858 | VV | 1472 | 32650 | 0.52% | 0.139% |
| 114 | 7.862 | 7.858 | 7.892 | VV | 952 | 16269 | 0.26% | 0.069% |
| 115 | 7.897 | 7.892 | 7.918 | VV | 765 | 10007 | 0.16% | 0.043% |
| 116 | 7.923 | 7.918 | 7.930 | VV | 1257 | 4852 | 0.08% | 0.021% |
| 117 | 7.939 | 7.930 | 7.949 | VV | 743 | 6680 | 0.11% | 0.029% |
| 118 | 7.956 | 7.949 | 7.962 | VV | 618 | 4215 | 0.07% | 0.018% |
| 119 | 7.964 | 7.962 | 7.967 | VV | 619 | 1775 | 0.03% | 0.008% |
| 120 | 7.983 | 7.967 | 7.995 | VV | 1101 | 13203 | 0.21% | 0.056% |
| 121 | 8.012 | 7.995 | 8.040 | VV | 1331 | 26393 | 0.42% | 0.113% |
| 122 | 8.051 | 8.040 | 8.058 | VV | 749 | 7339 | 0.12% | 0.031% |
| 123 | 8.074 | 8.058 | 8.083 | VV | 896 | 11074 | 0.18% | 0.047% |
| 124 | 8.097 | 8.083 | 8.110 | VV | 720 | 10312 | 0.17% | 0.044% |
| 125 | 8.114 | 8.110 | 8.131 | VV | 659 | 8016 | 0.13% | 0.034% |
| 126 | 8.138 | 8.131 | 8.140 | VV | 755 | 3197 | 0.05% | 0.014% |
| 127 | 8.184 | 8.140 | 8.209 | VV | 1481 | 44880 | 0.72% | 0.192% |
| 128 | 8.212 | 8.209 | 8.238 | VV | 899 | 15742 | 0.25% | 0.067% |
| 129 | 8.251 | 8.238 | 8.255 | VV | 929 | 8648 | 0.14% | 0.037% |
| 130 | 8.287 | 8.255 | 8.328 | VV | 2762 | 58437 | 0.94% | 0.249% |
| 131 | 8.348 | 8.328 | 8.363 | VV | 1614 | 24131 | 0.39% | 0.103% |
| 132 | 8.401 | 8.363 | 8.414 | VV | 1459 | 36070 | 0.58% | 0.154% |
| 133 | 8.425 | 8.414 | 8.466 | VV | 1050 | 24287 | 0.39% | 0.104% |
| 134 | 8.481 | 8.466 | 8.509 | VV | 854 | 17551 | 0.28% | 0.075% |
| 135 | 8.519 | 8.509 | 8.559 | VV | 869 | 18371 | 0.29% | 0.078% |
| 136 | 8.598 | 8.559 | 8.629 | VV | 410505 | 4084864 | 65.57% | 17.431% |
| 137 | 8.633 | 8.629 | 8.639 | VV | 1617 | 9478 | 0.15% | 0.040% |
| 138 | 8.649 | 8.639 | 8.677 | VV | 2089 | 33662 | 0.54% | 0.144% |
| 139 | 8.694 | 8.677 | 8.717 | VV | 1862 | 32378 | 0.52% | 0.138% |
| 140 | 8.720 | 8.717 | 8.729 | VV | 1106 | 7511 | 0.12% | 0.032% |
| 141 | 8.739 | 8.729 | 8.754 | VV | 1113 | 14412 | 0.23% | 0.062% |

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|---|---|---|---|---|---|---|---|---|
| 142 | 8.768 | 8.754 | 8.785 | VV | 1173 | 18636 | 0.30% | 0.080% |
| 143 | 8.789 | 8.785 | 8.794 | VV | 907 | 4226 | 0.07% | 0.018% |
| 144 | 8.798 | 8.794 | 8.809 | VV | 927 | 7727 | 0.12% | 0.033% |
| 145 | 8.844 | 8.809 | 8.870 | VV | 1648 | 45312 | 0.73% | 0.193% |
| 146 | 8.893 | 8.870 | 8.922 | VV | 1474 | 40644 | 0.65% | 0.173% |
| 147 | 8.937 | 8.922 | 8.954 | VV | 1296 | 22659 | 0.36% | 0.097% |
| 148 | 8.967 | 8.954 | 8.981 | VV | 1339 | 20018 | 0.32% | 0.085% |
| 149 | 9.005 | 8.981 | 9.024 | VV | 29278 | 300093 | 4.82% | 1.281% |
| 150 | 9.034 | 9.024 | 9.072 | VV | 2657 | 46369 | 0.74% | 0.198% |
| 151 | 9.089 | 9.072 | 9.112 | VV | 2846 | 42008 | 0.67% | 0.179% |
| 152 | 9.124 | 9.112 | 9.144 | VV | 1361 | 23112 | 0.37% | 0.099% |
| 153 | 9.160 | 9.144 | 9.180 | VV | 2377 | 32768 | 0.53% | 0.140% |
| 154 | 9.198 | 9.180 | 9.227 | VV | 1581 | 36139 | 0.58% | 0.154% |
| 155 | 9.245 | 9.227 | 9.254 | VV | 1378 | 20194 | 0.32% | 0.086% |
| 156 | 9.282 | 9.254 | 9.311 | VV | 1291 | 36386 | 0.58% | 0.155% |
| 157 | 9.335 | 9.311 | 9.371 | VV | 1372 | 31383 | 0.50% | 0.134% |
| 158 | 9.391 | 9.371 | 9.425 | VV | 740 | 18332 | 0.29% | 0.078% |
| 159 | 9.435 | 9.425 | 9.447 | VV | 569 | 6893 | 0.11% | 0.029% |
| 160 | 9.477 | 9.447 | 9.509 | VV | 1531 | 26668 | 0.43% | 0.114% |
| 161 | 9.551 | 9.509 | 9.565 | VV | 833 | 21663 | 0.35% | 0.092% |
| 162 | 9.572 | 9.565 | 9.589 | VV | 857 | 9986 | 0.16% | 0.043% |
| 163 | 9.613 | 9.589 | 9.629 | VV | 1079 | 19858 | 0.32% | 0.085% |
| 164 | 9.633 | 9.629 | 9.646 | VV | 956 | 8356 | 0.13% | 0.036% |
| 165 | 9.661 | 9.646 | 9.687 | VV | 926 | 17096 | 0.27% | 0.073% |
| 166 | 9.722 | 9.687 | 9.734 | VV | 2256 | 34444 | 0.55% | 0.147% |
| 167 | 9.752 | 9.734 | 9.779 | VV | 10098 | 109240 | 1.75% | 0.466% |
| 168 | 9.818 | 9.779 | 9.860 | VV | 935 | 30018 | 0.48% | 0.128% |
| 169 | 9.882 | 9.860 | 9.916 | VV | 1594 | 27898 | 0.45% | 0.119% |
| 170 | 9.929 | 9.916 | 9.946 | VV | 643 | 9451 | 0.15% | 0.040% |
| 171 | 9.954 | 9.946 | 10.011 | VV | 514 | 18321 | 0.29% | 0.078% |
| 172 | 10.019 | 10.011 | 10.028 | VV | 497 | 4679 | 0.08% | 0.020% |
| 173 | 10.078 | 10.028 | 10.134 | VV | 2150 | 54176 | 0.87% | 0.231% |
| 174 | 10.140 | 10.134 | 10.151 | VV | 491 | 4198 | 0.07% | 0.018% |
| 175 | 10.161 | 10.151 | 10.184 | VV | 499 | 7725 | 0.12% | 0.033% |
| 176 | 10.221 | 10.184 | 10.239 | VV | 790 | 20986 | 0.34% | 0.090% |
| 177 | 10.247 | 10.239 | 10.255 | VV | 631 | 5443 | 0.09% | 0.023% |
| 178 | 10.271 | 10.255 | 10.300 | VV | 639 | 16377 | 0.26% | 0.070% |
| 179 | 10.318 | 10.300 | 10.360 | VV | 836 | 24671 | 0.40% | 0.105% |
| 180 | 10.367 | 10.360 | 10.380 | VV | 655 | 6798 | 0.11% | 0.029% |
| 181 | 10.408 | 10.380 | 10.420 | VV | 1049 | 19317 | 0.31% | 0.082% |
| 182 | 10.432 | 10.420 | 10.454 | VV | 1206 | 19846 | 0.32% | 0.085% |
| 183 | 10.468 | 10.454 | 10.484 | VV | 847 | 12538 | 0.20% | 0.054% |
| 184 | 10.508 | 10.484 | 10.537 | VV | 978 | 23925 | 0.38% | 0.102% |
| 185 | 10.591 | 10.537 | 10.628 | VV | 3024 | 74900 | 1.20% | 0.320% |
| 186 | 10.674 | 10.628 | 10.743 | VV | 1611 | 77011 | 1.24% | 0.329% |
| 187 | 10.753 | 10.743 | 10.782 | VV | 803 | 14705 | 0.24% | 0.063% |
| 188 | 10.808 | 10.782 | 10.827 | VV | 1131 | 23022 | 0.37% | 0.098% |
| 189 | 10.836 | 10.827 | 10.857 | VV | 1122 | 18462 | 0.30% | 0.079% |
| 190 | 10.874 | 10.857 | 10.925 | VV | 2220 | 50310 | 0.81% | 0.215% |
| 191 | 10.944 | 10.925 | 10.970 | VV | 924 | 19553 | 0.31% | 0.083% |
| 192 | 10.988 | 10.970 | 11.024 | VV | 856 | 19123 | 0.31% | 0.082% |
| 193 | 11.047 | 11.024 | 11.090 | VV | 662 | 16711 | 0.27% | 0.071% |
| 194 | 11.129 | 11.090 | 11.149 | VV | 717 | 17452 | 0.28% | 0.074% |

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|---|---|---|---|---|---|---|---|---|
| 195 | 11.155 | 11.149 | 11.202 | VV | 635 | 14402 | 0.23% | 0.061% |
| 196 | 11.211 | 11.202 | 11.225 | VV | 437 | 5568 | 0.09% | 0.024% |
| 197 | 11.251 | 11.225 | 11.269 | VV | 1358 | 23505 | 0.38% | 0.100% |
| 198 | 11.286 | 11.269 | 11.305 | VV | 1293 | 21318 | 0.34% | 0.091% |
| 199 | 11.320 | 11.305 | 11.344 | VV | 1644 | 23803 | 0.38% | 0.102% |
| 200 | 11.393 | 11.344 | 11.455 | VV | 780 | 31602 | 0.51% | 0.135% |
| 201 | 11.478 | 11.455 | 11.503 | VV | 688 | 13066 | 0.21% | 0.056% |
| 202 | 11.513 | 11.503 | 11.549 | VV | 597 | 10989 | 0.18% | 0.047% |
| 203 | 11.562 | 11.549 | 11.580 | VV | 517 | 7268 | 0.12% | 0.031% |
| 204 | 11.642 | 11.580 | 11.693 | VV | 425630 | 4496436 | 72.17% | 19.188% |
| 205 | 11.732 | 11.693 | 11.762 | VV | 3481 | 57203 | 0.92% | 0.244% |
| 206 | 11.804 | 11.762 | 11.840 | VV | 1280 | 29062 | 0.47% | 0.124% |
| 207 | 11.862 | 11.840 | 11.872 | VV | 405 | 5572 | 0.09% | 0.024% |
| 208 | 11.909 | 11.872 | 11.930 | VV | 671 | 16321 | 0.26% | 0.070% |
| 209 | 11.965 | 11.930 | 12.004 | VV | 851 | 28491 | 0.46% | 0.122% |
| 210 | 12.038 | 12.004 | 12.060 | VV | 4894 | 69667 | 1.12% | 0.297% |
| 211 | 12.078 | 12.060 | 12.102 | VV | 1745 | 25298 | 0.41% | 0.108% |
| 212 | 12.146 | 12.102 | 12.157 | VV | 796 | 20757 | 0.33% | 0.089% |
| 213 | 12.228 | 12.157 | 12.337 | VV | 24681 | 379453 | 6.09% | 1.619% |
| 214 | 12.361 | 12.337 | 12.407 | VV | 1536 | 44030 | 0.71% | 0.188% |
| 215 | 12.415 | 12.407 | 12.470 | VV | 915 | 28135 | 0.45% | 0.120% |
| 216 | 12.485 | 12.470 | 12.513 | VV | 917 | 16613 | 0.27% | 0.071% |
| 217 | 12.532 | 12.513 | 12.544 | VV | 528 | 7679 | 0.12% | 0.033% |
| 218 | 12.566 | 12.544 | 12.587 | VV | 1289 | 20364 | 0.33% | 0.087% |
| 219 | 12.596 | 12.587 | 12.602 | VV | 509 | 4108 | 0.07% | 0.018% |
| 220 | 12.626 | 12.602 | 12.649 | VV | 1827 | 30275 | 0.49% | 0.129% |
| 221 | 12.684 | 12.649 | 12.726 | VV | 1946 | 44509 | 0.71% | 0.190% |
| 222 | 12.751 | 12.726 | 12.781 | VV | 2760 | 38559 | 0.62% | 0.165% |
| 223 | 12.814 | 12.781 | 12.830 | VV | 494 | 8978 | 0.14% | 0.038% |
| 224 | 12.874 | 12.830 | 12.884 | VV | 549 | 10708 | 0.17% | 0.046% |
| 225 | 12.898 | 12.884 | 12.927 | VV | 564 | 9883 | 0.16% | 0.042% |
| 226 | 12.933 | 12.927 | 12.947 | VV | 427 | 4115 | 0.07% | 0.018% |
| 227 | 12.982 | 12.947 | 13.007 | VV | 1588 | 28980 | 0.47% | 0.124% |
| 228 | 13.026 | 13.007 | 13.040 | VV | 1060 | 14795 | 0.24% | 0.063% |
| 229 | 13.069 | 13.040 | 13.100 | VV | 58569 | 685391 | 11.00% | 2.925% |
| 230 | 13.115 | 13.100 | 13.162 | VV | 1078 | 26751 | 0.43% | 0.114% |
| 231 | 13.174 | 13.162 | 13.198 | VV | 604 | 11073 | 0.18% | 0.047% |
| 232 | 13.206 | 13.198 | 13.215 | VV | 536 | 4925 | 0.08% | 0.021% |
| 233 | 13.236 | 13.215 | 13.267 | VV | 829 | 18991 | 0.30% | 0.081% |
| 234 | 13.289 | 13.267 | 13.313 | VV | 2268 | 32862 | 0.53% | 0.140% |
| 235 | 13.357 | 13.313 | 13.385 | VV | 973 | 32377 | 0.52% | 0.138% |
| 236 | 13.404 | 13.385 | 13.437 | VV | 1067 | 26426 | 0.42% | 0.113% |
| 237 | 13.461 | 13.437 | 13.554 | VV | 10606 | 195397 | 3.14% | 0.834% |
| 238 | 13.563 | 13.554 | 13.594 | VV | 949 | 19908 | 0.32% | 0.085% |
| 239 | 13.638 | 13.594 | 13.655 | VV | 1258 | 35895 | 0.58% | 0.153% |
| 240 | 13.688 | 13.655 | 13.740 | VV | 2930 | 64690 | 1.04% | 0.276% |
| 241 | 13.772 | 13.740 | 13.797 | VV | 3456 | 56351 | 0.90% | 0.240% |
| 242 | 13.821 | 13.797 | 13.864 | VV | 1739 | 36186 | 0.58% | 0.154% |
| 243 | 13.882 | 13.864 | 13.904 | VV | 649 | 13146 | 0.21% | 0.056% |
| 244 | 13.928 | 13.904 | 13.965 | VV | 1336 | 25678 | 0.41% | 0.110% |
| 245 | 13.984 | 13.965 | 14.005 | VV | 676 | 9791 | 0.16% | 0.042% |
| 246 | 14.058 | 14.005 | 14.097 | VV | 840 | 30750 | 0.49% | 0.131% |

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|---|---|---|---|---|---|---|---|---|
| 247 | 14.102 | 14.097 | 14.114 | VV | 486 | 4002 | 0.06% | 0.017% |
| 248 | 14.119 | 14.114 | 14.132 | VV | 425 | 4176 | 0.07% | 0.018% |
| 249 | 14.155 | 14.132 | 14.168 | VV | 674 | 11308 | 0.18% | 0.048% |
| 250 | 14.178 | 14.168 | 14.185 | VV | 559 | 4665 | 0.07% | 0.020% |
| 251 | 14.208 | 14.185 | 14.226 | VV | 1502 | 24452 | 0.39% | 0.104% |
| 252 | 14.250 | 14.226 | 14.279 | VV | 1806 | 36337 | 0.58% | 0.155% |
| 253 | 14.290 | 14.279 | 14.320 | VV | 848 | 15608 | 0.25% | 0.067% |
| 254 | 14.331 | 14.320 | 14.362 | VV | 575 | 12415 | 0.20% | 0.053% |
| 255 | 14.377 | 14.362 | 14.394 | VV | 616 | 10218 | 0.16% | 0.044% |
| 256 | 14.404 | 14.394 | 14.419 | VV | 594 | 7656 | 0.12% | 0.033% |
| 257 | 14.426 | 14.419 | 14.451 | VV | 560 | 9009 | 0.14% | 0.038% |
| 258 | 14.476 | 14.451 | 14.485 | VV | 737 | 11422 | 0.18% | 0.049% |
| 259 | 14.544 | 14.485 | 14.582 | VV | 2701 | 66100 | 1.06% | 0.282% |
| 260 | 14.594 | 14.582 | 14.632 | VV | 596 | 14295 | 0.23% | 0.061% |
| 261 | 14.638 | 14.632 | 14.654 | VV | 481 | 5599 | 0.09% | 0.024% |
| 262 | 14.663 | 14.654 | 14.671 | VV | 556 | 4568 | 0.07% | 0.019% |
| 263 | 14.680 | 14.671 | 14.690 | VV | 510 | 4531 | 0.07% | 0.019% |
| 264 | 14.759 | 14.690 | 14.799 | VV | 985 | 32525 | 0.52% | 0.139% |
| 265 | 14.851 | 14.799 | 14.869 | VV | 3761 | 55971 | 0.90% | 0.239% |
| 266 | 14.891 | 14.869 | 14.943 | VV | 4041 | 91654 | 1.47% | 0.391% |
| 267 | 14.964 | 14.943 | 14.989 | VV | 1157 | 21863 | 0.35% | 0.093% |
| 268 | 15.011 | 14.989 | 15.064 | VV | 755 | 26930 | 0.43% | 0.115% |
| 269 | 15.088 | 15.064 | 15.121 | VV | 1206 | 25941 | 0.42% | 0.111% |
| 270 | 15.141 | 15.121 | 15.177 | VV | 604 | 15089 | 0.24% | 0.064% |
| 271 | 15.183 | 15.177 | 15.202 | VV | 418 | 5305 | 0.09% | 0.023% |
| 272 | 15.216 | 15.202 | 15.245 | VV | 703 | 13265 | 0.21% | 0.057% |
| 273 | 15.296 | 15.245 | 15.319 | VV | 6772 | 99410 | 1.60% | 0.424% |
| 274 | 15.337 | 15.319 | 15.372 | VV | 2652 | 48053 | 0.77% | 0.205% |
| 275 | 15.397 | 15.372 | 15.427 | VV | 613 | 17455 | 0.28% | 0.074% |
| 276 | 15.456 | 15.427 | 15.483 | VV | 1509 | 30249 | 0.49% | 0.129% |
| 277 | 15.492 | 15.483 | 15.501 | VV | 464 | 4790 | 0.08% | 0.020% |
| 278 | 15.517 | 15.501 | 15.540 | VV | 511 | 9909 | 0.16% | 0.042% |
| 279 | 15.545 | 15.540 | 15.581 | VV | 511 | 8607 | 0.14% | 0.037% |
| 280 | 15.615 | 15.581 | 15.625 | VV | 609 | 10671 | 0.17% | 0.046% |
| 281 | 15.630 | 15.625 | 15.652 | VV | 415 | 6303 | 0.10% | 0.027% |
| 282 | 15.674 | 15.652 | 15.688 | VV | 637 | 10919 | 0.18% | 0.047% |
| 283 | 15.716 | 15.688 | 15.745 | VV | 957 | 20350 | 0.33% | 0.087% |
| 284 | 15.768 | 15.745 | 15.776 | VV | 632 | 9468 | 0.15% | 0.040% |
| 285 | 15.786 | 15.776 | 15.828 | VV | 694 | 17185 | 0.28% | 0.073% |
| 286 | 15.866 | 15.828 | 15.886 | VV | 1233 | 27248 | 0.44% | 0.116% |
| 287 | 15.899 | 15.886 | 15.920 | VV | 1016 | 15930 | 0.26% | 0.068% |
| 288 | 15.938 | 15.920 | 15.992 | VV | 1247 | 28425 | 0.46% | 0.121% |
| 289 | 16.004 | 15.992 | 16.027 | VV | 665 | 10655 | 0.17% | 0.045% |
| 290 | 16.033 | 16.027 | 16.052 | VV | 493 | 6933 | 0.11% | 0.030% |
| 291 | 16.084 | 16.052 | 16.142 | VV | 1865 | 46251 | 0.74% | 0.197% |
| 292 | 16.150 | 16.142 | 16.205 | VV | 430 | 13900 | 0.22% | 0.059% |
| 293 | 16.234 | 16.205 | 16.267 | VV | 576 | 15191 | 0.24% | 0.065% |
| 294 | 16.307 | 16.267 | 16.346 | VV | 1644 | 38489 | 0.62% | 0.164% |
| 295 | 16.401 | 16.346 | 16.414 | VV | 3256 | 56174 | 0.90% | 0.240% |
| 296 | 16.431 | 16.414 | 16.482 | VV | 3877 | 73926 | 1.19% | 0.315% |
| 297 | 16.502 | 16.482 | 16.527 | VV | 1381 | 24258 | 0.39% | 0.104% |
| 298 | 16.557 | 16.527 | 16.572 | VV | 1316 | 24551 | 0.39% | 0.105% |
| 299 | 16.597 | 16.572 | 16.662 | VV | 1311 | 44920 | 0.72% | 0.192% |

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|---|---|---|---|---|---|---|---|---|
| 300 | 16.671 | 16.662 | 16.715 | VV | 658 | 16156 | 0.26% | 0.069% |
| 301 | 16.781 | 16.715 | 16.832 | PV | 4852 | 98813 | 1.59% | 0.422% |
| 302 | 16.850 | 16.832 | 16.862 | VV | 866 | 15163 | 0.24% | 0.065% |
| 303 | 16.887 | 16.862 | 16.905 | VV | 1697 | 29901 | 0.48% | 0.128% |
| 304 | 16.937 | 16.905 | 16.988 | VV | 9403 | 141964 | 2.28% | 0.606% |
| 305 | 17.017 | 16.988 | 17.034 | VV | 535 | 12077 | 0.19% | 0.052% |
| 306 | 17.057 | 17.034 | 17.072 | VV | 517 | 8822 | 0.14% | 0.038% |
| 307 | 17.124 | 17.072 | 17.141 | VV | 692 | 19609 | 0.31% | 0.084% |
| 308 | 17.158 | 17.141 | 17.204 | VV | 764 | 18920 | 0.30% | 0.081% |
| 309 | 17.235 | 17.204 | 17.259 | VV | 885 | 19994 | 0.32% | 0.085% |
| 310 | 17.278 | 17.259 | 17.309 | VV | 1015 | 23386 | 0.38% | 0.100% |
| 311 | 17.334 | 17.309 | 17.359 | VV | 1555 | 26991 | 0.43% | 0.115% |
| 312 | 17.365 | 17.359 | 17.392 | VV | 451 | 7297 | 0.12% | 0.031% |
| 313 | 17.441 | 17.392 | 17.494 | VV | 1348 | 39626 | 0.64% | 0.169% |
| 314 | 17.512 | 17.494 | 17.540 | VV | 520 | 9936 | 0.16% | 0.042% |
| 315 | 17.551 | 17.540 | 17.559 | VV | 372 | 2872 | 0.05% | 0.012% |
| 316 | 17.566 | 17.559 | 17.589 | VV | 303 | 3387 | 0.05% | 0.014% |
| 317 | 17.616 | 17.589 | 17.630 | VV | 196 | 3755 | 0.06% | 0.016% |
| 318 | 17.640 | 17.630 | 17.675 | VV | 331 | 5755 | 0.09% | 0.025% |
| 319 | 17.702 | 17.675 | 17.715 | VV | 404 | 4930 | 0.08% | 0.021% |
| 320 | 17.770 | 17.715 | 17.800 | VV | 1944 | 34328 | 0.55% | 0.146% |
| 321 | 17.834 | 17.800 | 17.845 | VV | 729 | 15899 | 0.26% | 0.068% |
| 322 | 17.862 | 17.845 | 17.889 | VV | 752 | 12811 | 0.21% | 0.055% |
| 323 | 17.923 | 17.889 | 17.945 | VV | 911 | 19227 | 0.31% | 0.082% |
| 324 | 17.954 | 17.945 | 17.978 | VV | 724 | 7425 | 0.12% | 0.032% |
| 325 | 17.998 | 17.978 | 18.021 | VV | 551 | 9798 | 0.16% | 0.042% |
| 326 | 18.053 | 18.021 | 18.082 | VV | 1345 | 26750 | 0.43% | 0.114% |
| 327 | 18.142 | 18.082 | 18.162 | VV | 9702 | 163652 | 2.63% | 0.698% |
| 328 | 18.184 | 18.162 | 18.249 | VV | 15171 | 213043 | 3.42% | 0.909% |
| 329 | 18.287 | 18.249 | 18.315 | VV | 1053 | 22638 | 0.36% | 0.097% |
| 330 | 18.322 | 18.315 | 18.339 | VV | 325 | 3393 | 0.05% | 0.014% |
| 331 | 18.395 | 18.339 | 18.424 | VV | 6458 | 92216 | 1.48% | 0.394% |
| 332 | 18.440 | 18.424 | 18.465 | VV | 680 | 12491 | 0.20% | 0.053% |
| 333 | 18.473 | 18.465 | 18.490 | VV | 399 | 4947 | 0.08% | 0.021% |
| 334 | 18.537 | 18.490 | 18.565 | VV | 1046 | 26748 | 0.43% | 0.114% |
| 335 | 18.601 | 18.565 | 18.615 | VV | 1752 | 31246 | 0.50% | 0.133% |
| 336 | 18.627 | 18.615 | 18.665 | VV | 1470 | 26833 | 0.43% | 0.115% |
| 337 | 18.693 | 18.665 | 18.744 | VV | 1388 | 34295 | 0.55% | 0.146% |
| 338 | 18.755 | 18.744 | 18.791 | VV | 579 | 7322 | 0.12% | 0.031% |
| 339 | 18.808 | 18.791 | 18.834 | PV | 360 | 4232 | 0.07% | 0.018% |
| 340 | 18.853 | 18.834 | 18.862 | PV | 366 | 4120 | 0.07% | 0.018% |
| 341 | 18.887 | 18.862 | 18.912 | VV | 1243 | 17708 | 0.28% | 0.076% |
| 342 | 18.952 | 18.912 | 18.980 | PV | 2644 | 32629 | 0.52% | 0.139% |

Sum of corrected areas: 23434010

Aromatic EPH 052425.M Wed Jun 11 01:19:42 2025

# CALIBRATION SUMMARY

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Inital Calibration Report for SequenceID : FC052425AL

**AreaCount**

| Parameter Range | FC068998.D | FC068999.D | FC069000.D | FC069001.D | FC069002.D | |
|---|---|---|---|---|---|---|
| Aliphatic C9-C12 | 30972986.000 | 14697820.000 | 6552580.000 | 3389981.000 | 1577245.000 | |
| Aliphatic C12-C16 | 19730095.000 | 9409770.000 | 4233296.000 | 2174844.000 | 1026044.000 | |
| Aliphatic C16-C21 | 27989044.000 | 13592271.000 | 6091143.000 | 3134146.000 | 1491343.000 | |
| Aliphatic C21-C28 | 35203824.000 | 17414178.000 | 7749092.000 | 4002009.000 | 1940505.000 | |
| Aliphatic C28-C40 | 51848700.000 | 25927287.000 | 11552782.000 | 6038750.000 | 3073121.000 | |
| Aliphatic EPH | 165744649.000 | 81041326.000 | 36178893.000 | 18739730.000 | 9108258.000 | |

**AVG Response Factor**

| Parameter Range | AVG RF | % RSD | | | | |
|---|---|---|---|---|---|---|
| Aliphatic C9-C12 | 105717.490666 | 5.423 | | | | |
| Aliphatic C12-C16 | 101985.435 | 5.679 | | | | |
| Aliphatic C16-C21 | 97865.0806664 | 5.889 | | | | |
| Aliphatic C21-C28 | 93803.915 | 6.254 | | | | |
| Aliphatic C28-C40 | 94439.0346664 | 8.107 | | | | |
| Aliphatic EPH | 97587.1362218 | 6.302 | | | | |

**Concentration**

| Parameter Range | FC068998.D | FC068999.D | FC069000.D | FC069001.D | FC069002.D | |
|---|---|---|---|---|---|---|
| Aliphatic C9-C12 | 300.000 | 150.000 | 60.000 | 30.000 | 15.000 | |
| Aliphatic C12-C16 | 200.000 | 100.000 | 40.000 | 20.000 | 10.000 | |
| Aliphatic C16-C21 | 300.000 | 150.000 | 60.000 | 30.000 | 15.000 | |
| Aliphatic C21-C28 | 400.000 | 200.000 | 80.000 | 40.000 | 20.000 | |
| Aliphatic C28-C40 | 600.000 | 300.000 | 120.000 | 60.000 | 30.000 | |
| Aliphatic EPH | 1800.000 | 900.000 | 360.000 | 180.000 | 90.000 | |

**Response Factor**

| Parameter Range | FC068998.D | FC068999.D | FC069000.D | FC069001.D | FC069002.D | |
|---|---|---|---|---|---|---|
| Aliphatic C9-C12 | 103243.286666 | 97985.466666 | 109209.666666 | 112999.366666 | 105149.666666 | |
| Aliphatic C12-C16 | 98650.475000 | 94097.700000 | 105832.400000 | 108742.200000 | 102604.400000 | |
| Aliphatic C16-C21 | 93296.813333 | 90615.140000 | 101519.050000 | 104471.533333 | 99422.866666 | |

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# Inital Calibration Report for SequenceID : FC052425AL

| | | | | | | |
|---|---|---|---|---|---|---|
| Aliphatic C21-C28 | 88009.560000 | 87070.890000 | 96863.650000 | 100050.225000 | 97025.250000 | |
| Aliphatic C28-C40 | 86414.500000 | 86424.290000 | 96273.183333 | 100645.833333 | 102437.366666 | |
| Aliphatic EPH | 92080.360555 | 90045.917777 | 100496.925000 | 104109.611111 | 101202.866666 | |

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# Inital Calibration Report for SequenceID : FD052425AR

**AreaCount**

| Parameter Range | FD049394.D | FD049395.D | FD049396.D | FD049397.D | FD049398.D | |
|---|---|---|---|---|---|---|
| Aromatic C10-C12 | 33764721.000 | 17376581.000 | 6841824.000 | 3407467.000 | 1527158.000 | |
| Aromatic C12-C16 | 56774252.000 | 29126947.000 | 11503062.000 | 5758553.000 | 2557965.000 | |
| Aromatic C16-C21 | 74538707.000 | 38370069.000 | 15220909.000 | 7574275.000 | 3317737.000 | |
| Aromatic C21-C36 | 130351882.000 | 67018652.000 | 26858131.000 | 13411159.000 | 5998437.000 | |
| Aromatic EPH | 295429562.000 | 151892249.000 | 60423926.000 | 30151454.000 | 13401297.000 | |

**AVG Response Factor**

| Parameter Range | AVG RF | % RSD | | | | |
|---|---|---|---|---|---|---|
| Aromatic C10-C12 | 167344.833 | 5.002 | | | | |
| Aromatic C12-C16 | 187525.5239996 | 5.151 | | | | |
| Aromatic C16-C21 | 184740.44 | 5.807 | | | | |
| Aromatic C21-C36 | 145057.8157772 | 4.704 | | | | |
| Aromatic EPH | 163430.4633328 | 5.084 | | | | |

**Concentration**

| Parameter Range | FD049394.D | FD049395.D | FD049396.D | FD049397.D | FD049398.D | |
|---|---|---|---|---|---|---|
| Aromatic C10-C12 | 200.000 | 100.000 | 40.000 | 20.000 | 10.000 | |
| Aromatic C12-C16 | 300.000 | 150.000 | 60.000 | 30.000 | 15.000 | |
| Aromatic C16-C21 | 400.000 | 200.000 | 80.000 | 40.000 | 20.000 | |
| Aromatic C21-C36 | 900.000 | 450.000 | 180.000 | 90.000 | 45.000 | |
| Aromatic EPH | 1800.000 | 900.000 | 360.000 | 180.000 | 90.000 | |

**Response Factor**

| Parameter Range | FD049394.D | FD049395.D | FD049396.D | FD049397.D | FD049398.D | |
|---|---|---|---|---|---|---|
| Aromatic C10-C12 | 168823.605000 | 173765.810000 | 171045.600000 | 170373.350000 | 152715.800000 | |
| Aromatic C12-C16 | 189247.506666 | 194179.646666 | 191717.700000 | 191951.766666 | 170531.000000 | |
| Aromatic C16-C21 | 186346.767500 | 191850.345000 | 190261.362500 | 189356.875000 | 165886.850000 | |
| Aromatic C21-C36 | 144835.424444 | 148930.337777 | 149211.838888 | 149012.877777 | 133298.600000 | |
| Aromatic EPH | 164127.534444 | 168769.165555 | 167844.238888 | 167508.077777 | 148903.300000 | |

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# Continuing Calibration Report for SequenceID : FC060925AL

| Parameter | AreaCount | Conc. | RT_Min | RT_Max | Response Factor | AVGRF | %DEV |
|---|---|---|---|---|---|---|---|
| **File ID :** | **FC069133.D** | | | | | | |
| Aliphatic C9-C12 | 6438999.000 | 60.000 | 3.299 | 6.602 | 107316.650 | 105717.491 | -1.513 |
| Aliphatic C12-C16 | 4050508.000 | 40.000 | 6.603 | 10.008 | 101262.700 | 101985.435 | 0.709 |
| Aliphatic C16-C21 | 5664814.000 | 60.000 | 10.009 | 13.379 | 94413.567 | 97865.081 | 3.527 |
| Aliphatic C21-C28 | 7292919.000 | 80.000 | 13.380 | 17.047 | 91161.488 | 93803.915 | 2.817 |
| Aliphatic C28-C40 | 11227163.000 | 120.000 | 17.048 | 22.037 | 93559.692 | 94439.035 | 0.931 |
| Aliphatic EPH | 34674403.000 | 360.000 | 3.299 | 22.037 | 96317.786 | 97587.136 | 1.301 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

| | | | |
|---|---|---|---|
| Lab Sample ID: | 20 PPM ALIPHATIC HC S | Acq On: | 09 Jun 2025 12:17 |
| Client Sample ID: | | Operator: | YP/AJ |
| Data file: | FC069133.D | Misc: | |
| Instrument: | FID_C | ALS Vial: | 2 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | Units |
|---|---|---|---|---|---|
| Aliphatic C9-C12 | 3.299 | 6.602 | 6438999.000 | 60.000 | ug/ml |
| Aliphatic C12-C16 | 6.603 | 10.008 | 4050508.000 | 40.000 | ug/ml |
| Aliphatic C16-C21 | 10.009 | 13.379 | 5664814.000 | 60.000 | ug/ml |
| Aliphatic C21-C28 | 13.380 | 17.047 | 7292919.000 | 80.000 | ug/ml |
| Aliphatic C28-C40 | 17.048 | 22.037 | 11227163.000 | 120.000 | ug/ml |
| Aliphatic EPH | 3.299 | 22.037 | 34674403.000 | 360.000 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC060925AL\
Data File : FC069133.D
Signal(s) : FID1A.ch
Acq On : 09 Jun 2025 12:17
Operator : YP/AJ
Sample : 20 PPM ALIPHATIC HC STD
Misc :
ALS Vial : 2 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
20 PPM ALIPHATIC HC STD

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/10/2025
Supervised By :mohammad ahmed 06/11/2025

Integration File: autoint1.e
Quant Time: Jun 10 05:23:19 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 9) S | ortho-Terphenyl (SURR) | 11.675 | 2457830 | 19.927 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 39.85% |
| 12) S | 1-chlorooctadecane (S... | 13.112 | 1686192 | 18.795 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 37.59% |
| | **Target Compounds** | | | |
| 1) T | n-Nonane (C9) | 3.399 | 2145430 | 20.216 ug/ml |
| 2) T | n-Decane (C10) | 4.475 | 2162880 | 20.422 ug/ml |
| 3) T | A~Naphthalene (C11.7) | 6.071 | 2345660 | 20.285 ug/ml |
| 4) T | n-Dodecane (C12) | 6.502 | 2130689 | 20.269 ug/ml |
| 5) T | A~2-methylnaphthalene... | 7.131 | 2284278 | 20.149 ug/ml |
| 6) T | n-Tetradecane (C14) | 8.303 | 2053079 | 20.029 ug/ml |
| 7) T | n-Hexadecane (C16) | 9.908 | 1997429 | 19.685 ug/ml |
| 8) T | n-Octadecane (C18) | 11.351 | 1952080 | 19.532 ug/mlm |
| 10) T | n-Eicosane (C20) | 12.665 | 1870574 | 19.205 ug/ml |
| 11) T | n-Heneicosane (C21) | 13.279 | 1842160 | 19.139 ug/ml |
| 13) T | n-Docosane (C22) | 13.866 | 1826744 | 19.175 ug/ml |
| 14) T | n-Tetracosane (C24) | 14.972 | 1803749 | 19.158 ug/ml |
| 15) T | n-Hexacosane (C26) | 15.995 | 1798936 | 19.376 ug/ml |
| 16) T | n-Octacosane (C28) | 16.947 | 1863490 | 20.048 ug/mlm |
| 17) T | n-Tricontane (C30) | 17.837 | 2037588 | 21.059 ug/ml |
| 18) T | n-Dotriacontane (C32) | 18.672 | 2129645 | 21.490 ug/ml |
| 19) T | n-Tetratriacontane (C34) | 19.458 | 1998780 | 20.739 ug/ml |
| 20) T | n-Hexatriacontane (C36) | 20.201 | 1880637 | 19.811 ug/ml |
| 21) T | n-Octatriacontane (C38) | 20.969 | 1693399 | 18.561 ug/ml |
| 22) T | n-Tetracontane (C40) | 21.937 | 1487114 | 16.854 ug/mlm |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC060925AL\
Data File : FC069133.D
Signal(s) : FID1A.ch
Acq On : 09 Jun 2025 12:17
Operator : YP/AJ
Sample : 20 PPM ALIPHATIC HC STD
Misc :
ALS Vial : 2 Sample Multiplier: 1

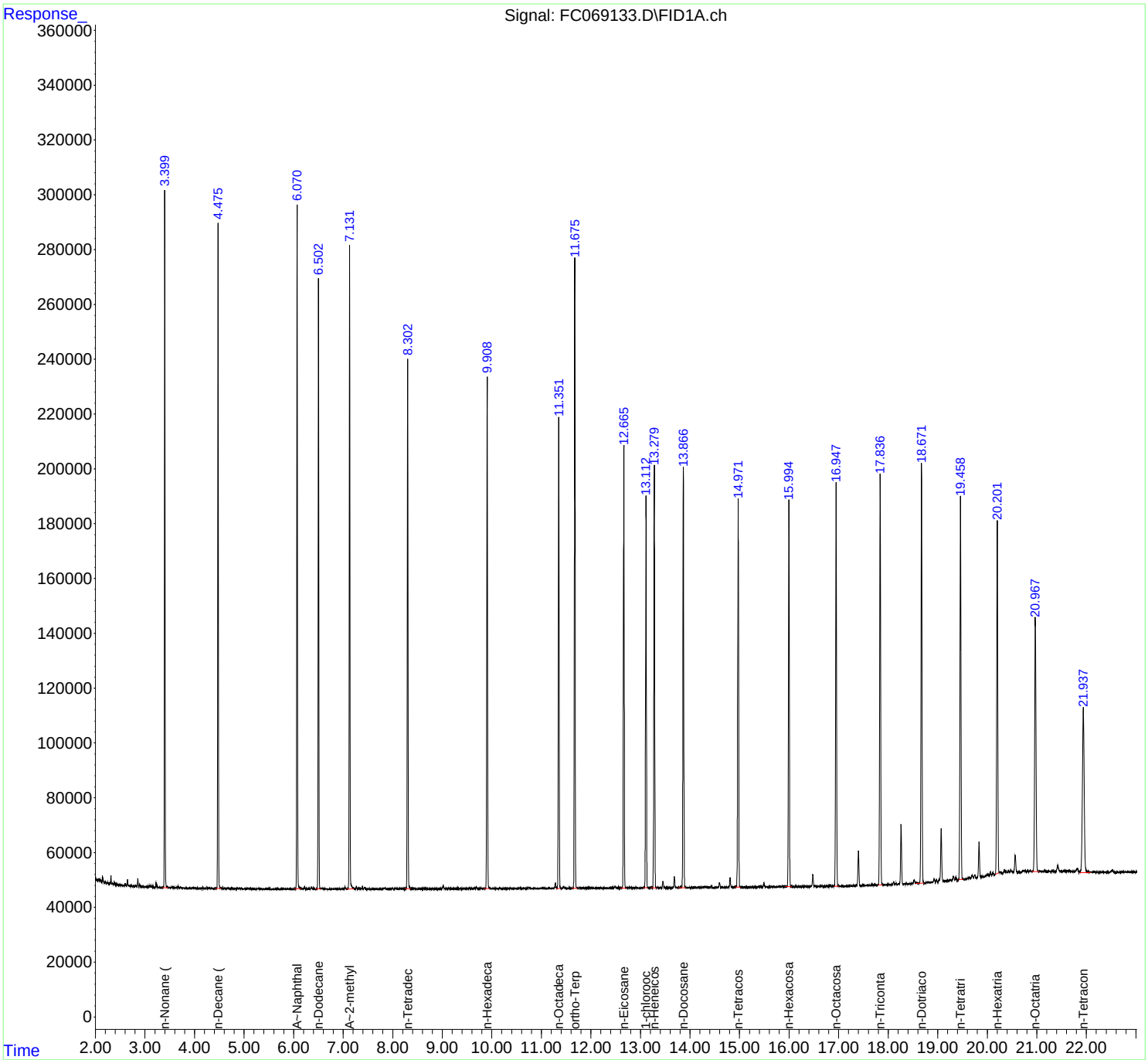
**Instrument :**
FID_C
**ClientSampleId :**
20 PPM ALIPHATIC HC STD

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/10/2025
Supervised By :mohammad ahmed 06/11/2025

Integration File: autoint1.e
Quant Time: Jun 10 05:23:19 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um



rteres

**Instrument :**
FID_C
**LabSampleId :**
20 PPM ALIPHATIC HC STD

Area Percent Report

**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/10/2025
Supervised By :mohammad ahmed 06/11/2025

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC06092
Data File : FC069133.D
Signal(s) : FID1A.ch
Acq On : 09 Jun 2025 12:17
Sample : 20 PPM ALIPHATIC HC STD
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Title : GC Extractables

Signal : FID1A.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.399 | 3.345 | 3.467 | BB | 254435 | 2145430 | 87.29% | 4.952% |
| 2 | 4.475 | 4.422 | 4.528 | BB | 242542 | 2162880 | 88.00% | 4.992% |
| 3 | 6.071 | 6.017 | 6.142 | BB | 248655 | 2345660 | 95.44% | 5.414% |
| 4 | 6.502 | 6.438 | 6.550 | BB | 222525 | 2130689 | 86.69% | 4.918% |
| 5 | 7.131 | 7.063 | 7.213 | BB | 233804 | 2284278 | 92.94% | 5.272% |
| 6 | 8.303 | 8.242 | 8.363 | BB | 192567 | 2053079 | 83.53% | 4.739% |
| 7 | 9.908 | 9.845 | 9.958 | BB | 187346 | 1997429 | 81.27% | 4.610% |
| 8 | 11.352 | 11.330 | 11.388 | BB | 170793 | 1900671 | 77.33% | 4.387% |
| 9 | 11.675 | 11.618 | 11.732 | BB | 229835 | 2457830 | 100.00% | 5.673% |
| 10 | 12.665 | 12.605 | 12.712 | BB | 160842 | 1870574 | 76.11% | 4.317% |
| 11 | 13.112 | 13.050 | 13.143 | BB | 142633 | 1686192 | 68.60% | 3.892% |
| 12 | 13.279 | 13.215 | 13.325 | BB | 152911 | 1842160 | 74.95% | 4.252% |
| 13 | 13.866 | 13.770 | 13.910 | BB | 152834 | 1826744 | 74.32% | 4.216% |
| 14 | 14.972 | 14.908 | 15.022 | BB | 141898 | 1803749 | 73.39% | 4.163% |
| 15 | 15.995 | 15.927 | 16.048 | BB | 141007 | 1798936 | 73.19% | 4.152% |
| 16 | 16.947 | 16.790 | 16.998 | BB | 146526 | 1869133 | 76.05% | 4.314% |
| 17 | 17.837 | 17.800 | 17.885 | BB | 150108 | 2037588 | 82.90% | 4.703% |
| 18 | 18.672 | 18.553 | 18.723 | VB | 152714 | 2129645 | 86.65% | 4.915% |
| 19 | 19.458 | 19.420 | 19.513 | BB | 139572 | 1998780 | 81.32% | 4.613% |
| 20 | 20.201 | 20.160 | 20.238 | BB | 128817 | 1880637 | 76.52% | 4.341% |
| 21 | 20.969 | 20.888 | 21.048 | BB | 90833 | 1693399 | 68.90% | 3.908% |
| 22 | 21.937 | 21.890 | 22.032 | BB | 59122 | 1411641 | 57.43% | 3.258% |
| | | | Sum of corrected areas: | | | 43327123 | | |

Aliphatic EPH 052425.M Tue Jun 10 06:17:29 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Continuing Calibration Report for SequenceID : FC060925AL

| Parameter | AreaCount | Conc. | RT_Min | RT_Max | Response Factor | AVGRF | %DEV |
|---|---|---|---|---|---|---|---|
| **File ID :** | **FC069140.D** | | | | | | |
| Aliphatic C9-C12 | 6898571.000 | 60.000 | 3.299 | 6.602 | 114976.183 | 105717.491 | -8.758 |
| Aliphatic C12-C16 | 4221397.000 | 40.000 | 6.603 | 10.008 | 105534.925 | 101985.435 | -3.480 |
| Aliphatic C16-C21 | 5932054.000 | 60.000 | 10.009 | 13.379 | 98867.567 | 97865.081 | -1.024 |
| Aliphatic C21-C28 | 8098980.000 | 80.000 | 13.380 | 17.047 | 101237.250 | 93803.915 | -7.924 |
| Aliphatic C28-C40 | 12168142.000 | 120.000 | 17.048 | 22.037 | 101401.183 | 94439.035 | -7.372 |
| Aliphatic EPH | 37319144.000 | 360.000 | 3.299 | 22.037 | 103664.289 | 97587.136 | -6.227 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

| | | | |
|---|---|---|---|
| Lab Sample ID: | 20 PPM ALIPHATIC HC S | Acq On: | 09 Jun 2025 21:41 |
| Client Sample ID: | | Operator: | YP/AJ |
| Data file: | FC069140.D | Misc: | |
| Instrument: | FID_C | ALS Vial: | 3 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | Units |
|---|---|---|---|---|---|
| Aliphatic C9-C12 | 3.299 | 6.602 | 6898571.000 | 60.000 | ug/ml |
| Aliphatic C12-C16 | 6.603 | 10.008 | 4221397.000 | 40.000 | ug/ml |
| Aliphatic C16-C21 | 10.009 | 13.379 | 5932054.000 | 60.000 | ug/ml |
| Aliphatic C21-C28 | 13.380 | 17.047 | 8098980.000 | 80.000 | ug/ml |
| Aliphatic C28-C40 | 17.048 | 22.037 | 12168142.000 | 120.000 | ug/ml |
| Aliphatic EPH | 3.299 | 22.037 | 37319144.000 | 360.000 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC060925AL\
Data File : FC069140.D
Signal(s) : FID1A.ch
Acq On : 09 Jun 2025 21:41
Operator : YP/AJ
Sample : 20 PPM ALIPHATIC HC STD
Misc :
ALS Vial : 3 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
20 PPM ALIPHATIC HC STD

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/10/2025
Supervised By :mohammad ahmed 06/11/2025

Integration File: autoint1.e
Quant Time: Jun 10 05:55:48 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 9) S | ortho-Terphenyl (SURR) | 11.676 | 2585004 | 20.958 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 41.92% |
| 12) S | 1-chlorooctadecane (S... | 13.113 | 1791782 | 19.972 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 39.94% |
| | **Target Compounds** | | | |
| 1) T | n-Nonane (C9) | 3.400 | 2313216 | 21.797 ug/ml |
| 2) T | n-Decane (C10) | 4.476 | 2327777 | 21.979 ug/ml |
| 3) T | A~Naphthalene (C11.7) | 6.071 | 2511598 | 21.720 ug/ml |
| 4) T | n-Dodecane (C12) | 6.503 | 2257578 | 21.476 ug/ml |
| 5) T | A~2-methylnaphthalene... | 7.131 | 2427066 | 21.408 ug/ml |
| 6) T | n-Tetradecane (C14) | 8.303 | 2148076 | 20.956 ug/ml |
| 7) T | n-Hexadecane (C16) | 9.908 | 2073321 | 20.433 ug/ml |
| 8) T | n-Octadecane (C18) | 11.353 | 2039392 | 20.405 ug/mlm |
| 10) T | n-Eicosane (C20) | 12.666 | 1961471 | 20.139 ug/ml |
| 11) T | n-Heneicosane (C21) | 13.280 | 1931191 | 20.064 ug/ml |
| 13) T | n-Docosane (C22) | 13.867 | 1949503 | 20.463 ug/ml |
| 14) T | n-Tetracosane (C24) | 14.972 | 1998106 | 21.222 ug/mlm |
| 15) T | n-Hexacosane (C26) | 15.995 | 2033894 | 21.907 ug/ml |
| 16) T | n-Octacosane (C28) | 16.948 | 2117477 | 22.780 ug/ml |
| 17) T | n-Tricontane (C30) | 17.839 | 2232737 | 23.076 ug/ml |
| 18) T | n-Dotriacontane (C32) | 18.673 | 2300045 | 23.210 ug/ml |
| 19) T | n-Tetratriacontane (C34) | 19.459 | 2150755 | 22.316 ug/ml |
| 20) T | n-Hexatriacontane (C36) | 20.201 | 2012293 | 21.198 ug/ml |
| 21) T | n-Octatriacontane (C38) | 20.969 | 1822170 | 19.972 ug/ml |
| 22) T | n-Tetracontane (C40) | 21.940 | 1650142 | 18.702 ug/mlm |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC060925AL\
Data File : FC069140.D
Signal(s) : FID1A.ch
Acq On : 09 Jun 2025 21:41
Operator : YP/AJ
Sample : 20 PPM ALIPHATIC HC STD
Misc :
ALS Vial : 3 Sample Multiplier: 1

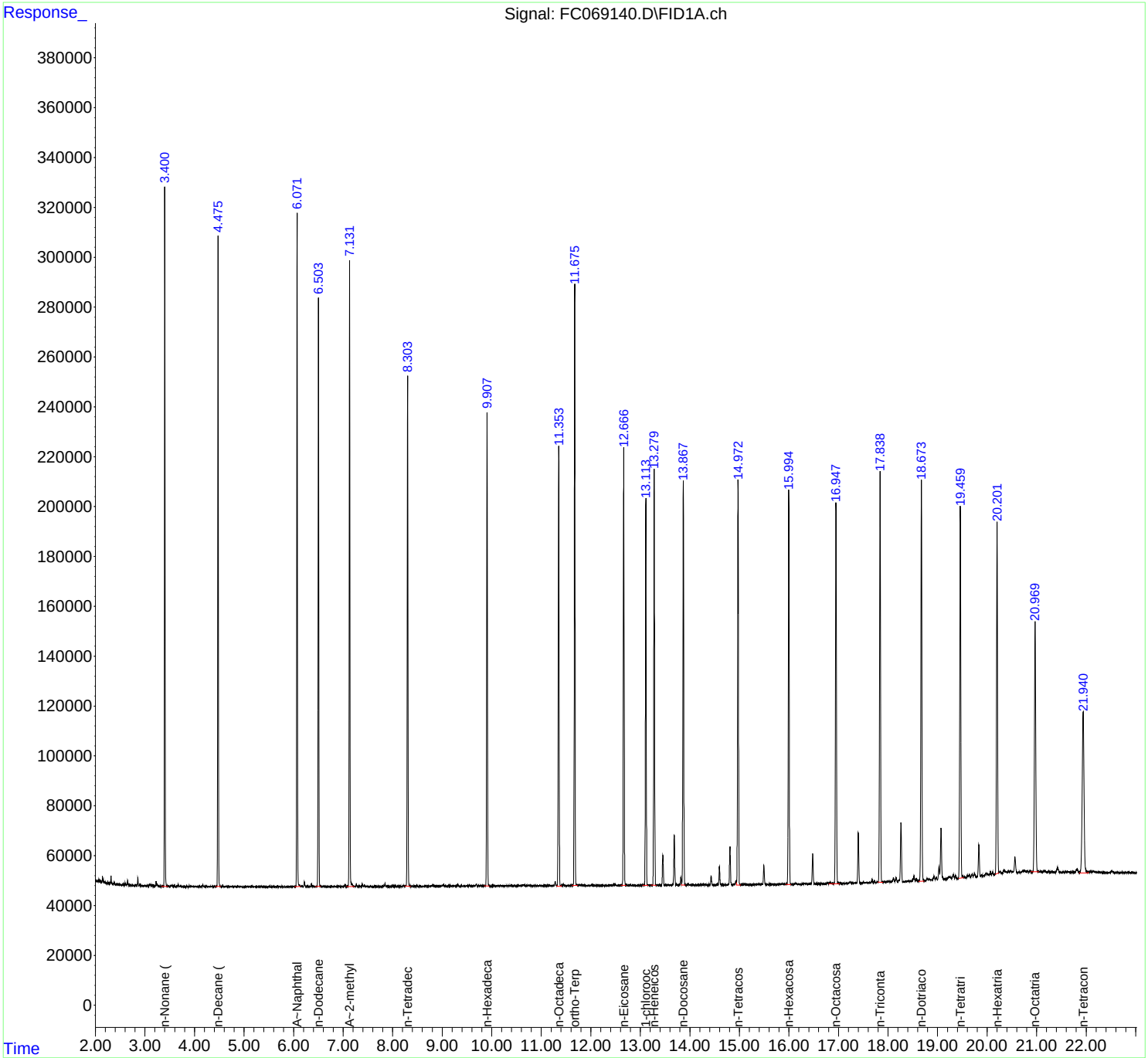
**Instrument :**
FID_C
**ClientSampleId :**
20 PPM ALIPHATIC HC STD

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/10/2025
Supervised By :mohammad ahmed 06/11/2025

Integration File: autoint1.e
Quant Time: Jun 10 05:55:48 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um



rteres

**Instrument :**
FID_C
**LabSampleId :**
20 PPM ALIPHATIC HC STD

Area Percent Report

**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/10/2025
Supervised By :mohammad ahmed 06/11/2025

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC06092
Data File : FC069140.D
Signal(s) : FID1A.ch
Acq On : 09 Jun 2025 21:41
Sample : 20 PPM ALIPHATIC HC STD
Misc :
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Title : GC Extractables

Signal : FID1A.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.400 | 3.337 | 3.469 | BB | 280450 | 2313216 | 89.49% | 4.975% |
| 2 | 4.476 | 4.419 | 4.532 | BB | 260989 | 2327777 | 90.05% | 5.007% |
| 3 | 6.071 | 6.019 | 6.142 | BB | 270048 | 2511598 | 97.16% | 5.402% |
| 4 | 6.503 | 6.439 | 6.542 | BB | 236577 | 2257578 | 87.33% | 4.856% |
| 5 | 7.131 | 7.064 | 7.224 | BB | 251301 | 2427066 | 93.89% | 5.220% |
| 6 | 8.303 | 8.249 | 8.369 | BB | 204433 | 2148076 | 83.10% | 4.620% |
| 7 | 9.908 | 9.847 | 9.955 | BB | 190009 | 2073321 | 80.21% | 4.459% |
| 8 | 11.353 | 11.330 | 11.395 | BB | 174394 | 1970497 | 76.23% | 4.238% |
| 9 | 11.676 | 11.617 | 11.735 | BB | 240377 | 2585004 | 100.00% | 5.560% |
| 10 | 12.666 | 12.605 | 12.717 | BB | 174579 | 1961471 | 75.88% | 4.219% |
| 11 | 13.113 | 13.047 | 13.157 | BB | 154729 | 1791782 | 69.31% | 3.854% |
| 12 | 13.280 | 13.217 | 13.317 | BB | 165531 | 1931191 | 74.71% | 4.154% |
| 13 | 13.867 | 13.835 | 13.915 | VB | 161569 | 1949503 | 75.42% | 4.193% |
| 14 | 14.972 | 14.887 | 15.019 | BB | 162580 | 2013629 | 77.90% | 4.331% |
| 15 | 15.995 | 15.929 | 16.045 | BB | 156003 | 2033894 | 78.68% | 4.375% |
| 16 | 16.948 | 16.804 | 17.020 | BB | 152078 | 2117477 | 81.91% | 4.554% |
| 17 | 17.839 | 17.800 | 17.894 | BB | 164533 | 2232737 | 86.37% | 4.802% |
| 18 | 18.673 | 18.615 | 18.735 | BB | 161072 | 2300045 | 88.98% | 4.947% |
| 19 | 19.459 | 19.420 | 19.530 | BB | 148481 | 2150755 | 83.20% | 4.626% |
| 20 | 20.201 | 20.160 | 20.240 | BV | 140444 | 2012293 | 77.84% | 4.328% |
| 21 | 20.969 | 20.887 | 21.047 | BB | 100070 | 1822170 | 70.49% | 3.919% |
| 22 | 21.939 | 21.890 | 22.037 | BB | 62974 | 1562840 | 60.46% | 3.361% |
| | | | Sum of corrected areas: | | | 46493918 | | |

Aliphatic EPH 052425.M Tue Jun 10 06:19:39 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Continuing Calibration Report for SequenceID : FC061125AL

| Parameter | AreaCount | Conc. | RT_Min | RT_Max | Response Factor | AVGRF | %DEV |
|---|---|---|---|---|---|---|---|
| **File ID :** | **FC069156.D** | | | | | | |
| Aliphatic C9-C12 | 6783670.000 | 60.000 | 3.303 | 6.605 | 113061.167 | 105717.491 | -6.947 |
| Aliphatic C12-C16 | 4187470.000 | 40.000 | 6.606 | 10.010 | 104686.750 | 101985.435 | -2.649 |
| Aliphatic C16-C21 | 5888827.000 | 60.000 | 10.011 | 13.380 | 98147.117 | 97865.081 | -0.288 |
| Aliphatic C21-C28 | 8136653.000 | 80.000 | 13.381 | 17.048 | 101708.163 | 93803.915 | -8.426 |
| Aliphatic C28-C40 | 12161407.000 | 120.000 | 17.049 | 22.033 | 101345.058 | 94439.035 | -7.313 |
| Aliphatic EPH | 37158027.000 | 360.000 | 3.303 | 22.033 | 103216.742 | 97587.136 | -5.769 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

| | | | |
|---|---|---|---|
| Lab Sample ID: | 20 PPM ALIPHATIC HC S | Acq On: | 11 Jun 2025 12:12 |
| Client Sample ID: | | Operator: | YP/AJ |
| Data file: | FC069156.D | Misc: | |
| Instrument: | FID_C | ALS Vial: | 2 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | Units |
|---|---|---|---|---|---|
| Aliphatic C9-C12 | 3.303 | 6.605 | 6783670.000 | 60.000 | ug/ml |
| Aliphatic C12-C16 | 6.606 | 10.010 | 4187470.000 | 40.000 | ug/ml |
| Aliphatic C16-C21 | 10.011 | 13.380 | 5888827.000 | 60.000 | ug/ml |
| Aliphatic C21-C28 | 13.381 | 17.048 | 8136653.000 | 80.000 | ug/ml |
| Aliphatic C28-C40 | 17.049 | 22.033 | 12161407.000 | 120.000 | ug/ml |
| Aliphatic EPH | 3.303 | 22.033 | 37158027.000 | 360.000 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069156.D
Signal(s) : FID1A.ch
Acq On : 11 Jun 2025 12:12
Operator : YP/AJ
Sample : 20 PPM ALIPHATIC HC STD
Misc :
ALS Vial : 2 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
20 PPM ALIPHATIC HC STD

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

Integration File: autoint1.e
Quant Time: Jun 12 06:04:07 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 9) S | ortho-Terphenyl (SURR) | 11.677 | 2591640 | 21.011 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 42.02% |
| 12) S | 1-chlorooctadecane (S... | 13.113 | 1779328 | 19.833 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 39.67% |
| | **Target Compounds** | | | |
| 1) T | n-Nonane (C9) | 3.403 | 2267261 | 21.364 ug/ml |
| 2) T | n-Decane (C10) | 4.479 | 2286075 | 21.586 ug/ml |
| 3) T | A~Naphthalene (C11.7) | 6.074 | 2495853 | 21.584 ug/ml |
| 4) T | n-Dodecane (C12) | 6.505 | 2230334 | 21.217 ug/ml |
| 5) T | A~2-methylnaphthalene... | 7.133 | 2418396 | 21.332 ug/ml |
| 6) T | n-Tetradecane (C14) | 8.305 | 2127397 | 20.754 ug/ml |
| 7) T | n-Hexadecane (C16) | 9.910 | 2060073 | 20.303 ug/ml |
| 8) T | n-Octadecane (C18) | 11.354 | 2013114 | 20.142 ug/mlm |
| 10) T | n-Eicosane (C20) | 12.667 | 1953241 | 20.054 ug/ml |
| 11) T | n-Heneicosane (C21) | 13.280 | 1922472 | 19.973 ug/ml |
| 13) T | n-Docosane (C22) | 13.867 | 1944741 | 20.413 ug/ml |
| 14) T | n-Tetracosane (C24) | 14.973 | 2004609 | 21.291 ug/ml |
| 15) T | n-Hexacosane (C26) | 15.996 | 2054567 | 22.130 ug/ml |
| 16) T | n-Octacosane (C28) | 16.948 | 2132736 | 22.944 ug/mlm |
| 17) T | n-Tricontane (C30) | 17.839 | 2292064 | 23.689 ug/ml |
| 18) T | n-Dotriacontane (C32) | 18.673 | 2364370 | 23.859 ug/ml |
| 19) T | n-Tetratriacontane (C34) | 19.459 | 2197097 | 22.796 ug/ml |
| 20) T | n-Hexatriacontane (C36) | 20.199 | 2024949 | 21.331 ug/ml |
| 21) T | n-Octatriacontane (C38) | 20.970 | 1780168 | 19.512 ug/ml |
| 22) T | n-Tetracontane (C40) | 21.933 | 1502759 | 17.031 ug/mlm |

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069156.D
Signal(s) : FID1A.ch
Acq On : 11 Jun 2025 12:12
Operator : YP/AJ
Sample : 20 PPM ALIPHATIC HC STD
Misc :
ALS Vial : 2 Sample Multiplier: 1

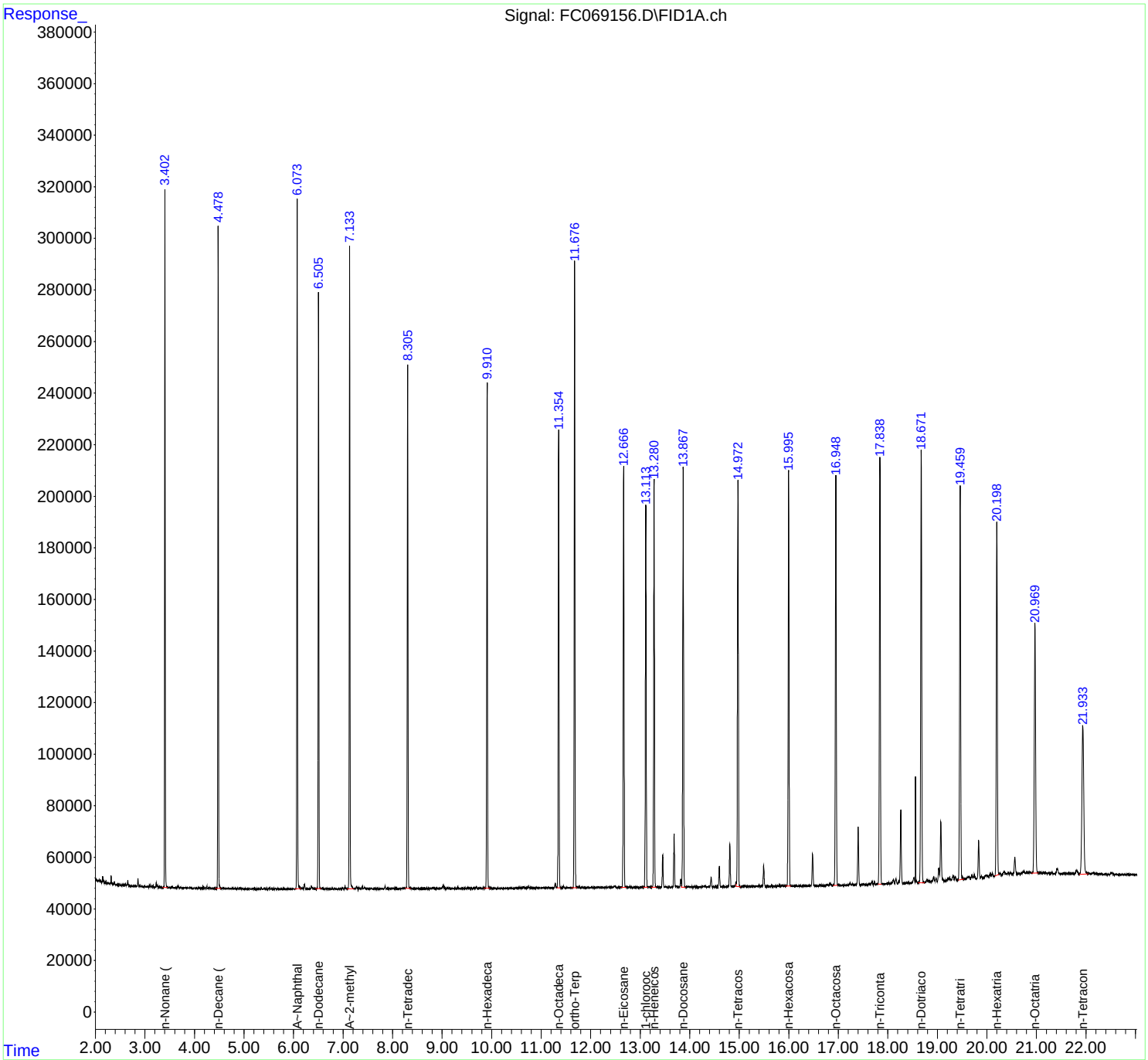
Integration File: autoint1.e
Quant Time: Jun 12 06:04:07 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

**Instrument :**
FID_C
**ClientSampleId :**
20 PPM ALIPHATIC HC STD

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025



rteres

**Instrument :**
FID_C
**LabSampleId :**
20 PPM ALIPHATIC HC STD

Area Percent Report

**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC06112
Data File : FC069156.D
Signal(s) : FID1A.ch
Acq On : 11 Jun 2025 12:12
Sample : 20 PPM ALIPHATIC HC STD
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Title : GC Extractables

Signal : FID1A.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.403 | 3.352 | 3.465 | BB | 269746 | 2267261 | 87.48% | 4.892% |
| 2 | 4.479 | 4.424 | 4.535 | BB | 256511 | 2286075 | 88.21% | 4.932% |
| 3 | 6.074 | 6.022 | 6.145 | BB | 267123 | 2495853 | 96.30% | 5.385% |
| 4 | 6.505 | 6.442 | 6.555 | BB | 231192 | 2230334 | 86.06% | 4.812% |
| 5 | 7.133 | 7.079 | 7.222 | BB | 249246 | 2418396 | 93.32% | 5.218% |
| 6 | 8.305 | 8.252 | 8.360 | BB | 203332 | 2127397 | 82.09% | 4.590% |
| 7 | 9.910 | 9.845 | 9.963 | BB | 196084 | 2060073 | 79.49% | 4.445% |
| 8 | 11.354 | 11.330 | 11.390 | BB | 176327 | 1984900 | 76.59% | 4.282% |
| 9 | 11.677 | 11.612 | 11.730 | BB | 243038 | 2591640 | 100.00% | 5.591% |
| 10 | 12.667 | 12.609 | 12.720 | BB | 163068 | 1953241 | 75.37% | 4.214% |
| 11 | 13.113 | 13.057 | 13.155 | BB | 148180 | 1779328 | 68.66% | 3.839% |
| 12 | 13.280 | 13.219 | 13.327 | BB | 158179 | 1922472 | 74.18% | 4.148% |
| 13 | 13.867 | 13.837 | 13.920 | VB | 162864 | 1944741 | 75.04% | 4.196% |
| 14 | 14.973 | 14.940 | 15.025 | VB | 157215 | 2004609 | 77.35% | 4.325% |
| 15 | 15.996 | 15.932 | 16.044 | BB | 160880 | 2054567 | 79.28% | 4.433% |
| 16 | 16.948 | 16.805 | 16.983 | BB | 159095 | 2146874 | 82.84% | 4.632% |
| 17 | 17.839 | 17.800 | 17.874 | BB | 165626 | 2292064 | 88.44% | 4.945% |
| 18 | 18.673 | 18.605 | 18.745 | BB | 166353 | 2364370 | 91.23% | 5.101% |
| 19 | 19.459 | 19.420 | 19.534 | BB | 152474 | 2197097 | 84.78% | 4.740% |
| 20 | 20.199 | 20.160 | 20.240 | BV | 136708 | 2024949 | 78.13% | 4.369% |
| 21 | 20.970 | 20.899 | 21.042 | BB | 96827 | 1780168 | 68.69% | 3.841% |
| 22 | 21.935 | 21.890 | 22.037 | BB | 56162 | 1423462 | 54.93% | 3.071% |
| | | | Sum of corrected areas: | | | 46349871 | | |

Aliphatic EPH 052425.M Thu Jun 12 06:56:55 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Continuing Calibration Report for SequenceID : FC061125AL

| Parameter | AreaCount | Conc. | RT_Min | RT_Max | Response Factor | AVGRF | %DEV |
|---|---|---|---|---|---|---|---|
| **File ID :** | **FC069168.D** | | | | | | |
| Aliphatic C9-C12 | 6110551.000 | 60.000 | 3.303 | 6.605 | 101842.517 | 105717.491 | 3.665 |
| Aliphatic C12-C16 | 3798337.000 | 40.000 | 6.606 | 10.010 | 94958.425 | 101985.435 | 6.890 |
| Aliphatic C16-C21 | 5309111.000 | 60.000 | 10.011 | 13.380 | 88485.183 | 97865.081 | 9.585 |
| Aliphatic C21-C28 | 7214648.000 | 80.000 | 13.381 | 17.048 | 90183.100 | 93803.915 | 3.860 |
| Aliphatic C28-C40 | 10985455.000 | 120.000 | 17.049 | 22.033 | 91545.458 | 94439.035 | 3.064 |
| Aliphatic EPH | 33418102.000 | 360.000 | 3.303 | 22.033 | 92828.061 | 97587.136 | 4.877 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

| | | | |
|---|---|---|---|
| Lab Sample ID: | 20 PPM ALIPHATIC HC S | Acq On: | 12 Jun 2025 00:09 |
| Client Sample ID: | | Operator: | YP/AJ |
| Data file: | FC069168.D | Misc: | |
| Instrument: | FID_C | ALS Vial: | 2 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | Units |
|---|---|---|---|---|---|
| Aliphatic C9-C12 | 3.303 | 6.605 | 6110551.000 | 60.000 | ug/ml |
| Aliphatic C12-C16 | 6.606 | 10.010 | 3798337.000 | 40.000 | ug/ml |
| Aliphatic C16-C21 | 10.011 | 13.380 | 5309111.000 | 60.000 | ug/ml |
| Aliphatic C21-C28 | 13.381 | 17.048 | 7214648.000 | 80.000 | ug/ml |
| Aliphatic C28-C40 | 17.049 | 22.033 | 10985455.000 | 120.000 | ug/ml |
| Aliphatic EPH | 3.303 | 22.033 | 33418102.000 | 360.000 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069168.D
Signal(s) : FID1A.ch
Acq On : 12 Jun 2025 00:09
Operator : YP/AJ
Sample : 20 PPM ALIPHATIC HC STD
Misc :
ALS Vial : 2 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
20 PPM ALIPHATIC HC STD

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

Integration File: autoint1.e
Quant Time: Jun 12 06:07:24 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 9) S | ortho-Terphenyl (SURR) | 11.677 | 2305016 | 18.688 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 37.38% |
| 12) S | 1-chlorooctadecane (S... | 13.113 | 1607465 | 17.918 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 35.84% |
| | **Target Compounds** | | | |
| 1) T | n-Nonane (C9) | 3.404 | 2041253 | 19.235 ug/ml |
| 2) T | n-Decane (C10) | 4.479 | 2061536 | 19.465 ug/ml |
| 3) T | A~Naphthalene (C11.7) | 6.074 | 2221419 | 19.211 ug/ml |
| 4) T | n-Dodecane (C12) | 6.506 | 2007762 | 19.099 ug/ml |
| 5) T | A~2-methylnaphthalene... | 7.134 | 2152771 | 18.989 ug/ml |
| 6) T | n-Tetradecane (C14) | 8.305 | 1924194 | 18.772 ug/ml |
| 7) T | n-Hexadecane (C16) | 9.910 | 1874143 | 18.470 ug/ml |
| 8) T | n-Octadecane (C18) | 11.355 | 1807613 | 18.086 ug/ml |
| 10) T | n-Eicosane (C20) | 12.667 | 1767539 | 18.148 ug/ml |
| 11) T | n-Heneicosane (C21) | 13.280 | 1733959 | 18.015 ug/ml |
| 13) T | n-Docosane (C22) | 13.867 | 1743757 | 18.304 ug/ml |
| 14) T | n-Tetracosane (C24) | 14.972 | 1781701 | 18.923 ug/mlm |
| 15) T | n-Hexacosane (C26) | 15.995 | 1806943 | 19.463 ug/ml |
| 16) T | n-Octacosane (C28) | 16.947 | 1882247 | 20.250 ug/mlm |
| 17) T | n-Tricontane (C30) | 17.837 | 2007669 | 20.749 ug/ml |
| 18) T | n-Dotriacontane (C32) | 18.671 | 2078032 | 20.969 ug/ml |
| 19) T | n-Tetratriacontane (C34) | 19.457 | 1933658 | 20.063 ug/ml |
| 20) T | n-Hexatriacontane (C36) | 20.198 | 1808046 | 19.046 ug/ml |
| 21) T | n-Octatriacontane (C38) | 20.967 | 1635612 | 17.928 ug/ml |
| 22) T | n-Tetracontane (C40) | 21.933 | 1522438 | 17.254 ug/mlm |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069168.D
Signal(s) : FID1A.ch
Acq On : 12 Jun 2025 00:09
Operator : YP/AJ
Sample : 20 PPM ALIPHATIC HC STD
Misc :
ALS Vial : 2 Sample Multiplier: 1

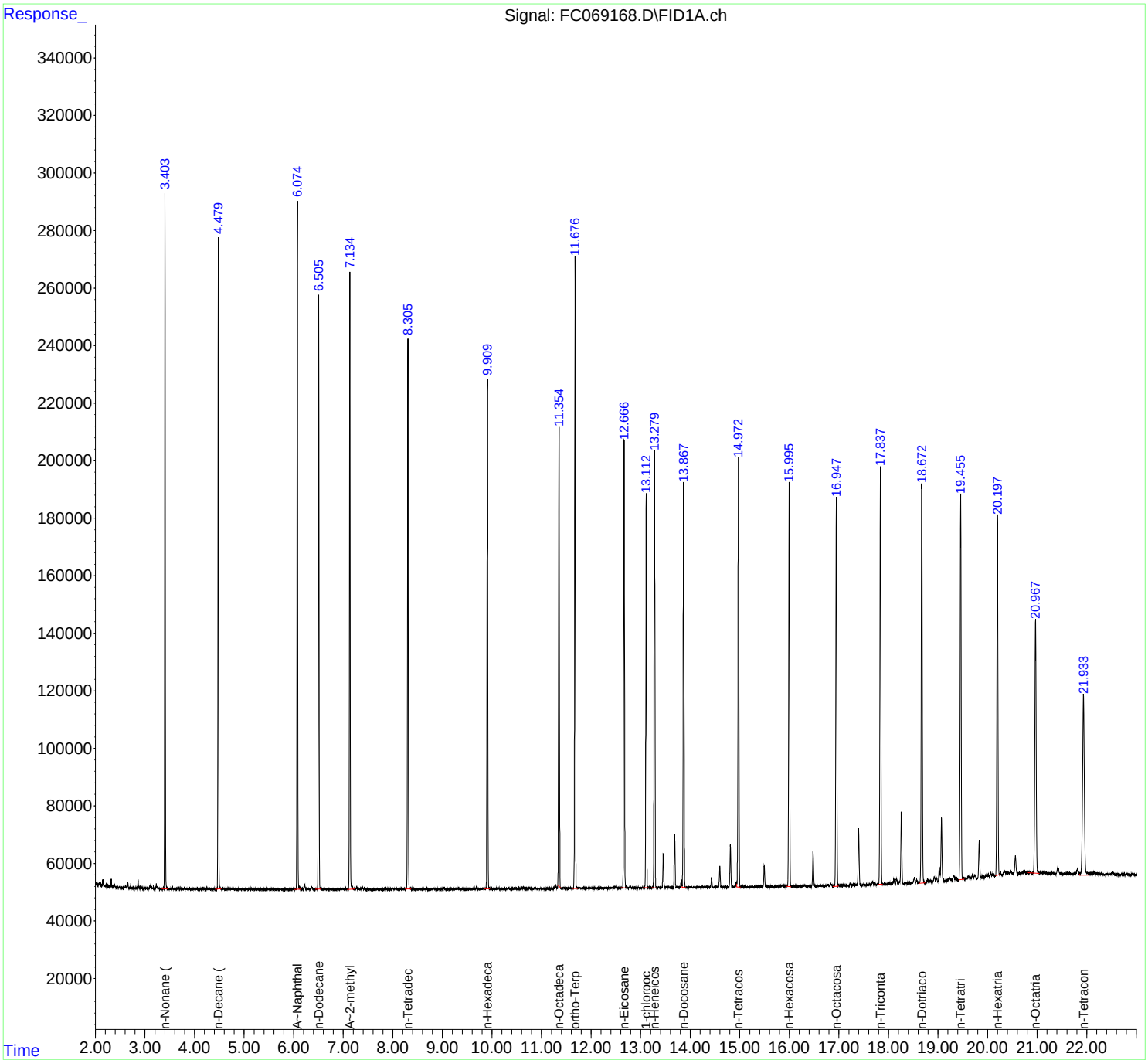
Integration File: autoint1.e
Quant Time: Jun 12 06:07:24 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

**Instrument :**
FID_C
**ClientSampleId :**
20 PPM ALIPHATIC HC STD

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025



rteres

**Instrument :**
FID_C
**LabSampleId :**
20 PPM ALIPHATIC HC STD

Area Percent Report

**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC06112
Data File : FC069168.D
Signal(s) : FID1A.ch
Acq On : 12 Jun 2025 00:09
Sample : 20 PPM ALIPHATIC HC STD
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Title : GC Extractables

Signal : FID1A.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.404 | 3.340 | 3.469 | BB | 241549 | 2041253 | 88.56% | 4.908% |
| 2 | 4.479 | 4.422 | 4.537 | BB | 226124 | 2061536 | 89.44% | 4.957% |
| 3 | 6.074 | 6.012 | 6.147 | BB | 238860 | 2221419 | 96.37% | 5.341% |
| 4 | 6.506 | 6.442 | 6.549 | BB | 206697 | 2007762 | 87.10% | 4.828% |
| 5 | 7.134 | 7.077 | 7.225 | BB | 214285 | 2152771 | 93.40% | 5.176% |
| 6 | 8.305 | 8.247 | 8.369 | BB | 190516 | 1924194 | 83.48% | 4.627% |
| 7 | 9.910 | 9.847 | 9.960 | BB | 177138 | 1874143 | 81.31% | 4.506% |
| 8 | 11.355 | 11.330 | 11.392 | BB | 159014 | 1807613 | 78.42% | 4.346% |
| 9 | 11.677 | 11.617 | 11.735 | BB | 220490 | 2305016 | 100.00% | 5.542% |
| 10 | 12.667 | 12.600 | 12.719 | BB | 155638 | 1767539 | 76.68% | 4.250% |
| 11 | 13.113 | 13.055 | 13.150 | BB | 137108 | 1607465 | 69.74% | 3.865% |
| 12 | 13.280 | 13.217 | 13.324 | BB | 151869 | 1733959 | 75.23% | 4.169% |
| 13 | 13.867 | 13.835 | 13.910 | VB | 140780 | 1743757 | 75.65% | 4.193% |
| 14 | 14.972 | 14.884 | 15.029 | BB | 149111 | 1794990 | 77.87% | 4.316% |
| 15 | 15.995 | 15.939 | 16.035 | BB | 140508 | 1806943 | 78.39% | 4.345% |
| 16 | 16.947 | 16.804 | 17.010 | BB | 135252 | 1885641 | 81.81% | 4.534% |
| 17 | 17.837 | 17.800 | 17.877 | BB | 145290 | 2007669 | 87.10% | 4.827% |
| 18 | 18.671 | 18.617 | 18.735 | BB | 137681 | 2078032 | 90.15% | 4.996% |
| 19 | 19.457 | 19.420 | 19.530 | BB | 133184 | 1933658 | 83.89% | 4.649% |
| 20 | 20.198 | 20.160 | 20.239 | BV | 125223 | 1808046 | 78.44% | 4.347% |
| 21 | 20.967 | 20.817 | 21.037 | BB | 88149 | 1635612 | 70.96% | 3.933% |
| 22 | 21.934 | 21.890 | 22.019 | BB | 61096 | 1391081 | 60.35% | 3.345% |
| | | | Sum of corrected areas: | | | 41590097 | | |

Aliphatic EPH 052425.M Thu Jun 12 07:00:52 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Continuing Calibration Report for SequenceID : FC061125AL

| Parameter | AreaCount | Conc. | RT_Min | RT_Max | Response Factor | AVGRF | %DEV |
|---|---|---|---|---|---|---|---|
| **File ID :** | **FC069174.D** | | | | | | |
| Aliphatic C9-C12 | 5936222.000 | 60.000 | 3.303 | 6.605 | 98937.033 | 105717.491 | 6.414 |
| Aliphatic C12-C16 | 3691689.000 | 40.000 | 6.606 | 10.010 | 92292.225 | 101985.435 | 9.505 |
| Aliphatic C16-C21 | 5157507.000 | 60.000 | 10.011 | 13.380 | 85958.450 | 97865.081 | 12.166 |
| Aliphatic C21-C28 | 7042755.000 | 80.000 | 13.381 | 17.048 | 88034.438 | 93803.915 | 6.151 |
| Aliphatic C28-C40 | 10687110.000 | 120.000 | 17.049 | 22.033 | 89059.250 | 94439.035 | 5.697 |
| Aliphatic EPH | 32515283.000 | 360.000 | 3.303 | 22.033 | 90320.231 | 97587.136 | 7.447 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

| | | | |
|---|---|---|---|
| Lab Sample ID: | 20 PPM ALIPHATIC HC S | Acq On: | 12 Jun 2025 04:46 |
| Client Sample ID: | | Operator: | YP/AJ |
| Data file: | FC069174.D | Misc: | |
| Instrument: | FID_C | ALS Vial: | 2 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | Units |
|---|---|---|---|---|---|
| Aliphatic C9-C12 | 3.303 | 6.605 | 5936222.000 | 60.000 | ug/ml |
| Aliphatic C12-C16 | 6.606 | 10.010 | 3691689.000 | 40.000 | ug/ml |
| Aliphatic C16-C21 | 10.011 | 13.380 | 5157507.000 | 60.000 | ug/ml |
| Aliphatic C21-C28 | 13.381 | 17.048 | 7042755.000 | 80.000 | ug/ml |
| Aliphatic C28-C40 | 17.049 | 22.033 | 10687110.000 | 120.000 | ug/ml |
| Aliphatic EPH | 3.303 | 22.033 | 32515283.000 | 360.000 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069174.D
Signal(s) : FID1A.ch
Acq On : 12 Jun 2025 04:46
Operator : YP/AJ
Sample : 20 PPM ALIPHATIC HC STD
Misc :
ALS Vial : 2 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
20 PPM ALIPHATIC HC STD

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

Integration File: autoint1.e
Quant Time: Jun 12 06:08:46 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 9) S | ortho-Terphenyl (SURR) | 11.677 | 2256714 | 18.296 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 36.59% |
| 12) S | 1-chlorooctadecane (S... | 13.113 | 1563053 | 17.423 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 34.85% |
| | **Target Compounds** | | | |
| 1) T | n-Nonane (C9) | 3.404 | 1977576 | 18.635 ug/ml |
| 2) T | n-Decane (C10) | 4.479 | 2004976 | 18.931 ug/ml |
| 3) T | A~Naphthalene (C11.7) | 6.075 | 2175162 | 18.810 ug/ml |
| 4) T | n-Dodecane (C12) | 6.507 | 1953670 | 18.585 ug/ml |
| 5) T | A~2-methylnaphthalene... | 7.135 | 2111866 | 18.628 ug/ml |
| 6) T | n-Tetradecane (C14) | 8.306 | 1875721 | 18.299 ug/ml |
| 7) T | n-Hexadecane (C16) | 9.910 | 1815968 | 17.897 ug/ml |
| 8) T | n-Octadecane (C18) | 11.355 | 1774936 | 17.759 ug/mlm |
| 10) T | n-Eicosane (C20) | 12.667 | 1706754 | 17.523 ug/ml |
| 11) T | n-Heneicosane (C21) | 13.280 | 1675817 | 17.411 ug/ml |
| 13) T | n-Docosane (C22) | 13.868 | 1693559 | 17.777 ug/ml |
| 14) T | n-Tetracosane (C24) | 14.972 | 1738131 | 18.461 ug/mlm |
| 15) T | n-Hexacosane (C26) | 15.996 | 1771617 | 19.082 ug/ml |
| 16) T | n-Octacosane (C28) | 16.949 | 1839448 | 19.789 ug/ml |
| 17) T | n-Tricontane (C30) | 17.837 | 1976695 | 20.429 ug/ml |
| 18) T | n-Dotriacontane (C32) | 18.672 | 2045665 | 20.643 ug/ml |
| 19) T | n-Tetratriacontane (C34) | 19.457 | 1896905 | 19.682 ug/ml |
| 20) T | n-Hexatriacontane (C36) | 20.199 | 1764895 | 18.592 ug/ml |
| 21) T | n-Octatriacontane (C38) | 20.968 | 1575399 | 17.268 ug/ml |
| 22) T | n-Tetracontane (C40) | 21.936 | 1427551 | 16.179 ug/mlm |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069174.D
Signal(s) : FID1A.ch
Acq On : 12 Jun 2025 04:46
Operator : YP/AJ
Sample : 20 PPM ALIPHATIC HC STD
Misc :
ALS Vial : 2 Sample Multiplier: 1

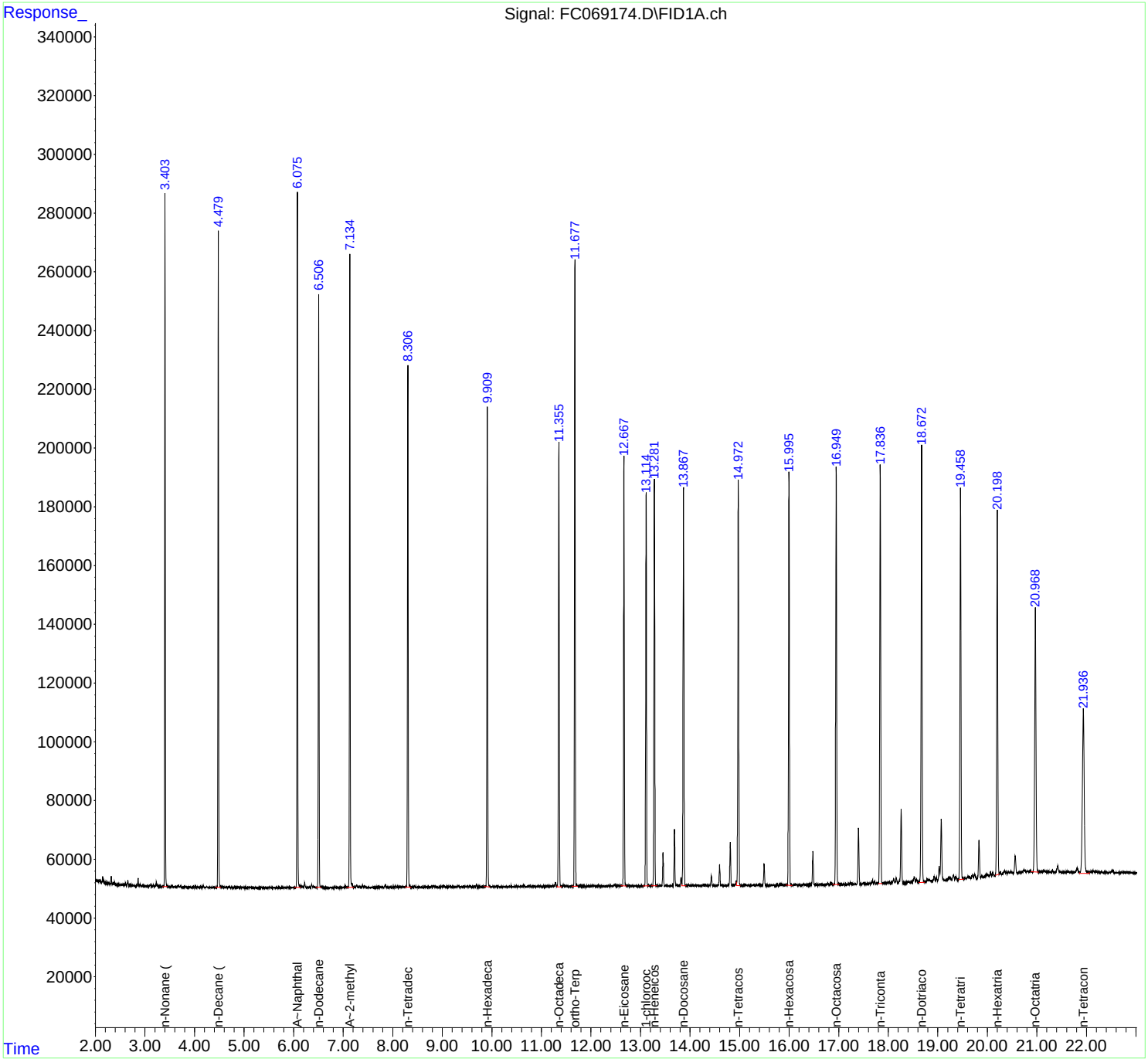
**Instrument :**
FID_C
**ClientSampleId :**
20 PPM ALIPHATIC HC STD

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

Integration File: autoint1.e
Quant Time: Jun 12 06:08:46 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um



rteres

**Instrument :**
FID_C
**LabSampleId :**
20 PPM ALIPHATIC HC STD

Area Percent Report

**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC06112
Data File : FC069174.D
Signal(s) : FID1A.ch
Acq On : 12 Jun 2025 04:46
Sample : 20 PPM ALIPHATIC HC STD
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Title : GC Extractables

Signal : FID1A.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.404 | 3.352 | 3.449 | BB | 235375 | 1977576 | 87.63% | 4.886% |
| 2 | 4.479 | 4.422 | 4.537 | BB | 223178 | 2004976 | 88.84% | 4.954% |
| 3 | 6.075 | 6.019 | 6.145 | BB | 236871 | 2175162 | 96.39% | 5.374% |
| 4 | 6.507 | 6.444 | 6.549 | BB | 202052 | 1953670 | 86.57% | 4.827% |
| 5 | 7.135 | 7.065 | 7.220 | BB | 215457 | 2111866 | 93.58% | 5.218% |
| 6 | 8.306 | 8.252 | 8.374 | BB | 176912 | 1875721 | 83.12% | 4.635% |
| 7 | 9.910 | 9.847 | 9.962 | BB | 163013 | 1815968 | 80.47% | 4.487% |
| 8 | 11.355 | 11.330 | 11.399 | BB | 150172 | 1739178 | 77.07% | 4.297% |
| 9 | 11.677 | 11.619 | 11.734 | BB | 213579 | 2256714 | 100.00% | 5.576% |
| 10 | 12.667 | 12.605 | 12.720 | BB | 146064 | 1706754 | 75.63% | 4.217% |
| 11 | 13.113 | 13.054 | 13.165 | BB | 133869 | 1563053 | 69.26% | 3.862% |
| 12 | 13.280 | 13.219 | 13.332 | BB | 138034 | 1675817 | 74.26% | 4.141% |
| 13 | 13.868 | 13.836 | 13.922 | VB | 135559 | 1693559 | 75.05% | 4.184% |
| 14 | 14.973 | 14.884 | 15.025 | BB | 138060 | 1750925 | 77.59% | 4.326% |
| 15 | 15.996 | 15.930 | 16.054 | BB | 140758 | 1771617 | 78.50% | 4.377% |
| 16 | 16.949 | 16.884 | 17.014 | BB | 141580 | 1839448 | 81.51% | 4.545% |
| 17 | 17.837 | 17.800 | 17.880 | BB | 141912 | 1976695 | 87.59% | 4.884% |
| 18 | 18.672 | 18.614 | 18.739 | BB | 148494 | 2045665 | 90.65% | 5.054% |
| 19 | 19.457 | 19.420 | 19.529 | BB | 133066 | 1896905 | 84.06% | 4.687% |
| 20 | 20.199 | 20.160 | 20.237 | BV | 123228 | 1764895 | 78.21% | 4.361% |
| 21 | 20.968 | 20.885 | 21.039 | BB | 90164 | 1575399 | 69.81% | 3.892% |
| 22 | 21.937 | 21.890 | 22.030 | BB | 54547 | 1301382 | 57.67% | 3.215% |
| | | | Sum of corrected areas: | | | 40472944 | | |

Aliphatic EPH 052425.M Thu Jun 12 07:01:59 2025

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Fax : 908 789 8922

# Continuing Calibration Report for SequenceID : FD060925AR

| Parameter | AreaCount | Conc. | RT_Min | RT_Max | Response Factor | AVGRF | %DEV |
|---|---|---|---|---|---|---|---|
| **File ID :** | **FD049414.D** | | | | | | |
| Aromatic C10-C12 | 6066366.000 | 40.000 | 4.424 | 6.169 | 151659.150 | 167344.833 | 9.373 |
| Aromatic C12-C16 | 9855692.000 | 60.000 | 6.170 | 8.798 | 164261.533 | 187525.524 | 12.406 |
| Aromatic C16-C21 | 12307850.000 | 80.000 | 8.799 | 13.089 | 153848.125 | 184740.440 | 16.722 |
| Aromatic C21-C36 | 25693832.000 | 180.000 | 13.090 | 18.512 | 142743.511 | 145057.816 | 1.595 |
| Aromatic EPH | 53923740.000 | 360.000 | 4.424 | 18.512 | 149788.167 | 163430.463 | 8.347 |

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Fax : 908 789 8922

| | | | |
|---|---|---|---|
| Lab Sample ID: | 20 PPM AROMATIC HC S | Acq On: | 09 Jun 2025 12:17 |
| Client Sample ID: | | Operator: | YP/AJ |
| Data file: | FD049414.D | Misc: | |
| Instrument: | FID_D | ALS Vial: | 53 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | Units |
|---|---|---|---|---|---|
| Aromatic C10-C12 | 4.424 | 6.169 | 6066366.000 | 40.000 | ug/ml |
| Aromatic C12-C16 | 6.170 | 8.798 | 9855692.000 | 60.000 | ug/ml |
| Aromatic C16-C21 | 8.799 | 13.089 | 12307850.000 | 80.000 | ug/ml |
| Aromatic C21-C36 | 13.090 | 18.512 | 25693832.000 | 180.000 | ug/ml |
| Aromatic EPH | 4.424 | 18.512 | 53923740.000 | 360.000 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD060925AR\
Data File : FD049414.D
Signal(s) : FID2B.ch
Acq On : 09 Jun 2025 12:17
Operator : YP/AJ
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 53 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
20 PPM AROMATIC HC STD

Integration File: autoint1.e
Quant Time: Jun 10 02:34:44 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 4) S | 2-Bromonaphthalene (S... | 7.732 | 2751221 | 16.550 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 33.10% |
| 6) S | 2-Flurobiphenyl (SURR) | 8.598 | 1845586 | 16.133 ug/ml |
| Spiked Amount | 50.000 Range | 0 - 131 | Recovery = | 32.27% |
| 11) S | ortho-Terphenyl (SURR) | 11.643 | 3271965 | 16.301 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 32.60% |
| | **Target Compounds** | | | |
| 1) T | 1,2,3-Trimethylbenzen... | 4.524 | 2913320 | 18.311 ug/ml |
| 2) T | Naphthalene (C11.7) | 6.069 | 3153046 | 17.957 ug/ml |
| 3) T | 2-Methylnaphthalene (... | 7.123 | 3192811 | 17.872 ug/ml |
| 5) T | Acenaphthylene (C15.06) | 8.402 | 3339010 | 17.237 ug/ml |
| 7) T | Acenaphthene (C15.5) | 8.698 | 3323871 | 17.474 ug/ml |
| 8) T | Flouorene (C16.55) | 9.479 | 3223795 | 16.488 ug/ml |
| 9) T | Phenanthrene (C19.36) | 10.877 | 3223992 | 16.956 ug/ml |
| 10) T | Anthracene (C19.43) | 10.951 | 2663597 | 15.236 ug/ml |
| 12) T | Fluoranthene (C21.85) | 12.692 | 3196460 | 17.721 ug/ml |
| 13) T | Pyrene (C20.8) | 12.989 | 3196466 | 17.909 ug/ml |
| 14) T | Benzo[a]anthracene (C... | 14.860 | 2792607 | 18.374 ug/ml |
| 15) T | Chrysene (C27.41) | 14.903 | 2880463 | 18.968 ug/ml |
| 16) T | benzo[b]fluoranthene ... | 16.412 | 2970000 | 20.519 ug/ml |
| 17) T | Bnezo[k]fluoranthene ... | 16.445 | 2781477 | 19.383 ug/ml |
| 18) T | Benzo[a]pyrene (C31.34) | 16.791 | 2890589 | 21.268 ug/ml |
| 19) T | Indeno[1,2,3-cd]pyren... | 18.155 | 2646707 | 20.721 ug/ml |
| 20) T | Dibenz[a,h]anthracene... | 18.194 | 2628351 | 19.524 ug/ml |
| 21) T | Benzo[g,h,i]perylene ... | 18.412 | 2907178 | 21.569 ug/ml |

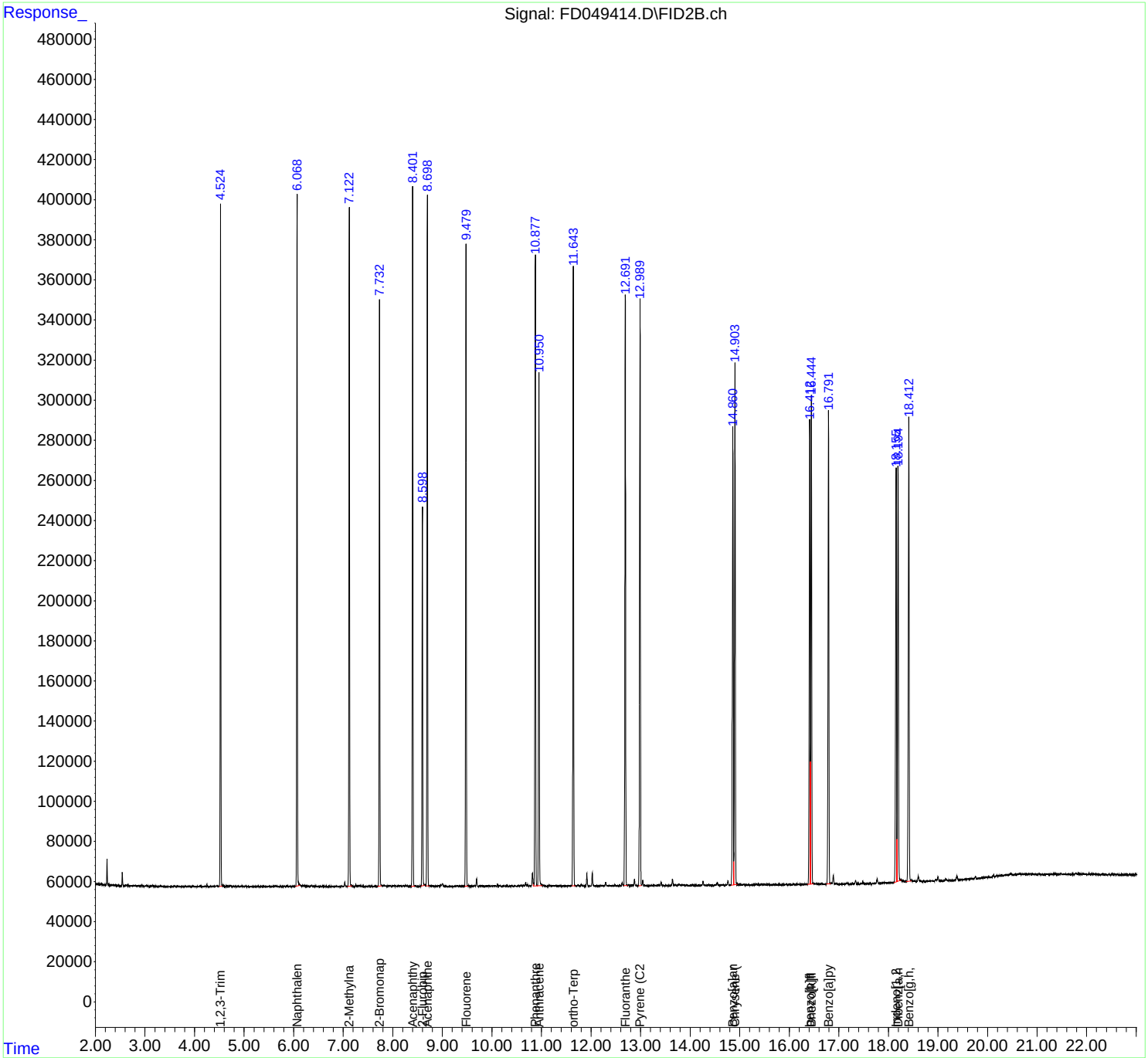
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD060925AR\
Data File : FD049414.D
Signal(s) : FID2B.ch
Acq On : 09 Jun 2025 12:17
Operator : YP/AJ
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 53 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
20 PPM AROMATIC HC STD

Integration File: autoint1.e
Quant Time: Jun 10 02:34:44 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm



rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD060925AR\
Data File : FD049414.D
Signal(s) : FID2B.ch
Acq On : 09 Jun 2025 12:17
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Title : GC Extractables

Signal : FID2B.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.524 | 4.497 | 4.558 | BB | 340359 | 2913320 | 87.25% | 4.715% |
| 2 | 6.069 | 6.035 | 6.128 | BB | 344301 | 3153046 | 94.43% | 5.103% |
| 3 | 7.123 | 7.083 | 7.173 | BB | 338791 | 3192811 | 95.62% | 5.167% |
| 4 | 7.732 | 7.702 | 7.777 | BB | 292421 | 2751221 | 82.40% | 4.452% |
| 5 | 8.402 | 8.368 | 8.442 | BB | 349457 | 3339010 | 100.00% | 5.404% |
| 6 | 8.598 | 8.565 | 8.645 | BB | 189011 | 1845586 | 55.27% | 2.987% |
| 7 | 8.698 | 8.667 | 8.742 | BB | 344172 | 3323871 | 99.55% | 5.379% |
| 8 | 9.479 | 9.447 | 9.510 | BB | 319188 | 3223795 | 96.55% | 5.217% |
| 9 | 10.877 | 10.837 | 10.917 | VV | 314096 | 3223992 | 96.56% | 5.217% |
| 10 | 10.951 | 10.917 | 11.012 | VB | 256322 | 2663597 | 79.77% | 4.311% |
| 11 | 11.643 | 11.610 | 11.685 | BB | 309263 | 3271965 | 97.99% | 5.295% |
| 12 | 12.692 | 12.657 | 12.737 | BB | 294755 | 3196460 | 95.73% | 5.173% |
| 13 | 12.989 | 12.957 | 13.020 | BV | 293243 | 3196466 | 95.73% | 5.173% |
| 14 | 14.860 | 14.823 | 14.881 | BV | 228604 | 2792607 | 83.64% | 4.519% |
| 15 | 14.903 | 14.881 | 14.950 | VB | 259980 | 2880463 | 86.27% | 4.662% |
| 16 | 16.412 | 16.373 | 16.427 | BV | 231563 | 2970000 | 88.95% | 4.806% |
| 17 | 16.445 | 16.427 | 16.488 | VB | 243571 | 2781477 | 83.30% | 4.501% |
| 18 | 16.791 | 16.747 | 16.838 | BB | 235225 | 2890589 | 86.57% | 4.678% |
| 19 | 18.155 | 18.112 | 18.172 | BV | 206703 | 2646707 | 79.27% | 4.283% |
| 20 | 18.194 | 18.172 | 18.253 | VB | 207189 | 2628351 | 78.72% | 4.254% |
| 21 | 18.412 | 18.363 | 18.468 | BB | 231265 | 2907178 | 87.07% | 4.705% |
| | | | Sum of corrected areas: | | | 61792513 | | |

Aromatic EPH 052425.M Tue Jun 10 02:57:20 2025

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# Continuing Calibration Report for SequenceID : FD060925AR

| Parameter | AreaCount | Conc. | RT_Min | RT_Max | Response Factor | AVGRF | %DEV |
|---|---|---|---|---|---|---|---|
| **File ID :** | **FD049421.D** | | | | | | |
| Aromatic C10-C12 | 6920053.000 | 40.000 | 4.424 | 6.169 | 173001.325 | 167344.833 | -3.380 |
| Aromatic C12-C16 | 11045426.000 | 60.000 | 6.170 | 8.798 | 184090.433 | 187525.524 | 1.832 |
| Aromatic C16-C21 | 13902265.000 | 80.000 | 8.799 | 13.089 | 173778.313 | 184740.440 | 5.934 |
| Aromatic C21-C36 | 28417137.000 | 180.000 | 13.090 | 18.512 | 157872.983 | 145057.816 | -8.835 |
| Aromatic EPH | 60284881.000 | 360.000 | 4.424 | 18.512 | 167458.003 | 163430.463 | -2.464 |

