

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation

625 Broadway, 12th Floor, Albany, New York 12233-7011

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www.dec.ny.gov

February 18, 2021

Mr. George Meyers, Supervisor
Town of New Windsor
555 Union Avenue
New Windsor, New York 12553

Re: New Windsor Public Water Supply Well Sample Results
Kroll Well, New Windsor (T), Orange County

Dear Supervisor George Meyers:

The New York State Department of Environmental Conservation (DEC) is providing you with a copy of analytical results derived from the February 9, 2021 sampling of the granular activated carbon (GAC) water treatment system by DEC representatives that was installed on the Town of New Windsor (Town) Kroll Well located at 354 Mount Airy Road.

No PFOS or PFOA was detected in the Kroll Well GAC-treated water. Effective August 26, 2020, the NYS maximum contaminant levels (MCLs) are 10 ppt for PFOS and 10 ppt for PFOA.

Specifically, the samples were analyzed for a total of twenty-one per- and polyfluoroalkyl substances (PFAS), including Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS). Data received for the 21 PFAS list analysis has been attached. During this event, sampling for the 21 PFAS list was conducted at 9 locations:

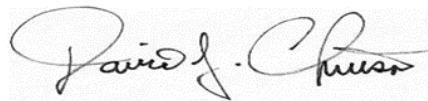
- pre-treatment (raw untreated water), which has a “RAW WATER” identifier in the Client Sample ID;
- 25 % treatment – lead tank (A-25 identifier);
- 50 % treatment – lead tank (A-50 identifier);
- 75 % treatment – lead tank (A-75 identifier);
- mid-treatment (after the first GAC canister and prior to the second GAC canister), which has a “MID POINT” identifier in the Client Sample ID;
- 25 % treatment – lag tank (B-25 identifier);
- 50 % treatment – lag tank (B-50 identifier);
- 75 % treatment – lag tank (B-75 identifier); and
- post-treatment (after the entire treatment system), which has a “EFFLUENT” identifier in the Client Sample ID.

The 9 locations sampled (and their associated identifiers) are depicted in Figure 1.

Please note that, with New York State Department of Health concurrence, GAC treatment system sample frequency moving forward has become quarterly. Therefore, the next sampling event will be scheduled around May 2021.

If you have any technical questions regarding the analytical results or on the operation and performance of the GAC treatment system, please feel free to contact me or Jim Hayward, EA Science and Technology (DEC's Project Engineer) at (315) 431-4610 (ext.1857) or jhayward@eaest.com . For weekday or off hour / weekend emergency repair issues, please call DEC's contractor, Brian Neumann of Precision Environmental Services at (518) 441-1520 (cell). For questions regarding site-related health concerns, please contact Steve Gagnon of the Orange County DOH at (845) 291-2331 or Dr. Min-Sook Kim of the NYSDOH Bureau of Water Supply Protection at (518) 402-7650; email: min-sook.kim@health.ny.gov .

Sincerely,



David J. Chiusano
Environmental Engineer/Project Manager
Remedial Section A, Remedial Bureau E
Division of Environmental Remediation

Enclosures

ec: w/enclosures
D. Zagon, Town of New Windsor
J. Marina, Town of New Windsor
J. Egitto, Town of New Windsor
S. Bedetti, Town of New Windsor
A. Regenbaum, Town of New Windsor
K. Rea, Town of New Windsor
J. Conrad, PVE LLC
C. Brown, PVE LLC
M. Weeks, MHE
Dr. Kim, NYSDOH
S. Gladding, NYSDOH
S. Gagnon, OCDOH
M. Andersen, OCDOH
J. Hayward, EA Engineering
B. Neumann, PES
M. Cruden, NYSDEC
D. Bendell, Region 3 RHWRE
D. Harrington, NYSDEC

Town of New Windsor
Kroll Well GAC Operation and Maintenance PFOA and PFOS Sampling Results ** (Parts Per Trillion (PPT))
(Last updated: February 2021)

| Date | Analyte | Result ¹ Raw Water | Result A25 | Result ² A50 | Result A75 | Result Mid-Point | Result B25 | Result B50 | Result B75 | Treated Effluent | USEPA Drinking Water Health Advisory Guidance Value | NYS MCLs |
|---|---------|-------------------------------|------------|-------------------------|------------|------------------|------------|------------|------------|------------------|---|-----------------|
| September 2019 (Based on 21 PFAS Analysis Data only) | PFOA | 8.4 | ND | 6.1 | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | PFOS | 14 | ND | 7.8 | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | | | | | | | | | | | | |
| October 2019 (Based on 21 PFAS Analysis Data only) | PFOA | 7.9 | 6.5 | ND | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | PFOS | 13 | 8.7 | ND | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | | | | | | | | | | | | |
| November 2019 (Based on 21 PFAS Analysis Data only) | PFOA | 12 | 10 | ND | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | PFOS | 10 | 8.4 | ND | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | | | | | | | | | | | | |
| December 2019 (Based on 21 PFAS Analysis Data only) | PFOA | 12 | 10 | ND | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | PFOS | 10 | 8.7 | ND | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | | | | | | | | | | | | |
| January 2020 (Based on 21 PFAS Analysis Data only) | PFOA | 11 | 10 | 2.2 | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | PFOS | 10 | 8.7 | ND | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | | | | | | | | | | | | |
| February 2020 (Based on 21 PFAS Analysis Data only) | PFOA | 11 | 9.9 | 3.3 | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | PFOS | 9.7 | 8.4 | ND | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | | | | | | | | | | | | |

Notes:

** 21 PFAS List Analysis.

1. PFOS and PFOA results and comparison values are reported in parts per trillion (ppt, nanograms per liter, ng/l).
2. "ND" means non-detect. The analyte was not detected in the sample.
3. MCL (Maximum Contaminant Level, mg/l) is the maximum permissible level of a contaminant in water delivered by a public water system.
4. Guidance: USEPA Drinking Water Health Advisory guidance value is 70 ppt.
5. Effective August 2020, the NYS maximum contaminant levels (MCLs) are 10 ppt for PFOS and 10 ppt for PFOA.

Town of New Windsor

Kroll Well GAC Operation and Maintenance PFOA and PFOS Sampling Results ** (Parts Per Trillion (PPT)) Continued

(Last updated: February 2021)

| Date | Analyte | Result ¹ Raw Water | Result A25 | Result ² A50 | Result A75 | Result Mid-Point | Result B25 | Result B50 | Result B75 | Treated Effluent | USEPA Drinking Water Health Advisory Guidance Value | NYS MCLs |
|--|---------|-------------------------------|------------|-------------------------|------------|------------------|------------|------------|------------|------------------|---|-----------------|
| March 2020 (Based on 21 PFAS Analysis Data only) | PFOA | 9.3 | 9.2 | 4.2 | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | PFOS | 9.6 | 11 | ND | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | | | | | | | | | | | | |
| April 2020 (Based on 21 PFAS Analysis Data only) | PFOA | 8.7 | 8.4 | 4.3 | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | PFOS | 8.9 | 7.7 | 1.9 | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | | | | | | | | | | | | |
| May 2020 (Based on 21 PFAS Analysis Data only) | PFOA | ND | 7.9 | 4.8 | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | PFOS | 11.0 | 7.7 | 2.0 | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | | | | | | | | | | | | |
| August 2020 (Based on 21 PFAS Analysis Data only) | PFOA | 9.4 | 9.2 | 6.8 | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | PFOS | 11.0 | 11.0 | 4.5 | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | | | | | | | | | | | | |
| February 2021 (Based on 21 PFAS Analysis Data only) | PFOA | 7.5 | ND | ND | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | PFOS | 6.7 | ND | ND | ND | ND | ND | ND | ND | ND | 70 ⁴ | 10 ⁵ |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

Notes:

** 21 PFAS List Analysis.

1. PFOS and PFOA results and comparison values are reported in parts per trillion (ppt, nanograms per liter, ng/l).
2. "ND" means non-detect. The analyte was not detected in the sample.
3. MCL (Maximum Contaminant Level, mg/l) is the maximum permissible level of a contaminant in water delivered by a public water system.
4. Guidance: USEPA Drinking Water Health Advisory guidance value is 70 ppt.
5. Effective August 2020 the NYS maximum contaminant levels (MCLs) are 10 ppt for PFOS and 10 ppt for PFOA.

How to Read Your Laboratory Reports

PFOA and PFOS Results:

- Analyte is the term used to describe what the laboratory was testing for, in this case PFOS and PFOA.
- Conc. (ng/l) is your result for PFOS and PFOA. In your case, no PFOS and PFOA were detected, thus ND or “non-detect” or <2.0 ng/l was reported. (ng/l = ppt)
- RL = reporting limit or RDL = reportable detection limit is the lowest level at which this specific testing protocol and laboratory has confidence in measuring the given analyte.
- Qualifiers are added information to help understand the quality of the data. Often, if something about the results or the calibration of the testing equipment was irregular, it would be reported here.

All other columns represent laboratory quality control information. The laboratory calibrates its equipment against a precise quantity of the chemical in order to ensure that the equipment is functioning properly. Some laboratory reports may not have all this information.

- Labeled Standard or Surrogate is the lab’s specific name for an individual control sample.
- %R is the percent of the control sample that was detected by the equipment. A 100% reading represents perfect equipment alignment.
- LCL-UCL is the lower concentration limit (LCL) and upper concentration limit (UCL). The LCL represents the lowest acceptable %R value and the UCL represent the highest acceptable %R value required to ensure your result is accurate.
- Qualifiers: If a result quality control variance is noted or if the %R value of any of the control samples were outside the allowable range that would have been noted in this last column. This gives the analyst less confidence in the measured value.

The analysis for PFOS and PFOA is performed using modified EPA Method 537. The laboratory may report a detection of PFOS and PFOA down to approximately 2.0 nanograms per liter (ng/l) or parts per trillion (ppt).

Inorganic Results:

- Parameter is the same as “analyte” above – it is the chemical being tested.
- Result is the concentration of that chemical detected.
- RL/PQL is the lowest level at which the specific laboratory test can reliably quantify the concentration. Below that number, the result is considered unreliable.
- DIL is the number of times the sample was diluted (necessary because the test has a certain range that it is accurate for).
- Units: mg/l is milligrams per liter or parts per million; ug/l is micrograms per liter or parts per billion.
- DW MCL stands for drinking water (DW) and “maximum contaminant level” (MCL). All chemicals that have a “maximum contaminant level” (MCL) established for drinking water (DW) have a level reported in this column.

- Sec Goal is the EPA nomenclature for all contaminants that have regulatory levels set based on aesthetics (for example, taste or color). DOH recognizes these EPA secondary goals as primary standards and enforces its drinking water quality program accordingly.
- Date/Time represents the date and time of the analysis at the lab.
- By refers to the technician who ran the test.
- Reference indicates the EPA method used in the test.

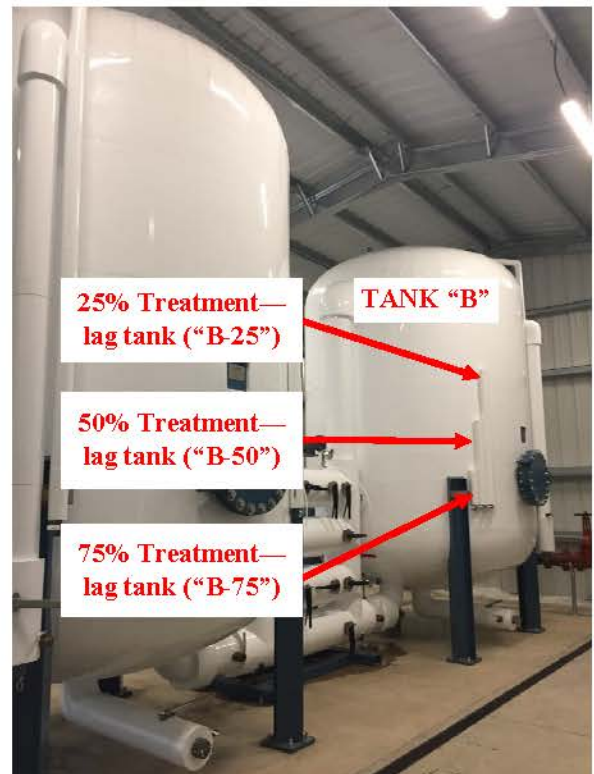
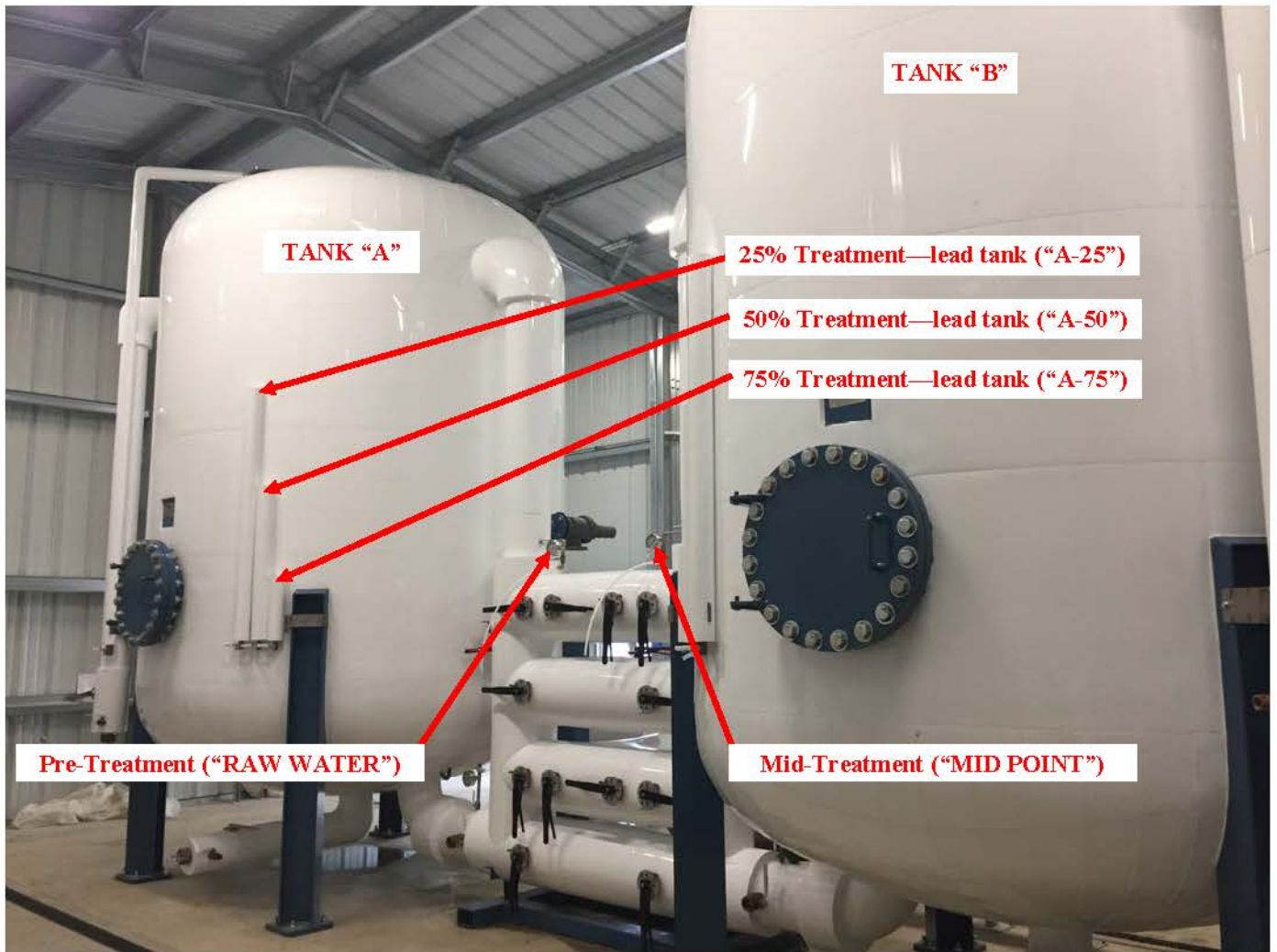


Figure 1—Kroll Well GAC Treatment System
Sampling Locations

ANALYTICAL REPORT

Job Number: 320-69953-1

Job Description: Stewart ANG Base #336089 Kroll Well

Contract Number: C100700

For:

New York State D.E.C.

625 Broadway

12th Floor

Albany, NY 12233-7017

Attention: Mr. Dave Chiusano



Approved for release.
Wyatt B Watson
Project Management Assistant I
2/15/2021 11:26 AM

Designee for
Judy L Stone, Senior Project Manager
10 Hazelwood Drive, Amherst, NY, 14228-2298
(484)685-0868
Judy.Stone@Eurofinset.com
02/15/2021

The test results in this report meet all NELAP requirements for analytes for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this test report should be directed to the TestAmerica Project Manager who has signed this report. TestAmerica Buffalo NELAC Certifications: CADPH 01169CA, FLDOH E87672, ILEPA 200003, KSDOH E-10187, LADEQ 30708, MDH 036-999-337, NHELAP 2973, NJDEP NY455, NYDOH 10026, ORELAP NY200003, PADEP 68-00281, TXCEQ T-104704412-10-1

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Eurofins TestAmerica, Sacramento

880 Riverside Parkway, West Sacramento, CA 95605

Tel (916) 373-5600 Fax (916) 372-1059 www.testamericainc.com



Job Number: 320-69953-1

Job Description: Stewart ANG Base #336089 Kroll Well

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.



Approved for release.
Wyatt B Watson
Project Management Assistant I
2/15/2021 11:26 AM

Designee for
Judy L Stone

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Job Narrative
320-69953-1

Comments

No additional comments.

Receipt

The samples were received on 2/10/2021 9:40 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.2° C.

LCMS

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-69953-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|------------------|--------|----------------|----------------|----------|
| 320-69953-1 | Effluent | Water | 02/09/21 11:00 | 02/10/21 09:40 | |
| 320-69953-2 | Mid Point | Water | 02/09/21 11:30 | 02/10/21 09:40 | |
| 320-69953-3 | Raw Water | Water | 02/09/21 11:50 | 02/10/21 09:40 | |
| 320-69953-4 | Duplicate | Water | 02/09/21 00:00 | 02/10/21 09:40 | |
| 320-69953-5 | A-25 | Water | 02/09/21 11:45 | 02/10/21 09:40 | |
| 320-69953-6 | A-50 | Water | 02/09/21 11:40 | 02/10/21 09:40 | |
| 320-69953-7 | A-75 | Water | 02/09/21 11:35 | 02/10/21 09:40 | |
| 320-69953-8 | B-25 | Water | 02/09/21 11:25 | 02/10/21 09:40 | |
| 320-69953-9 | B-50 | Water | 02/09/21 11:20 | 02/10/21 09:40 | |
| 320-69953-10 | B-75 | Water | 02/09/21 11:15 | 02/10/21 09:40 | |

Detection Summary

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-69953-1

Client Sample ID: Effluent

Lab Sample ID: 320-69953-1

No Detections.

Client Sample ID: Mid Point

Lab Sample ID: 320-69953-2

No Detections.

Client Sample ID: Raw Water

Lab Sample ID: 320-69953-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-------------------------------------|--------|-----------|-----|-----|------|---------|---|--------------------|-----------|
| Perfluorobutanesulfonic acid (PFBS) | 4.8 | | 2.0 | | ng/L | 1 | | WS-LC-0025 Att1 | Total/NA |
| Perfluoroheptanoic acid (PFHpA) | 2.2 | | 2.0 | | ng/L | 1 | | WS-LC-0025 Att1 | Total/NA |
| Perfluorooctanoic acid (PFOA) | 7.5 | | 2.0 | | ng/L | 1 | | WS-LC-0025 Att1 | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 6.7 | | 2.0 | | ng/L | 1 | | WS-LC-0025 Att1 | Total/NA |

Client Sample ID: Duplicate

Lab Sample ID: 320-69953-4

No Detections.

Client Sample ID: A-25

Lab Sample ID: 320-69953-5

No Detections.

Client Sample ID: A-50

Lab Sample ID: 320-69953-6

No Detections.

Client Sample ID: A-75

Lab Sample ID: 320-69953-7

No Detections.

Client Sample ID: B-25

Lab Sample ID: 320-69953-8

No Detections.

Client Sample ID: B-50

Lab Sample ID: 320-69953-9

No Detections.

Client Sample ID: B-75

Lab Sample ID: 320-69953-10

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

Method Summary

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-69953-1

| Method | Method Description | Protocol | Laboratory |
|-----------------|---------------------------------|-----------------|-------------------|
| WS-LC-0025 Att1 | Fluorinated Alkyl Substances | TAL-SAC | TAL SAC |
| PFAS Prep | Preparation, Direct Inject PFAS | TAL-SAC | TAL SAC |

Protocol References:

TAL-SAC = TestAmerica Laboratories, West Sacramento, Facility Standard Operating Procedure.

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Client Sample Results

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-69953-1

Client Sample ID: Effluent

Lab Sample ID: 320-69953-1

Date Collected: 02/09/21 11:00

Matrix: Water

Date Received: 02/10/21 09:40

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 15:22 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 15:22 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 15:22 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 15:22 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 15:22 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 15:22 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 18O2 PFHxS | 112 | | 25 - 150 | | | | 02/12/21 12:41 | 02/13/21 15:22 | 1 |
| 13C4 PFHpA | 120 | | 25 - 150 | | | | 02/12/21 12:41 | 02/13/21 15:22 | 1 |
| 13C4 PFOA | 111 | | 70 - 130 | | | | 02/12/21 12:41 | 02/13/21 15:22 | 1 |
| 13C4 PFOS | 106 | | 70 - 130 | | | | 02/12/21 12:41 | 02/13/21 15:22 | 1 |
| 13C5 PFNA | 114 | | 25 - 150 | | | | 02/12/21 12:41 | 02/13/21 15:22 | 1 |
| 13C3 PFBS | 104 | | 25 - 150 | | | | 02/12/21 12:41 | 02/13/21 15:22 | 1 |

Client Sample ID: Mid Point

Lab Sample ID: 320-69953-2

Date Collected: 02/09/21 11:30

Matrix: Water

Date Received: 02/10/21 09:40

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 15:40 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 15:40 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 15:40 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 15:40 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 15:40 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 15:40 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 18O2 PFHxS | 102 | | 25 - 150 | | | | 02/12/21 12:41 | 02/13/21 15:40 | 1 |
| 13C4 PFHpA | 107 | | 25 - 150 | | | | 02/12/21 12:41 | 02/13/21 15:40 | 1 |
| 13C4 PFOA | 102 | | 70 - 130 | | | | 02/12/21 12:41 | 02/13/21 15:40 | 1 |
| 13C4 PFOS | 98 | | 70 - 130 | | | | 02/12/21 12:41 | 02/13/21 15:40 | 1 |
| 13C5 PFNA | 105 | | 25 - 150 | | | | 02/12/21 12:41 | 02/13/21 15:40 | 1 |
| 13C3 PFBS | 97 | | 25 - 150 | | | | 02/12/21 12:41 | 02/13/21 15:40 | 1 |

Client Sample ID: Raw Water

Lab Sample ID: 320-69953-3

Date Collected: 02/09/21 11:50

Matrix: Water

Date Received: 02/10/21 09:40

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Perfluorobutanesulfonic acid (PFBS) | 4.8 | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 15:59 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 15:59 | 1 |
| Perfluoroheptanoic acid (PFHpA) | 2.2 | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 15:59 | 1 |
| Perfluorooctanoic acid (PFOA) | 7.5 | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 15:59 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | 6.7 | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 15:59 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 15:59 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 18O2 PFHxS | 109 | | 25 - 150 | | | | 02/12/21 12:41 | 02/13/21 15:59 | 1 |

Client Sample Results

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-69953-1

Client Sample ID: Raw Water

Lab Sample ID: 320-69953-3

Date Collected: 02/09/21 11:50

Matrix: Water

Date Received: 02/10/21 09:40

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances (Continued)

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C4 PFHpA | 113 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 15:59 | 1 |
| 13C4 PFOA | 110 | | 70 - 130 | 02/12/21 12:41 | 02/13/21 15:59 | 1 |
| 13C4 PFOS | 108 | | 70 - 130 | 02/12/21 12:41 | 02/13/21 15:59 | 1 |
| 13C5 PFNA | 115 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 15:59 | 1 |
| 13C3 PFBS | 98 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 15:59 | 1 |

Client Sample ID: Duplicate

Lab Sample ID: 320-69953-4

Date Collected: 02/09/21 00:00

Matrix: Water

Date Received: 02/10/21 09:40

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|--------|-----------|-----|-----|------|---|----------------|----------------|---------|
| Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 16:17 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 16:17 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 16:17 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 16:17 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 16:17 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 16:17 | 1 |

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 18O2 PFHxS | 108 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 16:17 | 1 |
| 13C4 PFHpA | 112 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 16:17 | 1 |
| 13C4 PFOA | 104 | | 70 - 130 | 02/12/21 12:41 | 02/13/21 16:17 | 1 |
| 13C4 PFOS | 102 | | 70 - 130 | 02/12/21 12:41 | 02/13/21 16:17 | 1 |
| 13C5 PFNA | 108 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 16:17 | 1 |
| 13C3 PFBS | 97 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 16:17 | 1 |

Client Sample ID: A-25

Lab Sample ID: 320-69953-5

Date Collected: 02/09/21 11:45

Matrix: Water

Date Received: 02/10/21 09:40

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|--------|-----------|-----|-----|------|---|----------------|----------------|---------|
| Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 16:35 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 16:35 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 16:35 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 16:35 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 16:35 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 16:35 | 1 |

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 18O2 PFHxS | 109 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 16:35 | 1 |
| 13C4 PFHpA | 115 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 16:35 | 1 |
| 13C4 PFOA | 110 | | 70 - 130 | 02/12/21 12:41 | 02/13/21 16:35 | 1 |
| 13C4 PFOS | 103 | | 70 - 130 | 02/12/21 12:41 | 02/13/21 16:35 | 1 |
| 13C5 PFNA | 112 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 16:35 | 1 |
| 13C3 PFBS | 100 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 16:35 | 1 |

Client Sample Results

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-69953-1

Client Sample ID: A-50
Date Collected: 02/09/21 11:40
Date Received: 02/10/21 09:40

Lab Sample ID: 320-69953-6
Matrix: Water

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 16:54 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 16:54 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 16:54 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 16:54 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 16:54 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 16:54 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 18O2 PFHxS | 111 | | 25 - 150 | | | | 02/12/21 12:41 | 02/13/21 16:54 | 1 |
| 13C4 PFHpA | 115 | | 25 - 150 | | | | 02/12/21 12:41 | 02/13/21 16:54 | 1 |
| 13C4 PFOA | 108 | | 70 - 130 | | | | 02/12/21 12:41 | 02/13/21 16:54 | 1 |
| 13C4 PFOS | 102 | | 70 - 130 | | | | 02/12/21 12:41 | 02/13/21 16:54 | 1 |
| 13C5 PFNA | 116 | | 25 - 150 | | | | 02/12/21 12:41 | 02/13/21 16:54 | 1 |
| 13C3 PFBS | 102 | | 25 - 150 | | | | 02/12/21 12:41 | 02/13/21 16:54 | 1 |

Client Sample ID: A-75
Date Collected: 02/09/21 11:35
Date Received: 02/10/21 09:40

Lab Sample ID: 320-69953-7
Matrix: Water

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 17:12 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 17:12 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 17:12 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 17:12 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 17:12 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 17:12 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 18O2 PFHxS | 100 | | 25 - 150 | | | | 02/12/21 12:41 | 02/13/21 17:12 | 1 |
| 13C4 PFHpA | 104 | | 25 - 150 | | | | 02/12/21 12:41 | 02/13/21 17:12 | 1 |
| 13C4 PFOA | 99 | | 70 - 130 | | | | 02/12/21 12:41 | 02/13/21 17:12 | 1 |
| 13C4 PFOS | 96 | | 70 - 130 | | | | 02/12/21 12:41 | 02/13/21 17:12 | 1 |
| 13C5 PFNA | 104 | | 25 - 150 | | | | 02/12/21 12:41 | 02/13/21 17:12 | 1 |
| 13C3 PFBS | 97 | | 25 - 150 | | | | 02/12/21 12:41 | 02/13/21 17:12 | 1 |

Client Sample ID: B-25
Date Collected: 02/09/21 11:25
Date Received: 02/10/21 09:40

Lab Sample ID: 320-69953-8
Matrix: Water

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 17:31 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 17:31 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 17:31 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 17:31 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 17:31 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 17:31 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 18O2 PFHxS | 107 | | 25 - 150 | | | | 02/12/21 12:41 | 02/13/21 17:31 | 1 |
| 13C4 PFHpA | 110 | | 25 - 150 | | | | 02/12/21 12:41 | 02/13/21 17:31 | 1 |
| 13C4 PFOA | 103 | | 70 - 130 | | | | 02/12/21 12:41 | 02/13/21 17:31 | 1 |

Client Sample Results

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-69953-1

Client Sample ID: B-25

Lab Sample ID: 320-69953-8

Date Collected: 02/09/21 11:25

Matrix: Water

Date Received: 02/10/21 09:40

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances (Continued)

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C4 PFOS | 101 | | 70 - 130 | 02/12/21 12:41 | 02/13/21 17:31 | 1 |
| 13C5 PFNA | 107 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 17:31 | 1 |
| 13C3 PFBS | 102 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 17:31 | 1 |

Client Sample ID: B-50

Lab Sample ID: 320-69953-9

Date Collected: 02/09/21 11:20

Matrix: Water

Date Received: 02/10/21 09:40

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|--------|-----------|-----|-----|------|---|----------------|----------------|---------|
| Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 18:08 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 18:08 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 18:08 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 18:08 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 18:08 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 18:08 | 1 |

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 18O2 PFHxS | 112 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 18:08 | 1 |
| 13C4 PFHpA | 119 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 18:08 | 1 |
| 13C4 PFOA | 112 | | 70 - 130 | 02/12/21 12:41 | 02/13/21 18:08 | 1 |
| 13C4 PFOS | 109 | | 70 - 130 | 02/12/21 12:41 | 02/13/21 18:08 | 1 |
| 13C5 PFNA | 118 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 18:08 | 1 |
| 13C3 PFBS | 109 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 18:08 | 1 |

Client Sample ID: B-75

Lab Sample ID: 320-69953-10

Date Collected: 02/09/21 11:15

Matrix: Water

Date Received: 02/10/21 09:40

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|--------|-----------|-----|-----|------|---|----------------|----------------|---------|
| Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 18:26 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 18:26 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 18:26 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 18:26 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 18:26 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 18:26 | 1 |

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 18O2 PFHxS | 113 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 18:26 | 1 |
| 13C4 PFHpA | 113 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 18:26 | 1 |
| 13C4 PFOA | 107 | | 70 - 130 | 02/12/21 12:41 | 02/13/21 18:26 | 1 |
| 13C4 PFOS | 107 | | 70 - 130 | 02/12/21 12:41 | 02/13/21 18:26 | 1 |
| 13C5 PFNA | 110 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 18:26 | 1 |
| 13C3 PFBS | 107 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 18:26 | 1 |

Isotope Dilution Summary

Client: New York State D.E.C.
 Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-69953-1

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID | Client Sample ID | Percent Isotope Dilution Recovery (Acceptance Limits) | | | | | |
|--------------------|--------------------|---|--------------------|------------------|------------------|------------------|--------------------|
| | | PFHxS (25-150) | C4PFHA (25-150) | PFOA (70-130) | PFOS (70-130) | PFNA (25-150) | C3PFBS (25-150) |
| 320-69953-1 | Effluent | 112 | 120 | 111 | 106 | 114 | 104 |
| 320-69953-2 | Mid Point | 102 | 107 | 102 | 98 | 105 | 97 |
| 320-69953-3 | Raw Water | 109 | 113 | 110 | 108 | 115 | 98 |
| 320-69953-4 | Duplicate | 108 | 112 | 104 | 102 | 108 | 97 |
| 320-69953-5 | A-25 | 109 | 115 | 110 | 103 | 112 | 100 |
| 320-69953-6 | A-50 | 111 | 115 | 108 | 102 | 116 | 102 |
| 320-69953-7 | A-75 | 100 | 104 | 99 | 96 | 104 | 97 |
| 320-69953-8 | B-25 | 107 | 110 | 103 | 101 | 107 | 102 |
| 320-69953-9 | B-50 | 112 | 119 | 112 | 109 | 118 | 109 |
| 320-69953-10 | B-75 | 113 | 113 | 107 | 107 | 110 | 107 |
| LCS 320-461652/2-A | Lab Control Sample | 114 | 113 | 110 | 106 | 112 | 99 |
| MB 320-461652/1-A | Method Blank | 108 | 110 | 110 | 102 | 105 | 96 |

Surrogate Legend

- PFHxS = 18O2 PFHxS
- C4PFHA = 13C4 PFHpA
- PFOA = 13C4 PFOA
- PFOS = 13C4 PFOS
- PFNA = 13C5 PFNA
- C3PFBS = 13C3 PFBS

QC Sample Results

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-69953-1

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-461652/1-A

Matrix: Water

Analysis Batch: 461813

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 461652

| Analyte | MB | MB | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|--------|-----------|-----|-----|------|---|----------------|----------------|---------|
| | Result | Qualifier | | | | | | | |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 11:22 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 11:22 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 11:22 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 11:22 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 11:22 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 2.0 | | ng/L | | 02/12/21 12:41 | 02/13/21 11:22 | 1 |

| Isotope Dilution | MB | MB | Limits | Prepared | Analyzed | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| | %Recovery | Qualifier | | | | |
| 18O2 PFHxS | 108 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 11:22 | 1 |
| 13C4 PFHpA | 110 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 11:22 | 1 |
| 13C4 PFOA | 110 | | 70 - 130 | 02/12/21 12:41 | 02/13/21 11:22 | 1 |
| 13C4 PFOS | 102 | | 70 - 130 | 02/12/21 12:41 | 02/13/21 11:22 | 1 |
| 13C5 PFNA | 105 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 11:22 | 1 |
| 13C3 PFBS | 96 | | 25 - 150 | 02/12/21 12:41 | 02/13/21 11:22 | 1 |

Lab Sample ID: LCS 320-461652/2-A

Matrix: Water

Analysis Batch: 461813

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 461652

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. | Limits |
|--------------------------------------|-------------|------------|---------------|------|---|------|----------|--------|
| | | | | | | | | |
| Perfluorohexanesulfonic acid (PFHxS) | 18.2 | 16.5 | | ng/L | | 90 | 73 - 157 | |
| Perfluoroheptanoic acid (PFHpA) | 20.0 | 19.5 | | ng/L | | 97 | 71 - 138 | |
| Perfluorooctanoic acid (PFOA) | 20.0 | 19.2 | | ng/L | | 96 | 70 - 130 | |
| Perfluorooctanesulfonic acid (PFOS) | 18.6 | 17.3 | | ng/L | | 93 | 70 - 130 | |
| Perfluorononanoic acid (PFNA) | 20.0 | 19.8 | | ng/L | | 99 | 73 - 147 | |

| Isotope Dilution | LCS | LCS | Limits |
|------------------|-----------|-----------|----------|
| | %Recovery | Qualifier | |
| 18O2 PFHxS | 114 | | 25 - 150 |
| 13C4 PFHpA | 113 | | 25 - 150 |
| 13C4 PFOA | 110 | | 70 - 130 |
| 13C4 PFOS | 106 | | 70 - 130 |
| 13C5 PFNA | 112 | | 25 - 150 |
| 13C3 PFBS | 99 | | 25 - 150 |

Definitions/Glossary

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-69953-1

Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|----------------|---|
| ▣ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CFU | Colony Forming Unit |
| CNF | Contains No Free Liquid |
| DER | Duplicate Error Ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL | Detection Limit (DoD/DOE) |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision Level Concentration (Radiochemistry) |
| EDL | Estimated Detection Limit (Dioxin) |
| LOD | Limit of Detection (DoD/DOE) |
| LOQ | Limit of Quantitation (DoD/DOE) |
| MCL | EPA recommended "Maximum Contaminant Level" |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| MPN | Most Probable Number |
| MQL | Method Quantitation Limit |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| NEG | Negative / Absent |
| POS | Positive / Present |
| PQL | Practical Quantitation Limit |
| PRES | Presumptive |
| QC | Quality Control |
| RER | Relative Error Ratio (Radiochemistry) |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |
| TNTC | Too Numerous To Count |

QC Association Summary

Client: New York State D.E.C.
 Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-69953-1

LCMS

Prep Batch: 461652

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|-----------|------------|
| 320-69953-1 | Effluent | Total/NA | Water | PFAS Prep | |
| 320-69953-2 | Mid Point | Total/NA | Water | PFAS Prep | |
| 320-69953-3 | Raw Water | Total/NA | Water | PFAS Prep | |
| 320-69953-4 | Duplicate | Total/NA | Water | PFAS Prep | |
| 320-69953-5 | A-25 | Total/NA | Water | PFAS Prep | |
| 320-69953-6 | A-50 | Total/NA | Water | PFAS Prep | |
| 320-69953-7 | A-75 | Total/NA | Water | PFAS Prep | |
| 320-69953-8 | B-25 | Total/NA | Water | PFAS Prep | |
| 320-69953-9 | B-50 | Total/NA | Water | PFAS Prep | |
| 320-69953-10 | B-75 | Total/NA | Water | PFAS Prep | |
| MB 320-461652/1-A | Method Blank | Total/NA | Water | PFAS Prep | |
| LCS 320-461652/2-A | Lab Control Sample | Total/NA | Water | PFAS Prep | |

Analysis Batch: 461813

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------------------|------------|
| 320-69953-1 | Effluent | Total/NA | Water | WS-LC-0025 Att1 | 461652 |
| 320-69953-2 | Mid Point | Total/NA | Water | WS-LC-0025 Att1 | 461652 |
| 320-69953-3 | Raw Water | Total/NA | Water | WS-LC-0025 Att1 | 461652 |
| 320-69953-4 | Duplicate | Total/NA | Water | WS-LC-0025 Att1 | 461652 |
| 320-69953-5 | A-25 | Total/NA | Water | WS-LC-0025 Att1 | 461652 |
| 320-69953-6 | A-50 | Total/NA | Water | WS-LC-0025 Att1 | 461652 |
| 320-69953-7 | A-75 | Total/NA | Water | WS-LC-0025 Att1 | 461652 |
| 320-69953-8 | B-25 | Total/NA | Water | WS-LC-0025 Att1 | 461652 |
| 320-69953-9 | B-50 | Total/NA | Water | WS-LC-0025 Att1 | 461652 |
| 320-69953-10 | B-75 | Total/NA | Water | WS-LC-0025 Att1 | 461652 |
| MB 320-461652/1-A | Method Blank | Total/NA | Water | WS-LC-0025 Att1 | 461652 |
| LCS 320-461652/2-A | Lab Control Sample | Total/NA | Water | WS-LC-0025 Att1 | 461652 |

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-69953-1

Client Sample ID: Effluent

Date Collected: 02/09/21 11:00

Date Received: 02/10/21 09:40

Lab Sample ID: 320-69953-1

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Prep | PFAS Prep | | | 461652 | 02/12/21 12:41 | EH | TAL SAC |
| Total/NA | Analysis | WS-LC-0025 Att1 | | 1 | 461813 | 02/13/21 15:22 | D1R | TAL SAC |

Client Sample ID: Mid Point

Date Collected: 02/09/21 11:30

Date Received: 02/10/21 09:40

Lab Sample ID: 320-69953-2

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Prep | PFAS Prep | | | 461652 | 02/12/21 12:41 | EH | TAL SAC |
| Total/NA | Analysis | WS-LC-0025 Att1 | | 1 | 461813 | 02/13/21 15:40 | D1R | TAL SAC |

Client Sample ID: Raw Water

Date Collected: 02/09/21 11:50

Date Received: 02/10/21 09:40

Lab Sample ID: 320-69953-3

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Prep | PFAS Prep | | | 461652 | 02/12/21 12:41 | EH | TAL SAC |
| Total/NA | Analysis | WS-LC-0025 Att1 | | 1 | 461813 | 02/13/21 15:59 | D1R | TAL SAC |

Client Sample ID: Duplicate

Date Collected: 02/09/21 00:00

Date Received: 02/10/21 09:40

Lab Sample ID: 320-69953-4

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Prep | PFAS Prep | | | 461652 | 02/12/21 12:41 | EH | TAL SAC |
| Total/NA | Analysis | WS-LC-0025 Att1 | | 1 | 461813 | 02/13/21 16:17 | D1R | TAL SAC |

Client Sample ID: A-25

Date Collected: 02/09/21 11:45

Date Received: 02/10/21 09:40

Lab Sample ID: 320-69953-5

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Prep | PFAS Prep | | | 461652 | 02/12/21 12:41 | EH | TAL SAC |
| Total/NA | Analysis | WS-LC-0025 Att1 | | 1 | 461813 | 02/13/21 16:35 | D1R | TAL SAC |

Client Sample ID: A-50

Date Collected: 02/09/21 11:40

Date Received: 02/10/21 09:40

Lab Sample ID: 320-69953-6

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Prep | PFAS Prep | | | 461652 | 02/12/21 12:41 | EH | TAL SAC |
| Total/NA | Analysis | WS-LC-0025 Att1 | | 1 | 461813 | 02/13/21 16:54 | D1R | TAL SAC |

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-69953-1

Client Sample ID: A-75

Date Collected: 02/09/21 11:35

Date Received: 02/10/21 09:40

Lab Sample ID: 320-69953-7

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Prep | PFAS Prep | | | 461652 | 02/12/21 12:41 | EH | TAL SAC |
| Total/NA | Analysis | WS-LC-0025 Att1 | | 1 | 461813 | 02/13/21 17:12 | D1R | TAL SAC |

Client Sample ID: B-25

Date Collected: 02/09/21 11:25

Date Received: 02/10/21 09:40

Lab Sample ID: 320-69953-8

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Prep | PFAS Prep | | | 461652 | 02/12/21 12:41 | EH | TAL SAC |
| Total/NA | Analysis | WS-LC-0025 Att1 | | 1 | 461813 | 02/13/21 17:31 | D1R | TAL SAC |

Client Sample ID: B-50

Date Collected: 02/09/21 11:20

Date Received: 02/10/21 09:40

Lab Sample ID: 320-69953-9

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Prep | PFAS Prep | | | 461652 | 02/12/21 12:41 | EH | TAL SAC |
| Total/NA | Analysis | WS-LC-0025 Att1 | | 1 | 461813 | 02/13/21 18:08 | D1R | TAL SAC |

Client Sample ID: B-75

Date Collected: 02/09/21 11:15

Date Received: 02/10/21 09:40

Lab Sample ID: 320-69953-10

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|-----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Prep | PFAS Prep | | | 461652 | 02/12/21 12:41 | EH | TAL SAC |
| Total/NA | Analysis | WS-LC-0025 Att1 | | 1 | 461813 | 02/13/21 18:26 | D1R | TAL SAC |

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-69953-1

Laboratory: Eurofins TestAmerica, Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | Program | Identification Number | Expiration Date |
|-----------|---------|-----------------------|-----------------|
| New York | NELAP | 11666 | 04-01-21 |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|--------------------------------------|
| WS-LC-0025 Att1 | PFAS Prep | Water | Perfluorobutanesulfonic acid (PFBS) |
| WS-LC-0025 Att1 | PFAS Prep | Water | Perfluoroheptanoic acid (PFHpA) |
| WS-LC-0025 Att1 | PFAS Prep | Water | Perfluorohexanesulfonic acid (PFHxS) |
| WS-LC-0025 Att1 | PFAS Prep | Water | Perfluorononanoic acid (PFNA) |

Method PFAS DW

Fluorinated Alkyl Substances (DW) by
Ws-LC-0025 Attach 1

FORM II
LCMS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1

SDG No.: _____

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

| Client Sample ID | Lab Sample ID | C3PFBS # | C4PFHA # | PFHxS # | PFOA # | PFOS # | PFNA # |
|------------------|-----------------------|----------|----------|---------|--------|--------|--------|
| Effluent | 320-69953-1 | 104 | 120 | 112 | 111 | 106 | 114 |
| Mid Point | 320-69953-2 | 97 | 107 | 102 | 102 | 98 | 105 |
| Raw Water | 320-69953-3 | 98 | 113 | 109 | 110 | 108 | 115 |
| Duplicate | 320-69953-4 | 97 | 112 | 108 | 104 | 102 | 108 |
| A-25 | 320-69953-5 | 100 | 115 | 109 | 110 | 103 | 112 |
| A-50 | 320-69953-6 | 102 | 115 | 111 | 108 | 102 | 116 |
| A-75 | 320-69953-7 | 97 | 104 | 100 | 99 | 96 | 104 |
| B-25 | 320-69953-8 | 102 | 110 | 107 | 103 | 101 | 107 |
| B-50 | 320-69953-9 | 109 | 119 | 112 | 112 | 109 | 118 |
| B-75 | 320-69953-10 | 107 | 113 | 113 | 107 | 107 | 110 |
| | MB 320-461652/1-A | 96 | 110 | 108 | 110 | 102 | 105 |
| | LCS 320-461652/2-A | 99 | 113 | 114 | 110 | 106 | 112 |

| | <u>QC LIMITS</u> |
|---------------------|------------------|
| C3PFBS = 13C3 PFBS | 25-150 |
| C4PFHA = 13C4 PFHpA | 25-150 |
| PFHxS = 1802 PFHxS | 25-150 |
| PFOA = 13C4 PFOA | 70-130 |
| PFOS = 13C4 PFOS | 70-130 |
| PFNA = 13C5 PFNA | 25-150 |

Column to be used to flag recovery values

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1

SDG No.: _____

Matrix: Water Level: Low Lab File ID: 2021.02.13_A10_DI_A_011.d

Lab ID: LCS 320-461652/2-A Client ID: _____

| COMPOUND | SPIKE ADDED (ng/L) | LCS CONCENTRATION (ng/L) | LCS % REC | QC LIMITS REC | # |
|--------------------------------------|--------------------------|--------------------------------|-----------------|---------------------|---|
| Perfluorobutanesulfonic acid (PFBS) | 17.7 | 16.4 | 93 | 72-151 | |
| Perfluorohexanesulfonic acid (PFHxS) | 18.2 | 16.5 | 90 | 73-157 | |
| Perfluoroheptanoic acid (PFHpA) | 20.0 | 19.5 | 97 | 71-138 | |
| Perfluorooctanoic acid (PFOA) | 20.0 | 19.2 | 96 | 70-130 | |
| Perfluorooctanesulfonic acid (PFOS) | 18.6 | 17.3 | 93 | 70-130 | |
| Perfluorononanoic acid (PFNA) | 20.0 | 19.8 | 99 | 73-147 | |
| 18O2 PFHxS | 78.5 | 89.9 | 114 | 25-150 | |
| 13C4 PFHpA | 83.0 | 93.7 | 113 | 25-150 | |
| 13C4 PFOA | 83.0 | 91.2 | 110 | 70-130 | |
| 13C4 PFOS | 79.3 | 84.4 | 106 | 70-130 | |
| 13C5 PFNA | 83.0 | 92.8 | 112 | 25-150 | |
| 13C3 PFBS | 77.2 | 76.5 | 99 | 25-150 | |

Column to be used to flag recovery and RPD values

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Lab File ID: 2021.02.13_A10_DI_A_010.d Lab Sample ID: MB 320-461652/1-A
 Matrix: Water Date Extracted: 02/12/2021 12:41
 Instrument ID: A10 Date Analyzed: 02/13/2021 11:22
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

| CLIENT SAMPLE ID | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED |
|------------------|--------------------|---------------------------|------------------|
| | LCS 320-461652/2-A | 2021.02.13_A10_DI_A_011.d | 02/13/2021 11:40 |
| Effluent | 320-69953-1 | 2021.02.13_A10_DI_A_023.d | 02/13/2021 15:22 |
| Mid Point | 320-69953-2 | 2021.02.13_A10_DI_A_024.d | 02/13/2021 15:40 |
| Raw Water | 320-69953-3 | 2021.02.13_A10_DI_A_025.d | 02/13/2021 15:59 |
| Duplicate | 320-69953-4 | 2021.02.13_A10_DI_A_026.d | 02/13/2021 16:17 |
| A-25 | 320-69953-5 | 2021.02.13_A10_DI_A_027.d | 02/13/2021 16:35 |
| A-50 | 320-69953-6 | 2021.02.13_A10_DI_A_028.d | 02/13/2021 16:54 |
| A-75 | 320-69953-7 | 2021.02.13_A10_DI_A_029.d | 02/13/2021 17:12 |
| B-25 | 320-69953-8 | 2021.02.13_A10_DI_A_030.d | 02/13/2021 17:31 |
| B-50 | 320-69953-9 | 2021.02.13_A10_DI_A_032.d | 02/13/2021 18:08 |
| B-75 | 320-69953-10 | 2021.02.13_A10_DI_A_033.d | 02/13/2021 18:26 |

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Client Sample ID: Effluent Lab Sample ID: 320-69953-1
 Matrix: Water Lab File ID: 2021.02.13_A10_DI_A_023.d
 Analysis Method: WS-LC-0025 Att1 Date Collected: 02/09/2021 11:00
 Extraction Method: PFAS Prep Date Extracted: 02/12/2021 12:41
 Sample wt/vol: 1.00 (mL) Date Analyzed: 02/13/2021 15:22
 Con. Extract Vol.: 1.66 (mL) Dilution Factor: 1
 Injection Volume: 950 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 461813 Units: ng/L

| CAS NO. | COMPOUND NAME | RESULT | Q | RL | |
|-----------|--------------------------------------|--------|---|-----|--|
| 375-73-5 | Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | |
| 355-46-4 | Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | |
| 375-85-9 | Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | |
| 335-67-1 | Perfluorooctanoic acid (PFOA) | ND | | 2.0 | |
| 1763-23-1 | Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | |
| 375-95-1 | Perfluorononanoic acid (PFNA) | ND | | 2.0 | |

| CAS NO. | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00994 | 18O2 PFHxS | 112 | | 25-150 |
| STL01892 | 13C4 PFHpA | 120 | | 25-150 |
| STL00990 | 13C4 PFOA | 111 | | 70-130 |
| STL00991 | 13C4 PFOS | 106 | | 70-130 |
| STL00995 | 13C5 PFNA | 114 | | 25-150 |
| STL02337 | 13C3 PFBS | 104 | | 25-150 |

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_023.d
 Lims ID: 320-69953-B-1-A
 Client ID: Effluent
 Sample Type: Client
 Inject. Date: 13-Feb-2021 15:22:07 ALS Bottle#: 23 Worklist Smp#: 16
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: 320-69953-b-1-a
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Method: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 15-Feb-2021 04:29:50 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1652

First Level Reviewer: ruangyotsakuld Date: 15-Feb-2021 04:29:50
 Ratio Calibration: CCV Sample: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_020.d

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------|-----------------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 3 13C3 PFBS | 301.90 > 80.00 | 6.317 | 6.343 | -0.027 | 1966560 | 0.0483 | | 104 | 12101 | |
| D 15 18O2 PFHxS | 403.00 > 84.00 | 7.244 | 7.285 | -0.041 | 1745696 | 0.0531 | | 112 | 11922 | |
| D 17 13C4 PFHpA | 367.00 > 322.00 | 7.263 | 7.285 | -0.022 | 3005885 | 0.0601 | | 120 | 17869 | |
| D 20 13C2 PFOA | 415.00 > 370.00 | 7.837 | 7.853 | -0.016 | 2172 | NC | | 0.0 | 33.1 | |
| D 25 13C4 PFOA | 417.00 > 372.00 | 7.837 | 7.856 | -0.019 | 3708177 | 0.0554 | | 111 | 24787 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | RM |
| 413.00 > 369.00 | 7.837 | 7.856 | -0.019 | 1.000 | 7663 | 0.000114 | Target=1.55 | 1.4 | | RM |
| 413.00 > 169.00 | 7.837 | 7.856 | -0.019 | 1.000 | 3187 | | 2.40(0.78-2.33) | 23.8 | | M |
| D 26 13C4 PFOS | 503.00 > 80.00 | 8.410 | 8.448 | -0.038 | 1147277 | 0.0504 | | 106 | 10934 | |
| D 28 13C5 PFNA | 468.00 > 423.00 | 8.444 | 8.465 | -0.021 | 2821723 | 0.0568 | | 114 | 14243 | |

QC Flag Legend

Processing Flags

NC - Not Calibrated

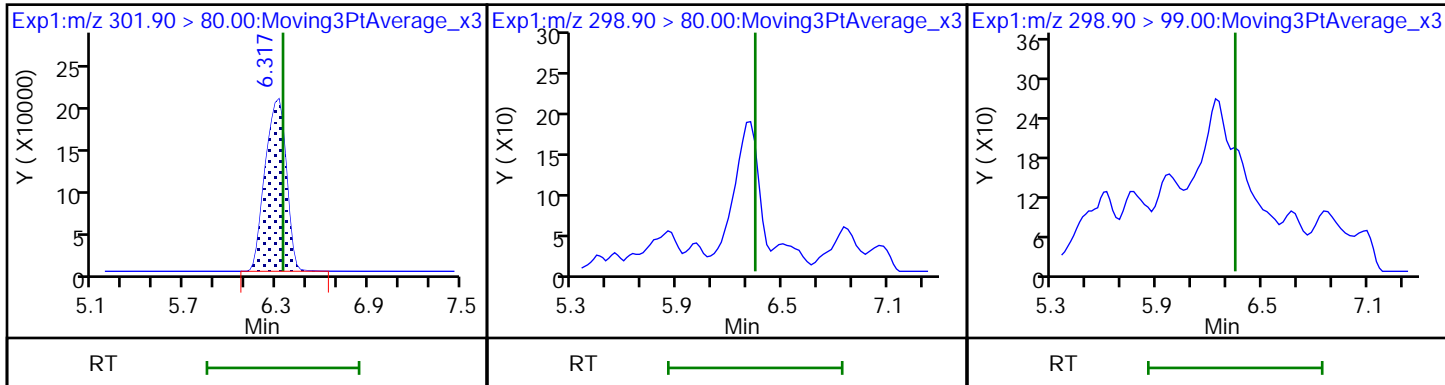
R - Failed Signal Ratio Test

Review Flags

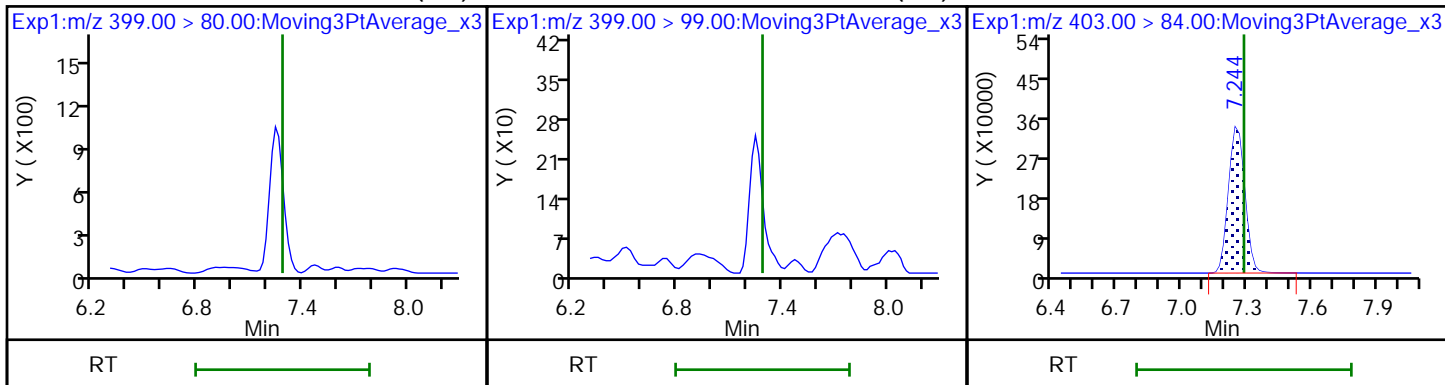
M - Manually Integrated

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_023.d
Injection Date: 13-Feb-2021 15:22:07 Instrument ID: A10
Lims ID: 320-69953-B-1-A Lab Sample ID: 320-69953-1
Client ID: Effluent
Operator ID: Sac_inst_A10 ALS Bottle#: 23 Worklist Smp#: 16
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL

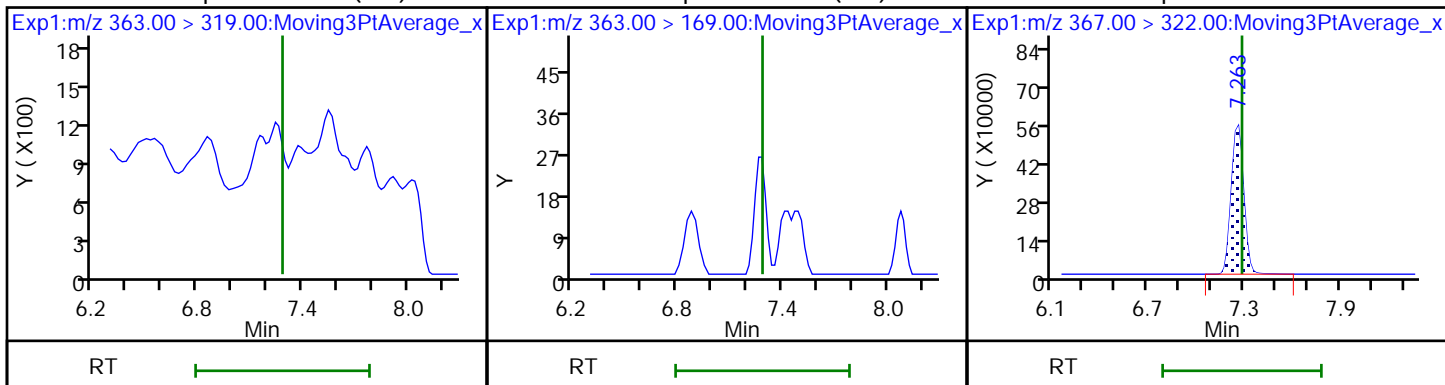
D 3 13C3 PFBS 6 Perfluorobutanesulfonic acid (ND) 6 Perfluorobutanesulfonic acid (ND)



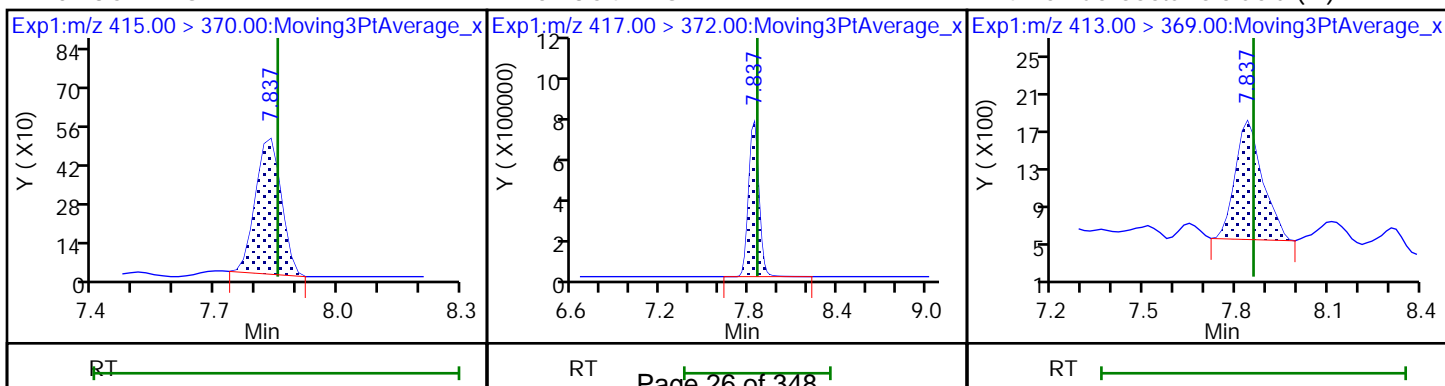
16 Perfluorohexanesulfonic acid (ND) 16 Perfluorohexanesulfonic acid (ND) D 15 18O2 PFHxS



18 Perfluoroheptanoic acid (ND) 18 Perfluoroheptanoic acid (ND) D 17 13C4 PFHpA



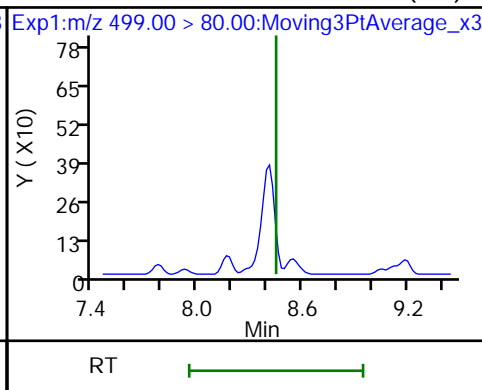
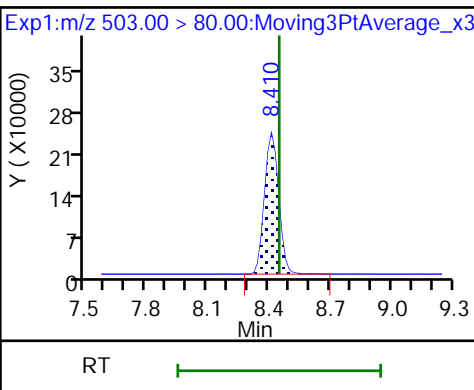
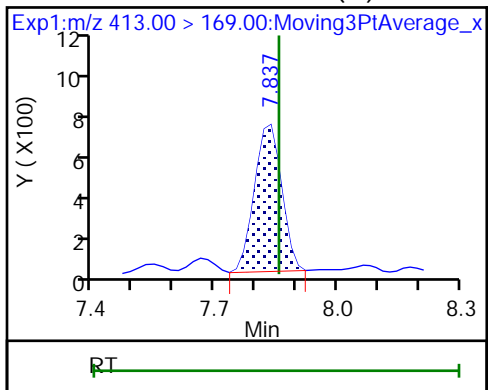
D 20 13C2 PFOA D 25 13C4 PFOA 24 Perfluorooctanoic acid (M)



24 Perfluorooctanoic acid (M)

D 26 13C4 PFOS

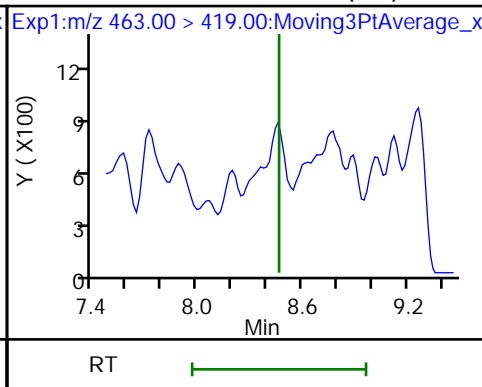
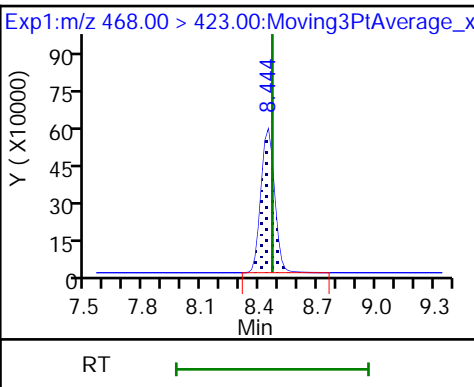
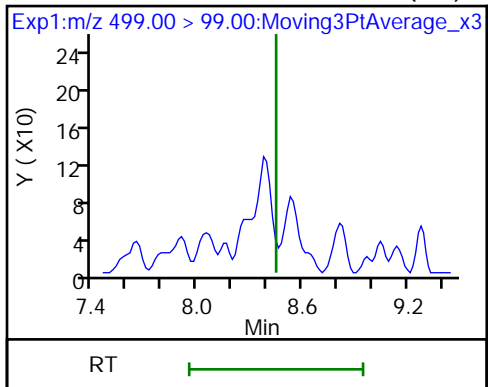
27 Perfluorooctanesulfonic acid (ND)



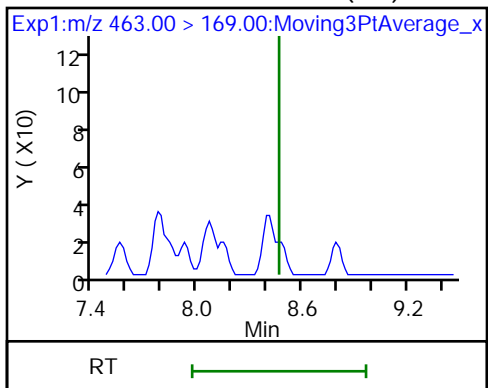
27 Perfluorooctanesulfonic acid (ND)

D 28 13C5 PFNA

29 Perfluorononanoic acid (ND)



29 Perfluorononanoic acid (ND)



Eurofins TestAmerica, Sacramento

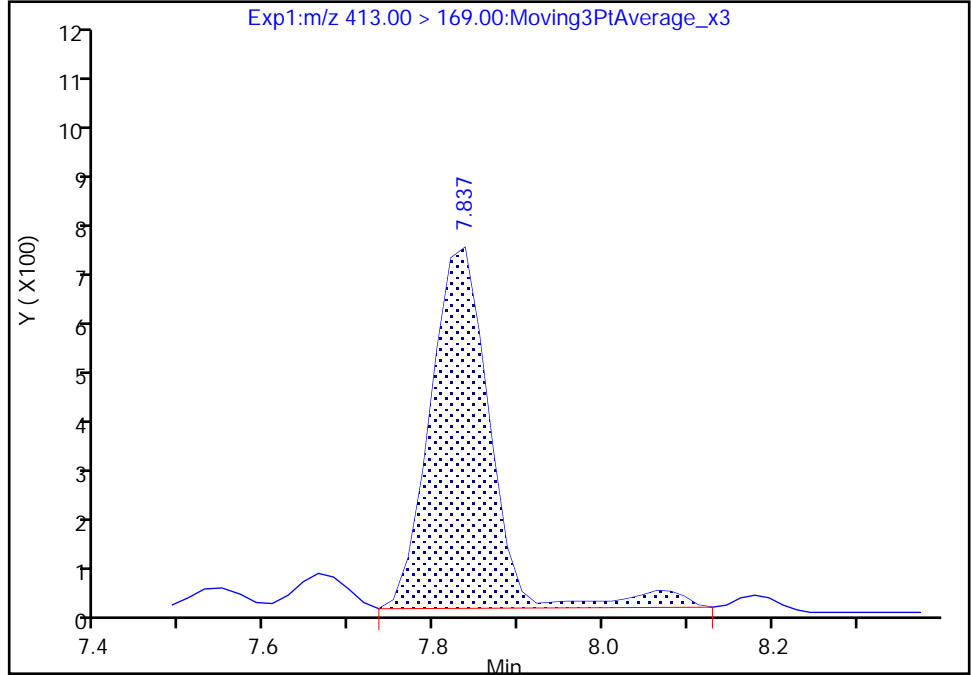
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Injection Date: 13-Feb-2021 15:22:07 Instrument ID: A10
Lims ID: 320-69953-B-1-A Lab Sample ID: 320-69953-1
Client ID: Effluent
Operator ID: Sac_inst_A10 ALS Bottle#: 23 Worklist Smp#: 16
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

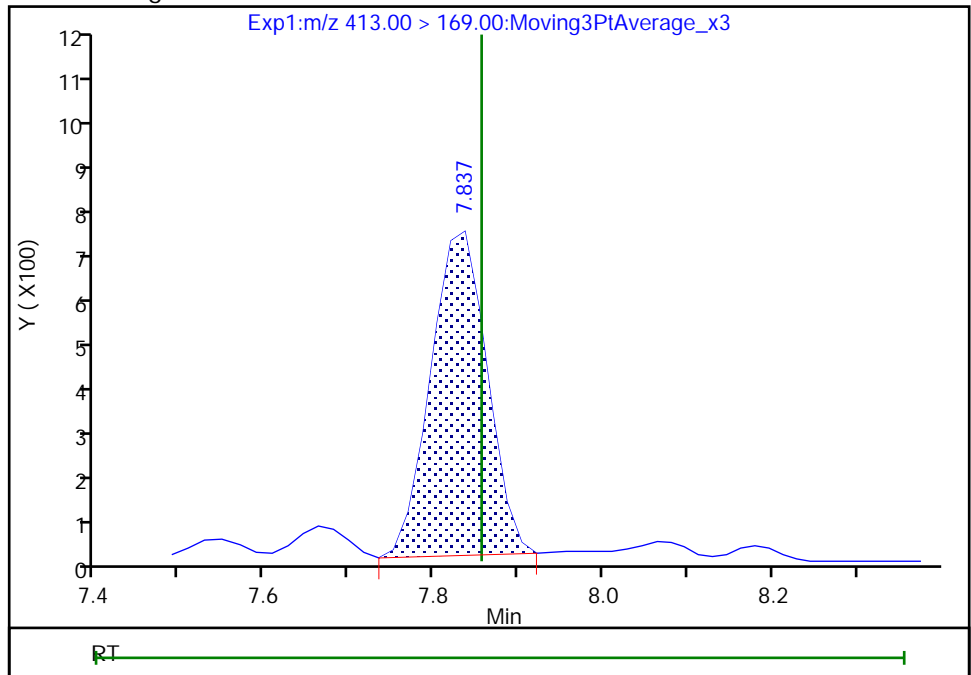
RT: 7.84
Area: 3433
Amount: 0.000137
Amount Units: ng/ml

Processing Integration Results



RT: 7.84
Area: 3187
Amount: 0.000114
Amount Units: ng/ml

Manual Integration Results



Reviewer: ruangyotsakuld, 15-Feb-2021 04:29:40

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins TestAmerica, Sacramento

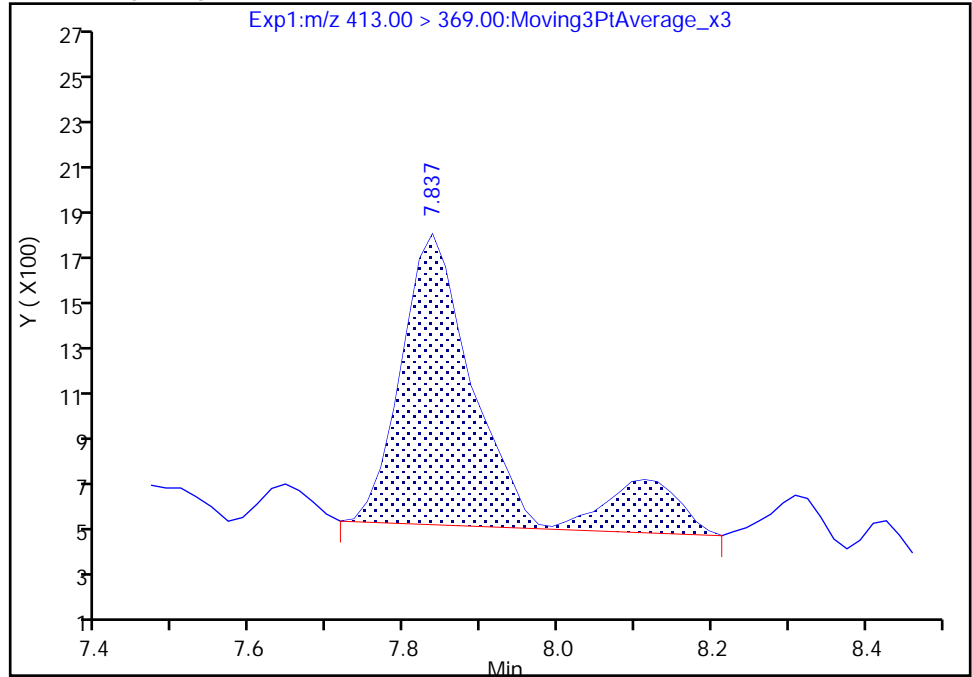
Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_023.d
Injection Date: 13-Feb-2021 15:22:07 Instrument ID: A10
Lims ID: 320-69953-B-1-A Lab Sample ID: 320-69953-1
Client ID: Effluent
Operator ID: Sac_inst_A10 ALS Bottle#: 23 Worklist Smp#: 16
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

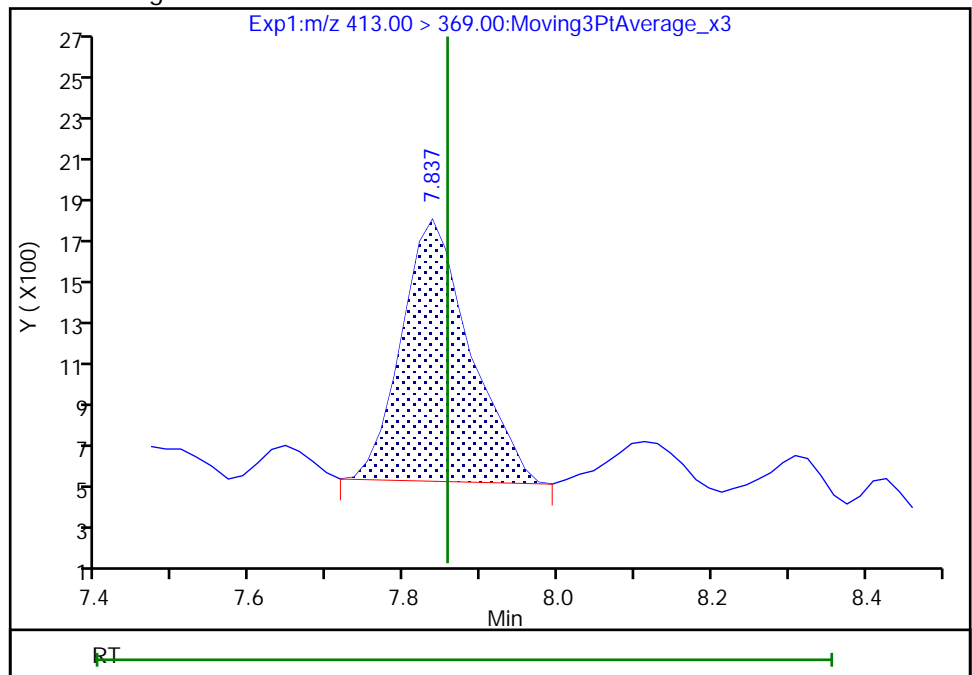
RT: 7.84
Area: 9266
Amount: 0.000137
Amount Units: ng/ml

Processing Integration Results



RT: 7.84
Area: 7663
Amount: 0.000114
Amount Units: ng/ml

Manual Integration Results



Reviewer: ruangyotsakuld, 15-Feb-2021 04:29:42

Audit Action: Manually Integrated

Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Client Sample ID: Mid Point Lab Sample ID: 320-69953-2
 Matrix: Water Lab File ID: 2021.02.13_A10_DI_A_024.d
 Analysis Method: WS-LC-0025 Att1 Date Collected: 02/09/2021 11:30
 Extraction Method: PFAS Prep Date Extracted: 02/12/2021 12:41
 Sample wt/vol: 1.00 (mL) Date Analyzed: 02/13/2021 15:40
 Con. Extract Vol.: 1.66 (mL) Dilution Factor: 1
 Injection Volume: 950 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 461813 Units: ng/L

| CAS NO. | COMPOUND NAME | RESULT | Q | RL | |
|-----------|--------------------------------------|--------|---|-----|--|
| 375-73-5 | Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | |
| 355-46-4 | Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | |
| 375-85-9 | Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | |
| 335-67-1 | Perfluorooctanoic acid (PFOA) | ND | | 2.0 | |
| 1763-23-1 | Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | |
| 375-95-1 | Perfluorononanoic acid (PFNA) | ND | | 2.0 | |

| CAS NO. | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00994 | 18O2 PFHxS | 102 | | 25-150 |
| STL01892 | 13C4 PFHpA | 107 | | 25-150 |
| STL00990 | 13C4 PFOA | 102 | | 70-130 |
| STL00991 | 13C4 PFOS | 98 | | 70-130 |
| STL00995 | 13C5 PFNA | 105 | | 25-150 |
| STL02337 | 13C3 PFBS | 97 | | 25-150 |

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_024.d
 Lims ID: 320-69953-B-2-A
 Client ID: Mid Point
 Sample Type: Client
 Inject. Date: 13-Feb-2021 15:40:34 ALS Bottle#: 24 Worklist Smp#: 17
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: 320-69953-b-2-a
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Method: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 15-Feb-2021 04:30:16 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1652

First Level Reviewer: ruangyotsakuld Date: 15-Feb-2021 04:30:16
 Ratio Calibration: CCV Sample: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_020.d

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------|-----------------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 3 13C3 PFBS | 301.90 > 80.00 | 6.316 | 6.343 | -0.027 | 1836804 | 0.0451 | | 96.9 | 9697 | |
| D 15 18O2 PFHxS | 403.00 > 84.00 | 7.244 | 7.285 | -0.041 | 1586150 | 0.0483 | | 102 | 13799 | |
| D 17 13C4 PFHpA | 367.00 > 322.00 | 7.244 | 7.285 | -0.041 | 2676375 | 0.0535 | | 107 | 16647 | |
| D 20 13C2 PFOA | 415.00 > 370.00 | 7.820 | 7.853 | -0.033 | 1945 | NC | | 0.0 | 26.4 | |
| D 25 13C4 PFOA | 417.00 > 372.00 | 7.820 | 7.856 | -0.036 | 3398312 | 0.0508 | | 102 | 17533 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | M |
| 413.00 > 369.00 | 7.820 | 7.856 | -0.036 | 1.000 | 7471 | 0.000121 | Target=1.55 | 1.1 | M | |
| 413.00 > 169.00 | 7.820 | 7.856 | -0.036 | 1.000 | 3285 | | 2.27(0.78-2.33) | 24.3 | M | |
| D 26 13C4 PFOS | 503.00 > 80.00 | 8.393 | 8.448 | -0.055 | 1068430 | 0.0470 | | 98.3 | 10772 | |
| D 28 13C5 PFNA | 468.00 > 423.00 | 8.427 | 8.465 | -0.038 | 2617887 | 0.0527 | | 105 | 17646 | |

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

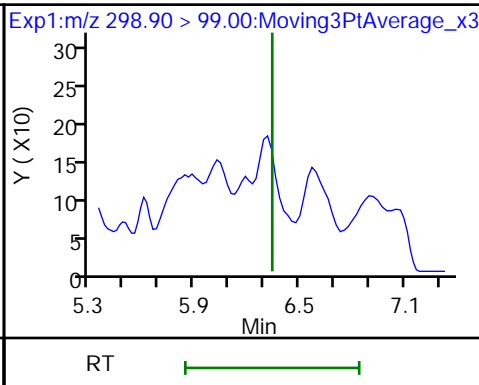
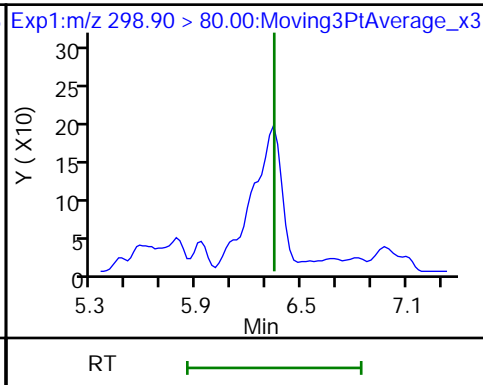
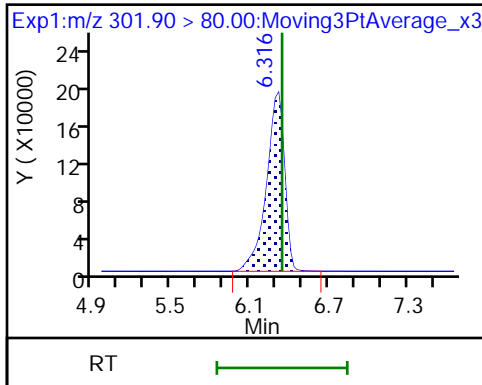
M - Manually Integrated

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_024.d
Injection Date: 13-Feb-2021 15:40:34 Instrument ID: A10
Lims ID: 320-69953-B-2-A Lab Sample ID: 320-69953-2
Client ID: Mid Point
Operator ID: Sac_inst_A10 ALS Bottle#: 24 Worklist Smp#: 17
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL

D 3 13C3 PFBS

6 Perfluorobutanesulfonic acid (ND)

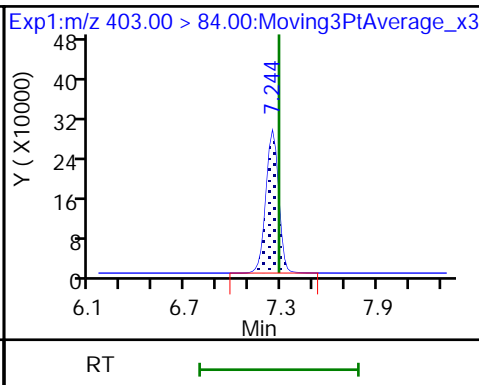
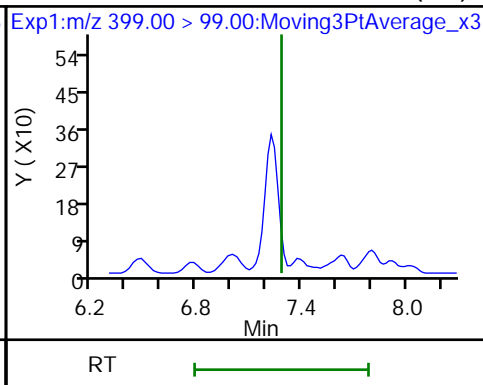
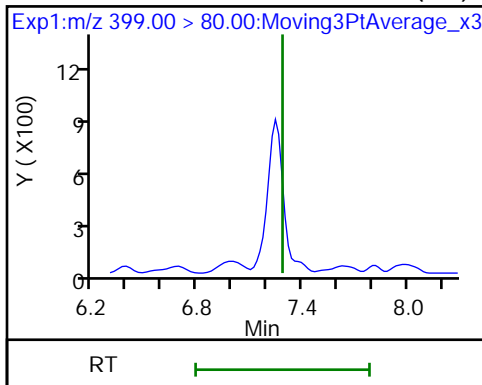
6 Perfluorobutanesulfonic acid (ND)



16 Perfluorohexanesulfonic acid (ND)

16 Perfluorohexanesulfonic acid (ND)

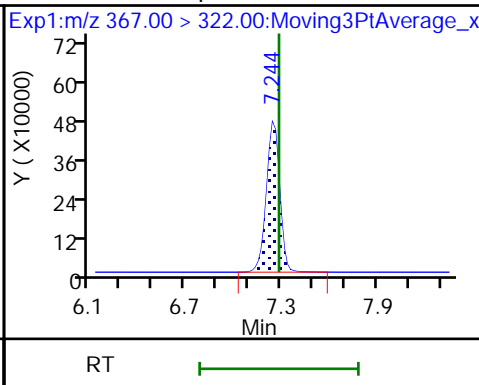
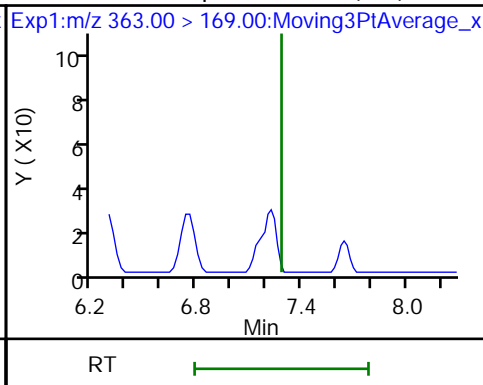
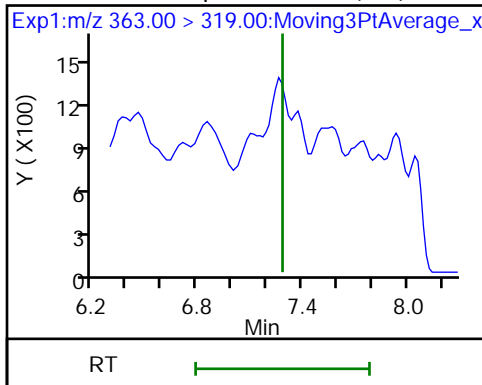
D 15 18O2 PFHxS



18 Perfluoroheptanoic acid (ND)

18 Perfluoroheptanoic acid (ND)

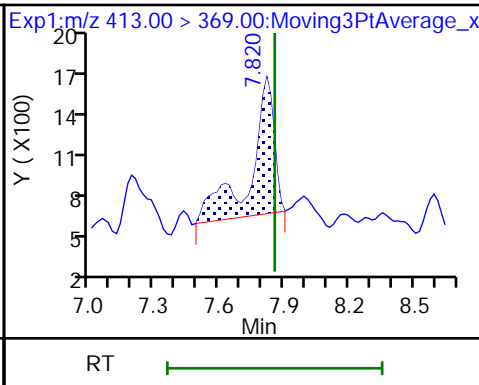
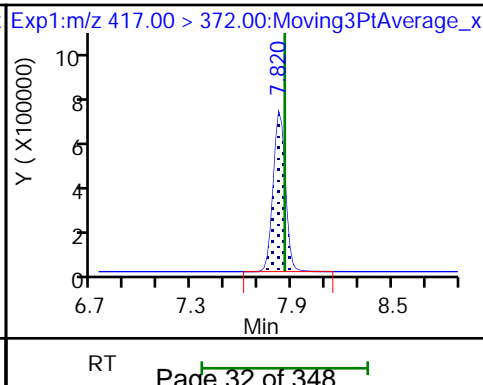
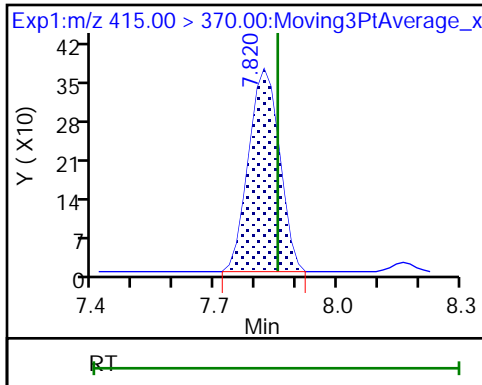
D 17 13C4 PFHpA



D 20 13C2 PFOA

D 25 13C4 PFOA

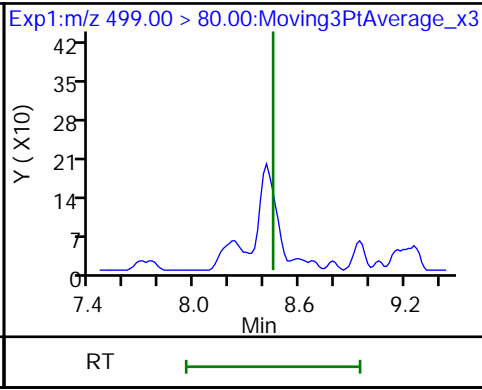
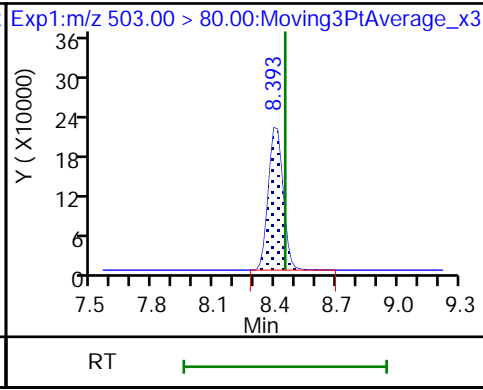
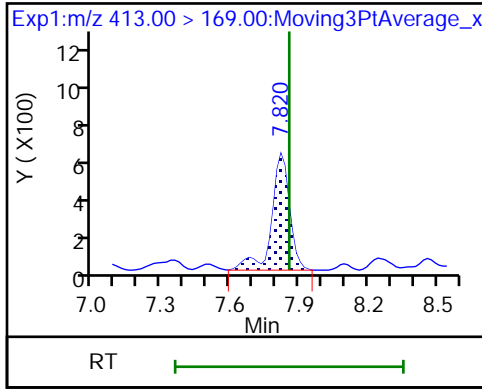
24 Perfluorooctanoic acid (M)



24 Perfluorooctanoic acid (M)

D 26 13C4 PFOS

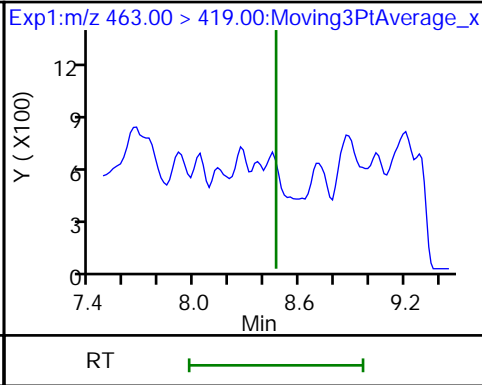
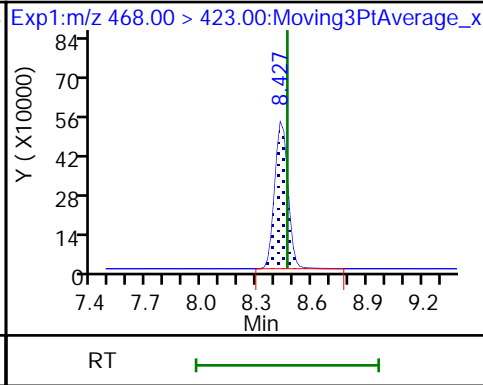
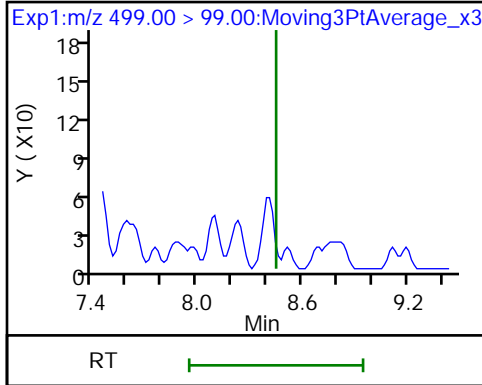
27 Perfluorooctanesulfonic acid (ND)



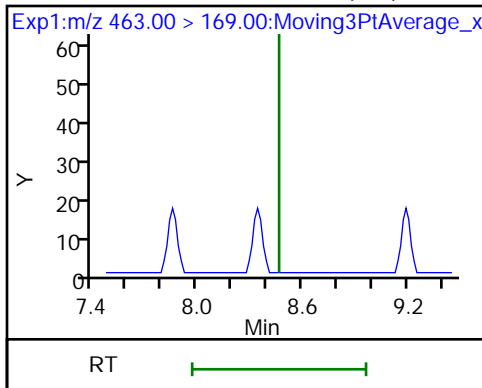
27 Perfluorooctanesulfonic acid (ND)

D 28 13C5 PFNA

29 Perfluorononanoic acid (ND)



29 Perfluorononanoic acid (ND)



Eurofins TestAmerica, Sacramento

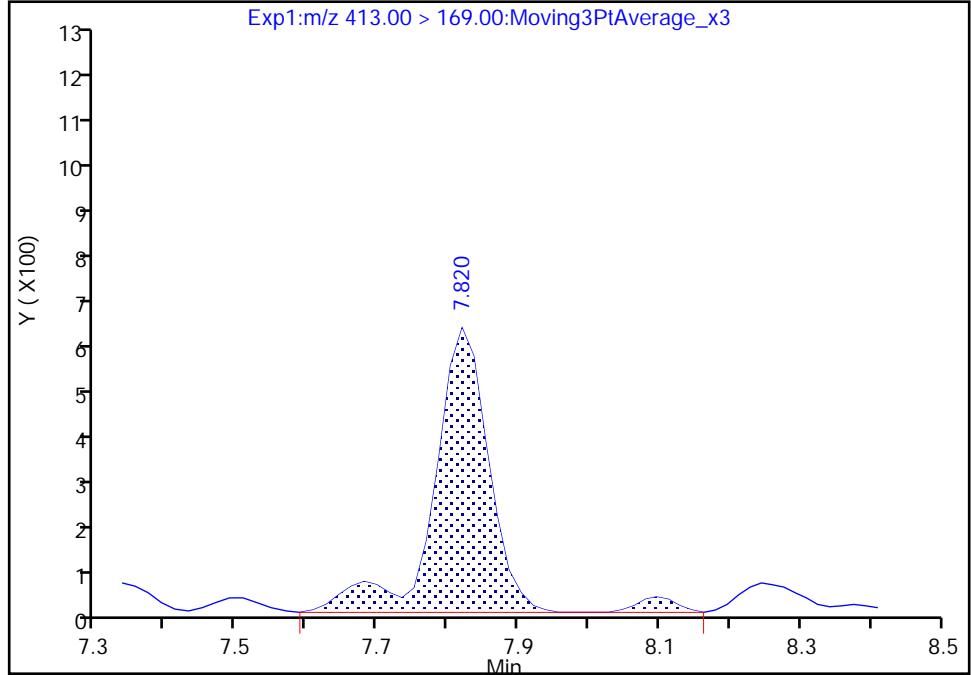
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Injection Date: 13-Feb-2021 15:40:34 Instrument ID: A10
Lims ID: 320-69953-B-2-A Lab Sample ID: 320-69953-2
Client ID: Mid Point
Operator ID: Sac_inst_A10 ALS Bottle#: 24 Worklist Smp#: 17
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

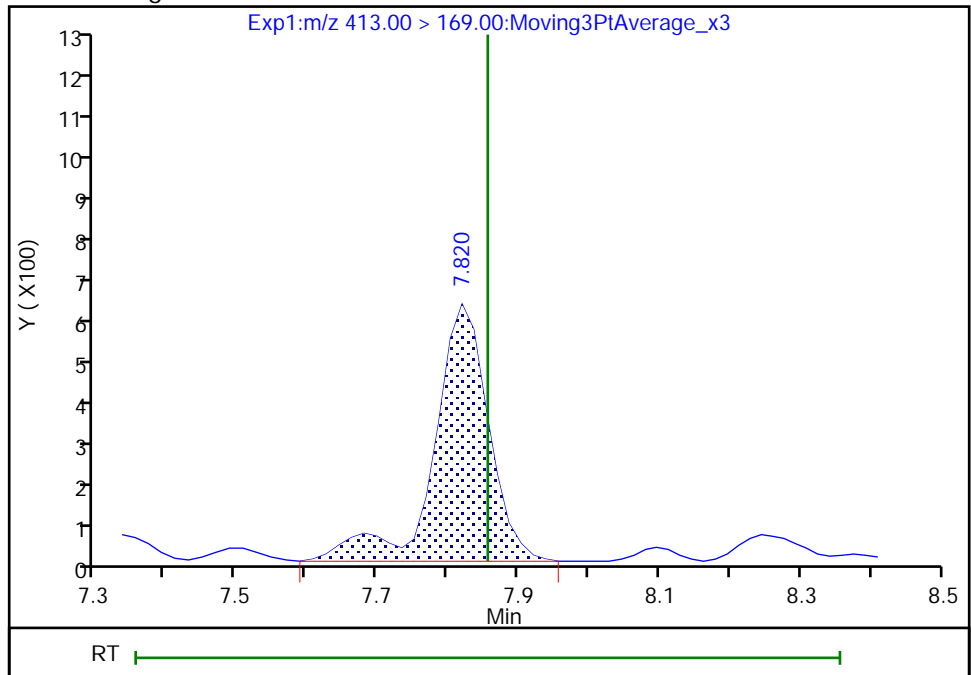
RT: 7.82
Area: 3410
Amount: 0.000123
Amount Units: ng/ml

Processing Integration Results



RT: 7.82
Area: 3285
Amount: 0.000121
Amount Units: ng/ml

Manual Integration Results



Reviewer: ruangyotsakuld, 15-Feb-2021 04:30:06

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins TestAmerica, Sacramento

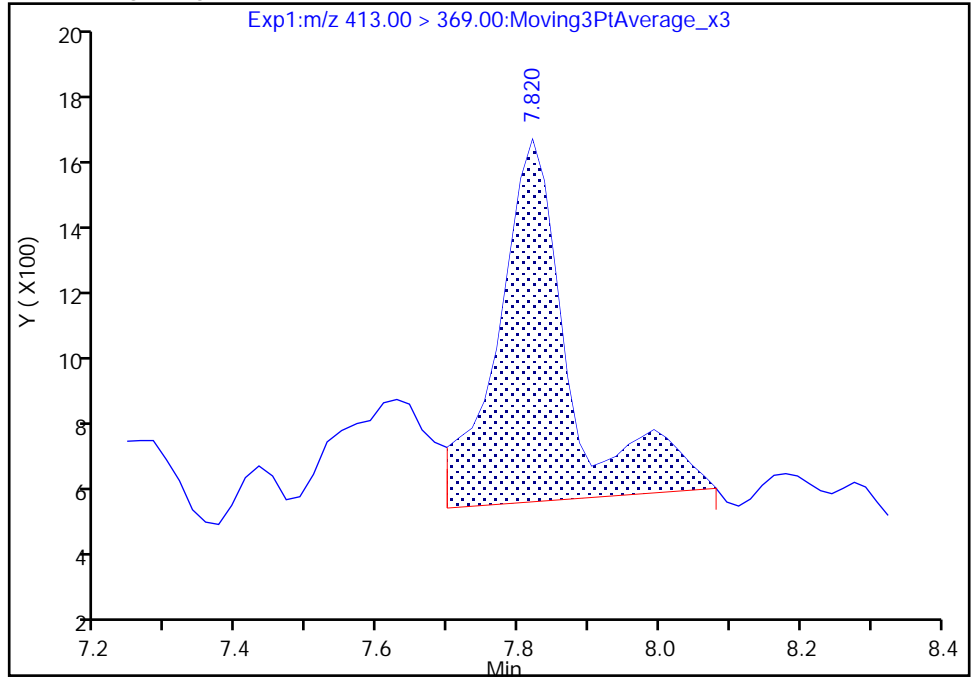
Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_024.d
Injection Date: 13-Feb-2021 15:40:34 Instrument ID: A10
Lims ID: 320-69953-B-2-A Lab Sample ID: 320-69953-2
Client ID: Mid Point
Operator ID: Sac_inst_A10 ALS Bottle#: 24 Worklist Smp#: 17
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

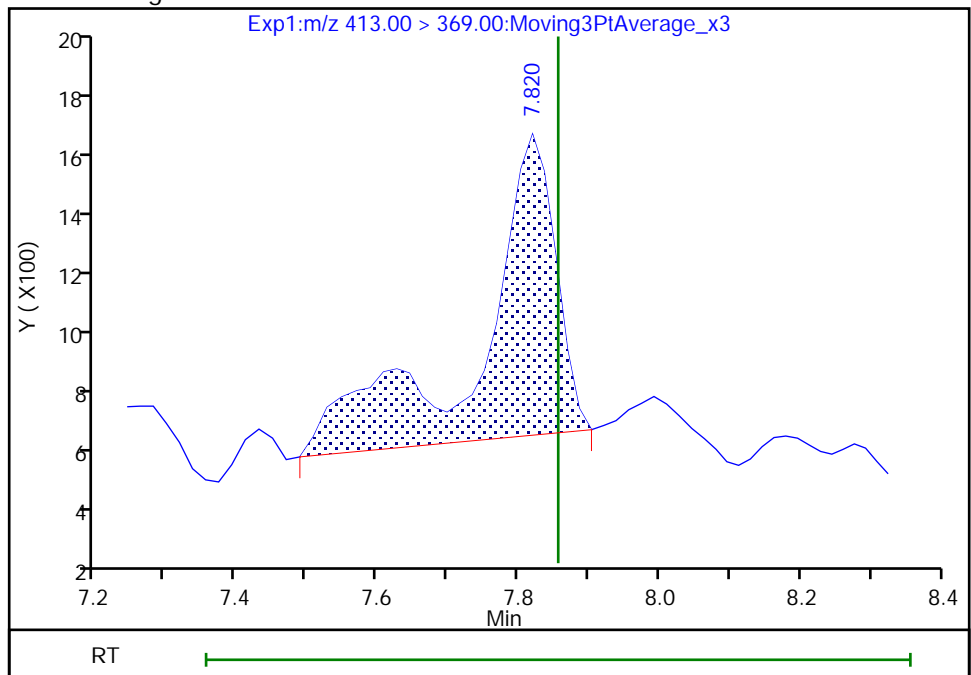
RT: 7.82
Area: 7604
Amount: 0.000123
Amount Units: ng/ml

Processing Integration Results



RT: 7.82
Area: 7471
Amount: 0.000121
Amount Units: ng/ml

Manual Integration Results



Reviewer: ruangyotsakuld, 15-Feb-2021 04:30:09

Audit Action: Manually Integrated

Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Client Sample ID: Raw Water Lab Sample ID: 320-69953-3
 Matrix: Water Lab File ID: 2021.02.13_A10_DI_A_025.d
 Analysis Method: WS-LC-0025 Att1 Date Collected: 02/09/2021 11:50
 Extraction Method: PFAS Prep Date Extracted: 02/12/2021 12:41
 Sample wt/vol: 1.00 (mL) Date Analyzed: 02/13/2021 15:59
 Con. Extract Vol.: 1.66 (mL) Dilution Factor: 1
 Injection Volume: 950 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 461813 Units: ng/L

| CAS NO. | COMPOUND NAME | RESULT | Q | RL | |
|-----------|--------------------------------------|--------|---|-----|--|
| 375-73-5 | Perfluorobutanesulfonic acid (PFBS) | 4.8 | | 2.0 | |
| 355-46-4 | Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | |
| 375-85-9 | Perfluoroheptanoic acid (PFHpA) | 2.2 | | 2.0 | |
| 335-67-1 | Perfluorooctanoic acid (PFOA) | 7.5 | | 2.0 | |
| 1763-23-1 | Perfluorooctanesulfonic acid (PFOS) | 6.7 | | 2.0 | |
| 375-95-1 | Perfluorononanoic acid (PFNA) | ND | | 2.0 | |

| CAS NO. | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00994 | 18O2 PFHxS | 109 | | 25-150 |
| STL01892 | 13C4 PFHpA | 113 | | 25-150 |
| STL00990 | 13C4 PFOA | 110 | | 70-130 |
| STL00991 | 13C4 PFOS | 108 | | 70-130 |
| STL00995 | 13C5 PFNA | 115 | | 25-150 |
| STL02337 | 13C3 PFBS | 98 | | 25-150 |

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_025.d
 Lims ID: 320-69953-B-3-A
 Client ID: Raw Water
 Sample Type: Client
 Inject. Date: 13-Feb-2021 15:59:00 ALS Bottle#: 25 Worklist Smp#: 18
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: 320-69953-b-3-a
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Method: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 15-Feb-2021 04:31:10 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1652

First Level Reviewer: ruangyotsakuld Date: 15-Feb-2021 04:31:10
 Ratio Calibration: CCV Sample: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_020.d

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------|----|--------|--------|--------|----------|--------------|---------------|------|-----|-------|
|--------|----|--------|--------|--------|----------|--------------|---------------|------|-----|-------|

D 3 13C3 PFBS

| | | | | | | | | | | |
|--------------------------------|-------|-------|--------|-------|---------|----------|-----------------|------|------|--|
| 301.90 > 80.00 | 6.316 | 6.343 | -0.027 | | 1864837 | 0.0458 | | 98.4 | 2653 | |
| 6 Perfluorobutanesulfonic acid | | | | | | | | | | |
| 298.90 > 80.00 | 6.316 | 6.343 | -0.027 | 1.000 | 122086 | 0.002904 | Target=1.47 | | 64.7 | |
| 298.90 > 99.00 | 6.316 | 6.343 | -0.027 | 1.000 | 85643 | | 1.43(0.73-2.20) | | 64.8 | |

16 Perfluorohexanesulfonic acid

| | | | | | | | | | | |
|----------------|-------|-------|--------|-------|-------|----------|-----------------|--|------|---|
| 399.00 > 80.00 | 7.244 | 7.285 | -0.041 | 1.000 | 43897 | 0.001074 | Target=5.86 | | 21.9 | M |
| 399.00 > 99.00 | 7.244 | 7.285 | -0.041 | 1.000 | 7063 | | 6.22(2.93-8.79) | | 11.5 | |

D 15 18O2 PFHxS

| | | | | | | | | | | |
|----------------------------|-------|-------|--------|-------|---------|----------|-------------------|-----|-------|---|
| 403.00 > 84.00 | 7.244 | 7.285 | -0.041 | | 1697416 | 0.0517 | | 109 | 15640 | |
| 18 Perfluoroheptanoic acid | | | | | | | | | | |
| 363.00 > 319.00 | 7.263 | 7.285 | -0.022 | 1.000 | 73414 | 0.001326 | Target=8.93 | | 7.4 | M |
| 363.00 > 169.00 | 7.263 | 7.285 | -0.022 | 1.000 | 6834 | | 10.74(4.46-13.39) | | 45.1 | M |

D 17 13C4 PFHpA

| | | | | | | | | | | |
|-----------------|-------|-------|--------|--|---------|--------|--|-----|-------|--|
| 367.00 > 322.00 | 7.263 | 7.285 | -0.022 | | 2837682 | 0.0567 | | 113 | 13775 | |
|-----------------|-------|-------|--------|--|---------|--------|--|-----|-------|--|

D 20 13C2 PFOA

| | | | | | | | | | | |
|-----------------|-------|-------|--------|--|------|----|--|-----|------|--|
| 415.00 > 370.00 | 7.836 | 7.853 | -0.017 | | 2170 | NC | | 0.0 | 25.5 | |
|-----------------|-------|-------|--------|--|------|----|--|-----|------|--|

D 25 13C4 PFOA

| | | | | | | | | | | |
|---------------------------|-------|-------|--------|-------|---------|----------|-----------------|-----|-------|---|
| 417.00 > 372.00 | 7.836 | 7.856 | -0.020 | | 3693622 | 0.0552 | | 110 | 17778 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | |
| 413.00 > 369.00 | 7.836 | 7.856 | -0.020 | 1.000 | 302611 | 0.004500 | Target=1.55 | | 46.4 | M |
| 413.00 > 169.00 | 7.836 | 7.856 | -0.020 | 1.000 | 205658 | | 1.47(0.78-2.33) | | 538 | |

D 26 13C4 PFOS

| | | | | | | | | | | |
|---------------------------------|-------|-------|--------|-------|---------|----------|-----------------|-----|------|--|
| 503.00 > 80.00 | 8.410 | 8.448 | -0.038 | | 1172639 | 0.0516 | | 108 | 5696 | |
| 27 Perfluorooctanesulfonic acid | | | | | | | | | | |
| 499.00 > 80.00 | 8.410 | 8.448 | -0.038 | 1.000 | 100765 | 0.004030 | Target=3.56 | | 228 | |
| 499.00 > 99.00 | 8.410 | 8.448 | -0.038 | 1.000 | 24329 | | 4.14(1.78-5.34) | | 78.9 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------|-------|--------|--------|--------|----------|--------------|------------------|------|-------|-------|
| D 28 13C5 PFNA | | | | | | | | | | |
| 468.00 > 423.00 | 8.444 | 8.465 | -0.021 | | 2862099 | 0.0576 | | 115 | 17259 | |
| 29 Perfluorononanoic acid | | | | | | | | | | |
| 463.00 > 419.00 | 8.444 | 8.465 | -0.021 | 1.000 | 18323 | 0.000337 | Target=7.43 | | 6.1 | |
| 463.00 > 169.00 | 8.444 | 8.465 | -0.021 | 1.000 | 2701 | | 6.78(3.71-11.14) | | 21.1 | |

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

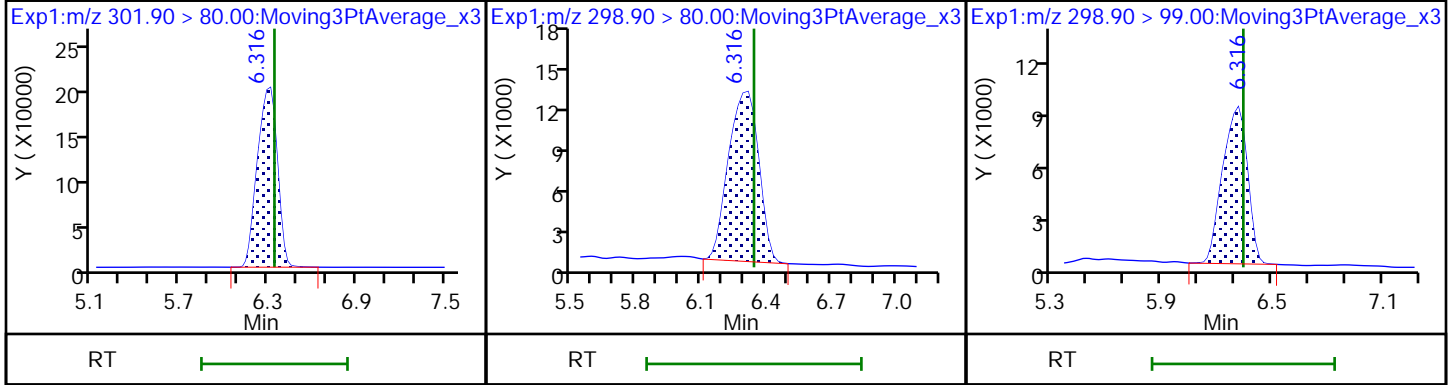
M - Manually Integrated

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_025.d
Injection Date: 13-Feb-2021 15:59:00 Instrument ID: A10
Lims ID: 320-69953-B-3-A Lab Sample ID: 320-69953-3
Client ID: Raw Water
Operator ID: Sac_inst_A10 ALS Bottle#: 25 Worklist Smp#: 18
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL

D 3 13C3 PFBS

6 Perfluorobutanesulfonic acid

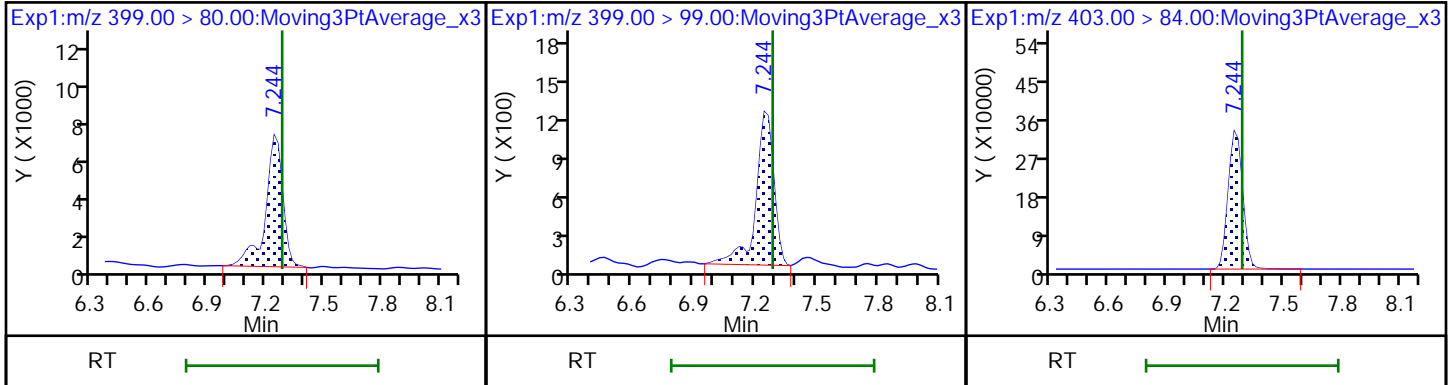
6 Perfluorobutanesulfonic acid



16 Perfluorohexanesulfonic acid (M)

16 Perfluorohexanesulfonic acid

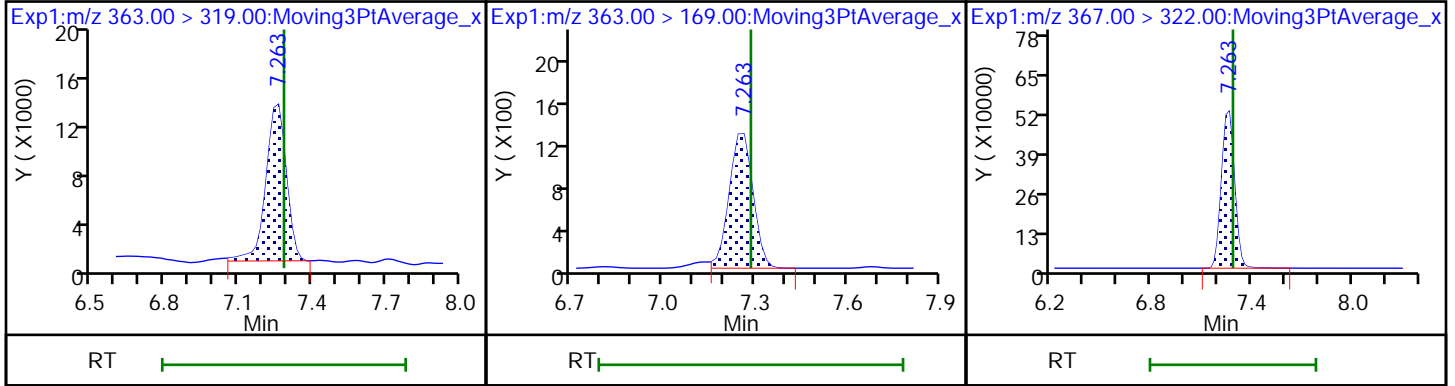
D 15 18O2 PFHxS



18 Perfluoroheptanoic acid (M)

18 Perfluoroheptanoic acid (M)

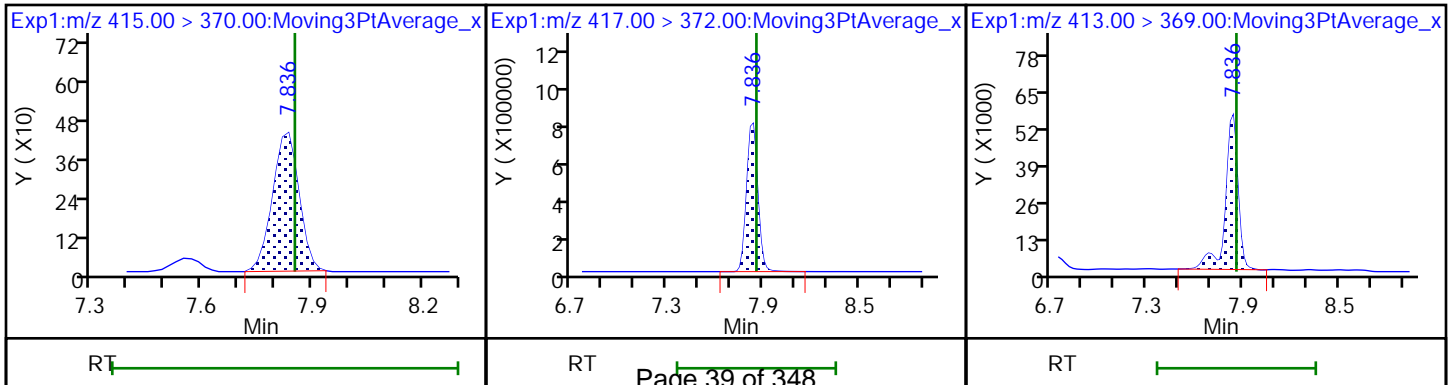
D 17 13C4 PFHpA



D 20 13C2 PFOA

D 25 13C4 PFOA

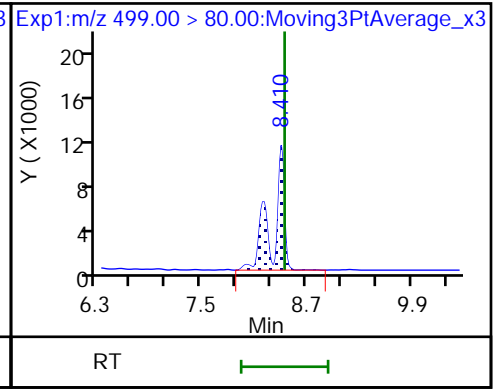
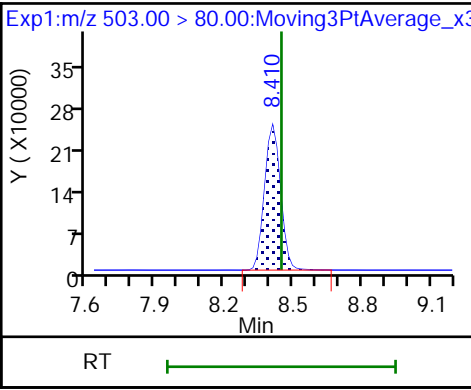
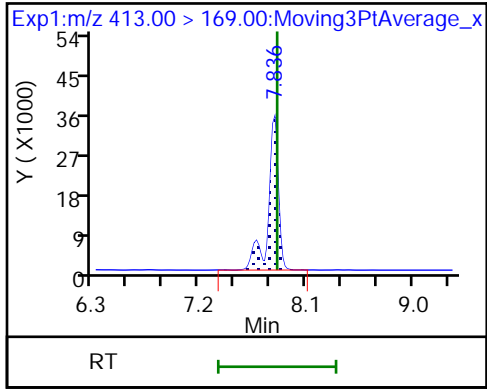
24 Perfluorooctanoic acid (M)



24 Perfluorooctanoic acid

D 26 13C4 PFOS

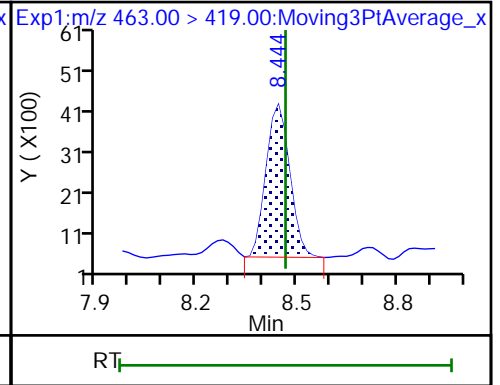
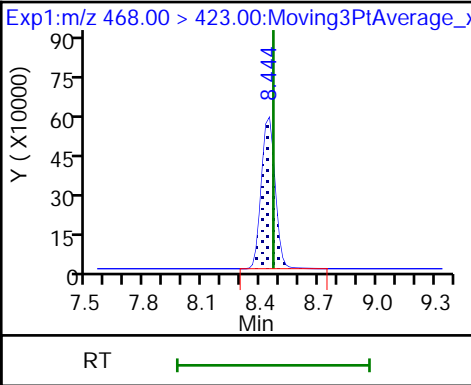
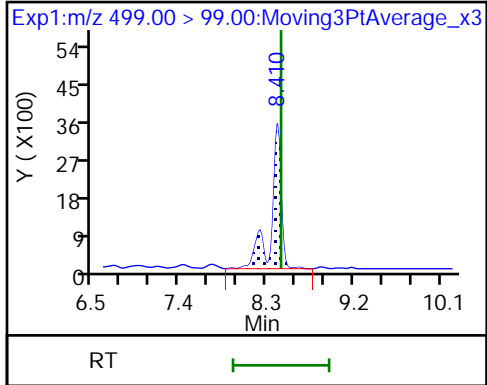
27 Perfluorooctanesulfonic acid



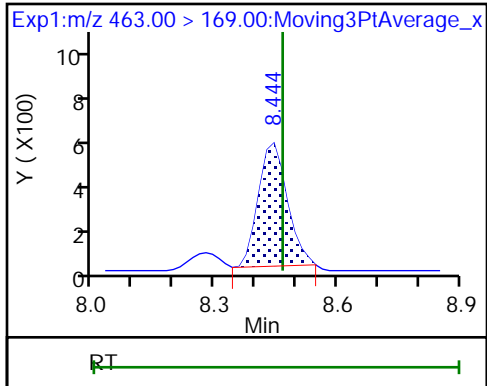
27 Perfluorooctanesulfonic acid

D 28 13C5 PFNA

29 Perfluorononanoic acid



29 Perfluorononanoic acid



Eurofins TestAmerica, Sacramento

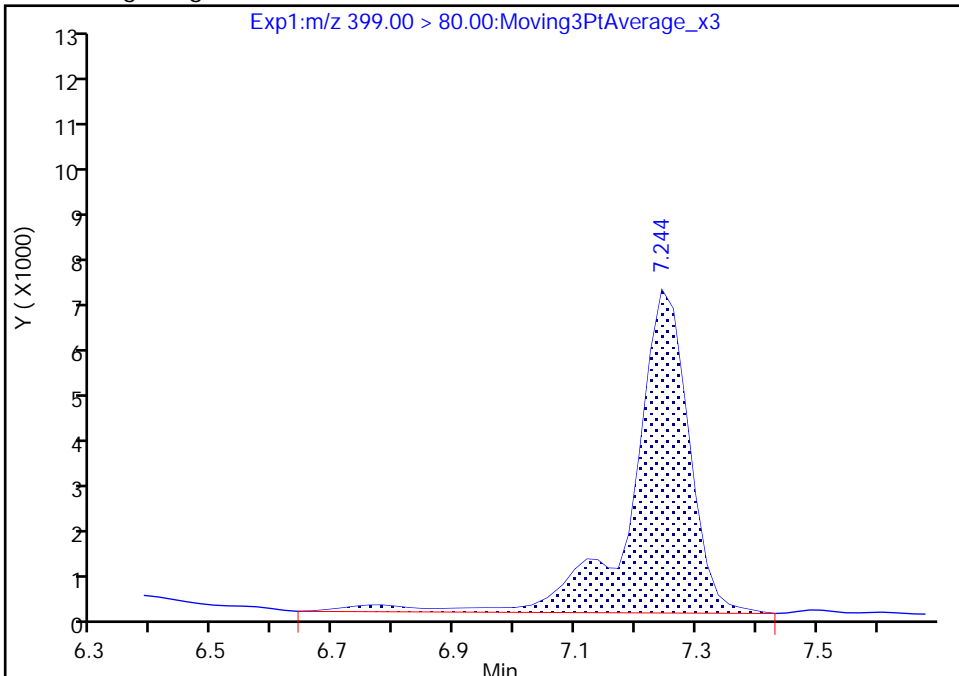
Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_025.d
Injection Date: 13-Feb-2021 15:59:00 Instrument ID: A10
Lims ID: 320-69953-B-3-A Lab Sample ID: 320-69953-3
Client ID: Raw Water
Operator ID: Sac_inst_A10 ALS Bottle#: 25 Worklist Smp#: 18
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

16 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

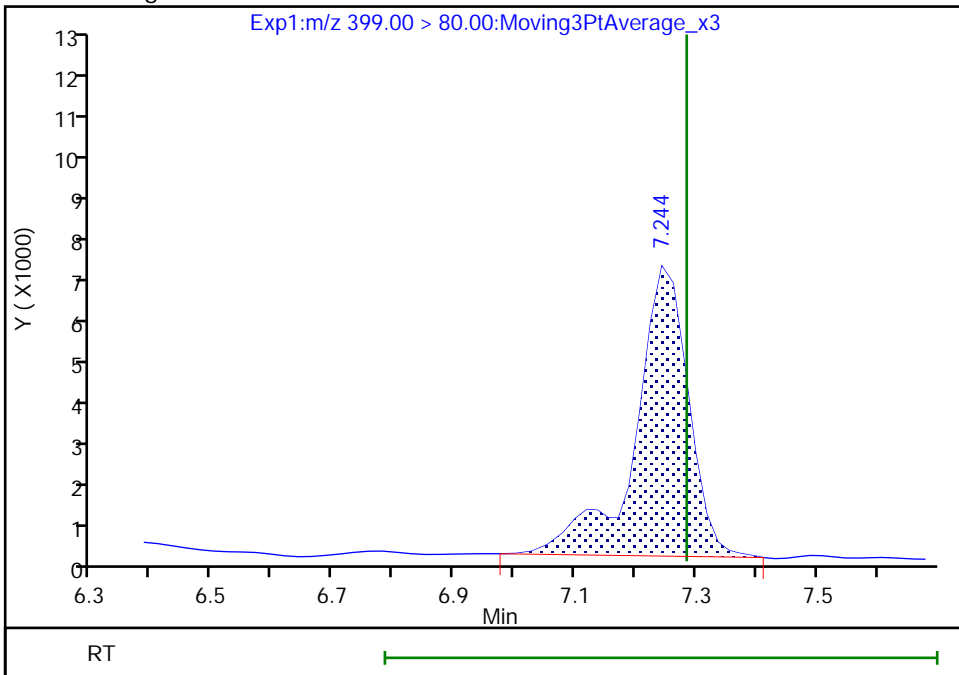
RT: 7.24
Area: 47137
Amount: 0.001153
Amount Units: ng/ml

Processing Integration Results



RT: 7.24
Area: 43897
Amount: 0.001074
Amount Units: ng/ml

Manual Integration Results



Eurofins TestAmerica, Sacramento

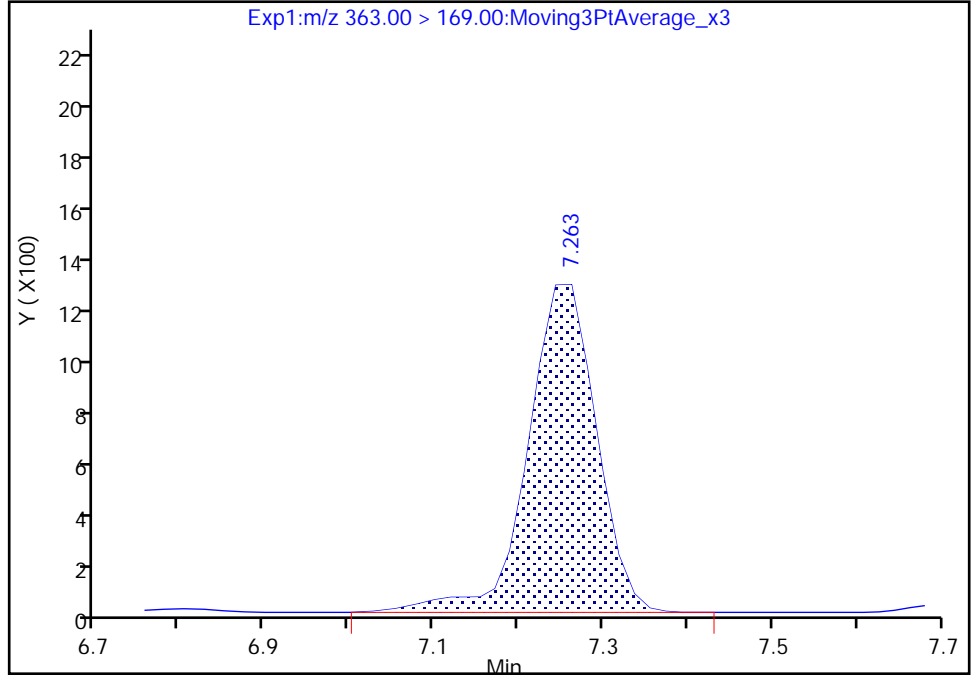
Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_025.d
Injection Date: 13-Feb-2021 15:59:00 Instrument ID: A10
Lims ID: 320-69953-B-3-A Lab Sample ID: 320-69953-3
Client ID: Raw Water
Operator ID: Sac_inst_A10 ALS Bottle#: 25 Worklist Smp#: 18
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

18 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 2

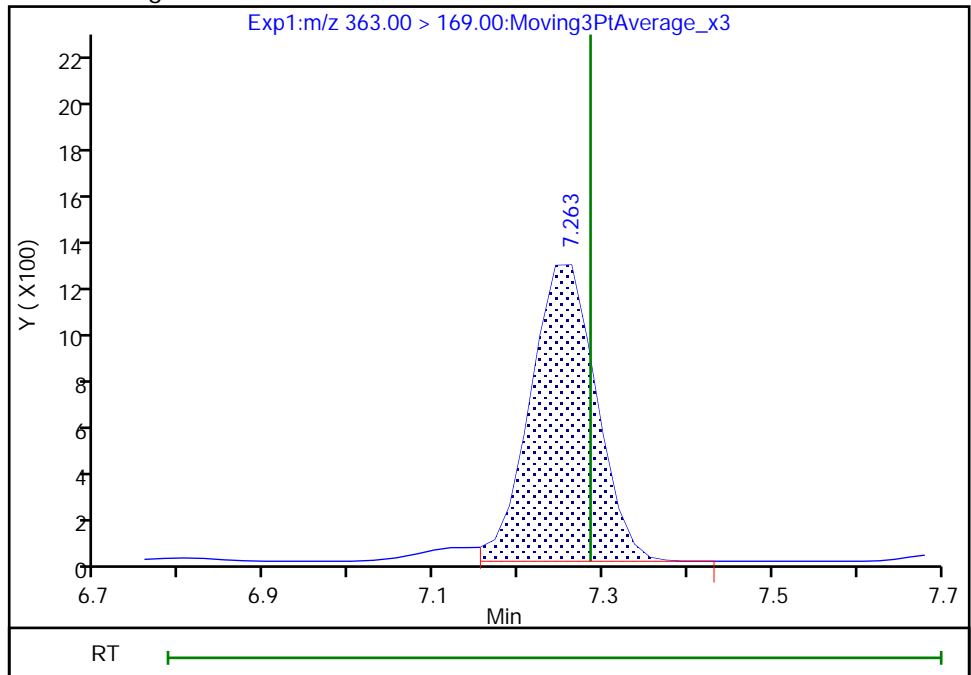
RT: 7.26
Area: 7119
Amount: 0.001412
Amount Units: ng/ml

Processing Integration Results



RT: 7.26
Area: 6834
Amount: 0.001326
Amount Units: ng/ml

Manual Integration Results



Eurofins TestAmerica, Sacramento

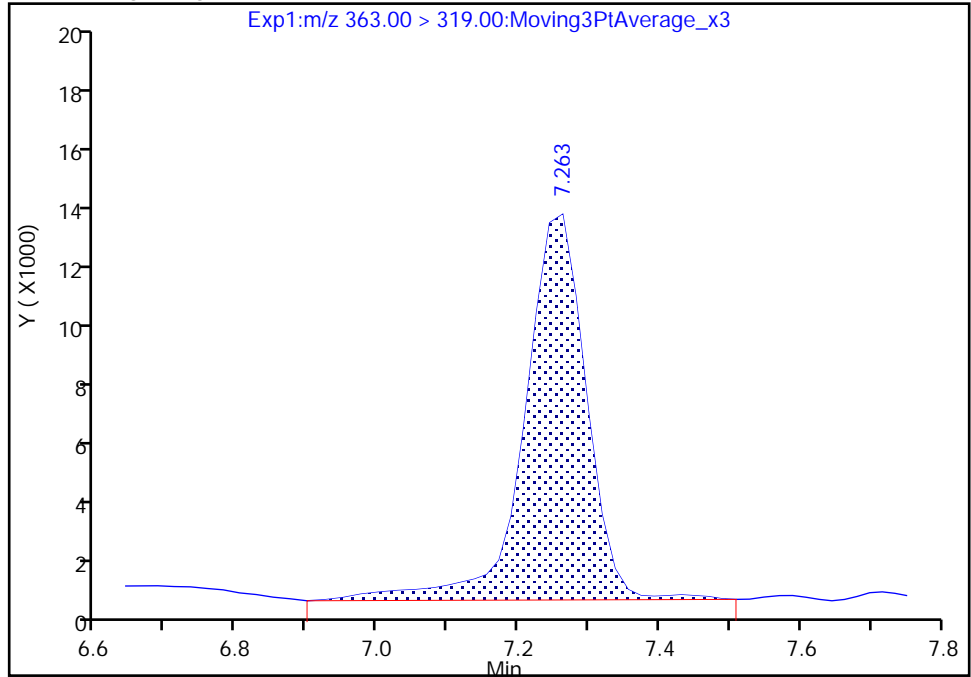
Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_025.d
Injection Date: 13-Feb-2021 15:59:00 Instrument ID: A10
Lims ID: 320-69953-B-3-A Lab Sample ID: 320-69953-3
Client ID: Raw Water
Operator ID: Sac_inst_A10 ALS Bottle#: 25 Worklist Smp#: 18
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm ID) Detector: EXP1

18 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

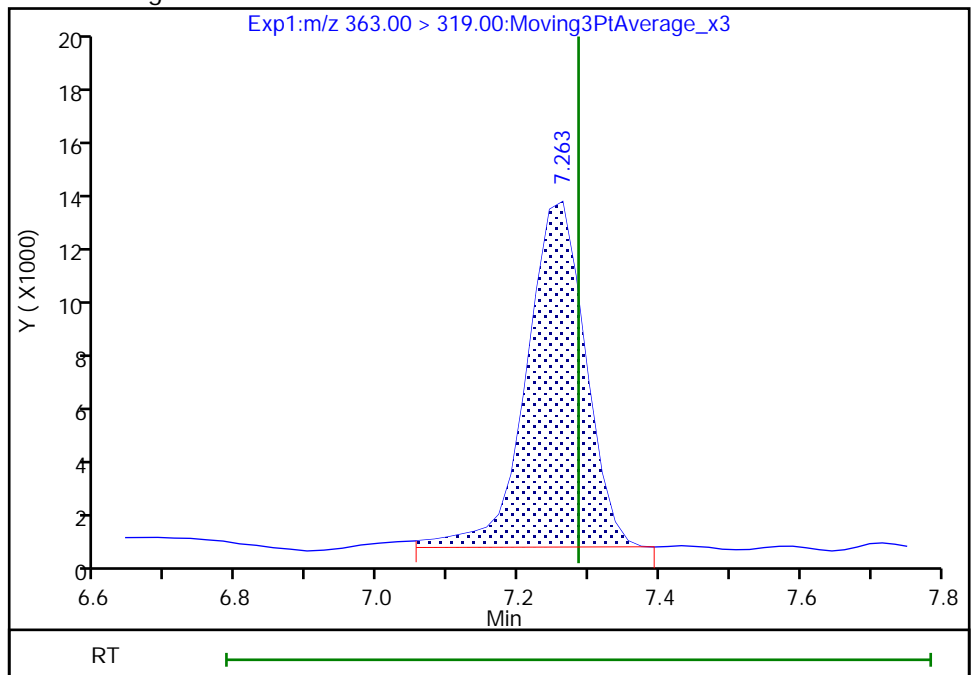
RT: 7.26
Area: 78189
Amount: 0.001412
Amount Units: ng/ml

Processing Integration Results



RT: 7.26
Area: 73414
Amount: 0.001326
Amount Units: ng/ml

Manual Integration Results



Euofins TestAmerica, Sacramento

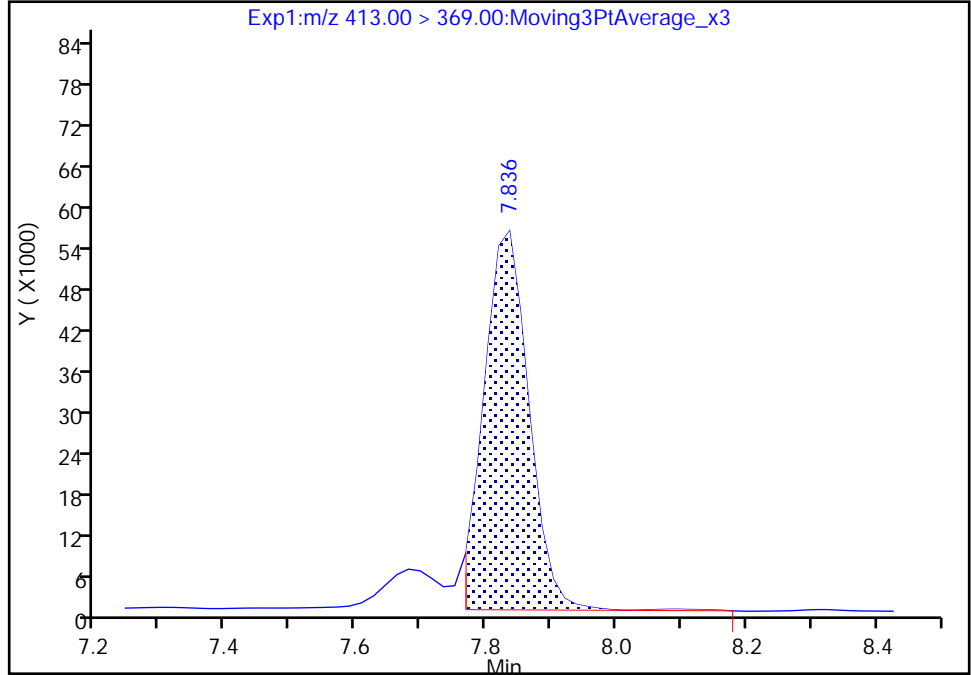
Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_025.d
Injection Date: 13-Feb-2021 15:59:00 Instrument ID: A10
Lims ID: 320-69953-B-3-A Lab Sample ID: 320-69953-3
Client ID: Raw Water
Operator ID: Sac_inst_A10 ALS Bottle#: 25 Worklist Smp#: 18
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

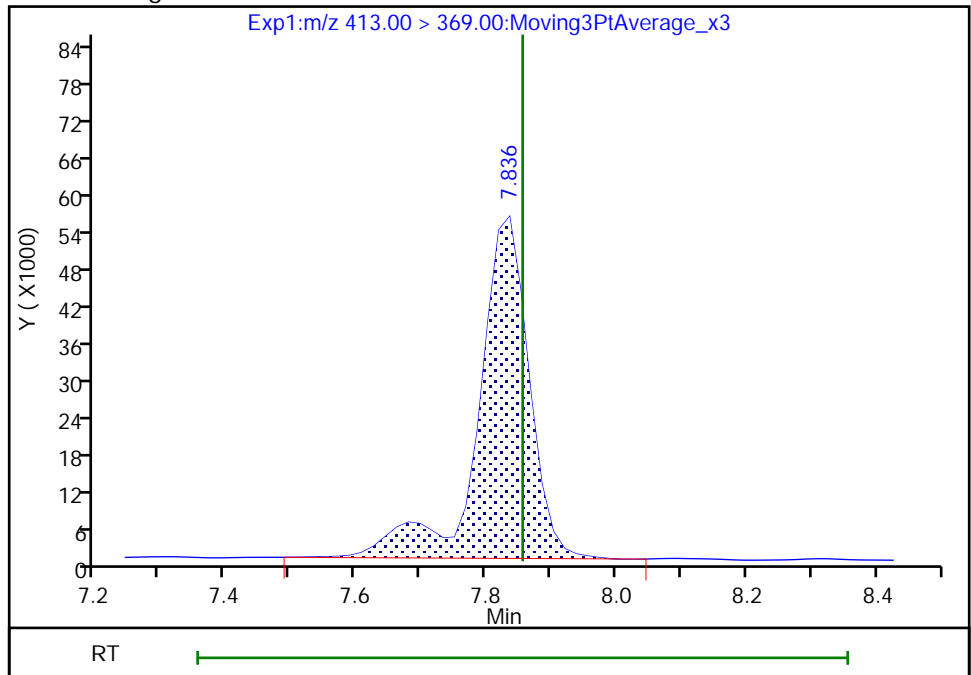
RT: 7.84
Area: 263946
Amount: 0.003925
Amount Units: ng/ml

Processing Integration Results



RT: 7.84
Area: 302611
Amount: 0.004500
Amount Units: ng/ml

Manual Integration Results



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Client Sample ID: Duplicate Lab Sample ID: 320-69953-4
 Matrix: Water Lab File ID: 2021.02.13_A10_DI_A_026.d
 Analysis Method: WS-LC-0025 Att1 Date Collected: 02/09/2021 00:00
 Extraction Method: PFAS Prep Date Extracted: 02/12/2021 12:41
 Sample wt/vol: 1.00 (mL) Date Analyzed: 02/13/2021 16:17
 Con. Extract Vol.: 1.66 (mL) Dilution Factor: 1
 Injection Volume: 950 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 461813 Units: ng/L

| CAS NO. | COMPOUND NAME | RESULT | Q | RL | |
|-----------|--------------------------------------|--------|---|-----|--|
| 375-73-5 | Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | |
| 355-46-4 | Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | |
| 375-85-9 | Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | |
| 335-67-1 | Perfluorooctanoic acid (PFOA) | ND | | 2.0 | |
| 1763-23-1 | Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | |
| 375-95-1 | Perfluorononanoic acid (PFNA) | ND | | 2.0 | |

| CAS NO. | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00994 | 18O2 PFHxS | 108 | | 25-150 |
| STL01892 | 13C4 PFHpA | 112 | | 25-150 |
| STL00990 | 13C4 PFOA | 104 | | 70-130 |
| STL00991 | 13C4 PFOS | 102 | | 70-130 |
| STL00995 | 13C5 PFNA | 108 | | 25-150 |
| STL02337 | 13C3 PFBS | 97 | | 25-150 |

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_026.d
 Lims ID: 320-69953-B-4-A
 Client ID: Duplicate
 Sample Type: Client
 Inject. Date: 13-Feb-2021 16:17:26 ALS Bottle#: 26 Worklist Smp#: 19
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: 320-69953-b-4-a
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Method: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 15-Feb-2021 04:31:36 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1652

First Level Reviewer: ruangyotsakuld Date: 15-Feb-2021 04:31:36
 Ratio Calibration: CCV Sample: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_020.d

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------|-----------------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 3 13C3 PFBS | 301.90 > 80.00 | 6.316 | 6.343 | -0.027 | 1836932 | 0.0451 | | 96.9 | 11941 | |
| D 15 18O2 PFHxS | 403.00 > 84.00 | 7.244 | 7.285 | -0.041 | 1673392 | 0.0509 | | 108 | 11612 | |
| D 17 13C4 PFHpA | 367.00 > 322.00 | 7.263 | 7.285 | -0.022 | 2813952 | 0.0562 | | 112 | 15980 | |
| D 20 13C2 PFOA | 415.00 > 370.00 | 7.837 | 7.853 | -0.016 | 2252 | NC | | 0.0 | 25.7 | |
| D 25 13C4 PFOA | 417.00 > 372.00 | 7.820 | 7.856 | -0.036 | 3480758 | 0.0520 | | 104 | 18067 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | RM |
| 413.00 > 369.00 | 7.837 | 7.856 | -0.019 | 1.002 | 7290 | 0.000115 | Target=1.55 | 1.3 | | RM |
| 413.00 > 169.00 | 7.837 | 7.856 | -0.019 | 1.002 | 2863 | | 2.55(0.78-2.33) | 17.4 | | M |
| D 26 13C4 PFOS | 503.00 > 80.00 | 8.410 | 8.448 | -0.038 | 1106685 | 0.0487 | | 102 | 9123 | |
| D 28 13C5 PFNA | 468.00 > 423.00 | 8.444 | 8.465 | -0.021 | 2691811 | 0.0542 | | 108 | 13097 | |

QC Flag Legend

Processing Flags

NC - Not Calibrated

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

Eurofins TestAmerica, Sacramento

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_026.d

Injection Date: 13-Feb-2021 16:17:26

Instrument ID: A10

Lims ID: 320-69953-B-4-A

Lab Sample ID: 320-69953-4

Client ID: Duplicate

Operator ID: Sac_inst_A10

ALS Bottle#: 26

Worklist Smp#: 19

Injection Vol: 950.0 ul

Dil. Factor: 1.0000

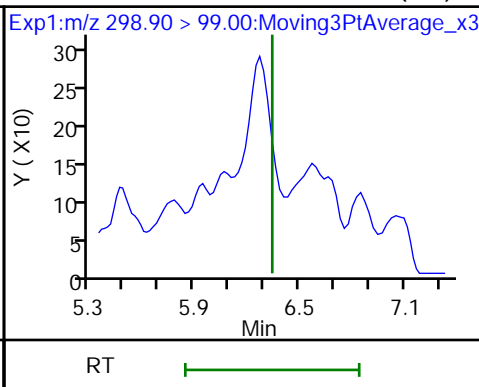
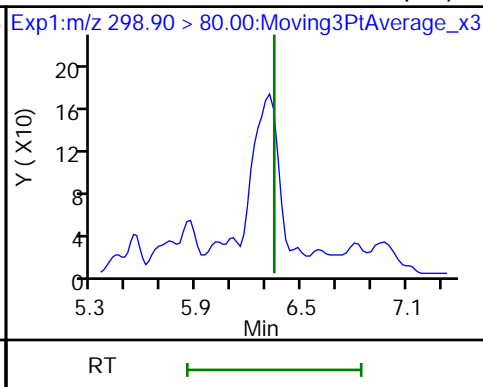
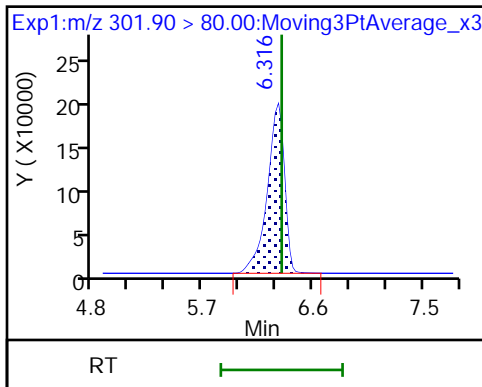
Method: A10_In_Line_SPE

Limit Group: LC PFAS_DW ICAL

D 3 13C3 PFBS

6 Perfluorobutanesulfonic acid (ND)

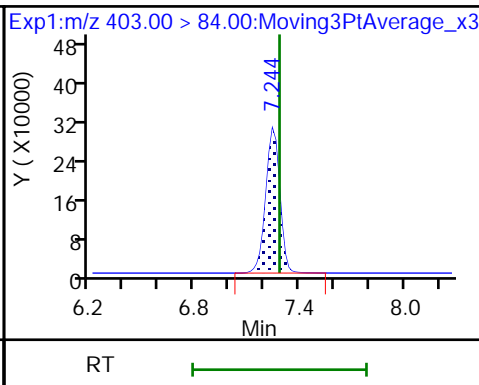
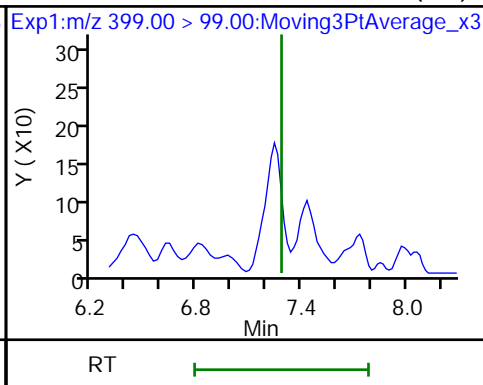
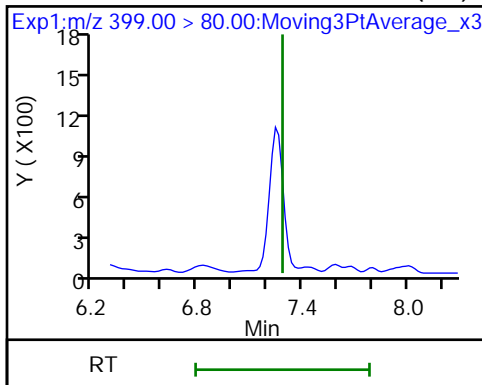
6 Perfluorobutanesulfonic acid (ND)



16 Perfluorohexanesulfonic acid (ND)

16 Perfluorohexanesulfonic acid (ND)

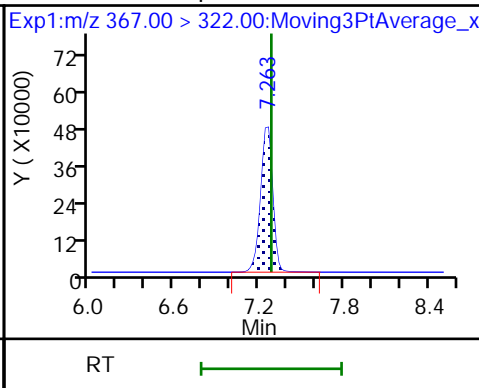
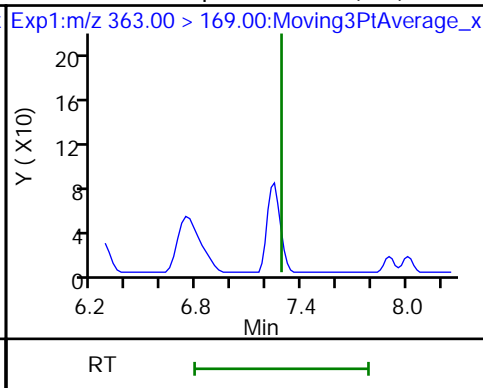
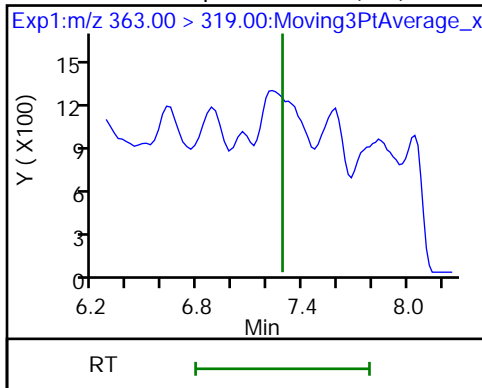
D 15 18O2 PFHxS



18 Perfluoroheptanoic acid (ND)

18 Perfluoroheptanoic acid (ND)

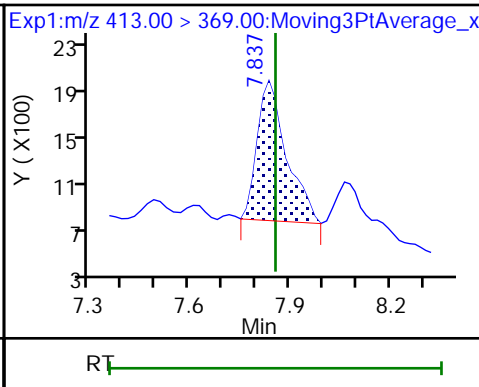
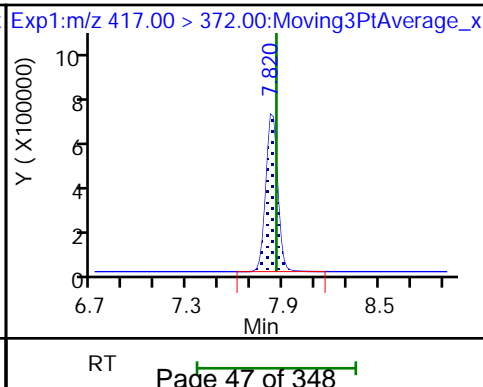
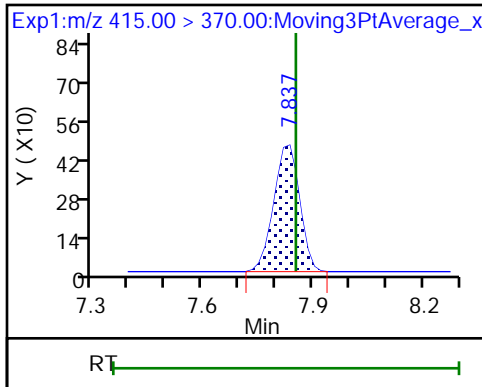
D 17 13C4 PFHpA



D 20 13C2 PFOA

D 25 13C4 PFOA

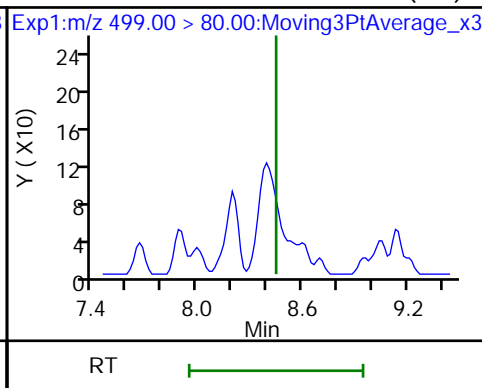
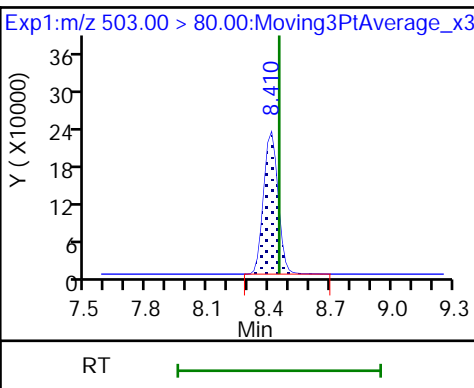
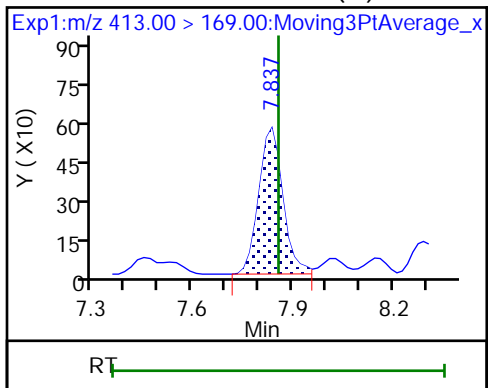
24 Perfluorooctanoic acid (M)