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Fax : 908 789 8922

| | | | |
|---|---|---|---|
| Lab Sample ID: | 20 PPM AROMATIC HC S | Acq On: | 09 Jun 2025 21:01 |
| Client Sample ID: | | Operator: | YP/AJ |
| Data file: | FD049421.D | Misc: | |
| Instrument: | FID_D | ALS Vial: | 52 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | Units |
|---|---|---|---|---|---|
| Aromatic C10-C12 | 4.424 | 6.169 | 6920053.000 | 40.000 | ug/ml |
| Aromatic C12-C16 | 6.170 | 8.798 | 11045426.000 | 60.000 | ug/ml |
| Aromatic C16-C21 | 8.799 | 13.089 | 13902265.000 | 80.000 | ug/ml |
| Aromatic C21-C36 | 13.090 | 18.512 | 28417137.000 | 180.000 | ug/ml |
| Aromatic EPH | 4.424 | 18.512 | 60284881.000 | 360.000 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD060925AR\
Data File : FD049421.D
Signal(s) : FID2B.ch
Acq On : 09 Jun 2025 21:01
Operator : YP/AJ
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 52 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
20 PPM AROMATIC HC STD

Integration File: autoint1.e
Quant Time: Jun 10 02:36:45 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 4) | S 2-Bromonaphthalene (S... | 7.732 | 3233483 | 19.451 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 38.90% |
| 6) | S 2-Flurobiphenyl (SURR) | 8.598 | 2190940 | 19.152 ug/ml |
| Spiked Amount | 50.000 Range | 0 - 131 | Recovery = | 38.30% |
| 11) | S ortho-Terphenyl (SURR) | 11.644 | 3719599 | 18.531 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 37.06% |
| | **Target Compounds** | | | |
| 1) | T 1,2,3-Trimethylbenzen... | 4.524 | 3334078 | 20.955 ug/ml |
| 2) | T Naphthalene (C11.7) | 6.069 | 3585975 | 20.423 ug/ml |
| 3) | T 2-Methylnaphthalene (... | 7.122 | 3537755 | 19.803 ug/ml |
| 5) | T Acenaphthylene (C15.06) | 8.402 | 3802956 | 19.632 ug/ml |
| 7) | T Acenaphthene (C15.5) | 8.698 | 3704715 | 19.476 ug/ml |
| 8) | T Flouorene (C16.55) | 9.479 | 3732143 | 19.088 ug/ml |
| 9) | T Phenanthrene (C19.36) | 10.878 | 3641183 | 19.150 ug/ml |
| 10) | T Anthracene (C19.43) | 10.952 | 2913535 | 16.666 ug/ml |
| 12) | T Fluoranthene (C21.85) | 12.692 | 3617862 | 20.057 ug/ml |
| 13) | T Pyrene (C20.8) | 12.990 | 3615404 | 20.257 ug/ml |
| 14) | T Benzo[a]anthracene (C... | 14.861 | 3142469 | 20.676 ug/ml |
| 15) | T Chrysene (C27.41) | 14.905 | 3211333 | 21.147 ug/ml |
| 16) | T benzo[b]fluoranthene ... | 16.413 | 3275575 | 22.630 ug/ml |
| 17) | T Bnezo[k]fluoranthene ... | 16.446 | 3219500 | 22.436 ug/ml |
| 18) | T Benzo[a]pyrene (C31.34) | 16.792 | 3083807 | 22.689 ug/ml |
| 19) | T Indeno[1,2,3-cd]pyren... | 18.156 | 2840139 | 22.235 ug/ml |
| 20) | T Dibenz[a,h]anthracene... | 18.196 | 2920483 | 21.693 ug/ml |
| 21) | T Benzo[g,h,i]perylene ... | 18.413 | 3105969 | 23.044 ug/ml |

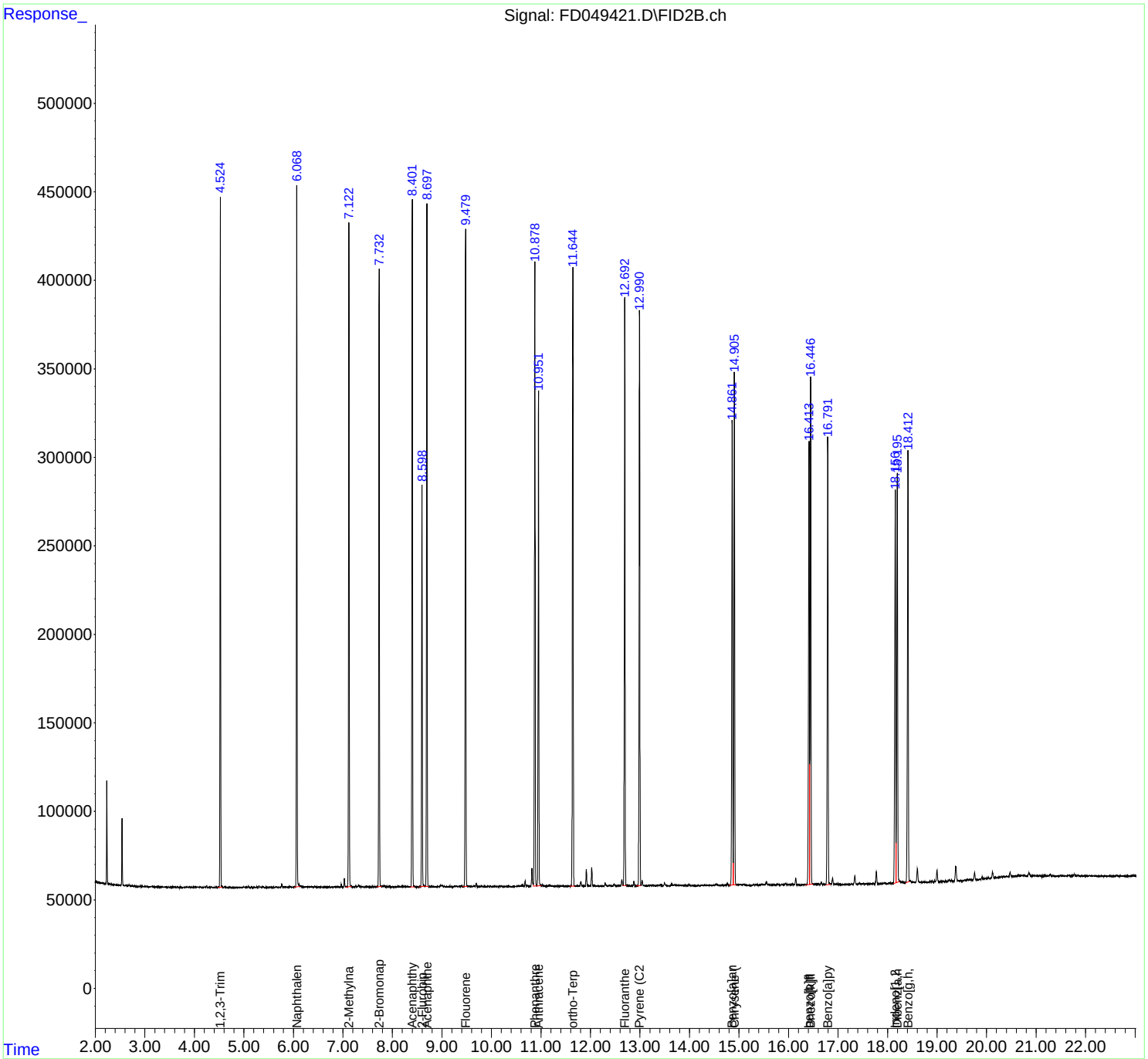
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD060925AR\
Data File : FD049421.D
Signal(s) : FID2B.ch
Acq On : 09 Jun 2025 21:01
Operator : YP/AJ
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 52 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
20 PPM AROMATIC HC STD

Integration File: autoint1.e
Quant Time: Jun 10 02:36:45 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm



rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD060925AR\
Data File : FD049421.D
Signal(s) : FID2B.ch
Acq On : 09 Jun 2025 21:01
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Title : GC Extractables

Signal : FID2B.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.524 | 4.475 | 4.569 | BB | 389566 | 3334078 | 87.67% | 4.802% |
| 2 | 6.069 | 6.024 | 6.134 | BB | 396187 | 3585975 | 94.29% | 5.165% |
| 3 | 7.122 | 7.059 | 7.170 | BB | 374831 | 3537755 | 93.03% | 5.096% |
| 4 | 7.732 | 7.679 | 7.779 | BB | 348225 | 3233483 | 85.03% | 4.657% |
| 5 | 8.402 | 8.350 | 8.449 | BB | 388774 | 3802956 | 100.00% | 5.477% |
| 6 | 8.598 | 8.542 | 8.644 | BB | 226629 | 2190940 | 57.61% | 3.156% |
| 7 | 8.698 | 8.649 | 8.730 | BB | 385983 | 3704715 | 97.42% | 5.336% |
| 8 | 9.479 | 9.427 | 9.514 | BB | 370177 | 3732143 | 98.14% | 5.375% |
| 9 | 10.878 | 10.849 | 10.915 | VV | 351268 | 3641183 | 95.75% | 5.244% |
| 10 | 10.952 | 10.915 | 11.014 | PB | 279767 | 2913535 | 76.61% | 4.196% |
| 11 | 11.644 | 11.584 | 11.689 | BB | 347380 | 3719599 | 97.81% | 5.357% |
| 12 | 12.692 | 12.657 | 12.730 | BB | 332725 | 3617862 | 95.13% | 5.211% |
| 13 | 12.990 | 12.932 | 13.024 | BV | 324647 | 3615404 | 95.07% | 5.207% |
| 14 | 14.861 | 14.804 | 14.882 | BV | 262179 | 3142469 | 82.63% | 4.526% |
| 15 | 14.905 | 14.882 | 14.945 | VB | 289877 | 3211333 | 84.44% | 4.625% |
| 16 | 16.413 | 16.342 | 16.429 | BV | 250418 | 3275575 | 86.13% | 4.718% |
| 17 | 16.446 | 16.429 | 16.495 | VB | 286861 | 3219500 | 84.66% | 4.637% |
| 18 | 16.792 | 16.749 | 16.850 | BB | 252097 | 3083807 | 81.09% | 4.442% |
| 19 | 18.156 | 18.119 | 18.172 | BV | 221289 | 2840139 | 74.68% | 4.091% |
| 20 | 18.196 | 18.172 | 18.249 | VB | 231091 | 2920483 | 76.80% | 4.206% |
| 21 | 18.413 | 18.365 | 18.447 | BB | 243304 | 3105969 | 81.67% | 4.474% |
| | | | Sum of corrected areas: | | | 69428903 | | |

Aromatic EPH 052425.M Tue Jun 10 02:59:59 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Continuing Calibration Report for SequenceID : FD061025AR

| Parameter | AreaCount | Conc. | RT_Min | RT_Max | Response Factor | AVGRF | %DEV |
|---|---|---|---|---|---|---|---|
| **File ID :** | **FD049424.D** | | | | | | |
| Aromatic C10-C12 | 6278489.000 | 40.000 | 4.425 | 6.169 | 156962.225 | 167344.833 | 6.204 |
| Aromatic C12-C16 | 10256841.000 | 60.000 | 6.170 | 8.798 | 170947.350 | 187525.524 | 8.840 |
| Aromatic C16-C21 | 12991778.000 | 80.000 | 8.799 | 13.089 | 162397.225 | 184740.440 | 12.094 |
| Aromatic C21-C36 | 26792100.000 | 180.000 | 13.090 | 18.511 | 148845.000 | 145057.816 | -2.611 |
| Aromatic EPH | 56319208.000 | 360.000 | 4.425 | 18.511 | 156442.244 | 163430.463 | 4.276 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

| | | | |
|---|---|---|---|
| Lab Sample ID: | 20 PPM AROMATIC HC S | Acq On: | 10 Jun 2025 09:11 |
| Client Sample ID: | | Operator: | YP/AJ |
| Data file: | FD049424.D | Misc: | |
| Instrument: | FID_D | ALS Vial: | 53 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | Units |
|---|---|---|---|---|---|
| Aromatic C10-C12 | 4.425 | 6.169 | 6278489.000 | 40.000 | ug/ml |
| Aromatic C12-C16 | 6.170 | 8.798 | 10256841.000 | 60.000 | ug/ml |
| Aromatic C16-C21 | 8.799 | 13.089 | 12991778.000 | 80.000 | ug/ml |
| Aromatic C21-C36 | 13.090 | 18.511 | 26792100.000 | 180.000 | ug/ml |
| Aromatic EPH | 4.425 | 18.511 | 56319208.000 | 360.000 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061025AR\
Data File : FD049424.D
Signal(s) : FID2B.ch
Acq On : 10 Jun 2025 09:11
Operator : YP/AJ
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 53 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
20 PPM AROMATIC HC STD

Integration File: autoint1.e
Quant Time: Jun 11 01:07:03 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 4) S | 2-Bromonaphthalene (S... | 7.733 | 2872386 | 17.279 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 34.56% |
| 6) S | 2-Flurobiphenyl (SURR) | 8.599 | 1953452 | 17.076 ug/ml |
| Spiked Amount | 50.000 Range | 0 - 131 | Recovery = | 34.15% |
| 11) S | ortho-Terphenyl (SURR) | 11.644 | 3398869 | 16.933 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 33.87% |
| | **Target Compounds** | | | |
| 1) T | 1,2,3-Trimethylbenzen... | 4.525 | 3006230 | 18.895 ug/ml |
| 2) T | Naphthalene (C11.7) | 6.069 | 3272259 | 18.636 ug/ml |
| 3) T | 2-Methylnaphthalene (... | 7.123 | 3338479 | 18.688 ug/ml |
| 5) T | Acenaphthylene (C15.06) | 8.402 | 3464639 | 17.885 ug/ml |
| 7) T | Acenaphthene (C15.5) | 8.698 | 3453723 | 18.157 ug/ml |
| 8) T | Flouorene (C16.55) | 9.480 | 3393231 | 17.355 ug/ml |
| 9) T | Phenanthrene (C19.36) | 10.877 | 3392979 | 17.845 ug/ml |
| 10) T | Anthracene (C19.43) | 10.952 | 2830338 | 16.190 ug/ml |
| 12) T | Fluoranthene (C21.85) | 12.691 | 3377511 | 18.725 ug/ml |
| 13) T | Pyrene (C20.8) | 12.989 | 3375230 | 18.911 ug/ml |
| 14) T | Benzo[a]anthracene (C... | 14.860 | 2971916 | 19.554 ug/ml |
| 15) T | Chrysene (C27.41) | 14.903 | 3060932 | 20.157 ug/ml |
| 16) T | benzo[b]fluoranthene ... | 16.412 | 3112284 | 21.501 ug/ml |
| 17) T | Bnezo[k]fluoranthene ... | 16.444 | 2892467 | 20.157 ug/ml |
| 18) T | Benzo[a]pyrene (C31.34) | 16.790 | 2996280 | 22.045 ug/ml |
| 19) T | Indeno[1,2,3-cd]pyren... | 18.155 | 2701341 | 21.149 ug/ml |
| 20) T | Dibenz[a,h]anthracene... | 18.195 | 2707715 | 20.113 ug/ml |
| 21) T | Benzo[g,h,i]perylene ... | 18.411 | 2971654 | 22.047 ug/ml |

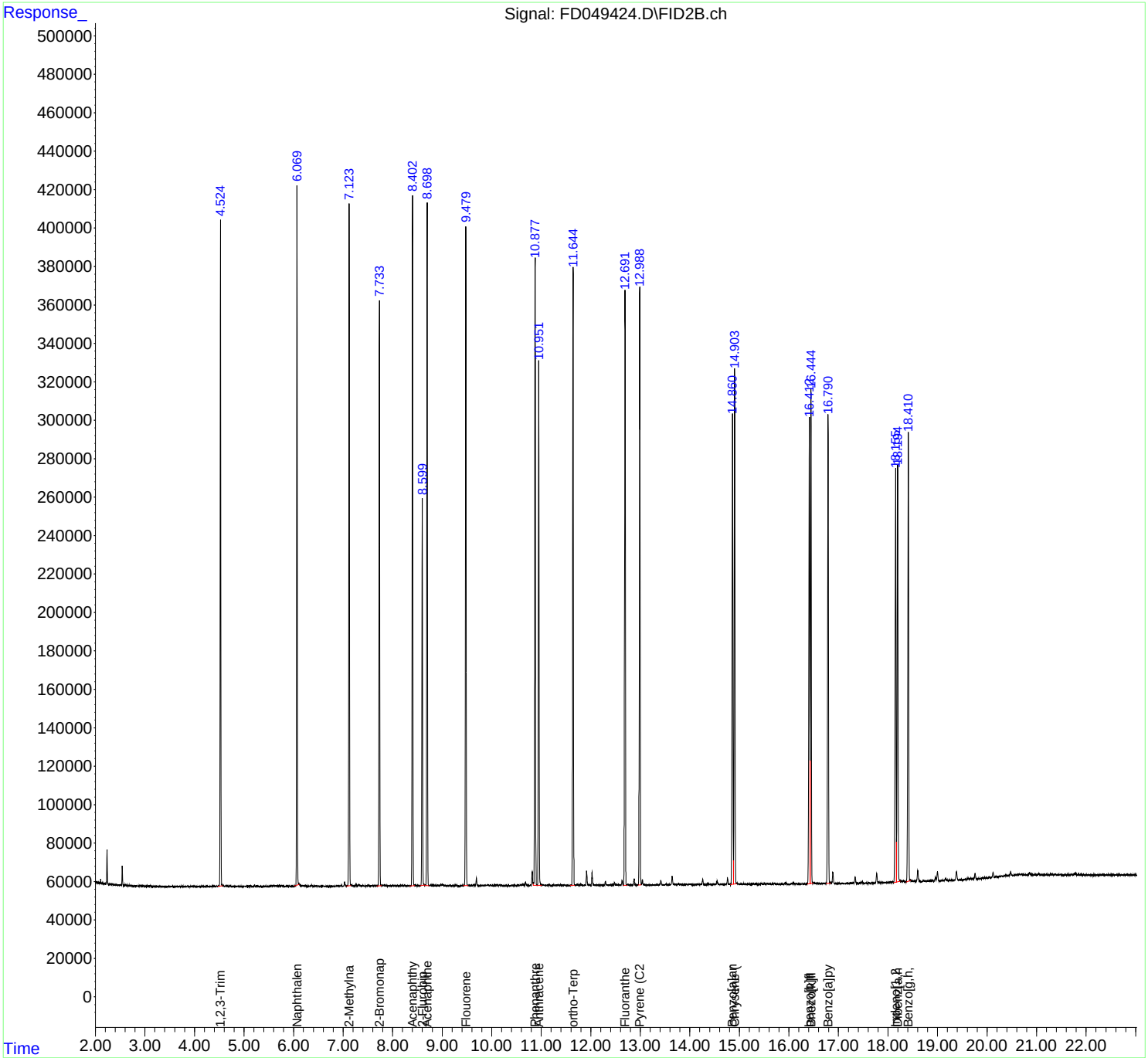
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061025AR\
Data File : FD049424.D
Signal(s) : FID2B.ch
Acq On : 10 Jun 2025 09:11
Operator : YP/AJ
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 53 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
20 PPM AROMATIC HC STD

Integration File: autoint1.e
Quant Time: Jun 11 01:07:03 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm



rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061025AR\
Data File : FD049424.D
Signal(s) : FID2B.ch
Acq On : 10 Jun 2025 09:11
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Title : GC Extractables

Signal : FID2B.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.525 | 4.474 | 4.567 | BB | 345992 | 3006230 | 86.77% | 4.658% |
| 2 | 6.069 | 6.014 | 6.117 | BB | 363843 | 3272259 | 94.45% | 5.070% |
| 3 | 7.123 | 7.069 | 7.160 | BB | 355133 | 3338479 | 96.36% | 5.172% |
| 4 | 7.733 | 7.685 | 7.777 | BB | 304350 | 2872386 | 82.91% | 4.450% |
| 5 | 8.402 | 8.345 | 8.444 | BB | 358237 | 3464639 | 100.00% | 5.368% |
| 6 | 8.599 | 8.549 | 8.644 | BB | 201013 | 1953452 | 56.38% | 3.027% |
| 7 | 8.698 | 8.655 | 8.739 | BB | 355591 | 3453723 | 99.68% | 5.351% |
| 8 | 9.480 | 9.424 | 9.525 | BB | 343074 | 3393231 | 97.94% | 5.257% |
| 9 | 10.877 | 10.837 | 10.914 | VB | 326509 | 3392979 | 97.93% | 5.257% |
| 10 | 10.952 | 10.924 | 11.014 | BB | 272755 | 2830338 | 81.69% | 4.385% |
| 11 | 11.644 | 11.587 | 11.677 | BB | 320943 | 3398869 | 98.10% | 5.266% |
| 12 | 12.691 | 12.657 | 12.729 | BB | 308956 | 3377511 | 97.49% | 5.233% |
| 13 | 12.989 | 12.955 | 13.020 | BV | 310896 | 3375230 | 97.42% | 5.229% |
| 14 | 14.860 | 14.822 | 14.880 | BV | 244306 | 2971916 | 85.78% | 4.604% |
| 15 | 14.903 | 14.880 | 14.944 | VB | 268430 | 3060932 | 88.35% | 4.742% |
| 16 | 16.412 | 16.370 | 16.427 | BV | 242723 | 3112284 | 89.83% | 4.822% |
| 17 | 16.444 | 16.427 | 16.484 | VB | 257011 | 2892467 | 83.49% | 4.481% |
| 18 | 16.790 | 16.750 | 16.840 | BB | 244174 | 2996280 | 86.48% | 4.642% |
| 19 | 18.155 | 18.110 | 18.172 | BV | 215984 | 2701341 | 77.97% | 4.185% |
| 20 | 18.195 | 18.172 | 18.252 | VB | 215903 | 2707715 | 78.15% | 4.195% |
| 21 | 18.411 | 18.365 | 18.459 | BB | 233911 | 2971654 | 85.77% | 4.604% |
| | | | Sum of corrected areas: | | | 64543914 | | |

Aromatic EPH 052425.M Wed Jun 11 01:17:08 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Continuing Calibration Report for SequenceID : FD061025AR

| Parameter | AreaCount | Conc. | RT_Min | RT_Max | Response Factor | AVGRF | %DEV |
|---|---|---|---|---|---|---|---|
| **File ID :** | **FD049427.D** | | | | | | |
| Aromatic C10-C12 | 6485261.000 | 40.000 | 4.425 | 6.169 | 162131.525 | 167344.833 | 3.115 |
| Aromatic C12-C16 | 10630607.000 | 60.000 | 6.170 | 8.798 | 177176.783 | 187525.524 | 5.519 |
| Aromatic C16-C21 | 13401211.000 | 80.000 | 8.799 | 13.089 | 167515.138 | 184740.440 | 9.324 |
| Aromatic C21-C36 | 27453656.000 | 180.000 | 13.090 | 18.511 | 152520.311 | 145057.816 | -5.144 |
| Aromatic EPH | 57970735.000 | 360.000 | 4.425 | 18.511 | 161029.819 | 163430.463 | 1.469 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

| | | | |
|---|---|---|---|
| Lab Sample ID: | 20 PPM AROMATIC HC S | Acq On: | 10 Jun 2025 13:10 |
| Client Sample ID: | | Operator: | YP/AJ |
| Data file: | FD049427.D | Misc: | |
| Instrument: | FID_D | ALS Vial: | 53 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | Units |
|---|---|---|---|---|---|
| Aromatic C10-C12 | 4.425 | 6.169 | 6485261.000 | 40.000 | ug/ml |
| Aromatic C12-C16 | 6.170 | 8.798 | 10630607.000 | 60.000 | ug/ml |
| Aromatic C16-C21 | 8.799 | 13.089 | 13401211.000 | 80.000 | ug/ml |
| Aromatic C21-C36 | 13.090 | 18.511 | 27453656.000 | 180.000 | ug/ml |
| Aromatic EPH | 4.425 | 18.511 | 57970735.000 | 360.000 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061025AR\
Data File : FD049427.D
Signal(s) : FID2B.ch
Acq On : 10 Jun 2025 13:10
Operator : YP/AJ
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 53 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
20 PPM AROMATIC HC STD

Integration File: autoint1.e
Quant Time: Jun 11 01:07:47 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 4) S | 2-Bromonaphthalene (S... | 7.732 | 2975394 | 17.899 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 35.80% |
| 6) S | 2-Flurobiphenyl (SURR) | 8.597 | 2016757 | 17.629 ug/ml |
| Spiked Amount | 50.000 Range | 0 - 131 | Recovery = | 35.26% |
| 11) S | ortho-Terphenyl (SURR) | 11.642 | 3553158 | 17.702 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 35.40% |
| | **Target Compounds** | | | |
| 1) T | 1,2,3-Trimethylbenzen... | 4.525 | 3102459 | 19.499 ug/ml |
| 2) T | Naphthalene (C11.7) | 6.069 | 3382802 | 19.266 ug/ml |
| 3) T | 2-Methylnaphthalene (... | 7.122 | 3459496 | 19.365 ug/ml |
| 5) T | Acenaphthylene (C15.06) | 8.401 | 3594297 | 18.555 ug/ml |
| 7) T | Acenaphthene (C15.5) | 8.696 | 3576814 | 18.804 ug/ml |
| 8) T | Flouorene (C16.55) | 9.477 | 3517249 | 17.989 ug/ml |
| 9) T | Phenanthrene (C19.36) | 10.876 | 3505344 | 18.436 ug/ml |
| 10) T | Anthracene (C19.43) | 10.950 | 2913761 | 16.667 ug/ml |
| 12) T | Fluoranthene (C21.85) | 12.691 | 3471021 | 19.243 ug/ml |
| 13) T | Pyrene (C20.8) | 12.989 | 3464857 | 19.413 ug/ml |
| 14) T | Benzo[a]anthracene (C... | 14.860 | 3041139 | 20.009 ug/ml |
| 15) T | Chrysene (C27.41) | 14.903 | 3134284 | 20.640 ug/ml |
| 16) T | benzo[b]fluoranthene ... | 16.411 | 3177149 | 21.950 ug/ml |
| 17) T | Bnezo[k]fluoranthene ... | 16.444 | 2961342 | 20.637 ug/ml |
| 18) T | Benzo[a]pyrene (C31.34) | 16.791 | 3065305 | 22.553 ug/ml |
| 19) T | Indeno[1,2,3-cd]pyren... | 18.154 | 2767417 | 21.666 ug/ml |
| 20) T | Dibenz[a,h]anthracene... | 18.195 | 2790134 | 20.725 ug/ml |
| 21) T | Benzo[g,h,i]perylene ... | 18.411 | 3045865 | 22.598 ug/ml |

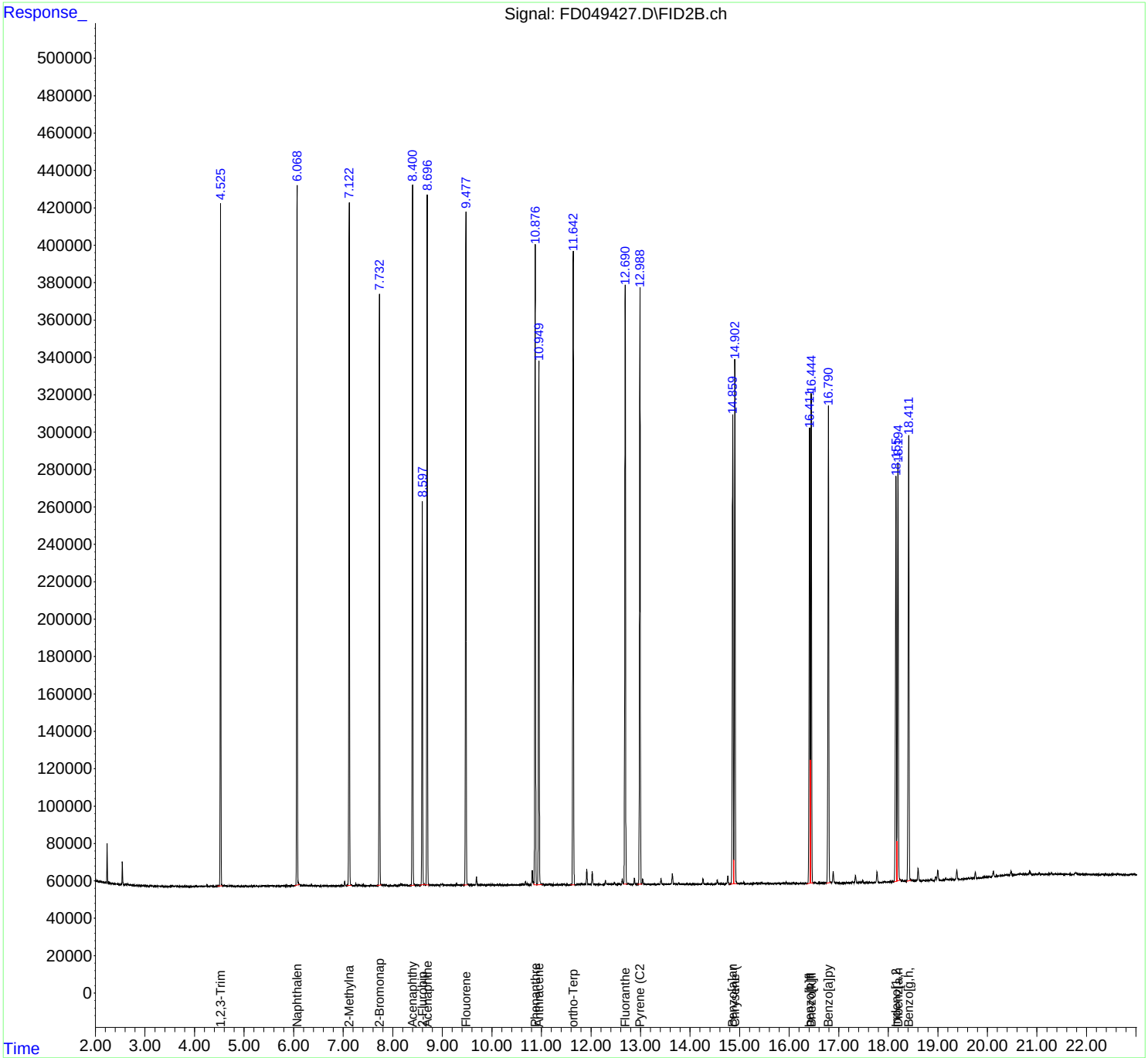
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061025AR\
Data File : FD049427.D
Signal(s) : FID2B.ch
Acq On : 10 Jun 2025 13:10
Operator : YP/AJ
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 53 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
20 PPM AROMATIC HC STD

Integration File: autoint1.e
Quant Time: Jun 11 01:07:47 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm



rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061025AR\
Data File : FD049427.D
Signal(s) : FID2B.ch
Acq On : 10 Jun 2025 13:10
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Title : GC Extractables

Signal : FID2B.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.525 | 4.472 | 4.565 | BB | 364550 | 3102459 | 86.32% | 4.664% |
| 2 | 6.069 | 6.019 | 6.119 | BB | 374370 | 3382802 | 94.12% | 5.086% |
| 3 | 7.122 | 7.069 | 7.170 | BB | 365031 | 3459496 | 96.25% | 5.201% |
| 4 | 7.732 | 7.682 | 7.774 | BB | 315890 | 2975394 | 82.78% | 4.473% |
| 5 | 8.401 | 8.349 | 8.445 | BB | 374349 | 3594297 | 100.00% | 5.404% |
| 6 | 8.597 | 8.539 | 8.639 | BB | 205083 | 2016757 | 56.11% | 3.032% |
| 7 | 8.696 | 8.640 | 8.732 | BB | 369254 | 3576814 | 99.51% | 5.377% |
| 8 | 9.477 | 9.419 | 9.515 | BB | 359122 | 3517249 | 97.86% | 5.288% |
| 9 | 10.876 | 10.849 | 10.917 | VV | 342054 | 3505344 | 97.53% | 5.270% |
| 10 | 10.950 | 10.917 | 11.014 | VB | 280165 | 2913761 | 81.07% | 4.381% |
| 11 | 11.642 | 11.582 | 11.675 | BB | 338635 | 3553158 | 98.86% | 5.342% |
| 12 | 12.691 | 12.655 | 12.729 | BB | 319507 | 3471021 | 96.57% | 5.218% |
| 13 | 12.989 | 12.932 | 13.024 | BV | 319000 | 3464857 | 96.40% | 5.209% |
| 14 | 14.860 | 14.795 | 14.880 | BV | 249485 | 3041139 | 84.61% | 4.572% |
| 15 | 14.903 | 14.880 | 14.952 | VB | 280121 | 3134284 | 87.20% | 4.712% |
| 16 | 16.411 | 16.355 | 16.427 | BV | 242311 | 3177149 | 88.39% | 4.777% |
| 17 | 16.444 | 16.427 | 16.480 | VB | 261557 | 2961342 | 82.39% | 4.452% |
| 18 | 16.791 | 16.747 | 16.835 | BB | 254899 | 3065305 | 85.28% | 4.608% |
| 19 | 18.154 | 18.115 | 18.172 | BV | 215866 | 2767417 | 76.99% | 4.161% |
| 20 | 18.195 | 18.172 | 18.244 | VB | 223547 | 2790134 | 77.63% | 4.195% |
| 21 | 18.411 | 18.367 | 18.464 | BB | 238640 | 3045865 | 84.74% | 4.579% |

Sum of corrected areas: 66516042

Aromatic EPH 052425.M Wed Jun 11 01:18:12 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Continuing Calibration Report for SequenceID : FD061125AR

| Parameter | AreaCount | Conc. | RT_Min | RT_Max | Response Factor | AVGRF | %DEV |
|---|---|---|---|---|---|---|---|
| **File ID :** | **FD049430.D** | | | | | | |
| Aromatic C10-C12 | 6205695.000 | 40.000 | 4.424 | 6.168 | 155142.375 | 167344.833 | 7.292 |
| Aromatic C12-C16 | 9970470.000 | 60.000 | 6.169 | 8.797 | 166174.500 | 187525.524 | 11.386 |
| Aromatic C16-C21 | 12701998.000 | 80.000 | 8.798 | 13.088 | 158774.975 | 184740.440 | 14.055 |
| Aromatic C21-C36 | 25903906.000 | 180.000 | 13.089 | 18.509 | 143910.589 | 145057.816 | 0.791 |
| Aromatic EPH | 54782069.000 | 360.000 | 4.424 | 18.509 | 152172.414 | 163430.463 | 6.889 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

| | | | |
|---|---|---|---|
| Lab Sample ID: | 20 PPM AROMATIC HC S | Acq On: | 11 Jun 2025 12:12 |
| Client Sample ID: | | Operator: | YP/AJ |
| Data file: | FD049430.D | Misc: | |
| Instrument: | FID_D | ALS Vial: | 52 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | Units |
|---|---|---|---|---|---|
| Aromatic C10-C12 | 4.424 | 6.168 | 6205695.000 | 40.000 | ug/ml |
| Aromatic C12-C16 | 6.169 | 8.797 | 9970470.000 | 60.000 | ug/ml |
| Aromatic C16-C21 | 8.798 | 13.088 | 12701998.000 | 80.000 | ug/ml |
| Aromatic C21-C36 | 13.089 | 18.509 | 25903906.000 | 180.000 | ug/ml |
| Aromatic EPH | 4.424 | 18.509 | 54782069.000 | 360.000 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061125AR\
Data File : FD049430.D
Signal(s) : FID2B.ch
Acq On : 11 Jun 2025 12:12
Operator : YP/AJ
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 52 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
20 PPM AROMATIC HC STD

Integration File: autoint1.e
Quant Time: Jun 12 04:58:40 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 4) S | 2-Bromonaphthalene (S... | 7.731 | 2922969 | 17.583 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 35.17% |
| 6) S | 2-Flurobiphenyl (SURR) | 8.597 | 1969245 | 17.214 ug/ml |
| Spiked Amount | 50.000 Range | 0 - 131 | Recovery = | 34.43% |
| 11) S | ortho-Terphenyl (SURR) | 11.642 | 3364588 | 16.763 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 33.53% |
| | **Target Compounds** | | | |
| 1) T | 1,2,3-Trimethylbenzen... | 4.524 | 2999720 | 18.854 ug/ml |
| 2) T | Naphthalene (C11.7) | 6.068 | 3205975 | 18.259 ug/ml |
| 3) T | 2-Methylnaphthalene (... | 7.122 | 3197828 | 17.900 ug/ml |
| 5) T | Acenaphthylene (C15.06) | 8.401 | 3430570 | 17.710 ug/ml |
| 7) T | Acenaphthene (C15.5) | 8.697 | 3342072 | 17.570 ug/ml |
| 8) T | Flouorene (C16.55) | 9.478 | 3360666 | 17.188 ug/ml |
| 9) T | Phenanthrene (C19.36) | 10.876 | 3243120 | 17.056 ug/ml |
| 10) T | Anthracene (C19.43) | 10.950 | 2857534 | 16.346 ug/ml |
| 12) T | Fluoranthene (C21.85) | 12.690 | 3239356 | 17.959 ug/ml |
| 13) T | Pyrene (C20.8) | 12.988 | 3240678 | 18.157 ug/ml |
| 14) T | Benzo[a]anthracene (C... | 14.859 | 2877554 | 18.933 ug/ml |
| 15) T | Chrysene (C27.41) | 14.901 | 2921565 | 19.239 ug/ml |
| 16) T | benzo[b]fluoranthene ... | 16.410 | 2957494 | 20.432 ug/ml |
| 17) T | Bnezo[k]fluoranthene ... | 16.443 | 2915562 | 20.318 ug/ml |
| 18) T | Benzo[a]pyrene (C31.34) | 16.789 | 2793997 | 20.557 ug/ml |
| 19) T | Indeno[1,2,3-cd]pyren... | 18.152 | 2626114 | 20.560 ug/ml |
| 20) T | Dibenz[a,h]anthracene... | 18.193 | 2725206 | 20.243 ug/ml |
| 21) T | Benzo[g,h,i]perylene ... | 18.409 | 2847058 | 21.123 ug/ml |

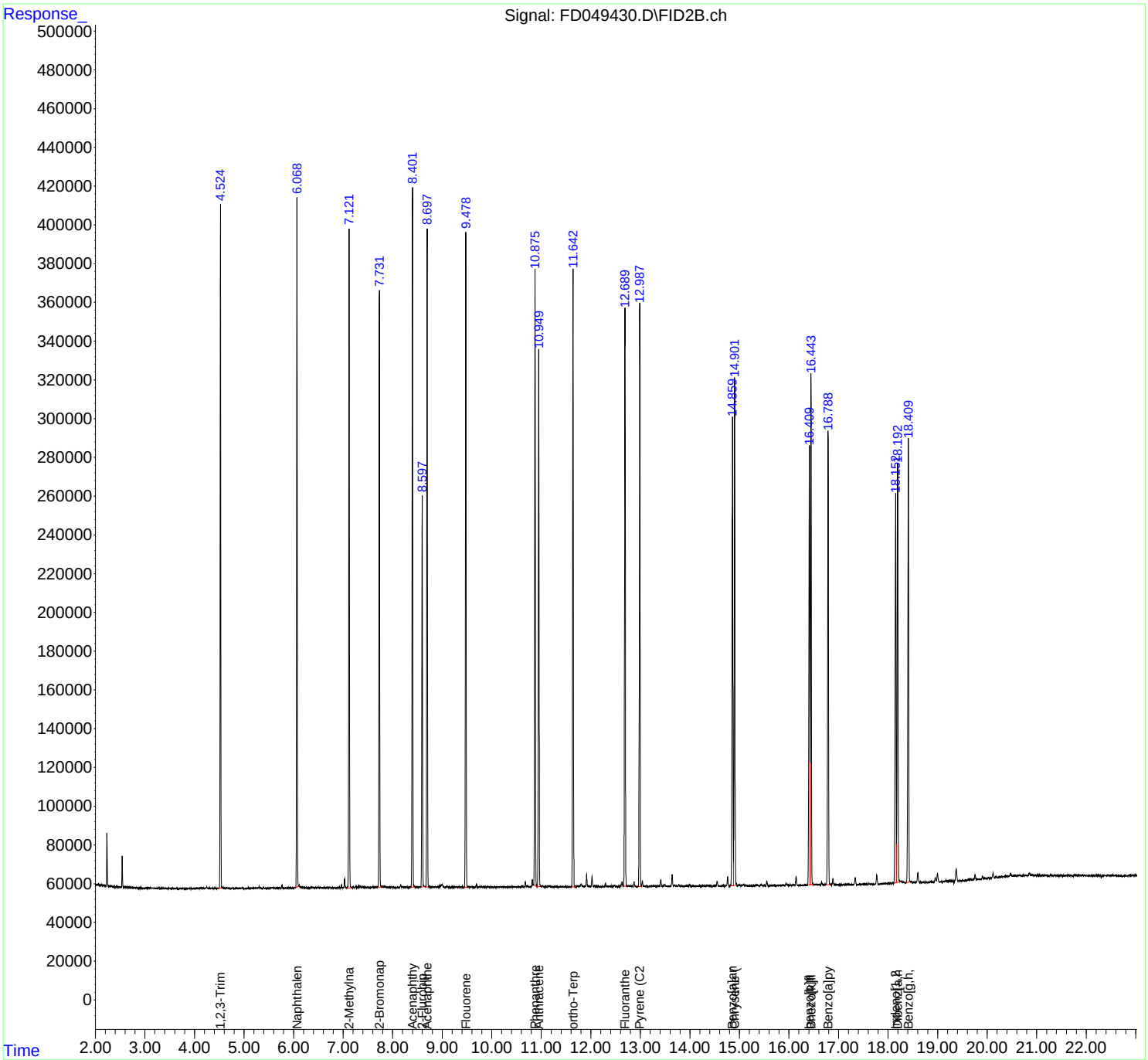
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061125AR\
Data File : FD049430.D
Signal(s) : FID2B.ch
Acq On : 11 Jun 2025 12:12
Operator : YP/AJ
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 52 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
20 PPM AROMATIC HC STD

Integration File: autoint1.e
Quant Time: Jun 12 04:58:40 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm



rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061225AR\
Data File : FD049430.D
Signal(s) : FID2B.ch
Acq On : 11 Jun 2025 12:12
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Title : GC Extractables

Signal : FID2B.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.524 | 4.477 | 4.565 | BB | 352463 | 2999720 | 87.44% | 4.759% |
| 2 | 6.068 | 6.024 | 6.107 | BB | 356166 | 3205975 | 93.45% | 5.086% |
| 3 | 7.122 | 7.069 | 7.184 | BB | 339161 | 3197828 | 93.22% | 5.073% |
| 4 | 7.731 | 7.697 | 7.782 | BB | 308274 | 2922969 | 85.20% | 4.637% |
| 5 | 8.401 | 8.365 | 8.445 | BB | 359781 | 3430570 | 100.00% | 5.442% |
| 6 | 8.597 | 8.569 | 8.637 | BB | 201256 | 1969245 | 57.40% | 3.124% |
| 7 | 8.697 | 8.664 | 8.729 | BB | 339342 | 3342072 | 97.42% | 5.302% |
| 8 | 9.478 | 9.440 | 9.520 | BB | 338587 | 3360666 | 97.96% | 5.331% |
| 9 | 10.876 | 10.847 | 10.915 | BV | 318435 | 3243120 | 94.54% | 5.145% |
| 10 | 10.950 | 10.915 | 11.000 | PB | 277160 | 2857534 | 83.30% | 4.533% |
| 11 | 11.642 | 11.610 | 11.692 | BB | 318299 | 3364588 | 98.08% | 5.337% |
| 12 | 12.690 | 12.655 | 12.724 | BB | 298745 | 3239356 | 94.43% | 5.139% |
| 13 | 12.988 | 12.952 | 13.024 | BV | 301168 | 3240678 | 94.46% | 5.141% |
| 14 | 14.859 | 14.814 | 14.879 | BV | 240651 | 2877554 | 83.88% | 4.565% |
| 15 | 14.901 | 14.879 | 14.949 | VB | 262224 | 2921565 | 85.16% | 4.635% |
| 16 | 16.410 | 16.372 | 16.426 | BV | 226551 | 2957494 | 86.21% | 4.692% |
| 17 | 16.443 | 16.426 | 16.487 | VB | 263432 | 2915562 | 84.99% | 4.625% |
| 18 | 16.789 | 16.749 | 16.837 | BB | 234240 | 2793997 | 81.44% | 4.432% |
| 19 | 18.152 | 18.114 | 18.170 | BV | 201018 | 2626114 | 76.55% | 4.166% |
| 20 | 18.193 | 18.170 | 18.250 | VB | 215864 | 2725206 | 79.44% | 4.323% |
| 21 | 18.409 | 18.362 | 18.452 | BB | 228105 | 2847058 | 82.99% | 4.516% |
| | | | Sum of corrected areas: | | | 63038871 | | |

Aromatic EPH 052425.M Thu Jun 12 05:37:24 2025

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# Continuing Calibration Report for SequenceID : FD061125AR

| Parameter | AreaCount | Conc. | RT_Min | RT_Max | Response Factor | AVGRF | %DEV |
|---|---|---|---|---|---|---|---|
| **File ID :** | **FD049443.D** | | | | | | |
| Aromatic C10-C12 | 6392686.000 | 40.000 | 4.424 | 6.168 | 159817.150 | 167344.833 | 4.498 |
| Aromatic C12-C16 | 10225061.000 | 60.000 | 6.169 | 8.797 | 170417.683 | 187525.524 | 9.123 |
| Aromatic C16-C21 | 13364565.000 | 80.000 | 8.798 | 13.088 | 167057.063 | 184740.440 | 9.572 |
| Aromatic C21-C36 | 27341316.000 | 180.000 | 13.089 | 18.509 | 151896.200 | 145057.816 | -4.714 |
| Aromatic EPH | 57323628.000 | 360.000 | 4.424 | 18.509 | 159232.300 | 163430.463 | 2.569 |

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Fax : 908 789 8922

| | | | |
|---|---|---|---|
| Lab Sample ID: | 20 PPM AROMATIC HC S | Acq On: | 12 Jun 2025 00:09 |
| Client Sample ID: | | Operator: | YP/AJ |
| Data file: | FD049443.D | Misc: | |
| Instrument: | FID_D | ALS Vial: | 52 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | Units |
|---|---|---|---|---|---|
| Aromatic C10-C12 | 4.424 | 6.168 | 6392686.000 | 40.000 | ug/ml |
| Aromatic C12-C16 | 6.169 | 8.797 | 10225061.000 | 60.000 | ug/ml |
| Aromatic C16-C21 | 8.798 | 13.088 | 13364565.000 | 80.000 | ug/ml |
| Aromatic C21-C36 | 13.089 | 18.509 | 27341316.000 | 180.000 | ug/ml |
| Aromatic EPH | 4.424 | 18.509 | 57323628.000 | 360.000 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061125AR\
Data File : FD049443.D
Signal(s) : FID2B.ch
Acq On : 12 Jun 2025 00:09
Operator : YP/AJ
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 52 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
20 PPM AROMATIC HC STD

Integration File: autoint1.e
Quant Time: Jun 12 05:02:36 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 4) S | 2-Bromonaphthalene (S... | 7.732 | 3000500 | 18.050 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 36.10% |
| 6) S | 2-Flurobiphenyl (SURR) | 8.597 | 2063858 | 18.041 ug/ml |
| Spiked Amount | 50.000 Range | 0 - 131 | Recovery = | 36.08% |
| 11) S | ortho-Terphenyl (SURR) | 11.642 | 3453286 | 17.204 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 34.41% |
| | **Target Compounds** | | | |
| 1) T | 1,2,3-Trimethylbenzen... | 4.524 | 3079197 | 19.353 ug/ml |
| 2) T | Naphthalene (C11.7) | 6.068 | 3313489 | 18.871 ug/ml |
| 3) T | 2-Methylnaphthalene (... | 7.122 | 3291414 | 18.424 ug/ml |
| 5) T | Acenaphthylene (C15.06) | 8.401 | 3511983 | 18.130 ug/ml |
| 7) T | Acenaphthene (C15.5) | 8.697 | 3421664 | 17.988 ug/ml |
| 8) T | Flouorene (C16.55) | 9.478 | 3485792 | 17.828 ug/ml |
| 9) T | Phenanthrene (C19.36) | 10.876 | 3437044 | 18.076 ug/ml |
| 10) T | Anthracene (C19.43) | 10.950 | 3037990 | 17.378 ug/ml |
| 12) T | Fluoranthene (C21.85) | 12.690 | 3405733 | 18.881 ug/ml |
| 13) T | Pyrene (C20.8) | 12.989 | 3403739 | 19.071 ug/ml |
| 14) T | Benzo[a]anthracene (C... | 14.860 | 3073678 | 20.223 ug/ml |
| 15) T | Chrysene (C27.41) | 14.902 | 3099850 | 20.413 ug/ml |
| 16) T | benzo[b]fluoranthene ... | 16.410 | 3085638 | 21.317 ug/ml |
| 17) T | Bnezo[k]fluoranthene ... | 16.444 | 3039677 | 21.182 ug/ml |
| 18) T | Benzo[a]pyrene (C31.34) | 16.790 | 2916110 | 21.456 ug/ml |
| 19) T | Indeno[1,2,3-cd]pyren... | 18.153 | 2783208 | 21.790 ug/ml |
| 20) T | Dibenz[a,h]anthracene... | 18.193 | 2962587 | 22.006 ug/ml |
| 21) T | Benzo[g,h,i]perylene ... | 18.410 | 2974835 | 22.071 ug/ml |

(f)=RT Delta > 1/2 Window (m)=manual int.

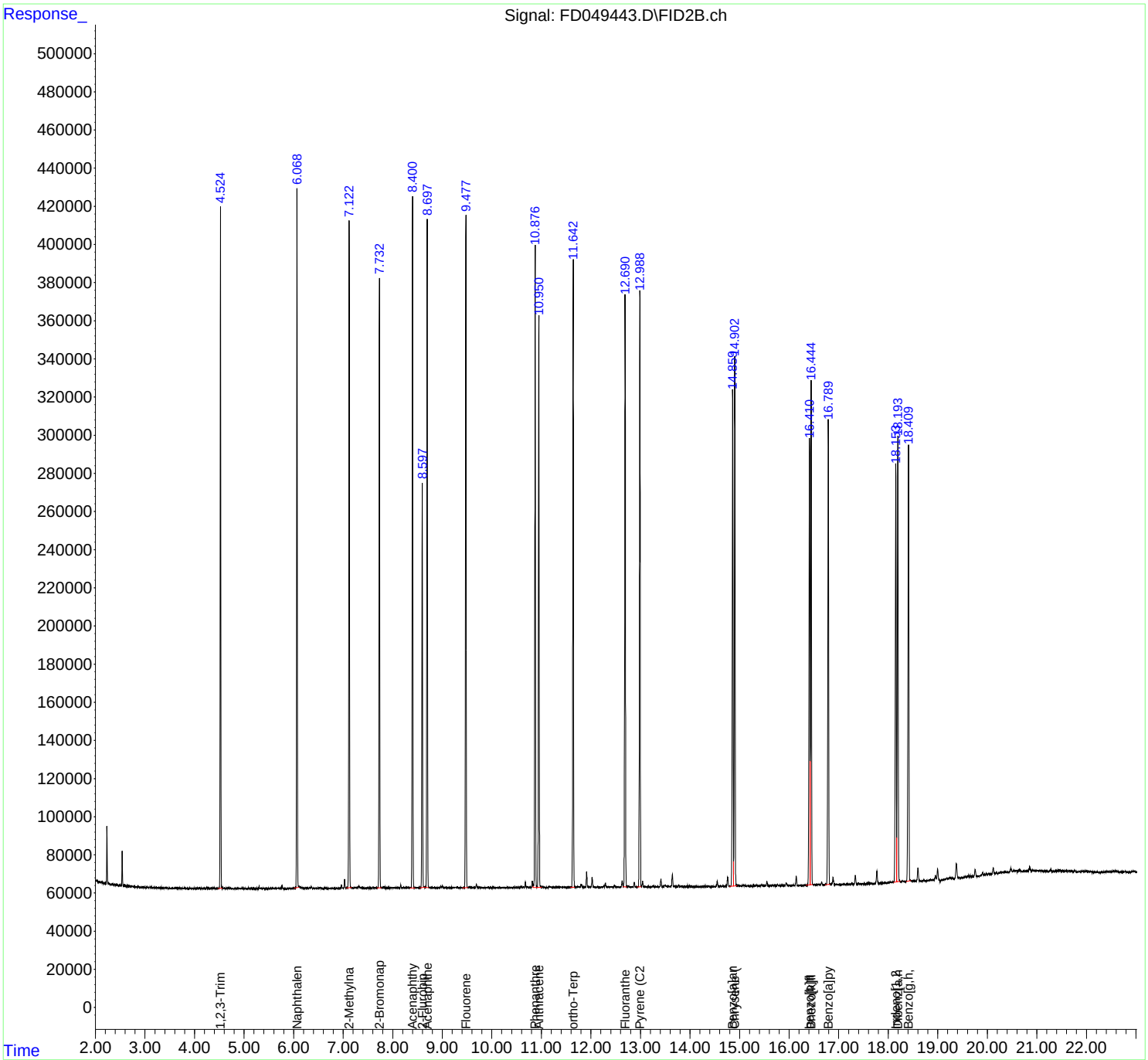
Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061125AR\
Data File : FD049443.D
Signal(s) : FID2B.ch
Acq On : 12 Jun 2025 00:09
Operator : YP/AJ
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 52 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
20 PPM AROMATIC HC STD

Integration File: autoint1.e
Quant Time: Jun 12 05:02:36 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm



rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061225AR\
Data File : FD049443.D
Signal(s) : FID2B.ch
Acq On : 12 Jun 2025 00:09
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Title : GC Extractables

Signal : FID2B.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.524 | 4.475 | 4.562 | BB | 357414 | 3079197 | 87.68% | 4.677% |
| 2 | 6.068 | 6.012 | 6.105 | BB | 365948 | 3313489 | 94.35% | 5.033% |
| 3 | 7.122 | 7.057 | 7.172 | BB | 349697 | 3291414 | 93.72% | 4.999% |
| 4 | 7.732 | 7.679 | 7.770 | BB | 319537 | 3000500 | 85.44% | 4.557% |
| 5 | 8.401 | 8.350 | 8.447 | BB | 362583 | 3511983 | 100.00% | 5.334% |
| 6 | 8.597 | 8.544 | 8.639 | BB | 211888 | 2063858 | 58.77% | 3.135% |
| 7 | 8.697 | 8.639 | 8.725 | BB | 350537 | 3421664 | 97.43% | 5.197% |
| 8 | 9.478 | 9.415 | 9.522 | BB | 352143 | 3485792 | 99.25% | 5.294% |
| 9 | 10.876 | 10.833 | 10.920 | VV | 337279 | 3437044 | 97.87% | 5.220% |
| 10 | 10.950 | 10.920 | 11.004 | VB | 299839 | 3037990 | 86.50% | 4.614% |
| 11 | 11.642 | 11.582 | 11.675 | BB | 328928 | 3453286 | 98.33% | 5.245% |
| 12 | 12.690 | 12.650 | 12.727 | BB | 310950 | 3405733 | 96.97% | 5.173% |
| 13 | 12.989 | 12.927 | 13.015 | BV | 312178 | 3403739 | 96.92% | 5.170% |
| 14 | 14.860 | 14.794 | 14.879 | BV | 259452 | 3073678 | 87.52% | 4.668% |
| 15 | 14.902 | 14.879 | 14.954 | VB | 277346 | 3099850 | 88.26% | 4.708% |
| 16 | 16.410 | 16.340 | 16.426 | BV | 234058 | 3085638 | 87.86% | 4.686% |
| 17 | 16.444 | 16.426 | 16.479 | VB | 264207 | 3039677 | 86.55% | 4.617% |
| 18 | 16.790 | 16.729 | 16.830 | BB | 243738 | 2916110 | 83.03% | 4.429% |
| 19 | 18.153 | 18.110 | 18.170 | BV | 219593 | 2783208 | 79.25% | 4.227% |
| 20 | 18.193 | 18.170 | 18.240 | VB | 234143 | 2962587 | 84.36% | 4.500% |
| 21 | 18.410 | 18.362 | 18.454 | BB | 228344 | 2974835 | 84.71% | 4.518% |

Sum of corrected areas: 65841271

Aromatic EPH 052425.M Thu Jun 12 05:46:49 2025

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# Continuing Calibration Report for SequenceID : FD061125AR

| Parameter | AreaCount | Conc. | RT_Min | RT_Max | Response Factor | AVGRF | %DEV |
|---|---|---|---|---|---|---|---|
| **File ID :** | **FD049449.D** | | | | | | |
| Aromatic C10-C12 | 6540731.000 | 40.000 | 4.424 | 6.168 | 163518.275 | 167344.833 | 2.287 |
| Aromatic C12-C16 | 10481876.000 | 60.000 | 6.169 | 8.797 | 174697.933 | 187525.524 | 6.840 |
| Aromatic C16-C21 | 13688224.000 | 80.000 | 8.798 | 13.088 | 171102.800 | 184740.440 | 7.382 |
| Aromatic C21-C36 | 27718945.000 | 180.000 | 13.089 | 18.509 | 153994.139 | 145057.816 | -6.161 |
| Aromatic EPH | 58429776.000 | 360.000 | 4.424 | 18.509 | 162304.933 | 163430.463 | 0.689 |

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Fax : 908 789 8922

| | | | |
|---|---|---|---|
| Lab Sample ID: | 20 PPM AROMATIC HC S | Acq On: | 12 Jun 2025 04:46 |
| Client Sample ID: | | Operator: | YP/AJ |
| Data file: | FD049449.D | Misc: | |
| Instrument: | FID_D | ALS Vial: | 52 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | Units |
|---|---|---|---|---|---|
| Aromatic C10-C12 | 4.424 | 6.168 | 6540731.000 | 40.000 | ug/ml |
| Aromatic C12-C16 | 6.169 | 8.797 | 10481876.000 | 60.000 | ug/ml |
| Aromatic C16-C21 | 8.798 | 13.088 | 13688224.000 | 80.000 | ug/ml |
| Aromatic C21-C36 | 13.089 | 18.509 | 27718945.000 | 180.000 | ug/ml |
| Aromatic EPH | 4.424 | 18.509 | 58429776.000 | 360.000 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061125AR\
Data File : FD049449.D
Signal(s) : FID2B.ch
Acq On : 12 Jun 2025 04:46
Operator : YP/AJ
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 52 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
20 PPM AROMATIC HC STD

Integration File: autoint1.e
Quant Time: Jun 12 07:15:00 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 4) | S 2-Bromonaphthalene (S... | 7.732 | 3078791 | 18.521 ug/ml |
| | Spiked Amount 50.000 | | Recovery = | 37.04% |
| 6) | S 2-Flurobiphenyl (SURR) | 8.598 | 2132154 | 18.638 ug/ml |
| | Spiked Amount 50.000 Range 0 - 131 | | Recovery = | 37.28% |
| 11) | S ortho-Terphenyl (SURR) | 11.643 | 3562730 | 17.750 ug/ml |
| | Spiked Amount 50.000 | | Recovery = | 35.50% |
| | **Target Compounds** | | | |
| 1) | T 1,2,3-Trimethylbenzen... | 4.525 | 3139699 | 19.734 ug/ml |
| 2) | T Naphthalene (C11.7) | 6.069 | 3401032 | 19.370 ug/ml |
| 3) | T 2-Methylnaphthalene (... | 7.122 | 3375685 | 18.896 ug/ml |
| 5) | T Acenaphthylene (C15.06) | 8.401 | 3597203 | 18.570 ug/ml |
| 7) | T Acenaphthene (C15.5) | 8.698 | 3508988 | 18.447 ug/ml |
| 8) | T Flouorene (C16.55) | 9.478 | 3575289 | 18.286 ug/ml |
| 9) | T Phenanthrene (C19.36) | 10.877 | 3520542 | 18.516 ug/ml |
| 10) | T Anthracene (C19.43) | 10.951 | 3114496 | 17.815 ug/ml |
| 12) | T Fluoranthene (C21.85) | 12.690 | 3487559 | 19.335 ug/ml |
| 13) | T Pyrene (C20.8) | 12.988 | 3477897 | 19.486 ug/ml |
| 14) | T Benzo[a]anthracene (C... | 14.860 | 3129210 | 20.589 ug/ml |
| 15) | T Chrysene (C27.41) | 14.903 | 3152090 | 20.757 ug/ml |
| 16) | T benzo[b]fluoranthene ... | 16.410 | 3125894 | 21.596 ug/ml |
| 17) | T Bnezo[k]fluoranthene ... | 16.444 | 3076294 | 21.438 ug/ml |
| 18) | T Benzo[a]pyrene (C31.34) | 16.790 | 2952928 | 21.726 ug/ml |
| 19) | T Indeno[1,2,3-cd]pyren... | 18.153 | 2799876 | 21.920 ug/ml |
| 20) | T Dibenz[a,h]anthracene... | 18.194 | 2999769 | 22.282 ug/ml |
| 21) | T Benzo[g,h,i]perylene ... | 18.410 | 2995325 | 22.223 ug/ml |

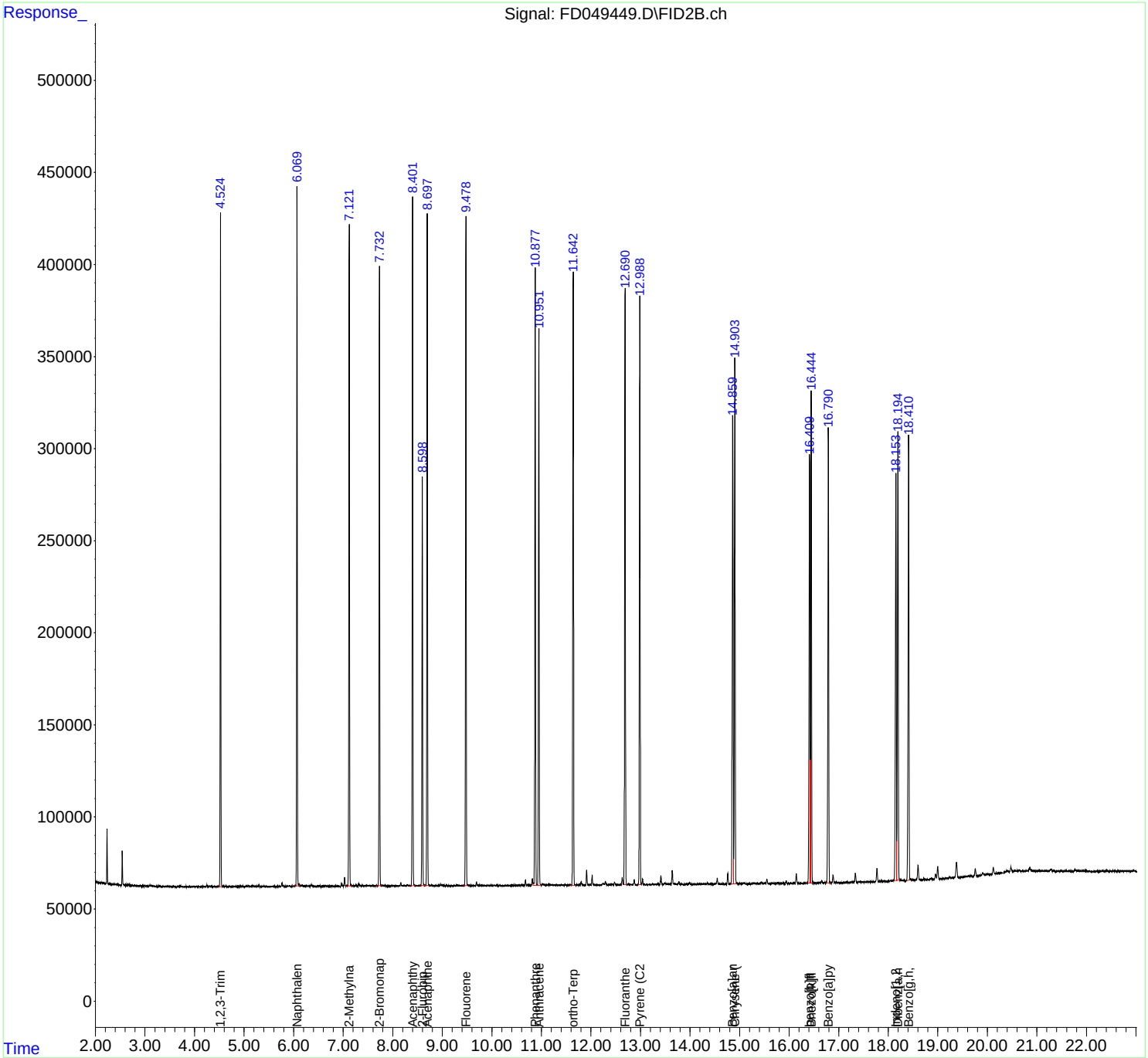
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061125AR\
Data File : FD049449.D
Signal(s) : FID2B.ch
Acq On : 12 Jun 2025 04:46
Operator : YP/AJ
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 52 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
20 PPM AROMATIC HC STD

Integration File: autoint1.e
Quant Time: Jun 12 07:15:00 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm



Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061225AR\
Data File : FD049449.D
Signal(s) : FID2B.ch
Acq On : 12 Jun 2025 04:46
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Title : GC Extractables

Signal : FID2B.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.525 | 4.475 | 4.567 | BB | 365193 | 3139699 | 87.28% | 4.672% |
| 2 | 6.069 | 6.015 | 6.132 | BB | 379885 | 3401032 | 94.55% | 5.061% |
| 3 | 7.122 | 7.059 | 7.177 | BB | 358815 | 3375685 | 93.84% | 5.023% |
| 4 | 7.732 | 7.674 | 7.774 | BB | 336049 | 3078791 | 85.59% | 4.581% |
| 5 | 8.401 | 8.344 | 8.450 | BB | 374341 | 3597203 | 100.00% | 5.353% |
| 6 | 8.598 | 8.544 | 8.649 | BB | 221532 | 2132154 | 59.27% | 3.173% |
| 7 | 8.698 | 8.649 | 8.730 | BB | 362763 | 3508988 | 97.55% | 5.221% |
| 8 | 9.478 | 9.420 | 9.507 | BB | 363349 | 3575289 | 99.39% | 5.320% |
| 9 | 10.877 | 10.832 | 10.917 | VV | 335809 | 3520542 | 97.87% | 5.239% |
| 10 | 10.951 | 10.917 | 11.002 | PB | 301572 | 3114496 | 86.58% | 4.634% |
| 11 | 11.643 | 11.587 | 11.687 | BB | 332743 | 3562730 | 99.04% | 5.301% |
| 12 | 12.690 | 12.655 | 12.734 | BB | 324176 | 3487559 | 96.95% | 5.190% |
| 13 | 12.988 | 12.950 | 13.020 | BV | 320664 | 3477897 | 96.68% | 5.175% |
| 14 | 14.860 | 14.814 | 14.880 | BV | 254667 | 3129210 | 86.99% | 4.656% |
| 15 | 14.903 | 14.880 | 14.950 | VB | 286380 | 3152090 | 87.63% | 4.690% |
| 16 | 16.410 | 16.370 | 16.426 | BV | 232665 | 3125894 | 86.90% | 4.651% |
| 17 | 16.444 | 16.426 | 16.487 | VB | 266863 | 3076294 | 85.52% | 4.578% |
| 18 | 16.790 | 16.749 | 16.844 | BB | 247811 | 2952928 | 82.09% | 4.394% |
| 19 | 18.153 | 18.110 | 18.171 | BV | 221236 | 2799876 | 77.83% | 4.166% |
| 20 | 18.194 | 18.171 | 18.235 | VB | 242524 | 2999769 | 83.39% | 4.464% |
| 21 | 18.410 | 18.367 | 18.438 | BB | 241791 | 2995325 | 83.27% | 4.457% |

Sum of corrected areas: 67203451

Aromatic EPH 052425.M Thu Jun 12 07:22:47 2025

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Fax : 908 789 8922

# Continuing Calibration Report for SequenceID : FD061325AR

| Parameter | AreaCount | Conc. | RT_Min | RT_Max | Response Factor | AVGRF | %DEV |
|---|---|---|---|---|---|---|---|
| **File ID :** | **FD049481.D** | | | | | | |
| Aromatic C10-C12 | 6695791.000 | 40.000 | 4.424 | 6.168 | 167394.775 | 167344.833 | -0.030 |
| Aromatic C12-C16 | 10586658.000 | 60.000 | 6.169 | 8.796 | 176444.300 | 187525.524 | 5.909 |
| Aromatic C16-C21 | 13509794.000 | 80.000 | 8.797 | 13.086 | 168872.425 | 184740.440 | 8.589 |
| Aromatic C21-C36 | 27183534.000 | 180.000 | 13.087 | 18.508 | 151019.633 | 145057.816 | -4.110 |
| Aromatic EPH | 57975777.000 | 360.000 | 4.424 | 18.508 | 161043.825 | 163430.463 | 1.460 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

| | | | |
|---|---|---|---|
| Lab Sample ID: | 20 PPM AROMATIC HC S | Acq On: | 13 Jun 2025 07:46 |
| Client Sample ID: | | Operator: | YP/AJ |
| Data file: | FD049481.D | Misc: | |
| Instrument: | FID_D | ALS Vial: | 52 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | Units |
|---|---|---|---|---|---|
| Aromatic C10-C12 | 4.424 | 6.168 | 6695791.000 | 40.000 | ug/ml |
| Aromatic C12-C16 | 6.169 | 8.796 | 10586658.000 | 60.000 | ug/ml |
| Aromatic C16-C21 | 8.797 | 13.086 | 13509794.000 | 80.000 | ug/ml |
| Aromatic C21-C36 | 13.087 | 18.508 | 27183534.000 | 180.000 | ug/ml |
| Aromatic EPH | 4.424 | 18.508 | 57975777.000 | 360.000 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061325AR\
Data File : FD049481.D
Signal(s) : FID2B.ch
Acq On : 13 Jun 2025 07:46
Operator : YP/AJ
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 52 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
20 PPM AROMATIC HC STD

Integration File: autoint1.e
Quant Time: Jun 13 21:19:07 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 4) S | 2-Bromonaphthalene (S... | 7.732 | 3128625 | 18.821 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 37.64% |
| 6) S | 2-Flurobiphenyl (SURR) | 8.597 | 2146964 | 18.768 ug/ml |
| Spiked Amount | 50.000 Range | 0 - 131 | Recovery = | 37.54% |
| 11) S | ortho-Terphenyl (SURR) | 11.641 | 3522208 | 17.548 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 35.10% |
| | **Target Compounds** | | | |
| 1) T | 1,2,3-Trimethylbenzen... | 4.524 | 3227741 | 20.287 ug/ml |
| 2) T | Naphthalene (C11.7) | 6.068 | 3468050 | 19.751 ug/ml |
| 3) T | 2-Methylnaphthalene (... | 7.121 | 3438943 | 19.250 ug/ml |
| 5) T | Acenaphthylene (C15.06) | 8.401 | 3613079 | 18.652 ug/ml |
| 7) T | Acenaphthene (C15.5) | 8.696 | 3534636 | 18.582 ug/ml |
| 8) T | Flouorene (C16.55) | 9.477 | 3588387 | 18.353 ug/ml |
| 9) T | Phenanthrene (C19.36) | 10.876 | 3463379 | 18.215 ug/ml |
| 10) T | Anthracene (C19.43) | 10.950 | 3059298 | 17.500 ug/ml |
| 12) T | Fluoranthene (C21.85) | 12.689 | 3405005 | 18.877 ug/ml |
| 13) T | Pyrene (C20.8) | 12.986 | 3398730 | 19.043 ug/ml |
| 14) T | Benzo[a]anthracene (C... | 14.858 | 3046605 | 20.045 ug/ml |
| 15) T | Chrysene (C27.41) | 14.901 | 3071588 | 20.227 ug/ml |
| 16) T | benzo[b]fluoranthene ... | 16.409 | 3055603 | 21.110 ug/ml |
| 17) T | Bnezo[k]fluoranthene ... | 16.442 | 3008650 | 20.966 ug/ml |
| 18) T | Benzo[a]pyrene (C31.34) | 16.788 | 2881018 | 21.197 ug/ml |
| 19) T | Indeno[1,2,3-cd]pyren... | 18.152 | 2754237 | 21.563 ug/ml |
| 20) T | Dibenz[a,h]anthracene... | 18.192 | 3023288 | 22.457 ug/ml |
| 21) T | Benzo[g,h,i]perylene ... | 18.408 | 2937540 | 21.794 ug/ml |

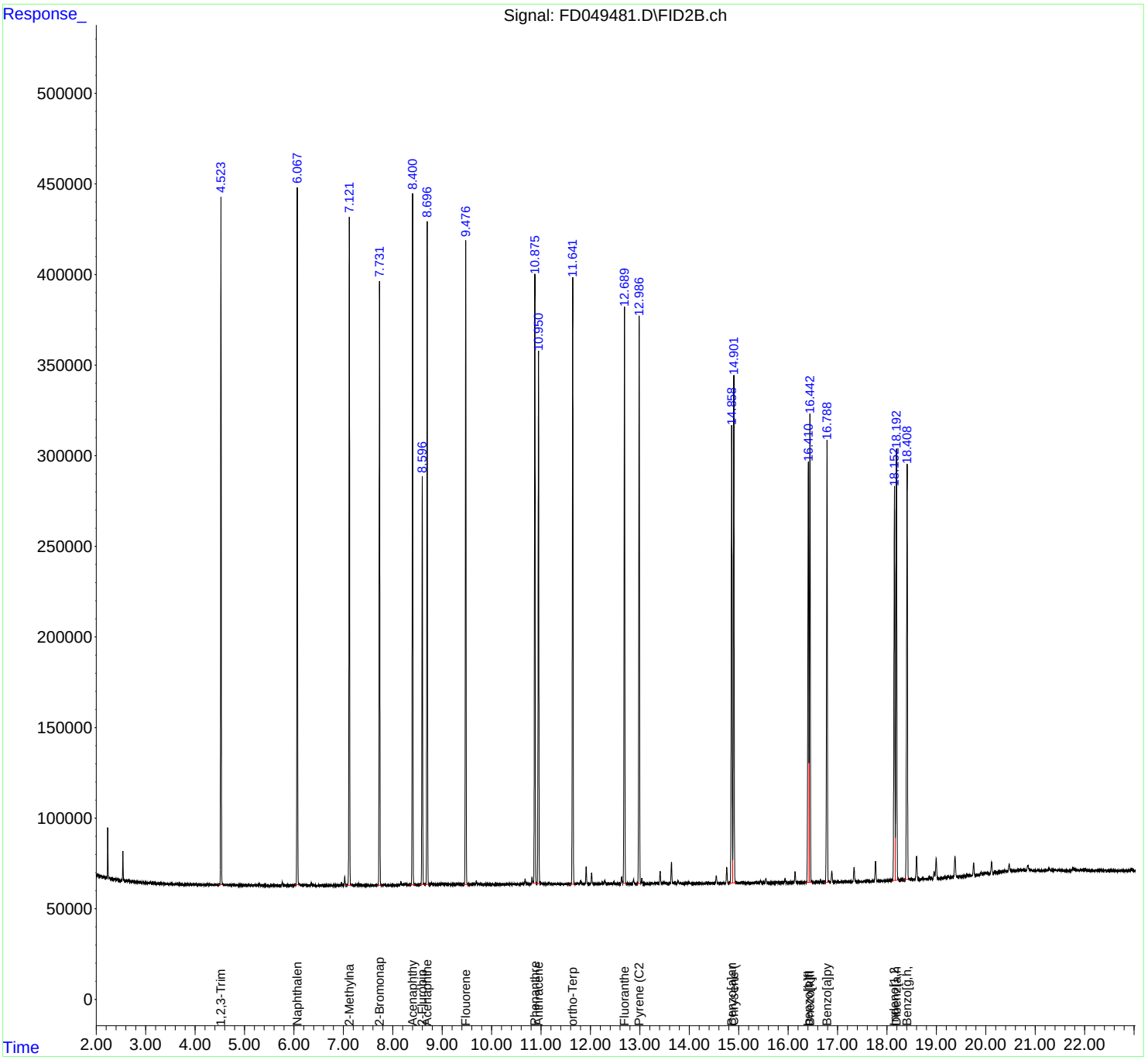
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061325AR\
Data File : FD049481.D
Signal(s) : FID2B.ch
Acq On : 13 Jun 2025 07:46
Operator : YP/AJ
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 52 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
20 PPM AROMATIC HC STD

Integration File: autoint1.e
Quant Time: Jun 13 21:19:07 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm



rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061325AR\
Data File : FD049481.D
Signal(s) : FID2B.ch
Acq On : 13 Jun 2025 07:46
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Title : GC Extractables

Signal : FID2B.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.524 | 4.474 | 4.557 | BB | 379177 | 3227741 | 89.33% | 4.834% |
| 2 | 6.068 | 6.022 | 6.105 | BV | 385844 | 3468050 | 95.99% | 5.194% |
| 3 | 7.121 | 7.057 | 7.167 | BB | 368140 | 3438943 | 95.18% | 5.150% |
| 4 | 7.732 | 7.685 | 7.775 | BB | 333128 | 3128625 | 86.59% | 4.685% |
| 5 | 8.401 | 8.352 | 8.444 | BB | 380283 | 3613079 | 100.00% | 5.411% |
| 6 | 8.597 | 8.550 | 8.626 | BB | 225014 | 2146964 | 59.42% | 3.215% |
| 7 | 8.696 | 8.642 | 8.739 | BB | 366252 | 3534636 | 97.83% | 5.293% |
| 8 | 9.477 | 9.419 | 9.525 | BB | 354765 | 3588387 | 99.32% | 5.374% |
| 9 | 10.876 | 10.842 | 10.917 | BV | 336403 | 3463379 | 95.86% | 5.187% |
| 10 | 10.950 | 10.917 | 10.985 | PB | 293855 | 3059298 | 84.67% | 4.582% |
| 11 | 11.641 | 11.580 | 11.685 | BB | 333776 | 3522208 | 97.48% | 5.275% |
| 12 | 12.689 | 12.650 | 12.730 | BB | 318374 | 3405005 | 94.24% | 5.099% |
| 13 | 12.986 | 12.932 | 13.015 | BV | 313040 | 3398730 | 94.07% | 5.090% |
| 14 | 14.858 | 14.800 | 14.878 | BV | 252778 | 3046605 | 84.32% | 4.563% |
| 15 | 14.901 | 14.878 | 14.945 | VB | 281274 | 3071588 | 85.01% | 4.600% |
| 16 | 16.409 | 16.349 | 16.424 | BV | 233146 | 3055603 | 84.57% | 4.576% |
| 17 | 16.442 | 16.424 | 16.480 | VB | 258537 | 3008650 | 83.27% | 4.506% |
| 18 | 16.788 | 16.729 | 16.835 | BB | 244191 | 2881018 | 79.74% | 4.315% |
| 19 | 18.152 | 18.110 | 18.169 | BV | 217163 | 2754237 | 76.23% | 4.125% |
| 20 | 18.192 | 18.169 | 18.245 | VB | 237059 | 3023288 | 83.68% | 4.528% |
| 21 | 18.408 | 18.339 | 18.435 | BB | 229241 | 2937540 | 81.30% | 4.399% |
| | | | Sum of corrected areas: | | | 66773572 | | |

Aromatic EPH 052425.M Fri Jun 13 22:36:44 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Continuing Calibration Report for SequenceID : FD061325AR

| Parameter | AreaCount | Conc. | RT_Min | RT_Max | Response Factor | AVGRF | %DEV |
|---|---|---|---|---|---|---|---|
| **File ID :** | **FD049489.D** | | | | | | |
| Aromatic C10-C12 | 6667078.000 | 40.000 | 4.424 | 6.168 | 166676.950 | 167344.833 | 0.399 |
| Aromatic C12-C16 | 10603581.000 | 60.000 | 6.169 | 8.796 | 176726.350 | 187525.524 | 5.759 |
| Aromatic C16-C21 | 13634458.000 | 80.000 | 8.797 | 13.086 | 170430.725 | 184740.440 | 7.746 |
| Aromatic C21-C36 | 27639906.000 | 180.000 | 13.087 | 18.508 | 153555.033 | 145057.816 | -5.858 |
| Aromatic EPH | 58545023.000 | 360.000 | 4.424 | 18.508 | 162625.064 | 163430.463 | 0.493 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

| | | | |
|---|---|---|---|
| Lab Sample ID: | 20 PPM AROMATIC HC S | Acq On: | 13 Jun 2025 13:06 |
| Client Sample ID: | | Operator: | YP/AJ |
| Data file: | FD049489.D | Misc: | |
| Instrument: | FID_D | ALS Vial: | 52 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | Units |
|---|---|---|---|---|---|
| Aromatic C10-C12 | 4.424 | 6.168 | 6667078.000 | 40.000 | ug/ml |
| Aromatic C12-C16 | 6.169 | 8.796 | 10603581.000 | 60.000 | ug/ml |
| Aromatic C16-C21 | 8.797 | 13.086 | 13634458.000 | 80.000 | ug/ml |
| Aromatic C21-C36 | 13.087 | 18.508 | 27639906.000 | 180.000 | ug/ml |
| Aromatic EPH | 4.424 | 18.508 | 58545023.000 | 360.000 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061325AR\
Data File : FD049489.D
Signal(s) : FID2B.ch
Acq On : 13 Jun 2025 13:06
Operator : YP/AJ
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 52 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
20 PPM AROMATIC HC STD

Integration File: autoint1.e
Quant Time: Jun 13 21:21:23 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 4) S | 2-Bromonaphthalene (S... | 7.731 | 3131407 | 18.837 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 37.67% |
| 6) S | 2-Flurobiphenyl (SURR) | 8.597 | 2156627 | 18.852 ug/ml |
| Spiked Amount | 50.000 Range | 0 - 131 | Recovery = | 37.70% |
| 11) S | ortho-Terphenyl (SURR) | 11.641 | 3565530 | 17.764 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 35.53% |
| | **Target Compounds** | | | |
| 1) T | 1,2,3-Trimethylbenzen... | 4.523 | 3204234 | 20.139 ug/ml |
| 2) T | Naphthalene (C11.7) | 6.068 | 3462844 | 19.722 ug/ml |
| 3) T | 2-Methylnaphthalene (... | 7.121 | 3432692 | 19.215 ug/ml |
| 5) T | Acenaphthylene (C15.06) | 8.400 | 3626398 | 18.721 ug/ml |
| 7) T | Acenaphthene (C15.5) | 8.696 | 3544491 | 18.634 ug/ml |
| 8) T | Flouorene (C16.55) | 9.477 | 3607525 | 18.451 ug/ml |
| 9) T | Phenanthrene (C19.36) | 10.876 | 3500915 | 18.412 ug/ml |
| 10) T | Anthracene (C19.43) | 10.950 | 3086776 | 17.657 ug/ml |
| 12) T | Fluoranthene (C21.85) | 12.689 | 3448276 | 19.117 ug/ml |
| 13) T | Pyrene (C20.8) | 12.987 | 3439242 | 19.269 ug/ml |
| 14) T | Benzo[a]anthracene (C... | 14.859 | 3097138 | 20.378 ug/ml |
| 15) T | Chrysene (C27.41) | 14.902 | 3123376 | 20.568 ug/ml |
| 16) T | benzo[b]fluoranthene ... | 16.410 | 3104218 | 21.446 ug/ml |
| 17) T | Bnezo[k]fluoranthene ... | 16.443 | 3059984 | 21.324 ug/ml |
| 18) T | Benzo[a]pyrene (C31.34) | 16.789 | 2925570 | 21.525 ug/ml |
| 19) T | Indeno[1,2,3-cd]pyren... | 18.154 | 2805123 | 21.961 ug/ml |
| 20) T | Dibenz[a,h]anthracene... | 18.194 | 3084606 | 22.913 ug/ml |
| 21) T | Benzo[g,h,i]perylene ... | 18.410 | 2991615 | 22.195 ug/ml |

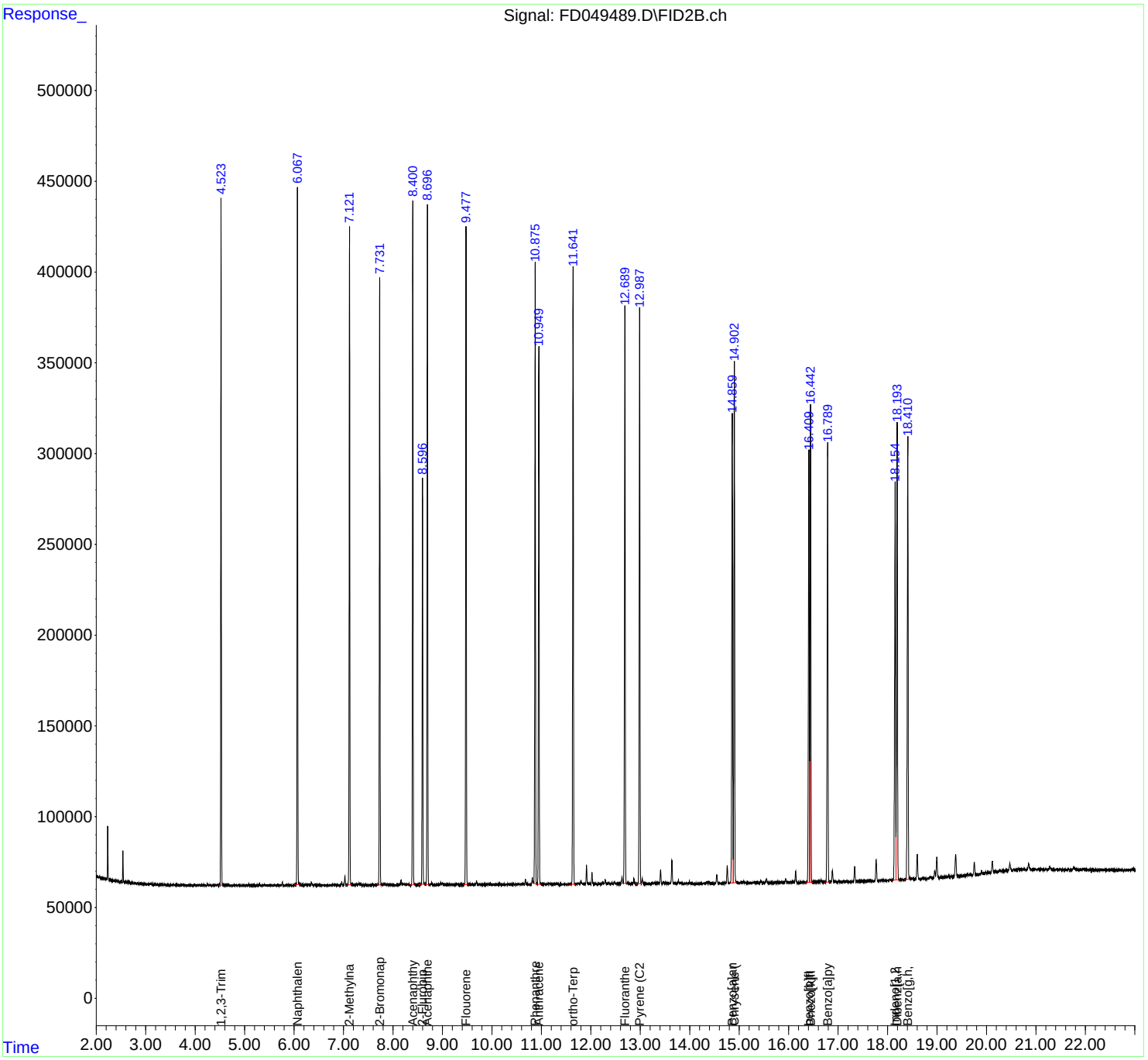
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061325AR\
Data File : FD049489.D
Signal(s) : FID2B.ch
Acq On : 13 Jun 2025 13:06
Operator : YP/AJ
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 52 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
20 PPM AROMATIC HC STD

Integration File: autoint1.e
Quant Time: Jun 13 21:21:23 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm



rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061325AR\
Data File : FD049489.D
Signal(s) : FID2B.ch
Acq On : 13 Jun 2025 13:06
Sample : 20 PPM AROMATIC HC STD
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Title : GC Extractables

Signal : FID2B.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.523 | 4.477 | 4.560 | BB | 377457 | 3204234 | 88.36% | 4.754% |
| 2 | 6.068 | 6.012 | 6.102 | BB | 383234 | 3462844 | 95.49% | 5.138% |
| 3 | 7.121 | 7.060 | 7.162 | BB | 362887 | 3432692 | 94.66% | 5.093% |
| 4 | 7.731 | 7.672 | 7.764 | BB | 334079 | 3131407 | 86.35% | 4.646% |
| 5 | 8.400 | 8.349 | 8.442 | BB | 376777 | 3626398 | 100.00% | 5.381% |
| 6 | 8.597 | 8.517 | 8.635 | BB | 223735 | 2156627 | 59.47% | 3.200% |
| 7 | 8.696 | 8.647 | 8.730 | BB | 376470 | 3544491 | 97.74% | 5.259% |
| 8 | 9.477 | 9.420 | 9.520 | BB | 362340 | 3607525 | 99.48% | 5.353% |
| 9 | 10.876 | 10.845 | 10.914 | BV | 342341 | 3500915 | 96.54% | 5.194% |
| 10 | 10.950 | 10.914 | 10.995 | PB | 296925 | 3086776 | 85.12% | 4.580% |
| 11 | 11.641 | 11.582 | 11.679 | BB | 339850 | 3565530 | 98.32% | 5.290% |
| 12 | 12.689 | 12.650 | 12.727 | BB | 317946 | 3448276 | 95.09% | 5.116% |
| 13 | 12.987 | 12.900 | 13.019 | PV | 316962 | 3439242 | 94.84% | 5.103% |
| 14 | 14.859 | 14.800 | 14.879 | BV | 258980 | 3097138 | 85.41% | 4.595% |
| 15 | 14.902 | 14.879 | 14.945 | VB | 286993 | 3123376 | 86.13% | 4.634% |
| 16 | 16.410 | 16.349 | 16.425 | BV | 237721 | 3104218 | 85.60% | 4.606% |
| 17 | 16.443 | 16.425 | 16.485 | VB | 262244 | 3059984 | 84.38% | 4.540% |
| 18 | 16.789 | 16.732 | 16.832 | BB | 242261 | 2925570 | 80.67% | 4.341% |
| 19 | 18.154 | 18.110 | 18.170 | BV | 218948 | 2805123 | 77.35% | 4.162% |
| 20 | 18.194 | 18.170 | 18.232 | VB | 252133 | 3084606 | 85.06% | 4.577% |
| 21 | 18.410 | 18.347 | 18.439 | BV | 244084 | 2991615 | 82.50% | 4.439% |
| | | | Sum of corrected areas: | | | 67398586 | | |

Aromatic EPH 052425.M Fri Jun 13 22:37:46 2025

# QC SAMPLE DATA

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | |
| Client Sample ID: | PB168324BL | SDG No.: | Q2198 |
| Lab Sample ID: | PB168324BL | Matrix: | Water |
| Analytical Method: | NJEPH | % Solid: | 0 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | SW3510 | | |

| Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|
| 06/06/25 09:10 | 06/09/25 16:17 | PB168324 |

| CAS Number | Parameter | Conc. | Qualifier | Dilution | MDL | LOQ / CRQL | Units | Datafile |
|---|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | 8.28 | U | 1 | 8.28 | 30.0 | ug/l | FC069134.D |
| Aliphatic C12-C16 | Aliphatic C12-C16 | 13.5 | U | 1 | 13.5 | 20.0 | ug/l | FC069134.D |
| Aliphatic C16-C21 | Aliphatic C16-C21 | 8.34 | U | 1 | 8.34 | 30.0 | ug/l | FC069134.D |
| Aliphatic C21-C28 | Aliphatic C21-C28 | 12.5 | U | 1 | 12.5 | 40.0 | ug/l | FC069134.D |
| Aliphatic C28-C40 | Aliphatic C28-C40 | 23.8 | U | 1 | 23.8 | 60.0 | ug/l | FC069134.D |
| Aromatic C10-C12 | Aromatic C10-C12 | 2.07 | U | 1 | 2.07 | 20.0 | ug/l | FD049415.D |
| Aromatic C12-C16 | Aromatic C12-C16 | 4.26 | U | 1 | 4.26 | 30.0 | ug/l | FD049415.D |
| Aromatic C16-C21 | Aromatic C16-C21 | 8.27 | U | 1 | 8.27 | 50.0 | ug/l | FD049415.D |
| Aromatic C21-C36 | Aromatic C21-C36 | 23.8 | U | 1 | 23.8 | 80.0 | ug/l | FD049415.D |
| Total AliphaticEPH | Total AliphaticEPH | 66.4 | U | | 66.4 | 180 | ug/l | |
| Total AromaticEPH | Total AromaticEPH | 38.4 | U | | 38.4 | 180 | ug/l | |
| Total EPH | Total EPH | 105 | U | | 105 | 360 | ug/l | |

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Portal Partners Tri-Venture | | Date Collected: | | |
| Project: | Amtrak Sawtooth Bridges 2025 | | Date Received: | | |
| Client Sample ID: | PB168324BL | | SDG No.: | Q2198 | |
| Lab Sample ID: | PB168324BL | | Matrix: | Water | |
| Analytical Method: | NJEPH | | % Solid: | 0 | |
| Sample Wt/Vol: | 1000 | Units: mL | Final Vol: | 2000 | uL |
| Soil Aliquot Vol: | | uL | Test: | EPH | |
| Prep Method : | SW3510 | | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FC069134.D | 1 | 06/06/25 | 06/09/25 | PB168324 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | 8.28 | U | 8.28 | 30.0 | ug/l |
| Aliphatic C12-C16 | Aliphatic C12-C16 | 13.5 | U | 13.5 | 20.0 | ug/l |
| Aliphatic C16-C21 | Aliphatic C16-C21 | 8.34 | U | 8.34 | 30.0 | ug/l |
| Aliphatic C21-C28 | Aliphatic C21-C28 | 12.5 | U | 12.5 | 40.0 | ug/l |
| Aliphatic C28-C40 | Aliphatic C28-C40 | 23.8 | U | 23.8 | 60.0 | ug/l |
| **SURROGATES** | | | | | | |
| 3383-33-2 | 1-chlorooctadecane (SURR) | 29.9 | | 40 - 140 | 60% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | 0.00 | | 40 - 140 | 0% | SPK: 50 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

# Quantitation Report For Aliphatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | PB168324BL | Acq On: | 09 Jun 2025 16:17 |
| Client Sample ID: | PB168324BL | Operator: | YP/AJ |
| Data file: | FC069134.D | Misc: | |
| Instrument: | FID_C | ALS Vial: | 11 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aliphatic C9-C12 | 3.299 | 6.602 | 0 | 0 | 300 | ug/ml |
| Aliphatic C12-C16 | 6.603 | 10.008 | 0 | 0 | 200 | ug/ml |
| Aliphatic C16-C21 | 10.009 | 13.379 | 0 | 0 | 300 | ug/ml |
| Aliphatic C21-C28 | 13.380 | 17.047 | 0 | 0 | 400 | ug/ml |
| Aliphatic C28-C40 | 17.048 | 22.037 | 0 | 0 | 600 | ug/ml |
| Aliphatic EPH | 3.299 | 22.037 | 0 | 0 | | ug/ml |
| ortho-Terphenyl (SURR) | 0.000 | 0.000 | 0 | 0 | | ug/ml |
| 1-chlorooctadecane (SURR) | 13.113 | 13.113 | 2680219 | 29.88 | | ug/ml |
| Aliphatic C9-C28 | 3.299 | 17.047 | 0 | 0 | 1200 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC060925AL\
Data File : FC069134.D
Signal(s) : FID1A.ch
Acq On : 09 Jun 2025 16:17
Operator : YP/AJ
Sample : PB168324BL
Misc :
ALS Vial : 11 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
PB168324BL

Integration File: autoint1.e
Quant Time: Jun 10 05:23:39 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| System Monitoring Compounds | | | |
| 12) S 1-chlorooctadecane (S... | 13.113 | 2680219 | 29.875 ug/ml |
| Spiked Amount 50.000 | | Recovery = 59.75% | |
| Target Compounds | | | |

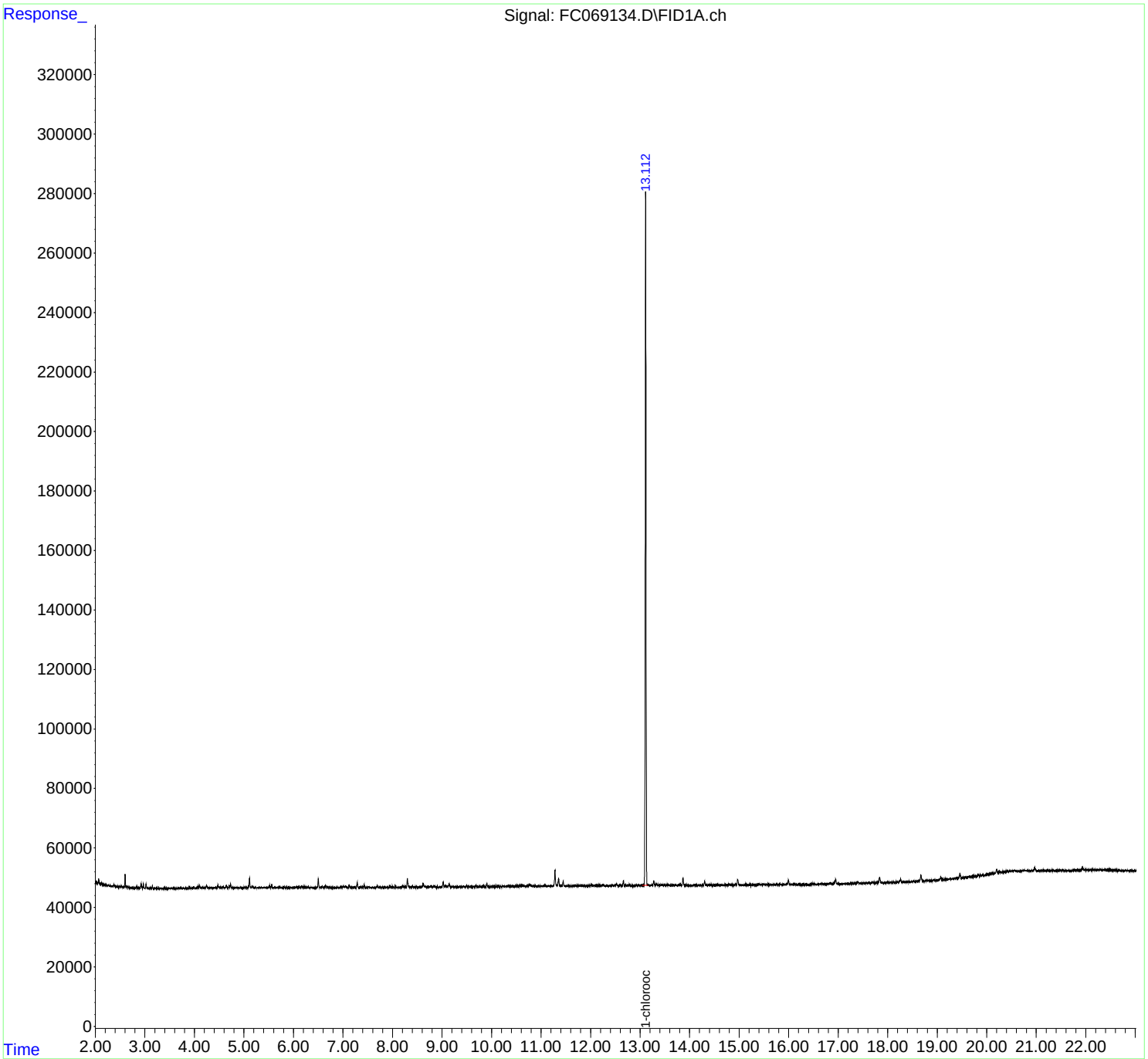
(f)=RT Delta > 1/2 Window (m)=manual int.

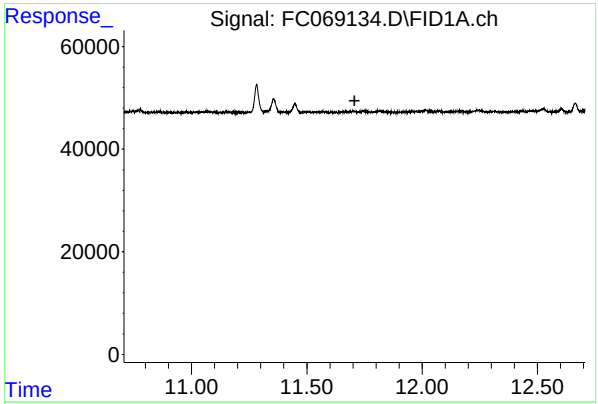
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC060925AL\
Data File : FC069134.D
Signal(s) : FID1A.ch
Acq On : 09 Jun 2025 16:17
Operator : YP/AJ
Sample : PB168324BL
Misc :
ALS Vial : 11 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
PB168324BL

Integration File: autoint1.e
Quant Time: Jun 10 05:23:39 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

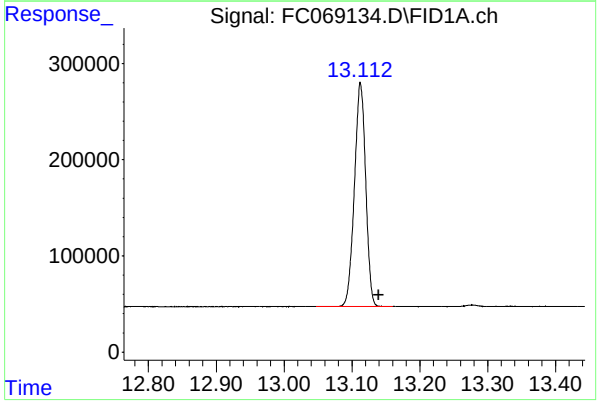





#9 ortho-Terphenyl (SURR)

R.T.: 0.000 min
Exp R.T. : 11.707 min
Response: 0
Conc: N.D.

**Instrument :**
FID_C
**ClientSampleId :**
PB168324BL




#12 1-chlorooctadecane (SURR)

R.T.: 13.113 min
Delta R.T.: -0.027 min
Response: 2680219
Conc: 29.88 ug/ml

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC060925AL\
Data File : FC069134.D
Signal(s) : FID1A.ch
Acq On : 09 Jun 2025 16:17
Sample : PB168324BL
Misc :
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Title : GC Extractables

Signal : FID1A.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 13.113 | 13.047 | 13.160 | BB | 233105 | 2680219 | 100.00% | 100.000% |

Sum of corrected areas: 2680219

Aliphatic EPH 052425.M Tue Jun 10 06:17:51 2025

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Fax : 908 789 8922

# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Portal Partners Tri-Venture | | Date Collected: | | |
| Project: | Amtrak Sawtooth Bridges 2025 | | Date Received: | | |
| Client Sample ID: | PB168324BL | | SDG No.: | Q2198 | |
| Lab Sample ID: | PB168324BL | | Matrix: | Water | |
| Analytical Method: | NJEPH | | % Solid: | 0 | |
| Sample Wt/Vol: | 1000 | Units: mL | Final Vol: | 2000 | uL |
| Soil Aliquot Vol: | | uL | Test: | EPH | |
| Prep Method : | SW3510 | | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FD049415.D | 1 | 06/06/25 | 06/09/25 | PB168324 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| Aromatic C10-C12 | Aromatic C10-C12 | 2.07 | U | 2.07 | 20.0 | ug/l |
| Aromatic C12-C16 | Aromatic C12-C16 | 4.26 | U | 4.26 | 30.0 | ug/l |
| Aromatic C16-C21 | Aromatic C16-C21 | 8.27 | U | 8.27 | 50.0 | ug/l |
| Aromatic C21-C36 | Aromatic C21-C36 | 23.8 | U | 23.8 | 80.0 | ug/l |
| **SURROGATES** | | | | | | |
| 580-13-2 | 2-Bromonaphthalene (SURR) | 31.2 | | 40 - 140 | 62% | SPK: 50 |
| 321-60-8 | 2-Flurobiphenyl (SURR) | 30.3 | | 40 - 140 | 61% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | 29.2 | | 40 - 140 | 58% | SPK: 50 |

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# Quantitation Report For Aromatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | PB168324BL | Acq On: | 09 Jun 2025 16:17 |
| Client Sample ID: | PB168324BL | Operator: | YP/AJ |
| Data file: | FD049415.D | Misc: | |
| Instrument: | FID_D | ALS Vial: | 61 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aromatic EPH | 4.424 | 18.512 | 0 | 0 | | ug/ml |
| 2-Bromonaphthalene (SURR) | 7.733 | 7.733 | 5192860 | 31.24 | | ug/ml |
| 2-Flurobiphenyl (SURR) | 8.598 | 8.598 | 3467147 | 30.31 | | ug/ml |
| ortho-Terphenyl (SURR) | 11.645 | 11.645 | 5861022 | 29.2 | | ug/ml |
| Aromatic C10-C12 | 4.424 | 6.169 | 0 | 0 | 200 | ug/ml |
| Aromatic C12-C16 | 6.170 | 8.798 | 0 | 0 | 300 | ug/ml |
| Aromatic C16-C21 | 8.799 | 13.089 | 0 | 0 | 500 | ug/ml |
| Aromatic C21-C36 | 13.090 | 18.512 | 0 | 0 | 800 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD060925AR\
Data File : FD049415.D
Signal(s) : FID2B.ch
Acq On : 09 Jun 2025 16:17
Operator : YP/AJ
Sample : PB168324BL
Misc :
ALS Vial : 61 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
PB168324BL

Integration File: autoint1.e
Quant Time: Jun 10 02:35:05 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| System Monitoring Compounds | | | |
| 4) S 2-Bromonaphthalene (S... | 7.733 | 5192860 | 31.238 ug/ml |
| Spiked Amount 50.000 | | Recovery = | 62.48% |
| 6) S 2-Flurobiphenyl (SURR) | 8.598 | 3467147 | 30.308 ug/ml |
| Spiked Amount 50.000 | Range 0 - 131 | Recovery = | 60.62% |
| 11) S ortho-Terphenyl (SURR) | 11.645 | 5861022 | 29.200 ug/ml |
| Spiked Amount 50.000 | | Recovery = | 58.40% |
| Target Compounds | | | |

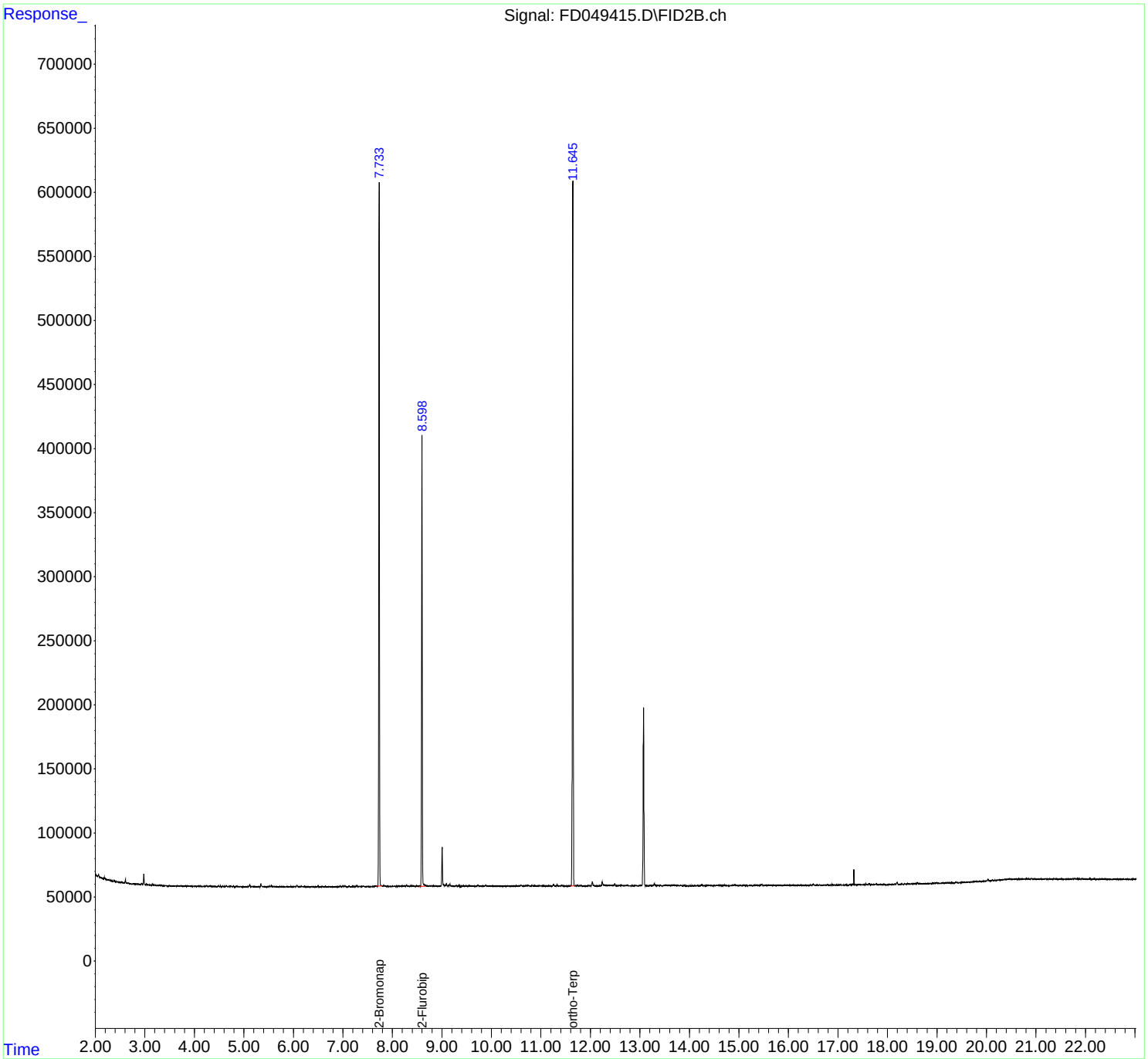
(f)=RT Delta > 1/2 Window (m)=manual int.

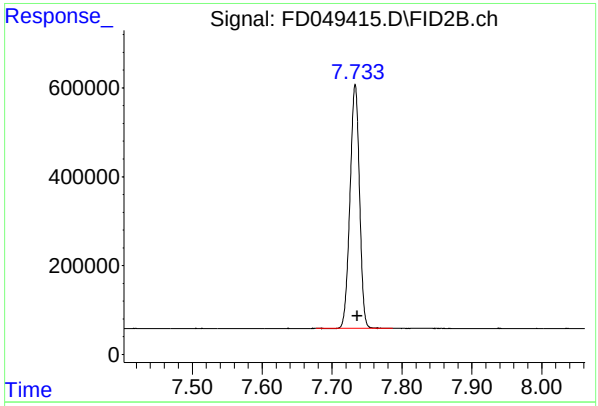
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD060925AR\
Data File : FD049415.D
Signal(s) : FID2B.ch
Acq On : 09 Jun 2025 16:17
Operator : YP/AJ
Sample : PB168324BL
Misc :
ALS Vial : 61 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
PB168324BL

Integration File: autoint1.e
Quant Time: Jun 10 02:35:05 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

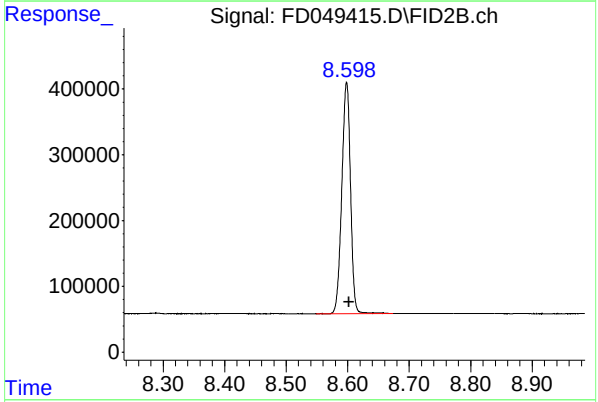





#4 2-Bromonaphthalene (SURR)

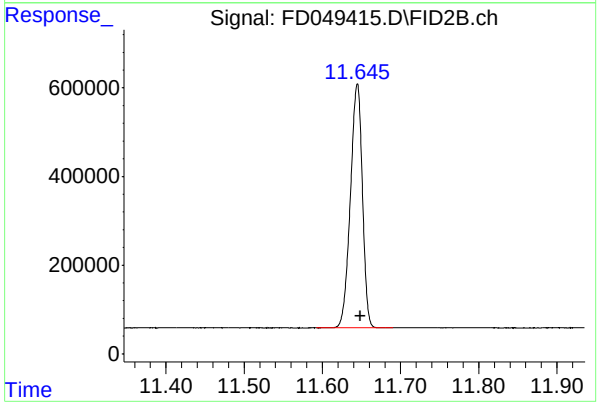
R.T.: 7.733 min
Delta R.T.: -0.003 min
Response: 5192860
Conc: 31.24 ug/ml

**Instrument :**
FID_D
**ClientSampleId :**
PB168324BL




#6 2-Flurobiphenyl (SURR)

R.T.: 8.598 min
Delta R.T.: -0.004 min
Response: 3467147
Conc: 30.31 ug/ml




#11 ortho-Terphenyl (SURR)

R.T.: 11.645 min
Delta R.T.: -0.004 min
Response: 5861022
Conc: 29.20 ug/ml

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD060925AR\
Data File : FD049415.D
Signal(s) : FID2B.ch
Acq On : 09 Jun 2025 16:17
Sample : PB168324BL
Misc :
ALS Vial : 61 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Title : GC Extractables

Signal : FID2B.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 7.733 | 7.677 | 7.787 | BB | 549290 | 5192860 | 88.60% | 35.761% |
| 2 | 8.598 | 8.549 | 8.674 | BB | 351672 | 3467147 | 59.16% | 23.877% |
| 3 | 11.645 | 11.592 | 11.690 | BB | 551945 | 5861022 | 100.00% | 40.362% |
| | | | Sum of corrected areas: | | | 14521029 | | |

Aromatic EPH 052425.M Tue Jun 10 02:57:50 2025

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Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | |
| Client Sample ID: | PB168408BL | SDG No.: | Q2198 |
| Lab Sample ID: | PB168408BL | Matrix: | Solid |
| Analytical Method: | NJEPH | % Solid: | 100 |
| Sample Wt/Vol: | 30.01 Units: g | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | | | |

| Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|
| 06/11/25 08:45 | 06/11/25 16:33 | PB168408 |

| CAS Number | Parameter | Conc. | Qualifier | Dilution | MDL | LOQ / CRQL | Units(Dry Weight) | Datafile |
|---|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | 0.14 | U | 1 | 0.14 | 1.00 | mg/kg | FC069157.D |
| Aliphatic C12-C16 | Aliphatic C12-C16 | 0.11 | U | 1 | 0.11 | 0.67 | mg/kg | FC069157.D |
| Aliphatic C16-C21 | Aliphatic C16-C21 | 0.13 | U | 1 | 0.13 | 1.00 | mg/kg | FC069157.D |
| Aliphatic C21-C28 | Aliphatic C21-C28 | 0.53 | U | 1 | 0.53 | 1.33 | mg/kg | FC069157.D |
| Aliphatic C28-C40 | Aliphatic C28-C40 | 1.18 | U | 1 | 1.18 | 2.00 | mg/kg | FC069157.D |
| Aromatic C10-C12 | Aromatic C10-C12 | 0.12 | U | 1 | 0.12 | 0.67 | mg/kg | FD049432.D |
| Aromatic C12-C16 | Aromatic C12-C16 | 0.23 | U | 1 | 0.23 | 1.00 | mg/kg | FD049432.D |
| Aromatic C16-C21 | Aromatic C16-C21 | 0.40 | U | 1 | 0.40 | 1.67 | mg/kg | FD049432.D |
| Aromatic C21-C36 | Aromatic C21-C36 | 1.19 | U | 1 | 1.19 | 2.67 | mg/kg | FD049432.D |
| Total AliphaticEPH | Total AliphaticEPH | 2.09 | U | | 2.09 | 6.00 | mg/kg | |
| Total AromaticEPH | Total AromaticEPH | 1.94 | U | | 1.94 | 6.01 | mg/kg | |
| Total EPH | Total EPH | 4.03 | U | | 4.03 | 12.0 | mg/kg | |

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | |
| Client Sample ID: | PB168408BL | SDG No.: | Q2198 |
| Lab Sample ID: | PB168408BL | Matrix: | Solid |
| Analytical Method: | NJEPH | % Solid: | 100 |
| Sample Wt/Vol: | 30.01 Units: g | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FC069157.D | 1 | 06/11/25 | 06/11/25 | PB168408 |

| CAS Number | Parameter | | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | | 0.14 | U | 0.14 | 1.00 | mg/kg |
| Aliphatic C12-C16 | Aliphatic C12-C16 | | 0.11 | U | 0.11 | 0.67 | mg/kg |
| Aliphatic C16-C21 | Aliphatic C16-C21 | | 0.13 | U | 0.13 | 1.00 | mg/kg |
| Aliphatic C21-C28 | Aliphatic C21-C28 | | 0.53 | U | 0.53 | 1.33 | mg/kg |
| Aliphatic C28-C40 | Aliphatic C28-C40 | | 1.18 | U | 1.18 | 2.00 | mg/kg |
| **SURROGATES** | | | | | | | |
| 3383-33-2 | 1-chlorooctadecane (SURR) | | 30.1 | | 40 - 140 | 60% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | | 0.00 | | 40 - 140 | 0% | SPK: 50 |

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# Quantitation Report For Aliphatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | PB168408BL | Acq On: | 11 Jun 2025 16:33 |
| Client Sample ID: | PB168408BL | Operator: | YP/AJ |
| Data file: | FC069157.D | Misc: | |
| Instrument: | FID_C | ALS Vial: | 11 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aliphatic C9-C12 | 3.303 | 6.605 | 0 | 0 | 300 | ug/ml |
| Aliphatic C12-C16 | 6.606 | 10.010 | 0 | 0 | 200 | ug/ml |
| Aliphatic C16-C21 | 10.011 | 13.380 | 0 | 0 | 300 | ug/ml |
| Aliphatic C21-C28 | 13.381 | 17.048 | 0 | 0 | 400 | ug/ml |
| Aliphatic C28-C40 | 17.049 | 22.033 | 0 | 0 | 600 | ug/ml |
| Aliphatic EPH | 3.303 | 22.033 | 0 | 0 | | ug/ml |
| ortho-Terphenyl (SURR) | 0.000 | 0.000 | 0 | 0 | | ug/ml |
| 1-chlorooctadecane (SURR) | 13.115 | 13.115 | 2699214 | 30.09 | | ug/ml |
| Aliphatic C9-C28 | 3.303 | 17.048 | 0 | 0 | 1200 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069157.D
Signal(s) : FID1A.ch
Acq On : 11 Jun 2025 16:33
Operator : YP/AJ
Sample : PB168408BL
Misc :
ALS Vial : 11 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
PB168408BL

Integration File: autoint1.e
Quant Time: Jun 12 06:04:26 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| System Monitoring Compounds | | | |
| 12) S 1-chlorooctadecane (S... | 13.115 | 2699214 | 30.087 ug/ml |
| Spiked Amount 50.000 | | Recovery = 60.17% | |
| Target Compounds | | | |

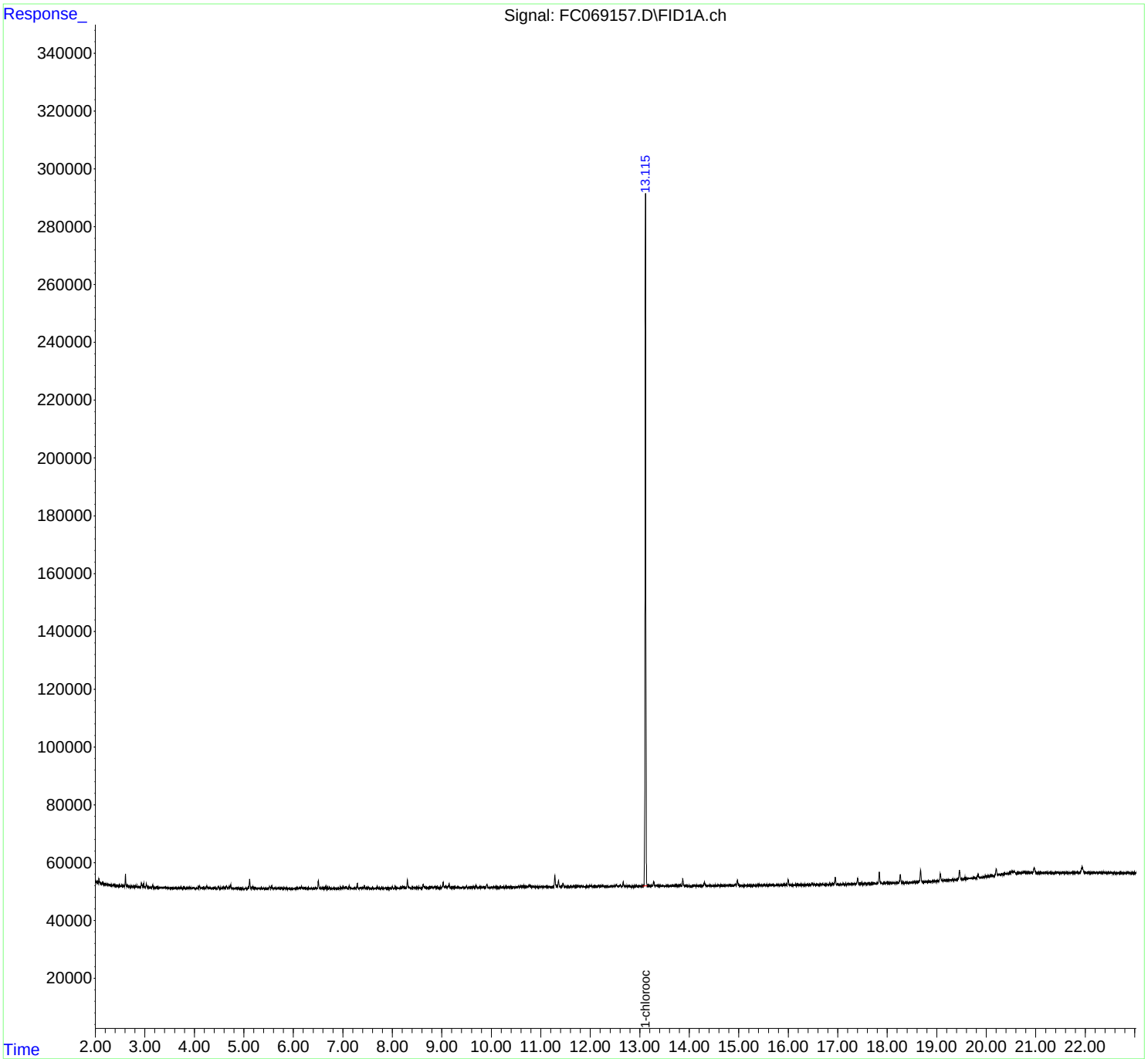
(f)=RT Delta > 1/2 Window (m)=manual int.

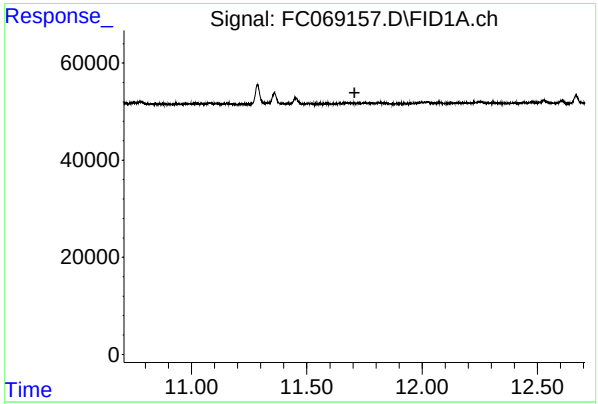
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069157.D
Signal(s) : FID1A.ch
Acq On : 11 Jun 2025 16:33
Operator : YP/AJ
Sample : PB168408BL
Misc :
ALS Vial : 11 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
PB168408BL

Integration File: autoint1.e
Quant Time: Jun 12 06:04:26 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

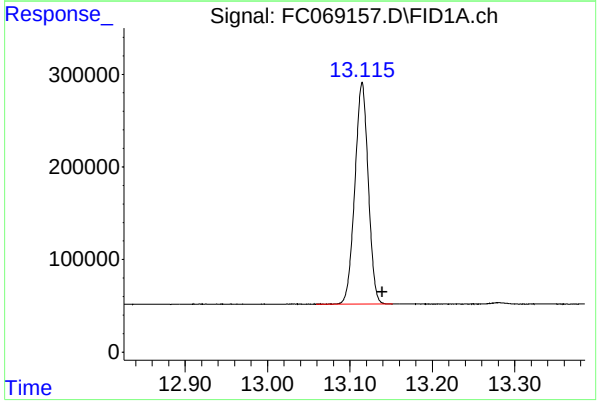





#9 ortho-Terphenyl (SURR)

R.T.: 0.000 min
Exp R.T. : 11.707 min
Response: 0
Conc: N.D.

**Instrument :**
FID_C
**ClientSampleId :**
PB168408BL




#12 1-chlorooctadecane (SURR)

R.T.: 13.115 min
Delta R.T.: -0.025 min
Response: 2699214
Conc: 30.09 ug/ml

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069157.D
Signal(s) : FID1A.ch
Acq On : 11 Jun 2025 16:33
Sample : PB168408BL
Misc :
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Title : GC Extractables

Signal : FID1A.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 13.115 | 13.059 | 13.152 | BB | 240199 | 2699214 | 100.00% | 100.000% |

Sum of corrected areas: 2699214

Aliphatic EPH 052425.M Thu Jun 12 06:57:13 2025

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Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | |
| Client Sample ID: | PB168408BL | SDG No.: | Q2198 |
| Lab Sample ID: | PB168408BL | Matrix: | Solid |
| Analytical Method: | NJEPH | % Solid: | 100 |
| Sample Wt/Vol: | 30.01 Units: g | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FD049432.D | 1 | 06/11/25 | 06/11/25 | PB168408 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| Aromatic C10-C12 | Aromatic C10-C12 | 0.12 | U | 0.12 | 0.67 | mg/kg |
| Aromatic C12-C16 | Aromatic C12-C16 | 0.23 | U | 0.23 | 1.00 | mg/kg |
| Aromatic C16-C21 | Aromatic C16-C21 | 0.40 | U | 0.40 | 1.67 | mg/kg |
| Aromatic C21-C36 | Aromatic C21-C36 | 1.19 | U | 1.19 | 2.67 | mg/kg |
| **SURROGATES** | | | | | | |
| 580-13-2 | 2-Bromonaphthalene (SURR) | 33.6 | | 40 - 140 | 67% | SPK: 50 |
| 321-60-8 | 2-Flurobiphenyl (SURR) | 32.5 | | 40 - 140 | 65% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | 31.4 | | 40 - 140 | 63% | SPK: 50 |

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# Quantitation Report For Aromatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | PB168408BL | Acq On: | 11 Jun 2025 16:33 |
| Client Sample ID: | PB168408BL | Operator: | YP/AJ |
| Data file: | FD049432.D | Misc: | |
| Instrument: | FID_D | ALS Vial: | 61 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aromatic C10-C12 | 4.424 | 6.168 | 0 | 0 | 200 | ug/ml |
| Aromatic C12-C16 | 6.169 | 8.797 | 0 | 0 | 300 | ug/ml |
| Aromatic C16-C21 | 8.798 | 13.088 | 0 | 0 | 500 | ug/ml |
| Aromatic C21-C36 | 13.089 | 18.509 | 0 | 0 | 800 | ug/ml |
| Aromatic EPH | 4.424 | 18.509 | 0 | 0 | | ug/ml |
| 2-Bromonaphthalene (SURR) | 7.733 | 7.733 | 5580932 | 33.57 | | ug/ml |
| 2-Flurobiphenyl (SURR) | 8.598 | 8.598 | 3722980 | 32.54 | | ug/ml |
| ortho-Terphenyl (SURR) | 11.645 | 11.645 | 6306403 | 31.42 | | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061125AR\
Data File : FD049432.D
Signal(s) : FID2B.ch
Acq On : 11 Jun 2025 16:33
Operator : YP/AJ
Sample : PB168408BL
Misc :
ALS Vial : 61 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
PB168408BL

Integration File: autoint1.e
Quant Time: Jun 12 04:59:12 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| System Monitoring Compounds | | | |
| 4) S 2-Bromonaphthalene (S... | 7.733 | 5580932 | 33.573 ug/ml |
| Spiked Amount 50.000 | | Recovery = | 67.15% |
| 6) S 2-Flurobiphenyl (SURR) | 8.598 | 3722980 | 32.544 ug/ml |
| Spiked Amount 50.000 | Range 0 - 131 | Recovery = | 65.09% |
| 11) S ortho-Terphenyl (SURR) | 11.645 | 6306403 | 31.419 ug/ml |
| Spiked Amount 50.000 | | Recovery = | 62.84% |
| Target Compounds | | | |

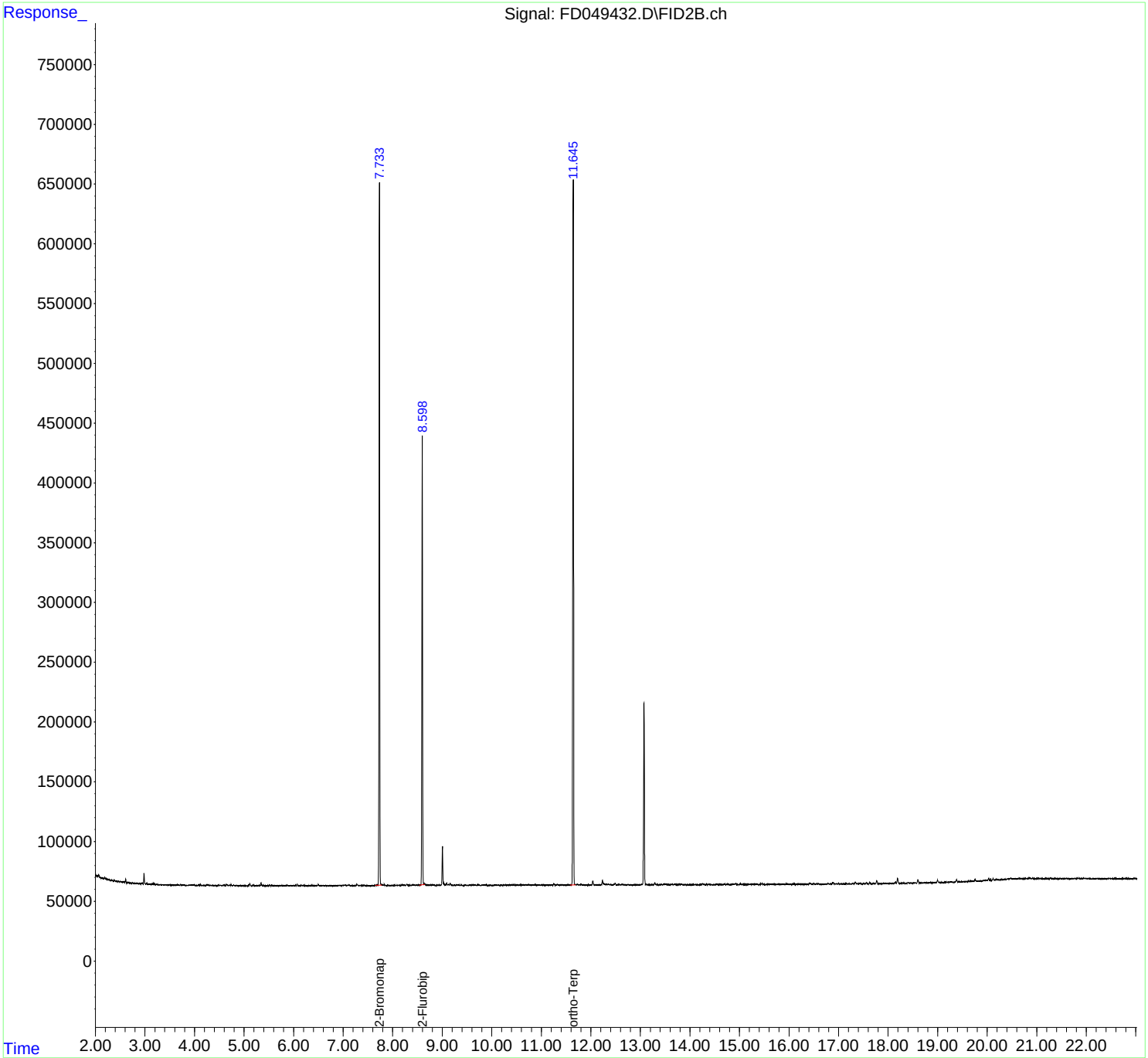
(f)=RT Delta > 1/2 Window (m)=manual int.

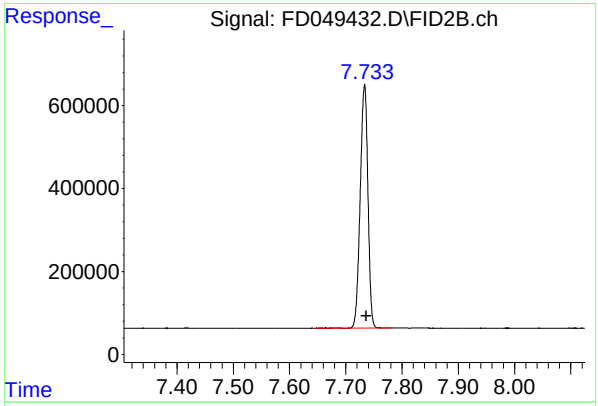
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061125AR\
Data File : FD049432.D
Signal(s) : FID2B.ch
Acq On : 11 Jun 2025 16:33
Operator : YP/AJ
Sample : PB168408BL
Misc :
ALS Vial : 61 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
PB168408BL

Integration File: autoint1.e
Quant Time: Jun 12 04:59:12 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

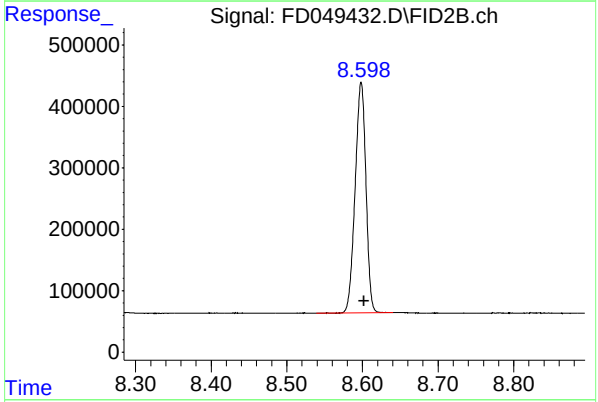





#4 2-Bromonaphthalene (SURR)

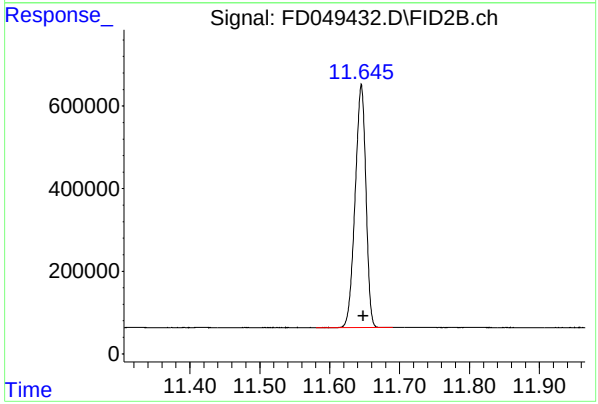
R.T.: 7.733 min
Delta R.T.: -0.003 min
Response: 5580932
Conc: 33.57 ug/ml

**Instrument :**
FID_D
**ClientSampleId :**
PB168408BL




#6 2-Flurobiphenyl (SURR)

R.T.: 8.598 min
Delta R.T.: -0.004 min
Response: 3722980
Conc: 32.54 ug/ml




#11 ortho-Terphenyl (SURR)

R.T.: 11.645 min
Delta R.T.: -0.003 min
Response: 6306403
Conc: 31.42 ug/ml

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061225AR\
Data File : FD049432.D
Signal(s) : FID2B.ch
Acq On : 11 Jun 2025 16:33
Sample : PB168408BL
Misc :
ALS Vial : 61 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Title : GC Extractables

Signal : FID2B.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 7.733 | 7.647 | 7.784 | BB | 588138 | 5580932 | 88.50% | 35.752% |
| 2 | 8.598 | 8.539 | 8.640 | BB | 375716 | 3722980 | 59.03% | 23.849% |
| 3 | 11.645 | 11.580 | 11.690 | BB | 589219 | 6306403 | 100.00% | 40.399% |

Sum of corrected areas: 15610315

Aromatic EPH 052425.M Thu Jun 12 05:38:06 2025

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Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | |
| Client Sample ID: | PB168324BS | SDG No.: | Q2198 |
| Lab Sample ID: | PB168324BS | Matrix: | Water |
| Analytical Method: | NJEPH | % Solid: | 0 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | SW3510 | | |

| Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|
| 06/06/25 09:10 | 06/09/25 16:57 | PB168324 |

| CAS Number | Parameter | Conc. | Qualifier | Dilution | MDL | LOQ / CRQL | Units | Datafile |
|---|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | 148 | | 1 | 8.28 | 30.0 | ug/l | FC069135.D |
| Aliphatic C12-C16 | Aliphatic C12-C16 | 123 | | 1 | 13.5 | 20.0 | ug/l | FC069135.D |
| Aliphatic C16-C21 | Aliphatic C16-C21 | 209 | | 1 | 8.34 | 30.0 | ug/l | FC069135.D |
| Aliphatic C21-C28 | Aliphatic C21-C28 | 298 | | 1 | 12.5 | 40.0 | ug/l | FC069135.D |
| Aliphatic C28-C40 | Aliphatic C28-C40 | 420 | | 1 | 23.8 | 60.0 | ug/l | FC069135.D |
| Aromatic C10-C12 | Aromatic C10-C12 | 91.0 | | 1 | 2.07 | 20.0 | ug/l | FD049416.D |
| Aromatic C12-C16 | Aromatic C12-C16 | 143 | | 1 | 4.26 | 30.0 | ug/l | FD049416.D |
| Aromatic C16-C21 | Aromatic C16-C21 | 271 | | 1 | 8.27 | 50.0 | ug/l | FD049416.D |
| Aromatic C21-C36 | Aromatic C21-C36 | 515 | | 1 | 23.8 | 80.0 | ug/l | FD049416.D |
| Total AliphaticEPH | Total AliphaticEPH | 1200 | | | 66.4 | 180 | ug/l | |
| Total AromaticEPH | Total AromaticEPH | 1020 | | | 38.4 | 180 | ug/l | |
| Total EPH | Total EPH | 2220 | | | 105 | 360 | ug/l | |

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

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Fax : 908 789 8922

# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Portal Partners Tri-Venture | | Date Collected: | | |
| Project: | Amtrak Sawtooth Bridges 2025 | | Date Received: | | |
| Client Sample ID: | PB168324BS | | SDG No.: | Q2198 | |
| Lab Sample ID: | PB168324BS | | Matrix: | Water | |
| Analytical Method: | NJEPH | | % Solid: | 0 | |
| Sample Wt/Vol: | 1000 | Units: mL | Final Vol: | 2000 | uL |
| Soil Aliquot Vol: | | uL | Test: | EPH | |
| Prep Method : | SW3510 | | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FC069135.D | 1 | 06/06/25 | 06/09/25 | PB168324 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | 148 | | 8.28 | 30.0 | ug/l |
| Aliphatic C12-C16 | Aliphatic C12-C16 | 123 | | 13.5 | 20.0 | ug/l |
| Aliphatic C16-C21 | Aliphatic C16-C21 | 209 | | 8.34 | 30.0 | ug/l |
| Aliphatic C21-C28 | Aliphatic C21-C28 | 298 | | 12.5 | 40.0 | ug/l |
| Aliphatic C28-C40 | Aliphatic C28-C40 | 420 | | 23.8 | 60.0 | ug/l |
| **SURROGATES** | | | | | | |
| 3383-33-2 | 1-chlorooctadecane (SURR) | 37.5 | | 40 - 140 | 75% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | 0.00 | | 40 - 140 | 0% | SPK: 50 |

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# Quantitation Report For Aliphatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | PB168324BS | Acq On: | 09 Jun 2025 16:57 |
| Client Sample ID: | PB168324BS | Operator: | YP/AJ |
| Data file: | FC069135.D | Misc: | |
| Instrument: | FID_C | ALS Vial: | 12 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aliphatic C9-C12 | 3.299 | 6.602 | 7850856 | 74.263 | 300 | ug/ml |
| Aliphatic C12-C16 | 6.603 | 10.008 | 6291363 | 61.689 | 200 | ug/ml |
| Aliphatic C16-C21 | 10.009 | 13.379 | 10246363 | 104.699 | 300 | ug/ml |
| Aliphatic C21-C28 | 13.380 | 17.047 | 14009671 | 149.351 | 400 | ug/ml |
| Aliphatic C28-C40 | 17.048 | 22.037 | 19850508 | 210.194 | 600 | ug/ml |
| Aliphatic EPH | 3.299 | 22.037 | 58248761 | 600.195 | | ug/ml |
| ortho-Terphenyl (SURR) | 0.000 | 0.000 | 0 | 0 | | ug/ml |
| 1-chlorooctadecane (SURR) | 13.113 | 13.113 | 3366566 | 37.53 | | ug/ml |
| Aliphatic C9-C28 | 3.299 | 17.047 | 38398253 | 390.002 | 1200 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC060925AL\
Data File : FC069135.D
Signal(s) : FID1A.ch
Acq On : 09 Jun 2025 16:57
Operator : YP/AJ
Sample : PB168324BS
Misc :
ALS Vial : 12 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
PB168324BS

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/10/2025
Supervised By :mohammad ahmed 06/11/2025

Integration File: autoint1.e
Quant Time: Jun 10 05:23:50 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 12) S | 1-chlorooctadecane (S... | 13.113 | 3366566 | 37.526 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 75.05% |
| | **Target Compounds** | | | |
| 1) T | n-Nonane (C9) | 3.400 | 2217452 | 20.895 ug/ml |
| 2) T | n-Decane (C10) | 4.476 | 2679793 | 25.303 ug/ml |
| 4) T | n-Dodecane (C12) | 6.503 | 2953611 | 28.097 ug/ml |
| 6) T | n-Tetradecane (C14) | 8.303 | 3054731 | 29.801 ug/ml |
| 7) T | n-Hexadecane (C16) | 9.908 | 3236632 | 31.898 ug/ml |
| 8) T | n-Octadecane (C18) | 11.353 | 3312495 | 33.143 ug/mlm |
| 10) T | n-Eicosane (C20) | 12.666 | 3555373 | 36.504 ug/ml |
| 11) T | n-Heneicosane (C21) | 13.281 | 3487347 | 36.231 ug/ml |
| 13) T | n-Docosane (C22) | 13.868 | 3503194 | 36.772 ug/ml |
| 14) T | n-Tetracosane (C24) | 14.974 | 3529259 | 37.484 ug/ml |
| 15) T | n-Hexacosane (C26) | 15.997 | 3496699 | 37.663 ug/ml |
| 16) T | n-Octacosane (C28) | 16.949 | 3480519 | 37.444 ug/ml |
| 17) T | n-Tricontane (C30) | 17.839 | 3536231 | 36.547 ug/ml |
| 18) T | n-Dotriacontane (C32) | 18.674 | 3563259 | 35.957 ug/ml |
| 19) T | n-Tetratriacontane (C34) | 19.460 | 3578132 | 37.126 ug/ml |
| 20) T | n-Hexatriacontane (C36) | 20.202 | 3444828 | 36.288 ug/ml |
| 21) T | n-Octatriacontane (C38) | 20.972 | 3202447 | 35.101 ug/ml |
| 22) T | n-Tetracontane (C40) | 21.938 | 2598811 | 29.453 ug/mlm |

(f)=RT Delta > 1/2 Window (m)=manual int.

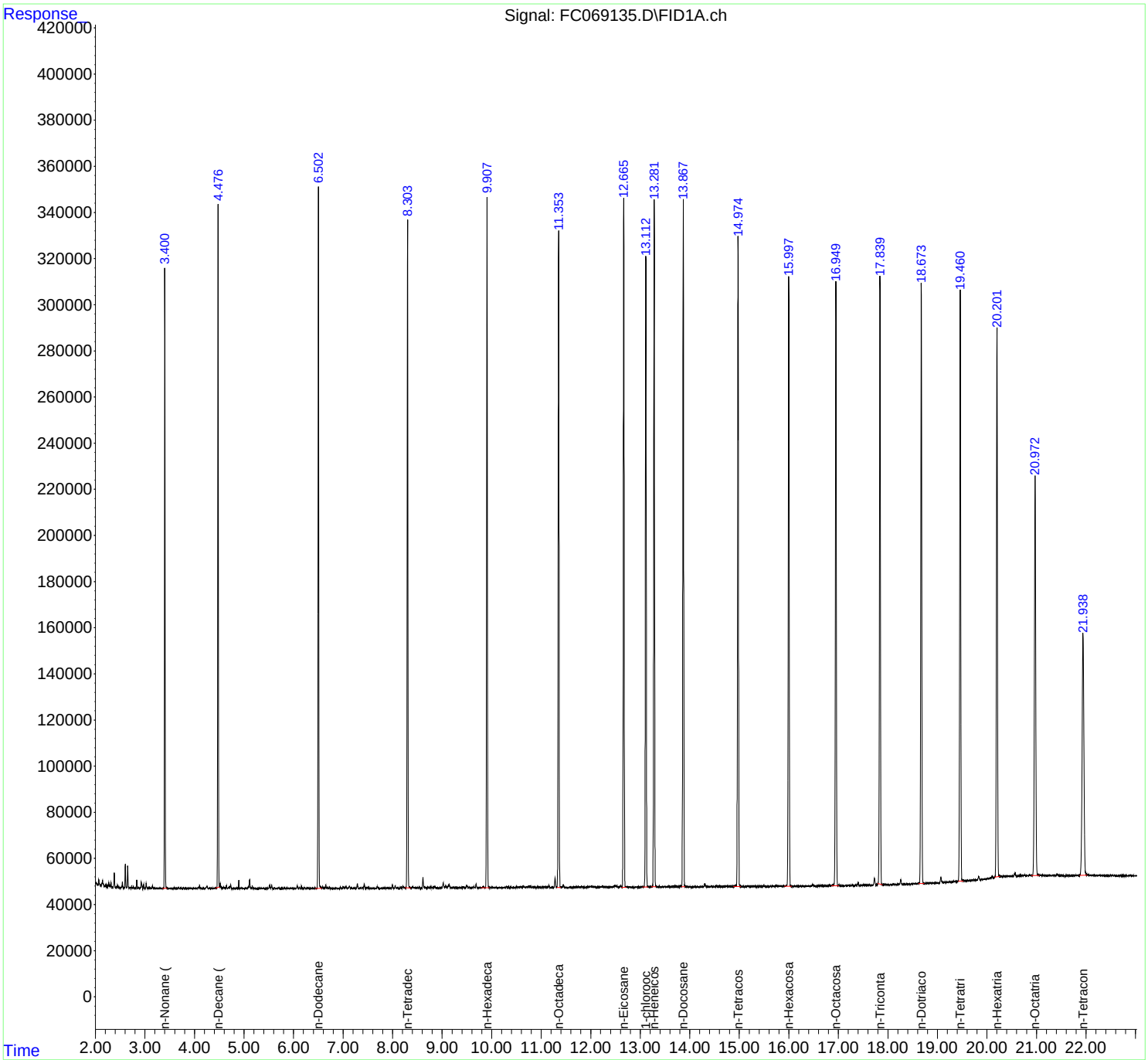
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC060925AL\
Data File : FC069135.D
Signal(s) : FID1A.ch
Acq On : 09 Jun 2025 16:57
Operator : YP/AJ
Sample : PB168324BS
Misc :
ALS Vial : 12 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
PB168324BS

**Manual Integrations APPROVED**
Reviewed By :Yogesh Patel 06/10/2025
Supervised By :mohammad ahmed 06/11/2025

Integration File: autoint1.e
Quant Time: Jun 10 05:23:50 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um



**Instrument :**
FID_C
**ClientSampleId :**
PB168324BS

rteres

Area Percent Report

**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/10/2025
Supervised By :mohammad ahmed 06/11/2025

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC06092
Data File : FC069135.D
Signal(s) : FID1A.ch
Acq On : 09 Jun 2025 16:57
Sample : PB168324BS
Misc :
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Title : GC Extractables

Signal : FID1A.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.400 | 3.350 | 3.447 | BB | 268489 | 2217452 | 61.97% | 3.599% |
| 2 | 4.476 | 4.420 | 4.505 | BV | 295574 | 2679793 | 74.89% | 4.349% |
| 3 | 6.503 | 6.442 | 6.573 | BV | 303942 | 2953611 | 82.55% | 4.794% |
| 4 | 8.303 | 8.243 | 8.365 | BB | 290305 | 3054731 | 85.37% | 4.958% |
| 5 | 9.908 | 9.783 | 9.958 | BB | 299159 | 3236632 | 90.46% | 5.253% |
| 6 | 11.353 | 11.330 | 11.393 | BB | 282366 | 3203643 | 89.53% | 5.199% |
| 7 | 12.666 | 12.628 | 12.718 | BB | 296226 | 3555373 | 99.36% | 5.770% |
| 8 | 13.113 | 13.043 | 13.158 | BB | 273202 | 3366566 | 94.09% | 5.464% |
| 9 | 13.281 | 13.220 | 13.322 | BB | 298888 | 3487347 | 97.46% | 5.660% |
| 10 | 13.868 | 13.831 | 13.912 | PB | 295831 | 3503194 | 97.91% | 5.686% |
| 11 | 14.974 | 14.883 | 15.032 | BB | 279346 | 3529259 | 98.63% | 5.728% |
| 12 | 15.997 | 15.907 | 16.062 | BB | 264550 | 3496699 | 97.72% | 5.675% |
| 13 | 16.949 | 16.865 | 17.005 | BB | 260642 | 3480519 | 97.27% | 5.649% |
| 14 | 17.839 | 17.800 | 17.895 | BB | 262743 | 3536231 | 98.83% | 5.739% |
| 15 | 18.674 | 18.617 | 18.732 | BB | 259724 | 3563259 | 99.58% | 5.783% |
| 16 | 19.460 | 19.420 | 19.518 | BB | 255549 | 3578132 | 100.00% | 5.807% |
| 17 | 20.202 | 20.160 | 20.257 | BB | 238494 | 3444828 | 96.27% | 5.591% |
| 18 | 20.972 | 20.892 | 21.055 | BB | 172990 | 3202447 | 89.50% | 5.197% |
| 19 | 21.939 | 21.890 | 22.025 | BB | 103816 | 2525611 | 70.58% | 4.099% |
| | | | Sum of corrected areas: | | | 61615327 | | |

Aliphatic EPH 052425.M Tue Jun 10 06:18:13 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Portal Partners Tri-Venture | | Date Collected: | | |
| Project: | Amtrak Sawtooth Bridges 2025 | | Date Received: | | |
| Client Sample ID: | PB168324BS | | SDG No.: | Q2198 | |
| Lab Sample ID: | PB168324BS | | Matrix: | Water | |
| Analytical Method: | NJEPH | | % Solid: | 0 | |
| Sample Wt/Vol: | 1000 | Units: mL | Final Vol: | 2000 | uL |
| Soil Aliquot Vol: | | uL | Test: | EPH | |
| Prep Method : | SW3510 | | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FD049416.D | 1 | 06/06/25 | 06/09/25 | PB168324 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| Aromatic C10-C12 | Aromatic C10-C12 | 91.0 | | 2.07 | 20.0 | ug/l |
| Aromatic C12-C16 | Aromatic C12-C16 | 143 | | 4.26 | 30.0 | ug/l |
| Aromatic C16-C21 | Aromatic C16-C21 | 271 | | 8.27 | 50.0 | ug/l |
| Aromatic C21-C36 | Aromatic C21-C36 | 515 | | 23.8 | 80.0 | ug/l |
| **SURROGATES** | | | | | | |
| 580-13-2 | 2-Bromonaphthalene (SURR) | 34.1 | | 40 - 140 | 68% | SPK: 50 |
| 321-60-8 | 2-Flurobiphenyl (SURR) | 33.4 | | 40 - 140 | 67% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | 28.7 | | 40 - 140 | 57% | SPK: 50 |

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# Quantitation Report For Aromatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | PB168324BS | Acq On: | 09 Jun 2025 16:57 |
| Client Sample ID: | PB168324BS | Operator: | YP/AJ |
| Data file: | FD049416.D | Misc: | |
| Instrument: | FID_D | ALS Vial: | 62 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aromatic EPH | 4.424 | 18.512 | 83543638 | 510.779 | | ug/ml |
| 2-Bromonaphthalene (SURR) | 7.733 | 7.733 | 5669143 | 34.1 | | ug/ml |
| 2-Flurobiphenyl (SURR) | 8.599 | 8.599 | 3820043 | 33.39 | | ug/ml |
| ortho-Terphenyl (SURR) | 11.645 | 11.645 | 5766961 | 28.73 | | ug/ml |
| Aromatic C10-C12 | 4.424 | 6.169 | 7612744 | 45.491 | 200 | ug/ml |
| Aromatic C12-C16 | 6.170 | 8.798 | 13453369 | 71.742 | 300 | ug/ml |
| Aromatic C16-C21 | 8.799 | 13.089 | 25095627 | 135.843 | 500 | ug/ml |
| Aromatic C21-C36 | 13.090 | 18.512 | 37381898 | 257.703 | 800 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD060925AR\
Data File : FD049416.D
Signal(s) : FID2B.ch
Acq On : 09 Jun 2025 16:57
Operator : YP/AJ
Sample : PB168324BS
Misc :
ALS Vial : 62 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
PB168324BS

Integration File: autoint1.e
Quant Time: Jun 10 02:35:19 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 4) S | 2-Bromonaphthalene (S... | 7.733 | 5669143 | 34.103 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 68.21% |
| 6) S | 2-Flurobiphenyl (SURR) | 8.599 | 3820043 | 33.393 ug/ml |
| Spiked Amount | 50.000 Range | 0 - 131 | Recovery = | 66.79% |
| 11) S | ortho-Terphenyl (SURR) | 11.645 | 5766961 | 28.731 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 57.46% |
| | **Target Compounds** | | | |
| 1) T | 1,2,3-Trimethylbenzen... | 4.526 | 3499901 | 21.997 ug/ml |
| 2) T | Naphthalene (C11.7) | 6.069 | 4112843 | 23.424 ug/ml |
| 3) T | 2-Methylnaphthalene (... | 7.122 | 3979003 | 22.273 ug/ml |
| 5) T | Acenaphthylene (C15.06) | 8.402 | 4730412 | 24.420 ug/ml |
| 7) T | Acenaphthene (C15.5) | 8.698 | 4743954 | 24.940 ug/ml |
| 8) T | Flouorene (C16.55) | 9.479 | 4948337 | 25.308 ug/ml |
| 9) T | Phenanthrene (C19.36) | 10.878 | 5042655 | 26.521 ug/ml |
| 10) T | Anthracene (C19.43) | 10.953 | 4835094 | 27.658 ug/ml |
| 12) T | Fluoranthene (C21.85) | 12.694 | 5127373 | 28.426 ug/ml |
| 13) T | Pyrene (C20.8) | 12.992 | 5142168 | 28.811 ug/ml |
| 14) T | Benzo[a]anthracene (C... | 14.864 | 4698120 | 30.911 ug/ml |
| 15) T | Chrysene (C27.41) | 14.908 | 5198728 | 34.235 ug/ml |
| 16) T | benzo[b]fluoranthene ... | 16.416 | 4812910 | 33.250 ug/ml |
| 17) T | Bnezo[k]fluoranthene ... | 16.450 | 4763515 | 33.195 ug/ml |
| 18) T | Benzo[a]pyrene (C31.34) | 16.796 | 4620605 | 33.997 ug/ml |
| 19) T | Indeno[1,2,3-cd]pyren... | 18.161 | 4649880 | 36.404 ug/ml |
| 20) T | Dibenz[a,h]anthracene... | 18.200 | 4146286 | 30.799 ug/ml |
| 21) T | Benzo[g,h,i]perylene ... | 18.419 | 4491854 | 33.326 ug/ml |

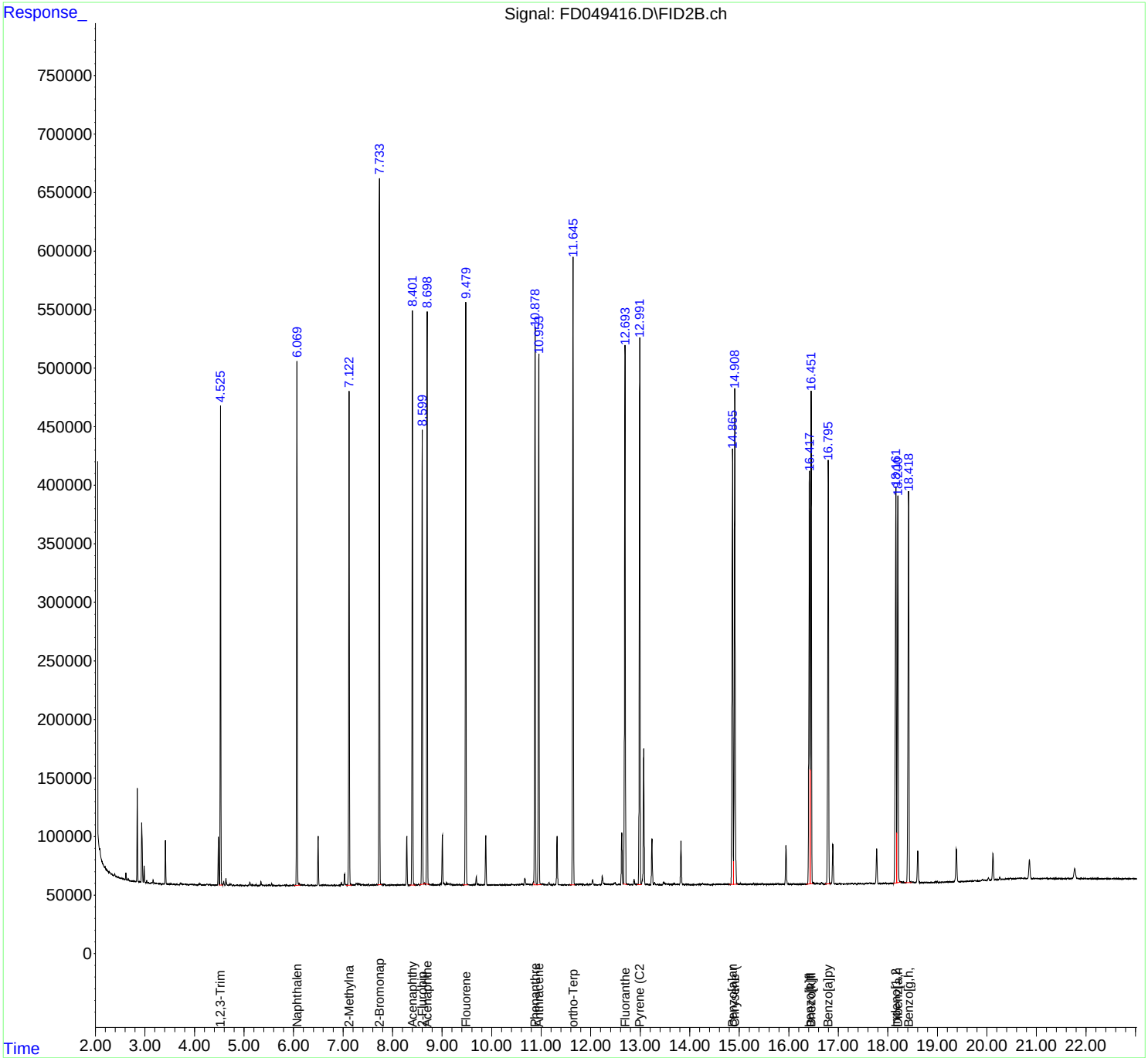
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD060925AR\
Data File : FD049416.D
Signal(s) : FID2B.ch
Acq On : 09 Jun 2025 16:57
Operator : YP/AJ
Sample : PB168324BS
Misc :
ALS Vial : 62 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
PB168324BS

Integration File: autoint1.e
Quant Time: Jun 10 02:35:19 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm



rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD060925AR\
Data File : FD049416.D
Signal(s) : FID2B.ch
Acq On : 09 Jun 2025 16:57
Sample : PB168324BS
Misc :
ALS Vial : 62 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Title : GC Extractables

Signal : FID2B.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.526 | 4.503 | 4.572 | VV | 409153 | 3499901 | 60.69% | 3.542% |
| 2 | 6.069 | 6.015 | 6.138 | BB | 446714 | 4112843 | 71.32% | 4.163% |
| 3 | 7.122 | 7.068 | 7.172 | BB | 420886 | 3979003 | 69.00% | 4.027% |
| 4 | 7.733 | 7.695 | 7.777 | BB | 602848 | 5669143 | 98.30% | 5.738% |
| 5 | 8.402 | 8.337 | 8.458 | BB | 490566 | 4730412 | 82.03% | 4.788% |
| 6 | 8.599 | 8.543 | 8.643 | BB | 386472 | 3820043 | 66.24% | 3.866% |
| 7 | 8.698 | 8.643 | 8.740 | BB | 488945 | 4743954 | 82.26% | 4.802% |
| 8 | 9.479 | 9.420 | 9.523 | BB | 498450 | 4948337 | 85.80% | 5.008% |
| 9 | 10.878 | 10.848 | 10.917 | VV | 476340 | 5042655 | 87.44% | 5.104% |
| 10 | 10.953 | 10.917 | 11.003 | PB | 453667 | 4835094 | 83.84% | 4.894% |
| 11 | 11.645 | 11.585 | 11.680 | BB | 535767 | 5766961 | 100.00% | 5.837% |
| 12 | 12.694 | 12.650 | 12.737 | BB | 459494 | 5127373 | 88.91% | 5.190% |
| 13 | 12.992 | 12.935 | 13.022 | BV | 467525 | 5142168 | 89.17% | 5.205% |
| 14 | 14.864 | 14.795 | 14.883 | BV | 373574 | 4698120 | 81.47% | 4.755% |
| 15 | 14.908 | 14.883 | 14.970 | VB | 423620 | 5198728 | 90.15% | 5.262% |
| 16 | 16.416 | 16.348 | 16.431 | BV | 353034 | 4812910 | 83.46% | 4.871% |
| 17 | 16.450 | 16.431 | 16.487 | VB | 418982 | 4763515 | 82.60% | 4.821% |
| 18 | 16.796 | 16.728 | 16.845 | BB | 362457 | 4620605 | 80.12% | 4.677% |
| 19 | 18.161 | 18.110 | 18.177 | BV | 338736 | 4649880 | 80.63% | 4.706% |
| 20 | 18.200 | 18.177 | 18.262 | VB | 330357 | 4146286 | 71.90% | 4.197% |
| 21 | 18.419 | 18.345 | 18.480 | BB | 333615 | 4491854 | 77.89% | 4.546% |
| | | | Sum of corrected areas: | | | 98799785 | | |

Aromatic EPH 052425.M Tue Jun 10 02:58:33 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | |
| Client Sample ID: | PB168408BS | SDG No.: | Q2198 |
| Lab Sample ID: | PB168408BS | Matrix: | Solid |
| Analytical Method: | NJEPH | % Solid: | 100 |
| Sample Wt/Vol: | 30.02 Units: g | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | | | |

| Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|
| 06/11/25 08:45 | 06/11/25 17:15 | PB168408 |

| CAS Number | Parameter | Conc. | Qualifier | Dilution | MDL | LOQ / CRQL | Units(Dry Weight) | Datafile |
|---|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | 4.97 | | 1 | 0.14 | 1.00 | mg/kg | FC069158.D |
| Aliphatic C12-C16 | Aliphatic C12-C16 | 4.11 | | 1 | 0.11 | 0.67 | mg/kg | FC069158.D |
| Aliphatic C16-C21 | Aliphatic C16-C21 | 7.02 | | 1 | 0.13 | 1.00 | mg/kg | FC069158.D |
| Aliphatic C21-C28 | Aliphatic C21-C28 | 10.0 | | 1 | 0.53 | 1.33 | mg/kg | FC069158.D |
| Aliphatic C28-C40 | Aliphatic C28-C40 | 14.6 | | 1 | 1.18 | 2.00 | mg/kg | FC069158.D |
| Aromatic C10-C12 | Aromatic C10-C12 | 3.20 | | 1 | 0.12 | 0.67 | mg/kg | FD049433.D |
| Aromatic C12-C16 | Aromatic C12-C16 | 5.11 | | 1 | 0.23 | 1.00 | mg/kg | FD049433.D |
| Aromatic C16-C21 | Aromatic C16-C21 | 9.80 | | 1 | 0.40 | 1.67 | mg/kg | FD049433.D |
| Aromatic C21-C36 | Aromatic C21-C36 | 18.5 | | 1 | 1.19 | 2.66 | mg/kg | FD049433.D |
| Total AliphaticEPH | Total AliphaticEPH | 40.7 | | | 2.09 | 5.99 | mg/kg | |
| Total AromaticEPH | Total AromaticEPH | 36.6 | | | 1.94 | 6.00 | mg/kg | |
| Total EPH | Total EPH | 77.3 | | | 4.03 | 12.0 | mg/kg | |

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | |
| Client Sample ID: | PB168408BS | SDG No.: | Q2198 |
| Lab Sample ID: | PB168408BS | Matrix: | Solid |
| Analytical Method: | NJEPH | % Solid: | 100 |
| Sample Wt/Vol: | 30.02 Units: g | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FC069158.D | 1 | 06/11/25 | 06/11/25 | PB168408 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | 4.97 | | 0.14 | 1.00 | mg/kg |
| Aliphatic C12-C16 | Aliphatic C12-C16 | 4.11 | | 0.11 | 0.67 | mg/kg |
| Aliphatic C16-C21 | Aliphatic C16-C21 | 7.02 | | 0.13 | 1.00 | mg/kg |
| Aliphatic C21-C28 | Aliphatic C21-C28 | 10.0 | | 0.53 | 1.33 | mg/kg |
| Aliphatic C28-C40 | Aliphatic C28-C40 | 14.6 | | 1.18 | 2.00 | mg/kg |
| **SURROGATES** | | | | | | |
| 3383-33-2 | 1-chlorooctadecane (SURR) | 38.0 | | 40 - 140 | 76% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | 0.00 | | 40 - 140 | 0% | SPK: 50 |

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# Quantitation Report For Aliphatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | PB168408BS | Acq On: | 11 Jun 2025 17:15 |
| Client Sample ID: | PB168408BS | Operator: | YP/AJ |
| Data file: | FC069158.D | Misc: | |
| Instrument: | FID_C | ALS Vial: | 12 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aliphatic C9-C12 | 3.303 | 6.605 | 7878783 | 74.527 | 300 | ug/ml |
| Aliphatic C12-C16 | 6.606 | 10.010 | 6284249 | 61.619 | 200 | ug/ml |
| Aliphatic C16-C21 | 10.011 | 13.380 | 10319394 | 105.445 | 300 | ug/ml |
| Aliphatic C21-C28 | 13.381 | 17.048 | 14134902 | 150.686 | 400 | ug/ml |
| Aliphatic C28-C40 | 17.049 | 22.033 | 20659158 | 218.757 | 600 | ug/ml |
| Aliphatic EPH | 3.303 | 22.033 | 59276486 | 611.033 | | ug/ml |
| ortho-Terphenyl (SURR) | 0.000 | 0.000 | 0 | 0 | | ug/ml |
| 1-chlorooctadecane (SURR) | 13.116 | 13.116 | 3406395 | 37.97 | | ug/ml |
| Aliphatic C9-C28 | 3.303 | 17.048 | 38617328 | 392.277 | 1200 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069158.D
Signal(s) : FID1A.ch
Acq On : 11 Jun 2025 17:15
Operator : YP/AJ
Sample : PB168408BS
Misc :
ALS Vial : 12 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
PB168408BS

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

Integration File: autoint1.e
Quant Time: Jun 12 06:04:38 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 12) S | 1-chlorooctadecane (S... | 13.116 | 3406395 | 37.970 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 75.94% |
| | **Target Compounds** | | | |
| 1) T | n-Nonane (C9) | 3.406 | 2230358 | 21.017 ug/ml |
| 2) T | n-Decane (C10) | 4.481 | 2689801 | 25.398 ug/ml |
| 4) T | n-Dodecane (C12) | 6.507 | 2958624 | 28.145 ug/ml |
| 6) T | n-Tetradecane (C14) | 8.306 | 3052905 | 29.783 ug/ml |
| 7) T | n-Hexadecane (C16) | 9.911 | 3231344 | 31.846 ug/ml |
| 8) T | n-Octadecane (C18) | 11.356 | 3268350 | 32.702 ug/ml |
| 10) T | n-Eicosane (C20) | 12.669 | 3555843 | 36.508 ug/ml |
| 11) T | n-Heneicosane (C21) | 13.283 | 3495201 | 36.313 ug/ml |
| 13) T | n-Docosane (C22) | 13.870 | 3515122 | 36.897 ug/ml |
| 14) T | n-Tetracosane (C24) | 14.975 | 3553253 | 37.739 ug/ml |
| 15) T | n-Hexacosane (C26) | 15.999 | 3528040 | 38.001 ug/ml |
| 16) T | n-Octacosane (C28) | 16.950 | 3538487 | 38.068 ug/ml |
| 17) T | n-Tricontane (C30) | 17.841 | 3631105 | 37.528 ug/ml |
| 18) T | n-Dotriacontane (C32) | 18.675 | 3683844 | 37.174 ug/ml |
| 19) T | n-Tetratriacontane (C34) | 19.460 | 3707841 | 38.471 ug/ml |
| 20) T | n-Hexatriacontane (C36) | 20.202 | 3584204 | 37.756 ug/ml |
| 21) T | n-Octatriacontane (C38) | 20.972 | 3356685 | 36.792 ug/ml |
| 22) T | n-Tetracontane (C40) | 21.937 | 2790032 | 31.621 ug/mlm |

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069158.D
Signal(s) : FID1A.ch
Acq On : 11 Jun 2025 17:15
Operator : YP/AJ
Sample : PB168408BS
Misc :
ALS Vial : 12 Sample Multiplier: 1

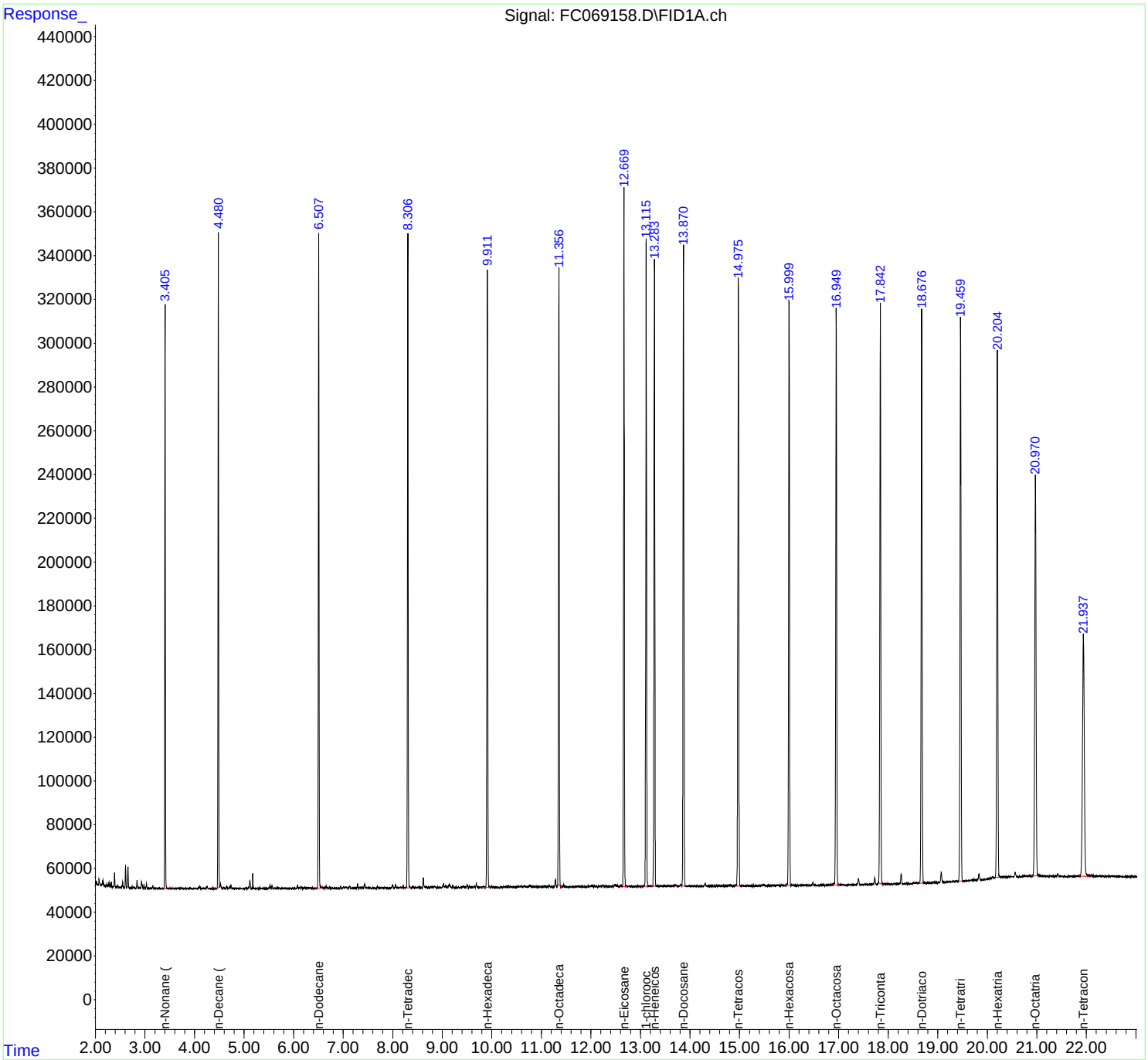
Integration File: autoint1.e
Quant Time: Jun 12 06:04:38 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

**Instrument :**
FID_C
**ClientSampleId :**
PB168408BS

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025



**Instrument :**
FID_C
**ClientSampleId :**
PB168408BS

rteres

Area Percent Report

**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC06112
Data File : FC069158.D
Signal(s) : FID1A.ch
Acq On : 11 Jun 2025 17:15
Sample : PB168408BS
Misc :
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Title : GC Extractables

Signal : FID1A.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.406 | 3.357 | 3.455 | BB | 266450 | 2230358 | 60.15% | 3.558% |
| 2 | 4.481 | 4.425 | 4.510 | BV | 299559 | 2689801 | 72.54% | 4.291% |
| 3 | 6.507 | 6.454 | 6.575 | BV | 299429 | 2958624 | 79.79% | 4.720% |
| 4 | 8.306 | 8.250 | 8.370 | BB | 299312 | 3052905 | 82.34% | 4.870% |
| 5 | 9.911 | 9.789 | 9.964 | BB | 282715 | 3231344 | 87.15% | 5.155% |
| 6 | 11.356 | 11.330 | 11.402 | BB | 281502 | 3268350 | 88.15% | 5.214% |
| 7 | 12.669 | 12.635 | 12.722 | BB | 319268 | 3555843 | 95.90% | 5.673% |
| 8 | 13.116 | 13.055 | 13.149 | BB | 295023 | 3406395 | 91.87% | 5.434% |
| 9 | 13.283 | 13.222 | 13.322 | BB | 287284 | 3495201 | 94.27% | 5.576% |
| 10 | 13.870 | 13.834 | 13.922 | VB | 293199 | 3515122 | 94.80% | 5.608% |
| 11 | 14.975 | 14.885 | 15.015 | BB | 276778 | 3553253 | 95.83% | 5.669% |
| 12 | 15.999 | 15.907 | 16.039 | BB | 266689 | 3528040 | 95.15% | 5.628% |
| 13 | 16.950 | 16.869 | 17.010 | BB | 262331 | 3538487 | 95.43% | 5.645% |
| 14 | 17.841 | 17.800 | 17.897 | BB | 260306 | 3631105 | 97.93% | 5.793% |
| 15 | 18.675 | 18.620 | 18.722 | BB | 261621 | 3683844 | 99.35% | 5.877% |
| 16 | 19.460 | 19.420 | 19.520 | BB | 255205 | 3707841 | 100.00% | 5.915% |
| 17 | 20.202 | 20.160 | 20.264 | BB | 238937 | 3584204 | 96.67% | 5.718% |
| 18 | 20.972 | 20.897 | 21.035 | BB | 180794 | 3356685 | 90.53% | 5.355% |
| 19 | 21.939 | 21.890 | 22.037 | BB | 108723 | 2695479 | 72.70% | 4.300% |
| | | | Sum of corrected areas: | | | 62682879 | | |

Aliphatic EPH 052425.M Thu Jun 12 06:57:39 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | |
| Client Sample ID: | PB168408BS | SDG No.: | Q2198 |
| Lab Sample ID: | PB168408BS | Matrix: | Solid |
| Analytical Method: | NJEPH | % Solid: | 100 |
| Sample Wt/Vol: | 30.02 Units: g | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FD049433.D | 1 | 06/11/25 | 06/11/25 | PB168408 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| Aromatic C10-C12 | Aromatic C10-C12 | 3.20 | | 0.12 | 0.67 | mg/kg |
| Aromatic C12-C16 | Aromatic C12-C16 | 5.11 | | 0.23 | 1.00 | mg/kg |
| Aromatic C16-C21 | Aromatic C16-C21 | 9.80 | | 0.40 | 1.67 | mg/kg |
| Aromatic C21-C36 | Aromatic C21-C36 | 18.5 | | 1.19 | 2.66 | mg/kg |
| **SURROGATES** | | | | | | |
| 580-13-2 | 2-Bromonaphthalene (SURR) | 36.6 | | 40 - 140 | 73% | SPK: 50 |
| 321-60-8 | 2-Flurobiphenyl (SURR) | 36.1 | | 40 - 140 | 72% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | 31.0 | | 40 - 140 | 62% | SPK: 50 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

# Quantitation Report For Aromatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | PB168408BS | Acq On: | 11 Jun 2025 17:15 |
| Client Sample ID: | PB168408BS | Operator: | YP/AJ |
| Data file: | FD049433.D | Misc: | |
| Instrument: | FID_D | ALS Vial: | 62 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aromatic C10-C12 | 4.424 | 6.168 | 8036884 | 48.026 | 200 | ug/ml |
| Aromatic C12-C16 | 6.169 | 8.797 | 14391225 | 76.743 | 300 | ug/ml |
| Aromatic C16-C21 | 8.798 | 13.088 | 27187051 | 147.164 | 500 | ug/ml |
| Aromatic C21-C36 | 13.089 | 18.509 | 40239912 | 277.406 | 800 | ug/ml |
| Aromatic EPH | 4.424 | 18.509 | 89855072 | 549.338 | | ug/ml |
| 2-Bromonaphthalene (SURR) | 7.733 | 7.733 | 6082670 | 36.59 | | ug/ml |
| 2-Flurobiphenyl (SURR) | 8.599 | 8.599 | 4126519 | 36.07 | | ug/ml |
| ortho-Terphenyl (SURR) | 11.645 | 11.645 | 6218341 | 30.98 | | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061125AR\
Data File : FD049433.D
Signal(s) : FID2B.ch
Acq On : 11 Jun 2025 17:15
Operator : YP/AJ
Sample : PB168408BS
Misc :
ALS Vial : 62 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
PB168408BS

Integration File: autoint1.e
Quant Time: Jun 12 04:59:26 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 4) S | 2-Bromonaphthalene (S... | 7.733 | 6082670 | 36.591 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 73.18% |
| 6) S | 2-Flurobiphenyl (SURR) | 8.599 | 4126519 | 36.072 ug/ml |
| Spiked Amount | 50.000 Range | 0 - 131 | Recovery = | 72.14% |
| 11) S | ortho-Terphenyl (SURR) | 11.645 | 6218341 | 30.980 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 61.96% |
| | **Target Compounds** | | | |
| 1) T | 1,2,3-Trimethylbenzen... | 4.525 | 3692267 | 23.207 ug/ml |
| 2) T | Naphthalene (C11.7) | 6.069 | 4344617 | 24.744 ug/ml |
| 3) T | 2-Methylnaphthalene (... | 7.123 | 4264479 | 23.871 ug/ml |
| 5) T | Acenaphthylene (C15.06) | 8.402 | 5052028 | 26.080 ug/ml |
| 7) T | Acenaphthene (C15.5) | 8.698 | 5074718 | 26.679 ug/ml |
| 8) T | Flouorene (C16.55) | 9.480 | 5343699 | 27.331 ug/ml |
| 9) T | Phenanthrene (C19.36) | 10.879 | 5496426 | 28.907 ug/ml |
| 10) T | Anthracene (C19.43) | 10.954 | 5281115 | 30.209 ug/ml |
| 12) T | Fluoranthene (C21.85) | 12.694 | 5534313 | 30.682 ug/ml |
| 13) T | Pyrene (C20.8) | 12.992 | 5531498 | 30.992 ug/ml |
| 14) T | Benzo[a]anthracene (C... | 14.863 | 5125382 | 33.722 ug/ml |
| 15) T | Chrysene (C27.41) | 14.907 | 5659378 | 37.268 ug/ml |
| 16) T | benzo[b]fluoranthene ... | 16.415 | 5140483 | 35.514 ug/ml |
| 17) T | Bnezo[k]fluoranthene ... | 16.450 | 5082863 | 35.421 ug/ml |
| 18) T | Benzo[a]pyrene (C31.34) | 16.795 | 4906573 | 36.101 ug/ml |
| 19) T | Indeno[1,2,3-cd]pyren... | 18.160 | 4985230 | 39.029 ug/ml |
| 20) T | Dibenz[a,h]anthracene... | 18.199 | 4577074 | 33.999 ug/ml |
| 21) T | Benzo[g,h,i]perylene ... | 18.417 | 4762929 | 35.337 ug/ml |

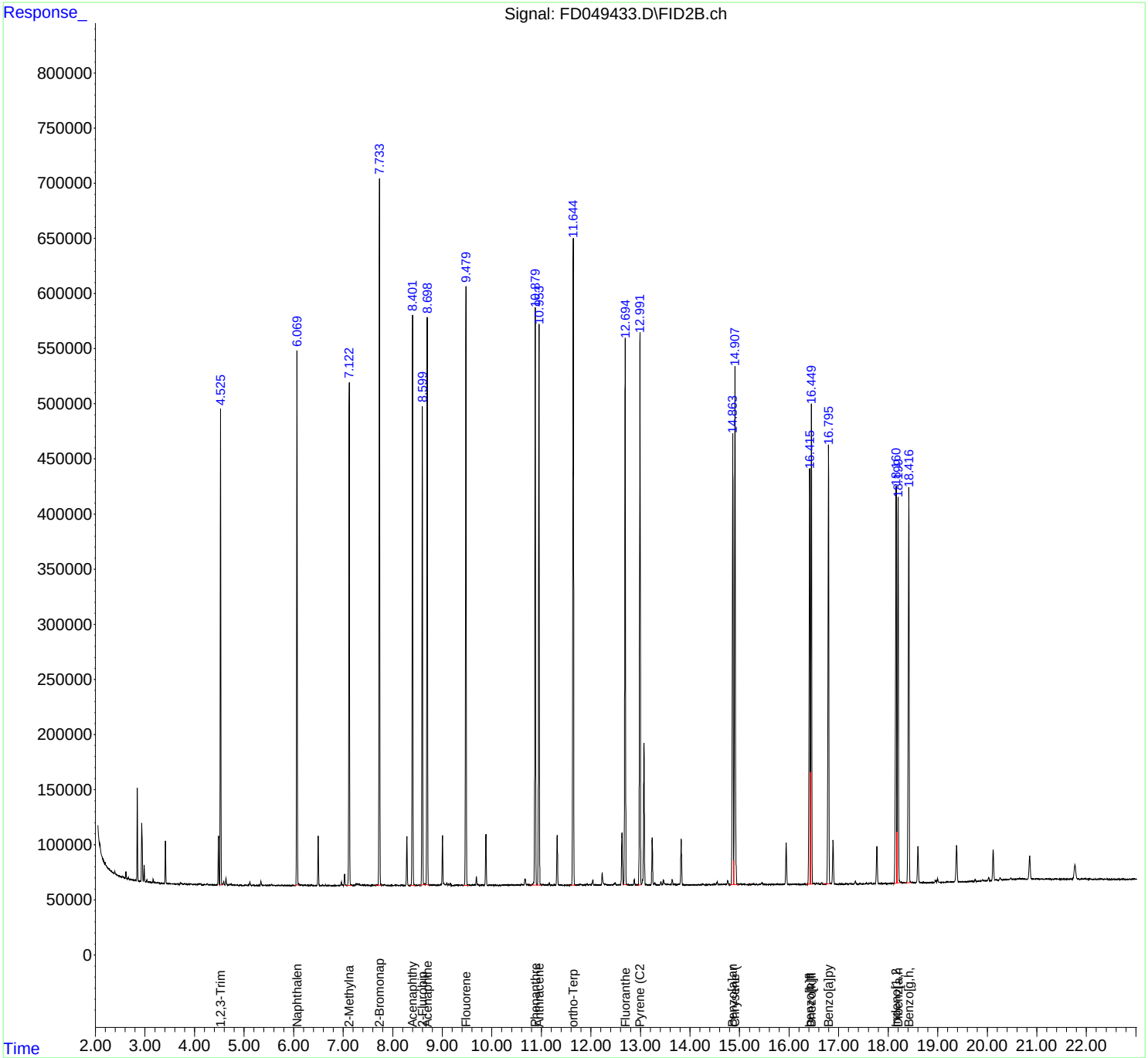
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061125AR\
Data File : FD049433.D
Signal(s) : FID2B.ch
Acq On : 11 Jun 2025 17:15
Operator : YP/AJ
Sample : PB168408BS
Misc :
ALS Vial : 62 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
PB168408BS

Integration File: autoint1.e
Quant Time: Jun 12 04:59:26 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm



rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061225AR\
Data File : FD049433.D
Signal(s) : FID2B.ch
Acq On : 11 Jun 2025 17:15
Sample : PB168408BS
Misc :
ALS Vial : 62 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Title : GC Extractables

Signal : FID2B.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.525 | 4.504 | 4.572 | VV | 431366 | 3692267 | 59.38% | 3.474% |
| 2 | 6.069 | 6.015 | 6.109 | BB | 483944 | 4344617 | 69.87% | 4.088% |
| 3 | 7.123 | 7.069 | 7.169 | BB | 455183 | 4264479 | 68.58% | 4.012% |
| 4 | 7.733 | 7.647 | 7.784 | BB | 640353 | 6082670 | 97.82% | 5.723% |
| 5 | 8.402 | 8.349 | 8.455 | BB | 517364 | 5052028 | 81.24% | 4.753% |
| 6 | 8.599 | 8.540 | 8.634 | BB | 432709 | 4126519 | 66.36% | 3.883% |
| 7 | 8.698 | 8.644 | 8.737 | BB | 515225 | 5074718 | 81.61% | 4.775% |
| 8 | 9.480 | 9.424 | 9.530 | BB | 543147 | 5343699 | 85.93% | 5.028% |
| 9 | 10.879 | 10.780 | 10.917 | BV | 524200 | 5496426 | 88.39% | 5.172% |
| 10 | 10.954 | 10.917 | 11.004 | PB | 508824 | 5281115 | 84.93% | 4.969% |
| 11 | 11.645 | 11.582 | 11.692 | BB | 587385 | 6218341 | 100.00% | 5.851% |
| 12 | 12.694 | 12.650 | 12.725 | BB | 495827 | 5534313 | 89.00% | 5.207% |
| 13 | 12.992 | 12.930 | 13.017 | BV | 501509 | 5531498 | 88.95% | 5.205% |
| 14 | 14.863 | 14.802 | 14.882 | BV | 409665 | 5125382 | 82.42% | 4.822% |
| 15 | 14.907 | 14.882 | 14.967 | VB | 470270 | 5659378 | 91.01% | 5.325% |
| 16 | 16.415 | 16.345 | 16.430 | BV | 376758 | 5140483 | 82.67% | 4.837% |
| 17 | 16.450 | 16.430 | 16.481 | VB | 433953 | 5082863 | 81.74% | 4.782% |
| 18 | 16.795 | 16.687 | 16.839 | BB | 398663 | 4906573 | 78.90% | 4.617% |
| 19 | 18.160 | 18.110 | 18.176 | BV | 359869 | 4985230 | 80.17% | 4.691% |
| 20 | 18.199 | 18.176 | 18.250 | VB | 348557 | 4577074 | 73.61% | 4.307% |
| 21 | 18.417 | 18.344 | 18.474 | BB | 358730 | 4762929 | 76.59% | 4.481% |

Sum of corrected areas: 106282602

Aromatic EPH 052425.M Thu Jun 12 05:40:16 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | |
| Client Sample ID: | PB168324BSD | SDG No.: | Q2198 |
| Lab Sample ID: | PB168324BSD | Matrix: | Water |
| Analytical Method: | NJEPH | % Solid: | 0 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | SW3510 | | |

| Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|
| 06/06/25 09:10 | 06/09/25 17:37 | PB168324 |

| CAS Number | Parameter | Conc. | Qualifier | Dilution | MDL | LOQ / CRQL | Units | Datafile |
|---|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | 155 | | 1 | 8.28 | 30.0 | ug/l | FC069136.D |
| Aliphatic C12-C16 | Aliphatic C12-C16 | 128 | | 1 | 13.5 | 20.0 | ug/l | FC069136.D |
| Aliphatic C16-C21 | Aliphatic C16-C21 | 216 | | 1 | 8.34 | 30.0 | ug/l | FC069136.D |
| Aliphatic C21-C28 | Aliphatic C21-C28 | 305 | | 1 | 12.5 | 40.0 | ug/l | FC069136.D |
| Aliphatic C28-C40 | Aliphatic C28-C40 | 443 | | 1 | 23.8 | 60.0 | ug/l | FC069136.D |
| Aromatic C10-C12 | Aromatic C10-C12 | 83.6 | | 1 | 2.07 | 20.0 | ug/l | FD049417.D |
| Aromatic C12-C16 | Aromatic C12-C16 | 132 | | 1 | 4.26 | 30.0 | ug/l | FD049417.D |
| Aromatic C16-C21 | Aromatic C16-C21 | 254 | | 1 | 8.27 | 50.0 | ug/l | FD049417.D |
| Aromatic C21-C36 | Aromatic C21-C36 | 494 | | 1 | 23.8 | 80.0 | ug/l | FD049417.D |
| Total AliphaticEPH | Total AliphaticEPH | 1250 | | | 66.4 | 180 | ug/l | |
| Total AromaticEPH | Total AromaticEPH | 964 | | | 38.4 | 180 | ug/l | |
| Total EPH | Total EPH | 2210 | | | 105 | 360 | ug/l | |

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Portal Partners Tri-Venture | | Date Collected: | | |
| Project: | Amtrak Sawtooth Bridges 2025 | | Date Received: | | |
| Client Sample ID: | PB168324BSD | | SDG No.: | Q2198 | |
| Lab Sample ID: | PB168324BSD | | Matrix: | Water | |
| Analytical Method: | NJEPH | | % Solid: | 0 | |
| Sample Wt/Vol: | 1000 | Units: mL | Final Vol: | 2000 | uL |
| Soil Aliquot Vol: | | uL | Test: | EPH | |
| Prep Method : | SW3510 | | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FC069136.D | 1 | 06/06/25 | 06/09/25 | PB168324 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | 155 | | 8.28 | 30.0 | ug/l |
| Aliphatic C12-C16 | Aliphatic C12-C16 | 128 | | 13.5 | 20.0 | ug/l |
| Aliphatic C16-C21 | Aliphatic C16-C21 | 216 | | 8.34 | 30.0 | ug/l |
| Aliphatic C21-C28 | Aliphatic C21-C28 | 305 | | 12.5 | 40.0 | ug/l |
| Aliphatic C28-C40 | Aliphatic C28-C40 | 443 | | 23.8 | 60.0 | ug/l |
| **SURROGATES** | | | | | | |
| 3383-33-2 | 1-chlorooctadecane (SURR) | 38.9 | | 40 - 140 | 78% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | 0.00 | | 40 - 140 | 0% | SPK: 50 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

# Quantitation Report For Aliphatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | PB168324BSD | Acq On: | 09 Jun 2025 17:37 |
| Client Sample ID: | PB168324BSD | Operator: | YP/AJ |
| Data file: | FC069136.D | Misc: | |
| Instrument: | FID_C | ALS Vial: | 13 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aliphatic C9-C12 | 3.299 | 6.602 | 8233812 | 77.885 | 300 | ug/ml |
| Aliphatic C12-C16 | 6.603 | 10.008 | 6547841 | 64.204 | 200 | ug/ml |
| Aliphatic C16-C21 | 10.009 | 13.379 | 10596367 | 108.275 | 300 | ug/ml |
| Aliphatic C21-C28 | 13.380 | 17.047 | 14345368 | 152.929 | 400 | ug/ml |
| Aliphatic C28-C40 | 17.048 | 22.037 | 20933938 | 221.666 | 600 | ug/ml |
| Aliphatic EPH | 3.299 | 22.037 | 60657326 | 624.959 | | ug/ml |
| ortho-Terphenyl (SURR) | 0.000 | 0.000 | 0 | 0 | | ug/ml |
| 1-chlorooctadecane (SURR) | 13.114 | 13.114 | 3493029 | 38.94 | | ug/ml |
| Aliphatic C9-C28 | 3.299 | 17.047 | 39723388 | 403.293 | 1200 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC060925AL\
Data File : FC069136.D
Signal(s) : FID1A.ch
Acq On : 09 Jun 2025 17:37
Operator : YP/AJ
Sample : PB168324BSD
Misc :
ALS Vial : 13 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
PB168324BSD

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/10/2025
Supervised By :mohammad ahmed 06/11/2025

Integration File: autoint1.e
Quant Time: Jun 10 05:24:09 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | System Monitoring Compounds | | | |
| 12) S | 1-chlorooctadecane (S... | 13.114 | 3493029 | 38.935 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 77.87% |
| | Target Compounds | | | |
| 1) T | n-Nonane (C9) | 3.401 | 2327293 | 21.930 ug/ml |
| 2) T | n-Decane (C10) | 4.476 | 2813430 | 26.565 ug/ml |
| 4) T | n-Dodecane (C12) | 6.502 | 3093089 | 29.424 ug/ml |
| 6) T | n-Tetradecane (C14) | 8.302 | 3187020 | 31.092 ug/ml |
| 7) T | n-Hexadecane (C16) | 9.908 | 3360821 | 33.122 ug/ml |
| 8) T | n-Octadecane (C18) | 11.352 | 3424204 | 34.261 ug/mlm |
| 10) T | n-Eicosane (C20) | 12.668 | 3665722 | 37.637 ug/ml |
| 11) T | n-Heneicosane (C21) | 13.281 | 3589570 | 37.293 ug/ml |
| 13) T | n-Docosane (C22) | 13.869 | 3602528 | 37.814 ug/ml |
| 14) T | n-Tetracosane (C24) | 14.974 | 3622735 | 38.477 ug/ml |
| 15) T | n-Hexacosane (C26) | 15.997 | 3574251 | 38.498 ug/ml |
| 16) T | n-Octacosane (C28) | 16.949 | 3545854 | 38.147 ug/ml |
| 17) T | n-Tricontane (C30) | 17.839 | 3586320 | 37.065 ug/ml |
| 18) T | n-Dotriacontane (C32) | 18.673 | 3613612 | 36.465 ug/ml |
| 19) T | n-Tetratriacontane (C34) | 19.460 | 3648561 | 37.856 ug/ml |
| 20) T | n-Hexatriacontane (C36) | 20.202 | 3586181 | 37.777 ug/ml |
| 21) T | n-Octatriacontane (C38) | 20.973 | 3483420 | 38.181 ug/ml |
| 22) T | n-Tetracontane (C40) | 21.942 | 3122908 | 35.393 ug/mlm |

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC060925AL\
Data File : FC069136.D
Signal(s) : FID1A.ch
Acq On : 09 Jun 2025 17:37
Operator : YP/AJ
Sample : PB168324BSD
Misc :
ALS Vial : 13 Sample Multiplier: 1

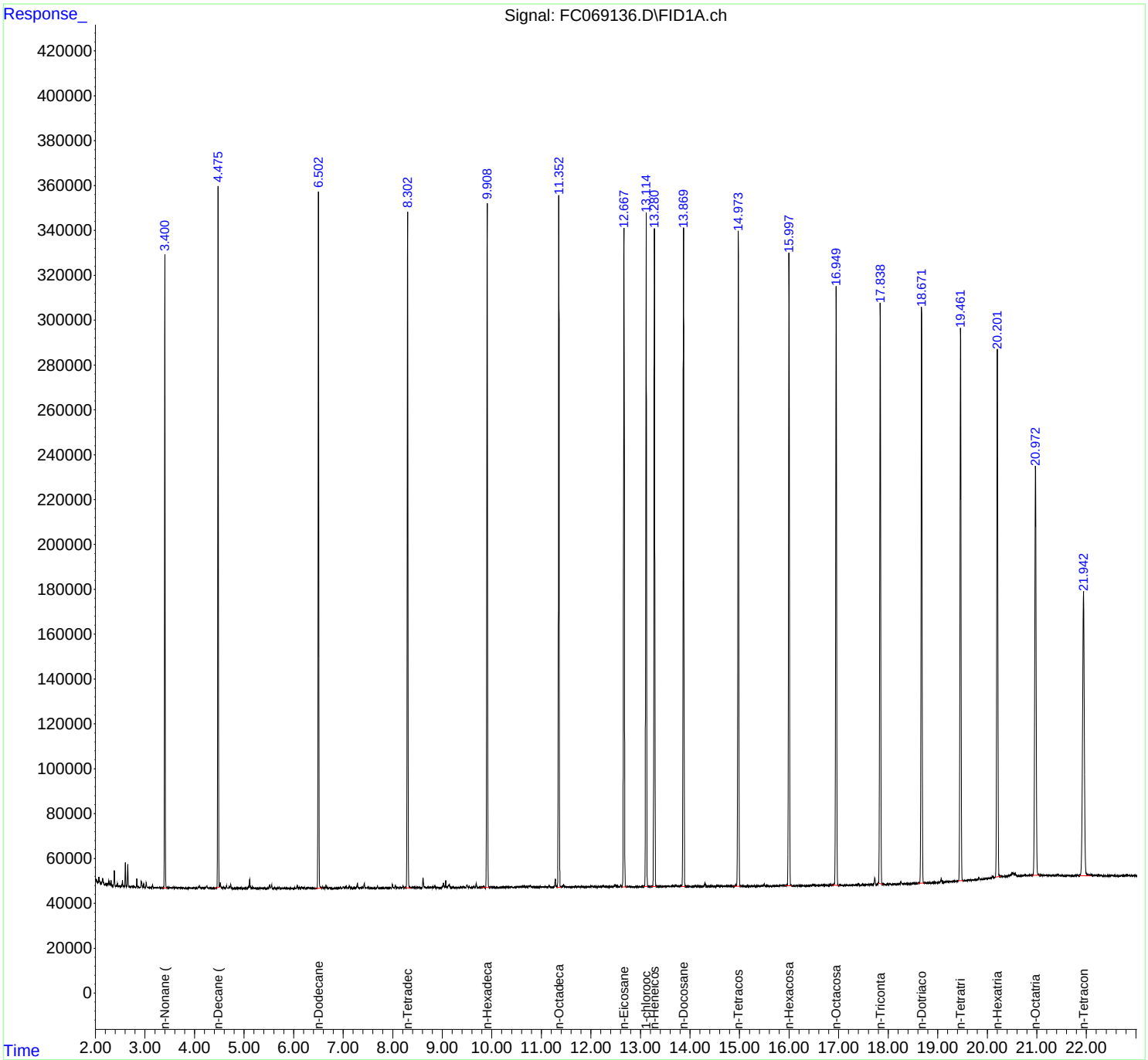
**Instrument :**
FID_C
**ClientSampleId :**
PB168324BSD

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/10/2025
Supervised By :mohammad ahmed 06/11/2025

Integration File: autoint1.e
Quant Time: Jun 10 05:24:09 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um



**Instrument :**
FID_C
**ClientSampleId :**
PB168324BSD

rteres

Area Percent Report

**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/10/2025
Supervised By :mohammad ahmed 06/11/2025

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC06092
Data File : FC069136.D
Signal(s) : FID1A.ch
Acq On : 09 Jun 2025 17:37
Sample : PB168324BSD
Misc :
ALS Vial : 13 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Title : GC Extractables

Signal : FID1A.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.401 | 3.350 | 3.442 | BB | 281841 | 2327293 | 63.49% | 3.628% |
| 2 | 4.476 | 4.420 | 4.505 | BV | 312351 | 2813430 | 76.75% | 4.386% |
| 3 | 6.502 | 6.438 | 6.570 | BB | 310472 | 3093089 | 84.38% | 4.822% |
| 4 | 8.302 | 8.247 | 8.367 | BB | 301374 | 3187020 | 86.94% | 4.968% |
| 5 | 9.908 | 9.787 | 9.955 | BB | 305496 | 3360821 | 91.68% | 5.239% |
| 6 | 11.353 | 11.330 | 11.392 | BB | 302141 | 3341075 | 91.14% | 5.208% |
| 7 | 12.668 | 12.630 | 12.722 | PB | 294857 | 3665722 | 100.00% | 5.714% |
| 8 | 13.114 | 13.055 | 13.153 | BB | 301455 | 3493029 | 95.29% | 5.445% |
| 9 | 13.281 | 13.218 | 13.318 | BB | 293906 | 3589570 | 97.92% | 5.596% |
| 10 | 13.869 | 13.831 | 13.913 | VB | 292257 | 3602528 | 98.28% | 5.616% |
| 11 | 14.974 | 14.880 | 15.018 | BB | 292026 | 3622735 | 98.83% | 5.647% |
| 12 | 15.997 | 15.915 | 16.057 | BB | 281923 | 3574251 | 97.50% | 5.572% |
| 13 | 16.949 | 16.865 | 17.013 | BB | 266529 | 3545854 | 96.73% | 5.527% |
| 14 | 17.839 | 17.800 | 17.897 | BB | 258501 | 3586320 | 97.83% | 5.590% |
| 15 | 18.673 | 18.598 | 18.728 | BB | 252605 | 3613612 | 98.58% | 5.633% |
| 16 | 19.460 | 19.420 | 19.520 | BB | 246067 | 3648561 | 99.53% | 5.688% |
| 17 | 20.202 | 20.160 | 20.268 | BB | 234644 | 3586181 | 97.83% | 5.590% |
| 18 | 20.973 | 20.893 | 21.055 | BB | 181895 | 3483420 | 95.03% | 5.430% |
| 19 | 21.942 | 21.890 | 22.040 | BB | 125617 | 3015844 | 82.27% | 4.701% |
| | | | Sum of corrected areas: | | | 64150354 | | |

Aliphatic EPH 052425.M Tue Jun 10 06:18:36 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Portal Partners Tri-Venture | | Date Collected: | | |
| Project: | Amtrak Sawtooth Bridges 2025 | | Date Received: | | |
| Client Sample ID: | PB168324BSD | | SDG No.: | Q2198 | |
| Lab Sample ID: | PB168324BSD | | Matrix: | Water | |
| Analytical Method: | NJEPH | | % Solid: | 0 | |
| Sample Wt/Vol: | 1000 | Units: mL | Final Vol: | 2000 | uL |
| Soil Aliquot Vol: | | uL | Test: | EPH | |
| Prep Method : | SW3510 | | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FD049417.D | 1 | 06/06/25 | 06/09/25 | PB168324 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| Aromatic C10-C12 | Aromatic C10-C12 | 83.6 | | 2.07 | 20.0 | ug/l |
| Aromatic C12-C16 | Aromatic C12-C16 | 132 | | 4.26 | 30.0 | ug/l |
| Aromatic C16-C21 | Aromatic C16-C21 | 254 | | 8.27 | 50.0 | ug/l |
| Aromatic C21-C36 | Aromatic C21-C36 | 494 | | 23.8 | 80.0 | ug/l |
| **SURROGATES** | | | | | | |
| 580-13-2 | 2-Bromonaphthalene (SURR) | 31.5 | | 40 - 140 | 63% | SPK: 50 |
| 321-60-8 | 2-Flurobiphenyl (SURR) | 31.0 | | 40 - 140 | 62% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | 26.7 | | 40 - 140 | 53% | SPK: 50 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

# Quantitation Report For Aromatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | PB168324BSD | Acq On: | 09 Jun 2025 17:37 |
| Client Sample ID: | PB168324BSD | Operator: | YP/AJ |
| Data file: | FD049417.D | Misc: | |
| Instrument: | FID_D | ALS Vial: | 63 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aromatic EPH | 4.424 | 18.512 | 78760873 | 482.341 | | ug/ml |
| 2-Bromonaphthalene (SURR) | 7.733 | 7.733 | 5235013 | 31.49 | | ug/ml |
| 2-Flurobiphenyl (SURR) | 8.598 | 8.598 | 3547472 | 31.01 | | ug/ml |
| ortho-Terphenyl (SURR) | 11.644 | 11.644 | 5354384 | 26.68 | | ug/ml |
| Aromatic C10-C12 | 4.424 | 6.169 | 6996325 | 41.808 | 200 | ug/ml |
| Aromatic C12-C16 | 6.170 | 8.798 | 12430561 | 66.287 | 300 | ug/ml |
| Aromatic C16-C21 | 8.799 | 13.089 | 23494396 | 127.175 | 500 | ug/ml |
| Aromatic C21-C36 | 13.090 | 18.512 | 35839591 | 247.071 | 800 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD060925AR\
Data File : FD049417.D
Signal(s) : FID2B.ch
Acq On : 09 Jun 2025 17:37
Operator : YP/AJ
Sample : PB168324BSD
Misc :
ALS Vial : 63 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
PB168324BSD

Integration File: autoint1.e
Quant Time: Jun 10 02:35:38 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 4) S | 2-Bromonaphthalene (S... | 7.733 | 5235013 | 31.492 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 62.98% |
| 6) S | 2-Flurobiphenyl (SURR) | 8.598 | 3547472 | 31.010 ug/ml |
| Spiked Amount | 50.000 Range | 0 - 131 | Recovery = | 62.02% |
| 11) S | ortho-Terphenyl (SURR) | 11.644 | 5354384 | 26.676 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 53.35% |
| | **Target Compounds** | | | |
| 1) T | 1,2,3-Trimethylbenzen... | 4.525 | 3225620 | 20.274 ug/ml |
| 2) T | Naphthalene (C11.7) | 6.067 | 3770705 | 21.475 ug/ml |
| 3) T | 2-Methylnaphthalene (... | 7.121 | 3683509 | 20.619 ug/ml |
| 5) T | Acenaphthylene (C15.06) | 8.401 | 4361706 | 22.516 ug/ml |
| 7) T | Acenaphthene (C15.5) | 8.697 | 4385346 | 23.054 ug/ml |
| 8) T | Flouorene (C16.55) | 9.479 | 4596241 | 23.508 ug/ml |
| 9) T | Phenanthrene (C19.36) | 10.878 | 4729941 | 24.876 ug/ml |
| 10) T | Anthracene (C19.43) | 10.953 | 4554391 | 26.052 ug/ml |
| 12) T | Fluoranthene (C21.85) | 12.693 | 4803640 | 26.631 ug/ml |
| 13) T | Pyrene (C20.8) | 12.991 | 4810183 | 26.951 ug/ml |
| 14) T | Benzo[a]anthracene (C... | 14.863 | 4485779 | 29.514 ug/ml |
| 15) T | Chrysene (C27.41) | 14.907 | 4951080 | 32.604 ug/ml |
| 16) T | benzo[b]fluoranthene ... | 16.416 | 4552141 | 31.449 ug/ml |
| 17) T | Bnezo[k]fluoranthene ... | 16.450 | 4524513 | 31.530 ug/ml |
| 18) T | Benzo[a]pyrene (C31.34) | 16.796 | 4380687 | 32.231 ug/ml |
| 19) T | Indeno[1,2,3-cd]pyren... | 18.162 | 4507749 | 35.291 ug/ml |
| 20) T | Dibenz[a,h]anthracene... | 18.200 | 4143409 | 30.777 ug/ml |
| 21) T | Benzo[g,h,i]perylene ... | 18.418 | 4294233 | 31.860 ug/ml |

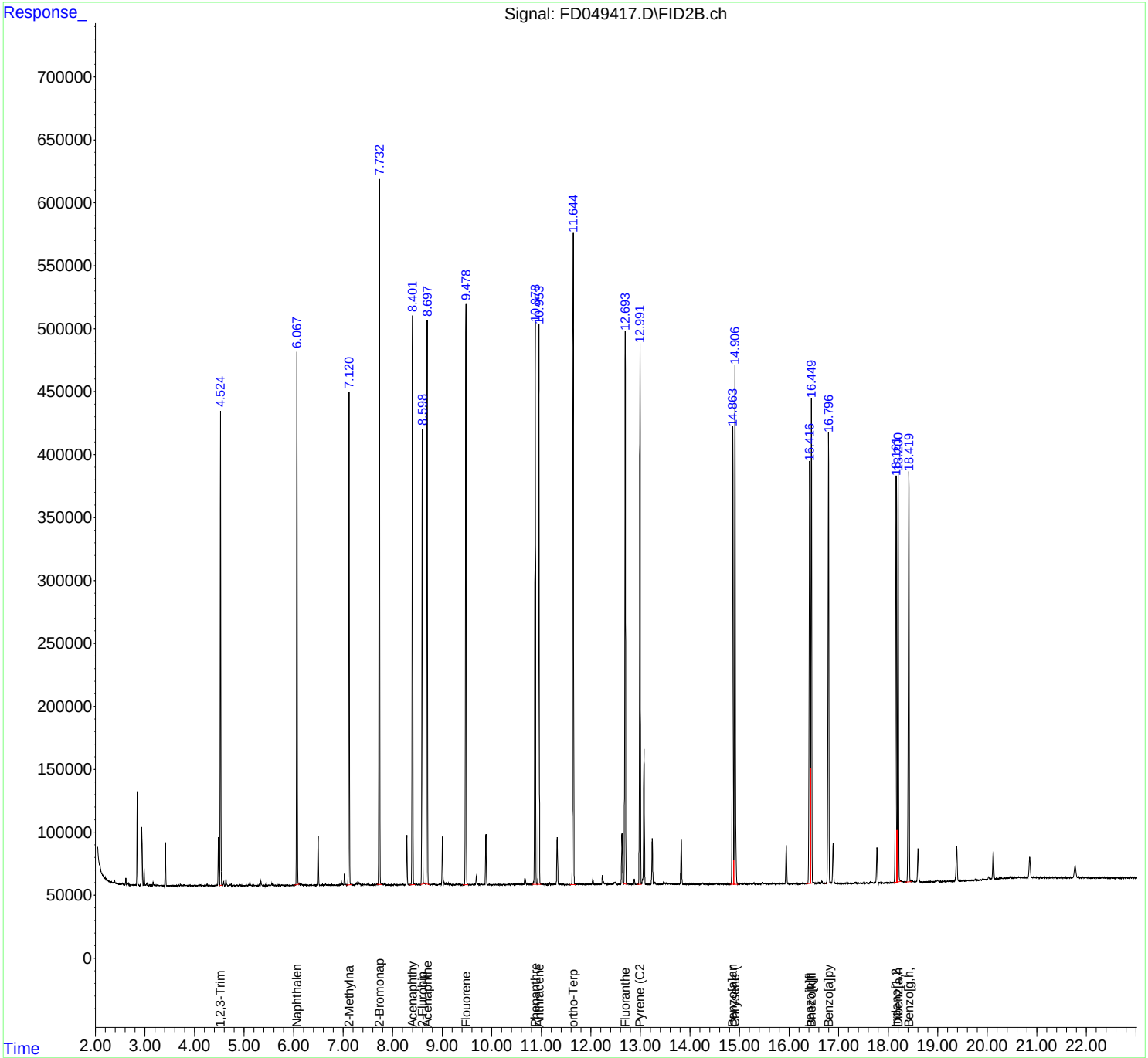
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD060925AR\
Data File : FD049417.D
Signal(s) : FID2B.ch
Acq On : 09 Jun 2025 17:37
Operator : YP/AJ
Sample : PB168324BSD
Misc :
ALS Vial : 63 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
PB168324BSD

Integration File: autoint1.e
Quant Time: Jun 10 02:35:38 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm



rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD060925AR\
Data File : FD049417.D
Signal(s) : FID2B.ch
Acq On : 09 Jun 2025 17:37
Sample : PB168324BSD
Misc :
ALS Vial : 63 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Title : GC Extractables

Signal : FID2B.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.525 | 4.503 | 4.570 | VV | 377100 | 3225620 | 60.24% | 3.472% |
| 2 | 6.067 | 6.015 | 6.117 | BB | 422456 | 3770705 | 70.42% | 4.059% |
| 3 | 7.121 | 7.068 | 7.173 | BB | 390047 | 3683509 | 68.79% | 3.965% |
| 4 | 7.733 | 7.680 | 7.787 | BB | 558343 | 5235013 | 97.77% | 5.635% |
| 5 | 8.401 | 8.348 | 8.450 | BB | 451894 | 4361706 | 81.46% | 4.695% |
| 6 | 8.598 | 8.563 | 8.642 | BB | 361515 | 3547472 | 66.25% | 3.819% |
| 7 | 8.697 | 8.647 | 8.742 | BB | 448124 | 4385346 | 81.90% | 4.721% |
| 8 | 9.479 | 9.418 | 9.523 | BB | 459863 | 4596241 | 85.84% | 4.948% |
| 9 | 10.878 | 10.802 | 10.917 | BV | 448399 | 4729941 | 88.34% | 5.092% |
| 10 | 10.953 | 10.917 | 10.995 | PB | 444611 | 4554391 | 85.06% | 4.903% |
| 11 | 11.644 | 11.575 | 11.692 | BB | 516473 | 5354384 | 100.00% | 5.764% |
| 12 | 12.693 | 12.650 | 12.725 | BB | 438187 | 4803640 | 89.71% | 5.171% |
| 13 | 12.991 | 12.930 | 13.019 | BV | 431776 | 4810183 | 89.84% | 5.178% |
| 14 | 14.863 | 14.803 | 14.883 | BV | 363464 | 4485779 | 83.78% | 4.829% |
| 15 | 14.907 | 14.883 | 14.972 | VB | 412841 | 4951080 | 92.47% | 5.330% |
| 16 | 16.416 | 16.348 | 16.431 | BV | 335577 | 4552141 | 85.02% | 4.900% |
| 17 | 16.450 | 16.431 | 16.487 | VV | 385449 | 4524513 | 84.50% | 4.870% |
| 18 | 16.796 | 16.732 | 16.838 | BB | 358592 | 4380687 | 81.81% | 4.716% |
| 19 | 18.162 | 18.110 | 18.178 | BV | 322941 | 4507749 | 84.19% | 4.852% |
| 20 | 18.200 | 18.178 | 18.262 | VB | 325556 | 4143409 | 77.38% | 4.460% |
| 21 | 18.418 | 18.345 | 18.472 | BB | 325147 | 4294233 | 80.20% | 4.623% |