24 Perfluorooctanoic acid (M)

D 26 13C4 PFOS

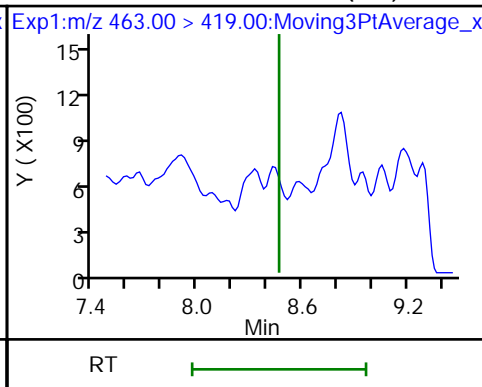
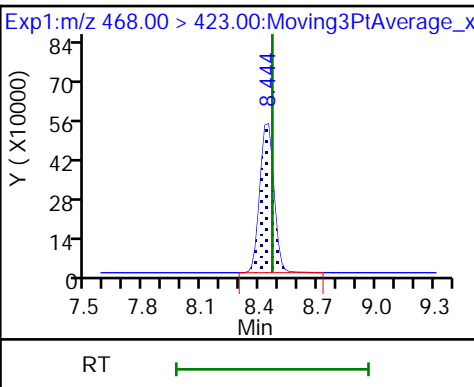
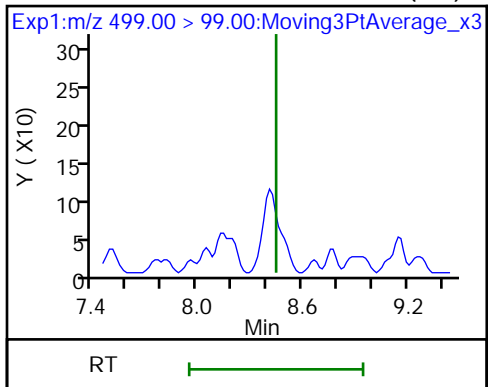
27 Perfluorooctanesulfonic acid (ND)



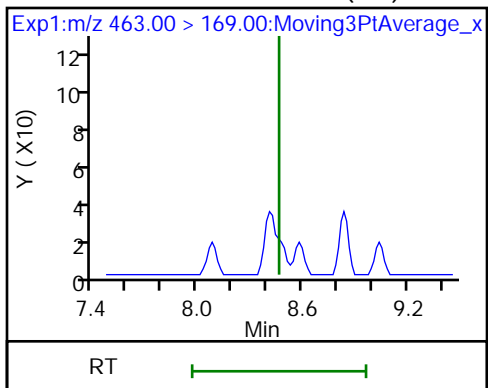
27 Perfluorooctanesulfonic acid (ND)

D 28 13C5 PFNA

29 Perfluorononanoic acid (ND)



29 Perfluorononanoic acid (ND)



Eurofins TestAmerica, Sacramento

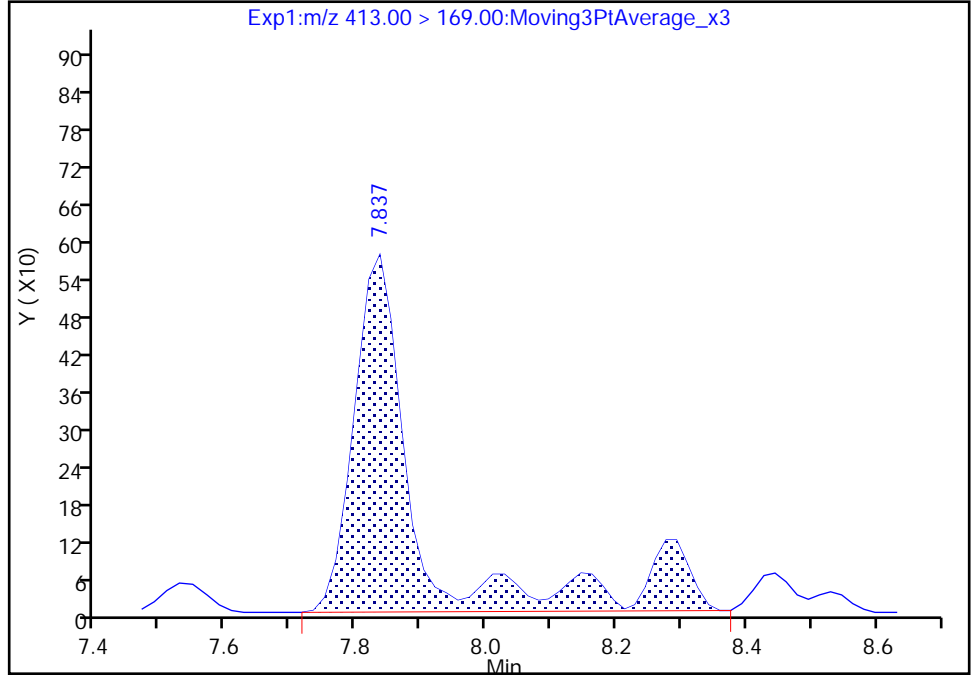
Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_026.d
Injection Date: 13-Feb-2021 16:17:26 Instrument ID: A10
Lims ID: 320-69953-B-4-A Lab Sample ID: 320-69953-4
Client ID: Duplicate
Operator ID: Sac_inst_A10 ALS Bottle#: 26 Worklist Smp#: 19
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

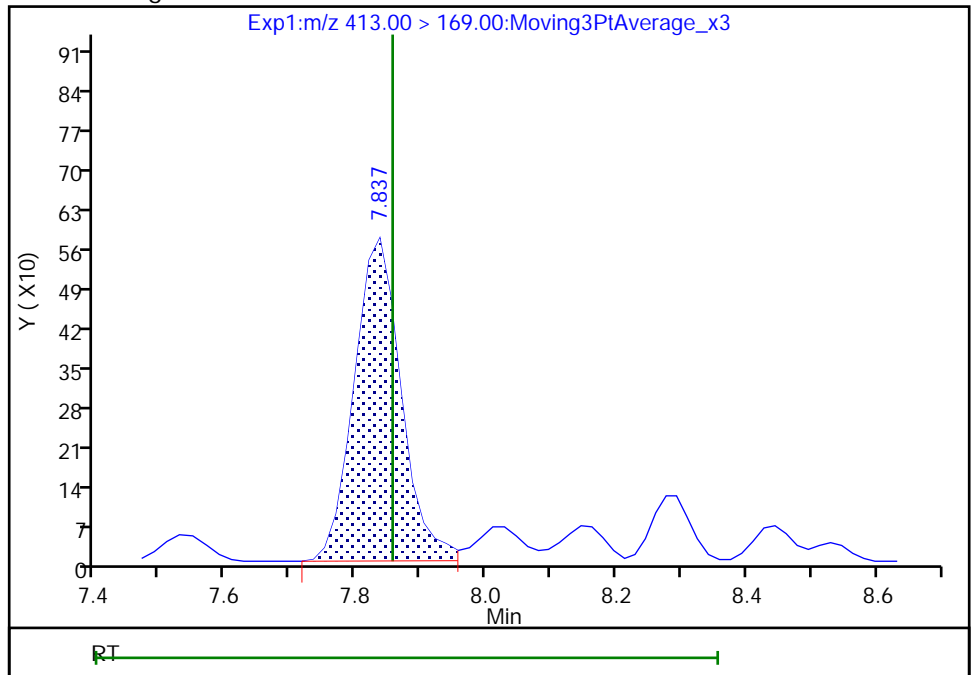
RT: 7.84
Area: 3897
Amount: 0.000195
Amount Units: ng/ml

Processing Integration Results



RT: 7.84
Area: 2863
Amount: 0.000115
Amount Units: ng/ml

Manual Integration Results



Reviewer: ruangyotsakuld, 15-Feb-2021 04:31:26

Audit Action: Manually Integrated

Audit Reason: Split Peak

Eurofins TestAmerica, Sacramento

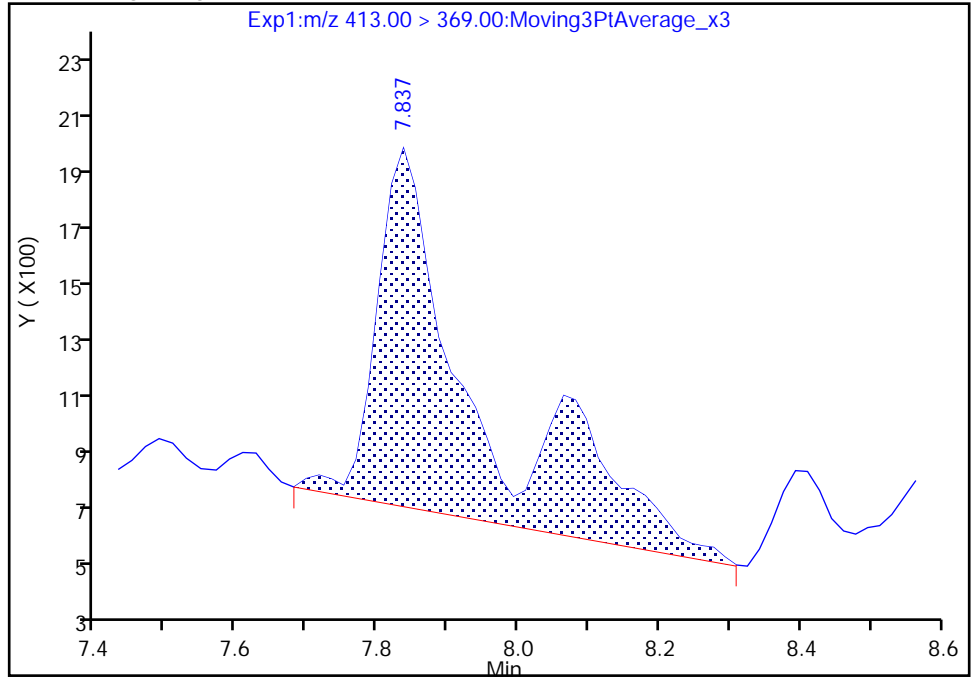
Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_026.d
Injection Date: 13-Feb-2021 16:17:26 Instrument ID: A10
Lims ID: 320-69953-B-4-A Lab Sample ID: 320-69953-4
Client ID: Duplicate
Operator ID: Sac_inst_A10 ALS Bottle#: 26 Worklist Smp#: 19
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm ID) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

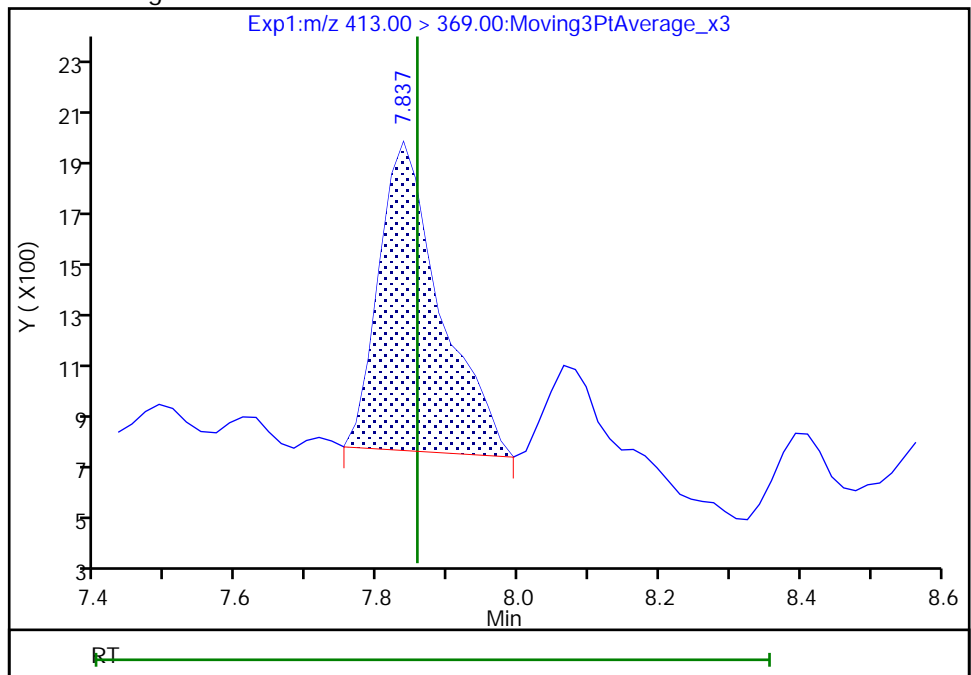
RT: 7.84
Area: 12370
Amount: 0.000195
Amount Units: ng/ml

Processing Integration Results



RT: 7.84
Area: 7290
Amount: 0.000115
Amount Units: ng/ml

Manual Integration Results



Reviewer: ruangyotsakuld, 15-Feb-2021 04:31:30

Audit Action: Manually Integrated

Audit Reason: Split Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Client Sample ID: A-25 Lab Sample ID: 320-69953-5
 Matrix: Water Lab File ID: 2021.02.13_A10_DI_A_027.d
 Analysis Method: WS-LC-0025 Att1 Date Collected: 02/09/2021 11:45
 Extraction Method: PFAS Prep Date Extracted: 02/12/2021 12:41
 Sample wt/vol: 1.00 (mL) Date Analyzed: 02/13/2021 16:35
 Con. Extract Vol.: 1.66 (mL) Dilution Factor: 1
 Injection Volume: 950 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 461813 Units: ng/L

| CAS NO. | COMPOUND NAME | RESULT | Q | RL | |
|-----------|--------------------------------------|--------|---|-----|--|
| 375-73-5 | Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | |
| 355-46-4 | Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | |
| 375-85-9 | Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | |
| 335-67-1 | Perfluorooctanoic acid (PFOA) | ND | | 2.0 | |
| 1763-23-1 | Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | |
| 375-95-1 | Perfluorononanoic acid (PFNA) | ND | | 2.0 | |

| CAS NO. | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00994 | 18O2 PFHxS | 109 | | 25-150 |
| STL01892 | 13C4 PFHpA | 115 | | 25-150 |
| STL00990 | 13C4 PFOA | 110 | | 70-130 |
| STL00991 | 13C4 PFOS | 103 | | 70-130 |
| STL00995 | 13C5 PFNA | 112 | | 25-150 |
| STL02337 | 13C3 PFBS | 100 | | 25-150 |

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_027.d
 Lims ID: 320-69953-B-5-A
 Client ID: A-25
 Sample Type: Client
 Inject. Date: 13-Feb-2021 16:35:52 ALS Bottle#: 27 Worklist Smp#: 20
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: 320-69953-b-5-a
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Method: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 15-Feb-2021 10:34:02 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1642

First Level Reviewer: ruangyotsakuld Date: 15-Feb-2021 10:34:02
 Ratio Calibration: CCV Sample: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_020.d

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------------------------------|-----------------|--------|--------|--------|----------|--------------|----------------------|------|-------|-------|
| D 3 13C3 PFBS | 301.90 > 80.00 | 6.293 | 6.343 | -0.050 | 1900958 | 0.0466 | | 100 | 6500 | |
| 6 Perfluorobutanesulfonic acid | 298.90 > 80.00 | 6.293 | 6.343 | -0.050 | 1.000 | 20873 | 0.000487 Target=1.47 | | 39.2 | |
| | 298.90 > 99.00 | 6.293 | 6.343 | -0.050 | 1.000 | 13113 | 1.59(0.73-2.20) | | 15.3 | |
| D 15 18O2 PFHxS | 403.00 > 84.00 | 7.244 | 7.285 | -0.041 | 1701358 | 0.0518 | | 109 | 19629 | |
| D 17 13C4 PFHpA | 367.00 > 322.00 | 7.244 | 7.285 | -0.041 | 2878688 | 0.0575 | | 115 | 15938 | |
| D 20 13C2 PFOA | 415.00 > 370.00 | 7.820 | 7.853 | -0.033 | 1752 | NC | | 0.0 | 28.1 | |
| D 25 13C4 PFOA | 417.00 > 372.00 | 7.820 | 7.856 | -0.036 | 3678424 | 0.0550 | | 110 | 24733 | |
| 24 Perfluorooctanoic acid | 413.00 > 369.00 | 7.820 | 7.856 | -0.036 | 1.000 | 28005 | 0.000418 Target=1.55 | | 5.2 | M |
| | 413.00 > 169.00 | 7.820 | 7.856 | -0.036 | 1.000 | 21683 | 1.29(0.78-2.33) | | 68.9 | M |
| D 26 13C4 PFOS | 503.00 > 80.00 | 8.410 | 8.448 | -0.038 | 1121118 | 0.0493 | | 103 | 9231 | |
| D 28 13C5 PFNA | 468.00 > 423.00 | 8.427 | 8.465 | -0.038 | 2777060 | 0.0559 | | 112 | 18317 | |

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_027.d

Injection Date: 13-Feb-2021 16:35:52

Instrument ID: A10

Lims ID: 320-69953-B-5-A

Lab Sample ID: 320-69953-5

Client ID: A-25

Operator ID: Sac_inst_A10

ALS Bottle#: 27

Worklist Smp#: 20

Injection Vol: 950.0 ul

Dil. Factor: 1.0000

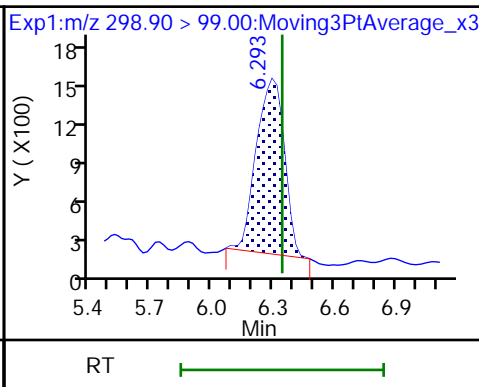
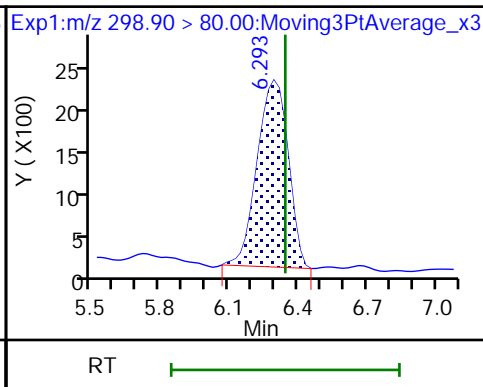
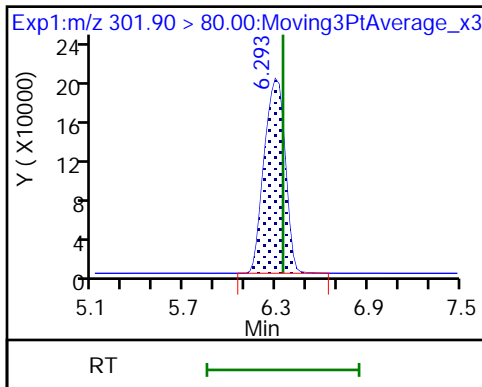
Method: A10_In_Line_SPE

Limit Group: LC PFAS_DW ICAL

D 3 13C3 PFBS

6 Perfluorobutanesulfonic acid

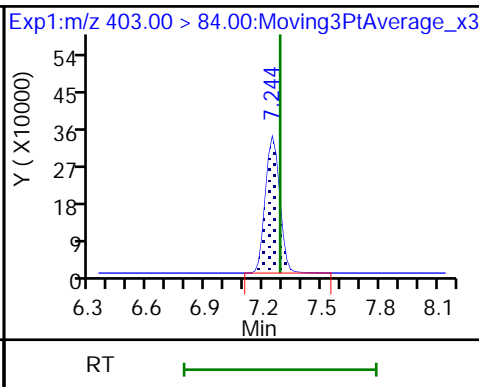
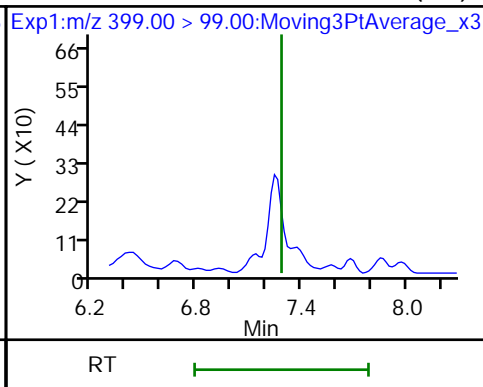
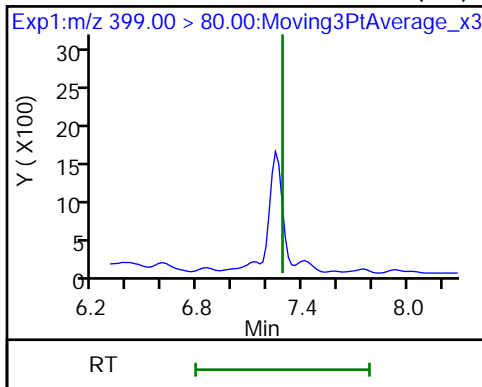
6 Perfluorobutanesulfonic acid



16 Perfluorohexanesulfonic acid (ND)

16 Perfluorohexanesulfonic acid (ND)

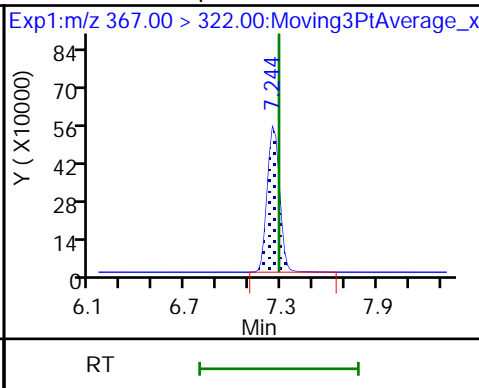
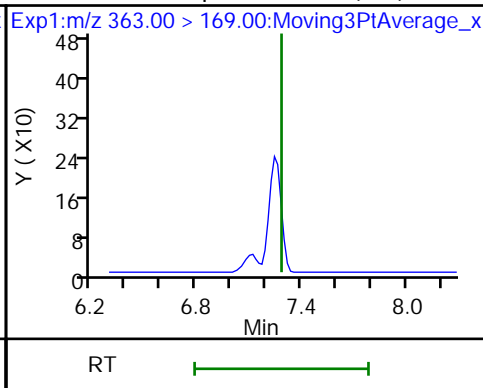
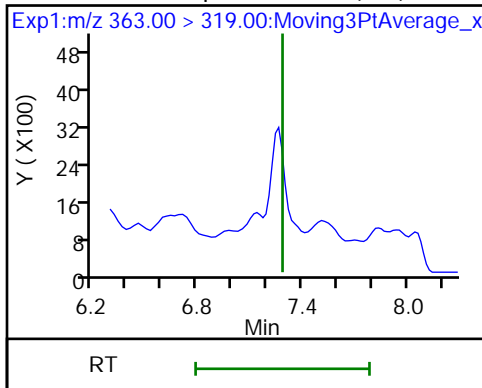
D 15 18O2 PFHxS



18 Perfluoroheptanoic acid (ND)

18 Perfluoroheptanoic acid (ND)

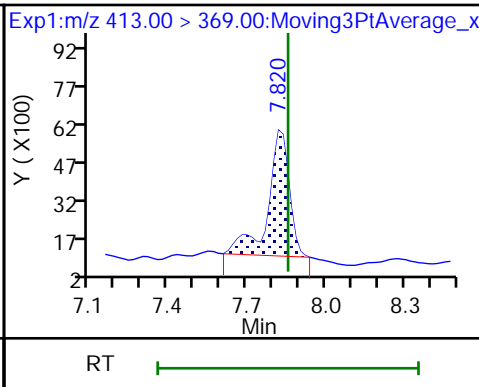
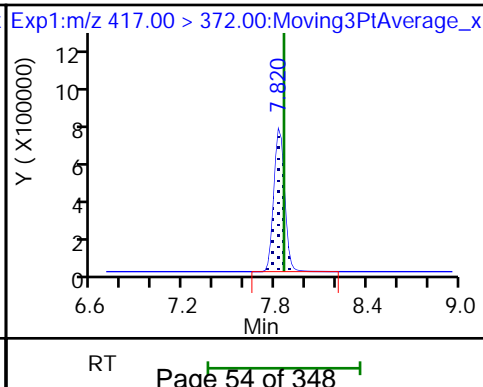
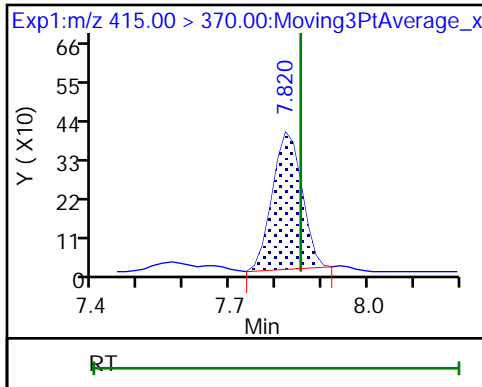
D 17 13C4 PFHpA



D 20 13C2 PFOA

D 25 13C4 PFOA

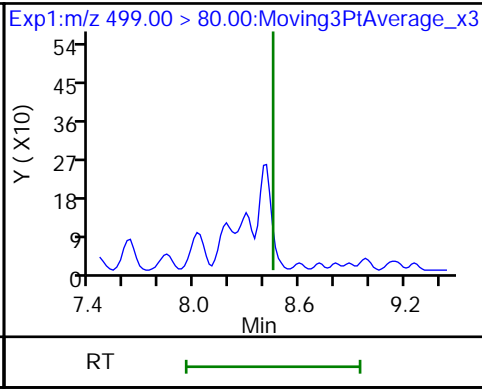
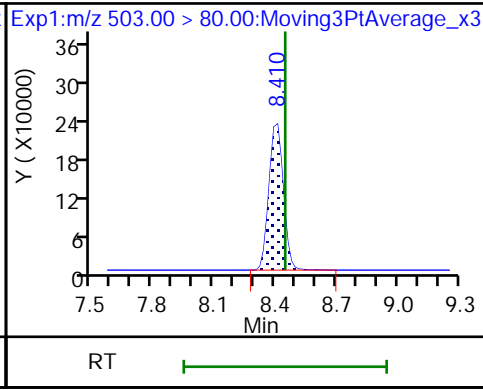
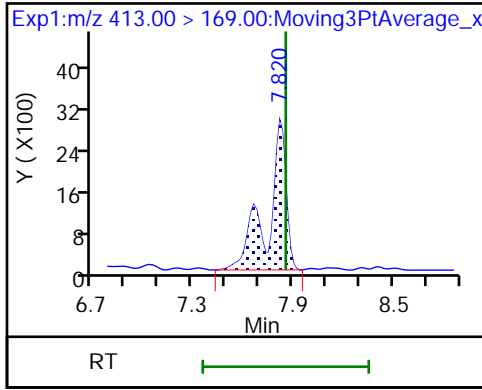
24 Perfluorooctanoic acid (M)



24 Perfluorooctanoic acid (M)

D 26 13C4 PFOS

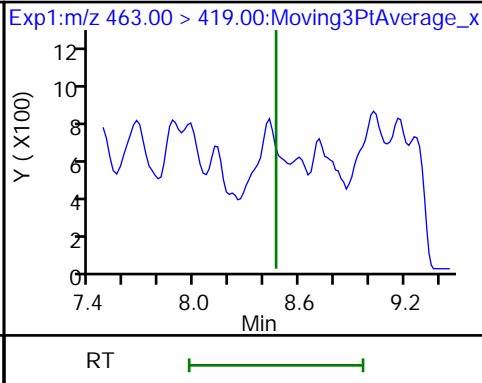
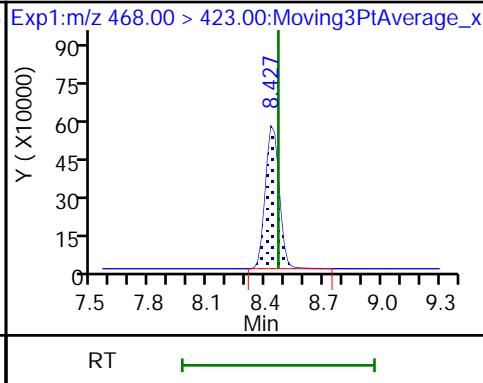
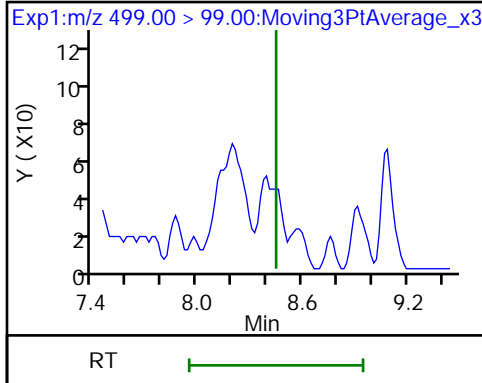
27 Perfluorooctanesulfonic acid (ND)



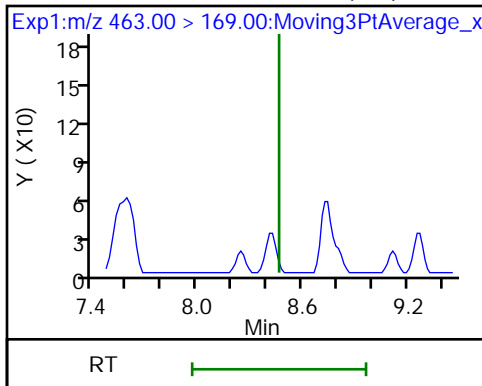
27 Perfluorooctanesulfonic acid (ND)

D 28 13C5 PFNA

29 Perfluorononanoic acid (ND)



29 Perfluorononanoic acid (ND)



Eurofins TestAmerica, Sacramento

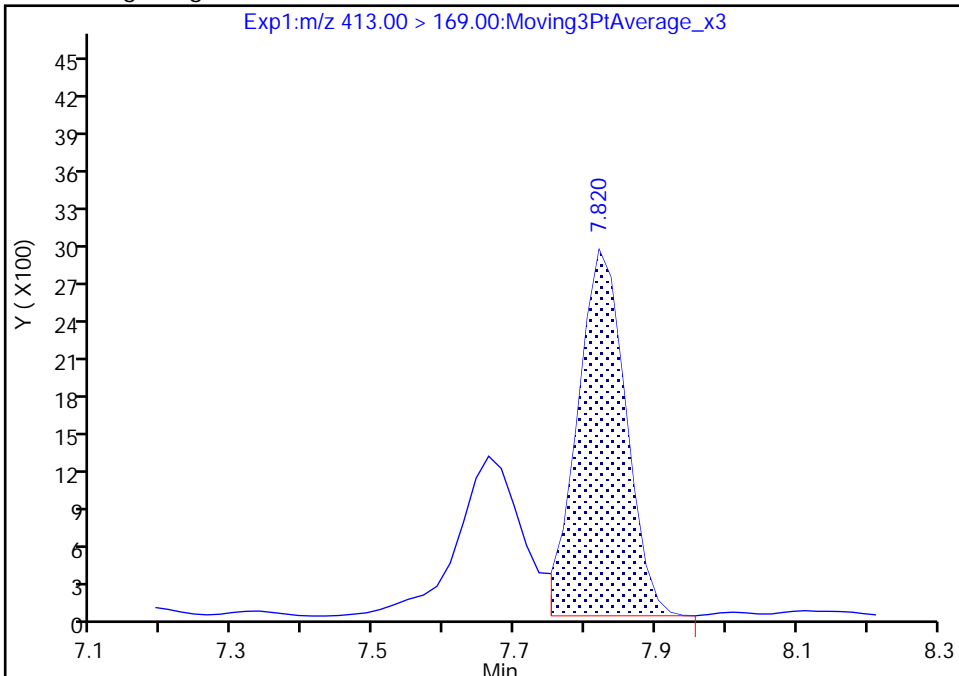
Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_027.d
Injection Date: 13-Feb-2021 16:35:52 Instrument ID: A10
Lims ID: 320-69953-B-5-A Lab Sample ID: 320-69953-5
Client ID: A-25
Operator ID: Sac_inst_A10 ALS Bottle#: 27 Worklist Smp#: 20
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

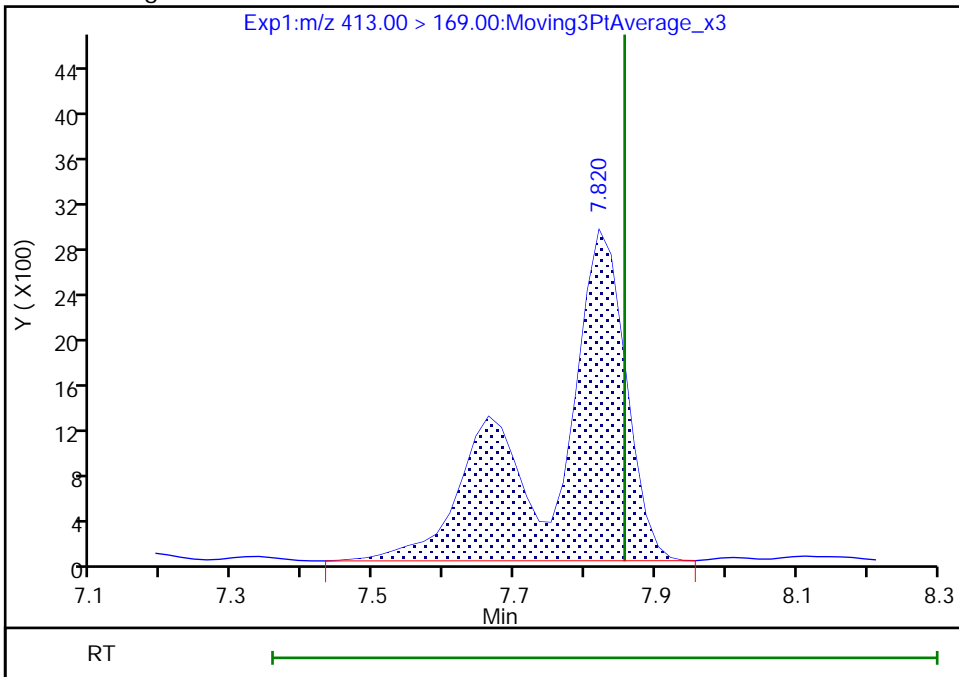
RT: 7.82
Area: 13694
Amount: 0.000472
Amount Units: ng/ml

Processing Integration Results



RT: 7.82
Area: 21683
Amount: 0.000418
Amount Units: ng/ml

Manual Integration Results



Eurofins TestAmerica, Sacramento

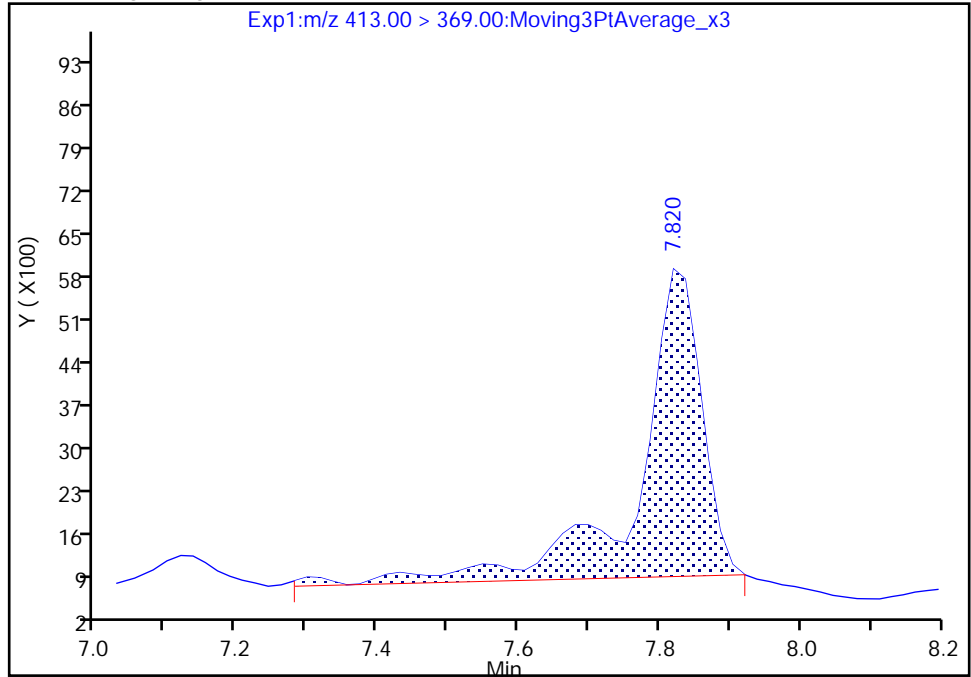
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Injection Date: 13-Feb-2021 16:35:52 Instrument ID: A10
Lims ID: 320-69953-B-5-A Lab Sample ID: 320-69953-5
Client ID: A-25
Operator ID: Sac_inst_A10 ALS Bottle#: 27 Worklist Smp#: 20
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

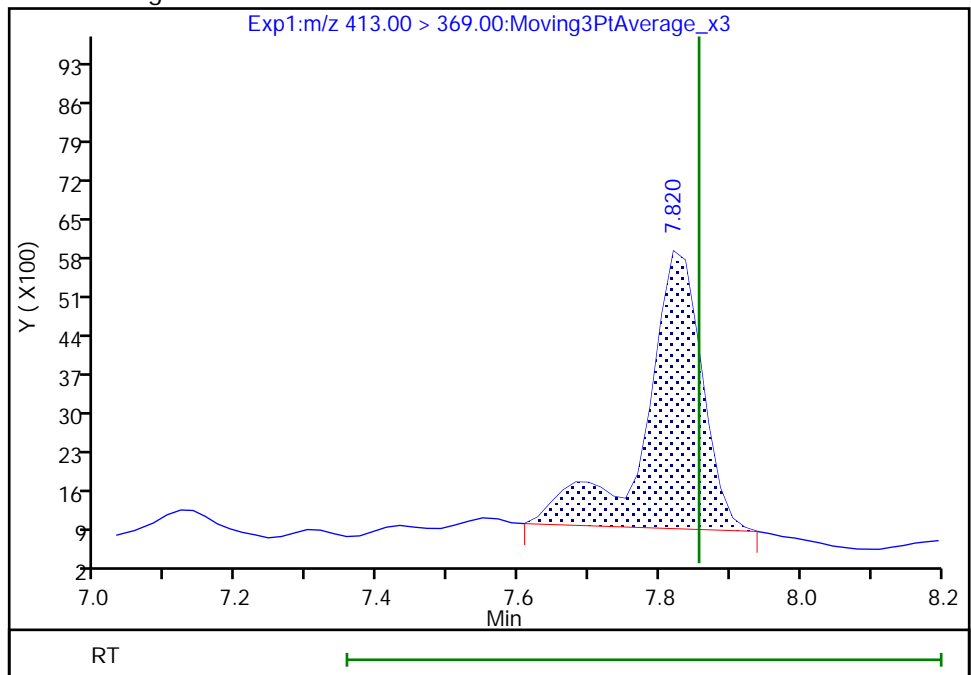
RT: 7.82
Area: 31609
Amount: 0.000472
Amount Units: ng/ml

Processing Integration Results



RT: 7.82
Area: 28005
Amount: 0.000418
Amount Units: ng/ml

Manual Integration Results



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Client Sample ID: A-50 Lab Sample ID: 320-69953-6
 Matrix: Water Lab File ID: 2021.02.13_A10_DI_A_028.d
 Analysis Method: WS-LC-0025 Att1 Date Collected: 02/09/2021 11:40
 Extraction Method: PFAS Prep Date Extracted: 02/12/2021 12:41
 Sample wt/vol: 1.00 (mL) Date Analyzed: 02/13/2021 16:54
 Con. Extract Vol.: 1.66 (mL) Dilution Factor: 1
 Injection Volume: 950 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 461813 Units: ng/L

| CAS NO. | COMPOUND NAME | RESULT | Q | RL | |
|-----------|--------------------------------------|--------|---|-----|--|
| 375-73-5 | Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | |
| 355-46-4 | Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | |
| 375-85-9 | Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | |
| 335-67-1 | Perfluorooctanoic acid (PFOA) | ND | | 2.0 | |
| 1763-23-1 | Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | |
| 375-95-1 | Perfluorononanoic acid (PFNA) | ND | | 2.0 | |

| CAS NO. | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00994 | 18O2 PFHxS | 111 | | 25-150 |
| STL01892 | 13C4 PFHpA | 115 | | 25-150 |
| STL00990 | 13C4 PFOA | 108 | | 70-130 |
| STL00991 | 13C4 PFOS | 102 | | 70-130 |
| STL00995 | 13C5 PFNA | 116 | | 25-150 |
| STL02337 | 13C3 PFBS | 102 | | 25-150 |

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_028.d
 Lims ID: 320-69953-B-6-A
 Client ID: A-50
 Sample Type: Client
 Inject. Date: 13-Feb-2021 16:54:17 ALS Bottle#: 28 Worklist Smp#: 21
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: 320-69953-b-6-a
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Method: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 15-Feb-2021 10:34:18 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1642

First Level Reviewer: ruangyotsakuld Date: 15-Feb-2021 10:34:18
 Ratio Calibration: CCV Sample: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_020.d

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------|-----------------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 3 13C3 PFBS | 301.90 > 80.00 | 6.297 | 6.343 | -0.046 | 1941507 | 0.0476 | | 102 | 10972 | |
| D 15 18O2 PFHxS | 403.00 > 84.00 | 7.248 | 7.285 | -0.037 | 1729693 | 0.0526 | | 111 | 16062 | |
| D 17 13C4 PFHpA | 367.00 > 322.00 | 7.248 | 7.285 | -0.037 | 2875170 | 0.0575 | | 115 | 23713 | |
| D 25 13C4 PFOA | 417.00 > 372.00 | 7.823 | 7.856 | -0.033 | 3627689 | 0.0542 | | 108 | 21969 | |
| 24 Perfluorooctanoic acid | 413.00 > 369.00 | 7.823 | 7.856 | -0.033 | 11575 | 0.000175 | Target=1.55 | | 2.0 | |
| | 413.00 > 169.00 | 7.823 | 7.856 | -0.033 | 5505 | | 2.10(0.78-2.33) | | 46.1 | |
| D 26 13C4 PFOS | 503.00 > 80.00 | 8.397 | 8.448 | -0.051 | 1103792 | 0.0485 | | 102 | 6653 | |
| D 28 13C5 PFNA | 468.00 > 423.00 | 8.431 | 8.465 | -0.034 | 2871821 | 0.0578 | | 116 | 19867 | |

QC Flag Legend
Processing Flags

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_028.d

Injection Date: 13-Feb-2021 16:54:17

Instrument ID: A10

Lims ID: 320-69953-B-6-A

Lab Sample ID: 320-69953-6

Client ID: A-50

Operator ID: Sac_inst_A10

ALS Bottle#: 28

Worklist Smp#: 21

Injection Vol: 950.0 ul

Dil. Factor: 1.0000

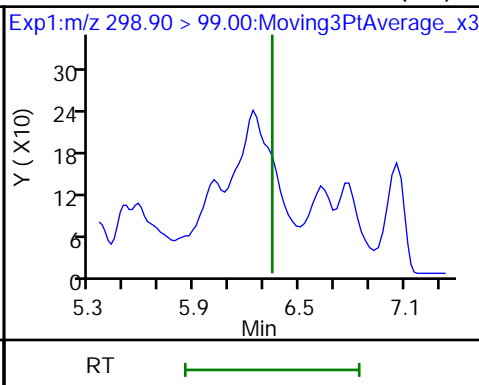
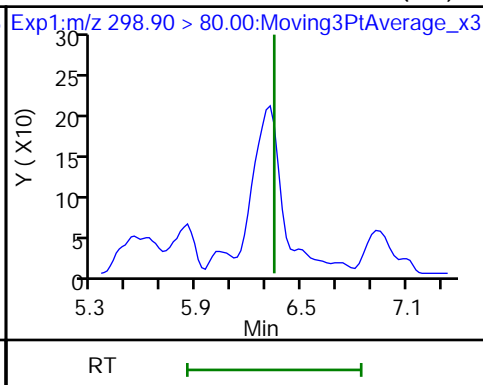
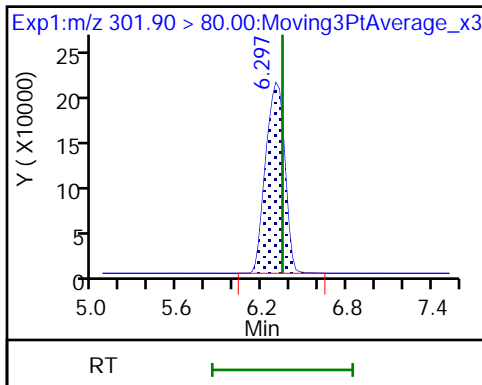
Method: A10_In_Line_SPE

Limit Group: LC PFAS_DW ICAL

D 3 13C3 PFBS

6 Perfluorobutanesulfonic acid (ND)

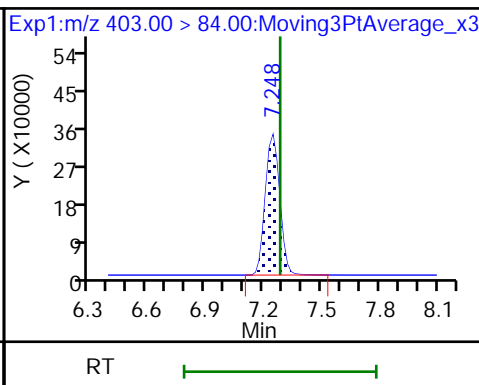
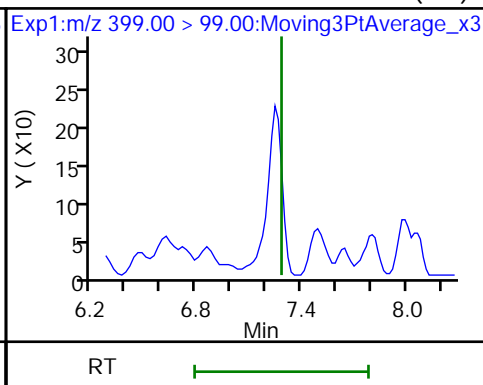
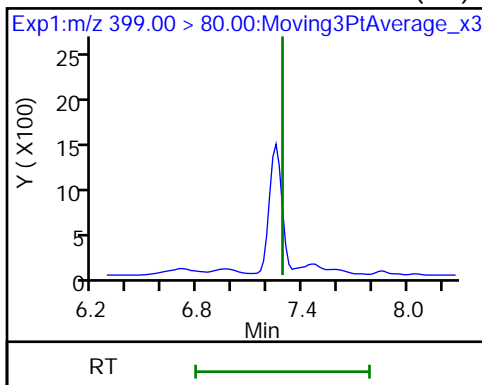
6 Perfluorobutanesulfonic acid (ND)



16 Perfluorohexanesulfonic acid (ND)

16 Perfluorohexanesulfonic acid (ND)

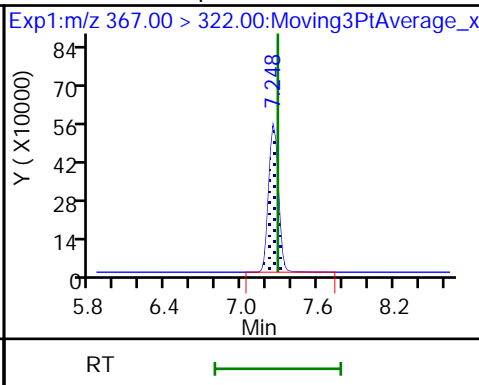
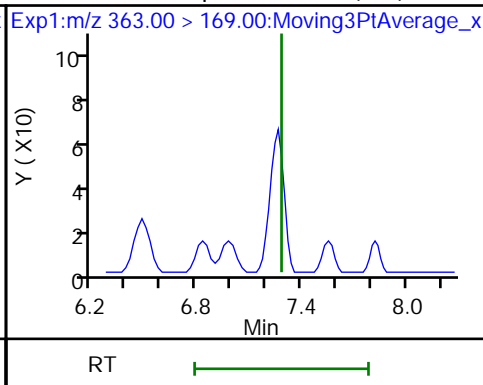
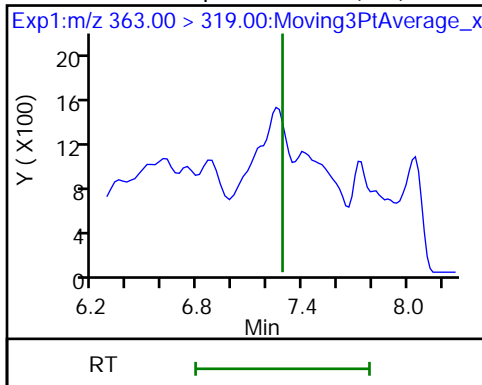
D 15 18O2 PFHxS



18 Perfluoroheptanoic acid (ND)

18 Perfluoroheptanoic acid (ND)

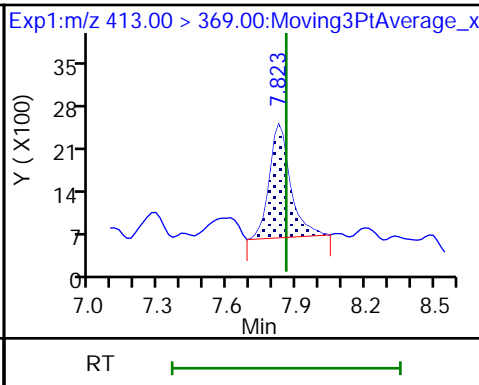
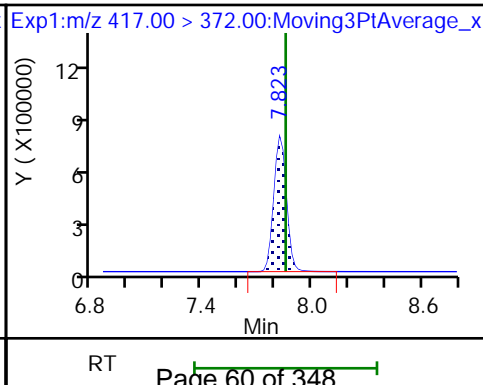
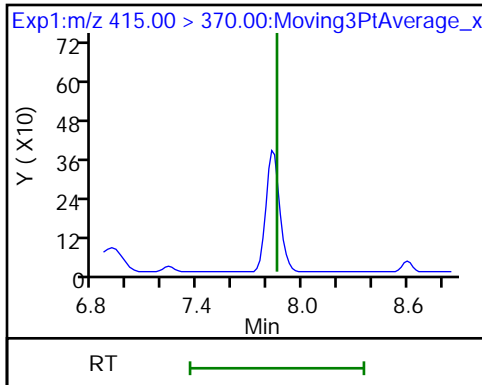
D 17 13C4 PFHpA



D 20 13C2 PFOA (ND)

D 25 13C4 PFOA

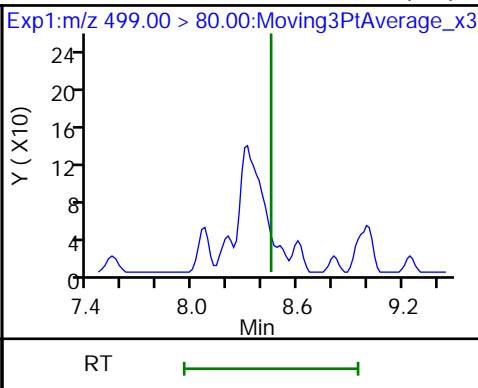
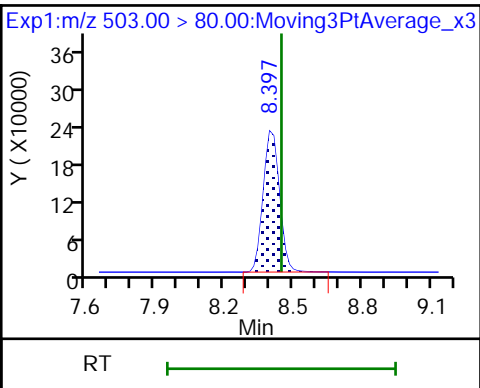
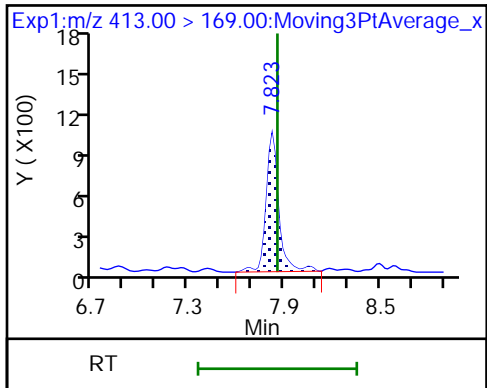
24 Perfluorooctanoic acid



24 Perfluorooctanoic acid

D 26 13C4 PFOS

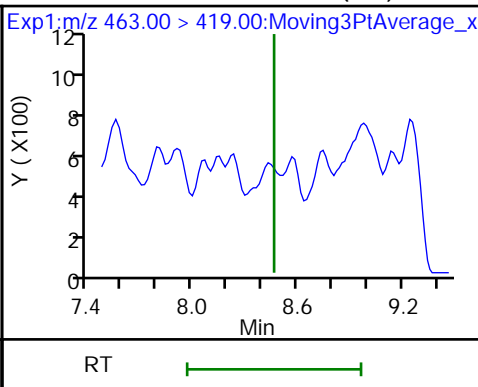
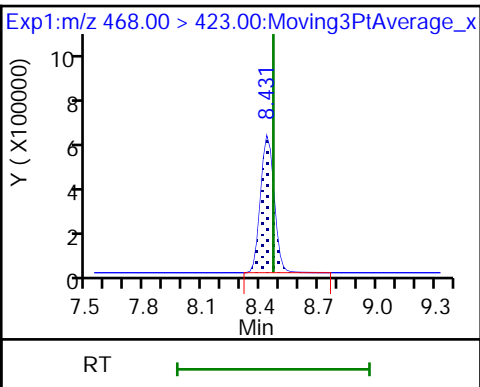
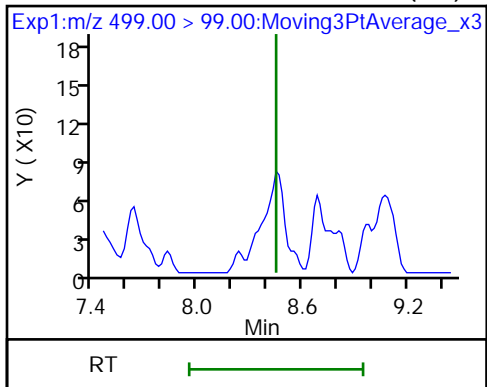
27 Perfluorooctanesulfonic acid (ND)



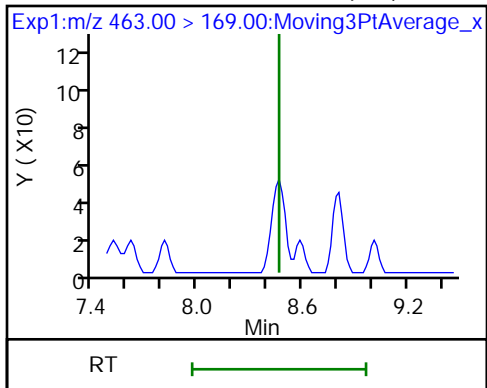
27 Perfluorooctanesulfonic acid (ND)

D 28 13C5 PFNA

29 Perfluorononanoic acid (ND)



29 Perfluorononanoic acid (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Client Sample ID: A-75 Lab Sample ID: 320-69953-7
 Matrix: Water Lab File ID: 2021.02.13_A10_DI_A_029.d
 Analysis Method: WS-LC-0025 Att1 Date Collected: 02/09/2021 11:35
 Extraction Method: PFAS Prep Date Extracted: 02/12/2021 12:41
 Sample wt/vol: 1.00 (mL) Date Analyzed: 02/13/2021 17:12
 Con. Extract Vol.: 1.66 (mL) Dilution Factor: 1
 Injection Volume: 950 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 461813 Units: ng/L

| CAS NO. | COMPOUND NAME | RESULT | Q | RL | |
|-----------|--------------------------------------|--------|---|-----|--|
| 375-73-5 | Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | |
| 355-46-4 | Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | |
| 375-85-9 | Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | |
| 335-67-1 | Perfluorooctanoic acid (PFOA) | ND | | 2.0 | |
| 1763-23-1 | Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | |
| 375-95-1 | Perfluorononanoic acid (PFNA) | ND | | 2.0 | |

| CAS NO. | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00994 | 18O2 PFHxS | 100 | | 25-150 |
| STL01892 | 13C4 PFHpA | 104 | | 25-150 |
| STL00990 | 13C4 PFOA | 99 | | 70-130 |
| STL00991 | 13C4 PFOS | 96 | | 70-130 |
| STL00995 | 13C5 PFNA | 104 | | 25-150 |
| STL02337 | 13C3 PFBS | 97 | | 25-150 |

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_029.d
 Lims ID: 320-69953-B-7-A
 Client ID: A-75
 Sample Type: Client
 Inject. Date: 13-Feb-2021 17:12:45 ALS Bottle#: 29 Worklist Smp#: 22
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: 320-69953-b-7-a
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Method: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 15-Feb-2021 10:34:33 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1642

First Level Reviewer: ruangyotsakuld Date: 15-Feb-2021 10:34:33
 Ratio Calibration: CCV Sample: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_020.d

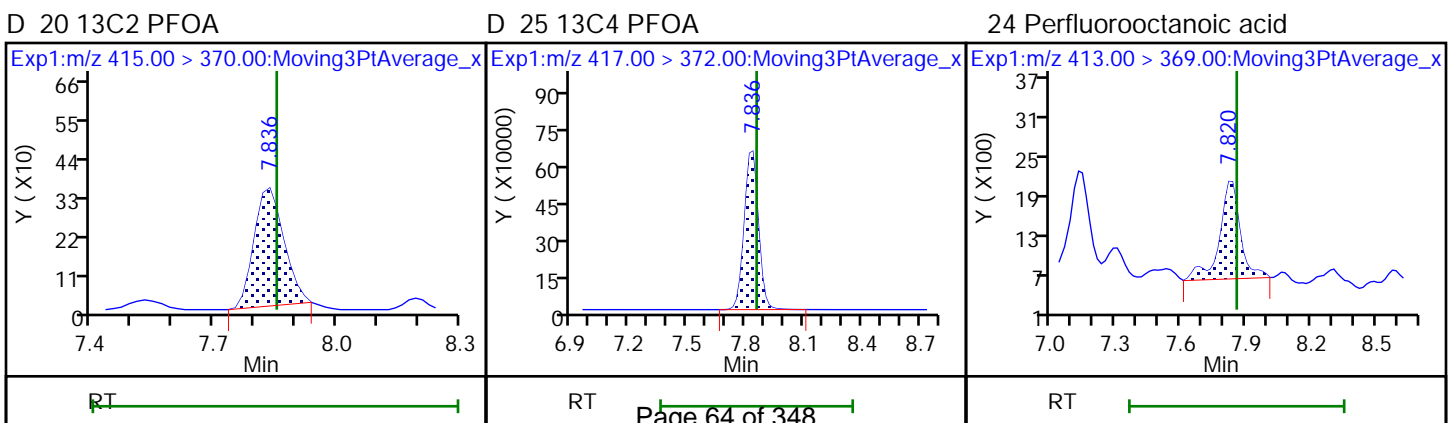
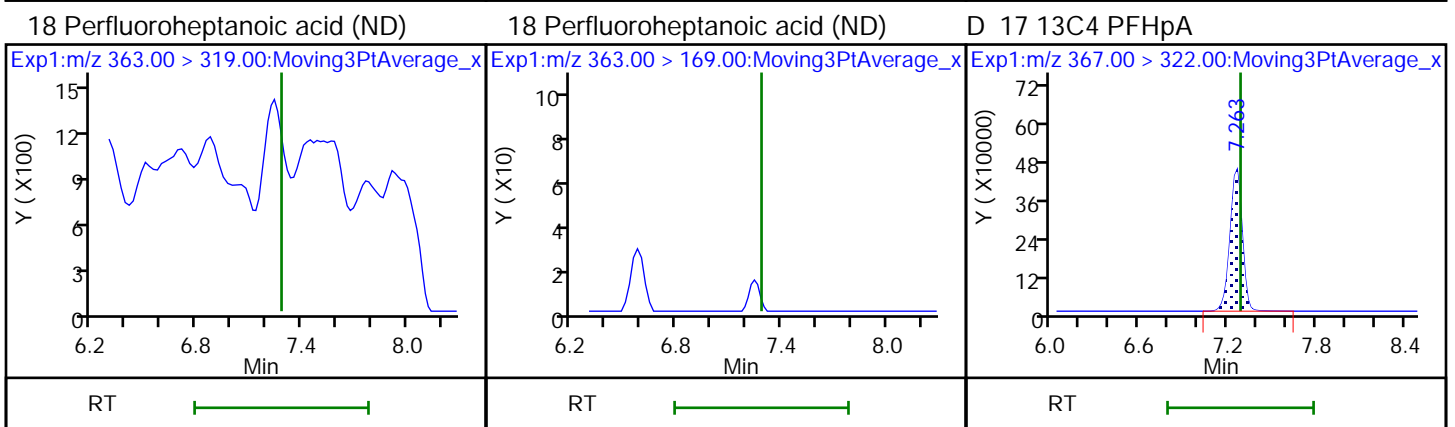
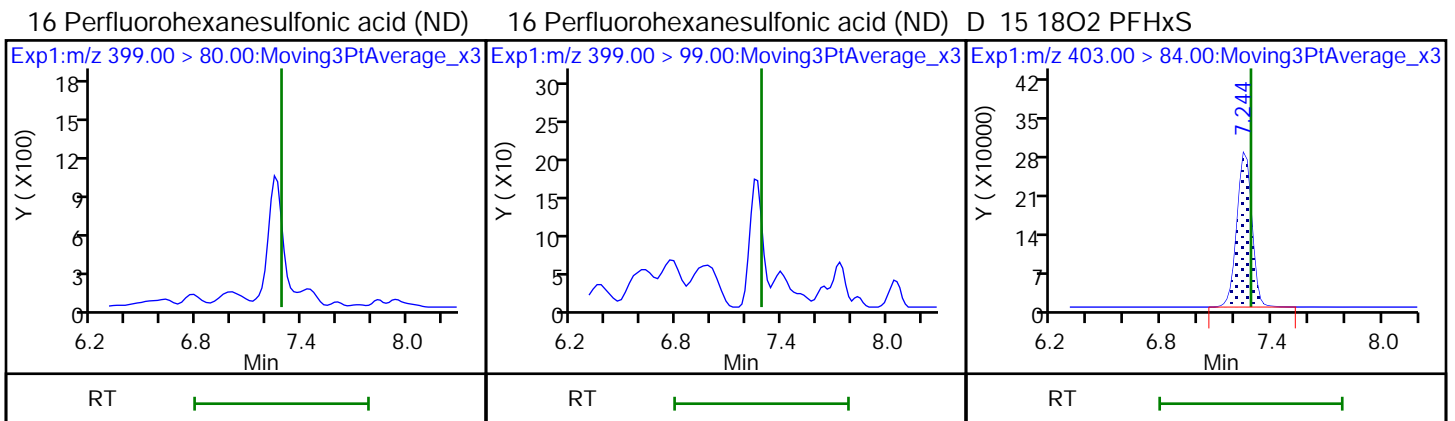
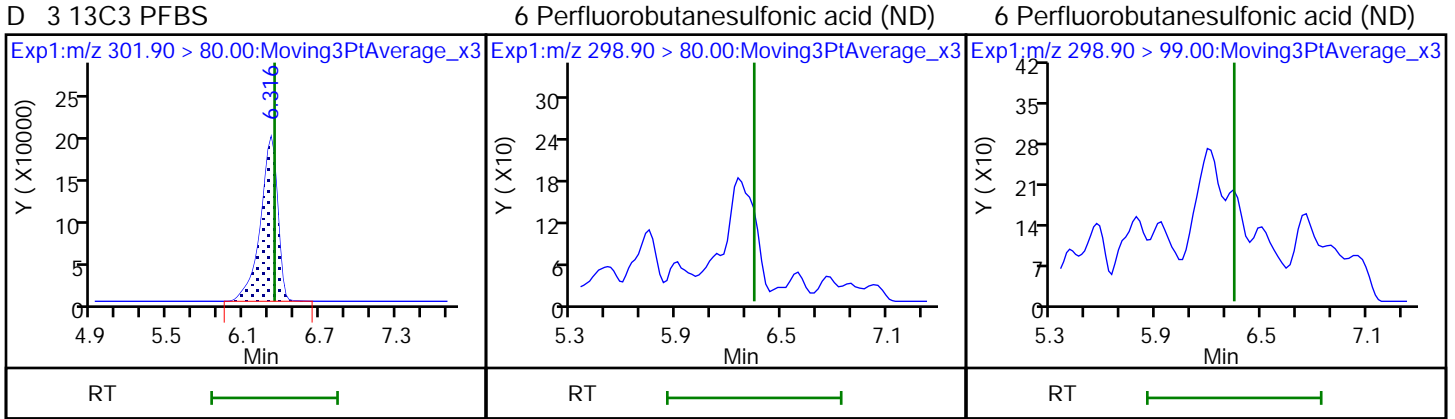
| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------|-----------------|--------|--------|--------|----------|--------------|----------------------|------|-------|-------|
| D 3 13C3 PFBS | 301.90 > 80.00 | 6.316 | 6.343 | -0.027 | 1830343 | 0.0449 | | 96.6 | 10291 | |
| D 15 18O2 PFHxS | 403.00 > 84.00 | 7.244 | 7.285 | -0.041 | 1559164 | 0.0474 | | 100 | 6947 | |
| D 17 13C4 PFHpA | 367.00 > 322.00 | 7.263 | 7.285 | -0.022 | 2601923 | 0.0520 | | 104 | 14049 | |
| D 20 13C2 PFOA | 415.00 > 370.00 | 7.836 | 7.853 | -0.017 | 1716 | NC | | 0.0 | 19.9 | |
| D 25 13C4 PFOA | 417.00 > 372.00 | 7.836 | 7.856 | -0.020 | 3301084 | 0.0493 | | 98.7 | 12767 | |
| 24 Perfluorooctanoic acid | 413.00 > 369.00 | 7.820 | 7.856 | -0.036 | 0.998 | 9710 | 0.000162 Target=1.55 | | 1.6 | |
| | 413.00 > 169.00 | 7.836 | 7.856 | -0.020 | 1.000 | 5147 | 1.89(0.78-2.33) | | 41.3 | |
| D 26 13C4 PFOS | 503.00 > 80.00 | 8.410 | 8.448 | -0.038 | 1038794 | 0.0457 | | 95.5 | 7421 | |
| D 28 13C5 PFNA | 468.00 > 423.00 | 8.444 | 8.465 | -0.021 | 2573379 | 0.0518 | | 104 | 12048 | |

QC Flag Legend

Processing Flags

NC - Not Calibrated

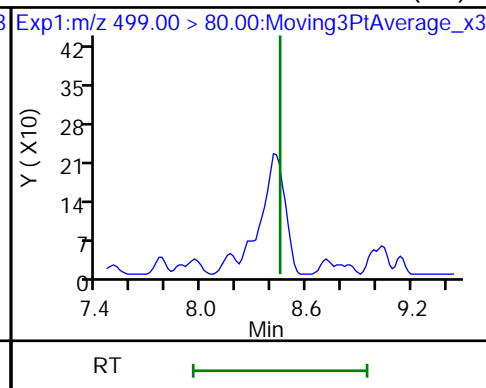
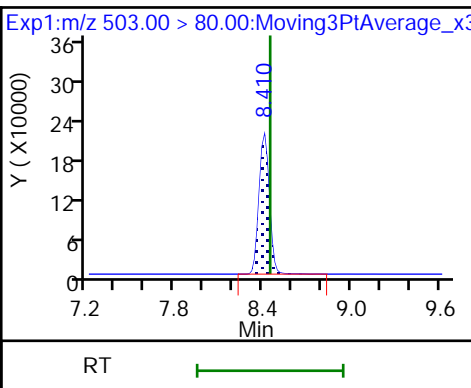
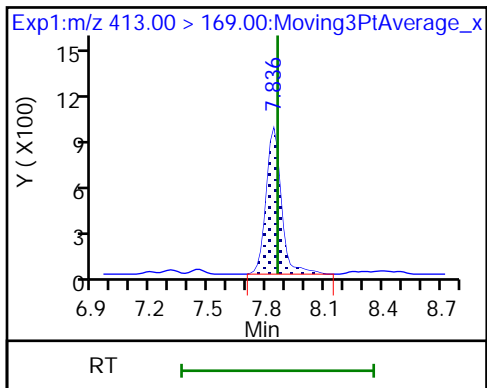
Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_029.d
Injection Date: 13-Feb-2021 17:12:45 Instrument ID: A10
Lims ID: 320-69953-B-7-A Lab Sample ID: 320-69953-7
Client ID: A-75
Operator ID: Sac_inst_A10 ALS Bottle#: 29 Worklist Smp#: 22
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL



24 Perfluorooctanoic acid

D 26 13C4 PFOS

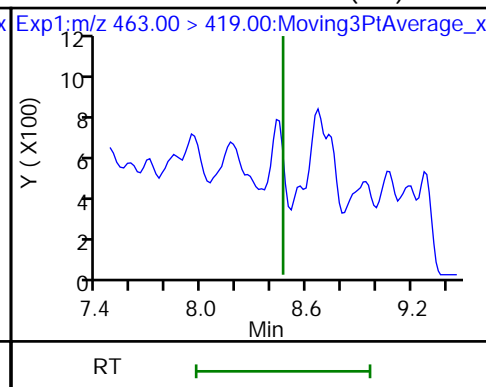
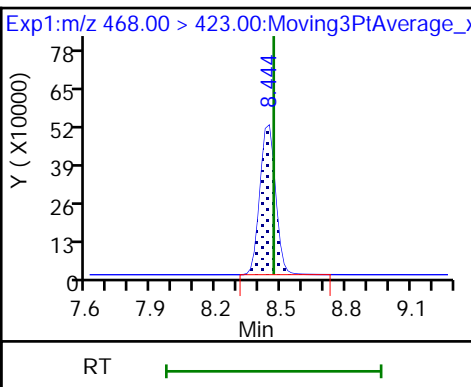
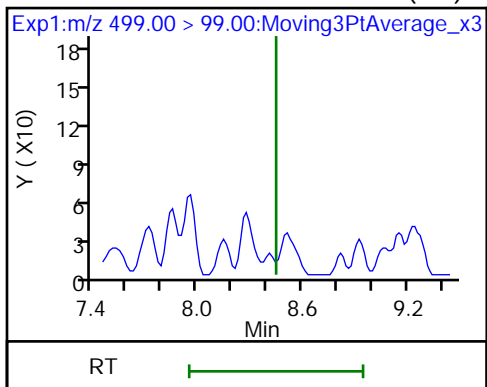
27 Perfluorooctanesulfonic acid (ND)



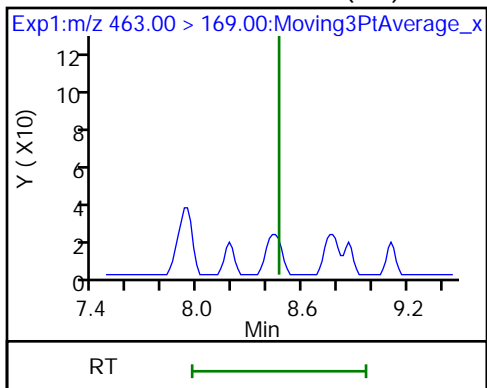
27 Perfluorooctanesulfonic acid (ND)

D 28 13C5 PFNA

29 Perfluorononanoic acid (ND)



29 Perfluorononanoic acid (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Client Sample ID: B-25 Lab Sample ID: 320-69953-8
 Matrix: Water Lab File ID: 2021.02.13_A10_DI_A_030.d
 Analysis Method: WS-LC-0025 Att1 Date Collected: 02/09/2021 11:25
 Extraction Method: PFAS Prep Date Extracted: 02/12/2021 12:41
 Sample wt/vol: 1.00 (mL) Date Analyzed: 02/13/2021 17:31
 Con. Extract Vol.: 1.66 (mL) Dilution Factor: 1
 Injection Volume: 950 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 461813 Units: ng/L

| CAS NO. | COMPOUND NAME | RESULT | Q | RL | |
|-----------|--------------------------------------|--------|---|-----|--|
| 375-73-5 | Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | |
| 355-46-4 | Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | |
| 375-85-9 | Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | |
| 335-67-1 | Perfluorooctanoic acid (PFOA) | ND | | 2.0 | |
| 1763-23-1 | Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | |
| 375-95-1 | Perfluorononanoic acid (PFNA) | ND | | 2.0 | |

| CAS NO. | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00994 | 18O2 PFHxS | 107 | | 25-150 |
| STL01892 | 13C4 PFHpA | 110 | | 25-150 |
| STL00990 | 13C4 PFOA | 103 | | 70-130 |
| STL00991 | 13C4 PFOS | 101 | | 70-130 |
| STL00995 | 13C5 PFNA | 107 | | 25-150 |
| STL02337 | 13C3 PFBS | 102 | | 25-150 |

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_030.d
 Lims ID: 320-69953-B-8-A
 Client ID: B-25
 Sample Type: Client
 Inject. Date: 13-Feb-2021 17:31:11 ALS Bottle#: 30 Worklist Smp#: 23
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: 320-69953-b-8-a
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Method: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 15-Feb-2021 10:35:09 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1642

First Level Reviewer: ruangyotsakuld Date: 15-Feb-2021 10:35:09
 Ratio Calibration: CCV Sample: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_020.d

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------|-----------------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 3 13C3 PFBS | 301.90 > 80.00 | 6.316 | 6.343 | -0.027 | 1930523 | 0.0474 | | 102 | 10436 | |
| D 15 18O2 PFHxS | 403.00 > 84.00 | 7.244 | 7.285 | -0.041 | 1659033 | 0.0505 | | 107 | 15578 | |
| D 17 13C4 PFHpA | 367.00 > 322.00 | 7.262 | 7.285 | -0.023 | 2747324 | 0.0549 | | 110 | 13188 | |
| D 20 13C2 PFOA | 415.00 > 370.00 | 7.836 | 7.853 | -0.017 | 2390 | NC | | 0.0 | 40.5 | |
| D 25 13C4 PFOA | 417.00 > 372.00 | 7.836 | 7.856 | -0.020 | 3433320 | 0.0513 | | 103 | 15669 | |
| 24 Perfluorooctanoic acid | 413.00 > 369.00 | 7.836 | 7.856 | -0.020 | 7953 | 0.000127 | Target=1.55 | | 1.2 | |
| | 413.00 > 169.00 | 7.836 | 7.856 | -0.020 | 3835 | | 2.07(0.78-2.33) | | 24.2 | |
| D 26 13C4 PFOS | 503.00 > 80.00 | 8.410 | 8.448 | -0.038 | 1093862 | 0.0481 | | 101 | 8669 | |
| D 28 13C5 PFNA | 468.00 > 423.00 | 8.444 | 8.465 | -0.021 | 2656262 | 0.0535 | | 107 | 16415 | |

QC Flag Legend

Processing Flags

NC - Not Calibrated

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_030.d

Injection Date: 13-Feb-2021 17:31:11

Instrument ID: A10

Lims ID: 320-69953-B-8-A

Lab Sample ID: 320-69953-8

Client ID: B-25

Operator ID: Sac_inst_A10

ALS Bottle#: 30

Worklist Smp#: 23

Injection Vol: 950.0 ul

Dil. Factor: 1.0000

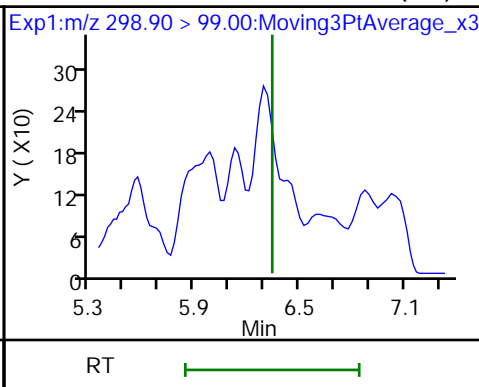
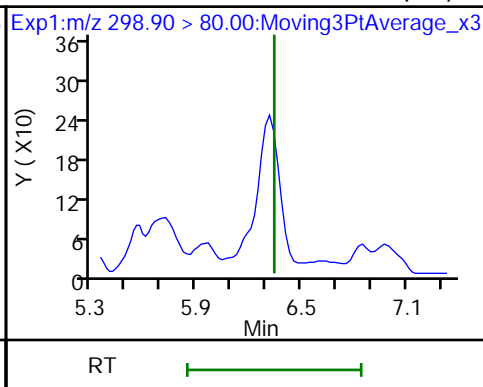
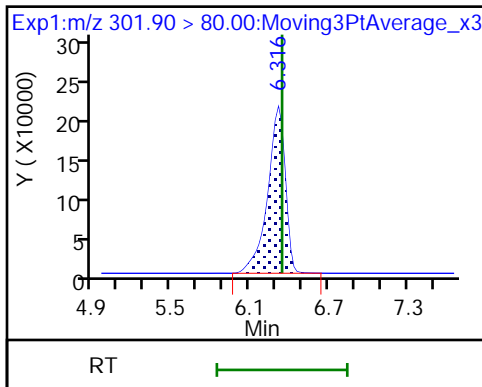
Method: A10_In_Line_SPE

Limit Group: LC PFAS_DW ICAL

D 3 13C3 PFBS

6 Perfluorobutanesulfonic acid (ND)

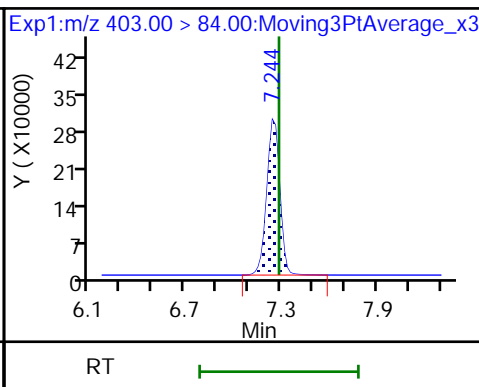
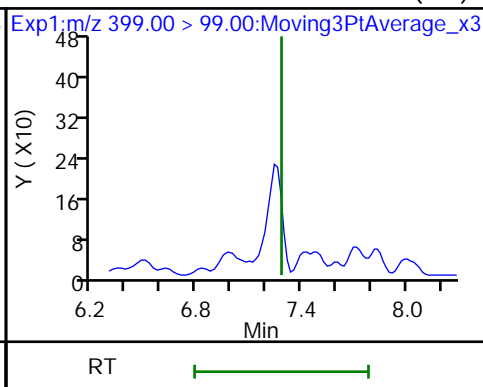
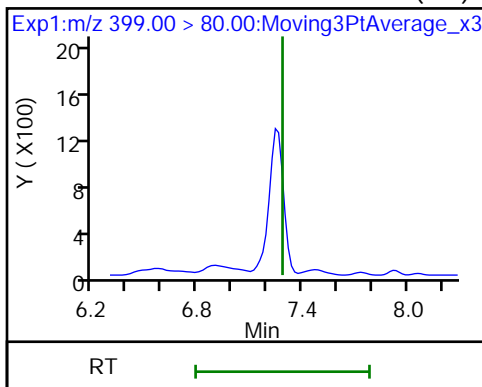
6 Perfluorobutanesulfonic acid (ND)



16 Perfluorohexanesulfonic acid (ND)

16 Perfluorohexanesulfonic acid (ND)

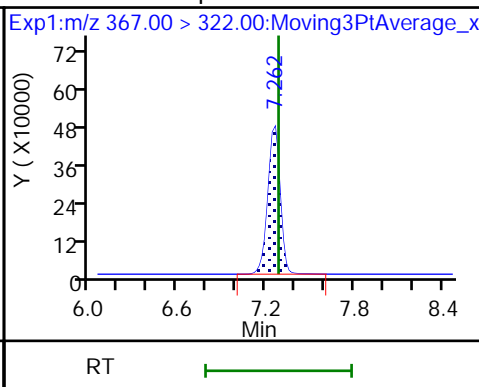
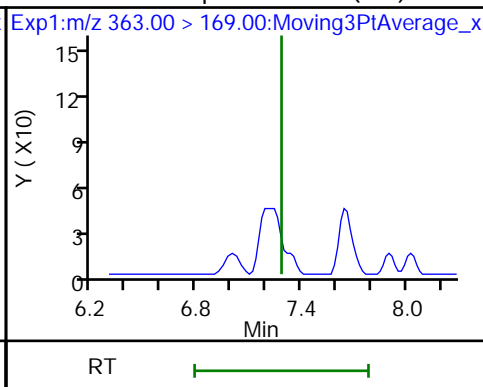
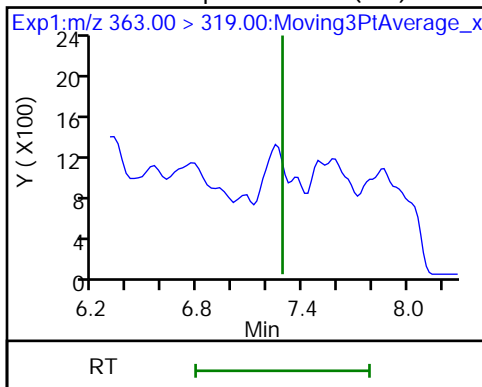
D 15 18O2 PFHxS



18 Perfluoroheptanoic acid (ND)

18 Perfluoroheptanoic acid (ND)

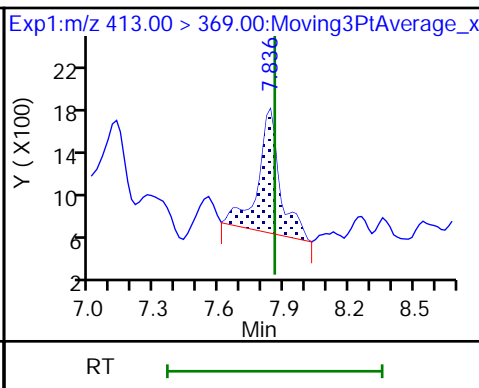
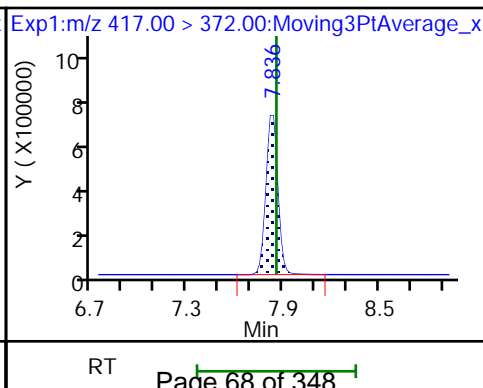
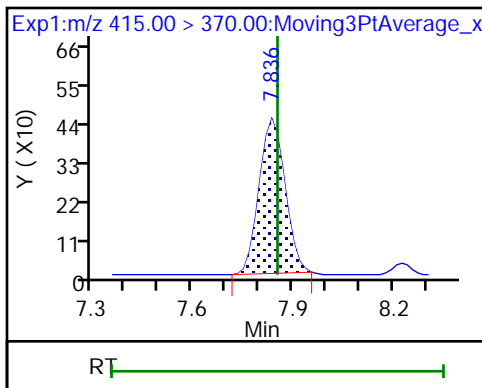
D 17 13C4 PFHpA



D 20 13C2 PFOA

D 25 13C4 PFOA

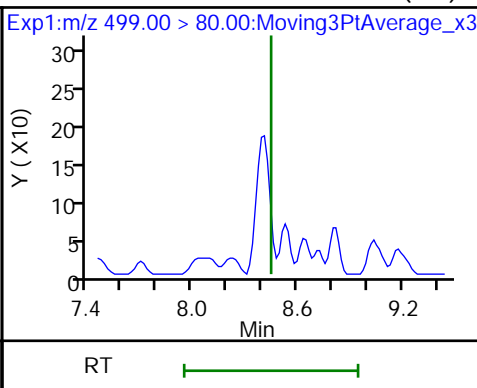
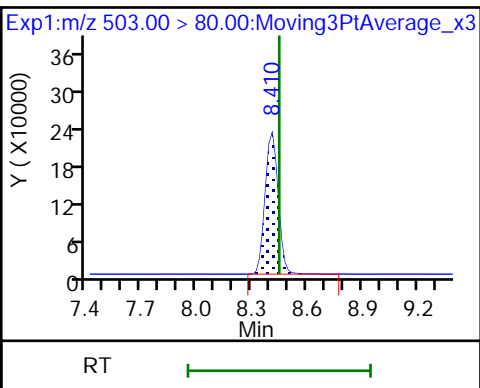
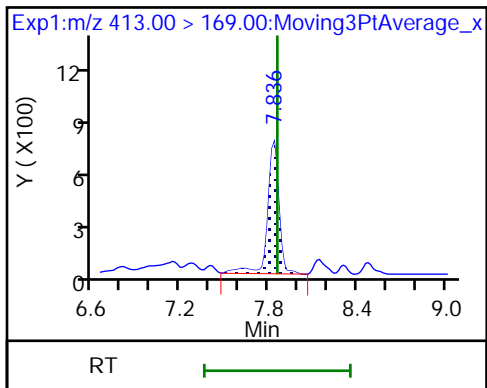
24 Perfluorooctanoic acid



24 Perfluorooctanoic acid

D 26 13C4 PFOS

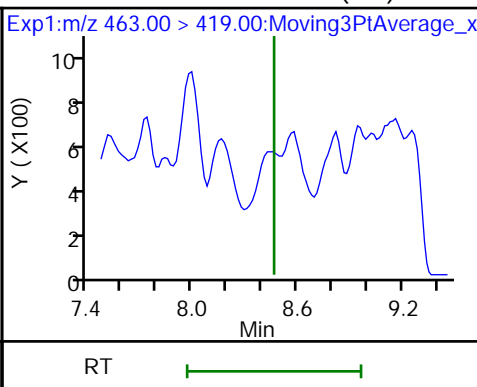
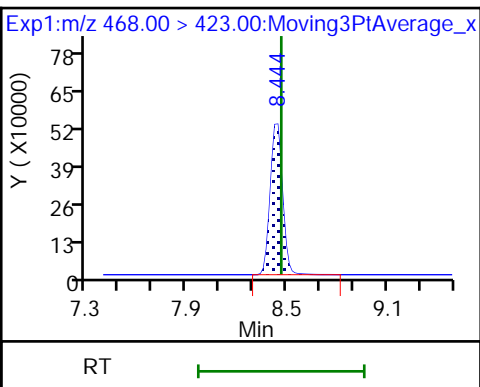
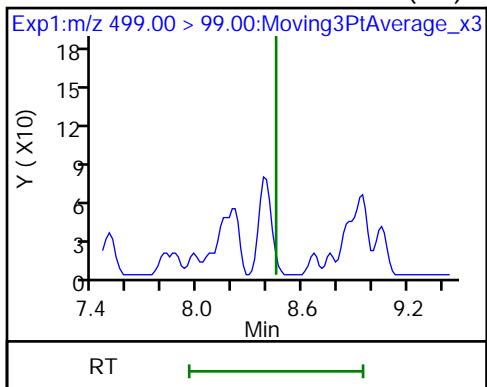
27 Perfluorooctanesulfonic acid (ND)



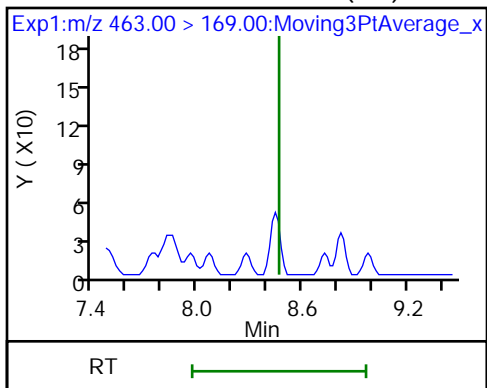
27 Perfluorooctanesulfonic acid (ND)

D 28 13C5 PFNA

29 Perfluorononanoic acid (ND)



29 Perfluorononanoic acid (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Client Sample ID: B-50 Lab Sample ID: 320-69953-9
 Matrix: Water Lab File ID: 2021.02.13_A10_DI_A_032.d
 Analysis Method: WS-LC-0025 Att1 Date Collected: 02/09/2021 11:20
 Extraction Method: PFAS Prep Date Extracted: 02/12/2021 12:41
 Sample wt/vol: 1.00 (mL) Date Analyzed: 02/13/2021 18:08
 Con. Extract Vol.: 1.66 (mL) Dilution Factor: 1
 Injection Volume: 950 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 461813 Units: ng/L

| CAS NO. | COMPOUND NAME | RESULT | Q | RL | |
|-----------|--------------------------------------|--------|---|-----|--|
| 375-73-5 | Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | |
| 355-46-4 | Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | |
| 375-85-9 | Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | |
| 335-67-1 | Perfluorooctanoic acid (PFOA) | ND | | 2.0 | |
| 1763-23-1 | Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | |
| 375-95-1 | Perfluorononanoic acid (PFNA) | ND | | 2.0 | |

| CAS NO. | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00994 | 18O2 PFHxS | 112 | | 25-150 |
| STL01892 | 13C4 PFHpA | 119 | | 25-150 |
| STL00990 | 13C4 PFOA | 112 | | 70-130 |
| STL00991 | 13C4 PFOS | 109 | | 70-130 |
| STL00995 | 13C5 PFNA | 118 | | 25-150 |
| STL02337 | 13C3 PFBS | 109 | | 25-150 |

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_032.d
 Lims ID: 320-69953-B-9-A
 Client ID: B-50
 Sample Type: Client
 Inject. Date: 13-Feb-2021 18:08:04 ALS Bottle#: 32 Worklist Smp#: 25
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: 320-69953-b-9-a
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Method: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 15-Feb-2021 10:35:53 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1642

First Level Reviewer: ruangyotsakuld Date: 15-Feb-2021 10:35:53
 Ratio Calibration: CCV Sample: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_031.d

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------|-----------------|--------|--------|--------|----------|--------------|------------------|------|-------|-------|
| D 3 13C3 PFBS | 301.90 > 80.00 | 6.297 | 6.343 | -0.046 | 2073081 | 0.0509 | | 109 | 12255 | |
| D 15 18O2 PFHxS | 403.00 > 84.00 | 7.248 | 7.285 | -0.037 | 1741842 | 0.0530 | | 112 | 18166 | |
| D 17 13C4 PFHpA | 367.00 > 322.00 | 7.248 | 7.285 | -0.037 | 2976029 | 0.0595 | | 119 | 13251 | |
| D 20 13C2 PFOA | 415.00 > 370.00 | 7.823 | 7.853 | -0.030 | 1647 | NC | | 0.0 | 28.8 | |
| D 25 13C4 PFOA | 417.00 > 372.00 | 7.823 | 7.856 | -0.033 | 3762657 | 0.0562 | | 112 | 18838 | |
| 24 Perfluorooctanoic acid | 413.00 > 369.00 | 7.823 | 7.856 | -0.033 | 8468 | 0.000124 | Target=1.65 | | 1.4 | |
| | 413.00 > 169.00 | 7.823 | 7.856 | -0.033 | 4647 | | 1.82(0.82-2.47) | | 31.6 | |
| D 26 13C4 PFOS | 503.00 > 80.00 | 8.397 | 8.448 | -0.051 | 1190231 | 0.0523 | | 109 | 9249 | |
| D 28 13C5 PFNA | 468.00 > 423.00 | 8.431 | 8.465 | -0.034 | 2942634 | 0.0592 | | 118 | 16366 | |
| 29 Perfluorononanoic acid | 463.00 > 419.00 | 8.431 | 8.465 | -0.034 | 65021 | 0.001163 | Target=7.79 | | 23.3 | |
| | 463.00 > 169.00 | 8.431 | 8.465 | -0.034 | 8376 | | 7.76(3.89-11.68) | | 100 | |

QC Flag Legend
 Processing Flags
 NC - Not Calibrated

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_032.d

Injection Date: 13-Feb-2021 18:08:04

Instrument ID: A10

Lims ID: 320-69953-B-9-A

Lab Sample ID: 320-69953-9

Client ID: B-50

Operator ID: Sac_inst_A10

ALS Bottle#: 32

Worklist Smp#: 25

Injection Vol: 950.0 ul

Dil. Factor: 1.0000

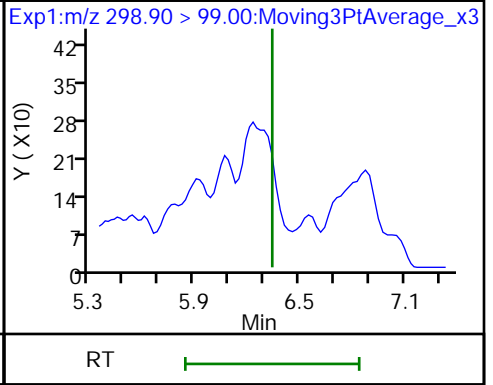
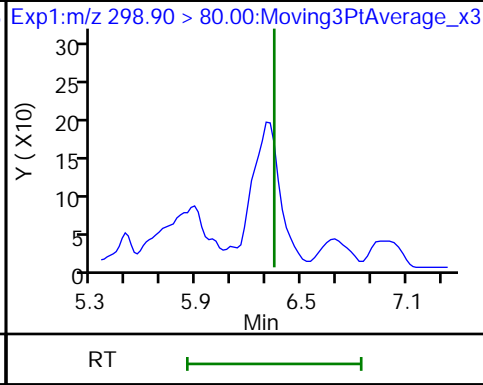
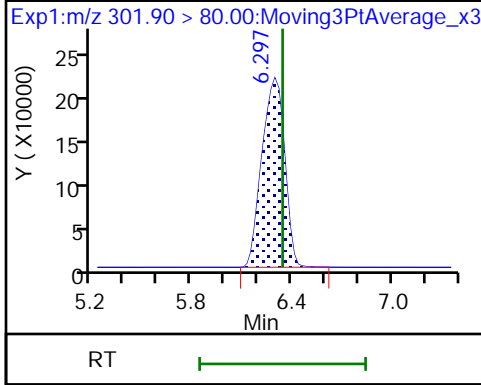
Method: A10_In_Line_SPE

Limit Group: LC PFAS_DW ICAL

D 3 13C3 PFBS

6 Perfluorobutanesulfonic acid (ND)

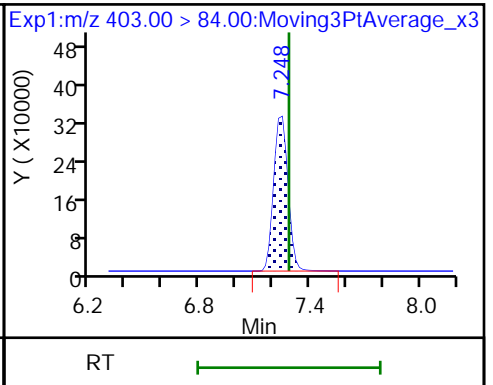
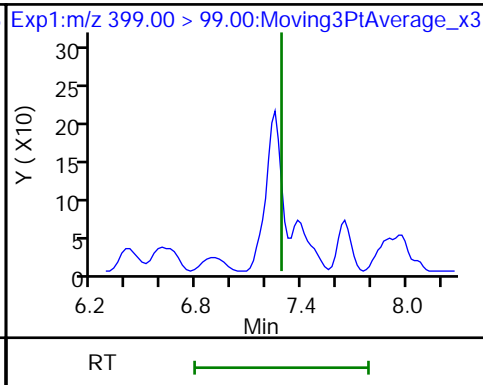
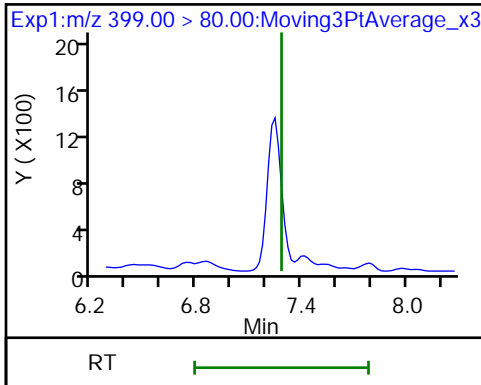
6 Perfluorobutanesulfonic acid (ND)



16 Perfluorohexanesulfonic acid (ND)

16 Perfluorohexanesulfonic acid (ND)

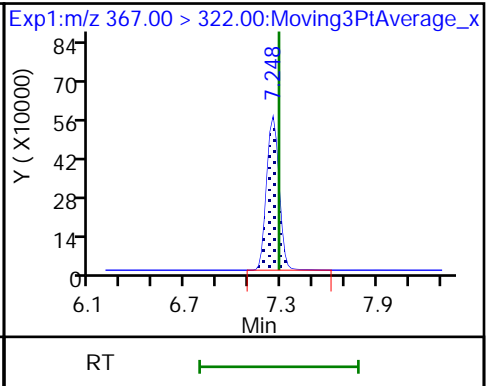
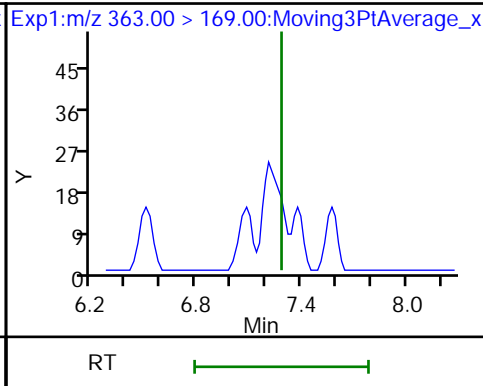
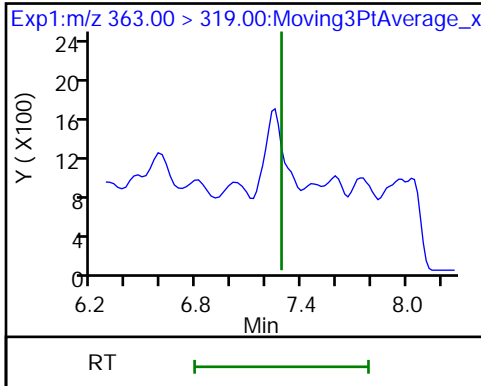
D 15 18O2 PFHxS



18 Perfluoroheptanoic acid (ND)

18 Perfluoroheptanoic acid (ND)

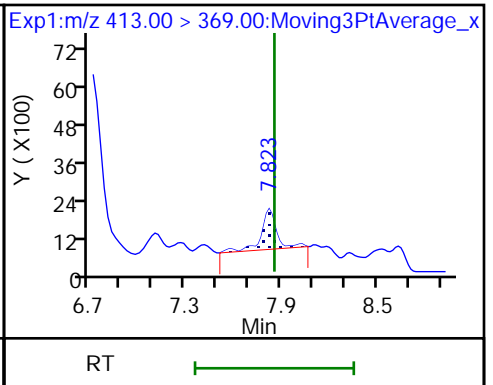
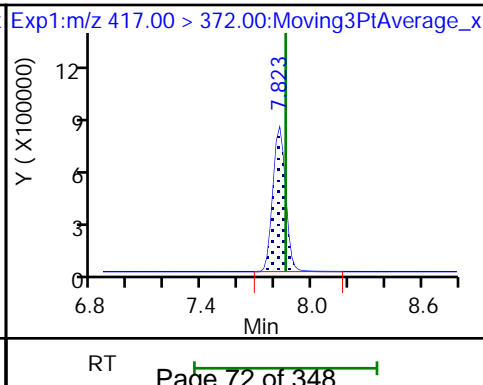
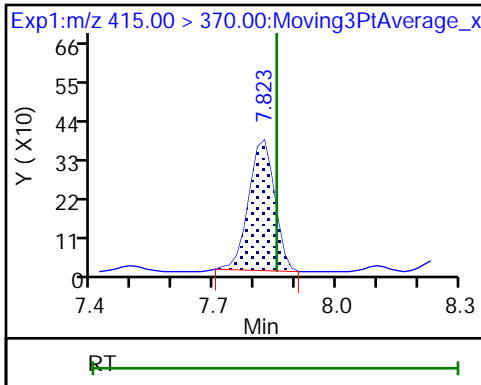
D 17 13C4 PFHpA



D 20 13C2 PFOA

D 25 13C4 PFOA

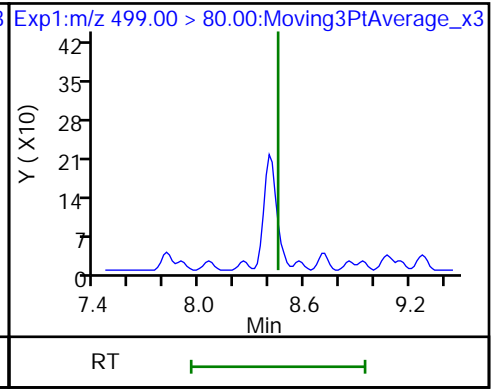
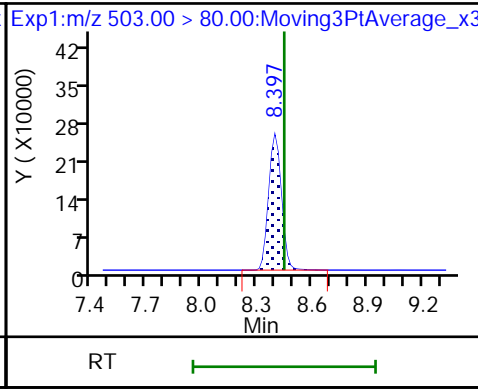
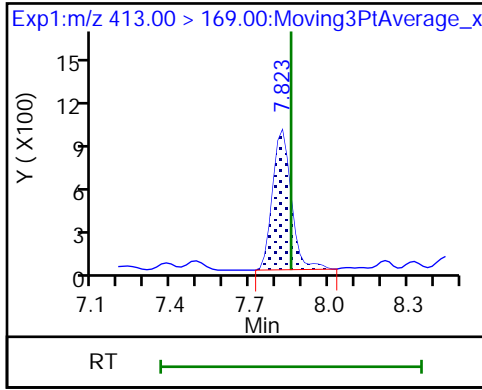
24 Perfluorooctanoic acid



24 Perfluorooctanoic acid

D 26 13C4 PFOS

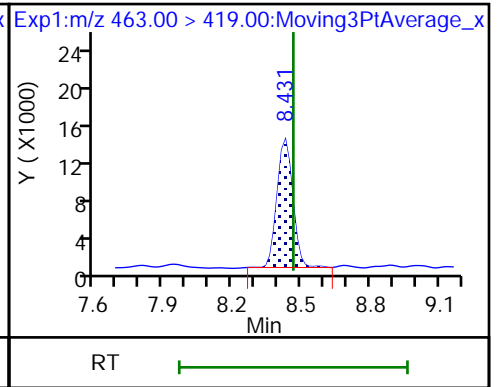
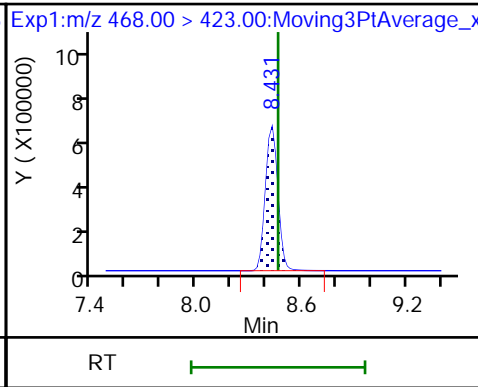
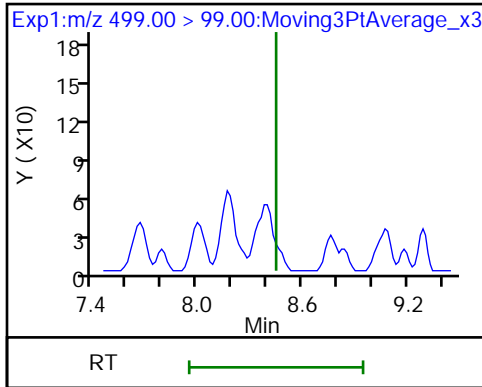
27 Perfluorooctanesulfonic acid (ND)



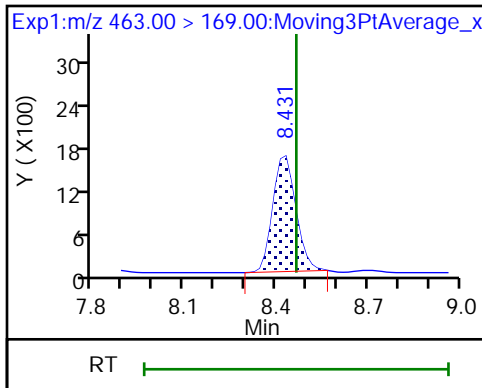
27 Perfluorooctanesulfonic acid (ND)

D 28 13C5 PFNA

29 Perfluorononanoic acid



29 Perfluorononanoic acid



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Client Sample ID: B-75 Lab Sample ID: 320-69953-10
 Matrix: Water Lab File ID: 2021.02.13_A10_DI_A_033.d
 Analysis Method: WS-LC-0025 Att1 Date Collected: 02/09/2021 11:15
 Extraction Method: PFAS Prep Date Extracted: 02/12/2021 12:41
 Sample wt/vol: 1.00 (mL) Date Analyzed: 02/13/2021 18:26
 Con. Extract Vol.: 1.66 (mL) Dilution Factor: 1
 Injection Volume: 950 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 461813 Units: ng/L

| CAS NO. | COMPOUND NAME | RESULT | Q | RL | |
|-----------|--------------------------------------|--------|---|-----|--|
| 375-73-5 | Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | |
| 355-46-4 | Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | |
| 375-85-9 | Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | |
| 335-67-1 | Perfluorooctanoic acid (PFOA) | ND | | 2.0 | |
| 1763-23-1 | Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | |
| 375-95-1 | Perfluorononanoic acid (PFNA) | ND | | 2.0 | |

| CAS NO. | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00994 | 18O2 PFHxS | 113 | | 25-150 |
| STL01892 | 13C4 PFHpA | 113 | | 25-150 |
| STL00990 | 13C4 PFOA | 107 | | 70-130 |
| STL00991 | 13C4 PFOS | 107 | | 70-130 |
| STL00995 | 13C5 PFNA | 110 | | 25-150 |
| STL02337 | 13C3 PFBS | 107 | | 25-150 |

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_033.d
 Lims ID: 320-69953-B-10-A
 Client ID: B-75
 Sample Type: Client
 Inject. Date: 13-Feb-2021 18:26:29 ALS Bottle#: 33 Worklist Smp#: 26
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: 320-69953-b-10-a
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Method: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 15-Feb-2021 10:36:18 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1642

First Level Reviewer: ruangyotsakuld Date: 15-Feb-2021 10:36:18
 Ratio Calibration: CCV Sample: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_031.d

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------|-----------------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 3 13C3 PFBS | 301.90 > 80.00 | 6.293 | 6.343 | -0.050 | 2025581 | 0.0497 | | 107 | 9771 | |
| D 15 18O2 PFHxS | 403.00 > 84.00 | 7.244 | 7.285 | -0.041 | 1762565 | 0.0536 | | 113 | 21571 | |
| D 17 13C4 PFHpA | 367.00 > 322.00 | 7.244 | 7.285 | -0.041 | 2831251 | 0.0566 | | 113 | 13624 | |
| D 25 13C4 PFOA | 417.00 > 372.00 | 7.820 | 7.856 | -0.036 | 3568079 | 0.0533 | | 107 | 17963 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | M |
| | 413.00 > 369.00 | 7.820 | 7.856 | -0.036 | 9326 | 0.000144 | Target=1.65 | | 1.5 | |
| | 413.00 > 169.00 | 7.820 | 7.856 | -0.036 | 4393 | | 2.12(0.82-2.47) | | 35.0 | M |
| D 26 13C4 PFOS | 503.00 > 80.00 | 8.393 | 8.448 | -0.055 | 1159756 | 0.0510 | | 107 | 6665 | |
| D 28 13C5 PFNA | 468.00 > 423.00 | 8.427 | 8.465 | -0.038 | 2736021 | 0.0551 | | 110 | 13526 | |

QC Flag Legend
 Processing Flags
 Review Flags
 M - Manually Integrated

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_033.d

Injection Date: 13-Feb-2021 18:26:29

Instrument ID: A10

Lims ID: 320-69953-B-10-A

Lab Sample ID: 320-69953-10

Client ID: B-75

Operator ID: Sac_inst_A10

ALS Bottle#: 33

Worklist Smp#: 26

Injection Vol: 950.0 ul

Dil. Factor: 1.0000

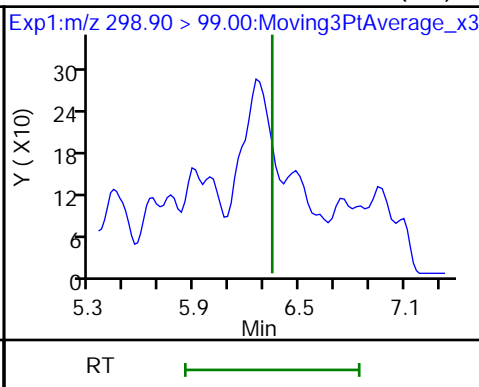
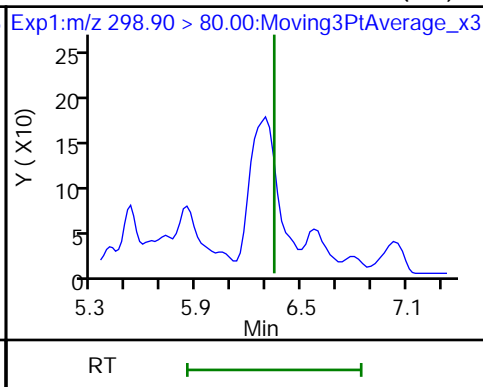
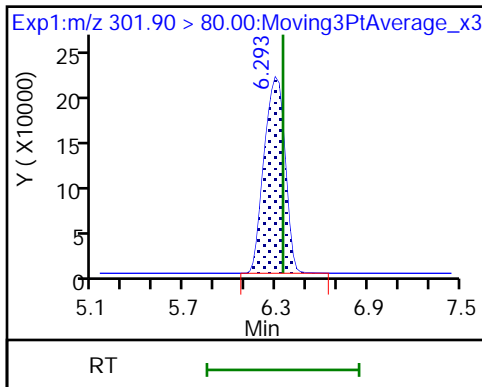
Method: A10_In_Line_SPE

Limit Group: LC PFAS_DW ICAL

D 3 13C3 PFBS

6 Perfluorobutanesulfonic acid (ND)

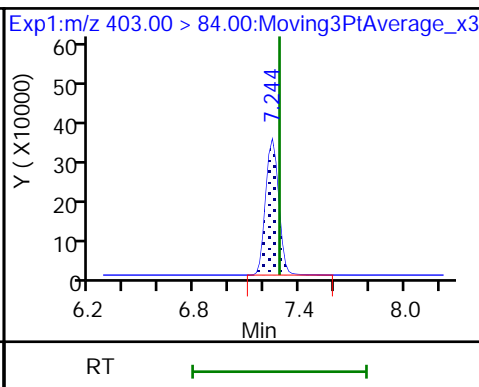
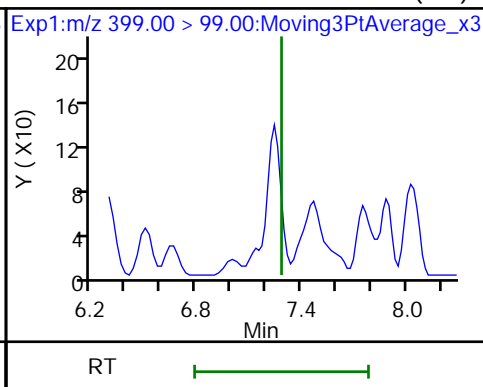
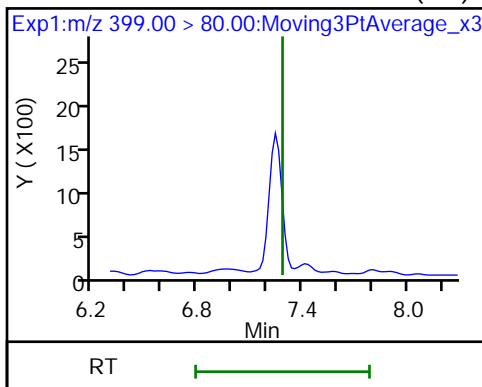
6 Perfluorobutanesulfonic acid (ND)



16 Perfluorohexanesulfonic acid (ND)

16 Perfluorohexanesulfonic acid (ND)

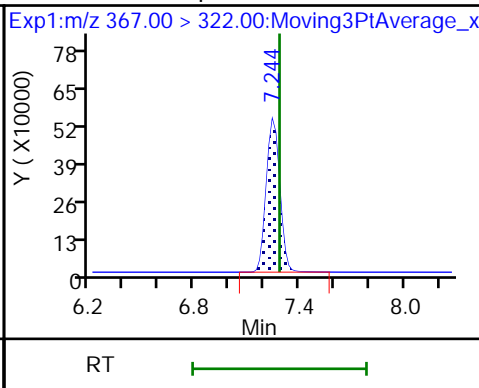
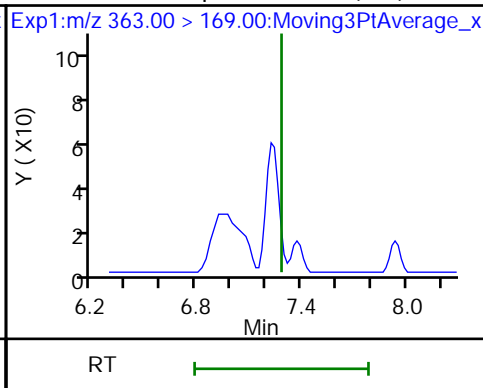
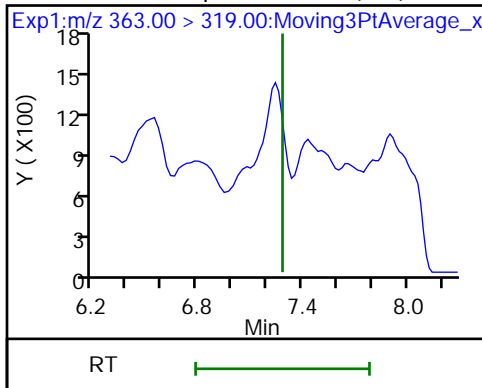
D 15 18O2 PFHxS



18 Perfluoroheptanoic acid (ND)

18 Perfluoroheptanoic acid (ND)

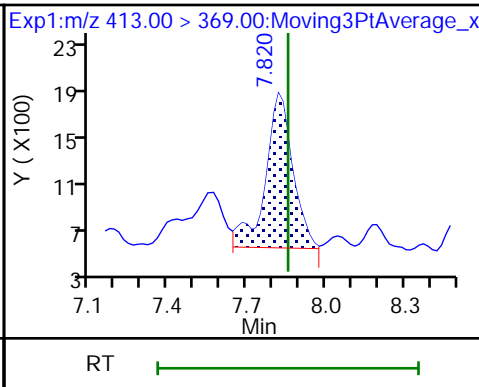
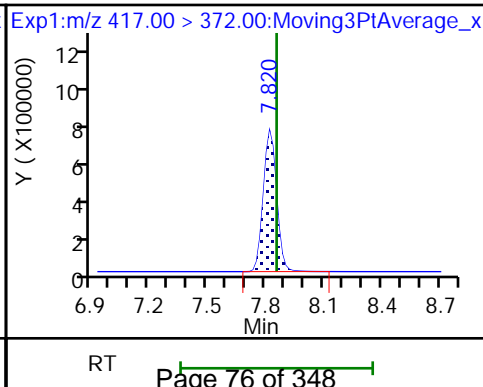
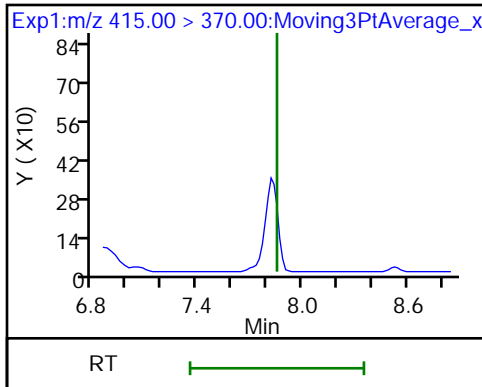
D 17 13C4 PFHpA



D 20 13C2 PFOA (ND)

D 25 13C4 PFOA

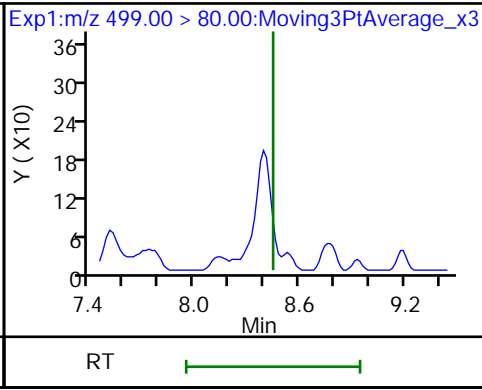
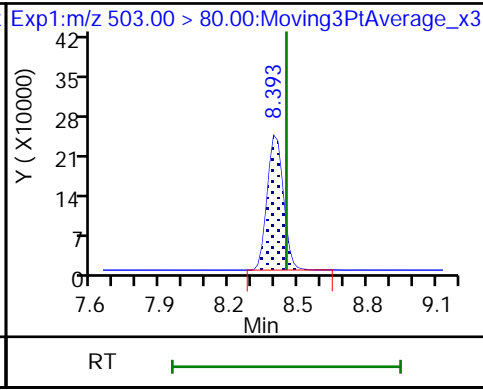
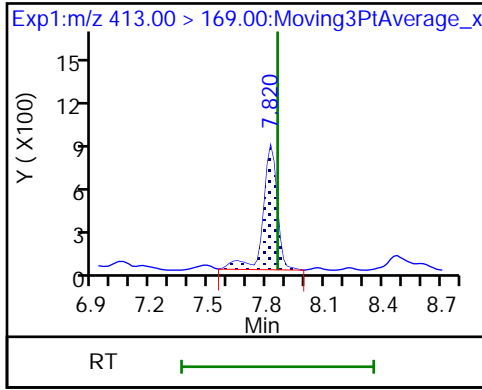
24 Perfluorooctanoic acid



24 Perfluorooctanoic acid (M)

D 26 13C4 PFOS

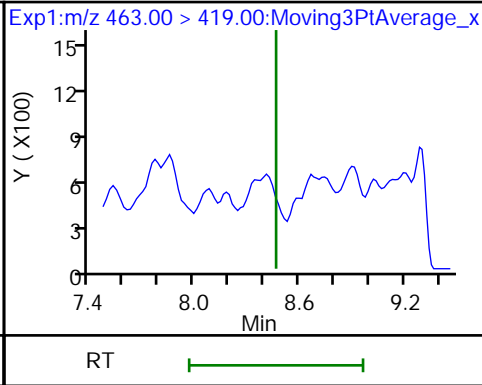
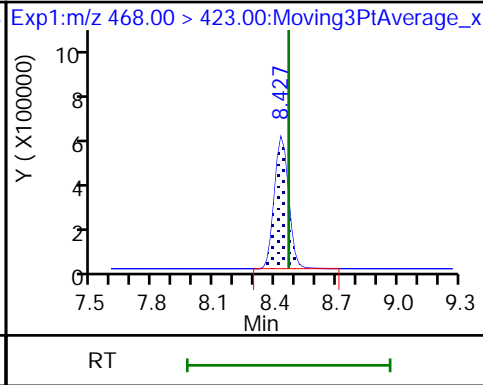
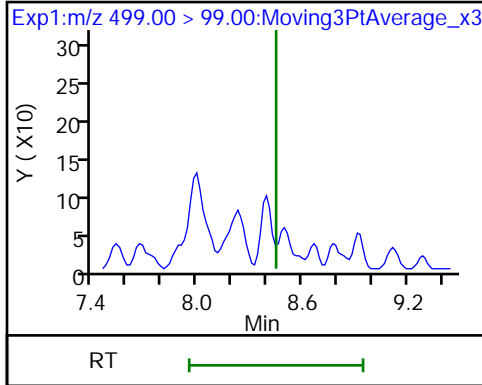
27 Perfluorooctanesulfonic acid (ND)



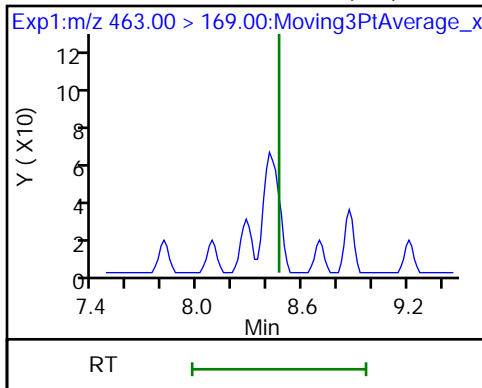
27 Perfluorooctanesulfonic acid (ND)

D 28 13C5 PFNA

29 Perfluorononanoic acid (ND)



29 Perfluorononanoic acid (ND)



Eurofins TestAmerica, Sacramento

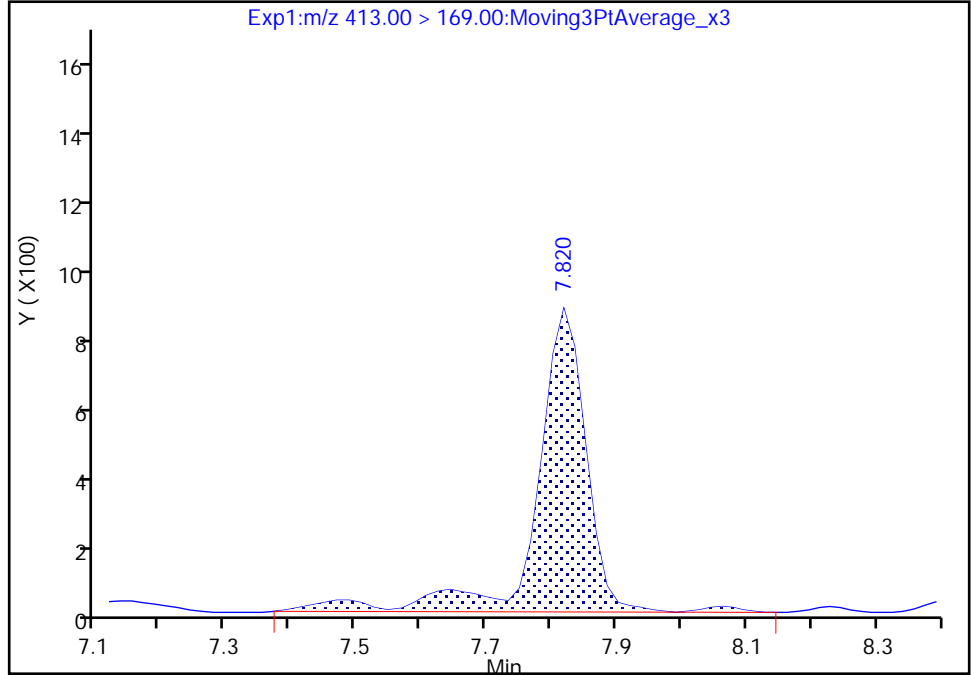
Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_033.d
Injection Date: 13-Feb-2021 18:26:29 Instrument ID: A10
Lims ID: 320-69953-B-10-A Lab Sample ID: 320-69953-10
Client ID: B-75
Operator ID: Sac_inst_A10 ALS Bottle#: 33 Worklist Smp#: 26
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

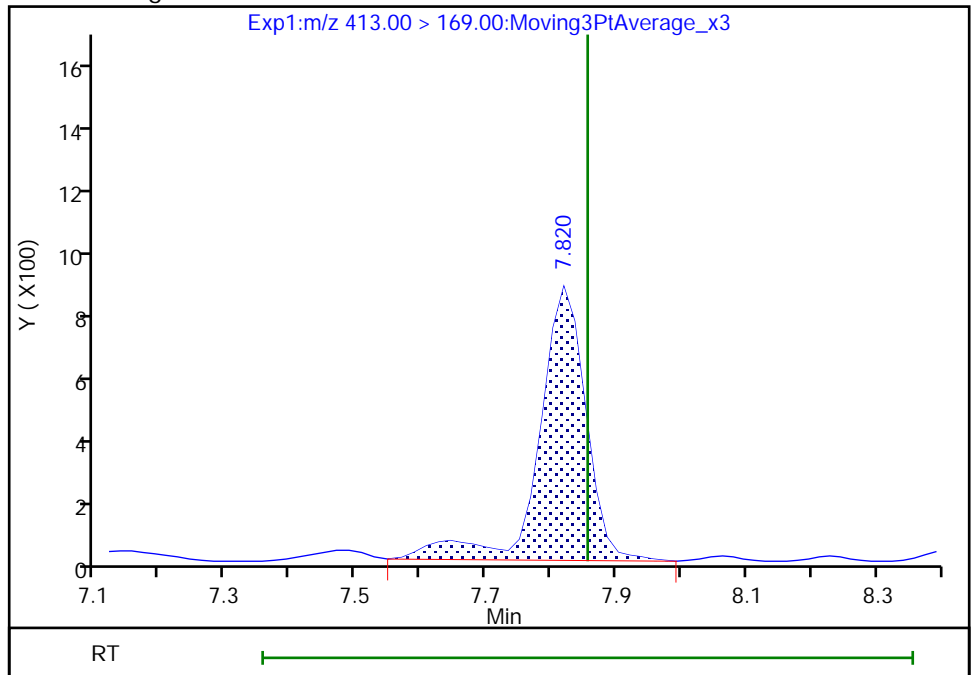
RT: 7.82
Area: 4700
Amount: 0.000144
Amount Units: ng/ml

Processing Integration Results



RT: 7.82
Area: 4393
Amount: 0.000144
Amount Units: ng/ml

Manual Integration Results



Reviewer: ruangyotsakuld, 15-Feb-2021 10:36:11
Audit Action: Manually Integrated

Audit Reason: Baseline
Page 78 of 348

FORM VI
LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1 Analy Batch No.: 460141

SDG No.: _____

Instrument ID: A10 GC Column: GeminiC18 3 ID: 3 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/09/2021 10:37 Calibration End Date: 02/09/2021 12:46 Calibration ID: 54010

Calibration Files:

| LEVEL: | LAB SAMPLE ID: | LAB FILE ID: |
|---------|-----------------|--------------------------------|
| Level 1 | IC 320-460141/2 | 2021.02.09_A10_DI_ICAL_A_002.d |
| Level 2 | IC 320-460141/3 | 2021.02.09_A10_DI_ICAL_A_003.d |
| Level 3 | IC 320-460141/4 | 2021.02.09_A10_DI_ICAL_A_004.d |
| Level 4 | IC 320-460141/5 | 2021.02.09_A10_DI_ICAL_A_005.d |
| Level 5 | IC 320-460141/6 | 2021.02.09_A10_DI_ICAL_A_006.d |
| Level 6 | IC 320-460141/7 | 2021.02.09_A10_DI_ICAL_A_007.d |
| Level 7 | IC 320-460141/8 | 2021.02.09_A10_DI_ICAL_A_008.d |
| Level 8 | IC 320-460141/9 | 2021.02.09_A10_DI_ICAL_A_009.d |

| ANALYTE | LVL 1 | LVL 2 | LVL 3 | LVL 4 | LVL 5 | LVL 6 | LVL 7 | LVL 8 | | | RT WINDOW | AVG RT |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--|--|-----------------|--------|
| Perfluorobutanoic acid | 5.698 | 5.698 | 5.677 | 5.702 | 5.677 | 5.678 | 5.657 | 5.660 | | | 5.181 - 6.181 | 5.681 |
| Perfluoropentanoic acid | 6.316 | 6.293 | 6.293 | 6.320 | 6.293 | 6.293 | 6.293 | 6.297 | | | 5.800 - 6.800 | 6.300 |
| Perfluorobutanesulfonic acid (PFBS) | 6.386 | 6.362 | 6.363 | 6.367 | 6.363 | 6.363 | 6.363 | 6.343 | | | 5.864 - 6.864 | 6.364 |
| Perfluorohexanoic acid | 6.828 | 6.804 | 6.804 | 6.832 | 6.804 | 6.804 | 6.804 | 6.784 | | | 6.308 - 7.308 | 6.808 |
| Perfluorohexanesulfonic acid (PFHxS) | 7.355 | 7.339 | 7.318 | 7.359 | 7.318 | 7.319 | 7.355 | 7.312 | | | 6.840 - 7.840 | 7.334 |
| Perfluoroheptanoic acid (PFHpA) | 7.374 | 7.339 | 7.337 | 7.359 | 7.318 | 7.319 | 7.355 | 7.336 | | | 6.842 - 7.842 | 7.342 |
| 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2) | 7.921 | 7.887 | 7.869 | 7.907 | 7.869 | 7.870 | 7.903 | 7.867 | | | 7.386 - 8.386 | 7.887 |
| Perfluoroheptanesulfonic acid | 7.921 | 7.904 | 7.886 | 7.924 | 7.886 | 7.870 | 7.921 | 7.886 | | | 7.400 - 8.400 | 7.900 |
| Perfluorooctanoic acid (PFOA) | 7.956 | 7.922 | 7.903 | 7.942 | 7.903 | 7.904 | 7.939 | 7.905 | | | 7.429 - 8.429 | 7.922 |
| Perfluorooctanesulfonic acid (PFOS) | 8.530 | 8.494 | 8.478 | 8.517 | 8.484 | 8.473 | 8.496 | 8.481 | | | 7.999 - 8.999 | 8.494 |
| Perfluorononanoic acid (PFNA) | 8.547 | 8.529 | 8.512 | 8.551 | 8.502 | 8.491 | 8.532 | 8.518 | | | 8.023 - 9.023 | 8.523 |
| Perfluorooctanesulfonamide | 9.024 | 9.015 | 8.992 | 9.028 | 8.991 | 8.991 | 9.034 | 9.009 | | | 8.511 - 9.511 | 9.011 |
| Perfluorodecanoic acid | 9.149 | 9.125 | 9.102 | 9.137 | 9.100 | 9.084 | 9.131 | 9.111 | | | 8.617 - 9.617 | 9.117 |
| 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2) | 9.149 | 9.125 | 9.102 | 9.137 | 9.100 | 9.100 | 9.131 | 9.111 | | | 8.619 - 9.619 | 9.119 |
| N-methylperfluorooctanesulfonamidoacetic acid | 9.449 | 9.422 | 9.400 | 9.437 | 9.398 | 9.381 | 9.413 | 9.389 | | | 8.911 - 9.911 | 9.411 |
| Perfluorodecanesulfonic acid | 9.676 | 9.648 | 9.626 | 9.664 | 9.625 | 9.604 | 9.646 | 9.627 | | | 9.140 - 10.140 | 9.640 |
| Perfluoroundecanoic acid | 9.728 | 9.697 | 9.675 | 9.714 | 9.673 | 9.653 | 9.696 | 9.678 | | | 9.189 - 10.189 | 9.689 |
| N-ethylperfluorooctanesulfonamidoacetic acid | 9.747 | 9.715 | 9.691 | 9.732 | 9.690 | 9.669 | 9.714 | 9.695 | | | 9.221 - 10.221 | 9.707 |
| Perfluorododecanoic acid | 10.260 | 10.243 | 10.211 | 10.263 | 10.232 | 10.207 | 10.238 | 10.223 | | | 9.735 - 10.735 | 10.235 |
| Perfluorotridecanoic acid | 10.795 | 10.780 | 10.737 | 10.779 | 10.754 | 10.733 | 10.756 | 10.753 | | | 10.261 - 11.261 | 10.761 |
| Perfluorotetradecanoic acid | 11.291 | 11.293 | 11.242 | 11.277 | 11.256 | 11.231 | 11.249 | 11.253 | | | 10.762 - 11.762 | 11.262 |
| Perfluorohexadecanoic acid | 12.294 | 12.283 | 12.229 | 12.258 | 12.240 | 12.212 | 12.232 | 12.225 | | | 11.747 - 12.747 | 12.247 |
| Perfluorooctadecanoic acid | 13.451 | 13.423 | 13.365 | 13.367 | 13.354 | 13.319 | 13.327 | 13.323 | | | 12.880 - 13.880 | 13.366 |
| 13C4 PFBA | 5.698 | 5.677 | 5.677 | 5.702 | 5.677 | 5.678 | 5.657 | 5.660 | | | 5.178 - 6.178 | 5.678 |
| 13C5 PFPeA | 6.316 | 6.293 | 6.293 | 6.320 | 6.293 | 6.293 | 6.293 | 6.297 | | | 5.800 - 6.800 | 6.300 |
| 13C3 PFBS | 6.386 | 6.362 | 6.363 | 6.367 | 6.363 | 6.363 | 6.363 | 6.343 | | | 5.864 - 6.864 | 6.364 |
| 13C2 PFHxA | 6.828 | 6.804 | 6.804 | 6.832 | 6.804 | 6.804 | 6.804 | 6.784 | | | 6.308 - 7.308 | 6.808 |
| 18O2 PFHxS | 7.374 | 7.339 | 7.318 | 7.359 | 7.318 | 7.319 | 7.355 | 7.312 | | | 6.837 - 7.837 | 7.337 |
| 13C4 PFHpA | 7.374 | 7.339 | 7.337 | 7.359 | 7.318 | 7.319 | 7.355 | 7.336 | | | 6.842 - 7.842 | 7.342 |
| M2-6:2 FTS | 7.921 | 7.887 | 7.869 | 7.907 | 7.869 | 7.870 | 7.903 | 7.867 | | | 7.386 - 8.386 | 7.887 |

FORM VI
 LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
 RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1 Analy Batch No.: 460141

SDG No.: _____

Instrument ID: A10 GC Column: GeminiC18 3 ID: 3 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/09/2021 10:37 Calibration End Date: 02/09/2021 12:46 Calibration ID: 54010

| ANALYTE | LVL 1 | LVL 2 | LVL 3 | LVL 4 | LVL 5 | LVL 6 | LVL 7 | LVL 8 | | | RT WINDOW | AVG RT |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--|--|-----------------|--------|
| 13C4 PFOA | 7.956 | 7.922 | 7.903 | 7.942 | 7.903 | 7.886 | 7.921 | 7.905 | | | 7.417 - 8.417 | 7.917 |
| 13C4 PFOS | 8.530 | 8.494 | 8.478 | 8.517 | 8.467 | 8.473 | 8.496 | 8.481 | | | 7.992 - 8.992 | 8.492 |
| 13C5 PFNA | 8.547 | 8.529 | 8.512 | 8.551 | 8.502 | 8.491 | 8.532 | 8.500 | | | 8.020 - 9.020 | 8.521 |
| 13C8 FOSA | 9.024 | 9.015 | 8.992 | 9.028 | 8.991 | 8.991 | 9.034 | 9.009 | | | 8.511 - 9.511 | 9.011 |
| 13C2 PFDA | 9.149 | 9.125 | 9.102 | 9.137 | 9.100 | 9.084 | 9.131 | 9.111 | | | 8.617 - 9.617 | 9.117 |
| M2-8:2 FTS | 9.149 | 9.125 | 9.102 | 9.137 | 9.100 | 9.084 | 9.131 | 9.111 | | | 8.617 - 9.617 | 9.117 |
| d3-NMeFOSAA | 9.433 | 9.422 | 9.383 | 9.420 | 9.382 | 9.368 | 9.413 | 9.389 | | | 8.901 - 9.901 | 9.401 |
| 13C2 PFUnA | 9.728 | 9.697 | 9.675 | 9.714 | 9.673 | 9.653 | 9.696 | 9.678 | | | 9.189 - 10.189 | 9.689 |
| d5-NMeFOSAA | 9.728 | 9.697 | 9.675 | 9.714 | 9.673 | 9.653 | 9.696 | 9.678 | | | 9.189 - 10.189 | 9.689 |
| 13C2 PFDoA | 10.260 | 10.243 | 10.211 | 10.242 | 10.232 | 10.207 | 10.238 | 10.223 | | | 9.732 - 10.732 | 10.232 |
| 13C2 PFTeDA | 11.291 | 11.293 | 11.242 | 11.277 | 11.256 | 11.231 | 11.249 | 11.253 | | | 10.762 - 11.762 | 11.262 |
| 13C2 PFHxDA | 12.294 | 12.283 | 12.229 | 12.258 | 12.240 | 12.212 | 12.219 | 12.225 | | | 11.745 - 12.745 | 12.245 |

FORM VI
LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1 Analy Batch No.: 460141

SDG No.: _____

Instrument ID: A10 GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/09/2021 10:37 Calibration End Date: 02/09/2021 12:46 Calibration ID: 54010

Calibration Files:

| LEVEL: | LAB SAMPLE ID: | LAB FILE ID: |
|---------|-----------------|--------------------------------|
| Level 1 | IC 320-460141/2 | 2021.02.09_A10_DI_ICAL_A_002.d |
| Level 2 | IC 320-460141/3 | 2021.02.09_A10_DI_ICAL_A_003.d |
| Level 3 | IC 320-460141/4 | 2021.02.09_A10_DI_ICAL_A_004.d |
| Level 4 | IC 320-460141/5 | 2021.02.09_A10_DI_ICAL_A_005.d |
| Level 5 | IC 320-460141/6 | 2021.02.09_A10_DI_ICAL_A_006.d |
| Level 6 | IC 320-460141/7 | 2021.02.09_A10_DI_ICAL_A_007.d |
| Level 7 | IC 320-460141/8 | 2021.02.09_A10_DI_ICAL_A_008.d |
| Level 8 | IC 320-460141/9 | 2021.02.09_A10_DI_ICAL_A_009.d |

| ANALYTE | CF | | | | CURVE TYPE | COEFFICIENT | | | # | MIN CF | %RSD | # | MAX %RSD | R^2 OR COD | # | MIN R^2 OR COD |
|-------------|----------------------|----------------------|----------------------|----------------------|------------|-------------|------------|----|---|--------|------|------|----------|------------|---|----------------|
| | LVL 1 LVL 5 | LVL 2 LVL 6 | LVL 3 LVL 7 | LVL 4 LVL 8 | | B | M1 | M2 | | | | | | | | |
| 13C4 PFBA | 57548900 57160460 | 62588500 52820600 | 55910320 60723700 | 61808900 61277020 | Ave | | 58729800.0 | | | 5.8 | | 50.0 | | | | |
| 13C5 PFPeA | 40428740 45087400 | 44365800 42323420 | 41051840 46900020 | 46425240 44892020 | Ave | | 43934310.0 | | | 5.5 | | 50.0 | | | | |
| 13C3 PFBS | 36857183 42389118 | 41483505 39249183 | 37337183 42084774 | 42695462 43914989 | Ave | | 40751424.7 | | | 6.4 | | 50.0 | | | | |
| 13C2 PFHxA | 46650660 45437120 | 50728140 41728180 | 49816320 47433320 | 51059520 46731560 | Ave | | 47448102.5 | | | 6.5 | | 50.0 | | | | |
| 18O2 PFHxS | 33813192 33362389 | 35502474 29230888 | 31395285 31913066 | 35531268 32151332 | Ave | | 32862486.8 | | | 6.5 | | 50.0 | | | | |
| 13C4 PFHpA | 53823520 44946900 | 55668640 41498540 | 51623220 53349580 | 52294460 47150820 | Ave | | 50044460.0 | | | 9.9 | | 50.0 | | | | |
| M2-6:2 FTS | 8445853 8048653 | 9306337 7508653 | 8318695 7784463 | 8665200 7638084 | Ave | | 8214492.11 | | | 7.3 | | 50.0 | | | | |
| 13C4 PFOA | 66273080 66874720 | 74141280 60820700 | 66818080 67076940 | 69684260 63584120 | Ave | | 66909147.5 | | | 5.9 | | 50.0 | | | | |
| 13C4 PFOS | 20662280 23054205 | 23704728 20352782 | 21590272 24049226 | 24024749 24522134 | Ave | | 22745047.1 | | | 7.2 | | 50.0 | | | | |
| 13C5 PFNA | 49322060 49681640 | 51761220 45657460 | 48983440 50353180 | 52082560 49639160 | Ave | | 49685090.0 | | | 4.0 | | 50.0 | | | | |
| 13C8 FOSA | 36207440 28190840 | 30475900 25778740 | 29280160 31712640 | 33395340 37439320 | Ave | | 31560047.5 | | | 12.6 | | 50.0 | | | | |
| 13C2 PFDA | 48507580 44879980 | 49263180 42316700 | 45779160 48167620 | 50199440 48553020 | Ave | | 47208335.0 | | | 5.6 | | 50.0 | | | | |
| M2-8:2 FTS | 7722255 7266910 | 8880731 6307161 | 7228497 7744217 | 8265595 7855219 | Ave | | 7658823.07 | | | 10.0 | | 50.0 | | | | |
| d3-NMeFOSAA | 18724040 18590780 | 20182880 18083440 | 18439380 20221720 | 19941520 19686540 | Ave | | 19233787.5 | | | 4.5 | | 50.0 | | | | |

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
 LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
 CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1 Analy Batch No.: 460141

SDG No.: _____

Instrument ID: A10 GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/09/2021 10:37 Calibration End Date: 02/09/2021 12:46 Calibration ID: 54010

| ANALYTE | CF | | | | CURVE TYPE | COEFFICIENT | | | # | MIN CF | %RSD | # | MAX %RSD | R^2 OR COD | # | MIN R^2 OR COD |
|-------------|----------------------|----------------------|----------------------|----------------------|---------------|-------------|------------|----|---|--------|------|------|-------------|---------------|---|-------------------|
| | LVL 1 LVL 5 | LVL 2 LVL 6 | LVL 3 LVL 7 | LVL 4 LVL 8 | | B | M1 | M2 | | | | | | | | |
| 13C2 PFUnA | 46138600 45964540 | 47237560 37718880 | 46999360 46892480 | 49926320 46273300 | Ave | | 45893880.0 | | | 7.7 | | 50.0 | | | | |
| d5-NETFOSAA | 21045340 21944340 | 23229140 19203480 | 22218540 22082060 | 23167980 21767680 | Ave | | 21832320.0 | | | 5.9 | | 50.0 | | | | |
| 13C2 PFDoA | 52334940 45417000 | 51774620 41301380 | 46894800 47437040 | 52137940 47942780 | Ave | | 48155062.5 | | | 8.0 | | 50.0 | | | | |
| 13C2 PFTeDA | 93346920 48838400 | 45434860 41418940 | 45252280 55795840 | 59917060 60317220 | Ave | | 56290190.0 | | | 29.4 | | 50.0 | | | | |
| 13C2 PFHxDA | 58551340 20052560 | 20867420 19632920 | 23382440 39299620 | 29103540 49211780 | Ave | | 32512702.5 | | | 45.8 | | 50.0 | | | | |

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1 Analy Batch No.: 460141

SDG No.: _____

Instrument ID: A10 GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/09/2021 10:37 Calibration End Date: 02/09/2021 12:46 Calibration ID: 54010

| ANALYTE | RRF | | | | | CURVE TYPE | COEFFICIENT | | | # | MIN RRF | %RSD | # | MAX %RSD | R ² OR COD | # | MIN R ² OR COD |
|--|------------------|------------------|------------------|--------|--------|------------|-------------|--------|----|---|---------|------|------|----------|-----------------------|---|---------------------------|
| | LVL 1 | LVL 2 | LVL 3 | LVL 4 | LVL 5 | | B | M1 | M2 | | | | | | | | |
| | LVL 6 | LVL 7 | LVL 8 | | | | | | | | | | | | | | |
| Perfluorobutanoic acid | 1.0241 0.8825 | 0.8994 0.8770 | 0.8834 0.8793 | 0.8417 | 0.8462 | AveID | | 0.8917 | | | 6.4 | | 35.0 | | | | |
| Perfluoropentanoic acid | 1.1919 1.0423 | 1.1218 1.0534 | 1.1520 1.0682 | 1.0047 | 1.0214 | AveID | | 1.0820 | | | 6.1 | | 35.0 | | | | |
| Perfluorobutanesulfonic acid (PFBS) | 1.1292 1.0427 | 1.1240 1.0466 | 1.0448 0.9853 | 0.9965 | 1.0163 | AveID | | 1.0482 | | | 5.1 | | 35.0 | | | | |
| Perfluorohexanoic acid | 0.9861 1.0021 | 1.0337 1.0405 | 0.9151 0.9951 | 0.9591 | 1.0031 | AveID | | 0.9919 | | | 4.1 | | 35.0 | | | | |
| Perfluorohexanesulfonic acid (PFHxS) | 1.2441 1.0594 | 1.2519 1.1842 | 1.1309 1.1369 | 1.0947 | 1.0105 | AveID | | 1.1391 | | | 7.5 | | 35.0 | | | | |
| Perfluoroheptanoic acid (PFHpA) | 0.9621 0.9106 | 1.0072 0.9551 | 0.9141 1.0031 | 1.0159 | 0.9888 | AveID | | 0.9757 | | | 3.6 | | 35.0 | | | | |
| 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2) | 2.9463 2.7762 | 4.0312 2.7019 | 2.6481 2.4528 | 3.7817 | 2.6512 | AveID | | 2.9987 | | | 19.4 | | 35.0 | | | | |
| Perfluoroheptanesulfonic acid | 1.3397 1.3389 | 1.2649 1.2640 | 1.3141 1.1793 | 1.2432 | 1.2618 | AveID | | 1.2757 | | | 4.2 | | 50.0 | | | | |
| Perfluorooctanoic acid (PFOA) | 1.0103 0.8936 | 0.9518 0.9166 | 0.8640 0.9006 | 0.8755 | 0.8702 | AveID | | 0.9103 | | | 5.4 | | 35.0 | | | | |
| Perfluorooctanesulfonic acid (PFOS) | 1.0650 1.0615 | 1.0504 1.0192 | 0.9782 0.9748 | 1.0083 | 0.9965 | AveID | | 1.0192 | | | 3.5 | | 35.0 | | | | |
| Perfluorononanoic acid (PFNA) | 0.9795 0.9293 | 1.0055 0.9738 | 0.9232 0.9139 | 0.9369 | 0.9368 | AveID | | 0.9499 | | | 3.4 | | 35.0 | | | | |
| Perfluorooctanesulfonamide | 0.9710 1.0138 | 1.0435 1.0854 | 0.9409 1.0203 | 1.0138 | 1.0210 | AveID | | 1.0137 | | | 4.3 | | 35.0 | | | | |
| Perfluorodecanoic acid | 0.7774 0.8611 | 0.8103 0.8886 | 0.8304 0.7980 | 0.8094 | 0.8801 | AveID | | 0.8319 | | | 4.9 | | 35.0 | | | | |
| 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2) | 2.4487 2.5699 | 2.2454 2.3810 | 2.4553 2.0420 | 2.3754 | 2.3749 | AveID | | 2.3616 | | | 6.7 | | 35.0 | | | | |
| N-methylperfluorooctanesulfonamidoacetic acid | 0.7361 0.9074 | 0.8935 0.8783 | 0.8600 0.8852 | 0.8095 | 0.8680 | AveID | | 0.8548 | | | 6.6 | | 35.0 | | | | |
| Perfluorodecanesulfonic acid | 0.6892 0.6664 | 0.6701 0.6819 | 0.6785 0.6726 | 0.6447 | 0.6277 | AveID | | 0.6664 | | | 3.1 | | 50.0 | | | | |
| Perfluoroundecanoic acid | 0.8902 0.9482 | 0.9141 0.8898 | 0.8777 0.8824 | 0.8409 | 0.8117 | AveID | | 0.8819 | | | 4.7 | | 35.0 | | | | |
| N-ethylperfluorooctanesulfonamidoacetic acid | 0.9627 0.9109 | 0.9092 0.8637 | 0.8322 0.8409 | 0.8204 | 0.8307 | AveID | | 0.8713 | | | 5.8 | | 35.0 | | | | |
| Perfluorododecanoic acid | 0.9043 0.9104 | 0.8086 0.9321 | 0.8947 0.8954 | 0.8504 | 0.8905 | AveID | | 0.8858 | | | 4.4 | | 35.0 | | | | |

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
 LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
 CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1 Analy Batch No.: 460141

SDG No.: _____

Instrument ID: A10 GC Column: GeminiC18 3 ID: 3 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/09/2021 10:37 Calibration End Date: 02/09/2021 12:46 Calibration ID: 54010

| ANALYTE | RRF | | | | | CURVE TYPE | COEFFICIENT | | | # | MIN RRF | %RSD | # | MAX %RSD | R^2 OR COD | # | MIN R^2 OR COD |
|-----------------------------|------------------|------------------|------------------|--------|--------|---------------|-------------|--------|----|---|---------|------|------|-------------|---------------|---|-------------------|
| | LVL 1 | LVL 2 | LVL 3 | LVL 4 | LVL 5 | | B | M1 | M2 | | | | | | | | |
| | LVL 6 | LVL 7 | LVL 8 | | | | | | | | | | | | | | |
| Perfluorotridecanoic acid | 1.5624 1.1477 | 1.0263 1.2211 | 1.1127 1.2519 | 1.1293 | 1.1128 | AveID | | 1.1955 | | | 13.7 | | 50.0 | | | | |
| Perfluorotetradecanoic acid | 0.0416 0.0407 | 0.0358 0.0425 | 0.0442 0.0433 | 0.0398 | 0.0419 | AveID | | 0.0412 | | | 6.3 | | 35.0 | | | | |
| Perfluorohexadecanoic acid | 1.3315 0.8828 | 1.1324 0.9565 | 0.9471 0.9237 | 0.8983 | 0.9370 | AveID | | 1.0011 | | | 15.4 | | 50.0 | | | | |
| Perfluorooctadecanoic acid | 0.1190 0.2704 | 0.2285 0.2665 | 0.2165 0.2442 | 0.1836 | 0.1707 | AveID | | 0.2124 | | | 24.4 | | 50.0 | | | | |

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1 Analy Batch No.: 460141

SDG No.: _____

Instrument ID: A10 GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/09/2021 10:37 Calibration End Date: 02/09/2021 12:46 Calibration ID: 54010

Calibration Files:

| LEVEL: | LAB SAMPLE ID: | LAB FILE ID: |
|---------|-----------------|--------------------------------|
| Level 1 | IC 320-460141/2 | 2021.02.09_A10_DI_ICAL_A_002.d |
| Level 2 | IC 320-460141/3 | 2021.02.09_A10_DI_ICAL_A_003.d |
| Level 3 | IC 320-460141/4 | 2021.02.09_A10_DI_ICAL_A_004.d |
| Level 4 | IC 320-460141/5 | 2021.02.09_A10_DI_ICAL_A_005.d |
| Level 5 | IC 320-460141/6 | 2021.02.09_A10_DI_ICAL_A_006.d |
| Level 6 | IC 320-460141/7 | 2021.02.09_A10_DI_ICAL_A_007.d |
| Level 7 | IC 320-460141/8 | 2021.02.09_A10_DI_ICAL_A_008.d |
| Level 8 | IC 320-460141/9 | 2021.02.09_A10_DI_ICAL_A_009.d |

| ANALYTE | CURVE TYPE | RESPONSE | | | | | CONCENTRATION (NG/ML) | | | | |
|-------------|------------|--------------------|--------------------|--------------------|---------|---------|-----------------------|------------------|------------------|--------|--------|
| | | LVL 1 | LVL 2 | LVL 3 | LVL 4 | LVL 5 | LVL 1 | LVL 2 | LVL 3 | LVL 4 | LVL 5 |
| | | LVL 6 | LVL 7 | LVL 8 | | | LVL 6 | LVL 7 | LVL 8 | | |
| 13C4 PFBA | Ave | 2877445 2641030 | 3129425 3036185 | 2795516 3063851 | 3090445 | 2858023 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 | 0.0500 |
| 13C5 PFPeA | Ave | 2021437 2116171 | 2218290 2345001 | 2052592 2244601 | 2321262 | 2254370 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 | 0.0500 |
| 13C3 PFBS | Ave | 1713859 1825087 | 1928983 1956942 | 1736179 2042047 | 1985339 | 1971094 | 0.0465 0.0465 | 0.0465 0.0465 | 0.0465 0.0465 | 0.0465 | 0.0465 |
| 13C2 PFHxA | Ave | 2332533 2086409 | 2536407 2371666 | 2490816 2336578 | 2552976 | 2271856 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 | 0.0500 |
| 18O2 PFHxS | Ave | 1599364 1382621 | 1679267 1509488 | 1484997 1520758 | 1680629 | 1578041 | 0.0473 0.0473 | 0.0473 0.0473 | 0.0473 0.0473 | 0.0473 | 0.0473 |
| 13C4 PFHpA | Ave | 2691176 2074927 | 2783432 2667479 | 2581161 2357541 | 2614723 | 2247345 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 | 0.0500 |
| M2-6:2 FTS | Ave | 401178 356661 | 442051 369762 | 395138 362809 | 411597 | 382311 | 0.0475 0.0475 | 0.0475 0.0475 | 0.0475 0.0475 | 0.0475 | 0.0475 |
| 13C4 PFOA | Ave | 3313654 3041035 | 3707064 3353847 | 3340904 3179206 | 3484213 | 3343736 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 | 0.0500 |
| 13C4 PFOS | Ave | 987657 972863 | 1133086 1149553 | 1032015 1172158 | 1148383 | 1101991 | 0.0478 0.0478 | 0.0478 0.0478 | 0.0478 0.0478 | 0.0478 | 0.0478 |
| 13C5 PFNA | Ave | 2466103 2282873 | 2588061 2517659 | 2449172 2481958 | 2604128 | 2484082 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 | 0.0500 |
| 13C8 FOSA | Ave | 1810372 1288937 | 1523795 1585632 | 1464008 1871966 | 1669767 | 1409542 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 | 0.0500 |
| 13C2 PFDA | Ave | 2425379 2115835 | 2463159 2408381 | 2288958 2427651 | 2509972 | 2243999 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 | 0.0500 |
| M2-8:2 FTS | Ave | 369896 302113 | 425387 370948 | 346245 376265 | 395922 | 348085 | 0.0479 0.0479 | 0.0479 0.0479 | 0.0479 0.0479 | 0.0479 | 0.0479 |
| d3-NMeFOSAA | Ave | 936202 904172 | 1009144 1011086 | 921969 984327 | 997076 | 929539 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 | 0.0500 |
| 13C2 PFUnA | Ave | 2306930 1885944 | 2361878 2344624 | 2349968 2313665 | 2496316 | 2298227 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 | 0.0500 |