Sum of corrected areas: 92897744

Aromatic EPH 052425.M Tue Jun 10 02:59:18 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | |
| Client Sample ID: | PB168408BSD | SDG No.: | Q2198 |
| Lab Sample ID: | PB168408BSD | Matrix: | Solid |
| Analytical Method: | NJEPH | % Solid: | 100 |
| Sample Wt/Vol: | 30.03 Units: g | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | | | |

| Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|
| 06/11/25 08:45 | 06/11/25 17:57 | PB168408 |

| CAS Number | Parameter | Conc. | Qualifier | Dilution | MDL | LOQ / CRQL | Units(Dry Weight) | Datafile |
|---|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | 5.03 | | 1 | 0.14 | 1.00 | mg/kg | FC069159.D |
| Aliphatic C12-C16 | Aliphatic C12-C16 | 4.15 | | 1 | 0.11 | 0.67 | mg/kg | FC069159.D |
| Aliphatic C16-C21 | Aliphatic C16-C21 | 7.07 | | 1 | 0.13 | 1.00 | mg/kg | FC069159.D |
| Aliphatic C21-C28 | Aliphatic C21-C28 | 10.1 | | 1 | 0.53 | 1.33 | mg/kg | FC069159.D |
| Aliphatic C28-C40 | Aliphatic C28-C40 | 15.0 | | 1 | 1.18 | 2.00 | mg/kg | FC069159.D |
| Aromatic C10-C12 | Aromatic C10-C12 | 2.95 | | 1 | 0.12 | 0.67 | mg/kg | FD049434.D |
| Aromatic C12-C16 | Aromatic C12-C16 | 4.68 | | 1 | 0.23 | 1.00 | mg/kg | FD049434.D |
| Aromatic C16-C21 | Aromatic C16-C21 | 9.01 | | 1 | 0.40 | 1.67 | mg/kg | FD049434.D |
| Aromatic C21-C36 | Aromatic C21-C36 | 17.5 | | 1 | 1.19 | 2.66 | mg/kg | FD049434.D |
| Total AliphaticEPH | Total AliphaticEPH | 41.4 | | | 2.09 | 5.99 | mg/kg | |
| Total AromaticEPH | Total AromaticEPH | 34.1 | | | 1.94 | 6.00 | mg/kg | |
| Total EPH | Total EPH | 75.5 | | | 4.03 | 12.0 | mg/kg | |

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | |
| Client Sample ID: | PB168408BSD | SDG No.: | Q2198 |
| Lab Sample ID: | PB168408BSD | Matrix: | Solid |
| Analytical Method: | NJEPH | % Solid: | 100 |
| Sample Wt/Vol: | 30.03 Units: g | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FC069159.D | 1 | 06/11/25 | 06/11/25 | PB168408 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | 5.03 | | 0.14 | 1.00 | mg/kg |
| Aliphatic C12-C16 | Aliphatic C12-C16 | 4.15 | | 0.11 | 0.67 | mg/kg |
| Aliphatic C16-C21 | Aliphatic C16-C21 | 7.07 | | 0.13 | 1.00 | mg/kg |
| Aliphatic C21-C28 | Aliphatic C21-C28 | 10.1 | | 0.53 | 1.33 | mg/kg |
| Aliphatic C28-C40 | Aliphatic C28-C40 | 15.0 | | 1.18 | 2.00 | mg/kg |
| **SURROGATES** | | | | | | |
| 3383-33-2 | 1-chlorooctadecane (SURR) | 38.6 | | 40 - 140 | 77% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | 0.00 | | 40 - 140 | 0% | SPK: 50 |

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# Quantitation Report For Aliphatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | PB168408BSD | Acq On: | 11 Jun 2025 17:57 |
| Client Sample ID: | PB168408BSD | Operator: | YP/AJ |
| Data file: | FC069159.D | Misc: | |
| Instrument: | FID_C | ALS Vial: | 13 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aliphatic C9-C12 | 3.303 | 6.605 | 7987311 | 75.553 | 300 | ug/ml |
| Aliphatic C12-C16 | 6.606 | 10.010 | 6351024 | 62.274 | 200 | ug/ml |
| Aliphatic C16-C21 | 10.011 | 13.380 | 10389514 | 106.162 | 300 | ug/ml |
| Aliphatic C21-C28 | 13.381 | 17.048 | 14283947 | 152.275 | 400 | ug/ml |
| Aliphatic C28-C40 | 17.049 | 22.033 | 21300229 | 225.545 | 600 | ug/ml |
| Aliphatic EPH | 3.303 | 22.033 | 60312025 | 621.808 | | ug/ml |
| ortho-Terphenyl (SURR) | 0.000 | 0.000 | 0 | 0 | | ug/ml |
| 1-chlorooctadecane (SURR) | 13.115 | 13.115 | 3465185 | 38.62 | | ug/ml |
| Aliphatic C9-C28 | 3.303 | 17.048 | 39011796 | 396.264 | 1200 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069159.D
Signal(s) : FID1A.ch
Acq On : 11 Jun 2025 17:57
Operator : YP/AJ
Sample : PB168408BSD
Misc :
ALS Vial : 13 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
PB168408BSD

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

Integration File: autoint1.e
Quant Time: Jun 12 06:04:56 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 12) S | 1-chlorooctadecane (S... | 13.115 | 3465185 | 38.625 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 77.25% |
| | **Target Compounds** | | | |
| 1) T | n-Nonane (C9) | 3.406 | 2259686 | 21.293 ug/ml |
| 2) T | n-Decane (C10) | 4.480 | 2725623 | 25.736 ug/ml |
| 4) T | n-Dodecane (C12) | 6.506 | 3002002 | 28.557 ug/ml |
| 6) T | n-Tetradecane (C14) | 8.305 | 3089908 | 30.144 ug/ml |
| 7) T | n-Hexadecane (C16) | 9.910 | 3261116 | 32.140 ug/ml |
| 8) T | n-Octadecane (C18) | 11.355 | 3332929 | 33.348 ug/mlm |
| 10) T | n-Eicosane (C20) | 12.668 | 3588430 | 36.843 ug/ml |
| 11) T | n-Heneicosane (C21) | 13.282 | 3526278 | 36.636 ug/ml |
| 13) T | n-Docosane (C22) | 13.869 | 3548367 | 37.246 ug/ml |
| 14) T | n-Tetracosane (C24) | 14.974 | 3595477 | 38.188 ug/ml |
| 15) T | n-Hexacosane (C26) | 15.999 | 3569762 | 38.450 ug/ml |
| 16) T | n-Octacosane (C28) | 16.950 | 3570341 | 38.410 ug/ml |
| 17) T | n-Tricontane (C30) | 17.840 | 3651998 | 37.744 ug/ml |
| 18) T | n-Dotriacontane (C32) | 18.674 | 3697035 | 37.307 ug/ml |
| 19) T | n-Tetratriacontane (C34) | 19.461 | 3735390 | 38.757 ug/ml |
| 20) T | n-Hexatriacontane (C36) | 20.202 | 3662913 | 38.586 ug/ml |
| 21) T | n-Octatriacontane (C38) | 20.972 | 3539927 | 38.800 ug/ml |
| 22) T | n-Tetracontane (C40) | 21.941 | 3141718 | 35.606 ug/mlm |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069159.D
Signal(s) : FID1A.ch
Acq On : 11 Jun 2025 17:57
Operator : YP/AJ
Sample : PB168408BSD
Misc :
ALS Vial : 13 Sample Multiplier: 1

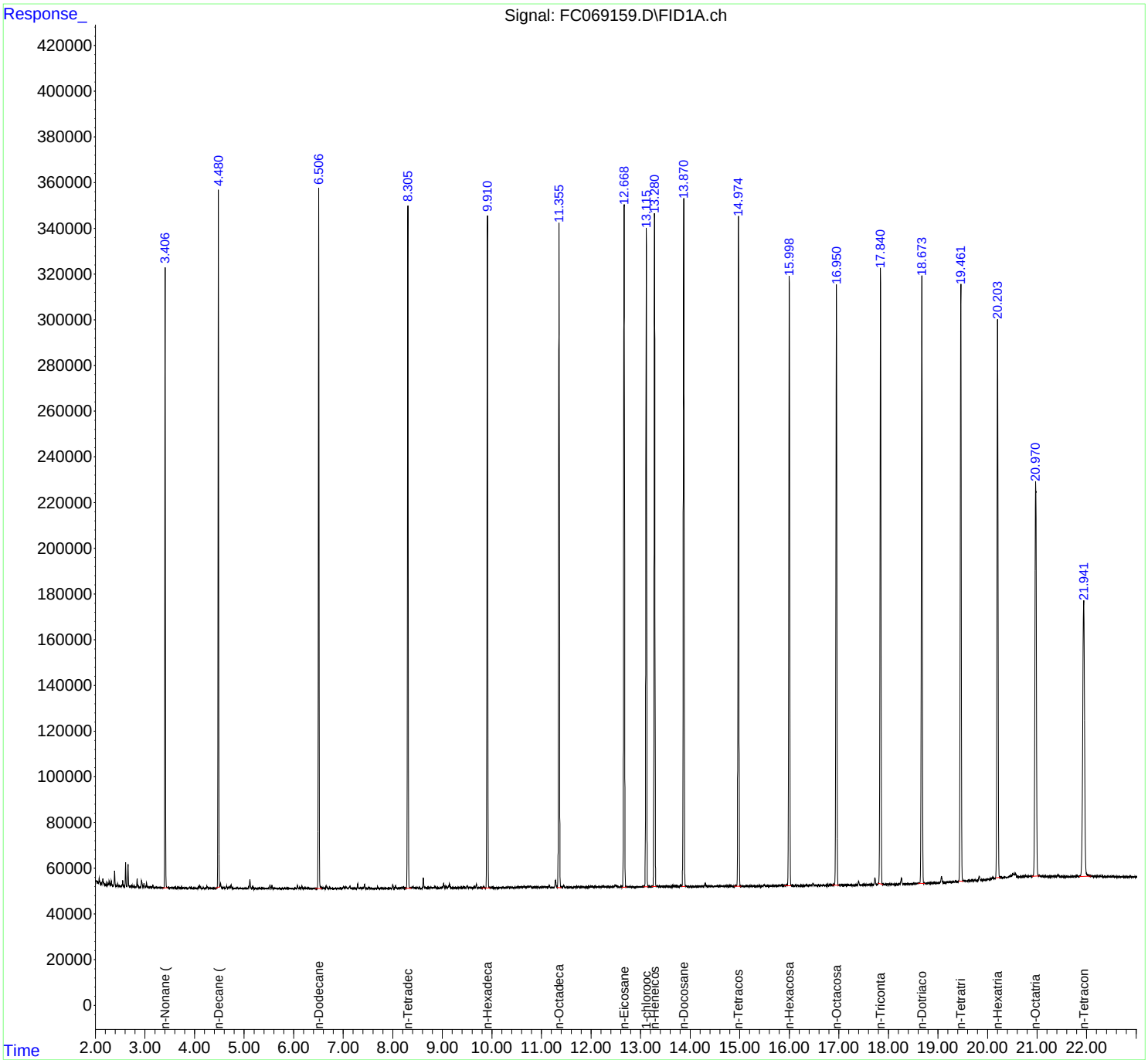
**Instrument :**
FID_C
**ClientSampleId :**
PB168408BSD

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

Integration File: autoint1.e
Quant Time: Jun 12 06:04:56 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um



**Instrument :**
FID_C
**ClientSampleId :**
PB168408BSD

rteres

Area Percent Report

**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC06112
Data File : FC069159.D
Signal(s) : FID1A.ch
Acq On : 11 Jun 2025 17:57
Sample : PB168408BSD
Misc :
ALS Vial : 13 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Title : GC Extractables

Signal : FID1A.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.406 | 3.355 | 3.457 | BB | 270640 | 2259686 | 60.49% | 3.543% |
| 2 | 4.480 | 4.425 | 4.510 | BV | 304688 | 2725623 | 72.97% | 4.274% |
| 3 | 6.506 | 6.442 | 6.573 | BB | 306860 | 3002002 | 80.37% | 4.707% |
| 4 | 8.305 | 8.252 | 8.368 | BB | 298267 | 3089908 | 82.72% | 4.845% |
| 5 | 9.910 | 9.788 | 9.963 | BB | 294226 | 3261116 | 87.30% | 5.113% |
| 6 | 11.355 | 11.330 | 11.402 | BB | 289391 | 3274806 | 87.67% | 5.135% |
| 7 | 12.668 | 12.627 | 12.720 | PB | 300038 | 3588430 | 96.07% | 5.627% |
| 8 | 13.115 | 13.055 | 13.150 | BB | 287842 | 3465185 | 92.77% | 5.433% |
| 9 | 13.282 | 13.223 | 13.320 | BB | 292085 | 3526278 | 94.40% | 5.529% |
| 10 | 13.869 | 13.831 | 13.908 | PB | 303197 | 3548367 | 94.99% | 5.564% |
| 11 | 14.974 | 14.885 | 15.030 | BB | 293241 | 3595477 | 96.25% | 5.638% |
| 12 | 15.999 | 15.905 | 16.037 | BB | 267266 | 3569762 | 95.57% | 5.597% |
| 13 | 16.950 | 16.865 | 17.005 | BB | 262631 | 3570341 | 95.58% | 5.598% |
| 14 | 17.840 | 17.800 | 17.895 | BB | 269117 | 3651998 | 97.77% | 5.726% |
| 15 | 18.674 | 18.598 | 18.737 | BB | 265201 | 3697035 | 98.97% | 5.797% |
| 16 | 19.461 | 19.420 | 19.508 | BB | 260286 | 3735390 | 100.00% | 5.857% |
| 17 | 20.202 | 20.160 | 20.258 | BB | 242842 | 3662913 | 98.06% | 5.743% |
| 18 | 20.972 | 20.895 | 21.048 | BB | 170513 | 3539927 | 94.77% | 5.550% |
| 19 | 21.941 | 21.890 | 22.048 | BB | 118535 | 3012966 | 80.66% | 4.724% |
| | | | Sum of corrected areas: | | | 63777209 | | |

Aliphatic EPH 052425.M Thu Jun 12 06:58:19 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | |
| Client Sample ID: | PB168408BSD | SDG No.: | Q2198 |
| Lab Sample ID: | PB168408BSD | Matrix: | Solid |
| Analytical Method: | NJEPH | % Solid: | 100 |
| Sample Wt/Vol: | 30.03 Units: g | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FD049434.D | 1 | 06/11/25 | 06/11/25 | PB168408 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| Aromatic C10-C12 | Aromatic C10-C12 | 2.95 | | 0.12 | 0.67 | mg/kg |
| Aromatic C12-C16 | Aromatic C12-C16 | 4.68 | | 0.23 | 1.00 | mg/kg |
| Aromatic C16-C21 | Aromatic C16-C21 | 9.01 | | 0.40 | 1.67 | mg/kg |
| Aromatic C21-C36 | Aromatic C21-C36 | 17.5 | | 1.19 | 2.66 | mg/kg |
| **SURROGATES** | | | | | | |
| 580-13-2 | 2-Bromonaphthalene (SURR) | 33.5 | | 40 - 140 | 67% | SPK: 50 |
| 321-60-8 | 2-Flurobiphenyl (SURR) | 33.1 | | 40 - 140 | 66% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | 28.3 | | 40 - 140 | 57% | SPK: 50 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

# Quantitation Report For Aromatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | PB168408BSD | Acq On: | 11 Jun 2025 17:57 |
| Client Sample ID: | PB168408BSD | Operator: | YP/AJ |
| Data file: | FD049434.D | Misc: | |
| Instrument: | FID_D | ALS Vial: | 63 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aromatic C10-C12 | 4.424 | 6.168 | 7419926 | 44.339 | 200 | ug/ml |
| Aromatic C12-C16 | 6.169 | 8.797 | 13190807 | 70.341 | 300 | ug/ml |
| Aromatic C16-C21 | 8.798 | 13.088 | 25003970 | 135.346 | 500 | ug/ml |
| Aromatic C21-C36 | 13.089 | 18.509 | 38067969 | 262.433 | 800 | ug/ml |
| Aromatic EPH | 4.424 | 18.509 | 83682672 | 512.46 | | ug/ml |
| 2-Bromonaphthalene (SURR) | 7.732 | 7.732 | 5575880 | 33.54 | | ug/ml |
| 2-Flurobiphenyl (SURR) | 8.598 | 8.598 | 3792496 | 33.15 | | ug/ml |
| ortho-Terphenyl (SURR) | 11.643 | 11.643 | 5678306 | 28.29 | | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061125AR\
Data File : FD049434.D
Signal(s) : FID2B.ch
Acq On : 11 Jun 2025 17:57
Operator : YP/AJ
Sample : PB168408BSD
Misc :
ALS Vial : 63 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
PB168408BSD

Integration File: autoint1.e
Quant Time: Jun 12 04:59:47 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 4) S | 2-Bromonaphthalene (S... | 7.732 | 5575880 | 33.542 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 67.08% |
| 6) S | 2-Flurobiphenyl (SURR) | 8.598 | 3792496 | 33.152 ug/ml |
| Spiked Amount | 50.000 Range | 0 - 131 | Recovery = | 66.30% |
| 11) S | ortho-Terphenyl (SURR) | 11.643 | 5678306 | 28.290 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 56.58% |
| | **Target Compounds** | | | |
| 1) T | 1,2,3-Trimethylbenzen... | 4.525 | 3411733 | 21.443 ug/ml |
| 2) T | Naphthalene (C11.7) | 6.068 | 4008193 | 22.828 ug/ml |
| 3) T | 2-Methylnaphthalene (... | 7.122 | 3923959 | 21.965 ug/ml |
| 5) T | Acenaphthylene (C15.06) | 8.401 | 4615942 | 23.829 ug/ml |
| 7) T | Acenaphthene (C15.5) | 8.697 | 4650906 | 24.451 ug/ml |
| 8) T | Flouorene (C16.55) | 9.478 | 4894839 | 25.035 ug/ml |
| 9) T | Phenanthrene (C19.36) | 10.877 | 5044883 | 26.532 ug/ml |
| 10) T | Anthracene (C19.43) | 10.952 | 4860253 | 27.801 ug/ml |
| 12) T | Fluoranthene (C21.85) | 12.692 | 5099467 | 28.271 ug/ml |
| 13) T | Pyrene (C20.8) | 12.990 | 5104528 | 28.600 ug/ml |
| 14) T | Benzo[a]anthracene (C... | 14.863 | 4803591 | 31.605 ug/ml |
| 15) T | Chrysene (C27.41) | 14.906 | 5280312 | 34.772 ug/ml |
| 16) T | benzo[b]fluoranthene ... | 16.414 | 4810805 | 33.236 ug/ml |
| 17) T | Bnezo[k]fluoranthene ... | 16.449 | 4785489 | 33.348 ug/ml |
| 18) T | Benzo[a]pyrene (C31.34) | 16.794 | 4627157 | 34.045 ug/ml |
| 19) T | Indeno[1,2,3-cd]pyren... | 18.161 | 4768815 | 37.335 ug/ml |
| 20) T | Dibenz[a,h]anthracene... | 18.199 | 4476908 | 33.255 ug/ml |
| 21) T | Benzo[g,h,i]perylene ... | 18.416 | 4514892 | 33.497 ug/ml |

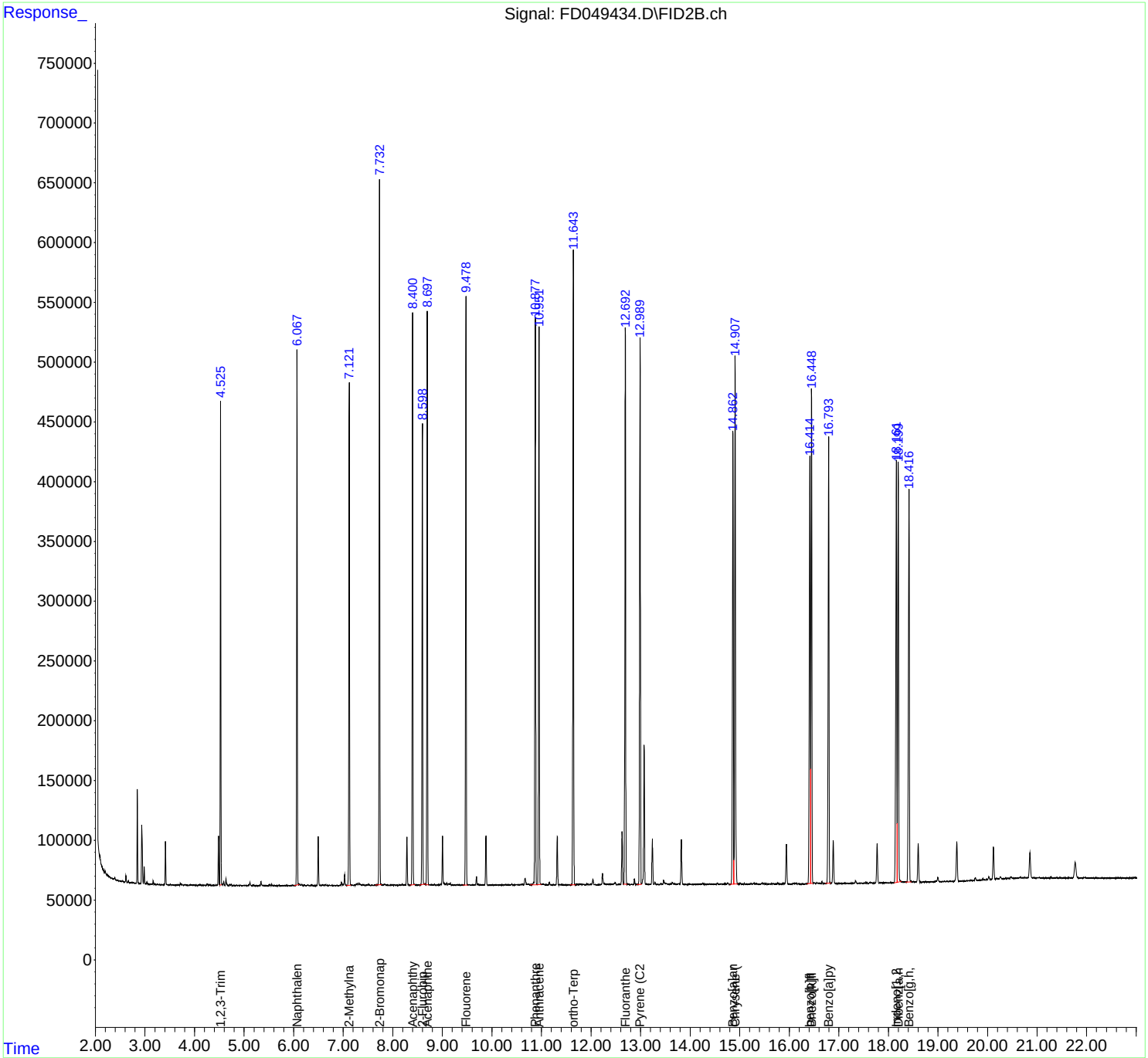
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061125AR\
Data File : FD049434.D
Signal(s) : FID2B.ch
Acq On : 11 Jun 2025 17:57
Operator : YP/AJ
Sample : PB168408BSD
Misc :
ALS Vial : 63 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
PB168408BSD

Integration File: autoint1.e
Quant Time: Jun 12 04:59:47 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm



rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061225AR\
Data File : FD049434.D
Signal(s) : FID2B.ch
Acq On : 11 Jun 2025 17:57
Sample : PB168408BSD
Misc :
ALS Vial : 63 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Title : GC Extractables

Signal : FID2B.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.525 | 4.503 | 4.551 | VV | 404430 | 3411733 | 60.08% | 3.456% |
| 2 | 6.068 | 6.012 | 6.107 | BB | 447788 | 4008193 | 70.59% | 4.060% |
| 3 | 7.122 | 7.070 | 7.160 | BB | 420101 | 3923959 | 69.10% | 3.974% |
| 4 | 7.732 | 7.645 | 7.778 | BB | 588507 | 5575880 | 98.20% | 5.648% |
| 5 | 8.401 | 8.350 | 8.443 | BB | 479001 | 4615942 | 81.29% | 4.675% |
| 6 | 8.598 | 8.538 | 8.640 | BB | 385737 | 3792496 | 66.79% | 3.841% |
| 7 | 8.697 | 8.647 | 8.727 | BB | 479926 | 4650906 | 81.91% | 4.711% |
| 8 | 9.478 | 9.417 | 9.513 | BB | 491510 | 4894839 | 86.20% | 4.958% |
| 9 | 10.877 | 10.778 | 10.915 | BV | 474293 | 5044883 | 88.84% | 5.110% |
| 10 | 10.952 | 10.915 | 10.998 | PB | 466393 | 4860253 | 85.59% | 4.923% |
| 11 | 11.643 | 11.582 | 11.688 | BB | 531375 | 5678306 | 100.00% | 5.751% |
| 12 | 12.692 | 12.650 | 12.732 | BB | 464799 | 5099467 | 89.81% | 5.165% |
| 13 | 12.990 | 12.932 | 13.015 | BV | 457377 | 5104528 | 89.90% | 5.170% |
| 14 | 14.863 | 14.797 | 14.882 | BV | 378192 | 4803591 | 84.60% | 4.865% |
| 15 | 14.906 | 14.882 | 14.963 | VB | 441990 | 5280312 | 92.99% | 5.348% |
| 16 | 16.414 | 16.350 | 16.429 | BV | 357432 | 4810805 | 84.72% | 4.873% |
| 17 | 16.449 | 16.429 | 16.483 | VB | 413478 | 4785489 | 84.28% | 4.847% |
| 18 | 16.794 | 16.732 | 16.837 | BB | 373242 | 4627157 | 81.49% | 4.687% |
| 19 | 18.161 | 18.110 | 18.176 | BV | 352299 | 4768815 | 83.98% | 4.830% |
| 20 | 18.199 | 18.176 | 18.255 | VB | 352003 | 4476908 | 78.84% | 4.535% |
| 21 | 18.416 | 18.352 | 18.465 | BB | 328881 | 4514892 | 79.51% | 4.573% |

Sum of corrected areas: 98729354

Aromatic EPH 052425.M Thu Jun 12 05:41:18 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | |
| Client Sample ID: | B-187-SB01MS | SDG No.: | Q2198 |
| Lab Sample ID: | Q2177-02MS | Matrix: | Solid |
| Analytical Method: | NJEPH | % Solid: | 84.2 |
| Sample Wt/Vol: | 30.03 Units: g | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | | | |

| Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|
| 06/11/25 08:45 | 06/11/25 22:09 | PB168408 |

| CAS Number | Parameter | Conc. | Qualifier | Dilution | MDL | LOQ / CRQL | Units(Dry Weight) | Datafile |
|---|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | 7.50 | | 1 | 0.17 | 1.19 | mg/kg | FC069165.D |
| Aliphatic C12-C16 | Aliphatic C12-C16 | 9.37 | | 1 | 0.13 | 0.79 | mg/kg | FC069165.D |
| Aliphatic C16-C21 | Aliphatic C16-C21 | 8.98 | | 1 | 0.15 | 1.19 | mg/kg | FC069165.D |
| Aliphatic C21-C28 | Aliphatic C21-C28 | 17.2 | | 1 | 0.63 | 1.58 | mg/kg | FC069165.D |
| Aliphatic C28-C40 | Aliphatic C28-C40 | 22.5 | | 1 | 1.40 | 2.37 | mg/kg | FC069165.D |
| Aromatic C10-C12 | Aromatic C10-C12 | 2.67 | | 1 | 0.14 | 0.79 | mg/kg | FD049484.D |
| Aromatic C12-C16 | Aromatic C12-C16 | 4.47 | | 1 | 0.27 | 1.19 | mg/kg | FD049484.D |
| Aromatic C16-C21 | Aromatic C16-C21 | 10.5 | | 1 | 0.48 | 1.98 | mg/kg | FD049484.D |
| Aromatic C21-C36 | Aromatic C21-C36 | 15.7 | | 1 | 1.41 | 3.16 | mg/kg | FD049484.D |
| Total AliphaticEPH | Total AliphaticEPH | 65.5 | | | 2.48 | 7.12 | mg/kg | |
| Total AromaticEPH | Total AromaticEPH | 33.3 | | | 2.30 | 7.12 | mg/kg | |
| Total EPH | Total EPH | 98.9 | | | 4.78 | 14.2 | mg/kg | |

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | |
| Client Sample ID: | B-187-SB01MS | SDG No.: | Q2198 |
| Lab Sample ID: | Q2177-02MS | Matrix: | Solid |
| Analytical Method: | NJEPH | % Solid: | 84.2 |
| Sample Wt/Vol: | 30.03 Units: g | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FC069165.D | 1 | 06/11/25 | 06/11/25 | PB168408 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | 7.50 | | 0.17 | 1.19 | mg/kg |
| Aliphatic C12-C16 | Aliphatic C12-C16 | 9.37 | | 0.13 | 0.79 | mg/kg |
| Aliphatic C16-C21 | Aliphatic C16-C21 | 8.98 | | 0.15 | 1.19 | mg/kg |
| Aliphatic C21-C28 | Aliphatic C21-C28 | 17.2 | | 0.63 | 1.58 | mg/kg |
| Aliphatic C28-C40 | Aliphatic C28-C40 | 22.5 | | 1.40 | 2.37 | mg/kg |
| **SURROGATES** | | | | | | |
| 3383-33-2 | 1-chlorooctadecane (SURR) | 69.3 | | 40 - 140 | 139% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | 0.00 | | 40 - 140 | 0% | SPK: 50 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

# Quantitation Report For Aliphatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | Q2177-02MS | Acq On: | 11 Jun 2025 22:09 |
| Client Sample ID: | B-187-SB01MS | Operator: | YP/AJ |
| Data file: | FC069165.D | Misc: | |
| Instrument: | FID_C | ALS Vial: | 19 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aliphatic C9-C12 | 3.303 | 6.605 | 10028434 | 94.861 | 300 | ug/ml |
| Aliphatic C12-C16 | 6.606 | 10.010 | 12078324 | 118.432 | 200 | ug/ml |
| Aliphatic C16-C21 | 10.011 | 13.380 | 11106710 | 113.49 | 300 | ug/ml |
| Aliphatic C21-C28 | 13.381 | 17.048 | 20368594 | 217.14 | 400 | ug/ml |
| Aliphatic C28-C40 | 17.049 | 22.033 | 26847943 | 284.289 | 600 | ug/ml |
| Aliphatic EPH | 3.303 | 22.033 | 80430005 | 828.211 | | ug/ml |
| ortho-Terphenyl (SURR) | 0.000 | 0.000 | 0 | 0 | | ug/ml |
| 1-chlorooctadecane (SURR) | 13.118 | 13.118 | 6218026 | 69.31 | | ug/ml |
| Aliphatic C9-C28 | 3.303 | 17.048 | 53582062 | 543.923 | 1200 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069165.D
Signal(s) : FID1A.ch
Acq On : 11 Jun 2025 22:09
Operator : YP/AJ
Sample : Q2177-02MS
Misc :
ALS Vial : 19 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
B-187-SB01MS

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

Integration File: autoint1.e
Quant Time: Jun 12 06:06:34 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | System Monitoring Compounds | | | |
| 12) S | 1-chlorooctadecane (S... | 13.118 | 6218026 | 69.309 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 138.62% |
| | Target Compounds | | | |
| 1) T | n-Nonane (C9) | 3.404 | 2188921 | 20.626 ug/ml |
| 2) T | n-Decane (C10) | 4.479 | 2684592 | 25.349 ug/mlm |
| 4) T | n-Dodecane (C12) | 6.507 | 3278980 | 31.192 ug/ml |
| 6) T | n-Tetradecane (C14) | 8.308 | 3646211 | 35.572 ug/ml |
| 7) T | n-Hexadecane (C16) | 9.912 | 3471433 | 34.212 ug/ml |
| 8) T | n-Octadecane (C18) | 11.357 | 3441548 | 34.435 ug/ml |
| 10) T | n-Eicosane (C20) | 12.669 | 3494770 | 35.881 ug/ml |
| 11) T | n-Heneicosane (C21) | 13.283 | 3333560 | 34.633 ug/ml |
| 13) T | n-Docosane (C22) | 13.869 | 3315435 | 34.801 ug/ml |
| 14) T | n-Tetracosane (C24) | 14.975 | 3310877 | 35.165 ug/ml |
| 15) T | n-Hexacosane (C26) | 15.998 | 3253315 | 35.042 ug/ml |
| 16) T | n-Octacosane (C28) | 16.950 | 3224546 | 34.690 ug/ml |
| 17) T | n-Tricontane (C30) | 17.839 | 3233820 | 33.422 ug/ml |
| 18) T | n-Dotriacontane (C32) | 18.673 | 3264137 | 32.938 ug/ml |
| 19) T | n-Tetratriacontane (C34) | 19.459 | 3307215 | 34.315 ug/ml |
| 20) T | n-Hexatriacontane (C36) | 20.201 | 3214033 | 33.857 ug/ml |
| 21) T | n-Octatriacontane (C38) | 20.969 | 3075733 | 33.712 ug/ml |
| 22) T | n-Tetracontane (C40) | 21.936 | 2660293 | 30.150 ug/mlm |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069165.D
Signal(s) : FID1A.ch
Acq On : 11 Jun 2025 22:09
Operator : YP/AJ
Sample : Q2177-02MS
Misc :
ALS Vial : 19 Sample Multiplier: 1

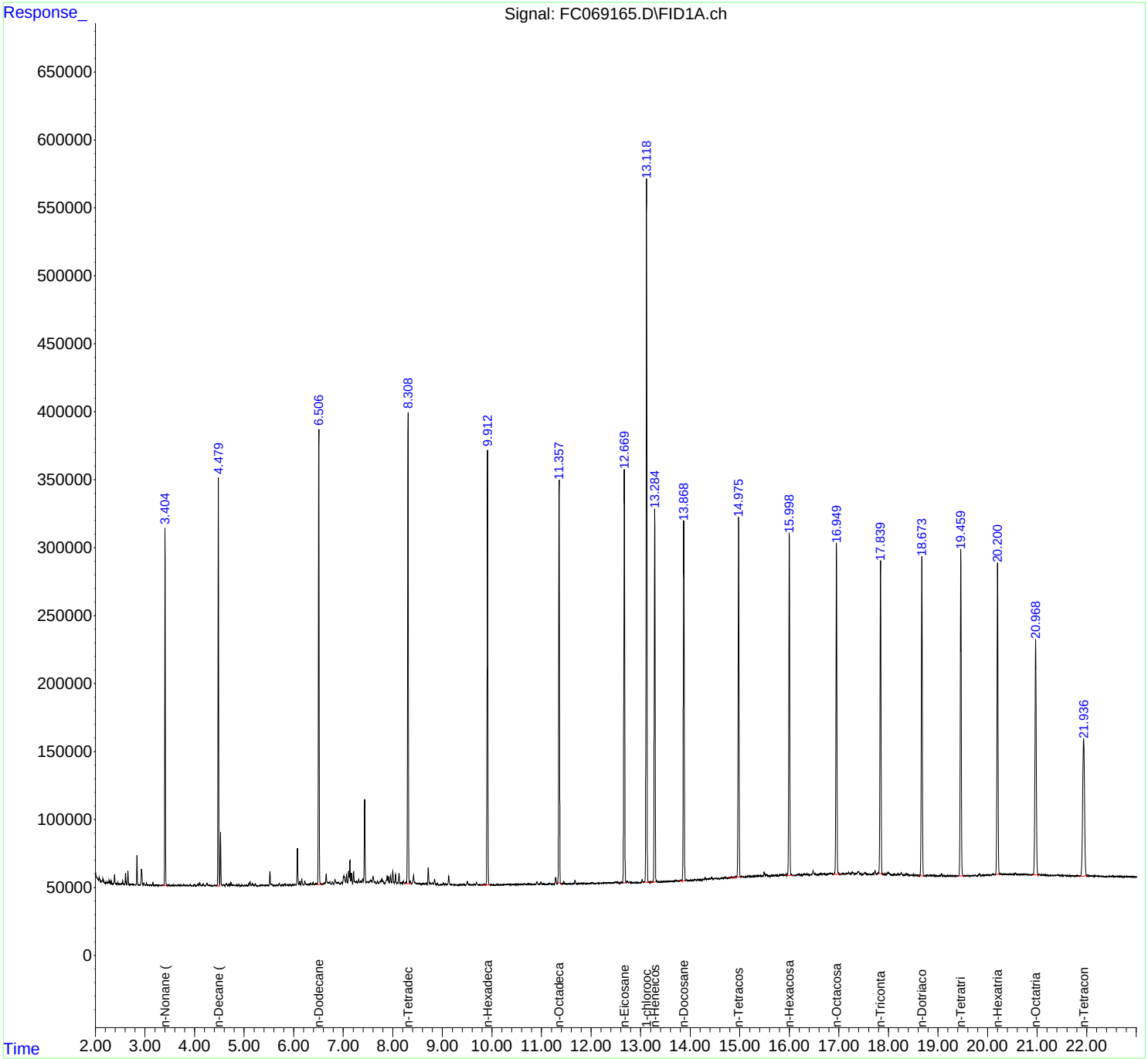
Integration File: autoint1.e
Quant Time: Jun 12 06:06:34 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

**Instrument :**
FID_C
**ClientSampleId :**
B-187-SB01MS

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025



**Instrument :**
FID_C
**ClientSampleId :**
B-187-SB01MS

rteres

Area Percent Report

**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC06112
Data File : FC069165.D
Signal(s) : FID1A.ch
Acq On : 11 Jun 2025 22:09
Sample : Q2177-02MS
Misc :
ALS Vial : 19 Sample Multiplier: 1

Integration File: sample.E

Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Title : GC Extractables

Signal : FID1A.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.229 | 3.204 | 3.274 | BV | 192 | 3866 | 0.06% | 0.004% |
| 2 | 3.297 | 3.274 | 3.322 | VV | 207 | 2307 | 0.04% | 0.003% |
| 3 | 3.331 | 3.322 | 3.371 | PV | 80 | 1417 | 0.02% | 0.002% |
| 4 | 3.404 | 3.371 | 3.511 | VV | 262390 | 2198132 | 35.07% | 2.533% |
| 5 | 3.534 | 3.511 | 3.571 | VV | 277 | 5207 | 0.08% | 0.006% |
| 6 | 3.608 | 3.571 | 3.632 | VV | 406 | 6389 | 0.10% | 0.007% |
| 7 | 3.683 | 3.632 | 3.704 | PV | 646 | 12875 | 0.21% | 0.015% |
| 8 | 3.733 | 3.704 | 3.757 | VV | 588 | 9256 | 0.15% | 0.011% |
| 9 | 3.782 | 3.757 | 3.832 | VV | 876 | 15252 | 0.24% | 0.018% |
| 10 | 3.851 | 3.832 | 3.871 | VV | 328 | 5095 | 0.08% | 0.006% |
| 11 | 3.878 | 3.871 | 3.888 | VV | 122 | 1047 | 0.02% | 0.001% |
| 12 | 3.904 | 3.888 | 3.942 | VV | 747 | 10848 | 0.17% | 0.012% |
| 13 | 3.954 | 3.942 | 3.968 | VV | 234 | 2047 | 0.03% | 0.002% |
| 14 | 3.991 | 3.968 | 4.041 | VV | 662 | 14329 | 0.23% | 0.017% |
| 15 | 4.078 | 4.041 | 4.092 | VV | 1751 | 22085 | 0.35% | 0.025% |
| 16 | 4.107 | 4.092 | 4.126 | VV | 2388 | 22447 | 0.36% | 0.026% |
| 17 | 4.141 | 4.126 | 4.155 | VV | 475 | 5291 | 0.08% | 0.006% |
| 18 | 4.175 | 4.155 | 4.198 | VV | 1723 | 17515 | 0.28% | 0.020% |
| 19 | 4.247 | 4.198 | 4.275 | VV | 1361 | 27156 | 0.43% | 0.031% |
| 20 | 4.288 | 4.275 | 4.366 | VV | 605 | 14526 | 0.23% | 0.017% |
| 21 | 4.398 | 4.366 | 4.414 | PV | 399 | 6587 | 0.11% | 0.008% |
| 22 | 4.434 | 4.414 | 4.450 | VV | 413 | 5121 | 0.08% | 0.006% |
| 23 | 4.480 | 4.450 | 4.505 | VV | 300087 | 2683790 | 42.82% | 3.092% |
| 24 | 4.524 | 4.505 | 4.568 | VV | 39526 | 359419 | 5.73% | 0.414% |
| 25 | 4.586 | 4.568 | 4.613 | VV | 1205 | 16785 | 0.27% | 0.019% |
| 26 | 4.634 | 4.613 | 4.670 | VV | 1532 | 30047 | 0.48% | 0.035% |
| 27 | 4.684 | 4.670 | 4.693 | VV | 723 | 7816 | 0.12% | 0.009% |
| 28 | 4.706 | 4.693 | 4.721 | VV | 1150 | 12210 | 0.19% | 0.014% |
| 29 | 4.735 | 4.721 | 4.753 | VV | 2673 | 24726 | 0.39% | 0.028% |
| 30 | 4.767 | 4.753 | 4.779 | VV | 1002 | 10081 | 0.16% | 0.012% |
| 31 | 4.789 | 4.779 | 4.805 | VV | 734 | 8980 | 0.14% | 0.010% |
| 32 | 4.814 | 4.805 | 4.828 | VV | 570 | 5480 | 0.09% | 0.006% |
| 33 | 4.856 | 4.828 | 4.874 | VV | 830 | 11835 | 0.19% | 0.014% |
| 34 | 4.897 | 4.874 | 4.917 | VV | 755 | 10730 | 0.17% | 0.012% |
| 35 | 4.931 | 4.917 | 4.948 | VV | 314 | 4680 | 0.07% | 0.005% |
| 36 | 4.960 | 4.948 | 4.982 | VV | 711 | 7467 | 0.12% | 0.009% |

**Instrument :**
FID_C
**ClientSampleId :**
B-187-SB01MS

**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

rteres

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 37 | 5.005 | 4.982 | 5.020 | VV | 372 | 5098 | 0.08% | 0.006% |
| 38 | 5.038 | 5.020 | 5.068 | VV | 530 | 8334 | | |
| 39 | 5.092 | 5.068 | 5.103 | VV | 1696 | 16751 | | |
| 40 | 5.120 | 5.103 | 5.143 | VV | 3184 | 38049 | | |
| 41 | 5.162 | 5.143 | 5.191 | VV | 1887 | 26955 | | |
| 42 | 5.225 | 5.191 | 5.267 | VV | 1731 | 26709 | | |
| 43 | 5.280 | 5.267 | 5.300 | PV | 200 | 3284 | 0.05% | 0.004% |
| 44 | 5.325 | 5.300 | 5.378 | VV | 779 | 19076 | 0.30% | 0.022% |
| 45 | 5.387 | 5.378 | 5.404 | VV | 504 | 6960 | 0.11% | 0.008% |
| 46 | 5.417 | 5.404 | 5.430 | VV | 548 | 6216 | 0.10% | 0.007% |
| 47 | 5.446 | 5.430 | 5.497 | VV | 454 | 13866 | 0.22% | 0.016% |
| 48 | 5.521 | 5.497 | 5.542 | VV | 10920 | 110153 | 1.76% | 0.127% |
| 49 | 5.553 | 5.542 | 5.580 | VV | 1377 | 22341 | 0.36% | 0.026% |
| 50 | 5.593 | 5.580 | 5.608 | VV | 518 | 6485 | 0.10% | 0.007% |
| 51 | 5.619 | 5.608 | 5.638 | VV | 398 | 5920 | 0.09% | 0.007% |
| 52 | 5.711 | 5.638 | 5.751 | VV | 2044 | 43535 | 0.69% | 0.050% |
| 53 | 5.770 | 5.751 | 5.785 | VV | 721 | 11227 | 0.18% | 0.013% |
| 54 | 5.823 | 5.785 | 5.854 | VV | 1456 | 34514 | 0.55% | 0.040% |
| 55 | 5.871 | 5.854 | 5.903 | VV | 1016 | 17164 | 0.27% | 0.020% |
| 56 | 5.922 | 5.903 | 5.958 | VV | 1069 | 20820 | 0.33% | 0.024% |
| 57 | 5.977 | 5.958 | 6.008 | VV | 1099 | 18092 | 0.29% | 0.021% |
| 58 | 6.026 | 6.008 | 6.047 | VV | 1129 | 18480 | 0.29% | 0.021% |
| 59 | 6.076 | 6.047 | 6.104 | VV | 27613 | 289700 | 4.62% | 0.334% |
| 60 | 6.122 | 6.104 | 6.143 | VV | 3280 | 42962 | 0.69% | 0.050% |
| 61 | 6.164 | 6.143 | 6.196 | VV | 4698 | 64662 | 1.03% | 0.075% |
| 62 | 6.226 | 6.196 | 6.247 | VV | 3720 | 53135 | 0.85% | 0.061% |
| 63 | 6.264 | 6.247 | 6.288 | VV | 1237 | 25118 | 0.40% | 0.029% |
| 64 | 6.318 | 6.288 | 6.327 | VV | 1138 | 24673 | 0.39% | 0.028% |
| 65 | 6.345 | 6.327 | 6.369 | VV | 1950 | 33066 | 0.53% | 0.038% |
| 66 | 6.389 | 6.369 | 6.418 | VV | 2064 | 37048 | 0.59% | 0.043% |
| 67 | 6.442 | 6.418 | 6.457 | VV | 1718 | 30013 | 0.48% | 0.035% |
| 68 | 6.469 | 6.457 | 6.475 | VV | 1332 | 12557 | 0.20% | 0.014% |
| 69 | 6.507 | 6.475 | 6.561 | VV | 335762 | 3320385 | 52.97% | 3.826% |
| 70 | 6.569 | 6.561 | 6.588 | VV | 1315 | 18418 | 0.29% | 0.021% |
| 71 | 6.623 | 6.588 | 6.635 | VV | 2023 | 46280 | 0.74% | 0.053% |
| 72 | 6.656 | 6.635 | 6.679 | VV | 8441 | 113683 | 1.81% | 0.131% |
| 73 | 6.689 | 6.679 | 6.713 | VV | 2505 | 45984 | 0.73% | 0.053% |
| 74 | 6.728 | 6.713 | 6.759 | VV | 2984 | 52727 | 0.84% | 0.061% |
| 75 | 6.782 | 6.759 | 6.808 | VV | 2866 | 54884 | 0.88% | 0.063% |
| 76 | 6.834 | 6.808 | 6.859 | VV | 4663 | 84739 | 1.35% | 0.098% |
| 77 | 6.868 | 6.859 | 6.880 | VV | 2134 | 24797 | 0.40% | 0.029% |
| 78 | 6.900 | 6.880 | 6.934 | VV | 2345 | 57892 | 0.92% | 0.067% |
| 79 | 6.967 | 6.934 | 6.985 | VV | 2654 | 62097 | 0.99% | 0.072% |
| 80 | 7.009 | 6.985 | 7.048 | VV | 7091 | 175250 | 2.80% | 0.202% |
| 81 | 7.067 | 7.048 | 7.090 | VV | 7965 | 111199 | 1.77% | 0.128% |
| 82 | 7.110 | 7.090 | 7.120 | VV | 10500 | 118477 | 1.89% | 0.137% |
| 83 | 7.135 | 7.120 | 7.154 | VV | 18560 | 211714 | 3.38% | 0.244% |
| 84 | 7.168 | 7.154 | 7.189 | VV | 9308 | 113562 | 1.81% | 0.131% |
| 85 | 7.210 | 7.189 | 7.252 | VV | 10135 | 164269 | 2.62% | 0.189% |
| 86 | 7.268 | 7.252 | 7.282 | VV | 3541 | 50093 | 0.80% | 0.058% |
| 87 | 7.313 | 7.282 | 7.334 | VV | 4476 | 94690 | 1.51% | 0.109% |
| 88 | 7.357 | 7.334 | 7.374 | VV | 3056 | 63602 | 1.01% | 0.073% |
| 89 | 7.394 | 7.374 | 7.411 | VV | 4949 | 80849 | 1.29% | 0.093% |

**Instrument :**
FID_C
**ClientSampleId :**
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**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

rteres

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|---|---|---|---|---|---|---|---|---|
| 90 | 7.433 | 7.411 | 7.465 | VV | 63536 | 704472 | 11.24% | 0.812% |
| 91 | 7.485 | 7.465 | 7.509 | VV | 2790 | 63684 | | |
| 92 | 7.554 | 7.509 | 7.581 | VV | 4146 | 139562 | | |
| 93 | 7.605 | 7.581 | 7.632 | VV | 6485 | 128769 | | |
| 94 | 7.645 | 7.632 | 7.669 | VV | 2849 | 49220 | | |
| 95 | 7.692 | 7.669 | 7.717 | VV | 3410 | 65197 | | |
| 96 | 7.747 | 7.717 | 7.758 | VV | 3262 | 61643 | 0.98% | 0.071% |
| 97 | 7.776 | 7.758 | 7.792 | VV | 4734 | 74083 | 1.18% | 0.085% |
| 98 | 7.800 | 7.792 | 7.836 | VV | 3165 | 60881 | 0.97% | 0.070% |
| 99 | 7.887 | 7.836 | 7.901 | VV | 7126 | 149898 | 2.39% | 0.173% |
| 100 | 7.913 | 7.901 | 7.933 | VV | 6377 | 80447 | 1.28% | 0.093% |
| 101 | 7.955 | 7.933 | 7.977 | VV | 7393 | 104272 | 1.66% | 0.120% |
| 102 | 8.001 | 7.977 | 8.034 | VV | 10772 | 162805 | 2.60% | 0.188% |
| 103 | 8.057 | 8.034 | 8.080 | VV | 8028 | 111278 | 1.78% | 0.128% |
| 104 | 8.096 | 8.080 | 8.108 | VV | 1923 | 28374 | 0.45% | 0.033% |
| 105 | 8.127 | 8.108 | 8.150 | VV | 8780 | 114845 | 1.83% | 0.132% |
| 106 | 8.165 | 8.150 | 8.197 | VV | 2060 | 52567 | 0.84% | 0.061% |
| 107 | 8.217 | 8.197 | 8.237 | VV | 2774 | 49332 | 0.79% | 0.057% |
| 108 | 8.262 | 8.237 | 8.274 | VV | 2014 | 40859 | 0.65% | 0.047% |
| 109 | 8.308 | 8.274 | 8.340 | VV | 346983 | 3684506 | 58.78% | 4.245% |
| 110 | 8.355 | 8.340 | 8.378 | VV | 2742 | 44618 | 0.71% | 0.051% |
| 111 | 8.420 | 8.378 | 8.441 | VV | 7459 | 125100 | 2.00% | 0.144% |
| 112 | 8.451 | 8.441 | 8.484 | VV | 2198 | 41781 | 0.67% | 0.048% |
| 113 | 8.497 | 8.484 | 8.524 | VV | 1580 | 31246 | 0.50% | 0.036% |
| 114 | 8.543 | 8.524 | 8.569 | VV | 1296 | 27701 | 0.44% | 0.032% |
| 115 | 8.618 | 8.569 | 8.647 | VV | 1379 | 48328 | 0.77% | 0.056% |
| 116 | 8.668 | 8.647 | 8.694 | VV | 1598 | 31911 | 0.51% | 0.037% |
| 117 | 8.717 | 8.694 | 8.742 | VV | 13137 | 154712 | 2.47% | 0.178% |
| 118 | 8.754 | 8.742 | 8.780 | VV | 1774 | 29627 | 0.47% | 0.034% |
| 119 | 8.798 | 8.780 | 8.820 | VV | 1926 | 29977 | 0.48% | 0.035% |
| 120 | 8.844 | 8.820 | 8.876 | VV | 4407 | 66257 | 1.06% | 0.076% |
| 121 | 8.896 | 8.876 | 8.951 | VV | 1588 | 29674 | 0.47% | 0.034% |
| 122 | 8.962 | 8.951 | 8.981 | VV | 499 | 7348 | 0.12% | 0.008% |
| 123 | 9.027 | 8.981 | 9.051 | VV | 1262 | 30357 | 0.48% | 0.035% |
| 124 | 9.068 | 9.051 | 9.104 | VV | 688 | 17546 | 0.28% | 0.020% |
| 125 | 9.130 | 9.104 | 9.178 | VV | 6598 | 92057 | 1.47% | 0.106% |
| 126 | 9.216 | 9.197 | 9.238 | VV | 472 | 8509 | 0.14% | 0.010% |
| 127 | 9.269 | 9.238 | 9.301 | VV | 337 | 8118 | 0.13% | 0.009% |
| 128 | 9.312 | 9.301 | 9.328 | VV | 233 | 3112 | 0.05% | 0.004% |
| 129 | 9.371 | 9.328 | 9.401 | VV | 378 | 9663 | 0.15% | 0.011% |
| 130 | 9.430 | 9.401 | 9.478 | VV | 484 | 9944 | 0.16% | 0.011% |
| 131 | 9.504 | 9.478 | 9.535 | PV | 2749 | 38248 | 0.61% | 0.044% |
| 132 | 9.548 | 9.535 | 9.573 | VV | 590 | 8213 | 0.13% | 0.009% |
| 133 | 9.593 | 9.573 | 9.614 | VV | 315 | 4961 | 0.08% | 0.006% |
| 134 | 9.639 | 9.614 | 9.667 | VV | 515 | 10251 | 0.16% | 0.012% |
| 135 | 9.690 | 9.667 | 9.730 | VV | 1819 | 23059 | 0.37% | 0.027% |
| 136 | 9.750 | 9.730 | 9.762 | VV | 167 | 2627 | 0.04% | 0.003% |
| 137 | 9.773 | 9.762 | 9.805 | VV | 170 | 2518 | 0.04% | 0.003% |
| 138 | 9.829 | 9.805 | 9.873 | VV | 453 | 9091 | 0.15% | 0.010% |
| 139 | 9.912 | 9.873 | 9.968 | VV | 316144 | 3472582 | 55.40% | 4.001% |
| 140 | 9.985 | 9.968 | 10.038 | VV | 183 | 5706 | 0.09% | 0.007% |
| 141 | 10.085 | 10.038 | 10.114 | VV | 208 | 4262 | 0.07% | 0.005% |

**Instrument :**
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**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

rteres

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|---|---|---|---|---|---|---|---|---|
| 142 | 10.132 | 10.114 | 10.176 | VV | 148 | 3455 | 0.06% | 0.004% |
| 143 | 10.189 | 10.176 | 10.211 | VV | 127 | 1841 | | |
| 144 | 10.301 | 10.211 | 10.328 | VV | 420 | 14122 | | |
| 145 | 10.346 | 10.328 | 10.364 | VV | 260 | 4306 | | |
| 146 | 10.398 | 10.364 | 10.439 | VV | 316 | 8393 | | |
| 147 | 10.449 | 10.439 | 10.483 | VV | 200 | 3009 | | |
| 148 | 10.550 | 10.483 | 10.568 | PV | 267 | 8689 | 0.14% | 0.010% |
| 149 | 10.578 | 10.568 | 10.614 | VV | 305 | 7067 | 0.11% | 0.008% |
| 150 | 10.652 | 10.614 | 10.684 | VV | 777 | 15456 | 0.25% | 0.018% |
| 151 | 10.718 | 10.684 | 10.734 | VV | 439 | 10218 | 0.16% | 0.012% |
| 152 | 10.747 | 10.734 | 10.767 | VV | 541 | 8587 | 0.14% | 0.010% |
| 153 | 10.783 | 10.767 | 10.808 | VV | 500 | 7328 | 0.12% | 0.008% |
| 154 | 10.827 | 10.808 | 10.861 | VV | 259 | 5802 | 0.09% | 0.007% |
| 155 | 10.870 | 10.861 | 10.880 | VV | 262 | 2111 | 0.03% | 0.002% |
| 156 | 10.909 | 10.880 | 10.947 | VV | 2102 | 28204 | 0.45% | 0.032% |
| 157 | 10.985 | 10.947 | 11.009 | VV | 1926 | 26912 | 0.43% | 0.031% |
| 158 | 11.025 | 11.009 | 11.061 | VV | 407 | 7197 | 0.11% | 0.008% |
| 159 | 11.077 | 11.061 | 11.094 | VV | 231 | 3475 | 0.06% | 0.004% |
| 160 | 11.103 | 11.094 | 11.128 | VV | 192 | 2302 | 0.04% | 0.003% |
| 161 | 11.159 | 11.128 | 11.194 | VV | 859 | 11620 | 0.19% | 0.013% |
| 162 | 11.216 | 11.194 | 11.227 | VV | 193 | 2363 | 0.04% | 0.003% |
| 163 | 11.286 | 11.227 | 11.321 | VV | 5115 | 70824 | 1.13% | 0.082% |
| 164 | 11.357 | 11.321 | 11.413 | VV | 298500 | 3483455 | 55.58% | 4.014% |
| 165 | 11.451 | 11.413 | 11.478 | VV | 1597 | 23946 | 0.38% | 0.028% |
| 166 | 11.488 | 11.478 | 11.495 | VV | 164 | 1568 | 0.03% | 0.002% |
| 167 | 11.506 | 11.495 | 11.521 | VV | 218 | 2517 | 0.04% | 0.003% |
| 168 | 11.555 | 11.521 | 11.564 | VV | 183 | 2957 | 0.05% | 0.003% |
| 169 | 11.583 | 11.564 | 11.609 | VV | 227 | 3805 | 0.06% | 0.004% |
| 170 | 11.676 | 11.609 | 11.726 | PV | 3009 | 42738 | 0.68% | 0.049% |
| 171 | 11.753 | 11.726 | 11.798 | VV | 405 | 11529 | 0.18% | 0.013% |
| 172 | 11.812 | 11.798 | 11.851 | VV | 597 | 11739 | 0.19% | 0.014% |
| 173 | 11.867 | 11.851 | 11.918 | VV | 419 | 10038 | 0.16% | 0.012% |
| 174 | 12.025 | 11.918 | 12.064 | VV | 866 | 33527 | 0.53% | 0.039% |
| 175 | 12.069 | 12.064 | 12.104 | VV | 357 | 5840 | 0.09% | 0.007% |
| 176 | 12.129 | 12.104 | 12.158 | VV | 347 | 9819 | 0.16% | 0.011% |
| 177 | 12.182 | 12.158 | 12.210 | VV | 345 | 8983 | 0.14% | 0.010% |
| 178 | 12.247 | 12.210 | 12.278 | VV | 473 | 13945 | 0.22% | 0.016% |
| 179 | 12.298 | 12.278 | 12.332 | VV | 594 | 13855 | 0.22% | 0.016% |
| 180 | 12.360 | 12.332 | 12.381 | VV | 615 | 13325 | 0.21% | 0.015% |
| 181 | 12.403 | 12.381 | 12.419 | VV | 565 | 9441 | 0.15% | 0.011% |
| 182 | 12.489 | 12.419 | 12.511 | VV | 1150 | 36807 | 0.59% | 0.042% |
| 183 | 12.531 | 12.511 | 12.565 | VV | 866 | 17799 | 0.28% | 0.021% |
| 184 | 12.576 | 12.565 | 12.584 | VV | 289 | 2881 | 0.05% | 0.003% |
| 185 | 12.607 | 12.584 | 12.631 | VV | 1188 | 19419 | 0.31% | 0.022% |
| 186 | 12.669 | 12.631 | 12.708 | VV | 301612 | 3512218 | 56.03% | 4.047% |
| 187 | 12.731 | 12.708 | 12.765 | VV | 1810 | 33515 | 0.53% | 0.039% |
| 188 | 12.788 | 12.765 | 12.814 | VV | 1006 | 19399 | 0.31% | 0.022% |
| 189 | 12.828 | 12.814 | 12.854 | VV | 424 | 9062 | 0.14% | 0.010% |
| 190 | 12.868 | 12.854 | 12.879 | VV | 387 | 5140 | 0.08% | 0.006% |
| 191 | 12.924 | 12.879 | 12.988 | VV | 545 | 27827 | 0.44% | 0.032% |
| 192 | 13.030 | 12.988 | 13.054 | VV | 2575 | 42158 | 0.67% | 0.049% |
| 193 | 13.118 | 13.054 | 13.204 | VV | 520671 | 6267969 | 100.00% | 7.222% |
| 194 | 13.223 | 13.204 | 13.244 | VV | 928 | 17233 | 0.27% | 0.020% |

**Instrument :**
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rteres

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|---|---|---|---|---|---|---|---|---|
| 195 | 13.283 | 13.244 | 13.317 | VV | 279805 | 3365531 | 53.69% | 3.878% |
| 196 | 13.332 | 13.317 | 13.355 | VV | 1208 | 22237 | | |
| 197 | 13.378 | 13.355 | 13.389 | VV | 800 | 14914 | | |
| 198 | 13.405 | 13.389 | 13.430 | VV | 766 | 17025 | | |
| 199 | 13.456 | 13.430 | 13.488 | VV | 984 | 26962 | | |
| 200 | 13.506 | 13.488 | 13.526 | VV | 949 | 19209 | | |
| 201 | 13.560 | 13.526 | 13.581 | VV | 1096 | 31084 | 0.50% | 0.036% |
| 202 | 13.587 | 13.581 | 13.618 | VV | 972 | 20481 | 0.33% | 0.024% |
| 203 | 13.626 | 13.618 | 13.640 | VV | 1057 | 13150 | 0.21% | 0.015% |
| 204 | 13.662 | 13.640 | 13.679 | VV | 1300 | 25747 | 0.41% | 0.030% |
| 205 | 13.712 | 13.679 | 13.762 | VV | 1670 | 60708 | 0.97% | 0.070% |
| 206 | 13.785 | 13.762 | 13.793 | VV | 1174 | 20786 | 0.33% | 0.024% |
| 207 | 13.818 | 13.793 | 13.833 | VV | 1872 | 36663 | 0.58% | 0.042% |
| 208 | 13.869 | 13.833 | 13.911 | VV | 269031 | 3367354 | 53.72% | 3.880% |
| 209 | 13.929 | 13.911 | 13.951 | VV | 1866 | 37332 | 0.60% | 0.043% |
| 210 | 13.964 | 13.951 | 13.979 | VV | 1492 | 22753 | 0.36% | 0.026% |
| 211 | 14.093 | 13.979 | 14.126 | VV | 2197 | 142542 | 2.27% | 0.164% |
| 212 | 14.181 | 14.126 | 14.194 | VV | 1876 | 71800 | 1.15% | 0.083% |
| 213 | 14.203 | 14.194 | 14.217 | VV | 1828 | 24141 | 0.39% | 0.028% |
| 214 | 14.232 | 14.217 | 14.248 | VV | 1902 | 32839 | 0.52% | 0.038% |
| 215 | 14.304 | 14.248 | 14.364 | VV | 3374 | 164134 | 2.62% | 0.189% |
| 216 | 14.386 | 14.364 | 14.409 | VV | 3013 | 68034 | 1.09% | 0.078% |
| 217 | 14.432 | 14.409 | 14.467 | VV | 3401 | 92747 | 1.48% | 0.107% |
| 218 | 14.504 | 14.467 | 14.542 | VV | 2699 | 114152 | 1.82% | 0.132% |
| 219 | 14.555 | 14.542 | 14.573 | VV | 2749 | 48139 | 0.77% | 0.055% |
| 220 | 14.585 | 14.573 | 14.603 | VV | 2595 | 45499 | 0.73% | 0.052% |
| 221 | 14.635 | 14.603 | 14.674 | VV | 2966 | 116123 | 1.85% | 0.134% |
| 222 | 14.694 | 14.674 | 14.771 | VV | 3633 | 175218 | 2.80% | 0.202% |
| 223 | 14.828 | 14.771 | 14.848 | VV | 3444 | 140178 | 2.24% | 0.162% |
| 224 | 14.913 | 14.848 | 14.924 | VV | 4032 | 160215 | 2.56% | 0.185% |
| 225 | 14.975 | 14.924 | 15.014 | VV | 267341 | 3474322 | 55.43% | 4.003% |
| 226 | 15.037 | 15.014 | 15.061 | VV | 3801 | 103479 | 1.65% | 0.119% |
| 227 | 15.075 | 15.061 | 15.091 | VV | 3588 | 61629 | 0.98% | 0.071% |
| 228 | 15.113 | 15.091 | 15.127 | VV | 3595 | 74535 | 1.19% | 0.086% |
| 229 | 15.170 | 15.127 | 15.195 | VV | 3951 | 149965 | 2.39% | 0.173% |
| 230 | 15.213 | 15.195 | 15.235 | VV | 3900 | 89356 | 1.43% | 0.103% |
| 231 | 15.253 | 15.235 | 15.265 | VV | 3799 | 67197 | 1.07% | 0.077% |
| 232 | 15.309 | 15.265 | 15.339 | VV | 4175 | 175631 | 2.80% | 0.202% |
| 233 | 15.354 | 15.339 | 15.386 | VV | 4243 | 114108 | 1.82% | 0.131% |
| 234 | 15.402 | 15.386 | 15.414 | VV | 4261 | 71097 | 1.13% | 0.082% |
| 235 | 15.425 | 15.414 | 15.455 | VV | 4288 | 99243 | 1.58% | 0.114% |
| 236 | 15.494 | 15.455 | 15.524 | VV | 6634 | 201510 | 3.21% | 0.232% |
| 237 | 15.541 | 15.524 | 15.621 | VV | 4762 | 237500 | 3.79% | 0.274% |
| 238 | 15.635 | 15.621 | 15.647 | VV | 4225 | 61155 | 0.98% | 0.070% |
| 239 | 15.676 | 15.647 | 15.684 | VV | 4367 | 94163 | 1.50% | 0.109% |
| 240 | 15.692 | 15.684 | 15.700 | VV | 4222 | 38651 | 0.62% | 0.045% |
| 241 | 15.720 | 15.700 | 15.739 | VV | 4425 | 101428 | 1.62% | 0.117% |
| 242 | 15.755 | 15.739 | 15.784 | VV | 4413 | 115326 | 1.84% | 0.133% |
| 243 | 15.814 | 15.784 | 15.838 | VV | 4755 | 142352 | 2.27% | 0.164% |
| 244 | 15.870 | 15.838 | 15.885 | VV | 4733 | 127769 | 2.04% | 0.147% |
| 245 | 15.898 | 15.885 | 15.909 | VV | 4565 | 63470 | 1.01% | 0.073% |
| 246 | 15.925 | 15.909 | 15.950 | VV | 4429 | 109077 | 1.74% | 0.126% |

**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

**Instrument :**
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**Manual IntegrationsAPPROVED**

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rteres

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|---|---|---|---|---|---|---|---|---|
| 247 | 15.998 | 15.950 | 16.113 | VV | 255272 | 3655814 | 58.33% | 4.212% |
| 248 | 16.124 | 16.113 | 16.139 | VV | 4216 | 63409 | | |
| 249 | 16.167 | 16.139 | 16.198 | VV | 4753 | 159922 | | |
| 250 | 16.211 | 16.198 | 16.238 | VV | 4837 | 108508 | | |
| 251 | 16.249 | 16.238 | 16.261 | VV | 4435 | 60898 | | |
| 252 | 16.305 | 16.261 | 16.323 | VV | 4997 | 171958 | | |
| 253 | 16.336 | 16.323 | 16.345 | VV | 4836 | 62096 | 0.99% | 0.072% |
| 254 | 16.357 | 16.345 | 16.420 | VV | 5114 | 208283 | 3.32% | 0.240% |
| 255 | 16.478 | 16.420 | 16.558 | VV | 7372 | 414237 | 6.61% | 0.477% |
| 256 | 16.585 | 16.558 | 16.594 | VV | 4567 | 96364 | 1.54% | 0.111% |
| 257 | 16.642 | 16.594 | 16.670 | VV | 5275 | 219225 | 3.50% | 0.253% |
| 258 | 16.687 | 16.670 | 16.741 | VV | 4978 | 203874 | 3.25% | 0.235% |
| 259 | 16.756 | 16.741 | 16.772 | VV | 4869 | 86318 | 1.38% | 0.099% |
| 260 | 16.824 | 16.772 | 16.885 | VV | 5317 | 333129 | 5.31% | 0.384% |
| 261 | 16.950 | 16.885 | 17.025 | VV | 245544 | 3598250 | 57.41% | 4.146% |
| 262 | 17.033 | 17.025 | 17.047 | VV | 4710 | 58331 | 0.93% | 0.067% |
| 263 | 17.066 | 17.047 | 17.101 | VV | 4922 | 154228 | 2.46% | 0.178% |
| 264 | 17.108 | 17.101 | 17.134 | VV | 4758 | 92697 | 1.48% | 0.107% |
| 265 | 17.162 | 17.134 | 17.170 | VV | 4926 | 102643 | 1.64% | 0.118% |
| 266 | 17.200 | 17.170 | 17.247 | VV | 5549 | 227553 | 3.63% | 0.262% |
| 267 | 17.272 | 17.247 | 17.311 | VV | 5864 | 201276 | 3.21% | 0.232% |
| 268 | 17.328 | 17.311 | 17.348 | VV | 4721 | 102774 | 1.64% | 0.118% |
| 269 | 17.400 | 17.348 | 17.424 | VV | 6341 | 243081 | 3.88% | 0.280% |
| 270 | 17.438 | 17.424 | 17.474 | VV | 4611 | 130947 | 2.09% | 0.151% |
| 271 | 17.482 | 17.474 | 17.487 | VV | 4263 | 32979 | 0.53% | 0.038% |
| 272 | 17.523 | 17.487 | 17.595 | VV | 5306 | 298494 | 4.76% | 0.344% |
| 273 | 17.610 | 17.595 | 17.646 | VV | 4387 | 130027 | 2.07% | 0.150% |
| 274 | 17.728 | 17.646 | 17.774 | VV | 6852 | 357677 | 5.71% | 0.412% |
| 275 | 17.839 | 17.774 | 17.920 | VV | 234136 | 3612101 | 57.63% | 4.162% |
| 276 | 17.931 | 17.920 | 17.947 | VV | 3954 | 61607 | 0.98% | 0.071% |
| 277 | 17.991 | 17.947 | 18.055 | VV | 5242 | 280435 | 4.47% | 0.323% |
| 278 | 18.063 | 18.055 | 18.077 | VV | 3611 | 47272 | 0.75% | 0.054% |
| 279 | 18.096 | 18.077 | 18.105 | VV | 3792 | 59097 | 0.94% | 0.068% |
| 280 | 18.120 | 18.105 | 18.138 | VV | 3810 | 72283 | 1.15% | 0.083% |
| 281 | 18.154 | 18.138 | 18.175 | VV | 3623 | 78922 | 1.26% | 0.091% |
| 282 | 18.197 | 18.175 | 18.211 | VV | 3908 | 79154 | 1.26% | 0.091% |
| 283 | 18.225 | 18.211 | 18.237 | VV | 3895 | 58647 | 0.94% | 0.068% |
| 284 | 18.261 | 18.237 | 18.301 | VV | 5163 | 148341 | 2.37% | 0.171% |
| 285 | 18.311 | 18.301 | 18.341 | VV | 3435 | 80532 | 1.28% | 0.093% |
| 286 | 18.361 | 18.341 | 18.461 | VV | 4070 | 241528 | 3.85% | 0.278% |
| 287 | 18.484 | 18.461 | 18.501 | VV | 3217 | 73173 | 1.17% | 0.084% |
| 288 | 18.512 | 18.501 | 18.562 | VV | 3191 | 109941 | 1.75% | 0.127% |
| 289 | 18.573 | 18.562 | 18.628 | VV | 2955 | 108270 | 1.73% | 0.125% |
| 290 | 18.673 | 18.628 | 18.732 | VV | 234651 | 3423787 | 54.62% | 3.945% |
| 291 | 18.740 | 18.732 | 18.764 | VV | 2641 | 48177 | 0.77% | 0.056% |
| 292 | 18.792 | 18.764 | 18.811 | VV | 2832 | 72943 | 1.16% | 0.084% |
| 293 | 18.834 | 18.811 | 18.853 | VV | 2892 | 68377 | 1.09% | 0.079% |
| 294 | 18.867 | 18.853 | 18.895 | VV | 2935 | 66280 | 1.06% | 0.076% |
| 295 | 18.915 | 18.895 | 18.948 | VV | 2547 | 76999 | 1.23% | 0.089% |
| 296 | 18.961 | 18.948 | 19.015 | VV | 2487 | 89812 | 1.43% | 0.103% |
| 297 | 19.070 | 19.015 | 19.100 | VV | 3640 | 131805 | 2.10% | 0.152% |
| 298 | 19.117 | 19.100 | 19.152 | VV | 2358 | 68393 | 1.09% | 0.079% |
| 299 | 19.178 | 19.152 | 19.228 | VV | 2302 | 96881 | 1.55% | 0.112% |

**Instrument :**
FID_C
**ClientSampleId :**
B-187-SB01MS

**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

rteres

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 300 | 19.245 | 19.228 | 19.286 | VV | 2249 | 74206 | 1.18% | 0.086% |
| 301 | 19.302 | 19.286 | 19.323 | VV | 2236 | 45920 | | |
| 302 | 19.334 | 19.323 | 19.361 | VV | 2128 | 45343 | | |
| 303 | 19.374 | 19.361 | 19.412 | VV | 2120 | 59766 | | |
| 304 | 19.459 | 19.412 | 19.557 | VV | 240667 | 3474999 | 55 | |
| 305 | 19.585 | 19.557 | 19.607 | VV | 2209 | 61631 | | |
| 306 | 19.619 | 19.607 | 19.635 | VV | 2149 | 34717 | 0.55% | 0.040% |
| 307 | 19.646 | 19.635 | 19.655 | VV | 2111 | 23656 | 0.38% | 0.027% |
| 308 | 19.662 | 19.655 | 19.668 | VV | 2088 | 15933 | 0.25% | 0.018% |
| 309 | 19.698 | 19.668 | 19.721 | VV | 2247 | 68616 | 1.09% | 0.079% |
| 310 | 19.739 | 19.721 | 19.798 | VV | 2262 | 97422 | 1.55% | 0.112% |
| 311 | 19.834 | 19.798 | 19.858 | VV | 3131 | 91800 | 1.46% | 0.106% |
| 312 | 19.874 | 19.858 | 19.896 | VV | 2258 | 48827 | 0.78% | 0.056% |
| 313 | 19.905 | 19.896 | 19.921 | VV | 2221 | 33645 | 0.54% | 0.039% |
| 314 | 19.938 | 19.921 | 19.949 | VV | 2327 | 37203 | 0.59% | 0.043% |
| 315 | 19.962 | 19.949 | 19.973 | VV | 2365 | 33473 | 0.53% | 0.039% |
| 316 | 19.989 | 19.973 | 20.002 | VV | 2483 | 40184 | 0.64% | 0.046% |
| 317 | 20.015 | 20.002 | 20.032 | VV | 2433 | 41467 | 0.66% | 0.048% |
| 318 | 20.063 | 20.032 | 20.073 | VV | 2468 | 59406 | 0.95% | 0.068% |
| 319 | 20.106 | 20.073 | 20.134 | VV | 2864 | 95734 | 1.53% | 0.110% |
| 320 | 20.201 | 20.134 | 20.260 | VV | 231359 | 3418291 | 54.54% | 3.939% |
| 321 | 20.273 | 20.260 | 20.315 | VV | 3047 | 94966 | 1.52% | 0.109% |
| 322 | 20.334 | 20.315 | 20.368 | VV | 2888 | 89139 | 1.42% | 0.103% |
| 323 | 20.375 | 20.368 | 20.401 | VV | 2892 | 56197 | 0.90% | 0.065% |
| 324 | 20.406 | 20.401 | 20.431 | VV | 2817 | 49516 | 0.79% | 0.057% |
| 325 | 20.458 | 20.431 | 20.484 | VV | 2803 | 87491 | 1.40% | 0.101% |
| 326 | 20.493 | 20.484 | 20.523 | VV | 2737 | 61131 | 0.98% | 0.070% |
| 327 | 20.562 | 20.523 | 20.612 | VV | 3453 | 146497 | 2.34% | 0.169% |
| 328 | 20.629 | 20.612 | 20.654 | VV | 2547 | 61451 | 0.98% | 0.071% |
| 329 | 20.684 | 20.654 | 20.696 | VV | 2510 | 60915 | 0.97% | 0.070% |
| 330 | 20.714 | 20.696 | 20.728 | VV | 2522 | 47432 | 0.76% | 0.055% |
| 331 | 20.738 | 20.728 | 20.774 | VV | 2470 | 66841 | 1.07% | 0.077% |
| 332 | 20.784 | 20.774 | 20.814 | VV | 2405 | 55631 | 0.89% | 0.064% |
| 333 | 20.824 | 20.814 | 20.833 | VV | 2271 | 24139 | 0.39% | 0.028% |
| 334 | 20.840 | 20.833 | 20.861 | VV | 2272 | 37629 | 0.60% | 0.043% |
| 335 | 20.867 | 20.861 | 20.891 | VV | 2200 | 37027 | 0.59% | 0.043% |
| 336 | 20.969 | 20.891 | 21.058 | VV | 175198 | 3277044 | 52.28% | 3.776% |
| 337 | 21.065 | 21.058 | 21.096 | VV | 2110 | 45765 | 0.73% | 0.053% |
| 338 | 21.105 | 21.096 | 21.184 | VV | 1864 | 96043 | 1.53% | 0.111% |
| 339 | 21.194 | 21.184 | 21.248 | VV | 1749 | 60410 | 0.96% | 0.070% |
| 340 | 21.261 | 21.248 | 21.344 | VV | 1521 | 81641 | 1.30% | 0.094% |
| 341 | 21.417 | 21.344 | 21.494 | VV | 1938 | 127927 | 2.04% | 0.147% |
| 342 | 21.503 | 21.494 | 21.549 | VV | 1287 | 40445 | 0.65% | 0.047% |
| 343 | 21.560 | 21.549 | 21.590 | VV | 1319 | 29122 | 0.46% | 0.034% |
| 344 | 21.604 | 21.590 | 21.651 | VV | 1124 | 38304 | 0.61% | 0.044% |
| 345 | 21.657 | 21.651 | 21.761 | VV | 1004 | 57619 | 0.92% | 0.066% |
| 346 | 21.803 | 21.761 | 21.854 | VV | 916 | 45346 | 0.72% | 0.052% |
| 347 | 21.938 | 21.854 | 22.064 | VV | 101314 | 2740903 | 43.73% | 3.158% |
| 348 | 22.071 | 22.064 | 22.116 | VV | 854 | 20232 | 0.32% | 0.023% |
| 349 | 22.128 | 22.116 | 22.161 | VV | 616 | 14369 | 0.23% | 0.017% |
| 350 | 22.189 | 22.161 | 22.217 | VV | 592 | 16078 | 0.26% | 0.019% |
| 351 | 22.233 | 22.217 | 22.281 | VV | 493 | 15762 | 0.25% | 0.018% |

**Instrument :**
FID_C
**ClientSampleId :**
B-187-SB01MS

**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

```
                                        rteres
 352 22.289  22.281  22.361  VV      404     11986   0.19%  0.014%
 353 22.371  22.361  22.417  VV      171      3173   0
 354 22.426  22.417  22.439  PV       70       447   0
                     Sum of corrected areas:    867
```

Aliphatic EPH 052425.M Thu Jun 12 07:04:23 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | |
| Client Sample ID: | B-187-SB01MS | SDG No.: | Q2198 |
| Lab Sample ID: | Q2177-02MS | Matrix: | Solid |
| Analytical Method: | NJEPH | % Solid: | 84.2 |
| Sample Wt/Vol: | 30.03 Units: g | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FD049484.D | 1 | 06/11/25 | 06/13/25 | PB168408 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| Aromatic C10-C12 | Aromatic C10-C12 | 2.67 | | 0.14 | 0.79 | mg/kg |
| Aromatic C12-C16 | Aromatic C12-C16 | 4.47 | | 0.27 | 1.19 | mg/kg |
| Aromatic C16-C21 | Aromatic C16-C21 | 10.5 | | 0.48 | 1.98 | mg/kg |
| Aromatic C21-C36 | Aromatic C21-C36 | 15.7 | | 1.41 | 3.16 | mg/kg |
| **SURROGATES** | | | | | | |
| 580-13-2 | 2-Bromonaphthalene (SURR) | 37.8 | | 40 - 140 | 76% | SPK: 50 |
| 321-60-8 | 2-Flurobiphenyl (SURR) | 37.0 | | 40 - 140 | 74% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | 32.5 | | 40 - 140 | 65% | SPK: 50 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

# Quantitation Report For Aromatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | Q2177-02MS | Acq On: | 13 Jun 2025 09:48 |
| Client Sample ID: | B-187-SB01MS | Operator: | YP/AJ |
| Data file: | FD049484.D | Misc: | |
| Instrument: | FID_D | ALS Vial: | 63 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aromatic C10-C12 | 4.424 | 6.168 | 5645060 | 33.733 | 200 | ug/ml |
| Aromatic C12-C16 | 6.169 | 8.796 | 10587299 | 56.458 | 300 | ug/ml |
| Aromatic C16-C21 | 8.797 | 13.086 | 24624254 | 133.291 | 500 | ug/ml |
| Aromatic C21-C36 | 13.087 | 18.508 | 28854300 | 198.916 | 800 | ug/ml |
| Aromatic EPH | 4.424 | 18.508 | 69710913 | 422.398 | | ug/ml |
| 2-Bromonaphthalene (SURR) | 7.733 | 7.733 | 6278432 | 37.77 | | ug/ml |
| 2-Flurobiphenyl (SURR) | 8.598 | 8.598 | 4233429 | 37.01 | | ug/ml |
| ortho-Terphenyl (SURR) | 11.644 | 11.644 | 6518438 | 32.48 | | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061325AR\
Data File : FD049484.D
Signal(s) : FID2B.ch
Acq On : 13 Jun 2025 09:48
Operator : YP/AJ
Sample : Q2177-02MS
Misc :
ALS Vial : 63 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
B-187-SB01MS

Integration File: autoint1.e
Quant Time: Jun 13 21:19:57 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 4) S | 2-Bromonaphthalene (S... | 7.733 | 6278432 | 37.769 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 75.54% |
| 6) S | 2-Flurobiphenyl (SURR) | 8.598 | 4233429 | 37.006 ug/ml |
| Spiked Amount | 50.000 Range | 0 - 131 | Recovery = | 74.01% |
| 11) S | ortho-Terphenyl (SURR) | 11.644 | 6518438 | 32.475 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 64.95% |
| | **Target Compounds** | | | |
| 1) T | 1,2,3-Trimethylbenzen... | 4.522 | 2028339 | 12.748 ug/ml |
| 2) T | Naphthalene (C11.7) | 6.066 | 2506308 | 14.274 ug/ml |
| 3) T | 2-Methylnaphthalene (... | 7.120 | 2576852 | 14.424 ug/ml |
| 5) T | Acenaphthylene (C15.06) | 8.399 | 3018456 | 15.582 ug/ml |
| 7) T | Acenaphthene (C15.5) | 8.696 | 3122059 | 16.413 ug/ml |
| 8) T | Flouorene (C16.55) | 9.476 | 3285254 | 16.803 ug/ml |
| 9) T | Phenanthrene (C19.36) | 10.875 | 3591192 | 18.887 ug/ml |
| 10) T | Anthracene (C19.43) | 10.949 | 3220864 | 18.424 ug/ml |
| 12) T | Fluoranthene (C21.85) | 12.689 | 3643400 | 20.199 ug/ml |
| 13) T | Pyrene (C20.8) | 12.988 | 3552754 | 19.905 ug/ml |
| 14) T | Benzo[a]anthracene (C... | 14.859 | 3088305 | 20.319 ug/ml |
| 15) T | Chrysene (C27.41) | 14.901 | 3380823 | 22.263 ug/ml |
| 16) T | benzo[b]fluoranthene ... | 16.410 | 3013552 | 20.819 ug/ml |
| 17) T | Bnezo[k]fluoranthene ... | 16.443 | 2894814 | 20.173 ug/ml |
| 18) T | Benzo[a]pyrene (C31.34) | 16.789 | 2856949 | 21.020 ug/ml |
| 19) T | Indeno[1,2,3-cd]pyren... | 18.155 | 2925066 | 22.900 ug/ml |
| 20) T | Dibenz[a,h]anthracene... | 18.194 | 2748005 | 20.412 ug/ml |
| 21) T | Benzo[g,h,i]perylene ... | 18.409 | 2710958 | 20.113 ug/ml |

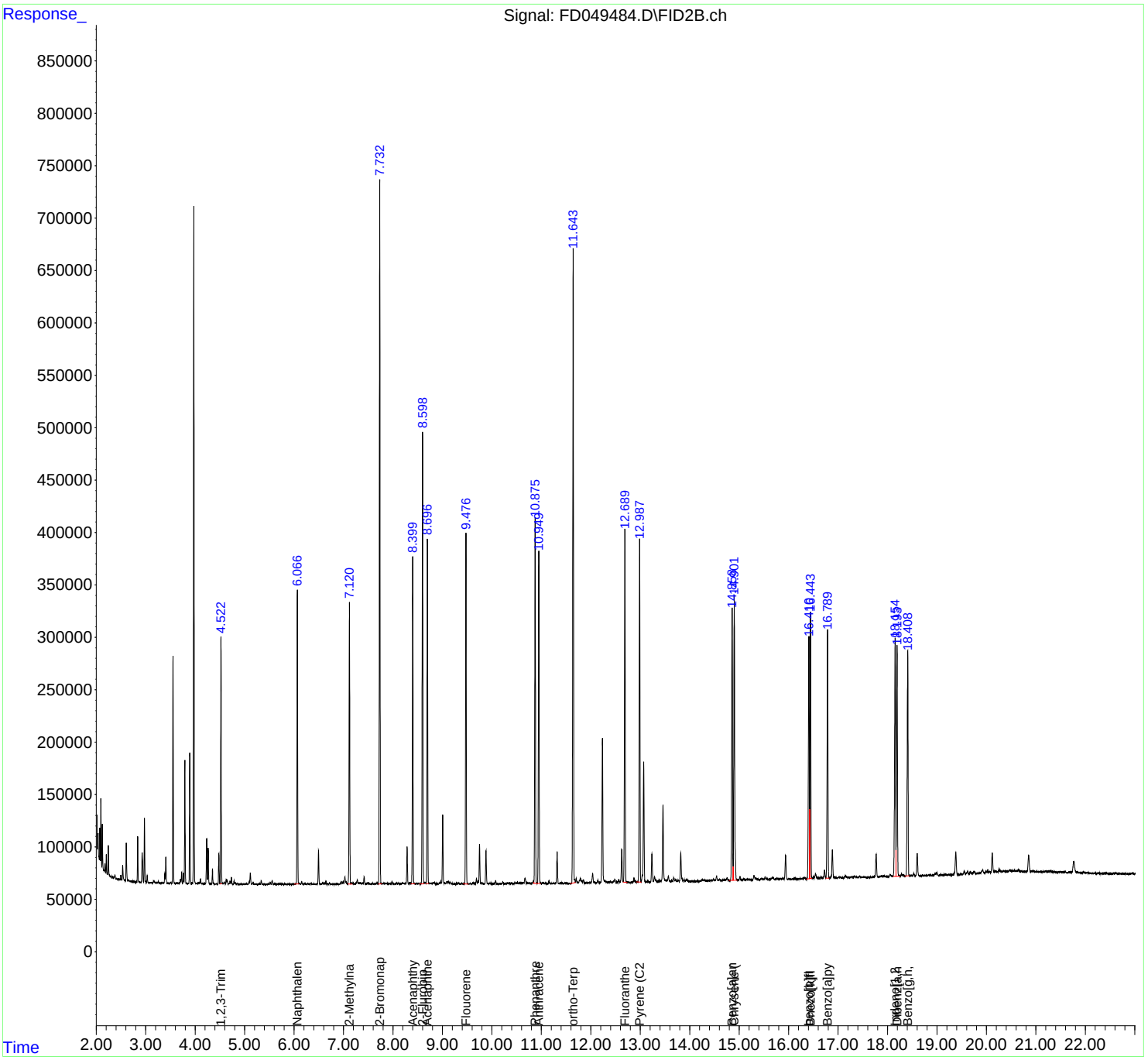
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061325AR\
Data File : FD049484.D
Signal(s) : FID2B.ch
Acq On : 13 Jun 2025 09:48
Operator : YP/AJ
Sample : Q2177-02MS
Misc :
ALS Vial : 63 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
B-187-SB01MS

Integration File: autoint1.e
Quant Time: Jun 13 21:19:57 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm



Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061325AR\
Data File : FD049484.D
Signal(s) : FID2B.ch
Acq On : 13 Jun 2025 09:48
Sample : Q2177-02MS
Misc :
ALS Vial : 63 Sample Multiplier: 1

Integration File: sample.E

Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Title : GC Extractables

Signal : FID2B.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.264 | 4.252 | 4.299 | PH | 34331 | 290789 | 4.46% | 0.332% |
| 2 | 4.305 | 4.299 | 4.316 | PV | 152 | 1228 | 0.02% | 0.001% |
| 3 | 4.327 | 4.316 | 4.333 | VV | 308 | 1989 | 0.03% | 0.002% |
| 4 | 4.351 | 4.333 | 4.370 | VV | 14102 | 113337 | 1.74% | 0.129% |
| 5 | 4.373 | 4.370 | 4.400 | VV | 916 | 6722 | 0.10% | 0.008% |
| 6 | 4.413 | 4.400 | 4.418 | PV | 296 | 1644 | 0.03% | 0.002% |
| 7 | 4.435 | 4.418 | 4.452 | VV | 386 | 4444 | 0.07% | 0.005% |
| 8 | 4.480 | 4.452 | 4.500 | PV | 29279 | 261127 | 4.00% | 0.298% |
| 9 | 4.522 | 4.500 | 4.547 | VV | 236107 | 2040777 | 31.28% | 2.329% |
| 10 | 4.559 | 4.547 | 4.571 | VV | 1043 | 11477 | 0.18% | 0.013% |
| 11 | 4.588 | 4.571 | 4.609 | VV | 2032 | 27337 | 0.42% | 0.031% |
| 12 | 4.629 | 4.609 | 4.640 | VV | 4889 | 52976 | 0.81% | 0.060% |
| 13 | 4.648 | 4.640 | 4.667 | VV | 4080 | 39004 | 0.60% | 0.045% |
| 14 | 4.704 | 4.667 | 4.718 | VV | 3319 | 37045 | 0.57% | 0.042% |
| 15 | 4.734 | 4.718 | 4.755 | VV | 6562 | 63912 | 0.98% | 0.073% |
| 16 | 4.761 | 4.755 | 4.769 | VV | 449 | 3080 | 0.05% | 0.004% |
| 17 | 4.787 | 4.769 | 4.802 | VV | 3537 | 32959 | 0.51% | 0.038% |
| 18 | 4.814 | 4.802 | 4.837 | VV | 1626 | 18067 | 0.28% | 0.021% |
| 19 | 4.850 | 4.837 | 4.874 | VV | 724 | 9080 | 0.14% | 0.010% |
| 20 | 4.902 | 4.882 | 4.908 | PV | 260 | 2298 | 0.04% | 0.003% |
| 21 | 4.928 | 4.908 | 4.949 | VV | 541 | 6496 | 0.10% | 0.007% |
| 22 | 4.953 | 4.949 | 4.966 | VV | 329 | 2115 | 0.03% | 0.002% |
| 23 | 4.978 | 4.966 | 5.006 | VV | 292 | 5119 | 0.08% | 0.006% |
| 24 | 5.043 | 5.006 | 5.072 | VV | 767 | 15911 | 0.24% | 0.018% |
| 25 | 5.089 | 5.072 | 5.099 | VV | 2483 | 24024 | 0.37% | 0.027% |
| 26 | 5.115 | 5.099 | 5.145 | VV | 11000 | 117620 | 1.80% | 0.134% |
| 27 | 5.173 | 5.145 | 5.209 | VV | 2340 | 31768 | 0.49% | 0.036% |
| 28 | 5.219 | 5.209 | 5.239 | VV | 605 | 6583 | 0.10% | 0.008% |
| 29 | 5.278 | 5.263 | 5.290 | VV | 461 | 4690 | 0.07% | 0.005% |
| 30 | 5.305 | 5.290 | 5.316 | VV | 766 | 7918 | 0.12% | 0.009% |
| 31 | 5.335 | 5.316 | 5.387 | VV | 3956 | 47398 | 0.73% | 0.054% |
| 32 | 5.396 | 5.387 | 5.404 | VV | 369 | 3487 | 0.05% | 0.004% |
| 33 | 5.407 | 5.404 | 5.426 | VV | 326 | 2908 | 0.04% | 0.003% |
| 34 | 5.432 | 5.426 | 5.457 | PV | 231 | 3034 | 0.05% | 0.003% |
| 35 | 5.481 | 5.457 | 5.500 | VV | 641 | 11060 | 0.17% | 0.013% |
| 36 | 5.517 | 5.500 | 5.534 | VV | 2453 | 24541 | 0.38% | 0.028% |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 37 | 5.558 | 5.534 | 5.576 | VV | 3821 | 46602 | 0.71% | 0.053% |
| 38 | 5.583 | 5.576 | 5.602 | VV | 512 | 6427 | 0.10% | 0.007% |
| 39 | 5.614 | 5.602 | 5.631 | VV | 882 | 10700 | 0.16% | 0.012% |
| 40 | 5.639 | 5.631 | 5.645 | VV | 343 | 1813 | 0.03% | 0.002% |
| 41 | 5.650 | 5.645 | 5.655 | VV | 213 | 1169 | 0.02% | 0.001% |
| 42 | 5.682 | 5.655 | 5.689 | VV | 592 | 7739 | 0.12% | 0.009% |
| 43 | 5.702 | 5.689 | 5.725 | VV | 703 | 9599 | 0.15% | 0.011% |
| 44 | 5.729 | 5.725 | 5.741 | VV | 316 | 2302 | 0.04% | 0.003% |
| 45 | 5.760 | 5.741 | 5.782 | VV | 591 | 7858 | 0.12% | 0.009% |
| 46 | 5.814 | 5.782 | 5.835 | VV | 775 | 12147 | 0.19% | 0.014% |
| 47 | 5.842 | 5.835 | 5.849 | VV | 225 | 1657 | 0.03% | 0.002% |
| 48 | 5.858 | 5.849 | 5.865 | VV | 435 | 3363 | 0.05% | 0.004% |
| 49 | 5.868 | 5.865 | 5.876 | VV | 403 | 1970 | 0.03% | 0.002% |
| 50 | 5.886 | 5.876 | 5.894 | VV | 357 | 2824 | 0.04% | 0.003% |
| 51 | 5.906 | 5.894 | 5.912 | VV | 335 | 3562 | 0.05% | 0.004% |
| 52 | 5.915 | 5.912 | 5.920 | VV | 437 | 1405 | 0.02% | 0.002% |
| 53 | 5.939 | 5.920 | 5.959 | VV | 506 | 6961 | 0.11% | 0.008% |
| 54 | 5.969 | 5.959 | 5.992 | VV | 529 | 6361 | 0.10% | 0.007% |
| 55 | 6.009 | 5.992 | 6.020 | VV | 629 | 7382 | 0.11% | 0.008% |
| 56 | 6.024 | 6.020 | 6.032 | VV | 469 | 2984 | 0.05% | 0.003% |
| 57 | 6.066 | 6.032 | 6.097 | VV | 280913 | 2528990 | 38.76% | 2.886% |
| 58 | 6.113 | 6.097 | 6.138 | VV | 1570 | 21534 | 0.33% | 0.025% |
| 59 | 6.155 | 6.138 | 6.177 | VV | 2893 | 31456 | 0.48% | 0.036% |
| 60 | 6.182 | 6.177 | 6.198 | VV | 432 | 4056 | 0.06% | 0.005% |
| 61 | 6.218 | 6.198 | 6.254 | VV | 968 | 18324 | 0.28% | 0.021% |
| 62 | 6.287 | 6.254 | 6.323 | VV | 852 | 19860 | 0.30% | 0.023% |
| 63 | 6.346 | 6.323 | 6.369 | VV | 1211 | 16269 | 0.25% | 0.019% |
| 64 | 6.407 | 6.369 | 6.420 | VV | 484 | 9054 | 0.14% | 0.010% |
| 65 | 6.427 | 6.420 | 6.448 | VV | 245 | 3143 | 0.05% | 0.004% |
| 66 | 6.459 | 6.448 | 6.466 | VV | 415 | 2778 | 0.04% | 0.003% |
| 67 | 6.495 | 6.466 | 6.523 | VV | 32547 | 321233 | 4.92% | 0.367% |
| 68 | 6.580 | 6.523 | 6.600 | VV | 1354 | 31055 | 0.48% | 0.035% |
| 69 | 6.615 | 6.600 | 6.629 | VV | 1272 | 14251 | 0.22% | 0.016% |
| 70 | 6.645 | 6.629 | 6.665 | VV | 3542 | 36609 | 0.56% | 0.042% |
| 71 | 6.677 | 6.665 | 6.702 | VV | 894 | 10526 | 0.16% | 0.012% |
| 72 | 6.717 | 6.702 | 6.742 | VV | 1794 | 20037 | 0.31% | 0.023% |
| 73 | 6.755 | 6.742 | 6.760 | VV | 384 | 3005 | 0.05% | 0.003% |
| 74 | 6.765 | 6.760 | 6.797 | VV | 406 | 5913 | 0.09% | 0.007% |
| 75 | 6.822 | 6.797 | 6.845 | VV | 798 | 11665 | 0.18% | 0.013% |
| 76 | 6.862 | 6.845 | 6.875 | VV | 567 | 6903 | 0.11% | 0.008% |
| 77 | 6.886 | 6.875 | 6.912 | VV | 607 | 7962 | 0.12% | 0.009% |
| 78 | 6.937 | 6.912 | 6.950 | PV | 1387 | 16532 | 0.25% | 0.019% |
| 79 | 6.964 | 6.950 | 6.979 | VV | 2828 | 31015 | 0.48% | 0.035% |
| 80 | 6.992 | 6.979 | 7.010 | VV | 2524 | 36380 | 0.56% | 0.042% |
| 81 | 7.028 | 7.010 | 7.083 | VV | 7434 | 118097 | 1.81% | 0.135% |
| 82 | 7.120 | 7.083 | 7.146 | VV | 269264 | 2579422 | 39.54% | 2.943% |
| 83 | 7.153 | 7.146 | 7.181 | VV | 1327 | 20792 | 0.32% | 0.024% |
| 84 | 7.195 | 7.181 | 7.209 | VV | 1241 | 13452 | 0.21% | 0.015% |
| 85 | 7.224 | 7.209 | 7.235 | VV | 789 | 8369 | 0.13% | 0.010% |
| 86 | 7.257 | 7.235 | 7.265 | VV | 1702 | 17999 | 0.28% | 0.021% |
| 87 | 7.279 | 7.265 | 7.298 | VV | 4337 | 51354 | 0.79% | 0.059% |
| 88 | 7.310 | 7.298 | 7.322 | VV | 1295 | 16706 | 0.26% | 0.019% |
| 89 | 7.335 | 7.322 | 7.367 | VV | 1845 | 29237 | 0.45% | 0.033% |

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|---|---|---|---|---|---|---|---|---|
| 90 | 7.386 | 7.367 | 7.399 | VV | 1618 | 20327 | 0.31% | 0.023% |
| 91 | 7.417 | 7.399 | 7.441 | VV | 7478 | 81679 | 1.25% | 0.093% |
| 92 | 7.453 | 7.441 | 7.462 | VV | 675 | 6874 | 0.11% | 0.008% |
| 93 | 7.481 | 7.462 | 7.492 | VV | 1034 | 14635 | 0.22% | 0.017% |
| 94 | 7.509 | 7.492 | 7.526 | VV | 1591 | 19843 | 0.30% | 0.023% |
| 95 | 7.532 | 7.526 | 7.547 | VV | 439 | 4283 | 0.07% | 0.005% |
| 96 | 7.591 | 7.547 | 7.615 | VV | 1056 | 22750 | 0.35% | 0.026% |
| 97 | 7.632 | 7.615 | 7.637 | VV | 575 | 6609 | 0.10% | 0.008% |
| 98 | 7.646 | 7.637 | 7.662 | VV | 668 | 7616 | 0.12% | 0.009% |
| 99 | 7.679 | 7.662 | 7.701 | VV | 1908 | 24229 | 0.37% | 0.028% |
| 100 | 7.733 | 7.701 | 7.802 | VV | 670152 | 6306916 | 96.67% | 7.197% |
| 101 | 7.823 | 7.802 | 7.832 | VV | 1133 | 15498 | 0.24% | 0.018% |
| 102 | 7.842 | 7.832 | 7.856 | VV | 1006 | 12131 | 0.19% | 0.014% |
| 103 | 7.870 | 7.856 | 7.886 | VV | 1168 | 14360 | 0.22% | 0.016% |
| 104 | 7.896 | 7.886 | 7.917 | VV | 772 | 10428 | 0.16% | 0.012% |
| 105 | 7.938 | 7.917 | 7.956 | VV | 1140 | 14614 | 0.22% | 0.017% |
| 106 | 7.982 | 7.956 | 8.009 | VV | 2266 | 29797 | 0.46% | 0.034% |
| 107 | 8.012 | 8.009 | 8.026 | VV | 594 | 4990 | 0.08% | 0.006% |
| 108 | 8.036 | 8.026 | 8.055 | VV | 880 | 9919 | 0.15% | 0.011% |
| 109 | 8.069 | 8.055 | 8.094 | VV | 699 | 12876 | 0.20% | 0.015% |
| 110 | 8.110 | 8.094 | 8.128 | VV | 1258 | 15996 | 0.25% | 0.018% |
| 111 | 8.152 | 8.128 | 8.159 | VV | 595 | 8571 | 0.13% | 0.010% |
| 112 | 8.189 | 8.159 | 8.193 | VV | 990 | 16567 | 0.25% | 0.019% |
| 113 | 8.198 | 8.193 | 8.205 | VV | 1079 | 7239 | 0.11% | 0.008% |
| 114 | 8.214 | 8.205 | 8.229 | VV | 1221 | 13404 | 0.21% | 0.015% |
| 115 | 8.232 | 8.229 | 8.237 | VV | 795 | 3733 | 0.06% | 0.004% |
| 116 | 8.241 | 8.237 | 8.258 | VV | 994 | 9850 | 0.15% | 0.011% |
| 117 | 8.286 | 8.258 | 8.319 | VV | 35985 | 374342 | 5.74% | 0.427% |
| 118 | 8.346 | 8.319 | 8.361 | VV | 1572 | 24811 | 0.38% | 0.028% |
| 119 | 8.399 | 8.361 | 8.458 | VV | 312460 | 3044983 | 46.67% | 3.475% |
| 120 | 8.481 | 8.458 | 8.507 | VV | 1196 | 18548 | 0.28% | 0.021% |
| 121 | 8.521 | 8.507 | 8.545 | VV | 946 | 11776 | 0.18% | 0.013% |
| 122 | 8.598 | 8.545 | 8.630 | VV | 431184 | 4253110 | 65.19% | 4.853% |
| 123 | 8.648 | 8.630 | 8.667 | VV | 2115 | 31284 | 0.48% | 0.036% |
| 124 | 8.696 | 8.667 | 8.725 | VV | 328908 | 3145934 | 48.22% | 3.590% |
| 125 | 8.743 | 8.725 | 8.763 | VV | 1266 | 23788 | 0.36% | 0.027% |
| 126 | 8.773 | 8.763 | 8.788 | VV | 1098 | 13878 | 0.21% | 0.016% |
| 127 | 8.794 | 8.788 | 8.804 | VV | 904 | 7139 | 0.11% | 0.008% |
| 128 | 8.822 | 8.804 | 8.867 | VV | 1529 | 34429 | 0.53% | 0.039% |
| 129 | 8.876 | 8.867 | 8.884 | VV | 610 | 4589 | 0.07% | 0.005% |
| 130 | 8.888 | 8.884 | 8.900 | VV | 692 | 4887 | 0.07% | 0.006% |
| 131 | 8.909 | 8.900 | 8.920 | VV | 476 | 4433 | 0.07% | 0.005% |
| 132 | 8.936 | 8.920 | 8.947 | VV | 1091 | 11875 | 0.18% | 0.014% |
| 133 | 8.966 | 8.947 | 8.980 | VV | 2368 | 27596 | 0.42% | 0.031% |
| 134 | 9.005 | 8.980 | 9.030 | VV | 66277 | 660630 | 10.13% | 0.754% |
| 135 | 9.041 | 9.030 | 9.073 | VV | 1647 | 32316 | 0.50% | 0.037% |
| 136 | 9.090 | 9.073 | 9.113 | VV | 2399 | 43732 | 0.67% | 0.050% |
| 137 | 9.124 | 9.113 | 9.145 | VV | 2456 | 34264 | 0.53% | 0.039% |
| 138 | 9.158 | 9.145 | 9.180 | VV | 1975 | 23729 | 0.36% | 0.027% |
| 139 | 9.196 | 9.180 | 9.212 | VV | 870 | 9077 | 0.14% | 0.010% |
| 140 | 9.216 | 9.212 | 9.229 | VV | 210 | 1224 | 0.02% | 0.001% |
| 141 | 9.248 | 9.229 | 9.271 | VV | 467 | 8699 | 0.13% | 0.010% |

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|---|---|---|---|---|---|---|---|---|
| 142 | 9.291 | 9.271 | 9.309 | VV | 1103 | 14014 | 0.21% | 0.016% |
| 143 | 9.330 | 9.309 | 9.374 | VV | 1056 | 21112 | 0.32% | 0.024% |
| 144 | 9.389 | 9.374 | 9.425 | VV | 812 | 15298 | 0.23% | 0.017% |
| 145 | 9.442 | 9.425 | 9.446 | VV | 391 | 3857 | 0.06% | 0.004% |
| 146 | 9.476 | 9.446 | 9.511 | VV | 334452 | 3290534 | 50.44% | 3.755% |
| 147 | 9.517 | 9.511 | 9.525 | VV | 402 | 1971 | 0.03% | 0.002% |
| 148 | 9.561 | 9.525 | 9.582 | VV | 782 | 13673 | 0.21% | 0.016% |
| 149 | 9.622 | 9.582 | 9.640 | VV | 1304 | 26578 | 0.41% | 0.030% |
| 150 | 9.654 | 9.640 | 9.668 | VV | 939 | 12340 | 0.19% | 0.014% |
| 151 | 9.689 | 9.668 | 9.706 | VV | 5485 | 60657 | 0.93% | 0.069% |
| 152 | 9.721 | 9.706 | 9.731 | VV | 3202 | 31854 | 0.49% | 0.036% |
| 153 | 9.751 | 9.731 | 9.776 | VV | 38322 | 389180 | 5.97% | 0.444% |
| 154 | 9.798 | 9.776 | 9.843 | VV | 1379 | 25491 | 0.39% | 0.029% |
| 155 | 9.881 | 9.843 | 9.936 | VV | 31910 | 359980 | 5.52% | 0.411% |
| 156 | 9.956 | 9.936 | 9.972 | PV | 726 | 10167 | 0.16% | 0.012% |
| 157 | 9.975 | 9.972 | 10.020 | VV | 522 | 9600 | 0.15% | 0.011% |
| 158 | 10.032 | 10.020 | 10.037 | VV | 289 | 1788 | 0.03% | 0.002% |
| 159 | 10.076 | 10.037 | 10.122 | VV | 3401 | 44138 | 0.68% | 0.050% |
| 160 | 10.159 | 10.122 | 10.180 | VV | 544 | 9632 | 0.15% | 0.011% |
| 161 | 10.192 | 10.180 | 10.196 | VV | 387 | 2920 | 0.04% | 0.003% |
| 162 | 10.223 | 10.196 | 10.239 | VV | 1666 | 22785 | 0.35% | 0.026% |
| 163 | 10.245 | 10.239 | 10.255 | VV | 524 | 3763 | 0.06% | 0.004% |
| 164 | 10.276 | 10.255 | 10.289 | VV | 785 | 10136 | 0.16% | 0.012% |
| 165 | 10.315 | 10.289 | 10.333 | VV | 971 | 17936 | 0.27% | 0.020% |
| 166 | 10.353 | 10.333 | 10.377 | VV | 1443 | 23562 | 0.36% | 0.027% |
| 167 | 10.400 | 10.377 | 10.419 | VV | 1073 | 17994 | 0.28% | 0.021% |
| 168 | 10.424 | 10.419 | 10.434 | VV | 383 | 2756 | 0.04% | 0.003% |
| 169 | 10.470 | 10.434 | 10.496 | VV | 1120 | 25216 | 0.39% | 0.029% |
| 170 | 10.520 | 10.496 | 10.541 | VV | 1172 | 22597 | 0.35% | 0.026% |
| 171 | 10.549 | 10.541 | 10.560 | VV | 744 | 7554 | 0.12% | 0.009% |
| 172 | 10.566 | 10.560 | 10.584 | VV | 903 | 9192 | 0.14% | 0.010% |
| 173 | 10.608 | 10.584 | 10.628 | VV | 1327 | 25196 | 0.39% | 0.029% |
| 174 | 10.640 | 10.628 | 10.648 | VV | 1258 | 12860 | 0.20% | 0.015% |
| 175 | 10.673 | 10.648 | 10.696 | VV | 5259 | 91249 | 1.40% | 0.104% |
| 176 | 10.704 | 10.696 | 10.730 | VV | 1116 | 17854 | 0.27% | 0.020% |
| 177 | 10.750 | 10.730 | 10.789 | VV | 1225 | 26114 | 0.40% | 0.030% |
| 178 | 10.815 | 10.789 | 10.825 | VV | 1144 | 14874 | 0.23% | 0.017% |
| 179 | 10.841 | 10.825 | 10.848 | VV | 2767 | 27566 | 0.42% | 0.031% |
| 180 | 10.875 | 10.848 | 10.917 | VV | 349884 | 3613622 | 55.39% | 4.123% |
| 181 | 10.949 | 10.917 | 11.003 | VV | 318275 | 3253926 | 49.88% | 3.713% |
| 182 | 11.027 | 11.003 | 11.037 | VV | 933 | 16120 | 0.25% | 0.018% |
| 183 | 11.044 | 11.037 | 11.063 | VV | 970 | 12048 | 0.18% | 0.014% |
| 184 | 11.070 | 11.063 | 11.098 | VV | 709 | 10366 | 0.16% | 0.012% |
| 185 | 11.103 | 11.098 | 11.134 | VV | 333 | 5791 | 0.09% | 0.007% |
| 186 | 11.156 | 11.134 | 11.194 | VV | 3386 | 42493 | 0.65% | 0.048% |
| 187 | 11.201 | 11.194 | 11.210 | VV | 322 | 1883 | 0.03% | 0.002% |
| 188 | 11.218 | 11.210 | 11.226 | VV | 326 | 2045 | 0.03% | 0.002% |
| 189 | 11.251 | 11.226 | 11.269 | VV | 795 | 11685 | 0.18% | 0.013% |
| 190 | 11.319 | 11.269 | 11.348 | VV | 30738 | 349835 | 5.36% | 0.399% |
| 191 | 11.370 | 11.348 | 11.375 | PV | 555 | 5569 | 0.09% | 0.006% |
| 192 | 11.408 | 11.375 | 11.433 | VV | 1275 | 25001 | 0.38% | 0.029% |
| 193 | 11.440 | 11.433 | 11.445 | VV | 303 | 1468 | 0.02% | 0.002% |
| 194 | 11.474 | 11.445 | 11.502 | VV | 799 | 15465 | 0.24% | 0.018% |

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|---|---|---|---|---|---|---|---|---|
| 195 | 11.523 | 11.502 | 11.547 | VV | 679 | 10634 | 0.16% | 0.012% |
| 196 | 11.560 | 11.547 | 11.584 | VV | 421 | 7098 | 0.11% | 0.008% |
| 197 | 11.644 | 11.584 | 11.668 | PV | 606519 | 6524090 | 100.00% | 7.445% |
| 198 | 11.673 | 11.668 | 11.688 | VV | 4150 | 36599 | 0.56% | 0.042% |
| 199 | 11.704 | 11.688 | 11.724 | VV | 5101 | 60429 | 0.93% | 0.069% |
| 200 | 11.736 | 11.724 | 11.751 | VV | 1542 | 18857 | 0.29% | 0.022% |
| 201 | 11.789 | 11.751 | 11.810 | VV | 5258 | 105863 | 1.62% | 0.121% |
| 202 | 11.821 | 11.810 | 11.836 | VV | 2558 | 31058 | 0.48% | 0.035% |
| 203 | 11.852 | 11.836 | 11.882 | VV | 3698 | 47689 | 0.73% | 0.054% |
| 204 | 11.914 | 11.882 | 11.938 | VV | 1175 | 20473 | 0.31% | 0.023% |
| 205 | 11.984 | 11.938 | 12.003 | VV | 1079 | 27877 | 0.43% | 0.032% |
| 206 | 12.037 | 12.003 | 12.063 | VV | 9610 | 139001 | 2.13% | 0.159% |
| 207 | 12.077 | 12.063 | 12.109 | VV | 1498 | 22554 | 0.35% | 0.026% |
| 208 | 12.142 | 12.109 | 12.165 | VV | 2886 | 42433 | 0.65% | 0.048% |
| 209 | 12.169 | 12.165 | 12.176 | VV | 518 | 2967 | 0.05% | 0.003% |
| 210 | 12.236 | 12.176 | 12.279 | VV | 138273 | 1653142 | 25.34% | 1.886% |
| 211 | 12.291 | 12.279 | 12.336 | VV | 2271 | 48205 | 0.74% | 0.055% |
| 212 | 12.347 | 12.336 | 12.355 | VV | 925 | 9790 | 0.15% | 0.011% |
| 213 | 12.361 | 12.355 | 12.369 | VV | 1022 | 7725 | 0.12% | 0.009% |
| 214 | 12.393 | 12.369 | 12.436 | VV | 1246 | 36703 | 0.56% | 0.042% |
| 215 | 12.488 | 12.436 | 12.512 | VV | 3428 | 79001 | 1.21% | 0.090% |
| 216 | 12.517 | 12.512 | 12.533 | VV | 998 | 9472 | 0.15% | 0.011% |
| 217 | 12.541 | 12.533 | 12.549 | VV | 811 | 6462 | 0.10% | 0.007% |
| 218 | 12.569 | 12.549 | 12.590 | VV | 3132 | 40133 | 0.62% | 0.046% |
| 219 | 12.626 | 12.590 | 12.654 | VV | 32065 | 394472 | 6.05% | 0.450% |
| 220 | 12.689 | 12.654 | 12.739 | VV | 336193 | 3673156 | 56.30% | 4.191% |
| 221 | 12.749 | 12.739 | 12.766 | VV | 617 | 6562 | 0.10% | 0.007% |
| 222 | 12.775 | 12.766 | 12.793 | VV | 317 | 4134 | 0.06% | 0.005% |
| 223 | 12.802 | 12.793 | 12.806 | VV | 343 | 2001 | 0.03% | 0.002% |
| 224 | 12.845 | 12.806 | 12.852 | VV | 733 | 12354 | 0.19% | 0.014% |
| 225 | 12.873 | 12.852 | 12.917 | VV | 4672 | 70683 | 1.08% | 0.081% |
| 226 | 12.923 | 12.917 | 12.955 | VV | 992 | 14294 | 0.22% | 0.016% |
| 227 | 12.988 | 12.955 | 13.014 | VV | 327520 | 3575500 | 54.80% | 4.080% |
| 228 | 13.040 | 13.014 | 13.046 | VV | 6835 | 70873 | 1.09% | 0.081% |
| 229 | 13.070 | 13.046 | 13.100 | VV | 115027 | 1343275 | 20.59% | 1.533% |
| 230 | 13.117 | 13.100 | 13.137 | VV | 728 | 10574 | 0.16% | 0.012% |
| 231 | 13.154 | 13.137 | 13.177 | VV | 1594 | 19896 | 0.30% | 0.023% |
| 232 | 13.190 | 13.177 | 13.205 | VV | 480 | 5261 | 0.08% | 0.006% |
| 233 | 13.236 | 13.205 | 13.265 | VV | 27175 | 343829 | 5.27% | 0.392% |
| 234 | 13.289 | 13.265 | 13.341 | VV | 5646 | 105022 | 1.61% | 0.120% |
| 235 | 13.354 | 13.341 | 13.364 | VV | 950 | 10375 | 0.16% | 0.012% |
| 236 | 13.380 | 13.364 | 13.395 | VV | 1556 | 20814 | 0.32% | 0.024% |
| 237 | 13.405 | 13.395 | 13.421 | VV | 1018 | 13108 | 0.20% | 0.015% |
| 238 | 13.460 | 13.421 | 13.535 | VV | 73773 | 943510 | 14.46% | 1.077% |
| 239 | 13.569 | 13.535 | 13.605 | VV | 5891 | 105052 | 1.61% | 0.120% |
| 240 | 13.616 | 13.605 | 13.623 | VV | 853 | 8277 | 0.13% | 0.009% |
| 241 | 13.639 | 13.623 | 13.655 | VV | 1446 | 19268 | 0.30% | 0.022% |
| 242 | 13.677 | 13.655 | 13.700 | VV | 3960 | 60675 | 0.93% | 0.069% |
| 243 | 13.717 | 13.700 | 13.740 | VV | 2698 | 36668 | 0.56% | 0.042% |
| 244 | 13.766 | 13.740 | 13.790 | VV | 1820 | 34538 | 0.53% | 0.039% |
| 245 | 13.820 | 13.790 | 13.866 | VV | 27516 | 378753 | 5.81% | 0.432% |
| 246 | 13.886 | 13.866 | 13.905 | VV | 2281 | 30672 | 0.47% | 0.035% |

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|---|---|---|---|---|---|---|---|---|
| 247 | 13.933 | 13.905 | 13.977 | VV | 2017 | 49406 | 0.76% | 0.056% |
| 248 | 13.991 | 13.977 | 14.014 | VV | 473 | 6494 | 0.10% | 0.007% |
| 249 | 14.047 | 14.014 | 14.074 | PV | 702 | 12704 | 0.19% | 0.014% |
| 250 | 14.093 | 14.074 | 14.123 | VV | 454 | 7078 | 0.11% | 0.008% |
| 251 | 14.154 | 14.137 | 14.183 | VV | 498 | 9345 | 0.14% | 0.011% |
| 252 | 14.189 | 14.183 | 14.194 | VV | 274 | 1515 | 0.02% | 0.002% |
| 253 | 14.214 | 14.194 | 14.228 | VV | 592 | 8798 | 0.13% | 0.010% |
| 254 | 14.257 | 14.228 | 14.287 | VV | 1828 | 38908 | 0.60% | 0.044% |
| 255 | 14.299 | 14.287 | 14.334 | VV | 1391 | 24078 | 0.37% | 0.027% |
| 256 | 14.387 | 14.334 | 14.393 | VV | 954 | 21206 | 0.33% | 0.024% |
| 257 | 14.406 | 14.393 | 14.428 | VV | 1075 | 15986 | 0.25% | 0.018% |
| 258 | 14.444 | 14.428 | 14.457 | VV | 855 | 11483 | 0.18% | 0.013% |
| 259 | 14.479 | 14.457 | 14.504 | VV | 1911 | 34434 | 0.53% | 0.039% |
| 260 | 14.510 | 14.504 | 14.523 | VV | 1081 | 10606 | 0.16% | 0.012% |
| 261 | 14.544 | 14.523 | 14.567 | VV | 4917 | 65995 | 1.01% | 0.075% |
| 262 | 14.602 | 14.567 | 14.626 | VV | 1563 | 35087 | 0.54% | 0.040% |
| 263 | 14.669 | 14.626 | 14.680 | VV | 945 | 20704 | 0.32% | 0.024% |
| 264 | 14.699 | 14.680 | 14.715 | VV | 1015 | 17783 | 0.27% | 0.020% |
| 265 | 14.726 | 14.715 | 14.738 | VV | 1212 | 14612 | 0.22% | 0.017% |
| 266 | 14.758 | 14.738 | 14.786 | VV | 2751 | 40449 | 0.62% | 0.046% |
| 267 | 14.798 | 14.786 | 14.821 | VV | 367 | 7104 | 0.11% | 0.008% |
| 268 | 14.859 | 14.821 | 14.878 | VV | 260320 | 3101231 | 47.54% | 3.539% |
| 269 | 14.901 | 14.878 | 14.952 | VV | 271972 | 3399395 | 52.11% | 3.879% |
| 270 | 14.957 | 14.952 | 14.976 | VV | 627 | 7322 | 0.11% | 0.008% |
| 271 | 15.018 | 14.976 | 15.036 | VV | 3946 | 56738 | 0.87% | 0.065% |
| 272 | 15.055 | 15.036 | 15.070 | VV | 1064 | 14921 | 0.23% | 0.017% |
| 273 | 15.094 | 15.070 | 15.129 | VV | 1626 | 29731 | 0.46% | 0.034% |
| 274 | 15.151 | 15.129 | 15.177 | VV | 1263 | 22858 | 0.35% | 0.026% |
| 275 | 15.192 | 15.177 | 15.262 | VV | 882 | 28817 | 0.44% | 0.033% |
| 276 | 15.301 | 15.262 | 15.327 | VV | 4243 | 81800 | 1.25% | 0.093% |
| 277 | 15.333 | 15.327 | 15.358 | VV | 1834 | 24003 | 0.37% | 0.027% |
| 278 | 15.362 | 15.358 | 15.365 | VV | 761 | 3116 | 0.05% | 0.004% |
| 279 | 15.369 | 15.365 | 15.374 | VV | 724 | 3150 | 0.05% | 0.004% |
| 280 | 15.376 | 15.374 | 15.391 | VV | 756 | 5185 | 0.08% | 0.006% |
| 281 | 15.395 | 15.391 | 15.415 | VV | 472 | 3196 | 0.05% | 0.004% |
| 282 | 15.458 | 15.415 | 15.500 | VV | 1688 | 44956 | 0.69% | 0.051% |
| 283 | 15.524 | 15.500 | 15.544 | VV | 3026 | 40897 | 0.63% | 0.047% |
| 284 | 15.563 | 15.544 | 15.587 | VV | 1462 | 23032 | 0.35% | 0.026% |
| 285 | 15.604 | 15.587 | 15.624 | VV | 1079 | 17308 | 0.27% | 0.020% |
| 286 | 15.669 | 15.624 | 15.674 | VV | 1910 | 33039 | 0.51% | 0.038% |
| 287 | 15.685 | 15.674 | 15.724 | VV | 2147 | 39177 | 0.60% | 0.045% |
| 288 | 15.736 | 15.724 | 15.740 | VV | 663 | 5344 | 0.08% | 0.006% |
| 289 | 15.765 | 15.740 | 15.790 | VV | 1620 | 28358 | 0.43% | 0.032% |
| 290 | 15.801 | 15.790 | 15.819 | VV | 726 | 10947 | 0.17% | 0.012% |
| 291 | 15.820 | 15.819 | 15.826 | VV | 662 | 2318 | 0.04% | 0.003% |
| 292 | 15.847 | 15.826 | 15.859 | VV | 986 | 14918 | 0.23% | 0.017% |
| 293 | 15.873 | 15.859 | 15.907 | VV | 1024 | 21293 | 0.33% | 0.024% |
| 294 | 15.939 | 15.907 | 15.977 | VV | 23285 | 316301 | 4.85% | 0.361% |
| 295 | 15.983 | 15.977 | 15.990 | VV | 469 | 3356 | 0.05% | 0.004% |
| 296 | 15.995 | 15.990 | 16.004 | VV | 451 | 3272 | 0.05% | 0.004% |
| 297 | 16.009 | 16.004 | 16.028 | VV | 415 | 4086 | 0.06% | 0.005% |
| 298 | 16.032 | 16.028 | 16.052 | VV | 310 | 2383 | 0.04% | 0.003% |
| 299 | 16.088 | 16.066 | 16.096 | PV | 472 | 5315 | 0.08% | 0.006% |

rteres

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 300 | 16.128 | 16.096 | 16.176 | VV | 933 | 27832 | 0.43% | 0.032% |
| 301 | 16.189 | 16.176 | 16.210 | VV | 441 | 6588 | 0.10% | 0.008% |
| 302 | 16.225 | 16.210 | 16.256 | VV | 772 | 13530 | 0.21% | 0.015% |
| 303 | 16.270 | 16.256 | 16.282 | VV | 492 | 6528 | 0.10% | 0.007% |
| 304 | 16.324 | 16.282 | 16.356 | VV | 1104 | 31253 | 0.48% | 0.036% |
| 305 | 16.410 | 16.356 | 16.425 | VV | 231205 | 3021520 | 46.31% | 3.448% |
| 306 | 16.443 | 16.425 | 16.477 | VV | 254412 | 2908651 | 44.58% | 3.319% |
| 307 | 16.501 | 16.477 | 16.517 | VV | 1446 | 23486 | 0.36% | 0.027% |
| 308 | 16.542 | 16.517 | 16.572 | VV | 4351 | 83709 | 1.28% | 0.096% |
| 309 | 16.576 | 16.572 | 16.615 | VV | 1183 | 21641 | 0.33% | 0.025% |
| 310 | 16.656 | 16.615 | 16.675 | VV | 1822 | 33130 | 0.51% | 0.038% |
| 311 | 16.689 | 16.675 | 16.694 | VV | 993 | 9076 | 0.14% | 0.010% |
| 312 | 16.727 | 16.694 | 16.752 | VV | 8288 | 119826 | 1.84% | 0.137% |
| 313 | 16.789 | 16.752 | 16.830 | VV | 237286 | 2875120 | 44.07% | 3.281% |
| 314 | 16.885 | 16.830 | 16.916 | VV | 27302 | 377869 | 5.79% | 0.431% |
| 315 | 16.937 | 16.916 | 16.979 | VV | 1369 | 27854 | 0.43% | 0.032% |
| 316 | 17.022 | 16.979 | 17.029 | VV | 1013 | 18354 | 0.28% | 0.021% |
| 317 | 17.036 | 17.029 | 17.062 | VV | 1013 | 14084 | 0.22% | 0.016% |
| 318 | 17.067 | 17.062 | 17.079 | VV | 402 | 3237 | 0.05% | 0.004% |
| 319 | 17.091 | 17.079 | 17.107 | VV | 451 | 5571 | 0.09% | 0.006% |
| 320 | 17.146 | 17.107 | 17.231 | VV | 1843 | 65265 | 1.00% | 0.074% |
| 321 | 17.246 | 17.231 | 17.258 | VV | 874 | 10944 | 0.17% | 0.012% |
| 322 | 17.282 | 17.258 | 17.294 | VV | 1182 | 20079 | 0.31% | 0.023% |
| 323 | 17.310 | 17.294 | 17.319 | VV | 1240 | 14215 | 0.22% | 0.016% |
| 324 | 17.336 | 17.319 | 17.354 | VV | 1863 | 27310 | 0.42% | 0.031% |
| 325 | 17.363 | 17.354 | 17.384 | VV | 829 | 12272 | 0.19% | 0.014% |
| 326 | 17.391 | 17.384 | 17.400 | VV | 664 | 5119 | 0.08% | 0.006% |
| 327 | 17.438 | 17.400 | 17.460 | VV | 1525 | 28936 | 0.44% | 0.033% |
| 328 | 17.464 | 17.460 | 17.470 | VV | 585 | 2250 | 0.03% | 0.003% |
| 329 | 17.485 | 17.470 | 17.497 | VV | 604 | 6546 | 0.10% | 0.007% |
| 330 | 17.512 | 17.497 | 17.536 | VV | 595 | 10324 | 0.16% | 0.012% |
| 331 | 17.553 | 17.536 | 17.590 | VV | 571 | 9091 | 0.14% | 0.010% |
| 332 | 17.601 | 17.590 | 17.607 | PV | 328 | 1606 | 0.02% | 0.002% |
| 333 | 17.626 | 17.607 | 17.645 | VV | 579 | 5841 | 0.09% | 0.007% |
| 334 | 17.664 | 17.645 | 17.687 | VV | 389 | 5795 | 0.09% | 0.007% |
| 335 | 17.703 | 17.687 | 17.710 | VV | 520 | 4524 | 0.07% | 0.005% |
| 336 | 17.771 | 17.710 | 17.802 | VV | 22200 | 324398 | 4.97% | 0.370% |
| 337 | 17.864 | 17.802 | 17.892 | VV | 826 | 27259 | 0.42% | 0.031% |
| 338 | 17.934 | 17.892 | 17.970 | VV | 1126 | 34210 | 0.52% | 0.039% |
| 339 | 17.984 | 17.970 | 18.022 | VV | 480 | 10885 | 0.17% | 0.012% |
| 340 | 18.056 | 18.022 | 18.108 | VV | 2369 | 52502 | 0.80% | 0.060% |
| 341 | 18.155 | 18.108 | 18.171 | VV | 227598 | 2941594 | 45.09% | 3.357% |
| 342 | 18.194 | 18.171 | 18.258 | VV | 220955 | 2769736 | 42.45% | 3.161% |
| 343 | 18.282 | 18.258 | 18.297 | VV | 2251 | 30798 | 0.47% | 0.035% |
| 344 | 18.314 | 18.297 | 18.341 | VV | 1960 | 32113 | 0.49% | 0.037% |
| 345 | 18.345 | 18.341 | 18.366 | VV | 533 | 7173 | 0.11% | 0.008% |
| 346 | 18.409 | 18.366 | 18.443 | VV | 215253 | 2740026 | 42.00% | 3.127% |
| 347 | 18.450 | 18.443 | 18.469 | VV | 945 | 11307 | 0.17% | 0.013% |
| 348 | 18.477 | 18.469 | 18.482 | VV | 889 | 5456 | 0.08% | 0.006% |
| 349 | 18.487 | 18.482 | 18.505 | VV | 870 | 10037 | 0.15% | 0.011% |
| 350 | 18.530 | 18.505 | 18.562 | VV | 2862 | 43225 | 0.66% | 0.049% |
| 351 | 18.600 | 18.562 | 18.657 | VV | 21894 | 318107 | 4.88% | 0.363% |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | rteres | | | |
| 352 | 18.705 | 18.657 | 18.724 | VV | 657 | 16852 | 0.26% | 0.019% |
| 353 | 18.728 | 18.724 | 18.732 | VV | 273 | 1114 | 0.02% | 0.001% |
| 354 | 18.750 | 18.732 | 18.757 | VV | 534 | 4830 | 0.07% | 0.006% |
| 355 | 18.761 | 18.757 | 18.788 | VV | 492 | 5876 | 0.09% | 0.007% |
| 356 | 18.833 | 18.788 | 18.856 | PV | 573 | 14056 | 0.22% | 0.016% |
| 357 | 18.864 | 18.856 | 18.892 | VV | 537 | 5610 | 0.09% | 0.006% |
| 358 | 18.910 | 18.900 | 18.920 | VV | 193 | 1233 | 0.02% | 0.001% |
| 359 | 18.963 | 18.920 | 18.980 | PV | 1340 | 14095 | 0.22% | 0.016% |
| | | | Sum of corrected areas: | | | 87635738 | | |

Aromatic EPH 052425.M Fri Jun 13 22:45:04 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | |
| Client Sample ID: | B-187-SB01MSD | SDG No.: | Q2198 |
| Lab Sample ID: | Q2177-02MSD | Matrix: | Solid |
| Analytical Method: | NJEPH | % Solid: | 84.2 |
| Sample Wt/Vol: | 30.04 Units: g | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | | | |

| Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|
| 06/11/25 08:45 | 06/11/25 22:50 | PB168408 |

| CAS Number | Parameter | Conc. | Qualifier | Dilution | MDL | LOQ / CRQL | Units(Dry Weight) | Datafile |
|---|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | 7.51 | | 1 | 0.17 | 1.19 | mg/kg | FC069166.D |
| Aliphatic C12-C16 | Aliphatic C12-C16 | 9.32 | | 1 | 0.13 | 0.79 | mg/kg | FC069166.D |
| Aliphatic C16-C21 | Aliphatic C16-C21 | 8.85 | | 1 | 0.15 | 1.19 | mg/kg | FC069166.D |
| Aliphatic C21-C28 | Aliphatic C21-C28 | 16.7 | | 1 | 0.63 | 1.58 | mg/kg | FC069166.D |
| Aliphatic C28-C40 | Aliphatic C28-C40 | 22.3 | | 1 | 1.40 | 2.37 | mg/kg | FC069166.D |
| Aromatic C10-C12 | Aromatic C10-C12 | 2.73 | | 1 | 0.14 | 0.79 | mg/kg | FD049485.D |
| Aromatic C12-C16 | Aromatic C12-C16 | 4.61 | | 1 | 0.27 | 1.19 | mg/kg | FD049485.D |
| Aromatic C16-C21 | Aromatic C16-C21 | 10.6 | | 1 | 0.47 | 1.98 | mg/kg | FD049485.D |
| Aromatic C21-C36 | Aromatic C21-C36 | 15.8 | | 1 | 1.41 | 3.16 | mg/kg | FD049485.D |
| Total AliphaticEPH | Total AliphaticEPH | 64.7 | | | 2.48 | 7.12 | mg/kg | |
| Total AromaticEPH | Total AromaticEPH | 33.7 | | | 2.30 | 7.12 | mg/kg | |
| Total EPH | Total EPH | 98.4 | | | 4.78 | 14.2 | mg/kg | |

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Portal Partners Tri-Venture | Date Collected: | |
| Project: | Amtrak Sawtooth Bridges 2025 | Date Received: | |
| Client Sample ID: | B-187-SB01MSD | SDG No.: | Q2198 |
| Lab Sample ID: | Q2177-02MSD | Matrix: | Solid |
| Analytical Method: | NJEPH | % Solid: | 84.2 |
| Sample Wt/Vol: | 30.04 Units: g | Final Vol: | 2000 uL |
| Soil Aliquot Vol: | uL | Test: | EPH |
| Prep Method : | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FC069166.D | 1 | 06/11/25 | 06/11/25 | PB168408 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| Aliphatic C9-C12 | Aliphatic C9-C12 | 7.51 | | 0.17 | 1.19 | mg/kg |
| Aliphatic C12-C16 | Aliphatic C12-C16 | 9.32 | | 0.13 | 0.79 | mg/kg |
| Aliphatic C16-C21 | Aliphatic C16-C21 | 8.85 | | 0.15 | 1.19 | mg/kg |
| Aliphatic C21-C28 | Aliphatic C21-C28 | 16.7 | | 0.63 | 1.58 | mg/kg |
| Aliphatic C28-C40 | Aliphatic C28-C40 | 22.3 | | 1.40 | 2.37 | mg/kg |
| **SURROGATES** | | | | | | |
| 3383-33-2 | 1-chlorooctadecane (SURR) | 68.0 | | 40 - 140 | 136% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | 0.00 | | 40 - 140 | 0% | SPK: 50 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

# Quantitation Report For Aliphatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | Q2177-02MSD | Acq On: | 11 Jun 2025 22:50 |
| Client Sample ID: | B-187-SB01MSD | Operator: | YP/AJ |
| Data file: | FC069166.D | Misc: | |
| Instrument: | FID_C | ALS Vial: | 20 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aliphatic C9-C12 | 3.303 | 6.605 | 10039489 | 94.965 | 300 | ug/ml |
| Aliphatic C12-C16 | 6.606 | 10.010 | 12019786 | 117.858 | 200 | ug/ml |
| Aliphatic C16-C21 | 10.011 | 13.380 | 10951250 | 111.902 | 300 | ug/ml |
| Aliphatic C21-C28 | 13.381 | 17.048 | 19867548 | 211.799 | 400 | ug/ml |
| Aliphatic C28-C40 | 17.049 | 22.033 | 26623937 | 281.917 | 600 | ug/ml |
| Aliphatic EPH | 3.303 | 22.033 | 79502010 | 818.44 | | ug/ml |
| ortho-Terphenyl (SURR) | 0.000 | 0.000 | 0 | 0 | | ug/ml |
| 1-chlorooctadecane (SURR) | 13.118 | 13.118 | 6098846 | 67.98 | | ug/ml |
| Aliphatic C9-C28 | 3.303 | 17.048 | 52878073 | 536.524 | 1200 | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069166.D
Signal(s) : FID1A.ch
Acq On : 11 Jun 2025 22:50
Operator : YP/AJ
Sample : Q2177-02MSD
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :**
FID_C
**ClientSampleId :**
B-187-SB01MSD

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

Integration File: autoint1.e
Quant Time: Jun 12 06:06:53 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | System Monitoring Compounds | | | |
| 12) S | 1-chlorooctadecane (S... | 13.118 | 6098846 | 67.981 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 135.96% |
| | Target Compounds | | | |
| 1) T | n-Nonane (C9) | 3.404 | 2206907 | 20.796 ug/ml |
| 2) T | n-Decane (C10) | 4.479 | 2703700 | 25.529 ug/mlm |
| 4) T | n-Dodecane (C12) | 6.507 | 3279378 | 31.196 ug/ml |
| 6) T | n-Tetradecane (C14) | 8.307 | 3644091 | 35.551 ug/ml |
| 7) T | n-Hexadecane (C16) | 9.911 | 3446165 | 33.963 ug/ml |
| 8) T | n-Octadecane (C18) | 11.356 | 3399983 | 34.019 ug/ml |
| 10) T | n-Eicosane (C20) | 12.669 | 3460700 | 35.532 ug/ml |
| 11) T | n-Heneicosane (C21) | 13.282 | 3301753 | 34.303 ug/ml |
| 13) T | n-Docosane (C22) | 13.869 | 3282558 | 34.456 ug/ml |
| 14) T | n-Tetracosane (C24) | 14.975 | 3280063 | 34.838 ug/ml |
| 15) T | n-Hexacosane (C26) | 15.998 | 3253279 | 35.041 ug/ml |
| 16) T | n-Octacosane (C28) | 16.949 | 3217537 | 34.615 ug/ml |
| 17) T | n-Tricontane (C30) | 17.839 | 3242305 | 33.510 ug/ml |
| 18) T | n-Dotriacontane (C32) | 18.674 | 3276603 | 33.064 ug/ml |
| 19) T | n-Tetratriacontane (C34) | 19.459 | 3328230 | 34.533 ug/ml |
| 20) T | n-Hexatriacontane (C36) | 20.201 | 3277362 | 34.524 ug/ml |
| 21) T | n-Octatriacontane (C38) | 20.970 | 3206710 | 35.148 ug/ml |
| 22) T | n-Tetracontane (C40) | 21.939 | 2906027 | 32.935 ug/mlm |

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC061125AL\
Data File : FC069166.D
Signal(s) : FID1A.ch
Acq On : 11 Jun 2025 22:50
Operator : YP/AJ
Sample : Q2177-02MSD
Misc :
ALS Vial : 20 Sample Multiplier: 1

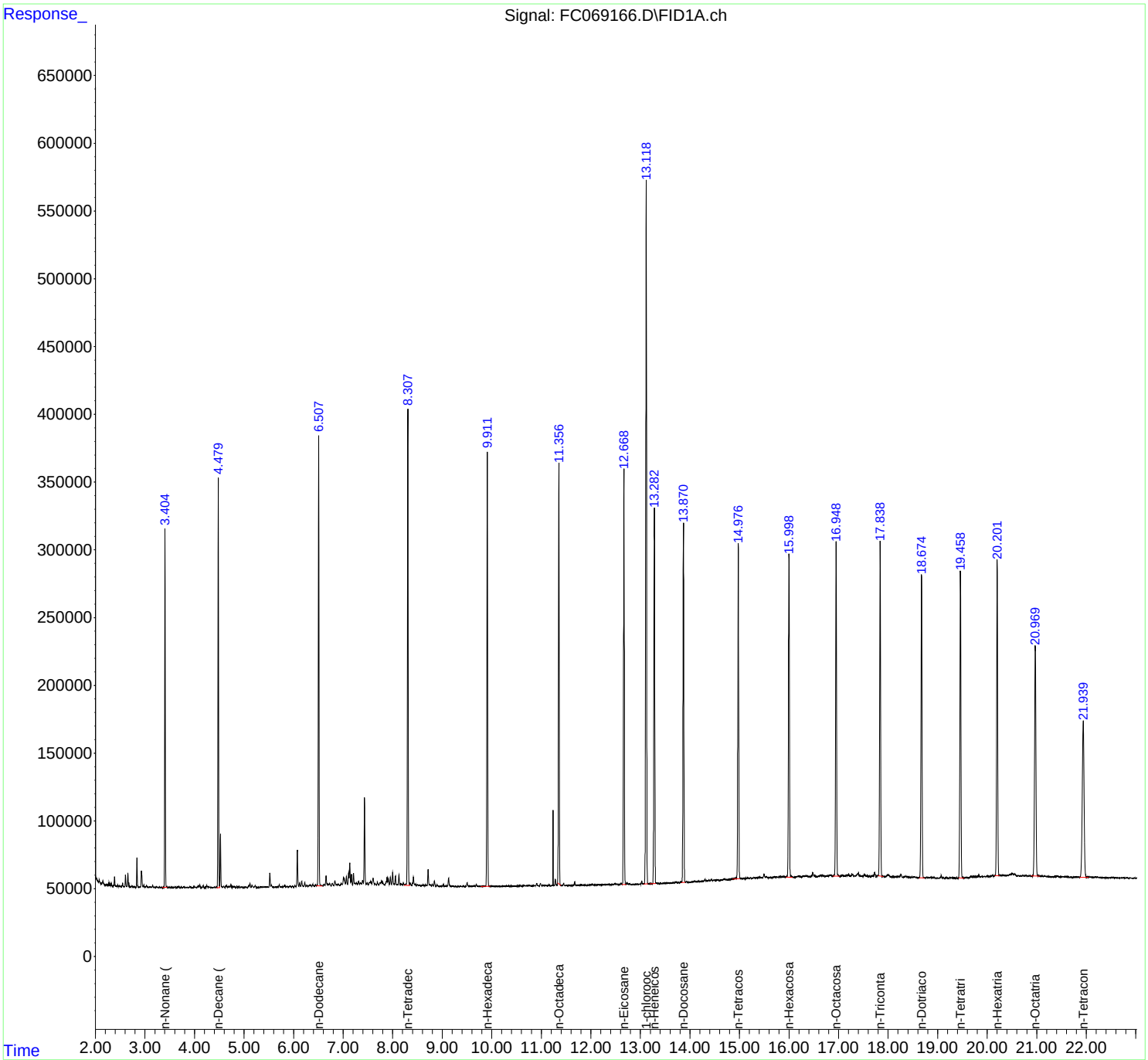
**Instrument :**
FID_C
**ClientSampleId :**
B-187-SB01MSD

**Manual Integrations APPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

Integration File: autoint1.e
Quant Time: Jun 12 06:06:53 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 01:48:55 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18um



**Instrument :**
FID_C
**ClientSampleId :**
B-187-SB01MSD

rteres

Area Percent Report

**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_C\Data\FC06112
Data File : FC069166.D
Signal(s) : FID1A.ch
Acq On : 11 Jun 2025 22:50
Sample : Q2177-02MSD
Misc :
ALS Vial : 20 Sample Multiplier: 1

Integration File: sample.E

Method : Z:\pestpcbsrv\HPCHEM1\FID_C\Method\Aliphatic EPH 052425.M
Title : GC Extractables

Signal : FID1A.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.229 | 3.204 | 3.243 | BV | 373 | 3610 | 0.06% | 0.004% |
| 2 | 3.252 | 3.243 | 3.281 | VV | 183 | 2110 | 0.03% | 0.002% |
| 3 | 3.299 | 3.281 | 3.325 | VV | 185 | 2590 | 0.04% | 0.003% |
| 4 | 3.352 | 3.325 | 3.364 | PV | 94 | 1175 | 0.02% | 0.001% |
| 5 | 3.404 | 3.364 | 3.488 | VV | 264351 | 2216208 | 36.10% | 2.585% |
| 6 | 3.507 | 3.488 | 3.521 | VV | 173 | 2257 | 0.04% | 0.003% |
| 7 | 3.529 | 3.521 | 3.571 | VV | 279 | 4536 | 0.07% | 0.005% |
| 8 | 3.609 | 3.571 | 3.637 | VV | 444 | 7355 | 0.12% | 0.009% |
| 9 | 3.682 | 3.637 | 3.708 | VV | 697 | 11955 | 0.19% | 0.014% |
| 10 | 3.732 | 3.708 | 3.761 | VV | 481 | 7710 | 0.13% | 0.009% |
| 11 | 3.782 | 3.761 | 3.809 | PV | 816 | 10927 | 0.18% | 0.013% |
| 12 | 3.848 | 3.809 | 3.870 | VV | 308 | 7827 | 0.13% | 0.009% |
| 13 | 3.904 | 3.870 | 3.942 | VV | 781 | 12835 | 0.21% | 0.015% |
| 14 | 3.953 | 3.942 | 3.968 | VV | 222 | 1957 | 0.03% | 0.002% |
| 15 | 3.992 | 3.968 | 4.039 | VV | 699 | 15288 | 0.25% | 0.018% |
| 16 | 4.078 | 4.039 | 4.092 | VV | 1761 | 22765 | 0.37% | 0.027% |
| 17 | 4.107 | 4.092 | 4.127 | VV | 2344 | 23251 | 0.38% | 0.027% |
| 18 | 4.143 | 4.127 | 4.154 | VV | 461 | 5166 | 0.08% | 0.006% |
| 19 | 4.174 | 4.154 | 4.198 | VV | 1811 | 18764 | 0.31% | 0.022% |
| 20 | 4.209 | 4.198 | 4.224 | VV | 212 | 3032 | 0.05% | 0.004% |
| 21 | 4.246 | 4.224 | 4.275 | VV | 1485 | 23918 | 0.39% | 0.028% |
| 22 | 4.288 | 4.275 | 4.365 | VV | 660 | 13833 | 0.23% | 0.016% |
| 23 | 4.398 | 4.365 | 4.416 | PV | 382 | 6346 | 0.10% | 0.007% |
| 24 | 4.437 | 4.416 | 4.454 | VV | 389 | 5687 | 0.09% | 0.007% |
| 25 | 4.480 | 4.454 | 4.505 | VV | 300503 | 2704184 | 44.05% | 3.155% |
| 26 | 4.524 | 4.505 | 4.569 | VV | 39776 | 363362 | 5.92% | 0.424% |
| 27 | 4.587 | 4.569 | 4.613 | VV | 1230 | 15239 | 0.25% | 0.018% |
| 28 | 4.634 | 4.613 | 4.670 | VV | 1541 | 29871 | 0.49% | 0.035% |
| 29 | 4.684 | 4.670 | 4.693 | VV | 723 | 7060 | 0.12% | 0.008% |
| 30 | 4.706 | 4.693 | 4.720 | VV | 1103 | 11295 | 0.18% | 0.013% |
| 31 | 4.736 | 4.720 | 4.753 | VV | 2512 | 23513 | 0.38% | 0.027% |
| 32 | 4.767 | 4.753 | 4.779 | VV | 931 | 9014 | 0.15% | 0.011% |
| 33 | 4.790 | 4.779 | 4.805 | VV | 748 | 9153 | 0.15% | 0.011% |
| 34 | 4.813 | 4.805 | 4.830 | VV | 549 | 5374 | 0.09% | 0.006% |
| 35 | 4.856 | 4.830 | 4.875 | VV | 779 | 10714 | 0.17% | 0.012% |
| 36 | 4.896 | 4.875 | 4.915 | VV | 682 | 9321 | 0.15% | 0.011% |

**Instrument :**
FID_C
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B-187-SB01MSD

**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

rteres

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|---|---|---|---|---|---|---|---|---|
| 37 | 4.933 | 4.915 | 4.945 | VV | 289 | 4266 | 0.07% | 0.005% |
| 38 | 4.960 | 4.945 | 4.982 | VV | 746 | 7446 | | |
| 39 | 5.006 | 4.982 | 5.020 | VV | 317 | 3831 | | |
| 40 | 5.037 | 5.020 | 5.067 | VV | 502 | 7257 | | |
| 41 | 5.092 | 5.067 | 5.103 | PV | 1588 | 16117 | | |
| 42 | 5.120 | 5.103 | 5.144 | VV | 3096 | 37779 | | |
| 43 | 5.162 | 5.144 | 5.193 | VV | 1846 | 25020 | 0.41% | 0.029% |
| 44 | 5.225 | 5.193 | 5.271 | VV | 1709 | 22737 | 0.37% | 0.027% |
| 45 | 5.281 | 5.271 | 5.299 | PV | 130 | 1639 | 0.03% | 0.002% |
| 46 | 5.325 | 5.299 | 5.358 | VV | 694 | 11106 | 0.18% | 0.013% |
| 47 | 5.386 | 5.358 | 5.403 | VV | 477 | 9563 | 0.16% | 0.011% |
| 48 | 5.417 | 5.403 | 5.430 | VV | 415 | 5187 | 0.08% | 0.006% |
| 49 | 5.446 | 5.430 | 5.460 | VV | 342 | 5437 | 0.09% | 0.006% |
| 50 | 5.474 | 5.460 | 5.496 | VV | 341 | 5742 | 0.09% | 0.007% |
| 51 | 5.521 | 5.496 | 5.542 | VV | 10781 | 109842 | 1.79% | 0.128% |
| 52 | 5.554 | 5.542 | 5.578 | VV | 1468 | 21104 | 0.34% | 0.025% |
| 53 | 5.591 | 5.578 | 5.604 | VV | 377 | 4593 | 0.07% | 0.005% |
| 54 | 5.618 | 5.604 | 5.631 | VV | 365 | 4318 | 0.07% | 0.005% |
| 55 | 5.679 | 5.631 | 5.689 | VV | 454 | 10980 | 0.18% | 0.013% |
| 56 | 5.711 | 5.689 | 5.741 | VV | 2028 | 26667 | 0.43% | 0.031% |
| 57 | 5.770 | 5.741 | 5.784 | VV | 685 | 11409 | 0.19% | 0.013% |
| 58 | 5.823 | 5.784 | 5.853 | VV | 1410 | 32237 | 0.53% | 0.038% |
| 59 | 5.872 | 5.853 | 5.903 | VV | 1006 | 16583 | 0.27% | 0.019% |
| 60 | 5.922 | 5.903 | 5.956 | VV | 1020 | 19507 | 0.32% | 0.023% |
| 61 | 5.976 | 5.956 | 6.004 | VV | 1104 | 16387 | 0.27% | 0.019% |
| 62 | 6.025 | 6.004 | 6.045 | VV | 1084 | 17829 | 0.29% | 0.021% |
| 63 | 6.076 | 6.045 | 6.104 | VV | 27669 | 291897 | 4.75% | 0.341% |
| 64 | 6.122 | 6.104 | 6.141 | VV | 3343 | 42246 | 0.69% | 0.049% |
| 65 | 6.164 | 6.141 | 6.197 | VV | 4637 | 66273 | 1.08% | 0.077% |
| 66 | 6.226 | 6.197 | 6.248 | VV | 3749 | 53107 | 0.87% | 0.062% |
| 67 | 6.265 | 6.248 | 6.288 | VV | 1339 | 25280 | 0.41% | 0.029% |
| 68 | 6.319 | 6.288 | 6.329 | VV | 1190 | 26254 | 0.43% | 0.031% |
| 69 | 6.345 | 6.329 | 6.368 | VV | 1944 | 30566 | 0.50% | 0.036% |
| 70 | 6.389 | 6.368 | 6.414 | VV | 2100 | 36529 | 0.60% | 0.043% |
| 71 | 6.442 | 6.414 | 6.458 | VV | 1785 | 33205 | 0.54% | 0.039% |
| 72 | 6.468 | 6.458 | 6.474 | VV | 1342 | 12858 | 0.21% | 0.015% |
| 73 | 6.507 | 6.474 | 6.558 | VV | 333094 | 3327138 | 54.20% | 3.881% |
| 74 | 6.570 | 6.558 | 6.584 | VV | 1334 | 18661 | 0.30% | 0.022% |
| 75 | 6.622 | 6.584 | 6.635 | VV | 1988 | 48411 | 0.79% | 0.056% |
| 76 | 6.656 | 6.635 | 6.679 | VV | 8413 | 114633 | 1.87% | 0.134% |
| 77 | 6.689 | 6.679 | 6.713 | VV | 2607 | 46518 | 0.76% | 0.054% |
| 78 | 6.728 | 6.713 | 6.761 | VV | 3037 | 54353 | 0.89% | 0.063% |
| 79 | 6.781 | 6.761 | 6.808 | VV | 2843 | 55029 | 0.90% | 0.064% |
| 80 | 6.834 | 6.808 | 6.859 | VV | 4741 | 86045 | 1.40% | 0.100% |
| 81 | 6.867 | 6.859 | 6.881 | VV | 2151 | 25707 | 0.42% | 0.030% |
| 82 | 6.896 | 6.881 | 6.931 | VV | 2234 | 54770 | 0.89% | 0.064% |
| 83 | 6.966 | 6.931 | 6.986 | VV | 2582 | 65594 | 1.07% | 0.077% |
| 84 | 7.008 | 6.986 | 7.048 | VV | 7206 | 172914 | 2.82% | 0.202% |
| 85 | 7.067 | 7.048 | 7.090 | VV | 7797 | 112863 | 1.84% | 0.132% |
| 86 | 7.111 | 7.090 | 7.120 | VV | 10519 | 117709 | 1.92% | 0.137% |
| 87 | 7.135 | 7.120 | 7.153 | VV | 17893 | 213509 | 3.48% | 0.249% |
| 88 | 7.168 | 7.153 | 7.190 | VV | 9494 | 114454 | 1.86% | 0.134% |
| 89 | 7.210 | 7.190 | 7.252 | VV | 10154 | 162684 | 2.65% | 0.190% |

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**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

rteres

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|---|---|---|---|---|---|---|---|---|
| 90 | 7.267 | 7.252 | 7.283 | VV | 3425 | 51015 | 0.83% | 0.060% |
| 91 | 7.313 | 7.283 | 7.331 | VV | 4490 | 88134 | | |
| 92 | 7.357 | 7.331 | 7.374 | VV | 3078 | 67350 | | |
| 93 | 7.394 | 7.374 | 7.408 | VV | 4915 | 75121 | | |
| 94 | 7.432 | 7.408 | 7.463 | VV | 64989 | 703342 | 11 | |
| 95 | 7.484 | 7.463 | 7.510 | VV | 2842 | 69071 | | |
| 96 | 7.554 | 7.510 | 7.581 | VV | 4117 | 135892 | 2.21% | 0.159% |
| 97 | 7.605 | 7.581 | 7.632 | VV | 6439 | 129686 | 2.11% | 0.151% |
| 98 | 7.645 | 7.632 | 7.671 | VV | 2758 | 49449 | 0.81% | 0.058% |
| 99 | 7.693 | 7.671 | 7.716 | VV | 3376 | 62439 | 1.02% | 0.073% |
| 100 | 7.747 | 7.716 | 7.758 | VV | 3232 | 62059 | 1.01% | 0.072% |
| 101 | 7.775 | 7.758 | 7.791 | VV | 4724 | 72563 | 1.18% | 0.085% |
| 102 | 7.800 | 7.791 | 7.836 | VV | 3257 | 62220 | 1.01% | 0.073% |
| 103 | 7.888 | 7.836 | 7.902 | VV | 7191 | 147916 | 2.41% | 0.173% |
| 104 | 7.913 | 7.902 | 7.933 | VV | 6178 | 79080 | 1.29% | 0.092% |
| 105 | 7.955 | 7.933 | 7.977 | VV | 7284 | 104927 | 1.71% | 0.122% |
| 106 | 8.000 | 7.977 | 8.031 | VV | 10692 | 158098 | 2.58% | 0.184% |
| 107 | 8.057 | 8.031 | 8.080 | VV | 8163 | 114617 | 1.87% | 0.134% |
| 108 | 8.127 | 8.080 | 8.151 | VV | 8996 | 146244 | 2.38% | 0.171% |
| 109 | 8.166 | 8.151 | 8.198 | VV | 2125 | 52967 | 0.86% | 0.062% |
| 110 | 8.217 | 8.198 | 8.236 | VV | 2830 | 45927 | 0.75% | 0.054% |
| 111 | 8.307 | 8.236 | 8.339 | VV | 353153 | 3714421 | 60.51% | 4.333% |
| 112 | 8.354 | 8.339 | 8.377 | VV | 2722 | 44573 | 0.73% | 0.052% |
| 113 | 8.420 | 8.377 | 8.441 | VV | 7412 | 124628 | 2.03% | 0.145% |
| 114 | 8.452 | 8.441 | 8.481 | VV | 2107 | 39348 | 0.64% | 0.046% |
| 115 | 8.500 | 8.481 | 8.521 | VV | 1509 | 31020 | 0.51% | 0.036% |
| 116 | 8.535 | 8.521 | 8.569 | VV | 1169 | 29319 | 0.48% | 0.034% |
| 117 | 8.619 | 8.569 | 8.645 | VV | 1346 | 45422 | 0.74% | 0.053% |
| 118 | 8.667 | 8.645 | 8.694 | VV | 1533 | 33531 | 0.55% | 0.039% |
| 119 | 8.716 | 8.694 | 8.741 | VV | 12911 | 153760 | 2.50% | 0.179% |
| 120 | 8.755 | 8.741 | 8.780 | VV | 1810 | 29849 | 0.49% | 0.035% |
| 121 | 8.797 | 8.780 | 8.821 | VV | 1918 | 29157 | 0.47% | 0.034% |
| 122 | 8.843 | 8.821 | 8.874 | VV | 4314 | 62799 | 1.02% | 0.073% |
| 123 | 8.895 | 8.874 | 8.941 | VV | 1456 | 26586 | 0.43% | 0.031% |
| 124 | 8.964 | 8.941 | 8.979 | VV | 453 | 8074 | 0.13% | 0.009% |
| 125 | 9.025 | 8.979 | 9.051 | VV | 1331 | 29754 | 0.48% | 0.035% |
| 126 | 9.068 | 9.051 | 9.104 | VV | 667 | 15904 | 0.26% | 0.019% |
| 127 | 9.130 | 9.104 | 9.175 | VV | 6344 | 89993 | 1.47% | 0.105% |
| 128 | 9.187 | 9.175 | 9.197 | VV | 314 | 3550 | 0.06% | 0.004% |
| 129 | 9.214 | 9.197 | 9.244 | VV | 499 | 7466 | 0.12% | 0.009% |
| 130 | 9.267 | 9.244 | 9.299 | VV | 256 | 4412 | 0.07% | 0.005% |
| 131 | 9.320 | 9.299 | 9.338 | VV | 224 | 3016 | 0.05% | 0.004% |
| 132 | 9.371 | 9.338 | 9.382 | VV | 287 | 5570 | 0.09% | 0.006% |
| 133 | 9.387 | 9.382 | 9.403 | VV | 230 | 1761 | 0.03% | 0.002% |
| 134 | 9.430 | 9.403 | 9.470 | VV | 413 | 7392 | 0.12% | 0.009% |
| 135 | 9.504 | 9.470 | 9.534 | PV | 2879 | 39220 | 0.64% | 0.046% |
| 136 | 9.550 | 9.534 | 9.568 | VV | 645 | 7949 | 0.13% | 0.009% |
| 137 | 9.593 | 9.568 | 9.614 | VV | 272 | 5897 | 0.10% | 0.007% |
| 138 | 9.643 | 9.614 | 9.667 | VV | 583 | 10765 | 0.18% | 0.013% |
| 139 | 9.689 | 9.667 | 9.737 | VV | 1858 | 23500 | 0.38% | 0.027% |
| 140 | 9.754 | 9.737 | 9.771 | VV | 190 | 2467 | 0.04% | 0.003% |
| 141 | 9.777 | 9.771 | 9.798 | VV | 145 | 1899 | 0.03% | 0.002% |

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**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

rteres

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|---|---|---|---|---|---|---|---|---|
| 142 | 9.828 | 9.798 | 9.873 | VV | 437 | 9603 | 0.16% | 0.011% |
| 143 | 9.911 | 9.873 | 9.977 | VV | 319195 | 3449253 | 56 | |
| 144 | 9.988 | 9.977 | 10.034 | VV | 231 | 4618 | | |
| 145 | 10.042 | 10.034 | 10.073 | VV | 85 | 1731 | | |
| 146 | 10.084 | 10.073 | 10.111 | VV | 157 | 2047 | | |
| 147 | 10.122 | 10.111 | 10.141 | PV | 79 | 1379 | | |
| 148 | 10.155 | 10.141 | 10.168 | VV | 158 | 1439 | 0.02% | 0.002% |
| 149 | 10.179 | 10.168 | 10.205 | VV | 107 | 1684 | 0.03% | 0.002% |
| 150 | 10.223 | 10.205 | 10.246 | PV | 185 | 2736 | 0.04% | 0.003% |
| 151 | 10.262 | 10.246 | 10.271 | VV | 202 | 2314 | 0.04% | 0.003% |
| 152 | 10.303 | 10.271 | 10.321 | VV | 356 | 7274 | 0.12% | 0.008% |
| 153 | 10.345 | 10.321 | 10.364 | VV | 264 | 5157 | 0.08% | 0.006% |
| 154 | 10.389 | 10.364 | 10.451 | VV | 306 | 9241 | 0.15% | 0.011% |
| 155 | 10.461 | 10.451 | 10.498 | VV | 162 | 2908 | 0.05% | 0.003% |
| 156 | 10.551 | 10.498 | 10.564 | VV | 291 | 7893 | 0.13% | 0.009% |
| 157 | 10.577 | 10.564 | 10.618 | VV | 326 | 7700 | 0.13% | 0.009% |
| 158 | 10.651 | 10.618 | 10.681 | VV | 676 | 12256 | 0.20% | 0.014% |
| 159 | 10.704 | 10.681 | 10.730 | VV | 489 | 9275 | 0.15% | 0.011% |
| 160 | 10.747 | 10.730 | 10.808 | VV | 542 | 15349 | 0.25% | 0.018% |
| 161 | 10.835 | 10.808 | 10.857 | VV | 256 | 5048 | 0.08% | 0.006% |
| 162 | 10.909 | 10.857 | 10.950 | VV | 2059 | 30723 | 0.50% | 0.036% |
| 163 | 10.984 | 10.950 | 11.010 | VV | 1979 | 27219 | 0.44% | 0.032% |
| 164 | 11.026 | 11.010 | 11.053 | VV | 365 | 6695 | 0.11% | 0.008% |
| 165 | 11.077 | 11.053 | 11.091 | VV | 261 | 4511 | 0.07% | 0.005% |
| 166 | 11.104 | 11.091 | 11.128 | VV | 235 | 2961 | 0.05% | 0.003% |
| 167 | 11.158 | 11.128 | 11.181 | VV | 851 | 10599 | 0.17% | 0.012% |
| 168 | 11.214 | 11.181 | 11.231 | PV | 182 | 2331 | 0.04% | 0.003% |
| 169 | 11.238 | 11.231 | 11.248 | VV | 20854 | 39852 | 0.65% | 0.046% |
| 170 | 11.285 | 11.248 | 11.317 | VV | 4795 | 65539 | 1.07% | 0.076% |
| 171 | 11.356 | 11.317 | 11.419 | VV | 310449 | 3449273 | 56.19% | 4.024% |
| 172 | 11.450 | 11.419 | 11.481 | VV | 1615 | 20448 | 0.33% | 0.024% |
| 173 | 11.501 | 11.481 | 11.512 | VV | 144 | 2112 | 0.03% | 0.002% |
| 174 | 11.517 | 11.512 | 11.569 | VV | 127 | 1952 | 0.03% | 0.002% |
| 175 | 11.578 | 11.569 | 11.601 | VV | 152 | 1333 | 0.02% | 0.002% |
| 176 | 11.676 | 11.601 | 11.727 | PV | 2902 | 38056 | 0.62% | 0.044% |
| 177 | 11.750 | 11.727 | 11.793 | VV | 343 | 8760 | 0.14% | 0.010% |
| 178 | 11.812 | 11.793 | 11.849 | VV | 558 | 10430 | 0.17% | 0.012% |
| 179 | 11.866 | 11.849 | 11.938 | VV | 359 | 9183 | 0.15% | 0.011% |
| 180 | 11.982 | 11.938 | 11.996 | VV | 396 | 8504 | 0.14% | 0.010% |
| 181 | 12.024 | 11.996 | 12.074 | VV | 810 | 17897 | 0.29% | 0.021% |
| 182 | 12.079 | 12.074 | 12.098 | VV | 249 | 2348 | 0.04% | 0.003% |
| 183 | 12.141 | 12.098 | 12.204 | VV | 331 | 14090 | 0.23% | 0.016% |
| 184 | 12.260 | 12.204 | 12.276 | VV | 432 | 11541 | 0.19% | 0.013% |
| 185 | 12.297 | 12.276 | 12.310 | VV | 507 | 7692 | 0.13% | 0.009% |
| 186 | 12.321 | 12.310 | 12.341 | VV | 499 | 6885 | 0.11% | 0.008% |
| 187 | 12.361 | 12.341 | 12.388 | VV | 548 | 10318 | 0.17% | 0.012% |
| 188 | 12.404 | 12.388 | 12.420 | VV | 353 | 6391 | 0.10% | 0.007% |
| 189 | 12.488 | 12.420 | 12.508 | VV | 1114 | 31130 | 0.51% | 0.036% |
| 190 | 12.530 | 12.508 | 12.562 | VV | 752 | 15051 | 0.25% | 0.018% |
| 191 | 12.607 | 12.562 | 12.630 | VV | 1060 | 18614 | 0.30% | 0.022% |
| 192 | 12.669 | 12.630 | 12.706 | VV | 304145 | 3471486 | 56.55% | 4.050% |
| 193 | 12.731 | 12.706 | 12.761 | VV | 1782 | 28712 | 0.47% | 0.033% |
| 194 | 12.786 | 12.761 | 12.861 | VV | 848 | 21572 | 0.35% | 0.025% |

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rteres

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|---|---|---|---|---|---|---|---|---|
| 195 | 12.875 | 12.861 | 12.894 | VV | 306 | 4532 | 0.07% | 0.005% |
| 196 | 12.922 | 12.894 | 12.959 | VV | 441 | 12295 | | |
| 197 | 12.981 | 12.959 | 13.003 | VV | 337 | 7993 | | |
| 198 | 13.029 | 13.003 | 13.055 | VV | 2514 | 35645 | | |
| 199 | 13.118 | 13.055 | 13.201 | VV | 515763 | 6138838 | 100 | |
| 200 | 13.223 | 13.201 | 13.243 | VV | 827 | 14542 | | |
| 201 | 13.282 | 13.243 | 13.316 | VV | 277680 | 3328588 | 54.22% | 3.883% |
| 202 | 13.332 | 13.316 | 13.353 | VV | 1200 | 19496 | 0.32% | 0.023% |
| 203 | 13.377 | 13.353 | 13.431 | VV | 746 | 28520 | 0.46% | 0.033% |
| 204 | 13.454 | 13.431 | 13.472 | VV | 916 | 17087 | 0.28% | 0.020% |
| 205 | 13.514 | 13.472 | 13.528 | VV | 775 | 24411 | 0.40% | 0.028% |
| 206 | 13.551 | 13.528 | 13.560 | VV | 998 | 16882 | 0.28% | 0.020% |
| 207 | 13.573 | 13.560 | 13.613 | VV | 946 | 27462 | 0.45% | 0.032% |
| 208 | 13.628 | 13.613 | 13.641 | VV | 1002 | 14634 | 0.24% | 0.017% |
| 209 | 13.659 | 13.641 | 13.678 | VV | 1316 | 22596 | 0.37% | 0.026% |
| 210 | 13.712 | 13.678 | 13.753 | VV | 1561 | 52201 | 0.85% | 0.061% |
| 211 | 13.763 | 13.753 | 13.796 | VV | 1076 | 26518 | 0.43% | 0.031% |
| 212 | 13.816 | 13.796 | 13.831 | VV | 1849 | 31554 | 0.51% | 0.037% |
| 213 | 13.869 | 13.831 | 13.908 | VV | 270501 | 3335961 | 54.34% | 3.892% |
| 214 | 13.927 | 13.908 | 13.945 | VV | 1724 | 32669 | 0.53% | 0.038% |
| 215 | 13.957 | 13.945 | 13.969 | VV | 1298 | 17934 | 0.29% | 0.021% |
| 216 | 13.998 | 13.969 | 14.010 | VV | 1421 | 32444 | 0.53% | 0.038% |
| 217 | 14.022 | 14.010 | 14.043 | VV | 1412 | 27108 | 0.44% | 0.032% |
| 218 | 14.097 | 14.043 | 14.128 | VV | 2011 | 82653 | 1.35% | 0.096% |
| 219 | 14.162 | 14.128 | 14.176 | VV | 1757 | 46819 | 0.76% | 0.055% |
| 220 | 14.193 | 14.176 | 14.218 | VV | 1756 | 41486 | 0.68% | 0.048% |
| 221 | 14.264 | 14.218 | 14.273 | VV | 1941 | 57602 | 0.94% | 0.067% |
| 222 | 14.304 | 14.273 | 14.326 | VV | 3307 | 77653 | 1.26% | 0.091% |
| 223 | 14.336 | 14.326 | 14.358 | VV | 2203 | 40072 | 0.65% | 0.047% |
| 224 | 14.385 | 14.358 | 14.409 | VV | 2815 | 70199 | 1.14% | 0.082% |
| 225 | 14.431 | 14.409 | 14.462 | VV | 3200 | 80542 | 1.31% | 0.094% |
| 226 | 14.501 | 14.462 | 14.519 | VV | 2577 | 80346 | 1.31% | 0.094% |
| 227 | 14.571 | 14.519 | 14.591 | VV | 2546 | 104063 | 1.70% | 0.121% |
| 228 | 14.597 | 14.591 | 14.607 | VV | 2373 | 22805 | 0.37% | 0.027% |
| 229 | 14.637 | 14.607 | 14.664 | VV | 2786 | 86826 | 1.41% | 0.101% |
| 230 | 14.695 | 14.664 | 14.742 | VV | 3401 | 135001 | 2.20% | 0.157% |
| 231 | 14.753 | 14.742 | 14.768 | VV | 2661 | 42042 | 0.68% | 0.049% |
| 232 | 14.831 | 14.768 | 14.847 | VV | 3455 | 136739 | 2.23% | 0.160% |
| 233 | 14.915 | 14.847 | 14.936 | VV | 3839 | 181828 | 2.96% | 0.212% |
| 234 | 14.975 | 14.936 | 15.012 | VV | 248925 | 3417253 | 55.67% | 3.986% |
| 235 | 15.027 | 15.012 | 15.045 | VV | 3880 | 71820 | 1.17% | 0.084% |
| 236 | 15.055 | 15.045 | 15.072 | VV | 3524 | 53536 | 0.87% | 0.062% |
| 237 | 15.083 | 15.072 | 15.095 | VV | 3312 | 45089 | 0.73% | 0.053% |
| 238 | 15.112 | 15.095 | 15.134 | VV | 3374 | 76365 | 1.24% | 0.089% |
| 239 | 15.165 | 15.134 | 15.211 | VV | 3838 | 161758 | 2.63% | 0.189% |
| 240 | 15.224 | 15.211 | 15.239 | VV | 3821 | 60313 | 0.98% | 0.070% |
| 241 | 15.252 | 15.239 | 15.268 | VV | 3670 | 61762 | 1.01% | 0.072% |
| 242 | 15.294 | 15.268 | 15.314 | VV | 4015 | 105409 | 1.72% | 0.123% |
| 243 | 15.324 | 15.314 | 15.341 | VV | 3836 | 59852 | 0.97% | 0.070% |
| 244 | 15.414 | 15.341 | 15.467 | VV | 4234 | 291395 | 4.75% | 0.340% |
| 245 | 15.494 | 15.467 | 15.523 | VV | 6418 | 164335 | 2.68% | 0.192% |
| 246 | 15.540 | 15.523 | 15.585 | VV | 4513 | 150975 | 2.46% | 0.176% |

**Instrument :**
FID_C
**ClientSampleId :**
B-187-SB01MSD

**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

rteres

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 247 | 15.599 | 15.585 | 15.612 | VV | 3867 | 59603 | 0.97% | 0.070% |
| 248 | 15.635 | 15.612 | 15.651 | VV | 4047 | 88482 | 1 | |
| 249 | 15.674 | 15.651 | 15.707 | VV | 4096 | 130969 | 2 | |
| 250 | 15.721 | 15.707 | 15.751 | VV | 4236 | 107217 | 1 | |
| 251 | 15.760 | 15.751 | 15.783 | VV | 4218 | 78373 | 1 | |
| 252 | 15.809 | 15.783 | 15.838 | VV | 4448 | 138288 | 2 | |
| 253 | 15.848 | 15.838 | 15.856 | VV | 4421 | 48208 | 0.79% | 0.056% |
| 254 | 15.871 | 15.856 | 15.907 | VV | 4375 | 130623 | 2.13% | 0.152% |
| 255 | 15.922 | 15.907 | 15.938 | VV | 4302 | 74862 | 1.22% | 0.087% |
| 256 | 15.998 | 15.938 | 16.115 | VV | 242873 | 3660723 | 59.63% | 4.270% |
| 257 | 16.171 | 16.115 | 16.184 | VV | 4428 | 167672 | 2.73% | 0.196% |
| 258 | 16.192 | 16.184 | 16.265 | VV | 4622 | 206067 | 3.36% | 0.240% |
| 259 | 16.303 | 16.265 | 16.334 | VV | 4747 | 184476 | 3.01% | 0.215% |
| 260 | 16.345 | 16.334 | 16.388 | VV | 4709 | 146150 | 2.38% | 0.170% |
| 261 | 16.398 | 16.388 | 16.420 | VV | 4206 | 78966 | 1.29% | 0.092% |
| 262 | 16.478 | 16.420 | 16.547 | VV | 7049 | 366680 | 5.97% | 0.428% |
| 263 | 16.562 | 16.547 | 16.570 | VV | 4143 | 55115 | 0.90% | 0.064% |
| 264 | 16.644 | 16.570 | 16.662 | VV | 5023 | 245586 | 4.00% | 0.286% |
| 265 | 16.672 | 16.662 | 16.691 | VV | 4745 | 79001 | 1.29% | 0.092% |
| 266 | 16.700 | 16.691 | 16.720 | VV | 4842 | 78769 | 1.28% | 0.092% |
| 267 | 16.731 | 16.720 | 16.744 | VV | 4412 | 60610 | 0.99% | 0.071% |
| 268 | 16.761 | 16.744 | 16.774 | VV | 4554 | 80113 | 1.31% | 0.093% |
| 269 | 16.823 | 16.774 | 16.837 | VV | 5052 | 174333 | 2.84% | 0.203% |
| 270 | 16.847 | 16.837 | 16.889 | VV | 4930 | 139609 | 2.27% | 0.163% |
| 271 | 16.949 | 16.889 | 17.044 | VV | 250676 | 3601054 | 58.66% | 4.201% |
| 272 | 17.079 | 17.044 | 17.101 | VV | 4706 | 148734 | 2.42% | 0.174% |
| 273 | 17.108 | 17.101 | 17.126 | VV | 4401 | 64729 | 1.05% | 0.076% |
| 274 | 17.143 | 17.126 | 17.157 | VV | 4389 | 79267 | 1.29% | 0.092% |
| 275 | 17.194 | 17.157 | 17.224 | VV | 4963 | 185593 | 3.02% | 0.217% |
| 276 | 17.270 | 17.224 | 17.313 | VV | 5374 | 244815 | 3.99% | 0.286% |
| 277 | 17.328 | 17.313 | 17.344 | VV | 4370 | 77527 | 1.26% | 0.090% |
| 278 | 17.397 | 17.344 | 17.424 | VV | 5848 | 235281 | 3.83% | 0.274% |
| 279 | 17.433 | 17.424 | 17.459 | VV | 4221 | 84965 | 1.38% | 0.099% |
| 280 | 17.527 | 17.483 | 17.554 | VV | 4827 | 183966 | 3.00% | 0.215% |
| 281 | 17.572 | 17.554 | 17.591 | VV | 4149 | 86546 | 1.41% | 0.101% |
| 282 | 17.606 | 17.591 | 17.651 | VV | 3971 | 135615 | 2.21% | 0.158% |
| 283 | 17.694 | 17.651 | 17.703 | VV | 3944 | 115264 | 1.88% | 0.134% |
| 284 | 17.727 | 17.703 | 17.771 | VV | 6193 | 185026 | 3.01% | 0.216% |
| 285 | 17.838 | 17.771 | 17.881 | VV | 250445 | 3494321 | 56.92% | 4.076% |
| 286 | 17.889 | 17.881 | 17.944 | VV | 3616 | 128409 | 2.09% | 0.150% |
| 287 | 17.993 | 17.944 | 18.074 | VV | 4598 | 285774 | 4.66% | 0.333% |
| 288 | 18.099 | 18.074 | 18.158 | VV | 3266 | 155450 | 2.53% | 0.181% |
| 289 | 18.169 | 18.158 | 18.181 | VV | 3012 | 40500 | 0.66% | 0.047% |
| 290 | 18.196 | 18.181 | 18.209 | VV | 3332 | 54087 | 0.88% | 0.063% |
| 291 | 18.220 | 18.209 | 18.237 | VV | 3267 | 55017 | 0.90% | 0.064% |
| 292 | 18.260 | 18.237 | 18.293 | VV | 4762 | 118205 | 1.93% | 0.138% |
| 293 | 18.316 | 18.293 | 18.334 | VV | 2906 | 68582 | 1.12% | 0.080% |
| 294 | 18.361 | 18.334 | 18.378 | VV | 3455 | 80559 | 1.31% | 0.094% |
| 295 | 18.392 | 18.378 | 18.434 | VV | 3006 | 92665 | 1.51% | 0.108% |
| 296 | 18.443 | 18.434 | 18.457 | VV | 2511 | 32593 | 0.53% | 0.038% |
| 297 | 18.480 | 18.457 | 18.496 | VV | 2720 | 60099 | 0.98% | 0.070% |
| 298 | 18.515 | 18.496 | 18.548 | VV | 2718 | 78665 | 1.28% | 0.092% |
| 299 | 18.550 | 18.548 | 18.561 | VV | 2553 | 19335 | 0.31% | 0.023% |

**Instrument :**
FID_C
**ClientSampleId :**
B-187-SB01MSD

**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

rteres

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 300 | 18.569 | 18.561 | 18.591 | VV | 2390 | 40896 | 0.67% | 0.048% |
| 301 | 18.603 | 18.591 | 18.624 | VV | 2229 | 42002 | | |
| 302 | 18.674 | 18.624 | 18.758 | VV | 225620 | 3434188 | 55 | |
| 303 | 18.785 | 18.758 | 18.813 | VV | 2398 | 69937 | | |
| 304 | 18.836 | 18.813 | 18.846 | VV | 2217 | 41513 | | |
| 305 | 18.865 | 18.846 | 18.901 | VV | 2372 | 68549 | | |
| 306 | 18.925 | 18.901 | 18.962 | VV | 2085 | 69145 | 1.13% | 0.081% |
| 307 | 18.976 | 18.962 | 18.998 | VV | 1815 | 36091 | 0.59% | 0.042% |
| 308 | 19.015 | 18.998 | 19.031 | VV | 1654 | 31700 | 0.52% | 0.037% |
| 309 | 19.070 | 19.031 | 19.156 | VV | 3619 | 147714 | 2.41% | 0.172% |
| 310 | 19.178 | 19.156 | 19.229 | VV | 1917 | 71483 | 1.16% | 0.083% |
| 311 | 19.248 | 19.229 | 19.260 | VV | 1770 | 29831 | 0.49% | 0.035% |
| 312 | 19.271 | 19.260 | 19.286 | VV | 1726 | 25431 | 0.41% | 0.030% |
| 313 | 19.317 | 19.286 | 19.344 | VV | 1701 | 54667 | 0.89% | 0.064% |
| 314 | 19.352 | 19.344 | 19.367 | VV | 1584 | 20781 | 0.34% | 0.024% |
| 315 | 19.388 | 19.367 | 19.407 | VV | 1575 | 35068 | 0.57% | 0.041% |
| 316 | 19.459 | 19.407 | 19.547 | VV | 227959 | 3449363 | 56.19% | 4.024% |
| 317 | 19.562 | 19.547 | 19.571 | VV | 1592 | 21528 | 0.35% | 0.025% |
| 318 | 19.589 | 19.571 | 19.607 | VV | 1708 | 34597 | 0.56% | 0.040% |
| 319 | 19.619 | 19.607 | 19.634 | VV | 1612 | 25051 | 0.41% | 0.029% |
| 320 | 19.673 | 19.634 | 19.688 | VV | 2173 | 64857 | 1.06% | 0.076% |
| 321 | 19.699 | 19.688 | 19.708 | VV | 2265 | 27304 | 0.44% | 0.032% |
| 322 | 19.714 | 19.708 | 19.721 | VV | 2201 | 16518 | 0.27% | 0.019% |
| 323 | 19.741 | 19.721 | 19.761 | VV | 2376 | 53606 | 0.87% | 0.063% |
| 324 | 19.778 | 19.761 | 19.794 | VV | 2179 | 41095 | 0.67% | 0.048% |
| 325 | 19.832 | 19.794 | 19.859 | VV | 3277 | 97818 | 1.59% | 0.114% |
| 326 | 19.893 | 19.859 | 19.921 | VV | 2307 | 81703 | 1.33% | 0.095% |
| 327 | 19.937 | 19.921 | 19.948 | VV | 2258 | 36028 | 0.59% | 0.042% |
| 328 | 19.992 | 19.948 | 20.002 | VV | 2486 | 77393 | 1.26% | 0.090% |
| 329 | 20.014 | 20.002 | 20.027 | VV | 2578 | 34799 | 0.57% | 0.041% |
| 330 | 20.038 | 20.027 | 20.051 | VV | 2353 | 32916 | 0.54% | 0.038% |
| 331 | 20.107 | 20.051 | 20.134 | VV | 2997 | 128630 | 2.10% | 0.150% |
| 332 | 20.201 | 20.134 | 20.251 | VV | 234949 | 3469415 | 56.52% | 4.047% |
| 333 | 20.266 | 20.251 | 20.287 | VV | 2933 | 61880 | 1.01% | 0.072% |
| 334 | 20.297 | 20.287 | 20.314 | VV | 2912 | 47511 | 0.77% | 0.055% |
| 335 | 20.325 | 20.314 | 20.349 | VV | 2974 | 59279 | 0.97% | 0.069% |
| 336 | 20.362 | 20.349 | 20.390 | VV | 2855 | 69956 | 1.14% | 0.082% |
| 337 | 20.507 | 20.390 | 20.545 | VV | 3995 | 314098 | 5.12% | 0.366% |
| 338 | 20.559 | 20.545 | 20.598 | VV | 3752 | 100481 | 1.64% | 0.117% |
| 339 | 20.603 | 20.598 | 20.628 | VV | 2565 | 44642 | 0.73% | 0.052% |
| 340 | 20.634 | 20.628 | 20.667 | VV | 2516 | 57584 | 0.94% | 0.067% |
| 341 | 20.678 | 20.667 | 20.695 | VV | 2462 | 41614 | 0.68% | 0.049% |
| 342 | 20.711 | 20.695 | 20.734 | VV | 2599 | 58226 | 0.95% | 0.068% |
| 343 | 20.765 | 20.734 | 20.776 | VV | 2499 | 61207 | 1.00% | 0.071% |
| 344 | 20.794 | 20.776 | 20.837 | VV | 2441 | 85437 | 1.39% | 0.100% |
| 345 | 20.850 | 20.837 | 20.907 | VV | 2375 | 91992 | 1.50% | 0.107% |
| 346 | 20.970 | 20.907 | 21.034 | VV | 171427 | 3366157 | 54.83% | 3.927% |
| 347 | 21.044 | 21.034 | 21.104 | VV | 2285 | 87302 | 1.42% | 0.102% |
| 348 | 21.117 | 21.104 | 21.135 | VV | 1955 | 35404 | 0.58% | 0.041% |
| 349 | 21.151 | 21.135 | 21.188 | VV | 1883 | 55774 | 0.91% | 0.065% |
| 350 | 21.193 | 21.188 | 21.248 | VV | 1732 | 57450 | 0.94% | 0.067% |
| 351 | 21.253 | 21.248 | 21.280 | VV | 1551 | 28256 | 0.46% | 0.033% |

**Instrument :**
FID_C
**ClientSampleId :**
B-187-SB01MSD

**Manual IntegrationsAPPROVED**

Reviewed By :Yogesh Patel 06/12/2025
Supervised By :mohammad ahmed 06/13/2025

rteres

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 352 | 21.318 | 21.280 | 21.328 | VV | 1436 | 39433 | 0.64% | 0.046% |
| 353 | 21.357 | 21.328 | 21.378 | VV | 1427 | 40748 | | |
| 354 | 21.414 | 21.378 | 21.464 | VV | 1939 | 81085 | | |
| 355 | 21.474 | 21.464 | 21.488 | VV | 1248 | 17043 | | |
| 356 | 21.514 | 21.488 | 21.541 | VV | 1288 | 39761 | | |
| 357 | 21.550 | 21.541 | 21.644 | VV | 1280 | 69496 | | |
| 358 | 21.656 | 21.644 | 21.695 | VV | 939 | 27094 | 0.44% | 0.032% |
| 359 | 21.705 | 21.695 | 21.731 | VV | 870 | 18090 | 0.29% | 0.021% |
| 360 | 21.745 | 21.731 | 21.763 | VV | 911 | 15948 | 0.26% | 0.019% |
| 361 | 21.794 | 21.763 | 21.863 | VV | 1039 | 50096 | 0.82% | 0.058% |
| 362 | 21.939 | 21.863 | 22.093 | VV | 115545 | 2997687 | 48.83% | 3.497% |
| 363 | 22.107 | 22.093 | 22.117 | VV | 696 | 9626 | 0.16% | 0.011% |
| 364 | 22.133 | 22.117 | 22.211 | VV | 707 | 32541 | 0.53% | 0.038% |
| 365 | 22.218 | 22.211 | 22.372 | VV | 580 | 31274 | 0.51% | 0.036% |

Sum of corrected areas: 85722590

Aliphatic EPH 052425.M Thu Jun 12 07:05:00 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Portal Partners Tri-Venture | | Date Collected: | | |
| Project: | Amtrak Sawtooth Bridges 2025 | | Date Received: | | |
| Client Sample ID: | B-187-SB01MSD | | SDG No.: | Q2198 | |
| Lab Sample ID: | Q2177-02MSD | | Matrix: | Solid | |
| Analytical Method: | NJEPH | | % Solid: | 84.2 | |
| Sample Wt/Vol: | 30.04 | Units: g | Final Vol: | 2000 | uL |
| Soil Aliquot Vol: | | uL | Test: | EPH | |
| Prep Method : | | | | | |

| File ID : | Dilution: | Prep Date : | Date Analyzed : | Prep Batch ID |
|---|---|---|---|---|
| FD049485.D | 1 | 06/11/25 | 06/13/25 | PB168408 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | |
| Aromatic C10-C12 | Aromatic C10-C12 | 2.73 | | 0.14 | 0.79 | mg/kg |
| Aromatic C12-C16 | Aromatic C12-C16 | 4.61 | | 0.27 | 1.19 | mg/kg |
| Aromatic C16-C21 | Aromatic C16-C21 | 10.6 | | 0.47 | 1.98 | mg/kg |
| Aromatic C21-C36 | Aromatic C21-C36 | 15.8 | | 1.41 | 3.16 | mg/kg |
| **SURROGATES** | | | | | | |
| 580-13-2 | 2-Bromonaphthalene (SURR) | 38.6 | | 40 - 140 | 77% | SPK: 50 |
| 321-60-8 | 2-Flurobiphenyl (SURR) | 37.7 | | 40 - 140 | 75% | SPK: 50 |
| 84-15-1 | ortho-Terphenyl (SURR) | 32.9 | | 40 - 140 | 66% | SPK: 50 |

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

# Quantitation Report For Aromatic EPH Range.

| | | | |
|---|---|---|---|
| Lab Sample ID: | Q2177-02MSD | Acq On: | 13 Jun 2025 10:28 |
| Client Sample ID: | B-187-SB01MSD | Operator: | YP/AJ |
| Data file: | FD049485.D | Misc: | |
| Instrument: | FID_D | ALS Vial: | 64 |
| Dilution Factor: | 1 | Sample Multiplier: | 1.00 |

| Compound | R.T. | | Response | Conc | highest_standard | Units |
|---|---|---|---|---|---|---|
| Aromatic C10-C12 | 4.424 | 6.168 | 5780149 | 34.54 | 200 | ug/ml |
| Aromatic C12-C16 | 6.169 | 8.796 | 10942801 | 58.354 | 300 | ug/ml |
| Aromatic C16-C21 | 8.797 | 13.086 | 24851315 | 134.52 | 500 | ug/ml |
| Aromatic C21-C36 | 13.087 | 18.508 | 28939612 | 199.504 | 800 | ug/ml |
| Aromatic EPH | 4.424 | 18.508 | 70513877 | 426.918 | | ug/ml |
| 2-Bromonaphthalene (SURR) | 7.733 | 7.733 | 6422490 | 38.64 | | ug/ml |
| 2-Flurobiphenyl (SURR) | 8.599 | 8.599 | 4310794 | 37.68 | | ug/ml |
| ortho-Terphenyl (SURR) | 11.644 | 11.644 | 6612603 | 32.94 | | ug/ml |

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061325AR\
Data File : FD049485.D
Signal(s) : FID2B.ch
Acq On : 13 Jun 2025 10:28
Operator : YP/AJ
Sample : Q2177-02MSD
Misc :
ALS Vial : 64 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
B-187-SB01MSD

Integration File: autoint1.e
Quant Time: Jun 13 21:20:18 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | **System Monitoring Compounds** | | | |
| 4) S | 2-Bromonaphthalene (S... | 7.733 | 6422490 | 38.635 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 77.27% |
| 6) S | 2-Flurobiphenyl (SURR) | 8.599 | 4310794 | 37.683 ug/ml |
| Spiked Amount | 50.000 Range | 0 - 131 | Recovery = | 75.37% |
| 11) S | ortho-Terphenyl (SURR) | 11.644 | 6612603 | 32.944 ug/ml |
| Spiked Amount | 50.000 | | Recovery = | 65.89% |
| | **Target Compounds** | | | |
| 1) T | 1,2,3-Trimethylbenzen... | 4.524 | 2066500 | 12.988 ug/ml |
| 2) T | Naphthalene (C11.7) | 6.067 | 2554939 | 14.551 ug/ml |
| 3) T | 2-Methylnaphthalene (... | 7.121 | 2609761 | 14.608 ug/ml |
| 5) T | Acenaphthylene (C15.06) | 8.401 | 3078661 | 15.893 ug/ml |
| 7) T | Acenaphthene (C15.5) | 8.696 | 3179562 | 16.715 ug/ml |
| 8) T | Flouorene (C16.55) | 9.477 | 3339048 | 17.078 ug/ml |
| 9) T | Phenanthrene (C19.36) | 10.876 | 3627949 | 19.080 ug/ml |
| 10) T | Anthracene (C19.43) | 10.950 | 3257528 | 18.634 ug/ml |
| 12) T | Fluoranthene (C21.85) | 12.690 | 3658473 | 20.282 ug/ml |
| 13) T | Pyrene (C20.8) | 12.988 | 3565559 | 19.977 ug/ml |
| 14) T | Benzo[a]anthracene (C... | 14.859 | 3096764 | 20.375 ug/ml |
| 15) T | Chrysene (C27.41) | 14.902 | 3386617 | 22.302 ug/ml |
| 16) T | benzo[b]fluoranthene ... | 16.409 | 3021110 | 20.872 ug/ml |
| 17) T | Bnezo[k]fluoranthene ... | 16.442 | 2904297 | 20.239 ug/ml |
| 18) T | Benzo[a]pyrene (C31.34) | 16.789 | 2870129 | 21.117 ug/ml |
| 19) T | Indeno[1,2,3-cd]pyren... | 18.153 | 2943227 | 23.042 ug/ml |
| 20) T | Dibenz[a,h]anthracene... | 18.193 | 2786556 | 20.699 ug/ml |
| 21) T | Benzo[g,h,i]perylene ... | 18.409 | 2739045 | 20.322 ug/ml |

(f)=RT Delta > 1/2 Window (m)=manual int.

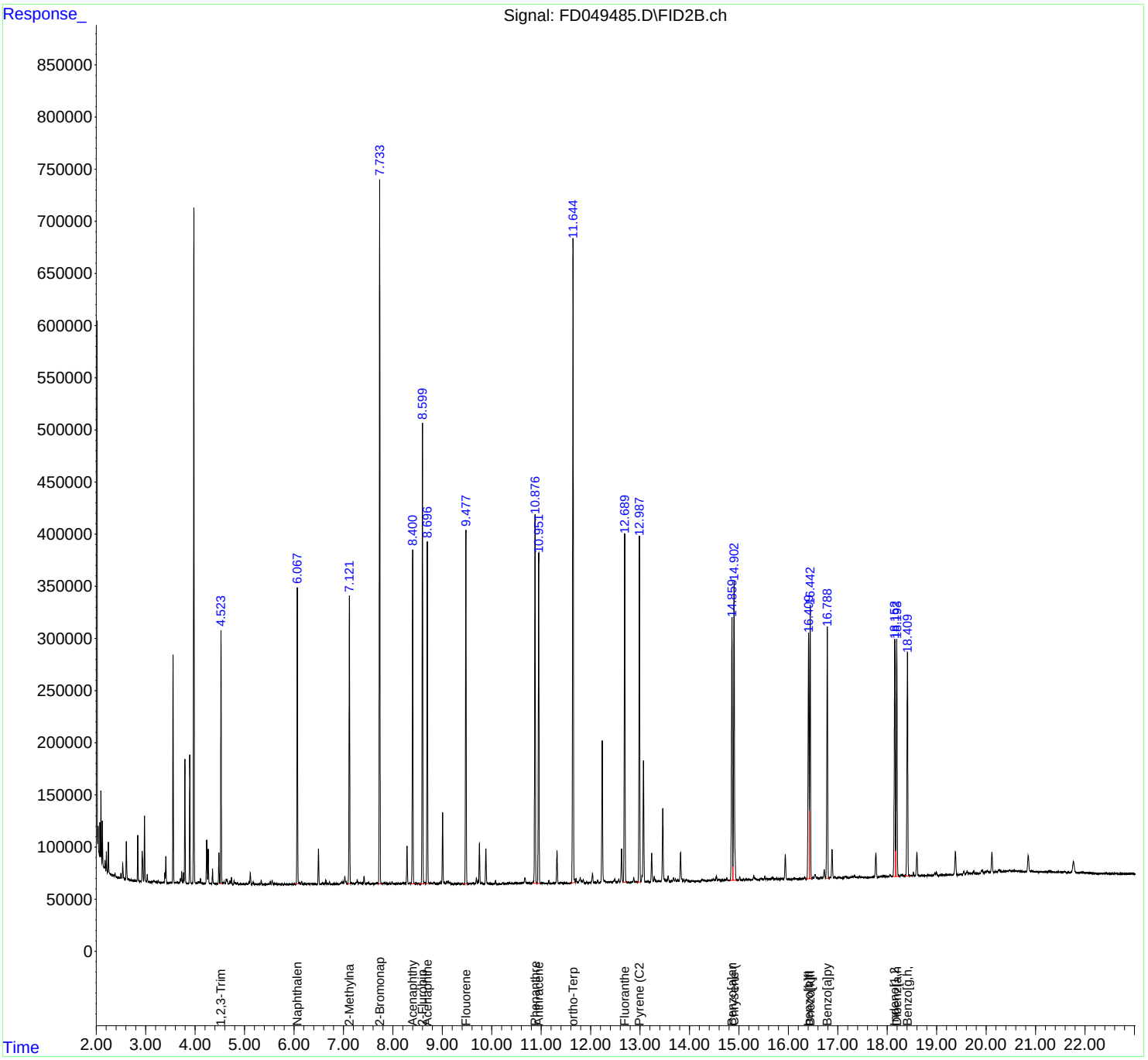
Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061325AR\
Data File : FD049485.D
Signal(s) : FID2B.ch
Acq On : 13 Jun 2025 10:28
Operator : YP/AJ
Sample : Q2177-02MSD
Misc :
ALS Vial : 64 Sample Multiplier: 1

**Instrument :**
FID_D
**ClientSampleId :**
B-187-SB01MSD

Integration File: autoint1.e
Quant Time: Jun 13 21:20:18 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Quant Title : GC Extractables
QLast Update : Tue May 27 03:11:40 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 µl
Signal Phase : Rxi-1ms
Signal Info : 20M x 0.18mm x 0.18µm



Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_D\Data\FD061325AR\
Data File : FD049485.D
Signal(s) : FID2B.ch
Acq On : 13 Jun 2025 10:28
Sample : Q2177-02MSD
Misc :
ALS Vial : 64 Sample Multiplier: 1

Integration File: sample.E

Method : Z:\pestpcbsrv\HPCHEM1\FID_D\methods\Aromatic EPH 052425.M
Title : GC Extractables

Signal : FID2B.ch

| peak # | R.T. min | Start min | End min | PK TY | peak height | peak area | peak % max. | % of total |
|---|---|---|---|---|---|---|---|---|
| 1 | 4.265 | 4.252 | 4.308 | PH | 33372 | 289960 | 4.36% | 0.327% |
| 2 | 4.323 | 4.308 | 4.331 | PV | 317 | 2173 | 0.03% | 0.002% |
| 3 | 4.352 | 4.331 | 4.370 | PV | 14111 | 111883 | 1.68% | 0.126% |
| 4 | 4.373 | 4.370 | 4.404 | VV | 899 | 8077 | 0.12% | 0.009% |
| 5 | 4.414 | 4.404 | 4.425 | VV | 230 | 2074 | 0.03% | 0.002% |
| 6 | 4.430 | 4.425 | 4.451 | VV | 545 | 3278 | 0.05% | 0.004% |
| 7 | 4.481 | 4.458 | 4.502 | PV | 30062 | 265773 | 3.99% | 0.299% |
| 8 | 4.524 | 4.502 | 4.549 | VV | 242594 | 2080660 | 31.25% | 2.343% |
| 9 | 4.562 | 4.549 | 4.572 | VV | 1174 | 12949 | 0.19% | 0.015% |
| 10 | 4.586 | 4.572 | 4.610 | VV | 2354 | 30661 | 0.46% | 0.035% |
| 11 | 4.630 | 4.610 | 4.641 | VV | 5058 | 54585 | 0.82% | 0.061% |
| 12 | 4.650 | 4.641 | 4.677 | VV | 4281 | 42921 | 0.64% | 0.048% |
| 13 | 4.706 | 4.677 | 4.719 | VV | 3330 | 34594 | 0.52% | 0.039% |
| 14 | 4.736 | 4.719 | 4.758 | VV | 6495 | 61886 | 0.93% | 0.070% |
| 15 | 4.788 | 4.758 | 4.804 | VV | 3495 | 32077 | 0.48% | 0.036% |
| 16 | 4.815 | 4.804 | 4.842 | VV | 1585 | 18625 | 0.28% | 0.021% |
| 17 | 4.853 | 4.842 | 4.885 | VV | 834 | 9747 | 0.15% | 0.011% |
| 18 | 4.899 | 4.885 | 4.914 | PV | 253 | 2744 | 0.04% | 0.003% |
| 19 | 4.927 | 4.914 | 4.944 | VV | 575 | 5406 | 0.08% | 0.006% |
| 20 | 4.954 | 4.944 | 4.966 | VV | 293 | 2869 | 0.04% | 0.003% |
| 21 | 4.978 | 4.966 | 4.982 | VV | 447 | 2857 | 0.04% | 0.003% |
| 22 | 4.986 | 4.982 | 5.006 | VV | 509 | 4825 | 0.07% | 0.005% |
| 23 | 5.038 | 5.006 | 5.066 | VV | 758 | 15795 | 0.24% | 0.018% |
| 24 | 5.090 | 5.066 | 5.099 | VV | 2455 | 24217 | 0.36% | 0.027% |
| 25 | 5.116 | 5.099 | 5.148 | VV | 11171 | 121229 | 1.82% | 0.137% |
| 26 | 5.173 | 5.148 | 5.209 | VV | 2332 | 31720 | 0.48% | 0.036% |
| 27 | 5.224 | 5.209 | 5.242 | VV | 663 | 8477 | 0.13% | 0.010% |
| 28 | 5.247 | 5.242 | 5.259 | VV | 313 | 1374 | 0.02% | 0.002% |
| 29 | 5.294 | 5.259 | 5.298 | PV | 612 | 8256 | 0.12% | 0.009% |
| 30 | 5.307 | 5.298 | 5.322 | VV | 798 | 7032 | 0.11% | 0.008% |
| 31 | 5.337 | 5.322 | 5.382 | VV | 4136 | 44625 | 0.67% | 0.050% |
| 32 | 5.395 | 5.382 | 5.428 | VV | 541 | 8839 | 0.13% | 0.010% |
| 33 | 5.440 | 5.428 | 5.450 | VV | 332 | 2147 | 0.03% | 0.002% |
| 34 | 5.483 | 5.450 | 5.497 | VV | 770 | 10926 | 0.16% | 0.012% |
| 35 | 5.517 | 5.497 | 5.535 | VV | 2524 | 27752 | 0.42% | 0.031% |
| 36 | 5.559 | 5.535 | 5.602 | VV | 4058 | 56388 | 0.85% | 0.064% |

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|---|---|---|---|---|---|---|---|---|
| 37 | 5.615 | 5.602 | 5.645 | VV | 1141 | 15427 | 0.23% | 0.017% |
| 38 | 5.655 | 5.645 | 5.663 | VV | 497 | 3170 | 0.05% | 0.004% |
| 39 | 5.669 | 5.663 | 5.689 | VV | 443 | 5094 | 0.08% | 0.006% |
| 40 | 5.700 | 5.689 | 5.742 | VV | 578 | 8434 | 0.13% | 0.009% |
| 41 | 5.762 | 5.742 | 5.781 | VV | 480 | 5522 | 0.08% | 0.006% |
| 42 | 5.786 | 5.781 | 5.795 | VV | 165 | 1033 | 0.02% | 0.001% |
| 43 | 5.809 | 5.795 | 5.842 | VV | 819 | 11225 | 0.17% | 0.013% |
| 44 | 5.863 | 5.842 | 5.873 | VV | 529 | 6648 | 0.10% | 0.007% |
| 45 | 5.881 | 5.873 | 5.910 | VV | 439 | 7452 | 0.11% | 0.008% |
| 46 | 5.921 | 5.910 | 5.952 | VV | 531 | 9942 | 0.15% | 0.011% |
| 47 | 5.970 | 5.952 | 5.982 | VV | 624 | 7182 | 0.11% | 0.008% |
| 48 | 6.002 | 5.982 | 6.015 | VV | 541 | 8378 | 0.13% | 0.009% |
| 49 | 6.020 | 6.015 | 6.028 | VV | 742 | 4325 | 0.06% | 0.005% |
| 50 | 6.067 | 6.028 | 6.101 | VV | 284940 | 2588810 | 38.89% | 2.915% |
| 51 | 6.114 | 6.101 | 6.139 | VV | 1830 | 23583 | 0.35% | 0.027% |
| 52 | 6.156 | 6.139 | 6.187 | VV | 3145 | 38690 | 0.58% | 0.044% |
| 53 | 6.219 | 6.187 | 6.247 | VV | 1139 | 24296 | 0.36% | 0.027% |
| 54 | 6.254 | 6.247 | 6.262 | VV | 556 | 4394 | 0.07% | 0.005% |
| 55 | 6.286 | 6.262 | 6.317 | VV | 1011 | 21905 | 0.33% | 0.025% |
| 56 | 6.319 | 6.317 | 6.324 | VV | 408 | 1532 | 0.02% | 0.002% |
| 57 | 6.344 | 6.324 | 6.368 | VV | 1294 | 18454 | 0.28% | 0.021% |
| 58 | 6.375 | 6.368 | 6.403 | VV | 547 | 9001 | 0.14% | 0.010% |
| 59 | 6.408 | 6.403 | 6.414 | VV | 428 | 2505 | 0.04% | 0.003% |
| 60 | 6.418 | 6.414 | 6.424 | VV | 429 | 2126 | 0.03% | 0.002% |
| 61 | 6.433 | 6.424 | 6.442 | VV | 435 | 3991 | 0.06% | 0.004% |
| 62 | 6.459 | 6.442 | 6.464 | VV | 533 | 5203 | 0.08% | 0.006% |
| 63 | 6.496 | 6.464 | 6.525 | VV | 34265 | 335883 | 5.05% | 0.378% |
| 64 | 6.538 | 6.525 | 6.550 | VV | 676 | 7191 | 0.11% | 0.008% |
| 65 | 6.582 | 6.550 | 6.602 | VV | 1424 | 25940 | 0.39% | 0.029% |
| 66 | 6.614 | 6.602 | 6.629 | VV | 1347 | 14282 | 0.21% | 0.016% |
| 67 | 6.646 | 6.629 | 6.669 | VV | 3674 | 42520 | 0.64% | 0.048% |
| 68 | 6.677 | 6.669 | 6.692 | VV | 955 | 9904 | 0.15% | 0.011% |
| 69 | 6.718 | 6.692 | 6.737 | VV | 1948 | 23098 | 0.35% | 0.026% |
| 70 | 6.770 | 6.737 | 6.796 | VV | 606 | 13896 | 0.21% | 0.016% |
| 71 | 6.822 | 6.796 | 6.849 | VV | 1012 | 14940 | 0.22% | 0.017% |
| 72 | 6.878 | 6.849 | 6.885 | VV | 735 | 10993 | 0.17% | 0.012% |
| 73 | 6.890 | 6.885 | 6.918 | VV | 734 | 7071 | 0.11% | 0.008% |
| 74 | 6.940 | 6.918 | 6.951 | VV | 1464 | 18390 | 0.28% | 0.021% |
| 75 | 6.964 | 6.951 | 6.977 | VV | 2872 | 29495 | 0.44% | 0.033% |
| 76 | 6.992 | 6.977 | 7.005 | VV | 2603 | 32741 | 0.49% | 0.037% |
| 77 | 7.029 | 7.005 | 7.079 | VV | 7736 | 127424 | 1.91% | 0.143% |
| 78 | 7.121 | 7.079 | 7.147 | VV | 276791 | 2637346 | 39.61% | 2.970% |
| 79 | 7.154 | 7.147 | 7.184 | VV | 1432 | 24288 | 0.36% | 0.027% |
| 80 | 7.198 | 7.184 | 7.212 | VV | 1331 | 15427 | 0.23% | 0.017% |
| 81 | 7.226 | 7.212 | 7.240 | VV | 1008 | 11120 | 0.17% | 0.013% |
| 82 | 7.257 | 7.240 | 7.265 | VV | 1941 | 20541 | 0.31% | 0.023% |
| 83 | 7.280 | 7.265 | 7.300 | VV | 4624 | 56890 | 0.85% | 0.064% |
| 84 | 7.311 | 7.300 | 7.323 | VV | 1597 | 19162 | 0.29% | 0.022% |
| 85 | 7.336 | 7.323 | 7.366 | VV | 1927 | 33049 | 0.50% | 0.037% |
| 86 | 7.384 | 7.366 | 7.397 | VV | 1861 | 24571 | 0.37% | 0.028% |
| 87 | 7.418 | 7.397 | 7.442 | VV | 7804 | 90523 | 1.36% | 0.102% |
| 88 | 7.459 | 7.442 | 7.464 | VV | 1003 | 9770 | 0.15% | 0.011% |
| 89 | 7.483 | 7.464 | 7.498 | VV | 1194 | 17752 | 0.27% | 0.020% |

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|---|---|---|---|---|---|---|---|---|
| 90 | 7.510 | 7.498 | 7.535 | VV | 1650 | 22579 | 0.34% | 0.025% |
| 91 | 7.539 | 7.535 | 7.548 | VV | 549 | 3993 | 0.06% | 0.004% |
| 92 | 7.560 | 7.548 | 7.565 | VV | 624 | 5457 | 0.08% | 0.006% |
| 93 | 7.594 | 7.565 | 7.615 | VV | 1144 | 23239 | 0.35% | 0.026% |
| 94 | 7.650 | 7.615 | 7.661 | VV | 975 | 18901 | 0.28% | 0.021% |
| 95 | 7.680 | 7.661 | 7.700 | VV | 2134 | 27145 | 0.41% | 0.031% |
| 96 | 7.733 | 7.700 | 7.778 | VV | 676068 | 6448524 | 96.86% | 7.262% |
| 97 | 7.782 | 7.778 | 7.802 | VV | 845 | 9906 | 0.15% | 0.011% |
| 98 | 7.821 | 7.802 | 7.835 | VV | 1310 | 20100 | 0.30% | 0.023% |
| 99 | 7.845 | 7.835 | 7.861 | VV | 1267 | 14602 | 0.22% | 0.016% |
| 100 | 7.874 | 7.861 | 7.886 | VV | 1187 | 13284 | 0.20% | 0.015% |
| 101 | 7.896 | 7.886 | 7.920 | VV | 874 | 13441 | 0.20% | 0.015% |
| 102 | 7.940 | 7.920 | 7.960 | VV | 1138 | 15683 | 0.24% | 0.018% |
| 103 | 7.984 | 7.960 | 8.016 | VV | 2612 | 35642 | 0.54% | 0.040% |
| 104 | 8.040 | 8.016 | 8.057 | VV | 1103 | 16170 | 0.24% | 0.018% |
| 105 | 8.071 | 8.057 | 8.095 | VV | 816 | 14627 | 0.22% | 0.016% |
| 106 | 8.111 | 8.095 | 8.147 | VV | 1368 | 22444 | 0.34% | 0.025% |
| 107 | 8.159 | 8.147 | 8.164 | VV | 569 | 4742 | 0.07% | 0.005% |
| 108 | 8.192 | 8.164 | 8.197 | VV | 1180 | 18328 | 0.28% | 0.021% |
| 109 | 8.213 | 8.197 | 8.264 | VV | 1531 | 43272 | 0.65% | 0.049% |
| 110 | 8.287 | 8.264 | 8.314 | VV | 36774 | 379780 | 5.70% | 0.428% |
| 111 | 8.319 | 8.314 | 8.330 | VV | 822 | 6758 | 0.10% | 0.008% |
| 112 | 8.345 | 8.330 | 8.365 | VV | 1831 | 22426 | 0.34% | 0.025% |
| 113 | 8.401 | 8.365 | 8.464 | VV | 320467 | 3106049 | 46.66% | 3.498% |
| 114 | 8.483 | 8.464 | 8.503 | VV | 1212 | 18559 | 0.28% | 0.021% |
| 115 | 8.521 | 8.503 | 8.555 | VV | 924 | 16188 | 0.24% | 0.018% |
| 116 | 8.599 | 8.555 | 8.629 | VV | 442124 | 4332037 | 65.07% | 4.878% |
| 117 | 8.650 | 8.629 | 8.667 | VV | 2111 | 34077 | 0.51% | 0.038% |
| 118 | 8.696 | 8.667 | 8.737 | VV | 329014 | 3215437 | 48.30% | 3.621% |
| 119 | 8.743 | 8.737 | 8.761 | VV | 1250 | 14842 | 0.22% | 0.017% |
| 120 | 8.774 | 8.761 | 8.792 | VV | 1173 | 17516 | 0.26% | 0.020% |
| 121 | 8.798 | 8.792 | 8.807 | VV | 912 | 7543 | 0.11% | 0.008% |
| 122 | 8.822 | 8.807 | 8.837 | VV | 1854 | 23226 | 0.35% | 0.026% |
| 123 | 8.843 | 8.837 | 8.864 | VV | 1289 | 13799 | 0.21% | 0.016% |
| 124 | 8.896 | 8.864 | 8.917 | VV | 657 | 15038 | 0.23% | 0.017% |
| 125 | 8.938 | 8.917 | 8.951 | VV | 1238 | 14745 | 0.22% | 0.017% |
| 126 | 8.967 | 8.951 | 8.981 | VV | 2353 | 26139 | 0.39% | 0.029% |
| 127 | 9.007 | 8.981 | 9.031 | VV | 68664 | 676147 | 10.16% | 0.761% |
| 128 | 9.041 | 9.031 | 9.075 | VV | 1608 | 32989 | 0.50% | 0.037% |
| 129 | 9.091 | 9.075 | 9.100 | VV | 2402 | 27225 | 0.41% | 0.031% |
| 130 | 9.105 | 9.100 | 9.114 | VV | 2114 | 16389 | 0.25% | 0.018% |
| 131 | 9.126 | 9.114 | 9.147 | VV | 2487 | 36508 | 0.55% | 0.041% |
| 132 | 9.160 | 9.147 | 9.180 | VV | 1996 | 23629 | 0.35% | 0.027% |
| 133 | 9.194 | 9.180 | 9.218 | VV | 779 | 9255 | 0.14% | 0.010% |
| 134 | 9.252 | 9.218 | 9.275 | VV | 596 | 10156 | 0.15% | 0.011% |
| 135 | 9.292 | 9.275 | 9.312 | VV | 829 | 11140 | 0.17% | 0.013% |
| 136 | 9.330 | 9.312 | 9.370 | VV | 1096 | 18108 | 0.27% | 0.020% |
| 137 | 9.394 | 9.370 | 9.426 | PV | 848 | 16992 | 0.26% | 0.019% |
| 138 | 9.440 | 9.426 | 9.445 | VV | 463 | 4006 | 0.06% | 0.005% |
| 139 | 9.477 | 9.445 | 9.535 | VV | 338962 | 3357500 | 50.43% | 3.781% |
| 140 | 9.557 | 9.535 | 9.587 | VV | 833 | 17618 | 0.26% | 0.020% |
| 141 | 9.623 | 9.587 | 9.642 | VV | 1327 | 30652 | 0.46% | 0.035% |