FORM VI
 LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
 RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1 Analy Batch No.: 460141

SDG No.: _____

Instrument ID: A10 GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/09/2021 10:37 Calibration End Date: 02/09/2021 12:46 Calibration ID: 54010

| ANALYTE | CURVE TYPE | RESPONSE | | | | | CONCENTRATION (NG/ML) | | | | |
|-------------|------------|--------------------|--------------------|--------------------|---------|---------|-----------------------|------------------|------------------|--------|--------|
| | | LVL 1 LVL 6 | LVL 2 LVL 7 | LVL 3 LVL 8 | LVL 4 | LVL 5 | LVL 1 LVL 6 | LVL 2 LVL 7 | LVL 3 LVL 8 | LVL 4 | LVL 5 |
| d5-NEtFOSAA | Ave | 1052267 960174 | 1161457 1104103 | 1110927 1088384 | 1158399 | 1097217 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 | 0.0500 |
| 13C2 PFDoA | Ave | 2616747 2065069 | 2588731 2371852 | 2344740 2397139 | 2606897 | 2270850 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 | 0.0500 |
| 13C2 PFTeDA | Ave | 4667346 2070947 | 2271743 2789792 | 2262614 3015861 | 2995853 | 2441920 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 | 0.0500 |
| 13C2 PFHxDA | Ave | 2927567 981646 | 1043371 1964981 | 1169122 2460589 | 1455177 | 1002628 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 0.0500 | 0.0500 | 0.0500 |

Curve Type Legend:

Ave = Average

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1 Analy Batch No.: 460141

SDG No.: _____

Instrument ID: A10 GC Column: GeminiC18 3 ID: 3 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/09/2021 10:37 Calibration End Date: 02/09/2021 12:46 Calibration ID: 54010

Calibration Files:

| LEVEL: | LAB SAMPLE ID: | LAB FILE ID: |
|---------|-----------------|--------------------------------|
| Level 1 | IC 320-460141/2 | 2021.02.09_A10_DI_ICAL_A_002.d |
| Level 2 | IC 320-460141/3 | 2021.02.09_A10_DI_ICAL_A_003.d |
| Level 3 | IC 320-460141/4 | 2021.02.09_A10_DI_ICAL_A_004.d |
| Level 4 | IC 320-460141/5 | 2021.02.09_A10_DI_ICAL_A_005.d |
| Level 5 | IC 320-460141/6 | 2021.02.09_A10_DI_ICAL_A_006.d |
| Level 6 | IC 320-460141/7 | 2021.02.09_A10_DI_ICAL_A_007.d |
| Level 7 | IC 320-460141/8 | 2021.02.09_A10_DI_ICAL_A_008.d |
| Level 8 | IC 320-460141/9 | 2021.02.09_A10_DI_ICAL_A_009.d |

| ANALYTE | IS REF | CURVE TYPE | RESPONSE | | | | | CONCENTRATION (NG/ML) | | | | |
|--|--------|------------|----------------|----------------|----------------|--------|---------|-----------------------|----------------|----------------|---------|--------|
| | | | LVL 1 LVL 6 | LVL 2 LVL 7 | LVL 3 LVL 8 | LVL 4 | LVL 5 | LVL 1 LVL 6 | LVL 2 LVL 7 | LVL 3 LVL 8 | LVL 4 | LVL 5 |
| Perfluorobutanoic acid | | AveID | 58937 | 112580 | 246969 | 520218 | 967386 | 0.00100 | 0.00200 | 0.00500 | 0.0100 | 0.0200 |
| | | | 2330727 | 5325343 | 10775623 | | | 0.0500 | 0.100 | 0.200 | | |
| Perfluoropentanoic acid | | AveID | 48187 | 99541 | 236452 | 466440 | 921028 | 0.00100 | 0.00200 | 0.00500 | 0.0100 | 0.0200 |
| | | | 2205644 | 4940464 | 9591000 | | | 0.0500 | 0.100 | 0.200 | | |
| Perfluorobutanesulfonic acid (PFBS) | | AveID | 36790 | 82441 | 172421 | 376118 | 761626 | 0.000884 | 0.00177 | 0.00442 | 0.00884 | 0.0177 |
| | | | 1808938 | 3893552 | 7650359 | | | 0.0442 | 0.0884 | 0.177 | | |
| Perfluorohexanoic acid | | AveID | 46000 | 104874 | 227929 | 489734 | 911536 | 0.00100 | 0.00200 | 0.00500 | 0.0100 | 0.0200 |
| | | | 2090817 | 4935577 | 9300931 | | | 0.0500 | 0.100 | 0.200 | | |
| Perfluorohexanesulfonic acid (PFHxS) | | AveID | 38282 | 80890 | 161546 | 353962 | 613544 | 0.000910 | 0.00182 | 0.00455 | 0.00910 | 0.0182 |
| | | | 1408978 | 3438952 | 6652638 | | | 0.0455 | 0.0910 | 0.182 | | |
| Perfluoroheptanoic acid (PFHpA) | | AveID | 51781 | 112143 | 248424 | 531262 | 888902 | 0.00100 | 0.00200 | 0.00500 | 0.0100 | 0.0200 |
| | | | 1889519 | 5095452 | 9459313 | | | 0.0500 | 0.100 | 0.200 | | |
| 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2) | | AveID | 23590 | 71129 | 104415 | 310649 | 404583 | 0.000948 | 0.00190 | 0.00474 | 0.00948 | 0.0190 |
| | | | 988085 | 1993919 | 3552099 | | | 0.0474 | 0.0948 | 0.190 | | |
| Perfluoroheptanesulfonic acid | | AveID | 26352 | 57089 | 135052 | 284331 | 553890 | 0.000952 | 0.00190 | 0.00476 | 0.00952 | 0.0190 |
| | | | 1297164 | 2893827 | 5506118 | | | 0.0476 | 0.0952 | 0.190 | | |
| Perfluorooctanoic acid (PFOA) | | AveID | 66954 | 141136 | 288658 | 610087 | 1163934 | 0.00100 | 0.00200 | 0.00500 | 0.0100 | 0.0200 |
| | | | 2717482 | 6148049 | 11452820 | | | 0.0500 | 0.100 | 0.200 | | |
| Perfluorooctanesulfonic acid (PFOS) | | AveID | 20420 | 46213 | 97999 | 224801 | 426407 | 0.000928 | 0.00186 | 0.00464 | 0.00928 | 0.0186 |
| | | | 1002442 | 2274605 | 4436470 | | | 0.0464 | 0.0928 | 0.186 | | |
| Perfluorononanoic acid (PFNA) | | AveID | 48309 | 104093 | 226096 | 487980 | 930882 | 0.00100 | 0.00200 | 0.00500 | 0.0100 | 0.0200 |
| | | | 2121433 | 4903422 | 9073476 | | | 0.0500 | 0.100 | 0.200 | | |
| Perfluorooctanesulfonamide | | AveID | 35159 | 63603 | 137748 | 338563 | 575675 | 0.00100 | 0.00200 | 0.00500 | 0.0100 | 0.0200 |
| | | | 1306665 | 3442124 | 7640195 | | | 0.0500 | 0.100 | 0.200 | | |
| Perfluorodecanoic acid | | AveID | 37711 | 79837 | 190078 | 406317 | 789972 | 0.00100 | 0.00200 | 0.00500 | 0.0100 | 0.0200 |
| | | | 1821958 | 4280187 | 7748629 | | | 0.0500 | 0.100 | 0.200 | | |
| 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2) | | AveID | 18115 | 38207 | 85014 | 188096 | 330668 | 0.000958 | 0.00192 | 0.00479 | 0.00958 | 0.0192 |

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1 Analy Batch No.: 460141

SDG No.: _____

Instrument ID: A10 GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/09/2021 10:37 Calibration End Date: 02/09/2021 12:46 Calibration ID: 54010

| ANALYTE | IS REF | CURVE TYPE | RESPONSE | | | | | CONCENTRATION (NG/ML) | | | | |
|---|--------|------------|----------------|----------------|----------------|--------|---------|-----------------------|----------------|----------------|---------|--------|
| | | | LVL 1 LVL 6 | LVL 2 LVL 7 | LVL 3 LVL 8 | LVL 4 | LVL 5 | LVL 1 LVL 6 | LVL 2 LVL 7 | LVL 3 LVL 8 | LVL 4 | LVL 5 |
| | | | 776414 | 1766435 | 3073407 | | | 0.0479 | 0.0958 | 0.192 | | |
| N-methylperfluorooctanesulfonamidoacetic acid | | AveID | 13782 | 36068 | 79287 | 161426 | 322732 | 0.00100 | 0.00200 | 0.00500 | 0.0100 | 0.0200 |
| | | | 820481 | 1776124 | 3485447 | | | 0.0500 | 0.100 | 0.200 | | |
| Perfluorodecanesulfonic acid | | AveID | 13728 | 30625 | 70611 | 149314 | 279009 | 0.000964 | 0.00193 | 0.00482 | 0.00964 | 0.0193 |
| | | | 653713 | 1580771 | 3179948 | | | 0.0482 | 0.0964 | 0.193 | | |
| Perfluoroundecanoic acid | | AveID | 41071 | 86362 | 206257 | 419847 | 746234 | 0.00100 | 0.00200 | 0.00500 | 0.0100 | 0.0200 |
| | | | 1788327 | 4172285 | 8166045 | | | 0.0500 | 0.100 | 0.200 | | |
| N-ethylperfluorooctanesulfonamidoacetic acid | | AveID | 20260 | 42241 | 92450 | 190059 | 364588 | 0.00100 | 0.00200 | 0.00500 | 0.0100 | 0.0200 |
| | | | 874586 | 1907330 | 3661039 | | | 0.0500 | 0.100 | 0.200 | | |
| Perfluorododecanoic acid | | AveID | 47325 | 83734 | 209782 | 443380 | 808873 | 0.00100 | 0.00200 | 0.00500 | 0.0100 | 0.0200 |
| | | | 1879997 | 4421554 | 8585136 | | | 0.0500 | 0.100 | 0.200 | | |
| Perfluorotridecanoic acid | | AveID | 81770 | 106277 | 260890 | 588799 | 1010808 | 0.00100 | 0.00200 | 0.00500 | 0.0100 | 0.0200 |
| | | | 2370066 | 5792302 | 12004363 | | | 0.0500 | 0.100 | 0.200 | | |
| Perfluorotetradecanoic acid | | AveID | 3885 | 3254 | 10000 | 23869 | 40919 | 0.00100 | 0.00200 | 0.00500 | 0.0100 | 0.0200 |
| | | | 84301 | 237144 | 522434 | | | 0.0500 | 0.100 | 0.200 | | |
| Perfluorohexadecanoic acid | | AveID | 77959 | 47261 | 110726 | 261430 | 375784 | 0.00100 | 0.00200 | 0.00500 | 0.0100 | 0.0200 |
| | | | 866625 | 3758865 | 9091059 | | | 0.0500 | 0.100 | 0.200 | | |
| Perfluorooctadecanoic acid | | AveID | 6968 | 9538 | 25315 | 53437 | 68446 | 0.00100 | 0.00200 | 0.00500 | 0.0100 | 0.0200 |
| | | | 265483 | 1047171 | 2403599 | | | 0.0500 | 0.100 | 0.200 | | |

Curve Type Legend:

AveID = Average isotope dilution

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_002.d
 Lims ID: IC STD 1
 Client ID:
 Sample Type: IC Calib Level: 1
 Inject. Date: 09-Feb-2021 10:37:26 ALS Bottle#: 2 Worklist Smp#: 2
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: IC STD 1 (26)
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Sublist: chrom-A10_In_Line_SPE*sub12

Method: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 09-Feb-2021 13:50:04 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1638

First Level Reviewer: vangmy Date: 09-Feb-2021 11:55:19

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-----------------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 2 13C4 PFBA | 217.00 > 172.00 | 5.698 | 5.678 | 0.020 | 2877445 | 0.0490 | | 98.0 | 8431 | |
| 1 Perfluorobutanoic acid | 212.90 > 169.00 | 5.698 | 5.681 | 0.017 | 58937 | 0.001149 | | 115 | 7.8 | |
| D 4 13C5 PFPeA | 267.90 > 223.00 | 6.316 | 6.300 | 0.016 | 2021437 | 0.0460 | | 92.0 | 9112 | |
| 5 Perfluoropentanoic acid | 262.90 > 219.00 | 6.316 | 6.300 | 0.016 | 48187 | 0.001102 | | 110 | 21.5 | |
| D 3 13C3 PFBS | 301.90 > 80.00 | 6.386 | 6.364 | 0.022 | 1713859 | 0.0421 | | 90.4 | 3953 | |
| 6 Perfluorobutanesulfonic acid | 298.90 > 80.00 | 6.386 | 6.364 | 0.022 | 36790 | 0.000952 | Target=1.49 | 108 | 95.7 | |
| | 298.90 > 99.00 | 6.386 | 6.364 | 0.022 | 23115 | | 1.59(0.74-2.23) | 108 | 42.2 | |
| 8 4:2 FTS | 327.00 > 307.00 | 6.781 | 6.755 | 0.026 | 17719 | NC | Target=2.63 | | 417 | |
| | 327.00 > 81.00 | 6.781 | 6.755 | 0.026 | 7987 | | 2.22(1.32-3.95) | | 20.9 | |
| D 7 M2-4:2 FTS | 329.00 > 81.00 | 6.781 | 6.755 | 0.026 | 315528 | NC | | | 943 | |
| 10 Perfluorohexanoic acid | 313.00 > 269.00 | 6.828 | 6.808 | 0.020 | 46000 | 0.000994 | Target=19.21 | 99.4 | 36.4 | |
| | 313.00 > 119.00 | 6.828 | 6.808 | 0.020 | 3212 | | 14.32(9.60-28.81) | 99.4 | 40.8 | |
| D 9 13C2 PFHxA | 315.00 > 270.00 | 6.828 | 6.808 | 0.020 | 2332533 | 0.0492 | | 98.3 | 12054 | |
| 11 Perfluoropentanesulfonic acid | 349.00 > 80.00 | 6.852 | 6.826 | 0.026 | 33163 | NC | Target=1.46 | | 70.6 | |
| | 349.00 > 99.00 | 6.852 | 6.826 | 0.026 | 22862 | | 1.45(0.73-2.19) | | 76.6 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-------|--------|--------|--------|----------|--------------|------------------|------|-------|-------|
| D 12 13C3 HFPO-DA | | | | | | | | | | |
| 332.10 > 287.00 | 6.976 | 6.961 | 0.015 | | 134531 | NC | | | 1313 | |
| 13 HPFO-DA | | | | | | | | | | |
| 329.10 > 285.00 | 7.002 | 6.964 | 0.038 | 1.004 | 8356 | NC | | | 5.8 | |
| 14 9CIFOS | | | | | | | | | | |
| 531.00 > 351.00 | 7.207 | 7.180 | 0.027 | 0.845 | 395 | NC | | | 1.6 | M |
| D 15 18O2 PFHxS | | | | | | | | | | |
| 403.00 > 84.00 | 7.374 | 7.337 | 0.037 | | 1599364 | 0.0487 | | 103 | 38575 | |
| 16 Perfluorohexanesulfonic acid | | | | | | | | | | |
| 399.00 > 80.00 | 7.355 | 7.340 | 0.015 | 0.997 | 38282 | 0.000994 | Target=5.70 | 109 | 106 | M |
| 399.00 > 99.00 | 7.355 | 7.340 | 0.015 | 0.997 | 6768 | | 5.66(2.85-8.55) | 109 | 43.9 | M |
| 18 Perfluoroheptanoic acid | | | | | | | | | | |
| 363.00 > 319.00 | 7.374 | 7.342 | 0.032 | 1.000 | 51781 | 0.000986 | Target=9.14 | 98.6 | 35.8 | M |
| 363.00 > 169.00 | 7.374 | 7.342 | 0.032 | 1.000 | 5592 | | 9.26(4.57-13.71) | 98.6 | 113 | M |
| D 17 13C4 PFHpA | | | | | | | | | | |
| 367.00 > 322.00 | 7.374 | 7.342 | 0.032 | | 2691176 | 0.0538 | | 108 | 12907 | |
| 19 DONA | | | | | | | | | | |
| 377.00 > 251.00 | 7.431 | 7.397 | 0.034 | 0.871 | 197890 | NC | Target=2.71 | | 1044 | |
| 377.00 > 85.00 | 7.431 | 7.397 | 0.034 | 0.871 | 69836 | | 2.83(1.36-4.07) | | 380 | |
| 23 6:2 FTS | | | | | | | | | | |
| 427.00 > 407.00 | 7.921 | 7.886 | 0.035 | 1.000 | 23590 | 0.000931 | Target=2.56 | 98.3 | 347 | |
| 427.00 > 81.00 | 7.921 | 7.886 | 0.035 | 1.000 | 10401 | | 2.27(1.28-3.83) | 98.3 | 28.1 | |
| D 22 M2-6:2 FTS | | | | | | | | | | |
| 429.00 > 81.00 | 7.921 | 7.886 | 0.035 | | 401178 | 0.0488 | | 103 | 1150 | |
| 21 Perfluoroheptanesulfonic acid | | | | | | | | | | |
| 449.00 > 80.00 | 7.921 | 7.900 | 0.021 | 0.929 | 26352 | 0.001000 | Target=6.98 | 105 | 109 | |
| 449.00 > 99.00 | 7.921 | 7.900 | 0.021 | 0.929 | 4402 | | 5.99(3.49-10.47) | 105 | 53.0 | |
| D 25 13C4 PFOA | | | | | | | | | | |
| 417.00 > 372.00 | 7.956 | 7.917 | 0.039 | | 3313654 | 0.0495 | | 99.0 | 12026 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | |
| 413.00 > 369.00 | 7.956 | 7.929 | 0.027 | 1.000 | 66954 | 0.001110 | Target=1.58 | 111 | 31.4 | M |
| 413.00 > 169.00 | 7.956 | 7.929 | 0.027 | 1.000 | 37953 | | 1.76(0.79-2.37) | 111 | 167 | M |
| D 26 13C4 PFOS | | | | | | | | | | |
| 503.00 > 80.00 | 8.530 | 8.492 | 0.038 | | 987657 | 0.0434 | | 90.8 | 4286 | |
| 27 Perfluorooctanesulfonic acid | | | | | | | | | | |
| 499.00 > 80.00 | 8.530 | 8.499 | 0.031 | 1.000 | 20420 | 0.000970 | Target=3.45 | 104 | 112 | M |
| 499.00 > 99.00 | 8.512 | 8.499 | 0.013 | 0.998 | 6914 | | 2.95(1.73-5.18) | 104 | 44.9 | M |
| D 28 13C5 PFNA | | | | | | | | | | |
| 468.00 > 423.00 | 8.547 | 8.520 | 0.027 | | 2466103 | 0.0496 | | 99.3 | 12543 | |
| 29 Perfluorononanoic acid | | | | | | | | | | |
| 463.00 > 419.00 | 8.547 | 8.523 | 0.024 | 1.000 | 48309 | 0.001031 | Target=7.90 | 103 | 55.0 | M |
| 463.00 > 169.00 | 8.564 | 8.523 | 0.041 | 1.002 | 5826 | | 8.29(3.95-11.85) | 103 | 63.2 | |
| D 30 13C8 FOSA | | | | | | | | | | |
| 506.00 > 78.00 | 9.024 | 9.011 | 0.013 | | 1810372 | 0.0574 | | 115 | 6942 | |
| 31 Perfluorooctanesulfonamide | | | | | | | | | | |
| 498.00 > 78.00 | 9.024 | 9.011 | 0.013 | 1.000 | 35159 | 0.000958 | | 95.8 | 496 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|------|-------|
| 32 Perfluorononanesulfonic acid | | | | | | | | | | |
| 549.00 > 80.00 | 9.117 | 9.080 | 0.037 | 1.069 | 19146 | NC | Target=6.35 | | 214 | |
| 549.00 > 99.00 | 9.117 | 9.080 | 0.037 | 1.069 | 2232 | | 8.58(3.17-9.52) | | 24.7 | |
| D 33 13C2 PFDA | | | | | | | | | | |
| 515.00 > 470.00 | 9.149 | 9.117 | 0.032 | | 2425379 | 0.0514 | | | 103 | 13528 |
| 35 Perfluorodecanoic acid | | | | | | | | | | |
| 513.00 > 469.00 | 9.149 | 9.117 | 0.032 | 1.000 | 37711 | 0.000935 | Target=16.15 | 93.5 | 78.7 | |
| 513.00 > 169.00 | 9.149 | 9.117 | 0.032 | 1.000 | 1979 | | 19.06(8.08-24.23) | 93.5 | 37.1 | |
| D 34 M2-8:2 FTS | | | | | | | | | | |
| 529.00 > 81.00 | 9.149 | 9.117 | 0.032 | | 369896 | 0.0483 | | | 101 | 2450 |
| 36 8:2 FTS | | | | | | | | | | |
| 527.00 > 507.00 | 9.149 | 9.119 | 0.030 | 1.000 | 18115 | 0.000993 | Target=2.35 | | 104 | 314 |
| 527.00 > 81.00 | 9.149 | 9.119 | 0.030 | 1.000 | 7325 | | 2.47(1.17-3.52) | | 104 | 58.4 |
| D 37 d3-NMeFOSAA | | | | | | | | | | |
| 573.00 > 419.00 | 9.433 | 9.401 | 0.032 | | 936202 | 0.0487 | | | 97.3 | 5158 |
| 38 NMeFOSAA | | | | | | | | | | |
| 570.00 > 419.00 | 9.449 | 9.411 | 0.038 | 1.002 | 13782 | 0.000861 | Target=12.28 | 86.1 | 74.5 | M |
| 570.00 > 483.00 | 9.449 | 9.411 | 0.038 | 1.002 | 1580 | | 8.72(6.14-18.41) | 86.1 | 18.8 | M |
| 39 Perfluorodecanesulfonic acid | | | | | | | | | | |
| 599.00 > 80.00 | 9.676 | 9.640 | 0.036 | 1.134 | 13728 | 0.000997 | Target=2.51 | | 103 | 210 |
| 599.00 > 99.00 | 9.660 | 9.640 | 0.020 | 1.132 | 5904 | | 2.33(1.26-3.77) | | 103 | 129 |
| 41 Perfluoroundecanoic acid | | | | | | | | | | |
| 563.00 > 519.00 | 9.728 | 9.689 | 0.039 | 1.000 | 41071 | 0.001009 | Target=20.47 | | 101 | 95.2 |
| 563.00 > 169.00 | 9.728 | 9.689 | 0.039 | 1.000 | 2567 | | 16.00(10.24-30.71) | | 101 | 49.6 |
| D 42 13C2 PFUnA | | | | | | | | | | |
| 565.00 > 520.00 | 9.728 | 9.689 | 0.039 | | 2306930 | 0.0503 | | | 101 | 16357 |
| D 40 d5-NEtFOSAA | | | | | | | | | | |
| 589.00 > 419.00 | 9.728 | 9.689 | 0.039 | | 1052267 | 0.0482 | | | 96.4 | 3261 |
| 43 NEtFOSA | | | | | | | | | | |
| 584.00 > 419.00 | 9.747 | 9.721 | 0.026 | 1.002 | 20260 | 0.001105 | Target=13.05 | | 110 | 193 |
| 584.00 > 483.00 | 9.728 | 9.721 | 0.007 | 1.000 | 2062 | | 9.83(6.52-19.57) | | 110 | 7.3 |
| 44 11C1FOS | | | | | | | | | | |
| 631.00 > 451.00 | 9.952 | 9.929 | 0.023 | 1.167 | 110759 | NC | | | | 956 |
| D 45 13C2 PFDoA | | | | | | | | | | |
| 615.00 > 570.00 | 10.260 | 10.232 | 0.028 | | 2616747 | 0.0543 | | | 109 | 16757 |
| 46 Perfluorododecanoic acid | | | | | | | | | | |
| 613.00 > 569.00 | 10.260 | 10.235 | 0.025 | 1.000 | 47325 | 0.001021 | Target=17.11 | | 102 | 32.6 |
| 613.00 > 169.00 | 10.260 | 10.235 | 0.025 | 1.000 | 2177 | | 21.74(8.55-25.66) | | 102 | 33.1 |
| 47 10:2 FTS | | | | | | | | | | |
| 627.00 > 607.00 | 10.302 | 10.264 | 0.038 | 1.126 | 26466 | NC | Target=32.58 | | | 513 |
| 627.00 > 81.00 | 10.302 | 10.264 | 0.038 | 1.126 | 1281 | | 20.66(16.29-48.87) | | | 25.8 |
| 48 PFDoS | | | | | | | | | | |
| 699.00 > 80.00 | 10.725 | 10.690 | 0.035 | 1.257 | 9788 | NC | Target=0.47 | | | 150 |
| 699.00 > 99.00 | 10.725 | 10.690 | 0.035 | 1.257 | 20285 | | 0.48(0.24-0.71) | | | 294 |
| 49 Perfluorotridecanoic acid | | | | | | | | | | |
| 663.00 > 619.00 | 10.795 | 10.761 | 0.034 | 1.052 | 81770 | 0.001307 | Target=18.64 | | 131 | 45.4 |
| 663.00 > 169.00 | 10.795 | 10.761 | 0.034 | 1.052 | 4189 | | 19.52(9.32-27.96) | | 131 | 122 |

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| 50 Perfluorotetradecanoic acid | | | | | | | | | | |
| 713.00 > 169.00 | 11.291 | 11.262 | 0.029 | 1.000 | 3885 | 0.001009 | Target=1.23 | 101 | 143 | |
| 713.00 > 219.00 | 11.291 | 11.262 | 0.029 | 1.000 | 2957 | | 1.31(0.62-1.85) | 101 | 94.3 | |
| D 51 13C2 PFTeDA | | | | | | | | | | |
| 715.00 > 670.00 | 11.291 | 11.262 | 0.029 | | 4667346 | 0.0829 | | 166 | 16641 | |
| D 52 13C2 PFHxDA | | | | | | | | | | |
| 815.00 > 770.00 | 12.294 | 12.245 | 0.049 | | 2927567 | 0.0900 | | 180 | 15128 | |
| 54 Perfluorohexadecanoic acid | | | | | | | | | | |
| 813.00 > 769.00 | 12.294 | 12.247 | 0.047 | 1.000 | 77959 | 0.001330 | Target=29.80 | 133 | 39.4 | |
| 813.00 > 169.00 | 12.294 | 12.247 | 0.047 | 1.000 | 2570 | | 30.33(14.90-44.69) | 133 | 59.2 | |
| 53 Perfluorooctadecanoic acid | | | | | | | | | | |
| 913.00 > 869.00 | 13.451 | 13.380 | 0.071 | 1.094 | 6968 | 0.000560 | Target=33.62 | 56.0 | 9.4 | M |
| 913.00 > 169.00 | 13.437 | 13.380 | 0.057 | 1.093 | 259 | | 26.90(16.81-50.42) | 56.0 | 8.1 | M |

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

Reagents:

LCPFC-LL-L1_00026

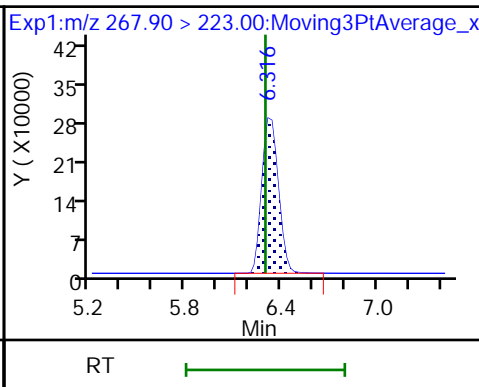
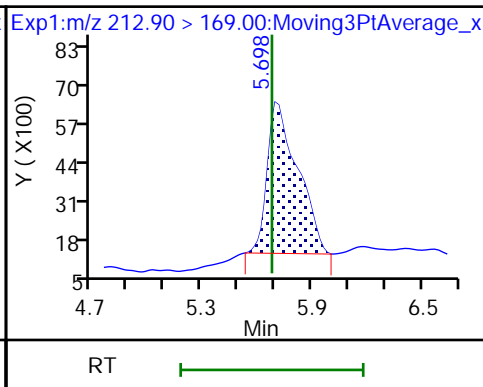
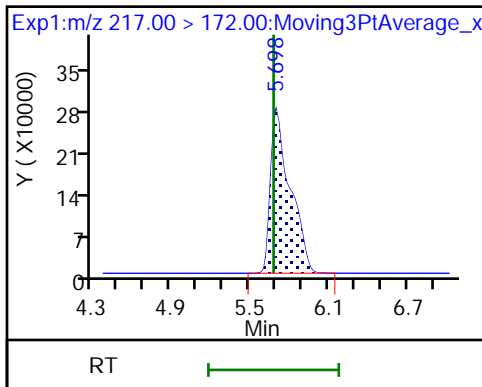
Amount Added: 1.00

Units: mL

D 2 13C4 PFBA

1 Perfluorobutanoic acid

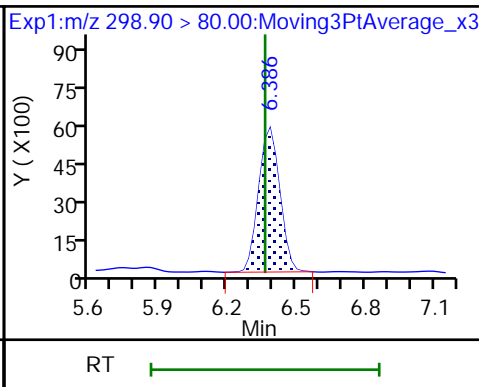
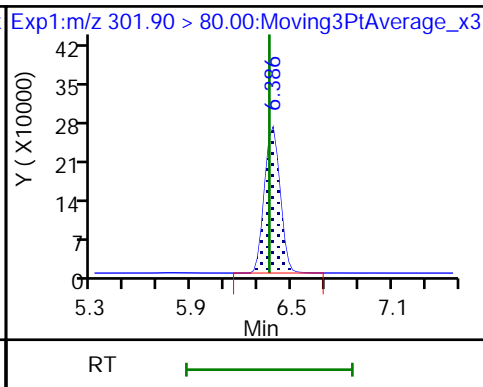
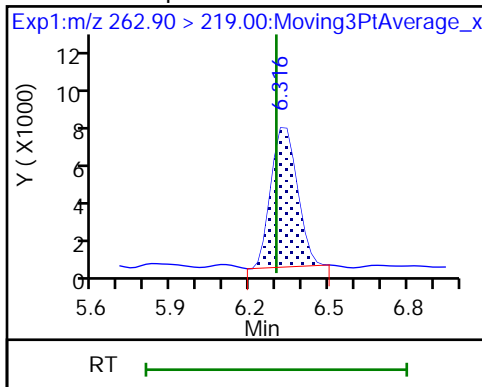
D 4 13C5 PFPeA



5 Perfluoropentanoic acid

D 3 13C3 PFBS

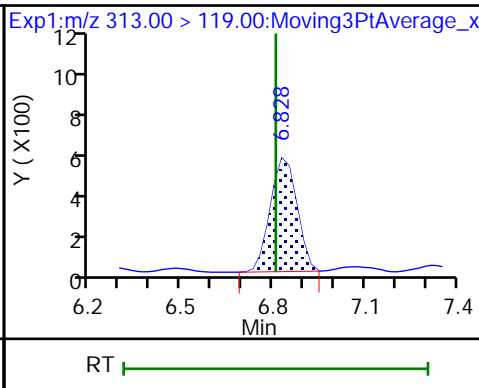
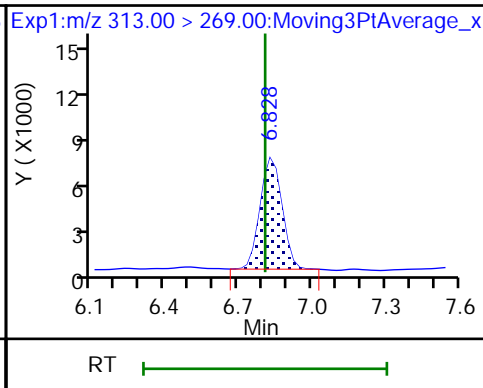
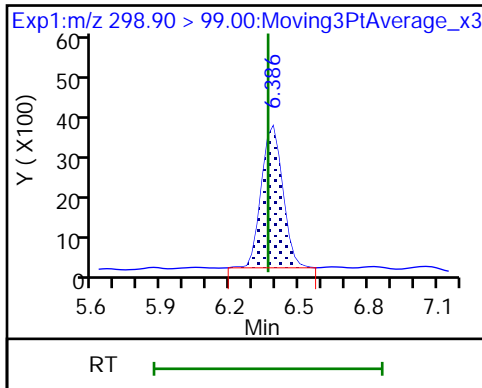
6 Perfluorobutanesulfonic acid



6 Perfluorobutanesulfonic acid

10 Perfluorohexanoic acid

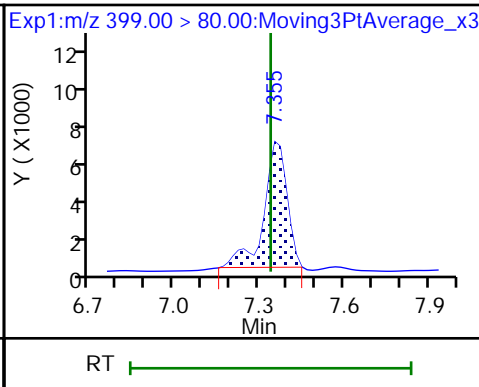
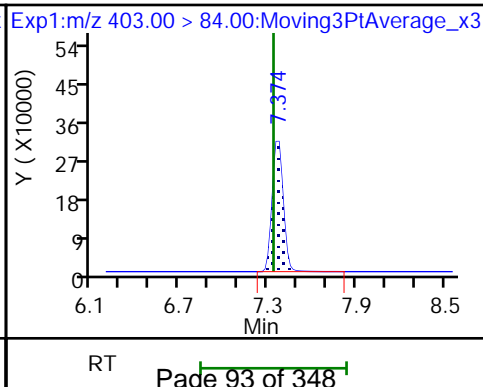
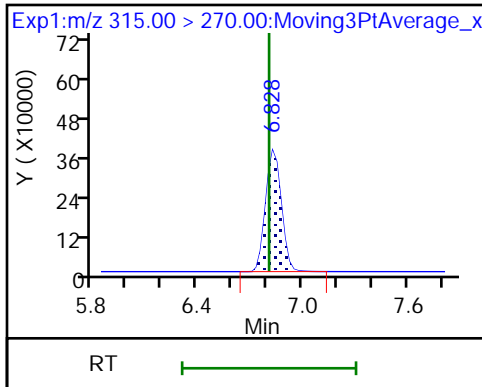
10 Perfluorohexanoic acid



D 9 13C2 PFHxA

D 15 18O2 PFHxS

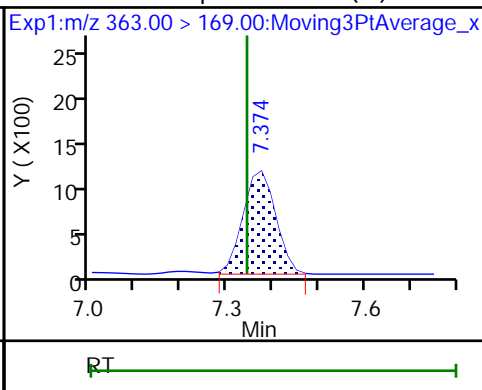
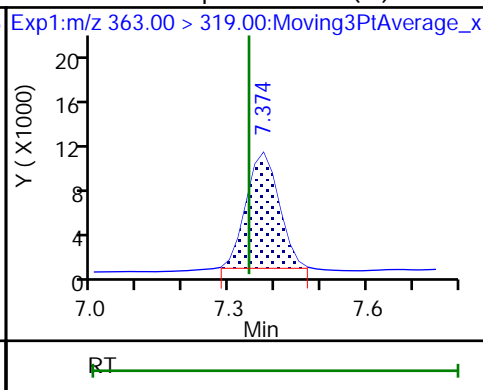
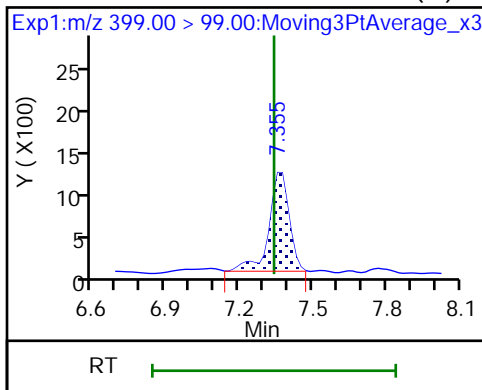
16 Perfluorohexanesulfonic acid (M)



16 Perfluorohexanesulfonic acid (M)

18 Perfluoroheptanoic acid (M)

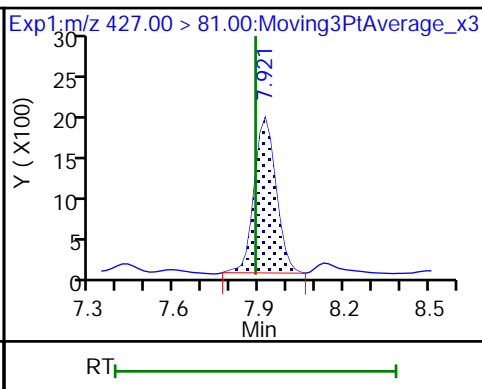
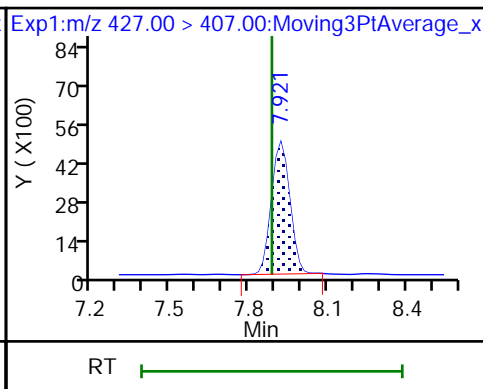
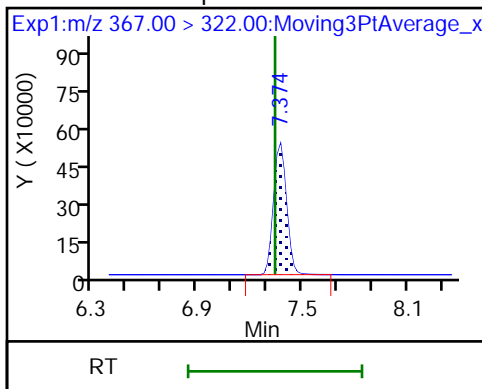
18 Perfluoroheptanoic acid (M)



D 17 13C4 PFHpA

23 6:2 FTS

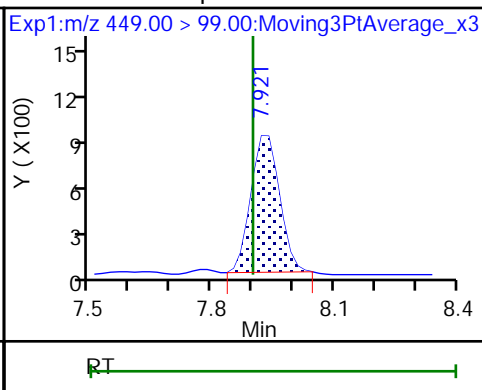
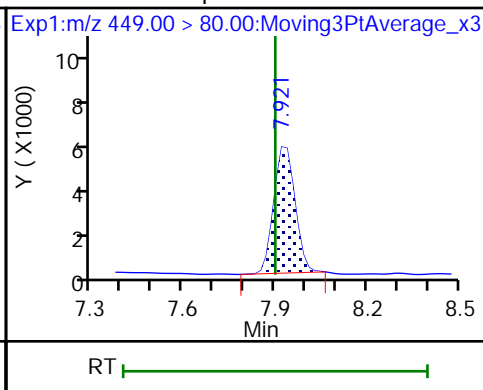
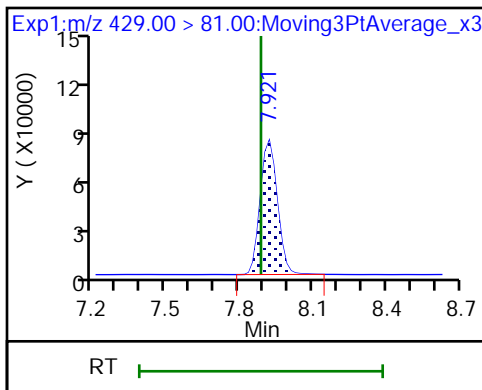
23 6:2 FTS



D 22 M2-6:2 FTS

21 Perfluoroheptanesulfonic acid

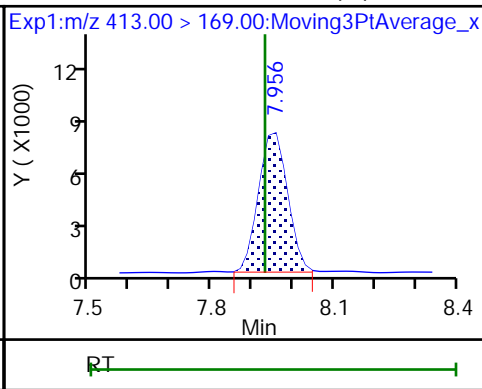
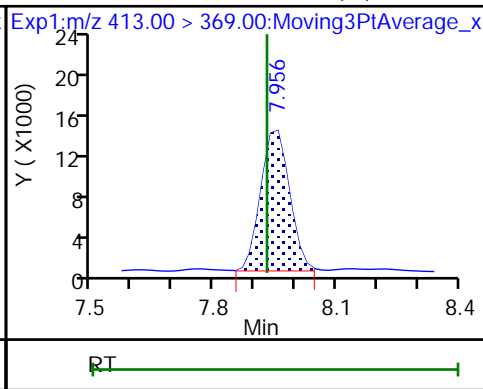
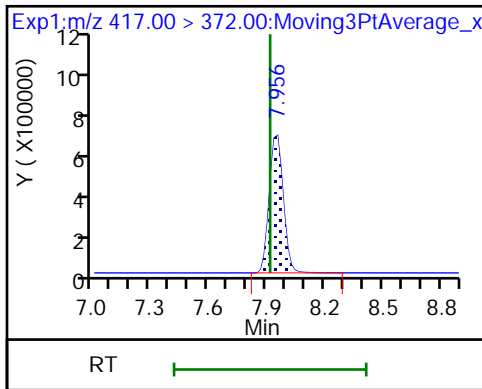
21 Perfluoroheptanesulfonic acid



D 25 13C4 PFOA

24 Perfluorooctanoic acid (M)

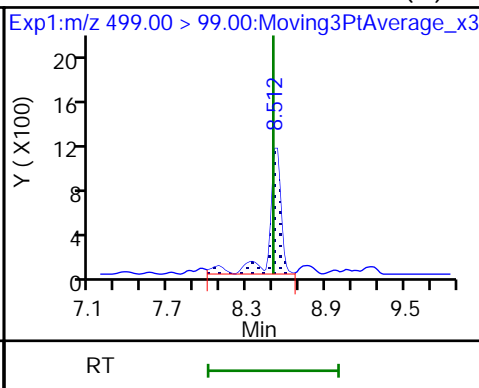
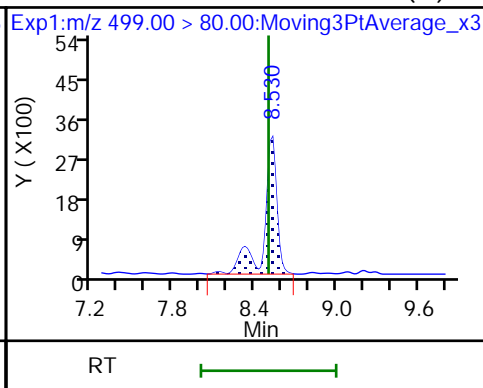
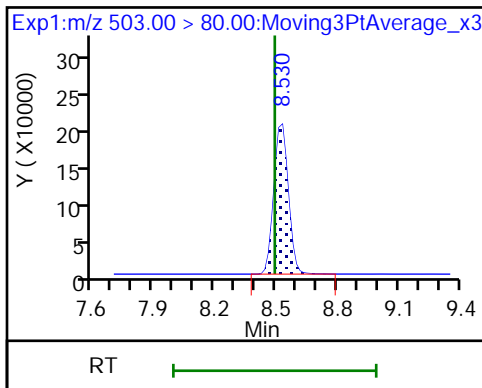
24 Perfluorooctanoic acid (M)



D 26 13C4 PFOS

27 Perfluorooctanesulfonic acid (M)

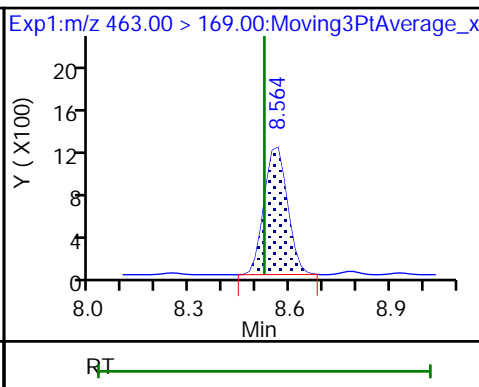
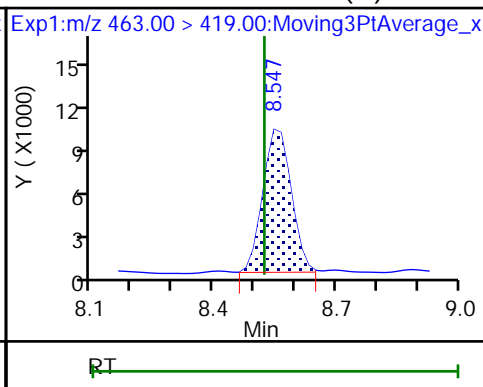
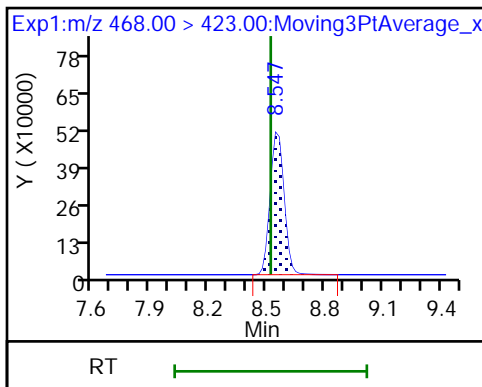
27 Perfluorooctanesulfonic acid (M)



D 28 13C5 PFNA

29 Perfluorononanoic acid (M)

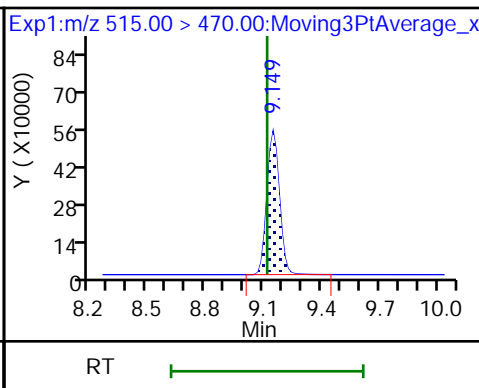
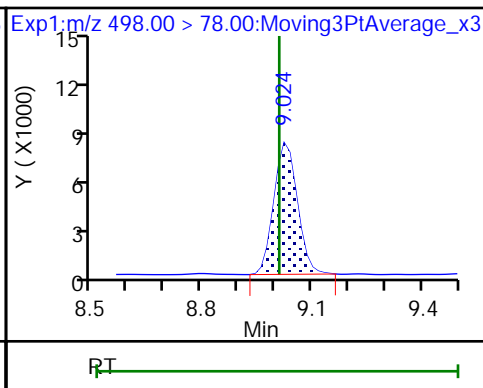
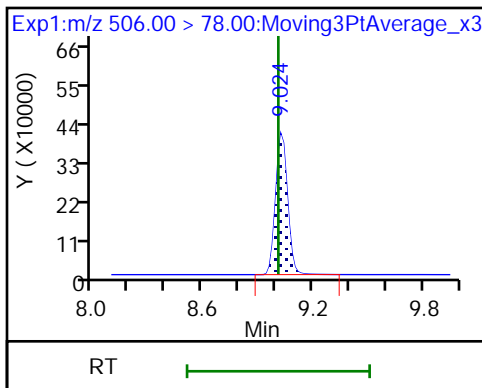
29 Perfluorononanoic acid



D 30 13C8 FOSA

31 Perfluorooctanesulfonamide

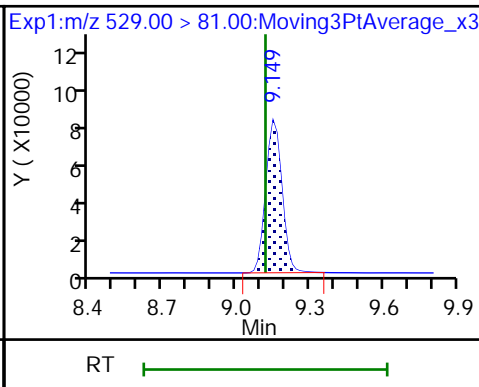
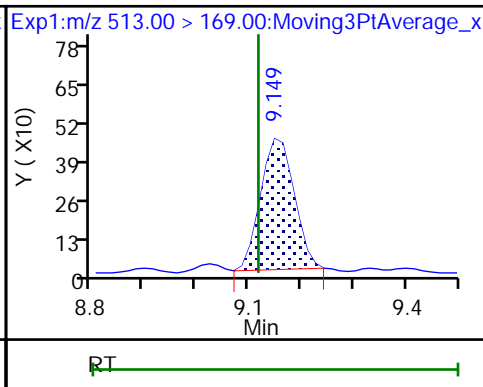
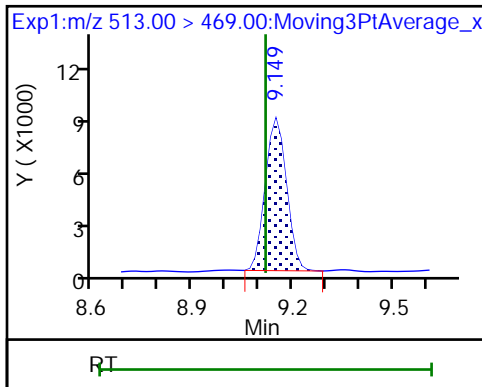
D 33 13C2 PFDA

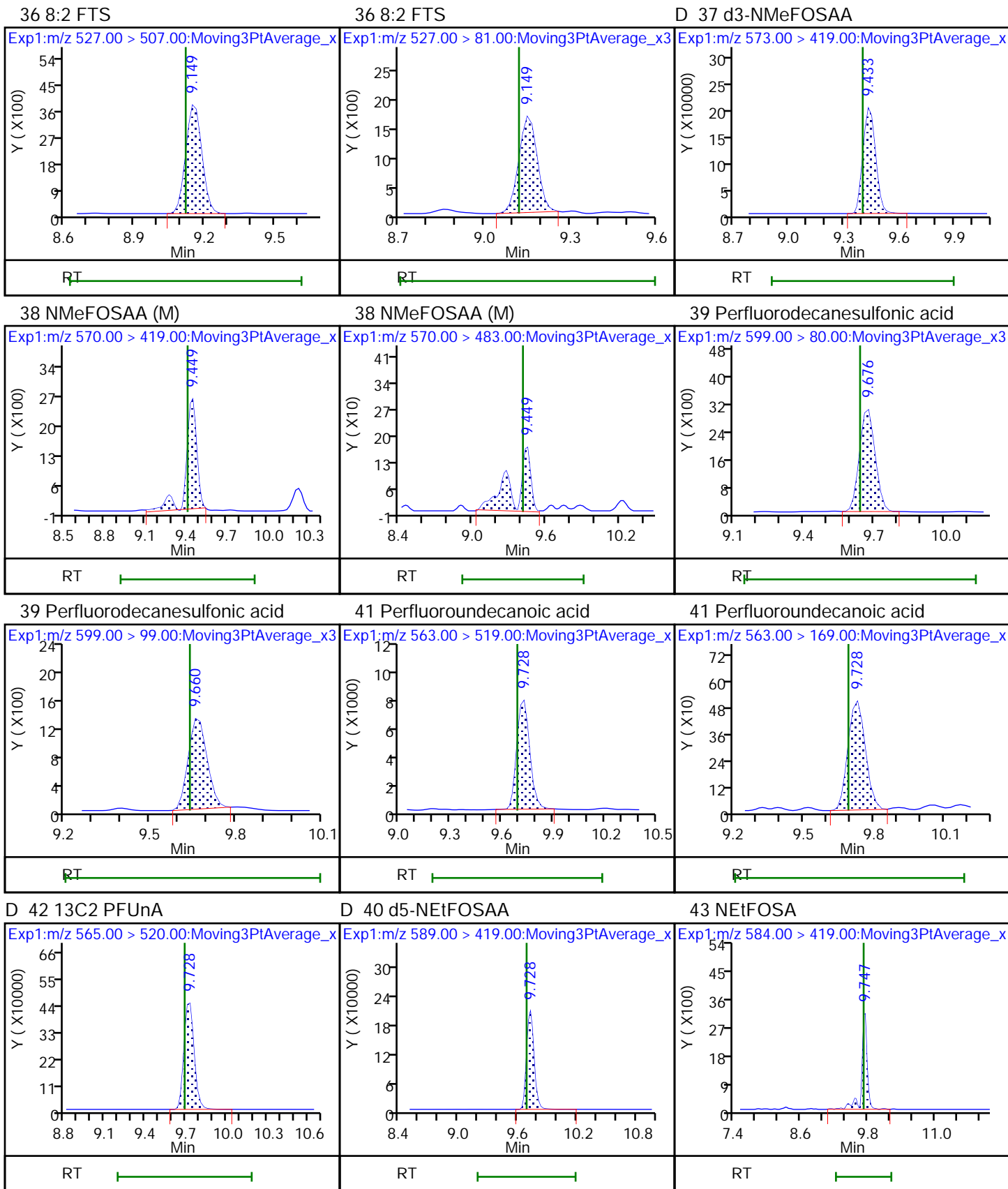


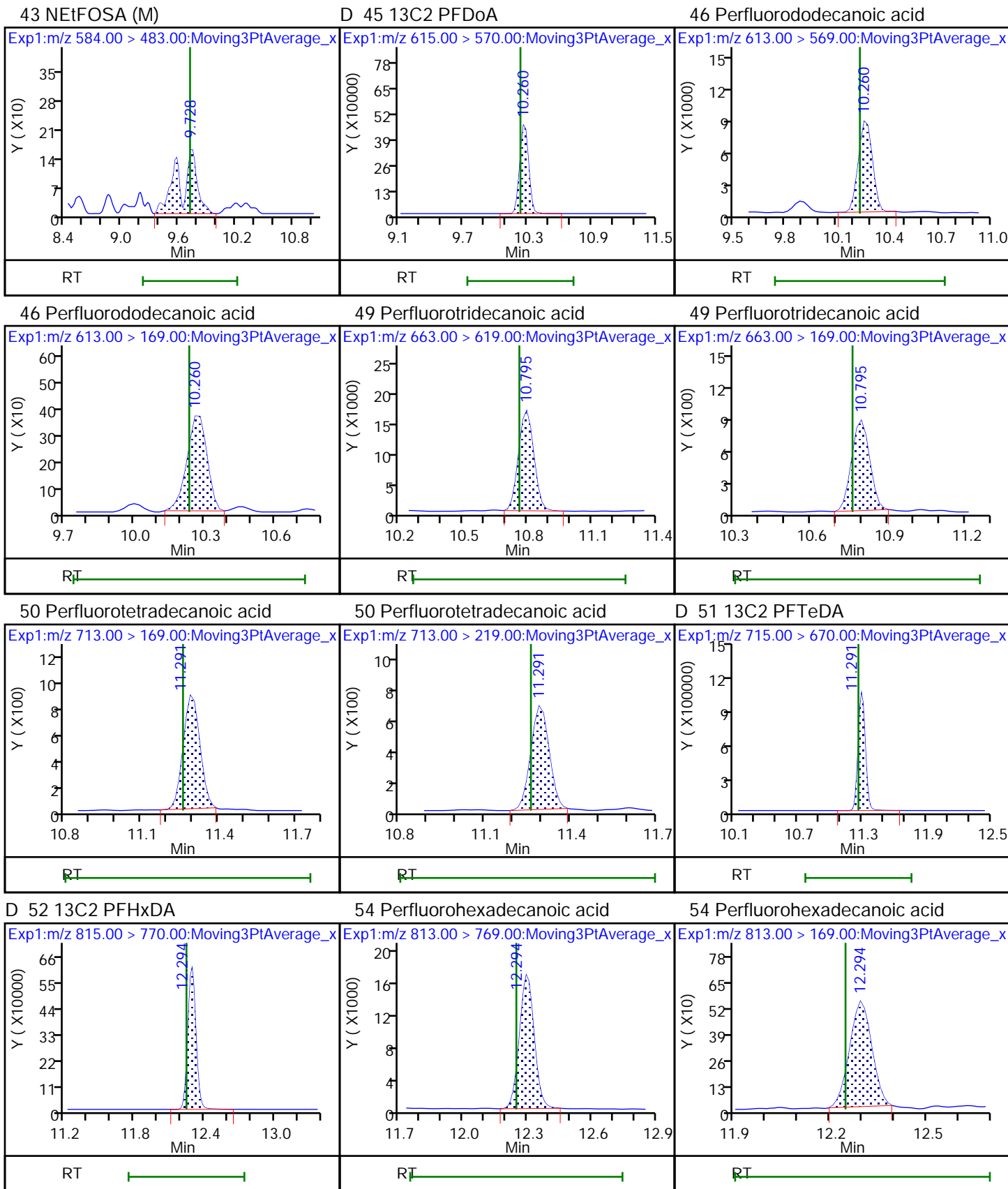
35 Perfluorodecanoic acid

35 Perfluorodecanoic acid

D 34 M2-8:2 FTS

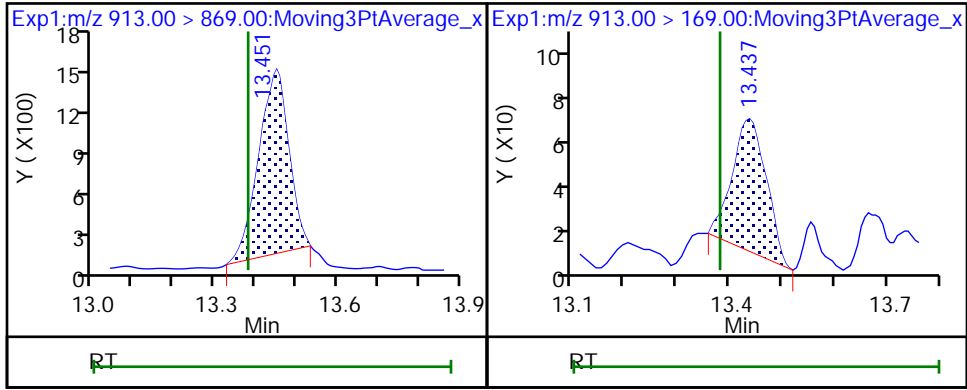






53 Perfluorooctadecanoic acid

53 Perfluorooctadecanoic acid (M)



Eurofins TestAmerica, Sacramento

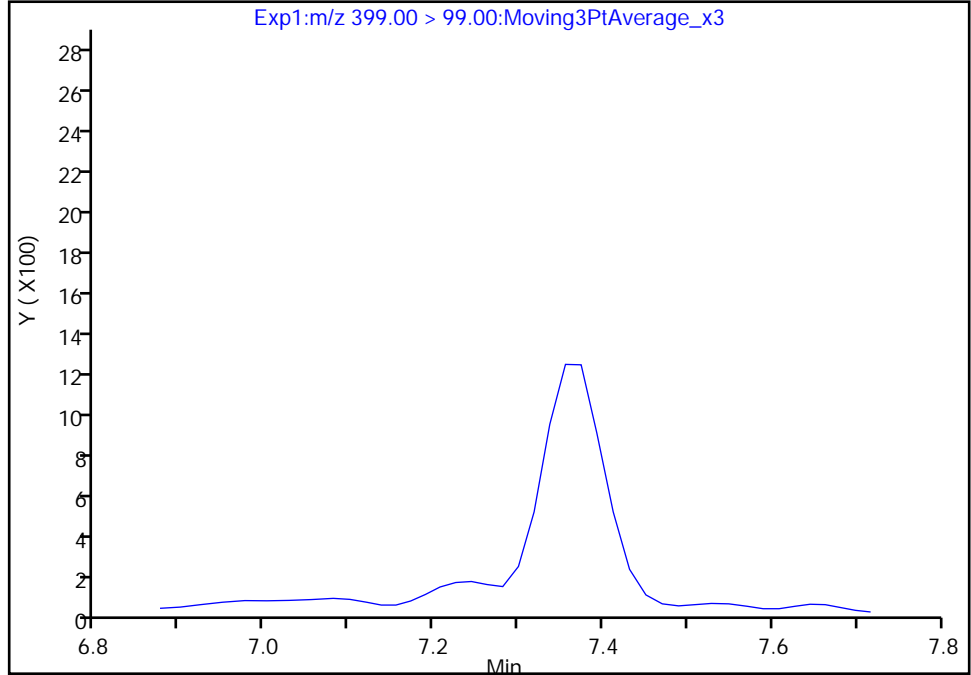
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_002.d
Injection Date: 09-Feb-2021 10:37:26 Instrument ID: A10
Lims ID: IC STD 1
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

16 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

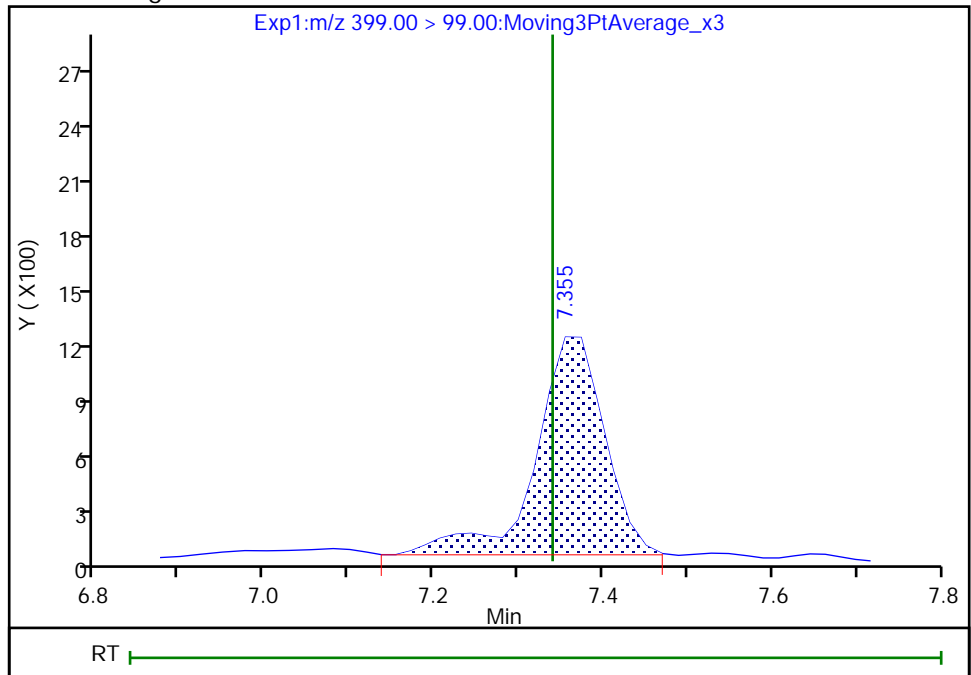
Not Detected
Expected RT: 7.34

Processing Integration Results



Manual Integration Results

RT: 7.36
Area: 6768
Amount: 0.000994
Amount Units: ng/ml



Reviewer: vangmy, 09-Feb-2021 11:53:19
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

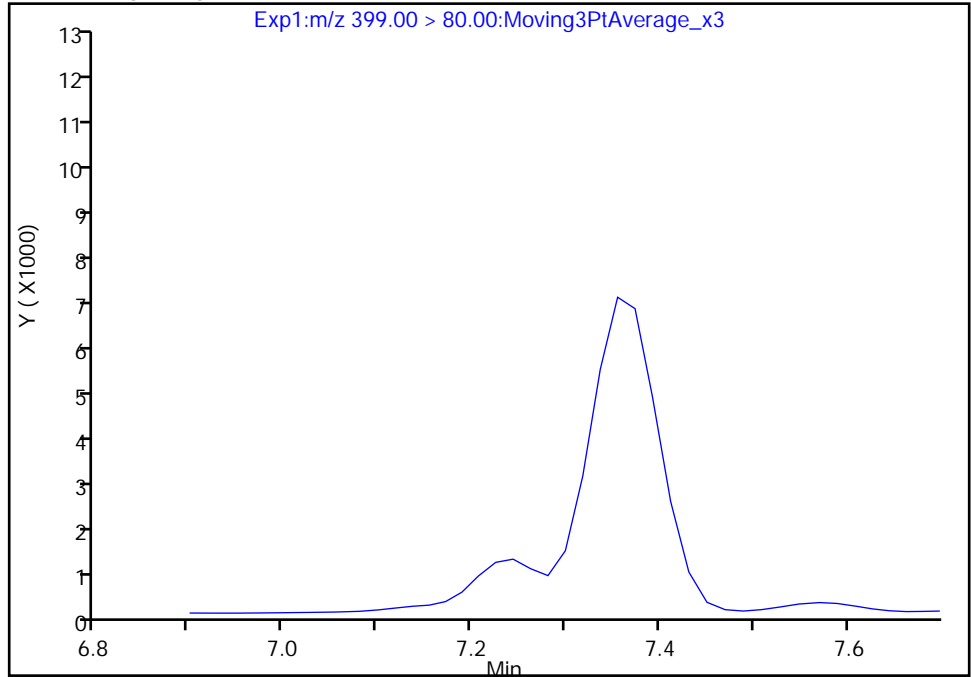
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_002.d
Injection Date: 09-Feb-2021 10:37:26 Instrument ID: A10
Lims ID: IC STD 1
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

16 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

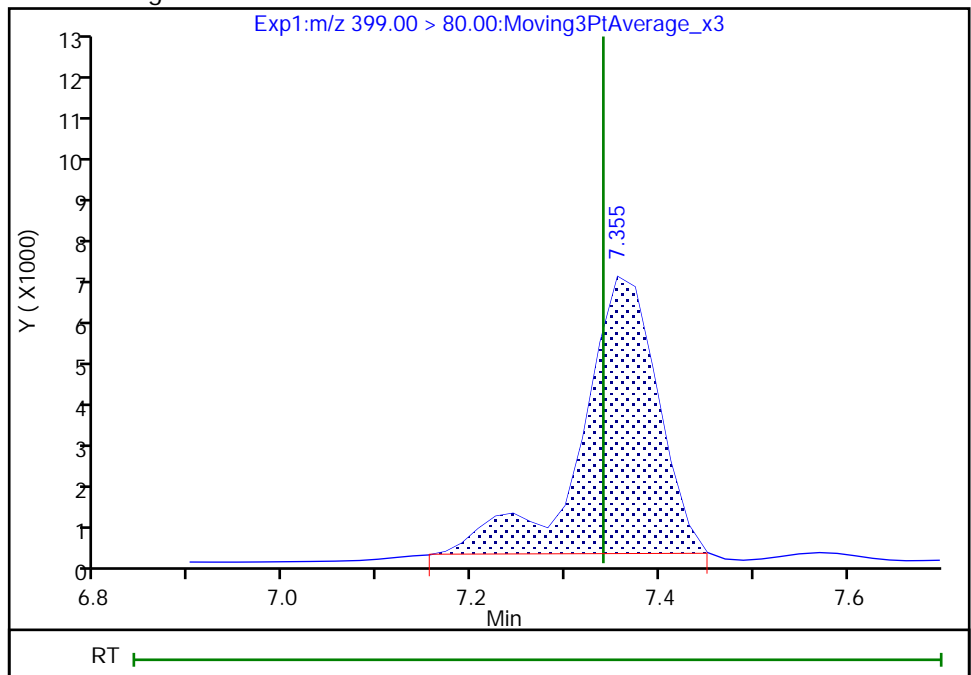
Not Detected
Expected RT: 7.34

Processing Integration Results



Manual Integration Results

RT: 7.36
Area: 38282
Amount: 0.000994
Amount Units: ng/ml



Reviewer: vangmy, 09-Feb-2021 12:15:49

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins TestAmerica, Sacramento

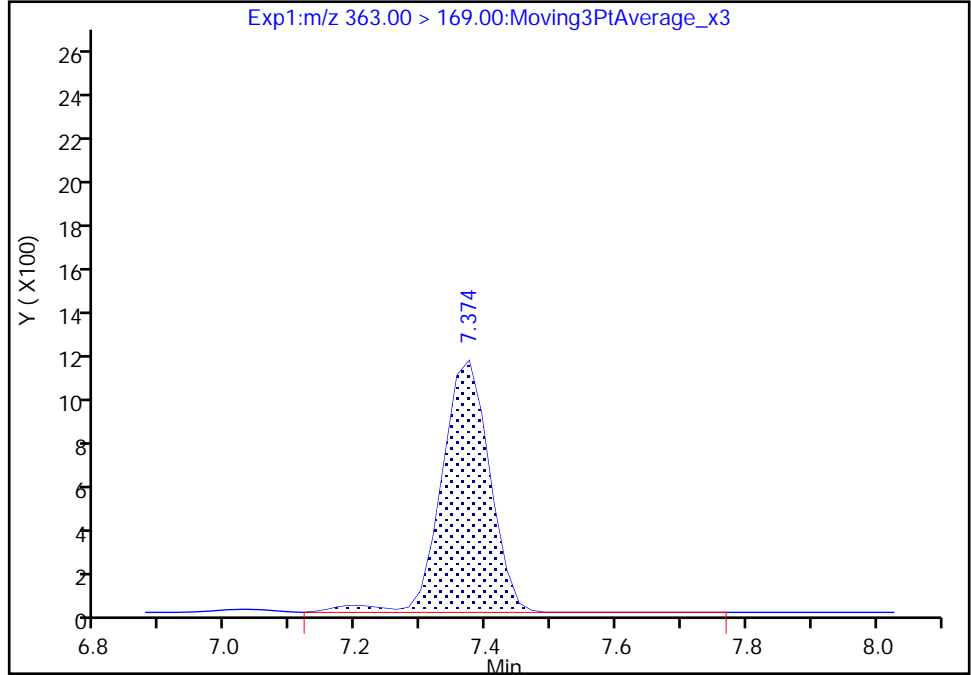
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_002.d
Injection Date: 09-Feb-2021 10:37:26 Instrument ID: A10
Lims ID: IC STD 1
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

18 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 2

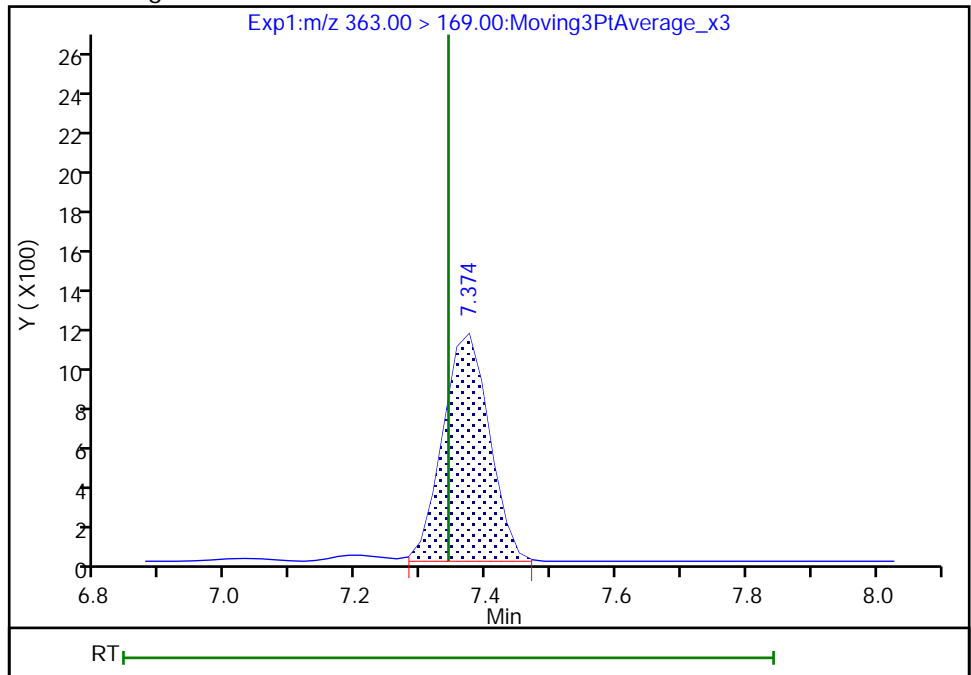
RT: 7.37
Area: 5774
Amount: 0.001000
Amount Units: ng/ml

Processing Integration Results



RT: 7.37
Area: 5592
Amount: 0.000986
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 11:53:53
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

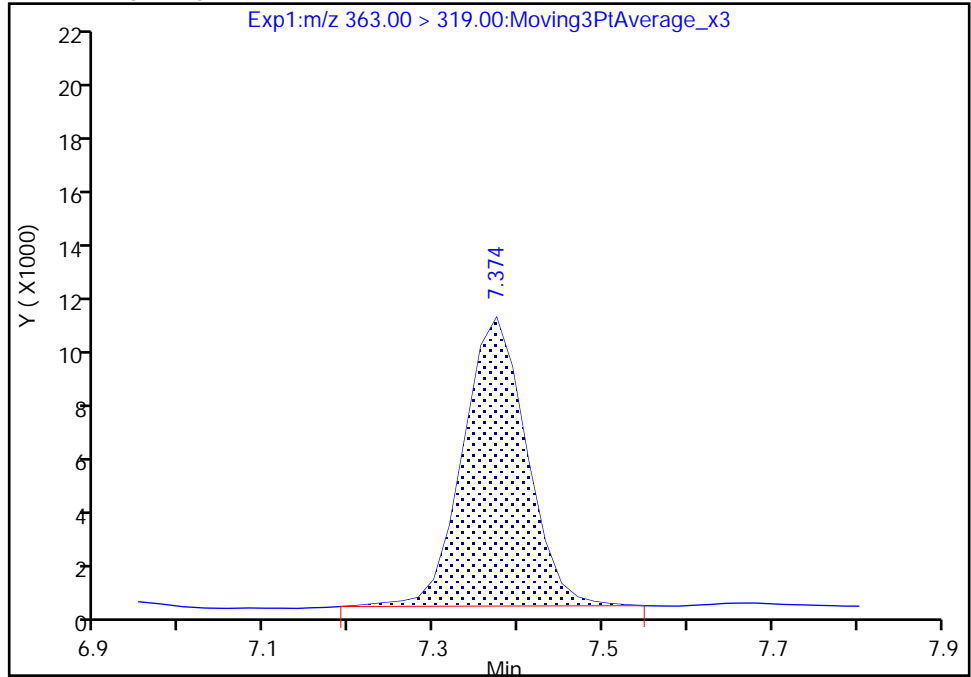
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_002.d
Injection Date: 09-Feb-2021 10:37:26 Instrument ID: A10
Lims ID: IC STD 1
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

18 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

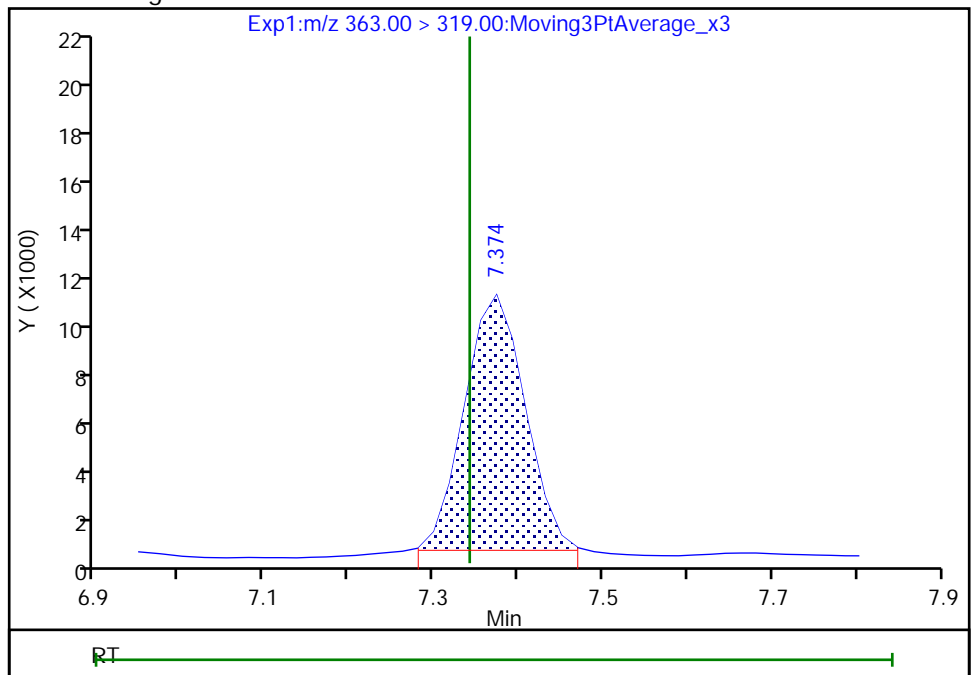
RT: 7.37
Area: 55456
Amount: 0.001000
Amount Units: ng/ml

Processing Integration Results



RT: 7.37
Area: 51781
Amount: 0.000986
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 11:54:04

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins TestAmerica, Sacramento

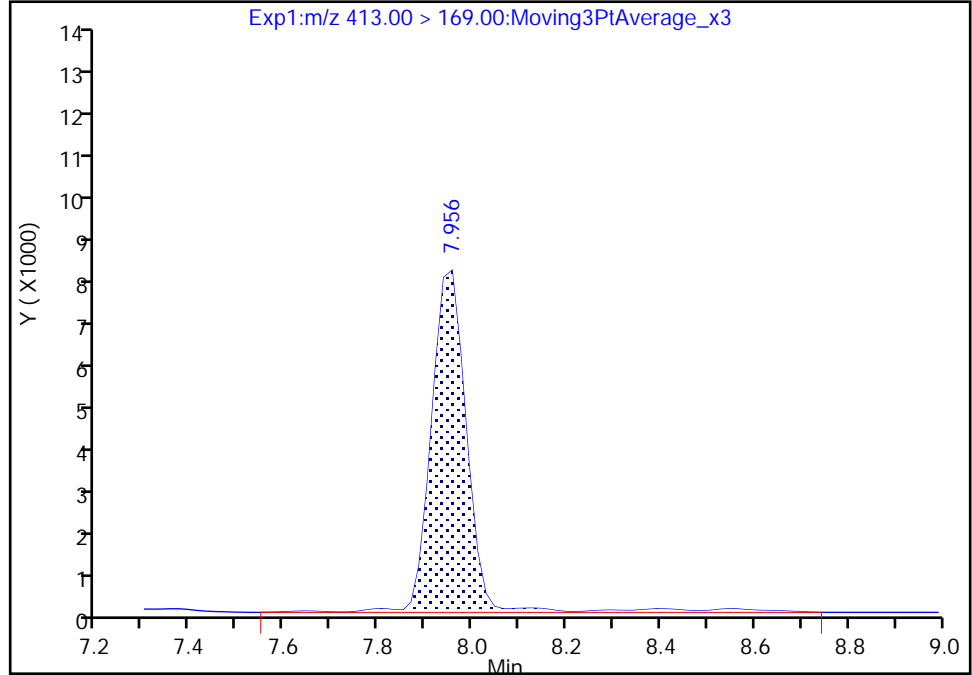
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_002.d
Injection Date: 09-Feb-2021 10:37:26 Instrument ID: A10
Lims ID: IC STD 1
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

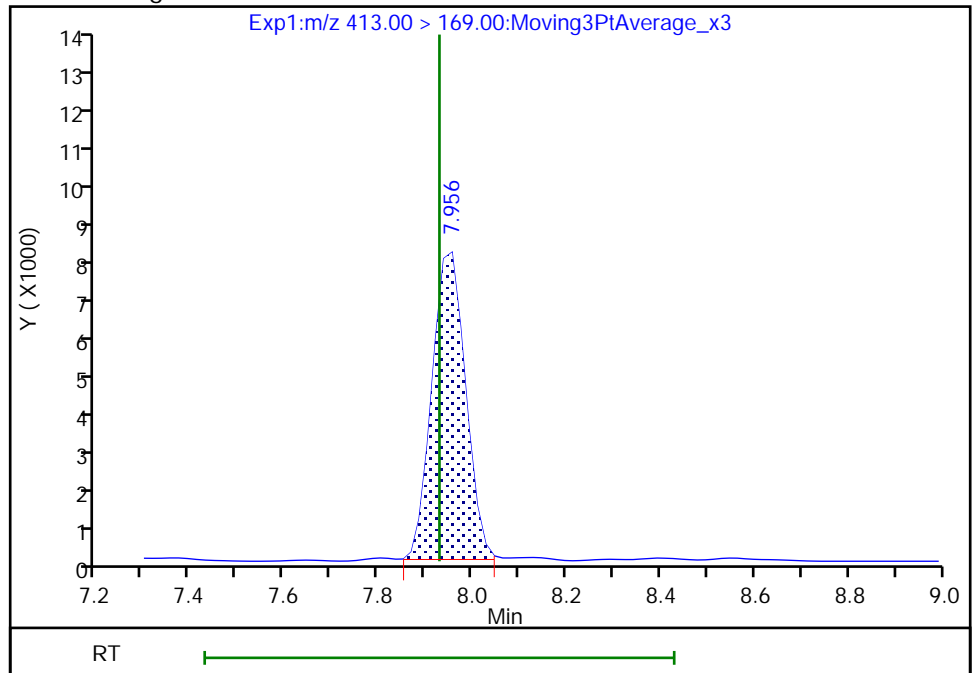
RT: 7.96
Area: 41107
Amount: 0.001000
Amount Units: ng/ml

Processing Integration Results



RT: 7.96
Area: 37953
Amount: 0.001110
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 11:54:16
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

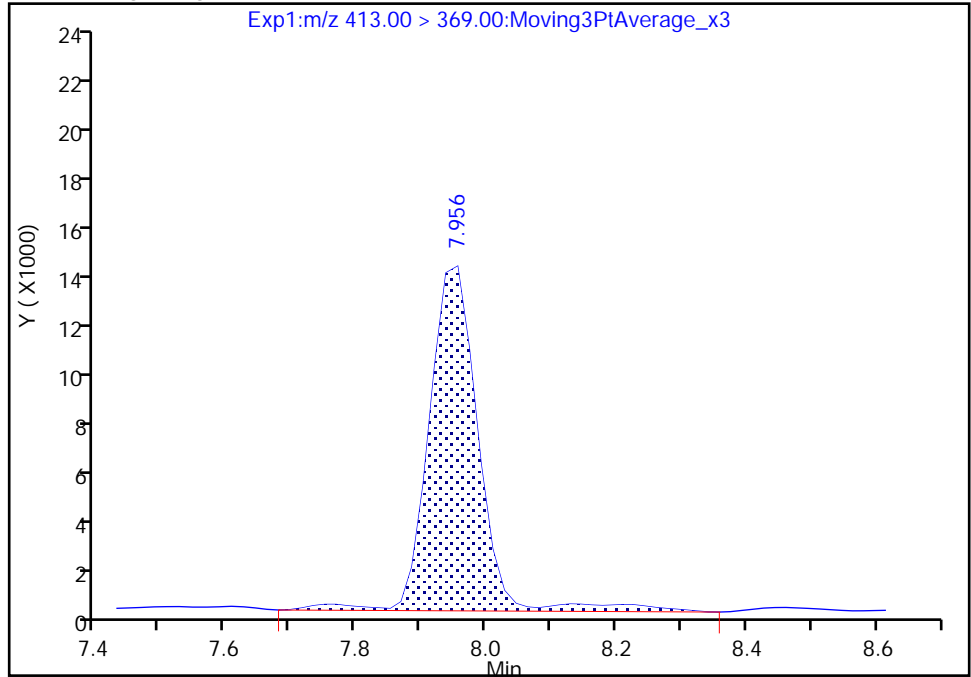
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_002.d
Injection Date: 09-Feb-2021 10:37:26 Instrument ID: A10
Lims ID: IC STD 1
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

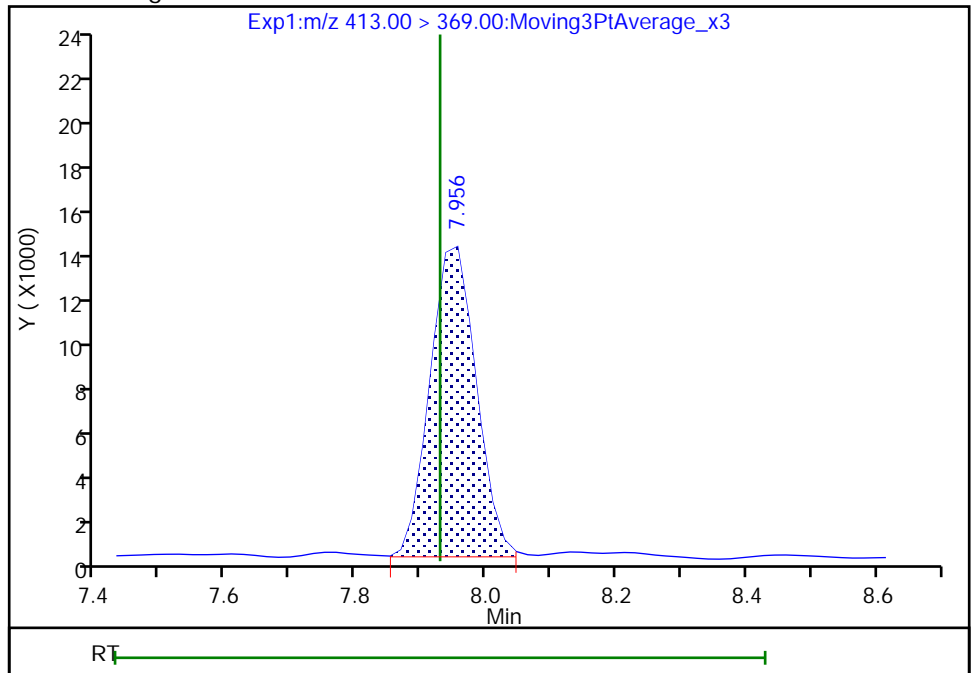
RT: 7.96
Area: 72265
Amount: 0.001000
Amount Units: ng/ml

Processing Integration Results



RT: 7.96
Area: 66954
Amount: 0.001110
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 11:56:01

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins TestAmerica, Sacramento

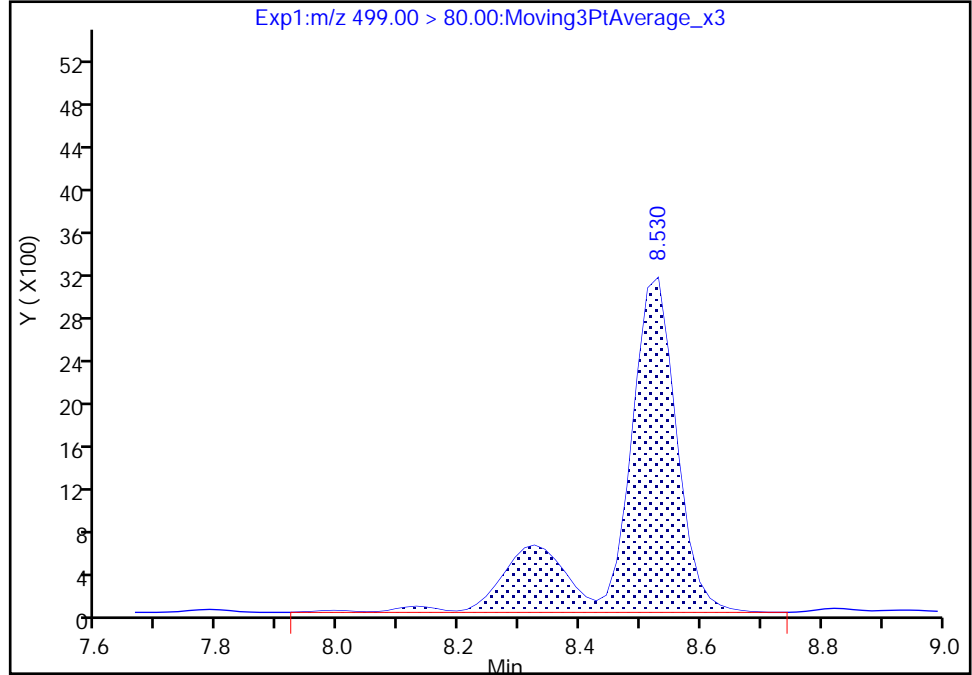
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Injection Date: 09-Feb-2021 10:37:26 Instrument ID: A10
Lims ID: IC STD 1
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

27 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

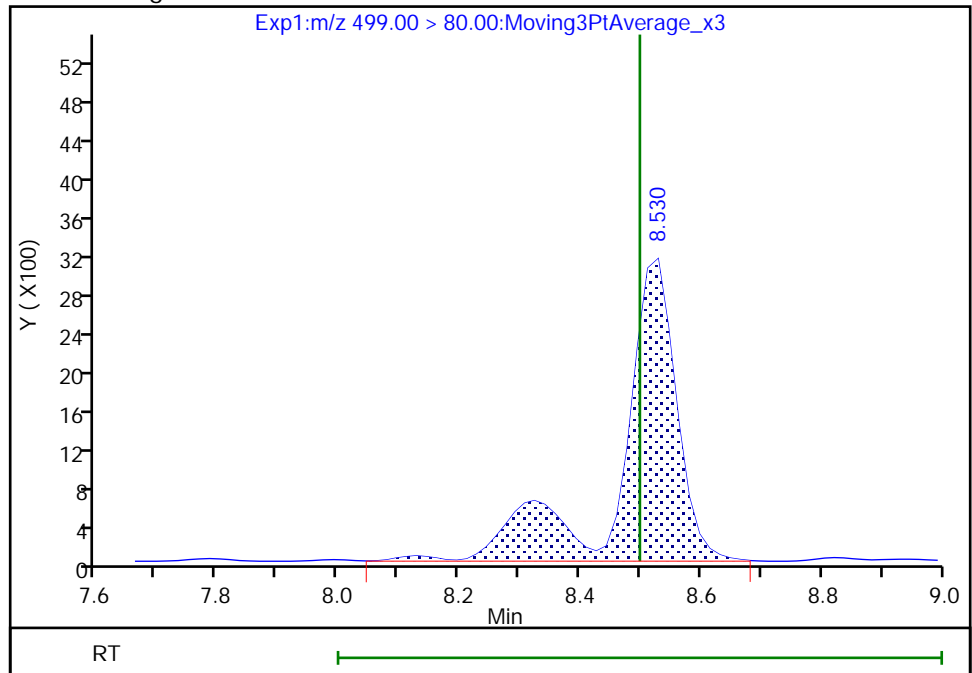
RT: 8.53
Area: 20533
Amount: 0.000928
Amount Units: ng/ml

Processing Integration Results



RT: 8.53
Area: 20420
Amount: 0.000970
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 11:54:33
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

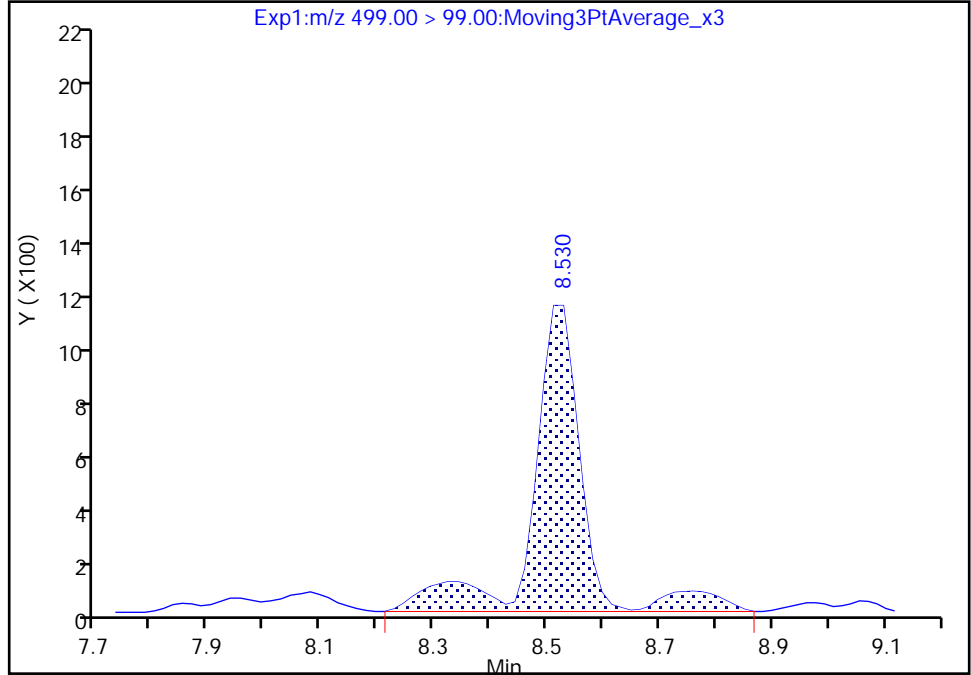
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_002.d
Injection Date: 09-Feb-2021 10:37:26 Instrument ID: A10
Lims ID: IC STD 1
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

27 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

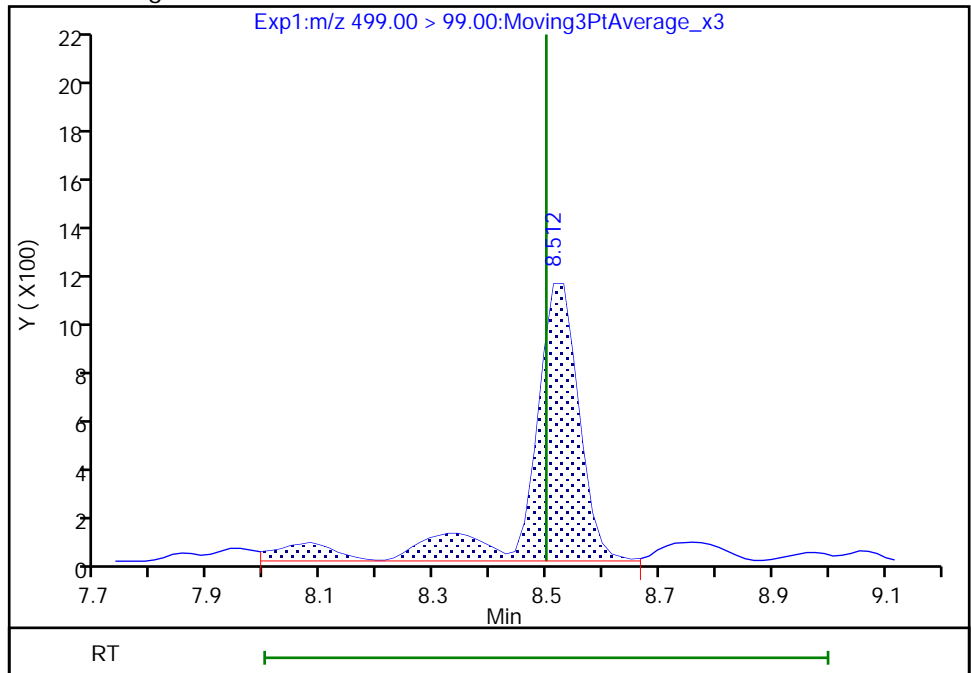
RT: 8.53
Area: 6895
Amount: 0.000928
Amount Units: ng/ml

Processing Integration Results



RT: 8.51
Area: 6914
Amount: 0.000970
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 11:54:48

Audit Action: Manually Integrated

Audit Reason: Baseline
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Eurofins TestAmerica, Sacramento

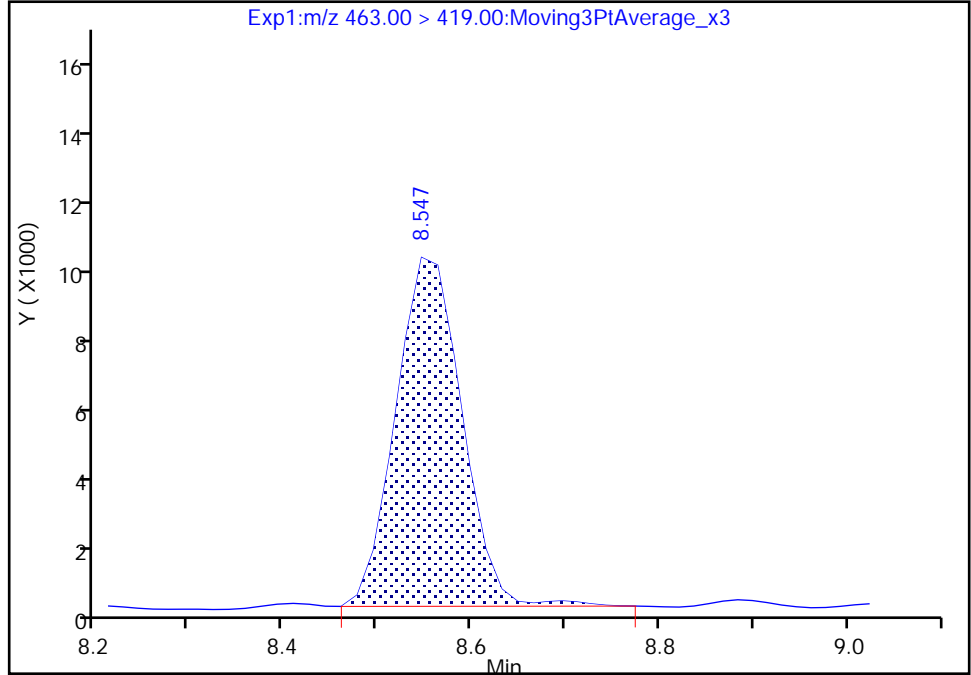
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_002.d
Injection Date: 09-Feb-2021 10:37:26 Instrument ID: A10
Lims ID: IC STD 1
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

29 Perfluorononanoic acid, CAS: 375-95-1

Signal: 1

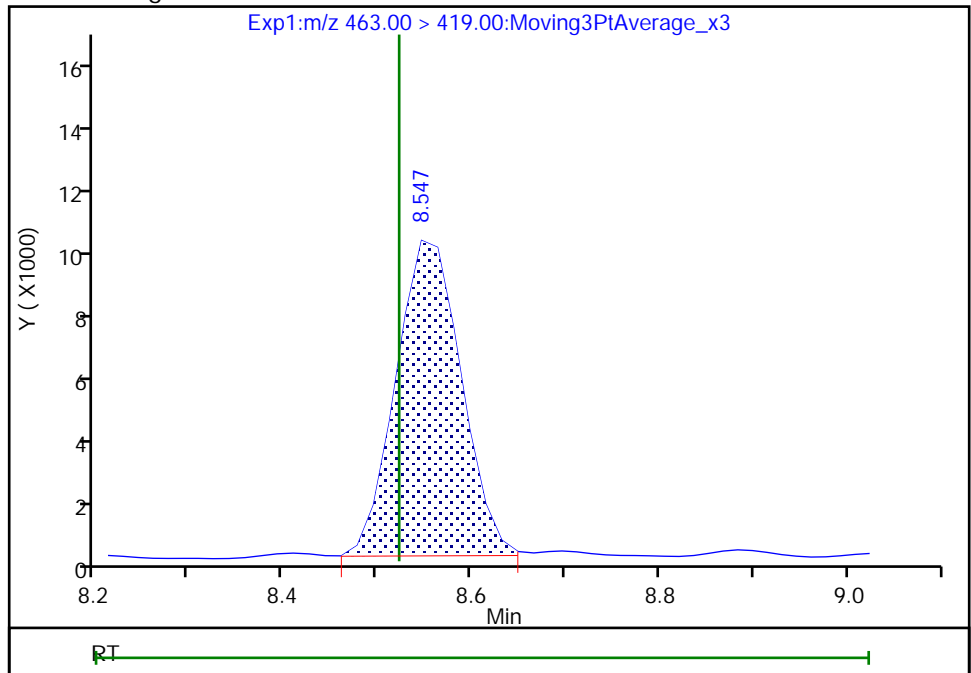
RT: 8.55
Area: 48863
Amount: 0.001000
Amount Units: ng/ml

Processing Integration Results



RT: 8.55
Area: 48309
Amount: 0.001031
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 11:54:56
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

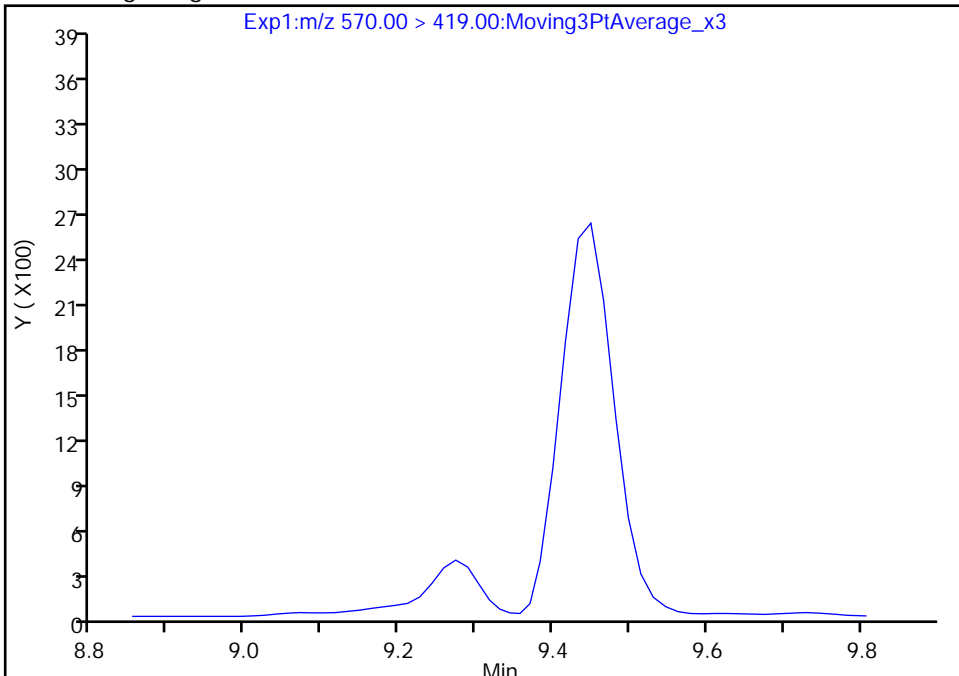
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_002.d
Injection Date: 09-Feb-2021 10:37:26 Instrument ID: A10
Lims ID: IC STD 1
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

38 NMeFOSAA, CAS: 2355-31-9

Signal: 1

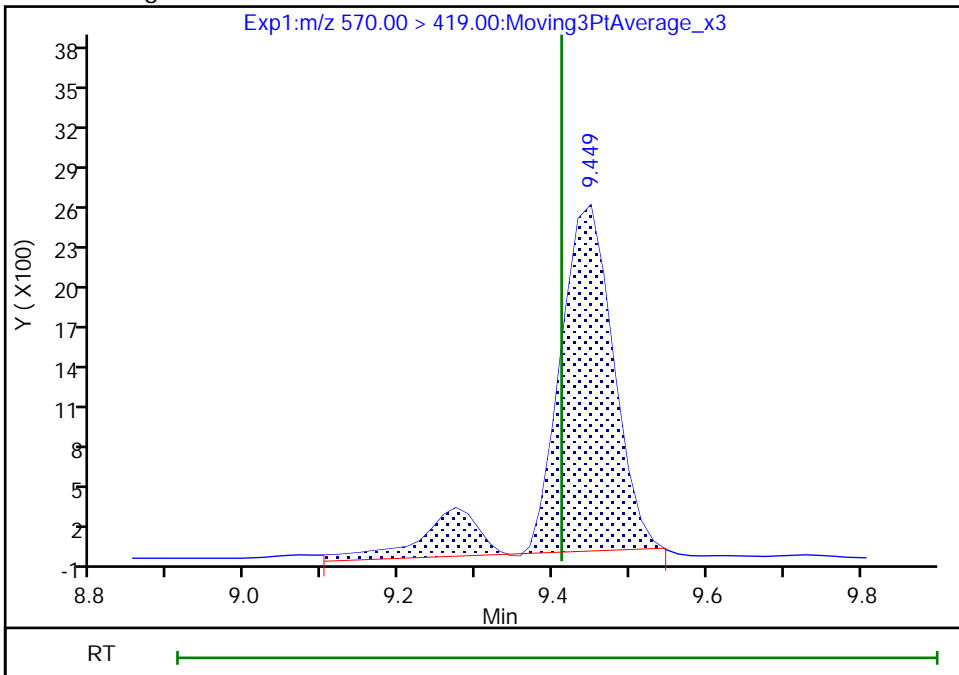
Not Detected
Expected RT: 9.41

Processing Integration Results



Manual Integration Results

RT: 9.45
Area: 13782
Amount: 0.000861
Amount Units: ng/ml



Reviewer: vangmy, 09-Feb-2021 11:56:17
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

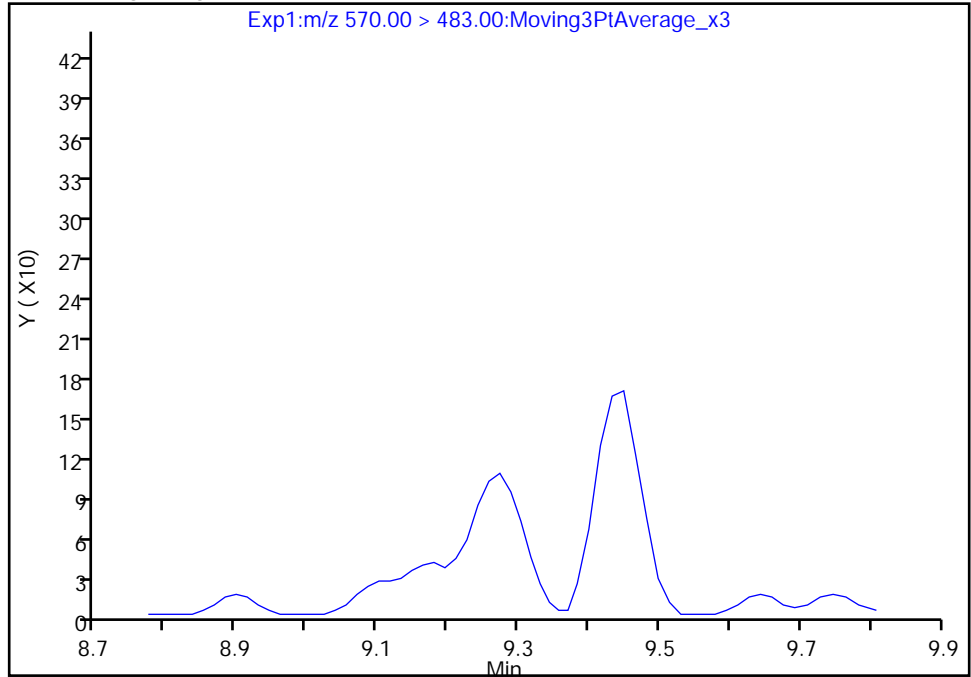
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Injection Date: 09-Feb-2021 10:37:26 Instrument ID: A10
Lims ID: IC STD 1
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm ID) Detector: EXP1

38 NMeFOSAA, CAS: 2355-31-9

Signal: 2

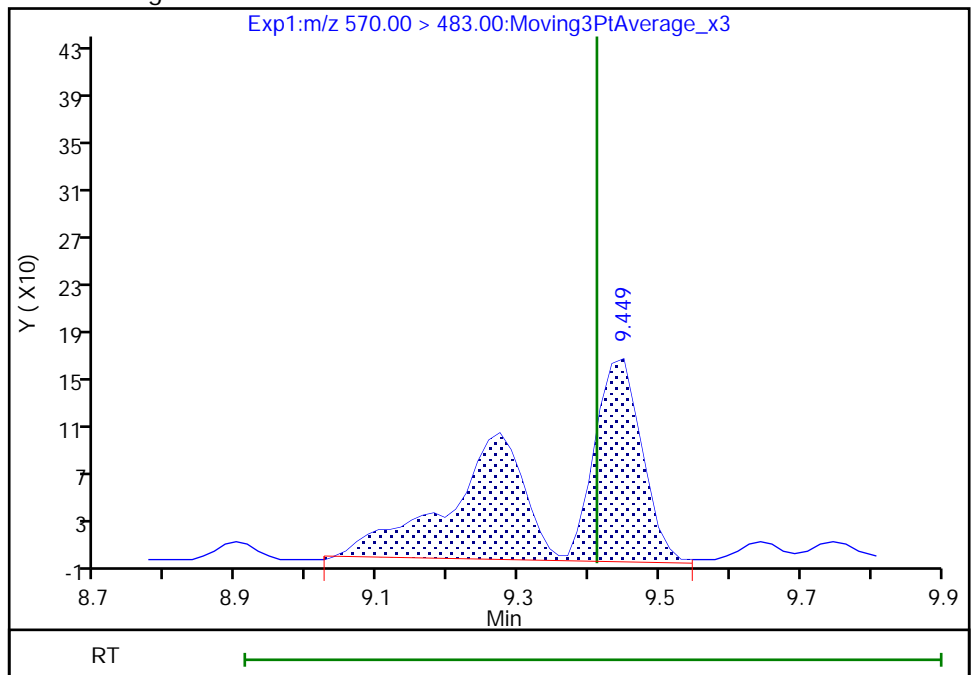
Not Detected
Expected RT: 9.41

Processing Integration Results



Manual Integration Results

RT: 9.45
Area: 1580
Amount: 0.000861
Amount Units: ng/ml



Reviewer: vangmy, 09-Feb-2021 11:56:22

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins TestAmerica, Sacramento

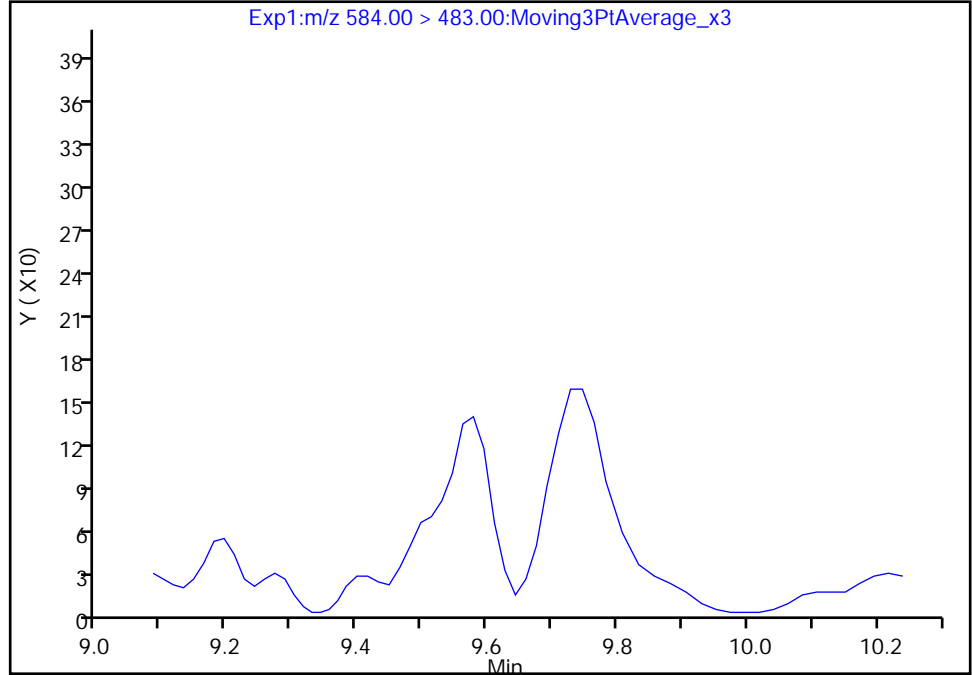
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Injection Date: 09-Feb-2021 10:37:26 Instrument ID: A10
Lims ID: IC STD 1
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

43 NEtFOSA, CAS: 2991-50-6

Signal: 2

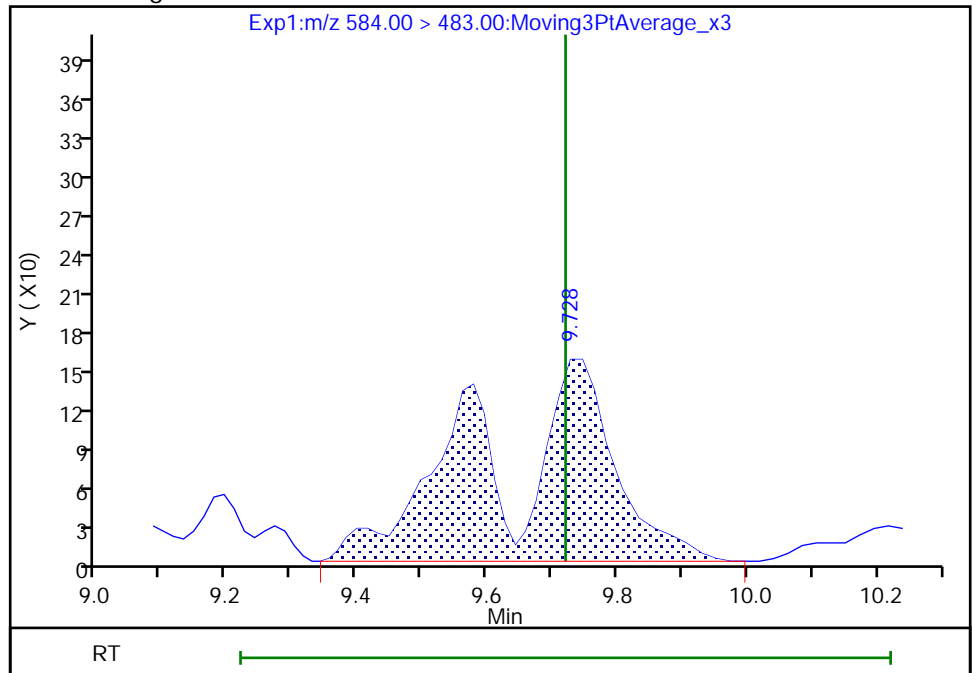
Not Detected
Expected RT: 9.72

Processing Integration Results



Manual Integration Results

RT: 9.73
Area: 2062
Amount: 0.001105
Amount Units: ng/ml



Reviewer: vangmy, 09-Feb-2021 11:56:26
Audit Action: Manually Integrated

Audit Reason: Baseline
Page 110 of 348

Eurofins TestAmerica, Sacramento

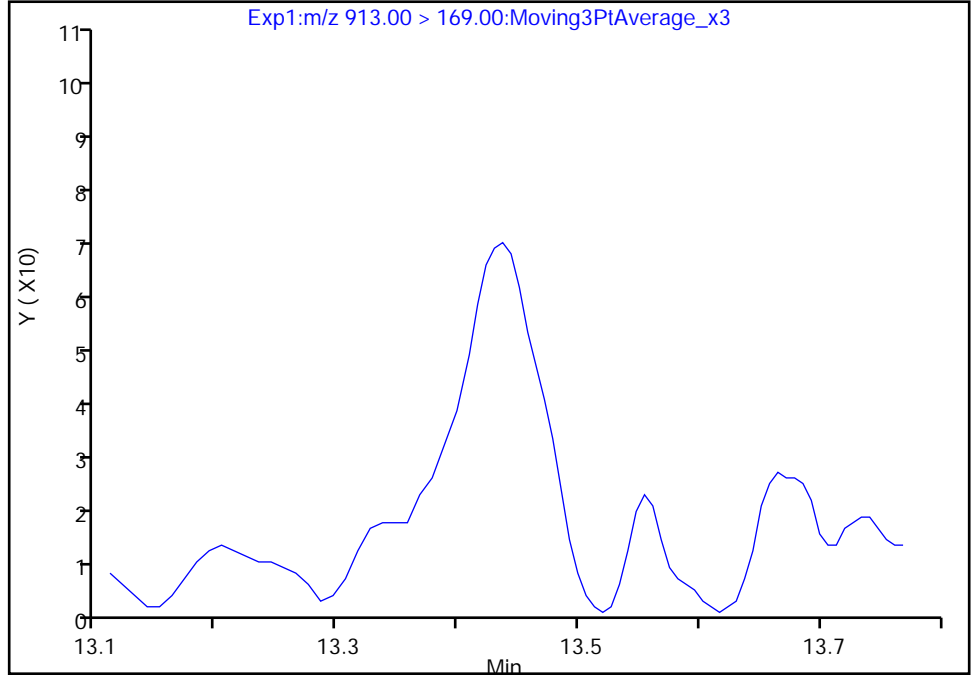
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Injection Date: 09-Feb-2021 10:37:26 Instrument ID: A10
Lims ID: IC STD 1
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

53 Perfluorooctadecanoic acid, CAS: 16517-11-6

Signal: 2

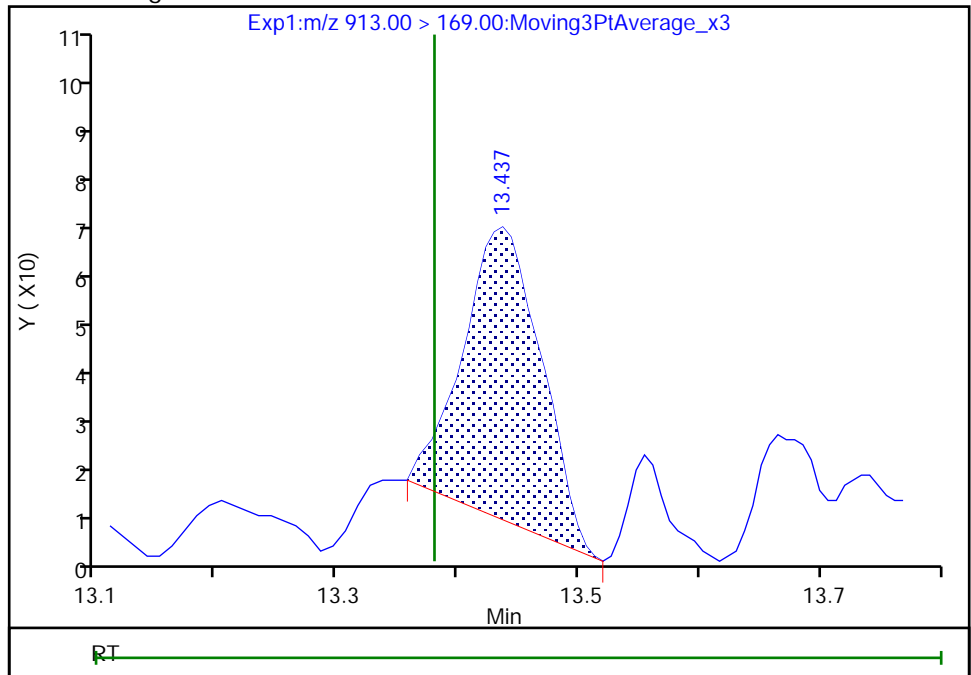
Not Detected
Expected RT: 13.38

Processing Integration Results



Manual Integration Results

RT: 13.44
Area: 259
Amount: 0.000560
Amount Units: ng/ml



Reviewer: vangmy, 09-Feb-2021 11:56:54
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_003.d
 Lims ID: IC STD 2
 Client ID:
 Sample Type: IC Calib Level: 2
 Inject. Date: 09-Feb-2021 10:55:52 ALS Bottle#: 3 Worklist Smp#: 3
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: IC STD 2 (29)
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Sublist: chrom-A10_In_Line_SPE*sub12

Method: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 09-Feb-2021 13:50:09 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1638

First Level Reviewer: vangmy Date: 09-Feb-2021 12:04:28

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-----------------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 2 13C4 PFBA | 217.00 > 172.00 | 5.677 | 5.678 | -0.001 | 3129425 | 0.0533 | | 107 | 10320 | |
| 1 Perfluorobutanoic acid | 212.90 > 169.00 | 5.698 | 5.681 | 0.017 | 112580 | 0.002017 | | 101 | 18.4 | |
| D 4 13C5 PFPeA | 267.90 > 223.00 | 6.293 | 6.300 | -0.007 | 2218290 | 0.0505 | | 101 | 9307 | |
| 5 Perfluoropentanoic acid | 262.90 > 219.00 | 6.293 | 6.300 | -0.007 | 99541 | 0.002074 | | 104 | 48.9 | |
| D 3 13C3 PFBS | 301.90 > 80.00 | 6.362 | 6.364 | -0.002 | 1928983 | 0.0473 | | 102 | 3977 | |
| 6 Perfluorobutanesulfonic acid | 298.90 > 80.00 | 6.362 | 6.364 | -0.002 | 82441 | 0.001896 | Target=1.49 | 107 | 261 | |
| | 298.90 > 99.00 | 6.362 | 6.364 | -0.002 | 53607 | | 1.54(0.74-2.23) | 107 | 93.8 | |
| 8 4:2 FTS | 327.00 > 307.00 | 6.757 | 6.755 | 0.002 | 35361 | NC | Target=2.63 | | 719 | |
| | 327.00 > 81.00 | 6.757 | 6.755 | 0.002 | 14278 | | 2.48(1.32-3.95) | | 40.9 | |
| D 7 M2-4:2 FTS | 329.00 > 81.00 | 6.757 | 6.755 | 0.002 | 339150 | NC | | | 899 | |
| 10 Perfluorohexanoic acid | 313.00 > 269.00 | 6.804 | 6.808 | -0.004 | 104874 | 0.002084 | Target=19.21 | 104 | 82.3 | |
| | 313.00 > 119.00 | 6.804 | 6.808 | -0.004 | 5317 | | 19.72(9.60-28.81) | 104 | 80.2 | |
| D 9 13C2 PFHxA | 315.00 > 270.00 | 6.804 | 6.808 | -0.004 | 2536407 | 0.0535 | | 107 | 10646 | |
| 11 Perfluoropentanesulfonic acid | 349.00 > 80.00 | 6.828 | 6.826 | 0.002 | 68277 | NC | Target=1.46 | | 113 | |
| | 349.00 > 99.00 | 6.828 | 6.826 | 0.002 | 47377 | | 1.44(0.73-2.19) | | 164 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-------|--------|--------|--------|----------|--------------|------------------|------|-------|-------|
| D 12 13C3 HFPO-DA | | | | | | | | | | |
| 332.10 > 287.00 | 6.950 | 6.961 | -0.011 | | 126555 | NC | | | 1377 | |
| 13 HPFO-DA | | | | | | | | | | |
| 329.10 > 285.00 | 6.950 | 6.964 | -0.014 | 1.000 | 16285 | NC | | | 11.5 | |
| 14 9CIFOS | | | | | | | | | | |
| 531.00 > 351.00 | 7.209 | 7.208 | 0.001 | 0.849 | 362 | NC | | | 1.0 | M |
| 16 Perfluorohexanesulfonic acid | | | | | | | | | | |
| 399.00 > 80.00 | 7.339 | 7.346 | -0.007 | 1.000 | 80890 | 0.002000 | Target=5.70 | 110 | 180 | M |
| 399.00 > 99.00 | 7.339 | 7.346 | -0.007 | 1.000 | 12876 | | 6.28(2.85-8.55) | 110 | 88.2 | M |
| D 15 18O2 PFHxS | | | | | | | | | | |
| 403.00 > 84.00 | 7.339 | 7.337 | 0.002 | | 1679267 | 0.0511 | | 108 | 10962 | |
| 18 Perfluoroheptanoic acid | | | | | | | | | | |
| 363.00 > 319.00 | 7.339 | 7.342 | -0.003 | 1.000 | 112143 | 0.002065 | Target=9.14 | 103 | 78.2 | |
| 363.00 > 169.00 | 7.339 | 7.342 | -0.003 | 1.000 | 11747 | | 9.55(4.57-13.71) | 103 | 151 | |
| D 17 13C4 PFHpA | | | | | | | | | | |
| 367.00 > 322.00 | 7.339 | 7.342 | -0.003 | | 2783432 | 0.0556 | | 111 | 13064 | |
| 19 DONA | | | | | | | | | | |
| 377.00 > 251.00 | 7.395 | 7.397 | -0.002 | 0.871 | 432327 | NC | Target=2.71 | | 1907 | |
| 377.00 > 85.00 | 7.395 | 7.397 | -0.002 | 0.871 | 155509 | | 2.78(1.36-4.07) | | 967 | |
| 23 6:2 FTS | | | | | | | | | | |
| 427.00 > 407.00 | 7.887 | 7.886 | 0.001 | 1.000 | 71129 | 0.002549 | Target=2.56 | 134 | 702 | |
| 427.00 > 81.00 | 7.904 | 7.886 | 0.018 | 1.002 | 29453 | | 2.42(1.28-3.83) | 134 | 85.8 | |
| D 22 M2-6:2 FTS | | | | | | | | | | |
| 429.00 > 81.00 | 7.887 | 7.886 | 0.001 | | 442051 | 0.0538 | | 113 | 1085 | |
| 21 Perfluoroheptanesulfonic acid | | | | | | | | | | |
| 449.00 > 80.00 | 7.904 | 7.900 | 0.004 | 0.931 | 57089 | 0.001888 | Target=6.98 | 99.1 | 217 | |
| 449.00 > 99.00 | 7.904 | 7.900 | 0.004 | 0.931 | 8510 | | 6.71(3.49-10.47) | 99.1 | 72.2 | |
| D 25 13C4 PFOA | | | | | | | | | | |
| 417.00 > 372.00 | 7.922 | 7.917 | 0.005 | | 3707064 | 0.0554 | | 111 | 13549 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | |
| 413.00 > 369.00 | 7.922 | 7.933 | -0.011 | 1.000 | 141136 | 0.002091 | Target=1.58 | 105 | 70.0 | M |
| 413.00 > 169.00 | 7.922 | 7.933 | -0.011 | 1.000 | 88046 | | 1.60(0.79-2.37) | 105 | 392 | M |
| D 26 13C4 PFOS | | | | | | | | | | |
| 503.00 > 80.00 | 8.494 | 8.492 | 0.002 | | 1133086 | 0.0498 | | 104 | 4323 | |
| 27 Perfluorooctanesulfonic acid | | | | | | | | | | |
| 499.00 > 80.00 | 8.494 | 8.502 | -0.008 | 1.000 | 46213 | 0.001913 | Target=3.45 | 103 | 266 | M |
| 499.00 > 99.00 | 8.494 | 8.502 | -0.008 | 1.000 | 13741 | | 3.36(1.73-5.18) | 103 | 86.9 | M |
| D 28 13C5 PFNA | | | | | | | | | | |
| 468.00 > 423.00 | 8.529 | 8.520 | 0.009 | | 2588061 | 0.0521 | | 104 | 12291 | |
| 29 Perfluorononanoic acid | | | | | | | | | | |
| 463.00 > 419.00 | 8.529 | 8.523 | 0.006 | 1.000 | 104093 | 0.002117 | Target=7.90 | 106 | 126 | |
| 463.00 > 169.00 | 8.529 | 8.523 | 0.006 | 1.000 | 11955 | | 8.71(3.95-11.85) | 106 | 140 | M |
| D 30 13C8 FOSA | | | | | | | | | | |
| 506.00 > 78.00 | 9.015 | 9.011 | 0.004 | | 1523795 | 0.0483 | | 96.6 | 12120 | |
| 31 Perfluorooctanesulfonamide | | | | | | | | | | |
| 498.00 > 78.00 | 9.015 | 9.011 | 0.004 | 1.000 | 63603 | 0.002059 | | 103 | 897 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|------|-------|
| 32 Perfluorononanesulfonic acid | | | | | | | | | | |
| 549.00 > 80.00 | 9.093 | 9.080 | 0.013 | 1.071 | 38221 | NC | Target=6.35 | | 538 | |
| 549.00 > 99.00 | 9.093 | 9.080 | 0.013 | 1.071 | 6010 | | 6.36(3.17-9.52) | | 46.8 | |
| D 33 13C2 PFDA | | | | | | | | | | |
| 515.00 > 470.00 | 9.125 | 9.117 | 0.008 | | 2463159 | 0.0522 | | | 104 | 14001 |
| 35 Perfluorodecanoic acid | | | | | | | | | | |
| 513.00 > 469.00 | 9.125 | 9.117 | 0.008 | 1.000 | 79837 | 0.001948 | Target=16.15 | 97.4 | 175 | |
| 513.00 > 169.00 | 9.125 | 9.117 | 0.008 | 1.000 | 5502 | | 14.51(8.08-24.23) | 97.4 | 60.5 | |
| D 34 M2-8:2 FTS | | | | | | | | | | |
| 529.00 > 81.00 | 9.125 | 9.117 | 0.008 | | 425387 | 0.0555 | | | 116 | 2608 |
| 36 8:2 FTS | | | | | | | | | | |
| 527.00 > 507.00 | 9.125 | 9.119 | 0.006 | 1.000 | 38207 | 0.001822 | Target=2.35 | 95.1 | 625 | |
| 527.00 > 81.00 | 9.125 | 9.119 | 0.006 | 1.000 | 15996 | | 2.39(1.17-3.52) | 95.1 | 114 | |
| D 37 d3-NMeFOSAA | | | | | | | | | | |
| 573.00 > 419.00 | 9.422 | 9.401 | 0.021 | | 1009144 | 0.0525 | | | 105 | 8484 |
| 38 NMeFOSAA | | | | | | | | | | |
| 570.00 > 419.00 | 9.422 | 9.411 | 0.011 | 1.000 | 36068 | 0.002091 | Target=12.28 | 105 | 203 | M |
| 570.00 > 483.00 | 9.422 | 9.411 | 0.011 | 1.000 | 2632 | | 13.70(6.14-18.41) | 105 | 25.7 | M |
| 39 Perfluorodecanesulfonic acid | | | | | | | | | | |
| 599.00 > 80.00 | 9.648 | 9.640 | 0.008 | 1.136 | 30625 | 0.001939 | Target=2.51 | 101 | 418 | |
| 599.00 > 99.00 | 9.648 | 9.640 | 0.008 | 1.136 | 11693 | | 2.62(1.26-3.77) | 101 | 368 | |
| D 42 13C2 PFUnA | | | | | | | | | | |
| 565.00 > 520.00 | 9.697 | 9.689 | 0.008 | | 2361878 | 0.0515 | | | 103 | 19185 |
| 41 Perfluoroundecanoic acid | | | | | | | | | | |
| 563.00 > 519.00 | 9.697 | 9.689 | 0.008 | 1.000 | 86362 | 0.002073 | Target=20.47 | 104 | 234 | |
| 563.00 > 169.00 | 9.697 | 9.689 | 0.008 | 1.000 | 4476 | | 19.29(10.24-30.71) | 104 | 86.8 | |
| D 40 d5-NEtFOSAA | | | | | | | | | | |
| 589.00 > 419.00 | 9.697 | 9.689 | 0.008 | | 1161457 | 0.0532 | | | 106 | 3728 |
| 43 NEtFOSA | | | | | | | | | | |
| 584.00 > 419.00 | 9.715 | 9.731 | -0.016 | 1.002 | 42241 | 0.002087 | Target=13.05 | 104 | 516 | M |
| 584.00 > 483.00 | 9.715 | 9.731 | -0.016 | 1.002 | 3781 | | 11.17(6.52-19.57) | 104 | 31.1 | M |
| 44 11C1FOS | | | | | | | | | | |
| 631.00 > 451.00 | 9.935 | 9.929 | 0.006 | 1.170 | 213824 | NC | | | 2030 | |
| D 45 13C2 PFDaA | | | | | | | | | | |
| 615.00 > 570.00 | 10.243 | 10.232 | 0.011 | | 2588731 | 0.0538 | | | 108 | 17144 |
| 46 Perfluorododecanoic acid | | | | | | | | | | |
| 613.00 > 569.00 | 10.243 | 10.235 | 0.008 | 1.000 | 83734 | 0.001826 | Target=17.11 | 91.3 | 51.1 | |
| 613.00 > 169.00 | 10.243 | 10.235 | 0.008 | 1.000 | 4788 | | 17.49(8.55-25.66) | 91.3 | 89.8 | |
| 47 10:2 FTS | | | | | | | | | | |
| 627.00 > 607.00 | 10.285 | 10.264 | 0.021 | 1.127 | 61856 | NC | Target=32.58 | | 1089 | |
| 627.00 > 81.00 | 10.285 | 10.264 | 0.021 | 1.127 | 1920 | | 32.22(16.29-48.87) | | 40.9 | |
| 48 PFDaS | | | | | | | | | | |
| 699.00 > 80.00 | 10.710 | 10.690 | 0.020 | 1.261 | 11955 | NC | Target=0.47 | | 153 | |
| 699.00 > 99.00 | 10.710 | 10.690 | 0.020 | 1.261 | 26989 | | 0.44(0.24-0.71) | | 410 | |
| 49 Perfluorotridecanoic acid | | | | | | | | | | |
| 663.00 > 619.00 | 10.780 | 10.761 | 0.019 | 1.052 | 106277 | 0.001717 | Target=18.64 | 85.8 | 56.9 | |
| 663.00 > 169.00 | 10.780 | 10.761 | 0.019 | 1.052 | 6149 | | 17.28(9.32-27.96) | 85.8 | 177 | |

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| 50 Perfluorotetradecanoic acid | | | | | | | | | | |
| 713.00 > 169.00 | 11.293 | 11.262 | 0.031 | 1.000 | 3254 | 0.001737 | Target=1.23 | 86.8 | 107 | |
| 713.00 > 219.00 | 11.293 | 11.262 | 0.031 | 1.000 | 3070 | | 1.06(0.62-1.85) | 86.8 | 132 | |
| D 51 13C2 PFTeDA | | | | | | | | | | |
| 715.00 > 670.00 | 11.293 | 11.262 | 0.031 | | 2271743 | 0.0404 | | 80.7 | 11953 | |
| D 52 13C2 PFHxDA | | | | | | | | | | |
| 815.00 > 770.00 | 12.283 | 12.245 | 0.038 | | 1043371 | 0.0321 | | 64.2 | 6651 | |
| 54 Perfluorohexadecanoic acid | | | | | | | | | | |
| 813.00 > 769.00 | 12.283 | 12.247 | 0.036 | 1.000 | 47261 | 0.002262 | Target=29.80 | 113 | 42.4 | M |
| 813.00 > 169.00 | 12.283 | 12.247 | 0.036 | 1.000 | 1764 | | 26.79(14.90-44.69) | 113 | 38.7 | M |
| 53 Perfluorooctadecanoic acid | | | | | | | | | | |
| 913.00 > 869.00 | 13.423 | 13.414 | 0.009 | 1.093 | 9538 | 0.002152 | Target=33.62 | 108 | 21.4 | M |
| 913.00 > 169.00 | 13.458 | 13.414 | 0.044 | 1.096 | 284 | | 33.58(16.81-50.42) | 108 | 11.4 | M |

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

Reagents:

LCPFC-LL-L2_00029

Amount Added: 1.00

Units: mL

Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_003.d

Injection Date: 09-Feb-2021 10:55:52

Instrument ID: A10

Lims ID: IC STD 2

Client ID:

Operator ID: Sac_inst_A10

ALS Bottle#: 3

Worklist Smp#: 3

Injection Vol: 950.0 ul

Dil. Factor: 1.0000

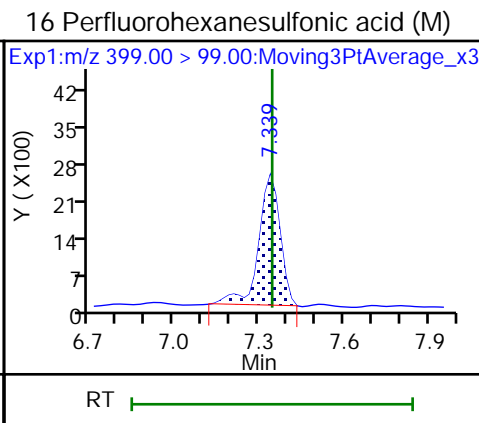
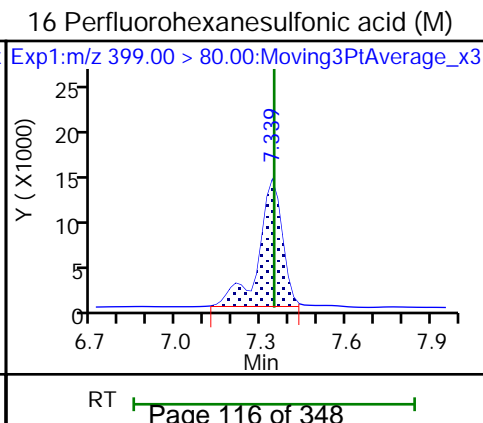
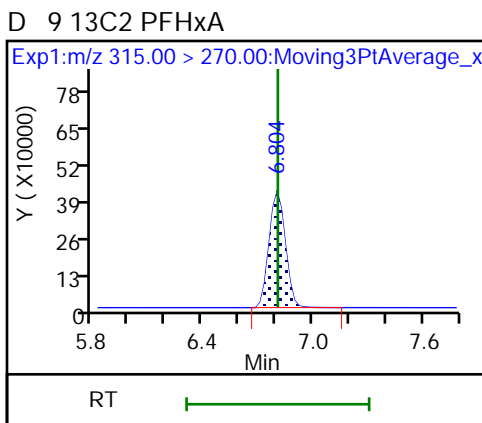
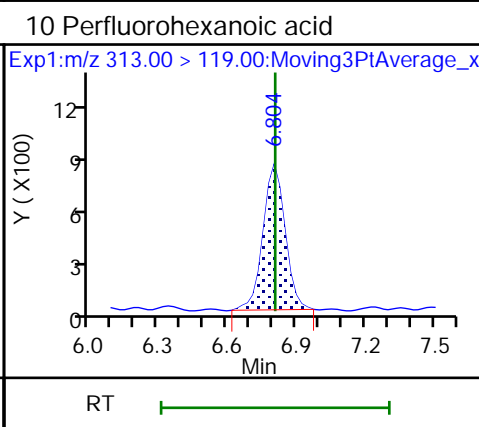
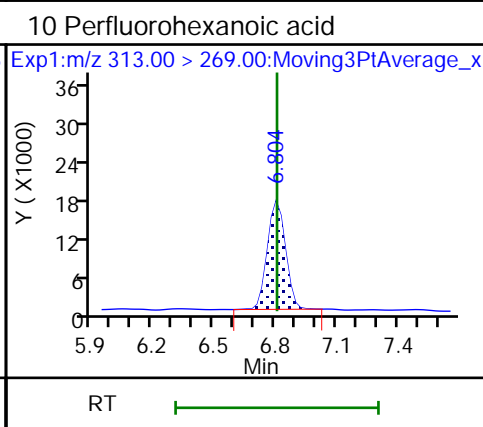
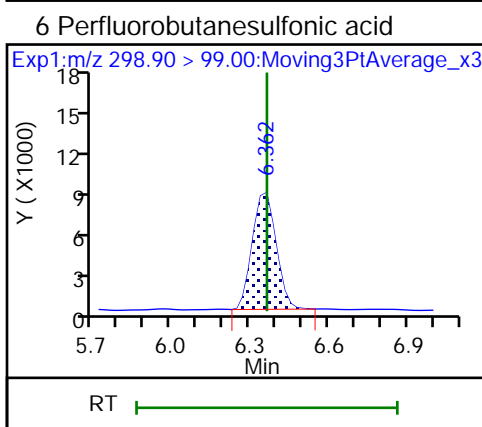
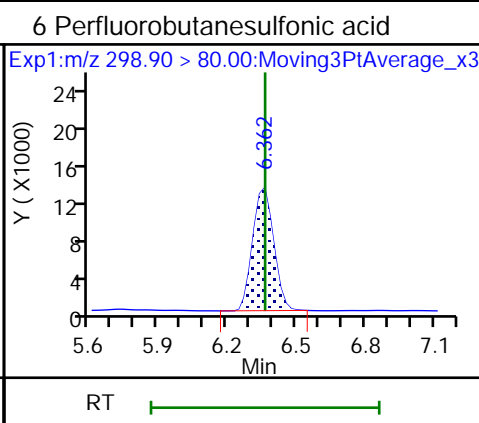
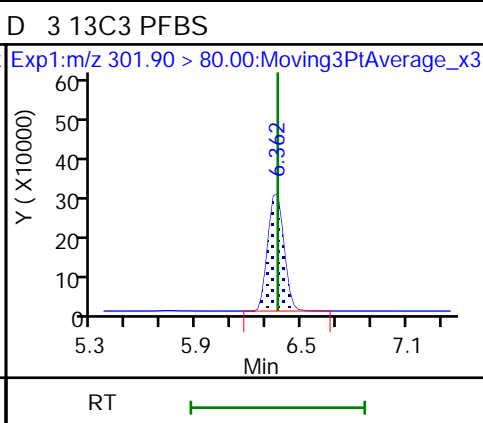
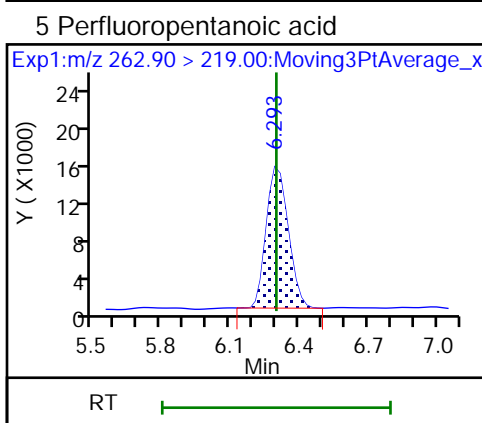
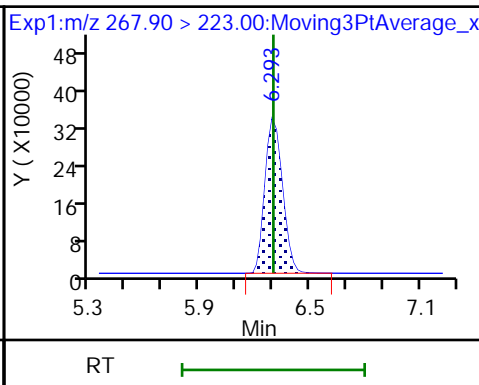
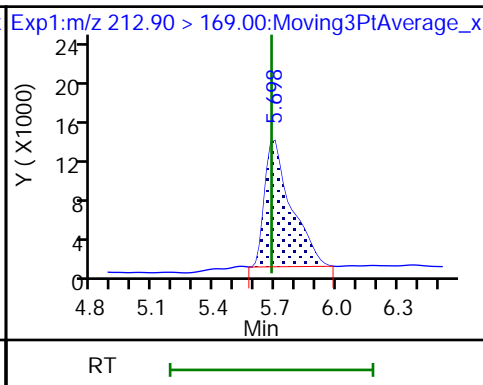
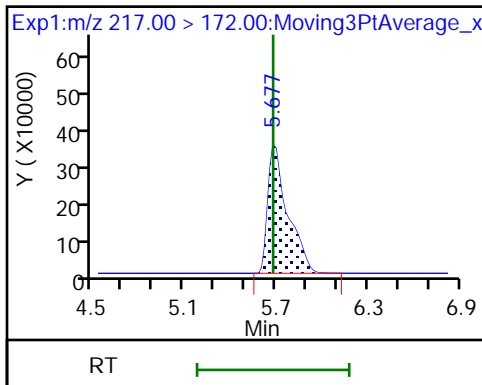
Method: A10_In_Line_SPE

Limit Group: LC PFAS_DW ICAL

D 2 13C4 PFBA

1 Perfluorobutanoic acid

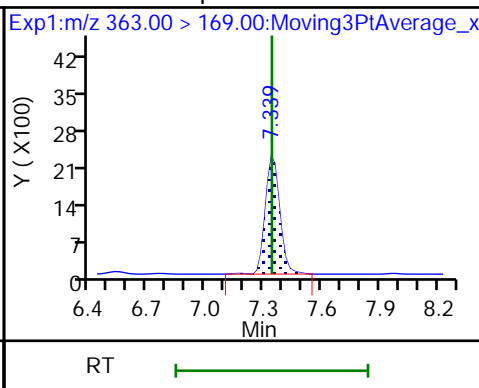
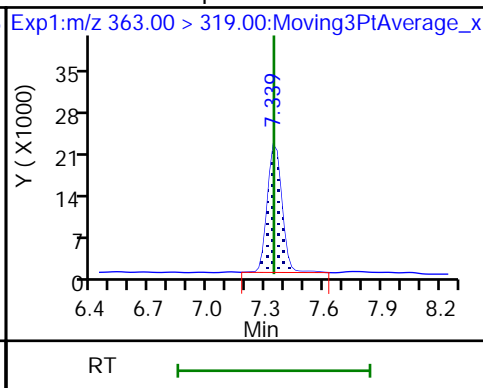
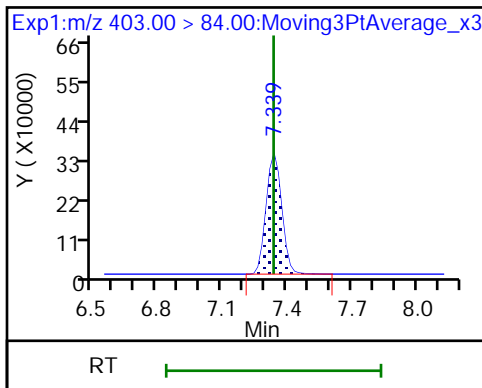
D 4 13C5 PFPeA



D 15 18O2 PFHxS

18 Perfluoroheptanoic acid

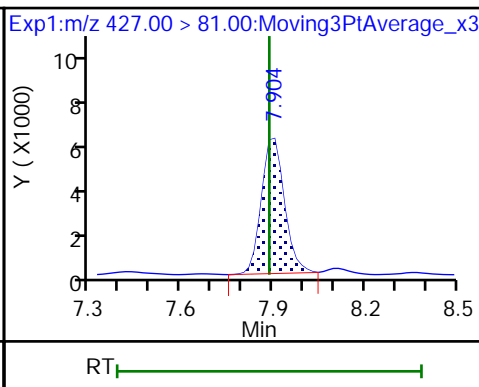
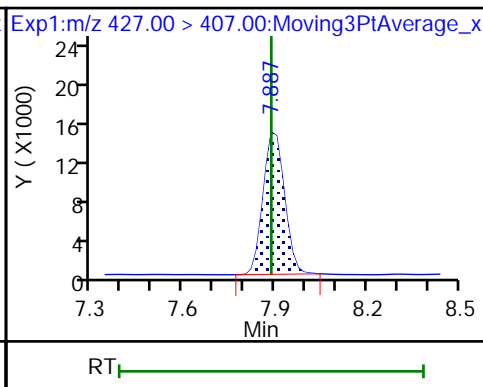
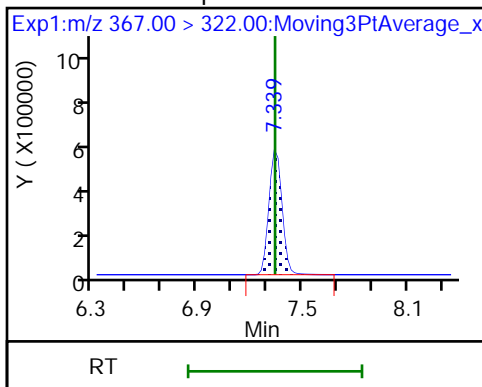
18 Perfluoroheptanoic acid



D 17 13C4 PFHpA

23 6:2 FTS

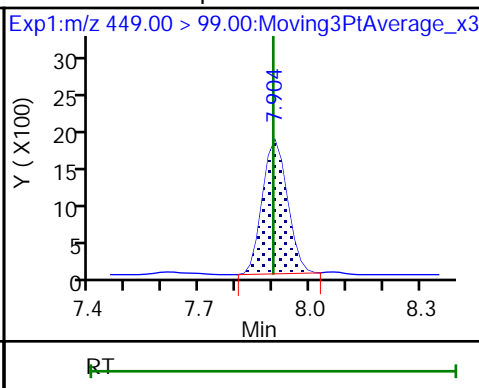
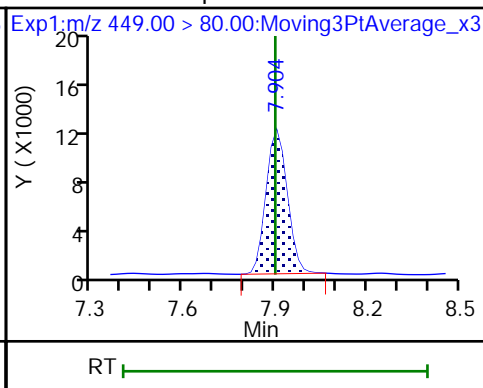
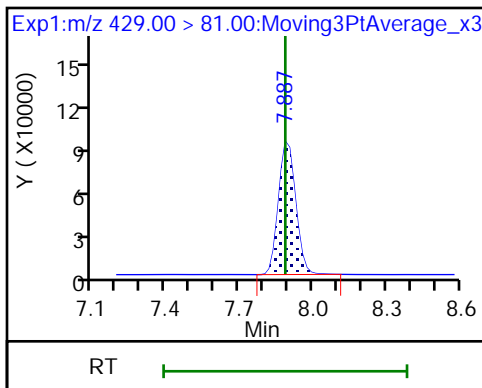
23 6:2 FTS



D 22 M2-6:2 FTS

21 Perfluoroheptanesulfonic acid

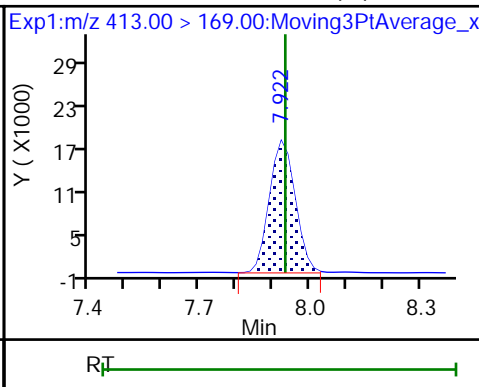
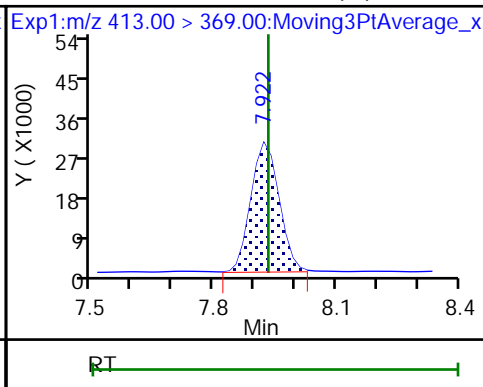
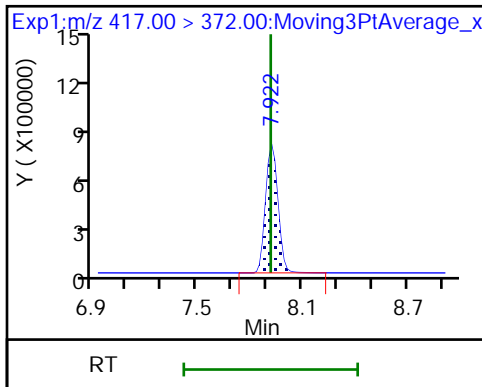
21 Perfluoroheptanesulfonic acid



D 25 13C4 PFOA

24 Perfluorooctanoic acid (M)

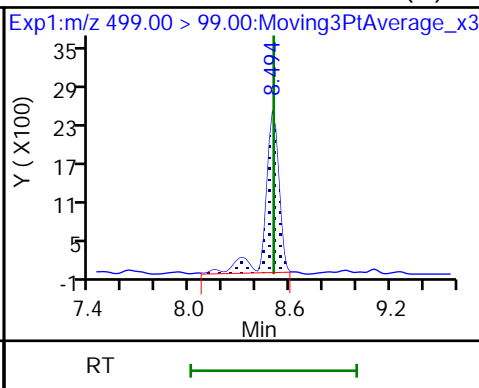
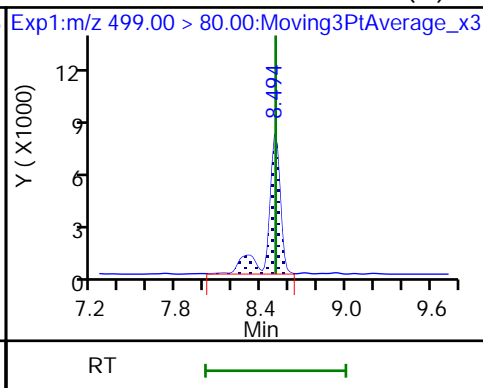
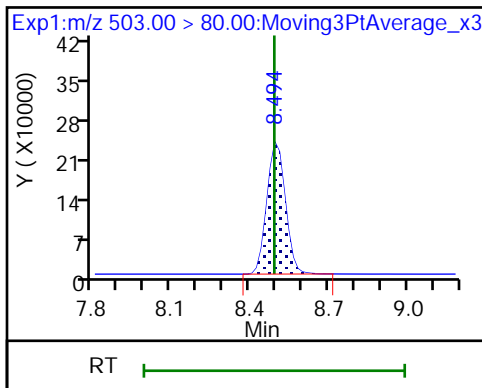
24 Perfluorooctanoic acid (M)