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|---|---|---|---|---|---|---|---|---|
| 142 | 9.651 | 9.642 | 9.670 | VV | 803 | 10937 | 0.16% | 0.012% |
| 143 | 9.690 | 9.670 | 9.706 | VV | 5895 | 63650 | 0.96% | 0.072% |
| 144 | 9.722 | 9.706 | 9.732 | VV | 3411 | 35470 | 0.53% | 0.040% |
| 145 | 9.751 | 9.732 | 9.780 | VV | 39159 | 395601 | 5.94% | 0.445% |
| 146 | 9.797 | 9.780 | 9.819 | VV | 1577 | 22426 | 0.34% | 0.025% |
| 147 | 9.823 | 9.819 | 9.837 | VV | 635 | 4601 | 0.07% | 0.005% |
| 148 | 9.840 | 9.837 | 9.850 | VV | 269 | 2033 | 0.03% | 0.002% |
| 149 | 9.882 | 9.850 | 9.924 | VV | 34068 | 373081 | 5.60% | 0.420% |
| 150 | 9.928 | 9.924 | 9.937 | VV | 533 | 2620 | 0.04% | 0.003% |
| 151 | 9.961 | 9.937 | 9.979 | VV | 732 | 13165 | 0.20% | 0.015% |
| 152 | 9.989 | 9.979 | 10.010 | VV | 521 | 6890 | 0.10% | 0.008% |
| 153 | 10.024 | 10.010 | 10.030 | VV | 308 | 2514 | 0.04% | 0.003% |
| 154 | 10.077 | 10.030 | 10.119 | VV | 3639 | 49570 | 0.74% | 0.056% |
| 155 | 10.127 | 10.119 | 10.140 | VV | 356 | 2777 | 0.04% | 0.003% |
| 156 | 10.145 | 10.140 | 10.149 | VV | 214 | 1021 | 0.02% | 0.001% |
| 157 | 10.163 | 10.149 | 10.176 | VV | 525 | 4469 | 0.07% | 0.005% |
| 158 | 10.223 | 10.176 | 10.246 | PV | 1551 | 24552 | 0.37% | 0.028% |
| 159 | 10.252 | 10.246 | 10.257 | VV | 512 | 2576 | 0.04% | 0.003% |
| 160 | 10.276 | 10.257 | 10.287 | VV | 785 | 9226 | 0.14% | 0.010% |
| 161 | 10.319 | 10.287 | 10.337 | VV | 893 | 17846 | 0.27% | 0.020% |
| 162 | 10.356 | 10.337 | 10.381 | VV | 1586 | 26331 | 0.40% | 0.030% |
| 163 | 10.400 | 10.381 | 10.424 | VV | 1163 | 19552 | 0.29% | 0.022% |
| 164 | 10.432 | 10.424 | 10.438 | VV | 550 | 3034 | 0.05% | 0.003% |
| 165 | 10.444 | 10.438 | 10.450 | VV | 522 | 2929 | 0.04% | 0.003% |
| 166 | 10.470 | 10.450 | 10.510 | VV | 1246 | 30958 | 0.47% | 0.035% |
| 167 | 10.522 | 10.510 | 10.542 | VV | 1252 | 16800 | 0.25% | 0.019% |
| 168 | 10.548 | 10.542 | 10.559 | VV | 768 | 7165 | 0.11% | 0.008% |
| 169 | 10.570 | 10.559 | 10.584 | VV | 968 | 10645 | 0.16% | 0.012% |
| 170 | 10.610 | 10.584 | 10.626 | VV | 1307 | 23386 | 0.35% | 0.026% |
| 171 | 10.639 | 10.626 | 10.650 | VV | 1334 | 16494 | 0.25% | 0.019% |
| 172 | 10.673 | 10.650 | 10.697 | VV | 5550 | 95214 | 1.43% | 0.107% |
| 173 | 10.710 | 10.697 | 10.725 | VV | 1063 | 14945 | 0.22% | 0.017% |
| 174 | 10.752 | 10.725 | 10.766 | VV | 1286 | 24580 | 0.37% | 0.028% |
| 175 | 10.771 | 10.766 | 10.797 | VV | 776 | 11119 | 0.17% | 0.013% |
| 176 | 10.817 | 10.797 | 10.825 | VV | 1031 | 14009 | 0.21% | 0.016% |
| 177 | 10.841 | 10.825 | 10.848 | VV | 2789 | 26735 | 0.40% | 0.030% |
| 178 | 10.876 | 10.848 | 10.920 | VV | 355132 | 3652813 | 54.87% | 4.114% |
| 179 | 10.950 | 10.920 | 10.989 | VV | 317005 | 3279607 | 49.26% | 3.693% |
| 180 | 10.992 | 10.989 | 11.013 | VV | 721 | 8940 | 0.13% | 0.010% |
| 181 | 11.029 | 11.013 | 11.042 | VV | 917 | 14226 | 0.21% | 0.016% |
| 182 | 11.047 | 11.042 | 11.101 | VV | 969 | 20800 | 0.31% | 0.023% |
| 183 | 11.106 | 11.101 | 11.110 | VV | 406 | 1700 | 0.03% | 0.002% |
| 184 | 11.115 | 11.110 | 11.125 | VV | 416 | 3300 | 0.05% | 0.004% |
| 185 | 11.131 | 11.125 | 11.136 | VV | 358 | 1952 | 0.03% | 0.002% |
| 186 | 11.156 | 11.136 | 11.206 | VV | 3253 | 40780 | 0.61% | 0.046% |
| 187 | 11.253 | 11.206 | 11.260 | PV | 761 | 12810 | 0.19% | 0.014% |
| 188 | 11.262 | 11.260 | 11.273 | VV | 680 | 3952 | 0.06% | 0.004% |
| 189 | 11.320 | 11.273 | 11.348 | VV | 31405 | 361818 | 5.43% | 0.407% |
| 190 | 11.409 | 11.348 | 11.445 | VV | 1168 | 33766 | 0.51% | 0.038% |
| 191 | 11.472 | 11.445 | 11.497 | VV | 923 | 14643 | 0.22% | 0.016% |
| 192 | 11.522 | 11.497 | 11.549 | VV | 653 | 11095 | 0.17% | 0.012% |
| 193 | 11.565 | 11.549 | 11.579 | VV | 399 | 4673 | 0.07% | 0.005% |
| 194 | 11.644 | 11.579 | 11.689 | VV | 616910 | 6657445 | 100.00% | 7.497% |

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|---|---|---|---|---|---|---|---|---|
| 195 | 11.705 | 11.689 | 11.725 | VV | 5133 | 62336 | 0.94% | 0.070% |
| 196 | 11.738 | 11.725 | 11.754 | VV | 1452 | 18711 | 0.28% | 0.021% |
| 197 | 11.770 | 11.754 | 11.775 | VV | 2993 | 27709 | 0.42% | 0.031% |
| 198 | 11.790 | 11.775 | 11.814 | VV | 5259 | 84384 | 1.27% | 0.095% |
| 199 | 11.822 | 11.814 | 11.836 | VV | 2801 | 28554 | 0.43% | 0.032% |
| 200 | 11.852 | 11.836 | 11.879 | VV | 3683 | 46376 | 0.70% | 0.052% |
| 201 | 11.920 | 11.879 | 11.945 | PV | 1068 | 18566 | 0.28% | 0.021% |
| 202 | 11.983 | 11.945 | 12.004 | VV | 1054 | 23273 | 0.35% | 0.026% |
| 203 | 12.038 | 12.004 | 12.065 | VV | 9506 | 139923 | 2.10% | 0.158% |
| 204 | 12.079 | 12.065 | 12.098 | VV | 1458 | 18306 | 0.27% | 0.021% |
| 205 | 12.104 | 12.098 | 12.107 | VV | 574 | 2787 | 0.04% | 0.003% |
| 206 | 12.143 | 12.107 | 12.163 | VV | 3093 | 43545 | 0.65% | 0.049% |
| 207 | 12.178 | 12.163 | 12.184 | VV | 570 | 5560 | 0.08% | 0.006% |
| 208 | 12.235 | 12.184 | 12.279 | VV | 136715 | 1628690 | 24.46% | 1.834% |
| 209 | 12.291 | 12.279 | 12.318 | VV | 2014 | 35381 | 0.53% | 0.040% |
| 210 | 12.322 | 12.318 | 12.333 | VV | 1036 | 7825 | 0.12% | 0.009% |
| 211 | 12.346 | 12.333 | 12.355 | VV | 975 | 11566 | 0.17% | 0.013% |
| 212 | 12.367 | 12.355 | 12.377 | VV | 975 | 11151 | 0.17% | 0.013% |
| 213 | 12.394 | 12.377 | 12.402 | VV | 1218 | 15376 | 0.23% | 0.017% |
| 214 | 12.410 | 12.402 | 12.430 | VV | 1158 | 15110 | 0.23% | 0.017% |
| 215 | 12.434 | 12.430 | 12.445 | VV | 675 | 5500 | 0.08% | 0.006% |
| 216 | 12.465 | 12.445 | 12.472 | VV | 2071 | 24412 | 0.37% | 0.027% |
| 217 | 12.488 | 12.472 | 12.509 | VV | 3455 | 50167 | 0.75% | 0.056% |
| 218 | 12.518 | 12.509 | 12.532 | VV | 1033 | 11414 | 0.17% | 0.013% |
| 219 | 12.541 | 12.532 | 12.550 | VV | 876 | 7572 | 0.11% | 0.009% |
| 220 | 12.570 | 12.550 | 12.588 | VV | 3332 | 43304 | 0.65% | 0.049% |
| 221 | 12.626 | 12.588 | 12.653 | VV | 32704 | 405645 | 6.09% | 0.457% |
| 222 | 12.690 | 12.653 | 12.736 | VV | 335181 | 3688250 | 55.40% | 4.153% |
| 223 | 12.755 | 12.736 | 12.771 | VV | 618 | 8612 | 0.13% | 0.010% |
| 224 | 12.776 | 12.771 | 12.799 | VV | 393 | 4366 | 0.07% | 0.005% |
| 225 | 12.820 | 12.799 | 12.827 | VV | 515 | 6174 | 0.09% | 0.007% |
| 226 | 12.843 | 12.827 | 12.857 | VV | 784 | 10464 | 0.16% | 0.012% |
| 227 | 12.873 | 12.857 | 12.896 | VV | 4737 | 57020 | 0.86% | 0.064% |
| 228 | 12.900 | 12.896 | 12.915 | VV | 1022 | 9817 | 0.15% | 0.011% |
| 229 | 12.922 | 12.915 | 12.939 | VV | 829 | 8619 | 0.13% | 0.010% |
| 230 | 12.945 | 12.939 | 12.955 | VV | 375 | 3103 | 0.05% | 0.003% |
| 231 | 12.988 | 12.955 | 13.014 | VV | 331679 | 3582296 | 53.81% | 4.034% |
| 232 | 13.041 | 13.014 | 13.046 | VV | 6880 | 71312 | 1.07% | 0.080% |
| 233 | 13.070 | 13.046 | 13.100 | VV | 116896 | 1363539 | 20.48% | 1.536% |
| 234 | 13.116 | 13.100 | 13.139 | VV | 727 | 12677 | 0.19% | 0.014% |
| 235 | 13.156 | 13.139 | 13.180 | VV | 1746 | 23755 | 0.36% | 0.027% |
| 236 | 13.193 | 13.180 | 13.204 | VV | 461 | 4752 | 0.07% | 0.005% |
| 237 | 13.236 | 13.204 | 13.266 | VV | 27790 | 348028 | 5.23% | 0.392% |
| 238 | 13.288 | 13.266 | 13.310 | VV | 5594 | 78669 | 1.18% | 0.089% |
| 239 | 13.315 | 13.310 | 13.340 | VV | 1689 | 20903 | 0.31% | 0.024% |
| 240 | 13.378 | 13.340 | 13.395 | VV | 1505 | 30338 | 0.46% | 0.034% |
| 241 | 13.408 | 13.395 | 13.420 | VV | 944 | 11328 | 0.17% | 0.013% |
| 242 | 13.461 | 13.420 | 13.534 | VV | 70509 | 912449 | 13.71% | 1.028% |
| 243 | 13.569 | 13.534 | 13.598 | VV | 5951 | 101400 | 1.52% | 0.114% |
| 244 | 13.607 | 13.598 | 13.619 | VV | 543 | 6164 | 0.09% | 0.007% |
| 245 | 13.639 | 13.619 | 13.656 | VV | 1253 | 18633 | 0.28% | 0.021% |
| 246 | 13.677 | 13.656 | 13.700 | VV | 3782 | 56755 | 0.85% | 0.064% |

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|---|---|---|---|---|---|---|---|---|
| 247 | 13.716 | 13.700 | 13.733 | VV | 2692 | 34126 | 0.51% | 0.038% |
| 248 | 13.738 | 13.733 | 13.748 | VV | 881 | 7111 | 0.11% | 0.008% |
| 249 | 13.766 | 13.748 | 13.790 | VV | 1916 | 31130 | 0.47% | 0.035% |
| 250 | 13.820 | 13.790 | 13.868 | VV | 27899 | 379403 | 5.70% | 0.427% |
| 251 | 13.886 | 13.868 | 13.910 | VV | 2151 | 29032 | 0.44% | 0.033% |
| 252 | 13.931 | 13.910 | 13.973 | VV | 1714 | 40473 | 0.61% | 0.046% |
| 253 | 13.993 | 13.973 | 14.014 | VV | 362 | 6093 | 0.09% | 0.007% |
| 254 | 14.036 | 14.014 | 14.042 | VV | 466 | 6410 | 0.10% | 0.007% |
| 255 | 14.050 | 14.042 | 14.056 | VV | 650 | 4797 | 0.07% | 0.005% |
| 256 | 14.064 | 14.056 | 14.093 | VV | 689 | 10297 | 0.15% | 0.012% |
| 257 | 14.099 | 14.093 | 14.112 | VV | 446 | 3217 | 0.05% | 0.004% |
| 258 | 14.125 | 14.112 | 14.136 | PV | 287 | 2942 | 0.04% | 0.003% |
| 259 | 14.146 | 14.136 | 14.172 | VV | 403 | 5617 | 0.08% | 0.006% |
| 260 | 14.179 | 14.172 | 14.192 | VV | 208 | 1404 | 0.02% | 0.002% |
| 261 | 14.214 | 14.199 | 14.226 | VV | 490 | 5754 | 0.09% | 0.006% |
| 262 | 14.257 | 14.226 | 14.284 | VV | 1826 | 38040 | 0.57% | 0.043% |
| 263 | 14.299 | 14.284 | 14.332 | VV | 1579 | 26584 | 0.40% | 0.030% |
| 264 | 14.340 | 14.332 | 14.347 | VV | 539 | 4814 | 0.07% | 0.005% |
| 265 | 14.386 | 14.347 | 14.394 | VV | 1068 | 21528 | 0.32% | 0.024% |
| 266 | 14.404 | 14.394 | 14.420 | VV | 1070 | 13004 | 0.20% | 0.015% |
| 267 | 14.443 | 14.420 | 14.453 | VV | 1021 | 13696 | 0.21% | 0.015% |
| 268 | 14.482 | 14.453 | 14.499 | VV | 2169 | 34319 | 0.52% | 0.039% |
| 269 | 14.505 | 14.499 | 14.514 | VV | 1093 | 8492 | 0.13% | 0.010% |
| 270 | 14.517 | 14.514 | 14.523 | VV | 943 | 4978 | 0.07% | 0.006% |
| 271 | 14.544 | 14.523 | 14.567 | VV | 4737 | 64389 | 0.97% | 0.073% |
| 272 | 14.598 | 14.567 | 14.627 | VV | 1609 | 35357 | 0.53% | 0.040% |
| 273 | 14.669 | 14.627 | 14.682 | VV | 921 | 17855 | 0.27% | 0.020% |
| 274 | 14.693 | 14.682 | 14.699 | VV | 802 | 7472 | 0.11% | 0.008% |
| 275 | 14.707 | 14.699 | 14.711 | VV | 912 | 6522 | 0.10% | 0.007% |
| 276 | 14.727 | 14.711 | 14.738 | VV | 1148 | 15310 | 0.23% | 0.017% |
| 277 | 14.757 | 14.738 | 14.780 | VV | 2808 | 39396 | 0.59% | 0.044% |
| 278 | 14.786 | 14.780 | 14.796 | VV | 406 | 3749 | 0.06% | 0.004% |
| 279 | 14.805 | 14.796 | 14.824 | VV | 559 | 7056 | 0.11% | 0.008% |
| 280 | 14.859 | 14.824 | 14.879 | VV | 252949 | 3110285 | 46.72% | 3.503% |
| 281 | 14.902 | 14.879 | 14.978 | VV | 288163 | 3410205 | 51.22% | 3.840% |
| 282 | 14.982 | 14.978 | 14.985 | VV | 361 | 1506 | 0.02% | 0.002% |
| 283 | 15.017 | 14.985 | 15.037 | VV | 3614 | 49399 | 0.74% | 0.056% |
| 284 | 15.055 | 15.037 | 15.073 | VV | 840 | 12650 | 0.19% | 0.014% |
| 285 | 15.092 | 15.073 | 15.112 | VV | 1520 | 20832 | 0.31% | 0.023% |
| 286 | 15.117 | 15.112 | 15.129 | VV | 464 | 4021 | 0.06% | 0.005% |
| 287 | 15.149 | 15.129 | 15.170 | VV | 1128 | 18521 | 0.28% | 0.021% |
| 288 | 15.193 | 15.170 | 15.206 | VV | 1039 | 17234 | 0.26% | 0.019% |
| 289 | 15.214 | 15.206 | 15.267 | VV | 822 | 16389 | 0.25% | 0.018% |
| 290 | 15.300 | 15.267 | 15.359 | VV | 4250 | 105975 | 1.59% | 0.119% |
| 291 | 15.363 | 15.359 | 15.393 | VV | 787 | 10753 | 0.16% | 0.012% |
| 292 | 15.456 | 15.393 | 15.474 | VV | 1769 | 46189 | 0.69% | 0.052% |
| 293 | 15.480 | 15.474 | 15.501 | VV | 1146 | 13658 | 0.21% | 0.015% |
| 294 | 15.524 | 15.501 | 15.545 | VV | 3080 | 43007 | 0.65% | 0.048% |
| 295 | 15.561 | 15.545 | 15.590 | VV | 1803 | 28651 | 0.43% | 0.032% |
| 296 | 15.604 | 15.590 | 15.620 | VV | 1164 | 15463 | 0.23% | 0.017% |
| 297 | 15.668 | 15.620 | 15.675 | VV | 1814 | 36107 | 0.54% | 0.041% |
| 298 | 15.683 | 15.675 | 15.719 | VV | 2087 | 36129 | 0.54% | 0.041% |
| 299 | 15.734 | 15.719 | 15.740 | VV | 726 | 7269 | 0.11% | 0.008% |

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|---|---|---|---|---|---|---|---|---|
| 300 | 15.764 | 15.740 | 15.788 | VV | 1606 | 28137 | 0.42% | 0.032% |
| 301 | 15.800 | 15.788 | 15.808 | VV | 646 | 7041 | 0.11% | 0.008% |
| 302 | 15.812 | 15.808 | 15.824 | VV | 672 | 4747 | 0.07% | 0.005% |
| 303 | 15.847 | 15.824 | 15.859 | VV | 777 | 12236 | 0.18% | 0.014% |
| 304 | 15.874 | 15.859 | 15.892 | VV | 1176 | 15123 | 0.23% | 0.017% |
| 305 | 15.938 | 15.892 | 15.972 | VV | 24049 | 321963 | 4.84% | 0.363% |
| 306 | 15.996 | 15.972 | 16.005 | VV | 520 | 6311 | 0.09% | 0.007% |
| 307 | 16.008 | 16.005 | 16.013 | VV | 426 | 1223 | 0.02% | 0.001% |
| 308 | 16.019 | 16.013 | 16.026 | VV | 315 | 1696 | 0.03% | 0.002% |
| 309 | 16.034 | 16.026 | 16.040 | VV | 259 | 1359 | 0.02% | 0.002% |
| 310 | 16.054 | 16.040 | 16.059 | VV | 202 | 1187 | 0.02% | 0.001% |
| 311 | 16.066 | 16.059 | 16.077 | PV | 213 | 1453 | 0.02% | 0.002% |
| 312 | 16.084 | 16.077 | 16.097 | VV | 333 | 3371 | 0.05% | 0.004% |
| 313 | 16.134 | 16.097 | 16.143 | VV | 843 | 17357 | 0.26% | 0.020% |
| 314 | 16.146 | 16.143 | 16.171 | VV | 580 | 6433 | 0.10% | 0.007% |
| 315 | 16.192 | 16.171 | 16.209 | PV | 524 | 5122 | 0.08% | 0.006% |
| 316 | 16.232 | 16.209 | 16.255 | VV | 818 | 12243 | 0.18% | 0.014% |
| 317 | 16.275 | 16.255 | 16.282 | VV | 552 | 6459 | 0.10% | 0.007% |
| 318 | 16.327 | 16.282 | 16.363 | VV | 1276 | 33263 | 0.50% | 0.037% |
| 319 | 16.409 | 16.363 | 16.425 | VV | 235796 | 3035183 | 45.59% | 3.418% |
| 320 | 16.442 | 16.425 | 16.476 | VV | 262608 | 2917247 | 43.82% | 3.285% |
| 321 | 16.500 | 16.476 | 16.519 | VV | 1392 | 25055 | 0.38% | 0.028% |
| 322 | 16.541 | 16.519 | 16.631 | VV | 4378 | 104257 | 1.57% | 0.117% |
| 323 | 16.656 | 16.631 | 16.675 | VV | 1841 | 25673 | 0.39% | 0.029% |
| 324 | 16.726 | 16.675 | 16.754 | VV | 8569 | 130044 | 1.95% | 0.146% |
| 325 | 16.789 | 16.754 | 16.825 | VV | 240711 | 2888494 | 43.39% | 3.253% |
| 326 | 16.885 | 16.825 | 16.917 | VV | 27998 | 382678 | 5.75% | 0.431% |
| 327 | 16.934 | 16.917 | 16.973 | VV | 1524 | 29316 | 0.44% | 0.033% |
| 328 | 16.981 | 16.973 | 16.987 | VV | 412 | 2932 | 0.04% | 0.003% |
| 329 | 17.032 | 16.987 | 17.068 | VV | 1093 | 33297 | 0.50% | 0.037% |
| 330 | 17.090 | 17.068 | 17.105 | VV | 612 | 8381 | 0.13% | 0.009% |
| 331 | 17.151 | 17.105 | 17.187 | VV | 1735 | 48797 | 0.73% | 0.055% |
| 332 | 17.191 | 17.187 | 17.222 | VV | 871 | 11131 | 0.17% | 0.013% |
| 333 | 17.245 | 17.222 | 17.263 | VV | 815 | 14734 | 0.22% | 0.017% |
| 334 | 17.278 | 17.263 | 17.293 | VV | 1254 | 18552 | 0.28% | 0.021% |
| 335 | 17.307 | 17.293 | 17.315 | VV | 1264 | 14650 | 0.22% | 0.016% |
| 336 | 17.335 | 17.315 | 17.359 | VV | 2390 | 39008 | 0.59% | 0.044% |
| 337 | 17.368 | 17.359 | 17.379 | VV | 930 | 9360 | 0.14% | 0.011% |
| 338 | 17.393 | 17.379 | 17.415 | VV | 836 | 11752 | 0.18% | 0.013% |
| 339 | 17.438 | 17.415 | 17.464 | VV | 1537 | 24277 | 0.36% | 0.027% |
| 340 | 17.479 | 17.464 | 17.497 | VV | 838 | 9802 | 0.15% | 0.011% |
| 341 | 17.516 | 17.497 | 17.535 | VV | 655 | 10175 | 0.15% | 0.011% |
| 342 | 17.552 | 17.535 | 17.576 | VV | 599 | 8086 | 0.12% | 0.009% |
| 343 | 17.588 | 17.576 | 17.604 | VV | 268 | 1905 | 0.03% | 0.002% |
| 344 | 17.623 | 17.604 | 17.645 | VV | 462 | 6499 | 0.10% | 0.007% |
| 345 | 17.665 | 17.645 | 17.677 | PV | 459 | 4309 | 0.06% | 0.005% |
| 346 | 17.709 | 17.677 | 17.714 | VV | 457 | 6942 | 0.10% | 0.008% |
| 347 | 17.770 | 17.714 | 17.807 | VV | 23581 | 329445 | 4.95% | 0.371% |
| 348 | 17.833 | 17.807 | 17.839 | VV | 466 | 6223 | 0.09% | 0.007% |
| 349 | 17.864 | 17.839 | 17.887 | VV | 1016 | 20004 | 0.30% | 0.023% |
| 350 | 17.910 | 17.887 | 17.922 | VV | 960 | 14914 | 0.22% | 0.017% |
| 351 | 17.936 | 17.922 | 17.979 | VV | 1152 | 27108 | 0.41% | 0.031% |

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|---|---|---|---|---|---|---|---|---|
| 352 | 17.990 | 17.979 | 18.024 | VV | 622 | 11557 | 0.17% | 0.013% |
| 353 | 18.056 | 18.024 | 18.079 | VV | 2194 | 37095 | 0.56% | 0.042% |
| 354 | 18.085 | 18.079 | 18.105 | VV | 732 | 8635 | 0.13% | 0.010% |
| 355 | 18.153 | 18.105 | 18.171 | VV | 227202 | 2958632 | 44.44% | 3.332% |
| 356 | 18.193 | 18.171 | 18.225 | VV | 228273 | 2788128 | 41.88% | 3.140% |
| 357 | 18.229 | 18.225 | 18.252 | VV | 1329 | 14271 | 0.21% | 0.016% |
| 358 | 18.281 | 18.252 | 18.296 | VV | 2118 | 31554 | 0.47% | 0.036% |
| 359 | 18.311 | 18.296 | 18.353 | VV | 1875 | 36421 | 0.55% | 0.041% |
| 360 | 18.358 | 18.353 | 18.367 | VV | 621 | 4841 | 0.07% | 0.005% |
| 361 | 18.409 | 18.367 | 18.473 | VV | 214779 | 2768118 | 41.58% | 3.117% |
| 362 | 18.484 | 18.473 | 18.504 | VV | 965 | 12945 | 0.19% | 0.015% |
| 363 | 18.530 | 18.504 | 18.555 | VV | 2803 | 42898 | 0.64% | 0.048% |
| 364 | 18.600 | 18.555 | 18.670 | VV | 22467 | 332399 | 4.99% | 0.374% |
| 365 | 18.704 | 18.670 | 18.734 | VV | 737 | 14186 | 0.21% | 0.016% |
| 366 | 18.746 | 18.734 | 18.753 | VV | 429 | 2765 | 0.04% | 0.003% |
| 367 | 18.759 | 18.753 | 18.780 | VV | 425 | 5111 | 0.08% | 0.006% |
| 368 | 18.830 | 18.788 | 18.847 | PV | 750 | 13737 | 0.21% | 0.015% |
| 369 | 18.855 | 18.847 | 18.865 | VV | 523 | 4067 | 0.06% | 0.005% |
| 370 | 18.874 | 18.865 | 18.889 | VV | 421 | 4381 | 0.07% | 0.005% |
| 371 | 18.908 | 18.889 | 18.922 | PV | 268 | 2819 | 0.04% | 0.003% |
| 372 | 18.962 | 18.922 | 18.977 | PV | 1241 | 10962 | 0.16% | 0.012% |

Sum of corrected areas: 88799371

Aromatic EPH 052425.M Fri Jun 13 22:45:29 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

# Manual Integration Report

| Sequence: | FC052425AL | Instrument | FID_c |
|---|---|---|---|

| Sample ID | File ID | Parameter | Review By | Review On | Supervised By | Supervised On | Reason |
|---|---|---|---|---|---|---|---|
| 20 PPM ALIPHATIC HC | FC069003.D | n-Octacosane (C28) | yogesh | 5/27/2025 7:30:02 AM | mohammad | 5/28/2025 1:48:12 | Peak Integrated by Software |
| 20 PPM ALIPHATIC HC | FC069003.D | n-Tetracosane (C24) | yogesh | 5/27/2025 7:30:02 AM | mohammad | 5/28/2025 1:48:12 | Peak Integrated by Software |

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# Manual Integration Report

| Sequence: | FC060925AL | Instrument | FID_c |
|---|---|---|---|

| Sample ID | File ID | Parameter | Review By | Review On | Supervised By | Supervised On | Reason |
|---|---|---|---|---|---|---|---|
| 20 PPM ALIPHATIC HC | FC069133.D | n-Octacosane (C28) | yogesh | 6/10/2025 7:52:28 AM | mohammad | 6/11/2025 2:15:53 | Peak Integrated by Software |
| 20 PPM ALIPHATIC HC | FC069133.D | n-Octadecane (C18) | yogesh | 6/10/2025 7:52:28 AM | mohammad | 6/11/2025 2:15:53 | Peak Integrated by Software |
| 20 PPM ALIPHATIC HC | FC069133.D | n-Tetracontane (C40) | yogesh | 6/10/2025 7:52:28 AM | mohammad | 6/11/2025 2:15:53 | Peak Integrated by Software |
| PB168324BS | FC069135.D | n-Octadecane (C18) | yogesh | 6/10/2025 7:52:30 AM | mohammad | 6/11/2025 2:15:53 | Peak Integrated by Software |
| PB168324BS | FC069135.D | n-Tetracontane (C40) | yogesh | 6/10/2025 7:52:30 AM | mohammad | 6/11/2025 2:15:53 | Peak Integrated by Software |
| PB168324BSD | FC069136.D | n-Octadecane (C18) | yogesh | 6/10/2025 7:52:32 AM | mohammad | 6/11/2025 2:15:53 | Peak Integrated by Software |
| PB168324BSD | FC069136.D | n-Tetracontane (C40) | yogesh | 6/10/2025 7:52:32 AM | mohammad | 6/11/2025 2:15:53 | Peak Integrated by Software |
| 20 PPM ALIPHATIC HC | FC069140.D | n-Octadecane (C18) | yogesh | 6/10/2025 7:52:33 AM | mohammad | 6/11/2025 2:15:53 | Peak Integrated by Software |
| 20 PPM ALIPHATIC HC | FC069140.D | n-Tetracontane (C40) | yogesh | 6/10/2025 7:52:33 AM | mohammad | 6/11/2025 2:15:53 | Peak Integrated by Software |
| 20 PPM ALIPHATIC HC | FC069140.D | n-Tetracosane (C24) | yogesh | 6/10/2025 7:52:33 AM | mohammad | 6/11/2025 2:15:53 | Peak Integrated by Software |
| PB168341BS | FC069142.D | n-Decane (C10) | yogesh | 6/10/2025 7:52:35 AM | mohammad | 6/11/2025 2:15:53 | Peak Integrated by Software |
| PB168341BSD | FC069143.D | n-Decane (C10) | yogesh | 6/10/2025 7:52:37 AM | mohammad | 6/11/2025 2:15:53 | Peak Integrated by Software |
| PB168341BSD | FC069143.D | n-Tetracontane (C40) | yogesh | 6/10/2025 7:52:37 AM | mohammad | 6/11/2025 2:15:53 | Peak Integrated by Software |

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# Manual Integration Report

| Sequence: | FC060925AL | Instrument | FID_c |
|---|---|---|---|

| Sample ID | File ID | Parameter | Review By | Review On | Supervised By | Supervised On | Reason |
|---|---|---|---|---|---|---|---|
| Q2265-01MS | FC069146.D | n-Decane (C10) | yogesh | 6/10/2025 7:52:39 AM | mohammad | 6/11/2025 2:15:53 | Peak Integrated by Software |
| Q2265-01MSD | FC069147.D | n-Decane (C10) | yogesh | 6/10/2025 7:52:41 AM | mohammad | 6/11/2025 2:15:53 | Peak Integrated by Software |
| Q2265-01MSD | FC069147.D | n-Tetracontane (C40) | yogesh | 6/10/2025 7:52:41 AM | mohammad | 6/11/2025 2:15:53 | Peak Integrated by Software |
| 20 PPM ALIPHATIC HC | FC069150.D | n-Tetracontane (C40) | yogesh | 6/10/2025 7:52:43 AM | mohammad | 6/11/2025 2:15:53 | Peak Integrated by Software |

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# Manual Integration Report

| Sequence: | FC061125AL | Instrument | FID_c |
|---|---|---|---|

| Sample ID | File ID | Parameter | Review By | Review On | Supervised By | Supervised On | Reason |
|---|---|---|---|---|---|---|---|
| 20 PPM ALIPHATIC HC | FC069156.D | n-Octacosane (C28) | yogesh | 6/12/2025 11:34:52 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| 20 PPM ALIPHATIC HC | FC069156.D | n-Octadecane (C18) | yogesh | 6/12/2025 11:34:52 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| 20 PPM ALIPHATIC HC | FC069156.D | n-Tetracontane (C40) | yogesh | 6/12/2025 11:34:52 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| PB168408BS | FC069158.D | n-Tetracontane (C40) | yogesh | 6/12/2025 11:34:54 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| PB168408BSD | FC069159.D | n-Octadecane (C18) | yogesh | 6/12/2025 11:34:56 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| PB168408BSD | FC069159.D | n-Tetracontane (C40) | yogesh | 6/12/2025 11:34:56 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| Q2126-01 | FC069160.D | n-Decane (C10) | yogesh | 6/12/2025 11:34:58 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| Q2126-01 | FC069160.D | n-Tetracontane (C40) | yogesh | 6/12/2025 11:34:58 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| Q2126-01 | FC069161.D | n-Decane (C10) | yogesh | 6/12/2025 11:35:00 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| Q2126-01 | FC069161.D | n-Tetracontane (C40) | yogesh | 6/12/2025 11:35:00 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| Q2126-02 | FC069162.D | n-Decane (C10) | yogesh | 6/12/2025 11:35:02 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| Q2126-02 | FC069162.D | n-Tetracontane (C40) | yogesh | 6/12/2025 11:35:02 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| Q2177-02MS | FC069165.D | n-Decane (C10) | yogesh | 6/12/2025 11:35:04 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |

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# Manual Integration Report

| Sequence: | FC061125AL | Instrument | FID_c |
|---|---|---|---|

| Sample ID | File ID | Parameter | Review By | Review On | Supervised By | Supervised On | Reason |
|---|---|---|---|---|---|---|---|
| Q2177-02MS | FC069165.D | n-Tetracontane (C40) | yogesh | 6/12/2025 11:35:04 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| Q2177-02MSD | FC069166.D | n-Decane (C10) | yogesh | 6/12/2025 11:35:08 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| Q2177-02MSD | FC069166.D | n-Tetracontane (C40) | yogesh | 6/12/2025 11:35:08 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| 20 PPM ALIPHATIC HC | FC069168.D | n-Octacosane (C28) | yogesh | 6/12/2025 11:35:11 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| 20 PPM ALIPHATIC HC | FC069168.D | n-Tetracontane (C40) | yogesh | 6/12/2025 11:35:11 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| 20 PPM ALIPHATIC HC | FC069168.D | n-Tetracosane (C24) | yogesh | 6/12/2025 11:35:11 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| 20 PPM ALIPHATIC HC | FC069174.D | n-Octadecane (C18) | yogesh | 6/12/2025 11:35:13 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| 20 PPM ALIPHATIC HC | FC069174.D | n-Tetracontane (C40) | yogesh | 6/12/2025 11:35:13 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| 20 PPM ALIPHATIC HC | FC069174.D | n-Tetracosane (C24) | yogesh | 6/12/2025 11:35:13 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| Q2126-07 | FC069176.D | n-Decane (C10) | yogesh | 6/12/2025 11:35:14 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| Q2126-07 | FC069176.D | n-Nonane (C9) | yogesh | 6/12/2025 11:35:14 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| Q2126-07 | FC069176.D | n-Tetracontane (C40) | yogesh | 6/12/2025 11:35:14 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| Q2126-07 | FC069177.D | n-Decane (C10) | yogesh | 6/12/2025 11:35:44 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |

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# Manual Integration Report

| Sequence: | FC061125AL | Instrument | FID_c |
|---|---|---|---|

| Sample ID | File ID | Parameter | Review By | Review On | Supervised By | Supervised On | Reason |
|---|---|---|---|---|---|---|---|
| Q2126-07 | FC069177.D | n-Hexadecane (C16) | yogesh | 6/12/2025 11:35:44 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| Q2126-07 | FC069177.D | n-Tetracontane (C40) | yogesh | 6/12/2025 11:35:44 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| Q2126-08 | FC069178.D | n-Decane (C10) | yogesh | 6/12/2025 11:35:46 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| Q2126-08 | FC069178.D | n-Hexadecane (C16) | yogesh | 6/12/2025 11:35:46 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| Q2126-08 | FC069178.D | n-Tetracontane (C40) | yogesh | 6/12/2025 11:35:46 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| 20 PPM ALIPHATIC HC | FC069180.D | n-Tetracontane (C40) | yogesh | 6/12/2025 11:35:48 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |
| 20 PPM ALIPHATIC HC | FC069180.D | n-Tetracosane (C24) | yogesh | 6/12/2025 11:35:48 AM | mohammad | 6/13/2025 1:40:04 | Peak Integrated by Software |

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# Manual Integration Report

| Sequence: | FD052425AR | Instrument | FID_d |
|---|---|---|---|

| Sample ID | File ID | Parameter | Review By | Review On | Supervised By | Supervised On | Reason |
|---|---|---|---|---|---|---|---|
| 100 PPM AROMATIC HC | FD049394.D | Bnezo[k]fluoranthene (C30.14) | yogesh | 5/27/2025 7:30:09 AM | mohammad | 5/28/2025 1:48:35 | Peak Integrated by Software |
| 100 PPM AROMATIC HC | FD049394.D | Dibenz[a,h]anthracene (C30.36) | yogesh | 5/27/2025 7:30:09 AM | mohammad | 5/28/2025 1:48:35 | Peak Integrated by Software |
| 100 PPM AROMATIC HC | FD049394.D | Fluoranthene (C21.85) | yogesh | 5/27/2025 7:30:09 AM | mohammad | 5/28/2025 1:48:35 | Peak Integrated by Software |

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# Manual Integration Report

| Sequence: | FD060925AR | Instrument | FID_d |
|---|---|---|---|

| Sample ID | File ID | Parameter | Review By | Review On | Supervised By | Supervised On | Reason |
|---|---|---|---|---|---|---|---|

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# Manual Integration Report

| Sequence: | FD061025AR | Instrument | FID_d |
|---|---|---|---|

| Sample ID | File ID | Parameter | Review By | Review On | Supervised By | Supervised On | Reason |
|---|---|---|---|---|---|---|---|

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# Manual Integration Report

| Sequence: | FD061125AR | Instrument | FID_d |
|---|---|---|---|

| Sample ID | File ID | Parameter | Review By | Review On | Supervised By | Supervised On | Reason |
|---|---|---|---|---|---|---|---|
| Q2126-02 | FD049437.D | 1,2,3-Trimethylbenzene (C10.1) | yogesh | 6/12/2025 11:36:32 AM | mohammad | 6/13/2025 1:40:17 | Peak Integrated by Software |
| Q2126-02 | FD049437.D | 2-Methylnaphthalene (C12.89) | yogesh | 6/12/2025 11:36:32 AM | mohammad | 6/13/2025 1:40:17 | Peak Integrated by Software |
| Q2126-02 | FD049437.D | Acenaphthene (C15.5) | yogesh | 6/12/2025 11:36:32 AM | mohammad | 6/13/2025 1:40:17 | Peak Integrated by Software |
| Q2126-02 | FD049437.D | Acenaphthylene (C15.06) | yogesh | 6/12/2025 11:36:32 AM | mohammad | 6/13/2025 1:40:17 | Peak Integrated by Software |
| Q2126-02 | FD049437.D | Naphthalene (C11.7) | yogesh | 6/12/2025 11:36:32 AM | mohammad | 6/13/2025 1:40:17 | Peak Integrated by Software |
| Q2177-04 | FD049444.D | 2-Flurobiphenyl (SURR) | yogesh | 6/12/2025 11:36:34 AM | mohammad | 6/13/2025 1:40:17 | Peak Integrated by Software |
| Q2126-07 | FD049452.D | 1,2,3-Trimethylbenzene (C10.1) | yogesh | 6/12/2025 11:36:35 AM | mohammad | 6/13/2025 1:40:17 | Peak Integrated by Software |
| Q2126-07 | FD049452.D | 2-Methylnaphthalene (C12.89) | yogesh | 6/12/2025 11:36:35 AM | mohammad | 6/13/2025 1:40:17 | Peak Integrated by Software |
| Q2126-07 | FD049452.D | Acenaphthene (C15.5) | yogesh | 6/12/2025 11:36:35 AM | mohammad | 6/13/2025 1:40:17 | Peak Integrated by Software |
| Q2126-07 | FD049452.D | Acenaphthylene (C15.06) | yogesh | 6/12/2025 11:36:35 AM | mohammad | 6/13/2025 1:40:17 | Peak Integrated by Software |
| Q2126-07 | FD049452.D | Anthracene (C19.43) | yogesh | 6/12/2025 11:36:35 AM | mohammad | 6/13/2025 1:40:17 | Peak Integrated by Software |
| Q2126-07 | FD049452.D | Benzo[a]anthracene (C26.37) | yogesh | 6/12/2025 11:36:35 AM | mohammad | 6/13/2025 1:40:17 | Peak Integrated by Software |
| Q2126-07 | FD049452.D | Benzo[a]pyrene (C31.34) | yogesh | 6/12/2025 11:36:35 AM | mohammad | 6/13/2025 1:40:17 | Peak Integrated by Software |

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# Manual Integration Report

| Sequence: | FD061125AR | Instrument | FID_d |
|---|---|---|---|

| Sample ID | File ID | Parameter | Review By | Review On | Supervised By | Supervised On | Reason |
|---|---|---|---|---|---|---|---|
| Q2126-07 | FD049452.D | benzo[b]fluoranthene (C30.41) | yogesh | 6/12/2025 11:36:35 AM | mohammad | 6/13/2025 1:40:17 | Peak Integrated by Software |
| Q2126-07 | FD049452.D | Benzo[g,h,i]perylene (C34.01) | yogesh | 6/12/2025 11:36:35 AM | mohammad | 6/13/2025 1:40:17 | Peak Integrated by Software |
| Q2126-07 | FD049452.D | Bnezo[k]fluoranthene (C30.14) | yogesh | 6/12/2025 11:36:35 AM | mohammad | 6/13/2025 1:40:17 | Peak Integrated by Software |
| Q2126-07 | FD049452.D | Indeno[1,2,3-cd]pyrene (C35.01) | yogesh | 6/12/2025 11:36:35 AM | mohammad | 6/13/2025 1:40:17 | Peak Integrated by Software |
| Q2126-07 | FD049452.D | Naphthalene (C11.7) | yogesh | 6/12/2025 11:36:35 AM | mohammad | 6/13/2025 1:40:17 | Peak Integrated by Software |
| Q2126-07 | FD049452.D | Phenanthrene (C19.36) | yogesh | 6/12/2025 11:36:35 AM | mohammad | 6/13/2025 1:40:17 | Peak Integrated by Software |
| Q2126-07 | FD049452.D | Pyrene (C20.8) | yogesh | 6/12/2025 11:36:35 AM | mohammad | 6/13/2025 1:40:17 | Peak Integrated by Software |

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# Manual Integration Report

| Sequence: | FD061325AR | Instrument | FID_d |
|---|---|---|---|

| Sample ID | File ID | Parameter | Review By | Review On | Supervised By | Supervised On | Reason |
|---|---|---|---|---|---|---|---|
| Q2286-03DL | FD049486.D | 2-Bromonaphthalene (SURR) | yogesh | 6/16/2025 8:10:26 AM | mohammad | 6/16/2025 8:33:02 | Peak Integrated by Software |
| Q2286-03DL | FD049486.D | 2-Flurobiphenyl (SURR) | yogesh | 6/16/2025 8:10:26 AM | mohammad | 6/16/2025 8:33:02 | Peak Integrated by Software |
| Q2286-03DL | FD049486.D | ortho-Terphenyl (SURR) | yogesh | 6/16/2025 8:10:26 AM | mohammad | 6/16/2025 8:33:02 | Peak Integrated by Software |

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**Instrument ID: FID_C**

## Daily Analysis Runlog For Sequence/QCBatch ID # FC052425AL

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 5/23/2025 12:24:51 PM | | |
| Supervise By | mohammad | Supervise On | 5/28/2025 1:48:12 AM | | |
| SubDirectory | FC052425AL | HP Acquire Method | | HP Processing Method | FC052425AL |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24170,PP24175,PP24176,PP24177,PP24178 |
| CCC | PP24176 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24174,PP24179 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| Sr# | SampleId | Data File Name | Date-Time | Operator | Status |
|---|---|---|---|---|---|
| 1 | MECL2 | FC068996.D | 23 May 2025 12:58 | YP/AJ | Ok |
| 2 | I.BLK | FC068997.D | 23 May 2025 13:35 | YP/AJ | Ok |
| 3 | 100 PPM ALIPHATIC HC STD1 | FC068998.D | 23 May 2025 14:12 | YP/AJ | Ok |
| 4 | 50 PPM ALIPHATIC HC STD2 | FC068999.D | 23 May 2025 14:50 | YP/AJ | Ok |
| 5 | 20 PPM ALIPHATIC HC STD3 | FC069000.D | 23 May 2025 15:28 | YP/AJ | Ok |
| 6 | 10 PPM ALIPHATIC HC STD4 | FC069001.D | 23 May 2025 16:05 | YP/AJ | Ok |
| 7 | 5 PPM ALIPHATIC HC STD5 | FC069002.D | 23 May 2025 16:43 | YP/AJ | Ok |
| 8 | 20 PPM ALIPHATIC HC STD ICV | FC069003.D | 23 May 2025 17:20 | YP/AJ | Ok,M |
| 9 | I.BLK | FC069004.D | 23 May 2025 18:36 | YP/AJ | Ok |
| 10 | 20 PPM ALIPHATIC HC STD | FC069005.D | 23 May 2025 19:13 | YP/AJ | Ok |

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**Instrument ID: FID_C**

## Daily Analysis Runlog For Sequence/QCBatch ID # FC060925AL

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 6/9/2025 12:18:01 PM | | |
| Supervise By | mohammad | Supervise On | 6/11/2025 2:15:53 AM | | |
| SubDirectory | FC060925AL | HP Acquire Method | | HP Processing Method | FC052425AL |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24170,PP24175,PP24176,PP24177,PP24178 |
| CCC | PP24176 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24174,PP24179 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| Sr# | SampleId | Data File Name | Date-Time | Operator | Status |
|---|---|---|---|---|---|
| 1 | MECL2 | FC069131.D | 09 Jun 2025 09:27 | YP/AJ | Ok |
| 2 | I.BLK | FC069132.D | 09 Jun 2025 10:07 | YP/AJ | Ok |
| 3 | 20 PPM ALIPHATIC HC STD | FC069133.D | 09 Jun 2025 12:17 | YP/AJ | Ok,M |
| 4 | PB168324BL | FC069134.D | 09 Jun 2025 16:17 | YP/AJ | Ok |
| 5 | PB168324BS | FC069135.D | 09 Jun 2025 16:57 | YP/AJ | Ok,M |
| 6 | PB168324BSD | FC069136.D | 09 Jun 2025 17:37 | YP/AJ | Ok,M |
| 7 | Q2177-08 | FC069137.D | 09 Jun 2025 18:17 | YP/AJ | Ok |
| 8 | Q2198-05 | FC069138.D | 09 Jun 2025 18:58 | YP/AJ | Ok |
| 9 | I.BLK | FC069139.D | 09 Jun 2025 20:20 | YP/AJ | Ok |
| 10 | 20 PPM ALIPHATIC HC STD | FC069140.D | 09 Jun 2025 21:41 | YP/AJ | Ok,M |
| 11 | PB168341BL | FC069141.D | 09 Jun 2025 22:21 | YP/AJ | Ok |
| 12 | PB168341BS | FC069142.D | 09 Jun 2025 23:02 | YP/AJ | Ok,M |
| 13 | PB168341BSD | FC069143.D | 09 Jun 2025 23:41 | YP/AJ | Ok,M |
| 14 | Q2265-01 | FC069144.D | 10 Jun 2025 00:21 | YP/AJ | Ok |
| 15 | Q2265-01D | FC069145.D | 10 Jun 2025 01:00 | YP/AJ | Ok |
| 16 | Q2265-01MS | FC069146.D | 10 Jun 2025 01:39 | YP/AJ | Ok,M |
| 17 | Q2265-01MSD | FC069147.D | 10 Jun 2025 02:19 | YP/AJ | Ok,M |
| 18 | Q2265-03 | FC069148.D | 10 Jun 2025 02:58 | YP/AJ | Ok |
| 19 | I.BLK | FC069149.D | 10 Jun 2025 04:16 | YP/AJ | Ok |
| 20 | 20 PPM ALIPHATIC HC STD | FC069150.D | 10 Jun 2025 04:55 | YP/AJ | Ok,M |

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**Instrument ID: FID_C**

## Daily Analysis Runlog For Sequence/QCBatch ID # FC061125AL

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 6/11/2025 3:08:31 PM | | |
| Supervise By | mohammad | Supervise On | 6/13/2025 1:40:04 AM | | |
| SubDirectory | FC061125AL | HP Acquire Method | | HP Processing Method | FC052425AL |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24170,PP24175,PP24176,PP24177,PP24178 |
| CCC | PP24176 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24174,PP24179 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| Sr# | SampleId | Data File Name | Date-Time | Operator | Status |
|---|---|---|---|---|---|
| 1 | MECL2 | FC069154.D | 11 Jun 2025 10:11 | YP/AJ | Ok |
| 2 | I.BLK | FC069155.D | 11 Jun 2025 10:51 | YP/AJ | Ok |
| 3 | 20 PPM ALIPHATIC HC STD | FC069156.D | 11 Jun 2025 12:12 | YP/AJ | Ok,M |
| 4 | PB168408BL | FC069157.D | 11 Jun 2025 16:33 | YP/AJ | Ok |
| 5 | PB168408BS | FC069158.D | 11 Jun 2025 17:15 | YP/AJ | Ok,M |
| 6 | PB168408BSD | FC069159.D | 11 Jun 2025 17:57 | YP/AJ | Ok,M |
| 7 | Q2126-01 | FC069160.D | 11 Jun 2025 18:39 | YP/AJ | Ok,M |
| 8 | Q2126-01 | FC069161.D | 11 Jun 2025 19:23 | YP/AJ | Ok,M |
| 9 | Q2126-02 | FC069162.D | 11 Jun 2025 20:05 | YP/AJ | Ok,M |
| 10 | Q2177-02 | FC069163.D | 11 Jun 2025 20:47 | YP/AJ | Not Ok |
| 11 | Q2177-02D | FC069164.D | 11 Jun 2025 21:28 | YP/AJ | Not Ok |
| 12 | Q2177-02MS | FC069165.D | 11 Jun 2025 22:09 | YP/AJ | Ok,M |
| 13 | Q2177-02MSD | FC069166.D | 11 Jun 2025 22:50 | YP/AJ | Ok,M |
| 14 | I.BLK | FC069167.D | 11 Jun 2025 23:29 | YP/AJ | Ok |
| 15 | 20 PPM ALIPHATIC HC STD | FC069168.D | 12 Jun 2025 00:09 | YP/AJ | Ok,M |
| 16 | Q2177-04 | FC069169.D | 12 Jun 2025 01:28 | YP/AJ | Not Ok |
| 17 | Q2177-06 | FC069170.D | 12 Jun 2025 02:08 | YP/AJ | Not Ok |
| 18 | Q2198-01 | FC069171.D | 12 Jun 2025 02:48 | YP/AJ | Ok |
| 19 | Q2198-03 | FC069172.D | 12 Jun 2025 03:27 | YP/AJ | Ok |
| 20 | I.BLK | FC069173.D | 12 Jun 2025 04:07 | YP/AJ | Ok |
| 21 | 20 PPM ALIPHATIC HC STD | FC069174.D | 12 Jun 2025 04:46 | YP/AJ | Ok,M |

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**Instrument ID: FID_C**

## Daily Analysis Runlog For Sequence/QCBatch ID # FC061125AL

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 6/11/2025 3:08:31 PM | | |
| Supervise By | mohammad | Supervise On | 6/13/2025 1:40:04 AM | | |
| SubDirectory | FC061125AL | HP Acquire Method | | HP Processing Method | FC052425AL |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24170,PP24175,PP24176,PP24177,PP24178 |
| CCC | PP24176 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24174,PP24179 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| | | | | | |
|---|---|---|---|---|---|
| 22 | PB168409BL | FC069175.D | 12 Jun 2025 06:04 | YP/AJ | Ok |
| 23 | Q2126-07 | FC069176.D | 12 Jun 2025 06:44 | YP/AJ | Ok,M |
| 24 | Q2126-07 | FC069177.D | 12 Jun 2025 07:23 | YP/AJ | Ok,M |
| 25 | Q2126-08 | FC069178.D | 12 Jun 2025 08:02 | YP/AJ | Ok,M |
| 26 | I.BLK | FC069179.D | 12 Jun 2025 08:41 | YP/AJ | Ok |
| 27 | 20 PPM ALIPHATIC HC STD | FC069180.D | 12 Jun 2025 09:21 | YP/AJ | Ok,M |

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**Instrument ID: FID_D**

## Daily Analysis Runlog For Sequence/QCBatch ID # FD052425AR

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 5/23/2025 12:26:08 PM | | |
| Supervise By | mohammad | Supervise On | 5/28/2025 1:48:35 AM | | |
| SubDirectory | FD052425AR | HP Acquire Method | | HP Processing Method | FD052425AR |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24500,PP24502,PP24503,PP24504,PP24505 |
| CCC | PP24503 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24501,PP24506 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| Sr# | SampleId | Data File Name | Date-Time | Operator | Status |
|---|---|---|---|---|---|
| 1 | MECL2 | FD049392.D | 23 May 2025 13:35 | YP/AJ | Ok |
| 2 | I.BLK | FD049393.D | 23 May 2025 14:12 | YP/AJ | Ok |
| 3 | 100 PPM AROMATIC HC STD1 | FD049394.D | 23 May 2025 14:50 | YP/AJ | Ok,M |
| 4 | 50 PPM AROMATIC HC STD2 | FD049395.D | 23 May 2025 15:28 | YP/AJ | Ok |
| 5 | 20 PPM AROMATIC HC STD3 | FD049396.D | 23 May 2025 16:05 | YP/AJ | Ok |
| 6 | 10 PPM AROMATIC HC STD4 | FD049397.D | 23 May 2025 16:43 | YP/AJ | Ok |
| 7 | 5 PPM AROMATIC HC STD5 | FD049398.D | 23 May 2025 17:20 | YP/AJ | Ok |
| 8 | 20 PPM AROMATIC HC STD ICV | FD049399.D | 23 May 2025 17:58 | YP/AJ | Ok |
| 9 | I.BLK | FD049400.D | 23 May 2025 19:13 | YP/AJ | Ok |
| 10 | 20 PPM AROMATIC HC STD | FD049401.D | 23 May 2025 19:50 | YP/AJ | Ok |

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**Instrument ID: FID_D**

## Daily Analysis Runlog For Sequence/QCBatch ID # FD060925AR

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 6/9/2025 1:09:15 PM | | |
| Supervise By | mohammad | Supervise On | 6/11/2025 2:16:01 AM | | |
| SubDirectory | FD060925AR | HP Acquire Method | | HP Processing Method | FD052425AR |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24500,PP24502,PP24503,PP24504,PP24505 |
| CCC | PP24503 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24501,PP24506 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| Sr# | SampleId | Data File Name | Date-Time | Operator | Status |
|---|---|---|---|---|---|
| 1 | MECL2 | FD049412.D | 09 Jun 2025 09:27 | YP/AJ | Ok |
| 2 | I.BLK | FD049413.D | 09 Jun 2025 10:07 | YP/AJ | Ok |
| 3 | 20 PPM AROMATIC HC STD | FD049414.D | 09 Jun 2025 12:17 | YP/AJ | Ok |
| 4 | PB168324BL | FD049415.D | 09 Jun 2025 16:17 | YP/AJ | Ok |
| 5 | PB168324BS | FD049416.D | 09 Jun 2025 16:57 | YP/AJ | Ok |
| 6 | PB168324BSD | FD049417.D | 09 Jun 2025 17:37 | YP/AJ | Ok |
| 7 | Q2177-08 | FD049418.D | 09 Jun 2025 18:17 | YP/AJ | Ok |
| 8 | Q2198-05 | FD049419.D | 09 Jun 2025 18:58 | YP/AJ | Not Ok |
| 9 | I.BLK | FD049420.D | 09 Jun 2025 20:20 | YP/AJ | Ok |
| 10 | 20 PPM AROMATIC HC STD | FD049421.D | 09 Jun 2025 21:01 | YP/AJ | Ok |

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**Instrument ID: FID_D**

## Daily Analysis Runlog For Sequence/QCBatch ID # FD061025AR

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 6/10/2025 11:55:57 AM | | |
| Supervise By | mohammad | Supervise On | 6/12/2025 3:34:06 AM | | |
| SubDirectory | FD061025AR | HP Acquire Method | | HP Processing Method | FD052425AR |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24500,PP24502,PP24503,PP24504,PP24505 |
| CCC | PP24503 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24501,PP24506 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| Sr# | SampleId | Data File Name | Date-Time | Operator | Status |
|---|---|---|---|---|---|
| 1 | MECL2 | FD049422.D | 10 Jun 2025 07:53 | YP/AJ | Ok |
| 2 | I.BLK | FD049423.D | 10 Jun 2025 08:31 | YP/AJ | Ok |
| 3 | 20 PPM AROMATIC HC STD | FD049424.D | 10 Jun 2025 09:11 | YP/AJ | Ok |
| 4 | Q2198-05 | FD049425.D | 10 Jun 2025 11:50 | YP/AJ | Ok |
| 5 | I.BLK | FD049426.D | 10 Jun 2025 12:30 | YP/AJ | Ok |
| 6 | 20 PPM AROMATIC HC STD | FD049427.D | 10 Jun 2025 13:10 | YP/AJ | Ok |

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**Instrument ID: FID_D**

## Daily Analysis Runlog For Sequence/QCBatch ID # FD061125AR

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 6/11/2025 3:09:24 PM | | |
| Supervise By | mohammad | Supervise On | 6/13/2025 1:40:17 AM | | |
| SubDirectory | FD061125AR | HP Acquire Method | | HP Processing Method | FD052425AR |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24500,PP24502,PP24503,PP24504,PP24505 |
| CCC | PP24503 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24501,PP24506 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| Sr# | SampleId | Data File Name | Date-Time | Operator | Status |
|---|---|---|---|---|---|
| 1 | MECL2 | FD049428.D | 11 Jun 2025 10:11 | YP/AJ | Ok |
| 2 | I.BLK | FD049429.D | 11 Jun 2025 10:51 | YP/AJ | Ok |
| 3 | 20 PPM AROMATIC HC STD | FD049430.D | 11 Jun 2025 12:12 | YP/AJ | Ok |
| 4 | PP24647 | FD049431.D | 11 Jun 2025 15:52 | YP/AJ | Ok |
| 5 | PB168408BL | FD049432.D | 11 Jun 2025 16:33 | YP/AJ | Ok |
| 6 | PB168408BS | FD049433.D | 11 Jun 2025 17:15 | YP/AJ | Ok |
| 7 | PB168408BSD | FD049434.D | 11 Jun 2025 17:57 | YP/AJ | Ok |
| 8 | Q2126-01 | FD049435.D | 11 Jun 2025 18:39 | YP/AJ | Ok |
| 9 | Q2126-01 | FD049436.D | 11 Jun 2025 19:23 | YP/AJ | Ok |
| 10 | Q2126-02 | FD049437.D | 11 Jun 2025 20:05 | YP/AJ | Ok,M |
| 11 | Q2177-02 | FD049438.D | 11 Jun 2025 20:47 | YP/AJ | Not Ok |
| 12 | Q2177-02D | FD049439.D | 11 Jun 2025 21:28 | YP/AJ | Not Ok |
| 13 | Q2177-02MS | FD049440.D | 11 Jun 2025 22:09 | YP/AJ | Not Ok |
| 14 | Q2177-02MSD | FD049441.D | 11 Jun 2025 22:50 | YP/AJ | Not Ok |
| 15 | I.BLK | FD049442.D | 11 Jun 2025 23:29 | YP/AJ | Ok |
| 16 | 20 PPM AROMATIC HC STD | FD049443.D | 12 Jun 2025 00:09 | YP/AJ | Ok |
| 17 | Q2177-04 | FD049444.D | 12 Jun 2025 01:28 | YP/AJ | Not Ok |
| 18 | Q2177-06 | FD049445.D | 12 Jun 2025 02:08 | YP/AJ | Not Ok |
| 19 | Q2198-01 | FD049446.D | 12 Jun 2025 02:48 | YP/AJ | Ok |
| 20 | Q2198-03 | FD049447.D | 12 Jun 2025 03:27 | YP/AJ | Ok |
| 21 | I.BLK | FD049448.D | 12 Jun 2025 04:07 | YP/AJ | Ok |

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**Instrument ID: FID_D**

## Daily Analysis Runlog For Sequence/QCBatch ID # FD061125AR

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 6/11/2025 3:09:24 PM | | |
| Supervise By | mohammad | Supervise On | 6/13/2025 1:40:17 AM | | |
| SubDirectory | FD061125AR | HP Acquire Method | | HP Processing Method | FD052425AR |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24500,PP24502,PP24503,PP24504,PP24505 |
| CCC | PP24503 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24501,PP24506 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| | | | | | |
|---|---|---|---|---|---|
| 22 | 20 PPM AROMATIC HC STD | FD049449.D | 12 Jun 2025 04:46 | YP/AJ | Ok |
| 23 | PB168409BL | FD049450.D | 12 Jun 2025 06:04 | YP/AJ | Ok |
| 24 | Q2126-07 | FD049451.D | 12 Jun 2025 06:44 | YP/AJ | Ok |
| 25 | Q2126-07 | FD049452.D | 12 Jun 2025 07:23 | YP/AJ | Ok,M |
| 26 | Q2126-08 | FD049453.D | 12 Jun 2025 08:02 | YP/AJ | Ok |
| 27 | I.BLK | FD049454.D | 12 Jun 2025 08:41 | YP/AJ | Ok |
| 28 | 20 PPM AROMATIC HC STD | FD049455.D | 12 Jun 2025 09:21 | YP/AJ | Ok |

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**Instrument ID: FID_D**

## Daily Analysis Runlog For Sequence/QCBatch ID # FD061325AR

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 6/13/2025 10:27:20 AM | | |
| Supervise By | mohammad | Supervise On | 6/16/2025 8:33:02 AM | | |
| SubDirectory | FD061325AR | HP Acquire Method | | HP Processing Method | FD052425AR |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24500,PP24502,PP24503,PP24504,PP24505 |
| CCC | PP24503 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24501,PP24506 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| Sr# | SampleId | Data File Name | Date-Time | Operator | Status |
|---|---|---|---|---|---|
| 1 | MECL2 | FD049479.D | 13 Jun 2025 06:29 | YP/AJ | Ok |
| 2 | I.BLK | FD049480.D | 13 Jun 2025 07:07 | YP/AJ | Ok |
| 3 | 20 PPM AROMATIC HC STD | FD049481.D | 13 Jun 2025 07:46 | YP/AJ | Ok |
| 4 | Q2177-02 | FD049482.D | 13 Jun 2025 08:25 | YP/AJ | Ok |
| 5 | Q2177-02D | FD049483.D | 13 Jun 2025 09:04 | YP/AJ | Ok |
| 6 | Q2177-02MS | FD049484.D | 13 Jun 2025 09:48 | YP/AJ | Ok |
| 7 | Q2177-02MSD | FD049485.D | 13 Jun 2025 10:28 | YP/AJ | Ok |
| 8 | Q2286-03DL | FD049486.D | 13 Jun 2025 11:07 | YP/AJ | Dilution |
| 9 | Q2286-03DL2 | FD049487.D | 13 Jun 2025 11:47 | YP/AJ | Ok |
| 10 | I.BLK | FD049488.D | 13 Jun 2025 12:26 | YP/AJ | Ok |
| 11 | 20 PPM AROMATIC HC STD | FD049489.D | 13 Jun 2025 13:06 | YP/AJ | Ok |

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**Instrument ID:** FID_C

## Daily Analysis Runlog For Sequence/QCBatch ID # FC052425AL

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 5/23/2025 12:24:51 PM | | |
| Supervise By | mohammad | Supervise On | 5/28/2025 1:48:12 AM | | |
| SubDirectory | FC052425AL | HP Acquire Method | | HP Processing Method | FC052425AL |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24170,PP24175,PP24176,PP24177,PP24178 |
| CCC | PP24176 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24174,PP24179 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| Sr# | SampleId | ClientID | Data File Name | Date-Time | Comment | Operator | Status |
|---|---|---|---|---|---|---|---|
| 1 | MECL2 | MECL2 | FC068996.D | 23 May 2025 12:58 | | YP/AJ | Ok |
| 2 | I.BLK | I.BLK | FC068997.D | 23 May 2025 13:35 | | YP/AJ | Ok |
| 3 | 100 PPM ALIPHATIC H | 100 PPM ALIPHATIC H | FC068998.D | 23 May 2025 14:12 | | YP/AJ | Ok |
| 4 | 50 PPM ALIPHATIC HC | 50 PPM ALIPHATIC HC | FC068999.D | 23 May 2025 14:50 | | YP/AJ | Ok |
| 5 | 20 PPM ALIPHATIC HC | 20 PPM ALIPHATIC HC | FC069000.D | 23 May 2025 15:28 | | YP/AJ | Ok |
| 6 | 10 PPM ALIPHATIC HC | 10 PPM ALIPHATIC HC | FC069001.D | 23 May 2025 16:05 | | YP/AJ | Ok |
| 7 | 5 PPM ALIPHATIC HC | 5 PPM ALIPHATIC HC | FC069002.D | 23 May 2025 16:43 | | YP/AJ | Ok |
| 8 | 20 PPM ALIPHATIC HC | 20 PPM ALIPHATIC HC | FC069003.D | 23 May 2025 17:20 | | YP/AJ | Ok,M |
| 9 | I.BLK | I.BLK | FC069004.D | 23 May 2025 18:36 | | YP/AJ | Ok |
| 10 | 20 PPM ALIPHATIC HC | 20 PPM ALIPHATIC HC | FC069005.D | 23 May 2025 19:13 | | YP/AJ | Ok |

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**Instrument ID:** FID_C

## Daily Analysis Runlog For Sequence/QCBatch ID # FC060925AL

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 6/9/2025 12:18:01 PM | | |
| Supervise By | mohammad | Supervise On | 6/11/2025 2:15:53 AM | | |
| SubDirectory | FC060925AL | HP Acquire Method | | HP Processing Method | FC052425AL |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24170,PP24175,PP24176,PP24177,PP24178 |
| CCC | PP24176 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24174,PP24179 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| Sr# | SampleId | ClientID | Data File Name | Date-Time | Comment | Operator | Status |
|---|---|---|---|---|---|---|---|
| 1 | MECL2 | MECL2 | FC069131.D | 09 Jun 2025 09:27 | | YP/AJ | Ok |
| 2 | I.BLK | I.BLK | FC069132.D | 09 Jun 2025 10:07 | | YP/AJ | Ok |
| 3 | 20 PPM ALIPHATIC HC | 20 PPM ALIPHATIC HC | FC069133.D | 09 Jun 2025 12:17 | | YP/AJ | Ok,M |
| 4 | PB168324BL | PB168324BL | FC069134.D | 09 Jun 2025 16:17 | | YP/AJ | Ok |
| 5 | PB168324BS | PB168324BS | FC069135.D | 09 Jun 2025 16:57 | naphthalene break down - 0.648, 2-methylnephthalene break down - 0.668 | YP/AJ | Ok,M |
| 6 | PB168324BSD | PB168324BSD | FC069136.D | 09 Jun 2025 17:37 | naphthalene break down - 0.725, 2-methylnephthalene break down - 0.817 | YP/AJ | Ok,M |
| 7 | Q2177-08 | EB05312025 | FC069137.D | 09 Jun 2025 18:17 | | YP/AJ | Ok |
| 8 | Q2198-05 | B-202-GW01 | FC069138.D | 09 Jun 2025 18:58 | | YP/AJ | Ok |
| 9 | I.BLK | I.BLK | FC069139.D | 09 Jun 2025 20:20 | | YP/AJ | Ok |
| 10 | 20 PPM ALIPHATIC HC | 20 PPM ALIPHATIC HC | FC069140.D | 09 Jun 2025 21:41 | | YP/AJ | Ok,M |
| 11 | PB168341BL | PB168341BL | FC069141.D | 09 Jun 2025 22:21 | | YP/AJ | Ok |
| 12 | PB168341BS | PB168341BS | FC069142.D | 09 Jun 2025 23:02 | | YP/AJ | Ok,M |
| 13 | PB168341BSD | PB168341BSD | FC069143.D | 09 Jun 2025 23:41 | | YP/AJ | Ok,M |
| 14 | Q2265-01 | TP11-MHL-WC | FC069144.D | 10 Jun 2025 00:21 | | YP/AJ | Ok |
| 15 | Q2265-01D | Q2265-01D | FC069145.D | 10 Jun 2025 01:00 | | YP/AJ | Ok |
| 16 | Q2265-01MS | TP11-MHL-WCMS | FC069146.D | 10 Jun 2025 01:39 | FC069144.D | YP/AJ | Ok,M |

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**Instrument ID:** FID_C

## Daily Analysis Runlog For Sequence/QCBatch ID # FC060925AL

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 6/9/2025 12:18:01 PM | | |
| Supervise By | mohammad | Supervise On | 6/11/2025 2:15:53 AM | | |
| SubDirectory | FC060925AL | HP Acquire Method | | HP Processing Method | FC052425AL |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24170,PP24175,PP24176,PP24177,PP24178 |
| CCC | PP24176 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24174,PP24179 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17 | Q2265-01MSD | TP11-MHL-WCMSD | FC069147.D | 10 Jun 2025 02:19 | FC069144.D!FC069146.D | YP/AJ | Ok,M |
| 18 | Q2265-03 | TP11-MHL-EPH | FC069148.D | 10 Jun 2025 02:58 | | YP/AJ | Ok |
| 19 | I.BLK | I.BLK | FC069149.D | 10 Jun 2025 04:16 | | YP/AJ | Ok |
| 20 | 20 PPM ALIPHATIC HC | 20 PPM ALIPHATIC HC | FC069150.D | 10 Jun 2025 04:55 | | YP/AJ | Ok,M |

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**Instrument ID:** FID_C

## Daily Analysis Runlog For Sequence/QCBatch ID # FC061125AL

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 6/11/2025 3:08:31 PM | | |
| Supervise By | mohammad | Supervise On | 6/13/2025 1:40:04 AM | | |
| SubDirectory | FC061125AL | HP Acquire Method | | HP Processing Method | FC052425AL |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24170,PP24175,PP24176,PP24177,PP24178 |
| CCC | PP24176 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24174,PP24179 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| Sr# | SampleId | ClientID | Data File Name | Date-Time | Comment | Operator | Status |
|---|---|---|---|---|---|---|---|
| 1 | MECL2 | MECL2 | FC069154.D | 11 Jun 2025 10:11 | | YP/AJ | Ok |
| 2 | I.BLK | I.BLK | FC069155.D | 11 Jun 2025 10:51 | | YP/AJ | Ok |
| 3 | 20 PPM ALIPHATIC HC | 20 PPM ALIPHATIC HC | FC069156.D | 11 Jun 2025 12:12 | | YP/AJ | Ok,M |
| 4 | PB168408BL | PB168408BL | FC069157.D | 11 Jun 2025 16:33 | | YP/AJ | Ok |
| 5 | PB168408BS | PB168408BS | FC069158.D | 11 Jun 2025 17:15 | naphthalene break down - 0.510, 2-methylnephthalene break down - 0.715 | YP/AJ | Ok,M |
| 6 | PB168408BSD | PB168408BSD | FC069159.D | 11 Jun 2025 17:57 | naphthalene break down - 0.674, 2-methylnephthalene break down - 0.938 | YP/AJ | Ok,M |
| 7 | Q2126-01 | LOD-MDL-SOIL-03-QT | FC069160.D | 11 Jun 2025 18:39 | 2.5 PPM SOIL LOD | YP/AJ | Ok,M |
| 8 | Q2126-01 | LOD-MDL-SOIL-03-QT | FC069161.D | 11 Jun 2025 19:23 | 5 PPM SOIL LOD | YP/AJ | Ok,M |
| 9 | Q2126-02 | LOQ-SOIL-02-QT2-202 | FC069162.D | 11 Jun 2025 20:05 | 5 PPM SOIL LOQ | YP/AJ | Ok,M |
| 10 | Q2177-02 | B-187-SB01 | FC069163.D | 11 Jun 2025 20:47 | Surr Fail | YP/AJ | Not Ok |
| 11 | Q2177-02D | Q2177-02D | FC069164.D | 11 Jun 2025 21:28 | Surr Fail | YP/AJ | Not Ok |
| 12 | Q2177-02MS | B-187-SB01MS | FC069165.D | 11 Jun 2025 22:09 | FC069184.D | YP/AJ | Ok,M |
| 13 | Q2177-02MSD | B-187-SB01MSD | FC069166.D | 11 Jun 2025 22:50 | FC069184.D!FC069165.D | YP/AJ | Ok,M |
| 14 | I.BLK | I.BLK | FC069167.D | 11 Jun 2025 23:29 | | YP/AJ | Ok |
| 15 | 20 PPM ALIPHATIC HC | 20 PPM ALIPHATIC HC | FC069168.D | 12 Jun 2025 00:09 | | YP/AJ | Ok,M |
| 16 | Q2177-04 | B-187-SB02 | FC069169.D | 12 Jun 2025 01:28 | Surr Fail | YP/AJ | Not Ok |

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**Instrument ID:** FID_C

## Daily Analysis Runlog For Sequence/QCBatch ID # FC061125AL

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 6/11/2025 3:08:31 PM | | |
| Supervise By | mohammad | Supervise On | 6/13/2025 1:40:04 AM | | |
| SubDirectory | FC061125AL | HP Acquire Method | | HP Processing Method | FC052425AL |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24170,PP24175,PP24176,PP24177,PP24178 |
| CCC | PP24176 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24174,PP24179 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17 | Q2177-06 | B-202-SB01 | FC069170.D | 12 Jun 2025 02:08 | Surr Fail | YP/AJ | Not Ok |
| 18 | Q2198-01 | B-202-SB02 | FC069171.D | 12 Jun 2025 02:48 | | YP/AJ | Ok |
| 19 | Q2198-03 | B-207-SB02 | FC069172.D | 12 Jun 2025 03:27 | | YP/AJ | Ok |
| 20 | I.BLK | I.BLK | FC069173.D | 12 Jun 2025 04:07 | | YP/AJ | Ok |
| 21 | 20 PPM ALIPHATIC HC | 20 PPM ALIPHATIC HC | FC069174.D | 12 Jun 2025 04:46 | | YP/AJ | Ok,M |
| 22 | PB168409BL | PB168409BL | FC069175.D | 12 Jun 2025 06:04 | | YP/AJ | Ok |
| 23 | Q2126-07 | LOD-MDL-WATER-01-( | FC069176.D | 12 Jun 2025 06:44 | 2.5 PPM WATER LOD | YP/AJ | Ok,M |
| 24 | Q2126-07 | LOD-MDL-WATER-01-( | FC069177.D | 12 Jun 2025 07:23 | 5 PPM WATER LOD | YP/AJ | Ok,M |
| 25 | Q2126-08 | LOQ-WATER-02-QT2-2 | FC069178.D | 12 Jun 2025 08:02 | 5 PPM WATER LOQ | YP/AJ | Ok,M |
| 26 | I.BLK | I.BLK | FC069179.D | 12 Jun 2025 08:41 | | YP/AJ | Ok |
| 27 | 20 PPM ALIPHATIC HC | 20 PPM ALIPHATIC HC | FC069180.D | 12 Jun 2025 09:21 | | YP/AJ | Ok,M |

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## Daily Analysis Runlog For Sequence/QCBatch ID # FD052425AR

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 5/23/2025 12:26:08 PM | | |
| Supervise By | mohammad | Supervise On | 5/28/2025 1:48:35 AM | | |
| SubDirectory | FD052425AR | HP Acquire Method | | HP Processing Method | FD052425AR |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24500,PP24502,PP24503,PP24504,PP24505 |
| CCC | PP24503 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24501,PP24506 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| Sr# | SampleId | ClientID | Data File Name | Date-Time | Comment | Operator | Status |
|---|---|---|---|---|---|---|---|
| 1 | MECL2 | MECL2 | FD049392.D | 23 May 2025 13:35 | | YP/AJ | Ok |
| 2 | I.BLK | I.BLK | FD049393.D | 23 May 2025 14:12 | | YP/AJ | Ok |
| 3 | 100 PPM AROMATIC H | 100 PPM AROMATIC H | FD049394.D | 23 May 2025 14:50 | | YP/AJ | Ok,M |
| 4 | 50 PPM AROMATIC HC | 50 PPM AROMATIC HC | FD049395.D | 23 May 2025 15:28 | | YP/AJ | Ok |
| 5 | 20 PPM AROMATIC HC | 20 PPM AROMATIC HC | FD049396.D | 23 May 2025 16:05 | | YP/AJ | Ok |
| 6 | 10 PPM AROMATIC HC | 10 PPM AROMATIC HC | FD049397.D | 23 May 2025 16:43 | | YP/AJ | Ok |
| 7 | 5 PPM AROMATIC HC | 5 PPM AROMATIC HC | FD049398.D | 23 May 2025 17:20 | | YP/AJ | Ok |
| 8 | 20 PPM AROMATIC HC | 20 PPM AROMATIC HC | FD049399.D | 23 May 2025 17:58 | | YP/AJ | Ok |
| 9 | I.BLK | I.BLK | FD049400.D | 23 May 2025 19:13 | | YP/AJ | Ok |
| 10 | 20 PPM AROMATIC HC | 20 PPM AROMATIC HC | FD049401.D | 23 May 2025 19:50 | | YP/AJ | Ok |

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**Instrument ID:** FID_D

## Daily Analysis Runlog For Sequence/QCBatch ID # FD060925AR

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 6/9/2025 1:09:15 PM | | |
| Supervise By | mohammad | Supervise On | 6/11/2025 2:16:01 AM | | |
| SubDirectory | FD060925AR | HP Acquire Method | | HP Processing Method | FD052425AR |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24500,PP24502,PP24503,PP24504,PP24505 |
| CCC | PP24503 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24501,PP24506 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| Sr# | SampleId | ClientID | Data File Name | Date-Time | Comment | Operator | Status |
|---|---|---|---|---|---|---|---|
| 1 | MECL2 | MECL2 | FD049412.D | 09 Jun 2025 09:27 | | YP/AJ | Ok |
| 2 | I.BLK | I.BLK | FD049413.D | 09 Jun 2025 10:07 | | YP/AJ | Ok |
| 3 | 20 PPM AROMATIC HC | 20 PPM AROMATIC HC | FD049414.D | 09 Jun 2025 12:17 | | YP/AJ | Ok |
| 4 | PB168324BL | PB168324BL | FD049415.D | 09 Jun 2025 16:17 | | YP/AJ | Ok |
| 5 | PB168324BS | PB168324BS | FD049416.D | 09 Jun 2025 16:57 | naphthalene break down - 0.648, 2-methylnephthalene break down - 0.668 | YP/AJ | Ok |
| 6 | PB168324BSD | PB168324BSD | FD049417.D | 09 Jun 2025 17:37 | naphthalene break down - 0.725, 2-methylnephthalene break down - 0.817 | YP/AJ | Ok |
| 7 | Q2177-08 | EB05312025 | FD049418.D | 09 Jun 2025 18:17 | | YP/AJ | Ok |
| 8 | Q2198-05 | Q2198-05 | FD049419.D | 09 Jun 2025 18:58 | surr fail | YP/AJ | Not Ok |
| 9 | I.BLK | I.BLK | FD049420.D | 09 Jun 2025 20:20 | | YP/AJ | Ok |
| 10 | 20 PPM AROMATIC HC | 20 PPM AROMATIC HC | FD049421.D | 09 Jun 2025 21:01 | | YP/AJ | Ok |

M : Manual Integration

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

**Instrument ID:** FID_D

## Daily Analysis Runlog For Sequence/QCBatch ID # FD061025AR

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 6/10/2025 11:55:57 AM | | |
| Supervise By | mohammad | Supervise On | 6/12/2025 3:34:06 AM | | |
| SubDirectory | FD061025AR | HP Acquire Method | | HP Processing Method | FD052425AR |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24500,PP24502,PP24503,PP24504,PP24505 |
| CCC | PP24503 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24501,PP24506 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| Sr# | SampleId | ClientID | Data File Name | Date-Time | Comment | Operator | Status |
|---|---|---|---|---|---|---|---|
| 1 | MECL2 | MECL2 | FD049422.D | 10 Jun 2025 07:53 | | YP/AJ | Ok |
| 2 | I.BLK | I.BLK | FD049423.D | 10 Jun 2025 08:31 | | YP/AJ | Ok |
| 3 | 20 PPM AROMATIC HC | 20 PPM AROMATIC HC | FD049424.D | 10 Jun 2025 09:11 | | YP/AJ | Ok |
| 4 | Q2198-05 | B-202-GW01 | FD049425.D | 10 Jun 2025 11:50 | | YP/AJ | Ok |
| 5 | I.BLK | I.BLK | FD049426.D | 10 Jun 2025 12:30 | | YP/AJ | Ok |
| 6 | 20 PPM AROMATIC HC | 20 PPM AROMATIC HC | FD049427.D | 10 Jun 2025 13:10 | | YP/AJ | Ok |

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**Instrument ID:** FID_D

## Daily Analysis Runlog For Sequence/QCBatch ID # FD061125AR

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 6/11/2025 3:09:24 PM | | |
| Supervise By | mohammad | Supervise On | 6/13/2025 1:40:17 AM | | |
| SubDirectory | FD061125AR | HP Acquire Method | | HP Processing Method | FD052425AR |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24500,PP24502,PP24503,PP24504,PP24505 |
| CCC | PP24503 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24501,PP24506 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| Sr# | SampleId | ClientID | Data File Name | Date-Time | Comment | Operator | Status |
|---|---|---|---|---|---|---|---|
| 1 | MECL2 | MECL2 | FD049428.D | 11 Jun 2025 10:11 | | YP/AJ | Ok |
| 2 | I.BLK | I.BLK | FD049429.D | 11 Jun 2025 10:51 | | YP/AJ | Ok |
| 3 | 20 PPM AROMATIC HC | 20 PPM AROMATIC HC | FD049430.D | 11 Jun 2025 12:12 | | YP/AJ | Ok |
| 4 | PP24647 | PP24647 | FD049431.D | 11 Jun 2025 15:52 | | YP/AJ | Ok |
| 5 | PB168408BL | PB168408BL | FD049432.D | 11 Jun 2025 16:33 | | YP/AJ | Ok |
| 6 | PB168408BS | PB168408BS | FD049433.D | 11 Jun 2025 17:15 | naphthalene break down - 0.510, 2-methylnephthalene break down - 0.715 | YP/AJ | Ok |
| 7 | PB168408BSD | PB168408BSD | FD049434.D | 11 Jun 2025 17:57 | naphthalene break down - 0.674, 2-methylnephthalene break down - 0.938 | YP/AJ | Ok |
| 8 | Q2126-01 | LOD-MDL-SOIL-03-QT | FD049435.D | 11 Jun 2025 18:39 | 2.5 PPM SOIL LOD | YP/AJ | Ok |
| 9 | Q2126-01 | LOD-MDL-SOIL-03-QT | FD049436.D | 11 Jun 2025 19:23 | 5 PPM SOIL LOD | YP/AJ | Ok |
| 10 | Q2126-02 | LOQ-SOIL-02-QT2-202 | FD049437.D | 11 Jun 2025 20:05 | 5 PPM SOIL LOQ | YP/AJ | Ok,M |
| 11 | Q2177-02 | B-187-SB01 | FD049438.D | 11 Jun 2025 20:47 | Surr Fail | YP/AJ | Not Ok |
| 12 | Q2177-02D | Q2177-02D | FD049439.D | 11 Jun 2025 21:28 | Surr Fail | YP/AJ | Not Ok |
| 13 | Q2177-02MS | Q2177-02MS | FD049440.D | 11 Jun 2025 22:09 | | YP/AJ | Not Ok |
| 14 | Q2177-02MSD | Q2177-02MSD | FD049441.D | 11 Jun 2025 22:50 | | YP/AJ | Not Ok |
| 15 | I.BLK | I.BLK | FD049442.D | 11 Jun 2025 23:29 | | YP/AJ | Ok |
| 16 | 20 PPM AROMATIC HC | 20 PPM AROMATIC HC | FD049443.D | 12 Jun 2025 00:09 | | YP/AJ | Ok |

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Fax : 908 789 8922

**Instrument ID:** FID_D

## Daily Analysis Runlog For Sequence/QCBatch ID # FD061125AR

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 6/11/2025 3:09:24 PM | | |
| Supervise By | mohammad | Supervise On | 6/13/2025 1:40:17 AM | | |
| SubDirectory | FD061125AR | HP Acquire Method | | HP Processing Method | FD052425AR |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24500,PP24502,PP24503,PP24504,PP24505 |
| CCC | PP24503 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24501,PP24506 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17 | Q2177-04 | B-187-SB02 | FD049444.D | 12 Jun 2025 01:28 | Surr Fail | YP/AJ | Not Ok |
| 18 | Q2177-06 | B-202-SB01 | FD049445.D | 12 Jun 2025 02:08 | Surr Fail | YP/AJ | Not Ok |
| 19 | Q2198-01 | B-202-SB02 | FD049446.D | 12 Jun 2025 02:48 | | YP/AJ | Ok |
| 20 | Q2198-03 | B-207-SB02 | FD049447.D | 12 Jun 2025 03:27 | | YP/AJ | Ok |
| 21 | I.BLK | I.BLK | FD049448.D | 12 Jun 2025 04:07 | | YP/AJ | Ok |
| 22 | 20 PPM AROMATIC HC | 20 PPM AROMATIC HC | FD049449.D | 12 Jun 2025 04:46 | | YP/AJ | Ok |
| 23 | PB168409BL | PB168409BL | FD049450.D | 12 Jun 2025 06:04 | | YP/AJ | Ok |
| 24 | Q2126-07 | LOD-MDL-WATER-01-( | FD049451.D | 12 Jun 2025 06:44 | 2.5 PPM WATER LOD | YP/AJ | Ok |
| 25 | Q2126-07 | LOD-MDL-WATER-01-( | FD049452.D | 12 Jun 2025 07:23 | 5 PPM WATER LOD | YP/AJ | Ok,M |
| 26 | Q2126-08 | LOQ-WATER-02-QT2-2 | FD049453.D | 12 Jun 2025 08:02 | 5 PPM WATER LOQ | YP/AJ | Ok |
| 27 | I.BLK | I.BLK | FD049454.D | 12 Jun 2025 08:41 | | YP/AJ | Ok |
| 28 | 20 PPM AROMATIC HC | 20 PPM AROMATIC HC | FD049455.D | 12 Jun 2025 09:21 | | YP/AJ | Ok |

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Fax : 908 789 8922

**Instrument ID:** FID_D

## Daily Analysis Runlog For Sequence/QCBatch ID # FD061325AR

| | | | | | |
|---|---|---|---|---|---|
| Review By | yogesh | Review On | 6/13/2025 10:27:20 AM | | |
| Supervise By | mohammad | Supervise On | 6/16/2025 8:33:02 AM | | |
| SubDirectory | FD061325AR | HP Acquire Method | | HP Processing Method | FD052425AR |

| STD. NAME | STD REF.# |
|---|---|
| Tune/Reschk | |
| Initial Calibration Stds | PP24500,PP24502,PP24503,PP24504,PP24505 |
| CCC | PP24503 |
| Internal Standard/PEM | |
| ICV/I.BLK | PP24501,PP24506 |
| Surrogate Standard | |
| MS/MSD Standard | |
| LCS Standard | |

| Sr# | SampleId | ClientID | Data File Name | Date-Time | Comment | Operator | Status |
|---|---|---|---|---|---|---|---|
| 1 | MECL2 | MECL2 | FD049479.D | 13 Jun 2025 06:29 | | YP/AJ | Ok |
| 2 | I.BLK | I.BLK | FD049480.D | 13 Jun 2025 07:07 | | YP/AJ | Ok |
| 3 | 20 PPM AROMATIC HC | 20 PPM AROMATIC HC | FD049481.D | 13 Jun 2025 07:46 | | YP/AJ | Ok |
| 4 | Q2177-02 | B-187-SB01 | FD049482.D | 13 Jun 2025 08:25 | | YP/AJ | Ok |
| 5 | Q2177-02D | Q2177-02D | FD049483.D | 13 Jun 2025 09:04 | | YP/AJ | Ok |
| 6 | Q2177-02MS | B-187-SB01MS | FD049484.D | 13 Jun 2025 09:48 | FD049482.D | YP/AJ | Ok |
| 7 | Q2177-02MSD | B-187-SB01MSD | FD049485.D | 13 Jun 2025 10:28 | FD049482.D!FD049484.D | YP/AJ | Ok |
| 8 | Q2286-03DL | LAW-25-0084DL | FD049486.D | 13 Jun 2025 11:07 | need further dilution | YP/AJ | Dilution |
| 9 | Q2286-03DL2 | LAW-25-0084DL2 | FD049487.D | 13 Jun 2025 11:47 | | YP/AJ | Ok |
| 10 | I.BLK | I.BLK | FD049488.D | 13 Jun 2025 12:26 | | YP/AJ | Ok |
| 11 | 20 PPM AROMATIC HC | 20 PPM AROMATIC HC | FD049489.D | 13 Jun 2025 13:06 | | YP/AJ | Ok |

M : Manual Integration

# PERCENT SOLID

**Supervisor:** Iwona
**Analyst:** jignesh
**Date:** 6/5/2025

**OVENTEMP IN Celsius(°C):** 108
**Time IN:** 17:25
**In Date:** 06/04/2025
**Weight Check 1.0g:** 1.00
**Weight Check 10g:** 10.00
**OvenID:** M OVEN#1

**OVENTEMP OUT Celsius(°C):** 103
**Time OUT:** 08:26
**Out Date:** 06/05/2025
**Weight Check 1.0g:** 1.00
**Weight Check 10g:** 10.00
**BalanceID:** M SC-4
**Thermometer ID:** % SOLID- OVEN

**QC:** LB135996

| Lab ID | Client SampleID | Dish # | Dish Wt(g) (A) | Sample Wt(g) | Dish + Sample Wt(g) (B) | Dish+Dry Sample Wt(g) (C) | % Solid | Comments |
|---|---|---|---|---|---|---|---|---|
| Q2198-01 | B-202-SB02 | 1 | 1.18 | 10.51 | 11.69 | 8.74 | 71.9 | |
| Q2198-03 | B-207-SB01 | 2 | 1.19 | 10.01 | 11.2 | 6.41 | 52.1 | |
| Q2199-01 | ETGI-343 | 3 | 1.15 | 10.53 | 11.68 | 9.98 | 83.9 | |
| Q2199-02 | ETGI-343 | 4 | 1.19 | 10.46 | 11.65 | 10.55 | 89.5 | |
| Q2199-03 | VNJ-231 | 5 | 1.17 | 10.34 | 11.51 | 10.4 | 89.3 | |
| Q2199-04 | VNJ-231 | 6 | 1.12 | 10.63 | 11.75 | 10.13 | 84.8 | |
| Q2199-05 | 72-11978 | 7 | 1.13 | 10.47 | 11.6 | 10.7 | 91.4 | |
| Q2199-06 | 72-11978 | 8 | 1.13 | 10.62 | 11.75 | 10.66 | 89.7 | |
| Q2206-01 | TP-1 | 9 | 1.18 | 10.47 | 11.65 | 10.38 | 87.9 | |
| Q2206-02 | TP-1-EPH | 10 | 1.15 | 10.03 | 11.18 | 10.00 | 88.2 | |
| Q2206-03 | TP-1-VOC | 11 | 1.11 | 10.44 | 11.55 | 10.3 | 88.0 | |
| Q2215-01 | BC122669-1-1 | 12 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | pilc |
| Q2215-02 | BC122669-1-2 | 13 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | pilc |
| Q2215-03 | BC283059-1-1 | 14 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | pilc |
| Q2215-04 | BC283059-1-2 | 15 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | pilc |
| Q2216-01 | 3898 | 16 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | debris |
| Q2217-01 | HEH707X-1-1 | 17 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | pilc |
| Q2217-02 | HEH707X-1-2 | 18 | 1.00 | 1.00 | 2.00 | 2.00 | 100.0 | pilc |

$$\% \text{ Solid} = \frac{(C-A) * 100}{(B-A)}$$

# WORKLIST(Hardcopy Internal Chain)

LB 135996

**WorkList Name :** %1-060425 **WorkList ID :** 189903 **Department :** Wet-Chemistry **Date :** 06-04-2025 08:10:46

| Sample | Customer Sample | Matrix | Test | Preservative | Customer | Raw Sample Storage Location | Collect Date | Method |
|---|---|---|---|---|---|---|---|---|
| Q2198-01 | B-202-SB02 | Solid | Percent Solids | Cool 4 deg C | PORT06 | N22 | 05/31/2025 | Chemtech -SO |
| Q2198-03 | B-207-SB01 | Solid | Percent Solids | Cool 4 deg C | PORT06 | N22 | 06/01/2025 | Chemtech -SO |
| Q2199-01 | ETGI-343 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | N31 | 06/03/2025 | Chemtech -SO |
| Q2199-02 | ETGI-343 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | N31 | 06/03/2025 | Chemtech -SO |
| Q2199-03 | VNJ-231 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | N31 | 06/03/2025 | Chemtech -SO |
| Q2199-04 | VNJ-231 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | N31 | 06/03/2025 | Chemtech -SO |
| Q2199-05 | 72-11978 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | N31 | 06/03/2025 | Chemtech -SO |
| Q2199-06 | 72-11978 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | N31 | 06/03/2025 | Chemtech -SO |
| Q2215-04 | BC283059-1-2 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | N31 | 06/03/2025 | Chemtech -SO |
| Q2216-01 | 3898 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | N31 | 06/04/2025 | Chemtech -SO |
| Q2217-01 | HEH707X-1-1 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | N31 | 06/04/2025 | Chemtech -SO |
| Q2217-02 | HEH707X-1-2 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | N31 | 06/04/2025 | Chemtech -SO |
| Q2206-01 | TP-1 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | N31 | 06/04/2025 | Chemtech -SO |
| Q2206-02 | TP-1-EPH | Solid | Percent Solids | Cool 4 deg C | PSEG03 | N31 | 06/04/2025 | Chemtech -SO |
| Q2206-03 | TP-1-VOC | Solid | Percent Solids | Cool 4 deg C | PSEG03 | N31 | 06/04/2025 | Chemtech -SO |
| Q2215-01 | BC122669-1-1 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | N31 | 06/04/2025 | Chemtech -SO |
| Q2215-02 | BC122669-1-2 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | N31 | 06/04/2025 | Chemtech -SO |
| Q2215-03 | BC283059-1-1 | Solid | Percent Solids | Cool 4 deg C | PSEG03 | N31 | 06/04/2025 | Chemtech -SO |

**Date/Time** 06/04/25 16:26

**Raw Sample Received by:** [signature]

**Raw Sample Relinquished by:** [signature]



**Date/Time** 06/04/25 17:35

**Raw Sample Received by:** [signature]

**Raw Sample Relinquished by:** [signature]

Alliance TECHNICAL GROUP

**EXTRACTION LOGPAGE**

PB168324

**SOP ID:** MNJDEP-EPH-7

**Clean Up SOP #:** N/A

**Matrix :** Water

**Weigh By:** N/A

**Balance check:** N/A

**Balance ID:** N/A

**pH Strip Lot#:** E3880

**Extraction By:** RS

**Filter By:** RS

**pH Meter ID:** N/A

**Hood ID:** 4,6,7

**Extraction Start Date :** 06/06/2025

**Extraction Start Time :** 09:10

**Extraction End Date :** 06/06/2025

**Extraction End Time :** 16:15

**Concentration By:** EH

**Supervisor By :** RUPESH

**Extraction Method:** [√] Seperatory Funnel [ ] Continious Liquid/Liquid [ ] Sonication [ ] Waste Dilution [ ] Soxhlet

| Standared Name | MLS USED | Concentration ug/mL | STD REF. # FROM LOG |
|---|---|---|---|
| Spike Sol 1 | 1.0ML | 100 PPM | PP24573 |
| Surrogate | 1.0ML | 100 PPM | PP24591 |
| Fractionation Surrogate | 1.0ML | 100 PPM | PP24623 |
| N/A | N/A | N/A | N/A |
| N/A | N/A | N/A | N/A |

| Chemical Used | ML/SAMPLE USED | Lot Number |
|---|---|---|
| Methylene Chloride | N/A | E3930 |
| Baked Na2SO4 | N/A | EP2614 |
| Hexane | N/A | E3934 |
| 6N HCL | N/A | EP2615 |
| EPH Cartridge | N/A | E3757 |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

**Extraction Conformance/Non-Conformance Comments:**

1.5ML Vial Lot # 2210443.