D 26 13C4 PFOS

27 Perfluorooctanesulfonic acid (M)

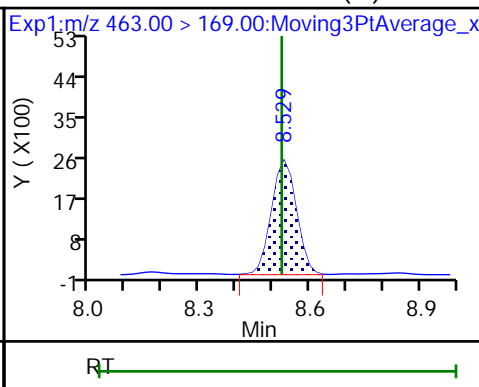
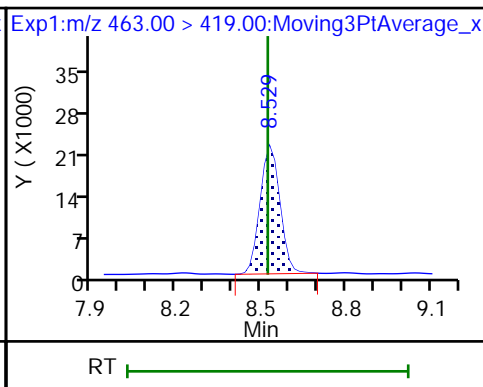
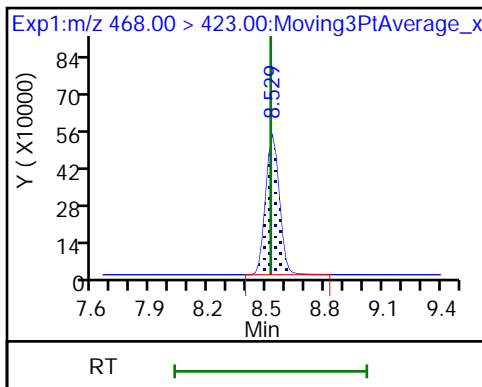
27 Perfluorooctanesulfonic acid (M)



D 28 13C5 PFNA

29 Perfluorononanoic acid

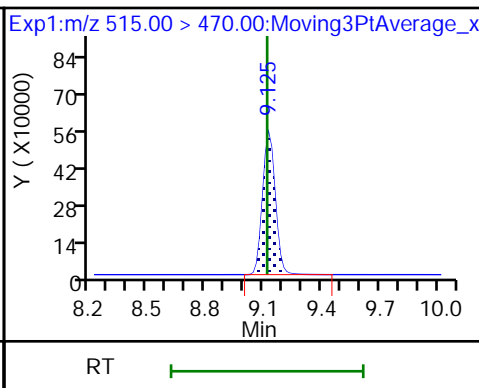
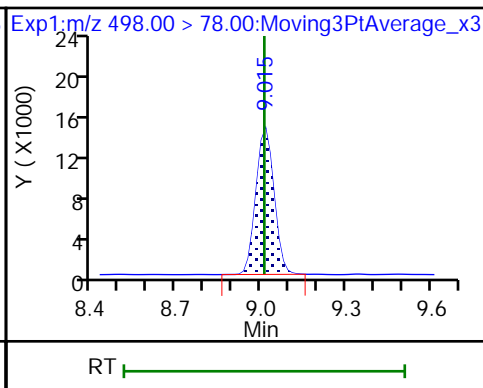
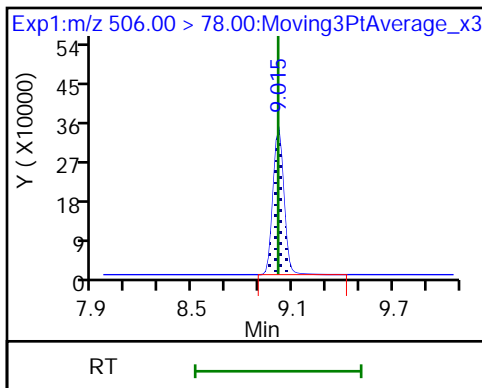
29 Perfluorononanoic acid (M)



D 30 13C8 FOSA

31 Perfluorooctanesulfonamide

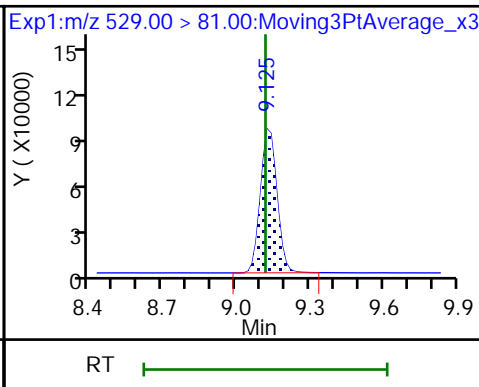
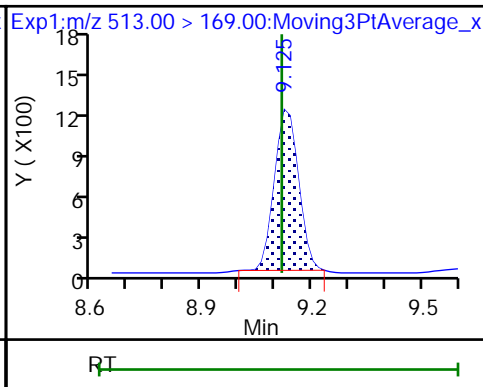
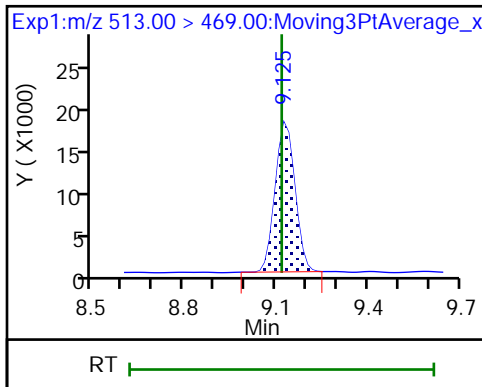
D 33 13C2 PFDA

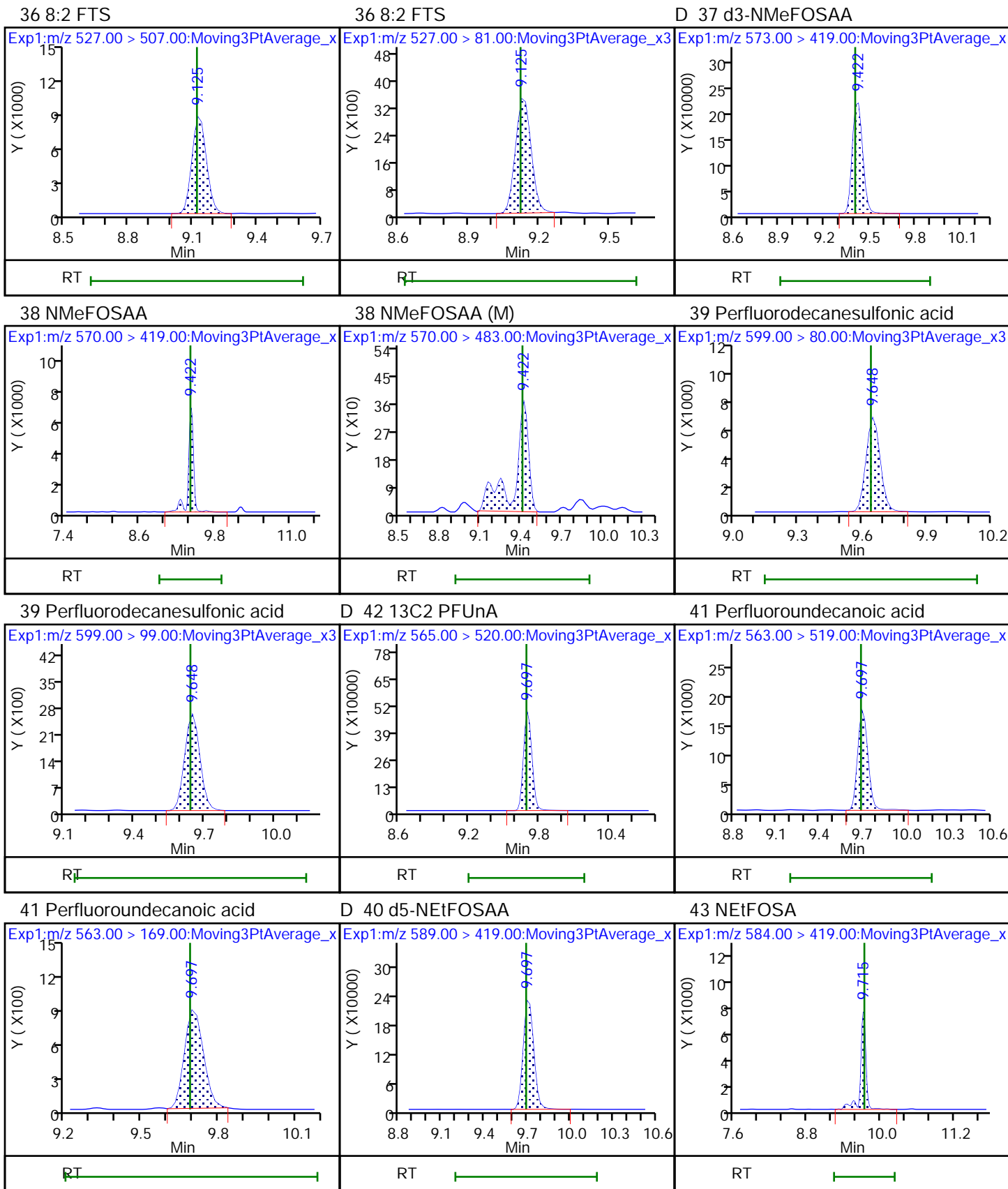


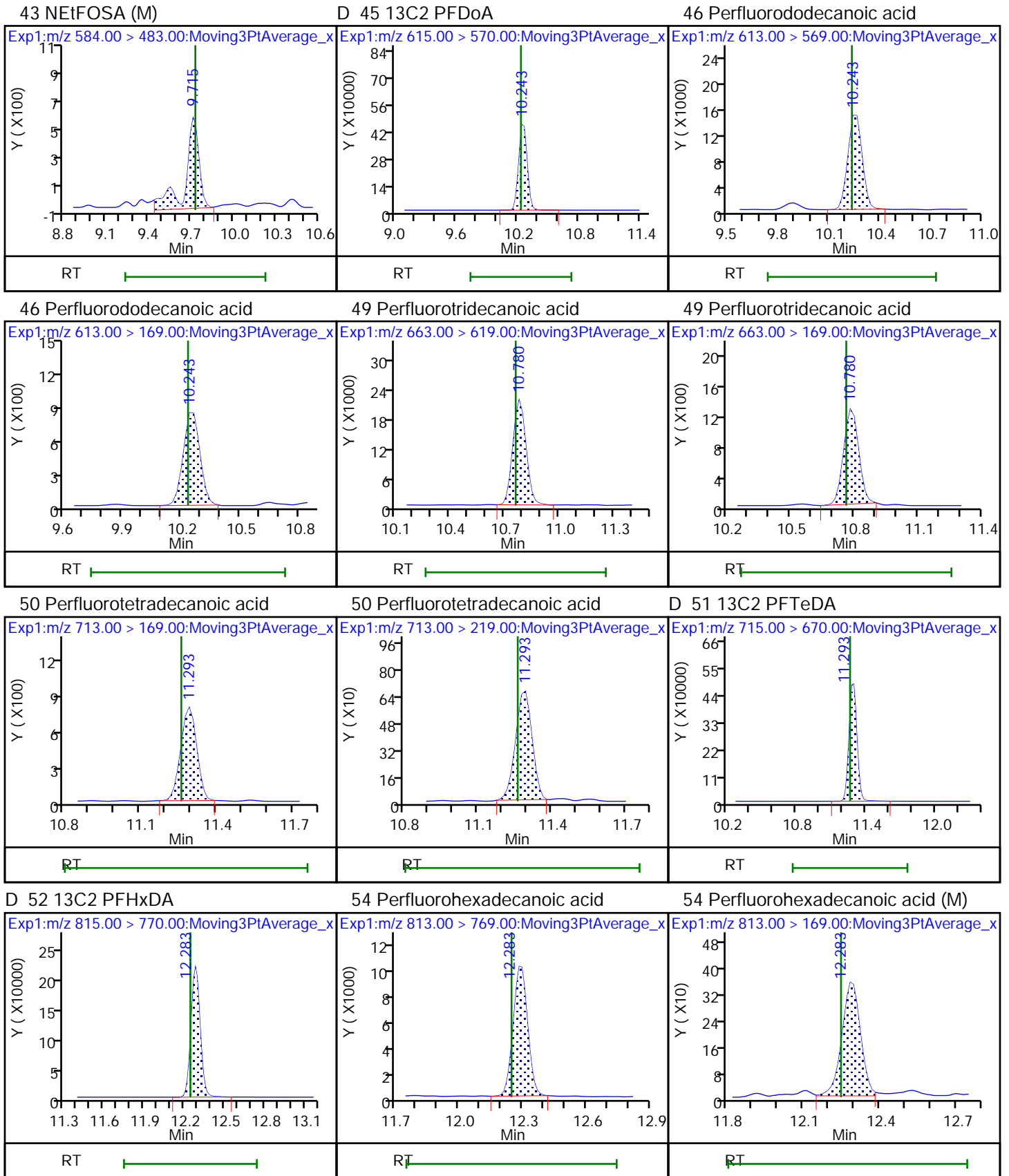
35 Perfluorodecanoic acid

35 Perfluorodecanoic acid

D 34 M2-8:2 FTS

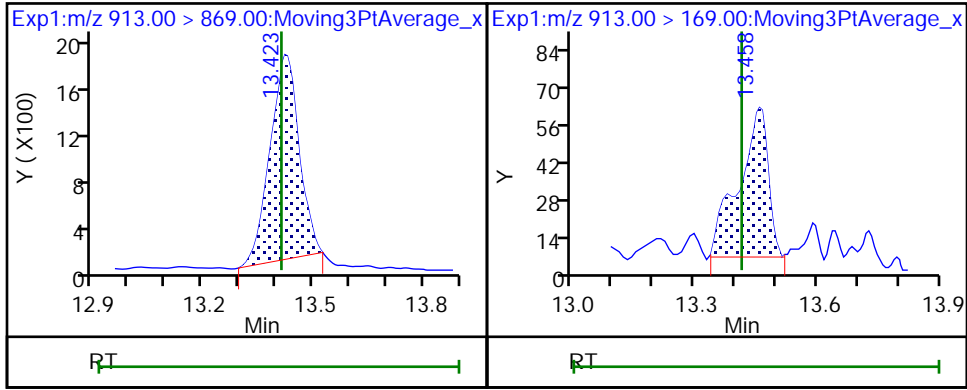






53 Perfluorooctadecanoic acid

53 Perfluorooctadecanoic acid (M)



Eurofins TestAmerica, Sacramento

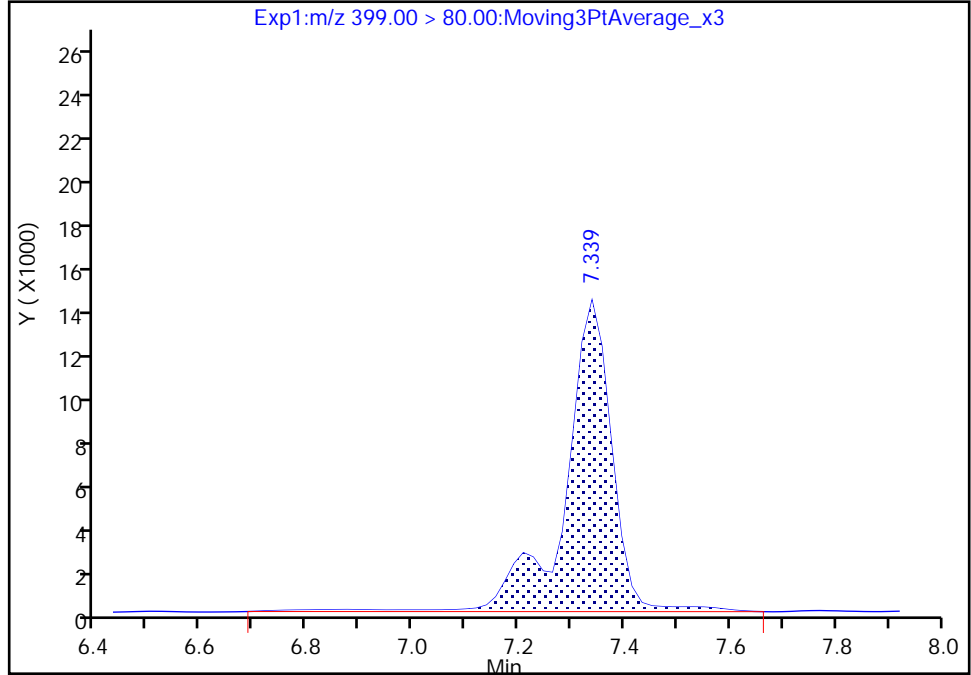
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_003.d
Injection Date: 09-Feb-2021 10:55:52 Instrument ID: A10
Lims ID: IC STD 2
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

16 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

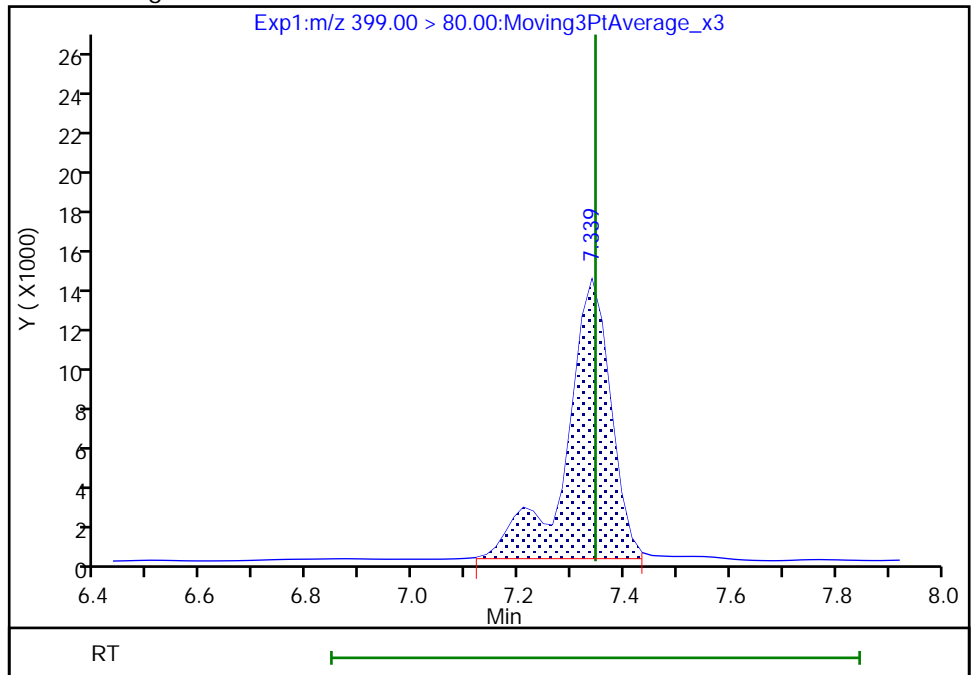
RT: 7.34
Area: 86565
Amount: 0.001979
Amount Units: ng/ml

Processing Integration Results



RT: 7.34
Area: 80890
Amount: 0.002000
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 11:58:00
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

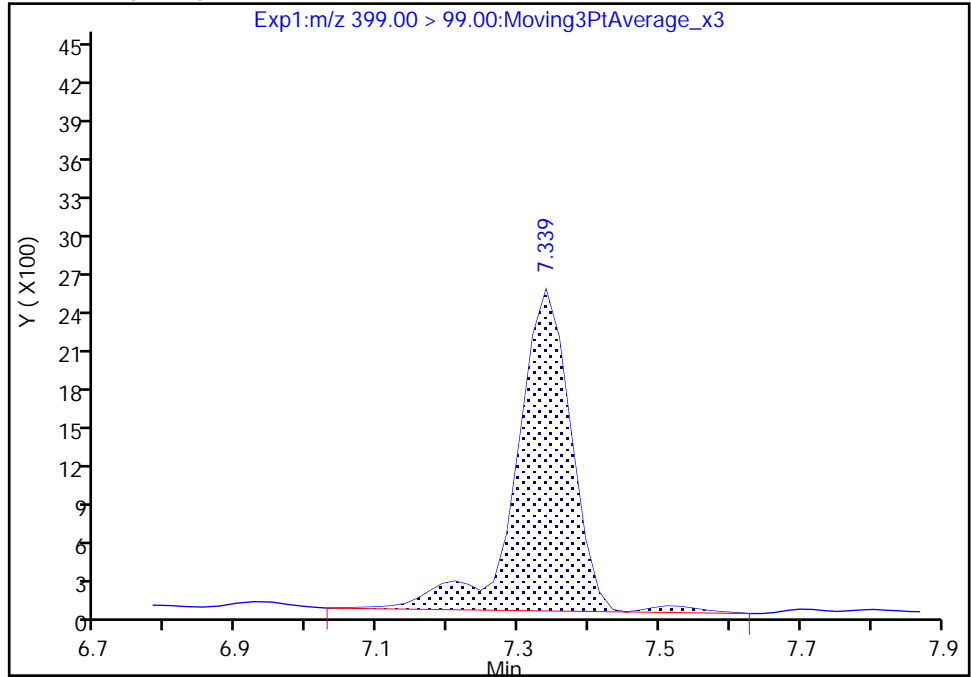
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_003.d
Injection Date: 09-Feb-2021 10:55:52 Instrument ID: A10
Lims ID: IC STD 2
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

16 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

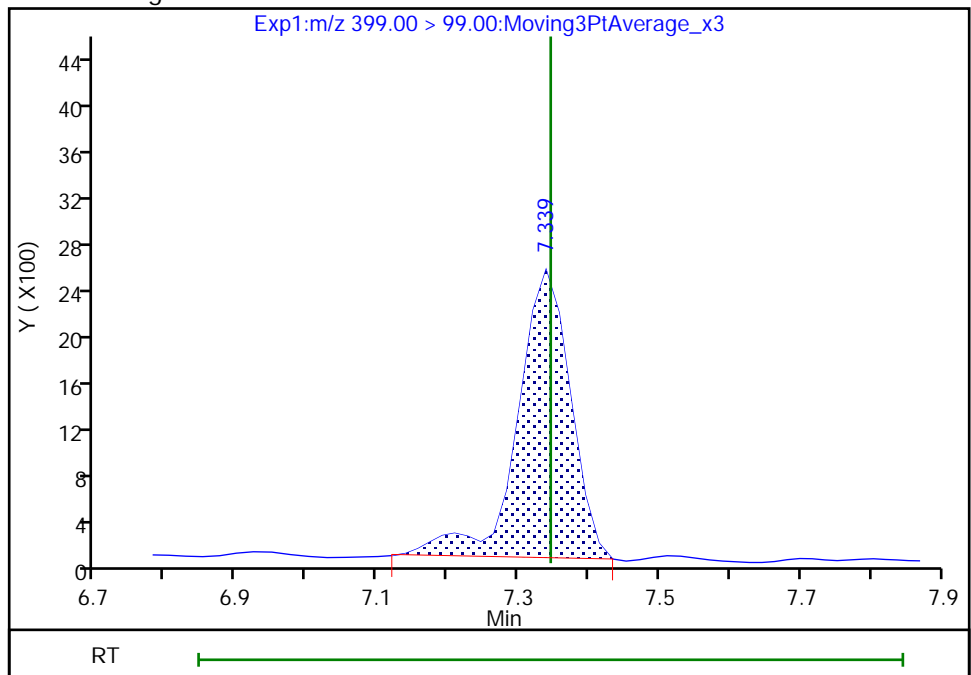
RT: 7.34
Area: 13650
Amount: 0.001979
Amount Units: ng/ml

Processing Integration Results



RT: 7.34
Area: 12876
Amount: 0.002000
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 11:58:06

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins TestAmerica, Sacramento

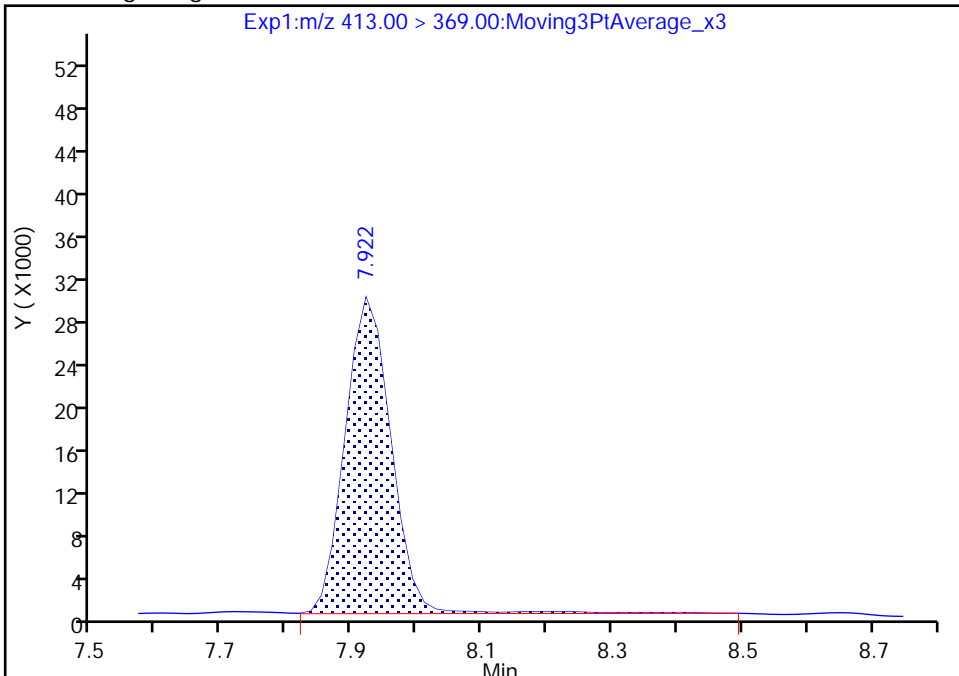
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_003.d
Injection Date: 09-Feb-2021 10:55:52 Instrument ID: A10
Lims ID: IC STD 2
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

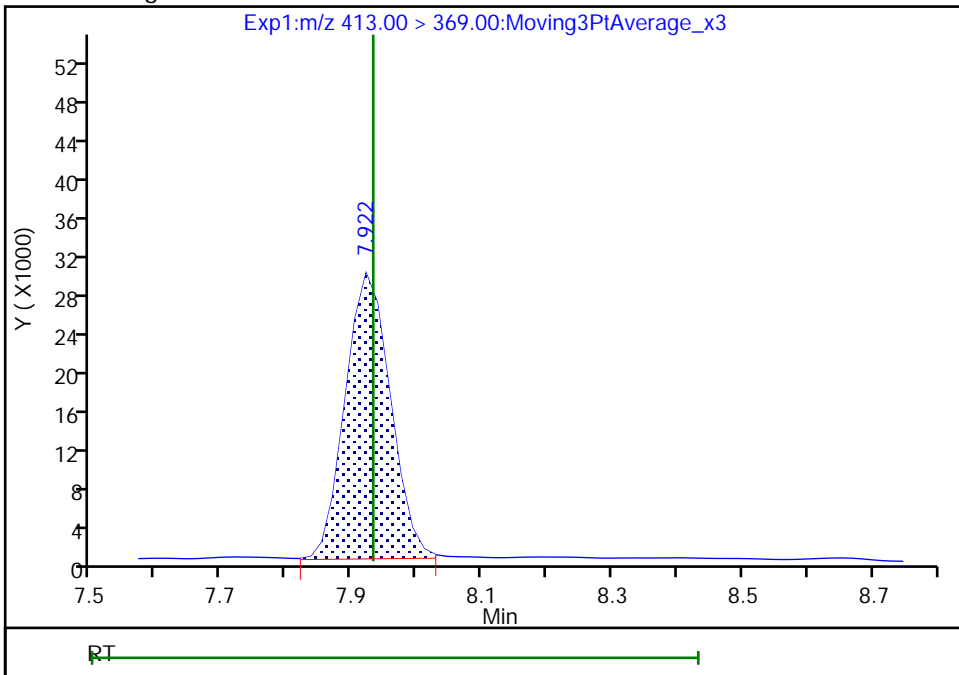
RT: 7.92
Area: 144076
Amount: 0.002085
Amount Units: ng/ml

Processing Integration Results



RT: 7.92
Area: 141136
Amount: 0.002091
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 11:58:15
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

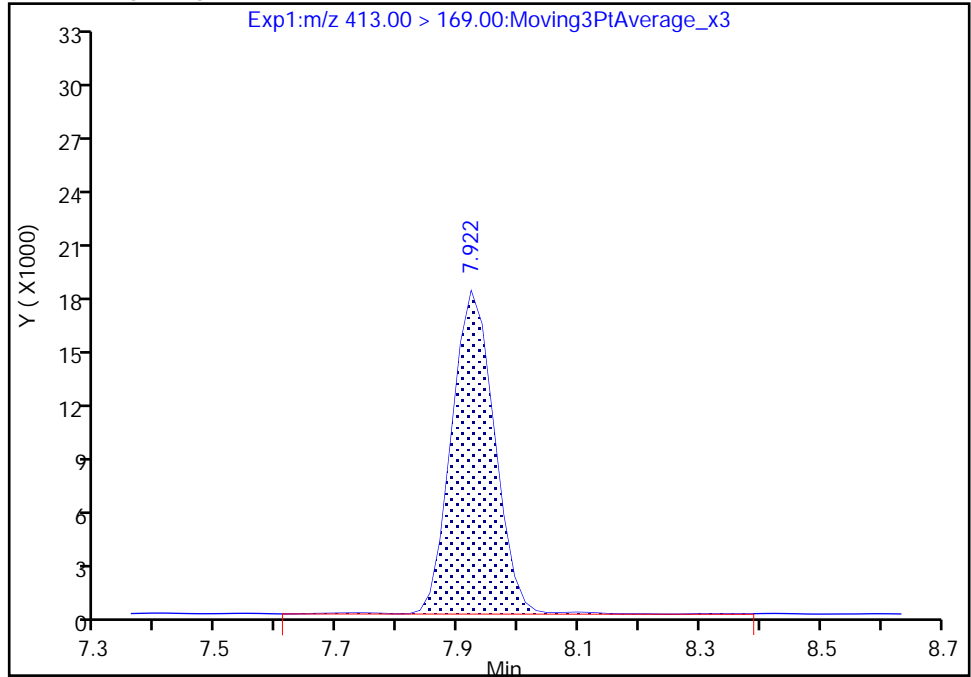
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_003.d
Injection Date: 09-Feb-2021 10:55:52 Instrument ID: A10
Lims ID: IC STD 2
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

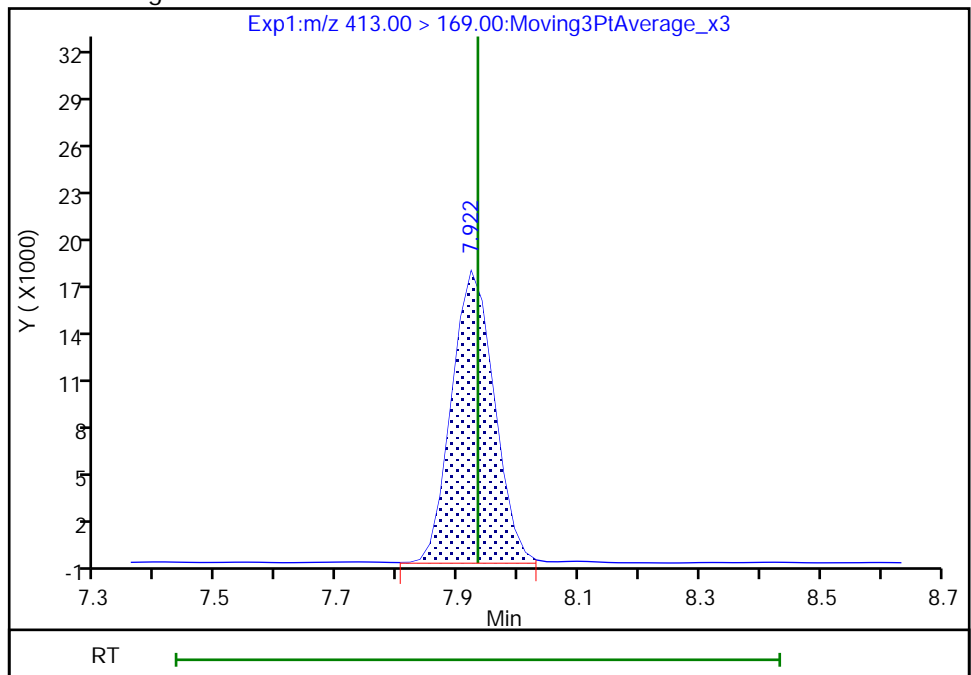
RT: 7.92
Area: 88931
Amount: 0.002085
Amount Units: ng/ml

Processing Integration Results



RT: 7.92
Area: 88046
Amount: 0.002091
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 11:58:23

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins TestAmerica, Sacramento

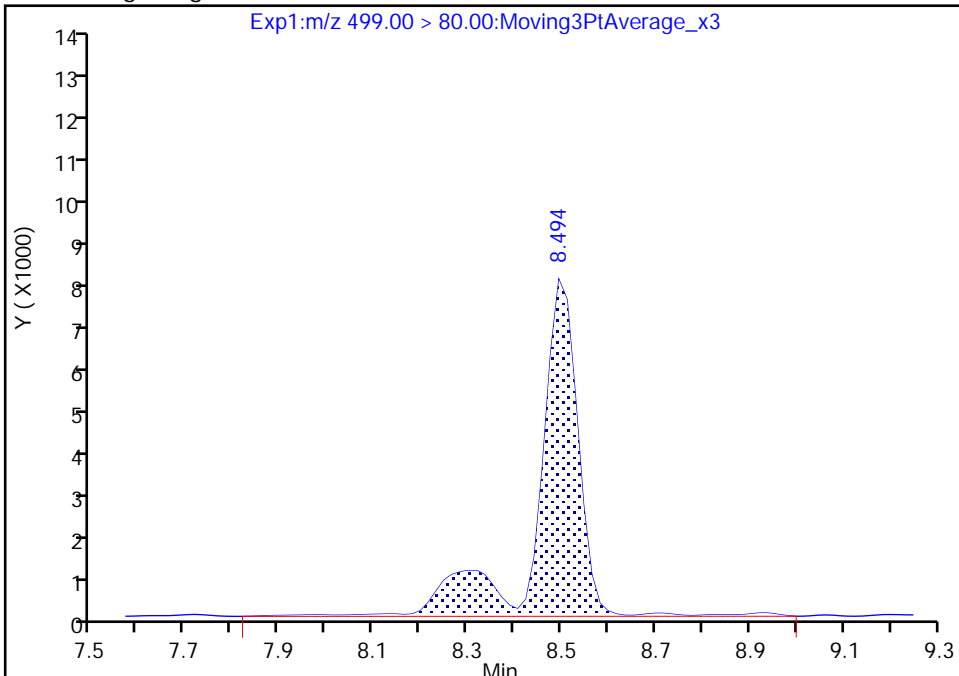
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_003.d
Injection Date: 09-Feb-2021 10:55:52 Instrument ID: A10
Lims ID: IC STD 2
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

27 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

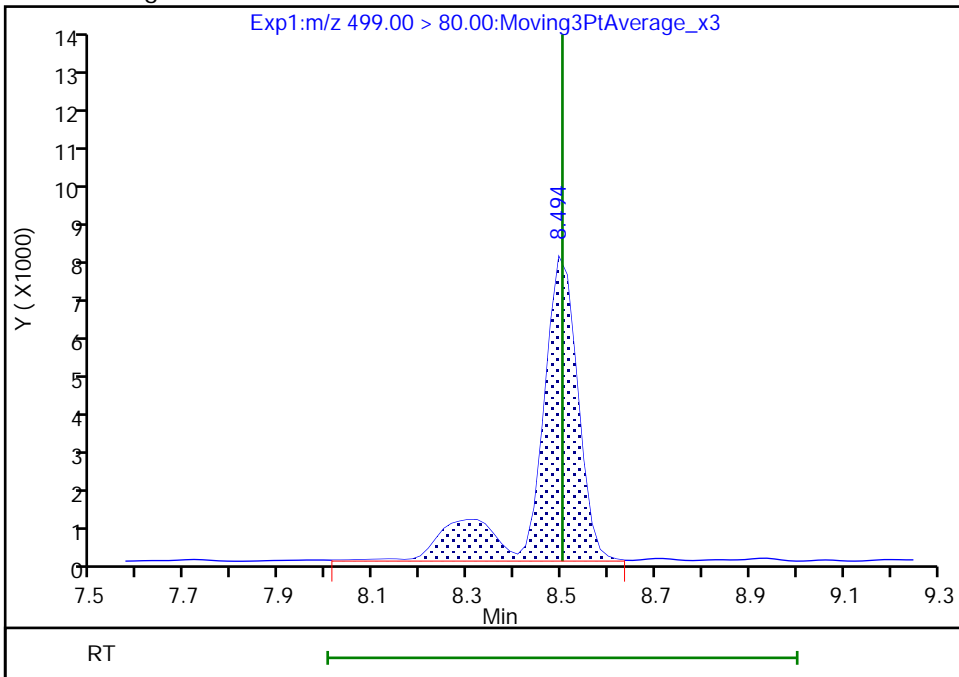
RT: 8.49
Area: 47397
Amount: 0.001939
Amount Units: ng/ml

Processing Integration Results



RT: 8.49
Area: 46213
Amount: 0.001913
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 11:58:31
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

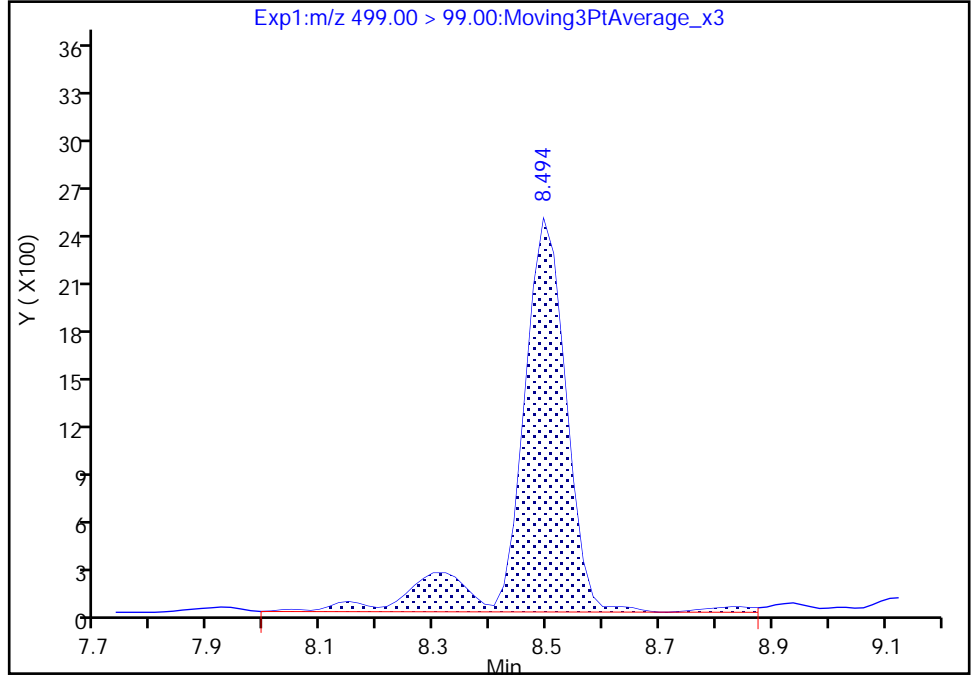
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_003.d
Injection Date: 09-Feb-2021 10:55:52 Instrument ID: A10
Lims ID: IC STD 2
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm ID) Detector: EXP1

27 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

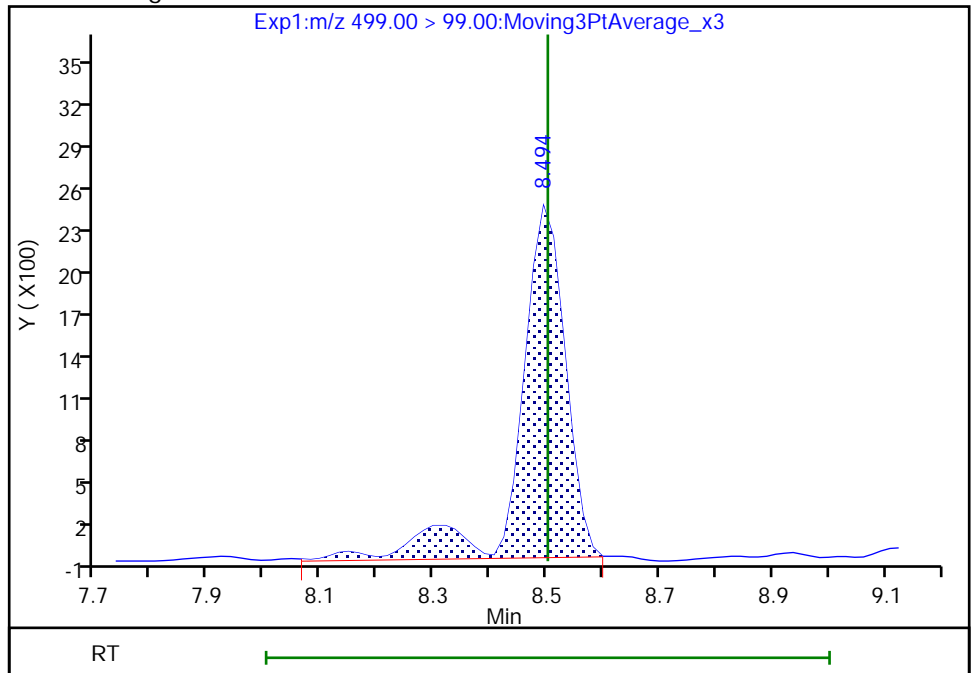
RT: 8.49
Area: 14435
Amount: 0.001939
Amount Units: ng/ml

Processing Integration Results



RT: 8.49
Area: 13741
Amount: 0.001913
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 11:58:37

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins TestAmerica, Sacramento

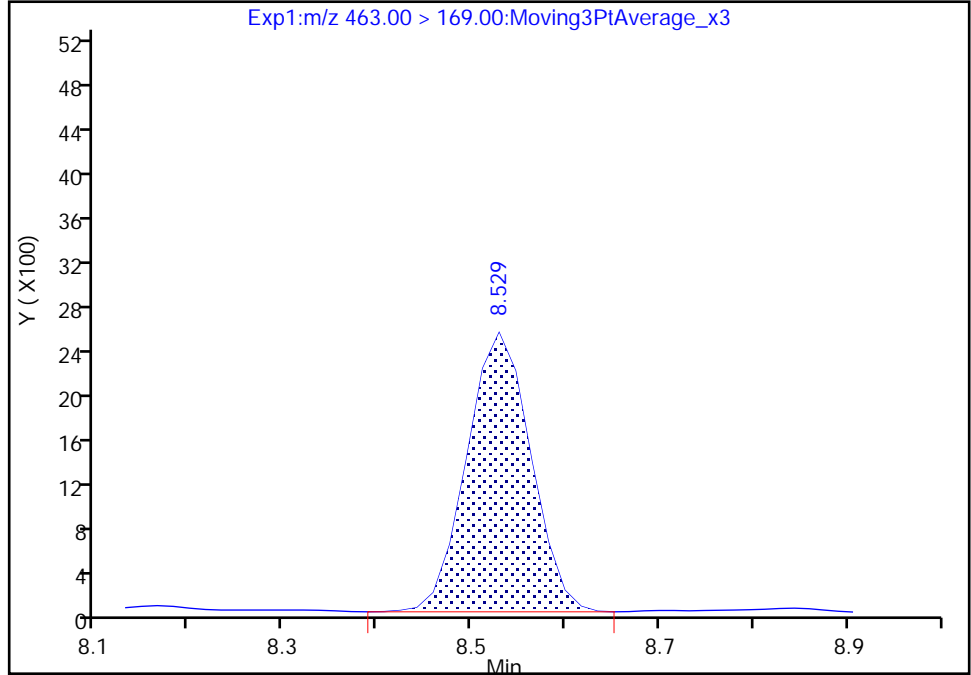
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_003.d
Injection Date: 09-Feb-2021 10:55:52 Instrument ID: A10
Lims ID: IC STD 2
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

29 Perfluorononanoic acid, CAS: 375-95-1

Signal: 2

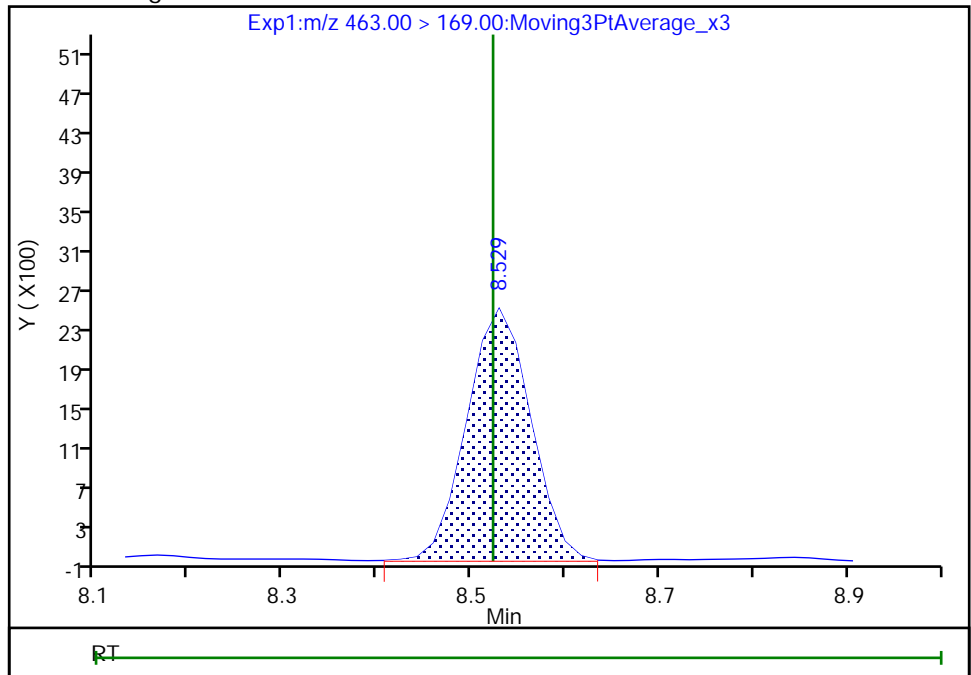
RT: 8.53
Area: 11877
Amount: 0.002092
Amount Units: ng/ml

Processing Integration Results



RT: 8.53
Area: 11955
Amount: 0.002117
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 11:58:45
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

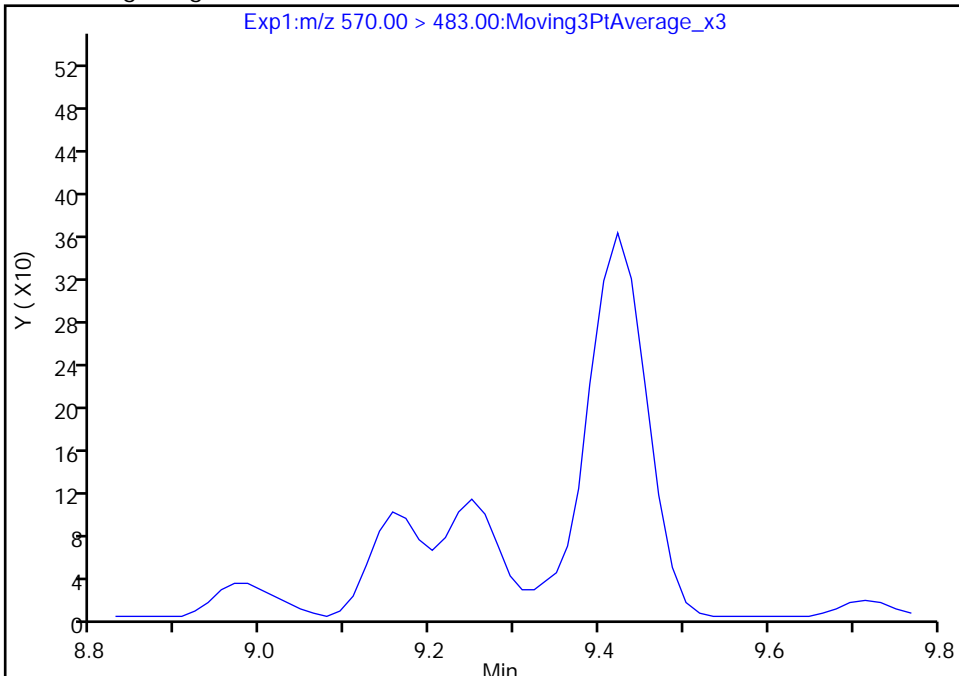
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_003.d
Injection Date: 09-Feb-2021 10:55:52 Instrument ID: A10
Lims ID: IC STD 2
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

38 NMeFOSAA, CAS: 2355-31-9

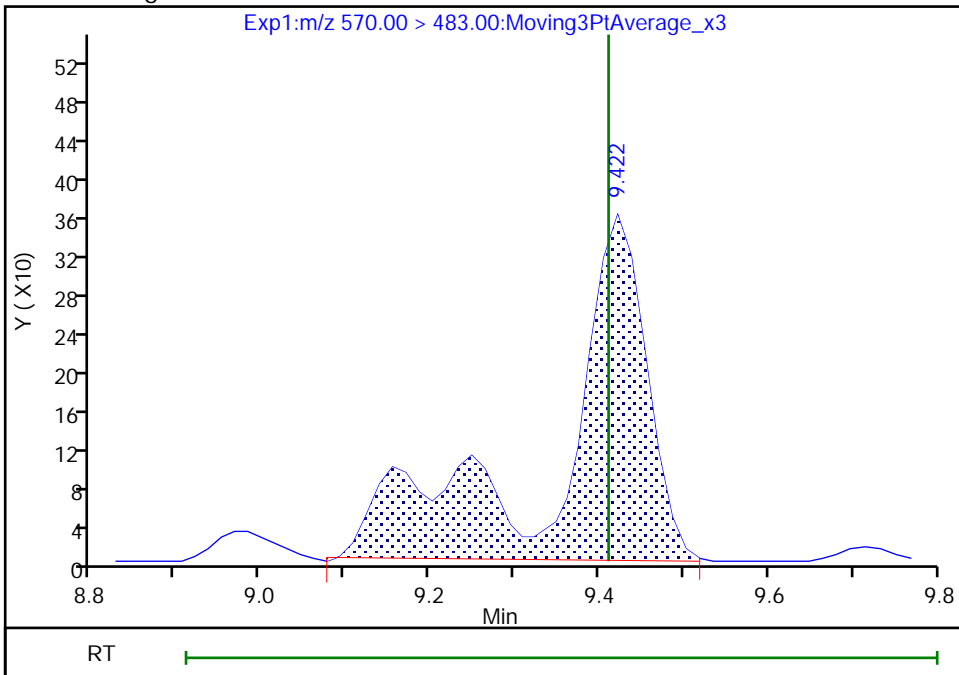
Signal: 2

Not Detected
Expected RT: 9.41

Processing Integration Results



Manual Integration Results



RT: 9.42
Area: 2632
Amount: 0.002091
Amount Units: ng/ml

Reviewer: vangmy, 09-Feb-2021 12:04:08
Audit Action: Manually Integrated

Audit Reason: Assign Peak
Page 129 of 348

Eurofins TestAmerica, Sacramento

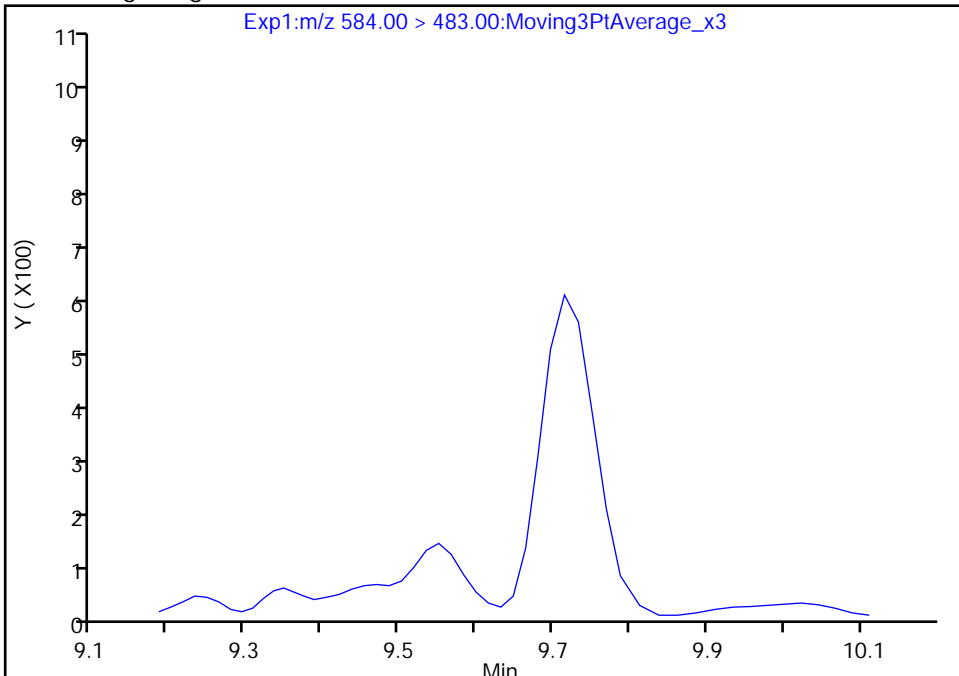
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_003.d
Injection Date: 09-Feb-2021 10:55:52 Instrument ID: A10
Lims ID: IC STD 2
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

43 NEtFOSA, CAS: 2991-50-6

Signal: 2

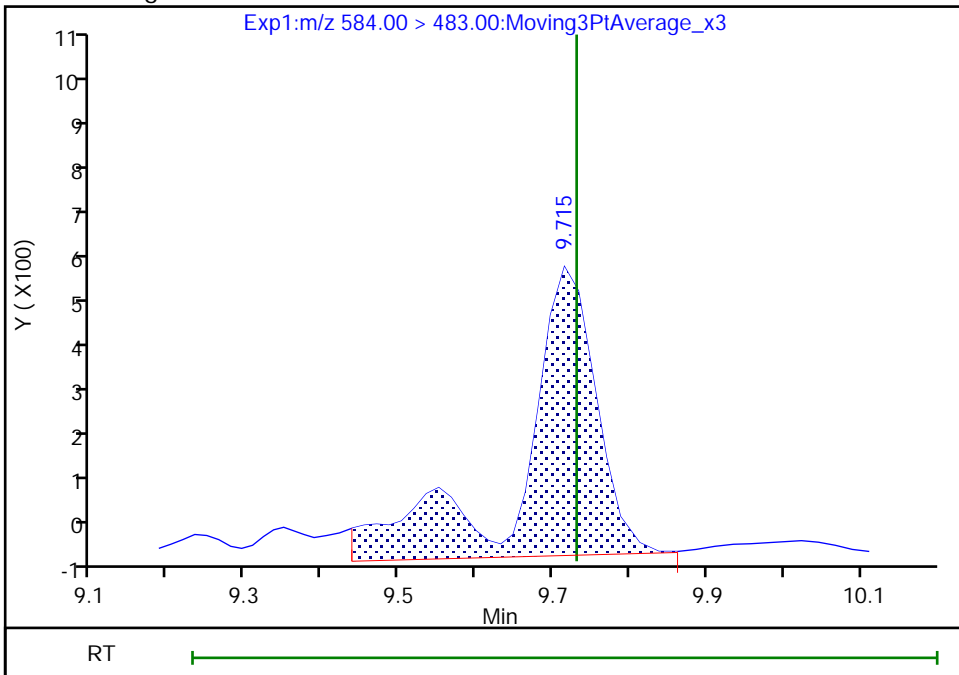
Not Detected
Expected RT: 9.73

Processing Integration Results



Manual Integration Results

RT: 9.71
Area: 3781
Amount: 0.002087
Amount Units: ng/ml



Reviewer: vangmy, 09-Feb-2021 12:04:14
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

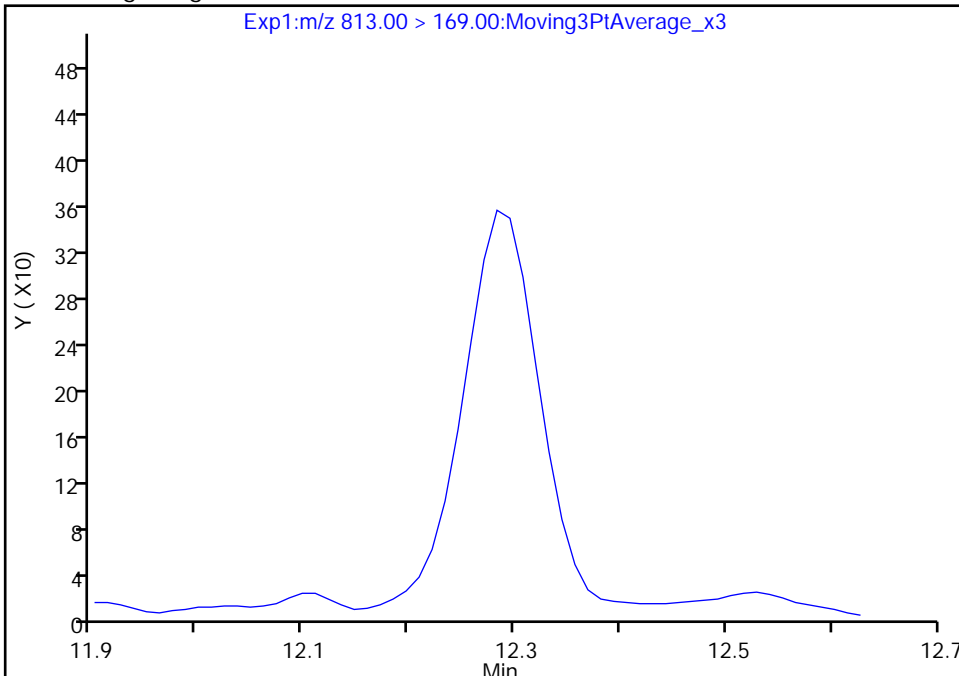
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_003.d
Injection Date: 09-Feb-2021 10:55:52 Instrument ID: A10
Lims ID: IC STD 2
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

54 Perfluorohexadecanoic acid, CAS: 67905-19-5

Signal: 2

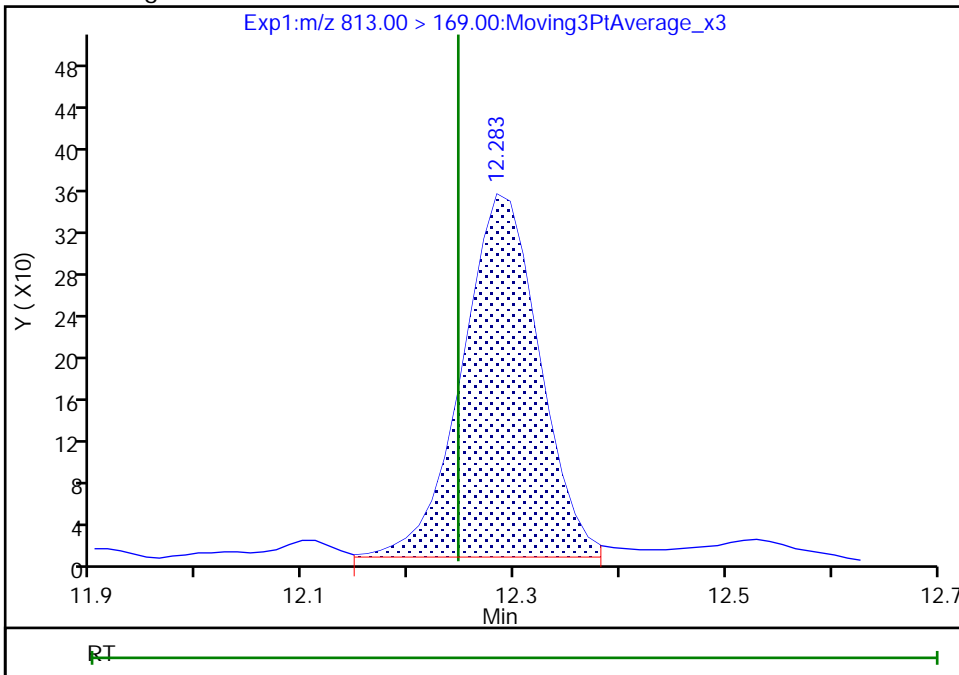
Not Detected
Expected RT: 12.25

Processing Integration Results



Manual Integration Results

RT: 12.28
Area: 1764
Amount: 0.002262
Amount Units: ng/ml



Reviewer: vangmy, 09-Feb-2021 12:04:18
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

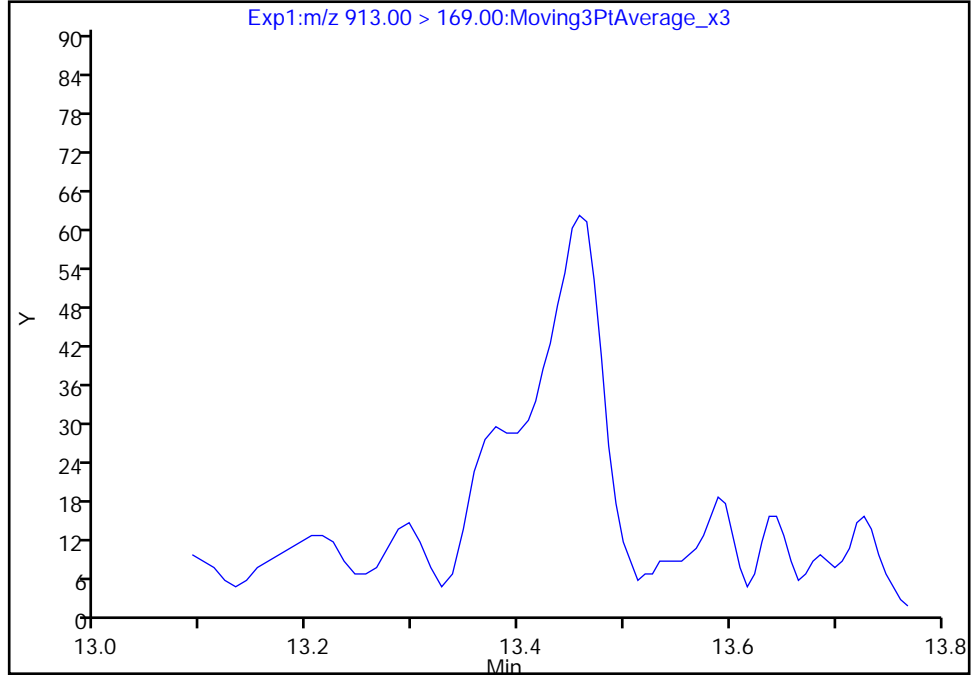
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_003.d
Injection Date: 09-Feb-2021 10:55:52 Instrument ID: A10
Lims ID: IC STD 2
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm ID) Detector: EXP1

53 Perfluorooctadecanoic acid, CAS: 16517-11-6

Signal: 2

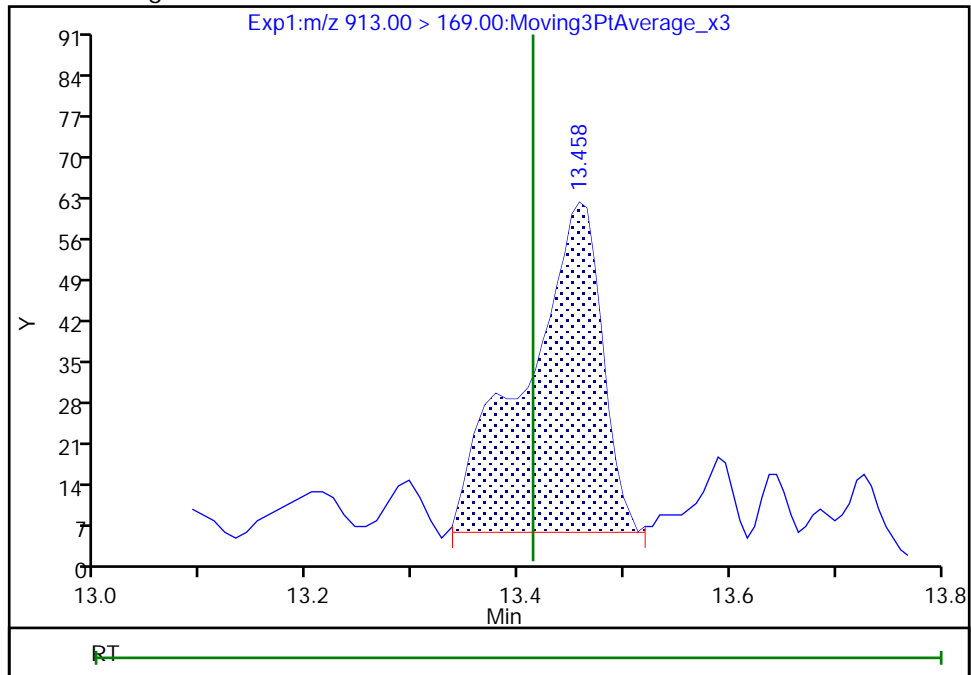
Not Detected
Expected RT: 13.41

Processing Integration Results



Manual Integration Results

RT: 13.46
Area: 284
Amount: 0.002152
Amount Units: ng/ml



Reviewer: vangmy, 09-Feb-2021 12:04:22
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_004.d
 Lims ID: IC STD 3
 Client ID:
 Sample Type: IC Calib Level: 3
 Inject. Date: 09-Feb-2021 11:14:18 ALS Bottle#: 4 Worklist Smp#: 4
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: IC STD 3 (22)
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Sublist: chrom-A10_In_Line_SPE*sub12

Method: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 09-Feb-2021 13:50:15 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1638

First Level Reviewer: vangmy Date: 09-Feb-2021 12:06:15

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-----------------|--------|--------|--------|----------|--------------|-------------------|--------------|-------|-------|
| D 2 13C4 PFBA | 217.00 > 172.00 | 5.677 | 5.678 | -0.001 | 2795516 | 0.0476 | | 95.2 | 8527 | |
| 1 Perfluorobutanoic acid | 212.90 > 169.00 | 5.677 | 5.681 | -0.004 | 1.000 | 246969 | 0.004954 | 99.1 | 32.9 | |
| D 4 13C5 PFPeA | 267.90 > 223.00 | 6.293 | 6.300 | -0.007 | 2052592 | 0.0467 | | 93.4 | 8432 | |
| 5 Perfluoropentanoic acid | 262.90 > 219.00 | 6.293 | 6.300 | -0.007 | 1.000 | 236452 | 0.005324 | 106 | 110 | |
| D 3 13C3 PFBS | 301.90 > 80.00 | 6.363 | 6.364 | -0.001 | 1736179 | 0.0426 | | 91.6 | 3760 | |
| 6 Perfluorobutanesulfonic acid | 298.90 > 80.00 | 6.363 | 6.364 | -0.001 | 1.000 | 172421 | 0.004406 | Target=1.49 | 99.7 | 565 |
| | 298.90 > 99.00 | 6.363 | 6.364 | -0.001 | 1.000 | 116913 | 1.47(0.74-2.23) | 99.7 | 207 | |
| 8 4:2 FTS | 327.00 > 307.00 | 6.757 | 6.755 | 0.002 | 1.000 | 84651 | NC | Target=2.63 | 1370 | |
| | 327.00 > 81.00 | 6.757 | 6.755 | 0.002 | 1.000 | 32337 | 2.62(1.32-3.95) | | 101 | |
| D 7 M2-4:2 FTS | 329.00 > 81.00 | 6.757 | 6.755 | 0.002 | 311628 | NC | | | 894 | |
| 10 Perfluorohexanoic acid | 313.00 > 269.00 | 6.804 | 6.808 | -0.004 | 1.000 | 227929 | 0.004613 | Target=19.21 | 92.3 | 186 |
| | 313.00 > 119.00 | 6.804 | 6.808 | -0.004 | 1.000 | 12045 | 18.92(9.60-28.81) | 92.3 | 165 | |
| D 9 13C2 PFHxA | 315.00 > 270.00 | 6.804 | 6.808 | -0.004 | 2490816 | 0.0525 | | 105 | 11248 | |
| 11 Perfluoropentanesulfonic acid | 349.00 > 80.00 | 6.828 | 6.826 | 0.002 | 0.933 | 165920 | NC | Target=1.46 | 445 | |
| | 349.00 > 99.00 | 6.828 | 6.826 | 0.002 | 0.933 | 114037 | 1.45(0.73-2.19) | | 407 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-------|--------|--------|--------|----------|--------------|------------------|------|-------|-------|
| D 12 13C3 HFPO-DA | | | | | | | | | | |
| 332.10 > 287.00 | 6.950 | 6.961 | -0.011 | | 120464 | NC | | | 1163 | |
| 13 HPFO-DA | | | | | | | | | | |
| 329.10 > 285.00 | 6.950 | 6.964 | -0.014 | 1.000 | 32228 | NC | | | 23.1 | |
| 14 9CIFOS | | | | | | | | | | |
| 531.00 > 351.00 | 7.207 | 7.208 | -0.001 | 0.850 | 527 | NC | | | 1.9 | M |
| D 15 18O2 PFHxS | | | | | | | | | | |
| 403.00 > 84.00 | 7.318 | 7.337 | -0.019 | | 1484997 | 0.0452 | | 95.5 | 13924 | |
| 16 Perfluorohexanesulfonic acid | | | | | | | | | | |
| 399.00 > 80.00 | 7.318 | 7.341 | -0.023 | 1.000 | 161546 | 0.004517 | Target=5.70 | 99.3 | 389 | M |
| 399.00 > 99.00 | 7.318 | 7.341 | -0.023 | 1.000 | 28780 | | 5.61(2.85-8.55) | 99.3 | 179 | M |
| 18 Perfluoroheptanoic acid | | | | | | | | | | |
| 363.00 > 319.00 | 7.337 | 7.342 | -0.005 | 1.000 | 248424 | 0.004932 | Target=9.14 | 98.6 | 170 | |
| 363.00 > 169.00 | 7.337 | 7.342 | -0.005 | 1.000 | 30141 | | 8.24(4.57-13.71) | 98.6 | 388 | |
| D 17 13C4 PFHpA | | | | | | | | | | |
| 367.00 > 322.00 | 7.337 | 7.342 | -0.005 | | 2581161 | 0.0516 | | 103 | 15259 | |
| 19 DONA | | | | | | | | | | |
| 377.00 > 251.00 | 7.392 | 7.397 | -0.005 | 0.872 | 1004010 | NC | Target=2.71 | | 4008 | |
| 377.00 > 85.00 | 7.392 | 7.397 | -0.005 | 0.872 | 363957 | | 2.76(1.36-4.07) | | 2359 | |
| 23 6:2 FTS | | | | | | | | | | |
| 427.00 > 407.00 | 7.869 | 7.886 | -0.017 | 1.000 | 104415 | 0.004186 | Target=2.56 | 88.3 | 1328 | |
| 427.00 > 81.00 | 7.869 | 7.886 | -0.017 | 1.000 | 40600 | | 2.57(1.28-3.83) | 88.3 | 135 | |
| D 22 M2-6:2 FTS | | | | | | | | | | |
| 429.00 > 81.00 | 7.869 | 7.886 | -0.017 | | 395138 | 0.0481 | | 101 | 1358 | |
| 21 Perfluoroheptanesulfonic acid | | | | | | | | | | |
| 449.00 > 80.00 | 7.886 | 7.900 | -0.014 | 0.930 | 135052 | 0.004903 | Target=6.98 | 103 | 683 | |
| 449.00 > 99.00 | 7.886 | 7.900 | -0.014 | 0.930 | 19398 | | 6.96(3.49-10.47) | 103 | 235 | |
| D 25 13C4 PFOA | | | | | | | | | | |
| 417.00 > 372.00 | 7.903 | 7.917 | -0.014 | | 3340904 | 0.0499 | | 99.9 | 14526 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | |
| 413.00 > 369.00 | 7.903 | 7.928 | -0.025 | 1.000 | 288658 | 0.004746 | Target=1.58 | 94.9 | 143 | M |
| 413.00 > 169.00 | 7.903 | 7.928 | -0.025 | 1.000 | 188031 | | 1.54(0.79-2.37) | 94.9 | 662 | M |
| D 26 13C4 PFOS | | | | | | | | | | |
| 503.00 > 80.00 | 8.478 | 8.492 | -0.014 | | 1032015 | 0.0454 | | 94.9 | 6305 | |
| 27 Perfluorooctanesulfonic acid | | | | | | | | | | |
| 499.00 > 80.00 | 8.478 | 8.498 | -0.020 | 1.000 | 97999 | 0.004453 | Target=3.45 | 96.0 | 637 | M |
| 499.00 > 99.00 | 8.478 | 8.498 | -0.020 | 1.000 | 27877 | | 3.52(1.73-5.18) | 96.0 | 212 | M |
| D 28 13C5 PFNA | | | | | | | | | | |
| 468.00 > 423.00 | 8.512 | 8.520 | -0.008 | | 2449172 | 0.0493 | | 98.6 | 11834 | |
| 29 Perfluorononanoic acid | | | | | | | | | | |
| 463.00 > 419.00 | 8.512 | 8.523 | -0.011 | 1.000 | 226096 | 0.004859 | Target=7.90 | 97.2 | 260 | |
| 463.00 > 169.00 | 8.512 | 8.523 | -0.011 | 1.000 | 28533 | | 7.92(3.95-11.85) | 97.2 | 406 | |
| D 30 13C8 FOSA | | | | | | | | | | |
| 506.00 > 78.00 | 8.992 | 9.011 | -0.019 | | 1464008 | 0.0464 | | 92.8 | 5339 | |
| 31 Perfluorooctanesulfonamide | | | | | | | | | | |
| 498.00 > 78.00 | 8.992 | 9.011 | -0.019 | 1.000 | 137748 | 0.004641 | | 92.8 | 1351 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| 32 Perfluorononanesulfonic acid | | | | | | | | | | |
| 549.00 > 80.00 | 9.055 | 9.080 | -0.025 | 1.068 | 87030 | NC | Target=6.35 | | 954 | |
| 549.00 > 99.00 | 9.055 | 9.080 | -0.025 | 1.068 | 14477 | | 6.01(3.17-9.52) | | 120 | |
| D 33 13C2 PFDA | | | | | | | | | | |
| 515.00 > 470.00 | 9.102 | 9.117 | -0.015 | | 2288958 | 0.0485 | | 97.0 | 14060 | |
| 35 Perfluorodecanoic acid | | | | | | | | | | |
| 513.00 > 469.00 | 9.102 | 9.117 | -0.015 | 1.000 | 190078 | 0.004991 | Target=16.15 | 99.8 | 359 | |
| 513.00 > 169.00 | 9.102 | 9.117 | -0.015 | 1.000 | 13127 | | 14.48(8.08-24.23) | 99.8 | 142 | |
| D 34 M2-8:2 FTS | | | | | | | | | | |
| 529.00 > 81.00 | 9.102 | 9.117 | -0.015 | | 346245 | 0.0452 | | 94.4 | 2692 | |
| 36 8:2 FTS | | | | | | | | | | |
| 527.00 > 507.00 | 9.102 | 9.119 | -0.017 | 1.000 | 85014 | 0.004980 | Target=2.35 | 104 | 1039 | |
| 527.00 > 81.00 | 9.102 | 9.119 | -0.017 | 1.000 | 36865 | | 2.31(1.17-3.52) | 104 | 325 | |
| D 37 d3-NMeFOSAA | | | | | | | | | | |
| 573.00 > 419.00 | 9.383 | 9.401 | -0.018 | | 921969 | 0.0479 | | 95.9 | 7857 | |
| 38 NMeFOSAA | | | | | | | | | | |
| 570.00 > 419.00 | 9.400 | 9.411 | -0.011 | 1.002 | 79287 | 0.005031 | Target=12.28 | 101 | 368 | |
| 570.00 > 483.00 | 9.400 | 9.411 | -0.011 | 1.002 | 6407 | | 12.38(6.14-18.41) | 101 | 81.4 | |
| 39 Perfluorodecanesulfonic acid | | | | | | | | | | |
| 599.00 > 80.00 | 9.626 | 9.640 | -0.014 | 1.135 | 70611 | 0.004908 | Target=2.51 | 102 | 1058 | |
| 599.00 > 99.00 | 9.626 | 9.640 | -0.014 | 1.135 | 25403 | | 2.78(1.26-3.77) | 102 | 671 | |
| 41 Perfluoroundecanoic acid | | | | | | | | | | |
| 563.00 > 519.00 | 9.675 | 9.689 | -0.014 | 1.000 | 206257 | 0.004976 | Target=20.47 | 99.5 | 488 | |
| 563.00 > 169.00 | 9.675 | 9.689 | -0.014 | 1.000 | 8419 | | 24.50(10.24-30.71) | 99.5 | 192 | |
| D 42 13C2 PFUnA | | | | | | | | | | |
| 565.00 > 520.00 | 9.675 | 9.689 | -0.014 | | 2349968 | 0.0512 | | 102 | 22929 | |
| D 40 d5-NEtFOSAA | | | | | | | | | | |
| 589.00 > 419.00 | 9.675 | 9.689 | -0.014 | | 1110927 | 0.0509 | | 102 | 3604 | |
| 43 NEtFOSA | | | | | | | | | | |
| 584.00 > 419.00 | 9.691 | 9.717 | -0.026 | 1.002 | 92450 | 0.004775 | Target=13.05 | 95.5 | 1328 | |
| 584.00 > 483.00 | 9.691 | 9.717 | -0.026 | 1.002 | 6477 | | 14.27(6.52-19.57) | 95.5 | 48.6 | |
| 44 11C1FOS | | | | | | | | | | |
| 631.00 > 451.00 | 9.922 | 9.929 | -0.007 | 1.170 | 502540 | NC | | | 4011 | |
| D 45 13C2 PFDoA | | | | | | | | | | |
| 615.00 > 570.00 | 10.211 | 10.232 | -0.021 | | 2344740 | 0.0487 | | 97.4 | 13031 | |
| 46 Perfluorododecanoic acid | | | | | | | | | | |
| 613.00 > 569.00 | 10.211 | 10.235 | -0.024 | 1.000 | 209782 | 0.005050 | Target=17.11 | 101 | 136 | |
| 613.00 > 169.00 | 10.211 | 10.235 | -0.024 | 1.000 | 11742 | | 17.87(8.55-25.66) | 101 | 228 | |
| 47 10:2 FTS | | | | | | | | | | |
| 627.00 > 607.00 | 10.254 | 10.264 | -0.010 | 1.127 | 138543 | NC | Target=32.58 | | 1828 | |
| 627.00 > 81.00 | 10.254 | 10.264 | -0.010 | 1.127 | 4020 | | 34.46(16.29-48.87) | | 116 | |
| 48 PFDoS | | | | | | | | | | |
| 699.00 > 80.00 | 10.666 | 10.690 | -0.024 | 1.258 | 28958 | NC | Target=0.47 | | 419 | |
| 699.00 > 99.00 | 10.666 | 10.690 | -0.024 | 1.258 | 64897 | | 0.45(0.24-0.71) | | 990 | |
| 49 Perfluorotridecanoic acid | | | | | | | | | | |
| 663.00 > 619.00 | 10.737 | 10.761 | -0.024 | 1.051 | 260890 | 0.004653 | Target=18.64 | 93.1 | 133 | |
| 663.00 > 169.00 | 10.737 | 10.761 | -0.024 | 1.051 | 13762 | | 18.96(9.32-27.96) | 93.1 | 305 | |

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| 50 Perfluorotetradecanoic acid | | | | | | | | | | |
| 713.00 > 169.00 | 11.242 | 11.262 | -0.020 | 1.000 | 10000 | 0.005359 | Target=1.23 | 107 | 365 | |
| 713.00 > 219.00 | 11.242 | 11.262 | -0.020 | 1.000 | 7656 | | 1.31(0.62-1.85) | 107 | 240 | |
| D 51 13C2 PFTeDA | | | | | | | | | | |
| 715.00 > 670.00 | 11.242 | 11.262 | -0.020 | | 2262614 | 0.0402 | | 80.4 | 11350 | |
| D 52 13C2 PFHxDA | | | | | | | | | | |
| 815.00 > 770.00 | 12.229 | 12.245 | -0.016 | | 1169122 | 0.0360 | | 71.9 | 6752 | |
| 54 Perfluorohexadecanoic acid | | | | | | | | | | |
| 813.00 > 769.00 | 12.229 | 12.247 | -0.018 | 1.000 | 110726 | 0.004730 | Target=29.80 | 94.6 | 94.7 | |
| 813.00 > 169.00 | 12.241 | 12.247 | -0.006 | 1.001 | 3802 | | 29.12(14.90-44.69) | 94.6 | 114 | |
| 53 Perfluorooctadecanoic acid | | | | | | | | | | |
| 913.00 > 869.00 | 13.365 | 13.401 | -0.036 | 1.093 | 25315 | 0.005096 | Target=33.62 | 102 | 50.0 | M |
| 913.00 > 169.00 | 13.355 | 13.401 | -0.046 | 1.092 | 952 | | 26.59(16.81-50.42) | 102 | 31.3 | M |

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

Reagents:

LCPFC-LL-L3_00022

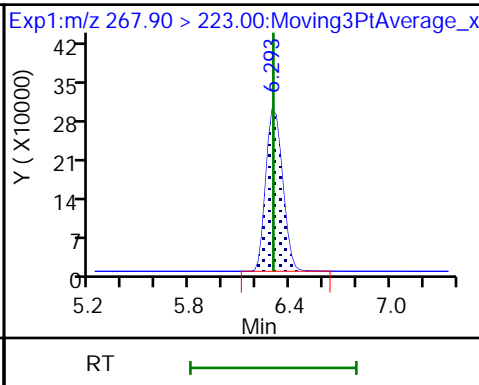
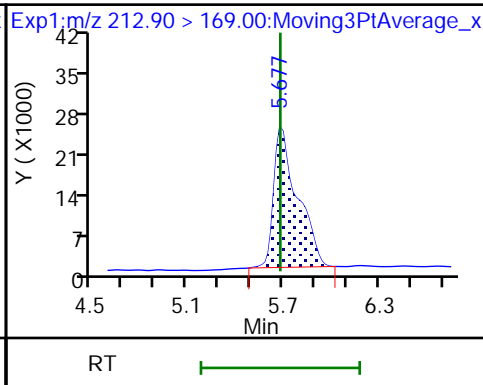
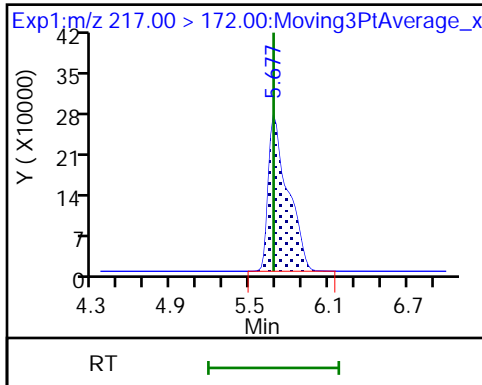
Amount Added: 1.00

Units: mL

D 2 13C4 PFBA

1 Perfluorobutanoic acid

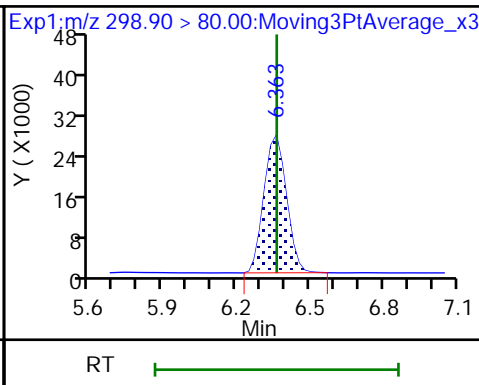
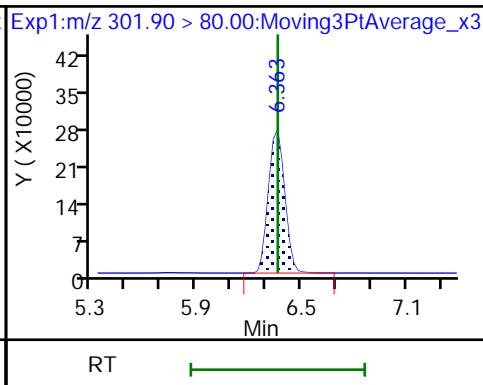
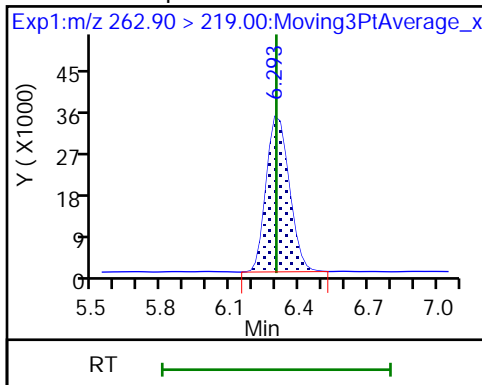
D 4 13C5 PFPeA



5 Perfluoropentanoic acid

D 3 13C3 PFBS

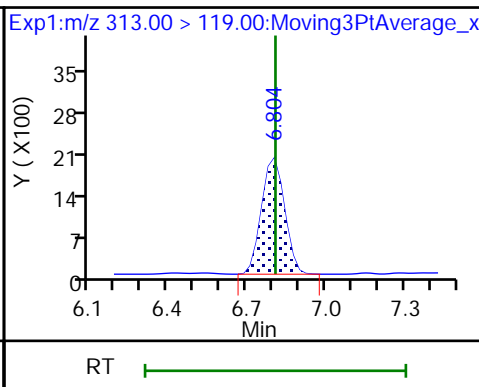
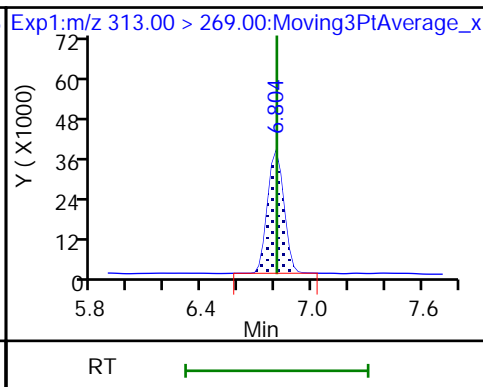
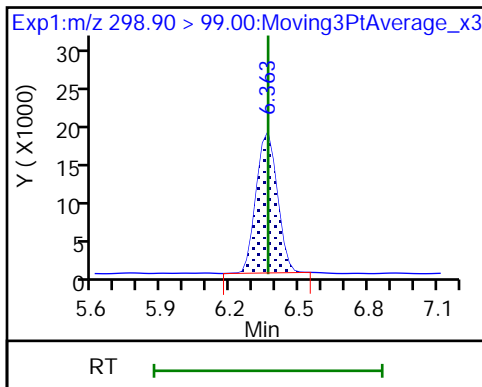
6 Perfluorobutanesulfonic acid



6 Perfluorobutanesulfonic acid

10 Perfluorohexanoic acid

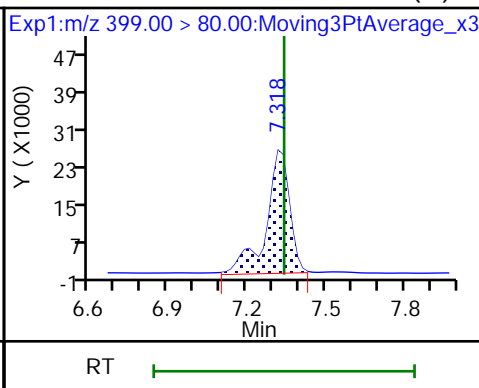
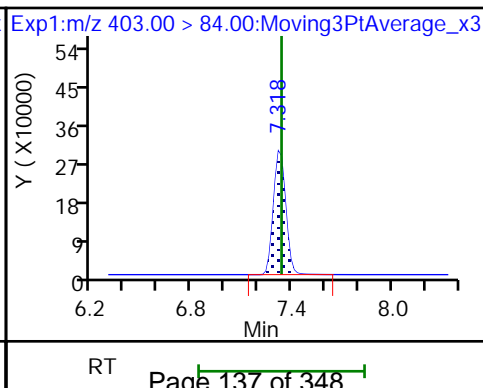
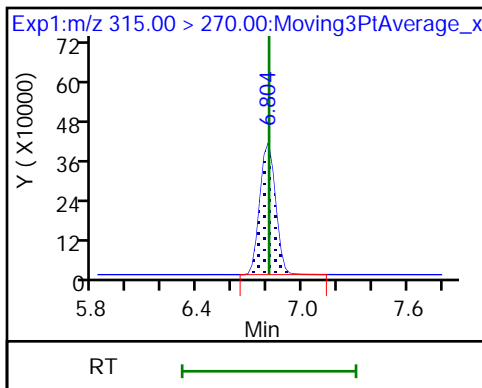
10 Perfluorohexanoic acid



D 9 13C2 PFHxA

D 15 18O2 PFHxS

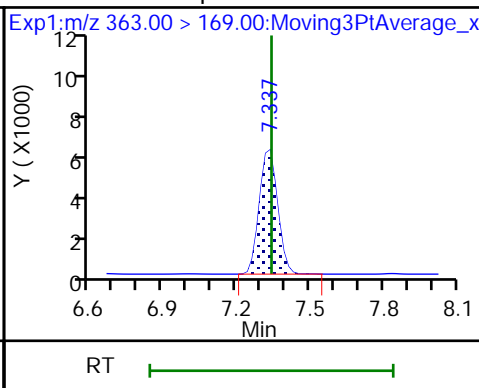
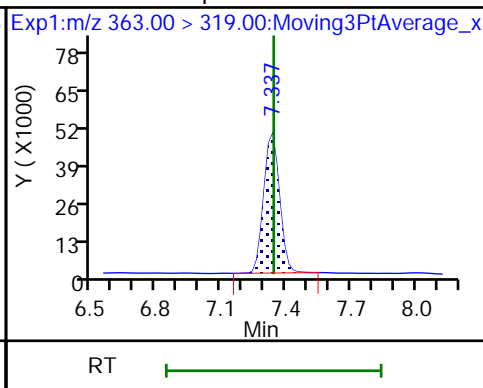
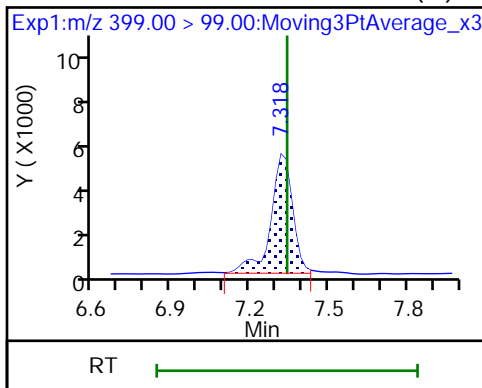
16 Perfluorohexanesulfonic acid (M)



16 Perfluorohexanesulfonic acid (M)

18 Perfluoroheptanoic acid

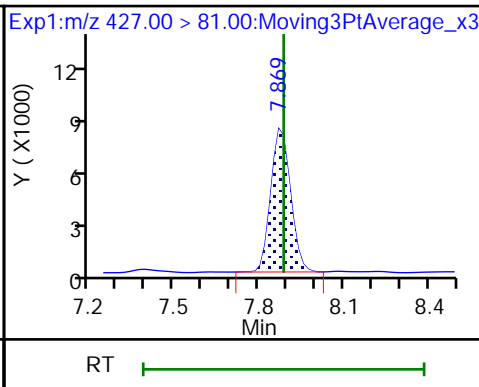
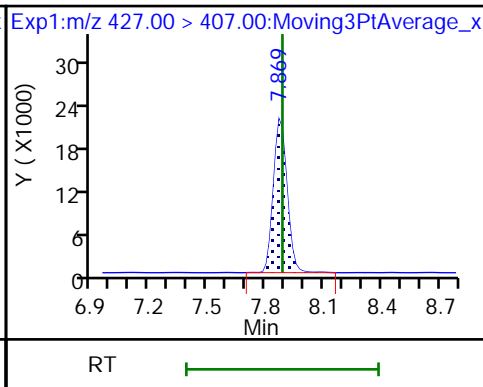
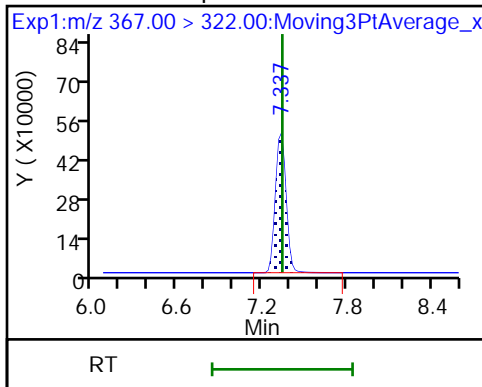
18 Perfluoroheptanoic acid



D 17 13C4 PFHpA

23 6:2 FTS

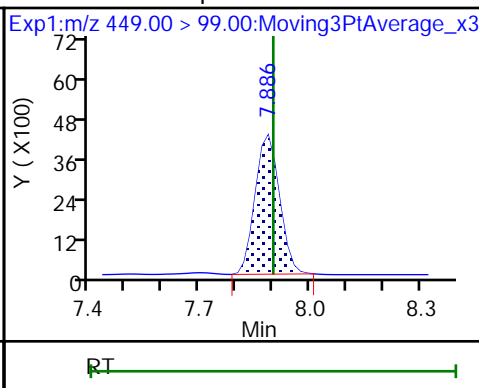
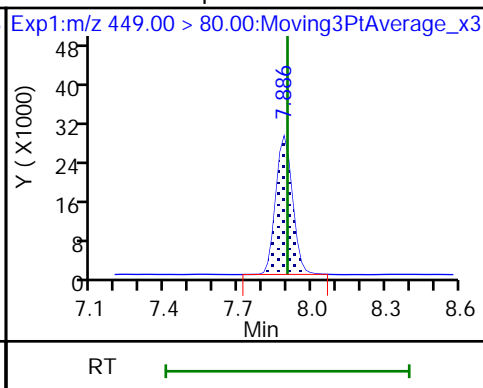
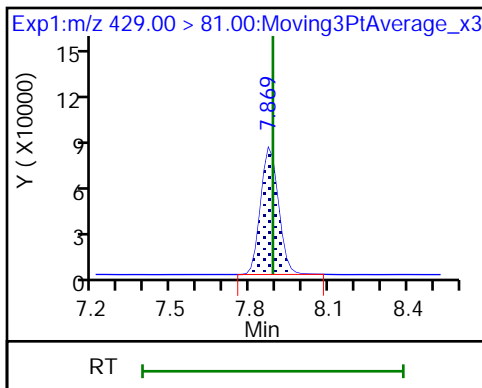
23 6:2 FTS



D 22 M2-6:2 FTS

21 Perfluoroheptanesulfonic acid

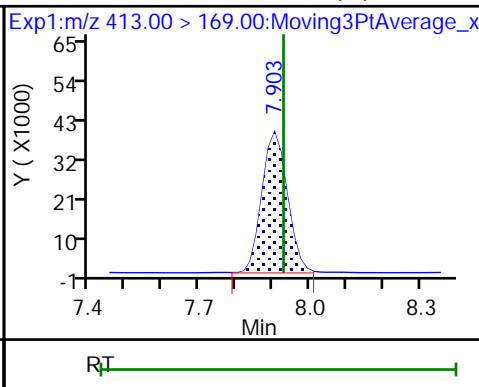
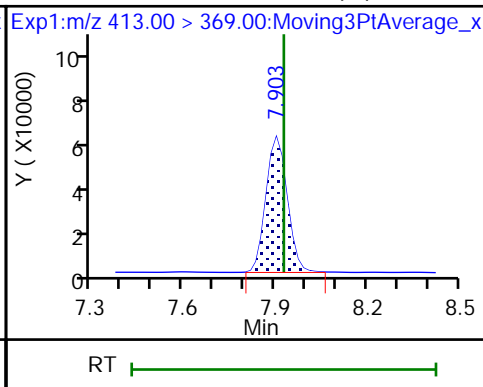
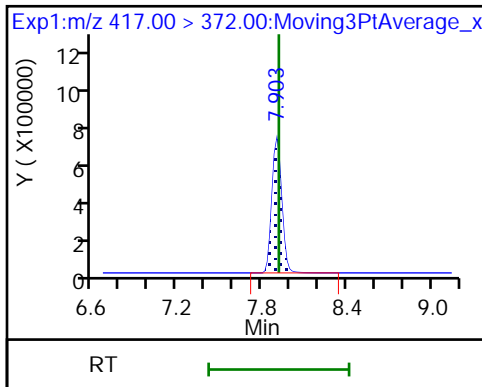
21 Perfluoroheptanesulfonic acid



D 25 13C4 PFOA

24 Perfluorooctanoic acid (M)

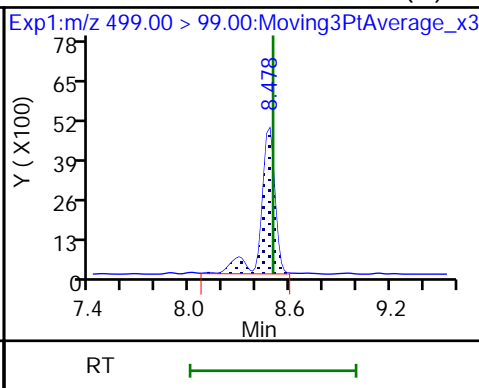
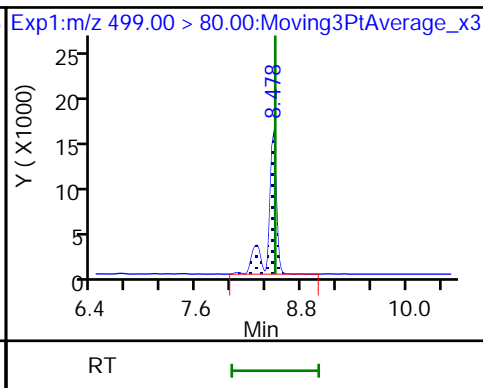
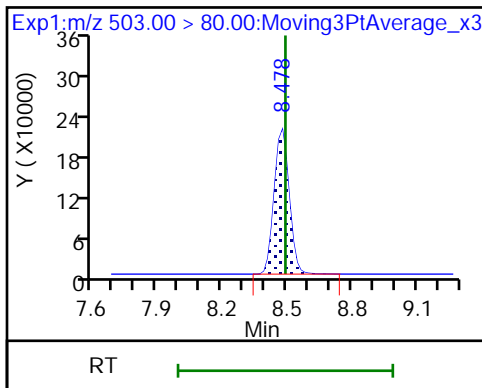
24 Perfluorooctanoic acid (M)



D 26 13C4 PFOS

27 Perfluorooctanesulfonic acid

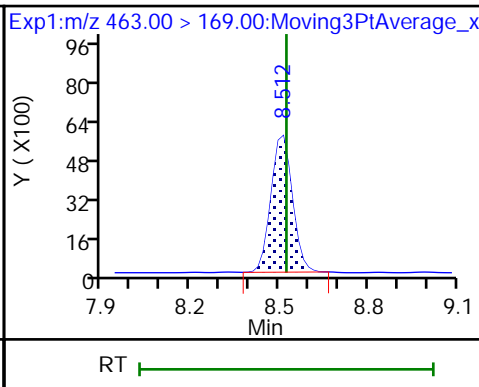
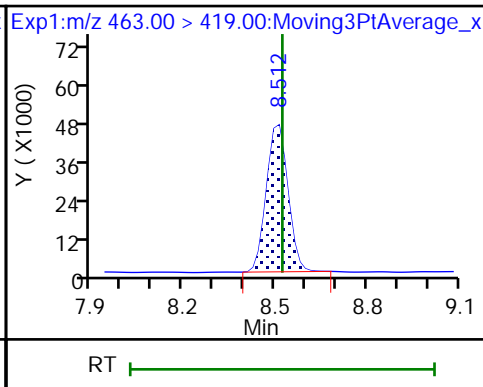
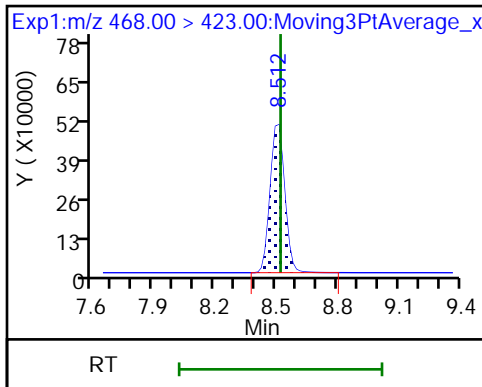
27 Perfluorooctanesulfonic acid (M)



D 28 13C5 PFNA

29 Perfluorononanoic acid

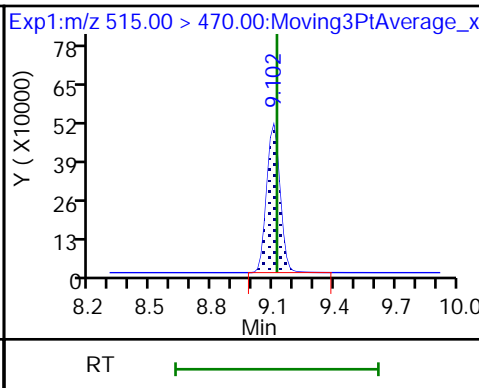
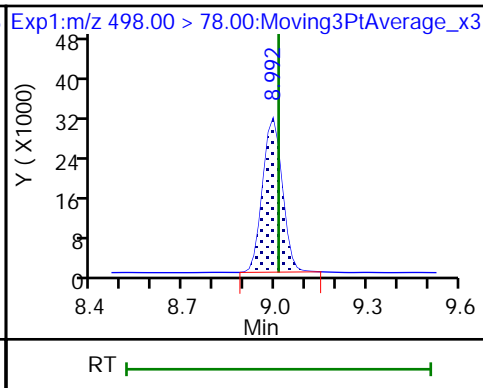
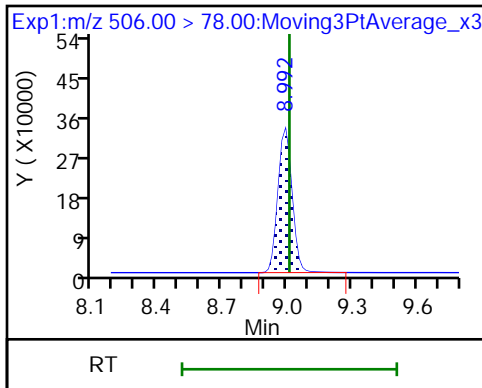
29 Perfluorononanoic acid



D 30 13C8 FOSA

31 Perfluorooctanesulfonamide

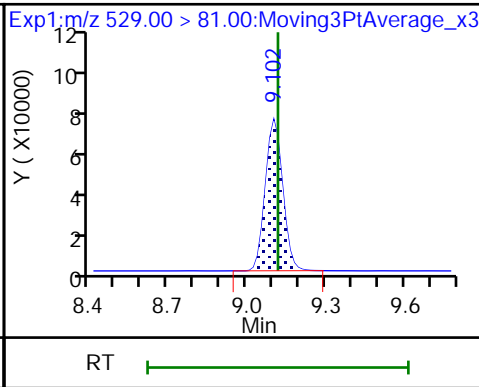
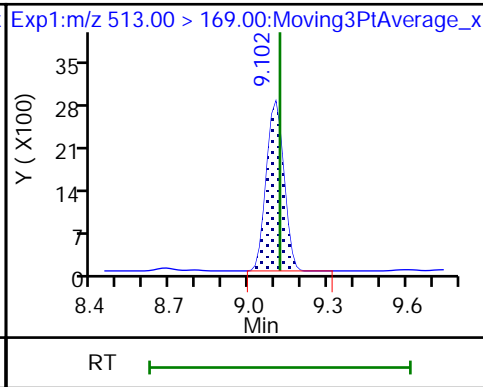
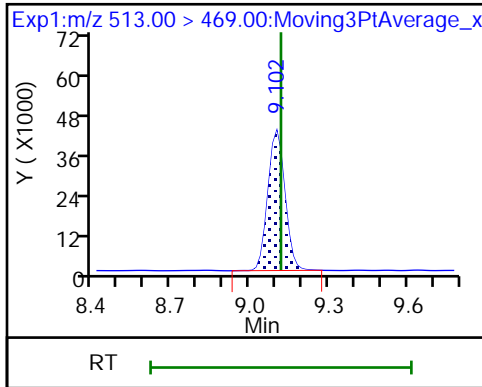
D 33 13C2 PFDA

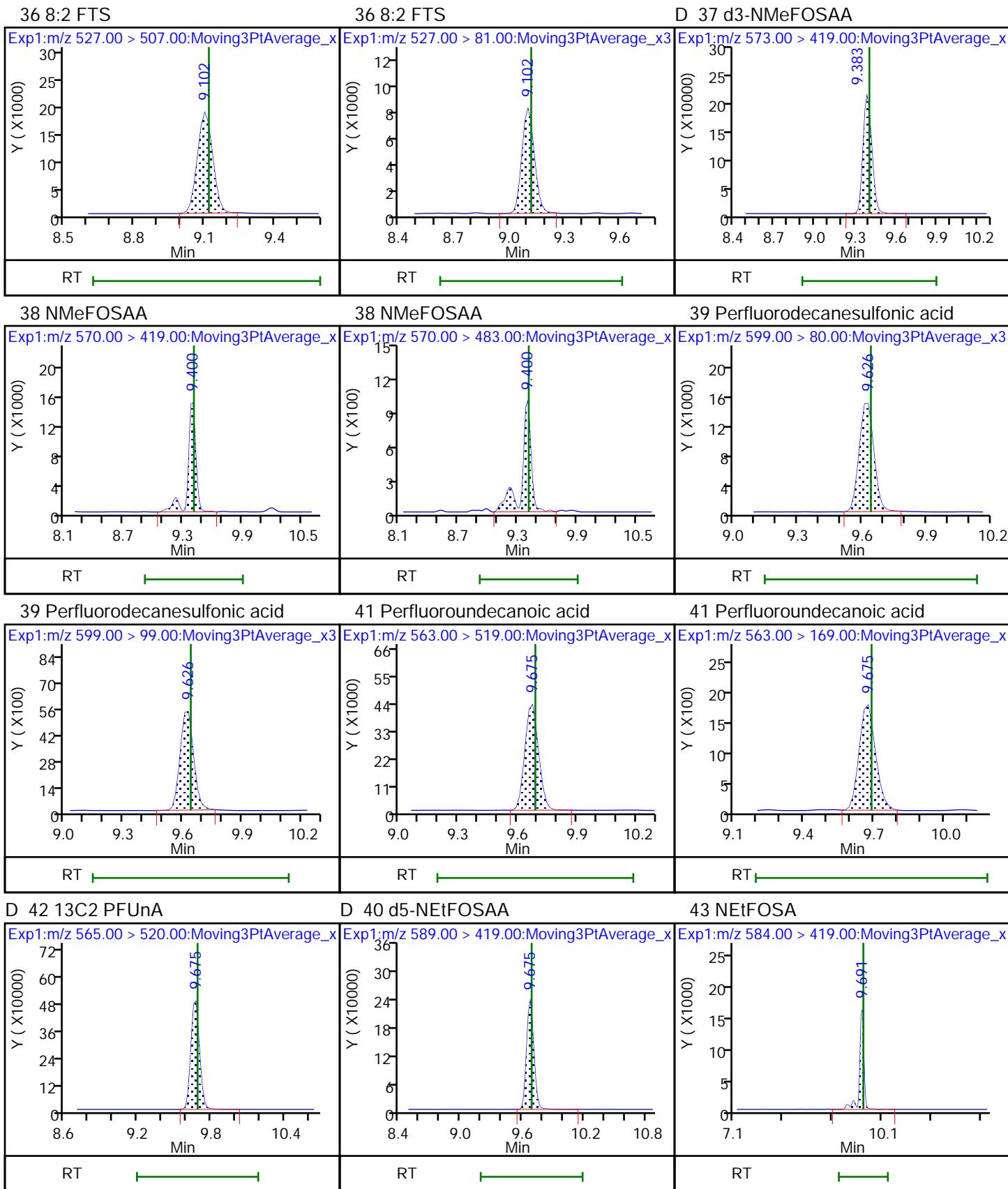


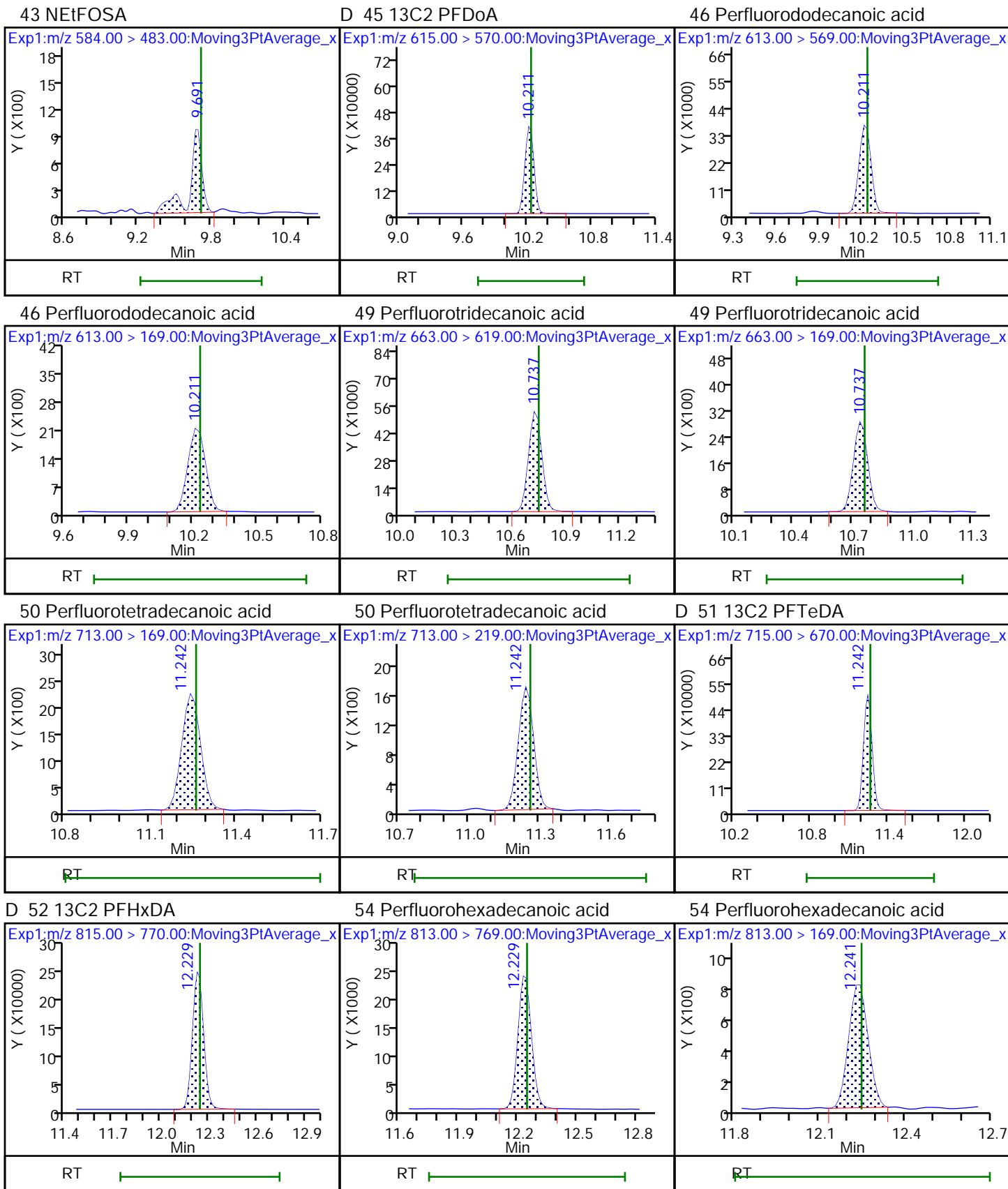
35 Perfluorodecanoic acid

35 Perfluorodecanoic acid

D 34 M2-8:2 FTS

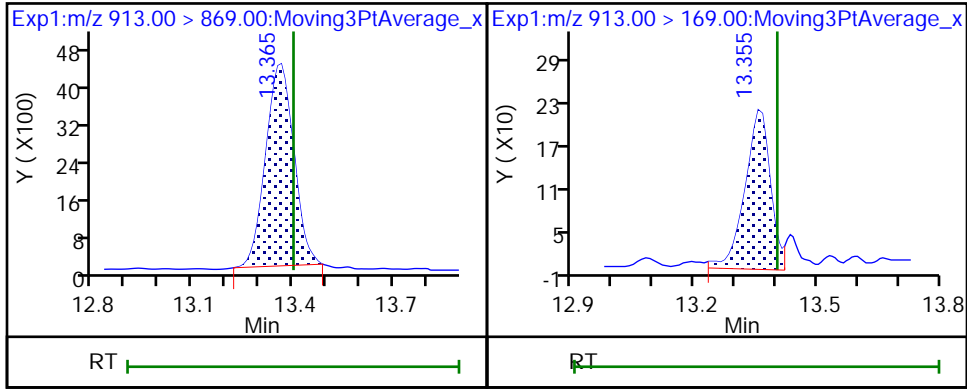






53 Perfluorooctadecanoic acid

53 Perfluorooctadecanoic acid (M)



Eurofins TestAmerica, Sacramento

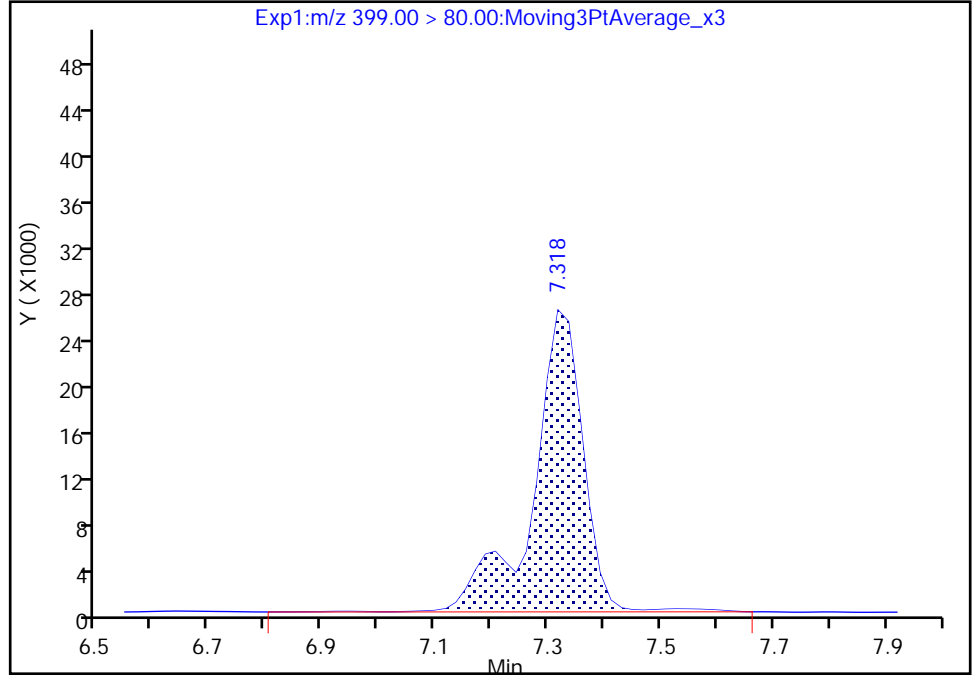
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_004.d
Injection Date: 09-Feb-2021 11:14:18 Instrument ID: A10
Lims ID: IC STD 3
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

16 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

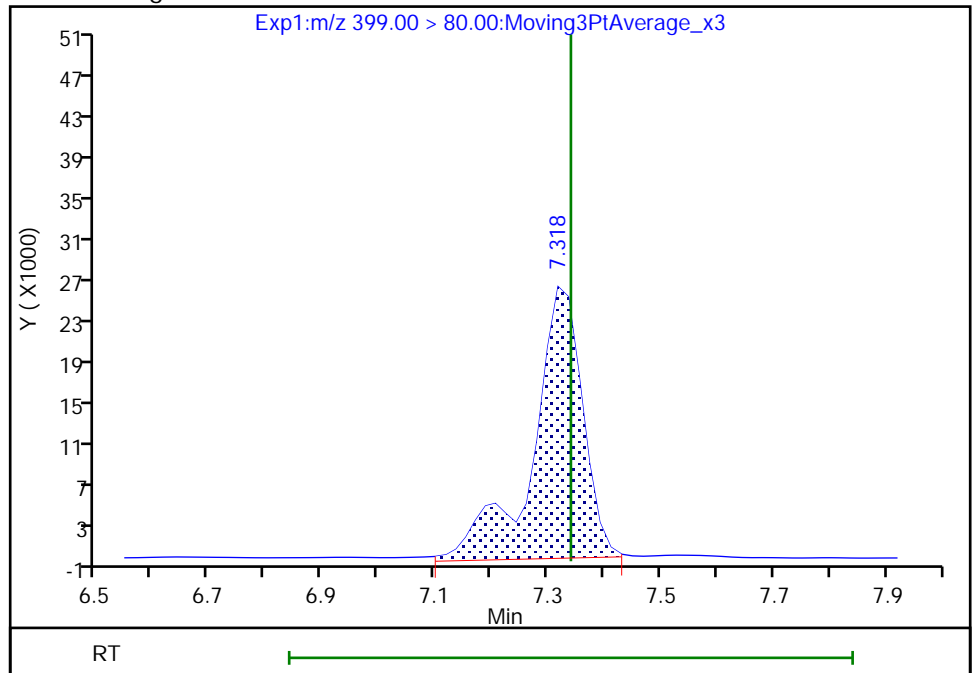
RT: 7.32
Area: 161855
Amount: 0.004259
Amount Units: ng/ml

Processing Integration Results



RT: 7.32
Area: 161546
Amount: 0.004517
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 12:05:00
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

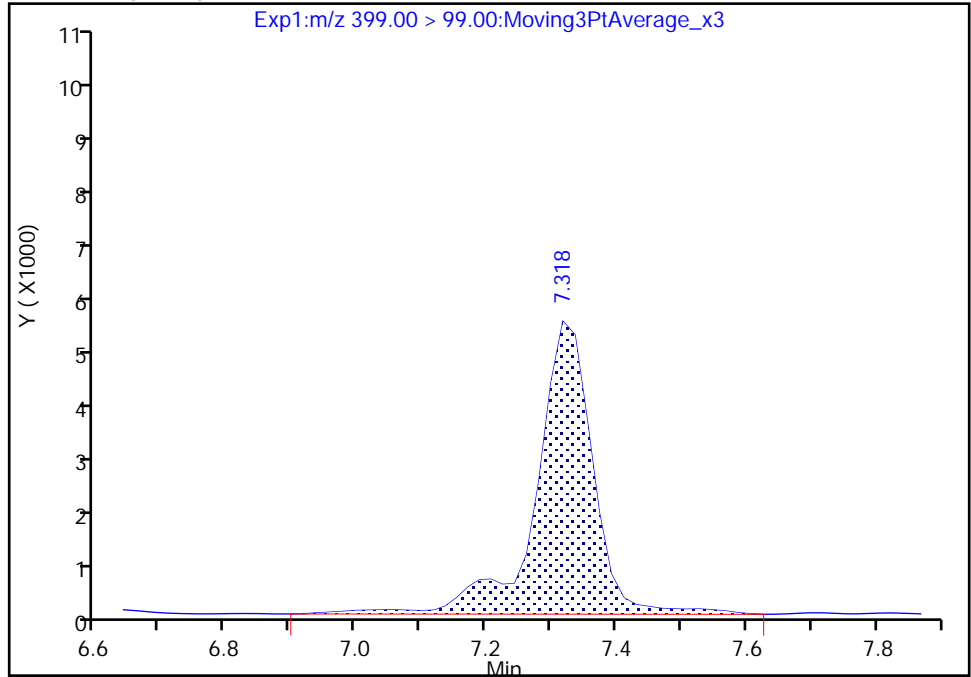
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_004.d
Injection Date: 09-Feb-2021 11:14:18 Instrument ID: A10
Lims ID: IC STD 3
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

16 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

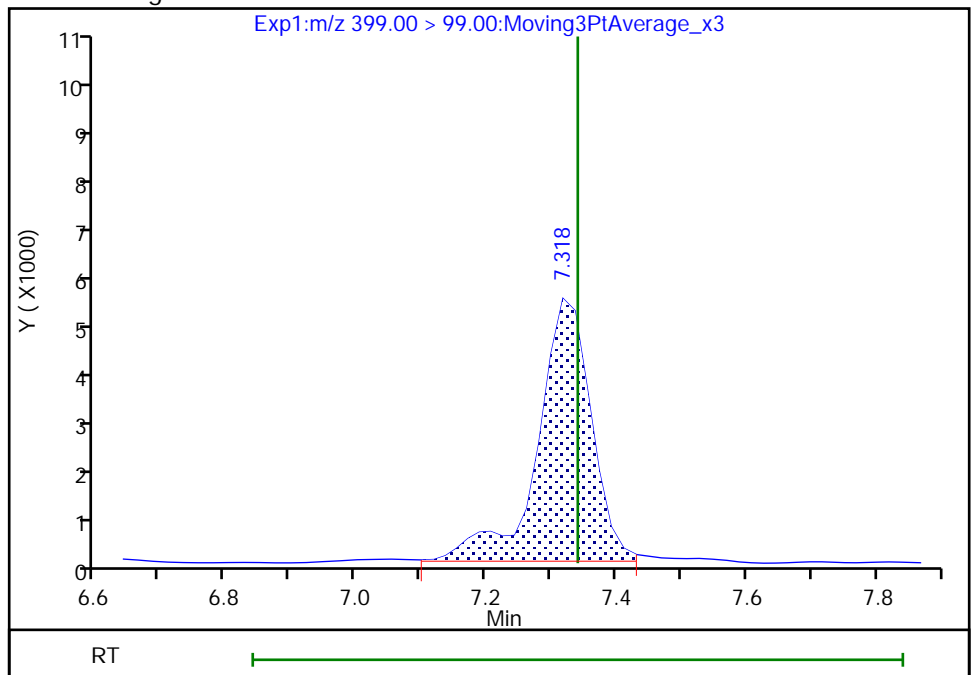
RT: 7.32
Area: 30895
Amount: 0.004259
Amount Units: ng/ml

Processing Integration Results



RT: 7.32
Area: 28780
Amount: 0.004517
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 12:05:15

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins TestAmerica, Sacramento

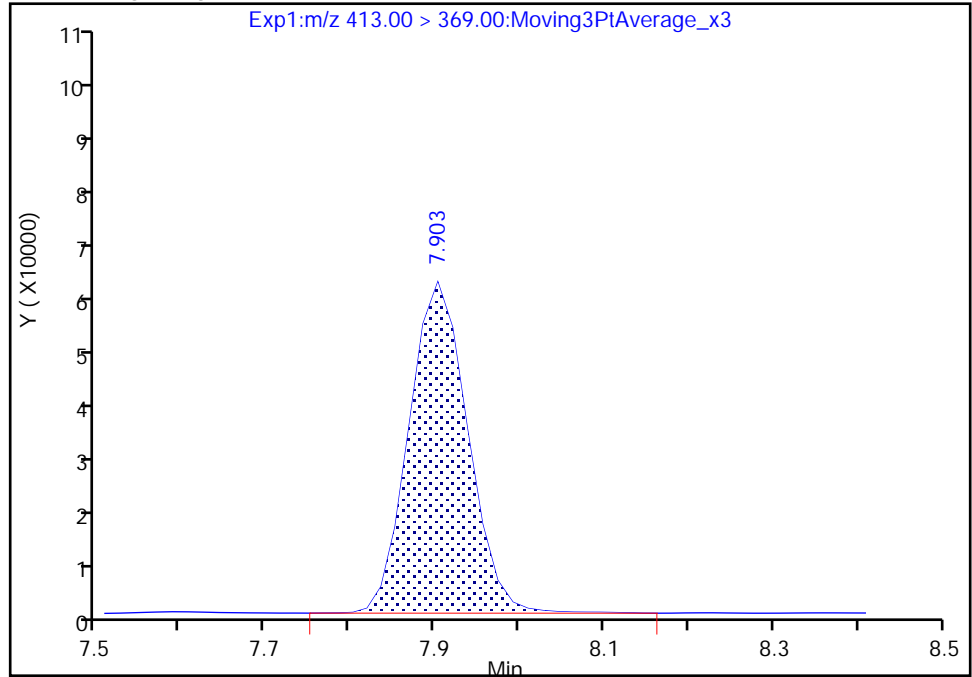
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_004.d
Injection Date: 09-Feb-2021 11:14:18 Instrument ID: A10
Lims ID: IC STD 3
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

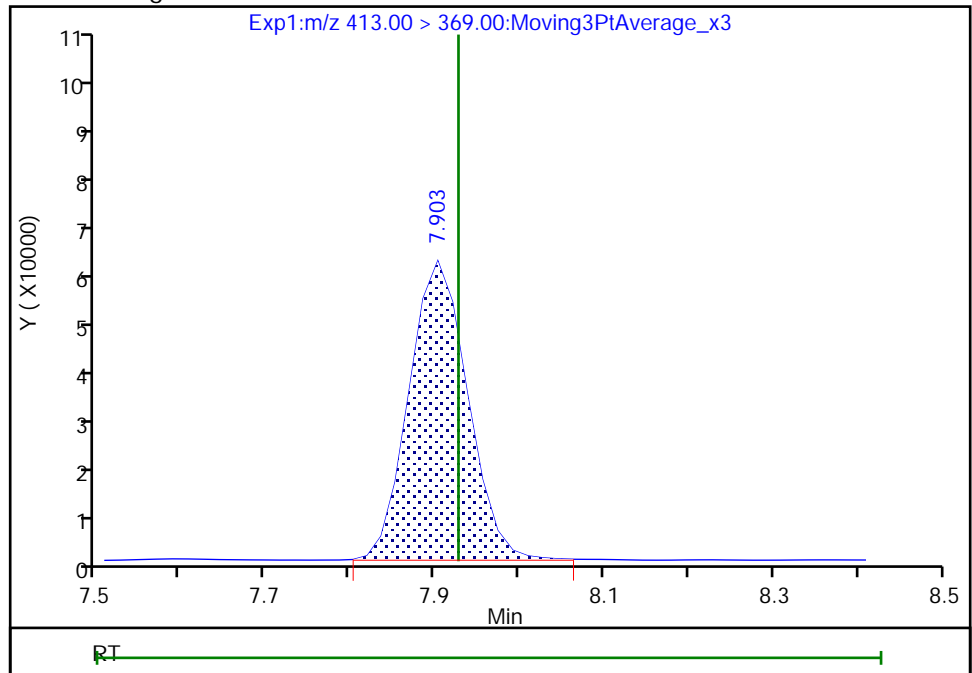
RT: 7.90
Area: 289107
Amount: 0.004666
Amount Units: ng/ml

Processing Integration Results



RT: 7.90
Area: 288658
Amount: 0.004746
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 12:05:30
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

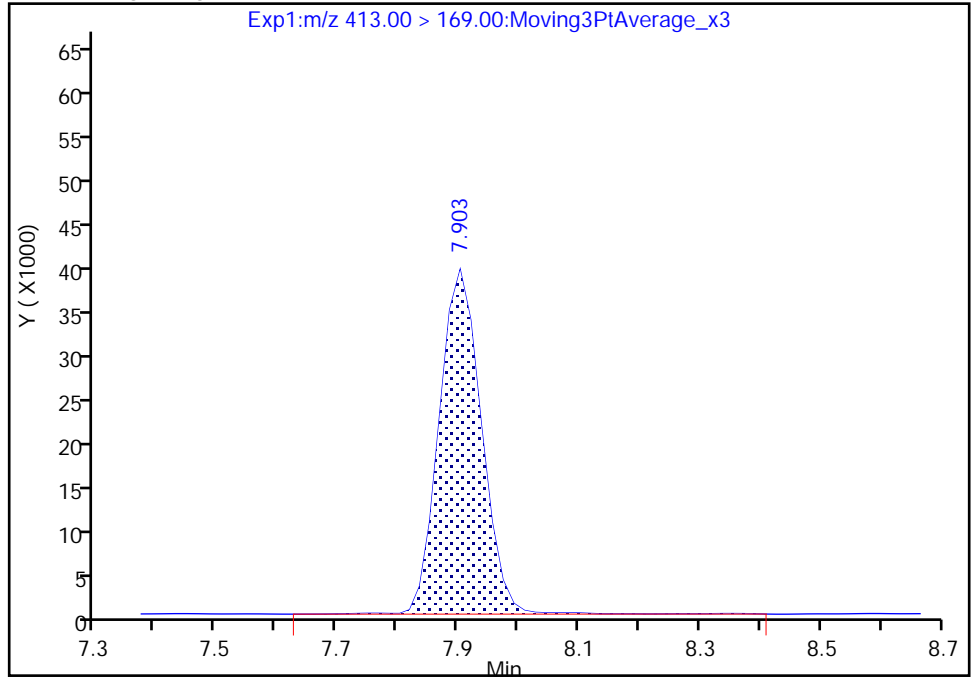
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_004.d
Injection Date: 09-Feb-2021 11:14:18 Instrument ID: A10
Lims ID: IC STD 3
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

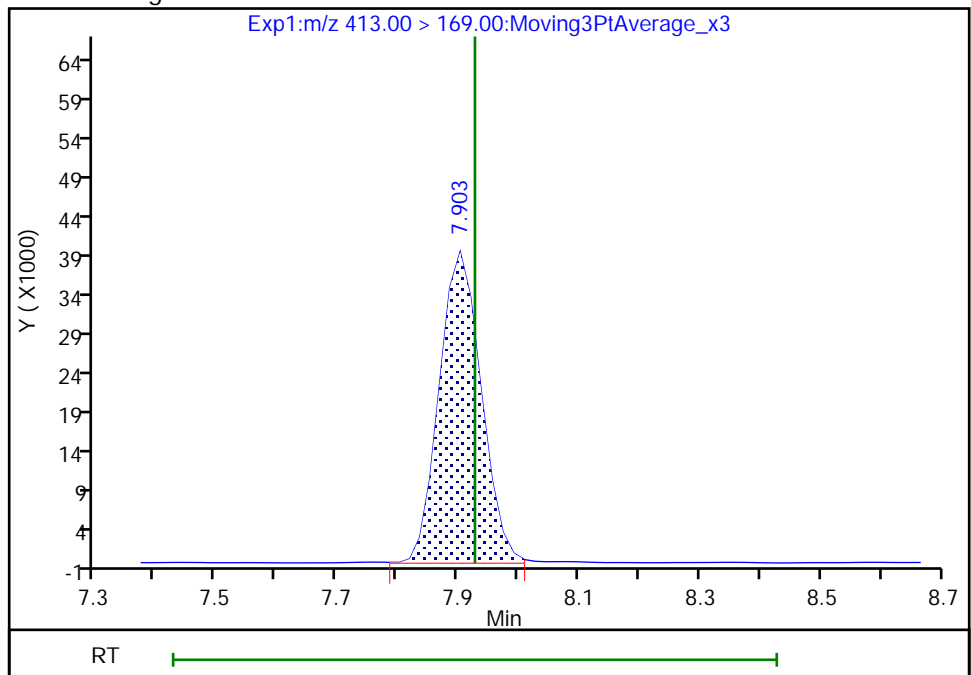
RT: 7.90
Area: 189609
Amount: 0.004666
Amount Units: ng/ml

Processing Integration Results



RT: 7.90
Area: 188031
Amount: 0.004746
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 12:05:36

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins TestAmerica, Sacramento

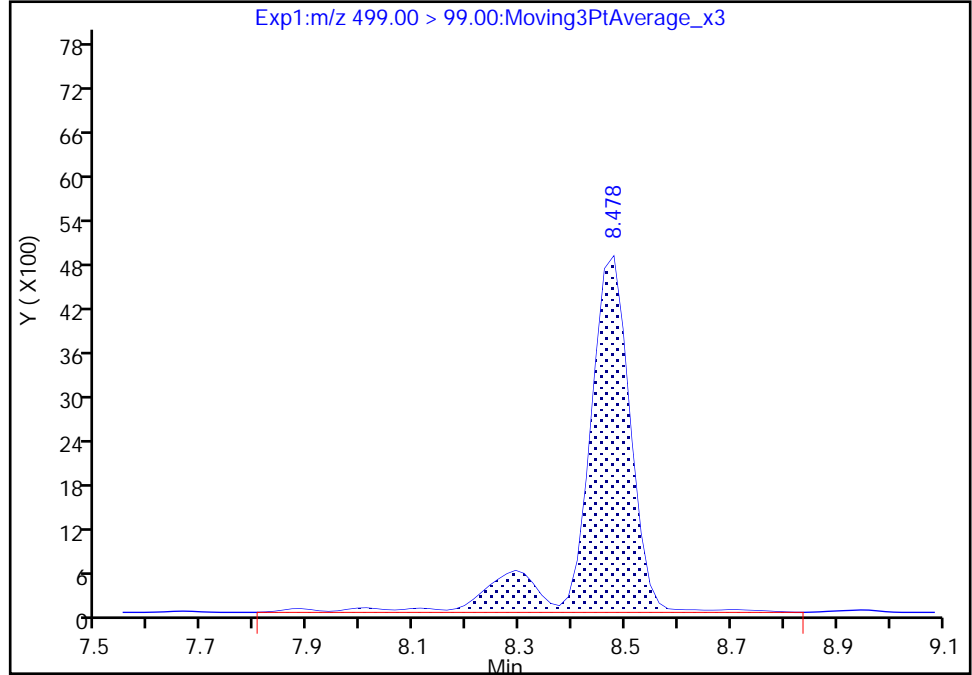
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_004.d
Injection Date: 09-Feb-2021 11:14:18 Instrument ID: A10
Lims ID: IC STD 3
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

27 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

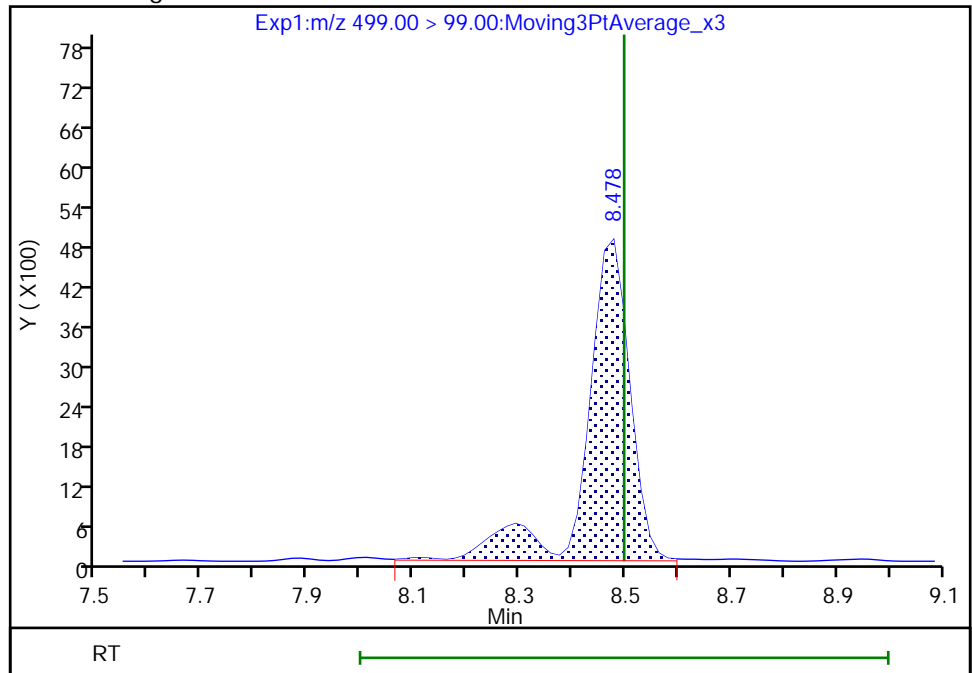
RT: 8.48
Area: 29036
Amount: 0.004430
Amount Units: ng/ml

Processing Integration Results



RT: 8.48
Area: 27877
Amount: 0.004453
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 12:05:52
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

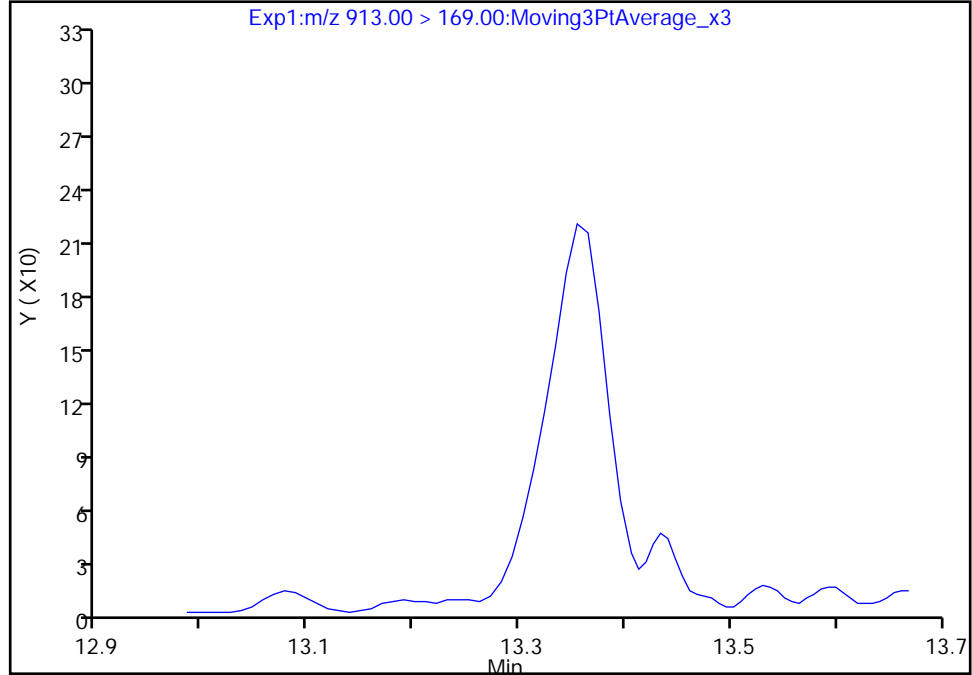
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_004.d
Injection Date: 09-Feb-2021 11:14:18 Instrument ID: A10
Lims ID: IC STD 3
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

53 Perfluorooctadecanoic acid, CAS: 16517-11-6

Signal: 2

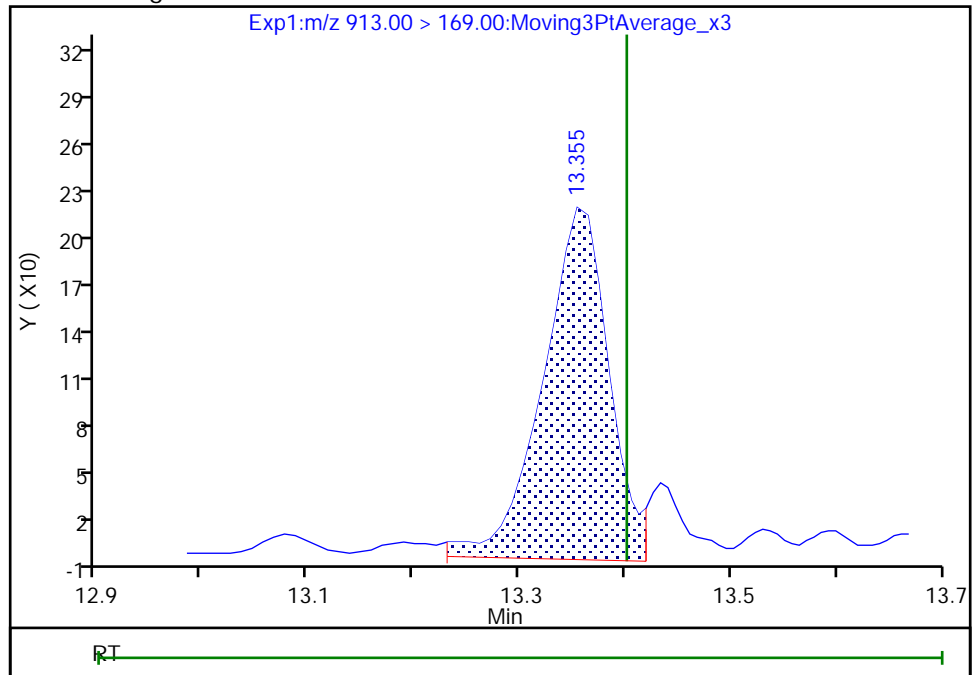
Not Detected
Expected RT: 13.40

Processing Integration Results



Manual Integration Results

RT: 13.35
Area: 952
Amount: 0.005096
Amount Units: ng/ml



Reviewer: vangmy, 09-Feb-2021 12:06:11
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_005.d
 Lims ID: IC STD 4
 Client ID:
 Sample Type: IC Calib Level: 4
 Inject. Date: 09-Feb-2021 11:32:44 ALS Bottle#: 5 Worklist Smp#: 5
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: IC STD 4 (24)
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Sublist: chrom-A10_In_Line_SPE*sub12

Method: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 09-Feb-2021 13:50:20 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1638

First Level Reviewer: vangmy Date: 09-Feb-2021 12:07:29

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-----------------|--------|--------|--------|----------|--------------|-------------------|--------------|-------|-------|
| D 2 13C4 PFBA | 217.00 > 172.00 | 5.702 | 5.678 | 0.024 | 3090445 | 0.0526 | | 105 | 8404 | |
| 1 Perfluorobutanoic acid | 212.90 > 169.00 | 5.702 | 5.681 | 0.021 | 1.000 | 520218 | 0.009439 | 94.4 | 73.9 | |
| D 4 13C5 PFPeA | 267.90 > 223.00 | 6.320 | 6.300 | 0.020 | 2321262 | 0.0528 | | 106 | 9028 | |
| 5 Perfluoropentanoic acid | 262.90 > 219.00 | 6.320 | 6.300 | 0.020 | 1.000 | 466440 | 0.009286 | 92.9 | 216 | |
| D 3 13C3 PFBS | 301.90 > 80.00 | 6.367 | 6.364 | 0.003 | 1985339 | 0.0487 | | 105 | 4470 | |
| 6 Perfluorobutanesulfonic acid | 298.90 > 80.00 | 6.367 | 6.364 | 0.003 | 1.000 | 376118 | 0.008404 | Target=1.49 | 95.1 | 966 |
| | 298.90 > 99.00 | 6.367 | 6.364 | 0.003 | 1.000 | 254232 | 1.48(0.74-2.23) | 95.1 | 357 | |
| 8 4:2 FTS | 327.00 > 307.00 | 6.785 | 6.755 | 0.030 | 1.000 | 185293 | NC | Target=2.63 | | 2463 |
| | 327.00 > 81.00 | 6.785 | 6.755 | 0.030 | 1.000 | 69707 | 2.66(1.32-3.95) | | | 224 |
| D 7 M2-4:2 FTS | 329.00 > 81.00 | 6.785 | 6.755 | 0.030 | 348424 | NC | | | | 875 |
| 10 Perfluorohexanoic acid | 313.00 > 269.00 | 6.832 | 6.808 | 0.024 | 1.000 | 489734 | 0.009670 | Target=19.21 | 96.7 | 407 |
| | 313.00 > 119.00 | 6.832 | 6.808 | 0.024 | 1.000 | 25646 | 19.10(9.60-28.81) | 96.7 | 243 | |
| D 9 13C2 PFHxA | 315.00 > 270.00 | 6.832 | 6.808 | 0.024 | 2552976 | 0.0538 | | 108 | 12471 | |
| 11 Perfluoropentanesulfonic acid | 349.00 > 80.00 | 6.856 | 6.826 | 0.030 | 0.932 | 355779 | NC | Target=1.46 | | 601 |
| | 349.00 > 99.00 | 6.856 | 6.826 | 0.030 | 0.932 | 241146 | 1.48(0.73-2.19) | | | 814 |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-------|--------|--------|--------|----------|--------------|------------------|------|-------|-------|
| D 12 13C3 HFPO-DA | | | | | | | | | | |
| 332.10 > 287.00 | 6.980 | 6.961 | 0.019 | | 124216 | NC | | | 1600 | |
| 13 HPFO-DA | | | | | | | | | | |
| 329.10 > 285.00 | 6.980 | 6.964 | 0.016 | 1.000 | 78457 | NC | | | 53.8 | |
| 14 9CIFOS | | | | | | | | | | |
| 531.00 > 351.00 | 7.211 | 7.209 | 0.002 | 0.847 | 104 | NC | | | 0.4 | M |
| D 15 18O2 PFHxS | | | | | | | | | | |
| 403.00 > 84.00 | 7.359 | 7.337 | 0.022 | | 1680629 | 0.0511 | | 108 | 13033 | |
| 16 Perfluorohexanesulfonic acid | | | | | | | | | | |
| 399.00 > 80.00 | 7.359 | 7.337 | 0.022 | 1.000 | 353962 | 0.008746 | Target=5.70 | 96.1 | 751 | M |
| 399.00 > 99.00 | 7.359 | 7.337 | 0.022 | 1.000 | 63380 | | 5.58(2.85-8.55) | 96.1 | 432 | M |
| 18 Perfluoroheptanoic acid | | | | | | | | | | |
| 363.00 > 319.00 | 7.359 | 7.342 | 0.017 | 1.000 | 531262 | 0.0104 | Target=9.14 | 104 | 391 | |
| 363.00 > 169.00 | 7.359 | 7.342 | 0.017 | 1.000 | 54573 | | 9.73(4.57-13.71) | 104 | 702 | |
| D 17 13C4 PFHpA | | | | | | | | | | |
| 367.00 > 322.00 | 7.359 | 7.342 | 0.017 | | 2614723 | 0.0522 | | 104 | 12172 | |
| 19 DONA | | | | | | | | | | |
| 377.00 > 251.00 | 7.416 | 7.397 | 0.019 | 0.871 | 2049519 | NC | Target=2.71 | | 6497 | |
| 377.00 > 85.00 | 7.416 | 7.397 | 0.019 | 0.871 | 774828 | | 2.65(1.36-4.07) | | 5188 | |
| 23 6:2 FTS | | | | | | | | | | |
| 427.00 > 407.00 | 7.907 | 7.886 | 0.021 | 1.000 | 310649 | 0.0120 | Target=2.56 | 126 | 3182 | |
| 427.00 > 81.00 | 7.907 | 7.886 | 0.021 | 1.000 | 115507 | | 2.69(1.28-3.83) | 126 | 321 | |
| D 22 M2-6:2 FTS | | | | | | | | | | |
| 429.00 > 81.00 | 7.907 | 7.886 | 0.021 | | 411597 | 0.0501 | | 105 | 1276 | |
| 21 Perfluoroheptanesulfonic acid | | | | | | | | | | |
| 449.00 > 80.00 | 7.924 | 7.900 | 0.024 | 0.930 | 284331 | 0.009277 | Target=6.98 | 97.4 | 1165 | |
| 449.00 > 99.00 | 7.924 | 7.900 | 0.024 | 0.930 | 39316 | | 7.23(3.49-10.47) | 97.4 | 317 | |
| D 25 13C4 PFOA | | | | | | | | | | |
| 417.00 > 372.00 | 7.942 | 7.917 | 0.025 | | 3484213 | 0.0521 | | 104 | 13794 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | |
| 413.00 > 369.00 | 7.942 | 7.924 | 0.018 | 1.000 | 610087 | 0.009617 | Target=1.58 | 96.2 | 278 | M |
| 413.00 > 169.00 | 7.942 | 7.924 | 0.018 | 1.000 | 402967 | | 1.51(0.79-2.37) | 96.2 | 1166 | M |
| D 26 13C4 PFOS | | | | | | | | | | |
| 503.00 > 80.00 | 8.517 | 8.492 | 0.025 | | 1148383 | 0.0505 | | 106 | 4321 | |
| 27 Perfluorooctanesulfonic acid | | | | | | | | | | |
| 499.00 > 80.00 | 8.517 | 8.496 | 0.021 | 1.000 | 224801 | 0.009180 | Target=3.45 | 98.9 | 1338 | M |
| 499.00 > 99.00 | 8.517 | 8.496 | 0.021 | 1.000 | 64233 | | 3.50(1.73-5.18) | 98.9 | 461 | M |
| D 28 13C5 PFNA | | | | | | | | | | |
| 468.00 > 423.00 | 8.551 | 8.520 | 0.031 | | 2604128 | 0.0524 | | 105 | 13012 | |
| 29 Perfluorononanoic acid | | | | | | | | | | |
| 463.00 > 419.00 | 8.551 | 8.523 | 0.028 | 1.000 | 487980 | 0.009864 | Target=7.90 | 98.6 | 615 | |
| 463.00 > 169.00 | 8.551 | 8.523 | 0.028 | 1.000 | 63478 | | 7.69(3.95-11.85) | 98.6 | 666 | |
| D 30 13C8 FOSA | | | | | | | | | | |
| 506.00 > 78.00 | 9.028 | 9.011 | 0.017 | | 1669767 | 0.0529 | | 106 | 3523 | |
| 31 Perfluorooctanesulfonamide | | | | | | | | | | |
| 498.00 > 78.00 | 9.028 | 9.011 | 0.017 | 1.000 | 338563 | 0.0100 | | 100 | 3235 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|------|-------|
| 32 Perfluorononanesulfonic acid | | | | | | | | | | |
| 549.00 > 80.00 | 9.106 | 9.080 | 0.026 | 1.069 | 181367 | NC | Target=6.35 | | 1873 | |
| 549.00 > 99.00 | 9.106 | 9.080 | 0.026 | 1.069 | 30159 | | 6.01(3.17-9.52) | | 305 | |
| D 33 13C2 PFDA | | | | | | | | | | |
| 515.00 > 470.00 | 9.137 | 9.117 | 0.020 | | 2509972 | 0.0532 | | | 106 | 18490 |
| 35 Perfluorodecanoic acid | | | | | | | | | | |
| 513.00 > 469.00 | 9.137 | 9.117 | 0.020 | 1.000 | 406317 | 0.009729 | Target=16.15 | 97.3 | 780 | |
| 513.00 > 169.00 | 9.137 | 9.117 | 0.020 | 1.000 | 25759 | | 15.77(8.08-24.23) | 97.3 | 191 | |
| D 34 M2-8:2 FTS | | | | | | | | | | |
| 529.00 > 81.00 | 9.137 | 9.117 | 0.020 | | 395922 | 0.0517 | | | 108 | 2825 |
| 36 8:2 FTS | | | | | | | | | | |
| 527.00 > 507.00 | 9.137 | 9.119 | 0.018 | 1.000 | 188096 | 0.009636 | Target=2.35 | 101 | 2132 | |
| 527.00 > 81.00 | 9.137 | 9.119 | 0.018 | 1.000 | 79029 | | 2.38(1.17-3.52) | 101 | 494 | |
| D 37 d3-NMeFOSAA | | | | | | | | | | |
| 573.00 > 419.00 | 9.420 | 9.401 | 0.019 | | 997076 | 0.0518 | | | 104 | 7048 |
| 38 NMeFOSAA | | | | | | | | | | |
| 570.00 > 419.00 | 9.437 | 9.411 | 0.026 | 1.002 | 161426 | 0.009471 | Target=12.28 | 94.7 | 1127 | |
| 570.00 > 483.00 | 9.437 | 9.411 | 0.026 | 1.002 | 13130 | | 12.29(6.14-18.41) | 94.7 | 195 | |
| 39 Perfluorodecanesulfonic acid | | | | | | | | | | |
| 599.00 > 80.00 | 9.664 | 9.640 | 0.024 | 1.135 | 149314 | 0.009326 | Target=2.51 | 96.7 | 1741 | |
| 599.00 > 99.00 | 9.664 | 9.640 | 0.024 | 1.135 | 63808 | | 2.34(1.26-3.77) | 96.7 | 1512 | |
| D 42 13C2 PFUnA | | | | | | | | | | |
| 565.00 > 520.00 | 9.714 | 9.689 | 0.025 | | 2496316 | 0.0544 | | | 109 | 32652 |
| 41 Perfluoroundecanoic acid | | | | | | | | | | |
| 563.00 > 519.00 | 9.714 | 9.689 | 0.025 | 1.000 | 419847 | 0.009536 | Target=20.47 | 95.4 | 875 | |
| 563.00 > 169.00 | 9.714 | 9.689 | 0.025 | 1.000 | 19770 | | 21.24(10.24-30.71) | 95.4 | 442 | |
| D 40 d5-NEtFOSAA | | | | | | | | | | |
| 589.00 > 419.00 | 9.714 | 9.689 | 0.025 | | 1158399 | 0.0531 | | | 106 | 4004 |
| 43 NEtFOSA | | | | | | | | | | |
| 584.00 > 419.00 | 9.732 | 9.721 | 0.011 | 1.002 | 190059 | 0.009415 | Target=13.05 | 94.1 | 3197 | |
| 584.00 > 483.00 | 9.714 | 9.721 | -0.007 | 1.000 | 13637 | | 13.94(6.52-19.57) | 94.1 | 97.2 | |
| 44 11C1FOS | | | | | | | | | | |
| 631.00 > 451.00 | 9.956 | 9.929 | 0.027 | 1.169 | 1084635 | NC | | | | 9057 |
| D 45 13C2 PFDoA | | | | | | | | | | |
| 615.00 > 570.00 | 10.242 | 10.232 | 0.010 | | 2606897 | 0.0541 | | | 108 | 20306 |
| 46 Perfluorododecanoic acid | | | | | | | | | | |
| 613.00 > 569.00 | 10.263 | 10.235 | 0.028 | 1.002 | 443380 | 0.009600 | Target=17.11 | 96.0 | 248 | |
| 613.00 > 169.00 | 10.263 | 10.235 | 0.028 | 1.002 | 25838 | | 17.16(8.55-25.66) | 96.0 | 403 | |
| 47 10:2 FTS | | | | | | | | | | |
| 627.00 > 607.00 | 10.284 | 10.264 | 0.020 | 1.125 | 278426 | NC | Target=32.58 | | | 3774 |
| 627.00 > 81.00 | 10.284 | 10.264 | 0.020 | 1.125 | 7647 | | 36.41(16.29-48.87) | | | 194 |
| 48 PFDoS | | | | | | | | | | |
| 699.00 > 80.00 | 10.709 | 10.690 | 0.019 | 1.257 | 66585 | NC | Target=0.47 | | | 953 |
| 699.00 > 99.00 | 10.709 | 10.690 | 0.019 | 1.257 | 142015 | | 0.47(0.24-0.71) | | | 1347 |
| 49 Perfluorotridecanoic acid | | | | | | | | | | |
| 663.00 > 619.00 | 10.779 | 10.761 | 0.018 | 1.052 | 588799 | 0.009446 | Target=18.64 | 94.5 | 287 | |
| 663.00 > 169.00 | 10.779 | 10.761 | 0.018 | 1.052 | 30739 | | 19.15(9.32-27.96) | 94.5 | 549 | |

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| 50 Perfluorotetradecanoic acid | | | | | | | | | | |
| 713.00 > 169.00 | 11.277 | 11.262 | 0.015 | 1.000 | 23869 | 0.009661 | Target=1.23 | 96.6 | 735 | |
| 713.00 > 219.00 | 11.277 | 11.262 | 0.015 | 1.000 | 20795 | | 1.15(0.62-1.85) | 96.6 | 637 | |
| D 51 13C2 PFTeDA | | | | | | | | | | |
| 715.00 > 670.00 | 11.277 | 11.262 | 0.015 | | 2995853 | 0.0532 | | 106 | 11498 | |
| D 52 13C2 PFHxDA | | | | | | | | | | |
| 815.00 > 770.00 | 12.258 | 12.245 | 0.013 | | 1455177 | 0.0448 | | 89.5 | 9489 | |
| 54 Perfluorohexadecanoic acid | | | | | | | | | | |
| 813.00 > 769.00 | 12.258 | 12.247 | 0.011 | 1.000 | 261430 | 0.008972 | Target=29.80 | 89.7 | 181 | |
| 813.00 > 169.00 | 12.258 | 12.247 | 0.011 | 1.000 | 8192 | | 31.91(14.90-44.69) | 89.7 | 195 | |
| 53 Perfluorooctadecanoic acid | | | | | | | | | | |
| 913.00 > 869.00 | 13.367 | 13.386 | -0.019 | 1.091 | 53437 | 0.008643 | Target=33.62 | 86.4 | 81.3 | M |
| 913.00 > 169.00 | 13.357 | 13.386 | -0.029 | 1.090 | 1468 | | 36.40(16.81-50.42) | 86.4 | 45.6 | M |

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

Reagents:

LCPFC-LL-L4_00024

Amount Added: 1.00

Units: mL

Eurofins TestAmerica, Sacramento

Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_005.d

Injection Date: 09-Feb-2021 11:32:44

Instrument ID: A10

Lims ID: IC STD 4

Client ID:

Operator ID: Sac_inst_A10

ALS Bottle#: 5

Worklist Smp#: 5

Injection Vol: 950.0 ul

Dil. Factor: 1.0000

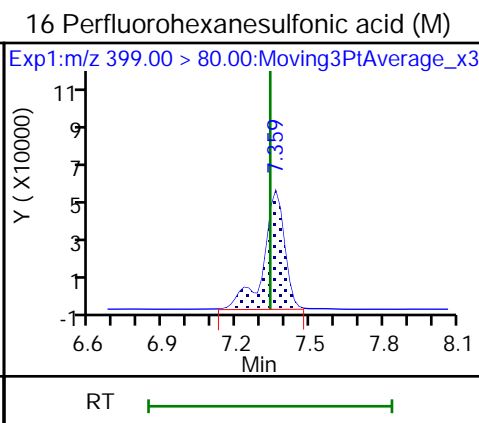
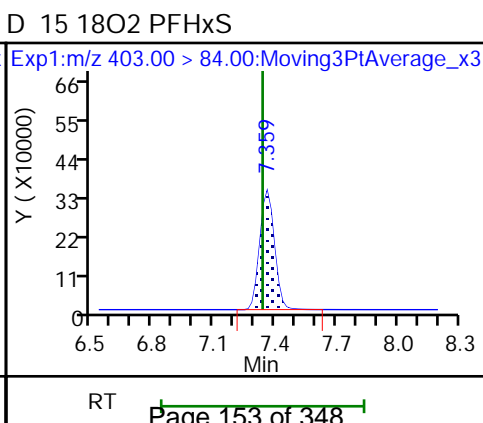
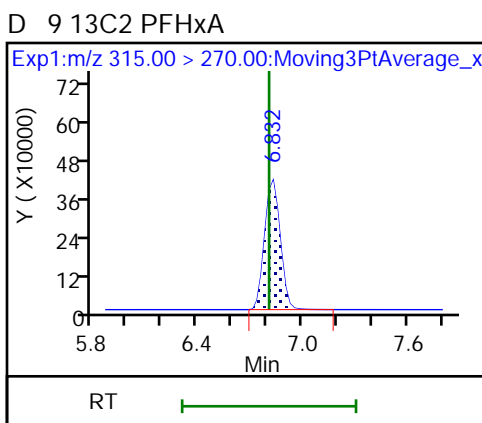
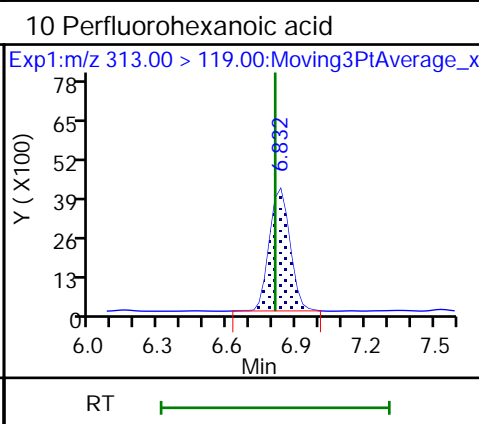
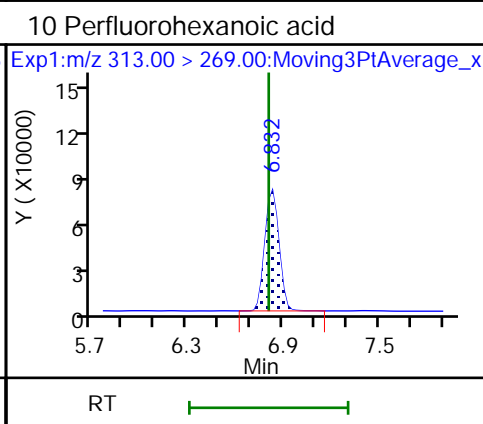
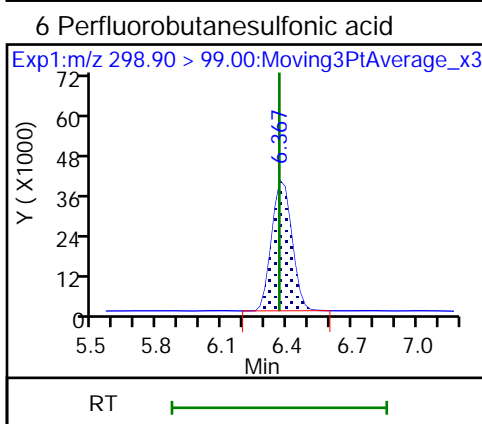
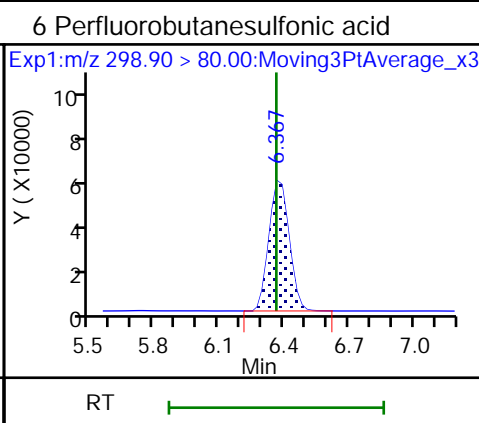
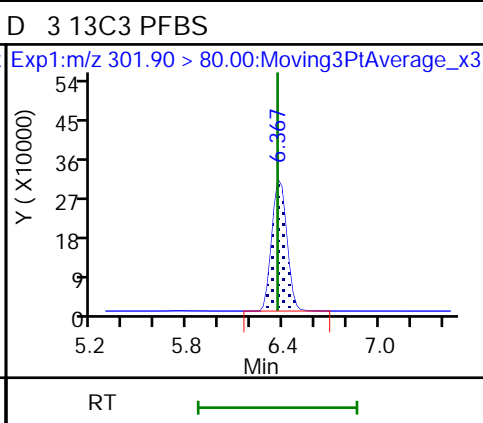
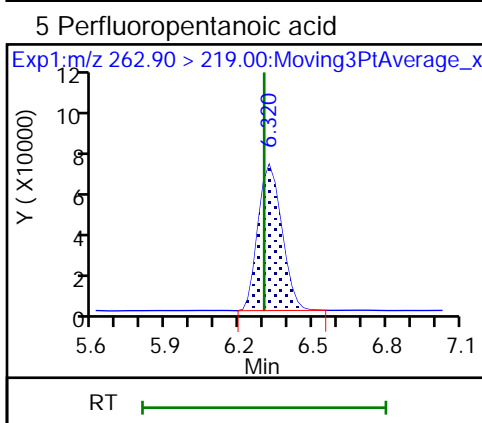
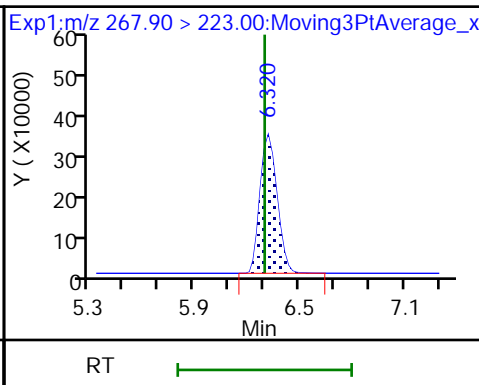
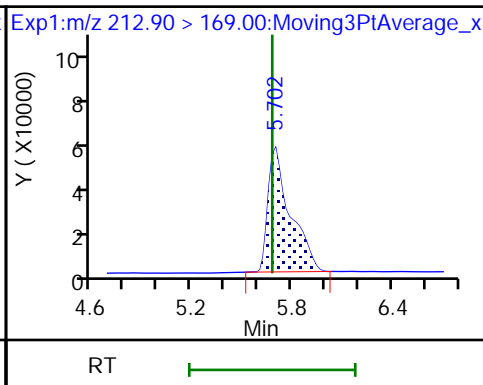
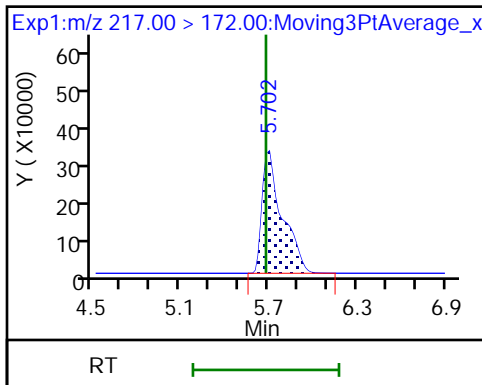
Method: A10_In_Line_SPE

Limit Group: LC PFAS_DW ICAL

D 2 13C4 PFBA

1 Perfluorobutanoic acid

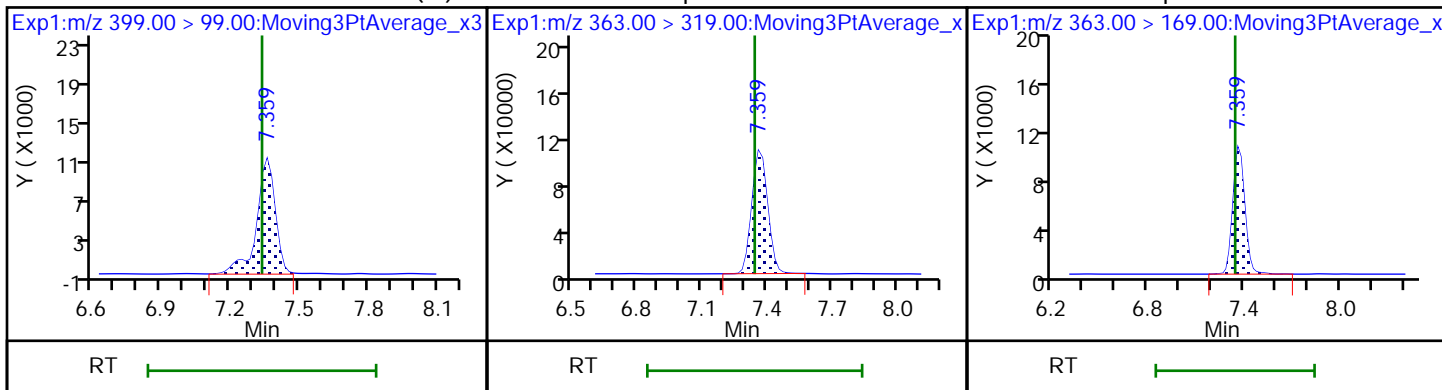
D 4 13C5 PFPeA



16 Perfluorohexanesulfonic acid (M)

18 Perfluoroheptanoic acid

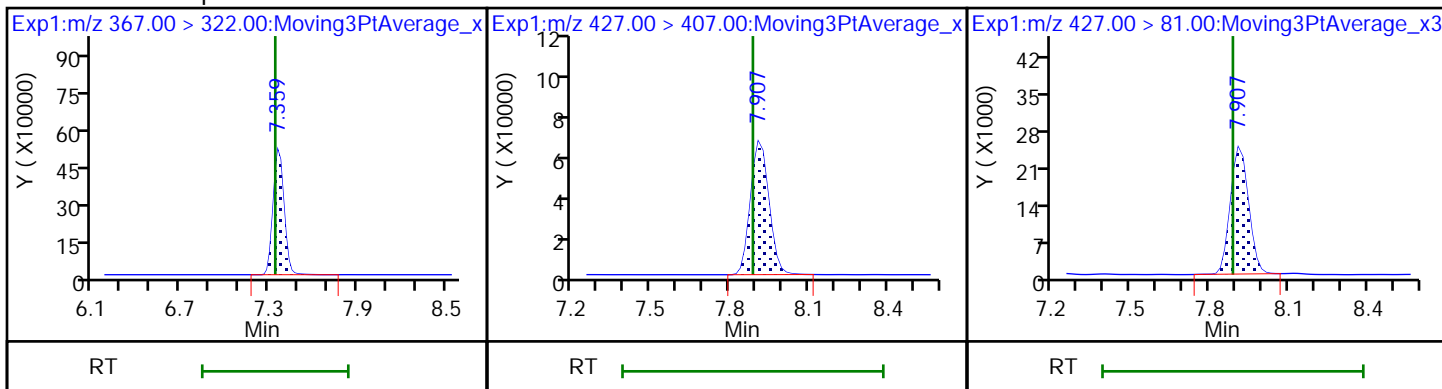
18 Perfluoroheptanoic acid



D 17 13C4 PFHpA

23 6:2 FTS

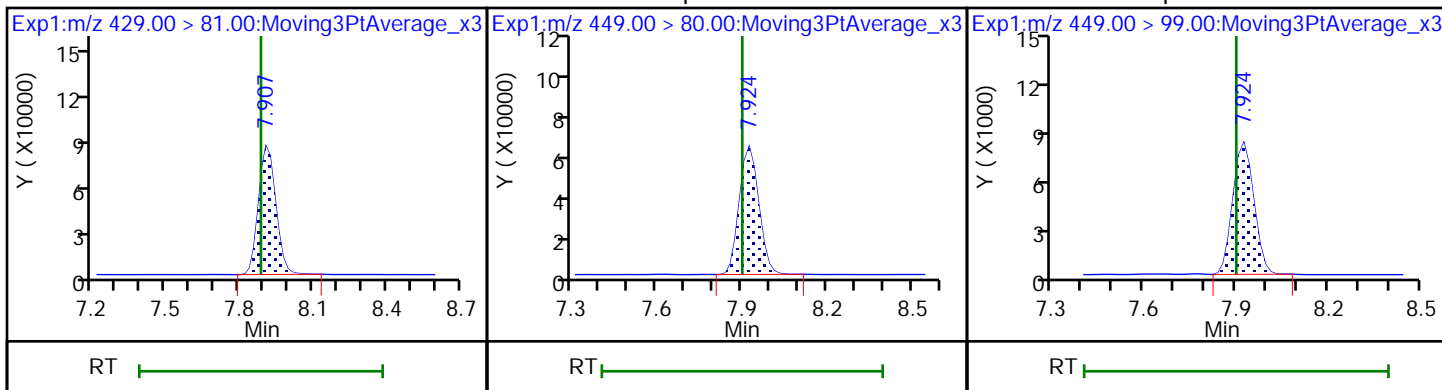
23 6:2 FTS



D 22 M2-6:2 FTS

21 Perfluoroheptanesulfonic acid

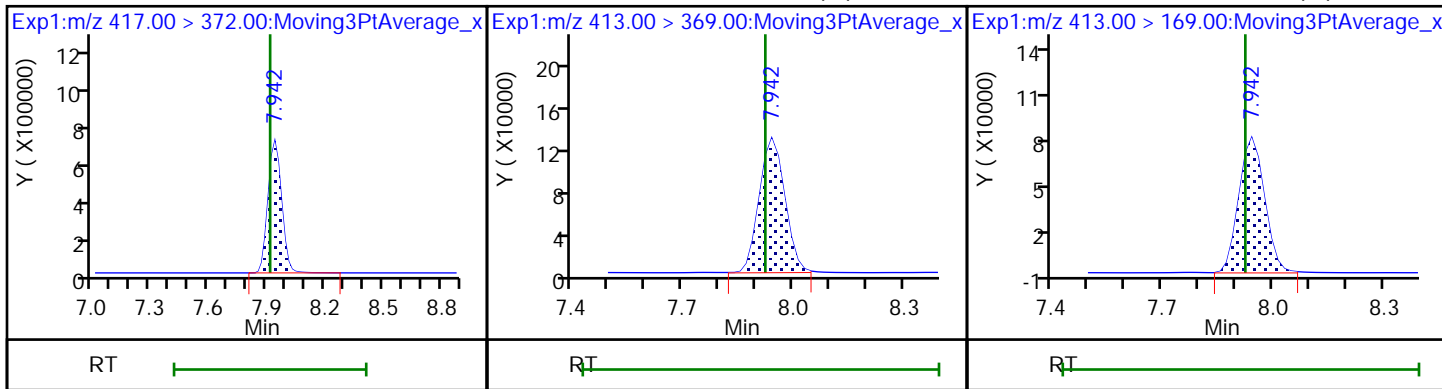
21 Perfluoroheptanesulfonic acid



D 25 13C4 PFOA

24 Perfluorooctanoic acid (M)

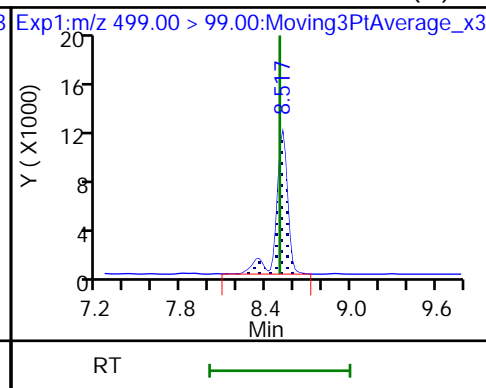
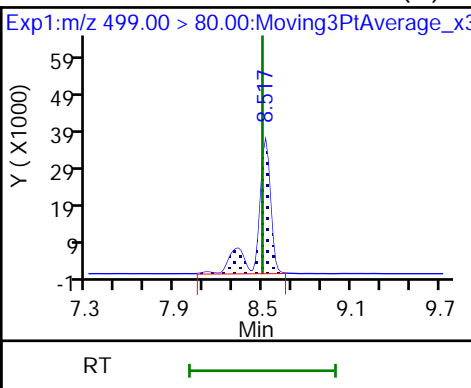
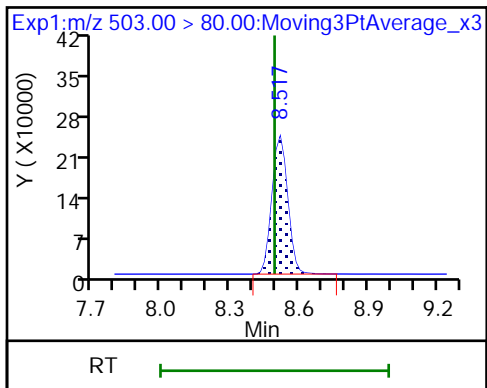
24 Perfluorooctanoic acid (M)



D 26 13C4 PFOS

27 Perfluorooctanesulfonic acid (M)

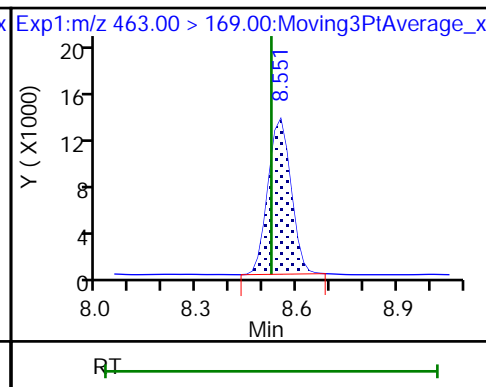
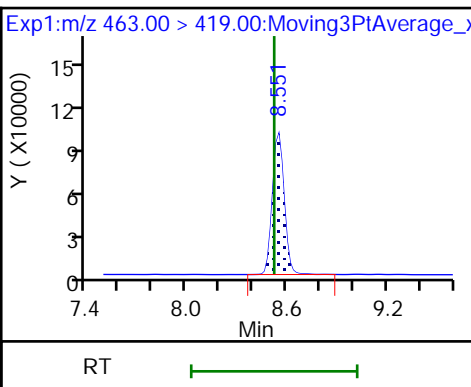
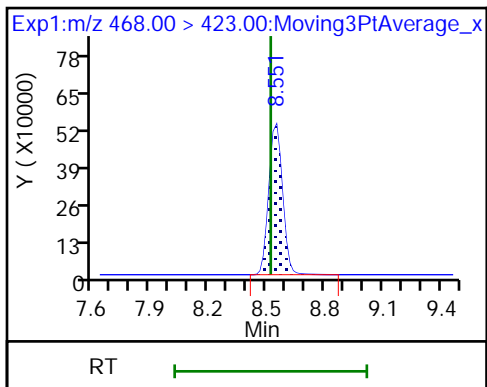
27 Perfluorooctanesulfonic acid (M)



D 28 13C5 PFNA

29 Perfluorononanoic acid

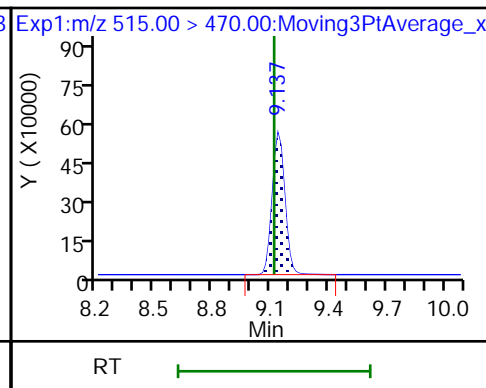
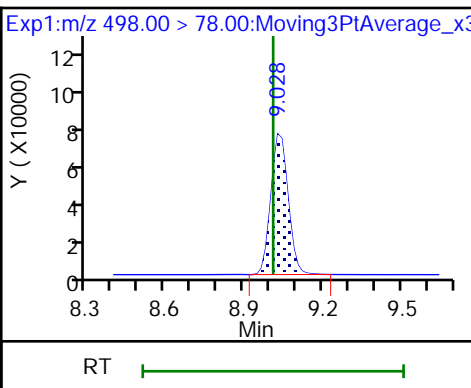
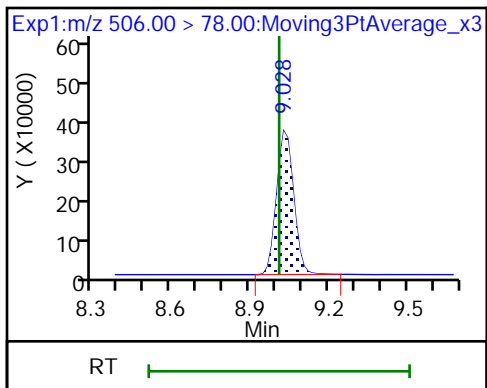
29 Perfluorononanoic acid



D 30 13C8 FOSA

31 Perfluorooctanesulfonamide

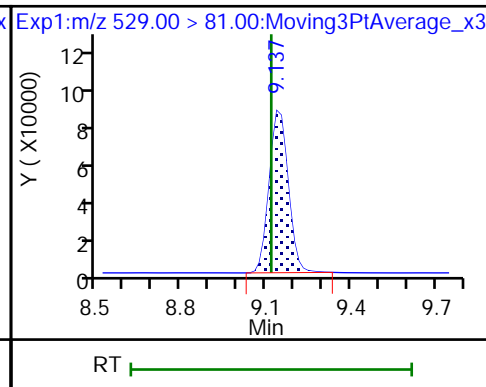
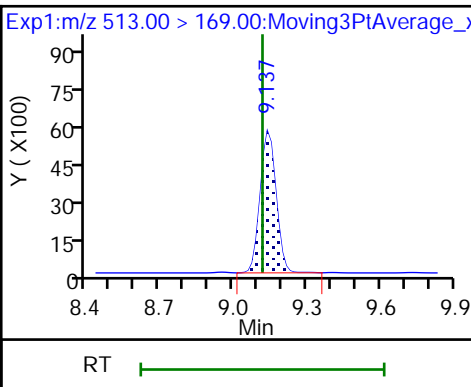
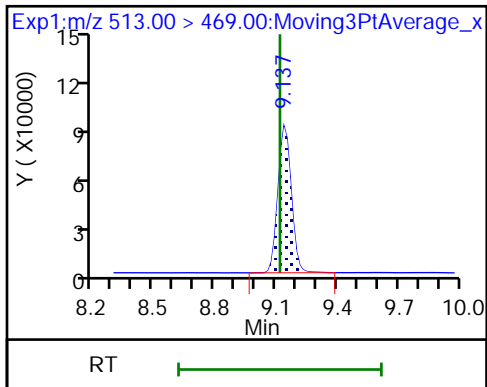
D 33 13C2 PFDA

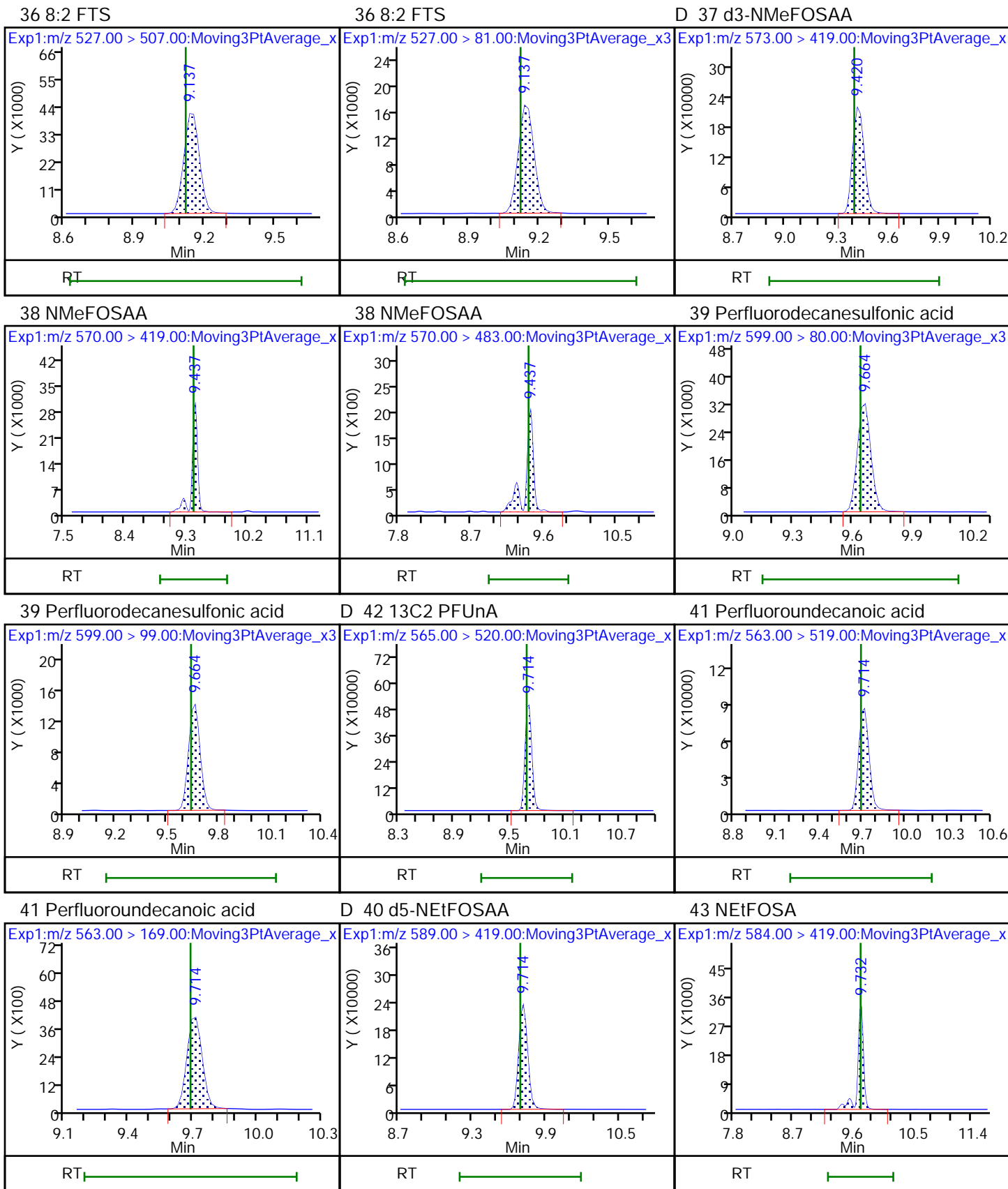


35 Perfluorodecanoic acid

35 Perfluorodecanoic acid

D 34 M2-8:2 FTS

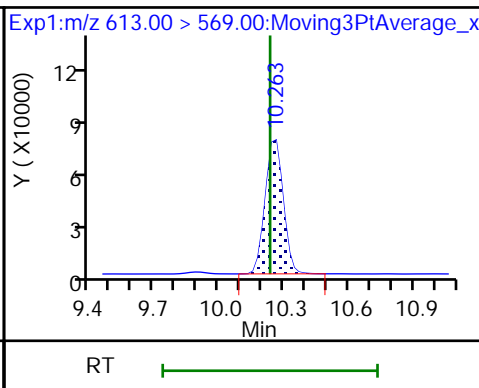
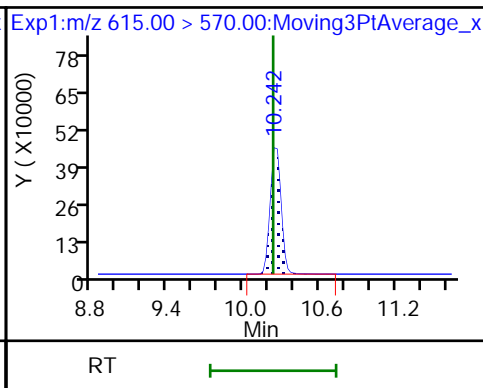
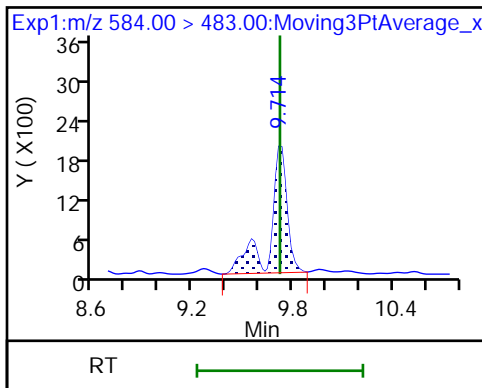




43 NEtFOSA

D 45 13C2 PFDaA

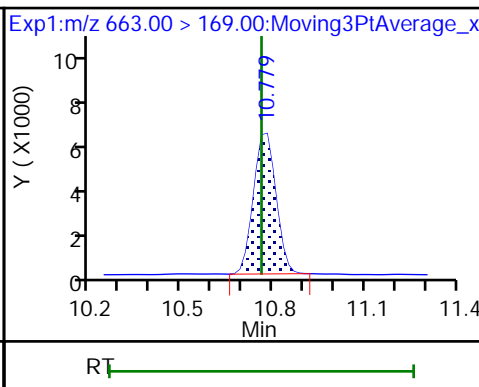
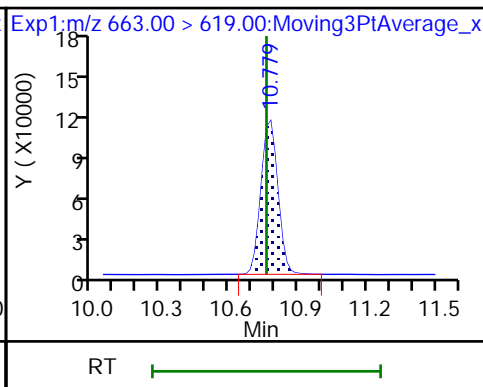
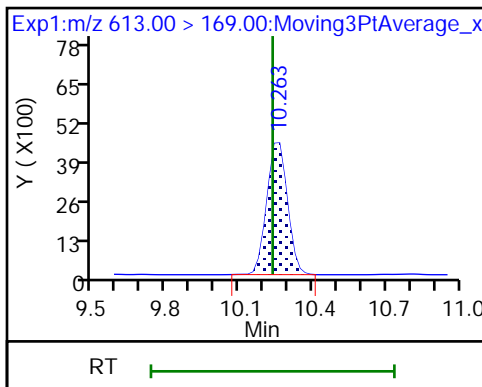
46 Perfluorododecanoic acid



46 Perfluorododecanoic acid

49 Perfluorotridecanoic acid

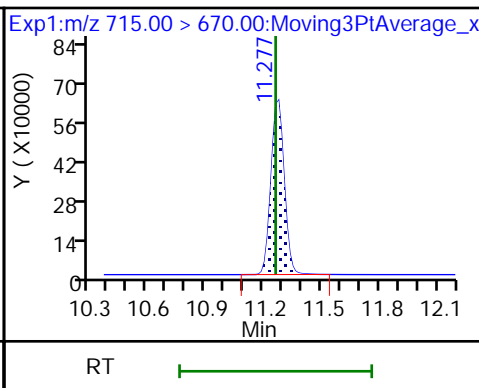
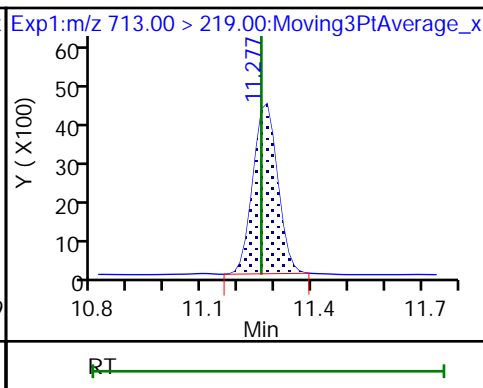
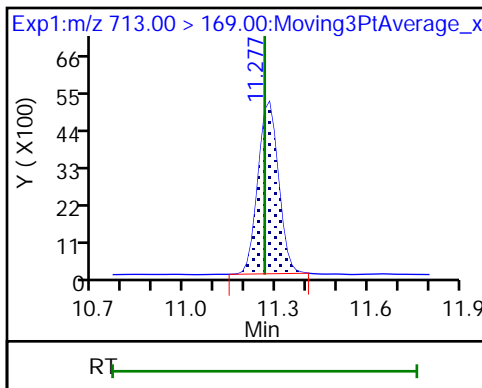
49 Perfluorotridecanoic acid



50 Perfluorotetradecanoic acid

50 Perfluorotetradecanoic acid

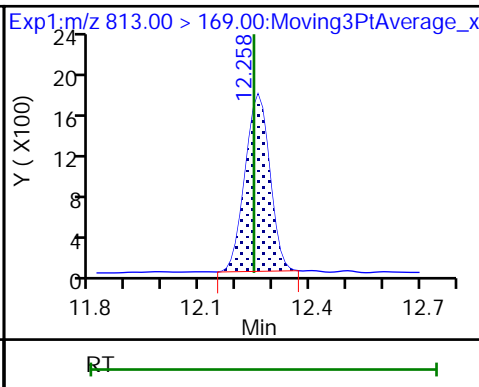
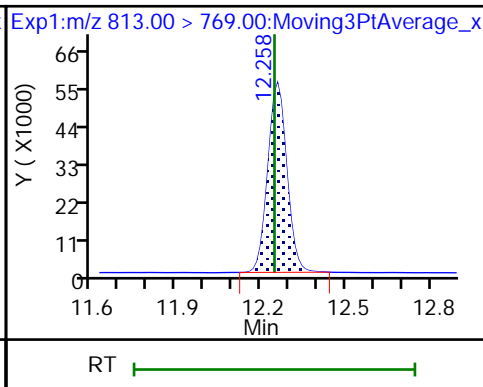
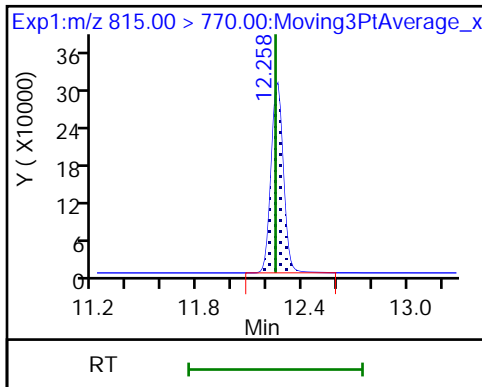
D 51 13C2 PFTeDA



D 52 13C2 PFHxDA

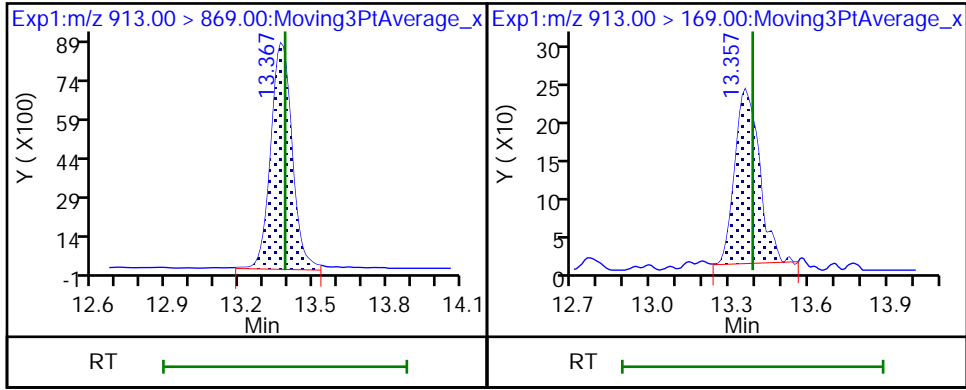
54 Perfluorohexadecanoic acid

54 Perfluorohexadecanoic acid



53 Perfluorooctadecanoic acid (M)

53 Perfluorooctadecanoic acid (M)



Eurofins TestAmerica, Sacramento

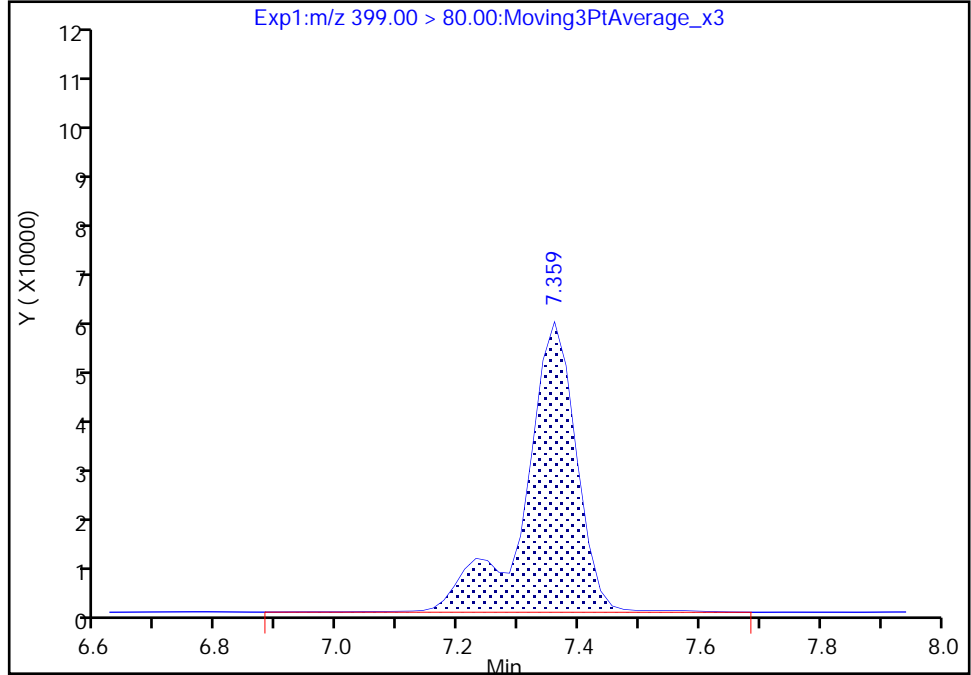
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Injection Date: 09-Feb-2021 11:32:44 Instrument ID: A10
Lims ID: IC STD 4
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm ID) Detector: EXP1

16 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

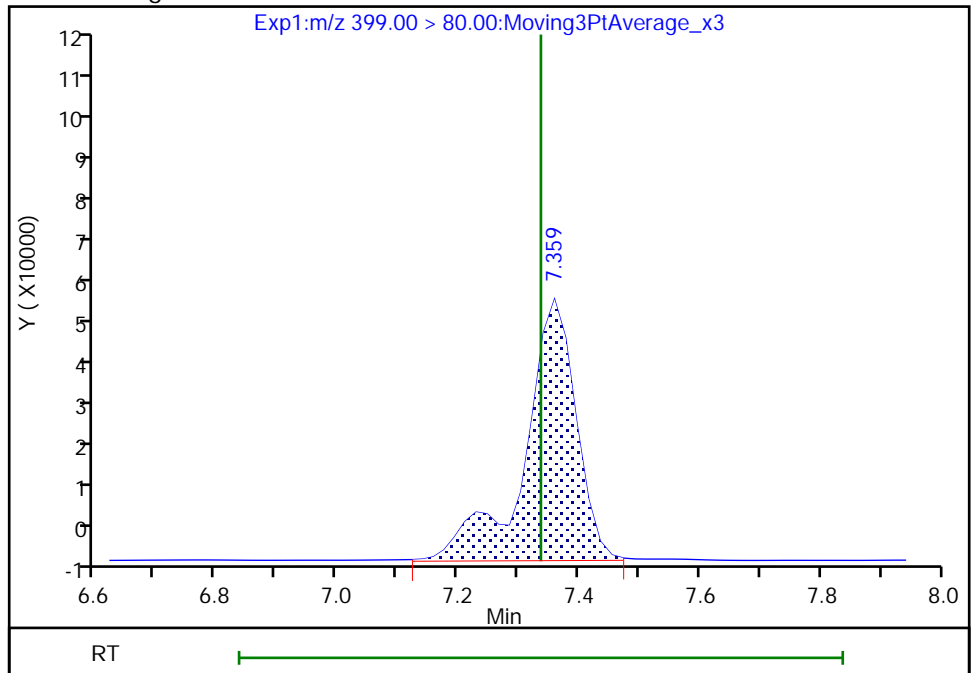
RT: 7.36
Area: 355307
Amount: 0.008266
Amount Units: ng/ml

Processing Integration Results



RT: 7.36
Area: 353962
Amount: 0.008746
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 12:06:42
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

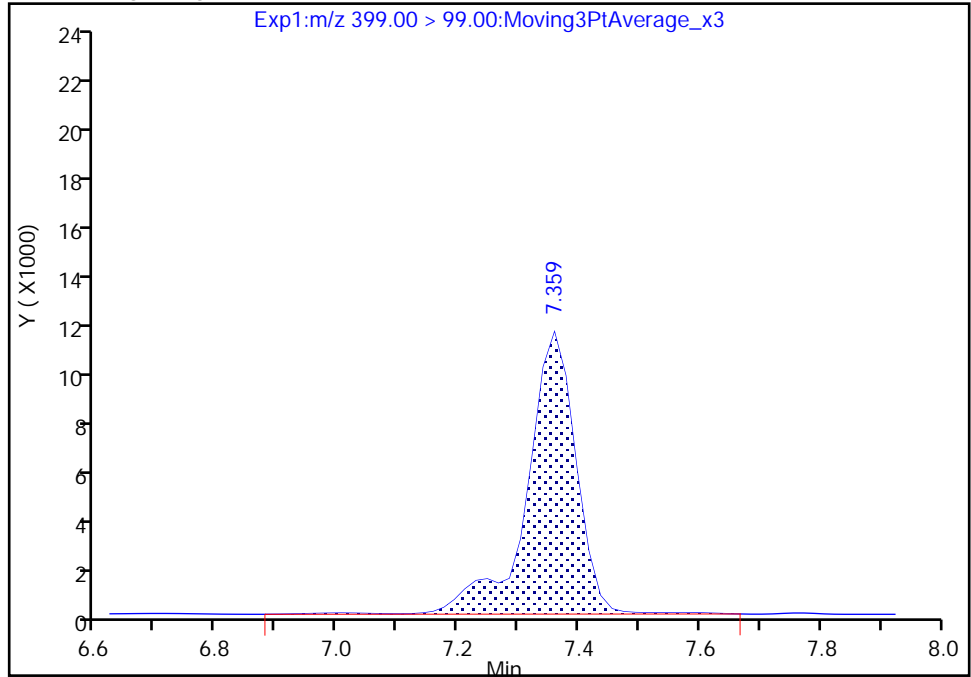
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Injection Date: 09-Feb-2021 11:32:44 Instrument ID: A10
Lims ID: IC STD 4
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

16 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

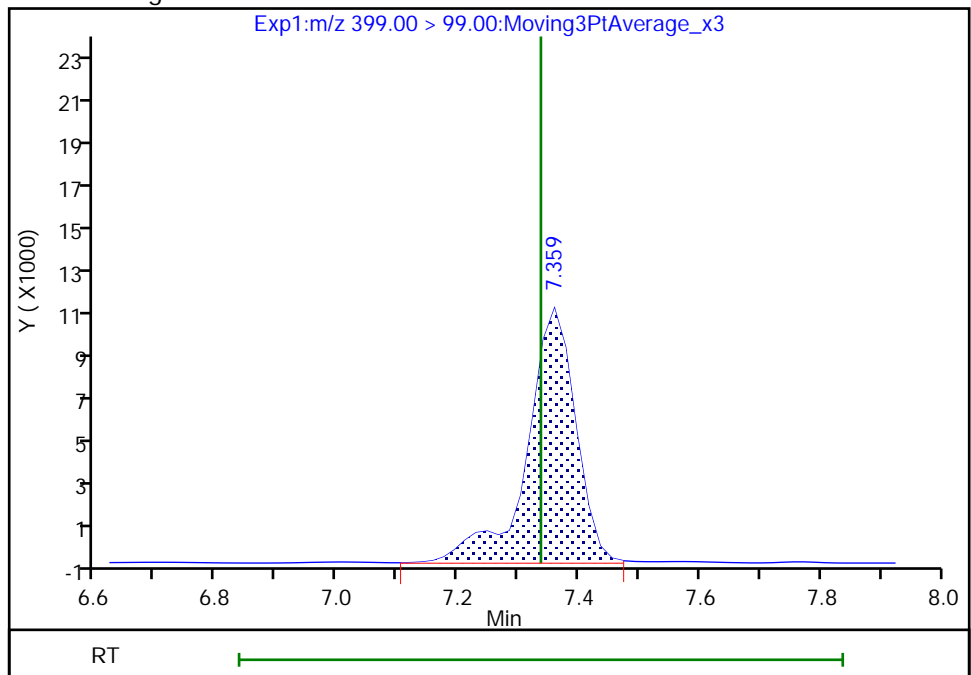
RT: 7.36
Area: 63886
Amount: 0.008266
Amount Units: ng/ml

Processing Integration Results



RT: 7.36
Area: 63380
Amount: 0.008746
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 12:06:48

Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

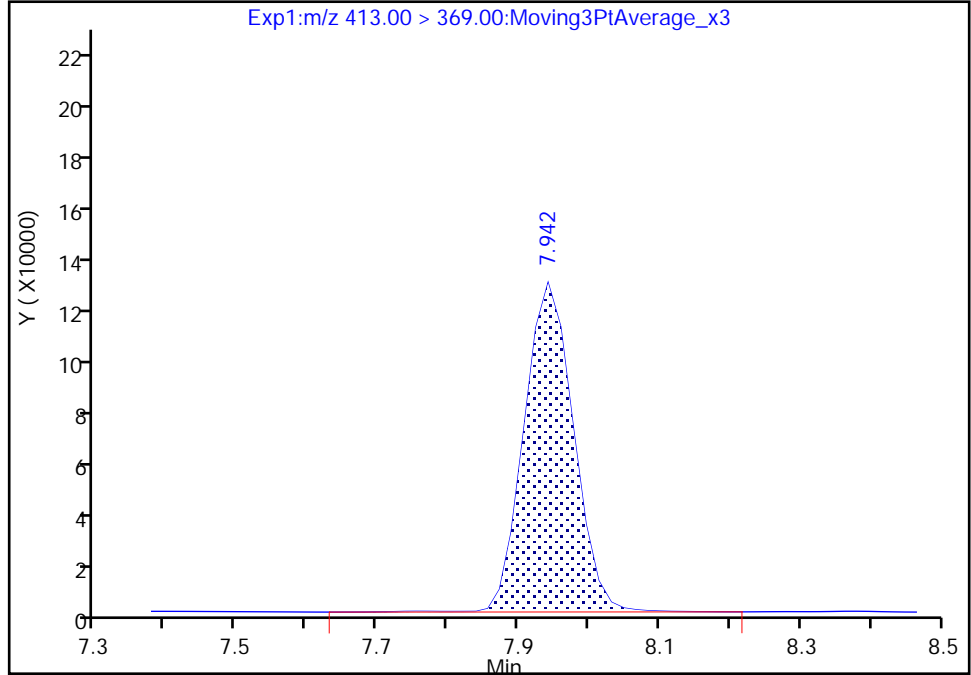
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Injection Date: 09-Feb-2021 11:32:44 Instrument ID: A10
Lims ID: IC STD 4
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

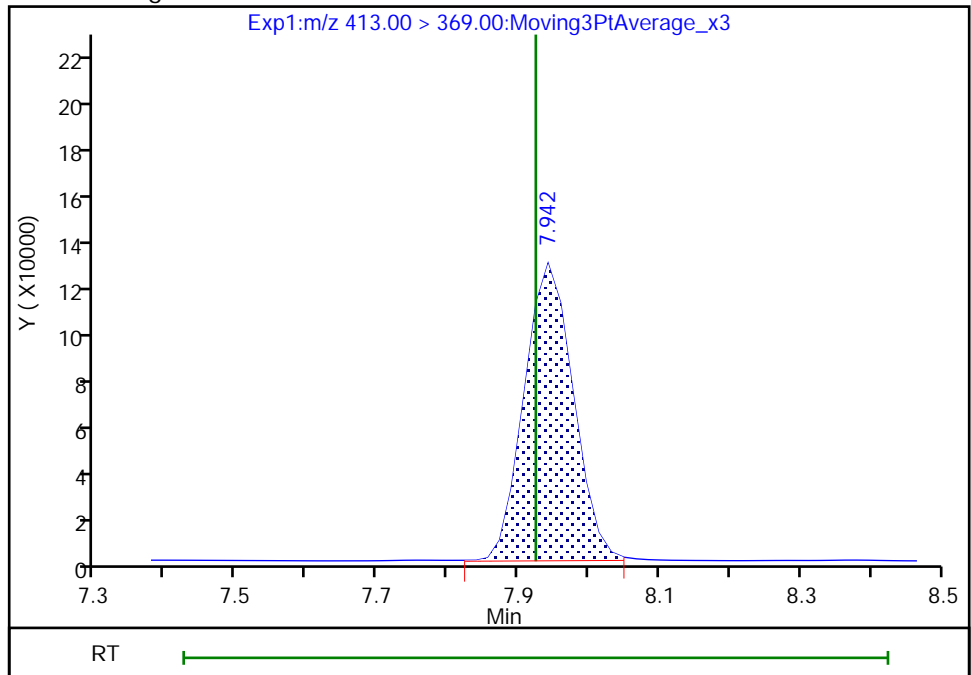
RT: 7.94
Area: 614270
Amount: 0.009510
Amount Units: ng/ml

Processing Integration Results



RT: 7.94
Area: 610087
Amount: 0.009617
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 12:06:58
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

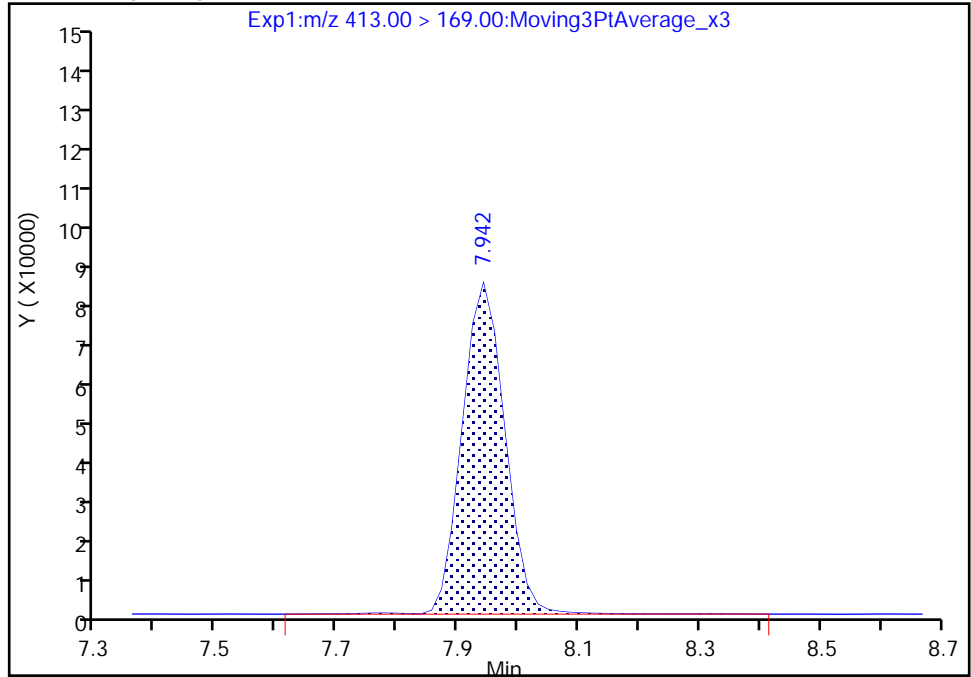
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Injection Date: 09-Feb-2021 11:32:44 Instrument ID: A10
Lims ID: IC STD 4
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

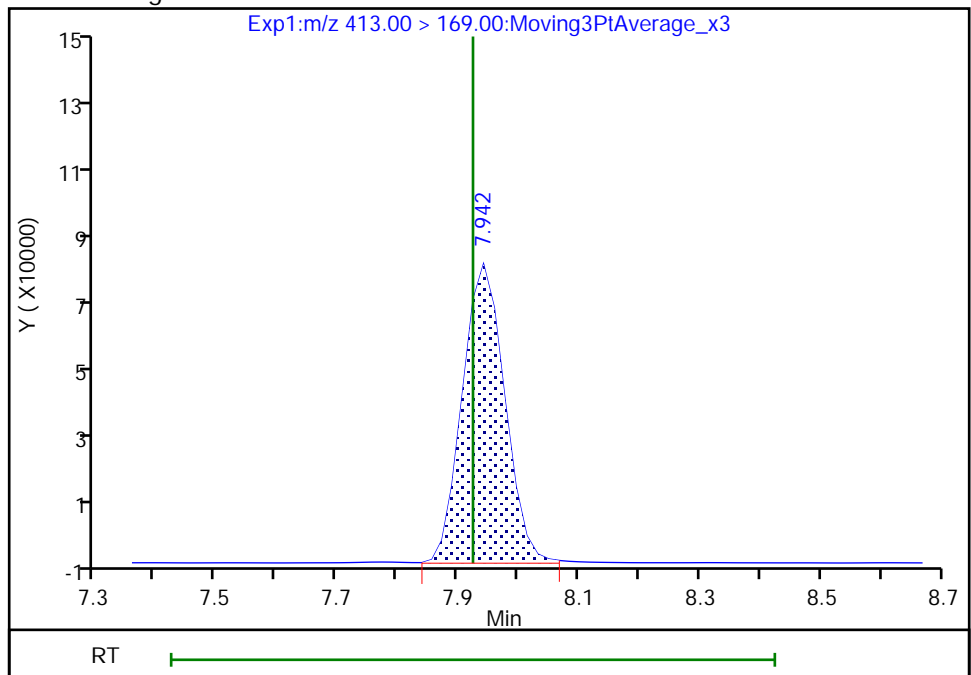
RT: 7.94
Area: 405436
Amount: 0.009510
Amount Units: ng/ml

Processing Integration Results



RT: 7.94
Area: 402967
Amount: 0.009617
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 12:07:03

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins TestAmerica, Sacramento

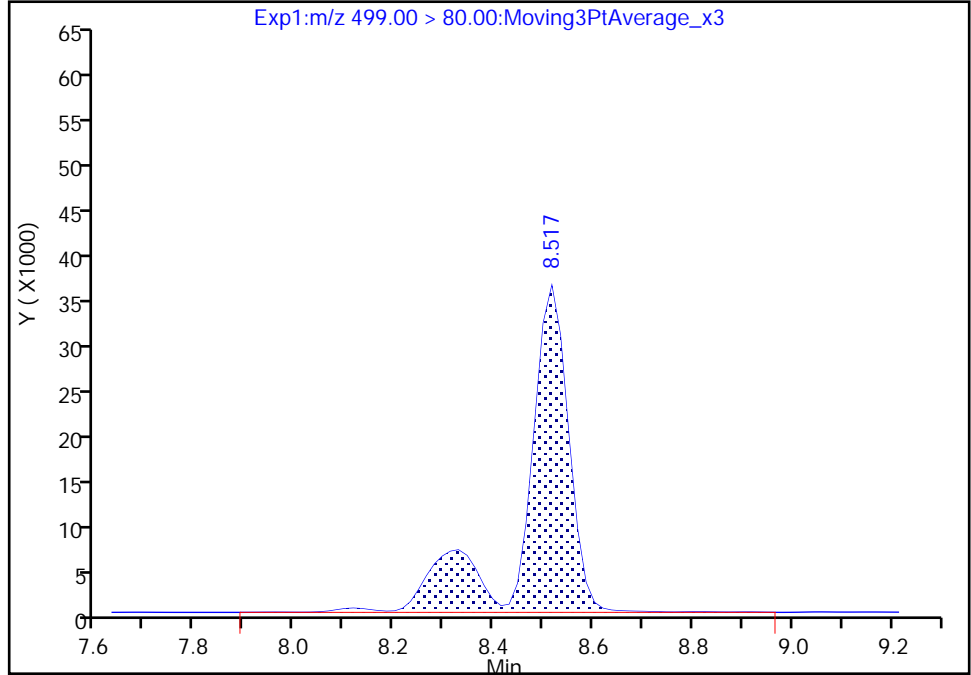
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Injection Date: 09-Feb-2021 11:32:44 Instrument ID: A10
Lims ID: IC STD 4
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

27 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

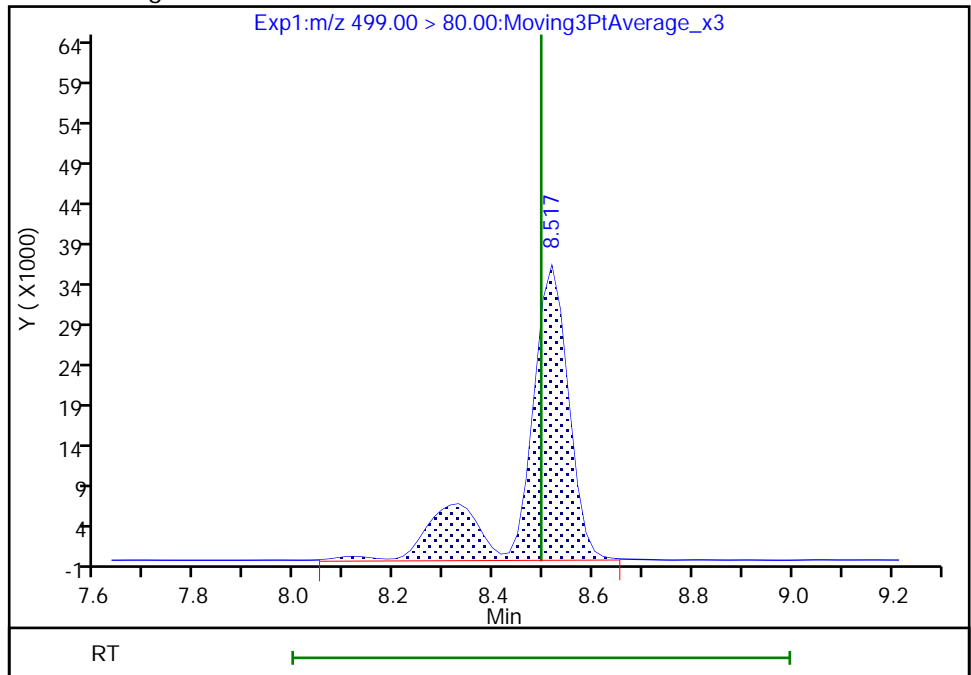
RT: 8.52
Area: 224069
Amount: 0.009102
Amount Units: ng/ml

Processing Integration Results



RT: 8.52
Area: 224801
Amount: 0.009180
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 12:07:12
Audit Action: Manually Integrated

Audit Reason: Baseline
Page 163 of 348

Eurofins TestAmerica, Sacramento

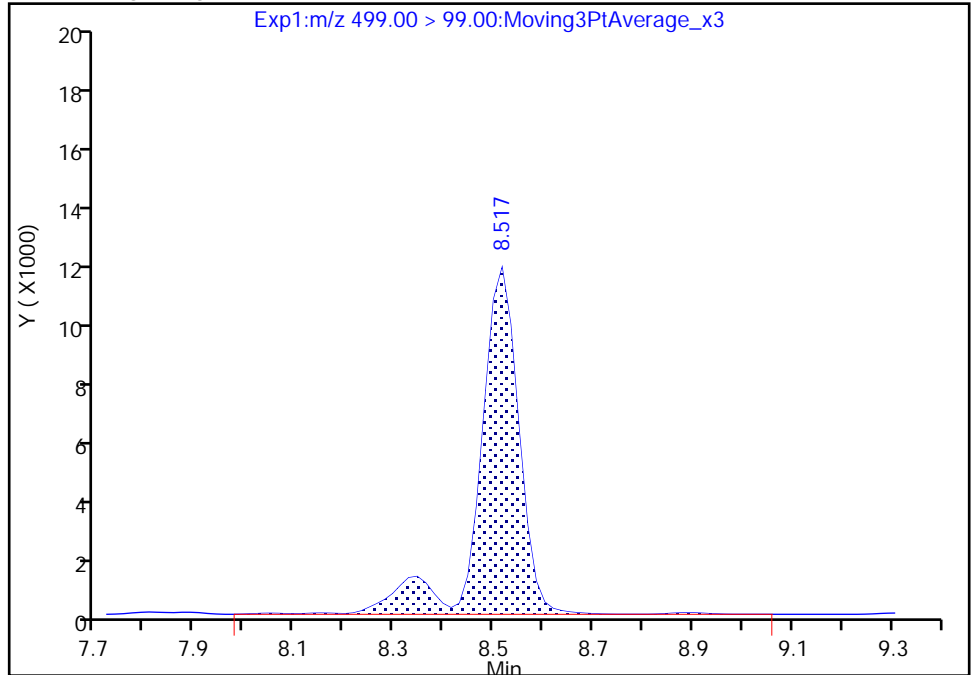
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_005.d
Injection Date: 09-Feb-2021 11:32:44 Instrument ID: A10
Lims ID: IC STD 4
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

27 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

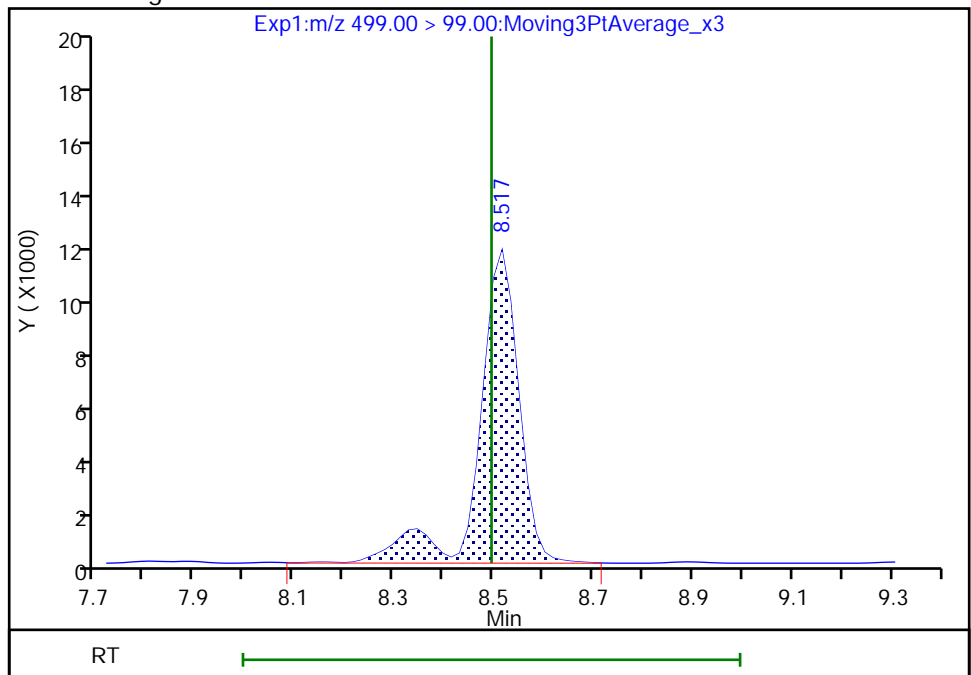
RT: 8.52
Area: 64715
Amount: 0.009102
Amount Units: ng/ml

Processing Integration Results



RT: 8.52
Area: 64233
Amount: 0.009180
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 12:07:22

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins TestAmerica, Sacramento

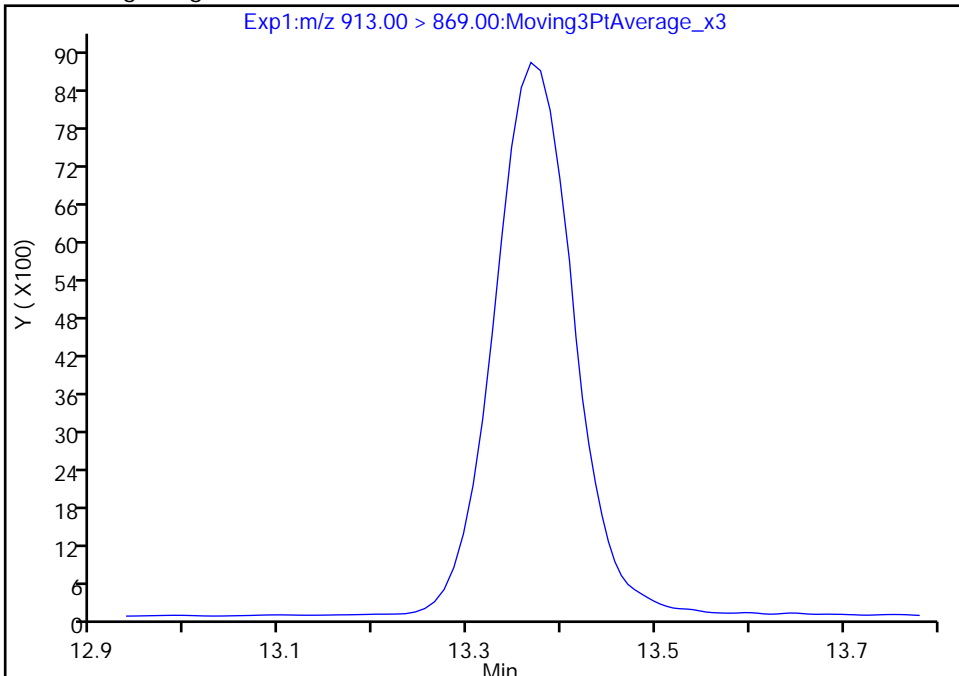
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_005.d
Injection Date: 09-Feb-2021 11:32:44 Instrument ID: A10
Lims ID: IC STD 4
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

53 Perfluorooctadecanoic acid, CAS: 16517-11-6

Signal: 1

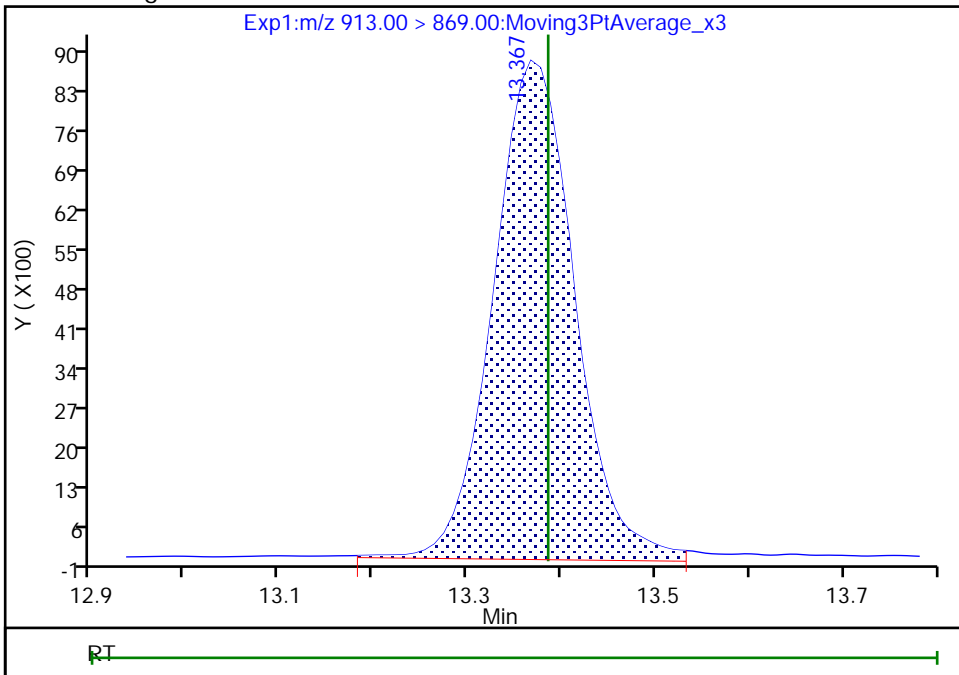
Not Detected
Expected RT: 13.39

Processing Integration Results



Manual Integration Results

RT: 13.37
Area: 53437
Amount: 0.008643
Amount Units: ng/ml



Eurofins TestAmerica, Sacramento

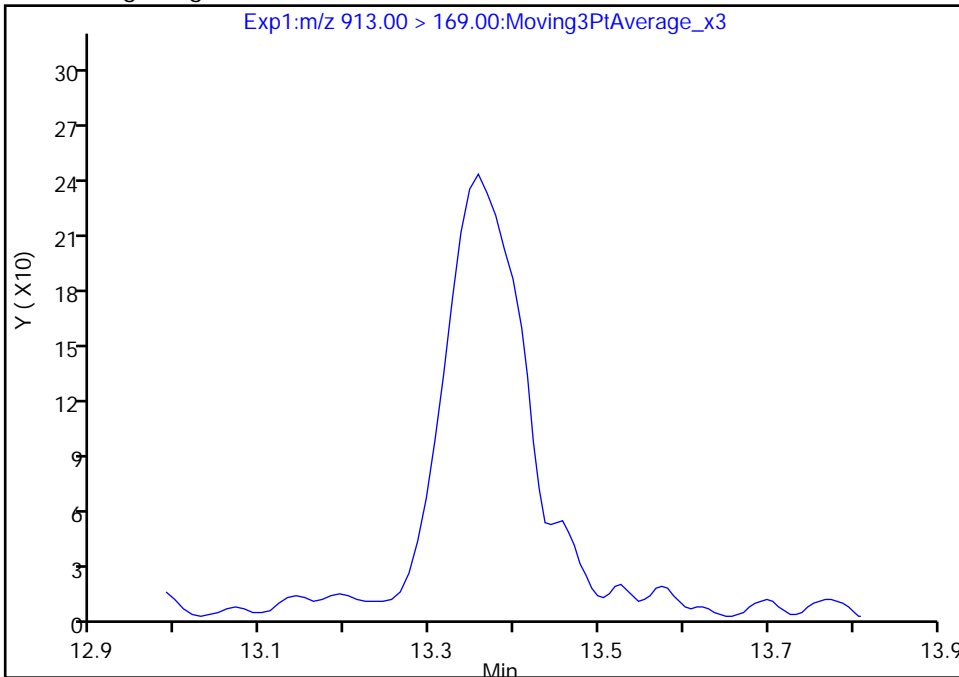
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Injection Date: 09-Feb-2021 11:32:44 Instrument ID: A10
Lims ID: IC STD 4
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm ID) Detector: EXP1

53 Perfluorooctadecanoic acid, CAS: 16517-11-6

Signal: 2

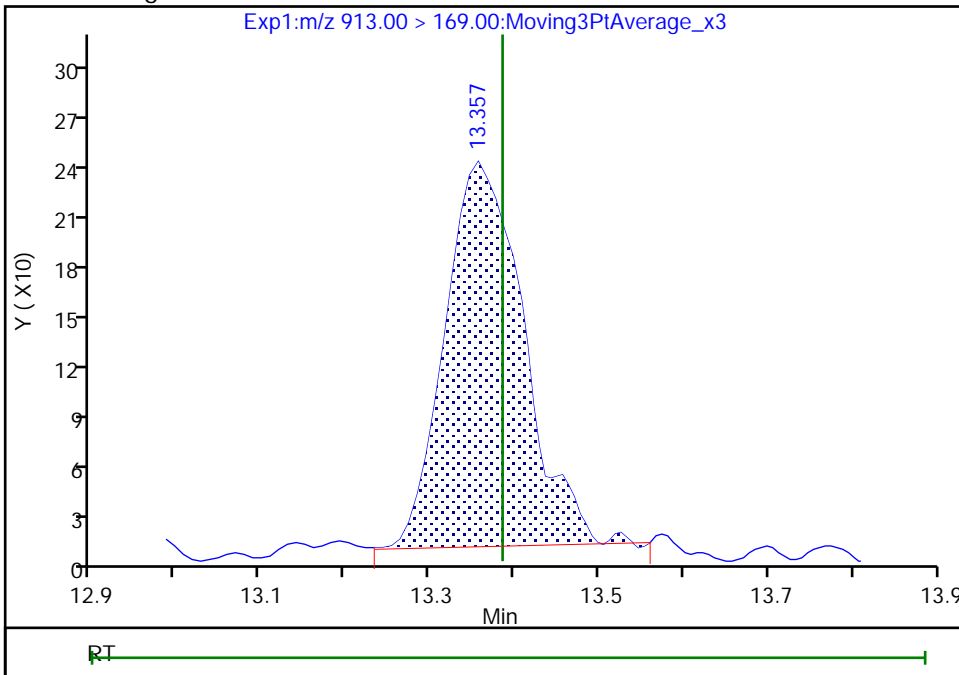
Not Detected
Expected RT: 13.39

Processing Integration Results



Manual Integration Results

RT: 13.36
Area: 1468
Amount: 0.008643
Amount Units: ng/ml



Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_006.d
 Lims ID: IC STD 5
 Client ID:
 Sample Type: IC Calib Level: 5
 Inject. Date: 09-Feb-2021 11:51:12 ALS Bottle#: 6 Worklist Smp#: 6
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: IC STD 5 (35)
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Sublist: chrom-A10_In_Line_SPE*sub12

Method: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 09-Feb-2021 13:50:25 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1638

First Level Reviewer: vangmy Date: 09-Feb-2021 12:14:17

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|------|-------|
| D 2 13C4 PFBA | | | | | | | | | | |
| 217.00 > 172.00 | 5.677 | 5.678 | -0.001 | | 2858023 | 0.0487 | | 97.3 | 8422 | |
| 1 Perfluorobutanoic acid | | | | | | | | | | |
| 212.90 > 169.00 | 5.677 | 5.681 | -0.004 | 1.000 | 967386 | 0.0190 | | 94.9 | 120 | |
| D 4 13C5 PFPeA | | | | | | | | | | |
| 267.90 > 223.00 | 6.293 | 6.300 | -0.007 | | 2254370 | 0.0513 | | 103 | 9900 | |
| 5 Perfluoropentanoic acid | | | | | | | | | | |
| 262.90 > 219.00 | 6.293 | 6.300 | -0.007 | 1.000 | 921028 | 0.0189 | | 94.4 | 364 | |
| D 3 13C3 PFBS | | | | | | | | | | |
| 301.90 > 80.00 | 6.363 | 6.364 | -0.001 | | 1971094 | 0.0484 | | 104 | 5826 | |
| 6 Perfluorobutanesulfonic acid | | | | | | | | | | |
| 298.90 > 80.00 | 6.363 | 6.364 | -0.001 | 1.000 | 761626 | 0.0171 | Target=1.49 | 97.0 | 2165 | |
| 298.90 > 99.00 | 6.363 | 6.364 | -0.001 | 1.000 | 510776 | | 1.49(0.74-2.23) | 97.0 | 631 | |
| 8 4:2 FTS | | | | | | | | | | |
| 327.00 > 307.00 | 6.734 | 6.755 | -0.021 | 1.000 | 332601 | NC | Target=2.63 | | 4852 | |
| 327.00 > 81.00 | 6.734 | 6.755 | -0.021 | 1.000 | 122895 | | 2.71(1.32-3.95) | | 482 | |
| D 7 M2-4:2 FTS | | | | | | | | | | |
| 329.00 > 81.00 | 6.734 | 6.755 | -0.021 | | 308429 | NC | | | 951 | |
| 10 Perfluorohexanoic acid | | | | | | | | | | |
| 313.00 > 269.00 | 6.804 | 6.808 | -0.004 | 1.000 | 911536 | 0.0202 | Target=19.21 | 101 | 700 | |
| 313.00 > 119.00 | 6.804 | 6.808 | -0.004 | 1.000 | 45274 | | 20.13(9.60-28.81) | 101 | 399 | |
| D 9 13C2 PFHxA | | | | | | | | | | |
| 315.00 > 270.00 | 6.804 | 6.808 | -0.004 | | 2271856 | 0.0479 | | 95.8 | 9275 | |
| 11 Perfluoropentanesulfonic acid | | | | | | | | | | |
| 349.00 > 80.00 | 6.804 | 6.826 | -0.022 | 0.930 | 669237 | NC | Target=1.46 | | 1661 | |
| 349.00 > 99.00 | 6.804 | 6.826 | -0.022 | 0.930 | 445846 | | 1.50(0.73-2.19) | | 1399 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-------|--------|--------|--------|----------|--------------|------------------|------|-------|-------|
| D 12 13C3 HFPO-DA | | | | | | | | | | |
| 332.10 > 287.00 | 6.950 | 6.961 | -0.011 | | 116146 | NC | | | 1055 | |
| 13 HPFO-DA | | | | | | | | | | |
| 329.10 > 285.00 | 6.950 | 6.964 | -0.014 | 1.000 | 137345 | NC | | | 103 | |
| 14 9CIFOS | | | | | | | | | | |
| 531.00 > 351.00 | 7.155 | 7.198 | -0.043 | 0.845 | 581 | NC | | | 1.3 | M |
| D 15 18O2 PFHxS | | | | | | | | | | |
| 403.00 > 84.00 | 7.318 | 7.337 | -0.019 | | 1578041 | 0.0480 | | 102 | 10635 | |
| 16 Perfluorohexanesulfonic acid | | | | | | | | | | |
| 399.00 > 80.00 | 7.318 | 7.338 | -0.020 | 1.000 | 613544 | 0.0161 | Target=5.70 | 88.7 | 1753 | M |
| 399.00 > 99.00 | 7.318 | 7.338 | -0.020 | 1.000 | 109461 | | 5.61(2.85-8.55) | 88.7 | 678 | M |
| 18 Perfluoroheptanoic acid | | | | | | | | | | |
| 363.00 > 319.00 | 7.318 | 7.342 | -0.024 | 1.000 | 888902 | 0.0203 | Target=9.14 | 101 | 577 | |
| 363.00 > 169.00 | 7.318 | 7.342 | -0.024 | 1.000 | 100057 | | 8.88(4.57-13.71) | 101 | 1950 | |
| D 17 13C4 PFHpA | | | | | | | | | | |
| 367.00 > 322.00 | 7.318 | 7.342 | -0.024 | | 2247345 | 0.0449 | | 89.8 | 9815 | |
| 19 DONA | | | | | | | | | | |
| 377.00 > 251.00 | 7.374 | 7.397 | -0.023 | 0.871 | 3814513 | NC | Target=2.71 | | 11489 | |
| 377.00 > 85.00 | 7.374 | 7.397 | -0.023 | 0.871 | 1345204 | | 2.84(1.36-4.07) | | 5388 | |
| 23 6:2 FTS | | | | | | | | | | |
| 427.00 > 407.00 | 7.869 | 7.886 | -0.017 | 1.000 | 404583 | 0.0168 | Target=2.56 | 88.4 | 4704 | |
| 427.00 > 81.00 | 7.869 | 7.886 | -0.017 | 1.000 | 154758 | | 2.61(1.28-3.83) | 88.4 | 738 | |
| D 22 M2-6:2 FTS | | | | | | | | | | |
| 429.00 > 81.00 | 7.869 | 7.886 | -0.017 | | 382311 | 0.0465 | | 98.0 | 1836 | |
| 21 Perfluoroheptanesulfonic acid | | | | | | | | | | |
| 449.00 > 80.00 | 7.886 | 7.900 | -0.014 | 0.931 | 553890 | 0.0188 | Target=6.98 | 98.9 | 2457 | |
| 449.00 > 99.00 | 7.886 | 7.900 | -0.014 | 0.931 | 79997 | | 6.92(3.49-10.47) | 98.9 | 1136 | |
| D 25 13C4 PFOA | | | | | | | | | | |
| 417.00 > 372.00 | 7.903 | 7.917 | -0.014 | | 3343736 | 0.0500 | | 99.9 | 13505 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | |
| 413.00 > 369.00 | 7.903 | 7.924 | -0.021 | 1.000 | 1163934 | 0.0191 | Target=1.58 | 95.6 | 493 | M |
| 413.00 > 169.00 | 7.903 | 7.924 | -0.021 | 1.000 | 771752 | | 1.51(0.79-2.37) | 95.6 | 2113 | M |
| D 26 13C4 PFOS | | | | | | | | | | |
| 503.00 > 80.00 | 8.467 | 8.492 | -0.025 | | 1101991 | 0.0484 | | 101 | 5314 | |
| 27 Perfluorooctanesulfonic acid | | | | | | | | | | |
| 499.00 > 80.00 | 8.484 | 8.496 | -0.012 | 1.002 | 426407 | 0.0181 | Target=3.45 | 97.8 | 2333 | M |
| 499.00 > 99.00 | 8.467 | 8.496 | -0.029 | 1.000 | 117524 | | 3.63(1.73-5.18) | 97.8 | 1032 | |
| D 28 13C5 PFNA | | | | | | | | | | |
| 468.00 > 423.00 | 8.502 | 8.520 | -0.018 | | 2484082 | 0.0500 | | 100 | 15385 | |
| 29 Perfluorononanoic acid | | | | | | | | | | |
| 463.00 > 419.00 | 8.502 | 8.523 | -0.021 | 1.000 | 930882 | 0.0197 | Target=7.90 | 98.6 | 1046 | |
| 463.00 > 169.00 | 8.502 | 8.523 | -0.021 | 1.000 | 122036 | | 7.63(3.95-11.85) | 98.6 | 1133 | |
| D 30 13C8 FOSA | | | | | | | | | | |
| 506.00 > 78.00 | 8.991 | 9.011 | -0.020 | | 1409542 | 0.0447 | | 89.3 | 3371 | |
| 31 Perfluorooctanesulfonamide | | | | | | | | | | |
| 498.00 > 78.00 | 8.991 | 9.011 | -0.020 | 1.000 | 575675 | 0.0201 | | 101 | 4171 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| 32 Perfluorononanesulfonic acid | | | | | | | | | | |
| 549.00 > 80.00 | 9.069 | 9.080 | -0.011 | 1.071 | 357537 | NC | Target=6.35 | | 3537 | |
| 549.00 > 99.00 | 9.069 | 9.080 | -0.011 | 1.071 | 57906 | | 6.17(3.17-9.52) | | 528 | |
| D 33 13C2 PFDA | | | | | | | | | | |
| 515.00 > 470.00 | 9.100 | 9.117 | -0.017 | | 2243999 | 0.0475 | | 95.1 | 10753 | |
| 35 Perfluorodecanoic acid | | | | | | | | | | |
| 513.00 > 469.00 | 9.100 | 9.117 | -0.017 | 1.000 | 789972 | 0.0212 | Target=16.15 | 106 | 1335 | |
| 513.00 > 169.00 | 9.100 | 9.117 | -0.017 | 1.000 | 45042 | | 17.54(8.08-24.23) | 106 | 724 | |
| D 34 M2-8:2 FTS | | | | | | | | | | |
| 529.00 > 81.00 | 9.100 | 9.117 | -0.017 | | 348085 | 0.0454 | | 94.9 | 3012 | |
| 36 8:2 FTS | | | | | | | | | | |
| 527.00 > 507.00 | 9.100 | 9.119 | -0.019 | 1.000 | 330668 | 0.0193 | Target=2.35 | 101 | 2901 | |
| 527.00 > 81.00 | 9.100 | 9.119 | -0.019 | 1.000 | 140295 | | 2.36(1.17-3.52) | 101 | 916 | |
| D 37 d3-NMeFOSAA | | | | | | | | | | |
| 573.00 > 419.00 | 9.382 | 9.401 | -0.019 | | 929539 | 0.0483 | | 96.7 | 4517 | |
| 38 NMeFOSAA | | | | | | | | | | |
| 570.00 > 419.00 | 9.398 | 9.411 | -0.013 | 1.002 | 322732 | 0.0203 | Target=12.28 | 102 | 1554 | |
| 570.00 > 483.00 | 9.398 | 9.411 | -0.013 | 1.002 | 26592 | | 12.14(6.14-18.41) | 102 | 425 | |
| 39 Perfluorodecanesulfonic acid | | | | | | | | | | |
| 599.00 > 80.00 | 9.625 | 9.640 | -0.015 | 1.137 | 279009 | 0.0182 | Target=2.51 | 94.2 | 4599 | |
| 599.00 > 99.00 | 9.625 | 9.640 | -0.015 | 1.137 | 115352 | | 2.42(1.26-3.77) | 94.2 | 2744 | |
| 41 Perfluoroundecanoic acid | | | | | | | | | | |
| 563.00 > 519.00 | 9.673 | 9.689 | -0.016 | 1.000 | 746234 | 0.0184 | Target=20.47 | 92.0 | 1614 | |
| 563.00 > 169.00 | 9.673 | 9.689 | -0.016 | 1.000 | 36219 | | 20.60(10.24-30.71) | 92.0 | 634 | |
| D 42 13C2 PFUnA | | | | | | | | | | |
| 565.00 > 520.00 | 9.673 | 9.689 | -0.016 | | 2298227 | 0.0501 | | 100 | 27971 | |
| D 40 d5-NEtFOSAA | | | | | | | | | | |
| 589.00 > 419.00 | 9.673 | 9.689 | -0.016 | | 1097217 | 0.0503 | | 101 | 3450 | |
| 43 NEtFOSA | | | | | | | | | | |
| 584.00 > 419.00 | 9.690 | 9.715 | -0.025 | 1.002 | 364588 | 0.0191 | Target=13.05 | 95.3 | 4003 | |
| 584.00 > 483.00 | 9.690 | 9.715 | -0.025 | 1.002 | 27931 | | 13.05(6.52-19.57) | 95.3 | 190 | |
| 44 11C1FOS | | | | | | | | | | |
| 631.00 > 451.00 | 9.921 | 9.929 | -0.008 | 1.172 | 1978771 | NC | | | 11558 | |
| D 45 13C2 PFDoA | | | | | | | | | | |
| 615.00 > 570.00 | 10.232 | 10.232 | 0.0 | | 2270850 | 0.0472 | | 94.3 | 13966 | |
| 46 Perfluorododecanoic acid | | | | | | | | | | |
| 613.00 > 569.00 | 10.232 | 10.235 | -0.003 | 1.000 | 808873 | 0.0201 | Target=17.11 | 101 | 553 | |
| 613.00 > 169.00 | 10.232 | 10.235 | -0.003 | 1.000 | 51745 | | 15.63(8.55-25.66) | 101 | 983 | |
| 47 10:2 FTS | | | | | | | | | | |
| 627.00 > 607.00 | 10.253 | 10.264 | -0.011 | 1.127 | 485686 | NC | Target=32.58 | | 3698 | |
| 627.00 > 81.00 | 10.253 | 10.264 | -0.011 | 1.127 | 15077 | | 32.21(16.29-48.87) | | 538 | |
| 48 PFDoS | | | | | | | | | | |
| 699.00 > 80.00 | 10.683 | 10.690 | -0.007 | 1.262 | 117757 | NC | Target=0.47 | | 1964 | |
| 699.00 > 99.00 | 10.683 | 10.690 | -0.007 | 1.262 | 257077 | | 0.46(0.24-0.71) | | 2997 | |
| 49 Perfluorotridecanoic acid | | | | | | | | | | |
| 663.00 > 619.00 | 10.754 | 10.761 | -0.007 | 1.051 | 1010808 | 0.0186 | Target=18.64 | 93.1 | 518 | |
| 663.00 > 169.00 | 10.754 | 10.761 | -0.007 | 1.051 | 56977 | | 17.74(9.32-27.96) | 93.1 | 1270 | |

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| 50 Perfluorotetradecanoic acid | | | | | | | | | | |
| 713.00 > 169.00 | 11.256 | 11.262 | -0.006 | 1.000 | 40919 | 0.0203 | Target=1.23 | 102 | 1471 | |
| 713.00 > 219.00 | 11.256 | 11.262 | -0.006 | 1.000 | 30720 | | 1.33(0.62-1.85) | 102 | 831 | |
| D 51 13C2 PFTeDA | | | | | | | | | | |
| 715.00 > 670.00 | 11.256 | 11.262 | -0.006 | | 2441920 | 0.0434 | | 86.8 | 11885 | |
| D 52 13C2 PFHxDA | | | | | | | | | | |
| 815.00 > 770.00 | 12.240 | 12.245 | -0.005 | | 1002628 | 0.0308 | | 61.7 | 5260 | |
| 54 Perfluorohexadecanoic acid | | | | | | | | | | |
| 813.00 > 769.00 | 12.240 | 12.247 | -0.007 | 1.000 | 375784 | 0.0187 | Target=29.80 | 93.6 | 297 | |
| 813.00 > 169.00 | 12.240 | 12.247 | -0.007 | 1.000 | 13063 | | 28.77(14.90-44.69) | 93.6 | 354 | |
| 53 Perfluorooctadecanoic acid | | | | | | | | | | |
| 913.00 > 869.00 | 13.354 | 13.392 | -0.038 | 1.091 | 68446 | 0.0161 | Target=33.62 | 80.3 | 121 | M |
| 913.00 > 169.00 | 13.354 | 13.392 | -0.038 | 1.091 | 2120 | | 32.29(16.81-50.42) | 80.3 | 55.2 | M |

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

Reagents:

LCPFC-LL-L5_00035

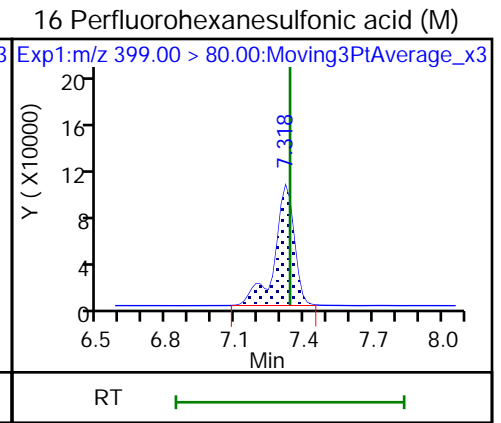
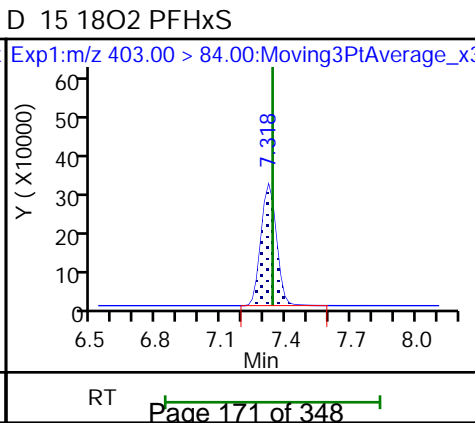
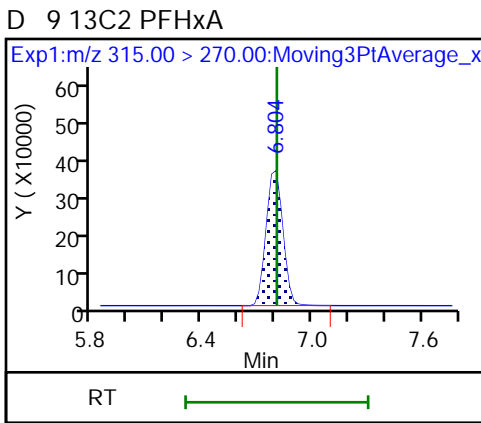
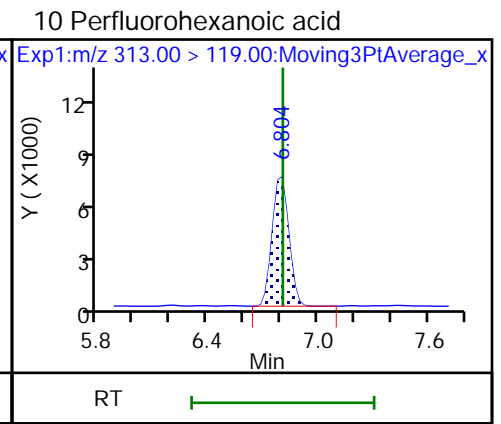
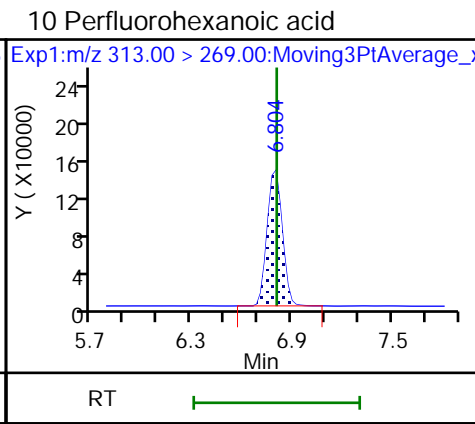
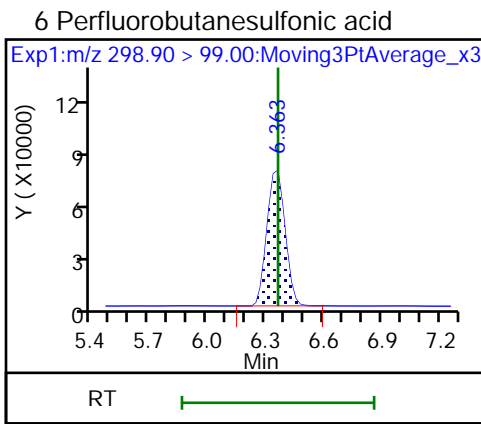
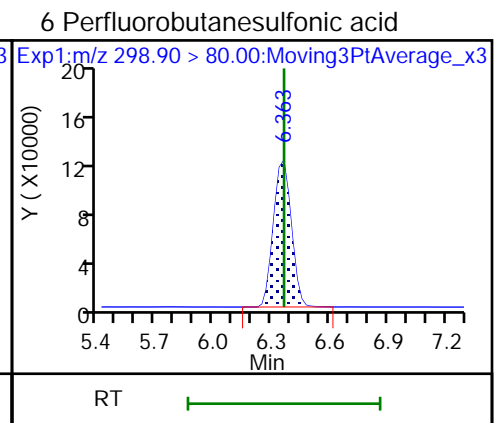
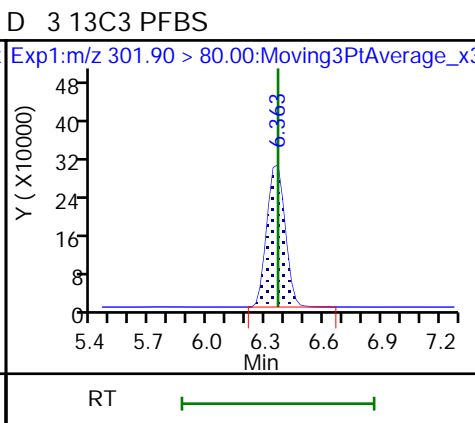
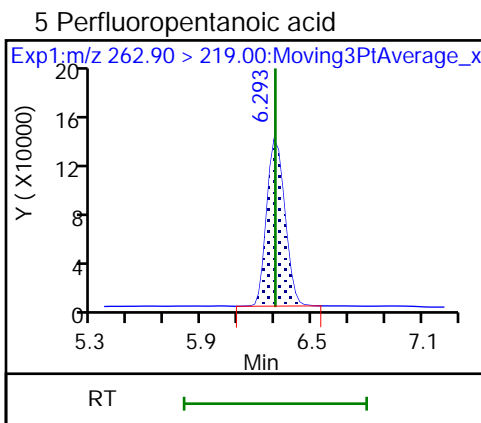
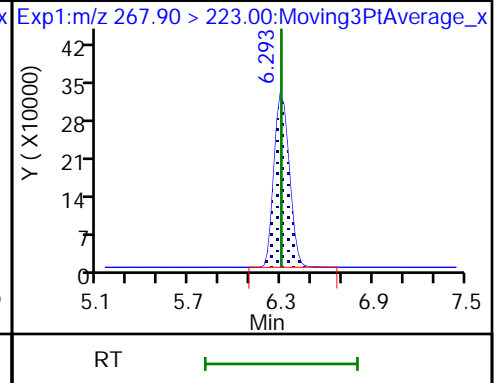
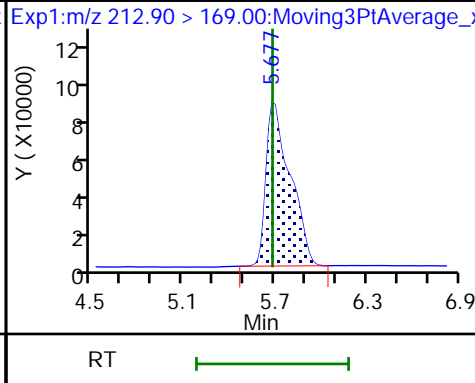
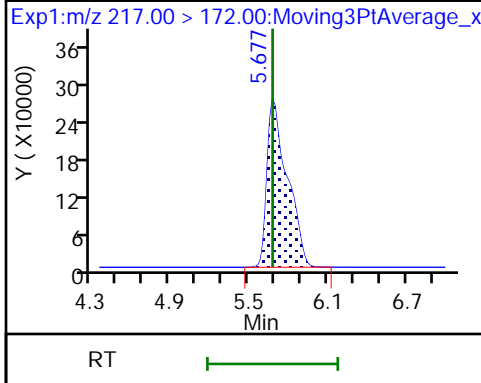
Amount Added: 1.00

Units: mL

D 2 13C4 PFBA

1 Perfluorobutanoic acid

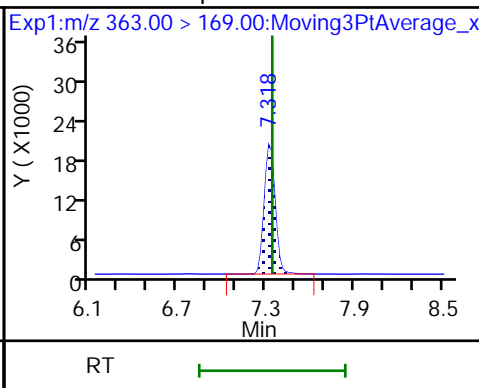
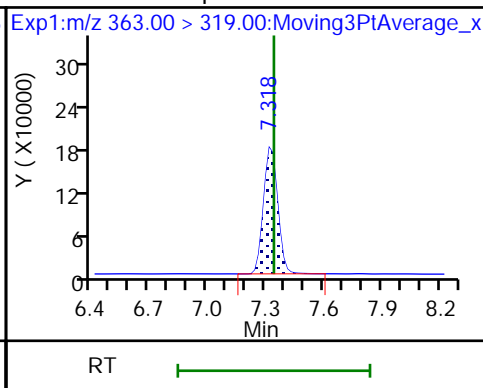
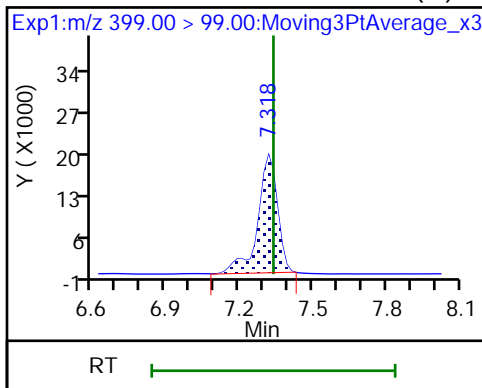
D 4 13C5 PFPeA



16 Perfluorohexanesulfonic acid (M)

18 Perfluoroheptanoic acid

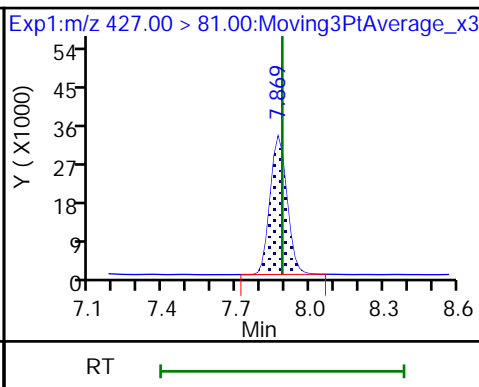
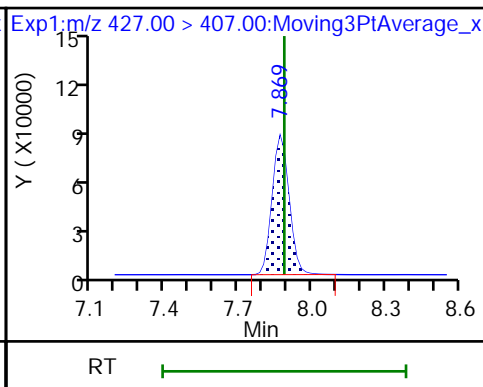
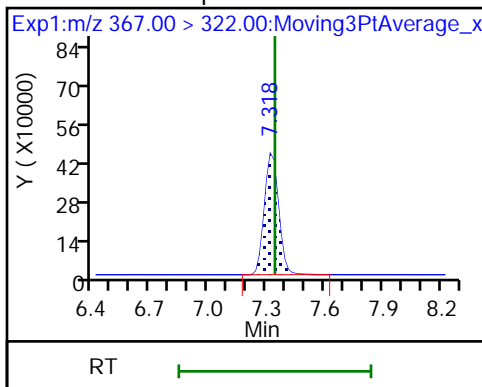
18 Perfluoroheptanoic acid



D 17 13C4 PFHpA

23 6:2 FTS

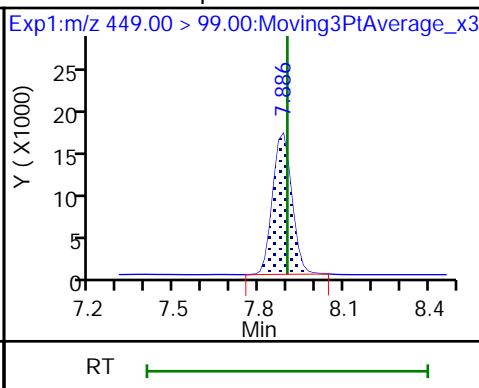
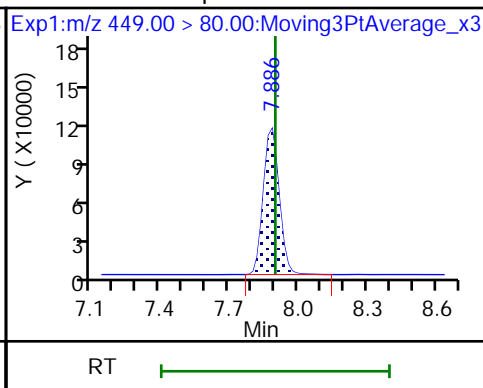
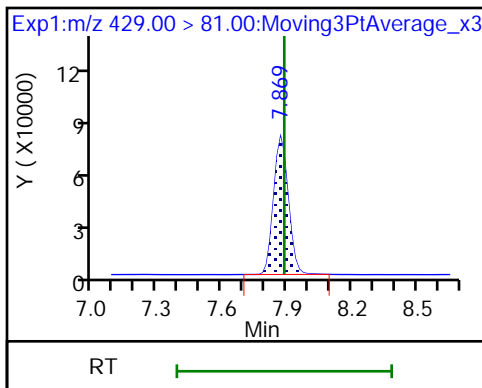
23 6:2 FTS



D 22 M2-6:2 FTS

21 Perfluoroheptanesulfonic acid

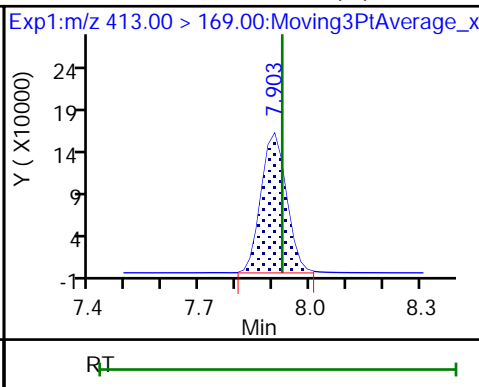
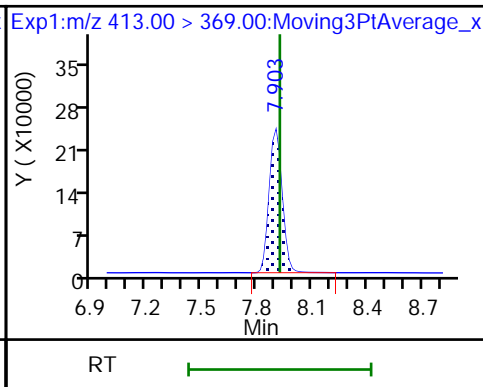
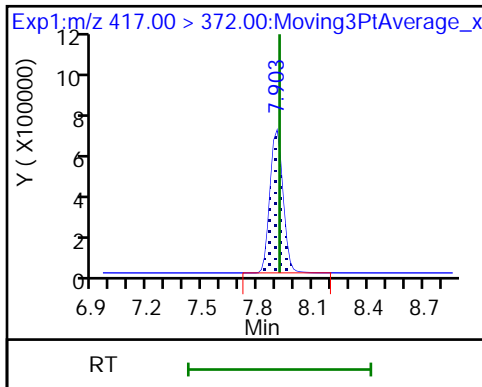
21 Perfluoroheptanesulfonic acid



D 25 13C4 PFOA

24 Perfluorooctanoic acid

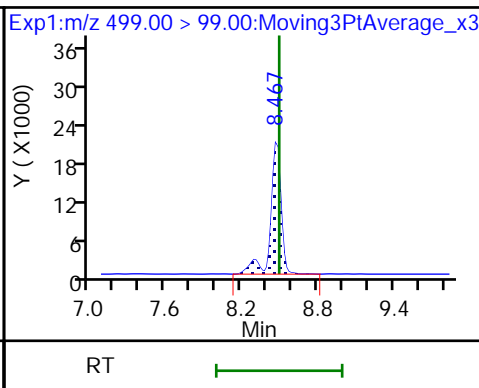
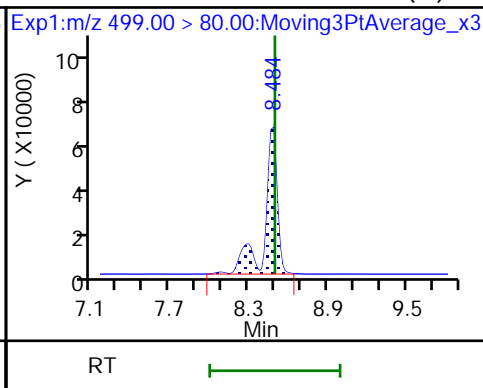
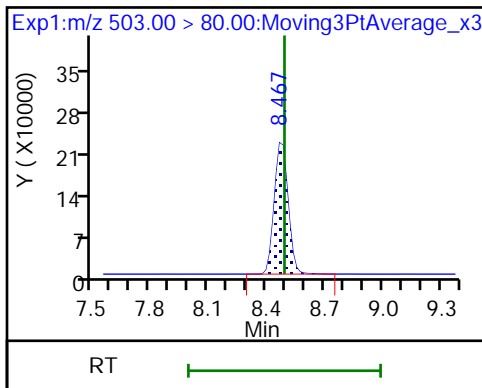
24 Perfluorooctanoic acid (M)



D 26 13C4 PFOS

27 Perfluorooctanesulfonic acid (M)

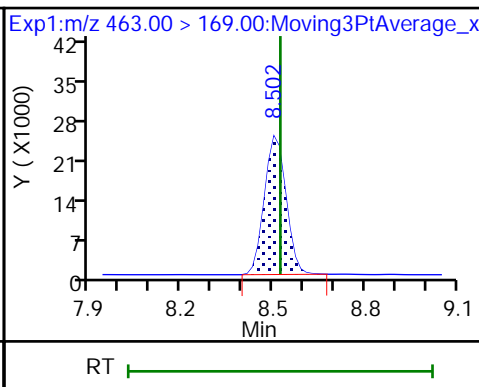
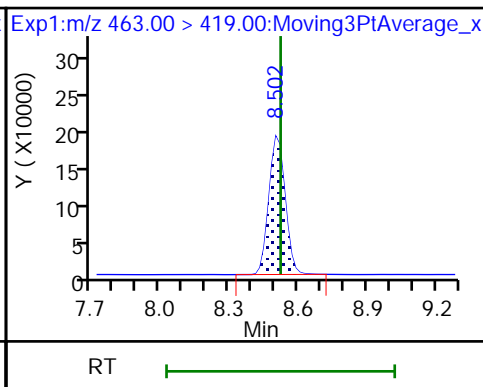
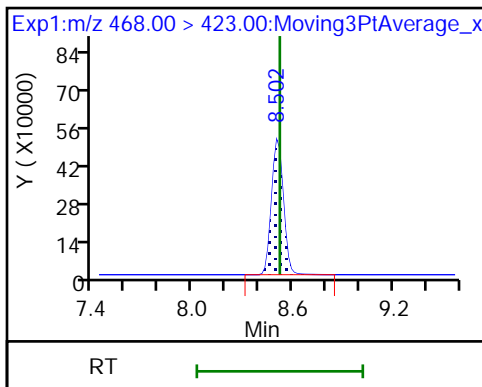
27 Perfluorooctanesulfonic acid



D 28 13C5 PFNA

29 Perfluorononanoic acid

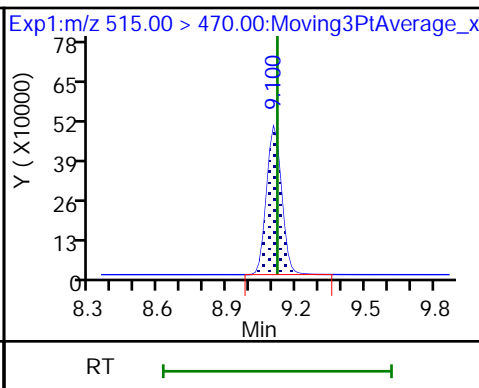
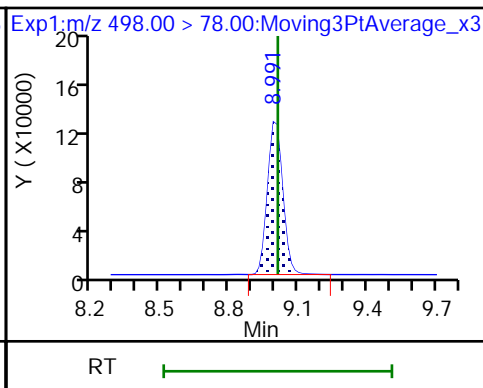
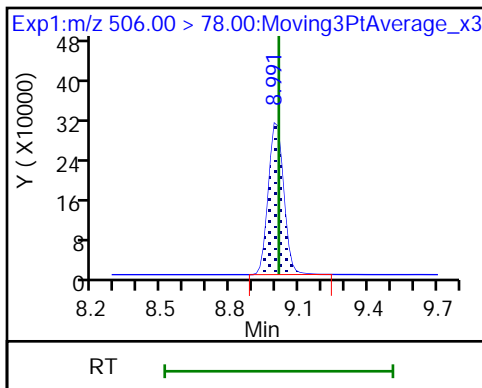
29 Perfluorononanoic acid



D 30 13C8 FOSA

31 Perfluorooctanesulfonamide

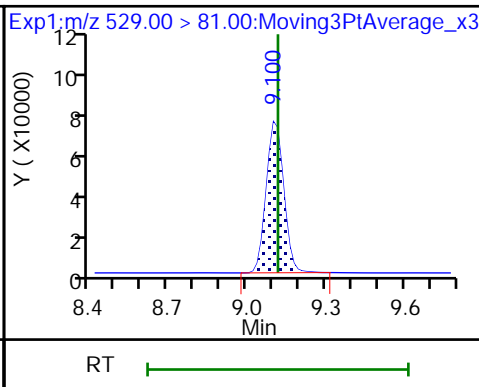
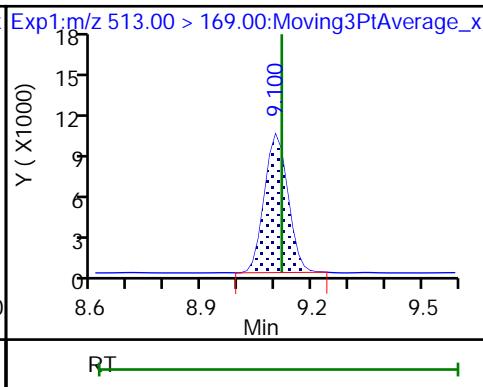
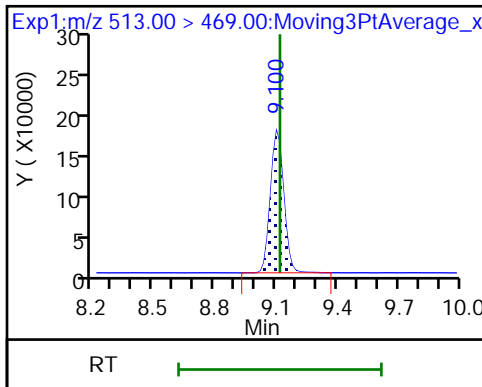
D 33 13C2 PFDA

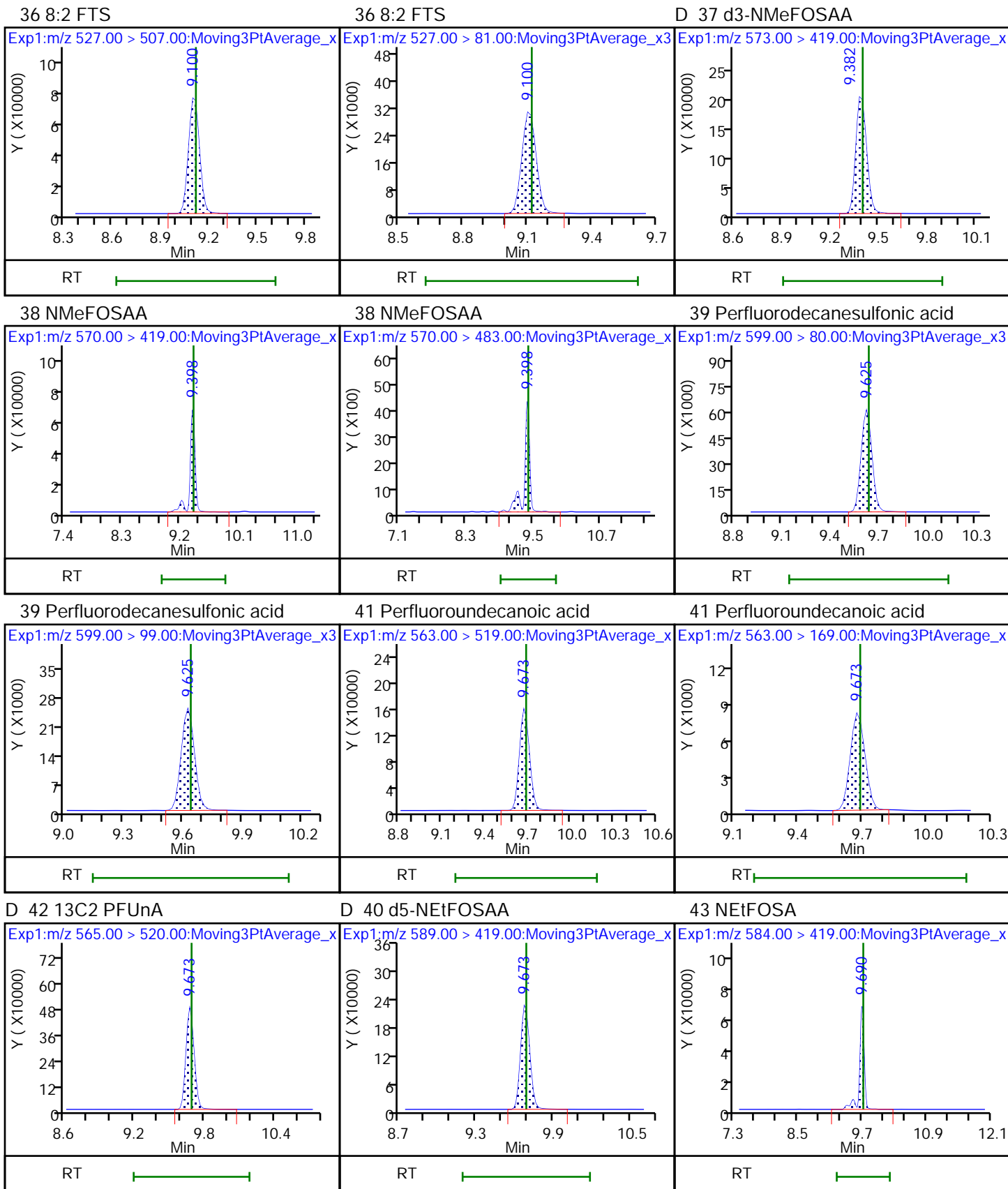


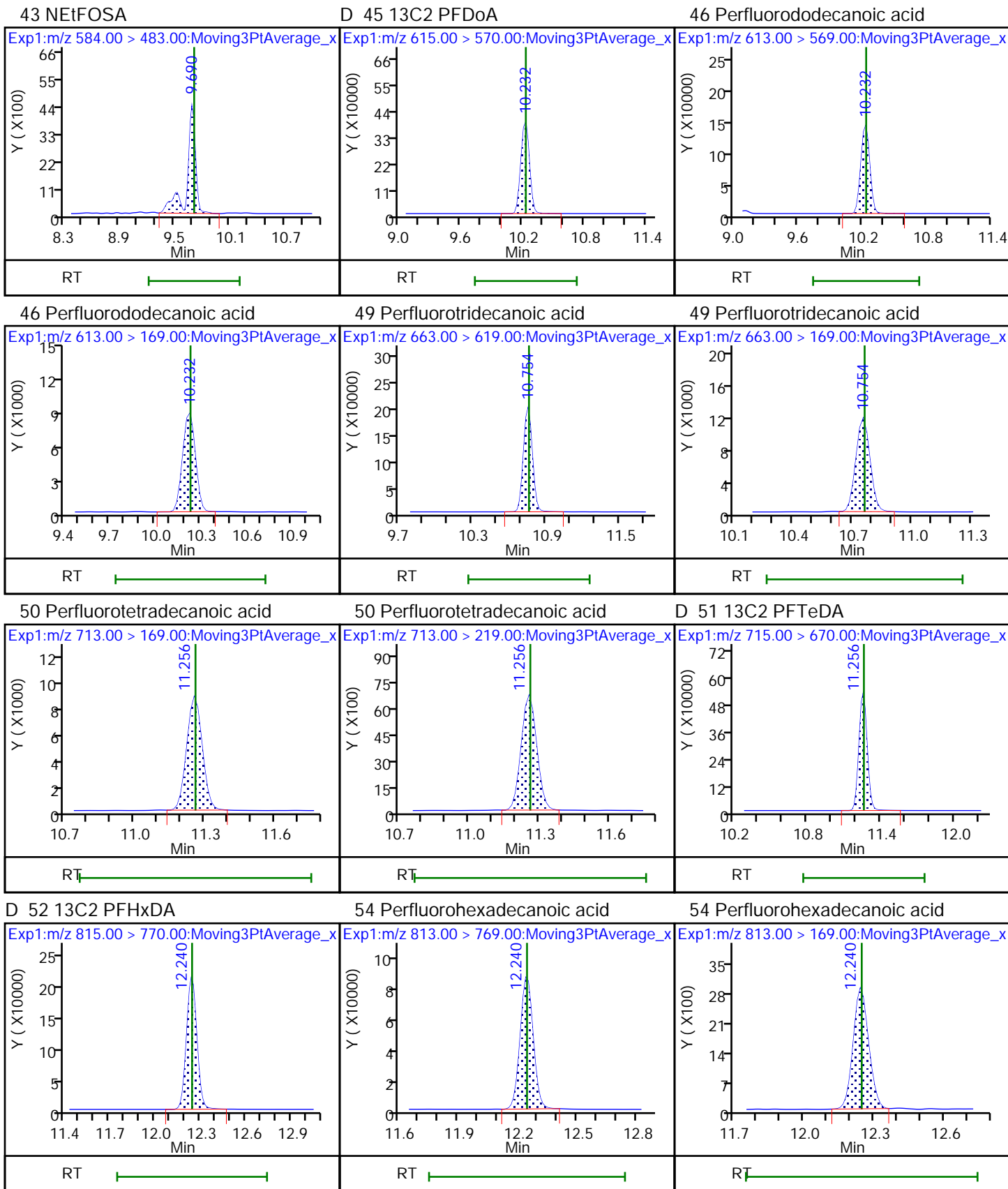
35 Perfluorodecanoic acid

35 Perfluorodecanoic acid

D 34 M2-8:2 FTS

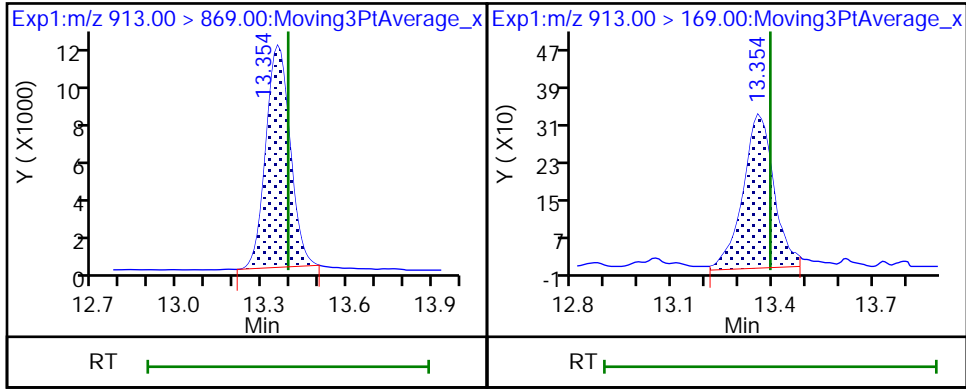






53 Perfluorooctadecanoic acid

53 Perfluorooctadecanoic acid (M)



Eurofins TestAmerica, Sacramento

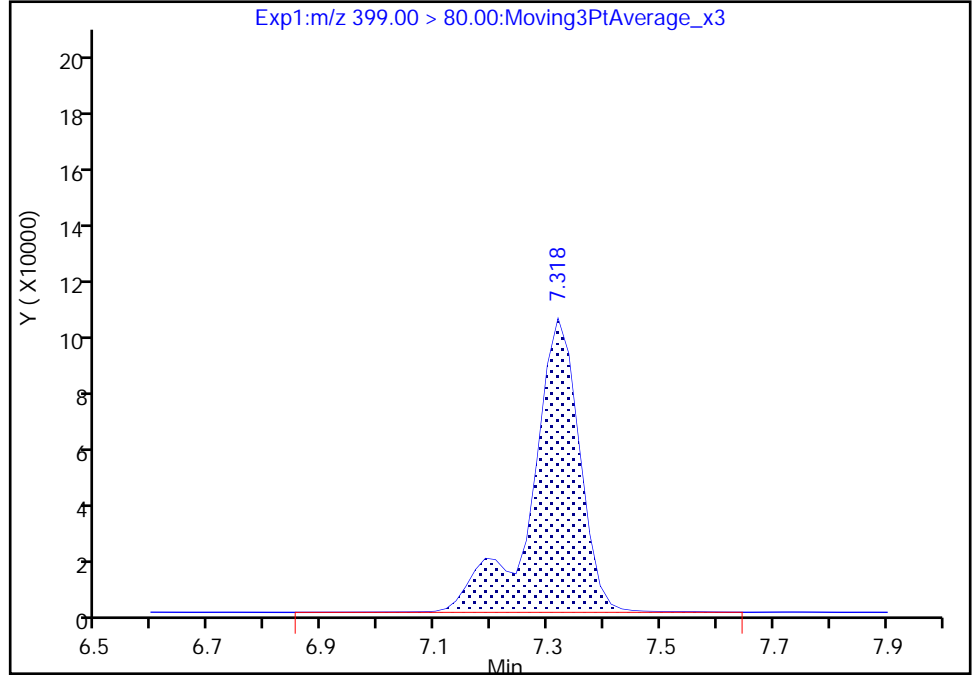
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_006.d
Injection Date: 09-Feb-2021 11:51:12 Instrument ID: A10
Lims ID: IC STD 5
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

16 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

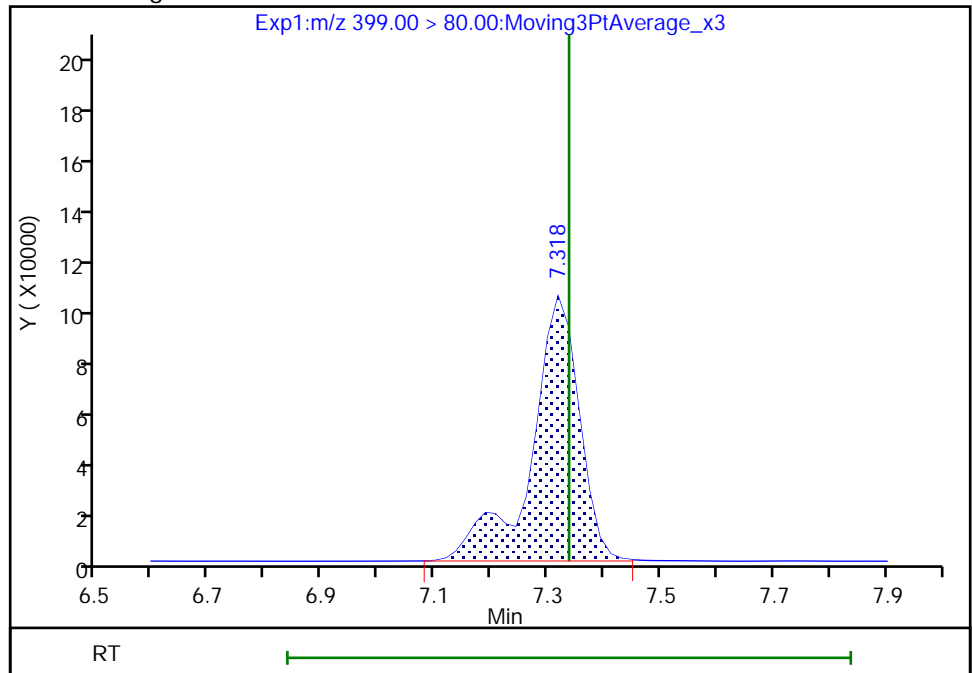
RT: 7.32
Area: 617849
Amount: 0.015821
Amount Units: ng/ml

Processing Integration Results



RT: 7.32
Area: 613544
Amount: 0.016145
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 12:13:26
Audit Action: Manually Integrated

Audit Reason: Baseline
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Eurofins TestAmerica, Sacramento

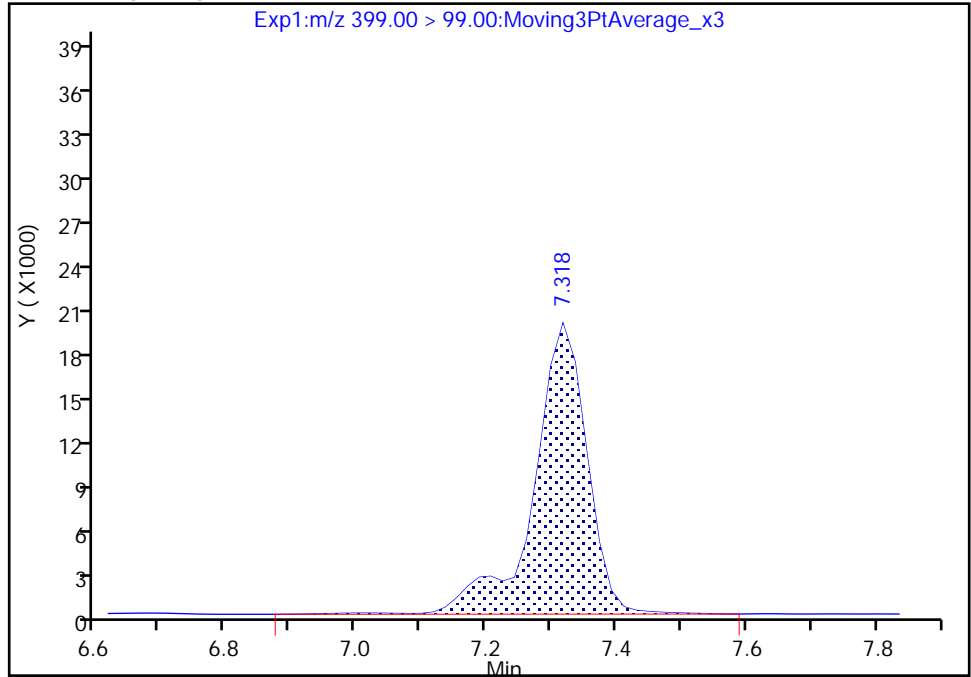
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Injection Date: 09-Feb-2021 11:51:12 Instrument ID: A10
Lims ID: IC STD 5
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm ID) Detector: EXP1

16 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

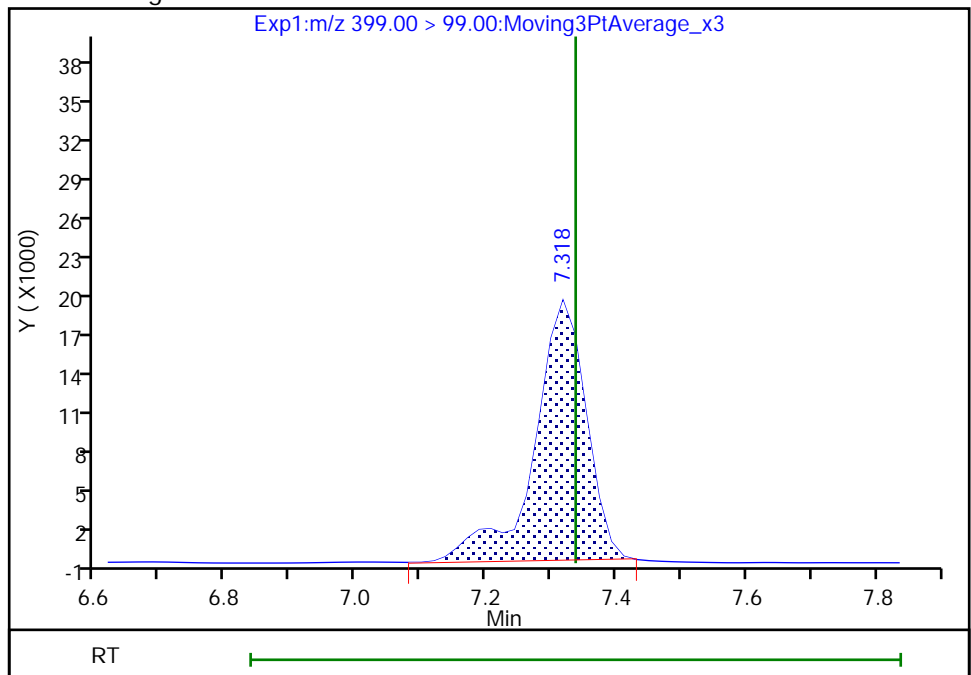
RT: 7.32
Area: 113757
Amount: 0.015821
Amount Units: ng/ml

Processing Integration Results



RT: 7.32
Area: 109461
Amount: 0.016145
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 12:13:31

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins TestAmerica, Sacramento

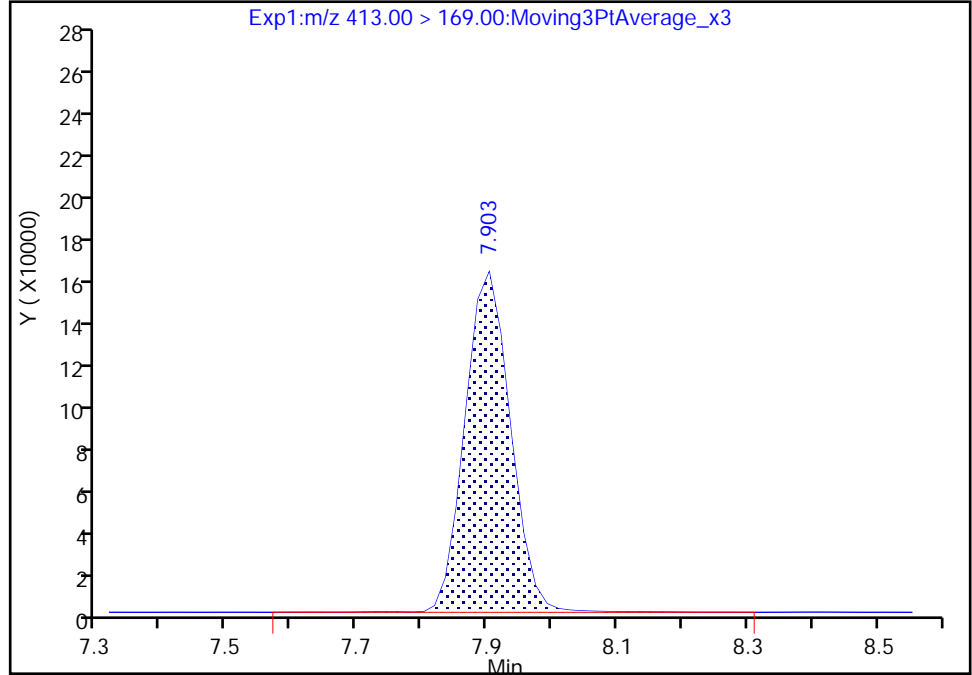
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_006.d
Injection Date: 09-Feb-2021 11:51:12 Instrument ID: A10
Lims ID: IC STD 5
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

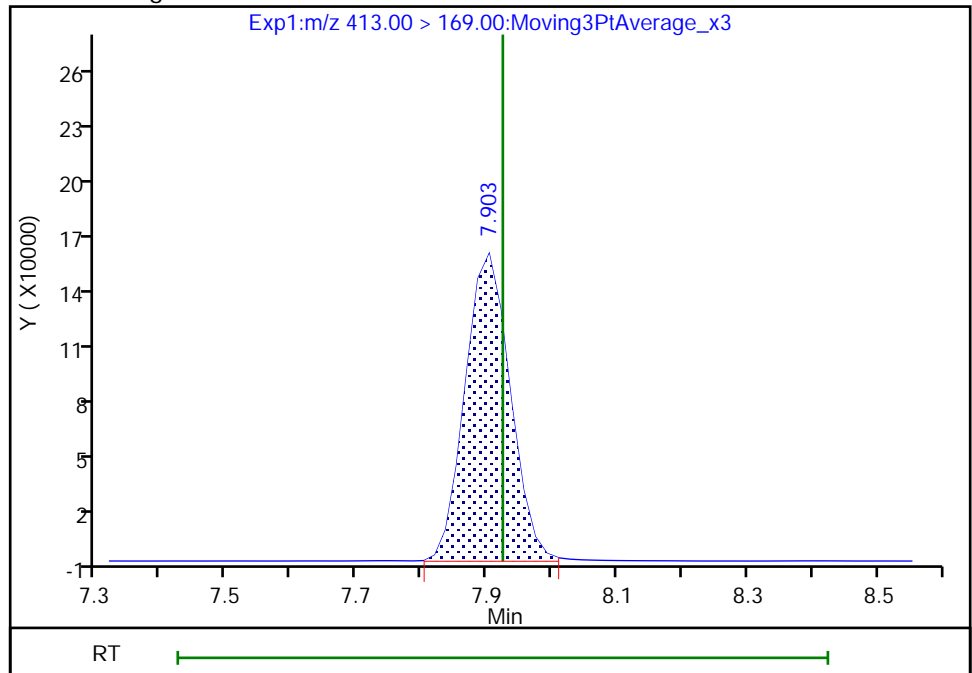
RT: 7.90
Area: 776365
Amount: 0.019035
Amount Units: ng/ml

Processing Integration Results



RT: 7.90
Area: 771752
Amount: 0.019119
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 12:13:41
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

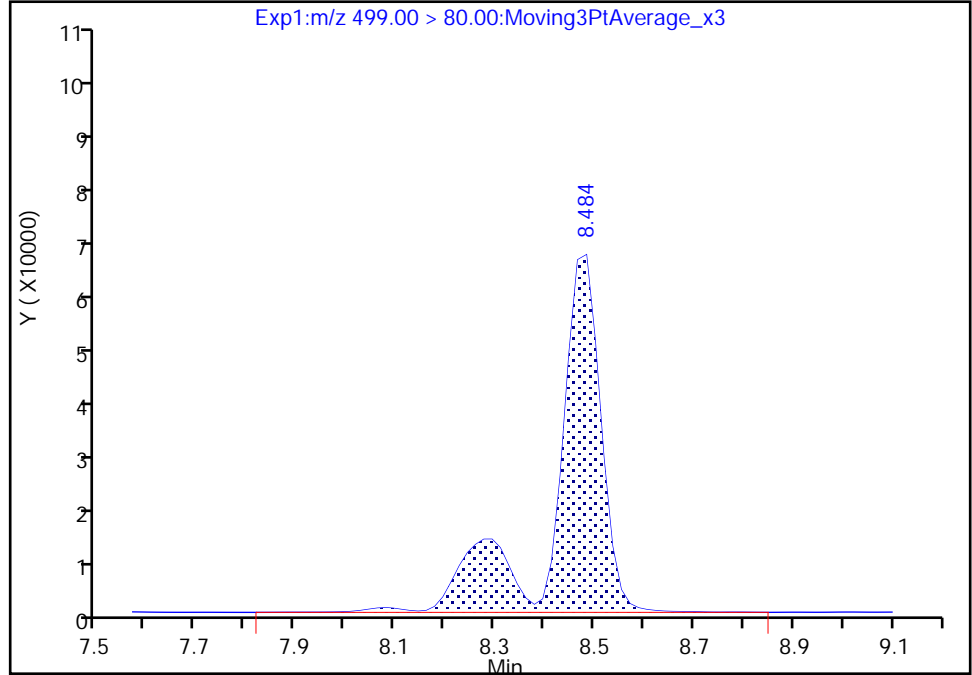
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_006.d
Injection Date: 09-Feb-2021 11:51:12 Instrument ID: A10
Lims ID: IC STD 5
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

27 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

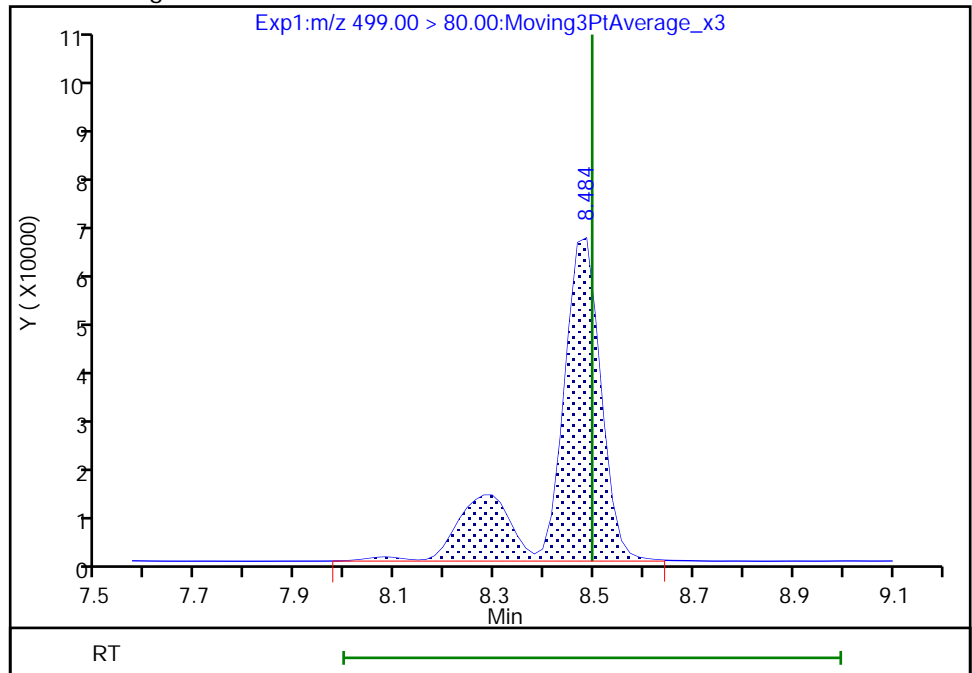
RT: 8.48
Area: 428591
Amount: 0.018213
Amount Units: ng/ml

Processing Integration Results



RT: 8.48
Area: 426407
Amount: 0.018147
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 12:13:49
Audit Action: Manually Integrated

Audit Reason: Baseline
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Eurofins TestAmerica, Sacramento

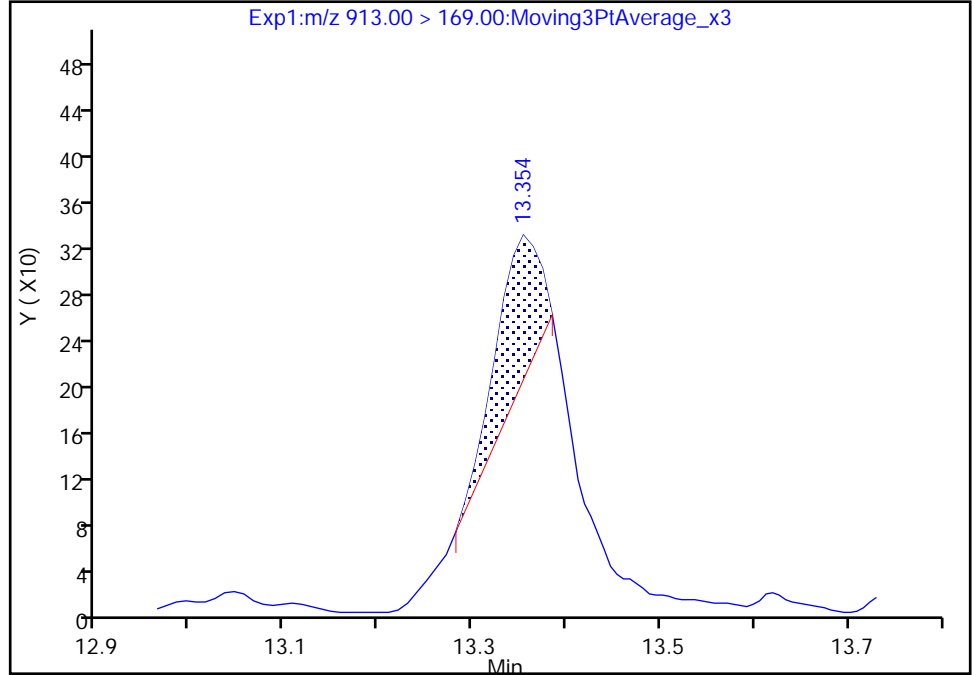
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_006.d
Injection Date: 09-Feb-2021 11:51:12 Instrument ID: A10
Lims ID: IC STD 5
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

53 Perfluorooctadecanoic acid, CAS: 16517-11-6

Signal: 2

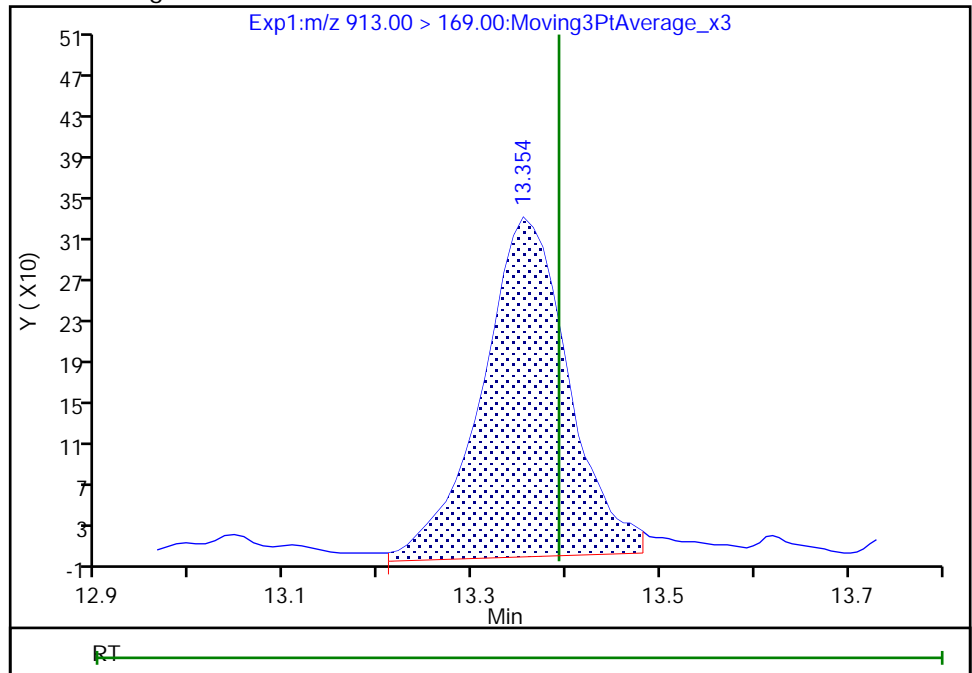
RT: 13.35
Area: 406
Amount: 0.018582
Amount Units: ng/ml

Processing Integration Results



RT: 13.35
Area: 2120
Amount: 0.016068
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 12:14:07
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_007.d
 Lims ID: IC STD 6
 Client ID:
 Sample Type: IC Calib Level: 6
 Inject. Date: 09-Feb-2021 12:09:38 ALS Bottle#: 7 Worklist Smp#: 7
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: IC STD 6 (31)
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Sublist: chrom-A10_In_Line_SPE*sub12

Method: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 09-Feb-2021 13:50:31 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1638