**KD Bath ID:** WATER BATH-1

**KD Bath Temperature:** 60 °C

**Envap ID:** NE VAP-02

**Envap Temperature:** 40 °C

| Date / Time | Prepped Sample Relinquished By/Location | Received By/Location |
|---|---|---|
| 6/6/25 | RS (Ext lab) | T-P-Pest-1 |
| 16:20 | Preparation Group | Analysis Group |

Alliance TECHNICAL GROUP

**EXTRACTION LOGPAGE**

**PrepBatch ID : PB168324**

**Analytical Method:** MNJDEP-EPH-7

**Concentration Date:** 06/06/2025

| Sample ID | Client Sample ID | Test | g / mL | PH | Surr/Spike By: | | Final Vol. (mL) | JarID | Comments | Prep Pos |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AddedBy | VerifiedBy | | | | |
| PB168324BL | PB168324BL | EPH | 1000 | <2 | RUPESH | ritesh | 2 | | | SEP-1 |
| PB168324BS | PB168324BS | EPH | 1000 | <2 | RUPESH | ritesh | 2 | | | 2 |
| PB168324BSD | PB168324BSD | EPH | 1000 | <2 | RUPESH | ritesh | 2 | | | 3 |
| Q2177-08 | EB05312025 | EPH | 910 | <2 | RUPESH | ritesh | 2 | G | | 4 |
| Q2198-05 | B-202-GW01 | EPH | 990 | <2 | RUPESH | ritesh | 2 | G | | 5 |

RJ
6/6

* **Extracts relinguished on the same date as received.**

168324
9:10

# WORKLIST(Hardcopy Internal Chain)

**WorkList Name :** Q2177EPH **WorkList ID :** 189993 **Department :** Extraction **Date :** 06-06-2025 09:05:26

| Sample | Customer Sample | Matrix | Test | Preservative | Customer | Raw Sample Storage Location | Collect Date | Method |
|---|---|---|---|---|---|---|---|---|
| Q2177-08 | EB05312025 | Water | EPH | 1:1 HCl to pH < 2 | PORT06 | L41 | 05/31/2025 | NJEPH |
| Q2198-05 | B-202-GW01 | Water | EPH | 1:1 HCl to pH < 2 | PORT06 | N22 | 05/31/2025 | NJEPH |

**Date/Time** 6/6/25 9:05
**Raw Sample Received by:** RS (Ext lab)
**Raw Sample Relinquished by:** [signature]



**Date/Time** 6/6/25 · 9:30
**Raw Sample Received by:** [signature]
**Raw Sample Relinquished by:** RS (Ext lab)

Alliance TECHNICAL GROUP

**EXTRACTION LOGPAGE**

PB168408

| | | | | | |
|---|---|---|---|---|---|
| **SOP ID:** | MNJDEP-EPH-7 | | | | |
| **Clean Up SOP #:** | N/A | | | **Extraction Start Date :** | 06/11/2025 |
| **Matrix :** | Solid | | | **Extraction Start Time :** | 08:45 |
| **Weigh By:** | EH | **Extraction By:** | RJ | **Extraction End Date :** | 06/11/2025 |
| **Balance check:** | RJ | **Filter By:** | RJ | **Extraction End Time :** | 15:45 |
| **Balance ID:** | EX-SC-2 | **pH Meter ID:** | N/A | **Concentration By:** | EH |
| **pH Strip Lot#:** | N/A | **Hood ID:** | 3,7 | **Supervisor By :** | ritesh |

**Extraction Method:** ☐ Seperatory Funnel ☐ Continious Liquid/Liquid ☐ Sonication ☐ Waste Dilution ☑ Soxhlet

| Standared Name | MLS USED | Concentration ug/mL | STD REF. # FROM LOG |
|---|---|---|---|
| Spike Sol 1 | 1.0ML | 100 PPM | PP24573 |
| Surrogate | 1.0ML | 100 PPM | PP24591 |
| Fractionation Surrogate | 1.0ML | 100 PPM | PP24623 |
| LOD | 0.25ML/0.4ML | 20 PPM | PP24131 |
| LOQ | 0.5ML | 20 PPM | PP24131 |

| Chemical Used | ML/SAMPLE USED | Lot Number |
|---|---|---|
| MeCl2/Acetone/1:1 | N/A | EP2612 |
| Baked Na2SO4 | N/A | EP2620 |
| Sand | N/A | E2865 |
| Hexane | N/A | E3938 |
| Methylene Chloride | N/A | E3939 |
| EPH Cartridge | N/A | E3757 |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

**Extraction Conformance/Non-Conformance Comments:**

1.5ML Vial Lot # 2210443.

| | | | |
|---|---|---|---|
| **KD Bath ID:** | N/A | **Envap ID:** | NEVAP-02 |
| **KD Bath Temperature:** | N/A | **Envap Temperature:** | 40 °C |

| Date / Time | Prepped Sample Relinquished By/Location | Received By/Location |
|---|---|---|
| 06/11/25 | RP (Extr Tech) | Y-Prep/GC/PID |
| 15:50 | **Preparation Group** | **Analysis Group** |

Alliance TECHNICAL GROUP

**EXTRACTION LOGPAGE**

**PrepBatch ID : PB168408**

**Analytical Method:** MNJDEP-EPH-7

**Concentration Date:** 06/11/2025

| Sample ID | Client Sample ID | Test | g / mL | PH | Surr/Spike By: | | Final Vol. (mL) | JarID | Comments | Prep Pos |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AddedBy | VerifiedBy | | | | |
| PB168408BL | PB168408BL | EPH | 30.01 | N/A | ritesh | Evelyn | 2 | | | U2-1 |
| PB168408BS | PB168408BS | EPH | 30.02 | N/A | ritesh | Evelyn | 2 | | | 2 |
| PB168408BSD | PB168408BSD | EPH | 30.03 | N/A | ritesh | Evelyn | 2 | | | 3 |
| Q2126-01 | LOD-MDL-SOIL-03-QT2-2025 0.25 ML | EPH | 30.04 | N/A | ritesh | Evelyn | 2 | | | 4 |
| Q2126-02 | LOQ-SOIL-02-QT2-2025 0.5 ML | EPH | 30.02 | N/A | ritesh | Evelyn | 2 | | | 5 |
| Q2177-02 | B-187-SB01 | EPH | 30.06 | N/A | ritesh | Evelyn | 2 | F | | 6 |
| Q2177-02DUP | B-187-SB01DUP | EPH | 30.08 | N/A | ritesh | Evelyn | 2 | F | | U3-1 |
| Q2177-02MS | B-187-SB01MS | EPH | 30.03 | N/A | ritesh | Evelyn | 2 | F | | 2 |
| Q2177-02MSD | B-187-SB01MSD | EPH | 30.04 | N/A | ritesh | Evelyn | 2 | F | | 3 |
| Q2177-04 | B-187-SB02 | EPH | 30.01 | N/A | ritesh | Evelyn | 2 | F | | 4 |
| Q2177-06 | B-202-SB01 | EPH | 30.03 | N/A | ritesh | Evelyn | 2 | F | | 5 |
| Q2198-01 | B-202-SB02 | EPH | 30.05 | N/A | ritesh | Evelyn | 2 | D | | 6 |
| Q2198-03 | B-207-SB02 | EPH | 30.06 | N/A | ritesh | Evelyn | 2 | D | | U1-1 |
| | LOD 0.4ML | 1 | 30.01 | 1 | 1 | 1 | 2 | | | 1 |

* **Extracts relinquished on the same date as received.**

6/11/25

1084 9:45

# WORKLIST(Hardcopy Internal Chain)

**WorkList Name :** Q2177E **WorkList ID :** 190091 **Department :** Extraction **Date :** 06-11-2025 08:43:23

| Sample | Customer Sample | Matrix | Test | Preservative | Customer | Raw Sample Storage Location | Collect Date | Method |
|---|---|---|---|---|---|---|---|---|
| Q2126-01 | LOD-MDL-SOIL-03-QT2-2025 | Solid | EPH | Cool 4 deg C | ALLI03 | QA Of | 05/23/2025 | NJEPH |
| Q2126-02 | LOQ-SOIL-02-QT2-2025 | Solid | EPH | Cool 4 deg C | ALLI03 | QA Of | 05/23/2025 | NJEPH |
| Q2177-02 | B-187-SB01 | Solid | EPH | Cool 4 deg C | PORT06 | L41 | 05/31/2025 | NJEPH |
| Q2177-04 | B-187-SB02 | Solid | EPH | Cool 4 deg C | PORT06 | L41 | 05/31/2025 | NJEPH |
| Q2177-06 | B-202-SB01 | Solid | EPH | Cool 4 deg C | PORT06 | L41 | 05/31/2025 | NJEPH |
| Q2198-01 | B-202-SB02 | Solid | EPH | Cool 4 deg C | PORT06 | N22 | 05/31/2025 | NJEPH |
| Q2198-03 | B-207-SB02 | Solid | EPH | Cool 4 deg C | PORT06 | N22 | 06/01/2025 | NJEPH |

**Date/Time** 06/11/25 8:44
**Raw Sample Received by:** RJ (Ext lab)
**Raw Sample Relinquished by:**



**Date/Time** 06/11/25 9:15
**Raw Sample Received by:**
**Raw Sample Relinquished by:** RJ (Ext lab)

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# Prep Standard - Chemical Standard Summary

**Order ID :** Q2198

**Test :** EPH

**Prepbatch ID :** PB168324,PB168408,

**Sequence ID/Qc Batch ID:** FC060925AL,FC061125AL,FD060925AR,FD061025AR,FD061125AR,FD061325AR,

**Standard ID :**
EP2612,EP2614,EP2615,EP2620,PP24131,PP24170,PP24174,PP24175,PP24176,PP24177,PP24178,PP24179,PP24500,PP24501,PP24502,PP24503,PP24504,PP24505,PP24506,PP24573,PP24591,PP24623,

**Chemical ID :**
E2865,E3551,E3757,E3926,E3930,E3932,E3933,E3934,E3938,E3939,M6151,P10758,P 11140,P12363,P12981,P12983,P13279,P13601,P13603,P13650,P13671,P13673,P13674,P13676,P13677,P13710,P 13711,P13712,P13713,P13714,P13716,P13807,P13822,P13825,P13827,P13845,P13867,P13902,P13904,P13914,P13922,P13924,P13954,P13955,P13961,P13962,P13963,P13964,P13978,P13979,P13980,P13981,P13988,P13989,W 3112,W3177,

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# Extractions STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 2017 | 1:1 ACETONE/METHYLENE CHLORIDE | EP2612 | 05/09/2025 | 11/05/2025 | RUPESHKUMAR SHAH | None | None | Riteshkumar Patel 05/09/2025 |

**FROM** 8000.00000ml of E3930 + 8000.00000ml of E3932 = Final Quantity: 16000.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3923 | Baked Sodium Sulfate | EP2614 | 05/19/2025 | 07/01/2025 | RUPESHKUMAR SHAH | Extraction_SCALE_2 (EX-SC-2) | None | Riteshkumar Patel 05/19/2025 |

**FROM** 4000.00000gram of E3551 = Final Quantity: 4000.000 gram

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# Extractions STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3319 | 6N HCL | EP2615 | 05/20/2025 | 08/18/2025 | RUPESHKUMAR SHAH | None | None | Riteshkumar Patel 05/20/2025 |

**FROM** 219.00000ml of M6151 + 781.00000ml of W3112 = Final Quantity: 1000.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3923 | Baked Sodium Sulfate | EP2620 | 05/30/2025 | 07/01/2025 | RUPESHKUMAR SHAH | Extraction_SCALE_2 (EX-SC-2) | None | Riteshkumar Patel 05/30/2025 |

**FROM** 4000.00000gram of E3551 = Final Quantity: 4000.000 gram

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# Pest/Pcb STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 2589 | 20 PPM NJ EPH SPIKE for LOD-LOQ | PP24131 | 01/27/2025 | 07/27/2025 | Yogesh Patel | None | None | Ankita Jodhani 01/27/2025 |

**FROM** 1.00000ml of P13807 + 1.00000ml of P13845 + 8.00000ml of P13867 = Final Quantity: 10.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 781 | 100 PPM Aliphatic HC Working STD (Restek) | PP24170 | 02/03/2025 | 08/03/2025 | Yogesh Patel | None | None | Ankita Jodhani 02/03/2025 |

**FROM** 0.25000ml of P12981 + 0.25000ml of P13671 + 1.25000ml of P12363 + 23.25000ml of W3177 = Final Quantity: 25.000 ml

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# Pest/Pcb STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 2900 | 100 PPM Aliphatic HC STD (Absolute) | PP24174 | 02/03/2025 | 08/03/2025 | Yogesh Patel | None | None | Ankita Jodhani 02/03/2025 |

**FROM** 0.25000ml of P12983 + 0.25000ml of P13650 + 2.50000ml of P13279 + 22.00000ml of W3177 = Final Quantity: 25.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 783 | 50 PPM Aliphatic HC STD | PP24175 | 02/03/2025 | 08/03/2025 | Yogesh Patel | None | None | Ankita Jodhani 02/03/2025 |

**FROM** 0.50000ml of W3177 + 0.50000ml of PP24170 = Final Quantity: 1.000 ml

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# Pest/Pcb STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 784 | 20 PPM Aliphatic HC STD | PP24176 | 02/03/2025 | 08/03/2025 | Yogesh Patel | None | None | Ankita Jodhani 02/03/2025 |

**FROM** 0.80000ml of W3177 + 0.20000ml of PP24170 = Final Quantity: 1.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 785 | 10 PPM Aliphatic HC STD | PP24177 | 02/03/2025 | 08/03/2025 | Yogesh Patel | None | None | Ankita Jodhani 02/03/2025 |

**FROM** 0.90000ml of W3177 + 0.10000ml of PP24170 = Final Quantity: 1.000 ml

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# Pest/Pcb STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 786 | 5 PPM Aliphatic HC STD | PP24178 | 02/03/2025 | 08/03/2025 | Yogesh Patel | None | None | Ankita Jodhani 02/03/2025 |

**FROM** 0.90000ml of W3177 + 0.10000ml of PP24175 = Final Quantity: 1.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 2901 | 20 PPM Aliphaitic HC STD ICV (Absolute) | PP24179 | 02/03/2025 | 08/03/2025 | Yogesh Patel | None | None | Ankita Jodhani 02/03/2025 |

**FROM** 0.80000ml of W3177 + 0.20000ml of PP24174 = Final Quantity: 1.000 ml

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# Pest/Pcb STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 782 | 100 PPM Aromatic HC Working STD | PP24500 | 05/01/2025 | 10/08/2025 | Yogesh Patel | None | None | Abdul Mirza 05/08/2025 |

**FROM** 0.25000ml of P13673 + 0.62500ml of P13954 + 1.25000ml of P10758 + 22.87500ml of E3926 = Final Quantity: 25.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 2945 | 100 PPM Aromatic HC Working STD (Absolute) | PP24501 | 05/01/2025 | 10/08/2025 | Yogesh Patel | None | None | Abdul Mirza 05/08/2025 |

**FROM** 0.25000ml of P13674 + 0.62500ml of P13955 + 1.25000ml of P11140 + 22.87500ml of E3926 = Final Quantity: 25.000 ml

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# Pest/Pcb STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 787 | 50 PPM Aromatic HC STD | PP24502 | 05/01/2025 | 10/08/2025 | Yogesh Patel | None | None | Abdul Mirza 05/08/2025 |

**FROM** 0.50000ml of E3926 + 0.50000ml of PP24500 = Final Quantity: 1.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 788 | 20 PPM Aromatic HC STD | PP24503 | 05/01/2025 | 10/08/2025 | Yogesh Patel | None | None | Abdul Mirza 05/08/2025 |

**FROM** 0.80000ml of E3926 + 0.20000ml of PP24500 = Final Quantity: 1.000 ml

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# Pest/Pcb STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 789 | 10 PPM Aromatic HC STD | PP24504 | 05/01/2025 | 10/08/2025 | Yogesh Patel | None | None | Abdul Mirza 05/08/2025 |

**FROM** 0.90000ml of E3926 + 0.10000ml of PP24500 = Final Quantity: 1.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 790 | 5 PPM Aromatic HC STD | PP24505 | 05/01/2025 | 10/08/2025 | Yogesh Patel | None | None | Abdul Mirza 05/08/2025 |

**FROM** 0.90000ml of E3926 + 0.10000ml of PP24502 = Final Quantity: 1.000 ml

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# Pest/Pcb STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 2946 | 20 PPM Aromatic HC STD ICV (Absolute) | PP24506 | 05/01/2025 | 10/08/2025 | Yogesh Patel | None | None | Abdul Mirza 05/08/2025 |

**FROM** 0.80000ml of E3926 + 0.20000ml of PP24501 = Final Quantity: 1.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1330 | 100 PPM NJEPH Spike Solution | PP24573 | 05/14/2025 | 11/14/2025 | Abdul Mirza | None | None | Yogesh Patel 05/22/2025 |

**FROM** 5.00000ml of P13710 + 5.00000ml of P13711 + 5.00000ml of P13712 + 5.00000ml of P13713 + 5.00000ml of P13714 + 5.00000ml of P13716 + 5.00000ml of P13822 + 5.00000ml of P13825 + 5.00000ml of P13827 + 5.00000ml of P13902 + 5.00000ml of P13904 + 5.00000ml of P13914 + 5.00000ml of P13922 + 5.00000ml of P13924 + 5.00000ml of P13978 + 5.00000ml of P13979 + 5.00000ml of P13980 + 5.00000ml of P13981 + 5.00000ml of P13988 + 5.00000ml of P13989 = Final Quantity: 100.000 ml

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# Pest/Pcb STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1339 | 100 PPM NJEPH Surrogate Spike | PP24591 | 05/19/2025 | 11/05/2025 | Abdul Mirza | None | None | Yogesh Patel 05/22/2025 |

**FROM** 1.00000ml of P13601 + 1.00000ml of P13603 + 1.00000ml of P13676 + 1.00000ml of P13677 + 196.00000ml of E3932 = Final Quantity: 200.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1331 | 100 PPM NJEPH Fractionating Surrogate | PP24623 | 06/05/2025 | 11/05/2025 | Abdul Mirza | None | None | Yogesh Patel 06/11/2025 |

**FROM** 1.25000ml of P13961 + 1.25000ml of P13962 + 1.25000ml of P13963 + 1.25000ml of P13964 + 195.00000ml of E3933 = Final Quantity: 200.000 ml

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | BA-3382-05 / Sand, Purified (cs/4x2.5kg) | 0000243821 | 06/30/2025 | 04/30/2020 / RAJESH | 04/28/2020 / RAJESH | E2865 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | PC19631-100 / SODIUM SULFATE, ANHYDROUS, PEST GRADE, 1 | 313201 | 12/04/2025 | 01/03/2024 / Rajesh | 07/20/2023 / Rajesh | E3551 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| phenomenex | SI500025-30 / Cleanert SPE Silica, 5000 mg/25 ml | Z0513CK1 | 09/04/2025 | 09/04/2024 / Rajesh | 04/03/2024 / Rajesh | E3757 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | BA-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L) | 25A0262002 | 10/08/2025 | 04/08/2025 / Rajesh | 02/07/2025 / Rajesh | E3926 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | BA-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L) | 25A0262002 | 02/20/2026 | 05/02/2025 / RUPESH | 03/09/2025 / RUPESH | E3930 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | BA-9254-03 / Acetone, Ultra Resi (cs/4x4L) | 24H1462005 | 11/05/2025 | 05/05/2025 / RUPESH | 04/23/2025 / RUPESH | E3932 |

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | BA-9262-03 / Hexane, Ultra-Resi (cs/4x4L) | 25C0362005 | 11/05/2025 | 05/05/2025 / RUPESH | 04/23/2025 / RUPESH | E3933 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | BA-9262-03 / Hexane, Ultra-Resi (cs/4x4L) | 25C0362005 | 04/30/2026 | 05/12/2025 / RUPESH | 04/23/2025 / RUPESH | E3934 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | BA-9262-03 / Hexane, Ultra-Resi (cs/4x4L) | 25C0362005 | 04/30/2026 | / | 05/14/2025 / RUPESH | E3938 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | BA-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L) | 25A2862010 | 11/22/2025 | 05/22/2025 / RUPESH | 02/28/2025 / RUPESH | E3939 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L) | 22G2862015 | 08/18/2025 | 02/18/2025 / Sagar | 01/15/2025 / Sagar | M6151 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30541 / Custom NJEPH Aromatics Calibration Standard | A0172403 | 11/01/2025 | 05/01/2025 / yogesh | 06/17/2021 / dhaval | P10758 |

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 95709 / NJ EPH Aromatic Hydrocarbons, 2000 PPM | 060420 | 11/01/2025 | 05/01/2025 / yogesh | 10/29/2021 / Abdul | P11140 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30540 / Custom NJEPH Aliphatics Calibration Standard | A0190424 | 08/03/2025 | 02/03/2025 / yogesh | 03/16/2023 / Yogesh | P12363 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 31098 / 1-Chlorooctadecane Standard | A0204989 | 08/03/2025 | 02/03/2025 / yogesh | 12/20/2023 / Yogesh | P12981 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 31098 / 1-Chlorooctadecane Standard | A0204989 | 08/03/2025 | 02/03/2025 / yogesh | 12/20/2023 / Yogesh | P12983 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Absolute Standards, Inc. | 95899 / NJ EPH Aliphatic n-Hydrocarbons-Revised, 1000 PPM | 040524 | 08/03/2025 | 02/03/2025 / yogesh | 04/11/2024 / yogesh | P13279 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 31098 / 1-Chlorooctadecane Standard | A0213283 | 11/19/2025 | 05/19/2025 / Abdul | 10/16/2024 / yogesh | P13601 |

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 31098 / 1-Chlorooctadecane Standard | A0213283 | 11/19/2025 | 05/19/2025 / Abdul | 10/16/2024 / yogesh | P13603 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 31097 / o-Terphenyl Standard | A0216631 | 08/03/2025 | 02/03/2025 / yogesh | 10/16/2024 / yogesh | P13650 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 31097 / o-Terphenyl Standard | A0216631 | 08/03/2025 | 02/03/2025 / yogesh | 10/16/2024 / yogesh | P13671 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 31097 / o-Terphenyl Standard | A0216631 | 11/01/2025 | 05/01/2025 / yogesh | 10/16/2024 / yogesh | P13673 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 31097 / o-Terphenyl Standard | A0216631 | 11/01/2025 | 05/01/2025 / yogesh | 10/16/2024 / yogesh | P13674 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 31097 / o-Terphenyl Standard | A0216631 | 11/19/2025 | 05/19/2025 / Abdul | 10/16/2024 / yogesh | P13676 |

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Fax : 908 789 8922

# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 31097 / o-Terphenyl Standard | A0216631 | 11/19/2025 | 05/19/2025 / Abdul | 10/16/2024 / yogesh | P13677 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30543 / Custom NJEPH Aromatics Matrix Spike Mix | A0211254 | 11/14/2025 | 05/14/2025 / Abdul | 10/24/2024 / yogesh | P13710 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30543 / Custom NJEPH Aromatics Matrix Spike Mix | A0211254 | 11/14/2025 | 05/14/2025 / Abdul | 10/24/2024 / yogesh | P13711 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30543 / Custom NJEPH Aromatics Matrix Spike Mix | A0211254 | 11/14/2025 | 05/14/2025 / Abdul | 10/24/2024 / yogesh | P13712 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30543 / Custom NJEPH Aromatics Matrix Spike Mix | A0211254 | 11/14/2025 | 05/14/2025 / Abdul | 10/24/2024 / yogesh | P13713 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30543 / Custom NJEPH Aromatics Matrix Spike Mix | A0211254 | 11/14/2025 | 05/14/2025 / Abdul | 10/24/2024 / yogesh | P13714 |

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30543 / Custom NJEPH Aromatics Matrix Spike Mix | A0211254 | 11/14/2025 | 05/14/2025 / Abdul | 10/24/2024 / yogesh | P13716 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30542 / Custom NJEPH Aliphatics Matrix Spike Mix | A0217408 | 07/27/2025 | 01/27/2025 / yogesh | 12/09/2024 / yogesh | P13807 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30542 / Custom NJEPH Aliphatics Matrix Spike Mix | A0217408 | 11/14/2025 | 05/14/2025 / Abdul | 12/09/2024 / yogesh | P13822 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30542 / Custom NJEPH Aliphatics Matrix Spike Mix | A0217408 | 11/14/2025 | 05/14/2025 / Abdul | 12/09/2024 / yogesh | P13825 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30542 / Custom NJEPH Aliphatics Matrix Spike Mix | A0217408 | 11/14/2025 | 05/14/2025 / Abdul | 12/09/2024 / yogesh | P13827 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30543 / Custom NJEPH Aromatics Matrix Spike Mix | A0217838 | 07/27/2025 | 01/27/2025 / yogesh | 12/09/2024 / yogesh | P13845 |

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| VWR Scientific | BDH83632 / PENTANE | 24080083 | 08/28/2027 | 01/27/2025 / yogesh | 01/27/2025 / yogesh | P13867 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30542 / Custom NJEPH Aliphatics Matrix Spike Mix | A0217408 | 11/14/2025 | 05/14/2025 / Abdul | 03/06/2025 / yogesh | P13902 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30542 / Custom NJEPH Aliphatics Matrix Spike Mix | A0217408 | 11/14/2025 | 05/14/2025 / Abdul | 03/06/2025 / yogesh | P13904 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30542 / Custom NJEPH Aliphatics Matrix Spike Mix | A0220449 | 11/14/2025 | 05/14/2025 / Abdul | 03/06/2025 / yogesh | P13914 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30543 / Custom NJEPH Aromatics Matrix Spike Mix | A022580 | 11/14/2025 | 05/14/2025 / Abdul | 03/06/2025 / yogesh | P13922 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30543 / Custom NJEPH Aromatics Matrix Spike Mix | A022580 | 11/14/2025 | 05/14/2025 / Abdul | 03/06/2025 / yogesh | P13924 |

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 31480 / MA Fractionation Surrogate Spike Mix | A0219106 | 11/01/2025 | 05/01/2025 / yogesh | 03/10/2025 / yogesh | P13954 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 31480 / MA Fractionation Surrogate Spike Mix | A0221895 | 11/01/2025 | 05/01/2025 / yogesh | 03/10/2025 / yogesh | P13955 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 31480 / MA Fractionation Surrogate Spike Mix | A0221895 | 12/05/2025 | 06/05/2025 / Abdul | 03/10/2025 / yogesh | P13961 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 31480 / MA Fractionation Surrogate Spike Mix | A0221895 | 12/05/2025 | 06/05/2025 / Abdul | 03/10/2025 / yogesh | P13962 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 31480 / MA Fractionation Surrogate Spike Mix | A0221895 | 12/05/2025 | 06/05/2025 / Abdul | 03/10/2025 / yogesh | P13963 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 31480 / MA Fractionation Surrogate Spike Mix | A0221895 | 01/31/2031 | 06/05/2025 / Abdul | 03/10/2025 / yogesh | P13964 |

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30542 / Custom NJEPH Aliphatics Matrix Spike Mix | A0220449 | 11/14/2025 | 05/14/2025 / Abdul | 04/24/2025 / Rahul | P13978 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30542 / Custom NJEPH Aliphatics Matrix Spike Mix | A0220449 | 11/14/2025 | 05/14/2025 / Abdul | 04/24/2025 / Rahul | P13979 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30542 / Custom NJEPH Aliphatics Matrix Spike Mix | A0220449 | 11/14/2025 | 05/14/2025 / Abdul | 04/24/2025 / Rahul | P13980 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30542 / Custom NJEPH Aliphatics Matrix Spike Mix | A0220449 | 11/14/2025 | 05/14/2025 / Abdul | 04/24/2025 / Rahul | P13981 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30543 / Custom NJEPH Aromatics Matrix Spike Mix | A0220580 | 11/14/2025 | 05/14/2025 / Abdul | 04/25/2025 / Rahul | P13988 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Restek | 30543 / Custom NJEPH Aromatics Matrix Spike Mix | A0220580 | 11/14/2025 | 05/14/2025 / Abdul | 04/25/2025 / Rahul | P13989 |

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | DIW / DI Water | Daily Lab-Certified | 07/03/2029 | 07/03/2024 / Iwona | 07/03/2024 / Iwona | W3112 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | BA-9262-03 / Hexane, Ultra-Resi (cs/4x4L) | 24G1962003 | 08/22/2025 | 02/03/2025 / jignesh | 01/31/2025 / jignesh | W3177 |

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

# CERTIFIED REFERENCE MATERIAL

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

# Certificate of Analysis

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

DD
06/17/2021

**Catalog No. :** 30541 **Lot No.:** A0172403

**Description :** NJEPH Aromatics Calibration Standard

NJEPH Aromatics Calibration Standard 2,000µg/mL, Methylene Chloride, 1mL/ampul

P10758 to P10762 -(5)

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** April 30, 2027 **Storage:** 10°C or colder

**Handling:** Sonication required. Mix is photosensitive. **Ship:** Ambient

## CERTIFIED VALUES

| Elution Order | Compound | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2) | |
|---|---|---|---|---|
| 1 | 1,2,3-Trimethylbenzene<br>**CAS #** 526-73-8 (Lot 8776.10-36)<br>**Purity** 98% | 2,010.0 µg/mL | +/- 11.7957 µg/mL<br>+/- 90.5449 µg/mL<br>+/- 100.4678 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 2 | Naphthalene<br>**CAS #** 91-20-3 (Lot MKBZ8680V)<br>**Purity** 99% | 2,006.0 µg/mL | +/- 11.7723 µg/mL<br>+/- 90.3656 µg/mL<br>+/- 100.2689 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 3 | 2-Methylnaphthalene<br>**CAS #** 91-57-6 (Lot STBG8884)<br>**Purity** 99% | 2,008.0 µg/mL | +/- 11.7841 µg/mL<br>+/- 90.4557 µg/mL<br>+/- 100.3688 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 4 | Acenaphthylene<br>**CAS #** 208-96-8 (Lot N19U)<br>**Purity** 95% | 2,002.6 µg/mL | +/- 11.7524 µg/mL<br>+/- 90.2125 µg/mL<br>+/- 100.0989 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 5 | Acenaphthene<br>**CAS #** 83-32-9 (Lot MKCN0610)<br>**Purity** 99% | 2,000.0 µg/mL | +/- 11.7371 µg/mL<br>+/- 90.0953 µg/mL<br>+/- 99.9689 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 6 | Fluorene<br>**CAS #** 86-73-7 (Lot 10217947)<br>**Purity** 99% | 2,016.0 µg/mL | +/- 11.8310 µg/mL<br>+/- 90.8161 µg/mL<br>+/- 100.7687 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 7 | Phenanthrene<br>**CAS #** 85-01-8 (Lot MKCL7390)<br>**Purity** 99% | 2,012.0 µg/mL | +/- 11.8075 µg/mL<br>+/- 90.6359 µg/mL<br>+/- 100.5688 µg/mL | Gravimetric<br>Unstressed<br>Stressed |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 8 | Anthracene | | 2,002.0 | µg/mL | +/- | 11.7489 | µg/mL | Gravimetric |
| | **CAS #** 120-12-7 | (Lot MKCM0015) | | | +/- | 90.1854 | µg/mL | Unstressed |
| | **Purity** 99% | | | | +/- | 100.0689 | µg/mL | Stressed |
| 9 | Fluoranthene | | 2,003.0 | µg/mL | +/- | 11.7547 | µg/mL | Gravimetric |
| | **CAS #** 206-44-0 | (Lot MKCF7378) | | | +/- | 90.2305 | µg/mL | Unstressed |
| | **Purity** 99% | | | | +/- | 100.1189 | µg/mL | Stressed |
| 10 | Pyrene | | 2,011.0 | µg/mL | +/- | 11.8017 | µg/mL | Gravimetric |
| | **CAS #** 129-00-0 | (Lot BCCB9880) | | | +/- | 90.5909 | µg/mL | Unstressed |
| | **Purity** 99% | | | | +/- | 100.5188 | µg/mL | Stressed |
| 11 | Benz(a)anthracene | | 2,011.0 | µg/mL | +/- | 11.8014 | µg/mL | Gravimetric |
| | **CAS #** 56-55-3 | (Lot P0022018-0505) | | | +/- | 90.5890 | µg/mL | Unstressed |
| | **Purity** 98% | | | | +/- | 100.5168 | µg/mL | Stressed |
| 12 | Chrysene | | 2,000.0 | µg/mL | +/- | 11.7371 | µg/mL | Gravimetric |
| | **CAS #** 218-01-9 | (Lot STBJ8094) | | | +/- | 90.0953 | µg/mL | Unstressed |
| | **Purity** 99% | | | | +/- | 99.9689 | µg/mL | Stressed |
| 13 | Benzo(b)fluoranthene | | 2,006.0 | µg/mL | +/- | 11.7721 | µg/mL | Gravimetric |
| | **CAS #** 205-99-2 | (Lot 012012B) | | | +/- | 90.3638 | µg/mL | Unstressed |
| | **Purity** 97% | | | | +/- | 100.2669 | µg/mL | Stressed |
| 14 | Benzo(k)fluoranthene | | 2,010.0 | µg/mL | +/- | 11.7958 | µg/mL | Gravimetric |
| | **CAS #** 207-08-9 | (Lot 012019K) | | | +/- | 90.5458 | µg/mL | Unstressed |
| | **Purity** 99% | | | | +/- | 100.4688 | µg/mL | Stressed |
| 15 | Benzo(a)pyrene | | 2,004.0 | µg/mL | +/- | 11.7606 | µg/mL | Gravimetric |
| | **CAS #** 50-32-8 | (Lot RP210113) | | | +/- | 90.2755 | µg/mL | Unstressed |
| | **Purity** 99% | | | | +/- | 100.1689 | µg/mL | Stressed |
| 16 | Indeno(1,2,3-cd)pyrene | | 2,010.0 | µg/mL | +/- | 11.7958 | µg/mL | Gravimetric |
| | **CAS #** 193-39-5 | (Lot 1-RAK-33-4) | | | +/- | 90.5458 | µg/mL | Unstressed |
| | **Purity** 99% | | | | +/- | 100.4688 | µg/mL | Stressed |
| 17 | Dibenz(a,h)anthracene | | 2,017.0 | µg/mL | +/- | 11.8369 | µg/mL | Gravimetric |
| | **CAS #** 53-70-3 | (Lot ER032211-01) | | | +/- | 90.8611 | µg/mL | Unstressed |
| | **Purity** 99% | | | | +/- | 100.8187 | µg/mL | Stressed |
| 18 | Benzo(g,h,i)perylene | | 2,003.0 | µg/mL | +/- | 11.7547 | µg/mL | Gravimetric |
| | **CAS #** 191-24-2 | (Lot 8GFYJ) | | | +/- | 90.2305 | µg/mL | Unstressed |
| | **Purity** 99% | | | | +/- | 100.1189 | µg/mL | Stressed |

**Solvent:** Methylene chloride
**CAS #** 75-09-2
**Purity** 99%

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

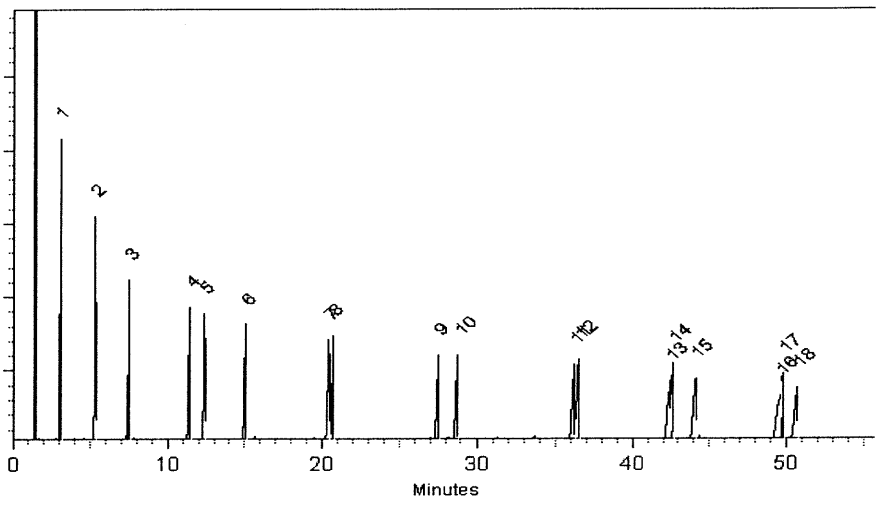
**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
100°C (hold 1 min.) to 330°C
@ 4°C/min. (hold 5 min.)

**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Lane Kibe - Mix Technician

**Date Mixed:** 14-May-2021 **Balance:** B345965662

Alexis Shelow - Operations Tech I

**Date Passed:** 18-May-2021

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

**General Certified Reference Material Notes**

**Expiration Notes:**

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

**Purity Notes:**

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

**Certified Uncertainty Value Notes:**

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

| Label Conditions | Standard Conditions | Non-Standard Conditions |
|---|---|---|
| 25°C Nominal (Room Temperature) | < 60°C | ≥ 60°C up to 7 days |
| 10°C or colder (Refrigerate) | < 40°C | ≥ 40°C up to 7 days |
| 0°C or colder (Freezer)<br>-20°C or colder (Deep Freezer) | < 25°C | ≥ 25°C up to 7 days |

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

**Manufacturing Notes:**

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

**Handling Notes:**

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.

Sand
Purified
Washed and Ignited

avantor™ | J.T.Baker®

Material No.: 3382-05
Batch No.: 0000243821
Manufactured Date: 2018/04/09
Retest Date: 2025/04/07
Revision No: 1

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| Substances Soluble in HCl | <= 0.16 % | 0.01 |

For Laboratory, Research or Manufacturing Use
Meets Reagent Specifications for testing USP/NF monographs

Country of Origin: US
Packaging Site: Paris Mfg Ctr & DC

E 2865

James T Ethier

Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

PRODUCTOS QUIMICOS MONTERREY, S.A. DE C.V.

MIRADOR 201, COL. MIRADOR
MONTERREY, N.L. MEXICO
CP 64070
TEL +52 81 13 52 57 57
www.pqm.com.mx

# CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| PRODUCT : | SODIUM SULFATE CRYSTALS ANHYDROUS | | |
| QUALITY : | ACS (CODE RMB3375) | FORMULA : | $Na_2SO_4$ |
| SPECIFICATION NUMBER : | 6399 | RELEASE DATE: | ABR/21/2023 |
| LOT NUMBER : | 313201 | | |

| TEST | SPECIFICATIONS | LOT VALUES |
|---|---|---|
| Assay ($Na_2SO_4$) | Min. 99.0% | 99.7 % |
| pH of a 5% solution at 25°C | 5.2 - 9.2 | 6.1 |
| Insoluble matter | Max. 0.01% | 0.005 % |
| Loss on ignition | Max. 0.5% | 0.1 % |
| Chloride (Cl) | Max. 0.001% | <0.001 % |
| Nitrogen compounds (as N) | Max. 5 ppm | <5 ppm |
| Phosphate ($PO_4$) | Max. 0.001% | <0.001 % |
| Heavy metals (as Pb) | Max. 5 ppm | <5 ppm |
| Iron (Fe) | Max. 0.001% | <0.001 % |
| Calcium (Ca) | Max. 0.01% | 0.002 % |
| Magnesium (Mg) | Max. 0.005% | 0.001 % |
| Potassium (K) | Max. 0.008% | 0.003 % |
| Extraction-concentration suitability | Passes test | Passes test |
| Appearance | Passes test | Passes test |
| Identification | Passes test | Passes test |
| Solubility and foreing matter | Passes test | Passes test |
| Retained on US Standard No. 10 sieve | Max. 1% | 0.1 % |
| Retained on US Standard No. 60 sieve | Min. 94% | 97.3 % |
| Through US Standard No. 60 sieve | Max. 5% | 2.5 % |
| Through US Standard No. 100 sieve | Max. 10% | 0.1 % |

COMMENTS

QC: PhC Irma Belmares

If you need further details, please call our factory or contact our local distributor.

Recd. by RB on 7/24/23 E3551


Cleanert EPH
5g/25ml 15/pkg
固相萃取产品
LOT#:Z0513CK1
MFG#:F04005
Made in China
CAT# SI500025-30
Agela Technologies
E3757

PO: PO2-1308 PRODUCT CODE: SHIP DATE: 2/7/25

Methylene Chloride
ULTRA RESI-ANALYZED
For Organic Residue Analysis
(dichloromethane)

avantor | J.T.Baker

Material No.: 9266-A4
Batch No.: 25A0262002
Manufactured Date: 2024-11-21
Expiration Date:2026-02-20
Revision No.: 0

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| FID-Sensitive Impurities (as 2-Octanol)Single Impurity Peak (ng/mL) | <= 5 | 1 |
| ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL) | <= 10 | 4 |
| Assay ($CH_2Cl_2$) (by GC, exclusive of preservative, corrected for water) | >= 99.8 % | 99.9 % |
| Color (APHA) | <= 10 | 10 |
| Residue after Evaporation | <= 1.0 ppm | 0.8 ppm |
| Titrable Acid (µeq/g) | <= 0.3 | <0.1 |
| Chloride (Cl) | <= 10 ppm | <5 ppm |
| Water (by KF, coulometric) | <= 0.02 % | <0.01 % |

For Laboratory,Research,or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: United States
Packaging Site: Phillipsburg Mfg Ctr & DC

E 3926

Jamie Croak
Director Quality Operations, Bioscience Production

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials,LLC
100 Matsonford Rd, Suite 200,Radnor,PA,19087.U.S.A.Phone 610.386.1700

PO: PO2-1178.2 PRODUCT CODE: SHIP DATE: 1/20/2025

Methylene Chloride
ULTRA RESI-ANALYZED
For Organic Residue Analysis
(dichloromethane)

avantor | J.T.Baker

Material No.: 9266-A4
Batch No.: 25A0262002
Manufactured Date: 2024-11-21
Expiration Date:2026-02-20
Revision No.: 0

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| FID-Sensitive Impurities (as 2-Octanol)Single Impurity Peak (ng/mL) | <= 5 | 1 |
| ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL) | <= 10 | 4 |
| Assay ($CH_2Cl_2$) (by GC, exclusive of preservative, corrected for water) | >= 99.8 % | 99.9 % |
| Color (APHA) | <= 10 | 10 |
| Residue after Evaporation | <= 1.0 ppm | 0.8 ppm |
| Titrable Acid (µeq/g) | <= 0.3 | <0.1 |
| Chloride (Cl) | <= 10 ppm | <5 ppm |
| Water (by KF, coulometric) | <= 0.02 % | <0.01 % |

For Laboratory,Research,or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: United States
Packaging Site: Phillipsburg Mfg Ctr & DC

E3930

JCroak
Jamie Croak
Director Quality Operations, Bioscience Production

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials,LLC
100 Matsonford Rd, Suite 200,Radnor,PA,19087.U.S.A.Phone 610.386.1700

Acetone
BAKER RESI-ANALYZED® Reagent
For Organic Residue Analysis

avantor™ | J.T.Baker

Material No.: 9254-03
Batch No.: 24H1462005
Manufactured Date: 2024-05-24
Expiration Date:2027-05-24
Revision No.: 0

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| Assay ($(CH_3)_2CO$) (by GC, corrected forwater) | >= 99.4 % | 99.8 % |
| Color (APHA) | <= 10 | 5 |
| Residue after Evaporation | <= 1.0 ppm | 0.2 ppm |
| Substances Reducing Permanganate | Passes Test | Passes Test |
| Titrable Acid (µeq/g) | <= 0.3 | 0.2 |
| Titrable Base (µeq/g) | <= 0.6 | <0.1 |
| Water ($H_2O$) | <= 0.5 % | 0.2 % |
| FID-Sensitive Impurities (as 2-Octanol)Single Impurity Peak (ng/mL) | <= 5 | <1 |
| ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL) | <= 10 | 1 |

For Laboratory,Research,or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD RS

Country of Origin: United States
Packaging Site: Phillipsburg Mfg Ctr & DC

E 3932

JCroak
Jamie Croak
Director Quality Operations, Bioscience Production

n-Hexane 95%
ULTRA RESI-ANALYZED
For Organic Residue Analysis

avantor™ | J.T.Baker

Material No.: 9262-03
Batch No.: 25C0362005
Manufactured Date: 2025-01-29
Expiration Date:2026-04-30
Revision No.: 0

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| FID-Sensitive Impurities (as 2-Octanol)Single Impurity Peak (ng/mL) | <= 5 | 1 |
| ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL) | <= 10 | 6 |
| ECD-Sensitive Impurities (as EthyleneDibromide) - Single Impurity Peak (ng/mL) | <= 5 | 5 |
| Assay (Total Saturated $C_6$ Isomers) (byGC, corrected for water) | >= 99.5 % | 100.0 % |
| Assay (as n-Hexane) (by GC, correctedfor water) | >= 95 % | 100 % |
| Color (APHA) | <= 10 | 10 |
| Residue after Evaporation | <= 1.0 ppm | 0.1 ppm |
| Substances Darkened by $H_2SO_4$ | Passes Test | Passes Test |
| Water (by KF, coulometric) | <= 0.05 % | <0.01 % |

For Laboratory,Research,or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: United States
Packaging Site: Phillipsburg Mfg Ctr & DC

E3933

JCroak

Jamie Croak
Director Quality Operations, Bioscience Production

n-Hexane 95%
ULTRA RESI-ANALYZED
For Organic Residue Analysis

avantor™ | J.T.Baker

Material No.: 9262-03
Batch No.: 25C0362005
Manufactured Date: 2025-01-29
Expiration Date:2026-04-30
Revision No.: 0

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| FID-Sensitive Impurities (as 2-Octanol)Single Impurity Peak (ng/mL) | <= 5 | 1 |
| ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL) | <= 10 | 6 |
| ECD-Sensitive Impurities (as EthyleneDibromide) - Single Impurity Peak (ng/mL) | <= 5 | 5 |
| Assay (Total Saturated $C_6$ Isomers) (byGC, corrected for water) | >= 99.5 % | 100.0 % |
| Assay (as n-Hexane) (by GC, correctedfor water) | >= 95 % | 100 % |
| Color (APHA) | <= 10 | 10 |
| Residue after Evaporation | <= 1.0 ppm | 0.1 ppm |
| Substances Darkened by $H_2SO_4$ | Passes Test | Passes Test |
| Water (by KF, coulometric) | <= 0.05 % | <0.01 % |

For Laboratory,Research,or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: United States
Packaging Site: Phillipsburg Mfg Ctr & DC

E3934

JCroak
Jamie Croak
Director Quality Operations, Bioscience Production

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

n-Hexane 95%
ULTRA RESI-ANALYZED
For Organic Residue Analysis

avantor | J.T.Baker

Material No.: 9262-03
Batch No.: 25C0362005
Manufactured Date: 2025-01-29
Expiration Date:2026-04-30
Revision No.: 0

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| FID-Sensitive Impurities (as 2-Octanol)Single Impurity Peak (ng/mL) | <= 5 | 1 |
| ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL) | <= 10 | 6 |
| ECD-Sensitive Impurities (as EthyleneDibromide) - Single Impurity Peak (ng/mL) | <= 5 | 5 |
| Assay (Total Saturated $C_6$ Isomers) (byGC, corrected for water) | >= 99.5 % | 100.0 % |
| Assay (as n-Hexane) (by GC, correctedfor water) | >= 95 % | 100 % |
| Color (APHA) | <= 10 | 10 |
| Residue after Evaporation | <= 1.0 ppm | 0.1 ppm |
| Substances Darkened by $H_2SO_4$ | Passes Test | Passes Test |
| Water (by KF, coulometric) | <= 0.05 % | <0.01 % |

For Laboratory,Research,or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: United States
Packaging Site: Phillipsburg Mfg Ctr & DC

E3938

JCroak
Jamie Croak
Director Quality Operations, Bioscience Production

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials LLC

Methylene Chloride
ULTRA RESI-ANALYZED
For Organic Residue Analysis
(dichloromethane)

avantor | J.T.Baker

Material No.: 9266-A4
Batch No.: 25A2862010
Manufactured Date: 2024-12-18
Expiration Date:2026-03-19
Revision No.: 0

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| FID-Sensitive Impurities (as 2-Octanol)Single Impurity Peak (ng/mL) | <= 5 | <1 |
| ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL) | <= 10 | 2 |
| Assay ($CH_2Cl_2$) (by GC, exclusive of preservative, corrected for water) | >= 99.8 % | 99.9 % |
| Color (APHA) | <= 10 | 5 |
| Residue after Evaporation | <= 1.0 ppm | 0.3 ppm |
| Titrable Acid (µeq/g) | <= 0.3 | <0.1 |
| Chloride (Cl) | <= 10 ppm | <5 ppm |
| Water (by KF, coulometric) | <= 0.02 % | <0.01 % |

For Laboratory,Research,or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: United States
Packaging Site: Phillipsburg Mfg Ctr & DC

E3939

J Croak
Jamie Croak
Director Quality Operations, Bioscience Production

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials,LLC
100 Matsonford Rd, Suite 200,Radnor,PA,19087.U.S.A.Phone 610.386.1700

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

M6151

R→ 1/15/25

Material No.: 9530-33
Batch No.: 22G2862015
Manufactured Date: 2022-06-15
Retest Date: 2027-06-14
Revision No.: 0

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| ACS – Assay (as HCl) (by acid-base titrn) | 36.5 – 38.0 % | 37.9 % |
| ACS – Color (APHA) | ≤ 10 | 5 |
| ACS – Residue after Ignition | ≤ 3 ppm | < 1 ppm |
| ACS – Specific Gravity at 60°/60°F | 1.185 – 1.192 | 1.191 |
| ACS – Bromide (Br) | ≤ 0.005 % | < 0.005 % |
| ACS – Extractable Organic Substances | ≤ 5 ppm | < 1 ppm |
| ACS – Free Chlorine (as $Cl_2$) | ≤ 0.5 ppm | < 0.5 ppm |
| Phosphate ($PO_4$) | ≤ 0.05 ppm | < 0.03 ppm |
| Sulfate ($SO_4$) | ≤ 0.5 ppm | < 0.3 ppm |
| Sulfite ($SO_3$) | ≤ 0.8 ppm | 0.3 ppm |
| Ammonium ($NH_4$) | ≤ 3 ppm | < 1 ppm |
| Trace Impurities – Arsenic (As) | ≤ 0.010 ppm | < 0.003 ppm |
| Trace Impurities – Aluminum (Al) | ≤ 10.0 ppb | 1.3 ppb |
| Arsenic and Antimony (as As) | ≤ 5.0 ppb | < 3.0 ppb |
| Trace Impurities – Barium (Ba) | ≤ 1.0 ppb | 0.2 ppb |
| Trace Impurities – Beryllium (Be) | ≤ 1.0 ppb | < 0.2 ppb |
| Trace Impurities – Bismuth (Bi) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities – Boron (B) | ≤ 20.0 ppb | < 5.0 ppb |
| Trace Impurities – Cadmium (Cd) | ≤ 1.0 ppb | < 0.3 ppb |
| Trace Impurities – Calcium (Ca) | ≤ 50.0 ppb | 163.0 ppb |
| Trace Impurities – Chromium (Cr) | ≤ 1.0 ppb | 0.7 ppb |
| Trace Impurities – Cobalt (Co) | ≤ 1.0 ppb | < 0.3 ppb |
| Trace Impurities – Copper (Cu) | ≤ 1.0 ppb | < 0.1 ppb |
| Trace Impurities – Gallium (Ga) | ≤ 1.0 ppb | < 0.2 ppb |
| Trace Impurities – Germanium (Ge) | ≤ 3.0 ppb | < 2.0 ppb |
| Trace Impurities – Gold (Au) | ≤ 4.0 ppb | 0.6 ppb |
| Heavy Metals (as Pb) | ≤ 100 ppb | < 50 ppb |
| Trace Impurities – Iron (Fe) | ≤ 15 ppb | 6 ppb |

>>> Continued on page 2 >>>

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22G2862015

| Test | Specification | Result |
|---|---|---|
| Trace Impurities - Lead (Pb) | ≤ 1.0 ppb | < 0.5 ppb |
| Trace Impurities - Lithium (Li) | ≤ 1.0 ppb | < 0.2 ppb |
| Trace Impurities - Magnesium (Mg) | ≤ 10.0 ppb | 2.9 ppb |
| Trace Impurities - Manganese (Mn) | ≤ 1.0 ppb | < 0.4 ppb |
| Trace Impurities - Mercury (Hg) | ≤ 0.5 ppb | 0.1 ppb |
| Trace Impurities - Molybdenum (Mo) | ≤ 10.0 ppb | < 3.0 ppb |
| Trace Impurities - Nickel (Ni) | ≤ 4.0 ppb | < 0.3 ppb |
| Trace Impurities - Niobium (Nb) | ≤ 1.0 ppb | 0.8 ppb |
| Trace Impurities - Potassium (K) | ≤ 9.0 ppb | < 2.0 ppb |
| Trace Impurities - Selenium (Se), For Information Only | | < 1.0 ppb |
| Trace Impurities - Silicon (Si) | ≤ 100.0 ppb | < 10.0 ppb |
| Trace Impurities - Silver (Ag) | ≤ 1.0 ppb | 0.5 ppb |
| Trace Impurities - Sodium (Na) | ≤ 100.0 ppb | 2.3 ppb |
| Trace Impurities - Strontium (Sr) | ≤ 1.0 ppb | < 0.2 ppb |
| Trace Impurities - Tantalum (Ta) | ≤ 1.0 ppb | 1.6 ppb |
| Trace Impurities - Thallium (Tl) | ≤ 5.0 ppb | < 2.0 ppb |
| Trace Impurities - Tin (Sn) | ≤ 5.0 ppb | 4.0 ppb |
| Trace Impurities - Titanium (Ti) | ≤ 1.0 ppb | 1.5 ppb |
| Trace Impurities - Vanadium (V) | ≤ 1.0 ppb | < 0.2 ppb |
| Trace Impurities - Zinc (Zn) | ≤ 5.0 ppb | 0.8 ppb |
| Trace Impurities - Zirconium (Zr) | ≤ 1.0 ppb | 0.3 ppb |

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22G2862015

| Test | Specification | Result |
|---|---|---|

For Laboratory,Research,or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

James T Ethier

Jamie Ethier
Vice President Global Quality

**Absolute Standards, Inc.**
800-368-1131
www.absolutestandards.com

***Certified Reference Material CRM***

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

## CERTIFIED WEIGHT REPORT

**Part Number:** 95709
Lot Number: 060420
Description: NJ EPH Aromatic Hydrocarbons
18 components
Expiration Date: 060425
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 2000
NIST Test ID#: 23060

| Solvent(s): | Lot# |
|---|---|
| Methylene chloride | 104929 |

5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 500.0 0.058 Flask Uncertainty

| | |
|---|---|
| Formulated By: Benson Chan | 060420 DATE |
| Reviewed By: Pedro L. Rentas | 060420 DATE |

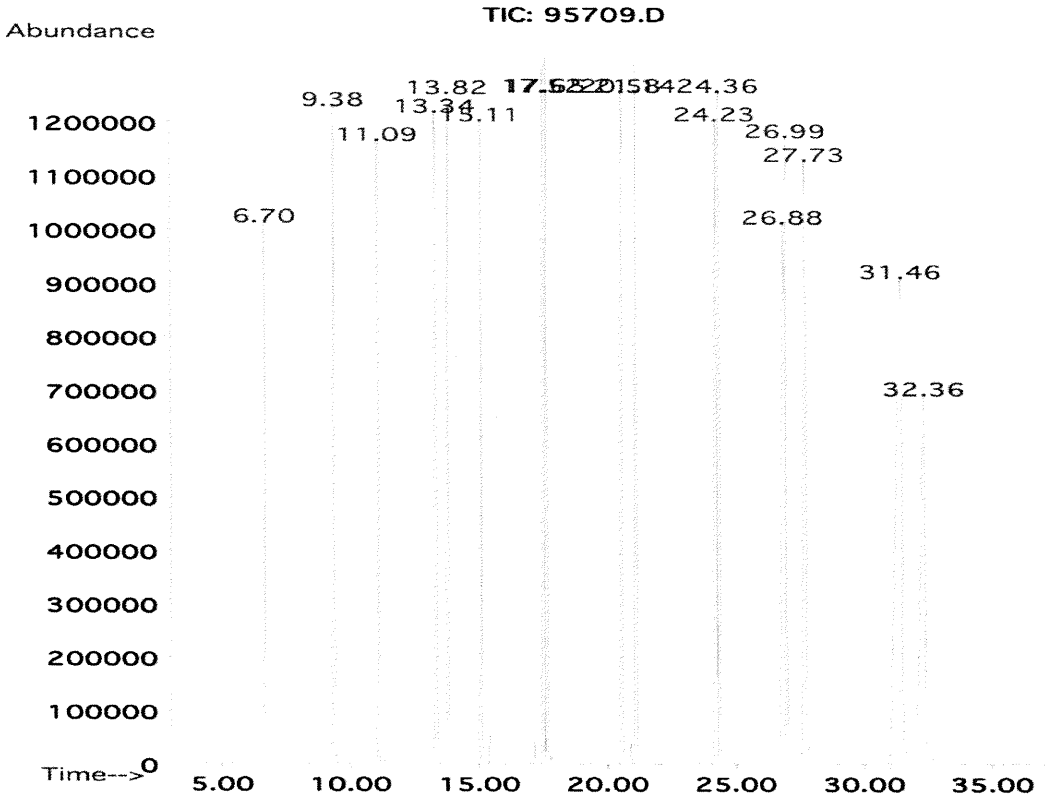
| | Compound | RM# | Lot Number | Nominal Conc (µg/mL) | Purity (%) | Uncertainty Purity | Target Weight(g) | Actual Weight(g) | Actual Conc (µg/mL) | Expanded Uncertainty (+/-) (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Acenaphthene | 1 | MKBJ4871V | 2000 | 99 | 0.2 | 1.01003 | 1.01010 | 2000.1 | 8.1 | 83-32-9 | N/A | ipr-rat 600mg/kg |
| 2. | Acenaphthylene | 3 | 012014 | 2000 | 98 | 0.2 | 1.02033 | 1.02053 | 2000.4 | 8.2 | 208-96-8 | N/A | N/A |
| 3. | Anthracene | 13 | A0210580 | 2000 | 99 | 0.2 | 1.01003 | 1.01009 | 2000.1 | 8.1 | 120-12-7 | 0.2mg/m3 (8H) | ipr-mus 430mg/kg |
| 4. | Benzo(a)anthracene | 28 | JY2TD-JT | 2000 | 98 | 0.2 | 1.02033 | 1.02051 | 2000.3 | 8.2 | 56-55-3 | N/A | N/A |
| 5. | Benzo(a)pyrene | 30 | 012012 | 2000 | 99.5 | 0.2 | 1.00495 | 1.00511 | 2000.3 | 8.1 | 50-32-8 | 0.2mg/m3 (8H) | scu-rat 50mg/kg |
| 6. | Benzo(b)fluoranthene | 31 | 012012b | 2000 | 99 | 0.2 | 1.01003 | 1.01012 | 2000.2 | 8.1 | 205-99-2 | N/A | N/A |
| 7. | Benzo(k)fluoranthene | 33 | 012012k | 2000 | 99 | 0.2 | 1.01003 | 1.01018 | 2000.3 | 8.1 | 207-08-9 | N/A | N/A |
| 8. | Benzo(g,h,i)perylene | 32 | 012018 | 2000 | 99 | 0.2 | 1.01003 | 1.01019 | 2000.3 | 8.1 | 191-24-2 | N/A | N/A |
| 9. | Chrysene | 91 | 012015 | 2000 | 98 | 0.2 | 1.02033 | 1.02040 | 2000.1 | 8.2 | 218-01-9 | 0.2mg/m3 | N/A |
| 10. | Dibenzo(a,h)anthracene | 112 | 012011 | 2000 | 98 | 0.2 | 1.02033 | 1.02050 | 2000.3 | 8.2 | 53-70-3 | 0.2mg/m3 | N/A |
| 11. | Fluoranthene | 183 | 04221PV | 2000 | 98 | 0.2 | 1.02033 | 1.02050 | 2000.3 | 8.2 | 206-44-0 | N/A | orl-rat 2000mg/kg |
| 12. | Fluorene | 184 | 07211MV | 2000 | 98 | 0.2 | 1.02033 | 1.02047 | 2000.3 | 8.2 | 86-73-7 | N/A | ipr-mus 2 g/kg |
| 13. | Indeno(1,2,3-cd)pyrene | 202 | 012014 | 2000 | 99.9 | 0.2 | 1.00093 | 1.00119 | 2000.5 | 8.0 | 193-39-5 | N/A | N/A |
| 14. | 2-Methylnaphthalene | 214 | MKBF3783V | 2000 | 97 | 0.2 | 1.03085 | 1.03090 | 2000.1 | 8.3 | 91-57-6 | N/A | orl-rat 1630mg/kg |
| 15. | Naphthalene | 222 | MKBZ8680V | 2000 | 100 | 0.2 | 0.99993 | 0.99999 | 2000.1 | 8.0 | 91-20-3 | 10 ppm (50mg/m3/8H) | orl-rat 490mg/kg |
| 16. | Phenanthrene | 248 | 03410PV | 2000 | 99 | 0.2 | 1.01003 | 1.01030 | 2000.5 | 8.1 | 85-01-8 | 0.2mg/m3/8H | orl-mus 700mg/kg |
| 17. | Pyrene | 259 | 010197 | 2000 | 98 | 0.2 | 1.02033 | 1.02042 | 2000.2 | 8.2 | 129-00-0 | 0.2mg/m3/8H | orl-rat 2700mg/kg |
| 18. | 1,2,3-Trimethylbenzene | 944 | 031097 | 2000 | 99 | 0.2 | 1.01003 | 1.01025 | 2000.4 | 8.1 | 526-73-8 | N/A | N/A |

P11137
&
P11141

AR 11/02/21

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

**Method GC8MSD-2.M:** Column:SPB-5 (30m X 0.25mm ID X 0.25μm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (14min.), Rate = 10°C/min., Injector B= 250°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Melissa Stonier.




| Peak No. | Name | MSD RT (min.) |
|---|---|---|
| 1 | 1,2,3-Trimethylbenzene | 6.70 |
| 2 | Naphthalene | 9.38 |
| 3 | 2-Methylnaphthalene | 11.09 |
| 4 | Acenaphthylene | 13.34 |
| 5 | Acenaphthene | 13.82 |
| 6 | Fluorene | 15.11 |
| 7 | Phenanthrene | 17.52 |
| 8 | Anthracene | 17.65 |
| 9 | Fluoranthene | 20.58 |
| 10 | Pyrene | 21.14 |
| 11 | Chrysene | 24.23 |
| 12 | Benzo(a)anthracene | 24.36 |
| 13 | Benzo(b)fluoranthene/Benzo(k)fluoranthene | 26.98 |
| 14 | Benzo(a)pyrene | 27.73 |
| 15 | Indeno(1,2,3-cd)pyrene/Dibenzo(a,h)anthracene | 31.46 |
| 16 | Benzo(g,h,i)perylene | 32.36 |

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

# CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

P12361 ↓ P12370 } Y.P. 03/16/23

**Catalog No. :** 30540 **Lot No.:** A0190424

**Description :** NJEPH Aliphatics Calibration Standard

Aliphatics Calibration Standard 2000µg/mL, Hexane/Carbon Disulfide (80:20), 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** November 30, 2029 **Storage:** 25°C nominal

**Handling:** Sonicate prior to use. **Ship:** Ambient

## CERTIFIED VALUES

| Elution Order | Compound | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2) | |
|---|---|---|---|---|
| 1 | n-Nonane (C9)<br>**CAS #** 111-84-2 (Lot SHBN5361)<br>**Purity** 99% | 2,014.0 µg/mL | +/- 11.8193 µg/mL<br>+/- 50.0027 µg/mL<br>+/- 59.9491 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 2 | n-Decane (C10)<br>**CAS #** 124-18-5 (Lot SHBN8619)<br>**Purity** 99% | 2,014.7 µg/mL | +/- 11.8232 µg/mL<br>+/- 50.0193 µg/mL<br>+/- 59.9689 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 3 | Naphthalene<br>**CAS #** 91-20-3 (Lot MKCH0219)<br>**Purity** 99% | 2,015.3 µg/mL | +/- 11.8271 µg/mL<br>+/- 50.0358 µg/mL<br>+/- 59.9888 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 4 | n-Dodecane (C12)<br>**CAS #** 112-40-3 (Lot SHBN7174)<br>**Purity** 99% | 2,008.0 µg/mL | +/- 11.7841 µg/mL<br>+/- 49.8538 µg/mL<br>+/- 59.7705 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 5 | 2-Methylnaphthalene<br>**CAS #** 91-57-6 (Lot STBK0259)<br>**Purity** 96% | 2,007.0 µg/mL | +/- 11.7784 µg/mL<br>+/- 49.8299 µg/mL<br>+/- 59.7419 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 6 | n-Tetradecane (C14)<br>**CAS #** 629-59-4 (Lot STBK2282)<br>**Purity** 99% | 2,016.7 µg/mL | +/- 11.8349 µg/mL<br>+/- 50.0689 µg/mL<br>+/- 60.0284 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 7 | n-Hexadecane (C16)<br>**CAS #** 544-76-3 (Lot SHBM4146)<br>**Purity** 98% | 2,014.9 µg/mL | +/- 11.8244 µg/mL<br>+/- 50.0246 µg/mL<br>+/- 59.9753 µg/mL | Gravimetric<br>Unstressed<br>Stressed |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 8 | n-Octadecane (C18)<br>**CAS #** 593-45-3<br>**Purity** 97% | (Lot VZKOJ) | 2,004.7 | µg/mL | +/- 11.7645<br>+/- 49.7710<br>+/- 59.6712 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 9 | n-Eicosane (C20)<br>**CAS #** 112-95-8<br>**Purity** 99% | (Lot MKCF7888) | 2,018.0 | µg/mL | +/- 11.8428<br>+/- 50.1020<br>+/- 60.0681 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 10 | n-Heneicosane (C21)<br>**CAS #** 629-94-7<br>**Purity** 99% | (Lot MKCL3226) | 2,000.7 | µg/mL | +/- 11.7410<br>+/- 49.6717<br>+/- 59.5522 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 11 | n-Docosane (C22)<br>**CAS #** 629-97-0<br>**Purity** 99% | (Lot MKCL8918) | 2,005.3 | µg/mL | +/- 11.7684<br>+/- 49.7876<br>+/- 59.6911 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 12 | n-Tetracosane (C24)<br>**CAS #** 646-31-1<br>**Purity** 99% | (Lot MKCN2863) | 2,018.0 | µg/mL | +/- 11.8428<br>+/- 50.1020<br>+/- 60.0681 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 13 | n-Hexacosane (C26)<br>**CAS #** 630-01-3<br>**Purity** 99% | (Lot MKCD4540) | 2,014.0 | µg/mL | +/- 11.8193<br>+/- 50.0027<br>+/- 59.9491 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 14 | n-Octacosane (C28)<br>**CAS #** 630-02-4<br>**Purity** 99% | (Lot BCCG0084) | 2,002.0 | µg/mL | +/- 11.7489<br>+/- 49.7048<br>+/- 59.5919 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 15 | n-Triacontane (C30)<br>**CAS #** 638-68-6<br>**Purity** 97% | (Lot MKCQ9436) | 2,011.1 | µg/mL | +/- 11.8025<br>+/- 49.9316<br>+/- 59.8637 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 16 | n-Dotriacontane (C32)<br>**CAS #** 544-85-4<br>**Purity** 99% | (Lot BCBW0661) | 2,012.0 | µg/mL | +/- 11.8075<br>+/- 49.9531<br>+/- 59.8895 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 17 | n-Tetratriacontane (C34)<br>**CAS #** 14167-59-0<br>**Purity** 99% | (Lot OML4N) | 2,006.7 | µg/mL | +/- 11.7762<br>+/- 49.8207<br>+/- 59.7308 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 18 | n-Hexatriacontane (C36)<br>**CAS #** 630-06-8<br>**Purity** 99% | (Lot Z27H018) | 2,017.3 | µg/mL | +/- 11.8388<br>+/- 50.0855<br>+/- 60.0483 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 19 | n-Octatriacontane (C38)<br>**CAS #** 7194-85-6<br>**Purity** 96% | (Lot 0000145137) | 2,017.3 | µg/mL | +/- 11.8385<br>+/- 50.0842<br>+/- 60.0467 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 20 | n-Tetracontane (C40)<br>**CAS #** 4181-95-7<br>**Purity** 99% | (Lot BSBME) | 2,008.7 | µg/mL | +/- 11.7880<br>+/- 49.8703<br>+/- 59.7903 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |

**Solvent:** Hexane/Carbon disulfide (80:20)
**CAS #** 110-54-3/75-15-0
**Purity** 99%

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

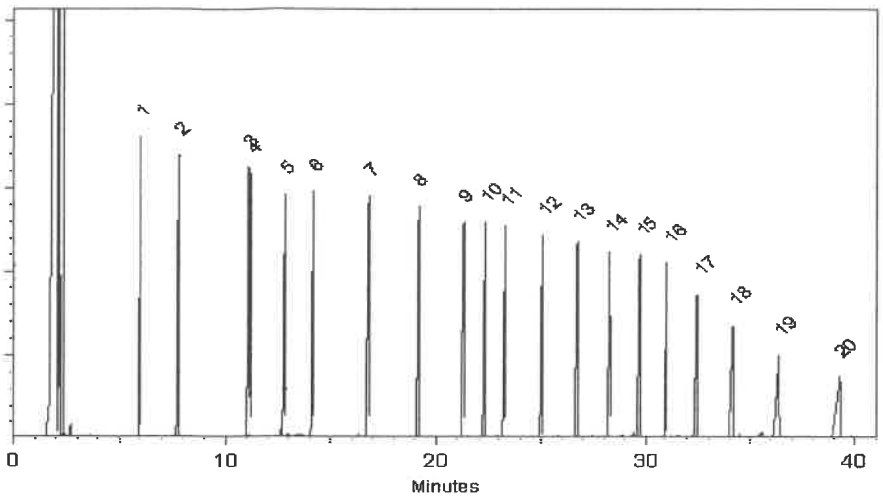
**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Morgan Craighead - Mix Technician

**Date Mixed:** 10-Oct-2022 **Balance:** 1128360905

Jennifer Pollino - Operations Tech III - ARM QC

**Date Passed:** 20-Oct-2022

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

**General Certified Reference Material Notes**

**Expiration Notes:**

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

**Purity Notes:**

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

**Certified Uncertainty Value Notes:**

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

*k* is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

| Label Conditions | Standard Conditions | Non-Standard Conditions |
|---|---|---|
| 25°C Nominal (Room Temperature) | < 60°C | ≥ 60°C up to 7 days |
| 10°C or colder (Refrigerate) | < 40°C | ≥ 40°C up to 7 days |
| 0°C or colder (Freezer)<br>-20°C or colder (Deep Freezer) | < 25°C | ≥ 25°C up to 7 days |

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

**Manufacturing Notes:**

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

**Handling Notes:**

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

## CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

***chromatographic plus***

ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

P12960 & P12991 Y.P. 12/21/2023

**Catalog No. :** 31098 **Lot No.:** A0204989

**Description :** 1-Chlorooctadecane Standard

1-Chlorooctadecane Standard 10,000µg/mL, Methylene Chloride, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** January 31, 2031 **Storage:** 10°C or colder

**Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | 1-Chlorooctadecane | 3386-33-2 | 14738400 | 99% | 10,097.3 µg/mL | +/- 567.2675 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Methylene chloride
**CAS #** 75-09-2
**Purity** 99%

# Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

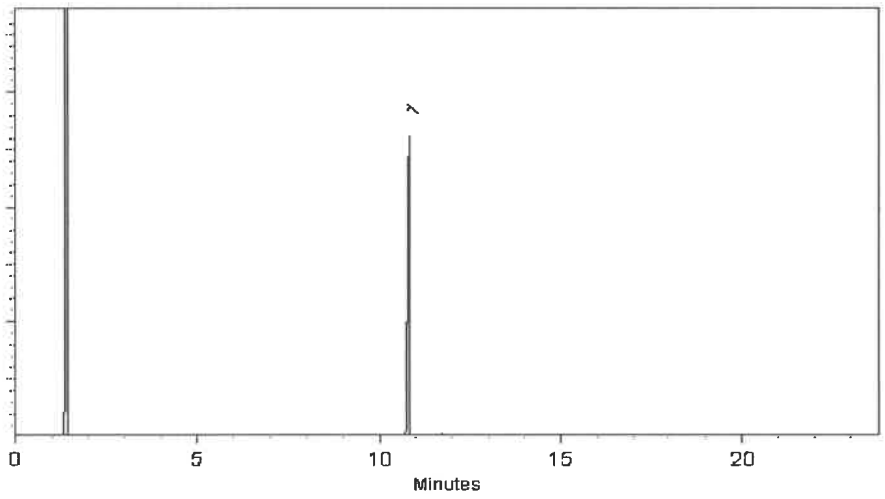
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
10 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Peter Robbins - Operations Technician I

**Date Mixed:** 02-Dec-2023 **Balance Serial #** B345965662

Christie Mills - Operations Lead Tech - ARM QC

**Date Passed:** 08-Dec-2023

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

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  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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www.restek.com

## CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

***chromatographic plus***

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ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

P12960 & P12991 Y.P. 12/21/2023

**Catalog No. :** 31098 **Lot No.:** A0204989

**Description :** 1-Chlorooctadecane Standard

1-Chlorooctadecane Standard 10,000µg/mL, Methylene Chloride, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** January 31, 2031 **Storage:** 10°C or colder

**Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | 1-Chlorooctadecane | 3386-33-2 | 14738400 | 99% | 10,097.3 µg/mL | +/- 567.2675 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Methylene chloride
**CAS #** 75-09-2
**Purity** 99%

# Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

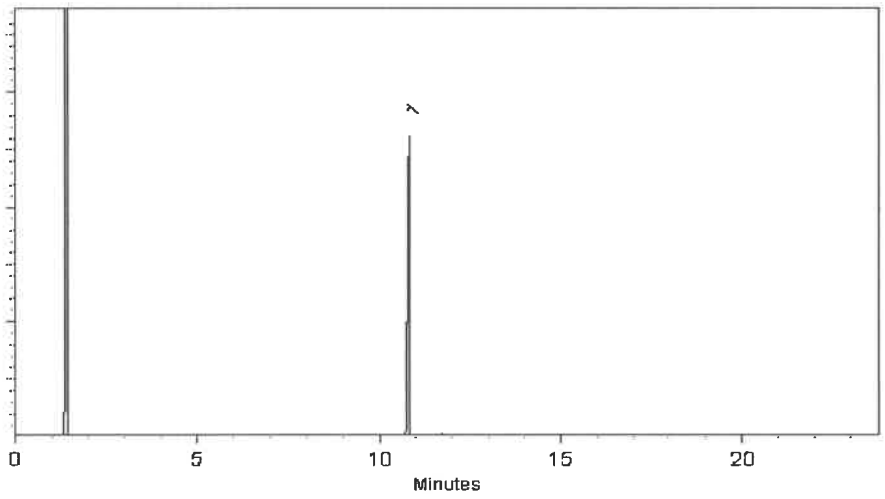
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
10 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Peter Robbins - Operations Technician I

**Date Mixed:** 02-Dec-2023 **Balance Serial #** B345965662

Christie Mills - Operations Lead Tech - ARM QC

**Date Passed:** 08-Dec-2023

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

**Absolute Standards, Inc.**
800-368-1131
www.absolutestandards.com

*Certified Reference Material CRM*

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT

**Part Number:** 95899
Lot Number: 040524
Description: NJ EPH Aliphatic n-Hydrocarbons - Revised
20 components
Expiration Date: 040534
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 6UTB

| Solvent(s): | Lot# |
|---|---|
| Cyclohexane | 28930 |

P13278 & P13287 } Y.P. 04111124

| | | |
|---|---|---|
| Formulated By: | Anthony Mahoney | 040524 DATE |
| Reviewed By: | Pedro L. Rentas | 040524 DATE |

5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 25.0 0.001 Flask Uncertainty
**CAUTION: Sonicate Before Use**

| | Compound | (RM#) Part Number | Lot Number | Dil. Factor | Initial Vol. (mL) | Initial Conc.(ug/mL) | Nominal Conc (µg/mL) | Purity (%) | Purity Uncertainty | Uncertainty Pipette | Target Weight(g) | Actual Weight(g) | Actual Conc (µg/mL) | Expanded Uncertainty (+/-) (µg/mL) | SDS Information (Solvent Safety Info. On Attached pg.) CAS# | OSHA PEL (TWA) | LD50 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | 2-Methylnaphthalene | (0214) | MKBF3783V | NA | NA | NA | 1000 | 97 | 0.2 | NA | 0.02579 | 0.02594 | 1005.7 | 5.7 | 91-57-6 | N/A | orl-rat 1630mg/kg |
| 2. | Naphthalene | (0222) | MKBZ8680V | NA | NA | NA | 1000 | 100 | 0.2 | NA | 0.02502 | 0.02511 | 1003.7 | 5.7 | 91-20-3 | 10 ppm (50mg/m3/8H) | orl-rat 490mg/kg |
| 3. | n-Nonane | 95708 | 120222 | 1.00 | 25.00 | 1000.7 | 1000 | NA | NA | 0.013 | NA | NA | 1000.0 | 4.2 | 111-84-2 | 200 ppm (1050mg/m3/8H) | ivn-mus 218mg/kg |
| 4. | n-Decane | 95708 | **120222** | 1.00 | 25.00 | 1000.9 | 1000 | NA | NA | 0.013 | NA | NA | 1000.2 | 4.2 | 124-18-5 | N/A | N/A |
| 5. | n-Dodecane | 95708 | 120222 | 1.00 | 25.00 | 1000.7 | 1000 | NA | NA | 0.013 | NA | NA | 1000.0 | 4.2 | 112-40-3 | N/A | ivn-mus 3494mg/kg |
| 6. | n-Tetradecane | 95708 | 120222 | 1.00 | 25.00 | 1002.1 | 1000 | NA | NA | 0.013 | NA | NA | 1001.3 | 4.2 | 629-59-4 | N/A | N/A |
| 7. | n-Hexadecane | 95708 | 120222 | 1.00 | 25.00 | 1000.5 | 1000 | NA | NA | 0.013 | NA | NA | 999.7 | 4.2 | 544-76-3 | N/A | N/A |
| 8. | n-Octadecane | 95708 | 120222 | 1.00 | 25.00 | 1001.0 | 1000 | NA | NA | 0.013 | NA | NA | 1000.3 | 4.1 | 593-45-3 | N/A | N/A |
| 9. | n-Eicosane | 95708 | 120222 | 1.00 | 25.00 | 1001.0 | 1000 | NA | NA | 0.013 | NA | NA | 1000.3 | 4.2 | 112-95-8 | N/A | N/A |
| 10. | n-Heneicosane | 95708 | 120222 | 1.00 | 25.00 | 1002.4 | 1000 | NA | NA | 0.013 | NA | NA | 1001.6 | 4.2 | 629-94-7 | N/A | N/A |
| 11. | n-Docosane | 95708 | 120222 | 1.00 | 25.00 | 1001.9 | 1000 | NA | NA | 0.013 | NA | NA | 1001.2 | 4.2 | 629-97-0 | N/A | N/A |
| 12. | n-Tetracosane | 95708 | 120222 | 1.00 | 25.00 | 1000.8 | 1000 | NA | NA | 0.013 | NA | NA | 1000.1 | 4.2 | 646-31-1 | N/A | N/A |
| 13. | n-Hexacosane | 95708 | 120222 | 1.00 | 25.00 | 1001.2 | 1000 | NA | NA | 0.013 | NA | NA | 1000.4 | 4.2 | 630-01-3 | N/A | N/A |
| 14. | n-Octacosane | 95708 | 120222 | 1.00 | 25.00 | 1000.5 | 1000 | NA | NA | 0.013 | NA | NA | 999.8 | 4.2 | 630-02-4 | N/A | N/A |
| 15. | n-Triacontane | 95708 | 120222 | 1.00 | 25.00 | 1000.5 | 1000 | NA | NA | 0.013 | NA | NA | 999.8 | 4.2 | 638-68-6 | N/A | N/A |
| 16. | n-Dotriacontane | 95708 | 120222 | 1.00 | 25.00 | 1000.5 | 1000 | NA | NA | 0.013 | NA | NA | 999.8 | 4.3 | 544-85-4 | N/A | ivn-mus 100mg/kg |
| 17. | n-Tetratriacontane | 95708 | 120222 | 1.00 | 25.00 | 1000.4 | 1000 | NA | NA | 0.013 | NA | NA | 999.7 | 4.2 | 14167-59-0 | N/A | N/A |
| 18. | n-Hexatriacontane | 95708 | 120222 | 1.00 | 25.00 | 1001.5 | 1000 | NA | NA | 0.013 | NA | NA | 1000.8 | 4.2 | 630-06-8 | N/A | N/A |
| 19. | n-Octatriacontane | 95708 | 120222 | 1.00 | 25.00 | 1000.3 | 1000 | NA | NA | 0.013 | NA | NA | 999.6 | 4.3 | 7194-85-6 | N/A | N/A |
| 20. | n-Tetracontane | 95708 | 120222 | 1.00 | 25.00 | 1000.6 | 1000 | NA | NA | 0.013 | NA | NA | 999.9 | 4.3 | 4181-95-7 | N/A | N/A |

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

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## CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

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ilac-MRA A2LA ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ilac-MRA A2LA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 31098 **Lot No.:** A0213283

**Description :** 1-Chlorooctadecane Standard

1-Chlorooctadecane Standard 10,000µg/mL, Methylene Chloride, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** July 31, 2031 **Storage:** 10°C or colder

**Ship:** Ambient

P13595 ↓ P13624 } Y.P. 10/16/24

**CERTIFIED VALUES**

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | 1-Chlorooctadecane | 3386-33-2 | 15018900 | 99% | 10,058.0 µg/mL | +/- 565.0578 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Methylene chloride
**CAS #** 75-09-2
**Purity** 99%

# Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

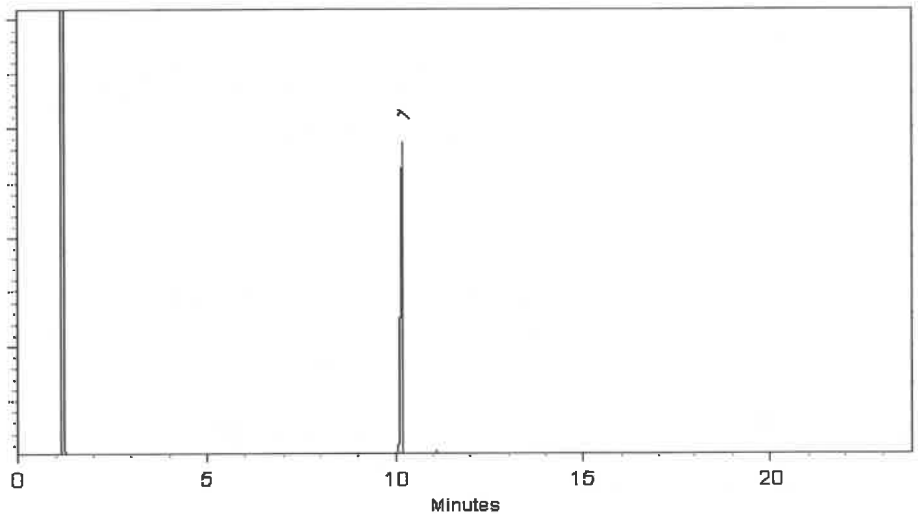
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
10 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Stacey Wanner - Operations Technician I

**Date Mixed:** 28-Jun-2024 **Balance Serial #** B345965662

Dillan Murphy - Operations Technician I

**Date Passed:** 01-Jul-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

## Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

## Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

## Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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## CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

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ilac-MRA A2LA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 31098 **Lot No.:** A0213283

**Description :** 1-Chlorooctadecane Standard

1-Chlorooctadecane Standard 10,000µg/mL, Methylene Chloride, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** July 31, 2031 **Storage:** 10°C or colder

**Ship:** Ambient

P13595 ↓ P13624 } Y.P. 10/16/24

**CERTIFIED VALUES**

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | 1-Chlorooctadecane | 3386-33-2 | 15018900 | 99% | 10,058.0 µg/mL | +/- 565.0578 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Methylene chloride
**CAS #** 75-09-2
**Purity** 99%

# Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

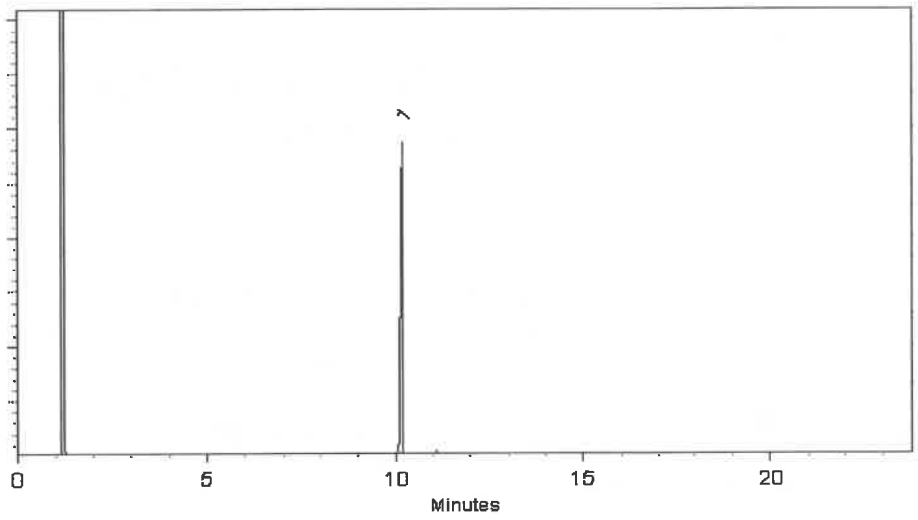
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
10 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Stacey Wanner - Operations Technician I

**Date Mixed:** 28-Jun-2024 **Balance Serial #** B345965662

Dillan Murphy - Operations Technician I

**Date Passed:** 01-Jul-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

## Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

## Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

## Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
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**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 31097 **Lot No.:** A0216631

**Description :** o-Terphenyl Standard

o-Terphenyl Standard 10,000 µg/mL, Methylene Chloride, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** April 30, 2028 **Storage:** 10°C or colder

**Handling:** Sonicate prior to use. **Ship:** Ambient

P13645
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P13694
Y.P.
10/16/24

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | o-Terphenyl | 84-15-1 | GKSSA | 99% | 10,065.0 µg/mL | +/- 453.3336 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Methylene chloride
**CAS #** 75-09-2
**Purity** 99%

# Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

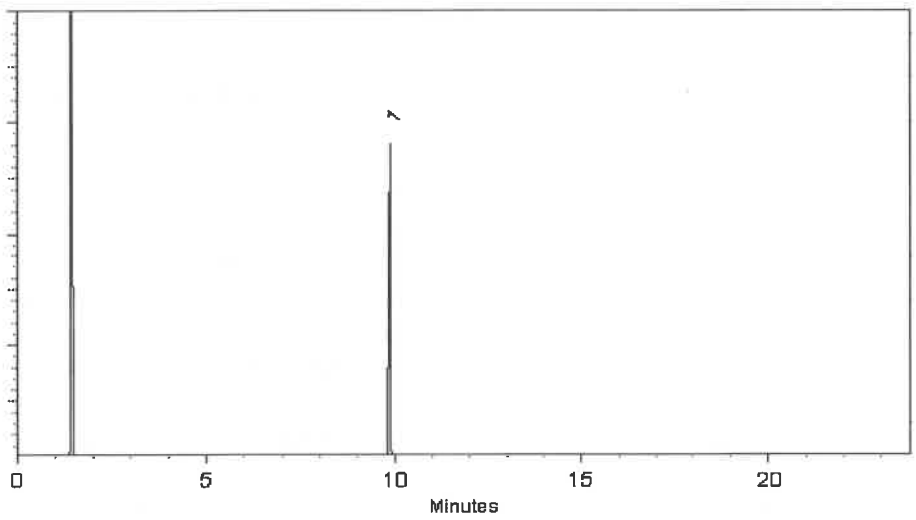
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
10 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Ven Kelley - Operations Tech I

**Date Mixed:** 17-Sep-2024 **Balance Serial #** 1128353505

Dillan Murphy - Operations Technician I

**Date Passed:** 23-Sep-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

## Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

## Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

## Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
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CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

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**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 31097 **Lot No.:** A0216631

**Description :** o-Terphenyl Standard

o-Terphenyl Standard 10,000 µg/mL, Methylene Chloride, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** April 30, 2028 **Storage:** 10°C or colder

**Handling:** Sonicate prior to use. **Ship:** Ambient

P13645
↓
P13694
Y.P.
10/16/24

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | o-Terphenyl | 84-15-1 | GKSSA | 99% | 10,065.0 µg/mL | +/- 453.3336 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Methylene chloride
**CAS #** 75-09-2
**Purity** 99%

# Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

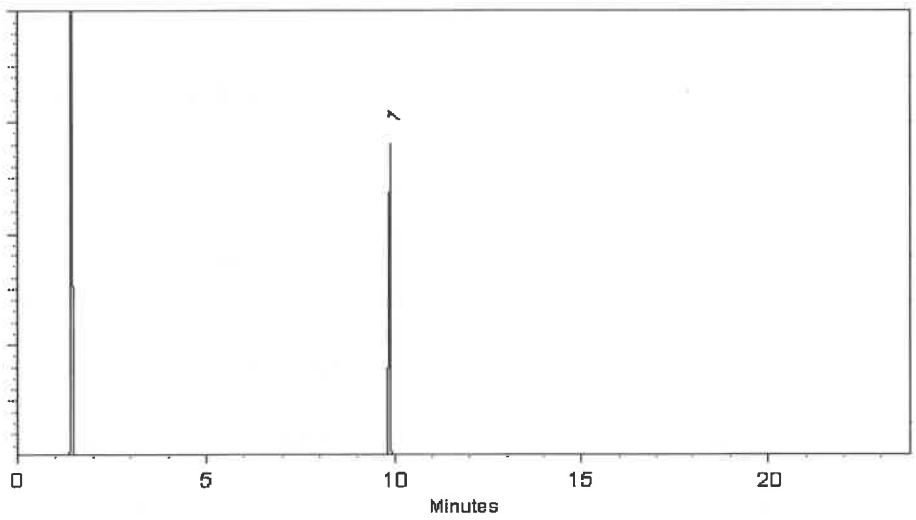
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
10 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Ven Kelley - Operations Tech I

**Date Mixed:** 17-Sep-2024 **Balance Serial #** 1128353505

Dillan Murphy - Operations Technician I

**Date Passed:** 23-Sep-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

## Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
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- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

## Manufacturing Notes:

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## Handling Notes:

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CERTIFIED REFERENCE MATERIAL

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**Catalog No. :** 31097 **Lot No.:** A0216631

**Description :** o-Terphenyl Standard

o-Terphenyl Standard 10,000 µg/mL, Methylene Chloride, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** April 30, 2028 **Storage:** 10°C or colder

**Handling:** Sonicate prior to use. **Ship:** Ambient

P13645
↓
P13694
Y.P.
10/16/24

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | o-Terphenyl | 84-15-1 | GKSSA | 99% | 10,065.0 µg/mL | +/- 453.3336 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Methylene chloride
**CAS #** 75-09-2
**Purity** 99%

# Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

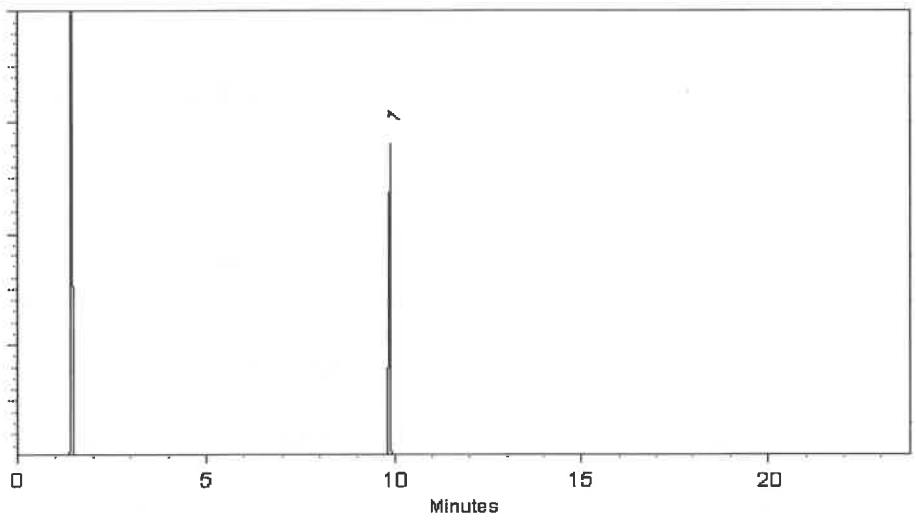
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
10 ml/min.

**Inj. Vol**
1µl




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Ven Kelley - Operations Tech I

**Date Mixed:** 17-Sep-2024 **Balance Serial #** 1128353505

Dillan Murphy - Operations Technician I

**Date Passed:** 23-Sep-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

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- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

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  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
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## Manufacturing Notes:

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**Catalog No. :** 31097 **Lot No.:** A0216631

**Description :** o-Terphenyl Standard

o-Terphenyl Standard 10,000 µg/mL, Methylene Chloride, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** April 30, 2028 **Storage:** 10°C or colder

**Handling:** Sonicate prior to use. **Ship:** Ambient

P13645
↓
P13694
Y.P.
10/16/24

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | o-Terphenyl | 84-15-1 | GKSSA | 99% | 10,065.0 µg/mL | +/- 453.3336 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Methylene chloride
**CAS #** 75-09-2
**Purity** 99%

# Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

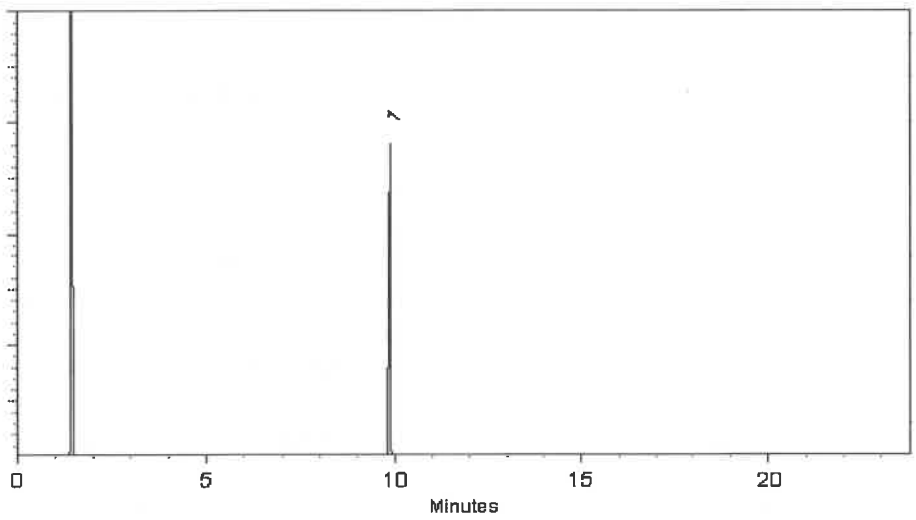
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
10 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Ven Kelley - Operations Tech I

**Date Mixed:** 17-Sep-2024 **Balance Serial #** 1128353505

Dillan Murphy - Operations Technician I

**Date Passed:** 23-Sep-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

## Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

## Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

## Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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Testing Laboratory
Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 31097 **Lot No.:** A0216631

**Description :** o-Terphenyl Standard

o-Terphenyl Standard 10,000 µg/mL, Methylene Chloride, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** April 30, 2028 **Storage:** 10°C or colder

**Handling:** Sonicate prior to use. **Ship:** Ambient

P13645
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P13694
Y.P.
10/16/24

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | o-Terphenyl | 84-15-1 | GKSSA | 99% | 10,065.0 µg/mL | +/- 453.3336 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Methylene chloride
**CAS #** 75-09-2
**Purity** 99%

# Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

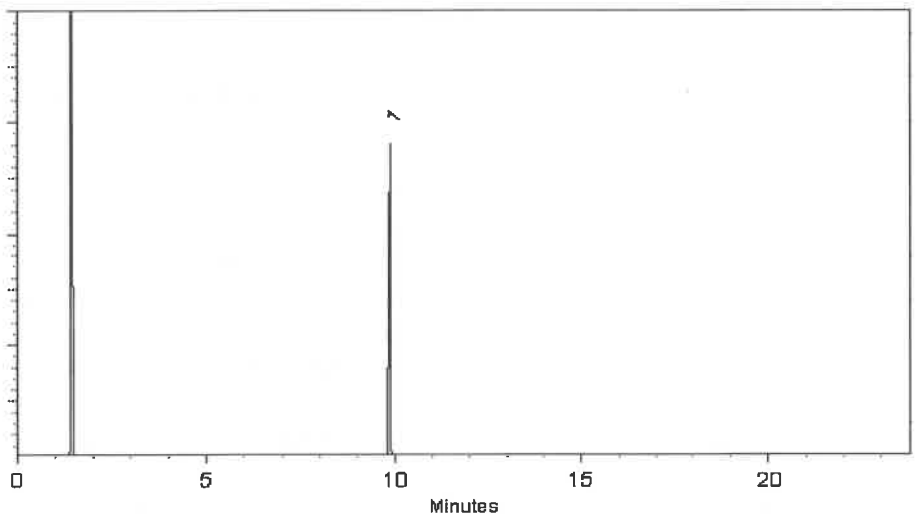
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
10 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Ven Kelley - Operations Tech I

**Date Mixed:** 17-Sep-2024 **Balance Serial #** 1128353505

Dillan Murphy - Operations Technician I

**Date Passed:** 23-Sep-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

## Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

## Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

## Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
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# Certificate of Analysis

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Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 31097 **Lot No.:** A0216631

**Description :** o-Terphenyl Standard

o-Terphenyl Standard 10,000 µg/mL, Methylene Chloride, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** April 30, 2028 **Storage:** 10°C or colder

**Handling:** Sonicate prior to use. **Ship:** Ambient

P13645
↓
P13694
Y.P.
10/16/24

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | o-Terphenyl | 84-15-1 | GKSSA | 99% | 10,065.0 µg/mL | +/- 453.3336 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Methylene chloride
**CAS #** 75-09-2
**Purity** 99%

# Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

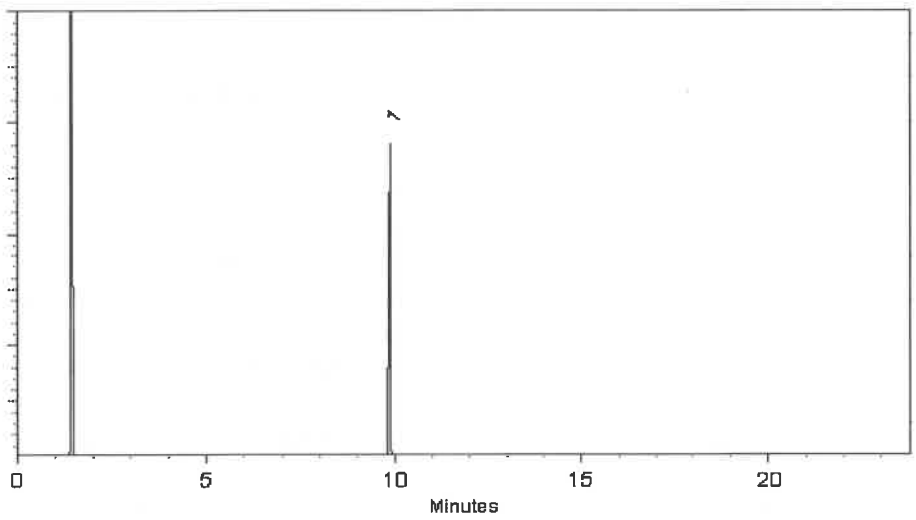
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
10 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Ven Kelley - Operations Tech I

**Date Mixed:** 17-Sep-2024 **Balance Serial #** 1128353505

Dillan Murphy - Operations Technician I

**Date Passed:** 23-Sep-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

## Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

## Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

## Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
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Testing Laboratory
Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30543 **Lot No.:** A0211254

**Description :** NJEPH Aromatics Matrix Spike Mix

NJEPH Aromatics Matrix Spike Mix 200µg/mL, Acetone/Toluene (50:50), 5mL/ampul

P13708 ) P137-16 } Y.P. 10/24/24

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** April 30, 2030 **Storage:** 10°C or colder

**Handling:** Sonication required. Mix is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | 1,2,3-Trimethylbenzene | 526-73-8 | 8776.10-38 | 99% | 200.0 µg/mL | +/- 9.0114 |
| 2 | Naphthalene | 91-20-3 | STBL1057 | 99% | 200.8 µg/mL | +/- 9.0474 |
| 3 | 2-Methylnaphthalene | 91-57-6 | STBK0259 | 96% | 200.4 µg/mL | +/- 9.0316 |
| 4 | Acenaphthylene | 208-96-8 | 214935L31M | 98% | 200.3 µg/mL | +/- 9.0255 |
| 5 | Acenaphthene | 83-32-9 | MKCR7169 | 99% | 202.0 µg/mL | +/- 9.1015 |
| 6 | Fluorene | 86-73-7 | 10241100 | 99% | 201.2 µg/mL | +/- 9.0655 |
| 7 | Phenanthrene | 85-01-8 | MKCS5188 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 8 | Anthracene | 120-12-7 | MKCR0570 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 9 | Fluoranthene | 206-44-0 | MKCQ4728 | 99% | 200.8 µg/mL | +/- 9.0474 |
| 10 | Pyrene | 129-00-0 | BCCK2592 | 99% | 201.2 µg/mL | +/- 9.0655 |
| 11 | Benz(a)anthracene | 56-55-3 | I30012022BAA | 99% | 200.8 µg/mL | +/- 9.0474 |
| 12 | Chrysene | 218-01-9 | RP231206RSR | 99% | 200.4 µg/mL | +/- 9.0294 |
| 13 | Benzo(b)fluoranthene | 205-99-2 | 012013B | 99% | 200.4 µg/mL | +/- 9.0294 |
| 14 | Benzo(k)fluoranthene | 207-08-9 | 012022K | 99% | 200.0 µg/mL | +/- 9.0114 |
| 15 | Benzo(a)pyrene | 50-32-8 | O45GL | 98% | 200.7 µg/mL | +/- 9.0431 |
| 16 | Indeno(1,2,3-cd)pyrene | 193-39-5 | 12-JKL-118-9 | 97% | 199.8 µg/mL | +/- 9.0033 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17 | Dibenz(a,h)anthracene | 53-70-3 | 2-ASA-59-1 | 99% | 200.0 | µg/mL | +/- 9.0114 |
| 18 | Benzo(g,h,i)perylene | 191-24-2 | RP240105ECS | 99% | 200.8 | µg/mL | +/- 9.0474 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Acetone/Toluene (50:50)
**CAS #** 67-64-1/108-88-3
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
100°C (hold 1 min.) to 330°C
@ 4°C/min. (hold 5 min.)

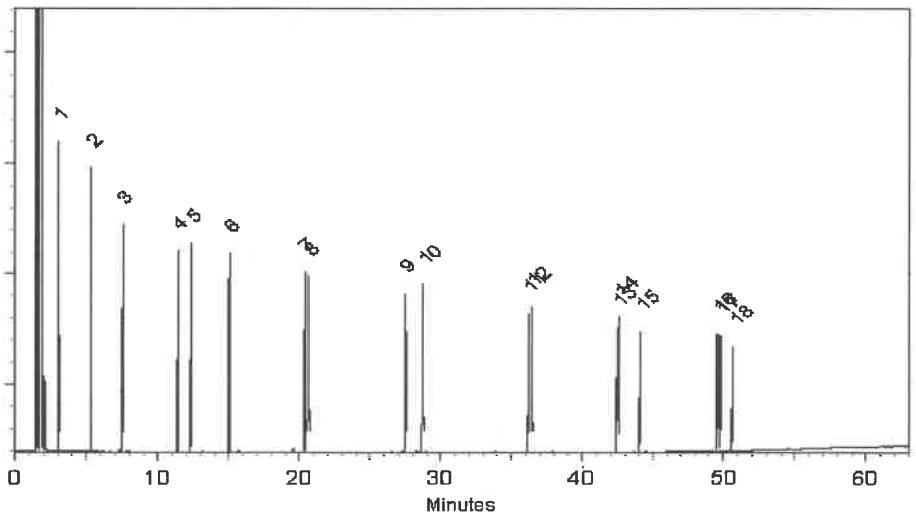
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
20 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Michael Maye - Operations Tech I **Date Mixed:** 09-May-2024 **Balance Serial #** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC **Date Passed:** 13-May-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
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Testing Laboratory
Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30543 **Lot No.:** A0211254

**Description :** NJEPH Aromatics Matrix Spike Mix

NJEPH Aromatics Matrix Spike Mix 200µg/mL, Acetone/Toluene (50:50), 5mL/ampul

P13708 ) P137-16 } Y.P. 10/24/24

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** April 30, 2030 **Storage:** 10°C or colder

**Handling:** Sonication required. Mix is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | 1,2,3-Trimethylbenzene | 526-73-8 | 8776.10-38 | 99% | 200.0 µg/mL | +/- 9.0114 |
| 2 | Naphthalene | 91-20-3 | STBL1057 | 99% | 200.8 µg/mL | +/- 9.0474 |
| 3 | 2-Methylnaphthalene | 91-57-6 | STBK0259 | 96% | 200.4 µg/mL | +/- 9.0316 |
| 4 | Acenaphthylene | 208-96-8 | 214935L31M | 98% | 200.3 µg/mL | +/- 9.0255 |
| 5 | Acenaphthene | 83-32-9 | MKCR7169 | 99% | 202.0 µg/mL | +/- 9.1015 |
| 6 | Fluorene | 86-73-7 | 10241100 | 99% | 201.2 µg/mL | +/- 9.0655 |
| 7 | Phenanthrene | 85-01-8 | MKCS5188 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 8 | Anthracene | 120-12-7 | MKCR0570 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 9 | Fluoranthene | 206-44-0 | MKCQ4728 | 99% | 200.8 µg/mL | +/- 9.0474 |
| 10 | Pyrene | 129-00-0 | BCCK2592 | 99% | 201.2 µg/mL | +/- 9.0655 |
| 11 | Benz(a)anthracene | 56-55-3 | I30012022BAA | 99% | 200.8 µg/mL | +/- 9.0474 |
| 12 | Chrysene | 218-01-9 | RP231206RSR | 99% | 200.4 µg/mL | +/- 9.0294 |
| 13 | Benzo(b)fluoranthene | 205-99-2 | 012013B | 99% | 200.4 µg/mL | +/- 9.0294 |
| 14 | Benzo(k)fluoranthene | 207-08-9 | 012022K | 99% | 200.0 µg/mL | +/- 9.0114 |
| 15 | Benzo(a)pyrene | 50-32-8 | O45GL | 98% | 200.7 µg/mL | +/- 9.0431 |
| 16 | Indeno(1,2,3-cd)pyrene | 193-39-5 | 12-JKL-118-9 | 97% | 199.8 µg/mL | +/- 9.0033 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17 | Dibenz(a,h)anthracene | 53-70-3 | 2-ASA-59-1 | 99% | 200.0 | µg/mL | +/- 9.0114 |
| 18 | Benzo(g,h,i)perylene | 191-24-2 | RP240105ECS | 99% | 200.8 | µg/mL | +/- 9.0474 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Acetone/Toluene (50:50)
**CAS #** 67-64-1/108-88-3
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
100°C (hold 1 min.) to 330°C
@ 4°C/min. (hold 5 min.)

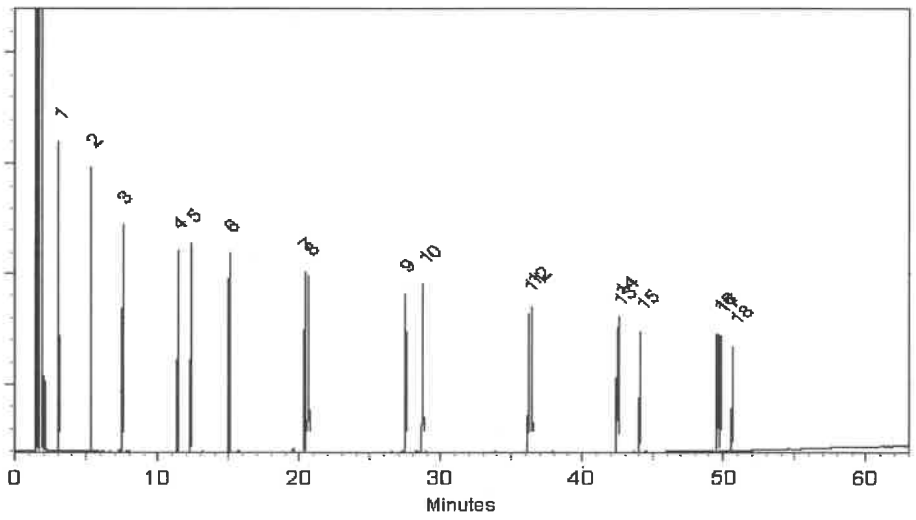
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
20 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Michael Maye - Operations Tech I **Date Mixed:** 09-May-2024 **Balance Serial #** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC **Date Passed:** 13-May-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

## General Certified Reference Material Notes

### Expiration Notes:

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### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
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- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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## CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

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Certificate #3222.01

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Testing Laboratory
Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30543 **Lot No.:** A0211254

**Description :** NJEPH Aromatics Matrix Spike Mix

NJEPH Aromatics Matrix Spike Mix 200µg/mL, Acetone/Toluene (50:50), 5mL/ampul

P13708 ) P137-16 } Y.P. 10/24/24

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** April 30, 2030 **Storage:** 10°C or colder

**Handling:** Sonication required. Mix is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | 1,2,3-Trimethylbenzene | 526-73-8 | 8776.10-38 | 99% | 200.0 µg/mL | +/- 9.0114 |
| 2 | Naphthalene | 91-20-3 | STBL1057 | 99% | 200.8 µg/mL | +/- 9.0474 |
| 3 | 2-Methylnaphthalene | 91-57-6 | STBK0259 | 96% | 200.4 µg/mL | +/- 9.0316 |
| 4 | Acenaphthylene | 208-96-8 | 214935L31M | 98% | 200.3 µg/mL | +/- 9.0255 |
| 5 | Acenaphthene | 83-32-9 | MKCR7169 | 99% | 202.0 µg/mL | +/- 9.1015 |
| 6 | Fluorene | 86-73-7 | 10241100 | 99% | 201.2 µg/mL | +/- 9.0655 |
| 7 | Phenanthrene | 85-01-8 | MKCS5188 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 8 | Anthracene | 120-12-7 | MKCR0570 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 9 | Fluoranthene | 206-44-0 | MKCQ4728 | 99% | 200.8 µg/mL | +/- 9.0474 |
| 10 | Pyrene | 129-00-0 | BCCK2592 | 99% | 201.2 µg/mL | +/- 9.0655 |
| 11 | Benz(a)anthracene | 56-55-3 | I30012022BAA | 99% | 200.8 µg/mL | +/- 9.0474 |
| 12 | Chrysene | 218-01-9 | RP231206RSR | 99% | 200.4 µg/mL | +/- 9.0294 |
| 13 | Benzo(b)fluoranthene | 205-99-2 | 012013B | 99% | 200.4 µg/mL | +/- 9.0294 |
| 14 | Benzo(k)fluoranthene | 207-08-9 | 012022K | 99% | 200.0 µg/mL | +/- 9.0114 |
| 15 | Benzo(a)pyrene | 50-32-8 | O45GL | 98% | 200.7 µg/mL | +/- 9.0431 |
| 16 | Indeno(1,2,3-cd)pyrene | 193-39-5 | 12-JKL-118-9 | 97% | 199.8 µg/mL | +/- 9.0033 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17 | Dibenz(a,h)anthracene | 53-70-3 | 2-ASA-59-1 | 99% | 200.0 | µg/mL | +/- 9.0114 |
| 18 | Benzo(g,h,i)perylene | 191-24-2 | RP240105ECS | 99% | 200.8 | µg/mL | +/- 9.0474 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Acetone/Toluene (50:50)
**CAS #** 67-64-1/108-88-3
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
100°C (hold 1 min.) to 330°C
@ 4°C/min. (hold 5 min.)

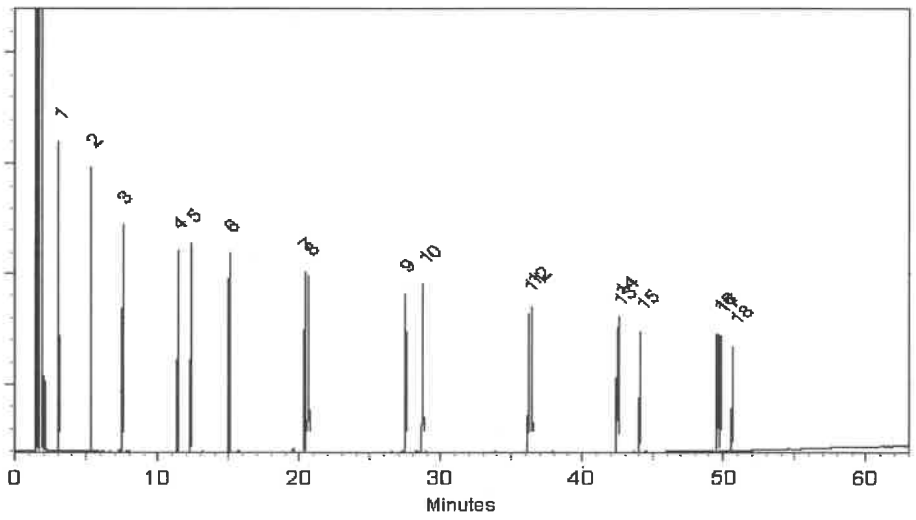
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
20 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Michael Maye - Operations Tech I **Date Mixed:** 09-May-2024 **Balance Serial #** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC **Date Passed:** 13-May-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
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*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30543 **Lot No.:** A0211254

**Description :** NJEPH Aromatics Matrix Spike Mix

NJEPH Aromatics Matrix Spike Mix 200µg/mL, Acetone/Toluene (50:50), 5mL/ampul

P13708 ) P137-16 } Y.P. 10/24/24

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** April 30, 2030 **Storage:** 10°C or colder

**Handling:** Sonication required. Mix is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | 1,2,3-Trimethylbenzene | 526-73-8 | 8776.10-38 | 99% | 200.0 µg/mL | +/- 9.0114 |
| 2 | Naphthalene | 91-20-3 | STBL1057 | 99% | 200.8 µg/mL | +/- 9.0474 |
| 3 | 2-Methylnaphthalene | 91-57-6 | STBK0259 | 96% | 200.4 µg/mL | +/- 9.0316 |
| 4 | Acenaphthylene | 208-96-8 | 214935L31M | 98% | 200.3 µg/mL | +/- 9.0255 |
| 5 | Acenaphthene | 83-32-9 | MKCR7169 | 99% | 202.0 µg/mL | +/- 9.1015 |
| 6 | Fluorene | 86-73-7 | 10241100 | 99% | 201.2 µg/mL | +/- 9.0655 |
| 7 | Phenanthrene | 85-01-8 | MKCS5188 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 8 | Anthracene | 120-12-7 | MKCR0570 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 9 | Fluoranthene | 206-44-0 | MKCQ4728 | 99% | 200.8 µg/mL | +/- 9.0474 |
| 10 | Pyrene | 129-00-0 | BCCK2592 | 99% | 201.2 µg/mL | +/- 9.0655 |
| 11 | Benz(a)anthracene | 56-55-3 | I30012022BAA | 99% | 200.8 µg/mL | +/- 9.0474 |
| 12 | Chrysene | 218-01-9 | RP231206RSR | 99% | 200.4 µg/mL | +/- 9.0294 |
| 13 | Benzo(b)fluoranthene | 205-99-2 | 012013B | 99% | 200.4 µg/mL | +/- 9.0294 |
| 14 | Benzo(k)fluoranthene | 207-08-9 | 012022K | 99% | 200.0 µg/mL | +/- 9.0114 |
| 15 | Benzo(a)pyrene | 50-32-8 | O45GL | 98% | 200.7 µg/mL | +/- 9.0431 |
| 16 | Indeno(1,2,3-cd)pyrene | 193-39-5 | 12-JKL-118-9 | 97% | 199.8 µg/mL | +/- 9.0033 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17 | Dibenz(a,h)anthracene | 53-70-3 | 2-ASA-59-1 | 99% | 200.0 | µg/mL | +/- 9.0114 |
| 18 | Benzo(g,h,i)perylene | 191-24-2 | RP240105ECS | 99% | 200.8 | µg/mL | +/- 9.0474 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Acetone/Toluene (50:50)
**CAS #** 67-64-1/108-88-3
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
100°C (hold 1 min.) to 330°C
@ 4°C/min. (hold 5 min.)

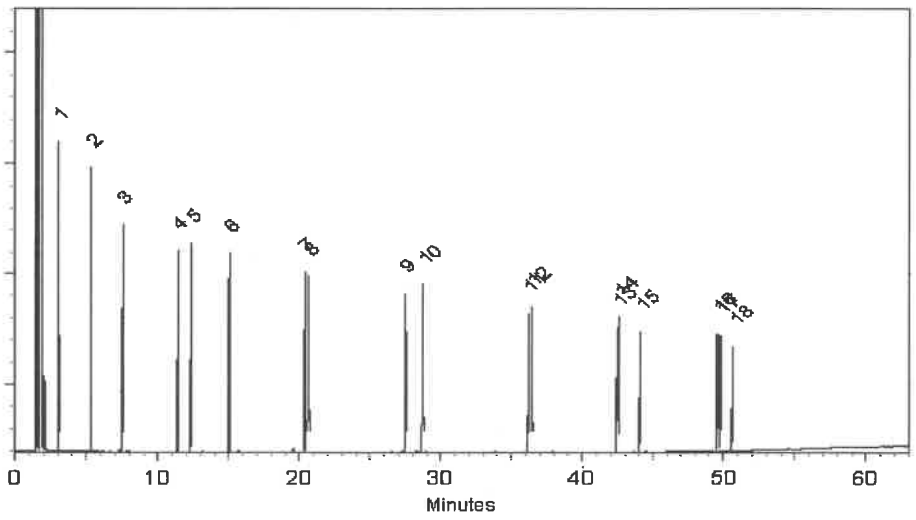
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
20 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Michael Maye - Operations Tech I **Date Mixed:** 09-May-2024 **Balance Serial #** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC **Date Passed:** 13-May-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
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### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
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- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
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*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30543 **Lot No.:** A0211254

**Description :** NJEPH Aromatics Matrix Spike Mix

NJEPH Aromatics Matrix Spike Mix 200µg/mL, Acetone/Toluene (50:50), 5mL/ampul

P13708 ) P137-16 } Y.P. 10/24/24

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** April 30, 2030 **Storage:** 10°C or colder

**Handling:** Sonication required. Mix is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | 1,2,3-Trimethylbenzene | 526-73-8 | 8776.10-38 | 99% | 200.0 µg/mL | +/- 9.0114 |
| 2 | Naphthalene | 91-20-3 | STBL1057 | 99% | 200.8 µg/mL | +/- 9.0474 |
| 3 | 2-Methylnaphthalene | 91-57-6 | STBK0259 | 96% | 200.4 µg/mL | +/- 9.0316 |
| 4 | Acenaphthylene | 208-96-8 | 214935L31M | 98% | 200.3 µg/mL | +/- 9.0255 |
| 5 | Acenaphthene | 83-32-9 | MKCR7169 | 99% | 202.0 µg/mL | +/- 9.1015 |
| 6 | Fluorene | 86-73-7 | 10241100 | 99% | 201.2 µg/mL | +/- 9.0655 |
| 7 | Phenanthrene | 85-01-8 | MKCS5188 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 8 | Anthracene | 120-12-7 | MKCR0570 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 9 | Fluoranthene | 206-44-0 | MKCQ4728 | 99% | 200.8 µg/mL | +/- 9.0474 |
| 10 | Pyrene | 129-00-0 | BCCK2592 | 99% | 201.2 µg/mL | +/- 9.0655 |
| 11 | Benz(a)anthracene | 56-55-3 | I30012022BAA | 99% | 200.8 µg/mL | +/- 9.0474 |
| 12 | Chrysene | 218-01-9 | RP231206RSR | 99% | 200.4 µg/mL | +/- 9.0294 |
| 13 | Benzo(b)fluoranthene | 205-99-2 | 012013B | 99% | 200.4 µg/mL | +/- 9.0294 |
| 14 | Benzo(k)fluoranthene | 207-08-9 | 012022K | 99% | 200.0 µg/mL | +/- 9.0114 |
| 15 | Benzo(a)pyrene | 50-32-8 | O45GL | 98% | 200.7 µg/mL | +/- 9.0431 |
| 16 | Indeno(1,2,3-cd)pyrene | 193-39-5 | 12-JKL-118-9 | 97% | 199.8 µg/mL | +/- 9.0033 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17 | Dibenz(a,h)anthracene | 53-70-3 | 2-ASA-59-1 | 99% | 200.0 | µg/mL | +/- 9.0114 |
| 18 | Benzo(g,h,i)perylene | 191-24-2 | RP240105ECS | 99% | 200.8 | µg/mL | +/- 9.0474 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Acetone/Toluene (50:50)
**CAS #** 67-64-1/108-88-3
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
100°C (hold 1 min.) to 330°C
@ 4°C/min. (hold 5 min.)

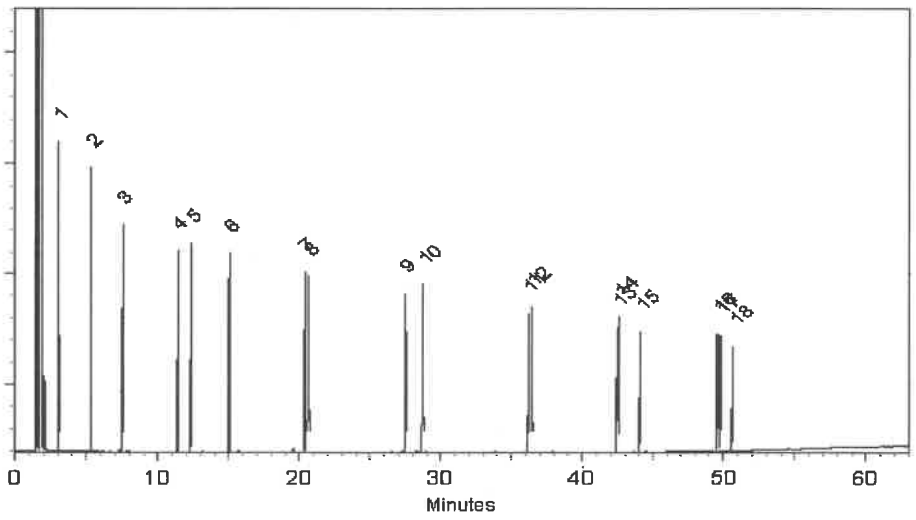
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
20 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Michael Maye - Operations Tech I **Date Mixed:** 09-May-2024 **Balance Serial #** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC **Date Passed:** 13-May-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

## General Certified Reference Material Notes

### Expiration Notes:

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**Description :** NJEPH Aromatics Matrix Spike Mix

NJEPH Aromatics Matrix Spike Mix 200µg/mL, Acetone/Toluene (50:50), 5mL/ampul

P13708 ) P137-16 } Y.P. 10/24/24

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** April 30, 2030 **Storage:** 10°C or colder

**Handling:** Sonication required. Mix is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
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| 2 | Naphthalene | 91-20-3 | STBL1057 | 99% | 200.8 µg/mL | +/- 9.0474 |
| 3 | 2-Methylnaphthalene | 91-57-6 | STBK0259 | 96% | 200.4 µg/mL | +/- 9.0316 |
| 4 | Acenaphthylene | 208-96-8 | 214935L31M | 98% | 200.3 µg/mL | +/- 9.0255 |
| 5 | Acenaphthene | 83-32-9 | MKCR7169 | 99% | 202.0 µg/mL | +/- 9.1015 |
| 6 | Fluorene | 86-73-7 | 10241100 | 99% | 201.2 µg/mL | +/- 9.0655 |
| 7 | Phenanthrene | 85-01-8 | MKCS5188 | 99% | 200.4 µg/mL | +/- 9.0294 |
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| 9 | Fluoranthene | 206-44-0 | MKCQ4728 | 99% | 200.8 µg/mL | +/- 9.0474 |
| 10 | Pyrene | 129-00-0 | BCCK2592 | 99% | 201.2 µg/mL | +/- 9.0655 |
| 11 | Benz(a)anthracene | 56-55-3 | I30012022BAA | 99% | 200.8 µg/mL | +/- 9.0474 |
| 12 | Chrysene | 218-01-9 | RP231206RSR | 99% | 200.4 µg/mL | +/- 9.0294 |
| 13 | Benzo(b)fluoranthene | 205-99-2 | 012013B | 99% | 200.4 µg/mL | +/- 9.0294 |
| 14 | Benzo(k)fluoranthene | 207-08-9 | 012022K | 99% | 200.0 µg/mL | +/- 9.0114 |
| 15 | Benzo(a)pyrene | 50-32-8 | O45GL | 98% | 200.7 µg/mL | +/- 9.0431 |
| 16 | Indeno(1,2,3-cd)pyrene | 193-39-5 | 12-JKL-118-9 | 97% | 199.8 µg/mL | +/- 9.0033 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17 | Dibenz(a,h)anthracene | 53-70-3 | 2-ASA-59-1 | 99% | 200.0 | µg/mL | +/- 9.0114 |
| 18 | Benzo(g,h,i)perylene | 191-24-2 | RP240105ECS | 99% | 200.8 | µg/mL | +/- 9.0474 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Acetone/Toluene (50:50)
**CAS #** 67-64-1/108-88-3
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
100°C (hold 1 min.) to 330°C
@ 4°C/min. (hold 5 min.)

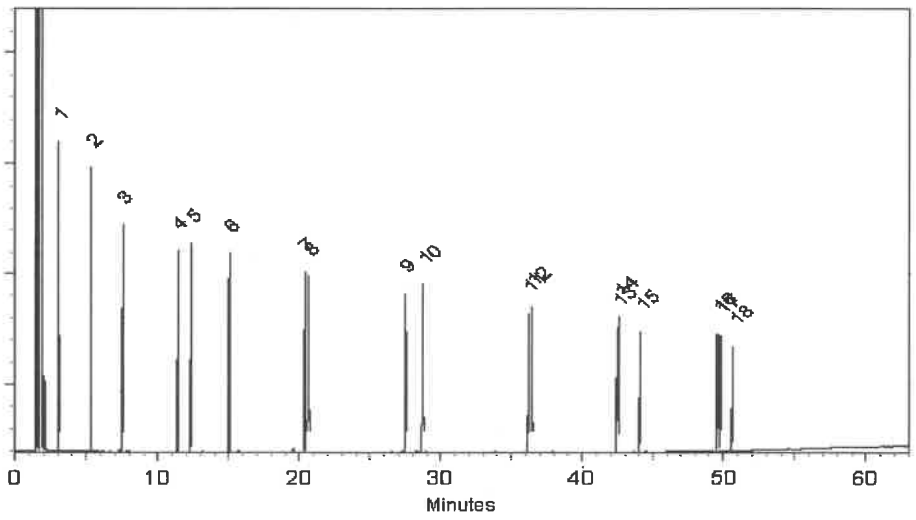
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
20 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Michael Maye - Operations Tech I **Date Mixed:** 09-May-2024 **Balance Serial #** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC **Date Passed:** 13-May-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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Bellefonte, PA 16823-8812
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## CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

***chromatographic plus***

ilac-MRA A2LA ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ilac-MRA A2LA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30542 **Lot No.:** A0217408

**Description :** NJEPH Aliphatics Matrix Spike Mix

NJEPH Aliphatics Matrix Spike Mix 200 µg/mL, n-Pentane, 5mL/ampul

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** November 30, 2031 **Storage:** 10°C or colder

**Handling:** Sonicate prior to use. **Ship:** Ambient

P13800 ↓ P13859 } Y.P. 12/09/24

**CERTIFIED VALUES**

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | n-Nonane (C9) | 111-84-2 | SHBP9752 | 99% | 200.7 µg/mL | +/- 5.1839 |
| 2 | n-Decane (C10) | 124-18-5 | SHBQ1342 | 99% | 201.0 µg/mL | +/- 5.1917 |
| 3 | n-Dodecane (C12) | 112-40-3 | SHBP7054 | 99% | 200.5 µg/mL | +/- 5.1805 |
| 4 | n-Tetradecane (C14) | 629-59-4 | STBL0465 | 99% | 200.5 µg/mL | +/- 5.1805 |
| 5 | n-Hexadecane (C16) | 544-76-3 | SHBR0669 | 99% | 200.7 µg/mL | +/- 5.1857 |
| 6 | n-Octadecane (C18) | 593-45-3 | UE5NG | 99% | 200.7 µg/mL | +/- 5.1857 |
| 7 | n-Eicosane (C20) | 112-95-8 | MKCN8767 | 97% | 200.9 µg/mL | +/- 5.1888 |
| 8 | n-Heneicosane (C21) | 629-94-7 | MKCP1960 | 99% | 200.5 µg/mL | +/- 5.1805 |
| 9 | n-Docosane (C22) | 629-97-0 | MKCQ3882 | 99% | 200.5 µg/mL | +/- 5.1788 |
| 10 | n-Tetracosane (C24) | 646-31-1 | MKCS9978 | 99% | 200.6 µg/mL | +/- 5.1822 |
| 11 | n-Hexacosane (C26) | 630-01-3 | MKCQ4814 | 99% | 200.5 µg/mL | +/- 5.1796 |
| 12 | n-Octacosane (C28) | 630-02-4 | BCCJ4566 | 99% | 200.6 µg/mL | +/- 5.1822 |
| 13 | n-Triacontane (C30) | 638-68-6 | MKCV7007 | 98% | 201.1 µg/mL | +/- 5.1942 |
| 14 | n-Dotriacontane (C32) | 544-85-4 | BCBW0661 | 99% | 200.9 µg/mL | +/- 5.1891 |
| 15 | n-Tetratriacontane (C34) | 14167-59-0 | 6JNHB | 99% | 200.8 µg/mL | +/- 5.1865 |
| 16 | n-Hexatriacontane (C36) | 630-06-8 | Z27H018 | 99% | 200.6 µg/mL | +/- 5.1814 |
| 17 | n-Octatriacontane (C38) | 7194-85-6 | 0000207852 | 96% | 199.3 µg/mL | +/- 5.1477 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 18 | n-Tetracontane (C40) | 4181-95-7 | OKEGA | 99% | 201.0 µg/mL | +/- 5.1917 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** n-Pentane
**CAS #** 109-66-0
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

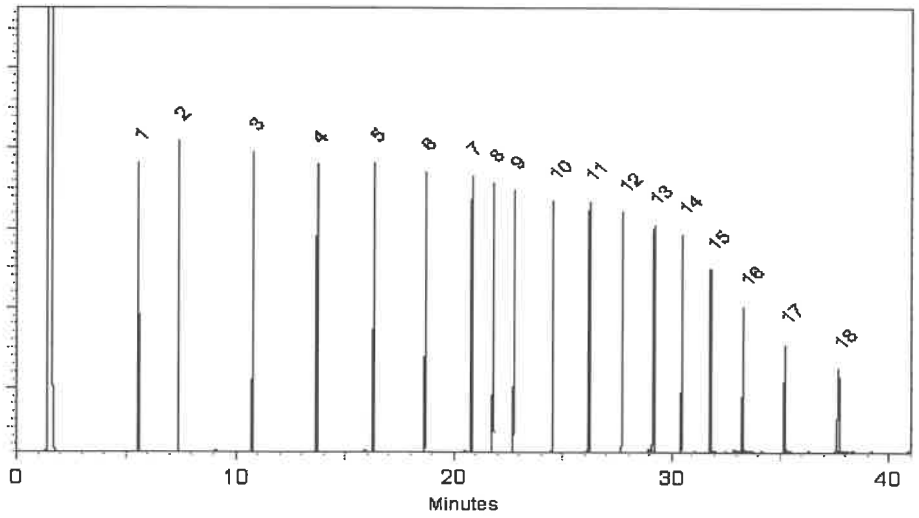
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
2 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Penelope Riglin - Operations Tech I

**Date Mixed:** 03-Oct-2024 **Balance Serial #** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC

**Date Passed:** 07-Oct-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
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## Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

## Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

## Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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## CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

***chromatographic plus***

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ilac-MRA A2LA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30542 **Lot No.:** A0217408

**Description :** NJEPH Aliphatics Matrix Spike Mix

NJEPH Aliphatics Matrix Spike Mix 200 µg/mL, n-Pentane, 5mL/ampul

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** November 30, 2031 **Storage:** 10°C or colder

**Handling:** Sonicate prior to use. **Ship:** Ambient

P13800 ↓ P13859 } Y.P. 12/09/24

**CERTIFIED VALUES**

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | n-Nonane (C9) | 111-84-2 | SHBP9752 | 99% | 200.7 µg/mL | +/- 5.1839 |
| 2 | n-Decane (C10) | 124-18-5 | SHBQ1342 | 99% | 201.0 µg/mL | +/- 5.1917 |
| 3 | n-Dodecane (C12) | 112-40-3 | SHBP7054 | 99% | 200.5 µg/mL | +/- 5.1805 |
| 4 | n-Tetradecane (C14) | 629-59-4 | STBL0465 | 99% | 200.5 µg/mL | +/- 5.1805 |
| 5 | n-Hexadecane (C16) | 544-76-3 | SHBR0669 | 99% | 200.7 µg/mL | +/- 5.1857 |
| 6 | n-Octadecane (C18) | 593-45-3 | UE5NG | 99% | 200.7 µg/mL | +/- 5.1857 |
| 7 | n-Eicosane (C20) | 112-95-8 | MKCN8767 | 97% | 200.9 µg/mL | +/- 5.1888 |
| 8 | n-Heneicosane (C21) | 629-94-7 | MKCP1960 | 99% | 200.5 µg/mL | +/- 5.1805 |
| 9 | n-Docosane (C22) | 629-97-0 | MKCQ3882 | 99% | 200.5 µg/mL | +/- 5.1788 |
| 10 | n-Tetracosane (C24) | 646-31-1 | MKCS9978 | 99% | 200.6 µg/mL | +/- 5.1822 |
| 11 | n-Hexacosane (C26) | 630-01-3 | MKCQ4814 | 99% | 200.5 µg/mL | +/- 5.1796 |
| 12 | n-Octacosane (C28) | 630-02-4 | BCCJ4566 | 99% | 200.6 µg/mL | +/- 5.1822 |
| 13 | n-Triacontane (C30) | 638-68-6 | MKCV7007 | 98% | 201.1 µg/mL | +/- 5.1942 |
| 14 | n-Dotriacontane (C32) | 544-85-4 | BCBW0661 | 99% | 200.9 µg/mL | +/- 5.1891 |
| 15 | n-Tetratriacontane (C34) | 14167-59-0 | 6JNHB | 99% | 200.8 µg/mL | +/- 5.1865 |
| 16 | n-Hexatriacontane (C36) | 630-06-8 | Z27H018 | 99% | 200.6 µg/mL | +/- 5.1814 |
| 17 | n-Octatriacontane (C38) | 7194-85-6 | 0000207852 | 96% | 199.3 µg/mL | +/- 5.1477 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 18 | n-Tetracontane (C40) | 4181-95-7 | OKEGA | 99% | 201.0 µg/mL | +/- 5.1917 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** n-Pentane
**CAS #** 109-66-0
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

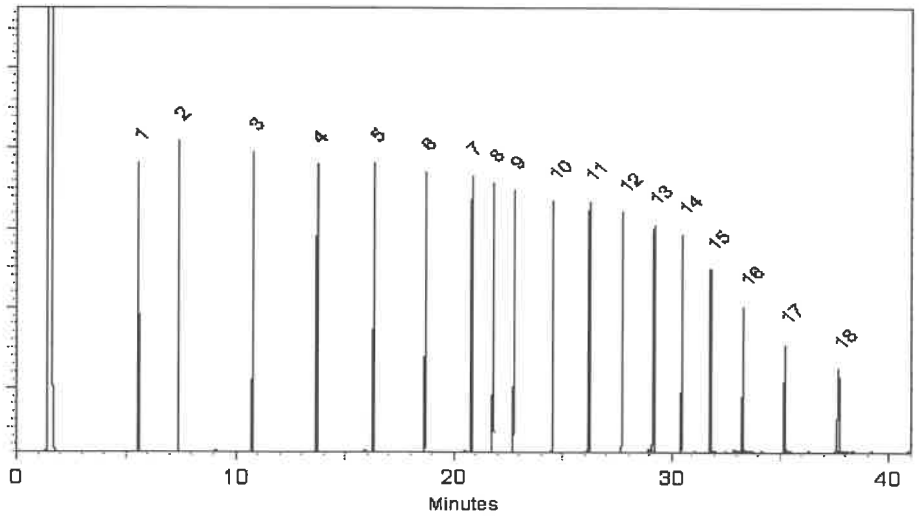
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
2 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Penelope Riglin - Operations Tech I

**Date Mixed:** 03-Oct-2024 **Balance Serial #** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC

**Date Passed:** 07-Oct-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

## Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

## Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

## Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
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## CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

***chromatographic plus***

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ilac-MRA A2LA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

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*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30542 **Lot No.:** A0217408

**Description :** NJEPH Aliphatics Matrix Spike Mix

NJEPH Aliphatics Matrix Spike Mix 200 µg/mL, n-Pentane, 5mL/ampul

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** November 30, 2031 **Storage:** 10°C or colder

**Handling:** Sonicate prior to use. **Ship:** Ambient

P13800 ↓ P13859 } Y.P. 12/09/24

**CERTIFIED VALUES**

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | n-Nonane (C9) | 111-84-2 | SHBP9752 | 99% | 200.7 µg/mL | +/- 5.1839 |
| 2 | n-Decane (C10) | 124-18-5 | SHBQ1342 | 99% | 201.0 µg/mL | +/- 5.1917 |
| 3 | n-Dodecane (C12) | 112-40-3 | SHBP7054 | 99% | 200.5 µg/mL | +/- 5.1805 |
| 4 | n-Tetradecane (C14) | 629-59-4 | STBL0465 | 99% | 200.5 µg/mL | +/- 5.1805 |
| 5 | n-Hexadecane (C16) | 544-76-3 | SHBR0669 | 99% | 200.7 µg/mL | +/- 5.1857 |
| 6 | n-Octadecane (C18) | 593-45-3 | UE5NG | 99% | 200.7 µg/mL | +/- 5.1857 |
| 7 | n-Eicosane (C20) | 112-95-8 | MKCN8767 | 97% | 200.9 µg/mL | +/- 5.1888 |
| 8 | n-Heneicosane (C21) | 629-94-7 | MKCP1960 | 99% | 200.5 µg/mL | +/- 5.1805 |
| 9 | n-Docosane (C22) | 629-97-0 | MKCQ3882 | 99% | 200.5 µg/mL | +/- 5.1788 |
| 10 | n-Tetracosane (C24) | 646-31-1 | MKCS9978 | 99% | 200.6 µg/mL | +/- 5.1822 |
| 11 | n-Hexacosane (C26) | 630-01-3 | MKCQ4814 | 99% | 200.5 µg/mL | +/- 5.1796 |
| 12 | n-Octacosane (C28) | 630-02-4 | BCCJ4566 | 99% | 200.6 µg/mL | +/- 5.1822 |
| 13 | n-Triacontane (C30) | 638-68-6 | MKCV7007 | 98% | 201.1 µg/mL | +/- 5.1942 |
| 14 | n-Dotriacontane (C32) | 544-85-4 | BCBW0661 | 99% | 200.9 µg/mL | +/- 5.1891 |
| 15 | n-Tetratriacontane (C34) | 14167-59-0 | 6JNHB | 99% | 200.8 µg/mL | +/- 5.1865 |
| 16 | n-Hexatriacontane (C36) | 630-06-8 | Z27H018 | 99% | 200.6 µg/mL | +/- 5.1814 |
| 17 | n-Octatriacontane (C38) | 7194-85-6 | 0000207852 | 96% | 199.3 µg/mL | +/- 5.1477 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 18 | n-Tetracontane (C40) | 4181-95-7 | OKEGA | 99% | 201.0 µg/mL | +/- 5.1917 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** n-Pentane
**CAS #** 109-66-0
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

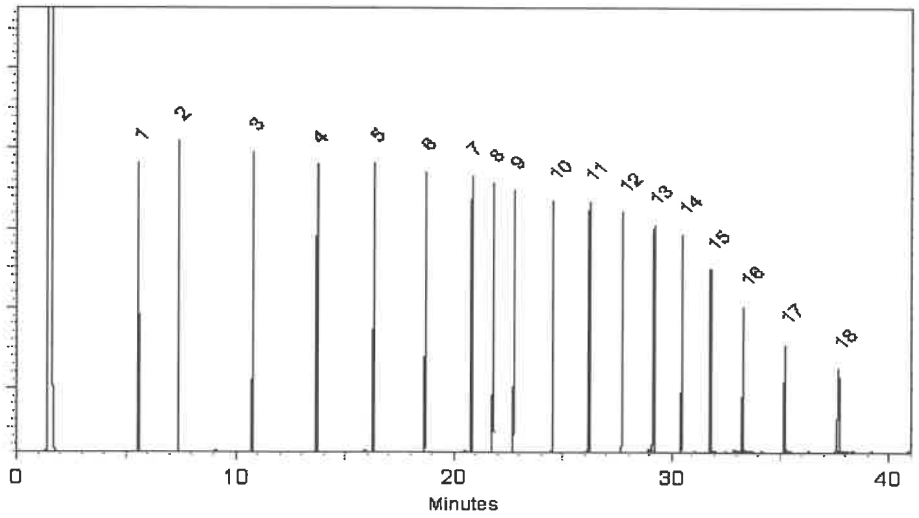
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
2 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Penelope Riglin - Operations Tech I

**Date Mixed:** 03-Oct-2024 **Balance Serial #** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC

**Date Passed:** 07-Oct-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
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## Purity Notes:

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- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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## Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

## Handling Notes:

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## CERTIFIED REFERENCE MATERIAL

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ilac-MRA A2LA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30542 **Lot No.:** A0217408

**Description :** NJEPH Aliphatics Matrix Spike Mix

NJEPH Aliphatics Matrix Spike Mix 200 µg/mL, n-Pentane, 5mL/ampul

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** November 30, 2031 **Storage:** 10°C or colder

**Handling:** Sonicate prior to use. **Ship:** Ambient

P13800 ↓ P13859 } Y.P. 12/09/24

**CERTIFIED VALUES**

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | n-Nonane (C9) | 111-84-2 | SHBP9752 | 99% | 200.7 µg/mL | +/- 5.1839 |
| 2 | n-Decane (C10) | 124-18-5 | SHBQ1342 | 99% | 201.0 µg/mL | +/- 5.1917 |
| 3 | n-Dodecane (C12) | 112-40-3 | SHBP7054 | 99% | 200.5 µg/mL | +/- 5.1805 |
| 4 | n-Tetradecane (C14) | 629-59-4 | STBL0465 | 99% | 200.5 µg/mL | +/- 5.1805 |
| 5 | n-Hexadecane (C16) | 544-76-3 | SHBR0669 | 99% | 200.7 µg/mL | +/- 5.1857 |
| 6 | n-Octadecane (C18) | 593-45-3 | UE5NG | 99% | 200.7 µg/mL | +/- 5.1857 |
| 7 | n-Eicosane (C20) | 112-95-8 | MKCN8767 | 97% | 200.9 µg/mL | +/- 5.1888 |
| 8 | n-Heneicosane (C21) | 629-94-7 | MKCP1960 | 99% | 200.5 µg/mL | +/- 5.1805 |
| 9 | n-Docosane (C22) | 629-97-0 | MKCQ3882 | 99% | 200.5 µg/mL | +/- 5.1788 |
| 10 | n-Tetracosane (C24) | 646-31-1 | MKCS9978 | 99% | 200.6 µg/mL | +/- 5.1822 |
| 11 | n-Hexacosane (C26) | 630-01-3 | MKCQ4814 | 99% | 200.5 µg/mL | +/- 5.1796 |
| 12 | n-Octacosane (C28) | 630-02-4 | BCCJ4566 | 99% | 200.6 µg/mL | +/- 5.1822 |
| 13 | n-Triacontane (C30) | 638-68-6 | MKCV7007 | 98% | 201.1 µg/mL | +/- 5.1942 |
| 14 | n-Dotriacontane (C32) | 544-85-4 | BCBW0661 | 99% | 200.9 µg/mL | +/- 5.1891 |
| 15 | n-Tetratriacontane (C34) | 14167-59-0 | 6JNHB | 99% | 200.8 µg/mL | +/- 5.1865 |
| 16 | n-Hexatriacontane (C36) | 630-06-8 | Z27H018 | 99% | 200.6 µg/mL | +/- 5.1814 |
| 17 | n-Octatriacontane (C38) | 7194-85-6 | 0000207852 | 96% | 199.3 µg/mL | +/- 5.1477 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 18 | n-Tetracontane (C40) | 4181-95-7 | OKEGA | 99% | 201.0 µg/mL | +/- 5.1917 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** n-Pentane
**CAS #** 109-66-0
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

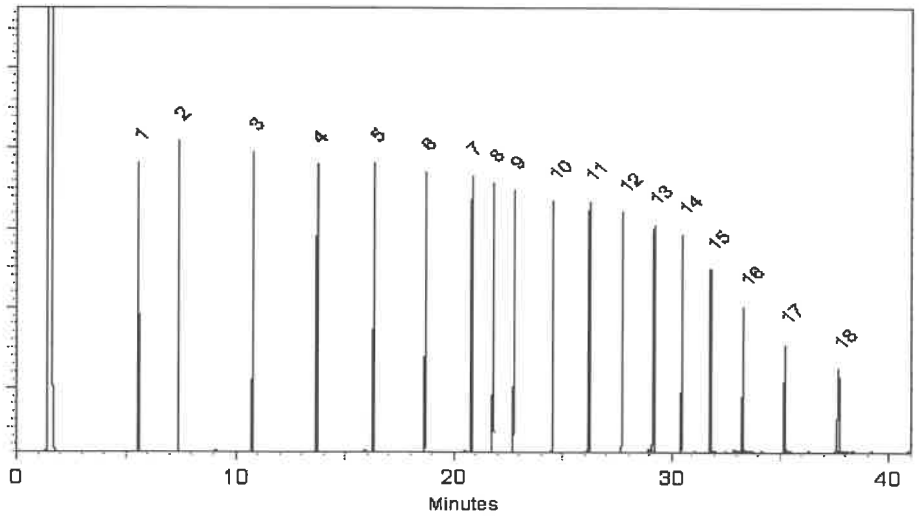
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
2 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Penelope Riglin - Operations Tech I

**Date Mixed:** 03-Oct-2024 **Balance Serial #** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC

**Date Passed:** 07-Oct-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

## Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

## Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

## Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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Bellefonte, PA 16823-8812
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Fax: 1-814-353-1309

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**CERTIFIED REFERENCE MATERIAL**

# Certificate of Analysis

***chromatographic plus***

ilac-MRA A2LA ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ilac-MRA A2LA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30543 **Lot No.:** A0217838

**Description :** NJEPH Aromatics Matrix Spike Mix

NJEPH Aromatics Matrix Spike Mix 200µg/mL, Acetone/Toluene (50:50), 5mL/ampul

P13835 & P13860 Y.P. 12/09/24

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** September 30, 2030 **Storage:** 10°C or colder

**Handling:** Sonication required. Mix is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | 1,2,3-Trimethylbenzene | 526-73-8 | 8776.10-38 | 99% | 201.6 µg/mL | +/- 9.0835 |
| 2 | Naphthalene | 91-20-3 | STBL1057 | 99% | 200.0 µg/mL | +/- 9.0114 |
| 3 | 2-Methylnaphthalene | 91-57-6 | STBL3028 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 4 | Acenaphthylene | 208-96-8 | 214935V18H | 95% | 199.1 µg/mL | +/- 8.9717 |
| 5 | Acenaphthene | 83-32-9 | MKCR7169 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 6 | Fluorene | 86-73-7 | 10246250 | 98% | 201.5 µg/mL | +/- 9.0784 |
| 7 | Phenanthrene | 85-01-8 | MKCT3391 | 99% | 201.2 µg/mL | +/- 9.0655 |
| 8 | Anthracene | 120-12-7 | 101492T18R | 99% | 200.0 µg/mL | +/- 9.0114 |
| 9 | Fluoranthene | 206-44-0 | MKCQ4728 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 10 | Pyrene | 129-00-0 | BCCK2592 | 99% | 200.0 µg/mL | +/- 9.0114 |
| 11 | Benz(a)anthracene | 56-55-3 | I60012022BAA | 99% | 200.0 µg/mL | +/- 9.0114 |
| 12 | Chrysene | 218-01-9 | RP240627ECS | 99% | 200.4 µg/mL | +/- 9.0294 |
| 13 | Benzo(b)fluoranthene | 205-99-2 | 052013B | 99% | 201.2 µg/mL | +/- 9.0655 |
| 14 | Benzo(k)fluoranthene | 207-08-9 | 012022K | 99% | 201.6 µg/mL | +/- 9.0835 |
| 15 | Benzo(a)pyrene | 50-32-8 | NQLXA | 98% | 199.9 µg/mL | +/- 9.0078 |
| 16 | Indeno(1,2,3-cd)pyrene | 193-39-5 | 12-JKL-118-9 | 97% | 199.0 µg/mL | +/- 8.9683 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17 | Dibenz(a,h)anthracene | 53-70-3 | 2-ASA-59-1 | 99% | 200.0 | µg/mL | +/- 9.0114 |
| 18 | Benzo(g,h,i)perylene | 191-24-2 | RP240625RSR | 97% | 199.0 | µg/mL | +/- 8.9683 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Acetone/Toluene (50:50)
**CAS #** 67-64-1/108-88-3
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
100°C (hold 1 min.) to 330°C
@ 4°C/min. (hold 5 min.)

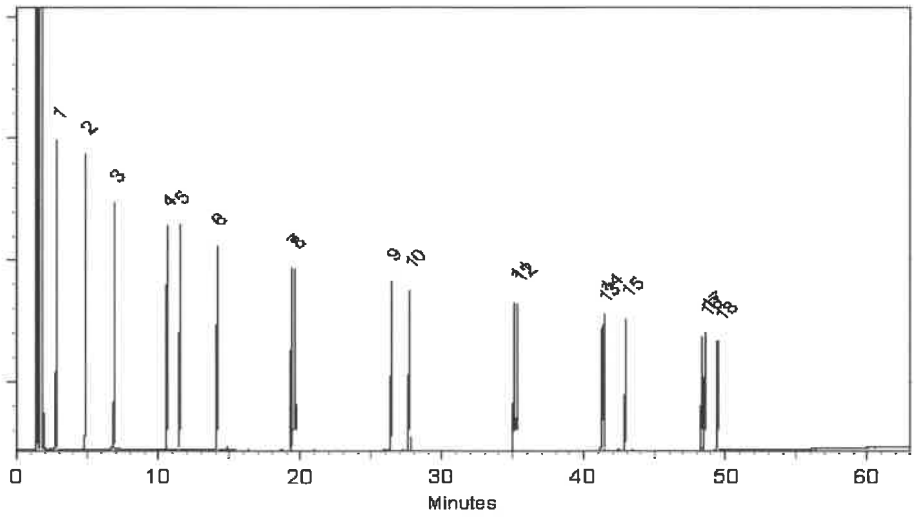
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
20 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Rebecca Gingerich - Operations Tech II

**Date Mixed:** 14-Oct-2024 **Balance Serial #** 1128360905

Brittany Federinko - Operations Tech I

**Date Passed:** 21-Oct-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

## Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

## Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

## Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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www.restek.com

## CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

***chromatographic plus***

ilac-MRA A2LA ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ilac-MRA A2LA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30542 **Lot No.:** A0217408

**Description :** NJEPH Aliphatics Matrix Spike Mix

NJEPH Aliphatics Matrix Spike Mix 200 µg/mL, n-Pentane, 5mL/ampul

P13896 & P13906 } Y.P. 03/06/25

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** November 30, 2031 **Storage:** 10°C or colder

**Handling:** Sonicate prior to use. **Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | n-Nonane (C9) | 111-84-2 | SHBP9752 | 99% | 200.7 µg/mL | +/- 5.1839 |
| 2 | n-Decane (C10) | 124-18-5 | SHBQ1342 | 99% | 201.0 µg/mL | +/- 5.1917 |
| 3 | n-Dodecane (C12) | 112-40-3 | SHBP7054 | 99% | 200.5 µg/mL | +/- 5.1805 |
| 4 | n-Tetradecane (C14) | 629-59-4 | STBL0465 | 99% | 200.5 µg/mL | +/- 5.1805 |
| 5 | n-Hexadecane (C16) | 544-76-3 | SHBR0669 | 99% | 200.7 µg/mL | +/- 5.1857 |
| 6 | n-Octadecane (C18) | 593-45-3 | UE5NG | 99% | 200.7 µg/mL | +/- 5.1857 |
| 7 | n-Eicosane (C20) | 112-95-8 | MKCN8767 | 97% | 200.9 µg/mL | +/- 5.1888 |
| 8 | n-Heneicosane (C21) | 629-94-7 | MKCP1960 | 99% | 200.5 µg/mL | +/- 5.1805 |
| 9 | n-Docosane (C22) | 629-97-0 | MKCQ3882 | 99% | 200.5 µg/mL | +/- 5.1788 |
| 10 | n-Tetracosane (C24) | 646-31-1 | MKCS9978 | 99% | 200.6 µg/mL | +/- 5.1822 |
| 11 | n-Hexacosane (C26) | 630-01-3 | MKCQ4814 | 99% | 200.5 µg/mL | +/- 5.1796 |
| 12 | n-Octacosane (C28) | 630-02-4 | BCCJ4566 | 99% | 200.6 µg/mL | +/- 5.1822 |
| 13 | n-Triacontane (C30) | 638-68-6 | MKCV7007 | 98% | 201.1 µg/mL | +/- 5.1942 |
| 14 | n-Dotriacontane (C32) | 544-85-4 | BCBW0661 | 99% | 200.9 µg/mL | +/- 5.1891 |
| 15 | n-Tetratriacontane (C34) | 14167-59-0 | 6JNHB | 99% | 200.8 µg/mL | +/- 5.1865 |
| 16 | n-Hexatriacontane (C36) | 630-06-8 | Z27H018 | 99% | 200.6 µg/mL | +/- 5.1814 |
| 17 | n-Octatriacontane (C38) | 7194-85-6 | 0000207852 | 96% | 199.3 µg/mL | +/- 5.1477 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 18 | n-Tetracontane (C40) | 4181-95-7 | OKEGA | 99% | 201.0 µg/mL | +/- 5.1917 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** n-Pentane
**CAS #** 109-66-0
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

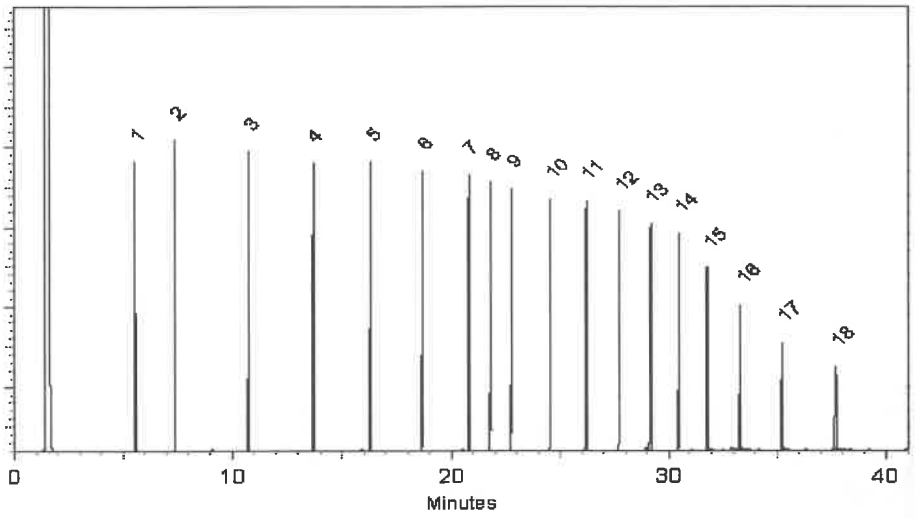
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
2 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Penelope Riglin - Operations Tech I

**Date Mixed:** 03-Oct-2024 **Balance Serial #** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC

**Date Passed:** 07-Oct-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

## Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

## Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

## Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
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## CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

***chromatographic plus***

ilac-MRA A2LA ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ilac-MRA A2LA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30542 **Lot No.:** A0217408

**Description :** NJEPH Aliphatics Matrix Spike Mix

NJEPH Aliphatics Matrix Spike Mix 200 µg/mL, n-Pentane, 5mL/ampul

P13896 & P13906 } Y.P. 03/06/25

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** November 30, 2031 **Storage:** 10°C or colder

**Handling:** Sonicate prior to use. **Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | n-Nonane (C9) | 111-84-2 | SHBP9752 | 99% | 200.7 µg/mL | +/- 5.1839 |
| 2 | n-Decane (C10) | 124-18-5 | SHBQ1342 | 99% | 201.0 µg/mL | +/- 5.1917 |
| 3 | n-Dodecane (C12) | 112-40-3 | SHBP7054 | 99% | 200.5 µg/mL | +/- 5.1805 |
| 4 | n-Tetradecane (C14) | 629-59-4 | STBL0465 | 99% | 200.5 µg/mL | +/- 5.1805 |
| 5 | n-Hexadecane (C16) | 544-76-3 | SHBR0669 | 99% | 200.7 µg/mL | +/- 5.1857 |
| 6 | n-Octadecane (C18) | 593-45-3 | UE5NG | 99% | 200.7 µg/mL | +/- 5.1857 |
| 7 | n-Eicosane (C20) | 112-95-8 | MKCN8767 | 97% | 200.9 µg/mL | +/- 5.1888 |
| 8 | n-Heneicosane (C21) | 629-94-7 | MKCP1960 | 99% | 200.5 µg/mL | +/- 5.1805 |
| 9 | n-Docosane (C22) | 629-97-0 | MKCQ3882 | 99% | 200.5 µg/mL | +/- 5.1788 |
| 10 | n-Tetracosane (C24) | 646-31-1 | MKCS9978 | 99% | 200.6 µg/mL | +/- 5.1822 |
| 11 | n-Hexacosane (C26) | 630-01-3 | MKCQ4814 | 99% | 200.5 µg/mL | +/- 5.1796 |
| 12 | n-Octacosane (C28) | 630-02-4 | BCCJ4566 | 99% | 200.6 µg/mL | +/- 5.1822 |
| 13 | n-Triacontane (C30) | 638-68-6 | MKCV7007 | 98% | 201.1 µg/mL | +/- 5.1942 |
| 14 | n-Dotriacontane (C32) | 544-85-4 | BCBW0661 | 99% | 200.9 µg/mL | +/- 5.1891 |
| 15 | n-Tetratriacontane (C34) | 14167-59-0 | 6JNHB | 99% | 200.8 µg/mL | +/- 5.1865 |
| 16 | n-Hexatriacontane (C36) | 630-06-8 | Z27H018 | 99% | 200.6 µg/mL | +/- 5.1814 |
| 17 | n-Octatriacontane (C38) | 7194-85-6 | 0000207852 | 96% | 199.3 µg/mL | +/- 5.1477 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 18 | n-Tetracontane (C40) | 4181-95-7 | OKEGA | 99% | 201.0 µg/mL | +/- 5.1917 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** n-Pentane
**CAS #** 109-66-0
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

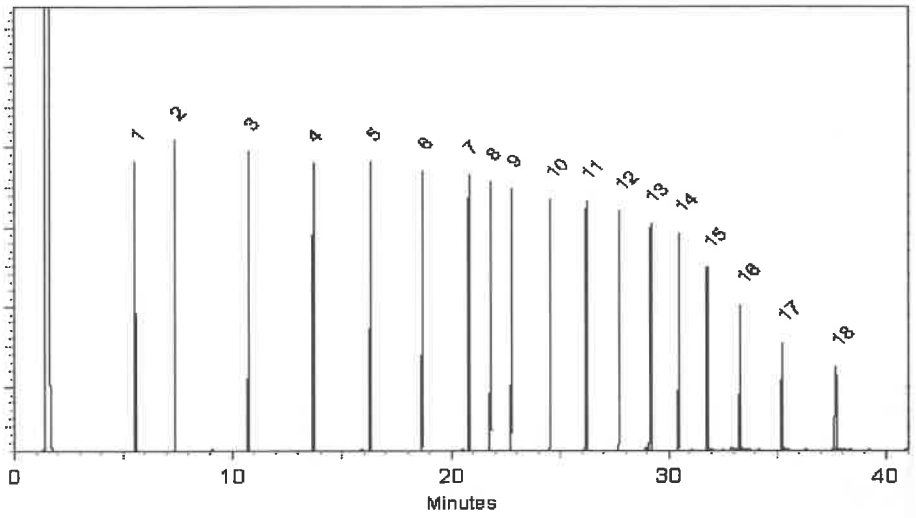
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
2 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Penelope Riglin - Operations Tech I

**Date Mixed:** 03-Oct-2024 **Balance Serial #** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC

**Date Passed:** 07-Oct-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

## Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

## Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

## Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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## CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

***chromatographic plus***

ilac-MRA A2LA ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ilac-MRA A2LA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

P13907 → P13945 } Y.P. 03/06/25

**Catalog No. :** 30542 **Lot No.:** A0220449

**Description :** NJEPH Aliphatics Matrix Spike Mix

NJEPH Aliphatics Matrix Spike Mix 200 µg/mL, n-Pentane, 5mL/ampul

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** January 31, 2032 **Storage:** 10°C or colder

**Handling:** Sonicate prior to use. **Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | n-Nonane (C9) | 111-84-2 | SHBP9752 | 99% | 201.3 µg/mL | +/- 5.2012 |
| 2 | n-Decane (C10) | 124-18-5 | SHBQ1342 | 99% | 201.7 µg/mL | +/- 5.2098 |
| 3 | n-Dodecane (C12) | 112-40-3 | SHBP7054 | 99% | 201.3 µg/mL | +/- 5.2012 |
| 4 | n-Tetradecane (C14) | 629-59-4 | STBL0465 | 99% | 200.7 µg/mL | +/- 5.1839 |
| 5 | n-Hexadecane (C16) | 544-76-3 | SHBR0669 | 99% | 200.3 µg/mL | +/- 5.1753 |
| 6 | n-Octadecane (C18) | 593-45-3 | UE5NG | 99% | 200.7 µg/mL | +/- 5.1839 |
| 7 | n-Eicosane (C20) | 112-95-8 | MKCN8767 | 97% | 200.1 µg/mL | +/- 5.1704 |
| 8 | n-Heneicosane (C21) | 629-94-7 | MKCP1960 | 99% | 200.7 µg/mL | +/- 5.1839 |
| 9 | n-Docosane (C22) | 629-97-0 | MKCQ3882 | 99% | 200.3 µg/mL | +/- 5.1753 |
| 10 | n-Tetracosane (C24) | 646-31-1 | UH5GN | 99% | 201.3 µg/mL | +/- 5.2012 |
| 11 | n-Hexacosane (C26) | 630-01-3 | MKCQ4814 | 99% | 201.0 µg/mL | +/- 5.1926 |
| 12 | n-Octacosane (C28) | 630-02-4 | BCCJ4566 | 99% | 200.3 µg/mL | +/- 5.1753 |
| 13 | n-Triacontane (C30) | 638-68-6 | MKCV7007 | 98% | 201.2 µg/mL | +/- 5.1984 |
| 14 | n-Dotriacontane (C32) | 544-85-4 | BCBW0661 | 99% | 201.7 µg/mL | +/- 5.2098 |
| 15 | n-Tetratriacontane (C34) | 14167-59-0 | 6JNHB | 99% | 201.3 µg/mL | +/- 5.2012 |
| 16 | n-Hexatriacontane (C36) | 630-06-8 | Z27H018 | 99% | 201.7 µg/mL | +/- 5.2098 |
| 17 | n-Octatriacontane (C38) | 7194-85-6 | 0000207852 | 96% | 201.6 µg/mL | +/- 5.2081 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 18 | n-Tetracontane (C40) | 4181-95-7 | OKEGA | 99% | 201.3 µg/mL | +/- 5.2012 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** n-Pentane
**CAS #** 109-66-0
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

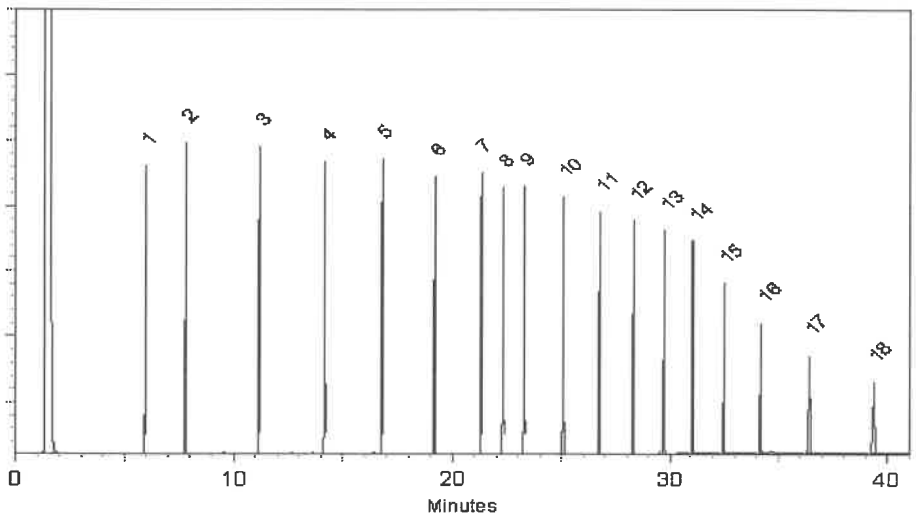
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
2 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Operations Technician III

**Date Mixed:** 23-Dec-2024 **Balance Serial #** C322230531

Dillan Murphy - Operations Technician I

**Date Passed:** 27-Dec-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

## Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

## Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

## Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
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## CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

***chromatographic plus***

ilac-MRA A2LA ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ilac-MRA A2LA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30543 **Lot No.:** A0220580

P13916 + P13935 } Y.P. 03/06/25

**Description :** NJEPH Aromatics Matrix Spike Mix

NJEPH Aromatics Matrix Spike Mix 200µg/mL, Acetone/Toluene (50:50), 5mL/ampul

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** November 30, 2030 **Storage:** 10°C or colder

**Handling:** Sonication required. Mix is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | 1,2,3-Trimethylbenzene | 526-73-8 | 8776.10-39 | 98% | 201.9 µg/mL | +/- 9.0961 |
| 2 | Naphthalene | 91-20-3 | STBL1057 | 99% | 200.8 µg/mL | +/- 9.0474 |
| 3 | 2-Methylnaphthalene | 91-57-6 | STBL3028 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 4 | Acenaphthylene | 208-96-8 | RP241029RSR | 98% | 201.9 µg/mL | +/- 9.0961 |
| 5 | Acenaphthene | 83-32-9 | MKCR7169 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 6 | Fluorene | 86-73-7 | 10246250 | 98% | 201.9 µg/mL | +/- 9.0961 |
| 7 | Phenanthrene | 85-01-8 | MKCT3391 | 99% | 200.8 µg/mL | +/- 9.0474 |
| 8 | Anthracene | 120-12-7 | MKCW9141 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 9 | Fluoranthene | 206-44-0 | MKCQ4728 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 10 | Pyrene | 129-00-0 | BCCL8032 | 99% | 201.6 µg/mL | +/- 9.0835 |
| 11 | Benz(a)anthracene | 56-55-3 | I220012022BAA | 99% | 202.0 µg/mL | +/- 9.1015 |
| 12 | Chrysene | 218-01-9 | RP240719RSR | 99% | 202.0 µg/mL | +/- 9.1015 |
| 13 | Benzo(b)fluoranthene | 205-99-2 | SBS-BBF-FINAL-2 | 99% | 202.0 µg/mL | +/- 9.1015 |
| 14 | Benzo(k)fluoranthene | 207-08-9 | 012022K | 98% | 201.5 µg/mL | +/- 9.0784 |
| 15 | Benzo(a)pyrene | 50-32-8 | NQLXA | 98% | 200.7 µg/mL | +/- 9.0431 |
| 16 | Indeno(1,2,3-cd)pyrene | 193-39-5 | 12-JKL-118-9 | 97% | 200.6 µg/mL | +/- 9.0383 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17 | Dibenz(a,h)anthracene | 53-70-3 | 2-ASA-59-1 | 99% | 201.2 | µg/mL | +/- 9.0655 |
| 18 | Benzo(g,h,i)perylene | 191-24-2 | RP241014RSR | 98% | 200.3 | µg/mL | +/- 9.0255 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Acetone/Toluene (50:50)
**CAS #** 67-64-1/108-88-3
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
100°C (hold 1 min.) to 330°C
@ 4°C/min. (hold 5 min.)

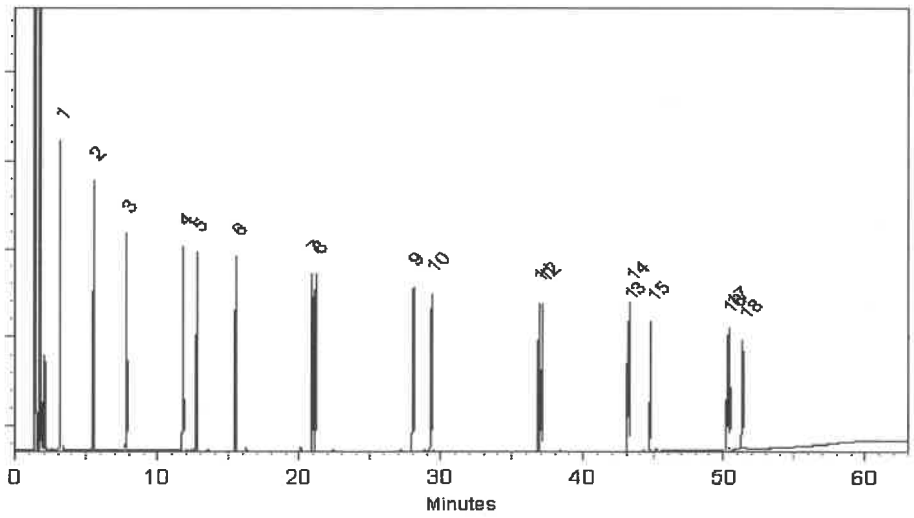
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
20 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Ven Kelley - Operations Tech I

**Date Mixed:** 30-Dec-2024 **Balance Serial #** 1128360905

Jennifer Pollino - Operations Tech III - ARM QC

**Date Passed:** 03-Jan-2025

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

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- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

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***chromatographic plus***

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ilac-MRA A2LA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30543 **Lot No.:** A0220580

P13916 + P13935 } Y.P. 03/06/25

**Description :** NJEPH Aromatics Matrix Spike Mix

NJEPH Aromatics Matrix Spike Mix 200µg/mL, Acetone/Toluene (50:50), 5mL/ampul

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** November 30, 2030 **Storage:** 10°C or colder

**Handling:** Sonication required. Mix is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | 1,2,3-Trimethylbenzene | 526-73-8 | 8776.10-39 | 98% | 201.9 µg/mL | +/- 9.0961 |
| 2 | Naphthalene | 91-20-3 | STBL1057 | 99% | 200.8 µg/mL | +/- 9.0474 |
| 3 | 2-Methylnaphthalene | 91-57-6 | STBL3028 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 4 | Acenaphthylene | 208-96-8 | RP241029RSR | 98% | 201.9 µg/mL | +/- 9.0961 |
| 5 | Acenaphthene | 83-32-9 | MKCR7169 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 6 | Fluorene | 86-73-7 | 10246250 | 98% | 201.9 µg/mL | +/- 9.0961 |
| 7 | Phenanthrene | 85-01-8 | MKCT3391 | 99% | 200.8 µg/mL | +/- 9.0474 |
| 8 | Anthracene | 120-12-7 | MKCW9141 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 9 | Fluoranthene | 206-44-0 | MKCQ4728 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 10 | Pyrene | 129-00-0 | BCCL8032 | 99% | 201.6 µg/mL | +/- 9.0835 |
| 11 | Benz(a)anthracene | 56-55-3 | I220012022BAA | 99% | 202.0 µg/mL | +/- 9.1015 |
| 12 | Chrysene | 218-01-9 | RP240719RSR | 99% | 202.0 µg/mL | +/- 9.1015 |
| 13 | Benzo(b)fluoranthene | 205-99-2 | SBS-BBF-FINAL-2 | 99% | 202.0 µg/mL | +/- 9.1015 |
| 14 | Benzo(k)fluoranthene | 207-08-9 | 012022K | 98% | 201.5 µg/mL | +/- 9.0784 |
| 15 | Benzo(a)pyrene | 50-32-8 | NQLXA | 98% | 200.7 µg/mL | +/- 9.0431 |
| 16 | Indeno(1,2,3-cd)pyrene | 193-39-5 | 12-JKL-118-9 | 97% | 200.6 µg/mL | +/- 9.0383 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17 | Dibenz(a,h)anthracene | 53-70-3 | 2-ASA-59-1 | 99% | 201.2 | µg/mL | +/- 9.0655 |
| 18 | Benzo(g,h,i)perylene | 191-24-2 | RP241014RSR | 98% | 200.3 | µg/mL | +/- 9.0255 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Acetone/Toluene (50:50)
**CAS #** 67-64-1/108-88-3
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
100°C (hold 1 min.) to 330°C
@ 4°C/min. (hold 5 min.)

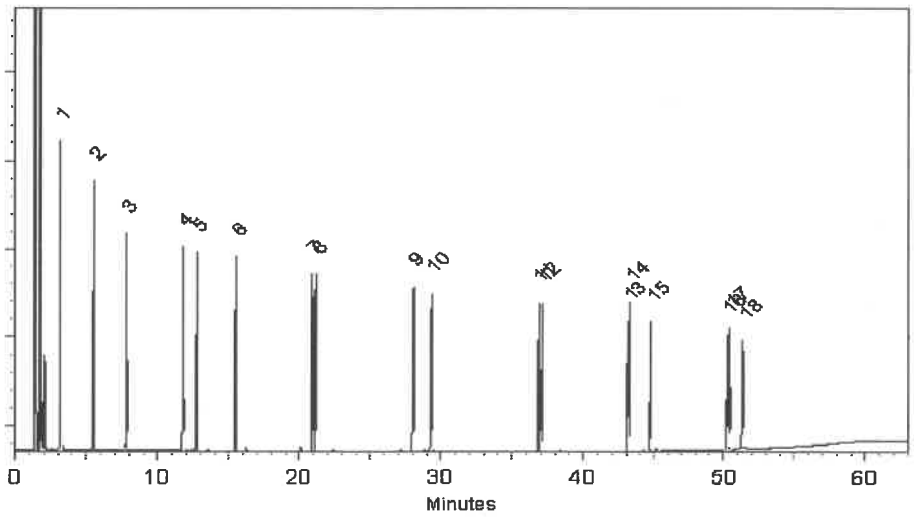
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
20 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Ven Kelley - Operations Tech I

**Date Mixed:** 30-Dec-2024 **Balance Serial #** 1128360905

Jennifer Pollino - Operations Tech III - ARM QC

**Date Passed:** 03-Jan-2025

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

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- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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## CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

***chromatographic plus***

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ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 31480 **Lot No.:** A0219106

P13947
L

**Description :** MA Fractionation Surrogate Spike Mix

MA Fractionation Surrogate Spike Mix 4000µg/mL, Hexane, 1mL/ampul

P13954

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** October 31, 2030 **Storage:** 10°C or colder

**Handling:** Sonication required. Mix is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | 2-Fluorobiphenyl | 321-60-8 | 00021384 | 99% | 4,013.5 µg/mL | +/- 180.7988 |
| 2 | 2-Bromonaphthalene | 580-13-2 | STBC5362V | 99% | 4,011.0 µg/mL | +/- 180.6862 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Hexane
**CAS #** 110-54-3
**Purity** 99%

# Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

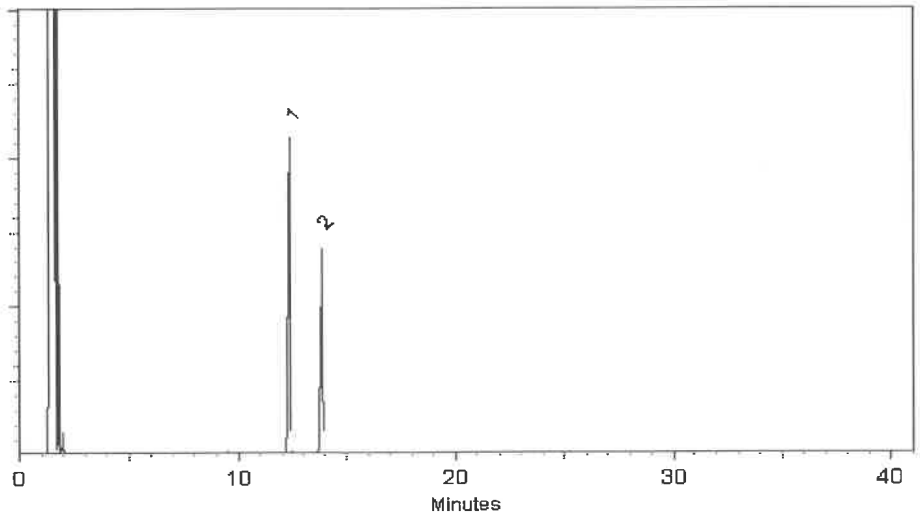
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
2 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Wilner Torres - Operation Tech I **Date Mixed:** 14-Nov-2024 **Balance Serial #** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC **Date Passed:** 20-Nov-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

## Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

## Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

## Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 31480 **Lot No.:** A0221895

**Description :** MA Fractionation Surrogate Spike Mix

MA Fractionation Surrogate Spike Mix 4000µg/mL, Hexane, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** January 31, 2031 **Storage:** 10°C or colder

**Handling:** Sonication required. Mix is photosensitive. **Ship:** Ambient

P13955
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P13966.

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | 2-Fluorobiphenyl | 321-60-8 | 00021384 | 99% | 4,032.5 µg/mL | +/- 181.6547 |
| 2 | 2-Bromonaphthalene | 580-13-2 | STBC5362V | 99% | 4,033.0 µg/mL | +/- 181.6772 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Hexane
**CAS #** 110-54-3
**Purity** 99%

# Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

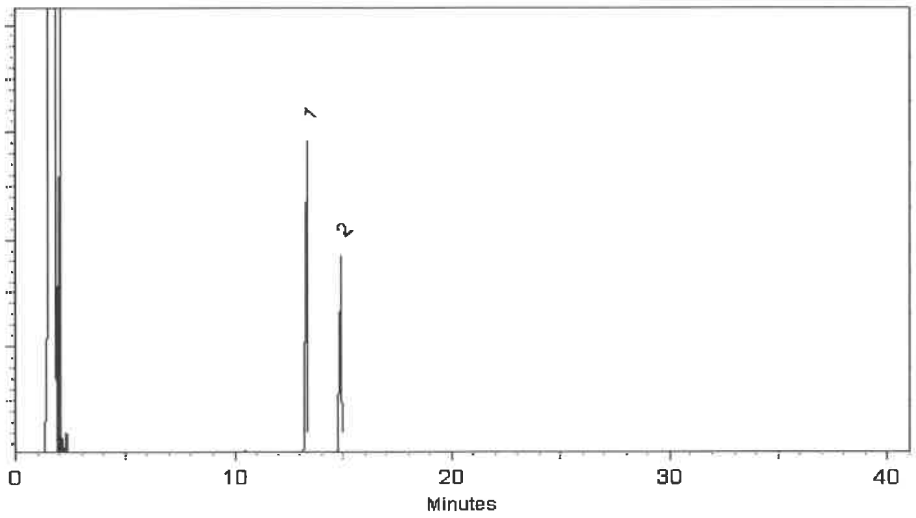
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
2 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Ven Kelley - Operations Tech I **Date Mixed:** 04-Feb-2025 **Balance Serial #** 1128360905

Dillan Murphy - Operations Technician I **Date Passed:** 12-Feb-2025

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

## Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

## Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

## Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
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**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 31480 **Lot No.:** A0221895

**Description :** MA Fractionation Surrogate Spike Mix

MA Fractionation Surrogate Spike Mix 4000µg/mL, Hexane, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** January 31, 2031 **Storage:** 10°C or colder

**Handling:** Sonication required. Mix is photosensitive. **Ship:** Ambient

P13955
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P13966.

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | 2-Fluorobiphenyl | 321-60-8 | 00021384 | 99% | 4,032.5 µg/mL | +/- 181.6547 |
| 2 | 2-Bromonaphthalene | 580-13-2 | STBC5362V | 99% | 4,033.0 µg/mL | +/- 181.6772 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Hexane
**CAS #** 110-54-3
**Purity** 99%

# Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

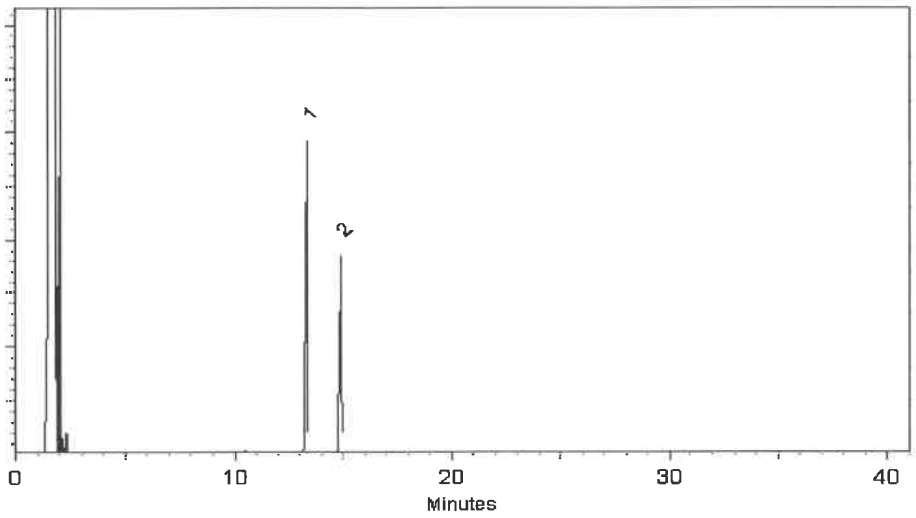
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
2 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Ven Kelley - Operations Tech I **Date Mixed:** 04-Feb-2025 **Balance Serial #** 1128360905

Dillan Murphy - Operations Technician I **Date Passed:** 12-Feb-2025

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

## Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

## Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

## Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 31480 **Lot No.:** A0221895

**Description :** MA Fractionation Surrogate Spike Mix

MA Fractionation Surrogate Spike Mix 4000µg/mL, Hexane, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** January 31, 2031 **Storage:** 10°C or colder

**Handling:** Sonication required. Mix is photosensitive. **Ship:** Ambient

P13955
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P13966.

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | 2-Fluorobiphenyl | 321-60-8 | 00021384 | 99% | 4,032.5 µg/mL | +/- 181.6547 |
| 2 | 2-Bromonaphthalene | 580-13-2 | STBC5362V | 99% | 4,033.0 µg/mL | +/- 181.6772 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Hexane
**CAS #** 110-54-3
**Purity** 99%

# Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

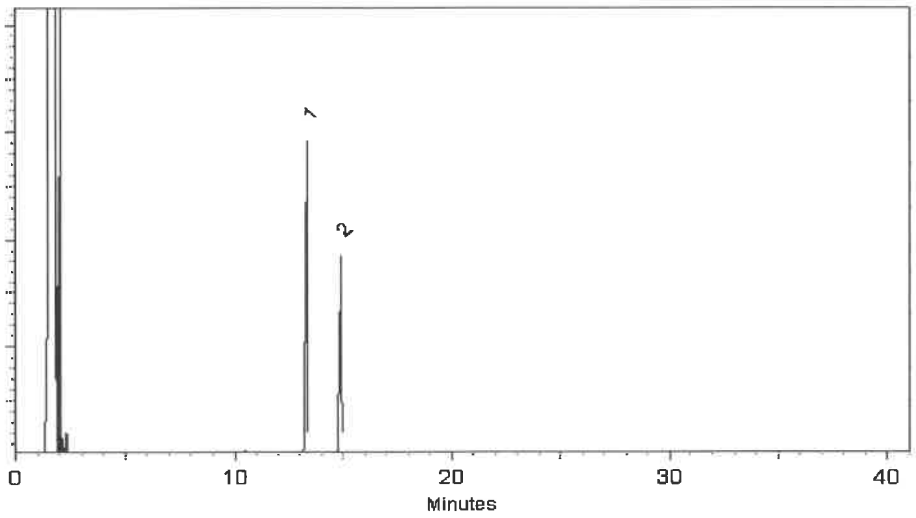
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
2 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Ven Kelley - Operations Tech I **Date Mixed:** 04-Feb-2025 **Balance Serial #** 1128360905

Dillan Murphy - Operations Technician I **Date Passed:** 12-Feb-2025

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

## Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

## Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

## Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
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**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 31480 **Lot No.:** A0221895

**Description :** MA Fractionation Surrogate Spike Mix

MA Fractionation Surrogate Spike Mix 4000µg/mL, Hexane, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** January 31, 2031 **Storage:** 10°C or colder

**Handling:** Sonication required. Mix is photosensitive. **Ship:** Ambient

P13955
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P13966.

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | 2-Fluorobiphenyl | 321-60-8 | 00021384 | 99% | 4,032.5 µg/mL | +/- 181.6547 |
| 2 | 2-Bromonaphthalene | 580-13-2 | STBC5362V | 99% | 4,033.0 µg/mL | +/- 181.6772 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Hexane
**CAS #** 110-54-3
**Purity** 99%

# Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

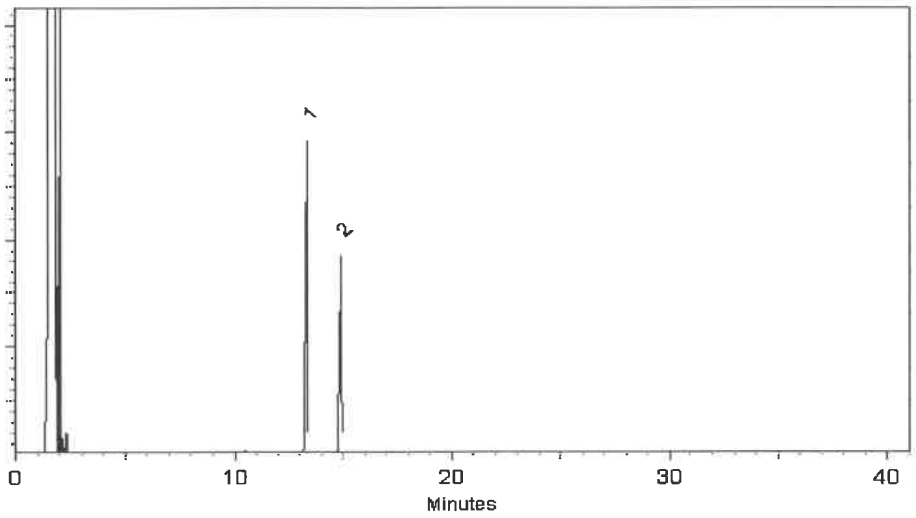
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
2 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Ven Kelley - Operations Tech I **Date Mixed:** 04-Feb-2025 **Balance Serial #** 1128360905

Dillan Murphy - Operations Technician I **Date Passed:** 12-Feb-2025

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

## Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
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- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

## Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

## Handling Notes:

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**Catalog No. :** 31480 **Lot No.:** A0221895

**Description :** MA Fractionation Surrogate Spike Mix

MA Fractionation Surrogate Spike Mix 4000µg/mL, Hexane, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** January 31, 2031 **Storage:** 10°C or colder

**Handling:** Sonication required. Mix is photosensitive. **Ship:** Ambient

P13955
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P13966.

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | 2-Fluorobiphenyl | 321-60-8 | 00021384 | 99% | 4,032.5 µg/mL | +/- 181.6547 |
| 2 | 2-Bromonaphthalene | 580-13-2 | STBC5362V | 99% | 4,033.0 µg/mL | +/- 181.6772 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Hexane
**CAS #** 110-54-3
**Purity** 99%

# Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

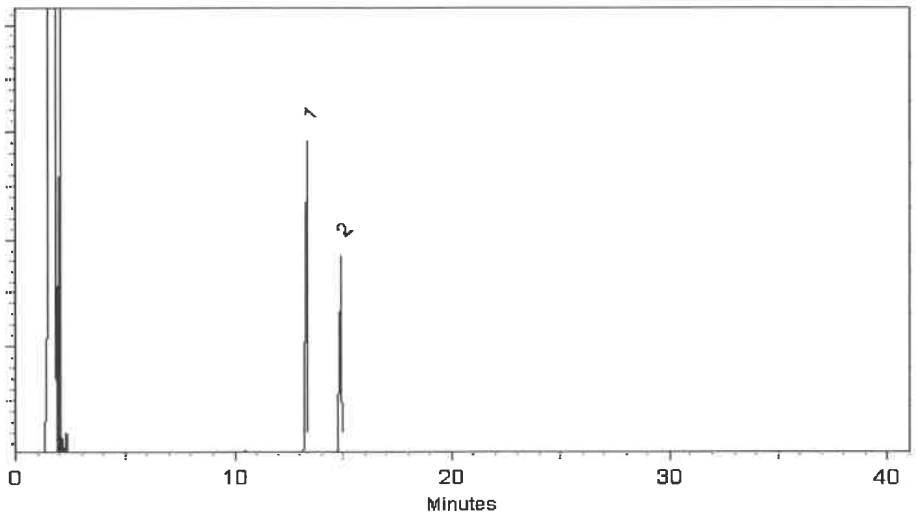
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
2 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Ven Kelley - Operations Tech I **Date Mixed:** 04-Feb-2025 **Balance Serial #** 1128360905

Dillan Murphy - Operations Technician I **Date Passed:** 12-Feb-2025

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

# General Certified Reference Material Notes

## Expiration Notes:

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- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

## Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

## Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

## Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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# CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

***chromatographic plus***

ilac-MRA A2LA ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ilac-MRA A2LA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

P13978 ↓ P13987 } RC/ 04/24/25

**Catalog No. :** 30542 **Lot No.:** A0220449

**Description :** NJEPH Aliphatics Matrix Spike Mix

NJEPH Aliphatics Matrix Spike Mix 200 µg/mL, n-Pentane, 5mL/ampul

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** January 31, 2032 **Storage:** 10°C or colder

**Handling:** Sonicate prior to use. **Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | n-Nonane (C9) | 111-84-2 | SHBP9752 | 99% | 201.3 µg/mL | +/- 5.2012 |
| 2 | n-Decane (C10) | 124-18-5 | SHBQ1342 | 99% | 201.7 µg/mL | +/- 5.2098 |
| 3 | n-Dodecane (C12) | 112-40-3 | SHBP7054 | 99% | 201.3 µg/mL | +/- 5.2012 |
| 4 | n-Tetradecane (C14) | 629-59-4 | STBL0465 | 99% | 200.7 µg/mL | +/- 5.1839 |
| 5 | n-Hexadecane (C16) | 544-76-3 | SHBR0669 | 99% | 200.3 µg/mL | +/- 5.1753 |
| 6 | n-Octadecane (C18) | 593-45-3 | UE5NG | 99% | 200.7 µg/mL | +/- 5.1839 |
| 7 | n-Eicosane (C20) | 112-95-8 | MKCN8767 | 97% | 200.1 µg/mL | +/- 5.1704 |
| 8 | n-Heneicosane (C21) | 629-94-7 | MKCP1960 | 99% | 200.7 µg/mL | +/- 5.1839 |
| 9 | n-Docosane (C22) | 629-97-0 | MKCQ3882 | 99% | 200.3 µg/mL | +/- 5.1753 |
| 10 | n-Tetracosane (C24) | 646-31-1 | UH5GN | 99% | 201.3 µg/mL | +/- 5.2012 |
| 11 | n-Hexacosane (C26) | 630-01-3 | MKCQ4814 | 99% | 201.0 µg/mL | +/- 5.1926 |
| 12 | n-Octacosane (C28) | 630-02-4 | BCCJ4566 | 99% | 200.3 µg/mL | +/- 5.1753 |
| 13 | n-Triacontane (C30) | 638-68-6 | MKCV7007 | 98% | 201.2 µg/mL | +/- 5.1984 |
| 14 | n-Dotriacontane (C32) | 544-85-4 | BCBW0661 | 99% | 201.7 µg/mL | +/- 5.2098 |
| 15 | n-Tetratriacontane (C34) | 14167-59-0 | 6JNHB | 99% | 201.3 µg/mL | +/- 5.2012 |
| 16 | n-Hexatriacontane (C36) | 630-06-8 | Z27H018 | 99% | 201.7 µg/mL | +/- 5.2098 |
| 17 | n-Octatriacontane (C38) | 7194-85-6 | 0000207852 | 96% | 201.6 µg/mL | +/- 5.2081 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 18 | n-Tetracontane (C40) | 4181-95-7 | OKEGA | 99% | 201.3 µg/mL | +/- 5.2012 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** n-Pentane
**CAS #** 109-66-0
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

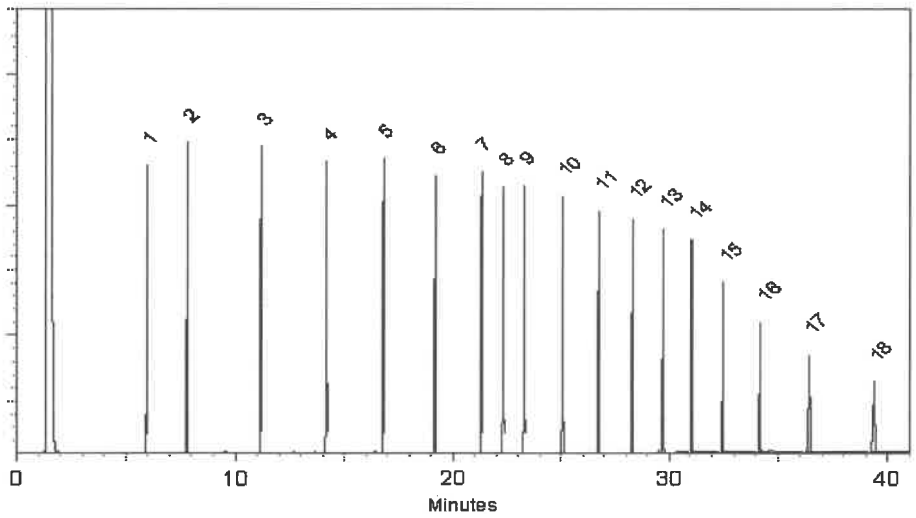
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
2 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Operations Technician III **Date Mixed:** 23-Dec-2024 **Balance Serial #** C322230531

Dillan Murphy - Operations Technician I **Date Passed:** 27-Dec-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

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P13978 ↓ P13987 } RC/ 04/24/25

**Catalog No. :** 30542 **Lot No.:** A0220449

**Description :** NJEPH Aliphatics Matrix Spike Mix

NJEPH Aliphatics Matrix Spike Mix 200 µg/mL, n-Pentane, 5mL/ampul

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** January 31, 2032 **Storage:** 10°C or colder

**Handling:** Sonicate prior to use. **Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | n-Nonane (C9) | 111-84-2 | SHBP9752 | 99% | 201.3 µg/mL | +/- 5.2012 |
| 2 | n-Decane (C10) | 124-18-5 | SHBQ1342 | 99% | 201.7 µg/mL | +/- 5.2098 |
| 3 | n-Dodecane (C12) | 112-40-3 | SHBP7054 | 99% | 201.3 µg/mL | +/- 5.2012 |
| 4 | n-Tetradecane (C14) | 629-59-4 | STBL0465 | 99% | 200.7 µg/mL | +/- 5.1839 |
| 5 | n-Hexadecane (C16) | 544-76-3 | SHBR0669 | 99% | 200.3 µg/mL | +/- 5.1753 |
| 6 | n-Octadecane (C18) | 593-45-3 | UE5NG | 99% | 200.7 µg/mL | +/- 5.1839 |
| 7 | n-Eicosane (C20) | 112-95-8 | MKCN8767 | 97% | 200.1 µg/mL | +/- 5.1704 |
| 8 | n-Heneicosane (C21) | 629-94-7 | MKCP1960 | 99% | 200.7 µg/mL | +/- 5.1839 |
| 9 | n-Docosane (C22) | 629-97-0 | MKCQ3882 | 99% | 200.3 µg/mL | +/- 5.1753 |
| 10 | n-Tetracosane (C24) | 646-31-1 | UH5GN | 99% | 201.3 µg/mL | +/- 5.2012 |
| 11 | n-Hexacosane (C26) | 630-01-3 | MKCQ4814 | 99% | 201.0 µg/mL | +/- 5.1926 |
| 12 | n-Octacosane (C28) | 630-02-4 | BCCJ4566 | 99% | 200.3 µg/mL | +/- 5.1753 |
| 13 | n-Triacontane (C30) | 638-68-6 | MKCV7007 | 98% | 201.2 µg/mL | +/- 5.1984 |
| 14 | n-Dotriacontane (C32) | 544-85-4 | BCBW0661 | 99% | 201.7 µg/mL | +/- 5.2098 |
| 15 | n-Tetratriacontane (C34) | 14167-59-0 | 6JNHB | 99% | 201.3 µg/mL | +/- 5.2012 |
| 16 | n-Hexatriacontane (C36) | 630-06-8 | Z27H018 | 99% | 201.7 µg/mL | +/- 5.2098 |
| 17 | n-Octatriacontane (C38) | 7194-85-6 | 0000207852 | 96% | 201.6 µg/mL | +/- 5.2081 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 18 | n-Tetracontane (C40) | 4181-95-7 | OKEGA | 99% | 201.3 µg/mL | +/- 5.2012 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** n-Pentane
**CAS #** 109-66-0
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

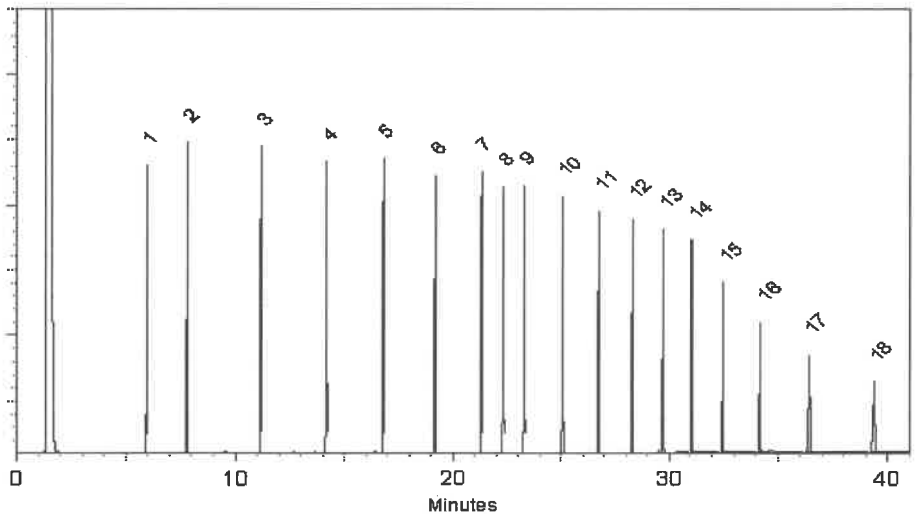
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
2 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Operations Technician III **Date Mixed:** 23-Dec-2024 **Balance Serial #** C322230531

Dillan Murphy - Operations Technician I **Date Passed:** 27-Dec-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

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P13978 ↓ P13987 } RC/ 04/24/25

**Catalog No. :** 30542 **Lot No.:** A0220449

**Description :** NJEPH Aliphatics Matrix Spike Mix

NJEPH Aliphatics Matrix Spike Mix 200 µg/mL, n-Pentane, 5mL/ampul

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** January 31, 2032 **Storage:** 10°C or colder

**Handling:** Sonicate prior to use. **Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | n-Nonane (C9) | 111-84-2 | SHBP9752 | 99% | 201.3 µg/mL | +/- 5.2012 |
| 2 | n-Decane (C10) | 124-18-5 | SHBQ1342 | 99% | 201.7 µg/mL | +/- 5.2098 |
| 3 | n-Dodecane (C12) | 112-40-3 | SHBP7054 | 99% | 201.3 µg/mL | +/- 5.2012 |
| 4 | n-Tetradecane (C14) | 629-59-4 | STBL0465 | 99% | 200.7 µg/mL | +/- 5.1839 |
| 5 | n-Hexadecane (C16) | 544-76-3 | SHBR0669 | 99% | 200.3 µg/mL | +/- 5.1753 |
| 6 | n-Octadecane (C18) | 593-45-3 | UE5NG | 99% | 200.7 µg/mL | +/- 5.1839 |
| 7 | n-Eicosane (C20) | 112-95-8 | MKCN8767 | 97% | 200.1 µg/mL | +/- 5.1704 |
| 8 | n-Heneicosane (C21) | 629-94-7 | MKCP1960 | 99% | 200.7 µg/mL | +/- 5.1839 |
| 9 | n-Docosane (C22) | 629-97-0 | MKCQ3882 | 99% | 200.3 µg/mL | +/- 5.1753 |
| 10 | n-Tetracosane (C24) | 646-31-1 | UH5GN | 99% | 201.3 µg/mL | +/- 5.2012 |
| 11 | n-Hexacosane (C26) | 630-01-3 | MKCQ4814 | 99% | 201.0 µg/mL | +/- 5.1926 |
| 12 | n-Octacosane (C28) | 630-02-4 | BCCJ4566 | 99% | 200.3 µg/mL | +/- 5.1753 |
| 13 | n-Triacontane (C30) | 638-68-6 | MKCV7007 | 98% | 201.2 µg/mL | +/- 5.1984 |
| 14 | n-Dotriacontane (C32) | 544-85-4 | BCBW0661 | 99% | 201.7 µg/mL | +/- 5.2098 |
| 15 | n-Tetratriacontane (C34) | 14167-59-0 | 6JNHB | 99% | 201.3 µg/mL | +/- 5.2012 |
| 16 | n-Hexatriacontane (C36) | 630-06-8 | Z27H018 | 99% | 201.7 µg/mL | +/- 5.2098 |
| 17 | n-Octatriacontane (C38) | 7194-85-6 | 0000207852 | 96% | 201.6 µg/mL | +/- 5.2081 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 18 | n-Tetracontane (C40) | 4181-95-7 | OKEGA | 99% | 201.3 µg/mL | +/- 5.2012 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** n-Pentane
**CAS #** 109-66-0
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

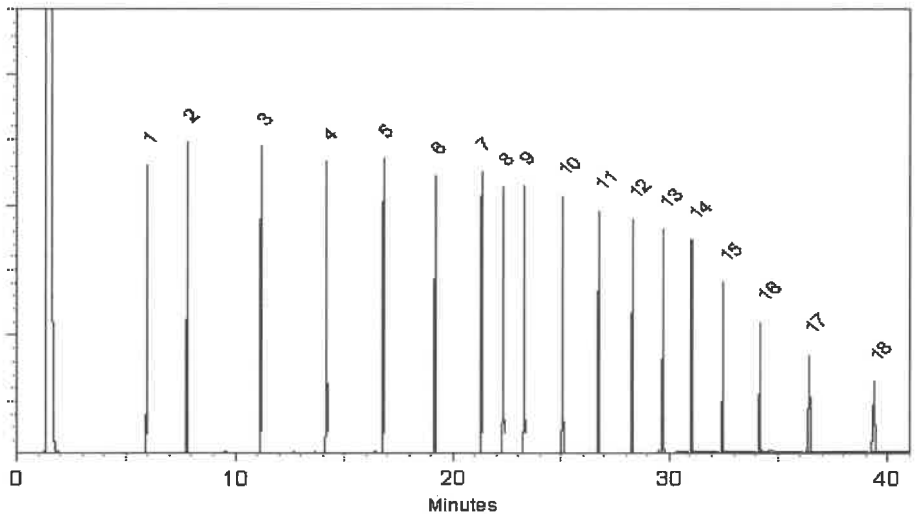
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
2 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Operations Technician III **Date Mixed:** 23-Dec-2024 **Balance Serial #** C322230531

Dillan Murphy - Operations Technician I **Date Passed:** 27-Dec-2024

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

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P13978 ↓ P13987 } RC/ 04/24/25

**Catalog No. :** 30542 **Lot No.:** A0220449

**Description :** NJEPH Aliphatics Matrix Spike Mix

NJEPH Aliphatics Matrix Spike Mix 200 µg/mL, n-Pentane, 5mL/ampul

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** January 31, 2032 **Storage:** 10°C or colder

**Handling:** Sonicate prior to use. **Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | n-Nonane (C9) | 111-84-2 | SHBP9752 | 99% | 201.3 µg/mL | +/- 5.2012 |
| 2 | n-Decane (C10) | 124-18-5 | SHBQ1342 | 99% | 201.7 µg/mL | +/- 5.2098 |
| 3 | n-Dodecane (C12) | 112-40-3 | SHBP7054 | 99% | 201.3 µg/mL | +/- 5.2012 |
| 4 | n-Tetradecane (C14) | 629-59-4 | STBL0465 | 99% | 200.7 µg/mL | +/- 5.1839 |
| 5 | n-Hexadecane (C16) | 544-76-3 | SHBR0669 | 99% | 200.3 µg/mL | +/- 5.1753 |
| 6 | n-Octadecane (C18) | 593-45-3 | UE5NG | 99% | 200.7 µg/mL | +/- 5.1839 |
| 7 | n-Eicosane (C20) | 112-95-8 | MKCN8767 | 97% | 200.1 µg/mL | +/- 5.1704 |
| 8 | n-Heneicosane (C21) | 629-94-7 | MKCP1960 | 99% | 200.7 µg/mL | +/- 5.1839 |
| 9 | n-Docosane (C22) | 629-97-0 | MKCQ3882 | 99% | 200.3 µg/mL | +/- 5.1753 |
| 10 | n-Tetracosane (C24) | 646-31-1 | UH5GN | 99% | 201.3 µg/mL | +/- 5.2012 |
| 11 | n-Hexacosane (C26) | 630-01-3 | MKCQ4814 | 99% | 201.0 µg/mL | +/- 5.1926 |
| 12 | n-Octacosane (C28) | 630-02-4 | BCCJ4566 | 99% | 200.3 µg/mL | +/- 5.1753 |
| 13 | n-Triacontane (C30) | 638-68-6 | MKCV7007 | 98% | 201.2 µg/mL | +/- 5.1984 |
| 14 | n-Dotriacontane (C32) | 544-85-4 | BCBW0661 | 99% | 201.7 µg/mL | +/- 5.2098 |
| 15 | n-Tetratriacontane (C34) | 14167-59-0 | 6JNHB | 99% | 201.3 µg/mL | +/- 5.2012 |
| 16 | n-Hexatriacontane (C36) | 630-06-8 | Z27H018 | 99% | 201.7 µg/mL | +/- 5.2098 |
| 17 | n-Octatriacontane (C38) | 7194-85-6 | 0000207852 | 96% | 201.6 µg/mL | +/- 5.2081 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 18 | n-Tetracontane (C40) | 4181-95-7 | OKEGA | 99% | 201.3 µg/mL | +/- 5.2012 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** n-Pentane
**CAS #** 109-66-0
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

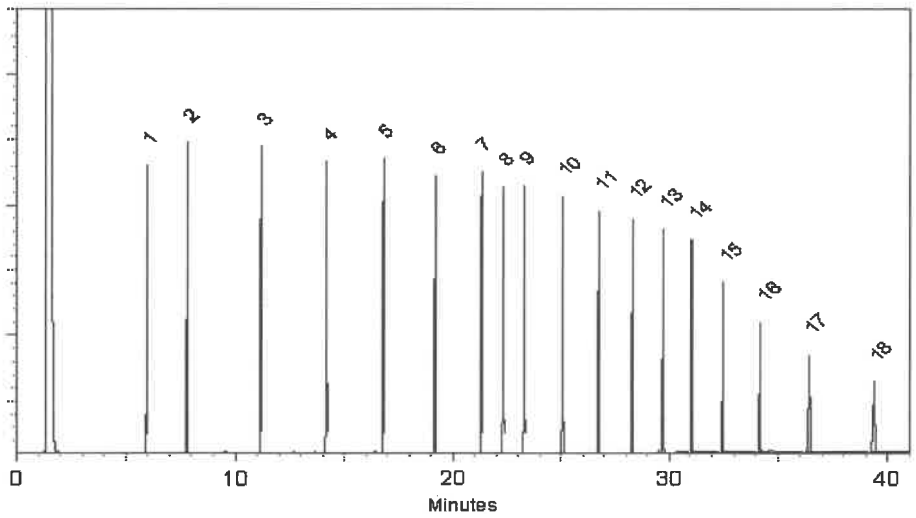
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
2 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Operations Technician III **Date Mixed:** 23-Dec-2024 **Balance Serial #** C322230531

Dillan Murphy - Operations Technician I **Date Passed:** 27-Dec-2024

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**Catalog No. :** 30543 **Lot No.:** A0220580

**Description :** NJEPH Aromatics Matrix Spike Mix

NJEPH Aromatics Matrix Spike Mix 200µg/mL, Acetone/Toluene (50:50), 5mL/ampul

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** November 30, 2030 **Storage:** 10°C or colder

**Handling:** Sonication required. Mix is photosensitive. **Ship:** Ambient

P13988 ↓ P13993 RC 4/25/25

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | 1,2,3-Trimethylbenzene | 526-73-8 | 8776.10-39 | 98% | 201.9 µg/mL | +/- 9.0961 |
| 2 | Naphthalene | 91-20-3 | STBL1057 | 99% | 200.8 µg/mL | +/- 9.0474 |
| 3 | 2-Methylnaphthalene | 91-57-6 | STBL3028 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 4 | Acenaphthylene | 208-96-8 | RP241029RSR | 98% | 201.9 µg/mL | +/- 9.0961 |
| 5 | Acenaphthene | 83-32-9 | MKCR7169 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 6 | Fluorene | 86-73-7 | 10246250 | 98% | 201.9 µg/mL | +/- 9.0961 |
| 7 | Phenanthrene | 85-01-8 | MKCT3391 | 99% | 200.8 µg/mL | +/- 9.0474 |
| 8 | Anthracene | 120-12-7 | MKCW9141 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 9 | Fluoranthene | 206-44-0 | MKCQ4728 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 10 | Pyrene | 129-00-0 | BCCL8032 | 99% | 201.6 µg/mL | +/- 9.0835 |
| 11 | Benz(a)anthracene | 56-55-3 | I220012022BAA | 99% | 202.0 µg/mL | +/- 9.1015 |
| 12 | Chrysene | 218-01-9 | RP240719RSR | 99% | 202.0 µg/mL | +/- 9.1015 |
| 13 | Benzo(b)fluoranthene | 205-99-2 | SBS-BBF-FINAL-2 | 99% | 202.0 µg/mL | +/- 9.1015 |
| 14 | Benzo(k)fluoranthene | 207-08-9 | 012022K | 98% | 201.5 µg/mL | +/- 9.0784 |
| 15 | Benzo(a)pyrene | 50-32-8 | NQLXA | 98% | 200.7 µg/mL | +/- 9.0431 |
| 16 | Indeno(1,2,3-cd)pyrene | 193-39-5 | 12-JKL-118-9 | 97% | 200.6 µg/mL | +/- 9.0383 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17 | Dibenz(a,h)anthracene | 53-70-3 | 2-ASA-59-1 | 99% | 201.2 | µg/mL | +/- 9.0655 |
| 18 | Benzo(g,h,i)perylene | 191-24-2 | RP241014RSR | 98% | 200.3 | µg/mL | +/- 9.0255 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** Acetone/Toluene (50:50)
**CAS #** 67-64-1/108-88-3
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
100°C (hold 1 min.) to 330°C
@ 4°C/min. (hold 5 min.)

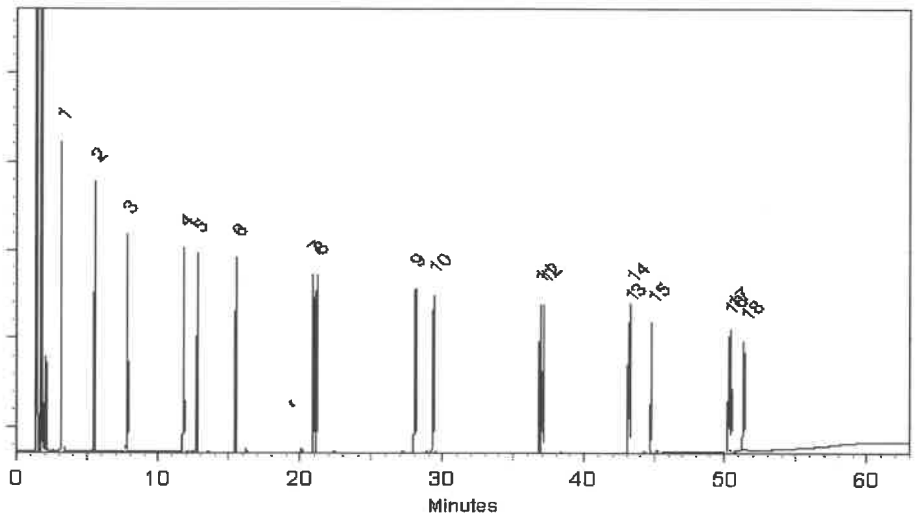
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
20 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Ven Kelley - Operations Tech I **Date Mixed:** 30-Dec-2024 **Balance Serial #** 1128360905

Jennifer Pollino - Operations Tech III - ARM QC **Date Passed:** 03-Jan-2025

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

# CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

***chromatographic plus***

ilac-MRA ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ilac-MRA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30543 **Lot No.:** A0220580

**Description :** NJEPH Aromatics Matrix Spike Mix

NJEPH Aromatics Matrix Spike Mix 200µg/mL, Acetone/Toluene (50:50), 5mL/ampul

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** November 30, 2030 **Storage:** 10°C or colder

**Handling:** Sonication required. Mix is photosensitive. **Ship:** Ambient

P13988 ↓ P13993 RC 4/25/25

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | 1,2,3-Trimethylbenzene | 526-73-8 | 8776.10-39 | 98% | 201.9 µg/mL | +/- 9.0961 |
| 2 | Naphthalene | 91-20-3 | STBL1057 | 99% | 200.8 µg/mL | +/- 9.0474 |
| 3 | 2-Methylnaphthalene | 91-57-6 | STBL3028 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 4 | Acenaphthylene | 208-96-8 | RP241029RSR | 98% | 201.9 µg/mL | +/- 9.0961 |
| 5 | Acenaphthene | 83-32-9 | MKCR7169 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 6 | Fluorene | 86-73-7 | 10246250 | 98% | 201.9 µg/mL | +/- 9.0961 |
| 7 | Phenanthrene | 85-01-8 | MKCT3391 | 99% | 200.8 µg/mL | +/- 9.0474 |
| 8 | Anthracene | 120-12-7 | MKCW9141 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 9 | Fluoranthene | 206-44-0 | MKCQ4728 | 99% | 200.4 µg/mL | +/- 9.0294 |
| 10 | Pyrene | 129-00-0 | BCCL8032 | 99% | 201.6 µg/mL | +/- 9.0835 |
| 11 | Benz(a)anthracene | 56-55-3 | I220012022BAA | 99% | 202.0 µg/mL | +/- 9.1015 |
| 12 | Chrysene | 218-01-9 | RP240719RSR | 99% | 202.0 µg/mL | +/- 9.1015 |
| 13 | Benzo(b)fluoranthene | 205-99-2 | SBS-BBF-FINAL-2 | 99% | 202.0 µg/mL | +/- 9.1015 |
| 14 | Benzo(k)fluoranthene | 207-08-9 | 012022K | 98% | 201.5 µg/mL | +/- 9.0784 |
| 15 | Benzo(a)pyrene | 50-32-8 | NQLXA | 98% | 200.7 µg/mL | +/- 9.0431 |
| 16 | Indeno(1,2,3-cd)pyrene | 193-39-5 | 12-JKL-118-9 | 97% | 200.6 µg/mL | +/- 9.0383 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17 | Dibenz(a,h)anthracene | 53-70-3 | 2-ASA-59-1 | 99% | 201.2 | µg/mL | +/- 9.0655 |
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**CAS #** 67-64-1/108-88-3
**Purity** 99%

## Quality Confirmation Test

**Column:**
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
100°C (hold 1 min.) to 330°C
@ 4°C/min. (hold 5 min.)

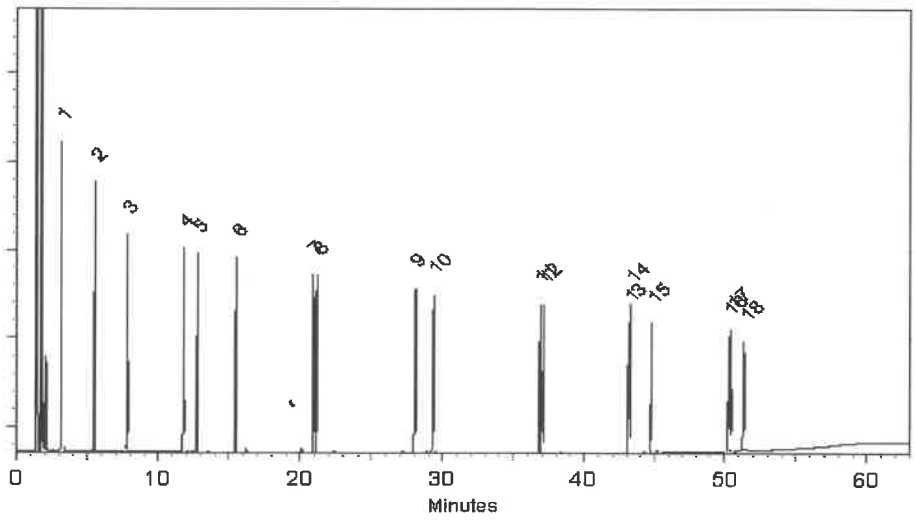
**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID

**Split Vent:**
20 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Ven Kelley - Operations Tech I **Date Mixed:** 30-Dec-2024 **Balance Serial #** 1128360905

Jennifer Pollino - Operations Tech III - ARM QC **Date Passed:** 03-Jan-2025

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

n-Hexane 95%
ULTRA RESI-ANALYZED
For Organic Residue Analysis

avantor™ | J.T.Baker®

W3147

W3147 update. 02/03/2025 JP

Material No.: 9262-03
Batch No.: 24G1962003
Manufactured Date: 2024-05-23
Expiration Date: 2025-08-22
Revision No.: 0

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL) | ≤ 5 | 3 |
| ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL) | ≤ 10 | 1 |
| ECD-Sensitive Impurities (as Ethylene Dibromide) - Single Impurity Peak (ng/mL) | ≤ 5 | 1 |
| Assay (Total Saturated $C_6$ Isomers) (by GC, corrected for water) | ≥ 99.5 % | 99.7 % |
| Assay (as n-Hexane) (by GC, corrected for water) | ≥ 95 % | 98 % |
| Color (APHA) | ≤ 10 | 5 |
| Residue after Evaporation | ≤ 1.0 ppm | 0.1 ppm |
| Substances Darkened by $H_2SO_4$ | Passes Test | Passes Test |
| Water (by KF, coulometric) | ≤ 0.05 % | < 0.01 % |

For Laboratory,Research,or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

JCroak

Jamie Croak
Director Quality Operations, Bioscience Production

# SHIPPING DOCUMENTS

Alliance TECHNICAL GROUP

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 • Fax (908) 789-8922
www.chemtech.net

ALLIANCE PROJECT NO.
QUOTE NO. Q2198
COC Number 2046410

## CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: Gannet Fleming
ADDRESS: 1010 Adams Avenue
CITY Audubon STATE: PA ZIP: 19403
ATTENTION: Joe Knapensky
PHONE: 610-310-8342 FAX:

## CLIENT PROJECT INFORMATION

PROJECT NAME: AMTRAK Sawtooth
PROJECT NO.: 950000878 LOCATION: Kearny, NJ
PROJECT MANAGER: Joe Knapensky
e-mail: QAQC@BEMSYS.com
PHONE: 6103108342 FAX:

## CLIENT BILLING INFORMATION

BILL TO: Alliance PO#:
ADDRESS: 284 Sheffield
CITY Mountainside STATE: NJ ZIP: 07092
ATTENTION: Samara Basly PHONE: 9887283143

## DATA TURNAROUND INFORMATION

FAX (RUSH) _____ DAYS*
HARDCOPY (DATA PACKAGE): 10 DAYS*
EDD: 10 DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS

## DATA DELIVERABLE INFORMATION

☐ Level 1 (Results Only) ☐ Level 4 (QC + Full Raw Data)
☐ Level 2 (Results + QC) ☐ NJ Reduced ☐ US EPA CLP
☐ Level 3 (Results + QC + Raw Data) ☐ NYS ASP A ☐ NYS ASP B
☐ Other _____
☐ EDD FORMAT BCM EDD

## ANALYSIS

1. TCL VOC + TO
2. CVOC - BNA-TO
3. PCB
4. Pesticides
5. TAL Metals
6. Cr (III), Cr (IV)
7. Full TCLP
8. RCRA
9. EPH

| ALLIANCE SAMPLE ID | PROJECT SAMPLE IDENTIFICATION | SAMPLE MATRIX | SAMPLE TYPE COMP | SAMPLE TYPE GRAB | SAMPLE COLLECTION DATE | SAMPLE COLLECTION TIME | # OF BOTTLES | PRESERVATIVES 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | B-202-SB02 | S | | X | 5/31/25 | 1605 | 6 | X | X | X | | X | X | X | X | X | |
| 2. | B-202-GW01 | GW | | X | | 2000 | 8 | X | X | X | | X | X | X | X | X | |
| 3. | B-207-SB02 | S | | X | 6/1/25 | 11:00AM | 7 | X | X | X | | X | X | X | X | X | |
| 4. | | | | | | | | | | | | | | | | | |
| 5. | | | | | | | | | | | | | | | | | |
| 6. | | | | | | | | | | | | | | | | | |
| 7. | | | | | | | | | | | | | | | | | |
| 8. | | | | | | | | | | | | | | | | | |
| 9. | | | | | | | | | | | | | | | | | |
| 10. | | | | | | | | | | | | | | | | | |

COMMENTS ← Specify Preservatives
A-HCl D-NaOH
B-HN03 E-ICE
C-H2SO4 F-OTHER

## SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

| RELINQUISHED BY SAMPLER: | DATE/TIME: | RECEIVED BY: |
|---|---|---|
| 1. Yesenia Pujara | 06/02 - 9:57 | 1. 0452 6-3-25 |
| RELINQUISHED BY SAMPLER: | DATE/TIME: | RECEIVED BY: |
| 2. | | 2. |
| RELINQUISHED BY SAMPLER: | DATE/TIME: 1902 6-3-25 | RECEIVED BY: |
| 3. | | 3. |

Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 3-3 °C
Comments: _____

Page ____ of

CLIENT: ☐ Hand Delivered ☐ Other _____

Shipment Complete ☐ YES ☐ NO

Copyright © 2024

WHITE - ALLIANCE COPY FOR RETURN TO CLIENT YELLOW - ALLIANCE COPY PINK - SAMPLER COPY

284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

# Laboratory Certification

| Certified By | License No. |
|---|---|
| CAS EPA CLP Contract | 68HERH20D0011 |
| Connecticut | PH-0830 |
| DOD ELAP (ANAB) | L2219 |
| Maine | 2024021 |
| Maryland | 296 |
| New Hampshire | 255424 Rev 1 |
| New Jersey | 20012 |
| New York | 11376 |
| Pennsylvania | 68-00548 |
| Soil Permit | 525-24-234-08441 |
| Texas | T104704488 |

QA Control Code: A2070148

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# LOGIN REPORT/SAMPLE TRANSFER

**Order ID :** Q2198 PORT06
**Client Name :** Portal Partners Tri-Venture
**Client Contact :** Joseph Krupansky
**Invoice Name :** Portal Partners Tri-Venture
**Invoice Contact :** Joseph Krupansky

**Order Date :** 6/3/2025 2:31:00 PM
**Project Name :** Amtrak Sawtooth Bridges 2
**Receive DateTime :** 6/3/2025 ~~12:00:00~~ AM
**Purchase Order :** 19:02

**Project Mgr :**
**Report Type :** NJ Reduced
**EDD Type :** EXCEL NJCLEANUP
**Hard Copy Date :**
**Date Signoff :**

| LAB ID | CLIENT ID | MATRIX | SAMPLE DATE | SAMPLE TIME | TEST | TEST GROUP | METHOD | FAX DATE | DUE DATES |
|---|---|---|---|---|---|---|---|---|---|
| Q2198-01 | B-202-SB02 | Solid | 05/31/2025 | 16:55 | VOC-TCLVOA-10 | | 8260D | | 10 Bus. Days |
| Q2198-03 | ~~B-207-SB01~~ B-207-SB02 | Solid | 06/01/2025 | ~~20:00~~ 11:04 | VOC-TCLVOA-10 | | 8260D | | 10 Bus. Days |
| Q2198-05 | B-202-GW01 | Water | 05/31/2025 | ~~11:04~~ 20:00 | VOC-TCLVOA-10 | | 8260-Low | | 10 Bus. Days |

**Relinguished By :**
**Date / Time :** 6/4/25 1040

Samples received on 6/3/25
Samples placed in SM-REF-2

**Received By :**
**Date / Time :** 06/04/25 10:40

**Storage Area :** VOA Refridgerator Room

Reg #4
Reg #6
FR2 - 2