First Level Reviewer: vangmy Date: 09-Feb-2021 12:43:09

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-----------------|--------|--------|--------|----------|--------------|---------------|-------------------|------|-------|
| D 2 13C4 PFBA | 217.00 > 172.00 | 5.678 | 5.678 | 0.0 | 2641030 | 0.0450 | | 89.9 | 7318 | |
| 1 Perfluorobutanoic acid | 212.90 > 169.00 | 5.678 | 5.681 | -0.003 | 1.000 | 2330727 | 0.0495 | 99.0 | 285 | |
| D 4 13C5 PFPeA | 267.90 > 223.00 | 6.293 | 6.300 | -0.007 | | 2116171 | 0.0482 | 96.3 | 8737 | |
| 5 Perfluoropentanoic acid | 262.90 > 219.00 | 6.293 | 6.300 | -0.007 | 1.000 | 2205644 | 0.0482 | 96.3 | 813 | |
| D 3 13C3 PFBS | 301.90 > 80.00 | 6.363 | 6.364 | -0.001 | | 1825087 | 0.0448 | 96.3 | 7583 | |
| 6 Perfluorobutanesulfonic acid | 298.90 > 80.00 | 6.363 | 6.364 | -0.001 | 1.000 | 1808938 | 0.0440 | Target=1.49 | 99.5 | 6512 |
| | 298.90 > 99.00 | 6.363 | 6.364 | -0.001 | 1.000 | 1213260 | | 1.49(0.74-2.23) | 99.5 | 1765 |
| 8 4:2 FTS | 327.00 > 307.00 | 6.734 | 6.755 | -0.021 | 1.000 | 848696 | NC | Target=2.63 | | 9782 |
| | 327.00 > 81.00 | 6.734 | 6.755 | -0.021 | 1.000 | 292839 | | 2.90(1.32-3.95) | | 1239 |
| D 7 M2-4:2 FTS | 329.00 > 81.00 | 6.734 | 6.755 | -0.021 | | 300999 | NC | | | 897 |
| 10 Perfluorohexanoic acid | 313.00 > 269.00 | 6.804 | 6.808 | -0.004 | 1.000 | 2090817 | 0.0505 | Target=19.21 | 101 | 1587 |
| | 313.00 > 119.00 | 6.804 | 6.808 | -0.004 | 1.000 | 103962 | | 20.11(9.60-28.81) | 101 | 928 |
| D 9 13C2 PFHxA | 315.00 > 270.00 | 6.804 | 6.808 | -0.004 | | 2086409 | 0.0440 | | 87.9 | 10754 |
| 11 Perfluoropentanesulfonic acid | 349.00 > 80.00 | 6.804 | 6.826 | -0.022 | 0.930 | 1532663 | NC | Target=1.46 | | 4643 |
| | 349.00 > 99.00 | 6.804 | 6.826 | -0.022 | 0.930 | 1053988 | | 1.45(0.73-2.19) | | 3301 |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-------|--------|--------|--------|----------|--------------|------------------|------|-------|-------|
| D 12 13C3 HFPO-DA | | | | | | | | | | |
| 332.10 > 287.00 | 6.950 | 6.961 | -0.011 | | 104571 | NC | | | 960 | |
| 13 HPFO-DA | | | | | | | | | | |
| 329.10 > 285.00 | 6.950 | 6.964 | -0.014 | 1.000 | 327696 | NC | | | 244 | |
| 14 9CIFOS | | | | | | | | | | |
| 531.00 > 351.00 | 7.120 | 7.185 | -0.065 | 0.840 | 41 | NC | | | 0.2 | M |
| D 15 18O2 PFHxS | | | | | | | | | | |
| 403.00 > 84.00 | 7.319 | 7.337 | -0.018 | | 1382621 | 0.0421 | | 88.9 | 23240 | |
| 16 Perfluorohexanesulfonic acid | | | | | | | | | | |
| 399.00 > 80.00 | 7.319 | 7.335 | -0.016 | 1.000 | 1408978 | 0.0423 | Target=5.70 | 93.0 | 5623 | |
| 399.00 > 99.00 | 7.319 | 7.335 | -0.016 | 1.000 | 257928 | | 5.46(2.85-8.55) | 93.0 | 1980 | |
| 18 Perfluoroheptanoic acid | | | | | | | | | | |
| 363.00 > 319.00 | 7.319 | 7.342 | -0.023 | 1.000 | 1889519 | 0.0467 | Target=9.14 | 93.3 | 1232 | |
| 363.00 > 169.00 | 7.319 | 7.342 | -0.023 | 1.000 | 215590 | | 8.76(4.57-13.71) | 93.3 | 2843 | |
| D 17 13C4 PFHpA | | | | | | | | | | |
| 367.00 > 322.00 | 7.319 | 7.342 | -0.023 | | 2074927 | 0.0415 | | 82.9 | 11354 | |
| 19 DONA | | | | | | | | | | |
| 377.00 > 251.00 | 7.374 | 7.397 | -0.023 | 0.870 | 8560345 | NC | Target=2.71 | | 18999 | |
| 377.00 > 85.00 | 7.374 | 7.397 | -0.023 | 0.870 | 3054172 | | 2.80(1.36-4.07) | | 10846 | |
| 23 6:2 FTS | | | | | | | | | | |
| 427.00 > 407.00 | 7.870 | 7.886 | -0.016 | 1.000 | 988085 | 0.0439 | Target=2.56 | 92.6 | 9262 | |
| 427.00 > 81.00 | 7.870 | 7.886 | -0.016 | 1.000 | 354244 | | 2.79(1.28-3.83) | 92.6 | 1531 | |
| D 22 M2-6:2 FTS | | | | | | | | | | |
| 429.00 > 81.00 | 7.870 | 7.886 | -0.016 | | 356661 | 0.0434 | | 91.4 | 1845 | |
| 21 Perfluoroheptanesulfonic acid | | | | | | | | | | |
| 449.00 > 80.00 | 7.870 | 7.900 | -0.030 | 0.929 | 1297164 | 0.0500 | Target=6.98 | 105 | 6264 | |
| 449.00 > 99.00 | 7.870 | 7.900 | -0.030 | 0.929 | 173392 | | 7.48(3.49-10.47) | 105 | 1734 | |
| D 25 13C4 PFOA | | | | | | | | | | |
| 417.00 > 372.00 | 7.886 | 7.917 | -0.031 | | 3041035 | 0.0455 | | 90.9 | 12955 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | |
| 413.00 > 369.00 | 7.904 | 7.922 | -0.018 | 1.002 | 2717482 | 0.0491 | Target=1.58 | 98.2 | 966 | M |
| 413.00 > 169.00 | 7.886 | 7.922 | -0.036 | 1.000 | 1728083 | | 1.57(0.79-2.37) | 98.2 | 3076 | M |
| D 26 13C4 PFOS | | | | | | | | | | |
| 503.00 > 80.00 | 8.473 | 8.492 | -0.019 | | 972863 | 0.0428 | | 89.5 | 3523 | |
| 27 Perfluorooctanesulfonic acid | | | | | | | | | | |
| 499.00 > 80.00 | 8.473 | 8.494 | -0.021 | 1.000 | 1002442 | 0.0483 | Target=3.45 | 104 | 2561 | M |
| 499.00 > 99.00 | 8.473 | 8.494 | -0.021 | 1.000 | 281794 | | 3.56(1.73-5.18) | 104 | 2174 | |
| D 28 13C5 PFNA | | | | | | | | | | |
| 468.00 > 423.00 | 8.491 | 8.520 | -0.029 | | 2282873 | 0.0459 | | 91.9 | 14674 | |
| 29 Perfluorononanoic acid | | | | | | | | | | |
| 463.00 > 419.00 | 8.491 | 8.523 | -0.032 | 1.000 | 2121433 | 0.0489 | Target=7.90 | 97.8 | 2037 | |
| 463.00 > 169.00 | 8.491 | 8.523 | -0.032 | 1.000 | 281558 | | 7.53(3.95-11.85) | 97.8 | 3130 | |
| D 30 13C8 FOSA | | | | | | | | | | |
| 506.00 > 78.00 | 8.991 | 9.011 | -0.021 | | 1288937 | 0.0408 | | 81.7 | 7625 | |
| 31 Perfluorooctanesulfonamide | | | | | | | | | | |
| 498.00 > 78.00 | 8.991 | 9.011 | -0.021 | 1.000 | 1306665 | 0.0500 | | 100 | 4581 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| 32 Perfluorononanesulfonic acid | | | | | | | | | | |
| 549.00 > 80.00 | 9.053 | 9.080 | -0.027 | 1.068 | 860931 | NC | Target=6.35 | | 7565 | |
| 549.00 > 99.00 | 9.053 | 9.080 | -0.027 | 1.068 | 145717 | | 5.91(3.17-9.52) | | 1280 | |
| D 33 13C2 PFDA | | | | | | | | | | |
| 515.00 > 470.00 | 9.084 | 9.117 | -0.033 | | 2115835 | 0.0448 | | 89.6 | 12911 | |
| 35 Perfluorodecanoic acid | | | | | | | | | | |
| 513.00 > 469.00 | 9.084 | 9.117 | -0.033 | 1.000 | 1821958 | 0.0518 | Target=16.15 | 104 | 2977 | |
| 513.00 > 169.00 | 9.084 | 9.117 | -0.033 | 1.000 | 112120 | | 16.25(8.08-24.23) | 104 | 868 | |
| D 34 M2-8:2 FTS | | | | | | | | | | |
| 529.00 > 81.00 | 9.084 | 9.117 | -0.033 | | 302113 | 0.0394 | | 82.4 | 2426 | |
| 36 8:2 FTS | | | | | | | | | | |
| 527.00 > 507.00 | 9.100 | 9.119 | -0.019 | 1.002 | 776414 | 0.0521 | Target=2.35 | 109 | 8174 | |
| 527.00 > 81.00 | 9.084 | 9.119 | -0.035 | 1.000 | 340058 | | 2.28(1.17-3.52) | 109 | 2592 | |
| D 37 d3-NMeFOSAA | | | | | | | | | | |
| 573.00 > 419.00 | 9.368 | 9.401 | -0.033 | | 904172 | 0.0470 | | 94.0 | 4578 | |
| 38 NMeFOSAA | | | | | | | | | | |
| 570.00 > 419.00 | 9.381 | 9.411 | -0.030 | 1.001 | 820481 | 0.0531 | Target=12.28 | 106 | 3072 | |
| 570.00 > 483.00 | 9.381 | 9.411 | -0.030 | 1.001 | 60423 | | 13.58(6.14-18.41) | 106 | 1026 | |
| 39 Perfluorodecanesulfonic acid | | | | | | | | | | |
| 599.00 > 80.00 | 9.604 | 9.640 | -0.036 | 1.134 | 653713 | 0.0482 | Target=2.51 | 100 | 7877 | |
| 599.00 > 99.00 | 9.604 | 9.640 | -0.036 | 1.134 | 261314 | | 2.50(1.26-3.77) | 100 | 5675 | |
| D 40 d5-NEtFOSAA | | | | | | | | | | |
| 589.00 > 419.00 | 9.653 | 9.689 | -0.036 | | 960174 | 0.0440 | | 88.0 | 3178 | |
| D 42 13C2 PFUnA | | | | | | | | | | |
| 565.00 > 520.00 | 9.653 | 9.689 | -0.036 | | 1885944 | 0.0411 | | 82.2 | 12329 | |
| 41 Perfluoroundecanoic acid | | | | | | | | | | |
| 563.00 > 519.00 | 9.653 | 9.689 | -0.036 | 1.000 | 1788327 | 0.0538 | Target=20.47 | 108 | 3437 | |
| 563.00 > 169.00 | 9.653 | 9.689 | -0.036 | 1.000 | 85855 | | 20.83(10.24-30.71) | 108 | 1651 | |
| 43 NEtFOSA | | | | | | | | | | |
| 584.00 > 419.00 | 9.669 | 9.707 | -0.038 | 1.002 | 874586 | 0.0523 | Target=13.05 | 105 | 10281 | |
| 584.00 > 483.00 | 9.669 | 9.707 | -0.038 | 1.002 | 54063 | | 16.18(6.52-19.57) | 105 | 72.0 | |
| 44 11C1FOS | | | | | | | | | | |
| 631.00 > 451.00 | 9.893 | 9.929 | -0.036 | 1.168 | 4658587 | NC | | | 24124 | |
| D 45 13C2 PFDoA | | | | | | | | | | |
| 615.00 > 570.00 | 10.207 | 10.232 | -0.026 | | 2065069 | 0.0429 | | 85.8 | 9587 | |
| 46 Perfluorododecanoic acid | | | | | | | | | | |
| 613.00 > 569.00 | 10.207 | 10.235 | -0.029 | 1.000 | 1879997 | 0.0514 | Target=17.11 | 103 | 1188 | |
| 613.00 > 169.00 | 10.207 | 10.235 | -0.029 | 1.000 | 116799 | | 16.10(8.55-25.66) | 103 | 2013 | |
| 47 10:2 FTS | | | | | | | | | | |
| 627.00 > 607.00 | 10.229 | 10.264 | -0.035 | 1.126 | 1125301 | NC | Target=32.58 | | 9249 | |
| 627.00 > 81.00 | 10.229 | 10.264 | -0.035 | 1.126 | 33895 | | 33.20(16.29-48.87) | | 985 | |
| 48 PFDoS | | | | | | | | | | |
| 699.00 > 80.00 | 10.662 | 10.690 | -0.028 | 1.258 | 263412 | NC | Target=0.47 | | 3222 | |
| 699.00 > 99.00 | 10.662 | 10.690 | -0.028 | 1.258 | 551097 | | 0.48(0.24-0.71) | | 4830 | |
| 49 Perfluorotridecanoic acid | | | | | | | | | | |
| 663.00 > 619.00 | 10.733 | 10.761 | -0.028 | 1.052 | 2370066 | 0.0480 | Target=18.64 | 96.0 | 1105 | |
| 663.00 > 169.00 | 10.715 | 10.761 | -0.046 | 1.050 | 128524 | | 18.44(9.32-27.96) | 96.0 | 2068 | |

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| 50 Perfluorotetradecanoic acid | | | | | | | | | | |
| 713.00 > 169.00 | 11.231 | 11.262 | -0.031 | 1.000 | 84301 | 0.0494 | Target=1.23 | 98.7 | 1778 | |
| 713.00 > 219.00 | 11.231 | 11.262 | -0.031 | 1.000 | 70956 | | 1.19(0.62-1.85) | 98.7 | 1661 | |
| D 51 13C2 PFTeDA | | | | | | | | | | |
| 715.00 > 670.00 | 11.231 | 11.262 | -0.031 | | 2070947 | 0.0368 | | 73.6 | 10748 | |
| D 52 13C2 PFHxDA | | | | | | | | | | |
| 815.00 > 770.00 | 12.212 | 12.245 | -0.033 | | 981646 | 0.0302 | | 60.4 | 5369 | |
| 54 Perfluorohexadecanoic acid | | | | | | | | | | |
| 813.00 > 769.00 | 12.212 | 12.247 | -0.035 | 1.000 | 866625 | 0.0441 | Target=29.80 | 88.2 | 665 | |
| 813.00 > 169.00 | 12.212 | 12.247 | -0.035 | 1.000 | 28920 | | 29.97(14.90-44.69) | 88.2 | 790 | |
| 53 Perfluorooctadecanoic acid | | | | | | | | | | |
| 913.00 > 869.00 | 13.319 | 13.380 | -0.061 | 1.091 | 265483 | 0.0637 | Target=33.62 | 127 | 309 | |
| 913.00 > 169.00 | 13.319 | 13.380 | -0.061 | 1.091 | 6426 | | 41.31(16.81-50.42) | 127 | 116 | |

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

Reagents:

LCPFC-LL-L6_00031

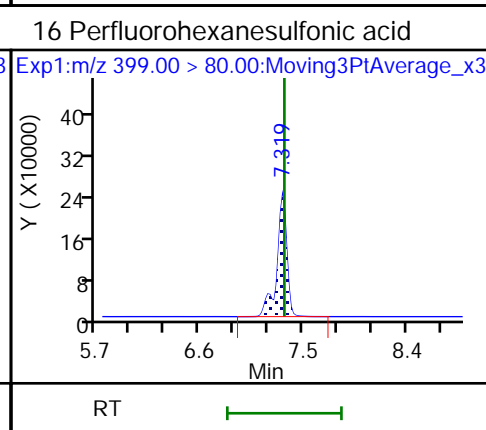
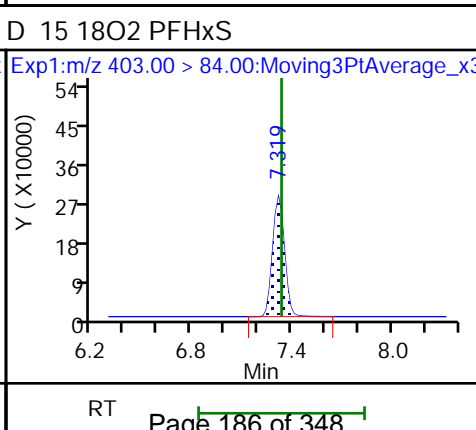
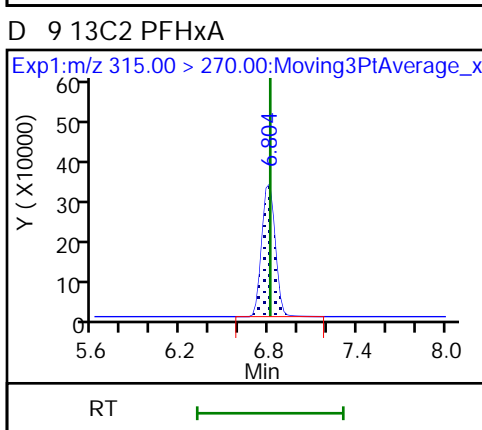
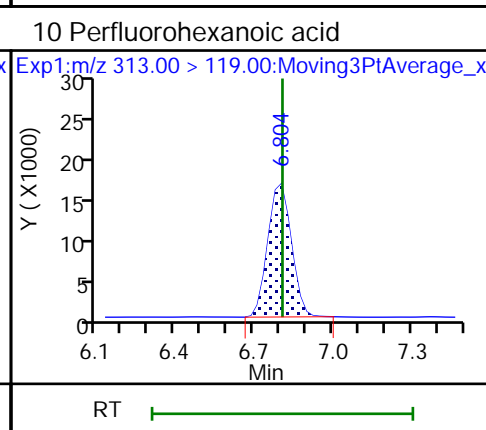
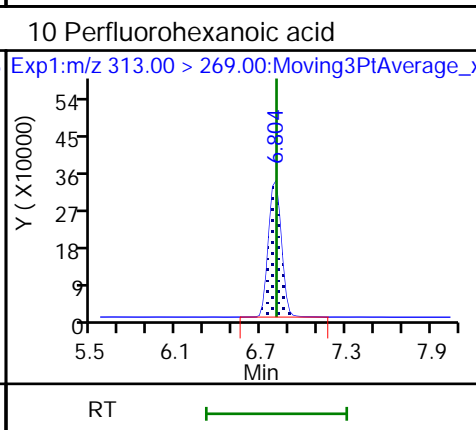
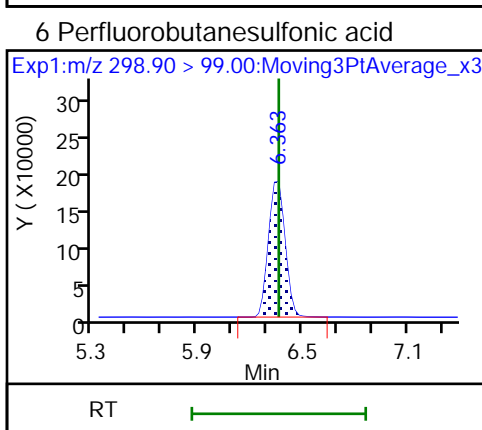
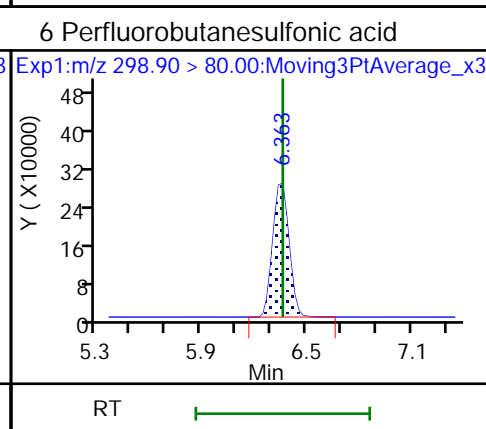
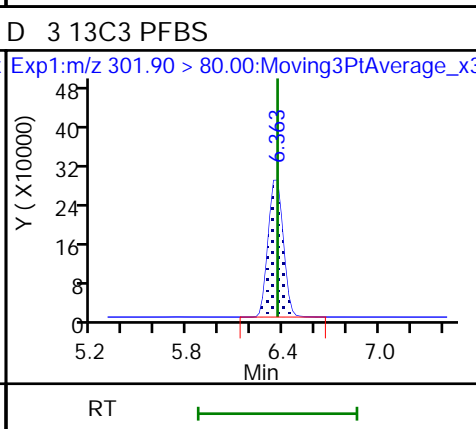
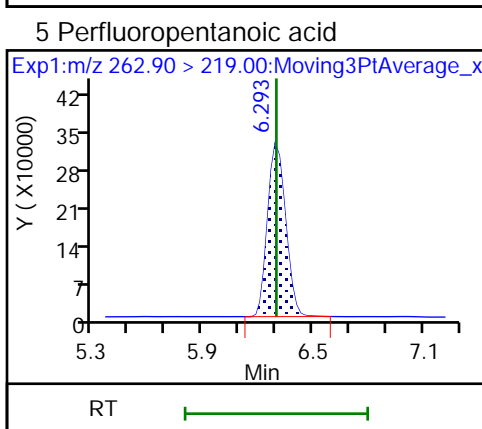
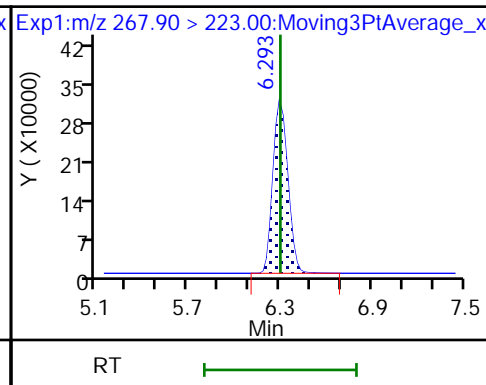
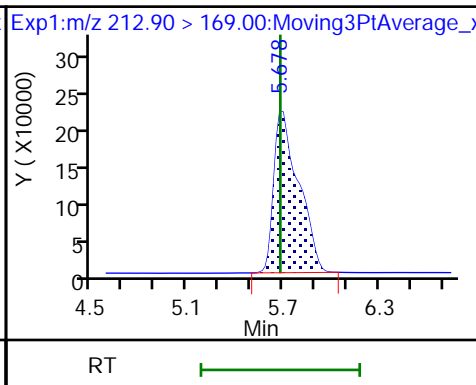
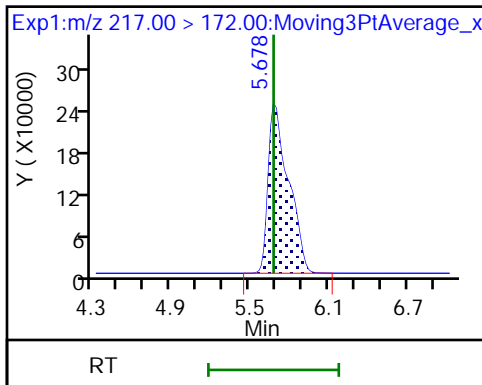
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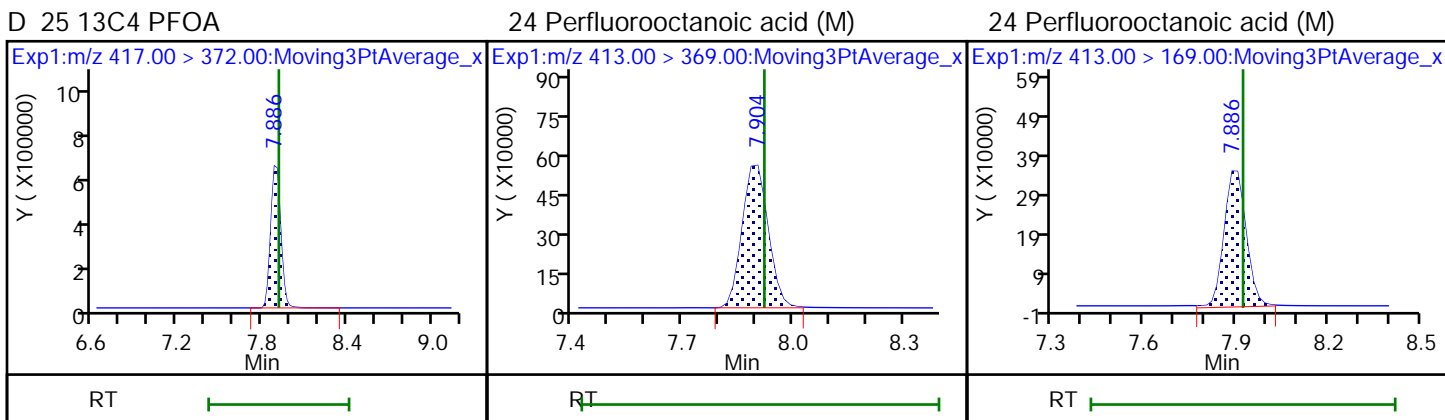
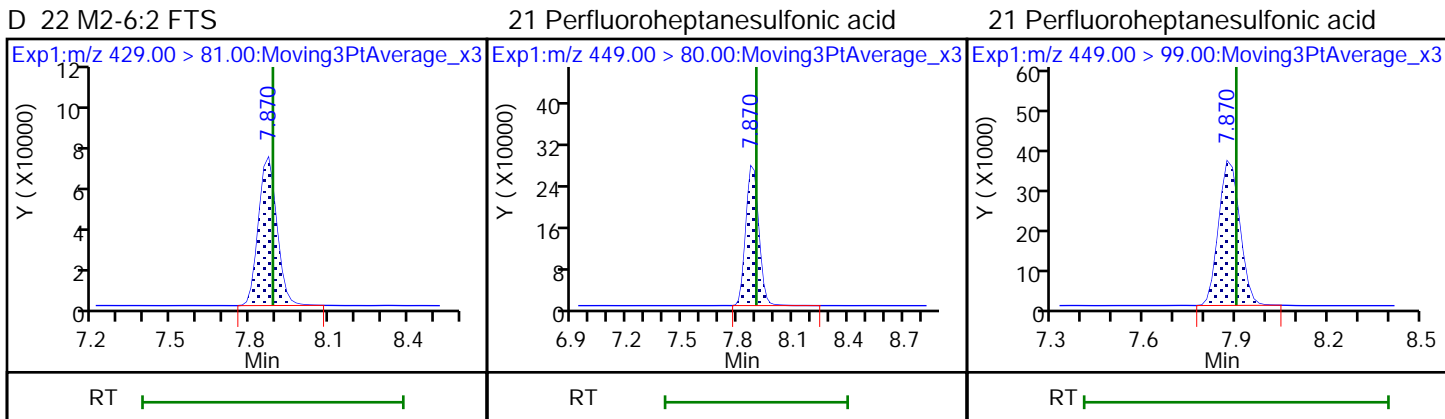
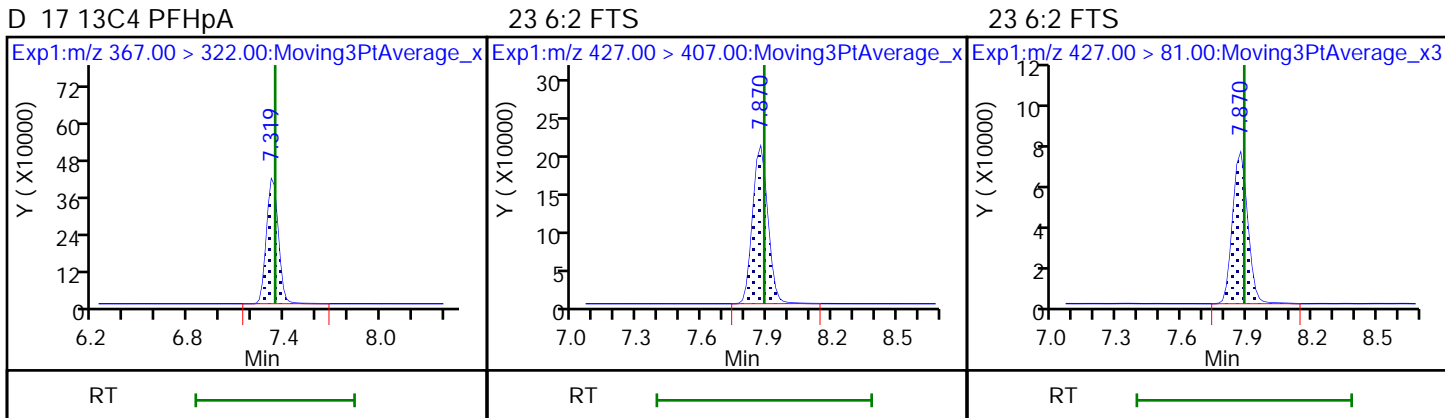
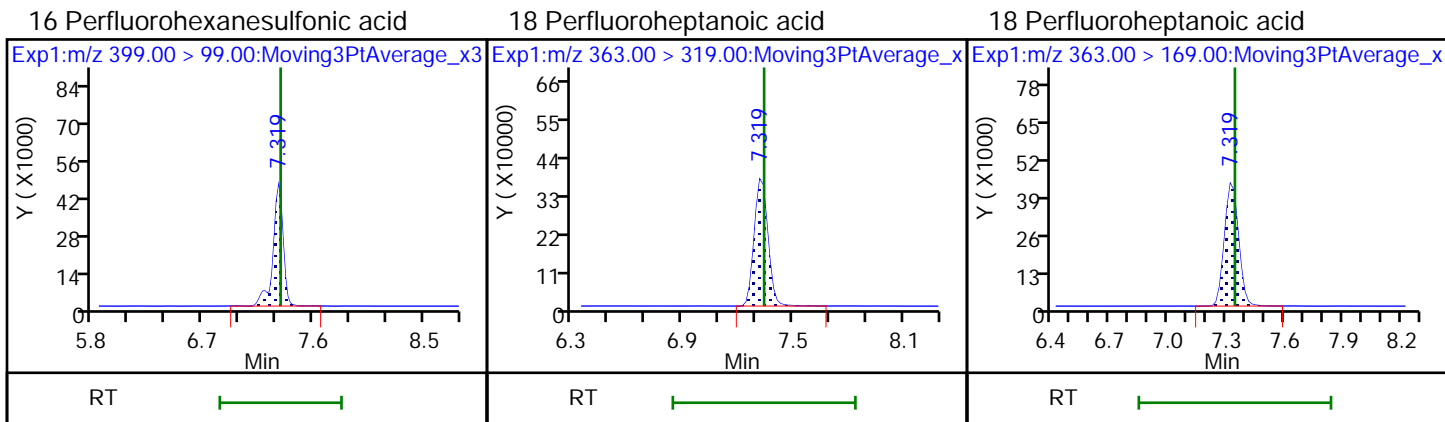
Units: mL

D 2 13C4 PFBA

1 Perfluorobutanoic acid

D 4 13C5 PFPeA

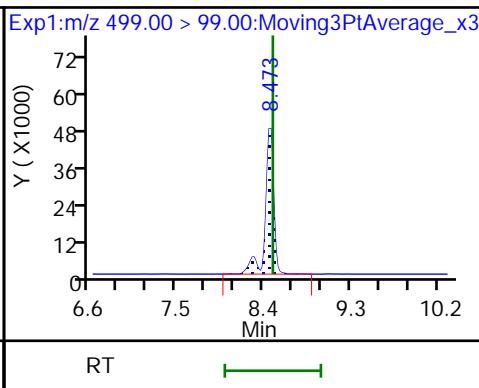
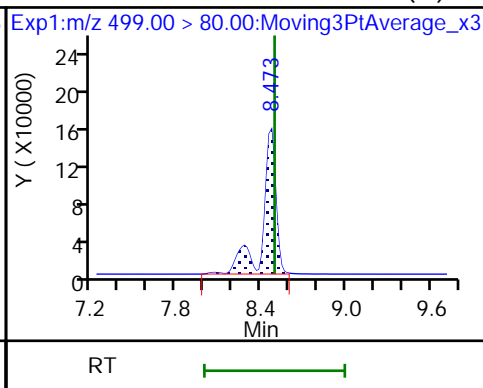
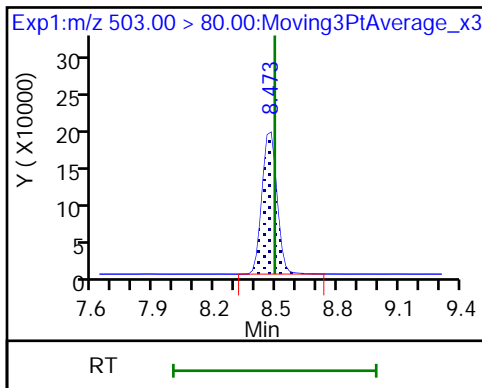




D 26 13C4 PFOS

27 Perfluorooctanesulfonic acid (M)

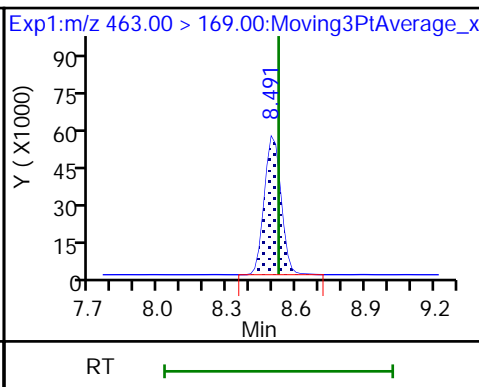
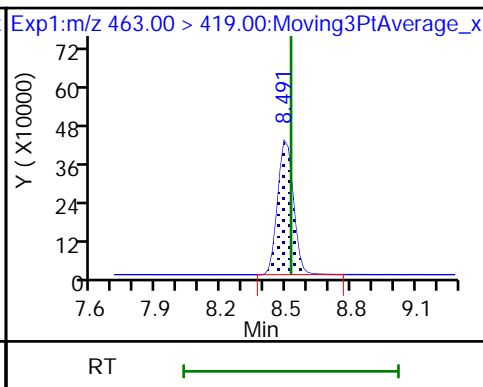
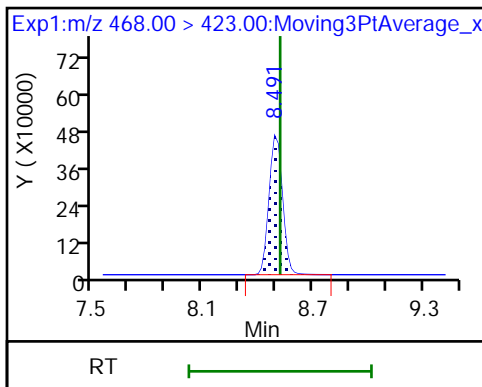
27 Perfluorooctanesulfonic acid



D 28 13C5 PFNA

29 Perfluorononanoic acid

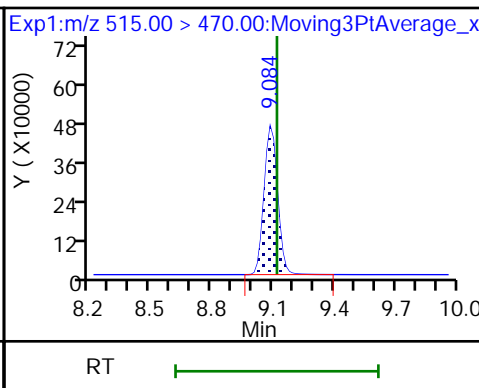
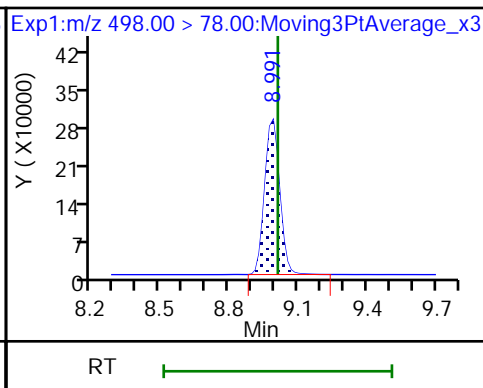
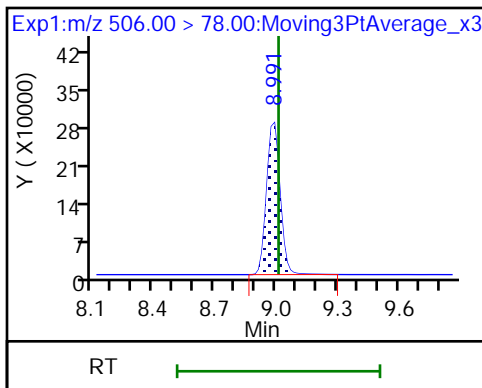
29 Perfluorononanoic acid



D 30 13C8 FOSA

31 Perfluorooctanesulfonamide

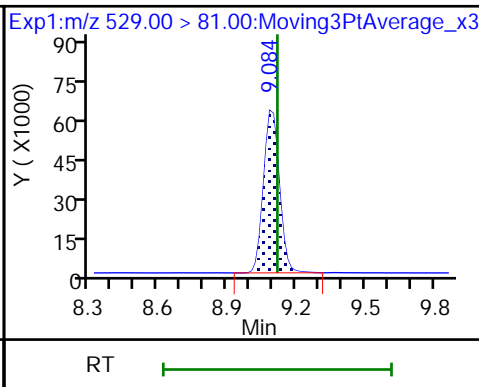
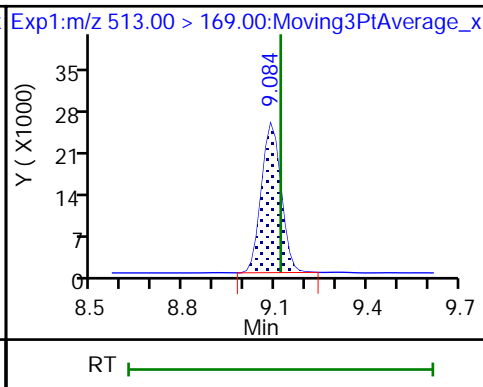
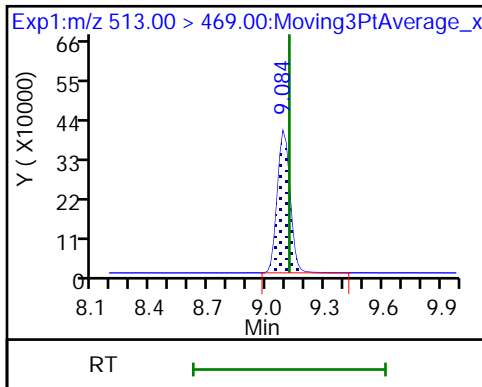
D 33 13C2 PFDA

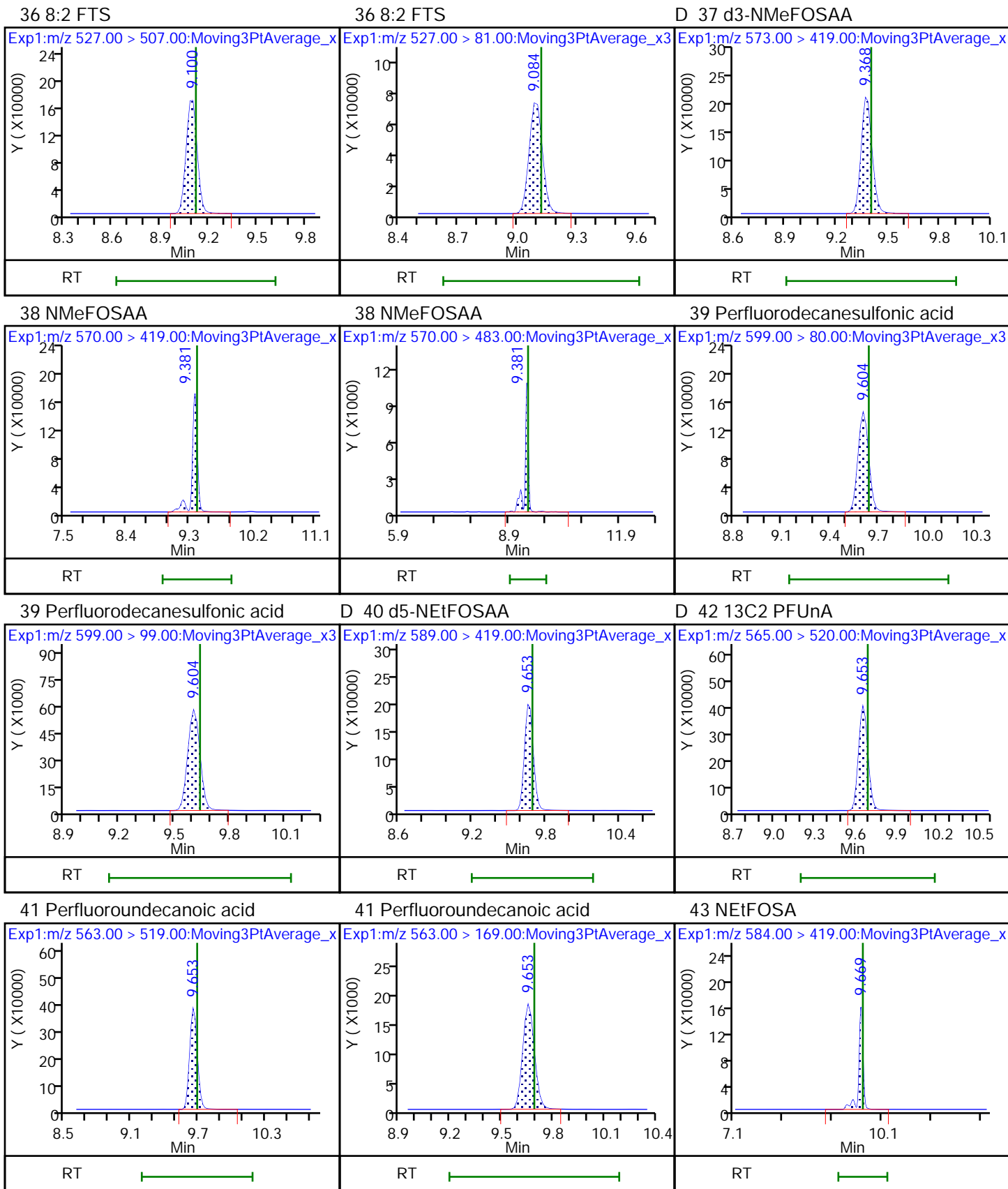


35 Perfluorodecanoic acid

35 Perfluorodecanoic acid

D 34 M2-8:2 FTS

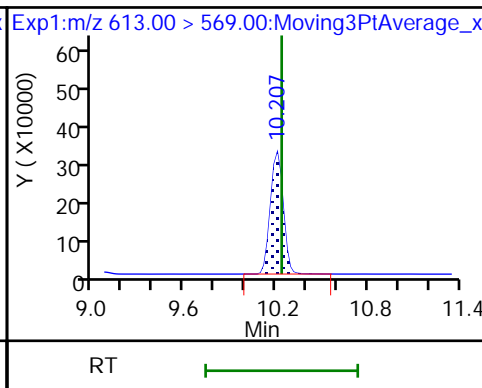
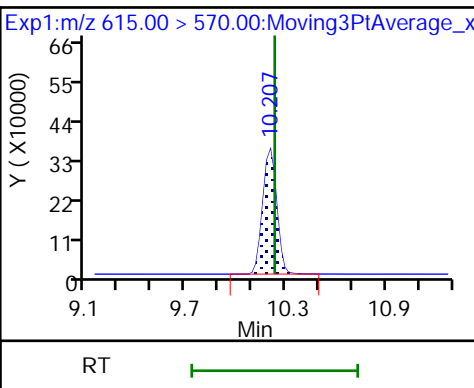
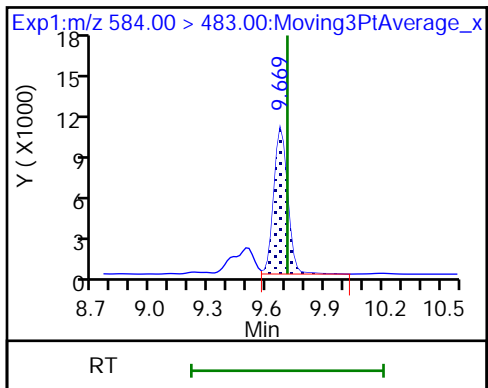




43 NEtFOSA

D 45 13C2 PFDaA

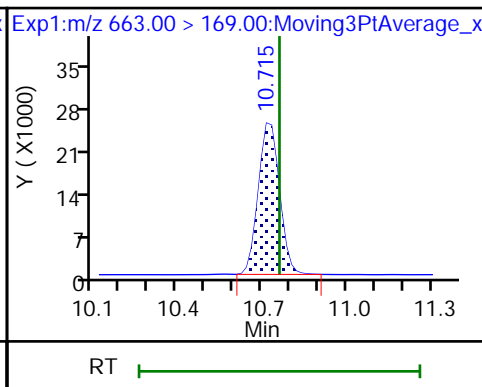
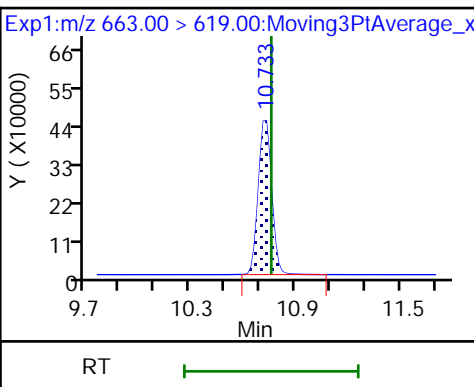
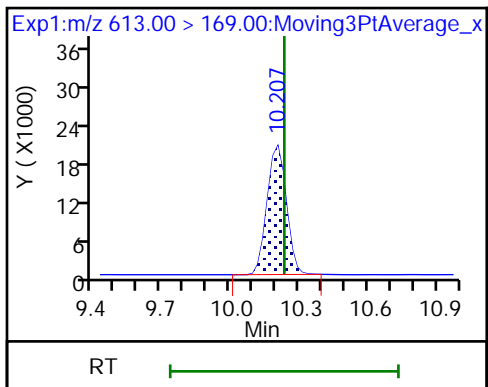
46 Perfluorododecanoic acid



46 Perfluorododecanoic acid

49 Perfluorotridecanoic acid

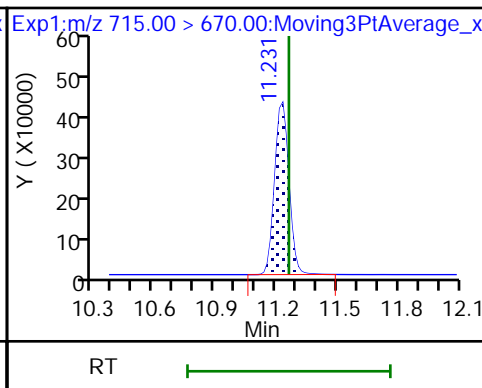
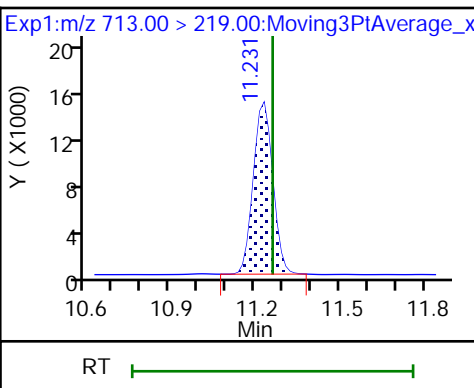
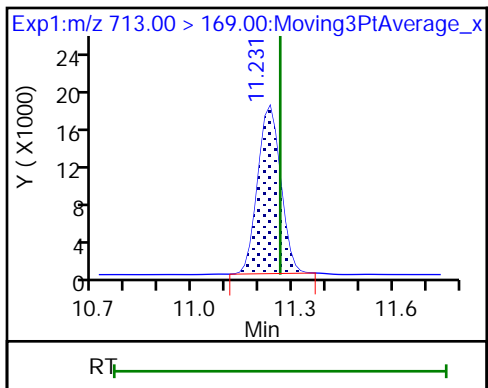
49 Perfluorotridecanoic acid



50 Perfluorotetradecanoic acid

50 Perfluorotetradecanoic acid

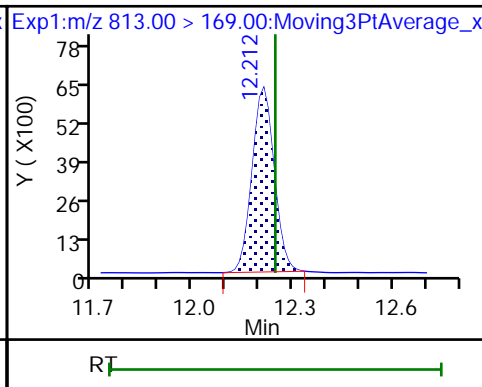
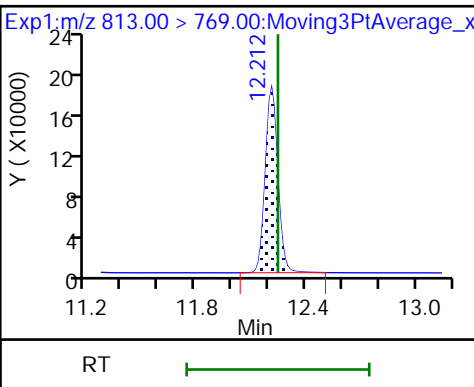
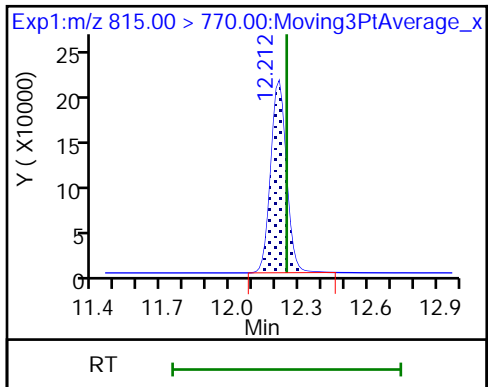
D 51 13C2 PFTeDA



D 52 13C2 PFHxDA

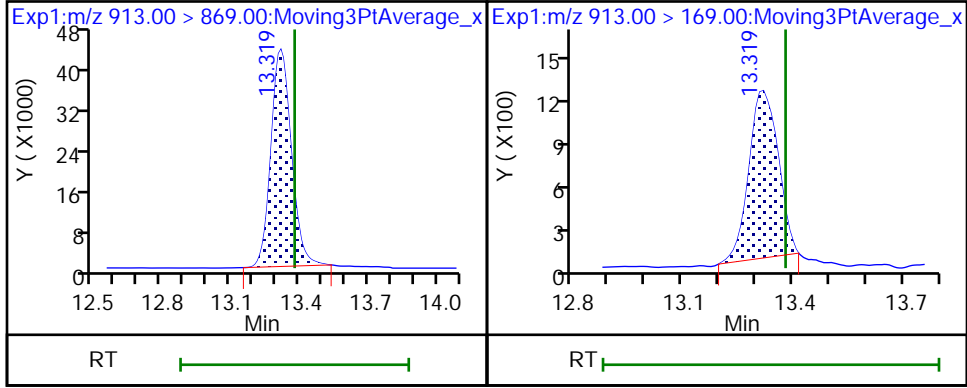
54 Perfluorohexadecanoic acid

54 Perfluorohexadecanoic acid



53 Perfluorooctadecanoic acid

53 Perfluorooctadecanoic acid



Eurofins TestAmerica, Sacramento

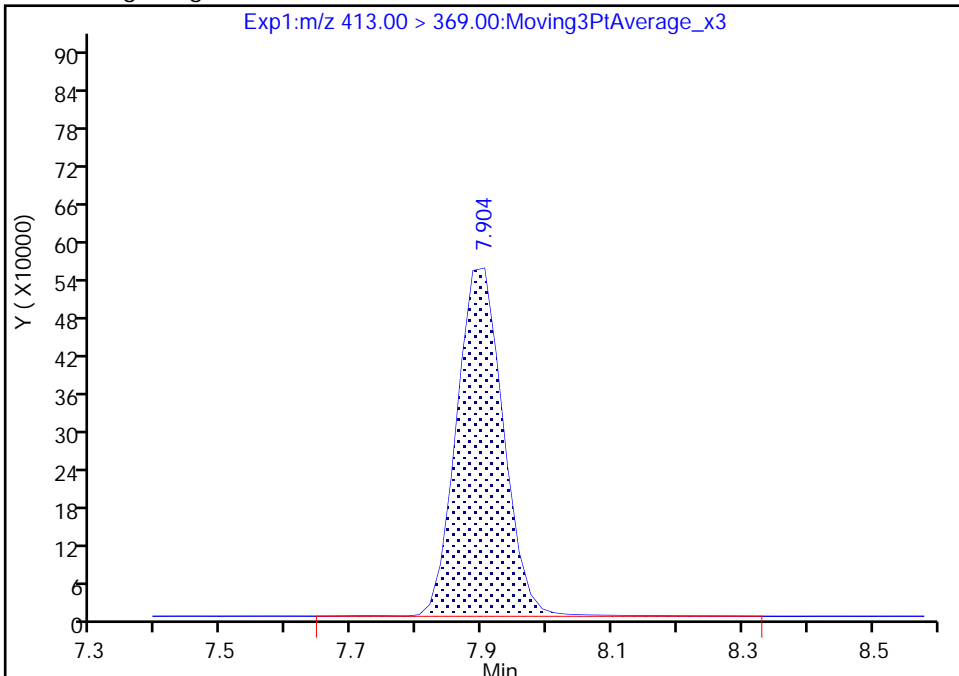
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Injection Date: 09-Feb-2021 12:09:38 Instrument ID: A10
Lims ID: IC STD 6
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

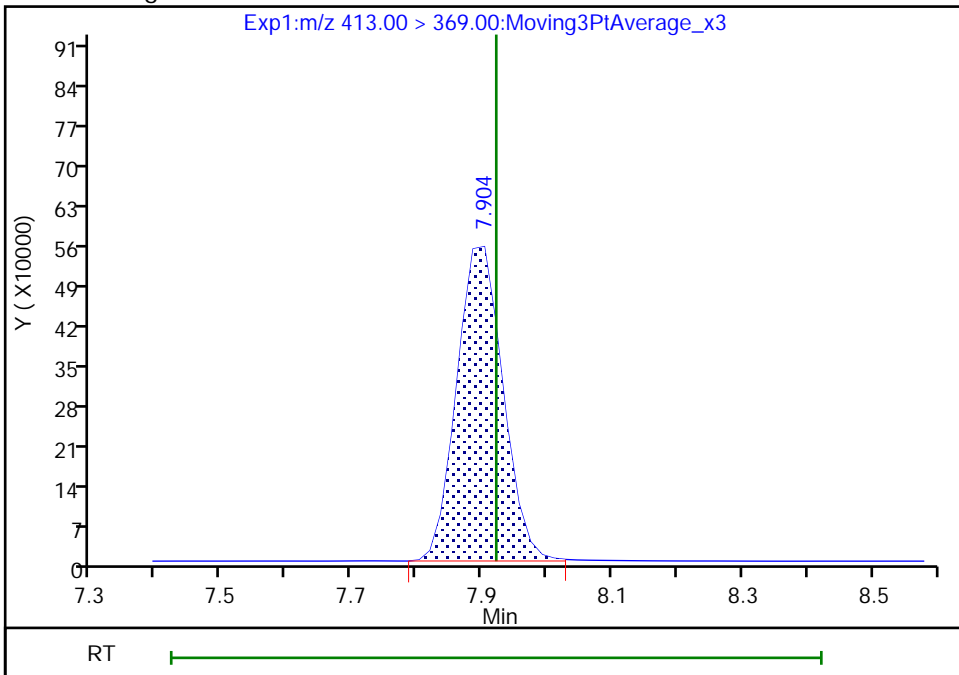
RT: 7.90
Area: 2738827
Amount: 0.049372
Amount Units: ng/ml

Processing Integration Results



RT: 7.90
Area: 2717482
Amount: 0.049082
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 12:42:34
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

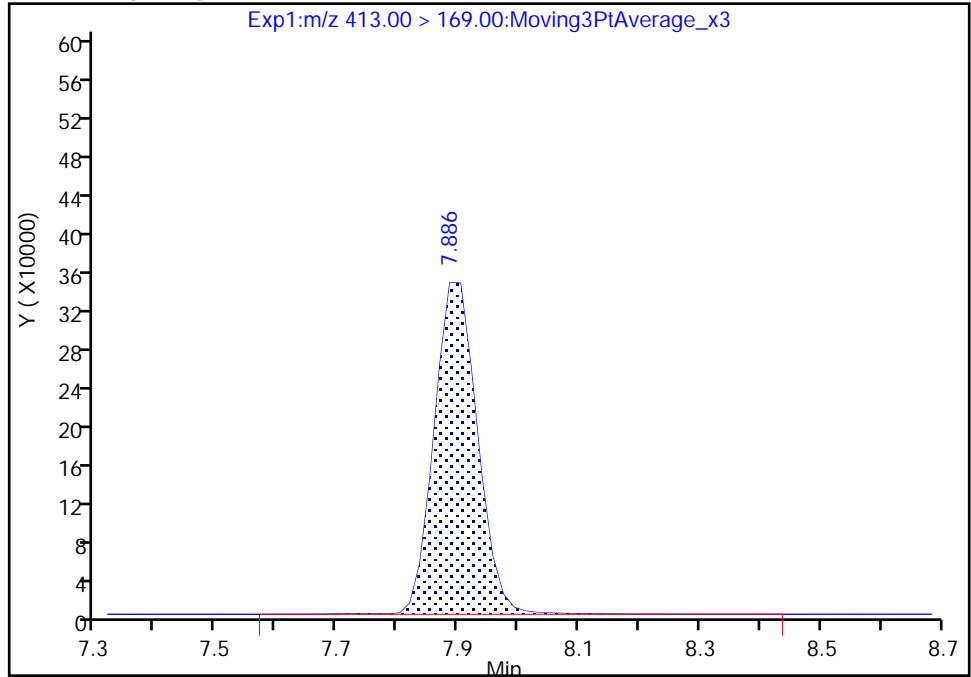
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Injection Date: 09-Feb-2021 12:09:38 Instrument ID: A10
Lims ID: IC STD 6
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

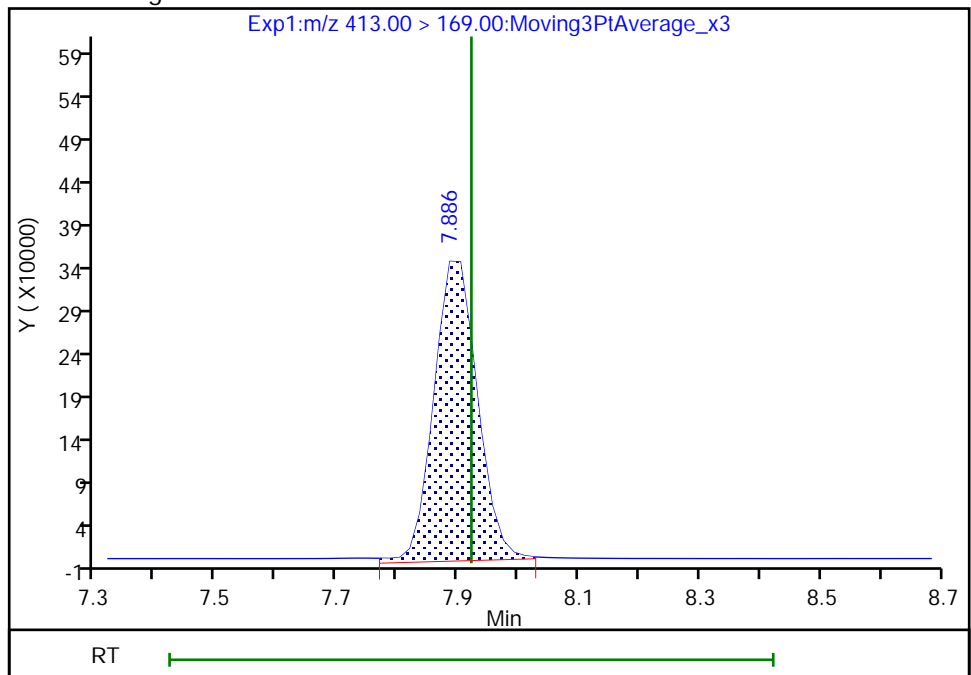
RT: 7.89
Area: 1696006
Amount: 0.049372
Amount Units: ng/ml

Processing Integration Results



RT: 7.89
Area: 1728083
Amount: 0.049082
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangmy, 09-Feb-2021 12:42:38

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins TestAmerica, Sacramento

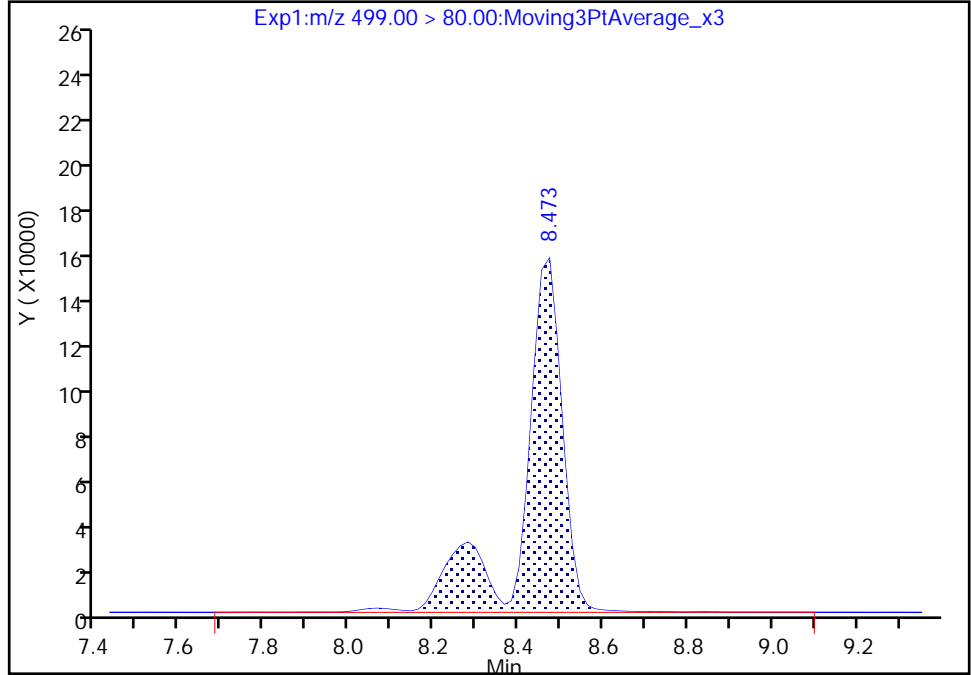
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Injection Date: 09-Feb-2021 12:09:38 Instrument ID: A10
Lims ID: IC STD 6
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

27 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

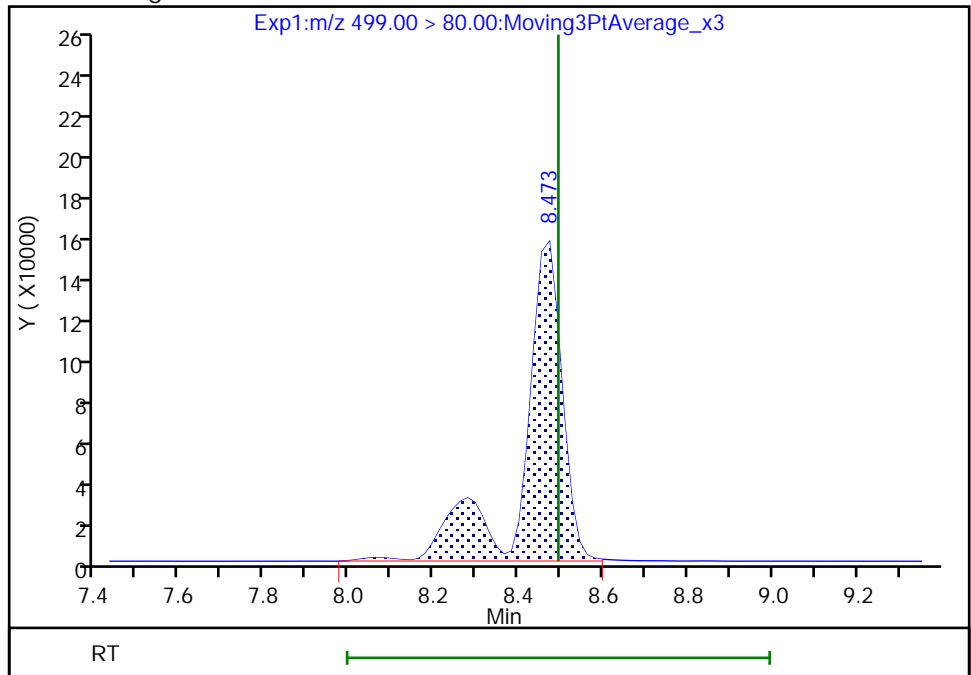
RT: 8.47
Area: 1011317
Amount: 0.048326
Amount Units: ng/ml

Processing Integration Results



RT: 8.47
Area: 1002442
Amount: 0.048324
Amount Units: ng/ml

Manual Integration Results



Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_008.d
 Lims ID: IC STD 7
 Client ID:
 Sample Type: IC Calib Level: 7
 Inject. Date: 09-Feb-2021 12:28:04 ALS Bottle#: 8 Worklist Smp#: 8
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: IC STD 7 (22)
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Sublist: chrom-A10_In_Line_SPE*sub12

Method: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 09-Feb-2021 13:50:36 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1638

First Level Reviewer: vangm Date: 09-Feb-2021 13:01:36

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-----------------|--------|--------|--------|----------|--------------|---------------|-------------------|-------|-------|
| D 2 13C4 PFBA | 217.00 > 172.00 | 5.657 | 5.678 | -0.021 | 3036185 | 0.0517 | | 103 | 7433 | |
| 1 Perfluorobutanoic acid | 212.90 > 169.00 | 5.657 | 5.681 | -0.024 | 1.000 | 5325343 | 0.0984 | 98.4 | 564 | |
| D 4 13C5 PFPeA | 267.90 > 223.00 | 6.293 | 6.300 | -0.007 | 2345001 | 0.0534 | | 107 | 8326 | |
| 5 Perfluoropentanoic acid | 262.90 > 219.00 | 6.293 | 6.300 | -0.007 | 1.000 | 4940464 | 0.0974 | 97.4 | 1515 | |
| D 3 13C3 PFBS | 301.90 > 80.00 | 6.363 | 6.364 | -0.001 | 1956942 | 0.0480 | | 103 | 3972 | |
| 6 Perfluorobutanesulfonic acid | 298.90 > 80.00 | 6.363 | 6.364 | -0.001 | 1.000 | 3893552 | 0.0883 | Target=1.49 | 99.8 | 8484 |
| | 298.90 > 99.00 | 6.363 | 6.364 | -0.001 | 1.000 | 2669612 | | 1.46(0.74-2.23) | 99.8 | 3535 |
| 8 4:2 FTS | 327.00 > 307.00 | 6.757 | 6.755 | 0.002 | 1.000 | 1715314 | NC | Target=2.63 | | 17182 |
| | 327.00 > 81.00 | 6.757 | 6.755 | 0.002 | 1.000 | 621516 | | 2.76(1.32-3.95) | | 1780 |
| D 7 M2-4:2 FTS | 329.00 > 81.00 | 6.757 | 6.755 | 0.002 | 316711 | NC | | | 916 | |
| 10 Perfluorohexanoic acid | 313.00 > 269.00 | 6.804 | 6.808 | -0.004 | 1.000 | 4935577 | 0.1049 | Target=19.21 | 105 | 2796 |
| | 313.00 > 119.00 | 6.804 | 6.808 | -0.004 | 1.000 | 235623 | | 20.95(9.60-28.81) | 105 | 1659 |
| D 9 13C2 PFHxA | 315.00 > 270.00 | 6.804 | 6.808 | -0.004 | 2371666 | 0.0500 | | 100.0 | 11195 | |
| 11 Perfluoropentanesulfonic acid | 349.00 > 80.00 | 6.828 | 6.826 | 0.002 | 0.928 | 3495891 | NC | Target=1.46 | | 8143 |
| | 349.00 > 99.00 | 6.828 | 6.826 | 0.002 | 0.928 | 2406956 | | 1.45(0.73-2.19) | | 6081 |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-------|--------|--------|--------|----------|--------------|------------------|------|-------|-------|
| D 12 13C3 HFPO-DA | | | | | | | | | | |
| 332.10 > 287.00 | 6.976 | 6.961 | 0.015 | | 117921 | NC | | | 702 | |
| 13 HPFO-DA | | | | | | | | | | |
| 329.10 > 285.00 | 6.976 | 6.964 | 0.012 | 1.000 | 740651 | NC | | | 545 | |
| 14 9CIFOS | | | | | | | | | | |
| 531.00 > 351.00 | 7.207 | 7.188 | 0.019 | 0.848 | 635 | NC | | | 2.7 | M |
| 16 Perfluorohexanesulfonic acid | | | | | | | | | | |
| 399.00 > 80.00 | 7.355 | 7.335 | 0.020 | 1.000 | 3438952 | 0.0946 | Target=5.70 | 104 | 7609 | |
| 399.00 > 99.00 | 7.355 | 7.335 | 0.020 | 1.000 | 604412 | | 5.69(2.85-8.55) | 104 | 3955 | |
| D 15 18O2 PFHxS | | | | | | | | | | |
| 403.00 > 84.00 | 7.355 | 7.337 | 0.018 | | 1509488 | 0.0459 | | 97.1 | 9418 | |
| 18 Perfluoroheptanoic acid | | | | | | | | | | |
| 363.00 > 319.00 | 7.355 | 7.342 | 0.013 | 1.000 | 5095452 | 0.0979 | Target=9.14 | 97.9 | 2917 | |
| 363.00 > 169.00 | 7.355 | 7.342 | 0.013 | 1.000 | 539911 | | 9.44(4.57-13.71) | 97.9 | 5279 | |
| D 17 13C4 PFHpA | | | | | | | | | | |
| 367.00 > 322.00 | 7.355 | 7.342 | 0.013 | | 2667479 | 0.0533 | | 107 | 14572 | |
| 19 DONA | | | | | | | | | | |
| 377.00 > 251.00 | 7.412 | 7.397 | 0.015 | 0.872 | 20407808 | NC | Target=2.71 | | 26944 | |
| 377.00 > 85.00 | 7.412 | 7.397 | 0.015 | 0.872 | 7872183 | | 2.59(1.36-4.07) | | 17221 | |
| 23 6:2 FTS | | | | | | | | | | |
| 427.00 > 407.00 | 7.903 | 7.886 | 0.017 | 1.000 | 1993919 | 0.0854 | Target=2.56 | 90.1 | 9317 | |
| 427.00 > 81.00 | 7.903 | 7.886 | 0.017 | 1.000 | 797355 | | 2.50(1.28-3.83) | 90.1 | 2203 | |
| D 22 M2-6:2 FTS | | | | | | | | | | |
| 429.00 > 81.00 | 7.903 | 7.886 | 0.017 | | 369762 | 0.0450 | | 94.8 | 923 | |
| 21 Perfluoroheptanesulfonic acid | | | | | | | | | | |
| 449.00 > 80.00 | 7.921 | 7.900 | 0.021 | 0.932 | 2893827 | 0.0943 | Target=6.98 | 99.1 | 6914 | |
| 449.00 > 99.00 | 7.903 | 7.900 | 0.003 | 0.930 | 384516 | | 7.53(3.49-10.47) | 99.1 | 2745 | |
| D 25 13C4 PFOA | | | | | | | | | | |
| 417.00 > 372.00 | 7.921 | 7.917 | 0.004 | | 3353847 | 0.0501 | | 100 | 12366 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | |
| 413.00 > 369.00 | 7.939 | 7.922 | 0.017 | 1.002 | 6148049 | 0.1007 | Target=1.58 | 101 | 1890 | |
| 413.00 > 169.00 | 7.939 | 7.922 | 0.017 | 1.002 | 3832950 | | 1.60(0.79-2.37) | 101 | 7510 | |
| D 26 13C4 PFOS | | | | | | | | | | |
| 503.00 > 80.00 | 8.496 | 8.492 | 0.004 | | 1149553 | 0.0505 | | 106 | 4542 | |
| 27 Perfluorooctanesulfonic acid | | | | | | | | | | |
| 499.00 > 80.00 | 8.496 | 8.494 | 0.002 | 1.000 | 2274605 | 0.0928 | Target=3.45 | 100 | 9521 | |
| 499.00 > 99.00 | 8.496 | 8.494 | 0.002 | 1.000 | 630171 | | 3.61(1.73-5.18) | 100 | 3535 | |
| D 28 13C5 PFNA | | | | | | | | | | |
| 468.00 > 423.00 | 8.532 | 8.520 | 0.012 | | 2517659 | 0.0507 | | 101 | 11630 | |
| 29 Perfluorononanoic acid | | | | | | | | | | |
| 463.00 > 419.00 | 8.532 | 8.523 | 0.009 | 1.000 | 4903422 | 0.1025 | Target=7.90 | 103 | 3685 | |
| 463.00 > 169.00 | 8.532 | 8.523 | 0.009 | 1.000 | 622415 | | 7.88(3.95-11.85) | 103 | 5854 | |
| D 30 13C8 FOSA | | | | | | | | | | |
| 506.00 > 78.00 | 9.034 | 9.011 | 0.023 | | 1585632 | 0.0502 | | 100 | 7258 | |
| 31 Perfluorooctanesulfonamide | | | | | | | | | | |
| 498.00 > 78.00 | 9.034 | 9.011 | 0.023 | 1.000 | 3442124 | 0.1071 | | 107 | 7143 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| 32 Perfluorononanesulfonic acid | | | | | | | | | | |
| 549.00 > 80.00 | 9.082 | 9.080 | 0.002 | 1.069 | 1940701 | NC | Target=6.35 | | 9053 | |
| 549.00 > 99.00 | 9.082 | 9.080 | 0.002 | 1.069 | 322779 | | 6.01(3.17-9.52) | | 3000 | |
| D 33 13C2 PFDA | | | | | | | | | | |
| 515.00 > 470.00 | 9.131 | 9.117 | 0.014 | | 2408381 | 0.0510 | | 102 | 14715 | |
| 35 Perfluorodecanoic acid | | | | | | | | | | |
| 513.00 > 469.00 | 9.131 | 9.117 | 0.014 | 1.000 | 4280187 | 0.1068 | Target=16.15 | 107 | 4919 | |
| 513.00 > 169.00 | 9.131 | 9.117 | 0.014 | 1.000 | 256835 | | 16.67(8.08-24.23) | 107 | 611 | |
| D 34 M2-8:2 FTS | | | | | | | | | | |
| 529.00 > 81.00 | 9.131 | 9.117 | 0.014 | | 370948 | 0.0484 | | 101 | 2516 | |
| 36 8:2 FTS | | | | | | | | | | |
| 527.00 > 507.00 | 9.131 | 9.119 | 0.012 | 1.000 | 1766435 | 0.0966 | Target=2.35 | 101 | 6163 | |
| 527.00 > 81.00 | 9.131 | 9.119 | 0.012 | 1.000 | 759018 | | 2.33(1.17-3.52) | 101 | 4284 | |
| D 37 d3-NMeFOSAA | | | | | | | | | | |
| 573.00 > 419.00 | 9.413 | 9.401 | 0.012 | | 1011086 | 0.0526 | | 105 | 2949 | |
| 38 NMeFOSAA | | | | | | | | | | |
| 570.00 > 419.00 | 9.413 | 9.411 | 0.002 | 1.000 | 1776124 | 0.1028 | Target=12.28 | 103 | 4594 | |
| 570.00 > 483.00 | 9.413 | 9.411 | 0.002 | 1.000 | 139237 | | 12.76(6.14-18.41) | 103 | 2063 | |
| 39 Perfluorodecanesulfonic acid | | | | | | | | | | |
| 599.00 > 80.00 | 9.646 | 9.640 | 0.006 | 1.135 | 1580771 | 0.0986 | Target=2.51 | 102 | 14343 | |
| 599.00 > 99.00 | 9.646 | 9.640 | 0.006 | 1.135 | 634395 | | 2.49(1.26-3.77) | 102 | 8826 | |
| D 42 13C2 PFUnA | | | | | | | | | | |
| 565.00 > 520.00 | 9.696 | 9.689 | 0.007 | | 2344624 | 0.0511 | | 102 | 18571 | |
| D 40 d5-NEtFOSAA | | | | | | | | | | |
| 589.00 > 419.00 | 9.696 | 9.689 | 0.007 | | 1104103 | 0.0506 | | 101 | 3327 | |
| 41 Perfluoroundecanoic acid | | | | | | | | | | |
| 563.00 > 519.00 | 9.696 | 9.689 | 0.007 | 1.000 | 4172285 | 0.1009 | Target=20.47 | 101 | 5999 | |
| 563.00 > 169.00 | 9.696 | 9.689 | 0.007 | 1.000 | 203936 | | 20.46(10.24-30.71) | 101 | 2251 | |
| 43 NEtFOSA | | | | | | | | | | |
| 584.00 > 419.00 | 9.714 | 9.708 | 0.006 | 1.002 | 1907330 | 0.0991 | Target=13.05 | 99.1 | 13044 | M |
| 584.00 > 483.00 | 9.714 | 9.708 | 0.006 | 1.002 | 140240 | | 13.60(6.52-19.57) | 99.1 | 688 | M |
| 44 11C1FOS | | | | | | | | | | |
| 631.00 > 451.00 | 9.939 | 9.929 | 0.010 | 1.170 | 10755524 | NC | | | 40624 | |
| D 45 13C2 PFDoA | | | | | | | | | | |
| 615.00 > 570.00 | 10.238 | 10.232 | 0.006 | | 2371852 | 0.0493 | | 98.5 | 13324 | |
| 46 Perfluorododecanoic acid | | | | | | | | | | |
| 613.00 > 569.00 | 10.238 | 10.235 | 0.003 | 1.000 | 4421554 | 0.1052 | Target=17.11 | 105 | 2449 | |
| 613.00 > 169.00 | 10.238 | 10.235 | 0.003 | 1.000 | 287471 | | 15.38(8.55-25.66) | 105 | 3071 | |
| 47 10:2 FTS | | | | | | | | | | |
| 627.00 > 607.00 | 10.259 | 10.264 | -0.005 | 1.124 | 2502542 | NC | Target=32.58 | | 17632 | |
| 627.00 > 81.00 | 10.259 | 10.264 | -0.005 | 1.124 | 73195 | | 34.19(16.29-48.87) | | 1567 | |
| 48 PFDoS | | | | | | | | | | |
| 699.00 > 80.00 | 10.684 | 10.690 | -0.006 | 1.258 | 648383 | NC | Target=0.47 | | 4381 | |
| 699.00 > 99.00 | 10.684 | 10.690 | -0.006 | 1.258 | 1287513 | | 0.50(0.24-0.71) | | 8301 | |
| 49 Perfluorotridecanoic acid | | | | | | | | | | |
| 663.00 > 619.00 | 10.756 | 10.761 | -0.005 | 1.051 | 5792302 | 0.1021 | Target=18.64 | 102 | 2875 | |
| 663.00 > 169.00 | 10.756 | 10.761 | -0.005 | 1.051 | 299487 | | 19.34(9.32-27.96) | 102 | 3195 | |

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| 50 Perfluorotetradecanoic acid | | | | | | | | | | |
| 713.00 > 169.00 | 11.249 | 11.262 | -0.013 | 1.000 | 237144 | 0.1031 | Target=1.23 | 103 | 4108 | |
| 713.00 > 219.00 | 11.249 | 11.262 | -0.013 | 1.000 | 187415 | | 1.27(0.62-1.85) | 103 | 2428 | |
| D 51 13C2 PFTeDA | | | | | | | | | | |
| 715.00 > 670.00 | 11.249 | 11.262 | -0.013 | | 2789792 | 0.0496 | | 99.1 | 12773 | |
| D 52 13C2 PFHxDA | | | | | | | | | | |
| 815.00 > 770.00 | 12.219 | 12.245 | -0.026 | | 1964981 | 0.0604 | | 121 | 9830 | |
| 54 Perfluorohexadecanoic acid | | | | | | | | | | |
| 813.00 > 769.00 | 12.232 | 12.247 | -0.015 | 1.001 | 3758865 | 0.0955 | Target=29.80 | 95.5 | 2146 | |
| 813.00 > 169.00 | 12.219 | 12.247 | -0.028 | 1.000 | 124860 | | 30.10(14.90-44.69) | 95.5 | 2115 | |
| 53 Perfluorooctadecanoic acid | | | | | | | | | | |
| 913.00 > 869.00 | 13.327 | 13.372 | -0.045 | 1.091 | 1047171 | 0.1254 | Target=33.62 | 125 | 840 | M |
| 913.00 > 169.00 | 13.327 | 13.372 | -0.045 | 1.091 | 30308 | | 34.55(16.81-50.42) | 125 | 683 | M |

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

Reagents:

LCPFC-LL-L7_00022

Amount Added: 1.00

Units: mL

Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_008.d

Injection Date: 09-Feb-2021 12:28:04

Instrument ID: A10

Lims ID: IC STD 7

Client ID:

Operator ID: Sac_inst_A10

ALS Bottle#: 8

Worklist Smp#: 8

Injection Vol: 950.0 ul

Dil. Factor: 1.0000

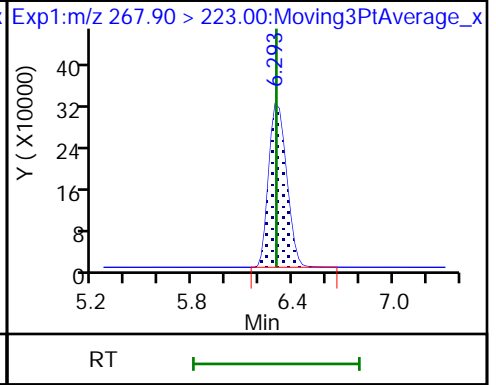
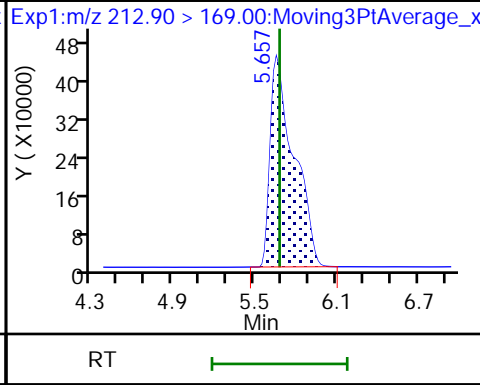
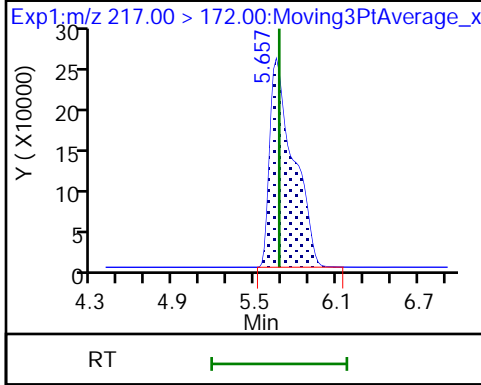
Method: A10_In_Line_SPE

Limit Group: LC PFAS_DW ICAL

D 2 13C4 PFBA

1 Perfluorobutanoic acid

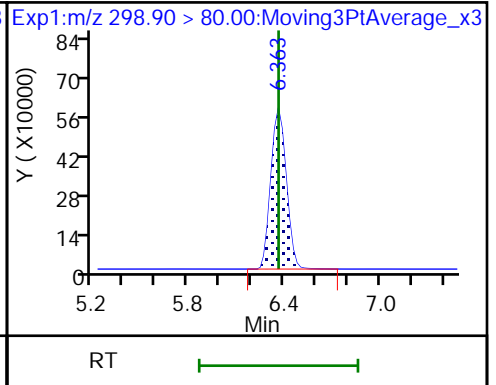
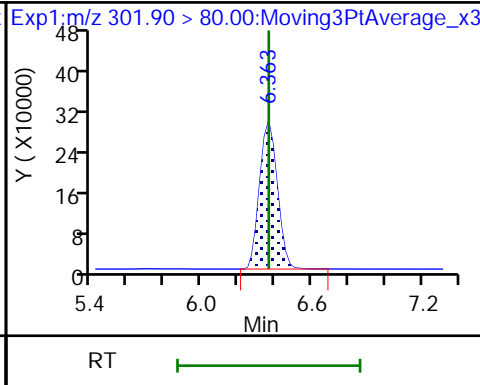
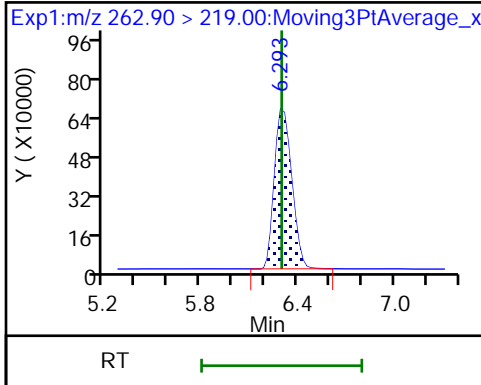
D 4 13C5 PFPeA



5 Perfluoropentanoic acid

D 3 13C3 PFBS

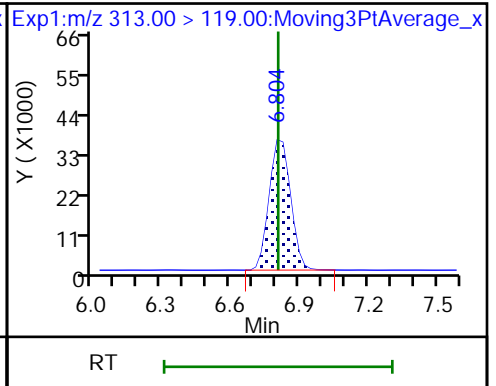
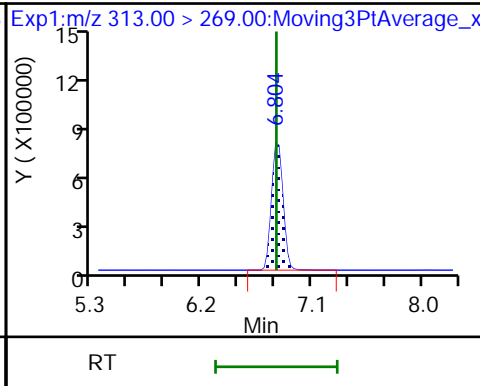
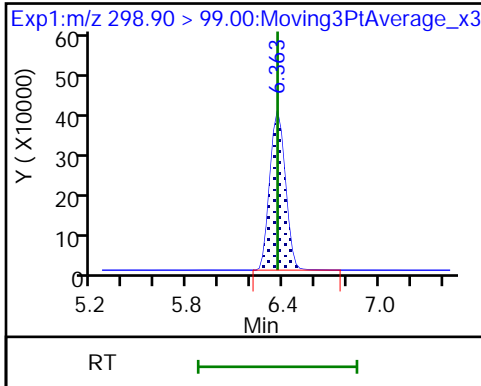
6 Perfluorobutanesulfonic acid



6 Perfluorobutanesulfonic acid

10 Perfluorohexanoic acid

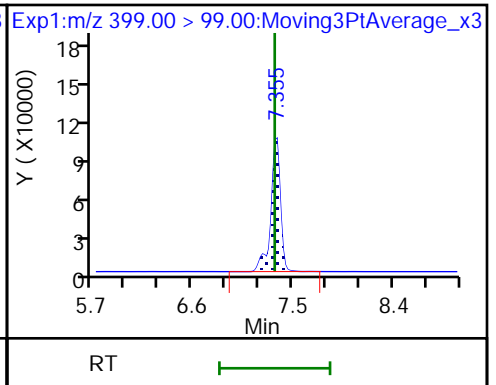
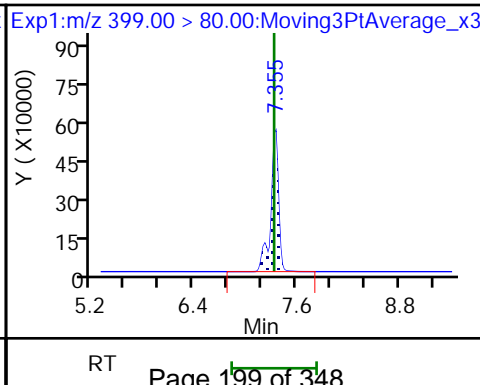
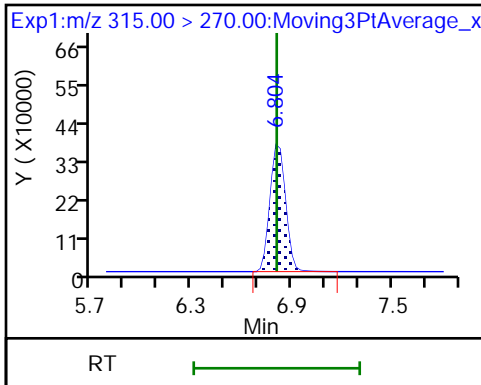
10 Perfluorohexanoic acid



D 9 13C2 PFHxA

16 Perfluorohexanesulfonic acid

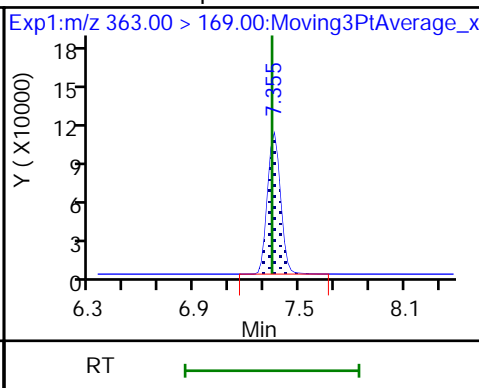
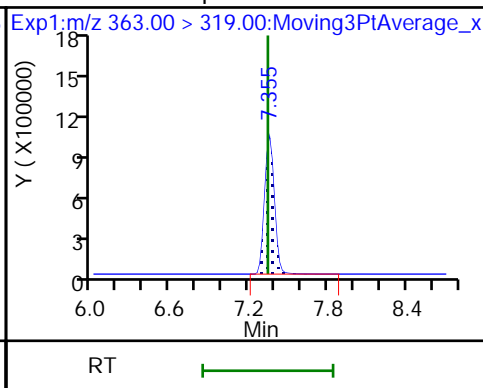
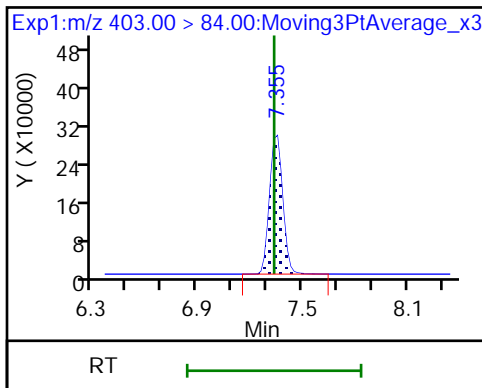
16 Perfluorohexanesulfonic acid



D 15 18O2 PFHxS

18 Perfluoroheptanoic acid

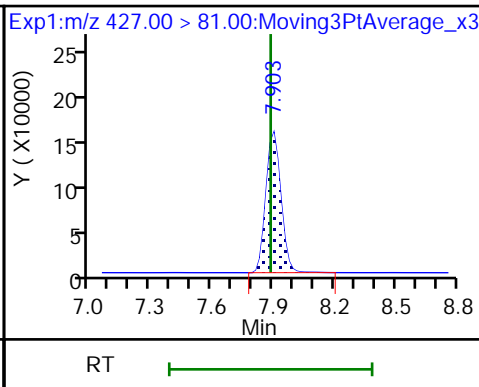
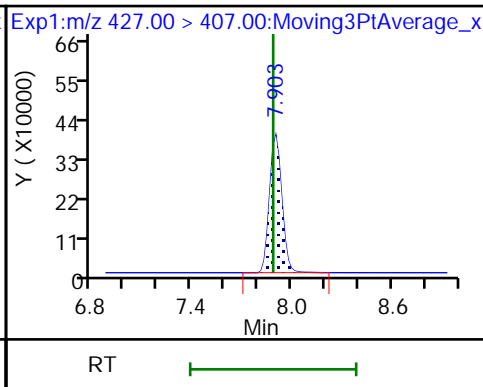
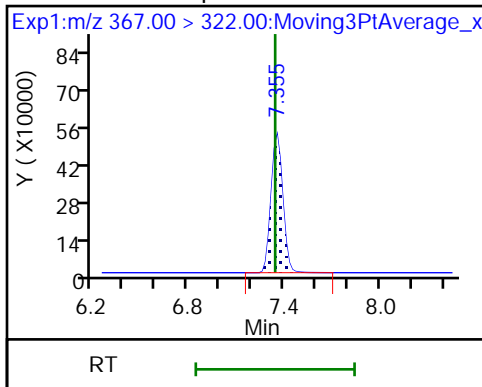
18 Perfluoroheptanoic acid



D 17 13C4 PFHpA

23 6:2 FTS

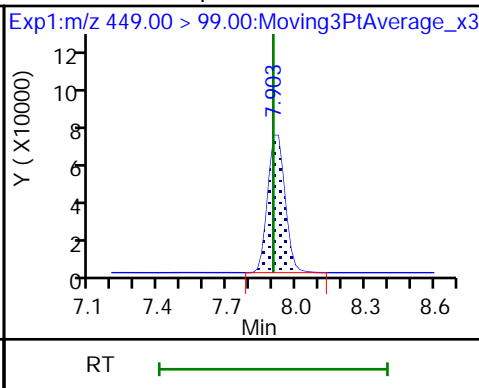
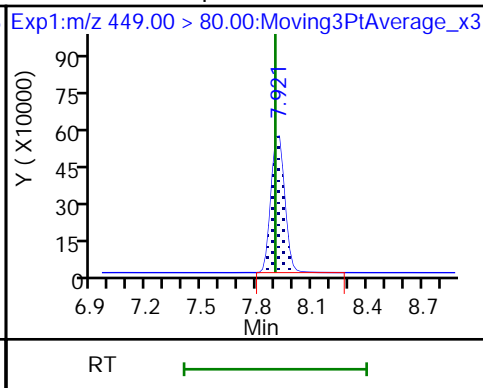
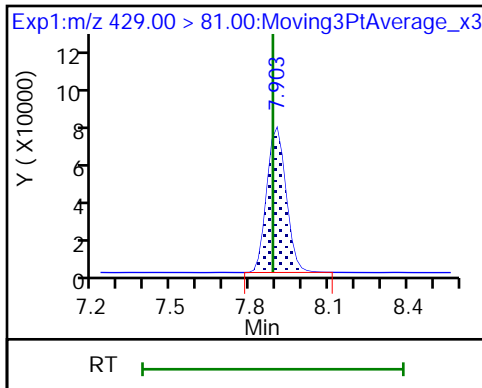
23 6:2 FTS



D 22 M2-6:2 FTS

21 Perfluoroheptanesulfonic acid

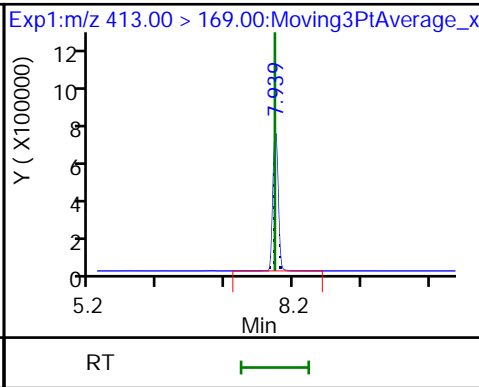
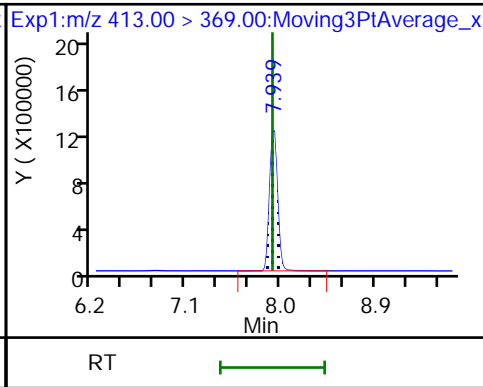
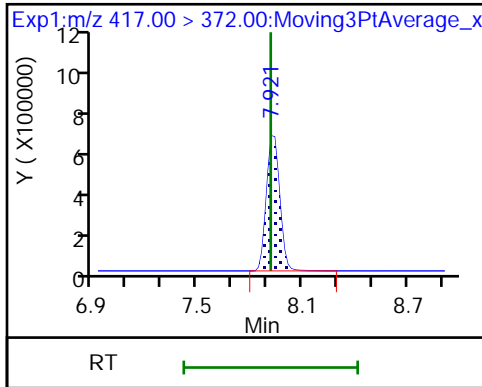
21 Perfluoroheptanesulfonic acid



D 25 13C4 PFOA

24 Perfluorooctanoic acid

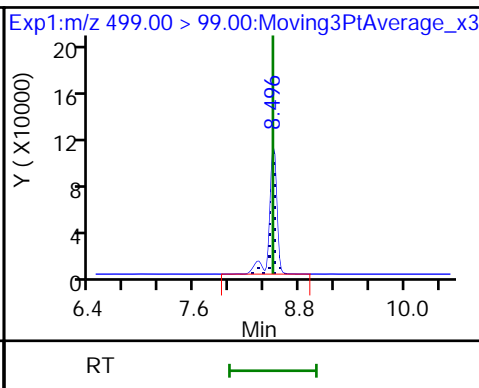
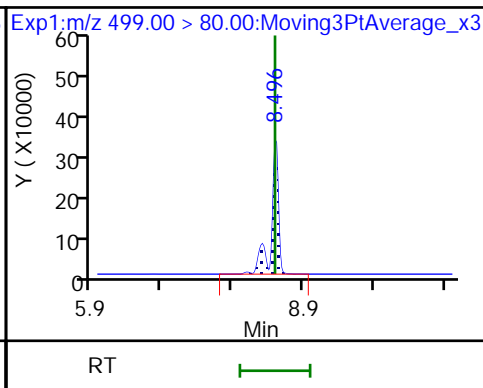
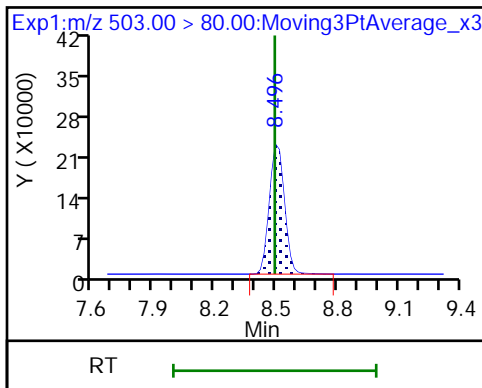
24 Perfluorooctanoic acid



D 26 13C4 PFOS

27 Perfluorooctanesulfonic acid

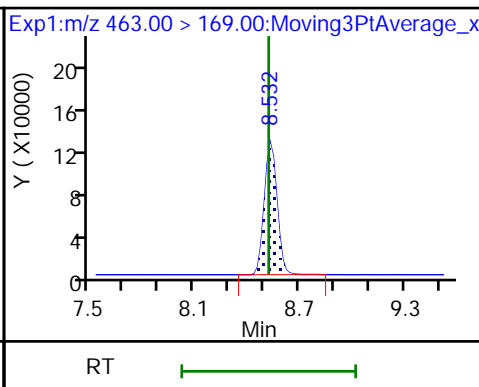
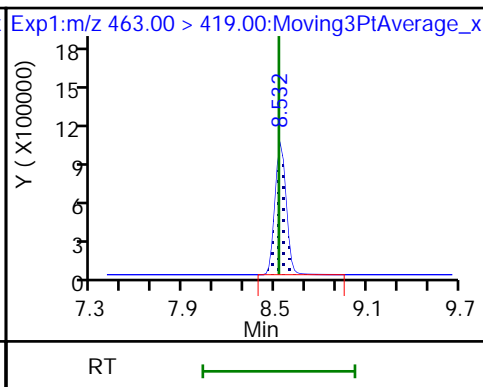
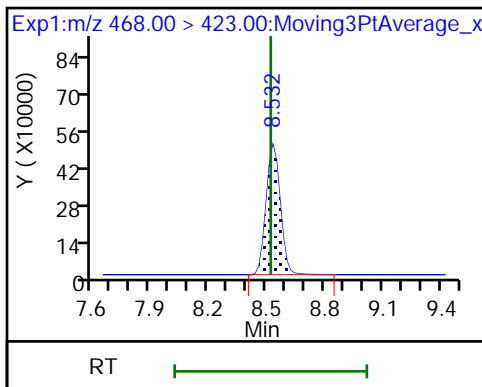
27 Perfluorooctanesulfonic acid



D 28 13C5 PFNA

29 Perfluorononanoic acid

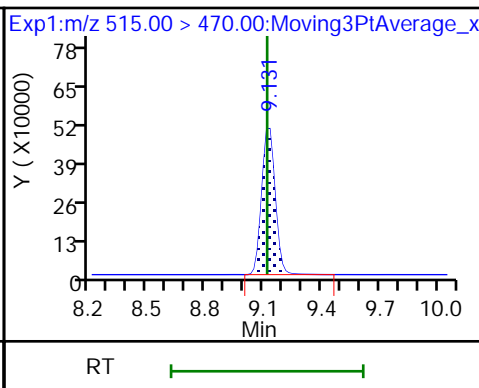
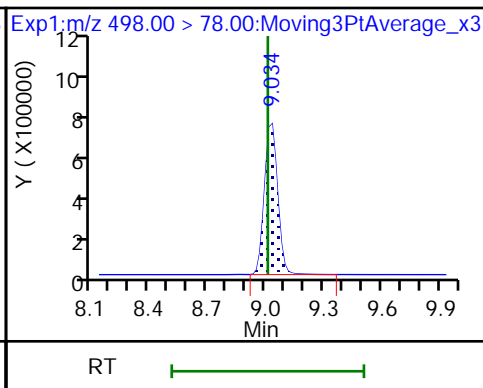
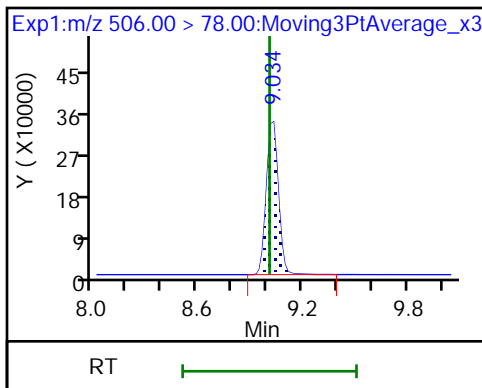
29 Perfluorononanoic acid



D 30 13C8 FOSA

31 Perfluorooctanesulfonamide

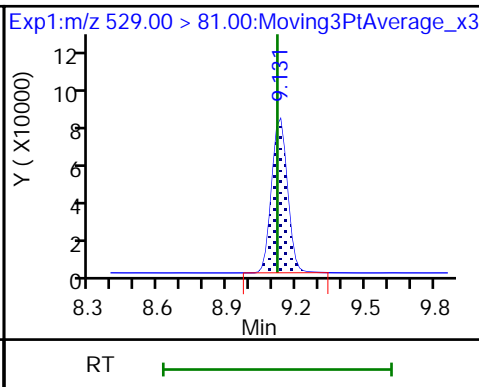
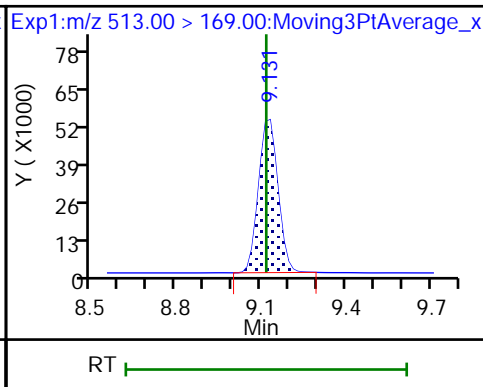
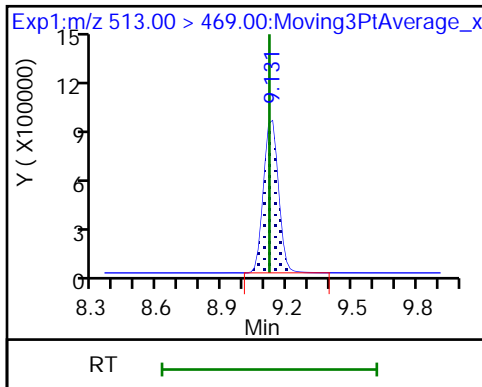
D 33 13C2 PFDA

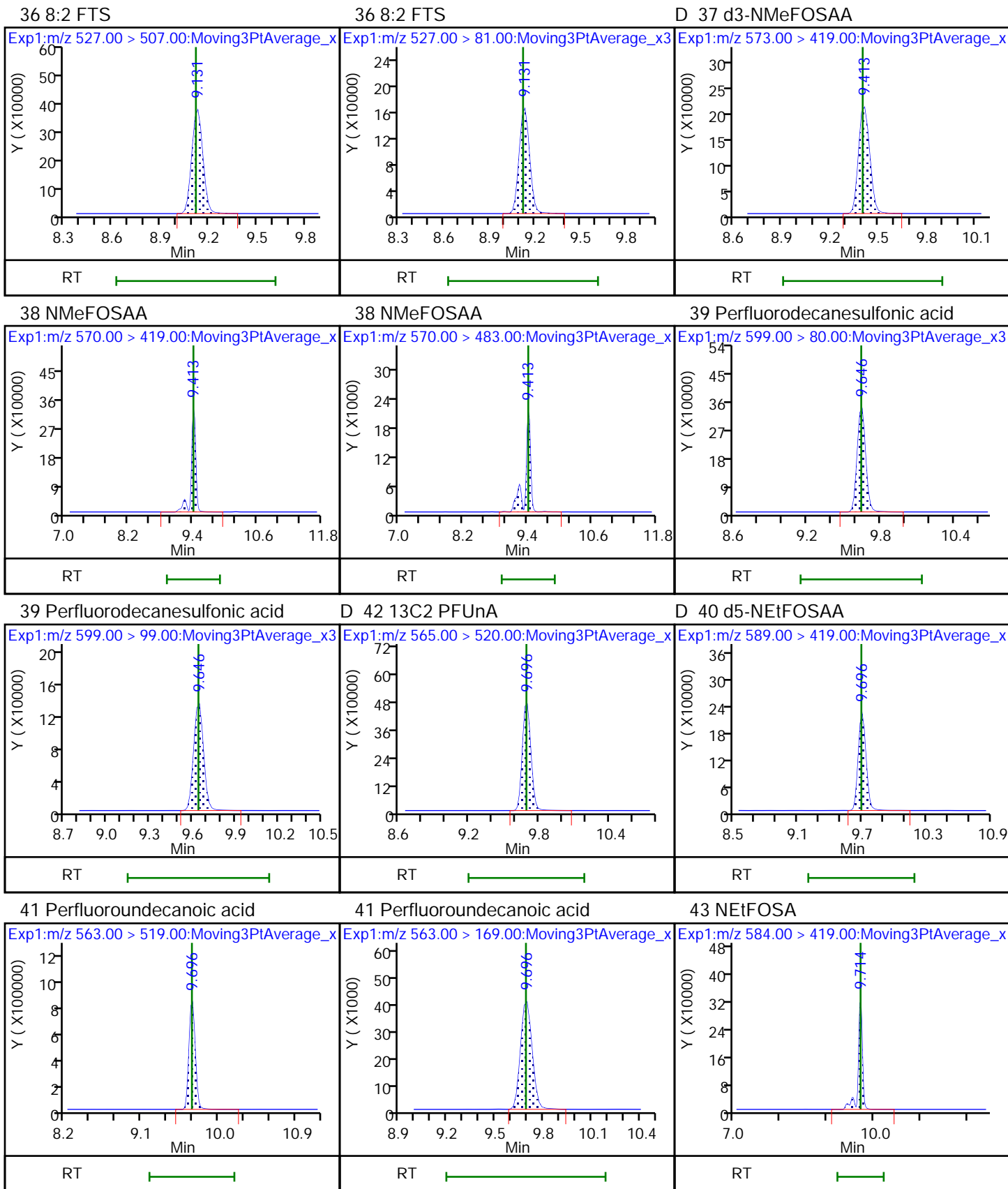


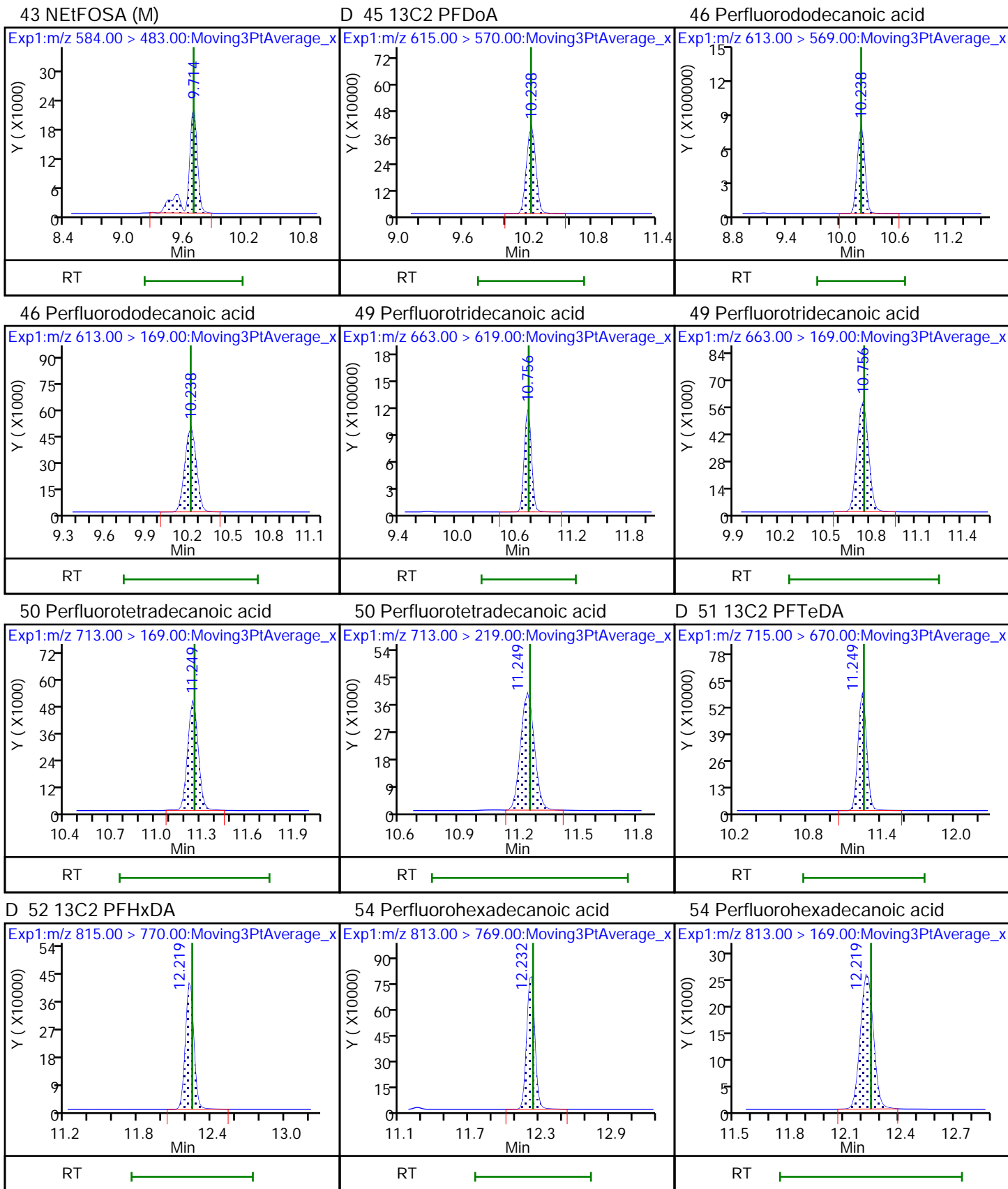
35 Perfluorodecanoic acid

35 Perfluorodecanoic acid

D 34 M2-8:2 FTS

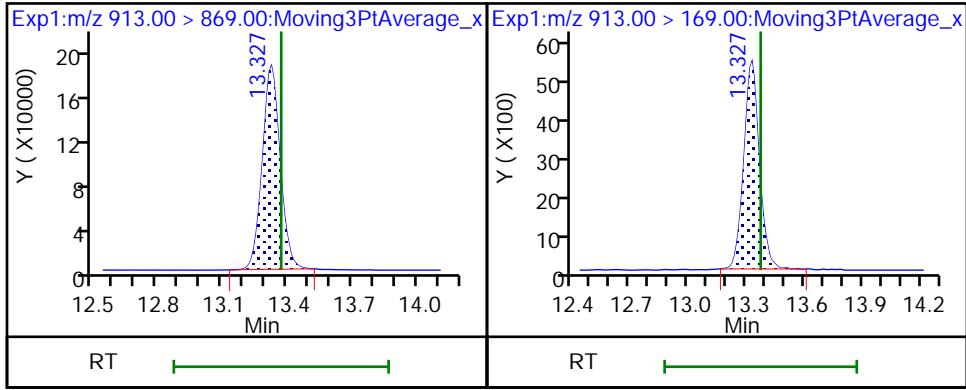






53 Perfluorooctadecanoic acid

53 Perfluorooctadecanoic acid (M)



Eurofins TestAmerica, Sacramento

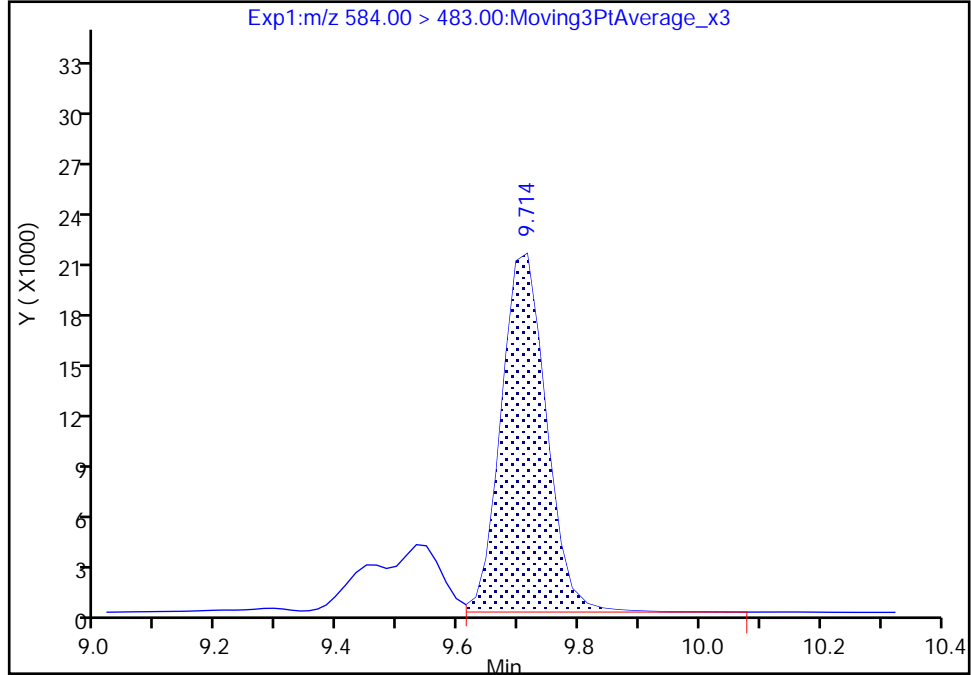
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_008.d
Injection Date: 09-Feb-2021 12:28:04 Instrument ID: A10
Lims ID: IC STD 7
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

43 NEtFOSA, CAS: 2991-50-6

Signal: 2

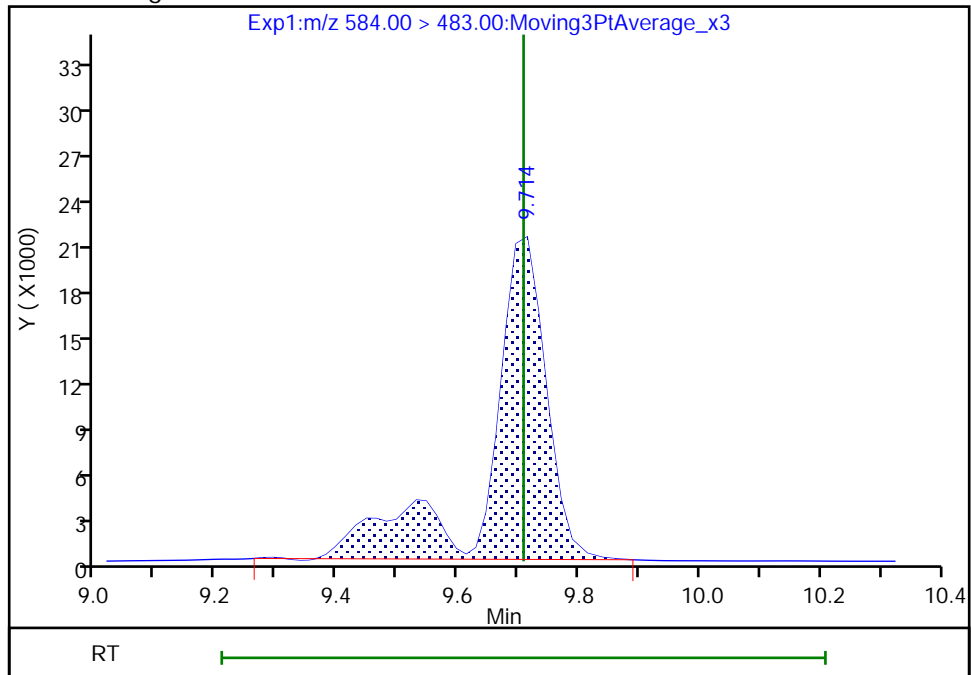
RT: 9.71
Area: 110648
Amount: 0.098637
Amount Units: ng/ml

Processing Integration Results



RT: 9.71
Area: 140240
Amount: 0.099129
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangm, 09-Feb-2021 13:01:21
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento

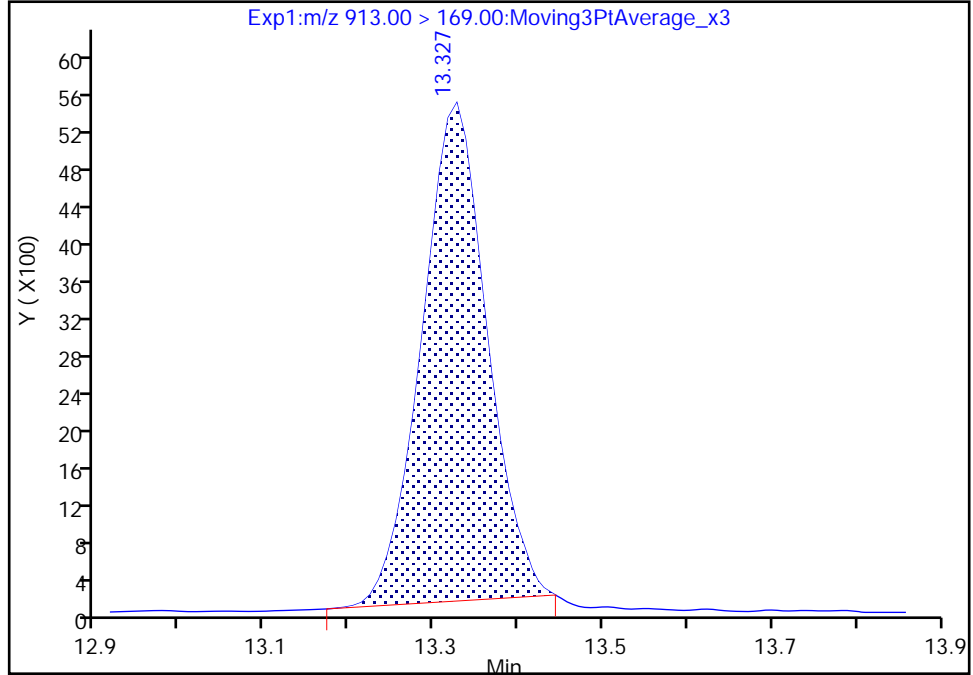
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_008.d
Injection Date: 09-Feb-2021 12:28:04 Instrument ID: A10
Lims ID: IC STD 7
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

53 Perfluorooctadecanoic acid, CAS: 16517-11-6

Signal: 2

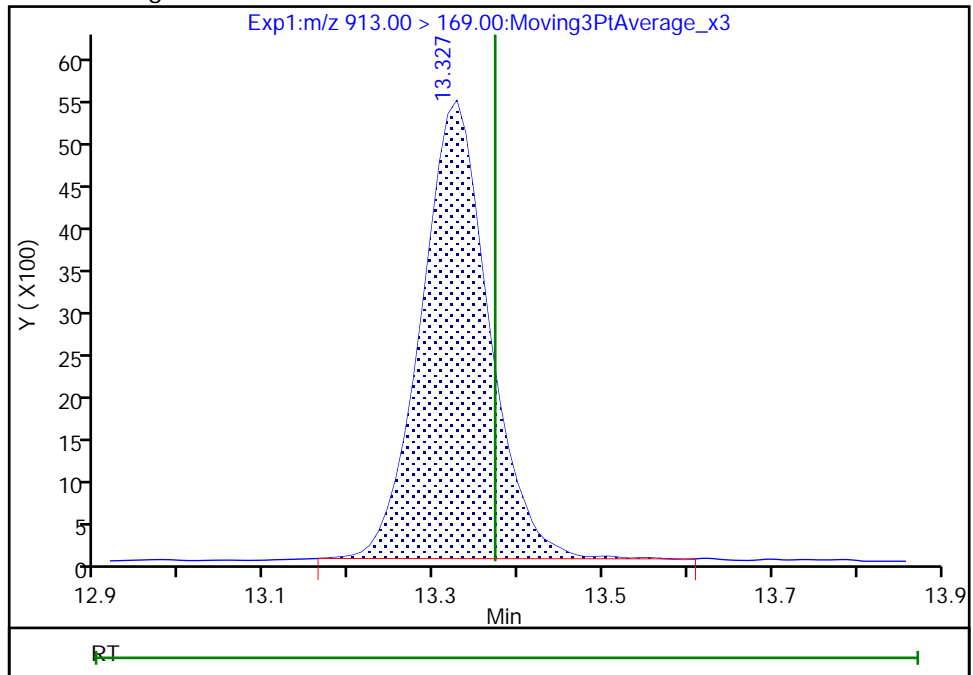
RT: 13.33
Area: 28752
Amount: 0.125723
Amount Units: ng/ml

Processing Integration Results



RT: 13.33
Area: 30308
Amount: 0.125432
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangm, 09-Feb-2021 13:01:32
Audit Action: Manually Integrated

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Lims ID: IC STD 8
 Client ID:
 Sample Type: IC Calib Level: 8
 Inject. Date: 09-Feb-2021 12:46:31 ALS Bottle#: 9 Worklist Smp#: 9
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: IC STD 8 (22)
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Sublist: chrom-A10_In_Line_SPE*sub12

Method: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 09-Feb-2021 13:50:41 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1638

First Level Reviewer: vangm Date: 09-Feb-2021 13:34:23

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 2 13C4 PFBA | | | | | | | | | | |
| 217.00 > 172.00 | 5.660 | 5.678 | -0.018 | | 3063851 | 0.0522 | | 104 | 8029 | |
| 1 Perfluorobutanoic acid | | | | | | | | | | |
| 212.90 > 169.00 | 5.660 | 5.681 | -0.021 | 1.000 | 10775623 | 0.1972 | | 98.6 | 1302 | |
| D 4 13C5 PFPeA | | | | | | | | | | |
| 267.90 > 223.00 | 6.297 | 6.300 | -0.003 | | 2244601 | 0.0511 | | 102 | 9620 | |
| 5 Perfluoropentanoic acid | | | | | | | | | | |
| 262.90 > 219.00 | 6.297 | 6.300 | -0.003 | 1.000 | 9591000 | 0.1975 | | 98.7 | 2642 | |
| D 3 13C3 PFBS | | | | | | | | | | |
| 301.90 > 80.00 | 6.343 | 6.364 | -0.021 | | 2042047 | 0.0501 | | 108 | 4501 | |
| 6 Perfluorobutanesulfonic acid | | | | | | | | | | |
| 298.90 > 80.00 | 6.343 | 6.364 | -0.021 | 1.000 | 7650359 | 0.1662 | Target=1.49 | 94.0 | 15621 | |
| 298.90 > 99.00 | 6.343 | 6.364 | -0.021 | 1.000 | 5552095 | | 1.38(0.74-2.23) | 94.0 | 6876 | |
| 8 4:2 FTS | | | | | | | | | | |
| 327.00 > 307.00 | 6.738 | 6.755 | -0.017 | 1.000 | 3467575 | NC | Target=2.63 | | 26077 | |
| 327.00 > 81.00 | 6.738 | 6.755 | -0.017 | 1.000 | 1280761 | | 2.71(1.32-3.95) | | 3239 | |
| D 7 M2-4:2 FTS | | | | | | | | | | |
| 329.00 > 81.00 | 6.738 | 6.755 | -0.017 | | 340003 | NC | | | 837 | |
| 10 Perfluorohexanoic acid | | | | | | | | | | |
| 313.00 > 269.00 | 6.784 | 6.808 | -0.024 | 1.000 | 9300931 | 0.2007 | Target=19.21 | 100 | 5016 | |
| 313.00 > 119.00 | 6.784 | 6.808 | -0.024 | 1.000 | 455915 | | 20.40(9.60-28.81) | 100 | 1810 | |
| D 9 13C2 PFHxA | | | | | | | | | | |
| 315.00 > 270.00 | 6.784 | 6.808 | -0.024 | | 2336578 | 0.0492 | | 98.5 | 13345 | |
| 11 Perfluoropentanesulfonic acid | | | | | | | | | | |
| 349.00 > 80.00 | 6.808 | 6.826 | -0.018 | 0.931 | 6792827 | NC | Target=1.46 | | 13254 | |
| 349.00 > 99.00 | 6.808 | 6.826 | -0.018 | 0.931 | 4596050 | | 1.48(0.73-2.19) | | 11663 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-------|--------|--------|--------|----------|--------------|------------------|------|-------|-------|
| D 12 13C3 HFPO-DA | | | | | | | | | | |
| 332.10 > 287.00 | 6.954 | 6.961 | -0.007 | | 126084 | NC | | | 915 | |
| 13 HPFO-DA | | | | | | | | | | |
| 329.10 > 285.00 | 6.954 | 6.964 | -0.010 | 1.000 | 1452690 | NC | | | 1108 | |
| 14 9CIFOS | | | | | | | | | | |
| 531.00 > 351.00 | 7.152 | 7.184 | -0.032 | 0.843 | 351 | NC | | | 0.8 | M |
| 16 Perfluorohexanesulfonic acid | | | | | | | | | | |
| 399.00 > 80.00 | 7.312 | 7.335 | -0.023 | 1.000 | 6652638 | 0.1817 | Target=5.70 | 99.8 | 10020 | |
| 399.00 > 99.00 | 7.312 | 7.335 | -0.023 | 1.000 | 1160629 | | 5.73(2.85-8.55) | 99.8 | 5107 | |
| D 15 18O2 PFHxS | | | | | | | | | | |
| 403.00 > 84.00 | 7.312 | 7.337 | -0.025 | | 1520758 | 0.0463 | | 97.8 | 14454 | |
| 18 Perfluoroheptanoic acid | | | | | | | | | | |
| 363.00 > 319.00 | 7.336 | 7.342 | -0.006 | 1.000 | 9459313 | 0.2056 | Target=9.14 | 103 | 3818 | |
| 363.00 > 169.00 | 7.336 | 7.342 | -0.006 | 1.000 | 1019705 | | 9.28(4.57-13.71) | 103 | 11085 | |
| D 17 13C4 PFHpA | | | | | | | | | | |
| 367.00 > 322.00 | 7.336 | 7.342 | -0.006 | | 2357541 | 0.0471 | | 94.2 | 9598 | |
| 19 DONA | | | | | | | | | | |
| 377.00 > 251.00 | 7.382 | 7.397 | -0.015 | 0.870 | 36586481 | NC | Target=2.71 | | 28659 | |
| 377.00 > 85.00 | 7.382 | 7.397 | -0.015 | 0.870 | 14949121 | | 2.45(1.36-4.07) | | 21922 | |
| 23 6:2 FTS | | | | | | | | | | |
| 427.00 > 407.00 | 7.867 | 7.886 | -0.019 | 1.000 | 3552099 | 0.1551 | Target=2.56 | 81.8 | 11157 | |
| 427.00 > 81.00 | 7.867 | 7.886 | -0.019 | 1.000 | 1368500 | | 2.60(1.28-3.83) | 81.8 | 2584 | |
| D 22 M2-6:2 FTS | | | | | | | | | | |
| 429.00 > 81.00 | 7.867 | 7.886 | -0.019 | | 362809 | 0.0442 | | 93.0 | 898 | |
| 21 Perfluoroheptanesulfonic acid | | | | | | | | | | |
| 449.00 > 80.00 | 7.886 | 7.900 | -0.014 | 0.930 | 5506118 | 0.1760 | Target=6.98 | 92.4 | 12126 | |
| 449.00 > 99.00 | 7.886 | 7.900 | -0.014 | 0.930 | 787351 | | 6.99(3.49-10.47) | 92.4 | 6594 | |
| D 25 13C4 PFOA | | | | | | | | | | |
| 417.00 > 372.00 | 7.905 | 7.917 | -0.012 | | 3179206 | 0.0475 | | 95.0 | 10772 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | |
| 413.00 > 369.00 | 7.905 | 7.922 | -0.017 | 1.000 | 11452820 | 0.1979 | Target=1.58 | 98.9 | 3152 | |
| 413.00 > 169.00 | 7.905 | 7.922 | -0.017 | 1.000 | 7358365 | | 1.56(0.79-2.37) | 98.9 | 8089 | |
| D 26 13C4 PFOS | | | | | | | | | | |
| 503.00 > 80.00 | 8.481 | 8.492 | -0.011 | | 1172158 | 0.0515 | | 108 | 2926 | |
| 27 Perfluorooctanesulfonic acid | | | | | | | | | | |
| 499.00 > 80.00 | 8.481 | 8.494 | -0.013 | 1.000 | 4436470 | 0.1775 | Target=3.45 | 95.6 | 15537 | |
| 499.00 > 99.00 | 8.481 | 8.494 | -0.013 | 1.000 | 1266944 | | 3.50(1.73-5.18) | 95.6 | 6158 | |
| D 28 13C5 PFNA | | | | | | | | | | |
| 468.00 > 423.00 | 8.500 | 8.520 | -0.020 | | 2481958 | 0.0500 | | 99.9 | 12630 | |
| 29 Perfluorononanoic acid | | | | | | | | | | |
| 463.00 > 419.00 | 8.518 | 8.523 | -0.005 | 1.002 | 9073476 | 0.1924 | Target=7.90 | 96.2 | 5756 | |
| 463.00 > 169.00 | 8.518 | 8.523 | -0.005 | 1.002 | 1202394 | | 7.55(3.95-11.85) | 96.2 | 6930 | |
| D 30 13C8 FOSA | | | | | | | | | | |
| 506.00 > 78.00 | 9.009 | 9.011 | -0.002 | | 1871966 | 0.0593 | | 119 | 9892 | |
| 31 Perfluorooctanesulfonamide | | | | | | | | | | |
| 498.00 > 78.00 | 9.009 | 9.011 | -0.002 | 1.000 | 7640195 | 0.2013 | | 101 | 9326 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| 32 Perfluorononanesulfonic acid | | | | | | | | | | |
| 549.00 > 80.00 | 9.060 | 9.080 | -0.020 | 1.068 | 3867767 | NC | Target=6.35 | | 15531 | |
| 549.00 > 99.00 | 9.060 | 9.080 | -0.020 | 1.068 | 674920 | | 5.73(3.17-9.52) | | 3882 | |
| D 33 13C2 PFDA | | | | | | | | | | |
| 515.00 > 470.00 | 9.111 | 9.117 | -0.006 | | 2427651 | 0.0514 | | | 103 | 17136 |
| 35 Perfluorodecanoic acid | | | | | | | | | | |
| 513.00 > 469.00 | 9.111 | 9.117 | -0.006 | 1.000 | 7748629 | 0.1918 | Target=16.15 | 95.9 | 7850 | |
| 513.00 > 169.00 | 9.111 | 9.117 | -0.006 | 1.000 | 519073 | | 14.93(8.08-24.23) | 95.9 | 571 | |
| D 34 M2-8:2 FTS | | | | | | | | | | |
| 529.00 > 81.00 | 9.111 | 9.117 | -0.006 | | 376265 | 0.0491 | | | 103 | 2767 |
| 36 8:2 FTS | | | | | | | | | | |
| 527.00 > 507.00 | 9.111 | 9.119 | -0.008 | 1.000 | 3073407 | 0.1657 | Target=2.35 | 86.5 | 15197 | |
| 527.00 > 81.00 | 9.111 | 9.119 | -0.008 | 1.000 | 1356432 | | 2.27(1.17-3.52) | 86.5 | 5359 | |
| D 37 d3-NMeFOSAA | | | | | | | | | | |
| 573.00 > 419.00 | 9.389 | 9.401 | -0.012 | | 984327 | 0.0512 | | | 102 | 2800 |
| 38 NMeFOSAA | | | | | | | | | | |
| 570.00 > 419.00 | 9.389 | 9.411 | -0.022 | 1.000 | 3485447 | 0.2071 | Target=12.28 | 104 | 7857 | |
| 570.00 > 483.00 | 9.389 | 9.411 | -0.022 | 1.000 | 275994 | | 12.63(6.14-18.41) | 104 | 2871 | |
| 39 Perfluorodecanesulfonic acid | | | | | | | | | | |
| 599.00 > 80.00 | 9.627 | 9.640 | -0.013 | 1.135 | 3179948 | 0.1946 | Target=2.51 | 101 | 18873 | |
| 599.00 > 99.00 | 9.627 | 9.640 | -0.013 | 1.135 | 1223018 | | 2.60(1.26-3.77) | 101 | 12018 | |
| D 40 d5-NEtFOSAA | | | | | | | | | | |
| 589.00 > 419.00 | 9.678 | 9.689 | -0.011 | | 1088384 | 0.0499 | | | 99.7 | 2965 |
| D 42 13C2 PFUnA | | | | | | | | | | |
| 565.00 > 520.00 | 9.678 | 9.689 | -0.011 | | 2313665 | 0.0504 | | | 101 | 19204 |
| 41 Perfluoroundecanoic acid | | | | | | | | | | |
| 563.00 > 519.00 | 9.678 | 9.689 | -0.011 | 1.000 | 8166045 | 0.2001 | Target=20.47 | 100 | 9614 | |
| 563.00 > 169.00 | 9.678 | 9.689 | -0.011 | 1.000 | 391694 | | 20.85(10.24-30.71) | 100 | 4363 | |
| 43 NEtFOSA | | | | | | | | | | |
| 584.00 > 419.00 | 9.695 | 9.707 | -0.012 | 1.002 | 3661039 | 0.1930 | Target=13.05 | 96.5 | 20302 | M |
| 584.00 > 483.00 | 9.695 | 9.707 | -0.012 | 1.002 | 297141 | | 12.32(6.52-19.57) | 96.5 | 1111 | M |
| 44 11C1FOS | | | | | | | | | | |
| 631.00 > 451.00 | 9.917 | 9.929 | -0.012 | 1.169 | 20530310 | NC | | | 44354 | |
| D 45 13C2 PFDoA | | | | | | | | | | |
| 615.00 > 570.00 | 10.223 | 10.232 | -0.009 | | 2397139 | 0.0498 | | | 99.6 | 12121 |
| 46 Perfluorododecanoic acid | | | | | | | | | | |
| 613.00 > 569.00 | 10.223 | 10.235 | -0.012 | 1.000 | 8585136 | 0.2022 | Target=17.11 | 101 | 4344 | |
| 613.00 > 169.00 | 10.223 | 10.235 | -0.012 | 1.000 | 554385 | | 15.49(8.55-25.66) | 101 | 5114 | |
| 47 10:2 FTS | | | | | | | | | | |
| 627.00 > 607.00 | 10.245 | 10.264 | -0.019 | 1.124 | 4738598 | NC | Target=32.58 | | 14508 | |
| 627.00 > 81.00 | 10.245 | 10.264 | -0.019 | 1.124 | 127075 | | 37.29(16.29-48.87) | | 2066 | |
| 48 PFDoS | | | | | | | | | | |
| 699.00 > 80.00 | 10.681 | 10.690 | -0.009 | 1.259 | 1382201 | NC | Target=0.47 | | 9591 | |
| 699.00 > 99.00 | 10.681 | 10.690 | -0.009 | 1.259 | 2708276 | | 0.51(0.24-0.71) | | 12379 | |
| 49 Perfluorotridecanoic acid | | | | | | | | | | |
| 663.00 > 619.00 | 10.753 | 10.761 | -0.008 | 1.052 | 12004363 | 0.2094 | Target=18.64 | 105 | 4516 | |
| 663.00 > 169.00 | 10.753 | 10.761 | -0.008 | 1.052 | 643414 | | 18.66(9.32-27.96) | 105 | 4745 | |

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| 50 Perfluorotetradecanoic acid | | | | | | | | | | |
| 713.00 > 169.00 | 11.253 | 11.262 | -0.009 | 1.000 | 522434 | 0.2101 | Target=1.23 | 105 | 4419 | |
| 713.00 > 219.00 | 11.253 | 11.262 | -0.009 | 1.000 | 417321 | | 1.25(0.62-1.85) | 105 | 3389 | |
| D 51 13C2 PFTeDA | | | | | | | | | | |
| 715.00 > 670.00 | 11.253 | 11.262 | -0.009 | | 3015861 | 0.0536 | | 107 | 12977 | |
| D 52 13C2 PFHxDA | | | | | | | | | | |
| 815.00 > 770.00 | 12.225 | 12.245 | -0.020 | | 2460589 | 0.0757 | | 151 | 12157 | |
| 54 Perfluorohexadecanoic acid | | | | | | | | | | |
| 813.00 > 769.00 | 12.225 | 12.247 | -0.022 | 1.000 | 9091059 | 0.1845 | Target=29.80 | 92.3 | 7452 | |
| 813.00 > 169.00 | 12.225 | 12.247 | -0.022 | 1.000 | 289918 | | 31.36(14.90-44.69) | 92.3 | 3326 | |
| 53 Perfluorooctadecanoic acid | | | | | | | | | | |
| 913.00 > 869.00 | 13.323 | 13.366 | -0.043 | 1.090 | 2403599 | 0.2299 | Target=33.62 | 115 | 1654 | |
| 913.00 > 169.00 | 13.323 | 13.366 | -0.043 | 1.090 | 64450 | | 37.29(16.81-50.42) | 115 | 789 | |

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

Reagents:

LCPFC-LL-L8_00022

Amount Added: 1.00

Units: mL

Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d

Injection Date: 09-Feb-2021 12:46:31

Instrument ID: A10

Lims ID: IC STD 8

Client ID:

Operator ID: Sac_inst_A10

ALS Bottle#: 9

Worklist Smp#: 9

Injection Vol: 950.0 ul

Dil. Factor: 1.0000

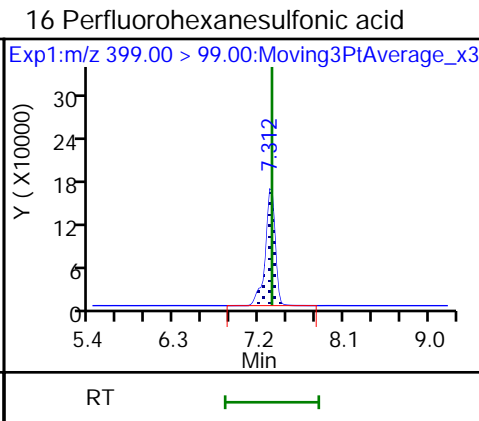
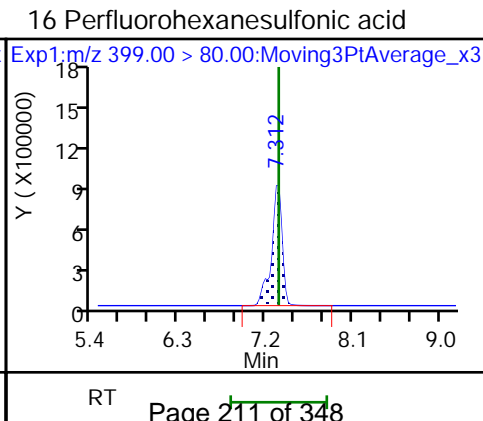
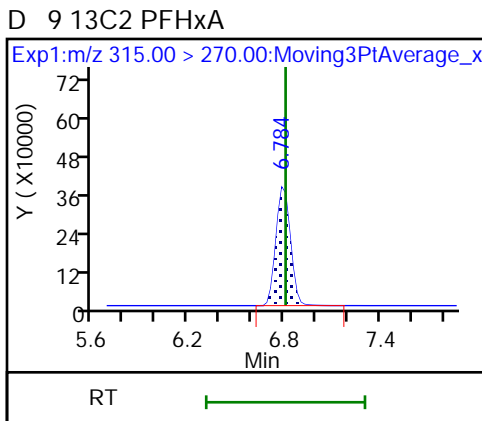
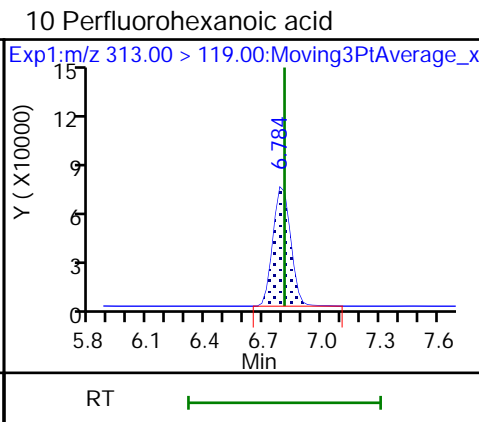
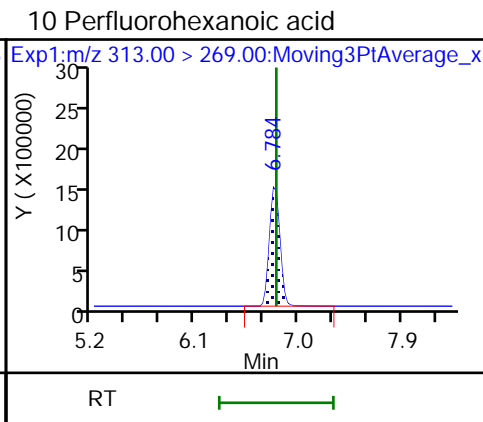
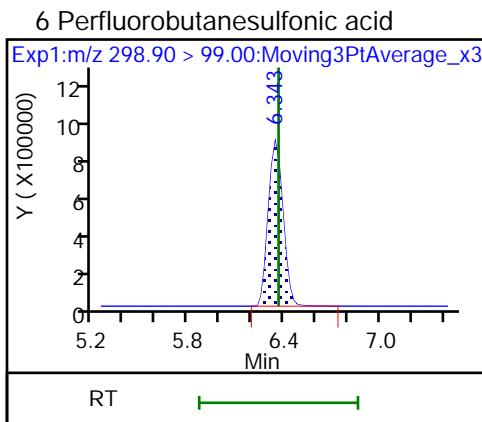
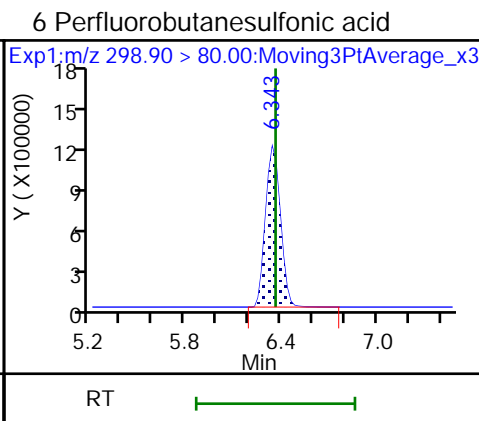
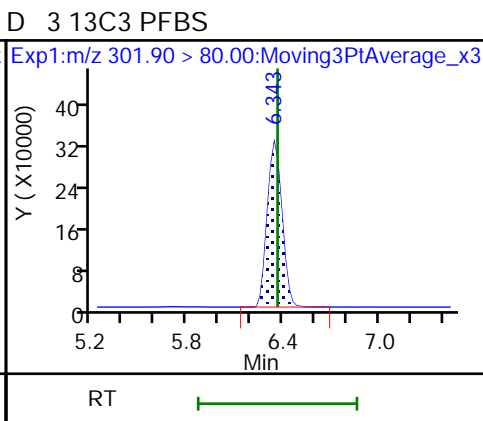
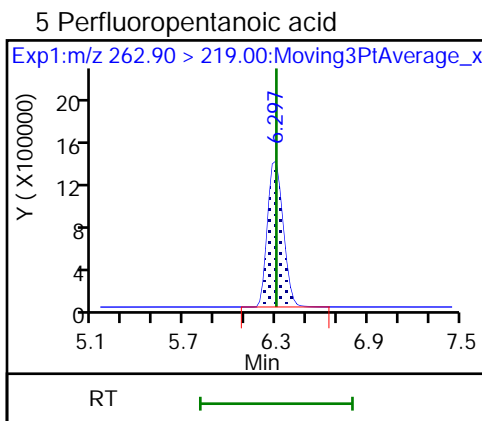
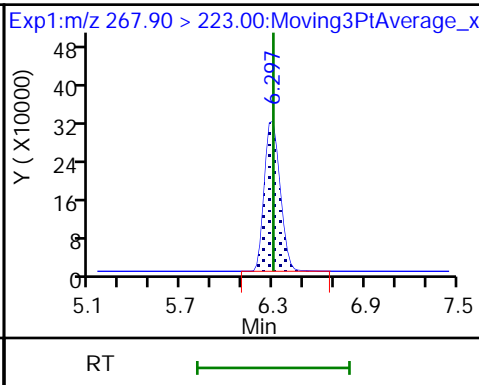
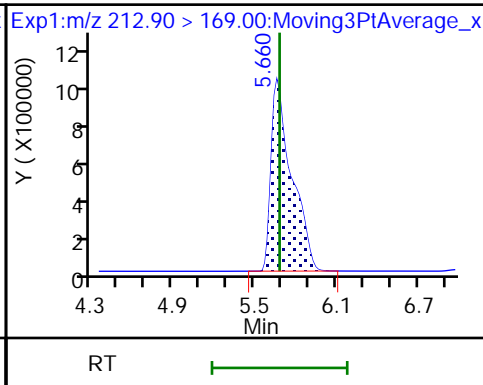
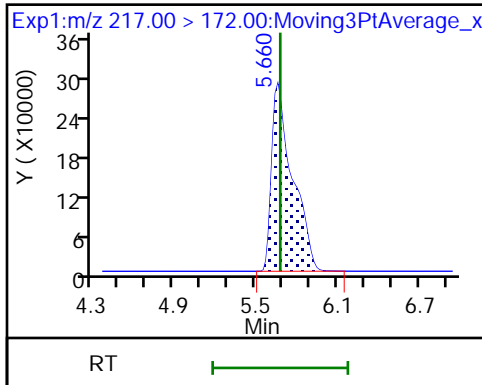
Method: A10_In_Line_SPE

Limit Group: LC PFAS_DW ICAL

D 2 13C4 PFBA

1 Perfluorobutanoic acid

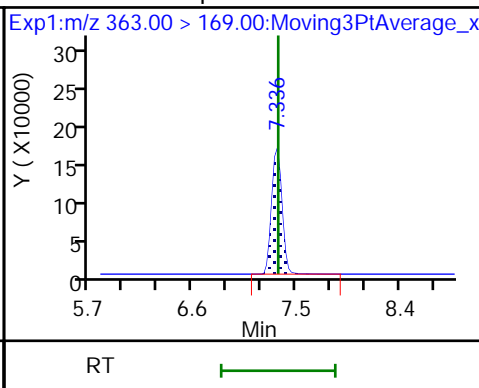
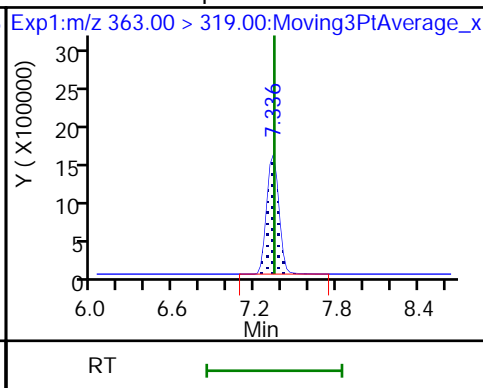
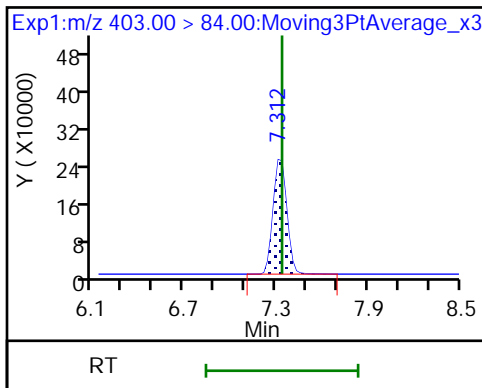
D 4 13C5 PFPeA



D 15 18O2 PFHxS

18 Perfluoroheptanoic acid

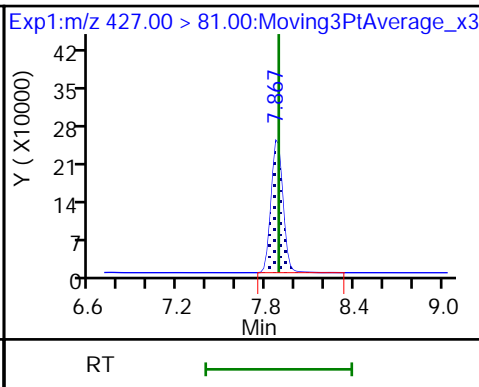
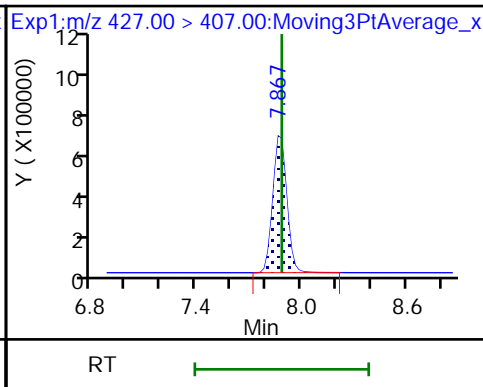
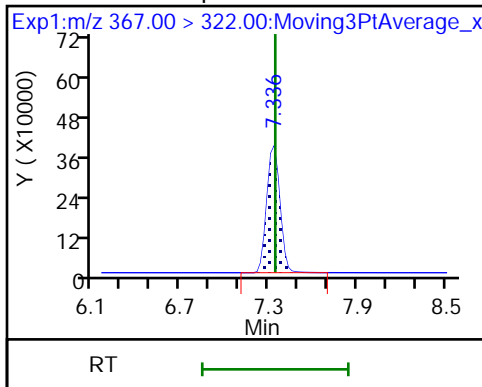
18 Perfluoroheptanoic acid



D 17 13C4 PFHpA

23 6:2 FTS

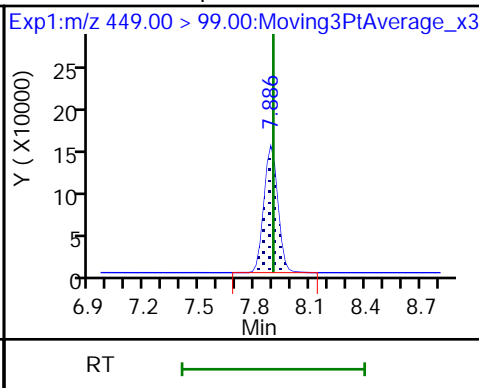
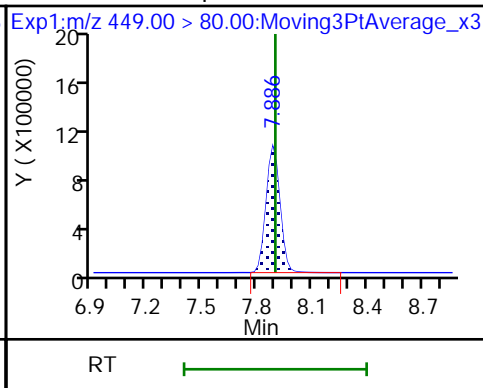
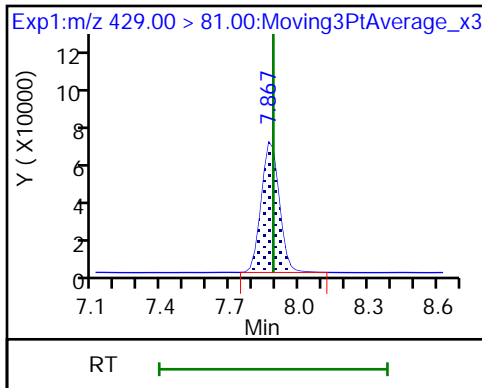
23 6:2 FTS



D 22 M2-6:2 FTS

21 Perfluoroheptanesulfonic acid

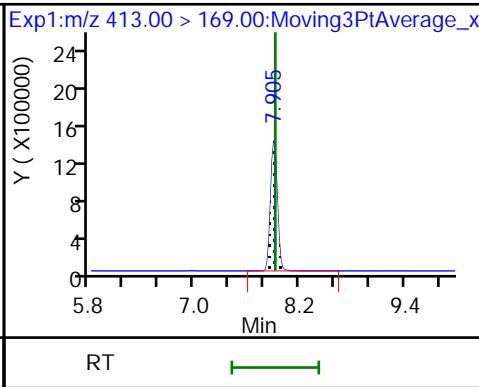
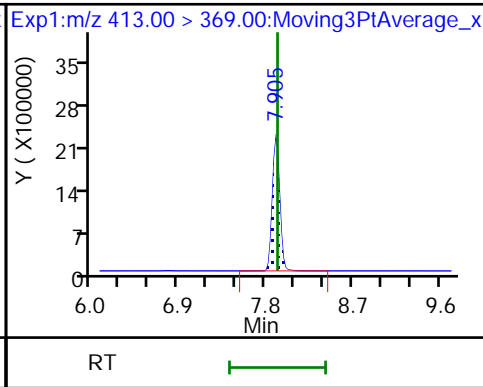
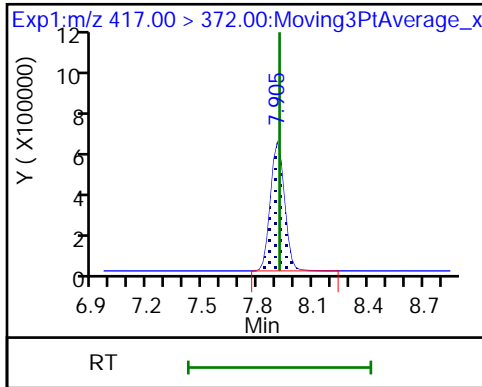
21 Perfluoroheptanesulfonic acid



D 25 13C4 PFOA

24 Perfluorooctanoic acid

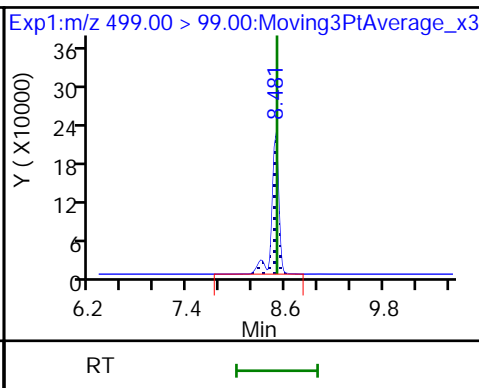
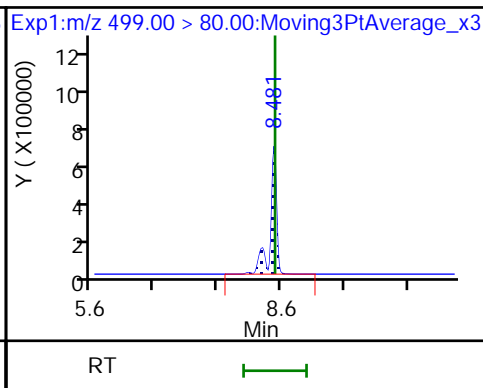
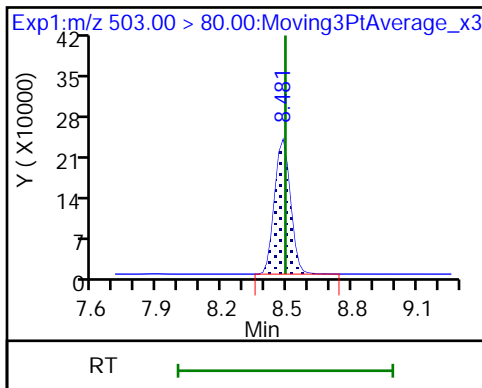
24 Perfluorooctanoic acid



D 26 13C4 PFOS

27 Perfluorooctanesulfonic acid

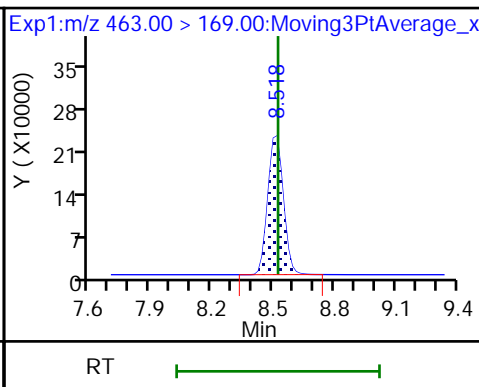
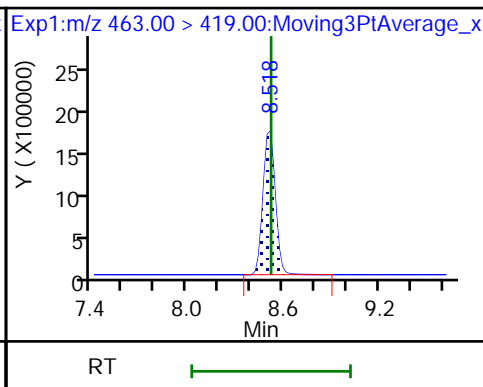
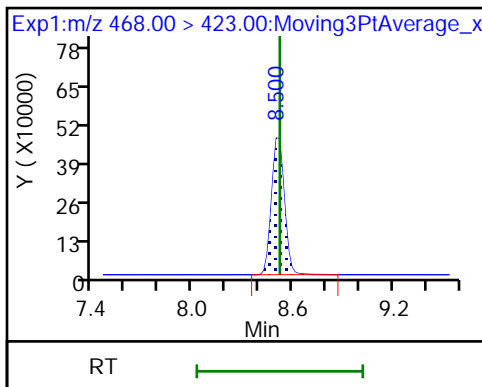
27 Perfluorooctanesulfonic acid



D 28 13C5 PFNA

29 Perfluorononanoic acid

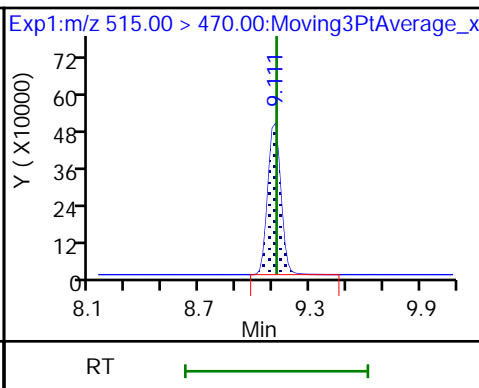
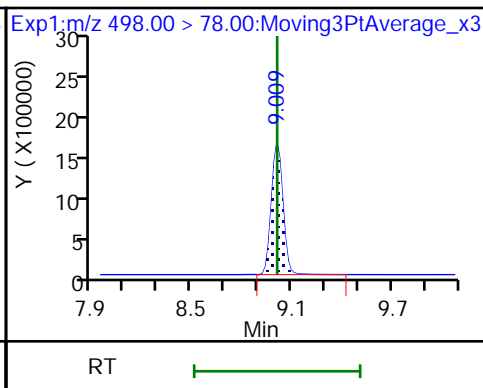
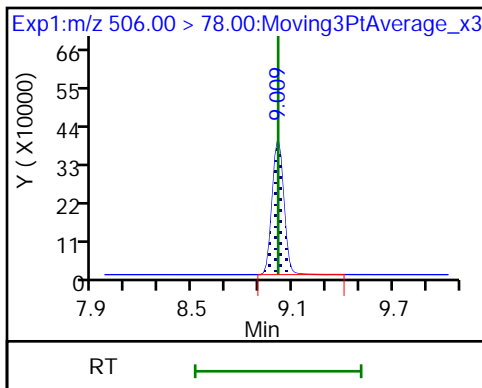
29 Perfluorononanoic acid



D 30 13C8 FOSA

31 Perfluorooctanesulfonamide

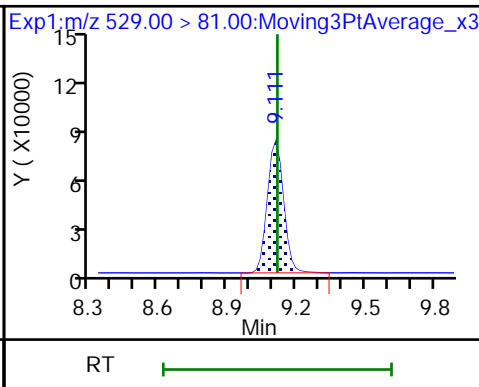
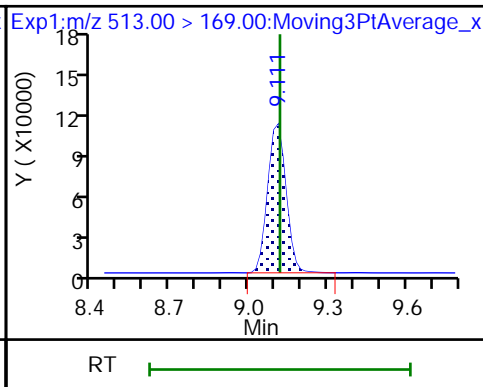
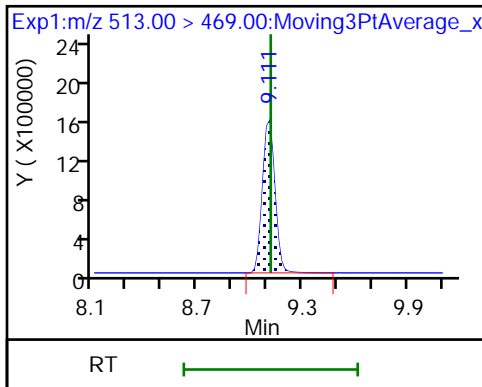
D 33 13C2 PFDA

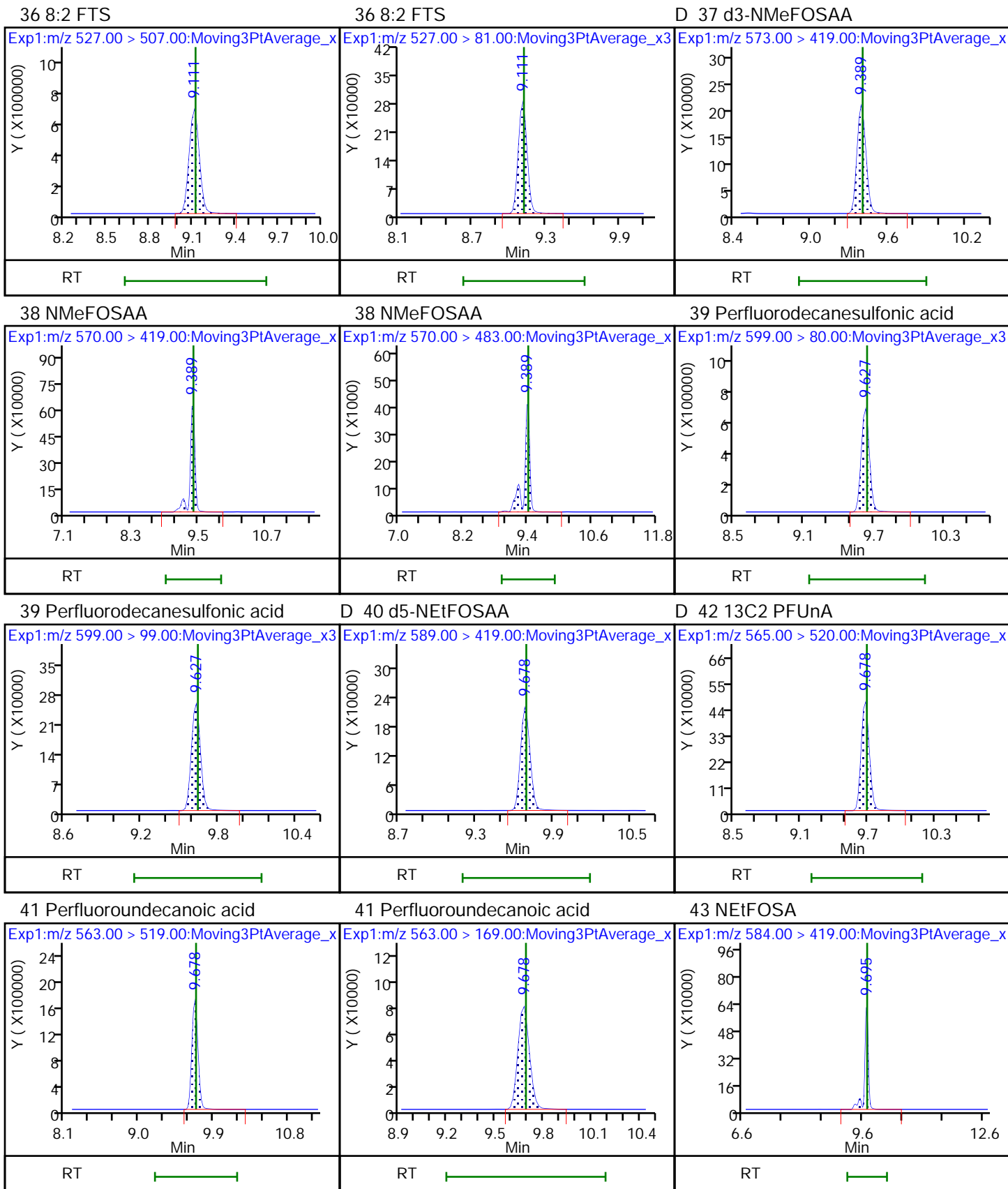


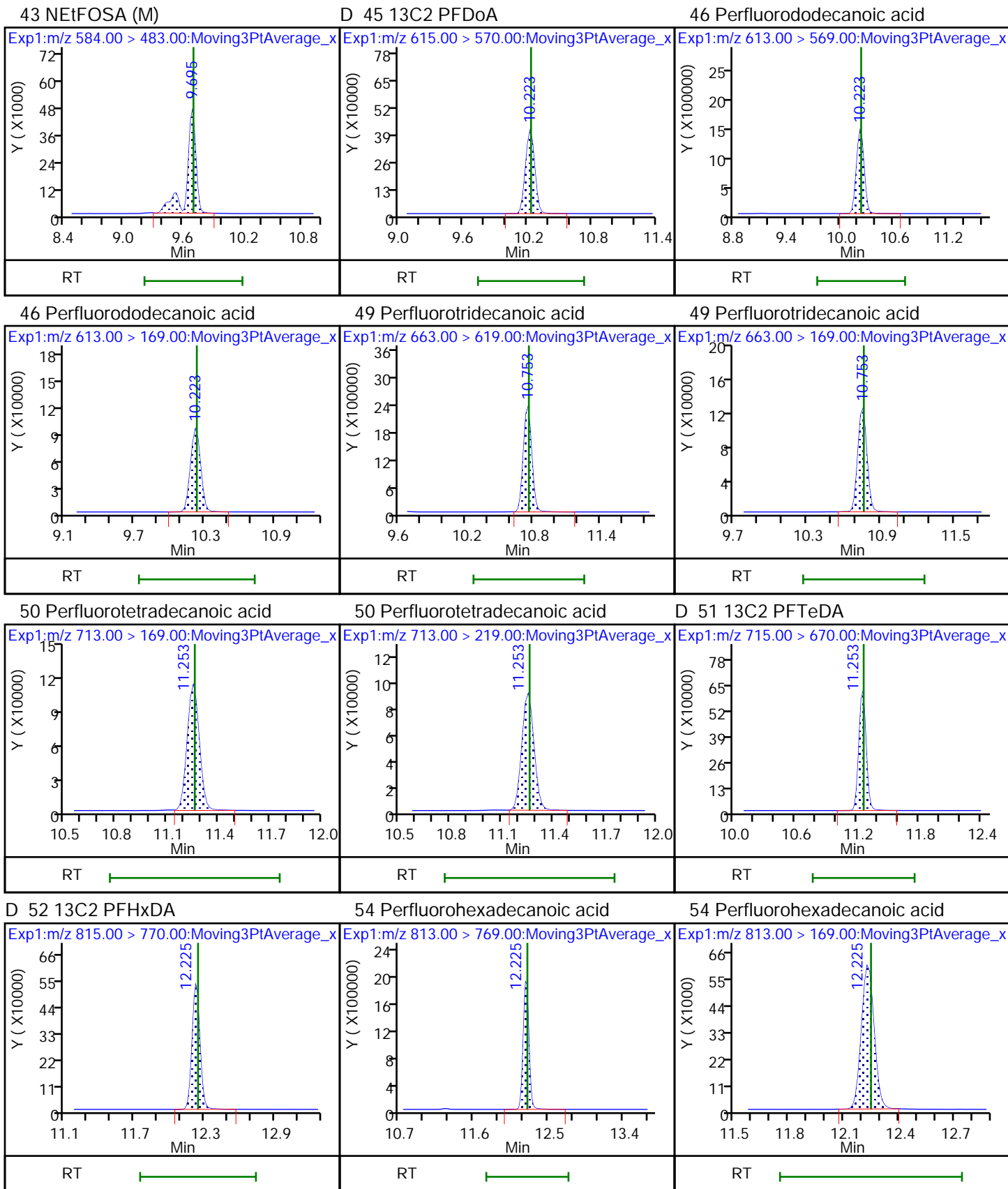
35 Perfluorodecanoic acid

35 Perfluorodecanoic acid

D 34 M2-8:2 FTS

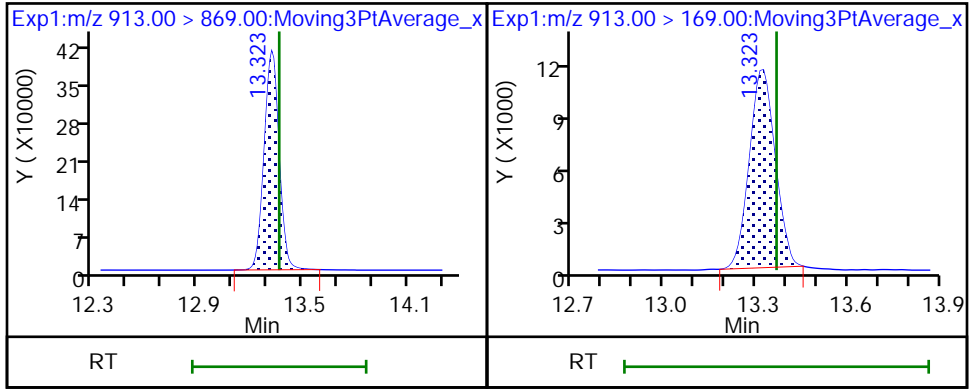






53 Perfluorooctadecanoic acid

53 Perfluorooctadecanoic acid



Eurofins TestAmerica, Sacramento

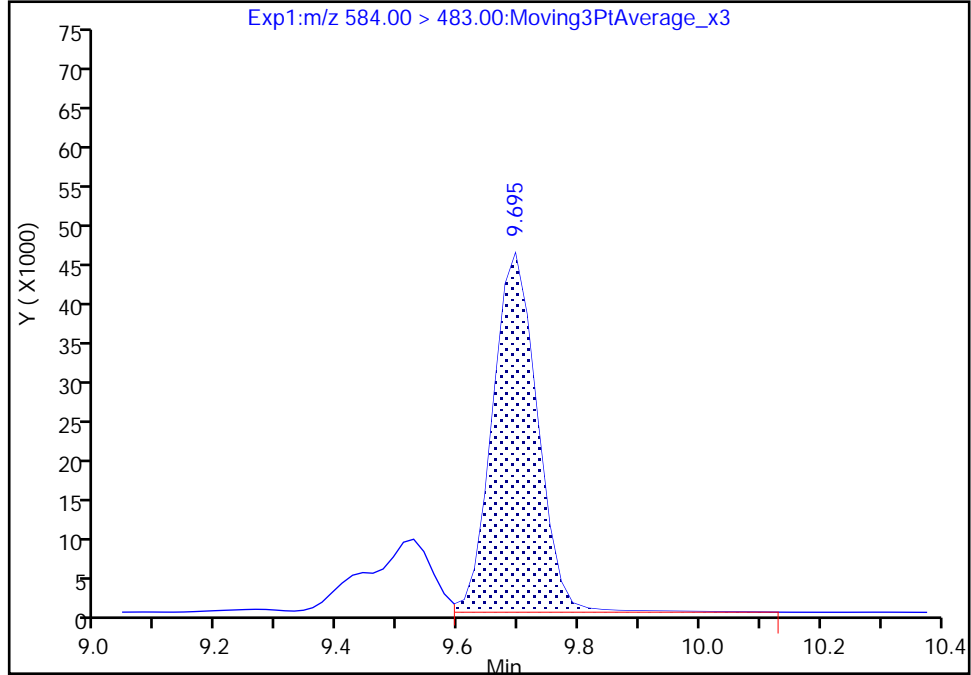
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
Injection Date: 09-Feb-2021 12:46:31 Instrument ID: A10
Lims ID: IC STD 8
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

43 NEtFOSA, CAS: 2991-50-6

Signal: 2

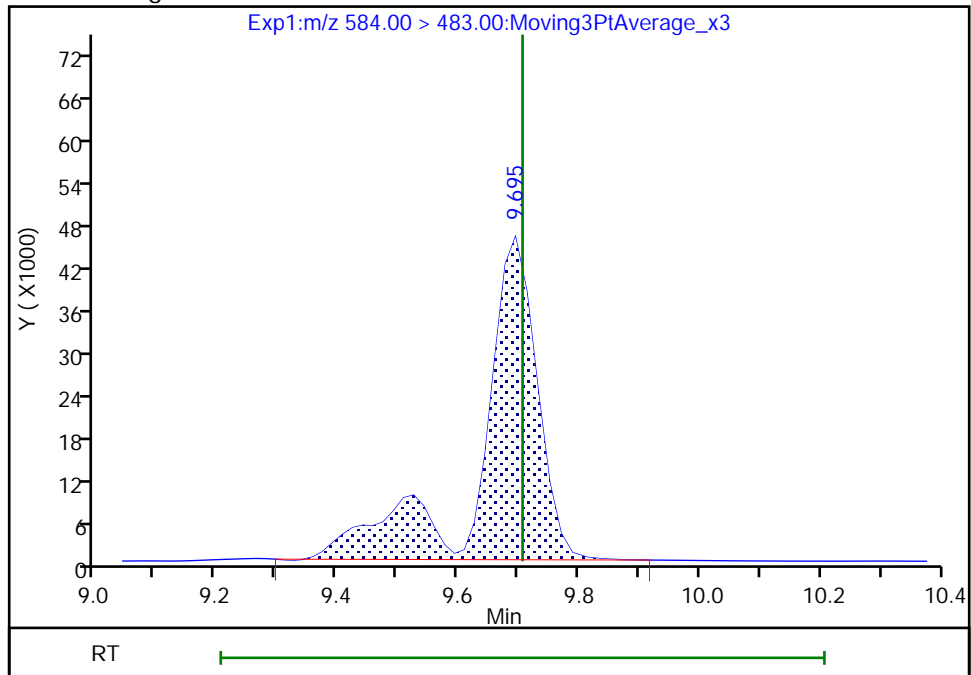
RT: 9.69
Area: 235295
Amount: 0.193022
Amount Units: ng/ml

Processing Integration Results



RT: 9.69
Area: 297141
Amount: 0.193022
Amount Units: ng/ml

Manual Integration Results



Reviewer: vangm, 09-Feb-2021 13:34:13
Audit Action: Manually Integrated

Calibration

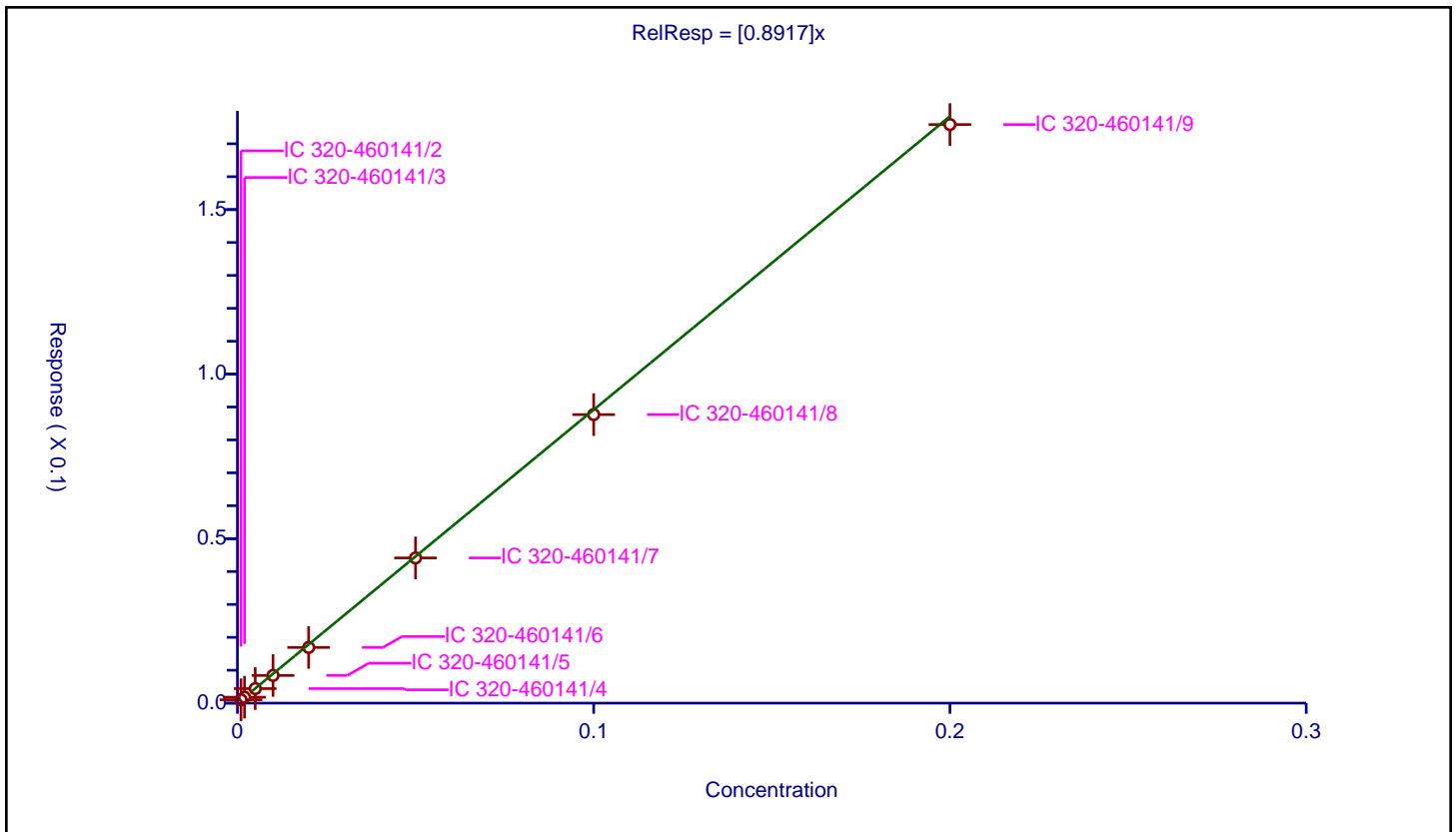
/ Perfluorobutanoic acid

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: IsoDil
 Response Base: AREA
 RF Rounding: 0

| Curve Coefficients | |
|--------------------|--------|
| Intercept: | 0 |
| Slope: | 0.8917 |

| Error Coefficients | |
|--|---------|
| Standard Error: | 4650000 |
| Relative Standard Error: | 6.4 |
| Correlation Coefficient: | 0.999 |
| Coefficient of Determination (Adjusted): | 0.994 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.001 | 0.001024 | 0.05 | 2877445.0 | 1.02412 | Y |
| 2 | IC 320-460141/3 | 0.002 | 0.001799 | 0.05 | 3129425.0 | 0.899366 | Y |
| 3 | IC 320-460141/4 | 0.005 | 0.004417 | 0.05 | 2795516.0 | 0.883447 | Y |
| 4 | IC 320-460141/5 | 0.01 | 0.008417 | 0.05 | 3090445.0 | 0.841655 | Y |
| 5 | IC 320-460141/6 | 0.02 | 0.016924 | 0.05 | 2858023.0 | 0.846202 | Y |
| 6 | IC 320-460141/7 | 0.05 | 0.044125 | 0.05 | 2641030.0 | 0.882507 | Y |
| 7 | IC 320-460141/8 | 0.1 | 0.087698 | 0.05 | 3036185.0 | 0.876979 | Y |
| 8 | IC 320-460141/9 | 0.2 | 0.175851 | 0.05 | 3063851.0 | 0.879255 | Y |



Calibration

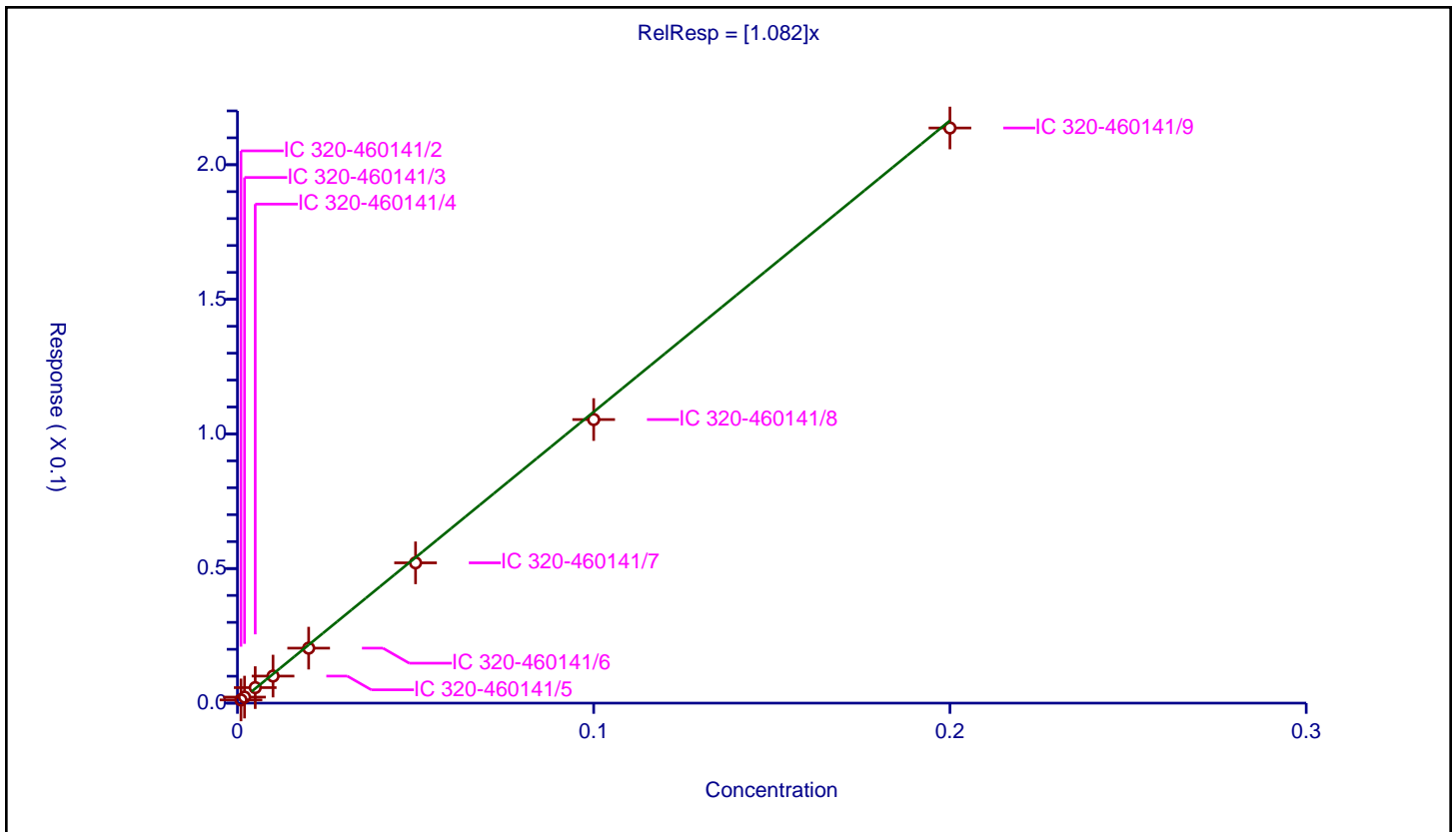
/ Perfluoropentanoic acid

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: IsoDil
 Response Base: AREA
 RF Rounding: 0

| Curve Coefficients | |
|--------------------|-------|
| Intercept: | 0 |
| Slope: | 1.082 |

| Error Coefficients | |
|--|---------|
| Standard Error: | 4180000 |
| Relative Standard Error: | 6.1 |
| Correlation Coefficient: | 0.999 |
| Coefficient of Determination (Adjusted): | 0.995 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.001 | 0.001192 | 0.05 | 2021437.0 | 1.1919 | Y |
| 2 | IC 320-460141/3 | 0.002 | 0.002244 | 0.05 | 2218290.0 | 1.121821 | Y |
| 3 | IC 320-460141/4 | 0.005 | 0.00576 | 0.05 | 2052592.0 | 1.151968 | Y |
| 4 | IC 320-460141/5 | 0.01 | 0.010047 | 0.05 | 2321262.0 | 1.004712 | Y |
| 5 | IC 320-460141/6 | 0.02 | 0.020428 | 0.05 | 2254370.0 | 1.021381 | Y |
| 6 | IC 320-460141/7 | 0.05 | 0.052114 | 0.05 | 2116171.0 | 1.042281 | Y |
| 7 | IC 320-460141/8 | 0.1 | 0.10534 | 0.05 | 2345001.0 | 1.053403 | Y |
| 8 | IC 320-460141/9 | 0.2 | 0.213646 | 0.05 | 2244601.0 | 1.06823 | Y |



Calibration

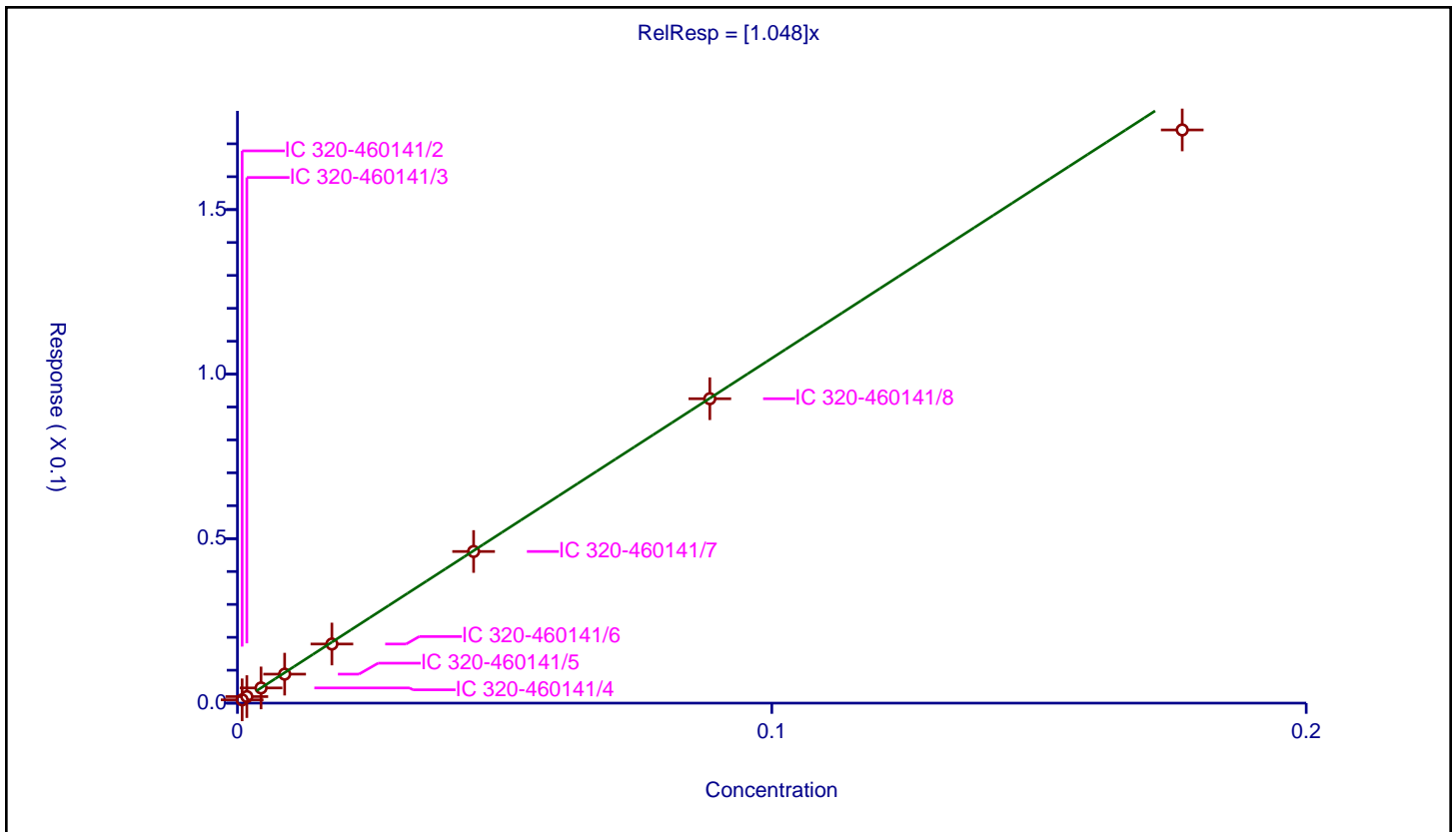
/ Perfluorobutanesulfonic acid

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: IsoDil
 Response Base: AREA
 RF Rounding: 0

| Curve Coefficients | |
|--------------------|-------|
| Intercept: | 0 |
| Slope: | 1.048 |

| Error Coefficients | |
|--|---------|
| Standard Error: | 3330000 |
| Relative Standard Error: | 5.1 |
| Correlation Coefficient: | 1.000 |
| Coefficient of Determination (Adjusted): | 0.996 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.000884 | 0.000998 | 0.0465 | 1713859.0 | 1.12916 | Y |
| 2 | IC 320-460141/3 | 0.001768 | 0.001987 | 0.0465 | 1928983.0 | 1.12405 | Y |
| 3 | IC 320-460141/4 | 0.00442 | 0.004618 | 0.0465 | 1736179.0 | 1.044784 | Y |
| 4 | IC 320-460141/5 | 0.00884 | 0.008809 | 0.0465 | 1985339.0 | 0.996529 | Y |
| 5 | IC 320-460141/6 | 0.01768 | 0.017967 | 0.0465 | 1971094.0 | 1.016261 | Y |
| 6 | IC 320-460141/7 | 0.0442 | 0.046089 | 0.0465 | 1825087.0 | 1.042727 | Y |
| 7 | IC 320-460141/8 | 0.0884 | 0.092517 | 0.0465 | 1956942.0 | 1.046571 | Y |
| 8 | IC 320-460141/9 | 0.1768 | 0.174208 | 0.0465 | 2042047.0 | 0.985341 | Y |



Calibration

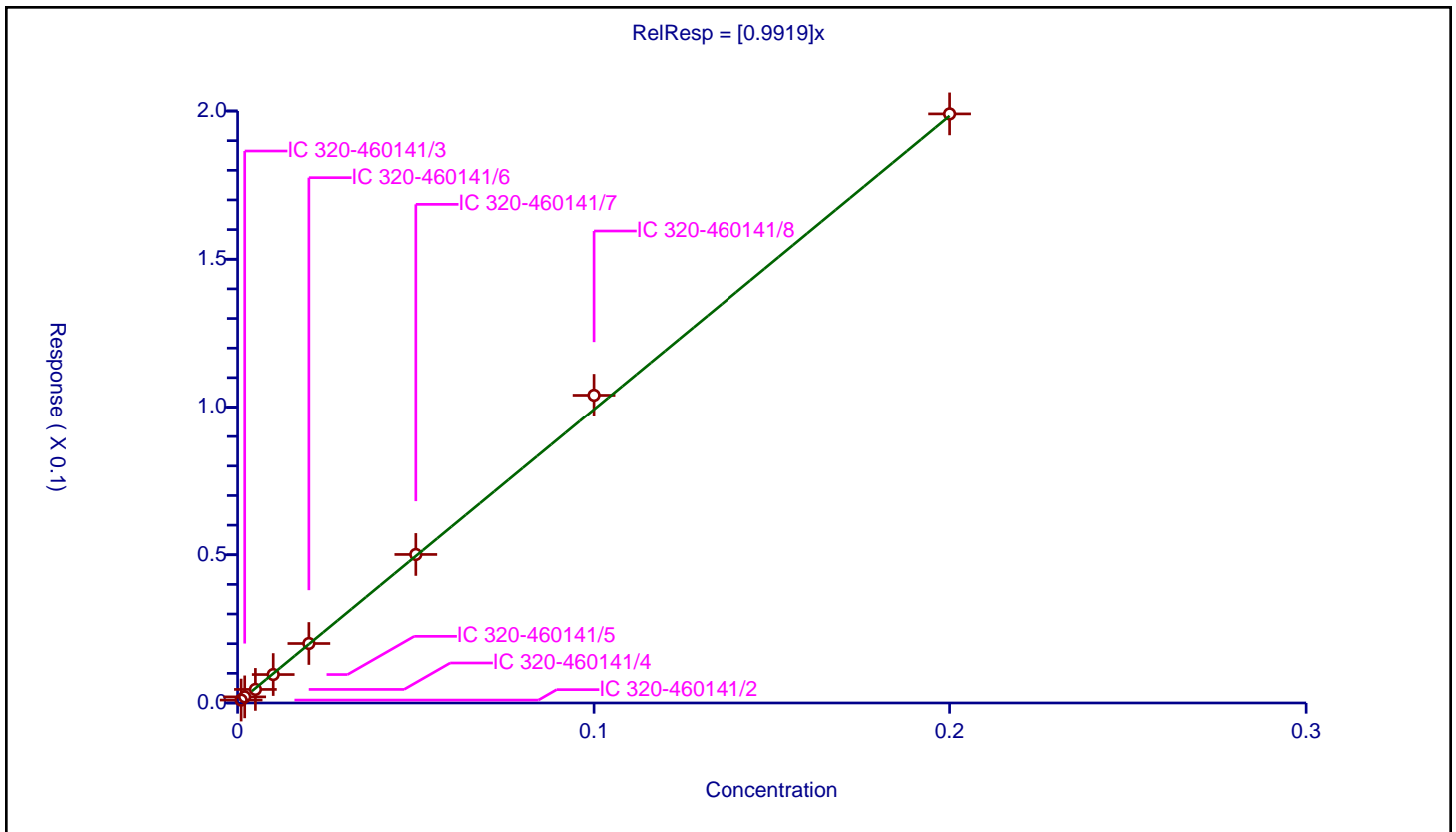
/ Perfluorohexanoic acid

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: IsoDil
 Response Base: AREA
 RF Rounding: 0

| Curve Coefficients | |
|--------------------|--------|
| Intercept: | 0 |
| Slope: | 0.9919 |

| Error Coefficients | |
|--|---------|
| Standard Error: | 4080000 |
| Relative Standard Error: | 4.1 |
| Correlation Coefficient: | 0.998 |
| Coefficient of Determination (Adjusted): | 0.998 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.001 | 0.000986 | 0.05 | 2332533.0 | 0.986053 | Y |
| 2 | IC 320-460141/3 | 0.002 | 0.002067 | 0.05 | 2536407.0 | 1.033687 | Y |
| 3 | IC 320-460141/4 | 0.005 | 0.004575 | 0.05 | 2490816.0 | 0.915078 | Y |
| 4 | IC 320-460141/5 | 0.01 | 0.009591 | 0.05 | 2552976.0 | 0.959143 | Y |
| 5 | IC 320-460141/6 | 0.02 | 0.020061 | 0.05 | 2271856.0 | 1.003074 | Y |
| 6 | IC 320-460141/7 | 0.05 | 0.050106 | 0.05 | 2086409.0 | 1.002113 | Y |
| 7 | IC 320-460141/8 | 0.1 | 0.104053 | 0.05 | 2371666.0 | 1.04053 | Y |
| 8 | IC 320-460141/9 | 0.2 | 0.199029 | 0.05 | 2336578.0 | 0.995145 | Y |



Calibration

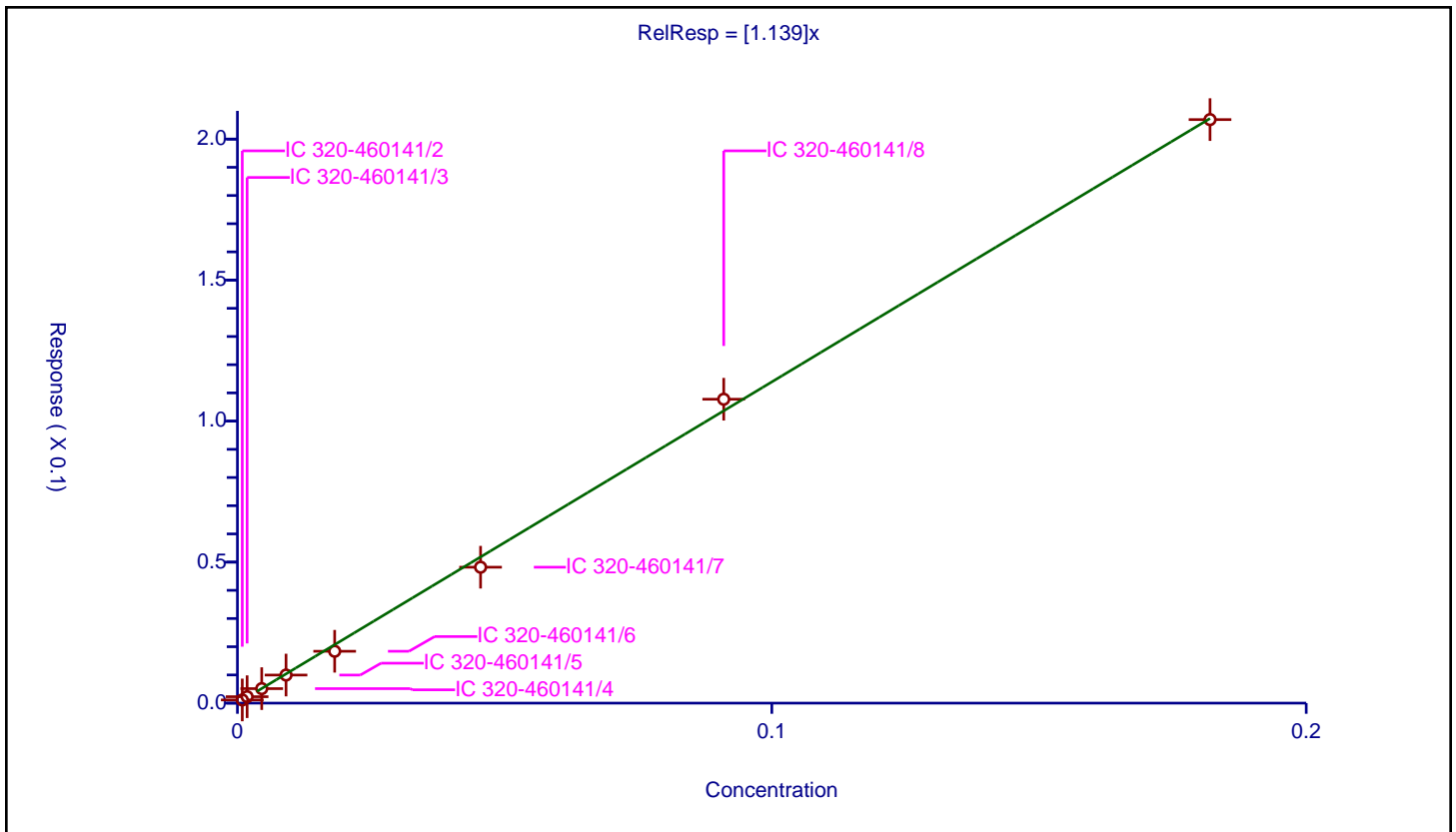
/ Perfluorohexanesulfonic acid

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: IsoDil
 Response Base: AREA
 RF Rounding: 0

| Curve Coefficients | |
|--------------------|-------|
| Intercept: | 0 |
| Slope: | 1.139 |

| Error Coefficients | |
|--|---------|
| Standard Error: | 2890000 |
| Relative Standard Error: | 7.5 |
| Correlation Coefficient: | 0.998 |
| Coefficient of Determination (Adjusted): | 0.992 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.00091 | 0.001132 | 0.0473 | 1599364.0 | 1.244134 | Y |
| 2 | IC 320-460141/3 | 0.00182 | 0.002278 | 0.0473 | 1679267.0 | 1.251886 | Y |
| 3 | IC 320-460141/4 | 0.00455 | 0.005146 | 0.0473 | 1484997.0 | 1.13089 | Y |
| 4 | IC 320-460141/5 | 0.0091 | 0.009962 | 0.0473 | 1680629.0 | 1.094724 | Y |
| 5 | IC 320-460141/6 | 0.0182 | 0.01839 | 0.0473 | 1578041.0 | 1.010455 | Y |
| 6 | IC 320-460141/7 | 0.0455 | 0.048202 | 0.0473 | 1382621.0 | 1.059378 | Y |
| 7 | IC 320-460141/8 | 0.091 | 0.10776 | 0.0473 | 1509488.0 | 1.184176 | Y |
| 8 | IC 320-460141/9 | 0.182 | 0.206916 | 0.0473 | 1520758.0 | 1.136903 | Y |



Calibration

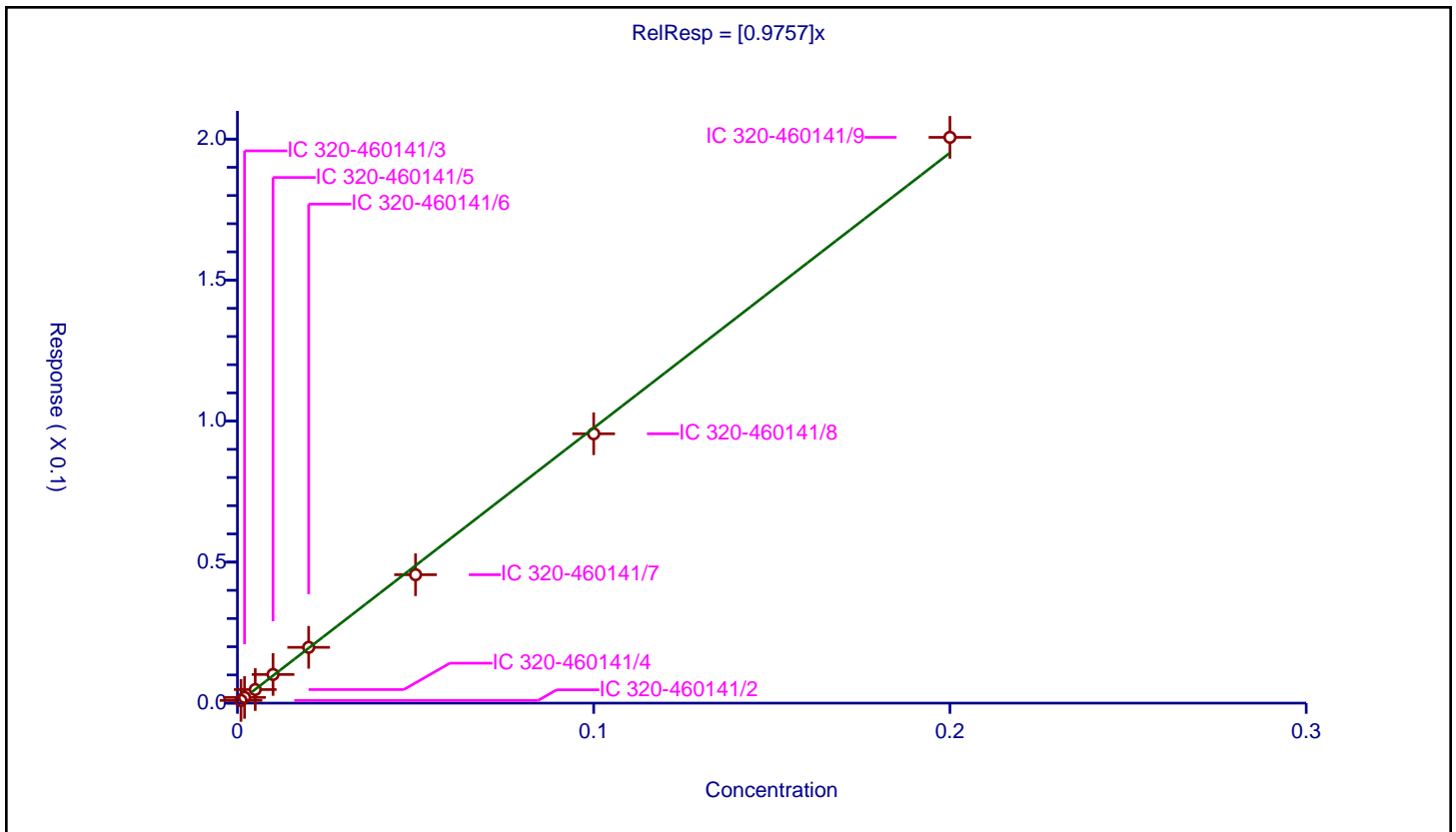
/ Perfluoroheptanoic acid

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: IsoDil
 Response Base: AREA
 RF Rounding: 0

| Curve Coefficients | |
|--------------------|--------|
| Intercept: | 0 |
| Slope: | 0.9757 |

| Error Coefficients | |
|--|---------|
| Standard Error: | 4140000 |
| Relative Standard Error: | 3.6 |
| Correlation Coefficient: | 0.995 |
| Coefficient of Determination (Adjusted): | 0.998 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.001 | 0.000962 | 0.05 | 2691176.0 | 0.962052 | Y |
| 2 | IC 320-460141/3 | 0.002 | 0.002014 | 0.05 | 2783432.0 | 1.007237 | Y |
| 3 | IC 320-460141/4 | 0.005 | 0.004812 | 0.05 | 2581161.0 | 0.962451 | Y |
| 4 | IC 320-460141/5 | 0.01 | 0.010159 | 0.05 | 2614723.0 | 1.015905 | Y |
| 5 | IC 320-460141/6 | 0.02 | 0.019777 | 0.05 | 2247345.0 | 0.988836 | Y |
| 6 | IC 320-460141/7 | 0.05 | 0.045532 | 0.05 | 2074927.0 | 0.910644 | Y |
| 7 | IC 320-460141/8 | 0.1 | 0.095511 | 0.05 | 2667479.0 | 0.955106 | Y |
| 8 | IC 320-460141/9 | 0.2 | 0.200618 | 0.05 | 2357541.0 | 1.003091 | Y |



Calibration

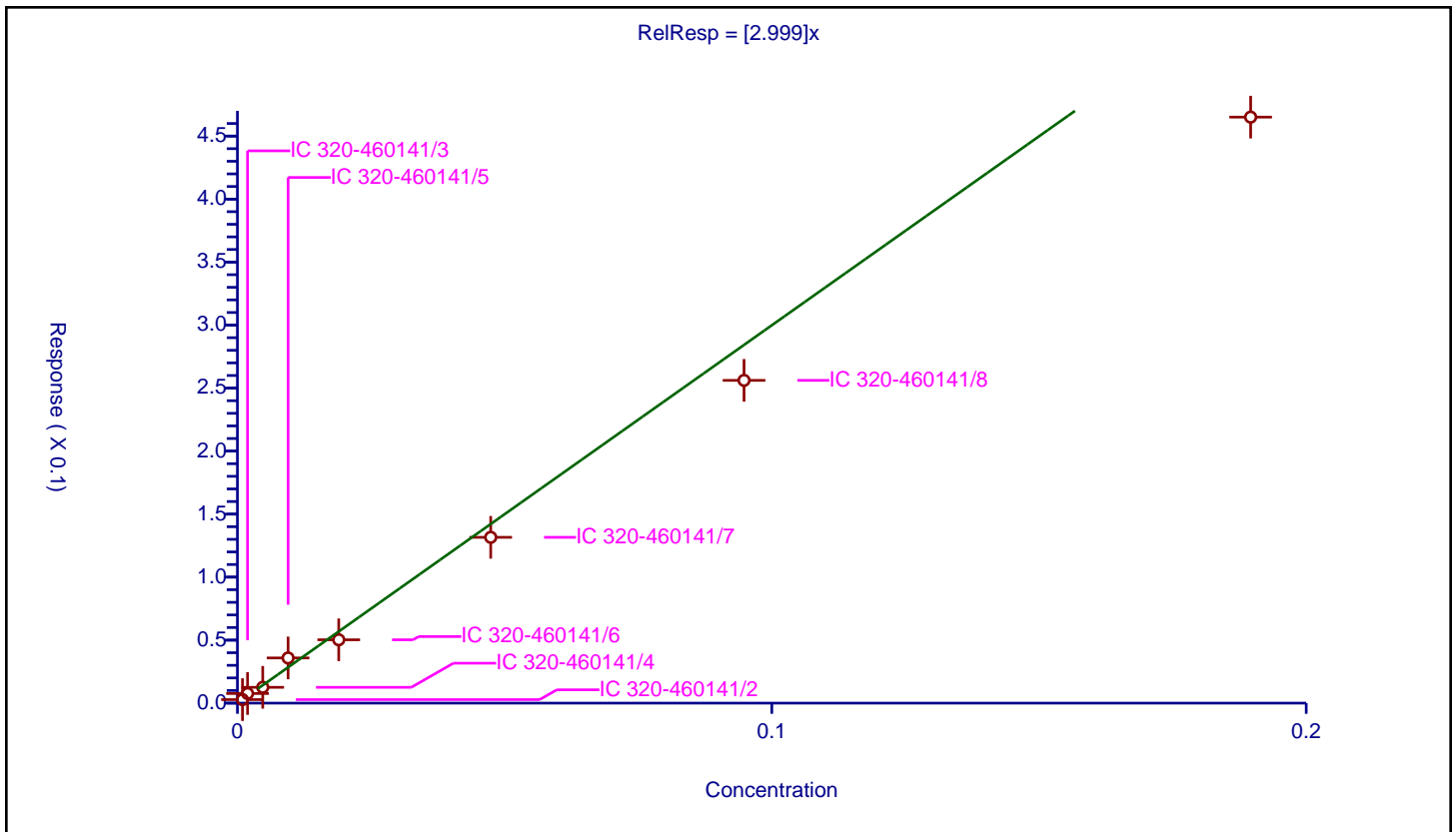
/ 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: IsoDil
 Response Base: AREA
 RF Rounding: 0

| Curve Coefficients | |
|--------------------|-------|
| Intercept: | 0 |
| Slope: | 2.999 |

| Error Coefficients | |
|--|---------|
| Standard Error: | 1600000 |
| Relative Standard Error: | 19.4 |
| Correlation Coefficient: | 0.996 |
| Coefficient of Determination (Adjusted): | 0.948 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.000948 | 0.002793 | 0.0475 | 401178.0 | 2.946294 | Y |
| 2 | IC 320-460141/3 | 0.001896 | 0.007643 | 0.0475 | 442051.0 | 4.031156 | Y |
| 3 | IC 320-460141/4 | 0.00474 | 0.012552 | 0.0475 | 395138.0 | 2.648069 | Y |
| 4 | IC 320-460141/5 | 0.00948 | 0.03585 | 0.0475 | 411597.0 | 3.781665 | Y |
| 5 | IC 320-460141/6 | 0.01896 | 0.050267 | 0.0475 | 382311.0 | 2.651222 | Y |
| 6 | IC 320-460141/7 | 0.0474 | 0.131593 | 0.0475 | 356661.0 | 2.77622 | Y |
| 7 | IC 320-460141/8 | 0.0948 | 0.256141 | 0.0475 | 369762.0 | 2.701908 | Y |
| 8 | IC 320-460141/9 | 0.1896 | 0.465051 | 0.0475 | 362809.0 | 2.452801 | Y |



Calibration

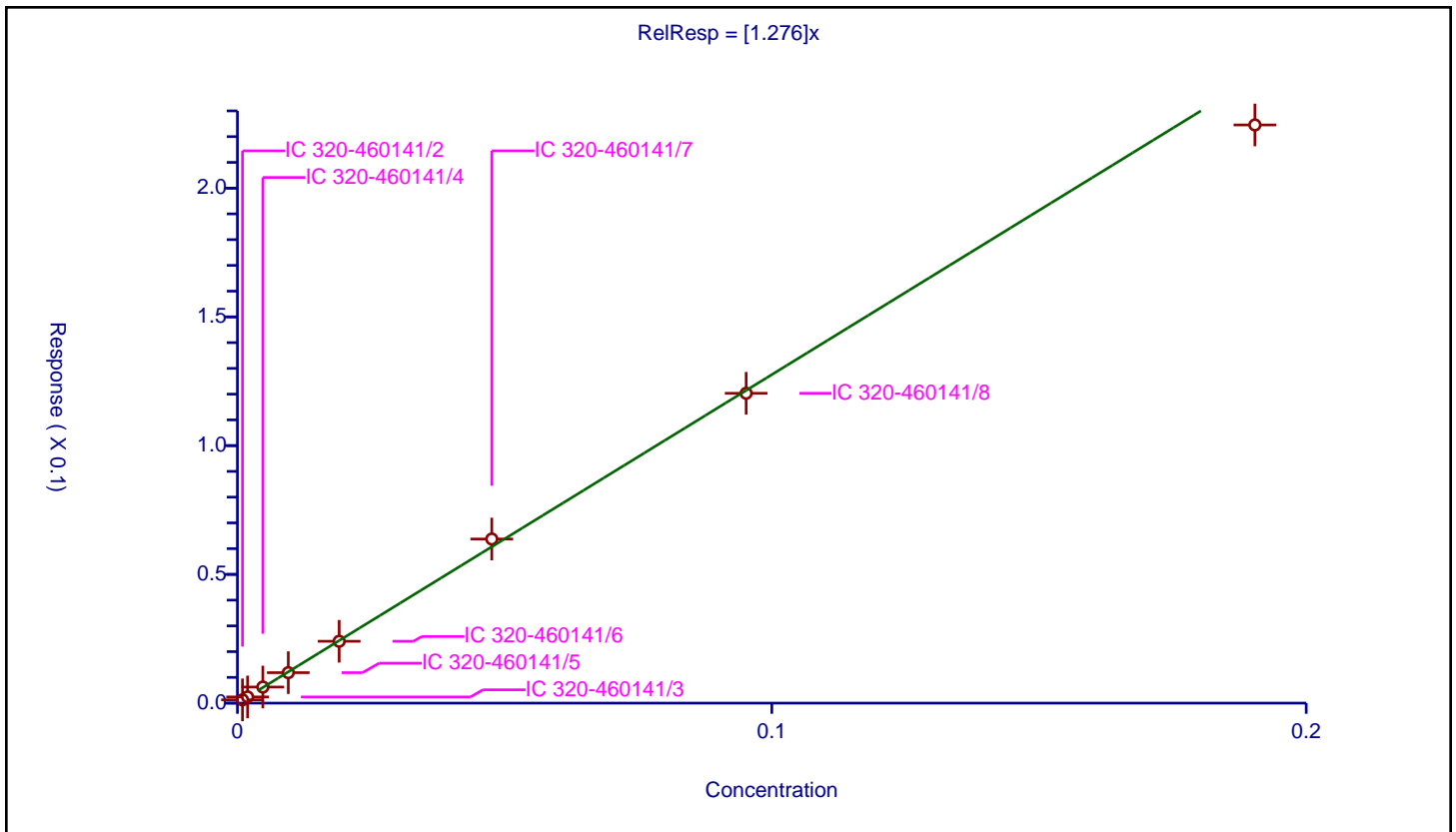
/ Perfluoroheptanesulfonic acid

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: IsoDil
 Response Base: AREA
 RF Rounding: 0

| Curve Coefficients | |
|--------------------|-------|
| Intercept: | 0 |
| Slope: | 1.276 |

| Error Coefficients | |
|--|---------|
| Standard Error: | 2410000 |
| Relative Standard Error: | 4.2 |
| Correlation Coefficient: | 0.999 |
| Coefficient of Determination (Adjusted): | 0.998 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.000952 | 0.001275 | 0.0478 | 987657.0 | 1.339672 | Y |
| 2 | IC 320-460141/3 | 0.001904 | 0.002408 | 0.0478 | 1133086.0 | 1.264883 | Y |
| 3 | IC 320-460141/4 | 0.00476 | 0.006255 | 0.0478 | 1032015.0 | 1.314123 | Y |
| 4 | IC 320-460141/5 | 0.00952 | 0.011835 | 0.0478 | 1148383.0 | 1.243164 | Y |
| 5 | IC 320-460141/6 | 0.01904 | 0.024026 | 0.0478 | 1101991.0 | 1.261846 | Y |
| 6 | IC 320-460141/7 | 0.0476 | 0.063734 | 0.0478 | 972863.0 | 1.338949 | Y |
| 7 | IC 320-460141/8 | 0.0952 | 0.120329 | 0.0478 | 1149553.0 | 1.263963 | Y |
| 8 | IC 320-460141/9 | 0.1904 | 0.224537 | 0.0478 | 1172158.0 | 1.179289 | Y |



Calibration

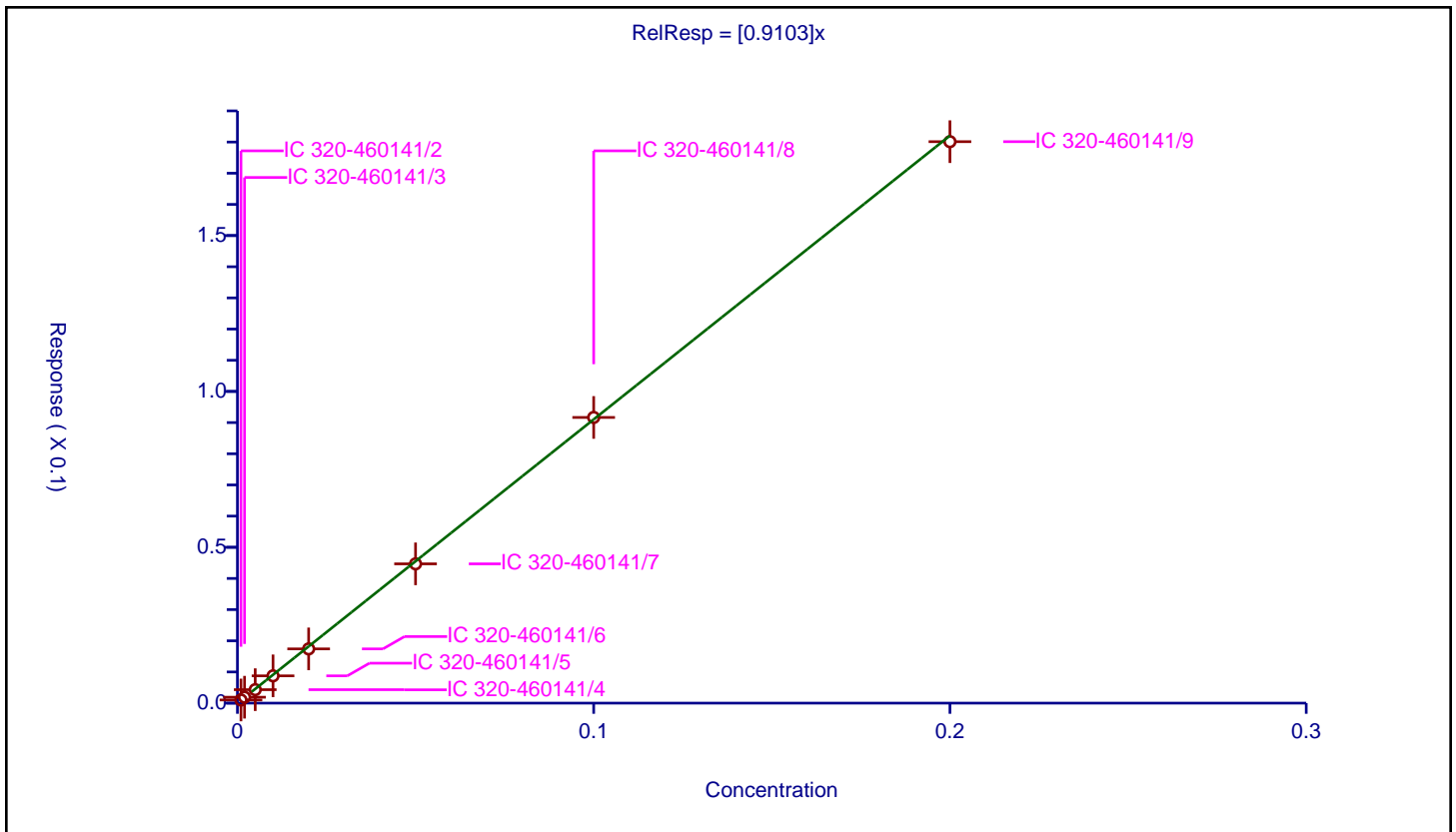
/ Perfluorooctanoic acid

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: IsoDil
 Response Base: AREA
 RF Rounding: 0

| Curve Coefficients | |
|--------------------|--------|
| Intercept: | 0 |
| Slope: | 0.9103 |

| Error Coefficients | |
|--|---------|
| Standard Error: | 5050000 |
| Relative Standard Error: | 5.4 |
| Correlation Coefficient: | 0.998 |
| Coefficient of Determination (Adjusted): | 0.996 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.001 | 0.00101 | 0.05 | 3313654.0 | 1.010274 | Y |
| 2 | IC 320-460141/3 | 0.002 | 0.001904 | 0.05 | 3707064.0 | 0.951804 | Y |
| 3 | IC 320-460141/4 | 0.005 | 0.00432 | 0.05 | 3340904.0 | 0.864012 | Y |
| 4 | IC 320-460141/5 | 0.01 | 0.008755 | 0.05 | 3484213.0 | 0.875502 | Y |
| 5 | IC 320-460141/6 | 0.02 | 0.017405 | 0.05 | 3343736.0 | 0.870235 | Y |
| 6 | IC 320-460141/7 | 0.05 | 0.04468 | 0.05 | 3041035.0 | 0.893604 | Y |
| 7 | IC 320-460141/8 | 0.1 | 0.091657 | 0.05 | 3353847.0 | 0.916567 | Y |
| 8 | IC 320-460141/9 | 0.2 | 0.180121 | 0.05 | 3179206.0 | 0.900604 | Y |



Calibration

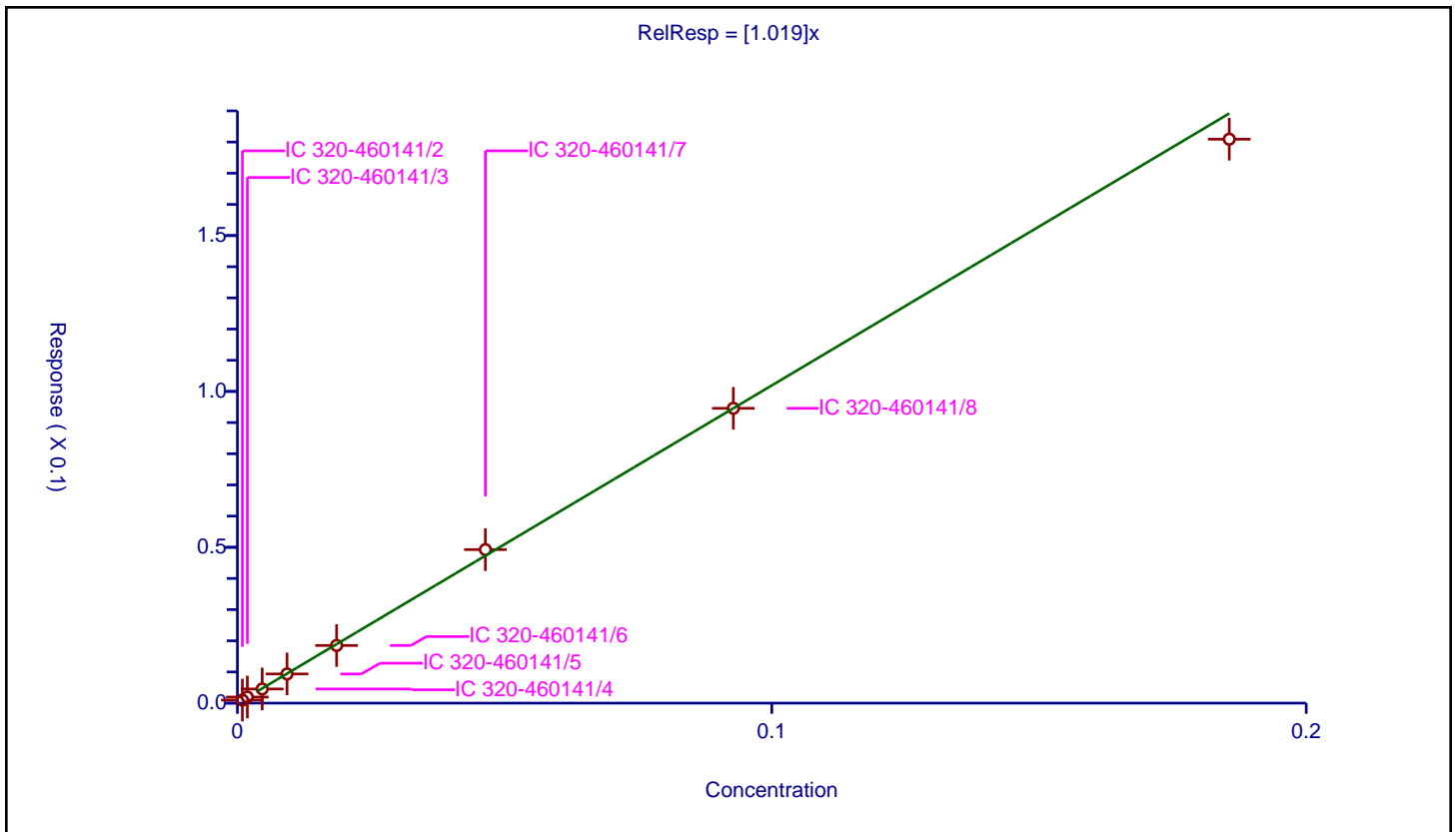
/ Perfluorooctanesulfonic acid

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: IsoDil
 Response Base: AREA
 RF Rounding: 0

| Curve Coefficients | |
|--------------------|-------|
| Intercept: | 0 |
| Slope: | 1.019 |

| Error Coefficients | |
|--|---------|
| Standard Error: | 1930000 |
| Relative Standard Error: | 3.5 |
| Correlation Coefficient: | 0.999 |
| Coefficient of Determination (Adjusted): | 0.998 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.000928 | 0.000988 | 0.0478 | 987657.0 | 1.064951 | Y |
| 2 | IC 320-460141/3 | 0.001856 | 0.00195 | 0.0478 | 1133086.0 | 1.050392 | Y |
| 3 | IC 320-460141/4 | 0.00464 | 0.004539 | 0.0478 | 1032015.0 | 0.97824 | Y |
| 4 | IC 320-460141/5 | 0.00928 | 0.009357 | 0.0478 | 1148383.0 | 1.008304 | Y |
| 5 | IC 320-460141/6 | 0.01856 | 0.018496 | 0.0478 | 1101991.0 | 0.996543 | Y |
| 6 | IC 320-460141/7 | 0.0464 | 0.049253 | 0.0478 | 972863.0 | 1.061494 | Y |
| 7 | IC 320-460141/8 | 0.0928 | 0.094581 | 0.0478 | 1149553.0 | 1.019194 | Y |
| 8 | IC 320-460141/9 | 0.1856 | 0.180917 | 0.0478 | 1172158.0 | 0.974768 | Y |



Calibration

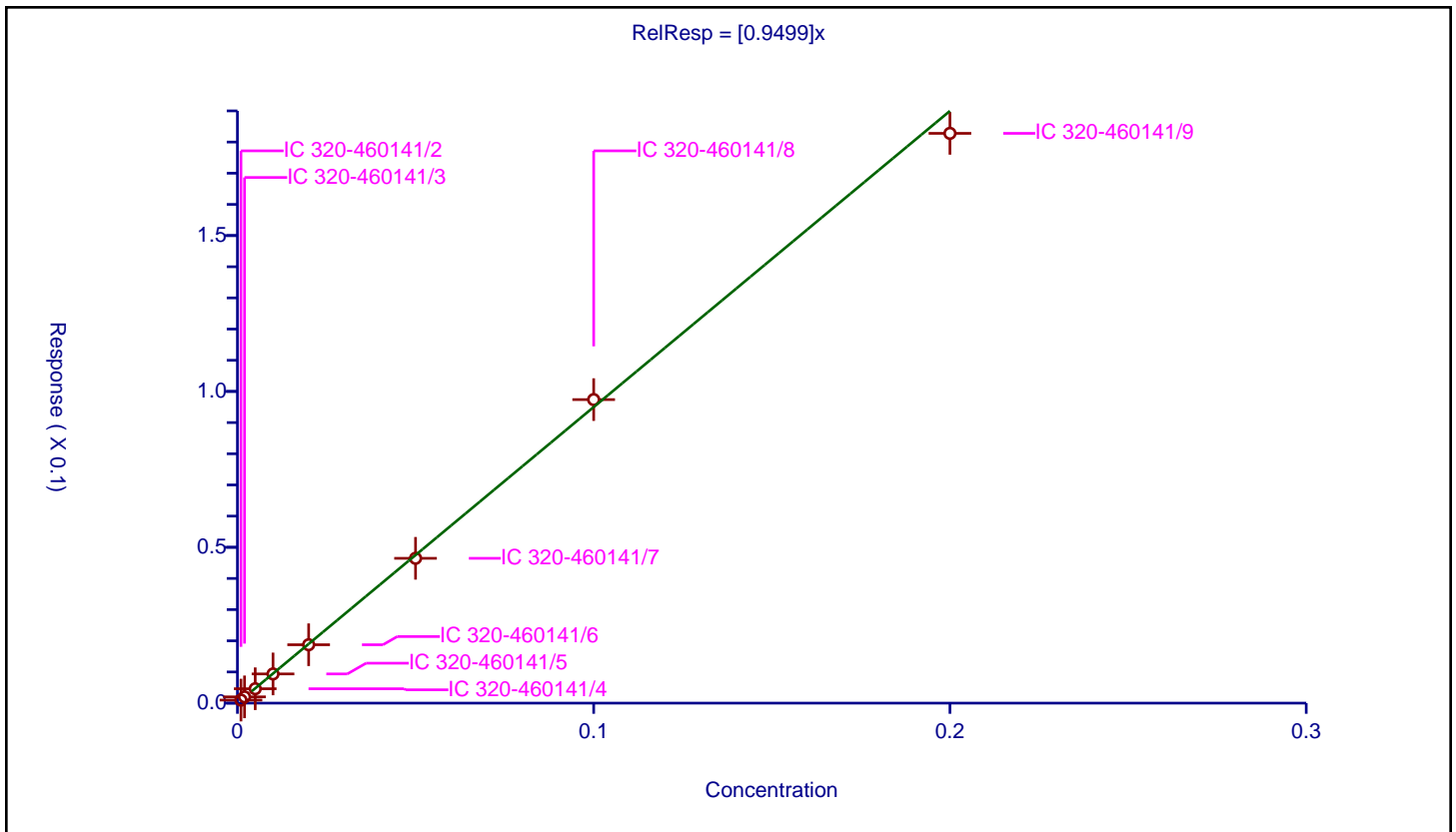
/ Perfluorononanoic acid

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: IsoDil
 Response Base: AREA
 RF Rounding: 0

| Curve Coefficients | |
|--------------------|--------|
| Intercept: | 0 |
| Slope: | 0.9499 |

| Error Coefficients | |
|--|---------|
| Standard Error: | 4000000 |
| Relative Standard Error: | 3.4 |
| Correlation Coefficient: | 0.998 |
| Coefficient of Determination (Adjusted): | 0.998 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.001 | 0.000979 | 0.05 | 2466103.0 | 0.97946 | Y |
| 2 | IC 320-460141/3 | 0.002 | 0.002011 | 0.05 | 2588061.0 | 1.005511 | Y |
| 3 | IC 320-460141/4 | 0.005 | 0.004616 | 0.05 | 2449172.0 | 0.923153 | Y |
| 4 | IC 320-460141/5 | 0.01 | 0.009369 | 0.05 | 2604128.0 | 0.936936 | Y |
| 5 | IC 320-460141/6 | 0.02 | 0.018737 | 0.05 | 2484082.0 | 0.936847 | Y |
| 6 | IC 320-460141/7 | 0.05 | 0.046464 | 0.05 | 2282873.0 | 0.929282 | Y |
| 7 | IC 320-460141/8 | 0.1 | 0.097381 | 0.05 | 2517659.0 | 0.973806 | Y |
| 8 | IC 320-460141/9 | 0.2 | 0.182789 | 0.05 | 2481958.0 | 0.913943 | Y |



Calibration

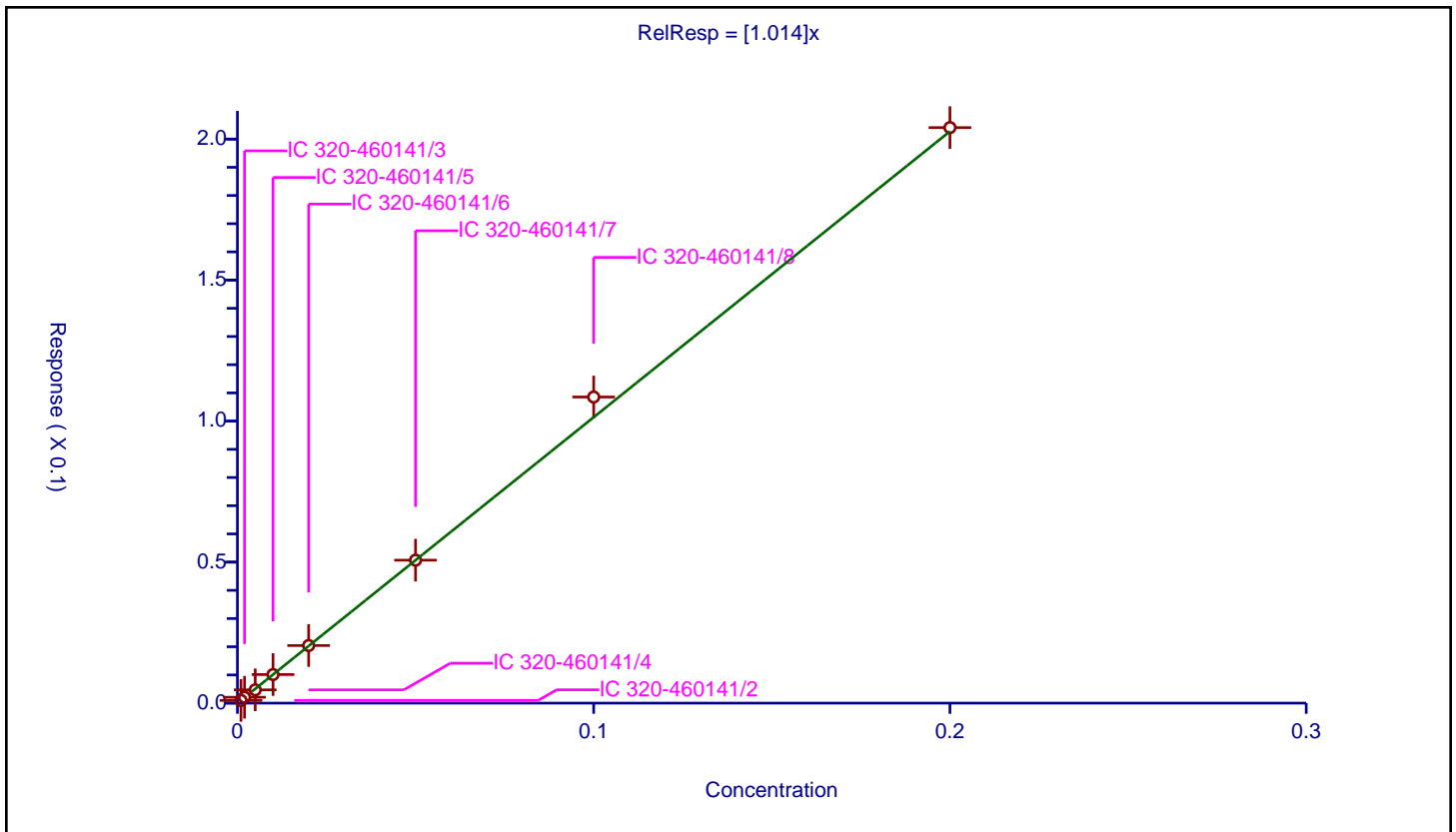
/ Perfluorooctanesulfonamide

Curve Type: Average
Weighting: Conc_Sq
Origin: Force
Dependency: Response
Calib Mode: IsoDil
Response Base: AREA
RF Rounding: 0

| Curve Coefficients | |
|--------------------|-------|
| Intercept: | 0 |
| Slope: | 1.014 |

| Error Coefficients | |
|--|---------|
| Standard Error: | 3220000 |
| Relative Standard Error: | 4.3 |
| Correlation Coefficient: | 0.993 |
| Coefficient of Determination (Adjusted): | 0.998 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.001 | 0.000971 | 0.05 | 1810372.0 | 0.971044 | Y |
| 2 | IC 320-460141/3 | 0.002 | 0.002087 | 0.05 | 1523795.0 | 1.043497 | Y |
| 3 | IC 320-460141/4 | 0.005 | 0.004704 | 0.05 | 1464008.0 | 0.940896 | Y |
| 4 | IC 320-460141/5 | 0.01 | 0.010138 | 0.05 | 1669767.0 | 1.013803 | Y |
| 5 | IC 320-460141/6 | 0.02 | 0.020421 | 0.05 | 1409542.0 | 1.021032 | Y |
| 6 | IC 320-460141/7 | 0.05 | 0.050688 | 0.05 | 1288937.0 | 1.013754 | Y |
| 7 | IC 320-460141/8 | 0.1 | 0.108541 | 0.05 | 1585632.0 | 1.085411 | Y |
| 8 | IC 320-460141/9 | 0.2 | 0.204069 | 0.05 | 1871966.0 | 1.020344 | Y |



Calibration

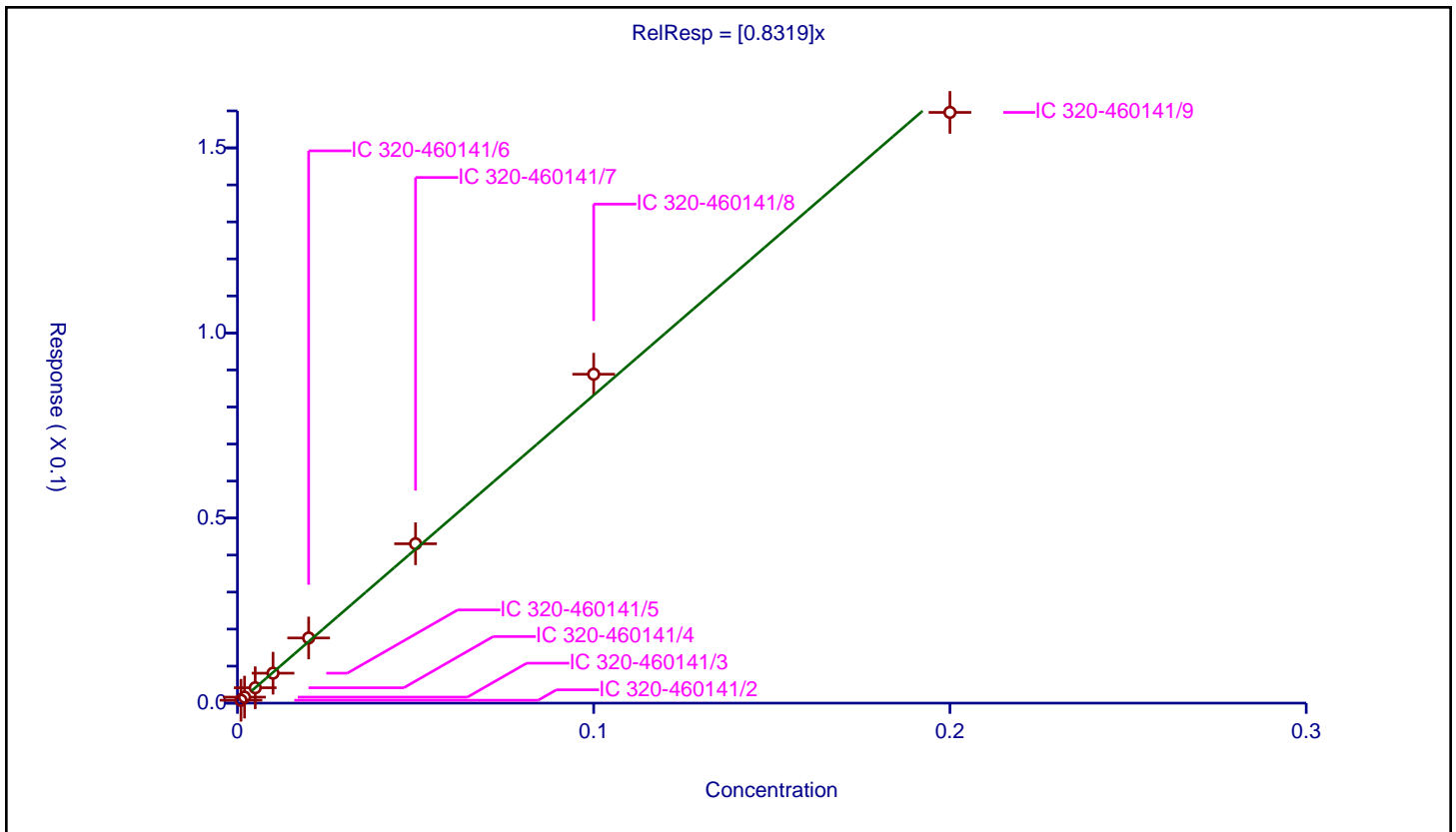
/ Perfluorodecanoic acid

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: IsoDil
 Response Base: AREA
 RF Rounding: 0

| Curve Coefficients | |
|--------------------|--------|
| Intercept: | 0 |
| Slope: | 0.8319 |

| Error Coefficients | |
|--|---------|
| Standard Error: | 3430000 |
| Relative Standard Error: | 4.9 |
| Correlation Coefficient: | 0.997 |
| Coefficient of Determination (Adjusted): | 0.997 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.001 | 0.000777 | 0.05 | 2425379.0 | 0.777425 | Y |
| 2 | IC 320-460141/3 | 0.002 | 0.001621 | 0.05 | 2463159.0 | 0.810311 | Y |
| 3 | IC 320-460141/4 | 0.005 | 0.004152 | 0.05 | 2288958.0 | 0.830413 | Y |
| 4 | IC 320-460141/5 | 0.01 | 0.008094 | 0.05 | 2509972.0 | 0.809405 | Y |
| 5 | IC 320-460141/6 | 0.02 | 0.017602 | 0.05 | 2243999.0 | 0.880094 | Y |
| 6 | IC 320-460141/7 | 0.05 | 0.043055 | 0.05 | 2115835.0 | 0.861106 | Y |
| 7 | IC 320-460141/8 | 0.1 | 0.08886 | 0.05 | 2408381.0 | 0.888603 | Y |
| 8 | IC 320-460141/9 | 0.2 | 0.159591 | 0.05 | 2427651.0 | 0.797955 | Y |



Calibration

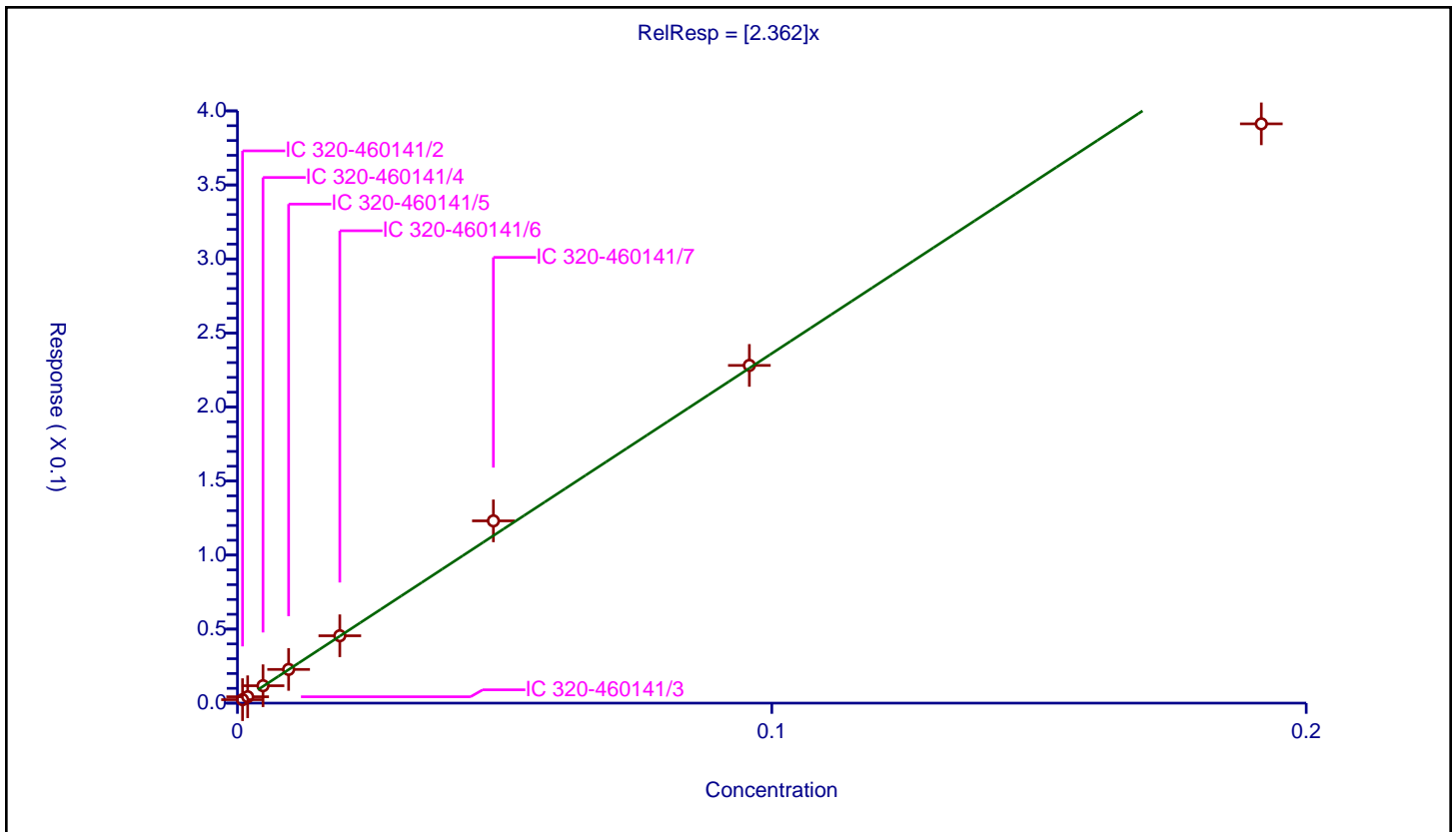
/ 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: IsoDil
 Response Base: AREA
 RF Rounding: 0

| Curve Coefficients | |
|--------------------|-------|
| Intercept: | 0 |
| Slope: | 2.362 |

| Error Coefficients | |
|--|---------|
| Standard Error: | 1380000 |
| Relative Standard Error: | 6.7 |
| Correlation Coefficient: | 0.995 |
| Coefficient of Determination (Adjusted): | 0.994 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.000958 | 0.002346 | 0.0479 | 369896.0 | 2.448661 | Y |
| 2 | IC 320-460141/3 | 0.001916 | 0.004302 | 0.0479 | 425387.0 | 2.245426 | Y |
| 3 | IC 320-460141/4 | 0.00479 | 0.011761 | 0.0479 | 346245.0 | 2.455313 | Y |
| 4 | IC 320-460141/5 | 0.00958 | 0.022756 | 0.0479 | 395922.0 | 2.375417 | Y |
| 5 | IC 320-460141/6 | 0.01916 | 0.045503 | 0.0479 | 348085.0 | 2.374908 | Y |
| 6 | IC 320-460141/7 | 0.0479 | 0.1231 | 0.0479 | 302113.0 | 2.569946 | Y |
| 7 | IC 320-460141/8 | 0.0958 | 0.228097 | 0.0479 | 370948.0 | 2.380974 | Y |
| 8 | IC 320-460141/9 | 0.1916 | 0.391257 | 0.0479 | 376265.0 | 2.042049 | Y |



Calibration

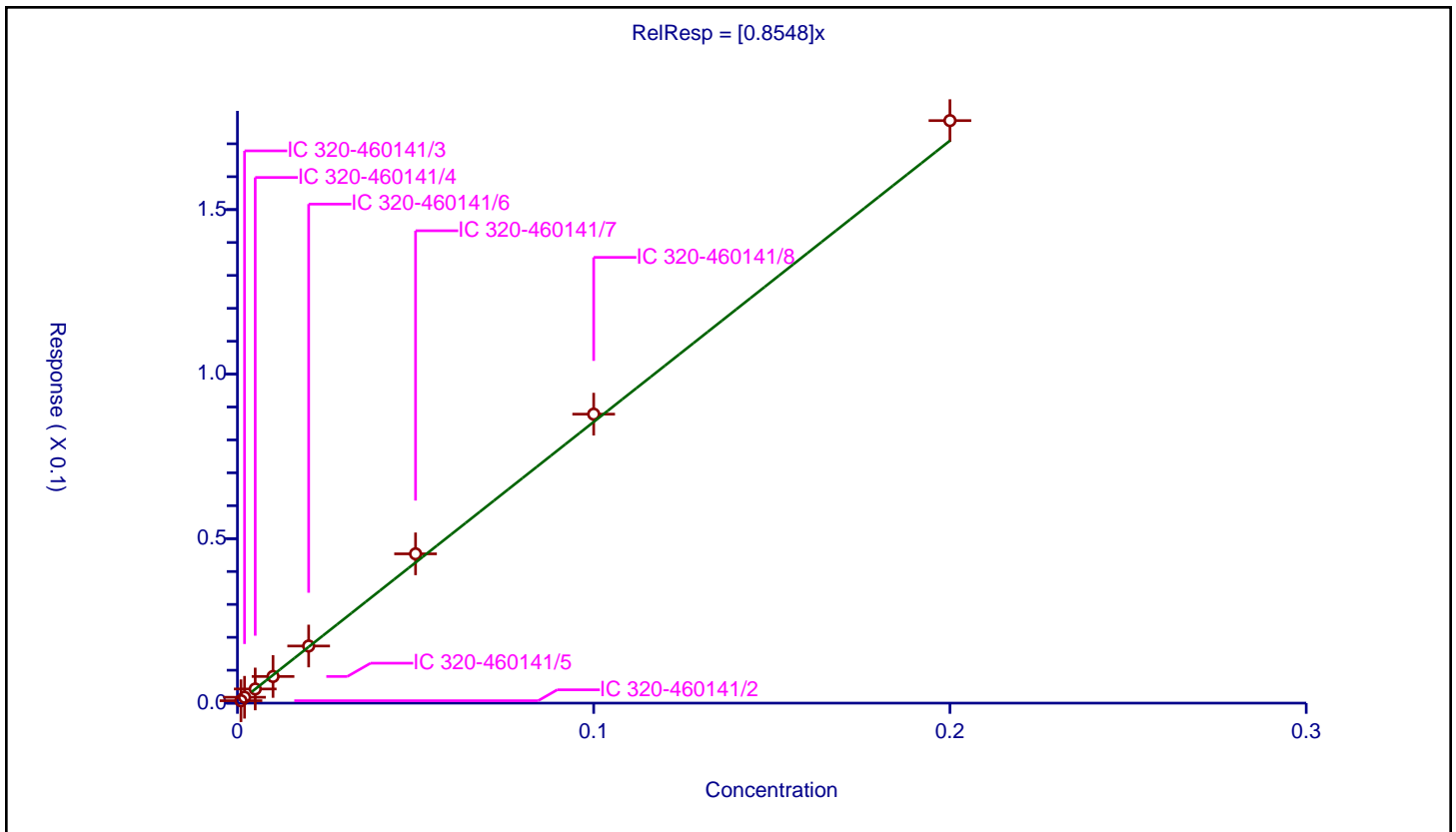
/ N-methylperfluorooctanesulfonamidoacetic acid

Curve Type: Average
Weighting: Conc_Sq
Origin: Force
Dependency: Response
Calib Mode: IsoDil
Response Base: AREA
RF Rounding: 0

| Curve Coefficients | |
|--------------------|--------|
| Intercept: | 0 |
| Slope: | 0.8548 |

| Error Coefficients | |
|--|---------|
| Standard Error: | 1520000 |
| Relative Standard Error: | 6.6 |
| Correlation Coefficient: | 1.000 |
| Coefficient of Determination (Adjusted): | 0.995 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.001 | 0.000736 | 0.05 | 936202.0 | 0.736059 | Y |
| 2 | IC 320-460141/3 | 0.002 | 0.001787 | 0.05 | 1009144.0 | 0.89353 | Y |
| 3 | IC 320-460141/4 | 0.005 | 0.0043 | 0.05 | 921969.0 | 0.859975 | Y |
| 4 | IC 320-460141/5 | 0.01 | 0.008095 | 0.05 | 997076.0 | 0.809497 | Y |
| 5 | IC 320-460141/6 | 0.02 | 0.01736 | 0.05 | 929539.0 | 0.867989 | Y |
| 6 | IC 320-460141/7 | 0.05 | 0.045372 | 0.05 | 904172.0 | 0.907439 | Y |
| 7 | IC 320-460141/8 | 0.1 | 0.087832 | 0.05 | 1011086.0 | 0.878325 | Y |
| 8 | IC 320-460141/9 | 0.2 | 0.177047 | 0.05 | 984327.0 | 0.885236 | Y |



Calibration

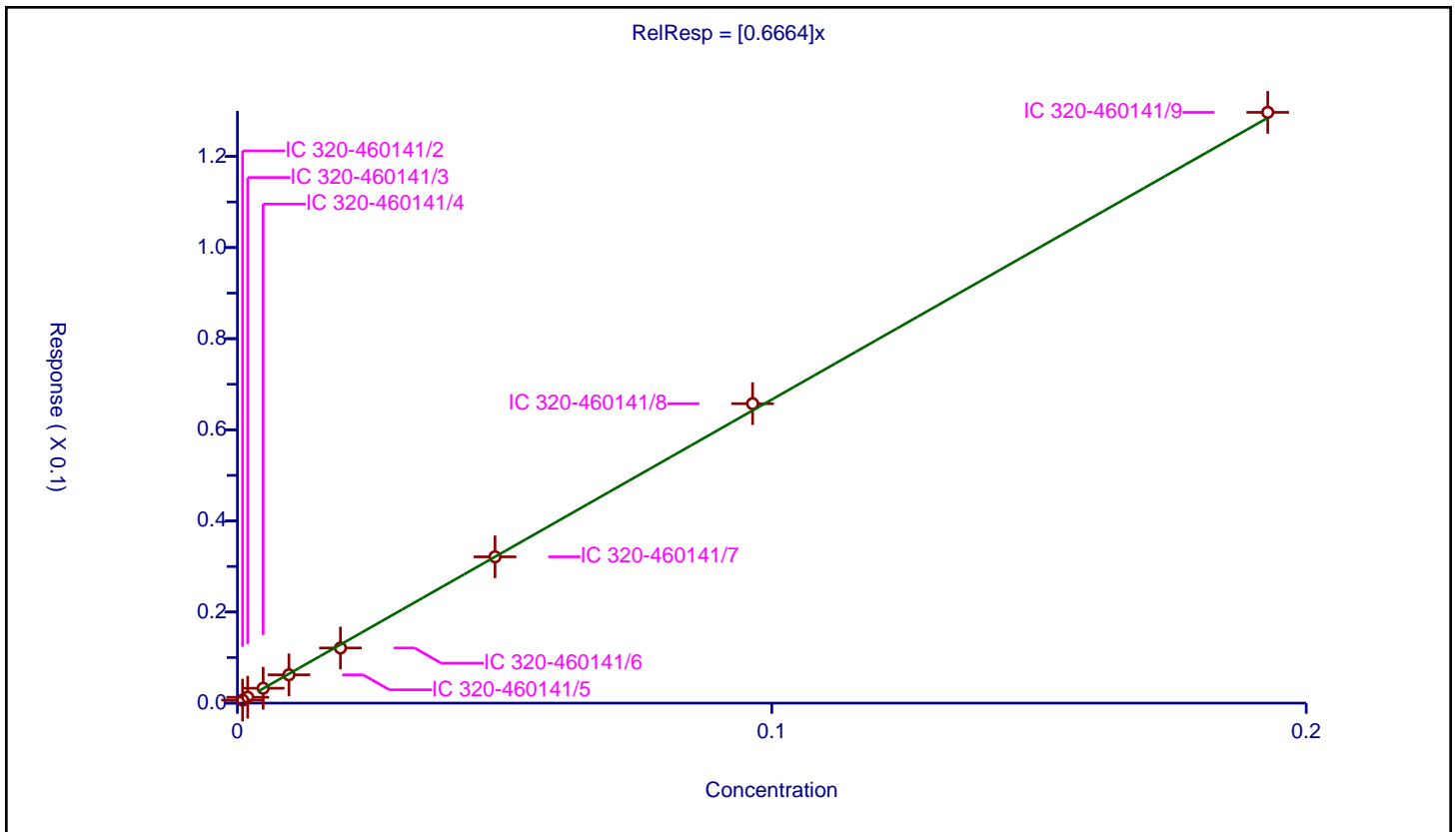
/ Perfluorodecanesulfonic acid

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: IsoDil
 Response Base: AREA
 RF Rounding: 0

| Curve Coefficients | |
|--------------------|--------|
| Intercept: | 0 |
| Slope: | 0.6664 |

| Error Coefficients | |
|--|---------|
| Standard Error: | 1370000 |
| Relative Standard Error: | 3.1 |
| Correlation Coefficient: | 0.998 |
| Coefficient of Determination (Adjusted): | 0.999 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.000964 | 0.000664 | 0.0478 | 987657.0 | 0.689211 | Y |
| 2 | IC 320-460141/3 | 0.001928 | 0.001292 | 0.0478 | 1133086.0 | 0.670091 | Y |
| 3 | IC 320-460141/4 | 0.00482 | 0.003271 | 0.0478 | 1032015.0 | 0.678527 | Y |
| 4 | IC 320-460141/5 | 0.00964 | 0.006215 | 0.0478 | 1148383.0 | 0.64471 | Y |
| 5 | IC 320-460141/6 | 0.01928 | 0.012102 | 0.0478 | 1101991.0 | 0.627713 | Y |
| 6 | IC 320-460141/7 | 0.0482 | 0.032119 | 0.0478 | 972863.0 | 0.666371 | Y |
| 7 | IC 320-460141/8 | 0.0964 | 0.065731 | 0.0478 | 1149553.0 | 0.681853 | Y |
| 8 | IC 320-460141/9 | 0.1928 | 0.129677 | 0.0478 | 1172158.0 | 0.672597 | Y |



Calibration

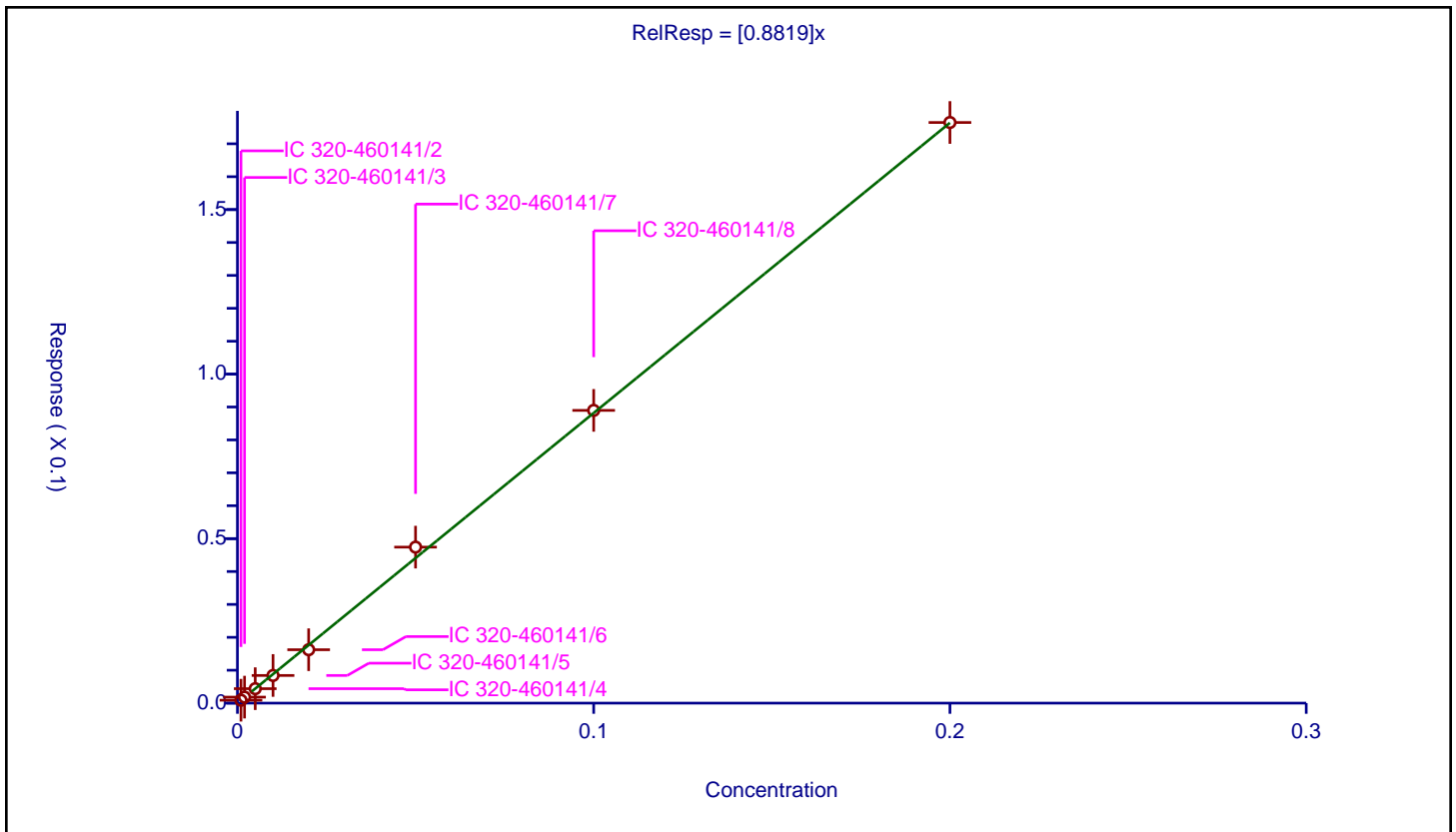
/ Perfluoroundecanoic acid

Curve Type: Average
Weighting: Conc_Sq
Origin: Force
Dependency: Response
Calib Mode: IsoDil
Response Base: AREA
RF Rounding: 0

| Curve Coefficients | |
|--------------------|--------|
| Intercept: | 0 |
| Slope: | 0.8819 |

| Error Coefficients | |
|---|---------|
| Standard Error: | 3550000 |
| Relative Standard Error: | 4.7 |
| Correlation Coefficient: | 0.999 |
| Coefficient of Determination (Adjusted): | 0.997 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.001 | 0.00089 | 0.05 | 2306930.0 | 0.890166 | Y |
| 2 | IC 320-460141/3 | 0.002 | 0.001828 | 0.05 | 2361878.0 | 0.914124 | Y |
| 3 | IC 320-460141/4 | 0.005 | 0.004389 | 0.05 | 2349968.0 | 0.877701 | Y |
| 4 | IC 320-460141/5 | 0.01 | 0.008409 | 0.05 | 2496316.0 | 0.840933 | Y |
| 5 | IC 320-460141/6 | 0.02 | 0.016235 | 0.05 | 2298227.0 | 0.81175 | Y |
| 6 | IC 320-460141/7 | 0.05 | 0.047412 | 0.05 | 1885944.0 | 0.94824 | Y |
| 7 | IC 320-460141/8 | 0.1 | 0.088976 | 0.05 | 2344624.0 | 0.889756 | Y |
| 8 | IC 320-460141/9 | 0.2 | 0.176474 | 0.05 | 2313665.0 | 0.882371 | Y |



Calibration

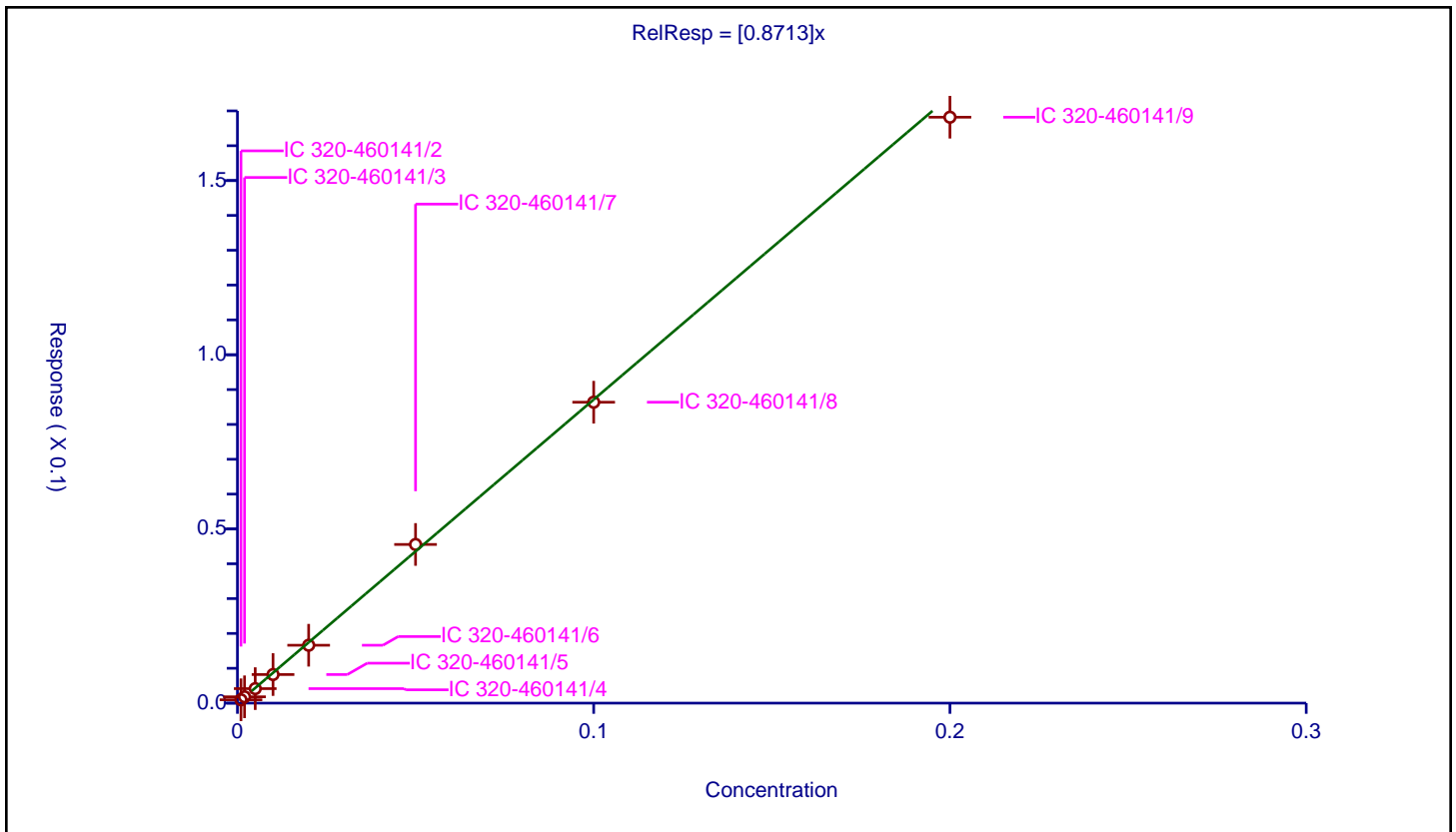
/ N-ethylperfluorooctanesulfonamidoacetic acid

Curve Type: Average
Weighting: Conc_Sq
Origin: Force
Dependency: Response
Calib Mode: IsoDil
Response Base: AREA
RF Rounding: 0

| Curve Coefficients | |
|--------------------|--------|
| Intercept: | 0 |
| Slope: | 0.8713 |

| Error Coefficients | |
|---|---------|
| Standard Error: | 1600000 |
| Relative Standard Error: | 5.8 |
| Correlation Coefficient: | 0.999 |
| Coefficient of Determination (Adjusted): | 0.995 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.001 | 0.000963 | 0.05 | 1052267.0 | 0.962683 | Y |
| 2 | IC 320-460141/3 | 0.002 | 0.001818 | 0.05 | 1161457.0 | 0.909224 | Y |
| 3 | IC 320-460141/4 | 0.005 | 0.004161 | 0.05 | 1110927.0 | 0.832188 | Y |
| 4 | IC 320-460141/5 | 0.01 | 0.008204 | 0.05 | 1158399.0 | 0.820352 | Y |
| 5 | IC 320-460141/6 | 0.02 | 0.016614 | 0.05 | 1097217.0 | 0.830711 | Y |
| 6 | IC 320-460141/7 | 0.05 | 0.045543 | 0.05 | 960174.0 | 0.910862 | Y |
| 7 | IC 320-460141/8 | 0.1 | 0.086375 | 0.05 | 1104103.0 | 0.863746 | Y |
| 8 | IC 320-460141/9 | 0.2 | 0.168187 | 0.05 | 1088384.0 | 0.840935 | Y |



Calibration

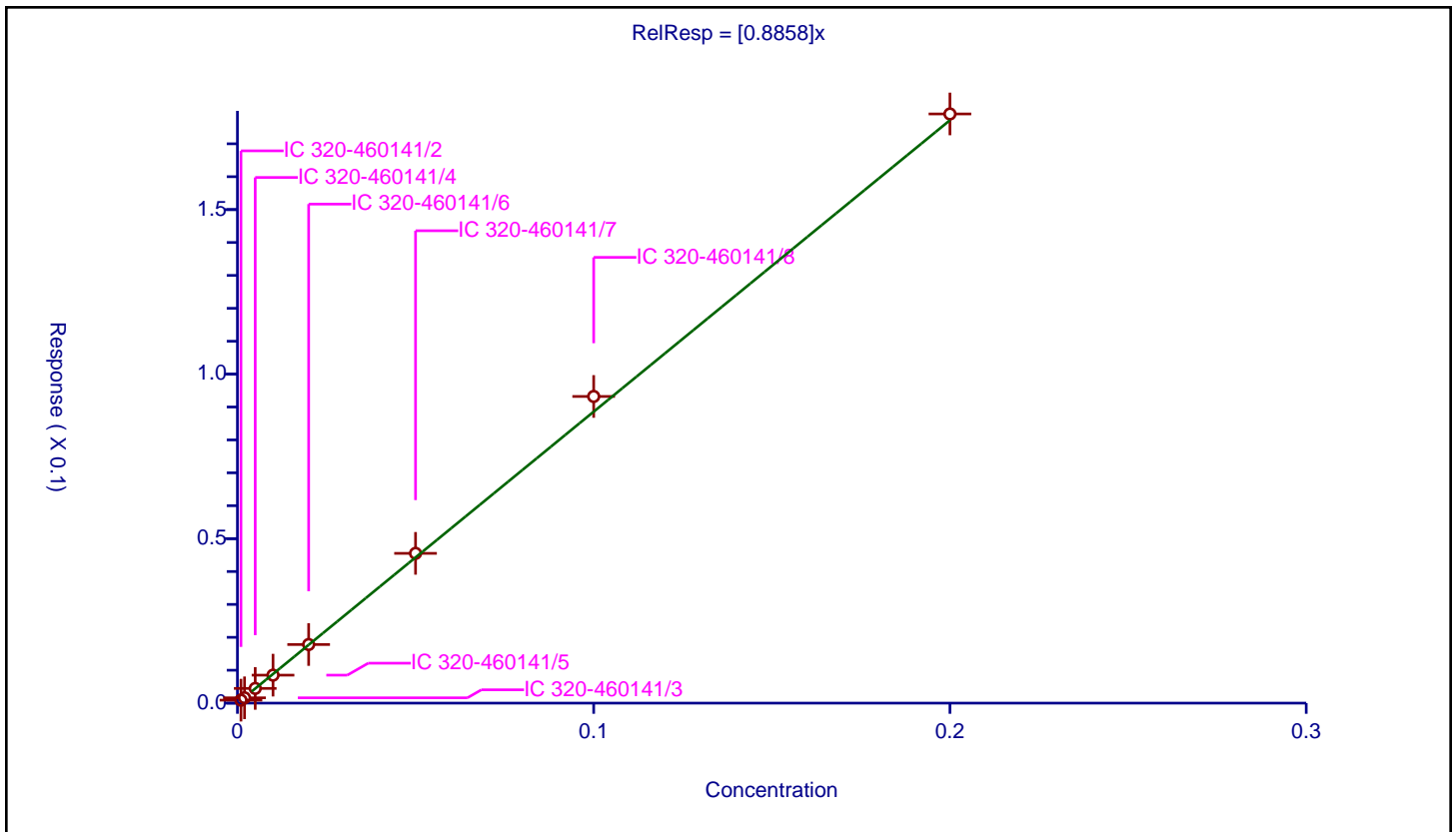
/ Perfluorododecanoic acid

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: IsoDil
 Response Base: AREA
 RF Rounding: 0

| Curve Coefficients | |
|--------------------|--------|
| Intercept: | 0 |
| Slope: | 0.8858 |

| Error Coefficients | |
|--|---------|
| Standard Error: | 3740000 |
| Relative Standard Error: | 4.4 |
| Correlation Coefficient: | 0.999 |
| Coefficient of Determination (Adjusted): | 0.998 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.001 | 0.000904 | 0.05 | 2616747.0 | 0.904272 | Y |
| 2 | IC 320-460141/3 | 0.002 | 0.001617 | 0.05 | 2588731.0 | 0.808639 | Y |
| 3 | IC 320-460141/4 | 0.005 | 0.004473 | 0.05 | 2344740.0 | 0.894692 | Y |
| 4 | IC 320-460141/5 | 0.01 | 0.008504 | 0.05 | 2606897.0 | 0.850398 | Y |
| 5 | IC 320-460141/6 | 0.02 | 0.01781 | 0.05 | 2270850.0 | 0.890496 | Y |
| 6 | IC 320-460141/7 | 0.05 | 0.045519 | 0.05 | 2065069.0 | 0.91038 | Y |
| 7 | IC 320-460141/8 | 0.1 | 0.093209 | 0.05 | 2371852.0 | 0.932089 | Y |
| 8 | IC 320-460141/9 | 0.2 | 0.17907 | 0.05 | 2397139.0 | 0.895352 | Y |



Calibration

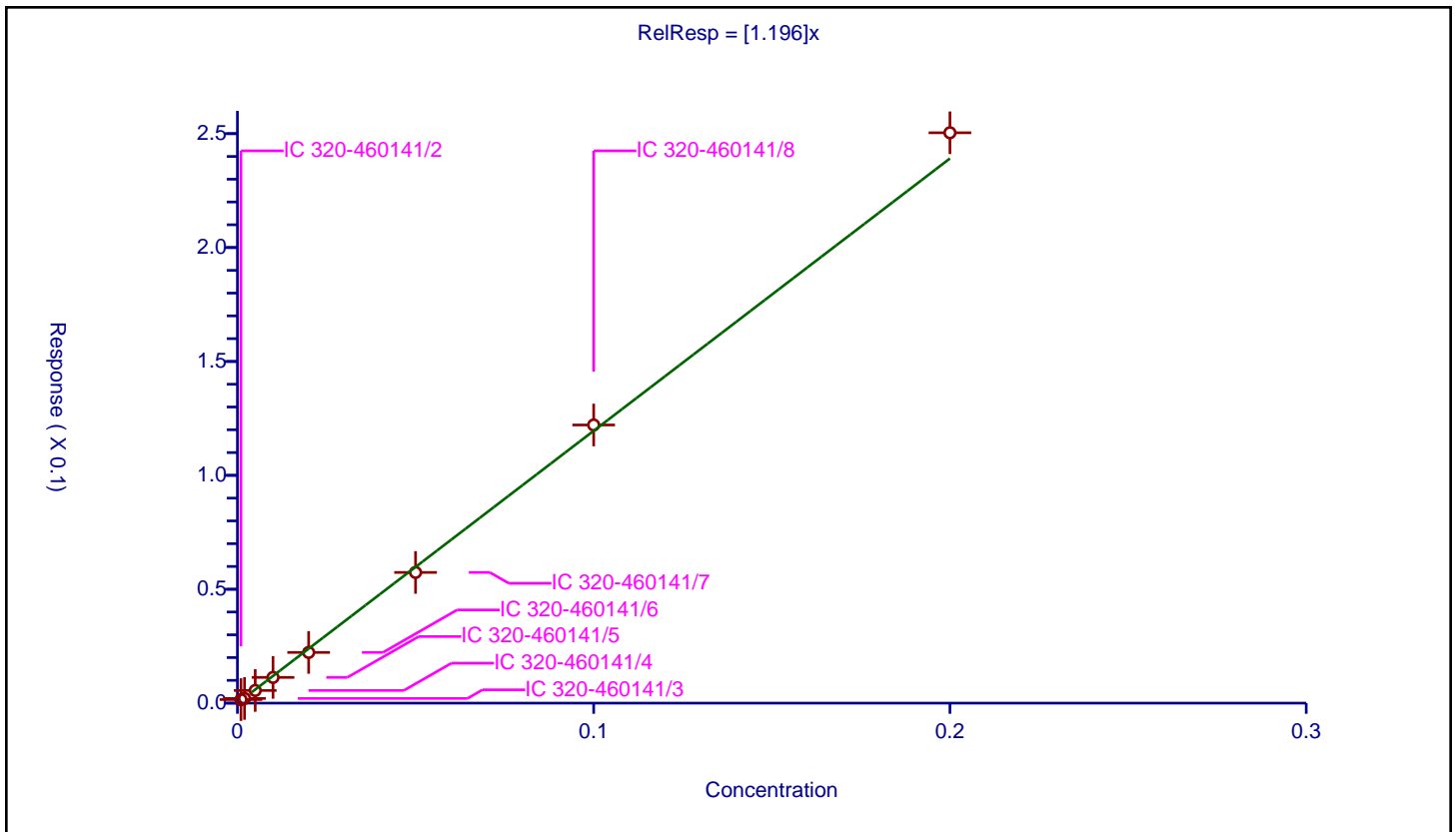
/ Perfluorotridecanoic acid

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: IsoDil
 Response Base: AREA
 RF Rounding: 0

| Curve Coefficients | |
|--------------------|-------|
| Intercept: | 0 |
| Slope: | 1.196 |

| Error Coefficients | |
|--|---------|
| Standard Error: | 5140000 |
| Relative Standard Error: | 13.7 |
| Correlation Coefficient: | 0.997 |
| Coefficient of Determination (Adjusted): | 0.972 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.001 | 0.001562 | 0.05 | 2616747.0 | 1.562436 | Y |
| 2 | IC 320-460141/3 | 0.002 | 0.002053 | 0.05 | 2588731.0 | 1.026343 | Y |
| 3 | IC 320-460141/4 | 0.005 | 0.005563 | 0.05 | 2344740.0 | 1.112661 | Y |
| 4 | IC 320-460141/5 | 0.01 | 0.011293 | 0.05 | 2606897.0 | 1.12931 | Y |
| 5 | IC 320-460141/6 | 0.02 | 0.022256 | 0.05 | 2270850.0 | 1.112808 | Y |
| 6 | IC 320-460141/7 | 0.05 | 0.057385 | 0.05 | 2065069.0 | 1.147693 | Y |
| 7 | IC 320-460141/8 | 0.1 | 0.122105 | 0.05 | 2371852.0 | 1.22105 | Y |
| 8 | IC 320-460141/9 | 0.2 | 0.250389 | 0.05 | 2397139.0 | 1.251947 | Y |



Calibration

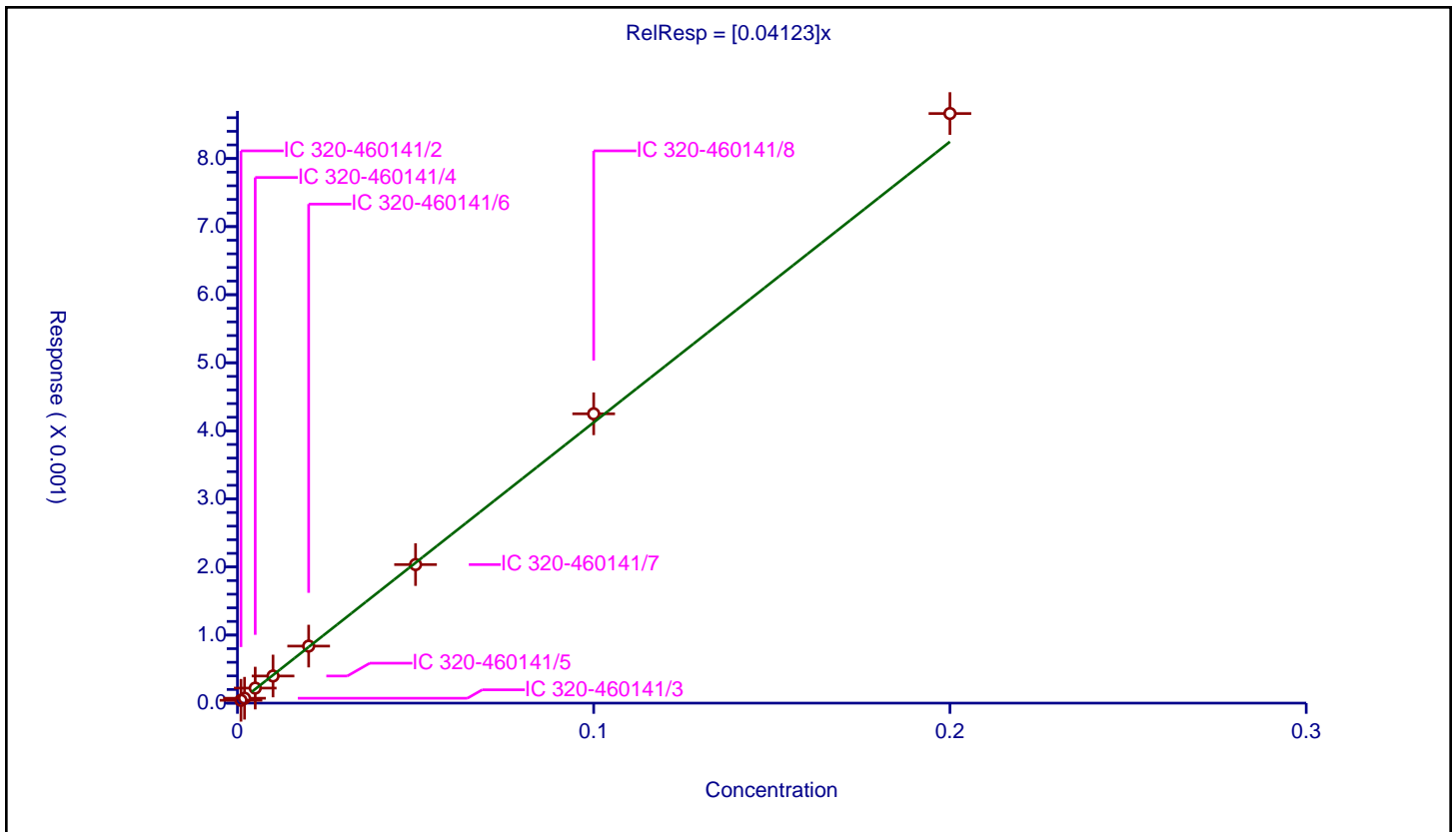
/ Perfluorotetradecanoic acid

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: IsoDil
 Response Base: AREA
 RF Rounding: 0

| Curve Coefficients | |
|--------------------|---------|
| Intercept: | 0 |
| Slope: | 0.04123 |

| Error Coefficients | |
|--|--------|
| Standard Error: | 220000 |
| Relative Standard Error: | 6.3 |
| Correlation Coefficient: | 0.992 |
| Coefficient of Determination (Adjusted): | 0.995 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.001 | 0.000042 | 0.05 | 4667346.0 | 0.041619 | Y |
| 2 | IC 320-460141/3 | 0.002 | 0.000072 | 0.05 | 2271743.0 | 0.03581 | Y |
| 3 | IC 320-460141/4 | 0.005 | 0.000221 | 0.05 | 2262614.0 | 0.044197 | Y |
| 4 | IC 320-460141/5 | 0.01 | 0.000398 | 0.05 | 2995853.0 | 0.039837 | Y |
| 5 | IC 320-460141/6 | 0.02 | 0.000838 | 0.05 | 2441920.0 | 0.041892 | Y |
| 6 | IC 320-460141/7 | 0.05 | 0.002035 | 0.05 | 2070947.0 | 0.040706 | Y |
| 7 | IC 320-460141/8 | 0.1 | 0.00425 | 0.05 | 2789792.0 | 0.042502 | Y |
| 8 | IC 320-460141/9 | 0.2 | 0.008661 | 0.05 | 3015861.0 | 0.043307 | Y |



Calibration

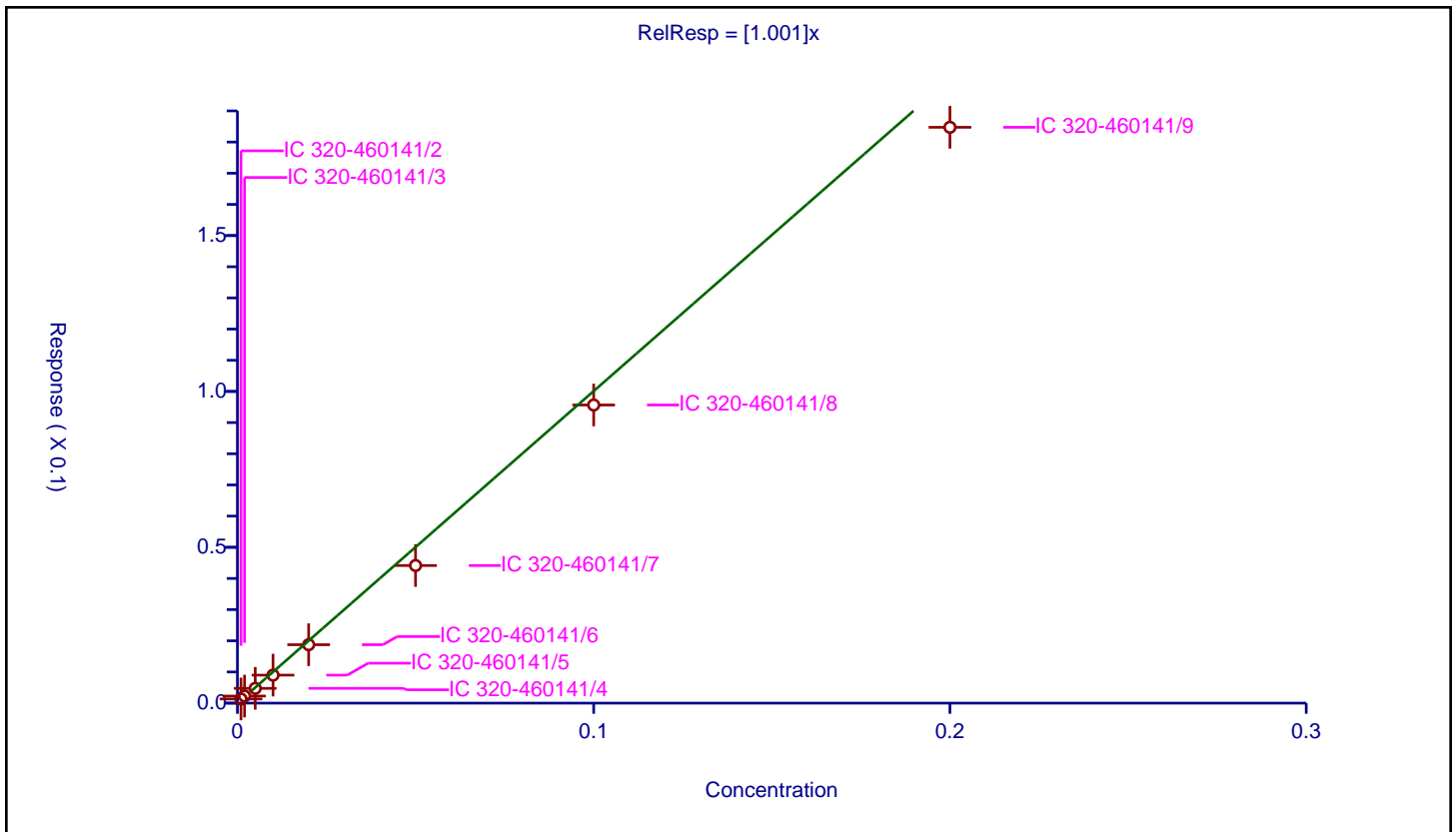
/ Perfluorohexadecanoic acid

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: IsoDil
 Response Base: AREA
 RF Rounding: 0

| Curve Coefficients | |
|--------------------|-------|
| Intercept: | 0 |
| Slope: | 1.001 |

| Error Coefficients | |
|--|---------|
| Standard Error: | 3740000 |
| Relative Standard Error: | 15.4 |
| Correlation Coefficient: | 0.975 |
| Coefficient of Determination (Adjusted): | 0.961 |

| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.001 | 0.001331 | 0.05 | 2927567.0 | 1.331464 | Y |
| 2 | IC 320-460141/3 | 0.002 | 0.002265 | 0.05 | 1043371.0 | 1.132411 | Y |
| 3 | IC 320-460141/4 | 0.005 | 0.004735 | 0.05 | 1169122.0 | 0.947087 | Y |
| 4 | IC 320-460141/5 | 0.01 | 0.008983 | 0.05 | 1455177.0 | 0.898276 | Y |
| 5 | IC 320-460141/6 | 0.02 | 0.01874 | 0.05 | 1002628.0 | 0.936998 | Y |
| 6 | IC 320-460141/7 | 0.05 | 0.044141 | 0.05 | 981646.0 | 0.882828 | Y |
| 7 | IC 320-460141/8 | 0.1 | 0.095646 | 0.05 | 1964981.0 | 0.956463 | Y |
| 8 | IC 320-460141/9 | 0.2 | 0.184733 | 0.05 | 2460589.0 | 0.923667 | Y |



Calibration

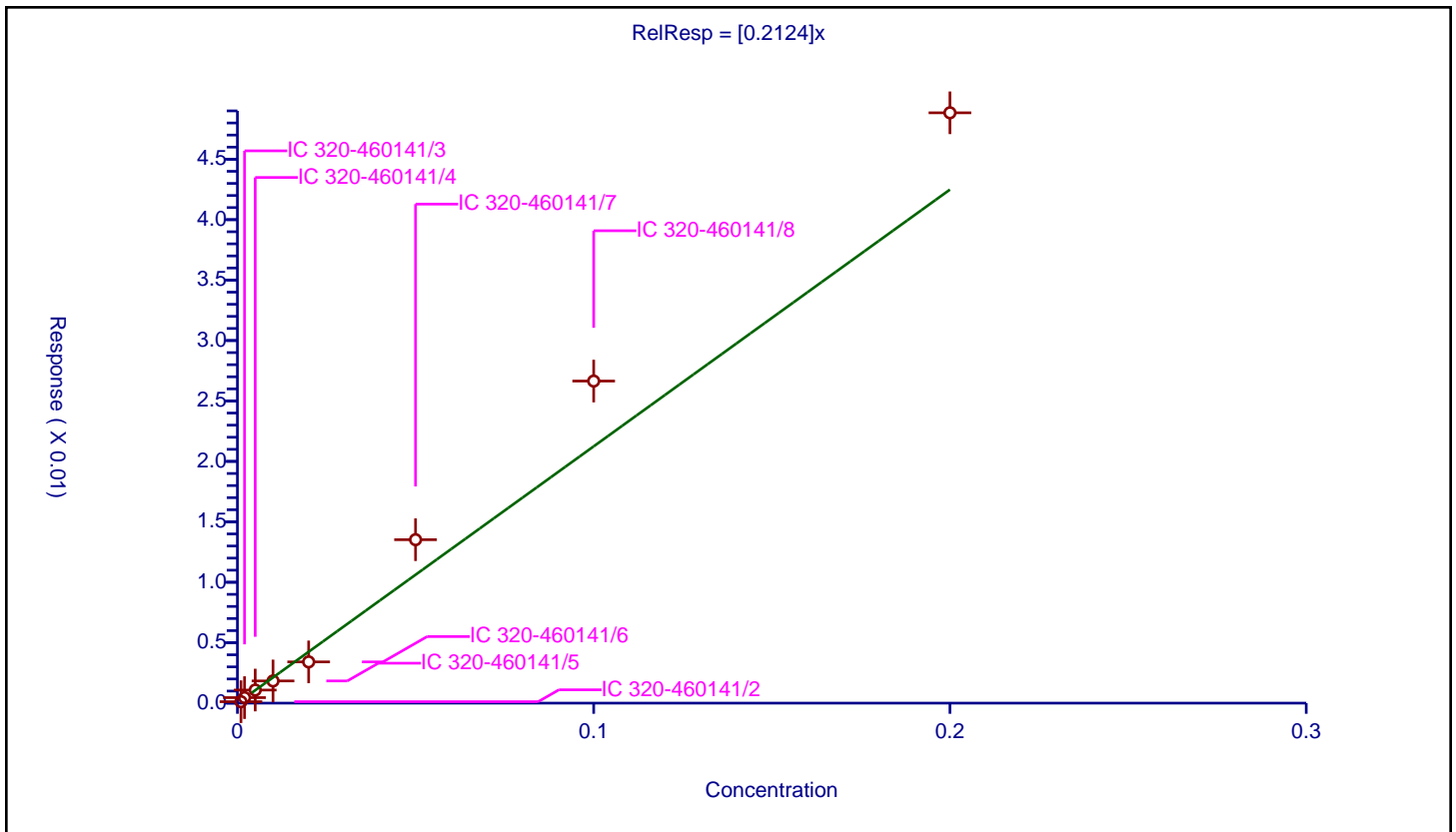
/ Perfluorooctadecanoic acid

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: IsoDil
 Response Base: AREA
 RF Rounding: 0

| Curve Coefficients | |
|--------------------|--------|
| Intercept: | 0 |
| Slope: | 0.2124 |

| Error Coefficients | |
|--|--------|
| Standard Error: | 997000 |
| Relative Standard Error: | 24.4 |
| Correlation Coefficient: | 0.981 |
| Coefficient of Determination (Adjusted): | 0.938 |

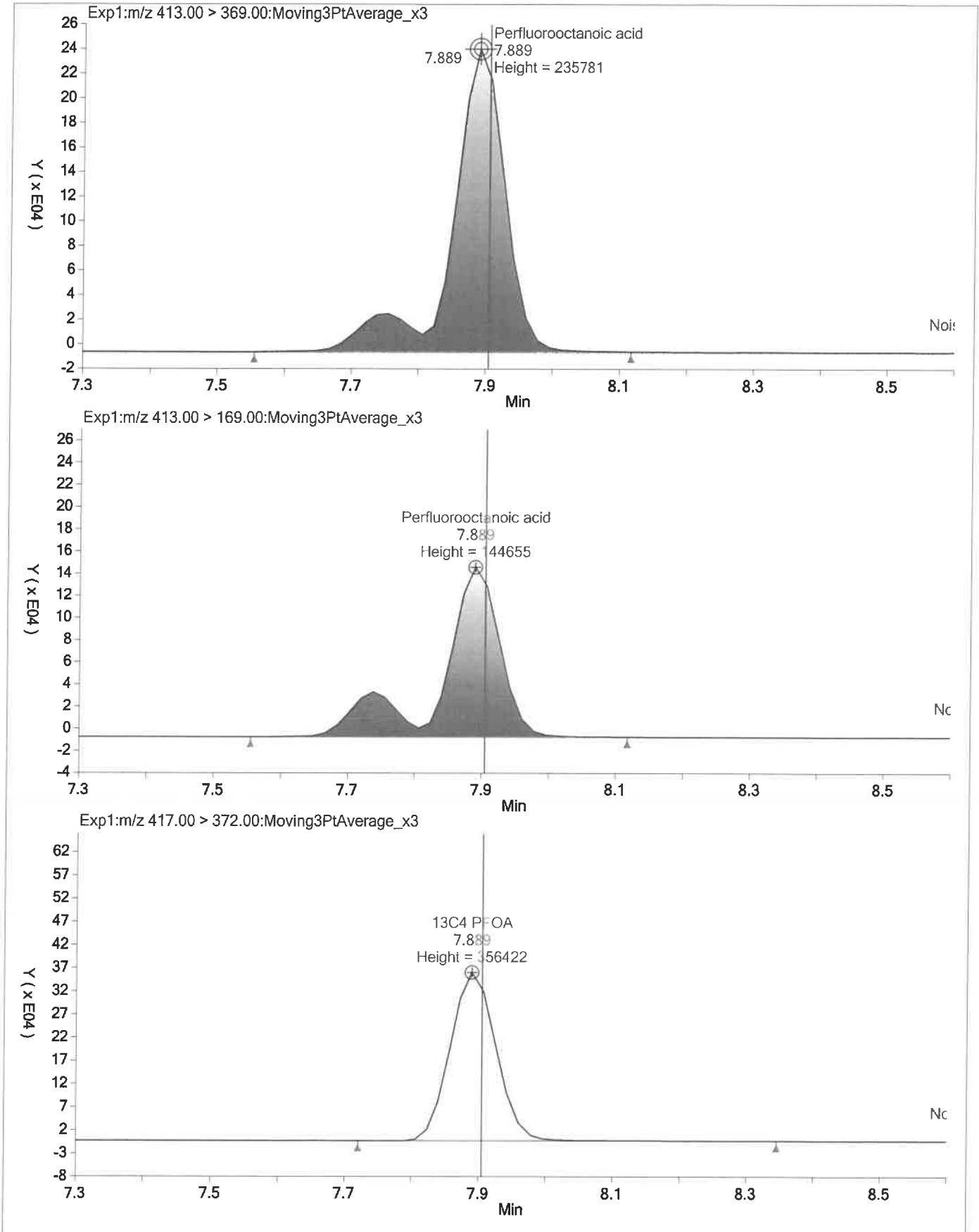
| ID | Level | Concentration | Rel. Resp. | IS Amount | IS Response | RRF | Used |
|----|-----------------|---------------|------------|-----------|-------------|----------|------|
| 1 | IC 320-460141/2 | 0.001 | 0.000119 | 0.05 | 2927567.0 | 0.119007 | Y |
| 2 | IC 320-460141/3 | 0.002 | 0.000457 | 0.05 | 1043371.0 | 0.228538 | Y |
| 3 | IC 320-460141/4 | 0.005 | 0.001083 | 0.05 | 1169122.0 | 0.21653 | Y |
| 4 | IC 320-460141/5 | 0.01 | 0.001836 | 0.05 | 1455177.0 | 0.18361 | Y |
| 5 | IC 320-460141/6 | 0.02 | 0.003413 | 0.05 | 1002628.0 | 0.170666 | Y |
| 6 | IC 320-460141/7 | 0.05 | 0.013522 | 0.05 | 981646.0 | 0.270447 | Y |
| 7 | IC 320-460141/8 | 0.1 | 0.026646 | 0.05 | 1964981.0 | 0.266458 | Y |
| 8 | IC 320-460141/9 | 0.2 | 0.048842 | 0.05 | 2460589.0 | 0.24421 | Y |



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Lab Sample ID: ICV 320-460141/11 Calibration Date: 02/09/2021 13:23
 Instrument ID: A10 Calib Start Date: 02/09/2021 10:37
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/09/2021 12:46
 Lab File ID: 2021.02.09_A10_DI_ICAL_A_011.d Conc. Units: ng/L

| ANALYTE | CURVE TYPE | AVE RRF | RRF | MIN RRF | CALC AMOUNT | SPIKE AMOUNT | %D | MAX %D |
|---|------------|----------|-----------|---------|-------------|--------------|--------|--------|
| Perfluorobutanesulfonic acid (PFBS) | AveID | 1.048 | 1.112 | | 84.9 | 80.0 | 6.1 | 50.0 |
| Perfluorohexanoic acid | AveID | 0.9919 | 1.095 | | 88.4 | 80.0 | 10.4 | 40.0 |
| Perfluoroheptanoic acid (PFHpA) | AveID | 0.9757 | 0.9720 | | 79.7 | 80.0 | -0.4 | 40.0 |
| Perfluorohexanesulfonic acid (PFHxS) | AveID | 1.139 | 1.278 | | 89.8 | 80.0 | 12.2 | 40.0 |
| Perfluorooctanoic acid (PFOA) | AveID | 0.9103 | 0.8785 | | 81.1 | 84.0 | -3.5 | 40.0 |
| Perfluorooctanesulfonic acid (PFOS) | AveID | 1.019 | 0.9832 | | 77.2 | 80.0 | -3.5 | 40.0 |
| Perfluorononanoic acid (PFNA) | AveID | 0.9499 | 1.030 | | 91.1 | 84.0 | 8.5 | 40.0 |
| Perfluorodecanoic acid | AveID | 0.8319 | 0.9086 | | 87.4 | 80.0 | 9.2 | 40.0 |
| N-methylperfluorooctanesulfonamidoacetic acid | AveID | 0.8548 | 0.8637 | | 80.8 | 80.0 | 1.0 | |
| Perfluoroundecanoic acid | AveID | 0.8819 | 0.8795 | | 83.8 | 84.0 | -0.3 | 40.0 |
| N-ethylperfluorooctanesulfonamidoacetic acid | AveID | 0.8713 | 0.8895 | | 81.7 | 80.0 | 2.1 | |
| Perfluorododecanoic acid | AveID | 0.8858 | 0.7916 | | 75.1 | 84.0 | -10.6 | 40.0 |
| Perfluorotridecanoic acid | AveID | 1.196 | 1.549 | | 104 | 80.0 | 29.6 | 50.0 |
| Perfluorotetradecanoic acid | AveID | 0.0412 | 0.0495 | | 96.0 | 80.0 | 20.0 | 50.0 |
| 13C4 PFBA | Ave | 58729800 | 55506180 | | 47.3 | 50.0 | -5.5 | 50.0 |
| 13C5 PFPeA | Ave | 43934310 | 41383680 | | 47.1 | 50.0 | -5.8 | 50.0 |
| 13C3 PFBS | Ave | 40751425 | 38289462 | | 43.7 | 46.5 | -6.0 | 50.0 |
| 13C2 PFHxA | Ave | 47448103 | 45859620 | | 48.3 | 50.0 | -3.3 | 50.0 |
| 18O2 PFHxS | Ave | 32862487 | 30253192 | | 43.5 | 47.3 | -7.9 | 50.0 |
| 13C4 PFHpA | Ave | 50044460 | 48802840 | | 48.8 | 50.0 | -2.5 | 50.0 |
| M2-6:2 FTS | Ave | 8214492 | 7867326 | | 45.5 | 47.5 | -4.2 | |
| 13C4 PFOA | Ave | 66909148 | 62193920 | | 46.5 | 50.0 | -7.0 | 50.0 |
| 13C4 PFOS | Ave | 22745047 | 21540502 | | 45.3 | 47.8 | -5.3 | 50.0 |
| 13C5 PFNA | Ave | 49685090 | 47644800 | | 47.9 | 50.0 | -4.1 | 50.0 |
| 13C8 FOSA | Ave | 31560048 | 54594020 | | 86.5 | 50.0 | 73.0* | 50.0 |
| 13C2 PFDA | Ave | 47208335 | 45614180 | | 48.3 | 50.0 | -3.4 | 50.0 |
| M2-8:2 FTS | Ave | 7658823 | 7060960 | | 44.2 | 47.9 | -7.8 | |
| d3-NMeFOSAA | Ave | 19233788 | 20830620 | | 54.2 | 50.0 | 8.3 | |
| 13C2 PFUnA | Ave | 45893880 | 42682580 | | 46.5 | 50.0 | -7.0 | 50.0 |
| d5-NEtFOSAA | Ave | 21832320 | 21639060 | | 49.6 | 50.0 | -0.9 | |
| 13C2 PFDoA | Ave | 48155063 | 50744580 | | 52.7 | 50.0 | 5.4 | 50.0 |
| 13C2 PFTeDA | Ave | 56290190 | 114671360 | | 102 | 50.0 | 103.7* | 50.0 |
| 13C2 PFHxDA | Ave | 32512703 | 71684220 | | 110 | 50.0 | 120.5* | 50.0 |



Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_011.d
 Lims ID: ICV
 Client ID:
 Sample Type: ICV
 Inject. Date: 09-Feb-2021 13:23:24 ALS Bottle#: 11 Worklist Smp#: 11
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: ICV (11)
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Sublist:

Method: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 09-Feb-2021 13:51:22 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1638

First Level Reviewer: vangm Date: 09-Feb-2021 13:47:52

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------------|-----------------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 2 13C4 PFBA | 217.00 > 172.00 | 5.657 | 5.660 | -0.003 | 2775309 | 0.0473 | | 94.5 | 6965 | |
| D 4 13C5 PFPeA | 267.90 > 223.00 | 6.293 | 6.297 | -0.004 | 2069184 | 0.0471 | | 94.2 | 9406 | |
| D 3 13C3 PFBS | 301.90 > 80.00 | 6.363 | 6.343 | 0.020 | 1780460 | 0.0437 | | 94.0 | 4676 | |
| 6 Perfluorobutanesulfonic acid | 298.90 > 80.00 | 6.363 | 6.343 | 0.020 | 3405562 | 0.0849 | Target=1.49 | | 9080 | |
| | 298.90 > 99.00 | 6.363 | 6.343 | 0.020 | 2272429 | | 1.50(0.74-2.23) | | 3225 | |
| D 7 M2-4:2 FTS | 329.00 > 81.00 | 6.758 | 6.738 | 0.020 | 353537 | NC | | | 981 | |
| 10 Perfluorohexanoic acid | 313.00 > 269.00 | 6.804 | 6.784 | 0.020 | 4018724 | 0.0884 | Target=19.21 | | 2169 | |
| | 313.00 > 119.00 | 6.804 | 6.784 | 0.020 | 190057 | | 21.14(9.60-28.81) | | 1646 | |
| D 9 13C2 PFHxA | 315.00 > 270.00 | 6.804 | 6.784 | 0.020 | 2292981 | 0.0483 | | 96.7 | 10285 | |
| D 12 13C3 HFPO-DA | 332.10 > 287.00 | 6.976 | 6.954 | 0.022 | 121775 | NC | | | 595 | |
| 13 HPFO-DA | 329.10 > 285.00 | 6.976 | 6.954 | 0.022 | 624840 | NC | | | 454 | |
| 14 9CIFOS | 531.00 > 351.00 | 7.155 | 7.152 | 0.003 | 210 | NC | | | 1.0 | M |
| 16 Perfluorohexanesulfonic acid | 399.00 > 80.00 | 7.356 | 7.312 | 0.044 | 3093509 | 0.0898 | Target=5.70 | | 8168 | |
| | 399.00 > 99.00 | 7.356 | 7.312 | 0.044 | 496228 | | 6.23(2.85-8.55) | | 3284 | |
| D 15 18O2 PFHxS | 403.00 > 84.00 | 7.337 | 7.312 | 0.025 | 1430976 | 0.0435 | | 92.1 | 16331 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------------|-------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| 18 Perfluoroheptanoic acid | | | | | | | | | | |
| 363.00 > 319.00 | 7.356 | 7.336 | 0.020 | 1.000 | 3795100 | 0.0797 | Target=9.14 | | 1816 | |
| 363.00 > 169.00 | 7.356 | 7.336 | 0.020 | 1.000 | 425371 | | 8.92(4.57-13.71) | | 6003 | |
| D 17 13C4 PFHpA | | | | | | | | | | |
| 367.00 > 322.00 | 7.356 | 7.336 | 0.020 | | 2440142 | 0.0488 | | 97.5 | 13242 | |
| 19 DONA | | | | | | | | | | |
| 377.00 > 251.00 | 7.412 | 7.382 | 0.030 | 0.873 | 16173246 | NC | Target=2.71 | | 25686 | |
| 377.00 > 85.00 | 7.412 | 7.382 | 0.030 | 0.873 | 5965427 | | 2.71(1.36-4.07) | | 15697 | |
| D 20 13C2 PFOA | | | | | | | | | | |
| 415.00 > 370.00 | 7.931 | 7.853 | 0.078 | | 3080294 | NC | | 0.0 | 19814 | |
| D 22 M2-6:2 FTS | | | | | | | | | | |
| 429.00 > 81.00 | 7.895 | 7.867 | 0.028 | | 373698 | 0.0455 | | 95.8 | 1336 | |
| D 25 13C4 PFOA | | | | | | | | | | |
| 417.00 > 372.00 | 7.931 | 7.905 | 0.026 | | 3109696 | 0.0465 | | 93.0 | 13266 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | |
| 413.00 > 369.00 | 7.931 | 7.905 | 0.026 | 1.000 | 4589315 | 0.0811 | Target=1.58 | | 792 | M |
| 413.00 > 169.00 | 7.931 | 7.905 | 0.026 | 1.000 | 2846676 | | 1.61(0.79-2.37) | | 1024 | M |
| D 26 13C4 PFOS | | | | | | | | | | |
| 503.00 > 80.00 | 8.487 | 8.481 | 0.006 | | 1029636 | 0.0453 | | 94.7 | 3921 | |
| 27 Perfluorooctanesulfonic acid | | | | | | | | | | |
| 499.00 > 80.00 | 8.487 | 8.481 | 0.006 | 1.000 | 1694239 | 0.0772 | Target=3.45 | | 6896 | |
| 499.00 > 99.00 | 8.487 | 8.481 | 0.006 | 1.000 | 480599 | | 3.53(1.73-5.18) | | 2851 | |
| D 28 13C5 PFNA | | | | | | | | | | |
| 468.00 > 423.00 | 8.524 | 8.500 | 0.024 | | 2382240 | 0.0479 | | 95.9 | 12223 | |
| 29 Perfluorononanoic acid | | | | | | | | | | |
| 463.00 > 419.00 | 8.524 | 8.518 | 0.006 | 1.000 | 4123807 | 0.0911 | Target=7.90 | | 2723 | |
| 463.00 > 169.00 | 8.524 | 8.518 | 0.006 | 1.000 | 532610 | | 7.74(3.95-11.85) | | 3916 | |
| D 30 13C8 FOSA | | | | | | | | | | |
| 506.00 > 78.00 | 9.033 | 9.009 | 0.024 | | 2729701 | 0.0865 | | 173 | 9891 | |
| D 33 13C2 PFDA | | | | | | | | | | |
| 515.00 > 470.00 | 9.116 | 9.111 | 0.005 | | 2280709 | 0.0483 | | 96.6 | 16091 | |
| 35 Perfluorodecanoic acid | | | | | | | | | | |
| 513.00 > 469.00 | 9.116 | 9.111 | 0.005 | 1.000 | 3315740 | 0.0874 | Target=16.15 | | 2506 | |
| 513.00 > 169.00 | 9.116 | 9.111 | 0.005 | 1.000 | 204997 | | 16.17(8.08-24.23) | | 1273 | |
| D 34 M2-8:2 FTS | | | | | | | | | | |
| 529.00 > 81.00 | 9.116 | 9.111 | 0.005 | | 338220 | 0.0442 | | 92.2 | 3150 | |
| D 37 d3-NMeFOSAA | | | | | | | | | | |
| 573.00 > 419.00 | 9.404 | 9.389 | 0.015 | | 1041531 | 0.0542 | | 108 | 3329 | |
| 38 NMeFOSAA | | | | | | | | | | |
| 570.00 > 419.00 | 9.404 | 9.389 | 0.015 | 1.000 | 1439275 | 0.0808 | Target=12.28 | | 3804 | |
| 570.00 > 483.00 | 9.404 | 9.389 | 0.015 | 1.000 | 111268 | | 12.94(6.14-18.41) | | 1667 | |
| 41 Perfluoroundecanoic acid | | | | | | | | | | |
| 563.00 > 519.00 | 9.671 | 9.678 | -0.007 | 1.000 | 3153228 | 0.0838 | Target=20.47 | | 2230 | |
| 563.00 > 169.00 | 9.671 | 9.678 | -0.007 | 1.000 | 158572 | | 19.89(10.24-30.71) | | 287 | |
| D 42 13C2 PFUnA | | | | | | | | | | |
| 565.00 > 520.00 | 9.671 | 9.678 | -0.007 | | 2134129 | 0.0465 | | 93.0 | 16440 | |
| D 40 d5-NEtFOSAA | | | | | | | | | | |
| 589.00 > 419.00 | 9.687 | 9.678 | 0.009 | | 1581954 | 0.0496 | | 99.1 | 3484 | |

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------------------------------|--------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| 43 NEtFOSA | | | | | | | | | | M |
| 584.00 > 419.00 | 9.687 | 9.695 | -0.008 | 1.000 | 1539810 | 0.0817 | Target=13.05 | | 7608 | |
| 584.00 > 483.00 | 9.687 | 9.695 | -0.008 | 1.000 | 116600 | | 13.21(6.52-19.57) | | 553 | M |
| 44 11C1FOS | | | | | | | | | | |
| 631.00 > 451.00 | 9.922 | 9.917 | 0.005 | 1.169 | 8879118 | NC | | | 27953 | |
| D 45 13C2 PFDaA | | | | | | | | | | |
| 615.00 > 570.00 | 10.218 | 10.223 | -0.005 | | 2537229 | 0.0527 | | 105 | 14025 | |
| 46 Perfluorododecanoic acid | | | | | | | | | | |
| 613.00 > 569.00 | 10.218 | 10.223 | -0.005 | 1.000 | 3374060 | 0.0751 | Target=17.11 | | 1399 | |
| 613.00 > 169.00 | 10.218 | 10.223 | -0.005 | 1.000 | 222414 | | 15.17(8.55-25.66) | | 614 | |
| 49 Perfluorotridecanoic acid | | | | | | | | | | |
| 663.00 > 619.00 | 10.735 | 10.753 | -0.018 | 1.051 | 6287615 | 0.1036 | Target=18.64 | | 1814 | |
| 663.00 > 169.00 | 10.735 | 10.753 | -0.018 | 1.051 | 342004 | | 18.38(9.32-27.96) | | 942 | |
| 50 Perfluorotetradecanoic acid | | | | | | | | | | |
| 713.00 > 169.00 | 11.232 | 11.253 | -0.021 | 1.000 | 453923 | 0.0960 | Target=1.23 | | 2143 | |
| 713.00 > 219.00 | 11.232 | 11.253 | -0.021 | 1.000 | 355392 | | 1.28(0.62-1.85) | | 1039 | |
| D 51 13C2 PFTeDA | | | | | | | | | | |
| 715.00 > 670.00 | 11.232 | 11.253 | -0.021 | | 5733568 | 0.1019 | | 204 | 14691 | |
| D 52 13C2 PFHxDA | | | | | | | | | | |
| 815.00 > 770.00 | 12.191 | 12.225 | -0.034 | | 3584211 | 0.1102 | | 220 | 13159 | |

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

Reagents:

LCPFCIC_LLICV_00011

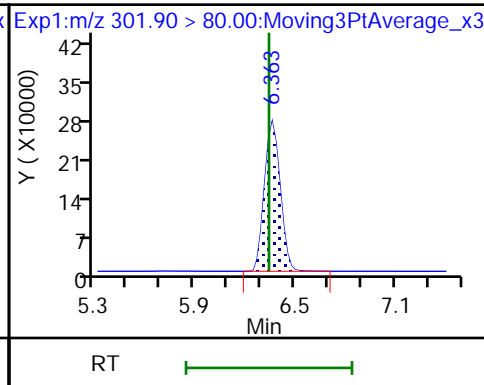
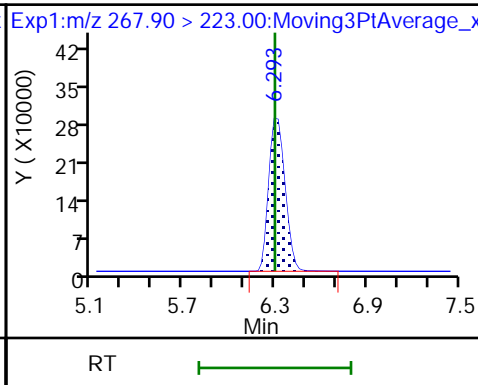
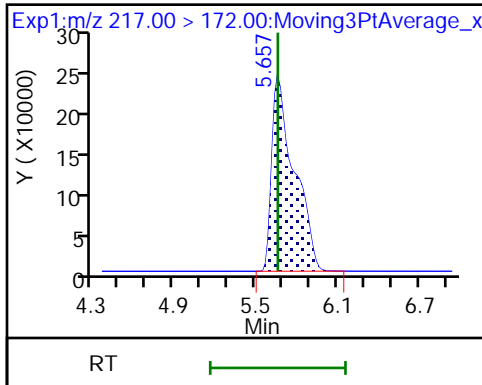
Amount Added: 1.00

Units: mL

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D 4 13C5 PFPeA

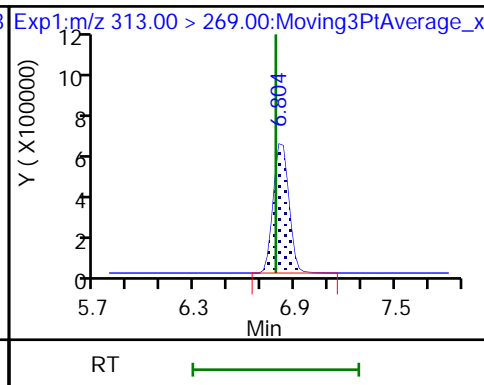
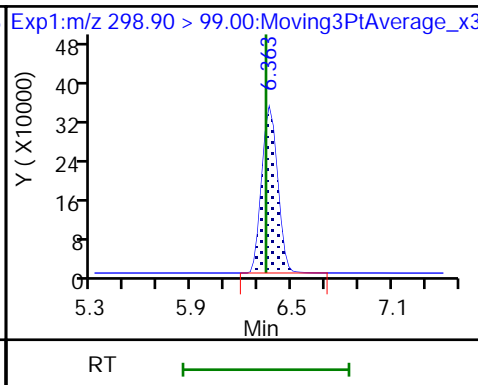
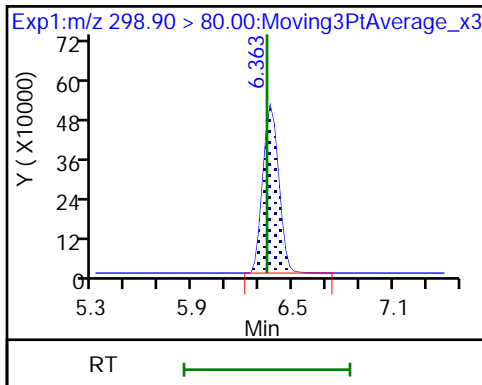
D 3 13C3 PFBS



6 Perfluorobutanesulfonic acid

6 Perfluorobutanesulfonic acid

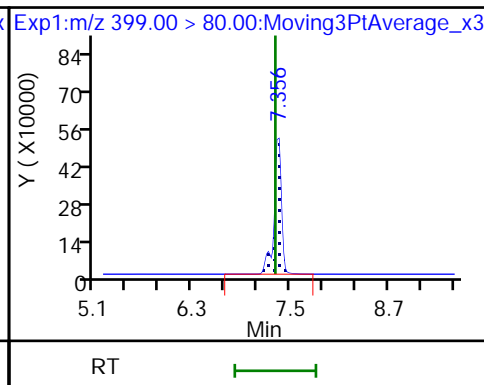
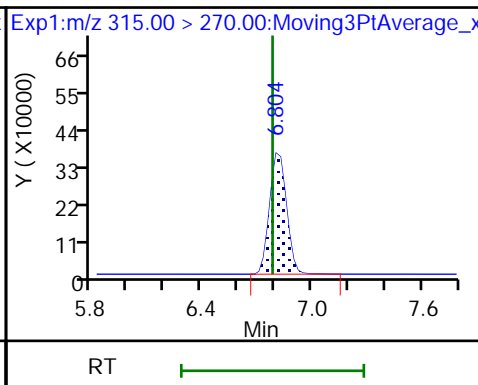
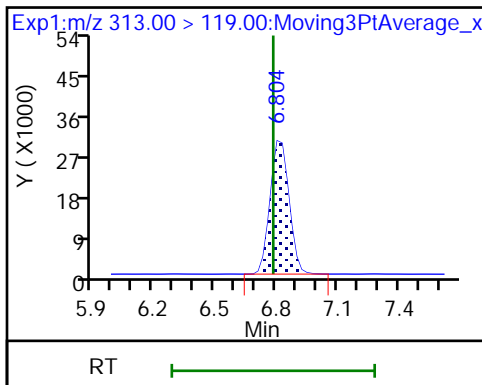
10 Perfluorohexanoic acid



10 Perfluorohexanoic acid

D 9 13C2 PFHxA

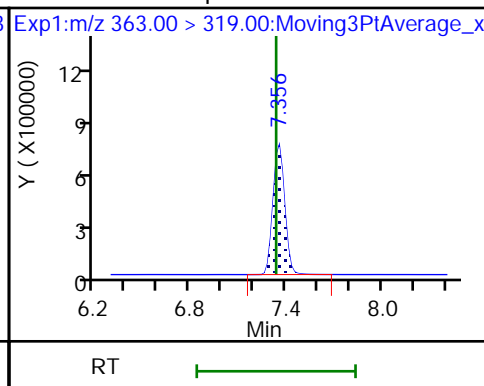
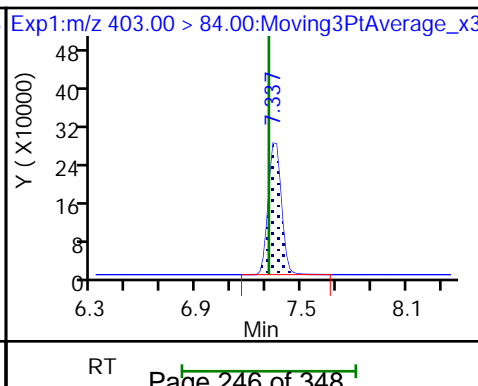
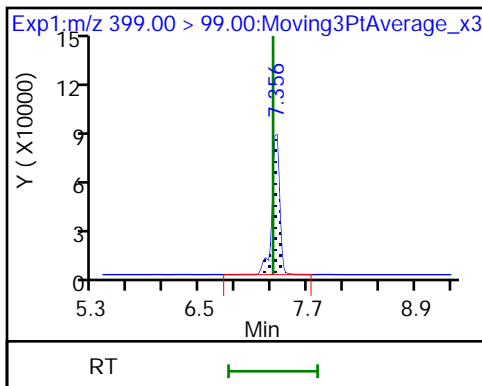
16 Perfluorohexanesulfonic acid

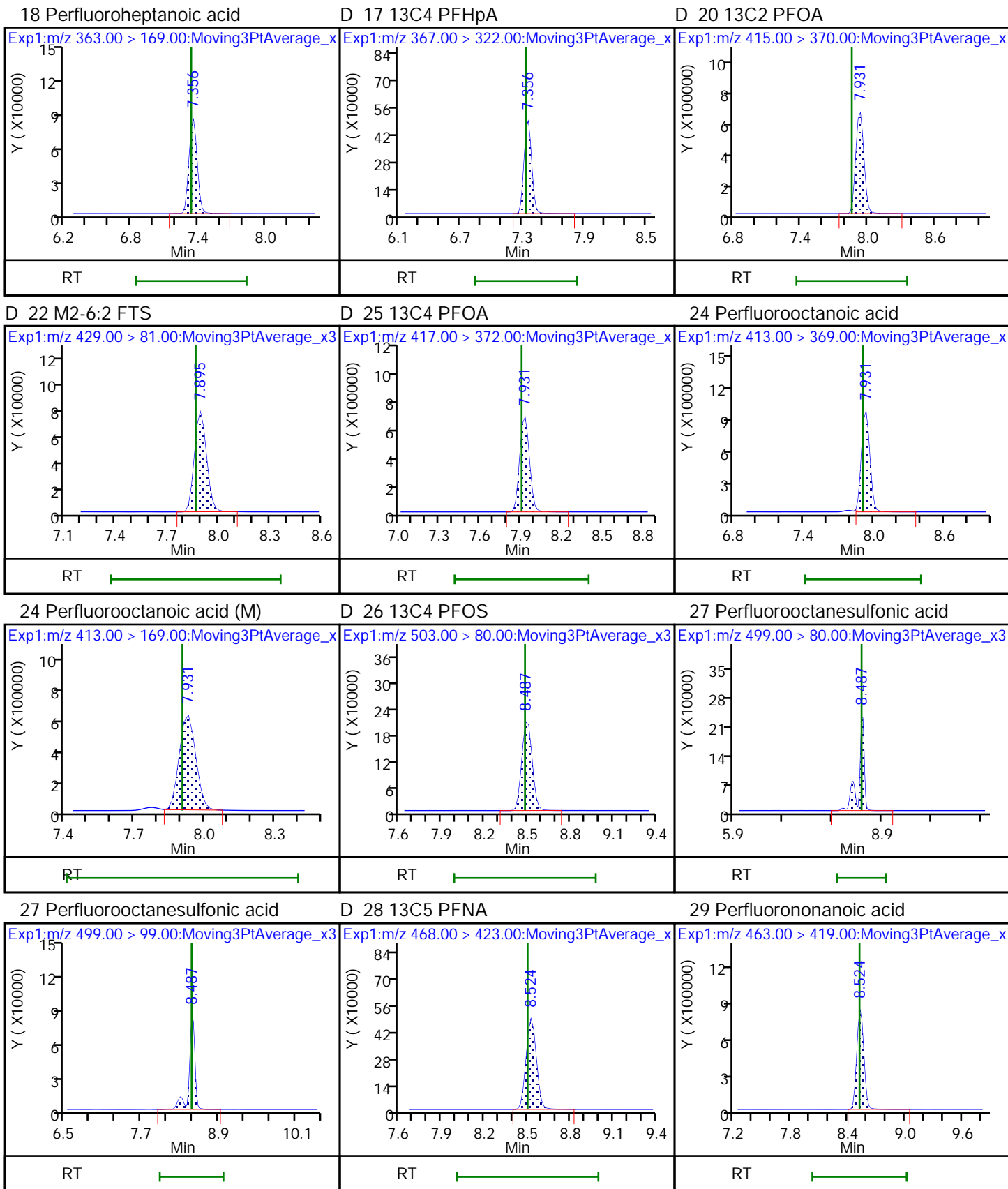


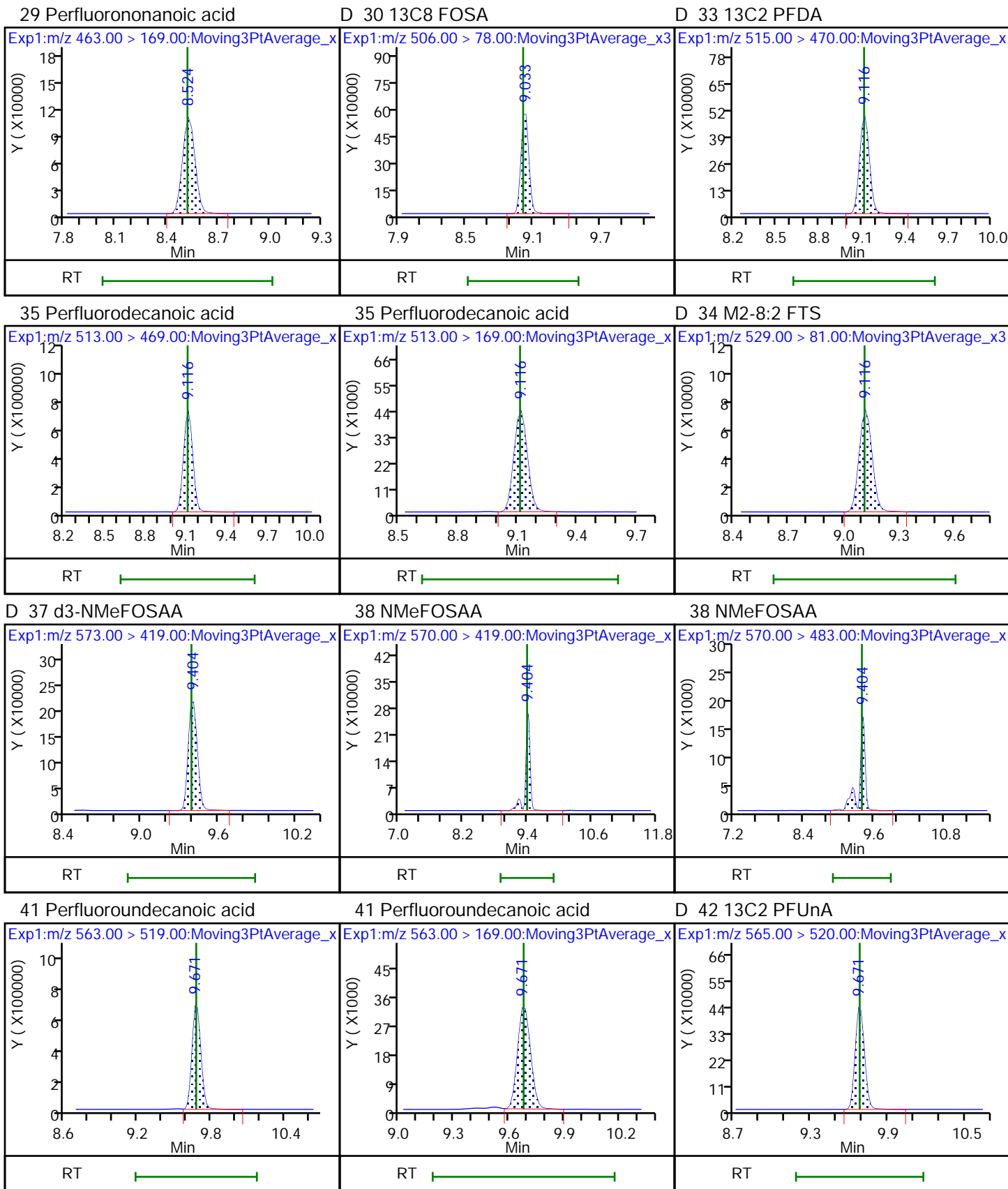
16 Perfluorohexanesulfonic acid

D 15 18O2 PFHxS

18 Perfluoroheptanoic acid



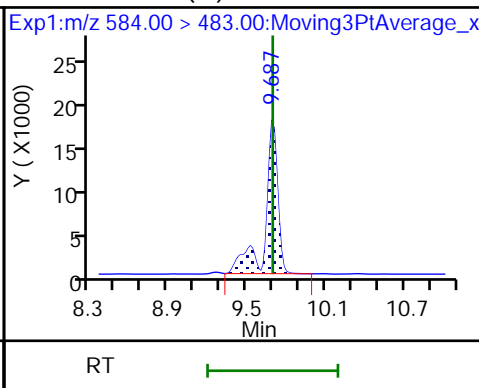
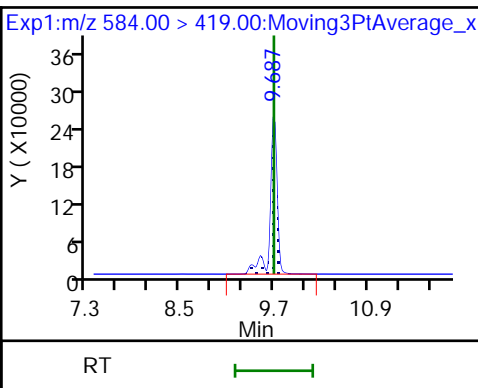
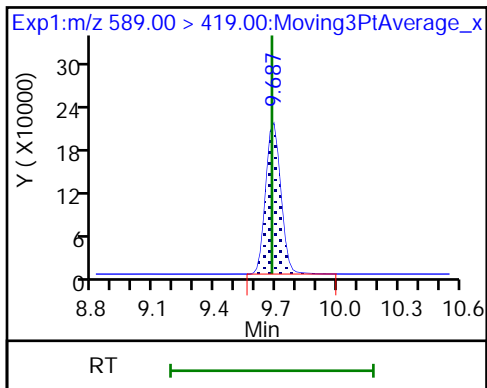




D 40 d5-NEtFOSAA

43 NEtFOSA

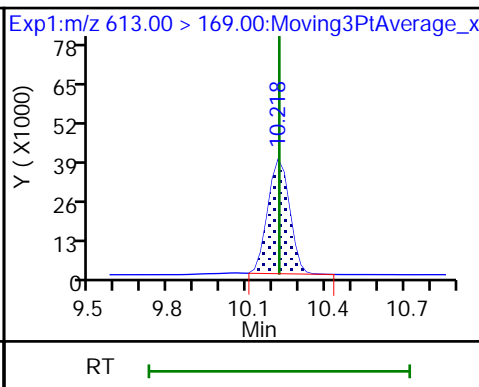
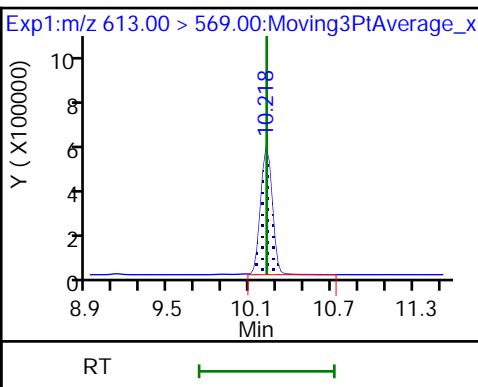
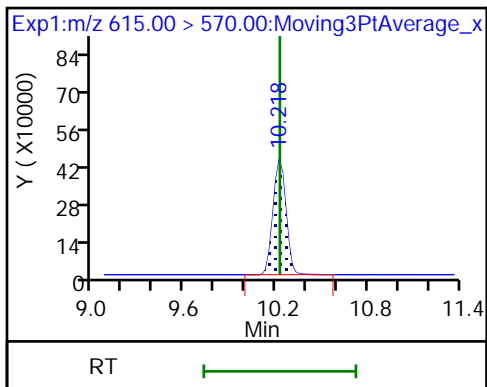
43 NEtFOSA (M)



D 45 13C2 PFDoA

46 Perfluorododecanoic acid

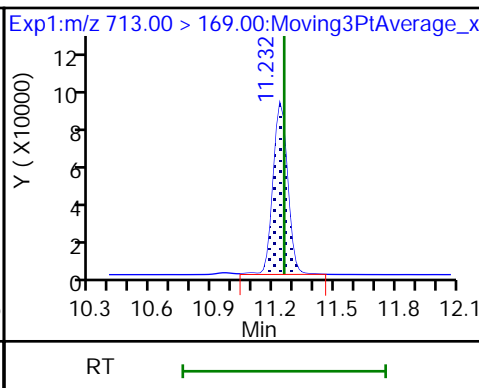
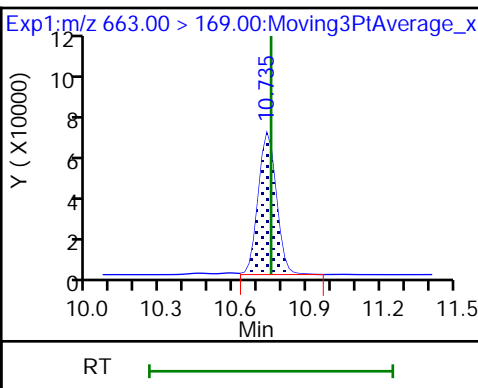
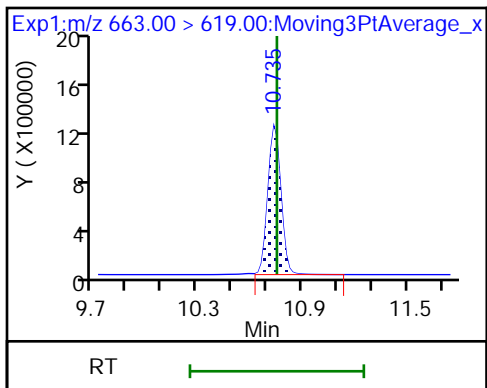
46 Perfluorododecanoic acid



49 Perfluorotridecanoic acid

49 Perfluorotridecanoic acid

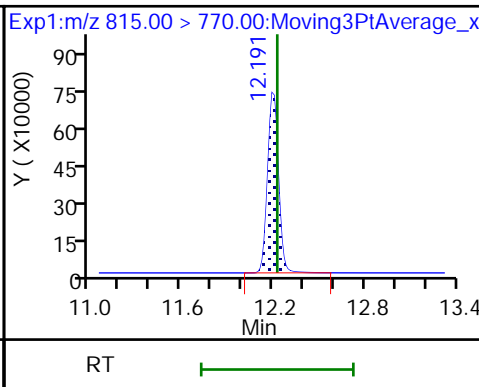
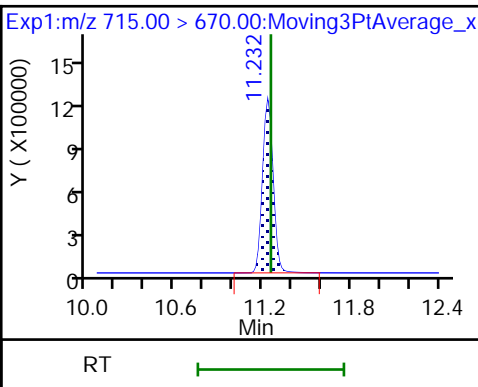
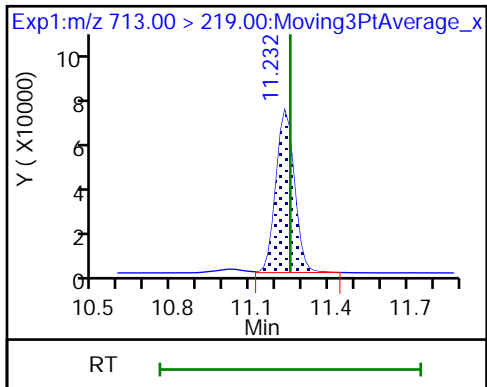
50 Perfluorotetradecanoic acid



50 Perfluorotetradecanoic acid

D 51 13C2 PFTeDA

D 52 13C2 PFHxDA



Eurofins TestAmerica, Sacramento

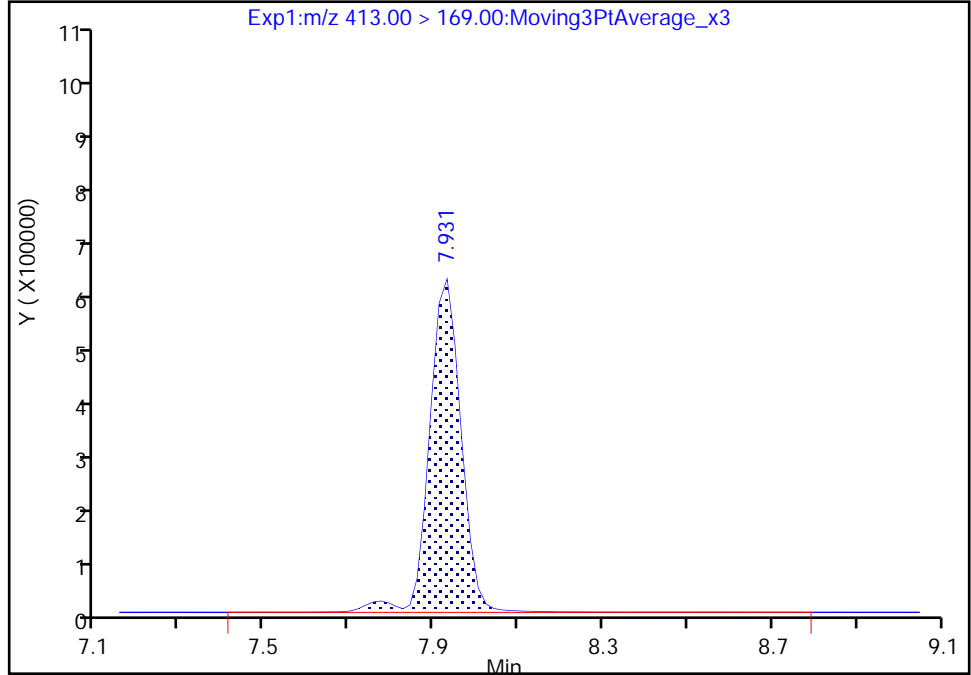
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_011.d
Injection Date: 09-Feb-2021 13:23:24 Instrument ID: A10
Lims ID: ICV
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

24 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

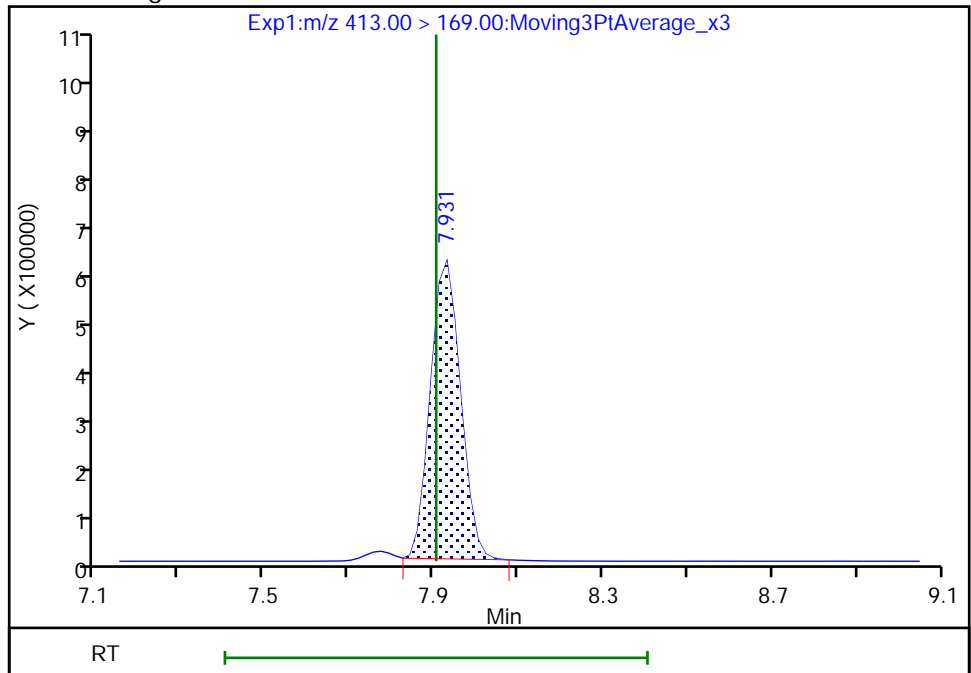
RT: 7.93
Area: 3017403
Amount: 0.081059
Amount Units: ng/ml

Processing Integration Results



RT: 7.93
Area: 2846676
Amount: 0.081059
Amount Units: ng/ml

Manual Integration Results



Eurofins TestAmerica, Sacramento

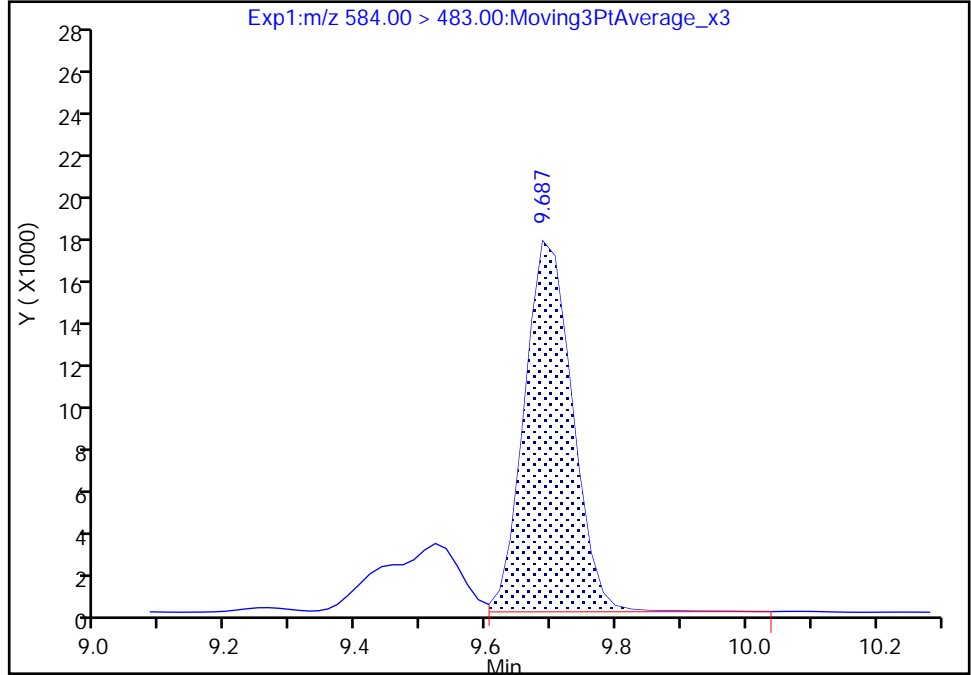
Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_011.d
Injection Date: 09-Feb-2021 13:23:24 Instrument ID: A10
Lims ID: ICV
Client ID:
Operator ID: Sac_inst_A10 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 950.0 ul Dil. Factor: 1.0000
Method: A10_In_Line_SPE Limit Group: LC PFAS_DW ICAL
Column: Gemini C18 3um 3 x 100mm (3.00 mm) Detector: EXP1

43 NEtFOSA, CAS: 2991-50-6

Signal: 2

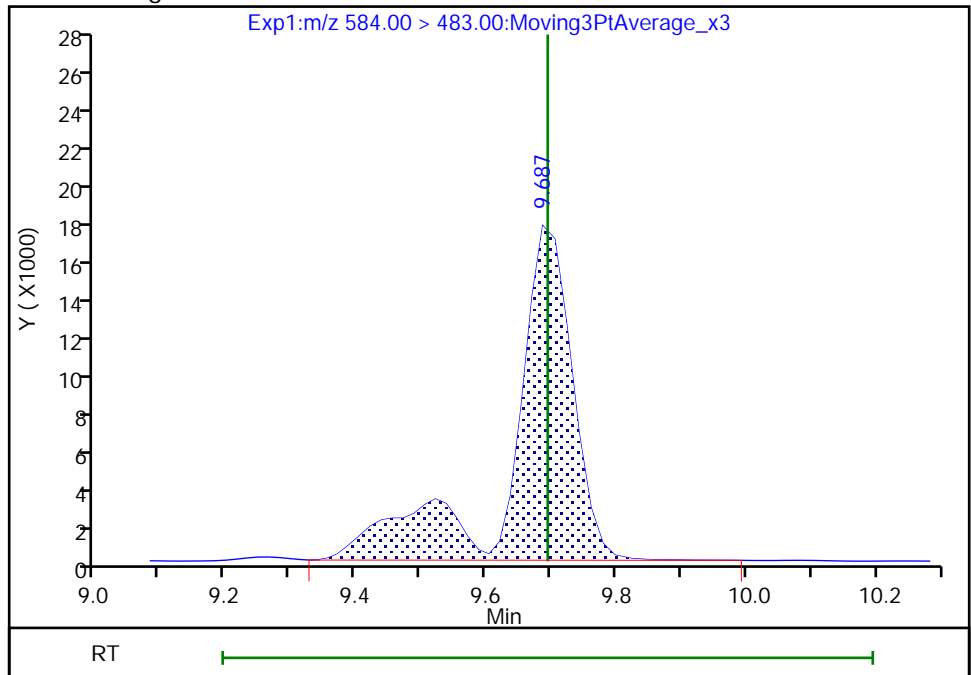
RT: 9.69
Area: 90617
Amount: 0.081666
Amount Units: ng/ml

Processing Integration Results



RT: 9.69
Area: 116600
Amount: 0.081666
Amount Units: ng/ml

Manual Integration Results



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Lab Sample ID: CCVL 320-461813/1 Calibration Date: 02/13/2021 10:27
 Instrument ID: A10 Calib Start Date: 02/09/2021 10:37
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/09/2021 12:46
 Lab File ID: 2021.02.13_A10_DI_A_006.d Conc. Units: ng/L

| ANALYTE | CURVE TYPE | AVE RRF | RRF | MIN RRF | CALC AMOUNT | SPIKE AMOUNT | %D | MAX %D |
|--|------------|----------|----------|---------|-------------|--------------|--------|--------|
| Perfluorobutanoic acid | AveID | 0.8917 | 0.8970 | | 2.01 | 2.00 | 0.6 | 50.0 |
| Perfluoropentanoic acid | AveID | 1.082 | 1.196 | | 2.21 | 2.00 | 10.5 | 50.0 |
| Perfluorobutanesulfonic acid (PFBS) | AveID | 1.048 | 1.236 | | 2.09 | 1.77 | 17.9 | 50.0 |
| Perfluorohexanoic acid | AveID | 0.9919 | 1.042 | | 2.10 | 2.00 | 5.0 | 50.0 |
| Perfluoroheptanoic acid (PFHpA) | AveID | 0.9757 | 1.172 | | 2.40 | 2.00 | 20.1 | 50.0 |
| Perfluorohexanesulfonic acid (PFHxS) | AveID | 1.139 | 1.098 | | 1.75 | 1.82 | -3.6 | 50.0 |
| 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2) | AveID | 2.999 | 10.34 | | 6.54 | 1.90 | 244.8* | 50.0 |
| Perfluoroheptanesulfonic acid | AveID | 1.276 | 1.330 | | 1.99 | 1.90 | 4.3 | 50.0 |
| Perfluorooctanoic acid (PFOA) | AveID | 0.9103 | 0.9396 | | 2.06 | 2.00 | 3.2 | 50.0 |
| Perfluorooctanesulfonic acid (PFOS) | AveID | 1.019 | 1.123 | | 2.04 | 1.86 | 10.2 | 50.0 |
| Perfluorononanoic acid (PFNA) | AveID | 0.9499 | 0.8849 | | 1.86 | 2.00 | -6.8 | 50.0 |
| Perfluorooctanesulfonamide | AveID | 1.014 | 1.107 | | 2.18 | 2.00 | 9.2 | 50.0 |
| 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2) | AveID | 2.362 | 2.388 | | | 1.92 | 1.1 | 50.0 |
| Perfluorodecanoic acid | AveID | 0.8319 | 0.8461 | | 2.03 | 2.00 | 1.7 | 50.0 |
| Perfluorodecanesulfonic acid | AveID | 0.6664 | 0.6632 | | 1.92 | 1.93 | -0.5 | 50.0 |
| Perfluoroundecanoic acid | AveID | 0.8819 | 0.8558 | | 1.94 | 2.00 | -3.0 | 50.0 |
| Perfluorododecanoic acid | AveID | 0.8858 | 1.000 | | 2.26 | 2.00 | 12.9 | 50.0 |
| Perfluorotridecanoic acid | AveID | 1.196 | 1.310 | | 2.19 | 2.00 | 9.6 | 50.0 |
| Perfluorotetradecanoic acid | AveID | 0.0412 | 0.0448 | | 2.17 | 2.00 | 8.7 | 50.0 |
| Perfluorohexadecanoic acid | AveID | 1.001 | 1.319 | | 2.64 | 2.00 | 31.8 | 50.0 |
| N-ethylperfluorooctanesulfonamidoacetic acid | AveID | 0.8713 | | | | 2.00 | | |
| N-methylperfluorooctanesulfonamidoacetic acid | AveID | 0.8548 | | | | 2.00 | | |
| Perfluorooctadecanoic acid | AveID | 0.2124 | | | | 2.00 | | |
| 13C4 PFBA | Ave | 58729800 | 64516180 | | 54.9 | 50.0 | 9.9 | 50.0 |
| 13C5 PFPeA | Ave | 43934310 | 42339580 | | 48.2 | 50.0 | -3.6 | 50.0 |
| 13C3 PFBS | Ave | 40751425 | 35477677 | | 40.5 | 46.5 | -12.9 | 50.0 |
| 13C2 PFHxA | Ave | 47448103 | 40529020 | | 42.7 | 50.0 | -14.6 | 50.0 |
| 13C4 PFHpA | Ave | 50044460 | 44147340 | | 44.1 | 50.0 | -11.8 | 50.0 |
| 18O2 PFHxS | Ave | 32862487 | 33632558 | | 48.4 | 47.3 | 2.3 | 50.0 |
| M2-6:2 FTS | Ave | 8214492 | 13730905 | | 79.4 | 47.5 | 67.2* | 50.0 |
| 13C4 PFOA | Ave | 66909148 | 69762480 | | 52.1 | 50.0 | 4.3 | 50.0 |
| 13C4 PFOS | Ave | 22745047 | 22466632 | | 47.2 | 47.8 | -1.2 | 50.0 |
| 13C5 PFNA | Ave | 49685090 | 52373600 | | 52.7 | 50.0 | 5.4 | 50.0 |
| 13C8 FOSA | Ave | 31560048 | 33356720 | | 52.8 | 50.0 | 5.7 | 50.0 |
| 13C2 PFDA | Ave | 47208335 | 48950500 | | 51.8 | 50.0 | 3.7 | 50.0 |
| M2-8:2 FTS | Ave | 7658823 | 11260271 | | 70.4 | 47.9 | 47.0 | 50.0 |

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Lab Sample ID: CCVL 320-461813/1 Calibration Date: 02/13/2021 10:27
 Instrument ID: A10 Calib Start Date: 02/09/2021 10:37
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/09/2021 12:46
 Lab File ID: 2021.02.13_A10_DI_A_006.d Conc. Units: ng/L

| ANALYTE | CURVE TYPE | AVE CF | CF | MIN CF | CALC AMOUNT | SPIKE AMOUNT | %D | MAX %D |
|-------------|------------|----------|----------|--------|-------------|--------------|------|--------|
| d3-NMeFOSAA | Ave | 19233788 | 22953180 | | 59.7 | 50.0 | 19.3 | 50.0 |
| 13C2 PFUnA | Ave | 45893880 | 47582000 | | 51.8 | 50.0 | 3.7 | 50.0 |
| d5-NEtFOSAA | Ave | 21832320 | 26611680 | | 60.9 | 50.0 | 21.9 | 50.0 |
| 13C2 PFDoA | Ave | 48155063 | 48445260 | | 50.3 | 50.0 | 0.6 | 50.0 |
| 13C2 PFTeDA | Ave | 56290190 | 58153220 | | 51.7 | 50.0 | 3.3 | 50.0 |
| 13C2 PFHxDA | Ave | 32512703 | 36733840 | | 56.5 | 50.0 | 13.0 | 50.0 |

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_006.d
 Lims ID: CCVL
 Client ID:
 Sample Type: CCVL
 Inject. Date: 13-Feb-2021 10:27:03 ALS Bottle#: 6 Worklist Smp#: 1
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: CCV L2
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Sublist: chrom-A10_In_Line_SPE*sub12

Method: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 15-Feb-2021 04:09:51 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d

Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1652

First Level Reviewer: ruangyotsakuld Date: 15-Feb-2021 04:09:51

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-----------------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 2 13C4 PFBA | 217.00 > 172.00 | 5.742 | 5.742 | 0.0 | 3225809 | 0.0549 | | 110 | 24184 | |
| 1 Perfluorobutanoic acid | 212.90 > 169.00 | 5.763 | 5.763 | 0.0 | 115738 | 0.002012 | | 101 | 65.3 | |
| D 4 13C5 PFPeA | 267.90 > 223.00 | 6.297 | 6.297 | 0.0 | 2116979 | 0.0482 | | 96.4 | 19298 | |
| 5 Perfluoropentanoic acid | 262.90 > 219.00 | 6.297 | 6.297 | 0.0 | 101265 | 0.002211 | | 111 | 42.4 | |
| D 3 13C3 PFBS | 301.90 > 80.00 | 6.343 | 6.343 | 0.0 | 1649712 | 0.0405 | | 87.1 | 5972 | |
| 6 Perfluorobutanesulfonic acid | 298.90 > 80.00 | 6.343 | 6.343 | 0.0 | 77545 | 0.002085 | Target=1.49 | 118 | 213 | |
| | 298.90 > 99.00 | 6.343 | 6.343 | 0.0 | 53595 | | 1.45(0.74-2.23) | | 103 | |
| 8 4:2 FTS | 327.00 > 307.00 | 6.715 | 6.715 | 0.0 | 50470 | NC | Target=2.63 | | 767 | |
| | 327.00 > 81.00 | 6.715 | 6.715 | 0.0 | 18907 | | 2.67(1.32-3.95) | | 52.6 | |
| D 7 M2-4:2 FTS | 329.00 > 81.00 | 6.715 | 6.715 | 0.0 | 442412 | NC | | | 1320 | |
| 10 Perfluorohexanoic acid | 313.00 > 269.00 | 6.761 | 6.761 | 0.0 | 84425 | 0.002100 | Target=19.21 | 105 | 71.8 | |
| | 313.00 > 119.00 | 6.761 | 6.761 | 0.0 | 4784 | | 17.65(9.60-28.81) | | 48.6 | |
| D 9 13C2 PFHxA | 315.00 > 270.00 | 6.761 | 6.761 | 0.0 | 2026451 | 0.0427 | | 85.4 | 18837 | |
| 11 Perfluoropentanesulfonic acid | 349.00 > 80.00 | 6.784 | 6.784 | 0.0 | 63910 | NC | Target=1.46 | | 97.4 | |
| | 349.00 > 99.00 | 6.784 | 6.784 | 0.0 | 43238 | | 1.48(0.73-2.19) | | 133 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-------------------|------|-------|-------|
| D 12 13C3 HFPO-DA | | | | | | | | | | |
| 332.10 > 287.00 | 6.904 | 6.904 | 0.0 | | 115734 | NC | | | 640 | |
| 13 HPFO-DA | | | | | | | | | | |
| 329.10 > 285.00 | 6.904 | 6.904 | 0.0 | 1.000 | 15614 | NC | | | 15.2 | |
| 14 9CIFOS | | | | | | | | | | |
| 531.00 > 351.00 | 7.159 | 7.159 | 0.0 | 0.847 | 4029 | NC | | | 2.9 | |
| 16 Perfluorohexanesulfonic acid | | | | | | | | | | |
| 399.00 > 80.00 | 7.285 | 7.285 | 0.0 | 1.000 | 67214 | 0.001754 | Target=5.70 | 96.4 | 147 | |
| 399.00 > 99.00 | 7.267 | 7.285 | -0.018 | 0.997 | 15056 | | 4.46(2.85-8.55) | | 53.2 | |
| D 15 18O2 PFHxS | | | | | | | | | | |
| 403.00 > 84.00 | 7.285 | 7.285 | 0.0 | | 1590820 | 0.0484 | | 102 | 11918 | |
| 18 Perfluoroheptanoic acid | | | | | | | | | | |
| 363.00 > 319.00 | 7.285 | 7.285 | 0.0 | 1.000 | 103445 | 0.002402 | Target=9.14 | 120 | 23.4 | |
| 363.00 > 169.00 | 7.285 | 7.285 | 0.0 | 1.000 | 8101 | | 12.77(4.57-13.71) | | 207 | |
| D 17 13C4 PFHpA | | | | | | | | | | |
| 367.00 > 322.00 | 7.285 | 7.285 | 0.0 | | 2207367 | 0.0441 | | 88.2 | 12514 | |
| 19 DONA | | | | | | | | | | |
| 377.00 > 251.00 | 7.341 | 7.341 | 0.0 | 0.869 | 397030 | NC | Target=2.71 | | 1688 | |
| 377.00 > 85.00 | 7.341 | 7.341 | 0.0 | 0.869 | 153384 | | 2.59(1.36-4.07) | | 674 | |
| 23 6:2 FTS | | | | | | | | | | |
| 427.00 > 407.00 | 7.823 | 7.823 | 0.0 | 1.000 | 269195 | 0.006538 | Target=2.56 | 345 | 2902 | |
| 427.00 > 81.00 | 7.823 | 7.823 | 0.0 | 1.000 | 113626 | | 2.37(1.28-3.83) | | 269 | |
| D 22 M2-6:2 FTS | | | | | | | | | | |
| 429.00 > 81.00 | 7.823 | 7.823 | 0.0 | | 652218 | 0.0794 | | 167 | 1625 | |
| 21 Perfluoroheptanesulfonic acid | | | | | | | | | | |
| 449.00 > 80.00 | 7.840 | 7.840 | 0.0 | 0.928 | 56914 | 0.001986 | Target=6.98 | 104 | 181 | |
| 449.00 > 99.00 | 7.840 | 7.840 | 0.0 | 0.928 | 9169 | | 6.21(3.49-10.47) | | 67.8 | |
| D 25 13C4 PFOA | | | | | | | | | | |
| 417.00 > 372.00 | 7.856 | 7.856 | 0.0 | | 3488124 | 0.0521 | | 104 | 17958 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | |
| 413.00 > 369.00 | 7.856 | 7.856 | 0.0 | 1.000 | 131100 | 0.002064 | Target=1.58 | 103 | 32.8 | |
| 413.00 > 169.00 | 7.856 | 7.856 | 0.0 | 1.000 | 80480 | | 1.63(0.79-2.37) | | 538 | |
| D 26 13C4 PFOS | | | | | | | | | | |
| 503.00 > 80.00 | 8.448 | 8.448 | 0.0 | | 1073905 | 0.0472 | | 98.8 | 6317 | |
| 27 Perfluorooctanesulfonic acid | | | | | | | | | | |
| 499.00 > 80.00 | 8.448 | 8.448 | 0.0 | 1.000 | 46817 | 0.002045 | Target=3.45 | 110 | 245 | |
| 499.00 > 99.00 | 8.448 | 8.448 | 0.0 | 1.000 | 13631 | | 3.43(1.73-5.18) | | 52.9 | |
| D 28 13C5 PFNA | | | | | | | | | | |
| 468.00 > 423.00 | 8.465 | 8.465 | 0.0 | | 2618680 | 0.0527 | | 105 | 13070 | |
| 29 Perfluorononanoic acid | | | | | | | | | | |
| 463.00 > 419.00 | 8.465 | 8.465 | 0.0 | 1.000 | 92690 | 0.001863 | Target=7.90 | 93.2 | 49.1 | |
| 463.00 > 169.00 | 8.465 | 8.465 | 0.0 | 1.000 | 13443 | | 6.90(3.95-11.85) | | 175 | |
| D 30 13C8 FOSA | | | | | | | | | | |
| 506.00 > 78.00 | 8.966 | 8.966 | 0.0 | | 1667836 | 0.0528 | | 106 | 6747 | |
| 31 Perfluorooctanesulfonamide | | | | | | | | | | |
| 498.00 > 78.00 | 8.966 | 8.966 | 0.0 | 1.000 | 73859 | 0.002184 | | 109 | 1033 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------------|--------|-----------|-----------|-----------|----------|-----------------|--------------------|------|-------|-------|
| 32 Perfluorononanesulfonic acid | | | | | | | | | | |
| 549.00 > 80.00 | 9.044 | 9.044 | 0.0 | 1.070 | 37363 | NC | Target=6.35 | | 571 | |
| 549.00 > 99.00 | 9.044 | 9.044 | 0.0 | 1.070 | 6900 | | 5.41(3.17-9.52) | | 58.3 | |
| D 33 13C2 PFDA | | | | | | | | | | |
| 515.00 > 470.00 | 9.075 | 9.075 | 0.0 | | 2447525 | 0.0518 | | 104 | 18350 | |
| 35 Perfluorodecanoic acid | | | | | | | | | | |
| 513.00 > 469.00 | 9.075 | 9.075 | 0.0 | 1.000 | 82836 | 0.002034 | Target=16.15 | 102 | 84.6 | |
| 513.00 > 169.00 | 9.075 | 9.075 | 0.0 | 1.000 | 5864 | | 14.13(8.08-24.23) | | 71.7 | |
| D 34 M2-8:2 FTS | | | | | | | | | | |
| 529.00 > 81.00 | 9.075 | 9.075 | 0.0 | | 539367 | 0.0704 | | 147 | 3849 | |
| 36 8:2 FTS | | | | | | | | | | |
| 527.00 > 507.00 | 9.075 | 9.075 | 0.0 | 1.000 | 51518 | 0.001937 | Target=2.35 | 101 | 791 | |
| 527.00 > 81.00 | 9.075 | 9.075 | 0.0 | 1.000 | 24510 | | 2.10(1.17-3.52) | | 147 | |
| D 37 d3-NMeFOSAA | | | | | | | | | | |
| 573.00 > 419.00 | 9.361 | 9.361 | 0.0 | | 1147659 | 0.0597 | | 119 | 3946 | |
| 39 Perfluorodecanesulfonic acid | | | | | | | | | | |
| 599.00 > 80.00 | 9.597 | 9.597 | 0.0 | 1.136 | 28728 | 0.001919 | Target=2.51 | 99.5 | 562 | |
| 599.00 > 99.00 | 9.597 | 9.597 | 0.0 | 1.136 | 11957 | | 2.40(1.26-3.77) | | 237 | |
| 41 Perfluoroundecanoic acid | | | | | | | | | | |
| 563.00 > 519.00 | 9.645 | 9.645 | 0.0 | 1.000 | 81439 | 0.001941 | Target=20.47 | 97.0 | 73.1 | |
| 563.00 > 169.00 | 9.645 | 9.645 | 0.0 | 1.000 | 3419 | | 23.82(10.24-30.71) | | 73.0 | |
| D 42 13C2 PFUnA | | | | | | | | | | |
| 565.00 > 520.00 | 9.645 | 9.645 | 0.0 | | 2379100 | 0.0518 | | 104 | 16077 | |
| D 40 d5-NEtFOSAA | | | | | | | | | | |
| 589.00 > 419.00 | 9.661 | 9.661 | 0.0 | | 1330584 | 0.0609 | | 122 | 9984 | |
| 44 11C1FOS | | | | | | | | | | |
| 631.00 > 451.00 | 9.908 | 9.908 | 0.0 | 1.173 | 211271 | NC | | | 579 | |
| D 45 13C2 PFDaA | | | | | | | | | | |
| 615.00 > 570.00 | 10.197 | 10.197 | 0.0 | | 2422263 | 0.0503 | | 101 | 17025 | |
| 46 Perfluorododecanoic acid | | | | | | | | | | |
| 613.00 > 569.00 | 10.197 | 10.197 | 0.0 | 1.000 | 96924 | 0.002259 | Target=17.11 | 113 | 37.5 | |
| 613.00 > 169.00 | 10.197 | 10.197 | 0.0 | 1.000 | 6426 | | 15.08(8.55-25.66) | | 76.2 | |
| 47 10:2 FTS | | | | | | | | | | |
| 627.00 > 607.00 | 10.241 | 10.241 | 0.0 | 1.129 | 91849 | NC | Target=32.58 | | 1277 | |
| 627.00 > 81.00 | 10.241 | 10.241 | 0.0 | 1.129 | 2736 | | 33.57(16.29-48.87) | | 79.7 | |
| 48 PFDoS | | | | | | | | | | |
| 699.00 > 80.00 | 10.656 | 10.656 | 0.0 | 1.261 | 13920 | NC | Target=0.47 | | 251 | |
| 699.00 > 99.00 | 10.656 | 10.656 | 0.0 | 1.261 | 29744 | | 0.47(0.24-0.71) | | 418 | |
| 49 Perfluorotridecanoic acid | | | | | | | | | | |
| 663.00 > 619.00 | 10.727 | 10.727 | 0.0 | 1.052 | 126959 | 0.002192 | Target=18.64 | 110 | 38.2 | |
| 663.00 > 169.00 | 10.727 | 10.727 | 0.0 | 1.052 | 7548 | | 16.82(9.32-27.96) | | 137 | |
| D 51 13C2 PFTeDA | | | | | | | | | | |
| 715.00 > 670.00 | 11.233 | 11.233 | 0.0 | | 2907661 | 0.0517 | | 103 | 15660 | |
| 50 Perfluorotetradecanoic acid | | | | | | | | | | |
| 713.00 > 169.00 | 11.233 | 11.233 | 0.0 | 1.000 | 5211 | 0.002173 | Target=1.23 | 109 | 145 | |
| 713.00 > 219.00 | 11.233 | 11.233 | 0.0 | 1.000 | 3776 | | 1.38(0.62-1.85) | | 89.9 | |
| D 52 13C2 PFHxDA | | | | | | | | | | |
| 815.00 > 770.00 | 12.234 | 12.234 | 0.0 | | 1836692 | 0.0565 | | 113 | 10665 | |

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|-------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|------|-------|
| 54 Perfluorohexadecanoic acid | | | | | | | | | | |
| 813.00 > 769.00 | 12.234 | 12.234 | 0.0 | 1.000 | 96910 | 0.002635 | Target=29.80 | 132 | 45.1 | |
| 813.00 > 169.00 | 12.234 | 12.234 | 0.0 | 1.000 | 3332 | | 29.08(14.90-44.69) | | 77.7 | |

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

LCPFC-LL-L2_00029

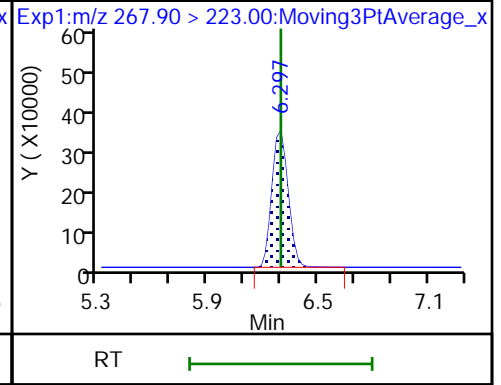
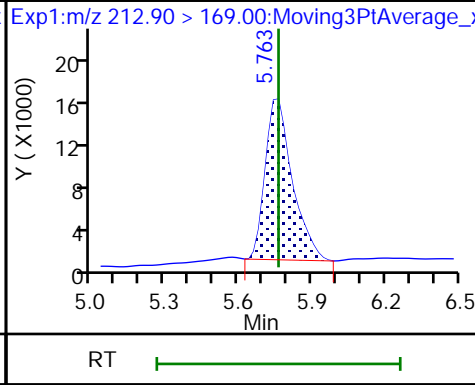
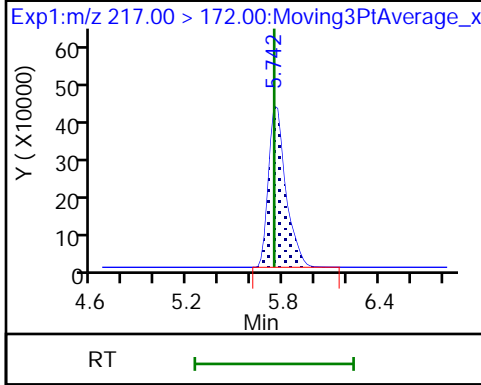
Amount Added: 1.00

Units: mL

D 2 13C4 PFBA

1 Perfluorobutanoic acid

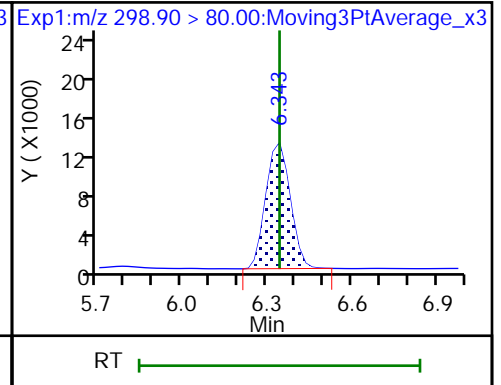
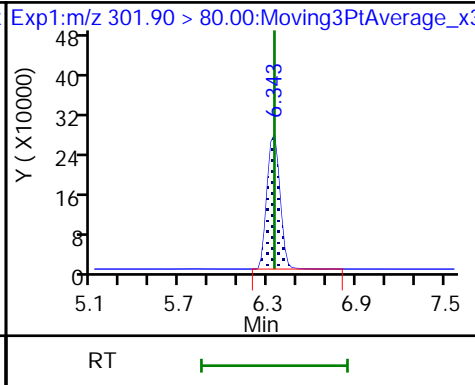
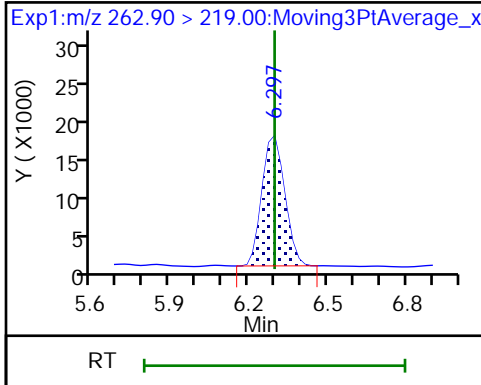
D 4 13C5 PFPeA



5 Perfluoropentanoic acid

D 3 13C3 PFBS

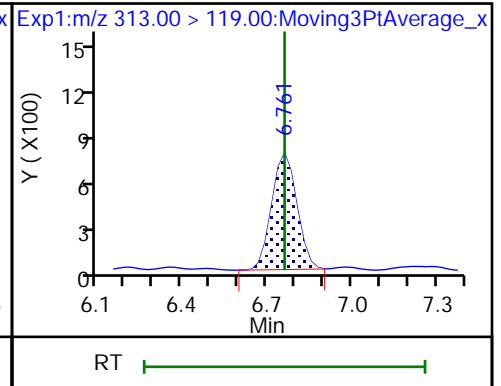
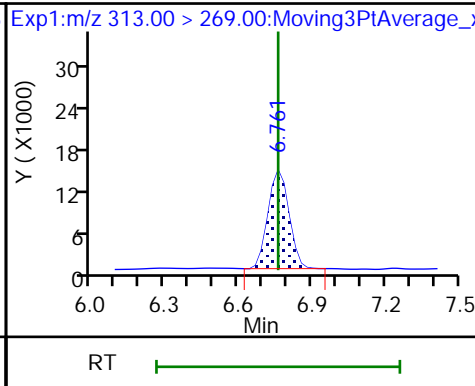
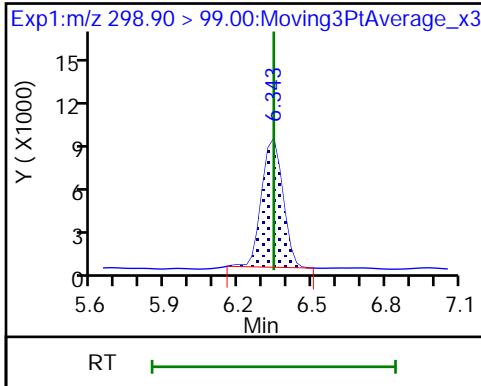
6 Perfluorobutanesulfonic acid



6 Perfluorobutanesulfonic acid

10 Perfluorohexanoic acid

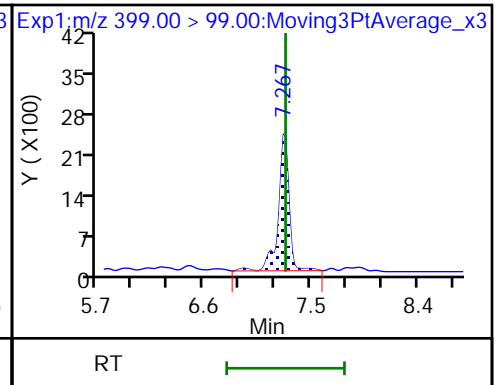
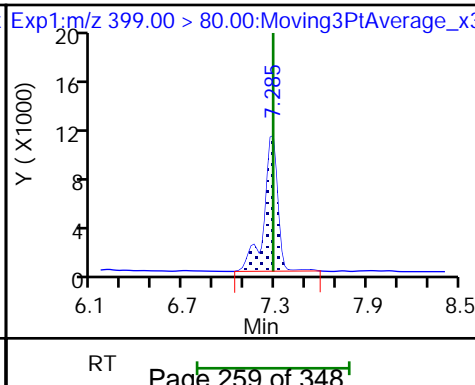
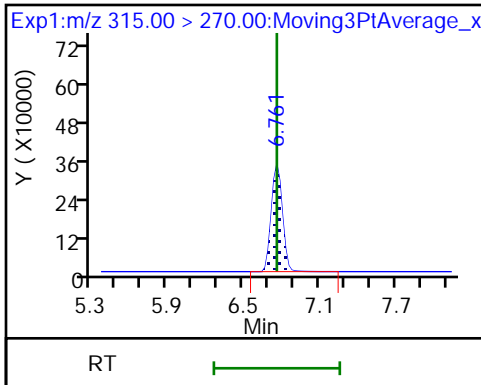
10 Perfluorohexanoic acid



D 9 13C2 PFHxA

16 Perfluorohexanesulfonic acid

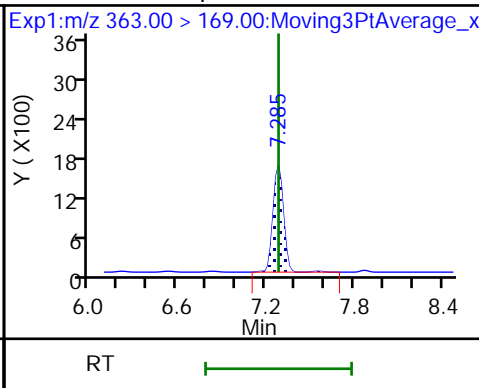
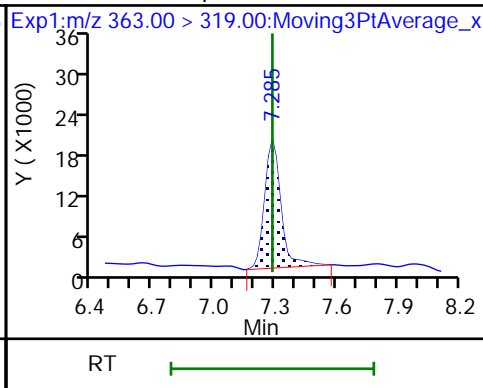
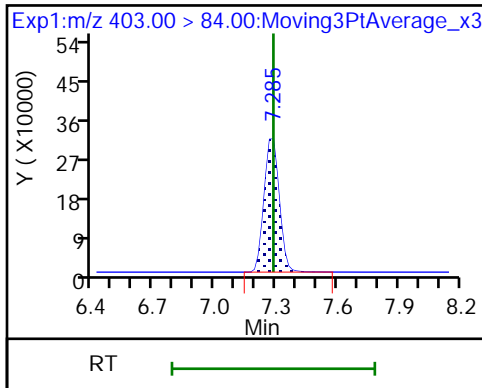
16 Perfluorohexanesulfonic acid



D 15 18O2 PFHxS

18 Perfluoroheptanoic acid

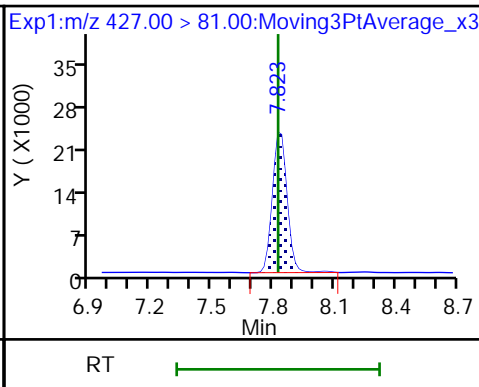
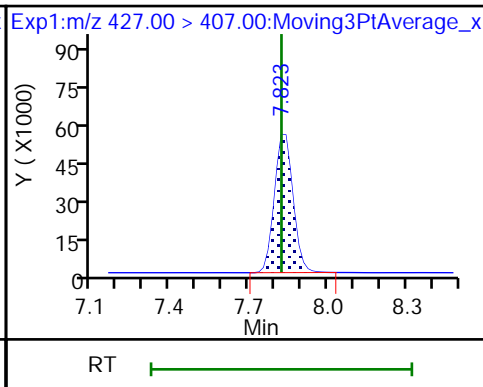
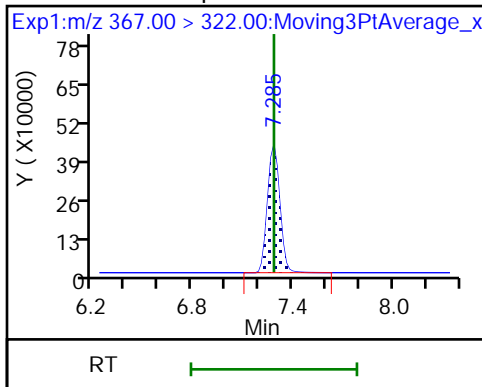
18 Perfluoroheptanoic acid



D 17 13C4 PFHpA

23 6:2 FTS

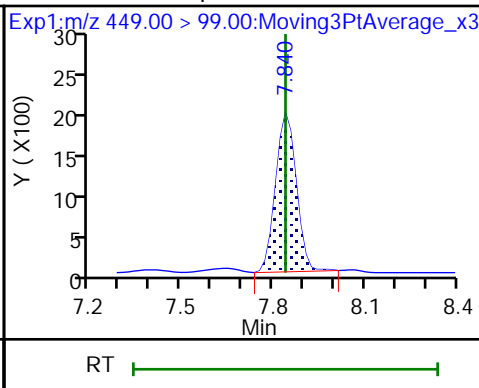
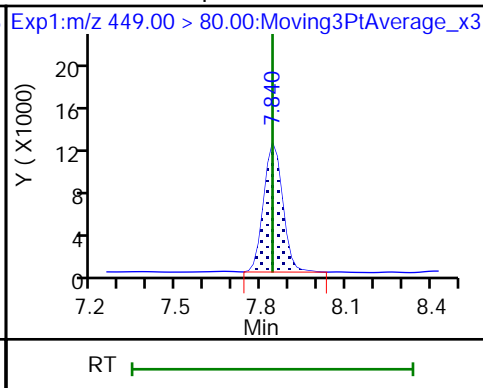
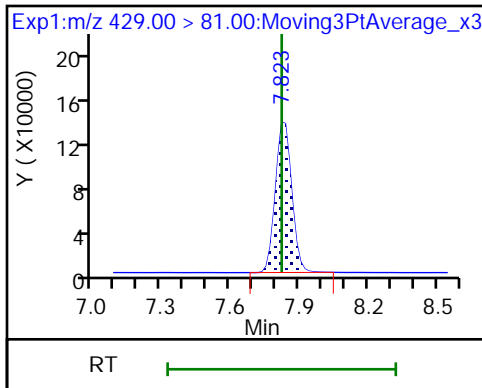
23 6:2 FTS



D 22 M2-6:2 FTS

21 Perfluoroheptanesulfonic acid

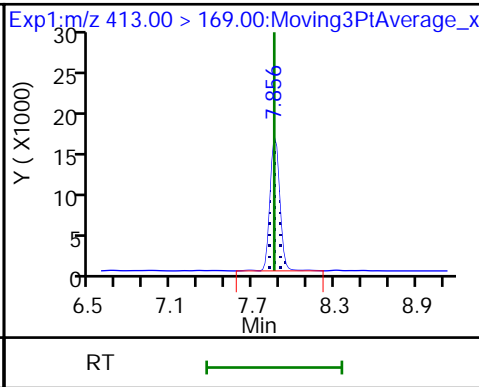
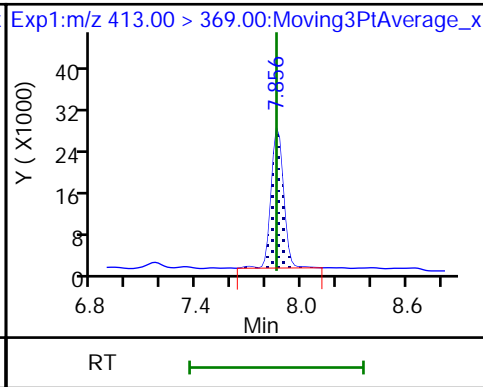
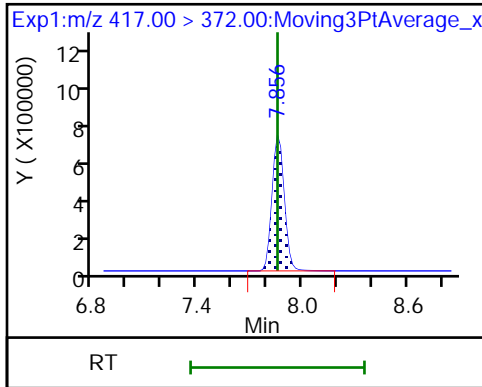
21 Perfluoroheptanesulfonic acid



D 25 13C4 PFOA

24 Perfluorooctanoic acid

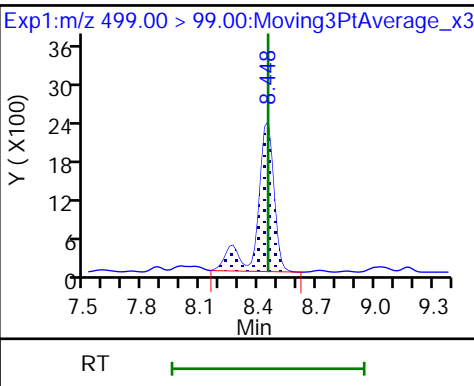
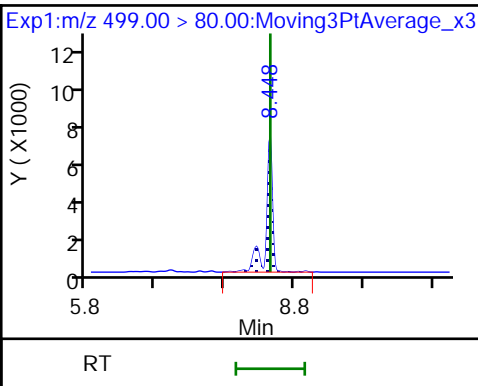
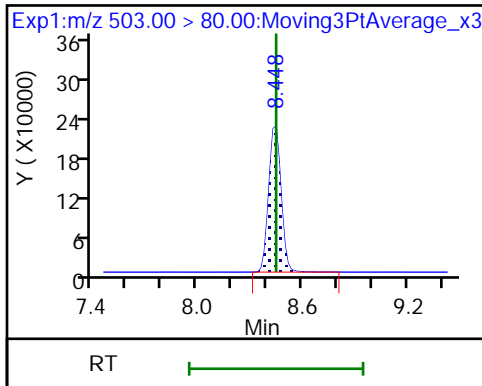
24 Perfluorooctanoic acid



D 26 13C4 PFOS

27 Perfluorooctanesulfonic acid

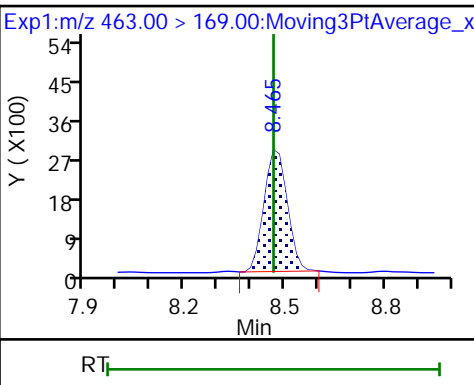
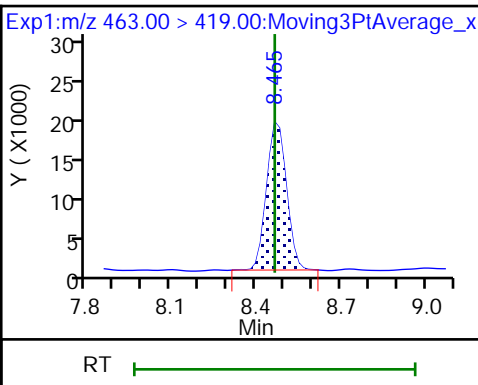
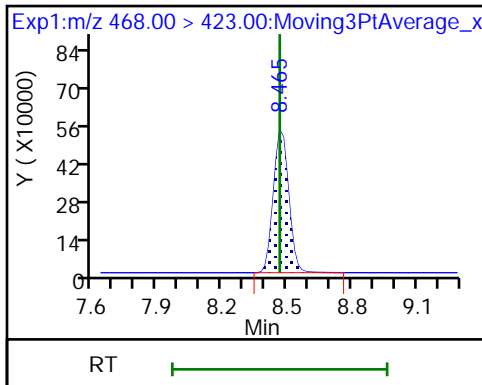
27 Perfluorooctanesulfonic acid



D 28 13C5 PFNA

29 Perfluorononanoic acid

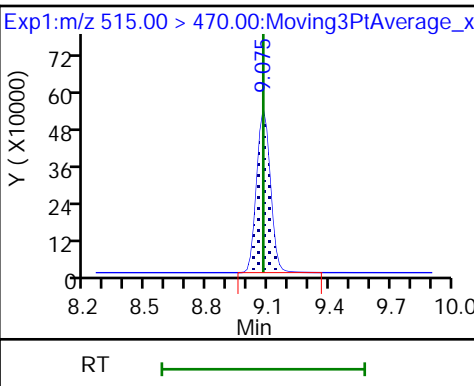
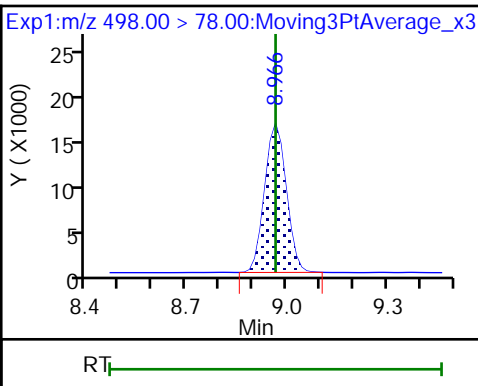
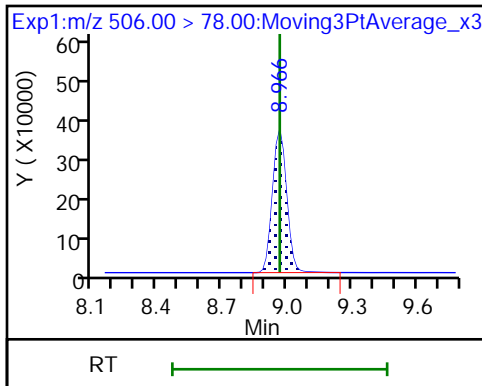
29 Perfluorononanoic acid



D 30 13C8 FOSA

31 Perfluorooctanesulfonamide

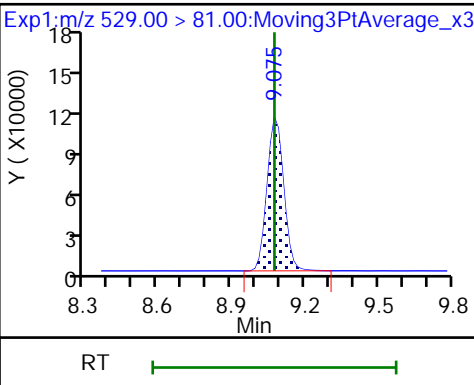
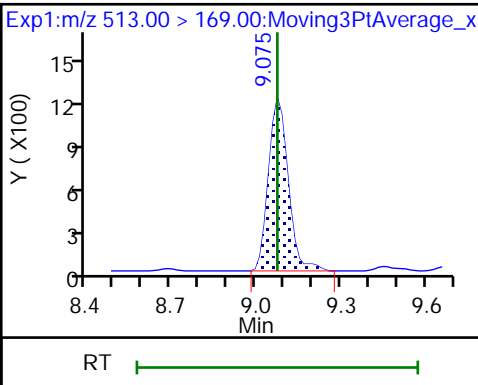
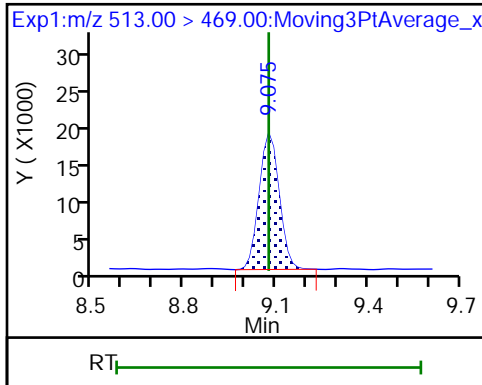
D 33 13C2 PFDA

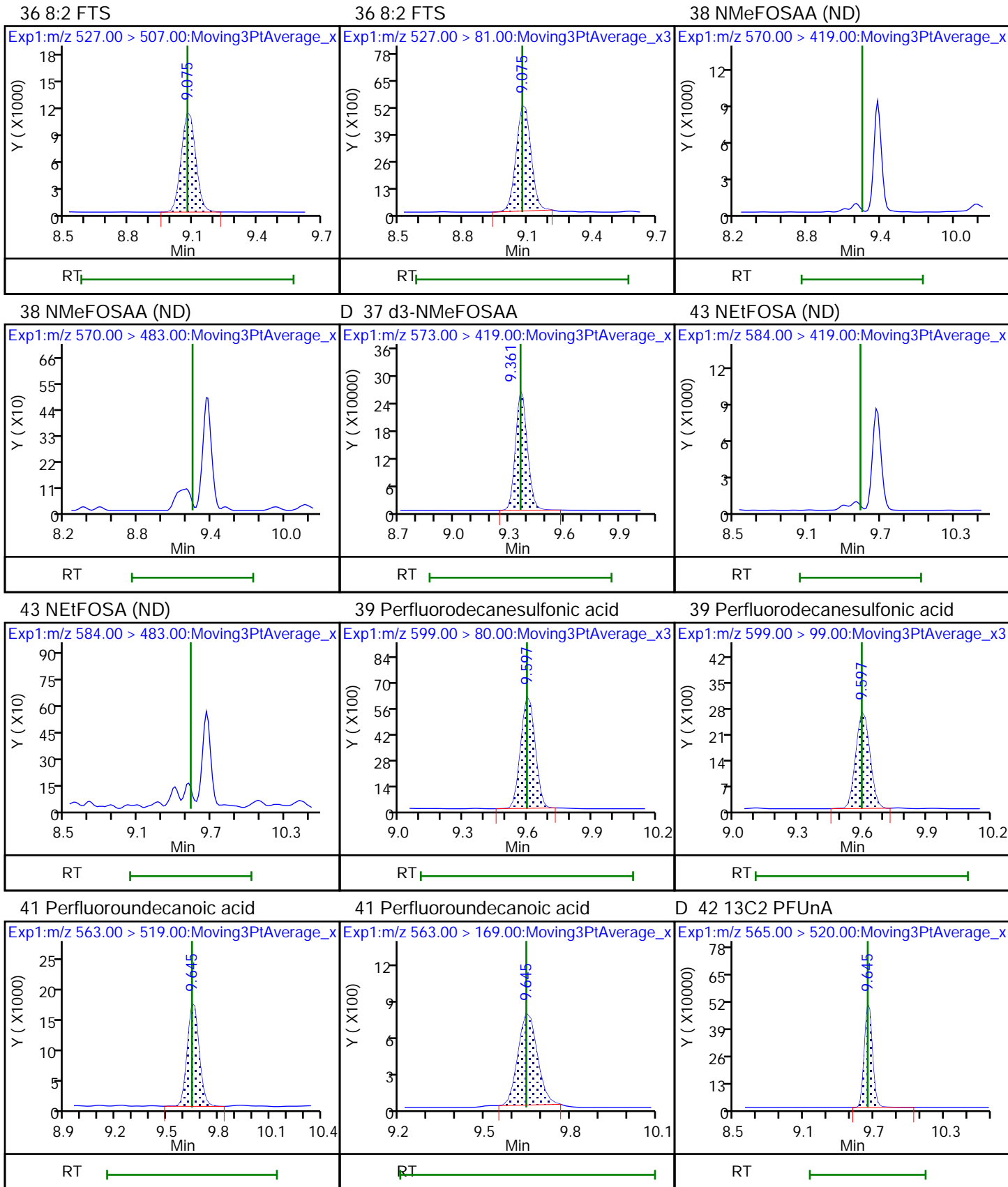


35 Perfluorodecanoic acid

35 Perfluorodecanoic acid

D 34 M2-8:2 FTS

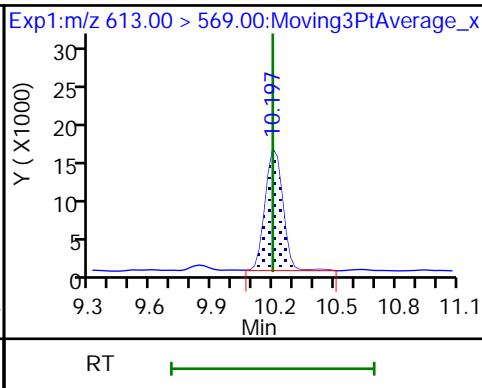
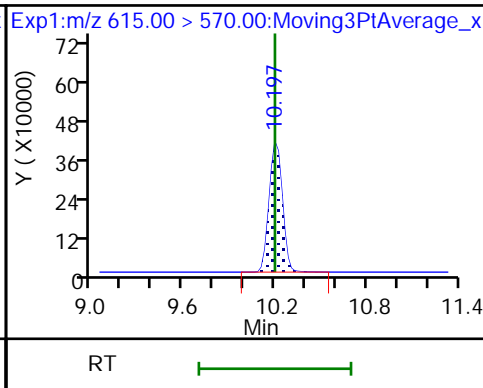
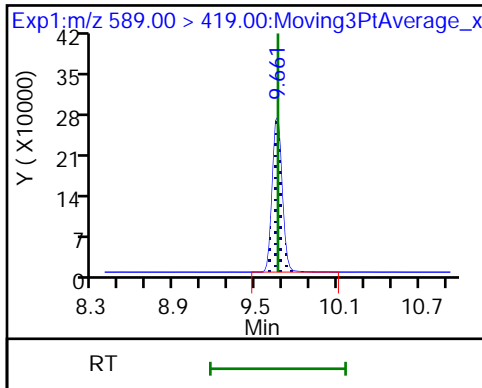




D 40 d5-NEtFOSAA

D 45 13C2 PFDoA

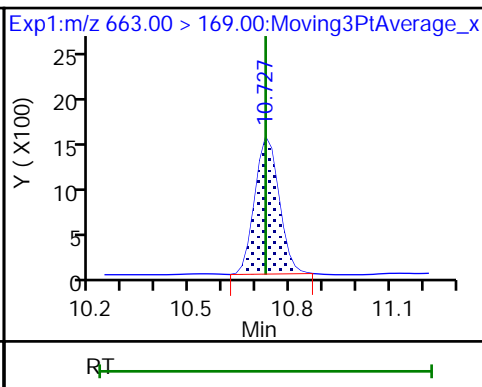
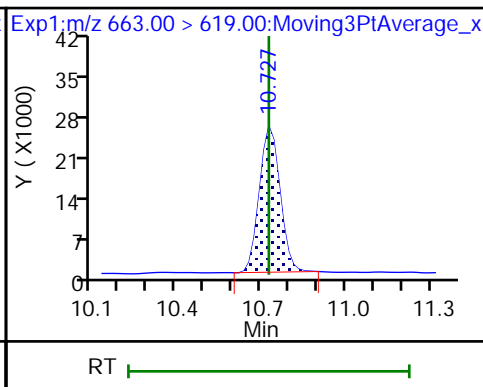
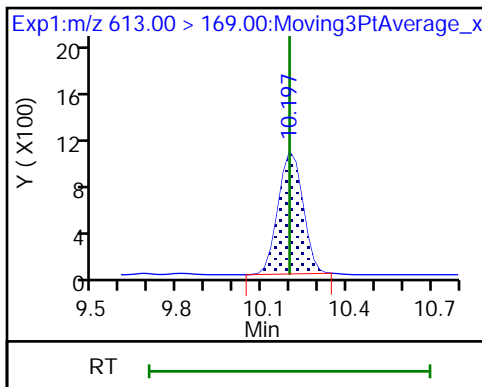
46 Perfluorododecanoic acid



46 Perfluorododecanoic acid

49 Perfluorotridecanoic acid

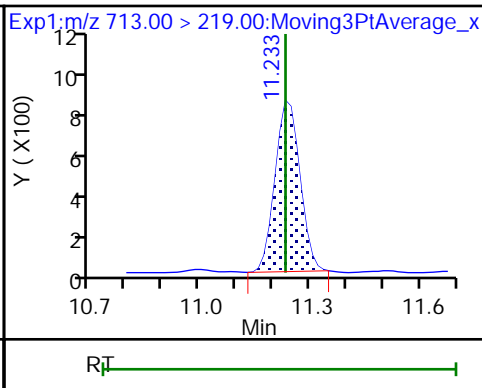
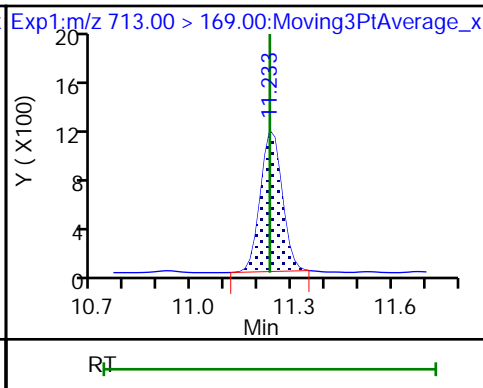
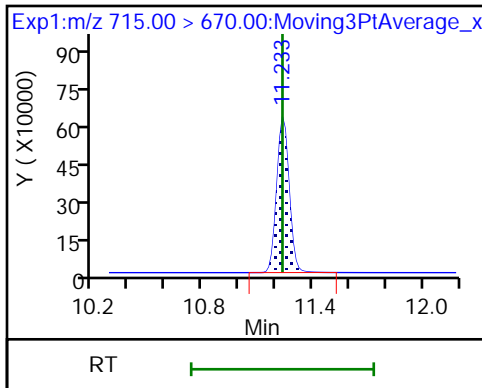
49 Perfluorotridecanoic acid



D 51 13C2 PFTeDA

50 Perfluorotetradecanoic acid

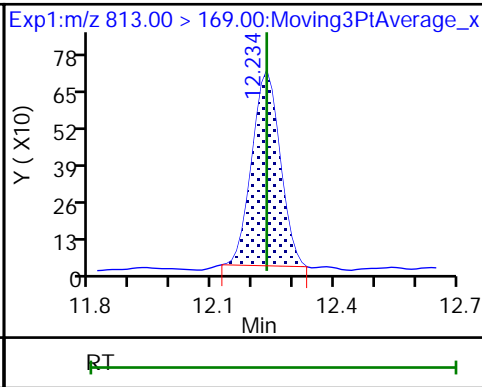
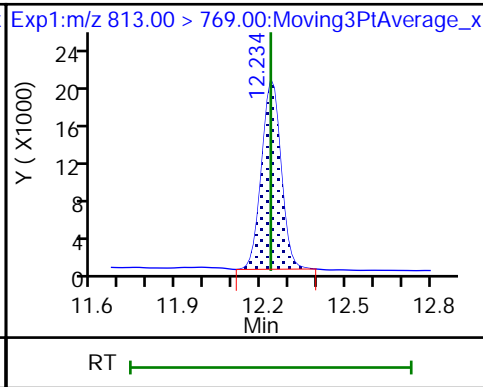
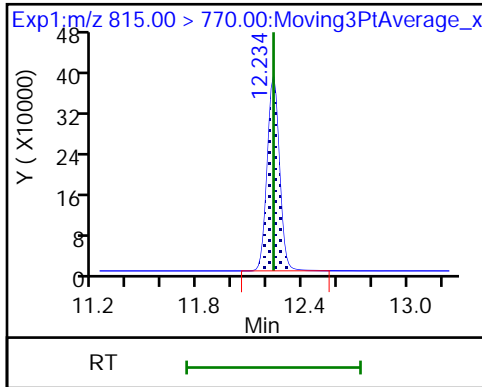
50 Perfluorotetradecanoic acid



D 52 13C2 PFHxDA

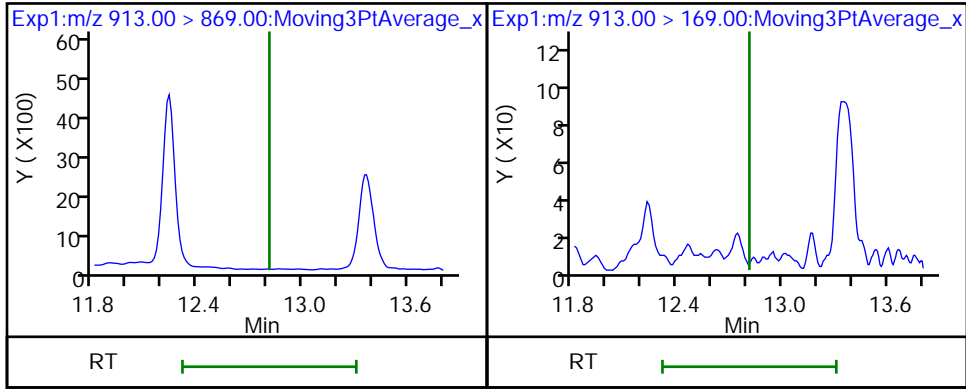
54 Perfluorohexadecanoic acid

54 Perfluorohexadecanoic acid



53 Perfluorooctadecanoic acid (ND)

53 Perfluorooctadecanoic acid (ND)



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Lab Sample ID: CCV 320-461813/2 Calibration Date: 02/13/2021 11:03
 Instrument ID: A10 Calib Start Date: 02/09/2021 10:37
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/09/2021 12:46
 Lab File ID: 2021.02.13_A10_DI_A_009.d Conc. Units: ng/L

| ANALYTE | CURVE TYPE | AVE RRF | RRF | MIN RRF | CALC AMOUNT | SPIKE AMOUNT | %D | MAX %D |
|--|------------|----------|----------|---------|-------------|--------------|-------|--------|
| Perfluorobutanoic acid | AveID | 0.8917 | 0.8401 | | 18.8 | 20.0 | -5.8 | 40.0 |
| Perfluoropentanoic acid | AveID | 1.082 | 1.034 | | 19.1 | 20.0 | -4.5 | 40.0 |
| Perfluorobutanesulfonic acid (PFBS) | AveID | 1.048 | 0.9927 | | 16.7 | 17.7 | -5.3 | 40.0 |
| Perfluorohexanoic acid | AveID | 0.9919 | 0.9211 | | 18.6 | 20.0 | -7.1 | 40.0 |
| Perfluoroheptanoic acid (PFHpA) | AveID | 0.9757 | 1.032 | | 21.2 | 20.0 | 5.8 | 40.0 |
| Perfluorohexanesulfonic acid (PFHxS) | AveID | 1.139 | 1.025 | | 16.4 | 18.2 | -10.0 | 40.0 |
| 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2) | AveID | 2.999 | 2.670 | | | 19.0 | -11.0 | 40.0 |
| Perfluoroheptanesulfonic acid | AveID | 1.276 | 1.349 | | 20.1 | 19.0 | 5.7 | 50.0 |
| Perfluorooctanoic acid (PFOA) | AveID | 0.9103 | 0.9018 | | 19.8 | 20.0 | -0.9 | 40.0 |
| Perfluorooctanesulfonic acid (PFOS) | AveID | 1.019 | 1.031 | | 18.8 | 18.6 | 1.1 | 40.0 |
| Perfluorononanoic acid (PFNA) | AveID | 0.9499 | 0.9535 | | 20.1 | 20.0 | 0.4 | 40.0 |
| Perfluorooctanesulfonamide | AveID | 1.014 | 0.996 | | 19.7 | 20.0 | -1.7 | 40.0 |
| Perfluorodecanoic acid | AveID | 0.8319 | 0.7916 | | 19.0 | 20.0 | -4.8 | 40.0 |
| 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2) | AveID | 2.362 | 2.308 | | | 19.2 | -2.3 | 40.0 |
| N-methylperfluorooctanesulfonamidoacetic acid | AveID | 0.8548 | 0.8476 | | | 20.0 | -0.8 | 40.0 |
| Perfluorodecanesulfonic acid | AveID | 0.6664 | 0.6617 | | 19.1 | 19.3 | -0.7 | 50.0 |
| Perfluoroundecanoic acid | AveID | 0.8819 | 0.8164 | | 18.5 | 20.0 | -7.4 | 40.0 |
| N-ethylperfluorooctanesulfonamidoacetic acid | AveID | 0.8713 | 0.8404 | | | 20.0 | -3.6 | 40.0 |
| Perfluorododecanoic acid | AveID | 0.8858 | 0.8939 | | 20.2 | 20.0 | 0.9 | 40.0 |
| Perfluorotridecanoic acid | AveID | 1.196 | 0.8834 | | 14.8 | 20.0 | -26.1 | 50.0 |
| Perfluorotetradecanoic acid | AveID | 0.0412 | 0.0453 | | 22.0 | 20.0 | 9.8 | 40.0 |
| Perfluorohexadecanoic acid | AveID | 1.001 | 0.9265 | | 18.5 | 20.0 | -7.5 | 50.0 |
| Perfluorooctadecanoic acid | AveID | 0.2124 | 0.2988 | | 28.1 | 20.0 | 40.6 | 50.0 |
| 13C4 PFBA | Ave | 58729800 | 59056020 | | 50.3 | 50.0 | 0.6 | 50.0 |
| 13C5 PFPeA | Ave | 43934310 | 48552000 | | 55.3 | 50.0 | 10.5 | 50.0 |
| 13C3 PFBS | Ave | 40751425 | 41652839 | | 47.5 | 46.5 | 2.2 | 50.0 |
| 13C2 PFHxA | Ave | 47448103 | 45490280 | | 47.9 | 50.0 | -4.1 | 50.0 |
| 13C4 PFHpA | Ave | 50044460 | 43213000 | | 43.2 | 50.0 | -13.7 | 50.0 |
| 18O2 PFHxS | Ave | 32862487 | 32646300 | | 47.0 | 47.3 | -0.7 | 50.0 |
| M2-6:2 FTS | Ave | 8214492 | 12178484 | | 70.4 | 47.5 | 48.3 | 50.0 |
| 13C4 PFOA | Ave | 66909148 | 68715720 | | 51.4 | 50.0 | 2.7 | 50.0 |
| 13C4 PFOS | Ave | 22745047 | 21874435 | | 46.0 | 47.8 | -3.8 | 50.0 |
| 13C5 PFNA | Ave | 49685090 | 50956580 | | 51.3 | 50.0 | 2.6 | 50.0 |
| 13C8 FOSA | Ave | 31560048 | 24290420 | | 38.5 | 50.0 | -23.0 | 50.0 |
| 13C2 PFDA | Ave | 47208335 | 50120840 | | 53.1 | 50.0 | 6.2 | 50.0 |
| M2-8:2 FTS | Ave | 7658823 | 9865616 | | 61.7 | 47.9 | 28.8 | 50.0 |

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Lab Sample ID: CCV 320-461813/2 Calibration Date: 02/13/2021 11:03
 Instrument ID: A10 Calib Start Date: 02/09/2021 10:37
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/09/2021 12:46
 Lab File ID: 2021.02.13_A10_DI_A_009.d Conc. Units: ng/L

| ANALYTE | CURVE TYPE | AVE CF | CF | MIN CF | CALC AMOUNT | SPIKE AMOUNT | %D | MAX %D |
|-------------|------------|----------|----------|--------|-------------|--------------|--------|--------|
| d3-NMeFOSAA | Ave | 19233788 | 22978480 | | 59.7 | 50.0 | 19.5 | 50.0 |
| 13C2 PFUnA | Ave | 45893880 | 45307680 | | 49.4 | 50.0 | -1.3 | 50.0 |
| d5-NEtFOSAA | Ave | 21832320 | 25051860 | | 57.4 | 50.0 | 14.7 | 50.0 |
| 13C2 PFDoA | Ave | 48155063 | 43308440 | | 45.0 | 50.0 | -10.1 | 50.0 |
| 13C2 PFTeDA | Ave | 56290190 | 24753640 | | 22.0 | 50.0 | -56.0* | 50.0 |
| 13C2 PFHxDA | Ave | 32512703 | 15935740 | | 24.5 | 50.0 | -51.0* | 50.0 |

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_009.d
 Lims ID: CCV L5
 Client ID:
 Sample Type: CCV
 Inject. Date: 13-Feb-2021 11:03:56 ALS Bottle#: 9 Worklist Smp#: 2
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: CCV L5
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Sublist: chrom-A10_In_Line_SPE*sub12
 Method: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 15-Feb-2021 04:10:17 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1652

First Level Reviewer: ruangyotsakuld Date: 15-Feb-2021 04:10:17

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 2 13C4 PFBA | | | | | | | | | | |
| 217.00 > 172.00 | 5.698 | 5.742 | -0.044 | | 2952801 | 0.0503 | | 101 | 18513 | |
| 1 Perfluorobutanoic acid | | | | | | | | | | |
| 212.90 > 169.00 | 5.698 | 5.763 | -0.065 | 1.000 | 992277 | 0.0188 | | 94.2 | 480 | |
| D 4 13C5 PFPeA | | | | | | | | | | |
| 267.90 > 223.00 | 6.271 | 6.297 | -0.026 | | 2427600 | 0.0553 | | 111 | 20034 | |
| 5 Perfluoropentanoic acid | | | | | | | | | | |
| 262.90 > 219.00 | 6.271 | 6.297 | -0.026 | 1.000 | 1003685 | 0.0191 | | 95.5 | 523 | |
| D 3 13C3 PFBS | | | | | | | | | | |
| 301.90 > 80.00 | 6.316 | 6.343 | -0.027 | | 1936857 | 0.0475 | | 102 | 13156 | |
| 6 Perfluorobutanesulfonic acid | | | | | | | | | | |
| 298.90 > 80.00 | 6.316 | 6.343 | -0.027 | 1.000 | 731029 | 0.0167 | Target=1.49 | 94.7 | 3826 | |
| 298.90 > 99.00 | 6.316 | 6.343 | -0.027 | 1.000 | 490641 | | 1.49(0.74-2.23) | | 780 | |
| 8 4:2 FTS | | | | | | | | | | |
| 327.00 > 307.00 | 6.688 | 6.715 | -0.027 | 1.000 | 481719 | NC | Target=2.63 | | 5558 | |
| 327.00 > 81.00 | 6.688 | 6.715 | -0.027 | 1.000 | 185592 | | 2.60(1.32-3.95) | | 902 | |
| D 7 M2-4:2 FTS | | | | | | | | | | |
| 329.00 > 81.00 | 6.688 | 6.715 | -0.027 | | 457354 | NC | | | 2239 | |
| 10 Perfluorohexanoic acid | | | | | | | | | | |
| 313.00 > 269.00 | 6.758 | 6.761 | -0.003 | 1.000 | 838053 | 0.0186 | Target=19.21 | 92.9 | 686 | |
| 313.00 > 119.00 | 6.758 | 6.761 | -0.003 | 1.000 | 42095 | | 19.91(9.60-28.81) | | 384 | |
| D 9 13C2 PFHxA | | | | | | | | | | |
| 315.00 > 270.00 | 6.758 | 6.761 | -0.003 | | 2274514 | 0.0479 | | 95.9 | 19536 | |
| 11 Perfluoropentanesulfonic acid | | | | | | | | | | |
| 349.00 > 80.00 | 6.758 | 6.784 | -0.026 | 0.930 | 641497 | NC | Target=1.46 | | 2042 | |
| 349.00 > 99.00 | 6.758 | 6.784 | -0.026 | 0.930 | 453912 | | 1.41(0.73-2.19) | | 1530 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-------|-----------|-----------|-----------|----------|-----------------|------------------|------|-------|-------|
| D 12 13C3 HFPO-DA | | | | | | | | | | |
| 332.10 > 287.00 | 6.900 | 6.904 | -0.004 | | 116097 | NC | | | 973 | |
| 13 HPFO-DA | | | | | | | | | | |
| 329.10 > 285.00 | 6.900 | 6.904 | -0.004 | 1.000 | 129484 | NC | | | 139 | |
| 16 Perfluorohexanesulfonic acid | | | | | | | | | | |
| 399.00 > 80.00 | 7.263 | 7.285 | -0.022 | 1.000 | 609045 | 0.0164 | Target=5.70 | 90.0 | 2395 | |
| 399.00 > 99.00 | 7.263 | 7.285 | -0.022 | 1.000 | 115670 | | 5.27(2.85-8.55) | | 363 | |
| D 15 18O2 PFHxS | | | | | | | | | | |
| 403.00 > 84.00 | 7.263 | 7.285 | -0.022 | | 1544170 | 0.0470 | | 99.3 | 20762 | |
| 18 Perfluoroheptanoic acid | | | | | | | | | | |
| 363.00 > 319.00 | 7.263 | 7.285 | -0.022 | 1.000 | 891921 | 0.0212 | Target=9.14 | 106 | 188 | |
| 363.00 > 169.00 | 7.263 | 7.285 | -0.022 | 1.000 | 90644 | | 9.84(4.57-13.71) | | 1244 | |
| D 17 13C4 PFHpA | | | | | | | | | | |
| 367.00 > 322.00 | 7.263 | 7.285 | -0.022 | | 2160650 | 0.0432 | | 86.3 | 23407 | |
| 19 DONA | | | | | | | | | | |
| 377.00 > 251.00 | 7.318 | 7.341 | -0.023 | 0.868 | 3903970 | NC | Target=2.71 | | 14344 | |
| 377.00 > 85.00 | 7.318 | 7.341 | -0.023 | 0.868 | 1381942 | | 2.82(1.36-4.07) | | 5527 | |
| 23 6:2 FTS | | | | | | | | | | |
| 427.00 > 407.00 | 7.820 | 7.823 | -0.003 | 1.000 | 616429 | 0.0169 | Target=2.56 | 89.0 | 5849 | |
| 427.00 > 81.00 | 7.820 | 7.823 | -0.003 | 1.000 | 229759 | | 2.68(1.28-3.83) | | 1078 | |
| D 22 M2-6:2 FTS | | | | | | | | | | |
| 429.00 > 81.00 | 7.820 | 7.823 | -0.003 | | 578478 | 0.0704 | | 148 | 2342 | |
| 21 Perfluoroheptanesulfonic acid | | | | | | | | | | |
| 449.00 > 80.00 | 7.820 | 7.840 | -0.020 | 0.927 | 561682 | 0.0201 | Target=6.98 | 106 | 2807 | |
| 449.00 > 99.00 | 7.820 | 7.840 | -0.020 | 0.927 | 84425 | | 6.65(3.49-10.47) | | 884 | |
| D 25 13C4 PFOA | | | | | | | | | | |
| 417.00 > 372.00 | 7.836 | 7.856 | -0.020 | | 3435786 | 0.0514 | | 103 | 19580 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | |
| 413.00 > 369.00 | 7.853 | 7.856 | -0.003 | 1.002 | 1239350 | 0.0198 | Target=1.58 | 99.1 | 351 | |
| 413.00 > 169.00 | 7.853 | 7.856 | -0.003 | 1.002 | 774616 | | 1.60(0.79-2.37) | | 4086 | |
| D 26 13C4 PFOS | | | | | | | | | | |
| 503.00 > 80.00 | 8.432 | 8.448 | -0.016 | | 1045598 | 0.0460 | | 96.2 | 7040 | |
| 27 Perfluorooctanesulfonic acid | | | | | | | | | | |
| 499.00 > 80.00 | 8.432 | 8.448 | -0.016 | 1.000 | 418548 | 0.0188 | Target=3.45 | 101 | 3108 | |
| 499.00 > 99.00 | 8.432 | 8.448 | -0.016 | 1.000 | 112275 | | 3.73(1.73-5.18) | | 529 | |
| D 28 13C5 PFNA | | | | | | | | | | |
| 468.00 > 423.00 | 8.450 | 8.465 | -0.015 | | 2547829 | 0.0513 | | 103 | 17589 | |
| 29 Perfluorononanoic acid | | | | | | | | | | |
| 463.00 > 419.00 | 8.450 | 8.465 | -0.015 | 1.000 | 971703 | 0.0201 | Target=7.90 | 100 | 514 | |
| 463.00 > 169.00 | 8.450 | 8.465 | -0.015 | 1.000 | 118655 | | 8.19(3.95-11.85) | | 1188 | |
| D 30 13C8 FOSA | | | | | | | | | | |
| 506.00 > 78.00 | 8.959 | 8.966 | -0.007 | | 1214521 | 0.0385 | | 77.0 | 6431 | |
| 31 Perfluorooctanesulfonamide | | | | | | | | | | |
| 498.00 > 78.00 | 8.959 | 8.966 | -0.007 | 1.000 | 483990 | 0.0197 | | 98.3 | 4308 | |
| 32 Perfluorononanesulfonic acid | | | | | | | | | | |
| 549.00 > 80.00 | 9.021 | 9.044 | -0.023 | 1.070 | 351208 | NC | Target=6.35 | | 3490 | |
| 549.00 > 99.00 | 9.021 | 9.044 | -0.023 | 1.070 | 60515 | | 5.80(3.17-9.52) | | 739 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| D 33 13C2 PFDA | | | | | | | | | | |
| 515.00 > 470.00 | 9.053 | 9.075 | -0.022 | | 2506042 | 0.0531 | | 106 | 14045 | |
| 35 Perfluorodecanoic acid | | | | | | | | | | |
| 513.00 > 469.00 | 9.053 | 9.075 | -0.022 | 1.000 | 793494 | 0.0190 | Target=16.15 | 95.2 | 801 | |
| 513.00 > 169.00 | 9.053 | 9.075 | -0.022 | 1.000 | 49576 | | 16.01(8.08-24.23) | | 611 | |
| D 34 M2-8:2 FTS | | | | | | | | | | |
| 529.00 > 81.00 | 9.068 | 9.075 | -0.007 | | 472563 | 0.0617 | | 129 | 3570 | |
| 36 8:2 FTS | | | | | | | | | | |
| 527.00 > 507.00 | 9.068 | 9.075 | -0.007 | 1.000 | 436204 | 0.0187 | Target=2.35 | 97.7 | 3675 | |
| 527.00 > 81.00 | 9.068 | 9.075 | -0.007 | 1.000 | 198519 | | 2.20(1.17-3.52) | | 1273 | |
| 38 NMeFOSAA | | | | | | | | | | |
| 570.00 > 419.00 | 9.355 | 9.248 | 0.107 | 1.001 | 389526 | 0.0198 | Target=12.28 | 99.2 | 1992 | |
| 570.00 > 483.00 | 9.355 | 9.248 | 0.107 | 1.001 | 22339 | | 17.44(6.14-18.41) | | 52.8 | |
| D 37 d3-NMeFOSAA | | | | | | | | | | |
| 573.00 > 419.00 | 9.341 | 9.361 | -0.020 | | 1148924 | 0.0597 | | 119 | 3912 | |
| 43 NEtFOSA | | | | | | | | | | |
| 584.00 > 419.00 | 9.652 | 9.533 | 0.119 | 1.002 | 421073 | 0.0193 | Target=13.05 | 96.4 | 5832 | |
| 584.00 > 483.00 | 9.652 | 9.533 | 0.119 | 1.002 | 32886 | | 12.80(6.52-19.57) | | 220 | |
| 39 Perfluorodecanesulfonic acid | | | | | | | | | | |
| 599.00 > 80.00 | 9.587 | 9.597 | -0.010 | 1.137 | 279051 | 0.0191 | Target=2.51 | 99.3 | 3982 | |
| 599.00 > 99.00 | 9.587 | 9.597 | -0.010 | 1.137 | 109380 | | 2.55(1.26-3.77) | | 1830 | |
| 41 Perfluoroundecanoic acid | | | | | | | | | | |
| 563.00 > 519.00 | 9.635 | 9.645 | -0.010 | 1.000 | 739777 | 0.0185 | Target=20.47 | 92.6 | 642 | |
| 563.00 > 169.00 | 9.635 | 9.645 | -0.010 | 1.000 | 37566 | | 19.69(10.24-30.71) | | 743 | |
| D 42 13C2 PFUnA | | | | | | | | | | |
| 565.00 > 520.00 | 9.635 | 9.645 | -0.010 | | 2265384 | 0.0494 | | 98.7 | 17100 | |
| D 40 d5-NEtFOSAA | | | | | | | | | | |
| 589.00 > 419.00 | 9.635 | 9.661 | -0.026 | | 1252593 | 0.0574 | | 115 | 6431 | |
| 44 11C1FOS | | | | | | | | | | |
| 631.00 > 451.00 | 9.867 | 9.908 | -0.041 | 1.170 | 2044217 | NC | | | 4500 | |
| D 45 13C2 PFDaA | | | | | | | | | | |
| 615.00 > 570.00 | 10.183 | 10.197 | -0.014 | | 2165422 | 0.0450 | | 89.9 | 14822 | |
| 46 Perfluorododecanoic acid | | | | | | | | | | |
| 613.00 > 569.00 | 10.183 | 10.197 | -0.014 | 1.000 | 774258 | 0.0202 | Target=17.11 | 101 | 306 | |
| 613.00 > 169.00 | 10.183 | 10.197 | -0.014 | 1.000 | 47181 | | 16.41(8.55-25.66) | | 625 | |
| 47 10:2 FTS | | | | | | | | | | |
| 627.00 > 607.00 | 10.205 | 10.241 | -0.036 | 1.125 | 674185 | NC | Target=32.58 | | 5534 | |
| 627.00 > 81.00 | 10.205 | 10.241 | -0.036 | 1.125 | 20880 | | 32.29(16.29-48.87) | | 498 | |
| 48 PFDoS | | | | | | | | | | |
| 699.00 > 80.00 | 10.643 | 10.656 | -0.013 | 1.262 | 83032 | NC | Target=0.47 | | 1495 | |
| 699.00 > 99.00 | 10.643 | 10.656 | -0.013 | 1.262 | 181810 | | 0.46(0.24-0.71) | | 1870 | |
| 49 Perfluorotridecanoic acid | | | | | | | | | | |
| 663.00 > 619.00 | 10.714 | 10.727 | -0.013 | 1.052 | 765182 | 0.0148 | Target=18.64 | 73.9 | 210 | |
| 663.00 > 169.00 | 10.714 | 10.727 | -0.013 | 1.052 | 41598 | | 18.39(9.32-27.96) | | 628 | |
| D 51 13C2 PFTeDA | | | | | | | | | | |
| 715.00 > 670.00 | 11.207 | 11.233 | -0.026 | | 1237682 | 0.0220 | | 44.0 | 10177 | |

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|------|-------|
| 50 Perfluorotetradecanoic acid | | | | | | | | | | |
| 713.00 > 169.00 | 11.207 | 11.233 | -0.026 | 1.000 | 22411 | 0.0220 | Target=1.23 | 110 | 602 | |
| 713.00 > 219.00 | 11.207 | 11.233 | -0.026 | 1.000 | 17736 | | 1.26(0.62-1.85) | | 478 | |
| D 52 13C2 PFHxDA | | | | | | | | | | |
| 815.00 > 770.00 | 12.200 | 12.234 | -0.034 | | 796787 | 0.0245 | | 49.0 | 5404 | |
| 54 Perfluorohexadecanoic acid | | | | | | | | | | |
| 813.00 > 769.00 | 12.200 | 12.234 | -0.034 | 1.000 | 295276 | 0.0185 | Target=29.80 | 92.5 | 178 | |
| 813.00 > 169.00 | 12.200 | 12.234 | -0.034 | 1.000 | 9118 | | 32.38(14.90-44.69) | | 233 | |
| 53 Perfluorooctadecanoic acid | | | | | | | | | | |
| 913.00 > 869.00 | 13.309 | 12.810 | 0.499 | 1.091 | 95224 | 0.0281 | Target=33.62 | 141 | 82.0 | |
| 913.00 > 169.00 | 13.299 | 12.810 | 0.489 | 1.090 | 2139 | | 44.52(16.81-50.42) | | 70.2 | |

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

LCPFC-LL-L5_00035

Amount Added: 1.00

Units: mL

Eurofins TestAmerica, Sacramento

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_009.d

Injection Date: 13-Feb-2021 11:03:56

Instrument ID: A10

Lims ID: CCV L5

Client ID:

Operator ID: Sac_inst_A10

ALS Bottle#: 9

Worklist Smp#: 2

Injection Vol: 950.0 ul

Dil. Factor: 1.0000

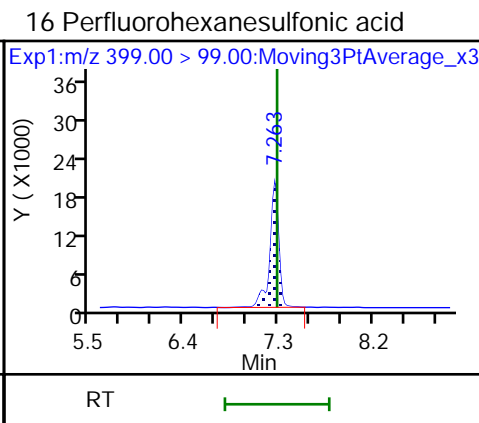
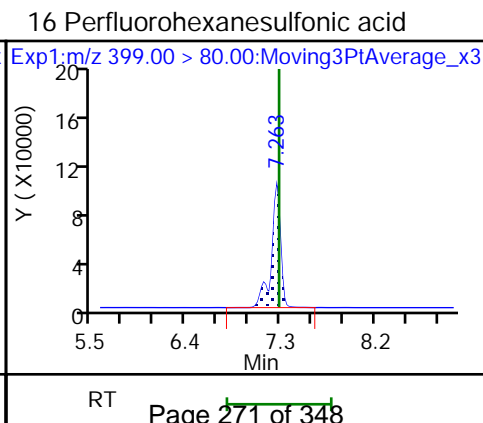
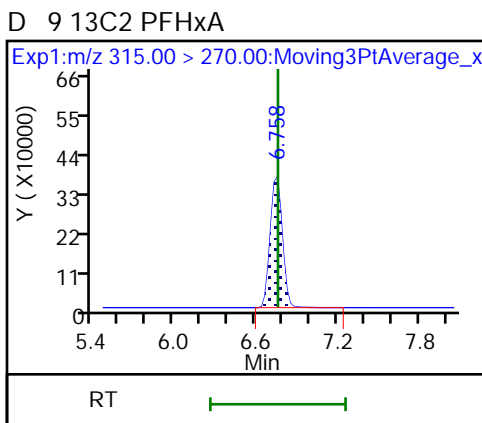
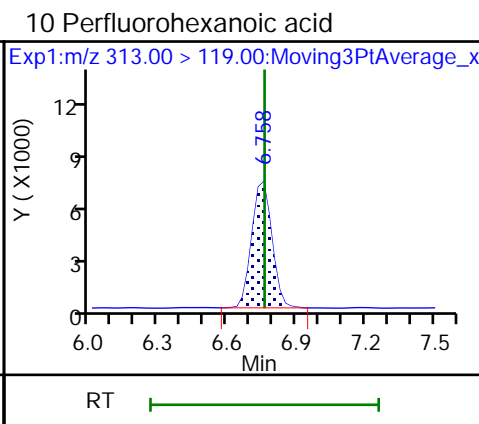
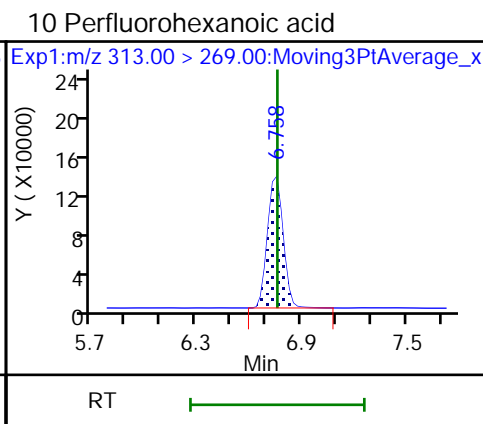
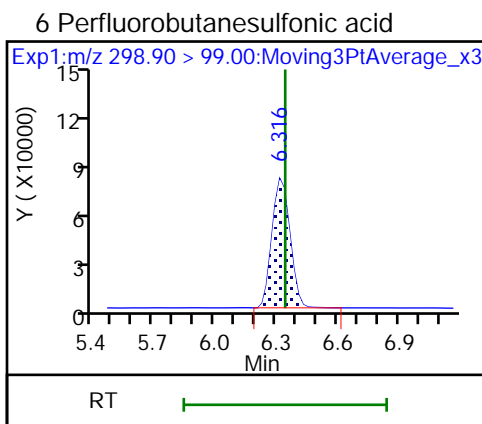
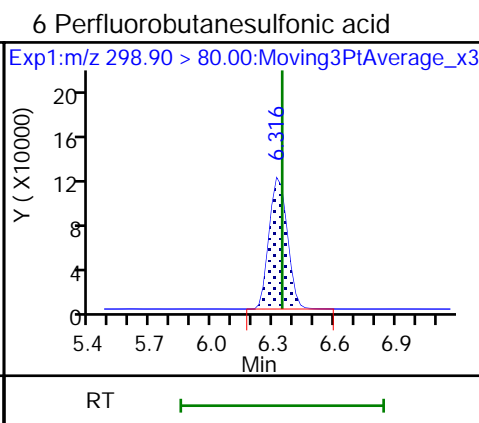
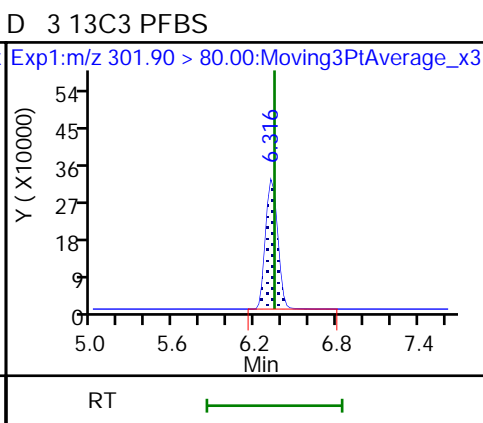
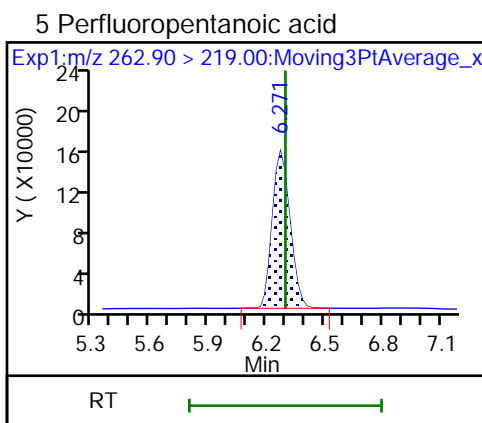
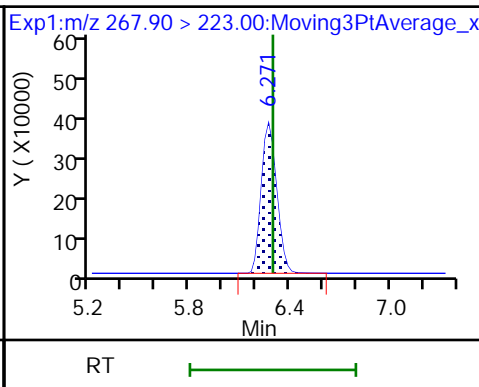
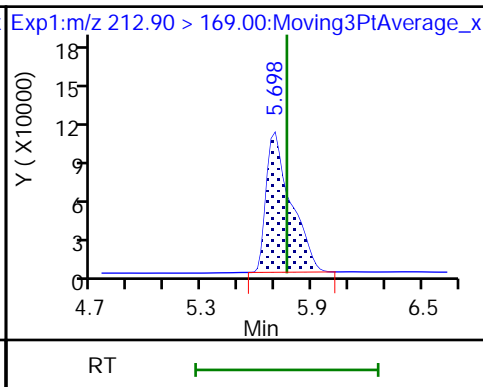
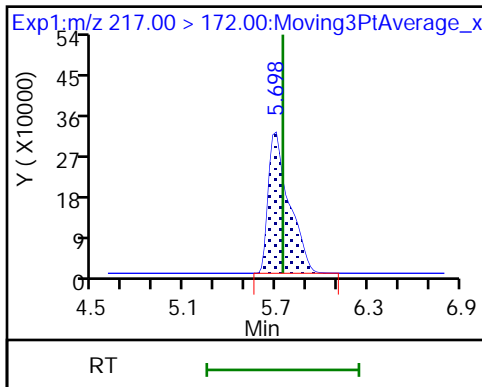
Method: A10_In_Line_SPE

Limit Group: LC PFAS_DW ICAL

D 2 13C4 PFBA

1 Perfluorobutanoic acid

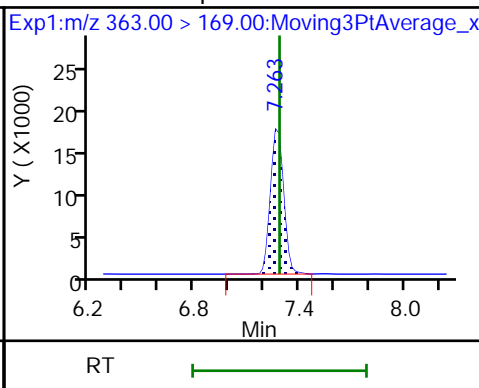
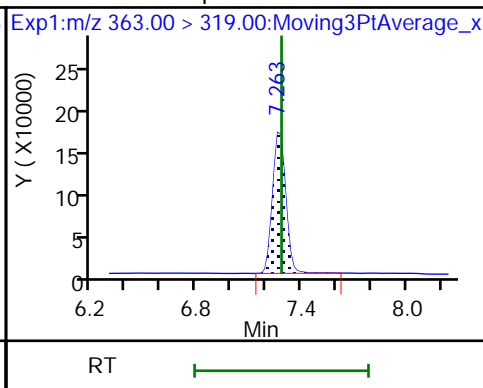
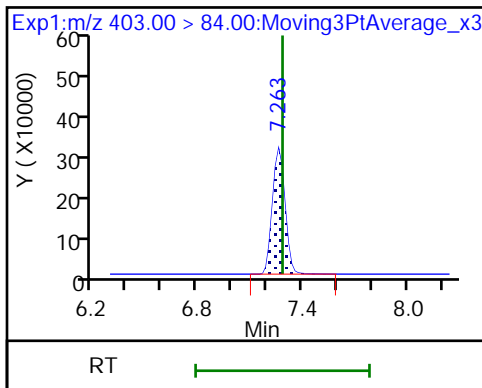
D 4 13C5 PFPeA



D 15 18O2 PFHxS

18 Perfluoroheptanoic acid

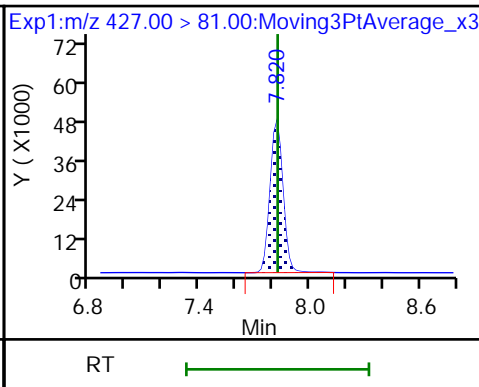
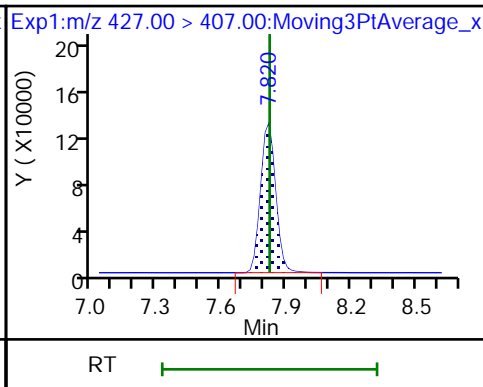
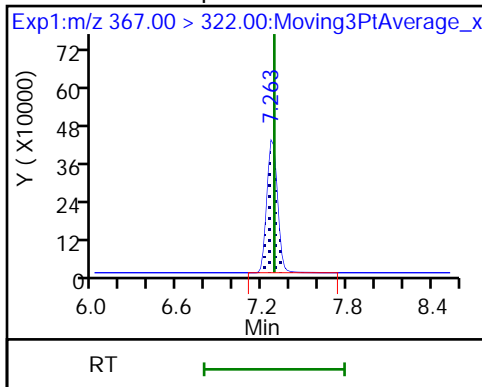
18 Perfluoroheptanoic acid



D 17 13C4 PFHpA

23 6:2 FTS

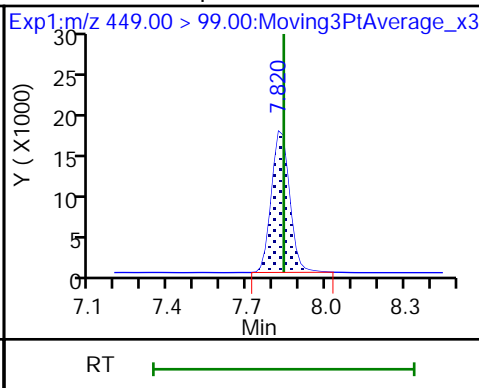
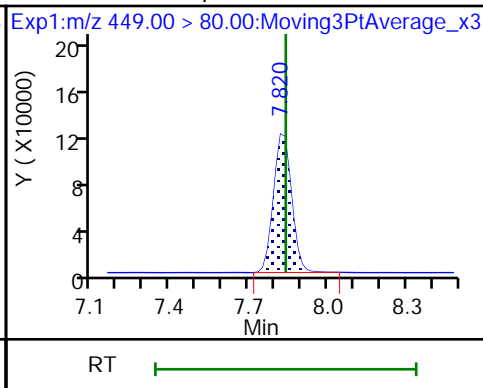
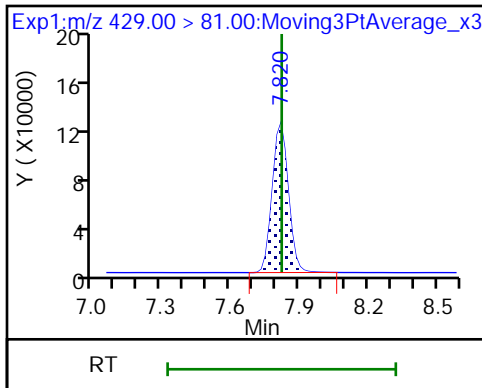
23 6:2 FTS



D 22 M2-6:2 FTS

21 Perfluoroheptanesulfonic acid

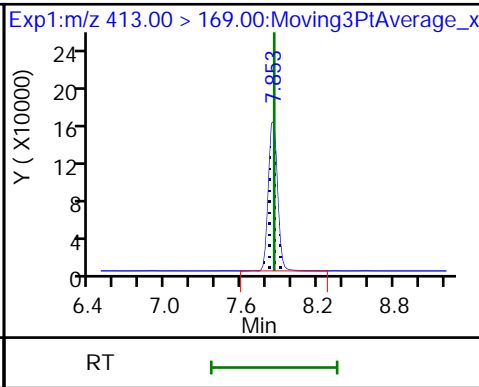
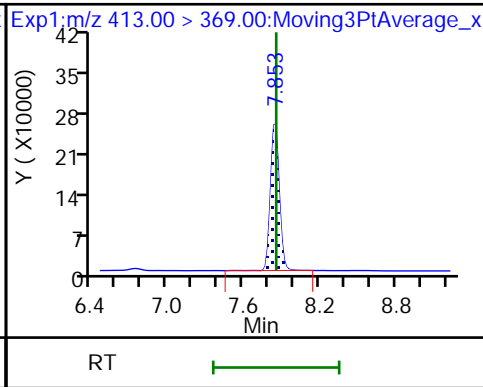
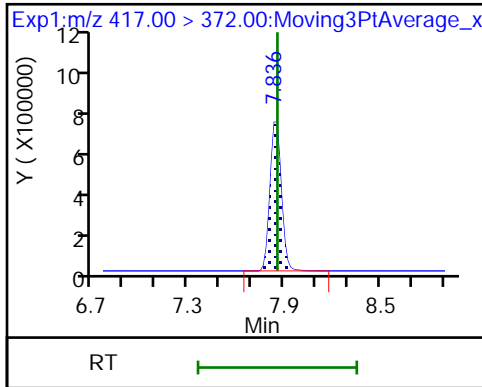
21 Perfluoroheptanesulfonic acid



D 25 13C4 PFOA

24 Perfluorooctanoic acid

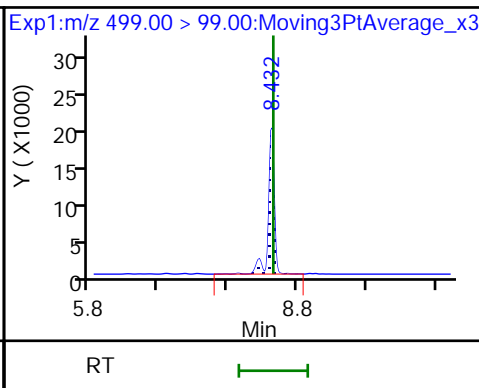
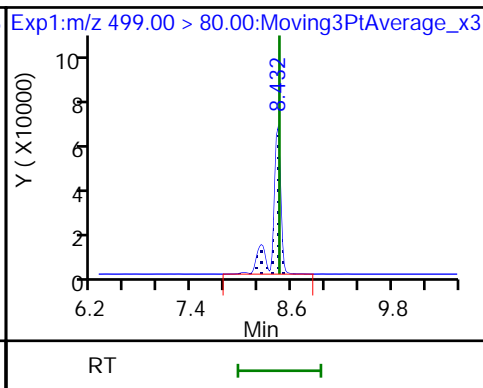
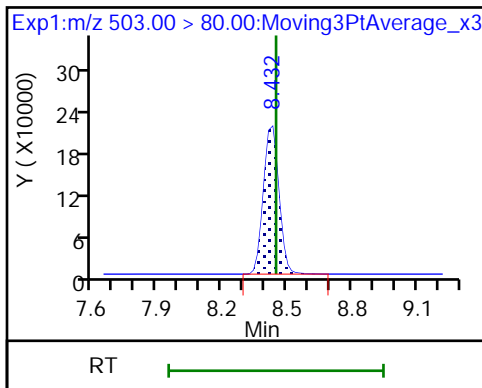
24 Perfluorooctanoic acid



D 26 13C4 PFOS

27 Perfluorooctanesulfonic acid

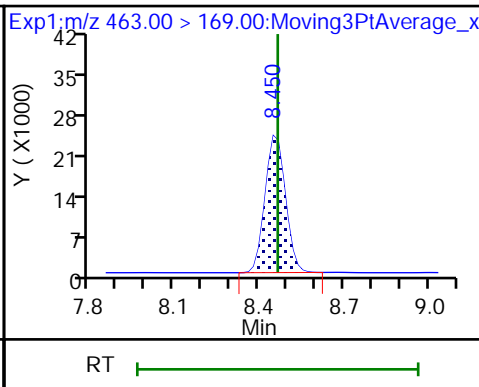
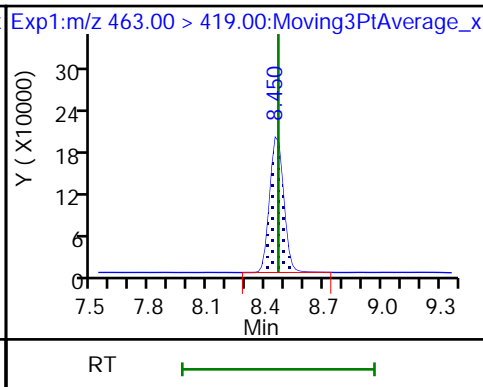
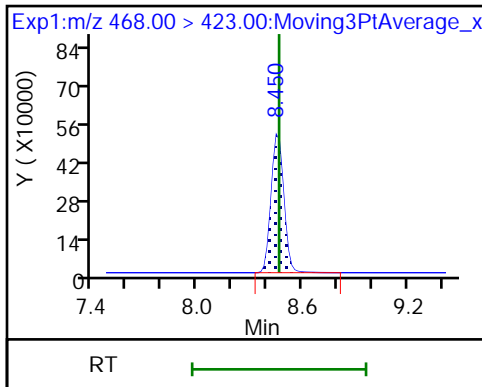
27 Perfluorooctanesulfonic acid



D 28 13C5 PFNA

29 Perfluorononanoic acid

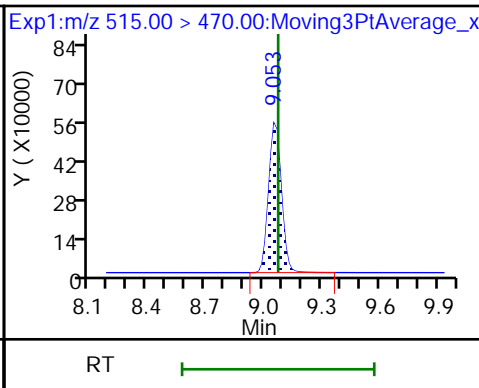
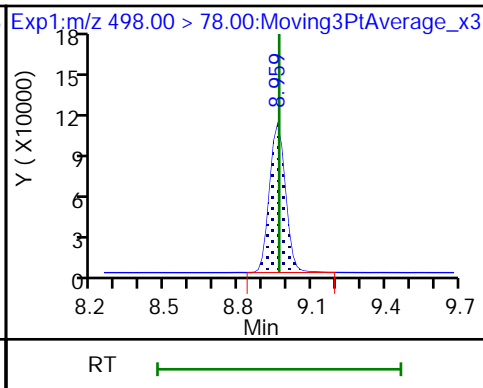
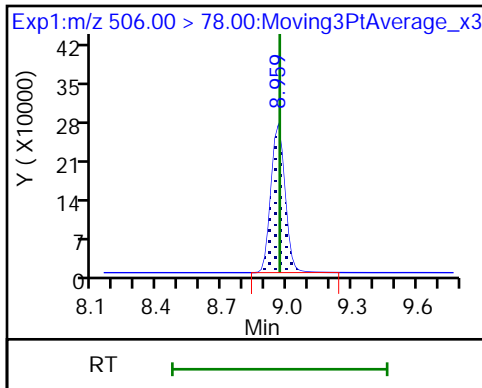
29 Perfluorononanoic acid



D 30 13C8 FOSA

31 Perfluorooctanesulfonamide

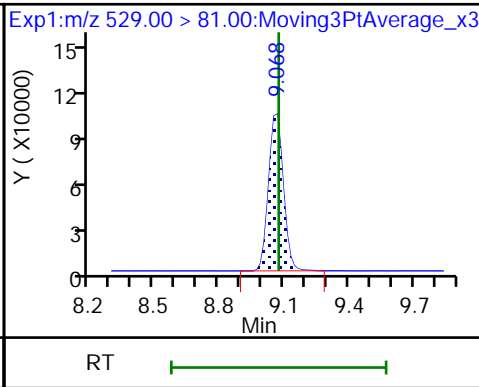
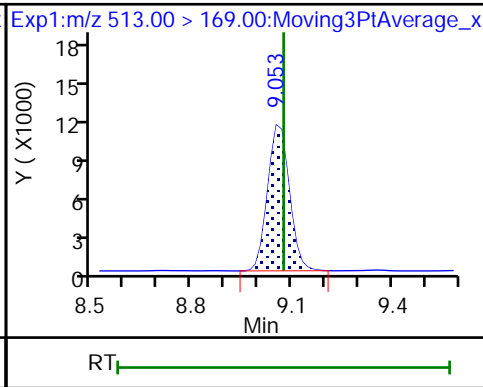
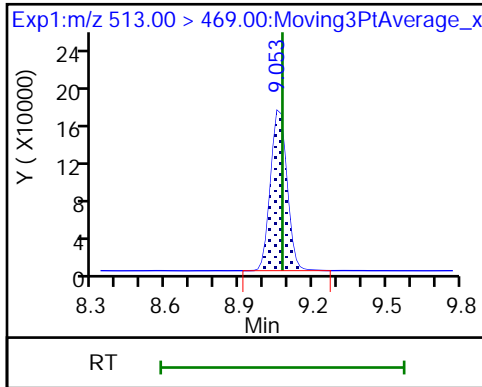
D 33 13C2 PFDA

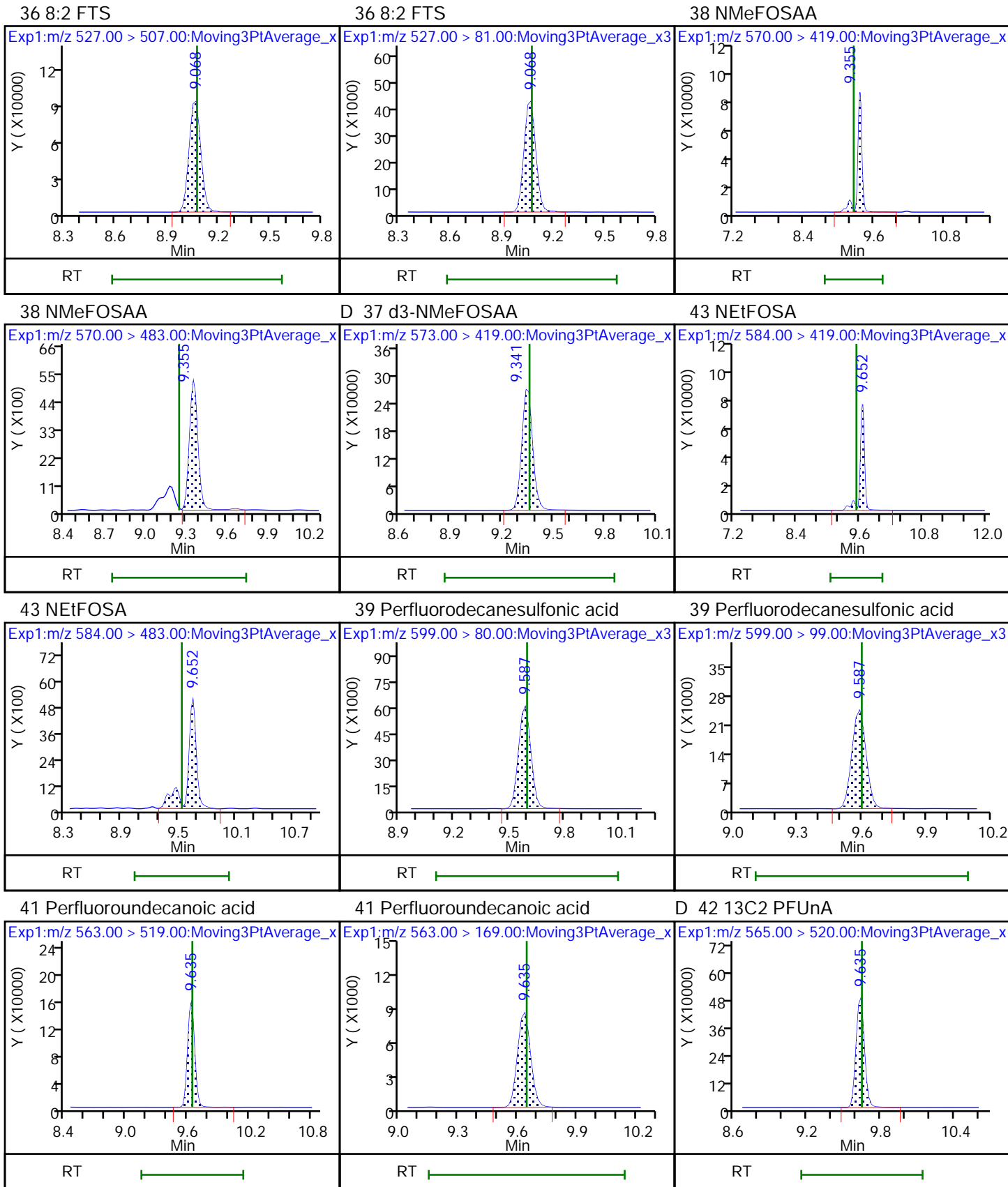


35 Perfluorodecanoic acid

35 Perfluorodecanoic acid

D 34 M2-8:2 FTS

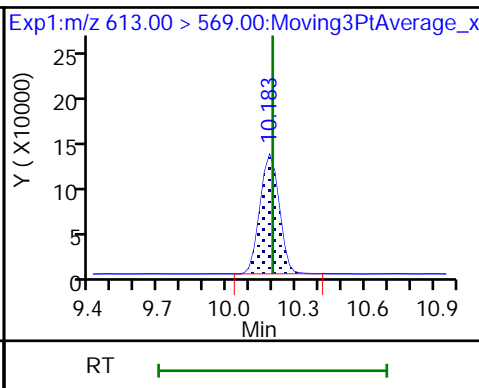
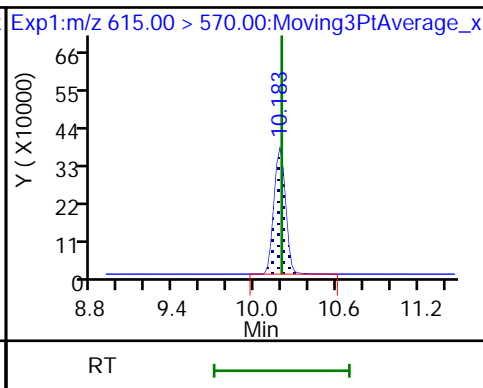
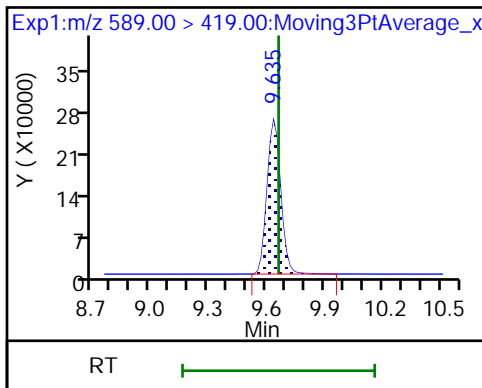




D 40 d5-NEtFOSAA

D 45 13C2 PFDoA

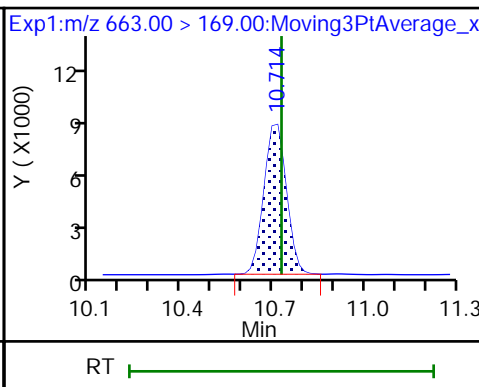
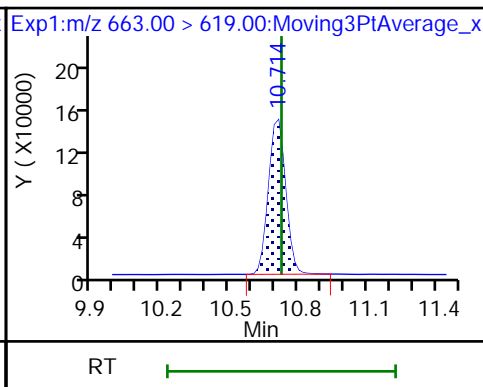
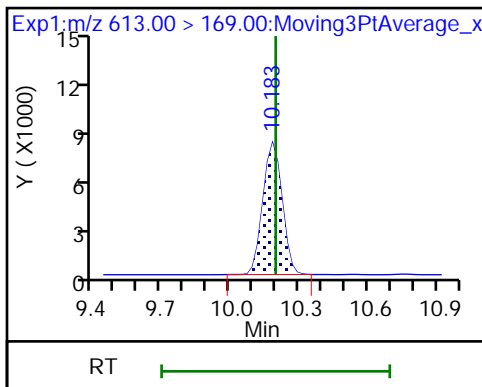
46 Perfluorododecanoic acid



46 Perfluorododecanoic acid

49 Perfluorotridecanoic acid

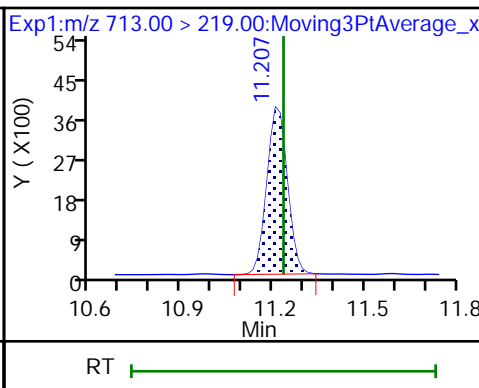
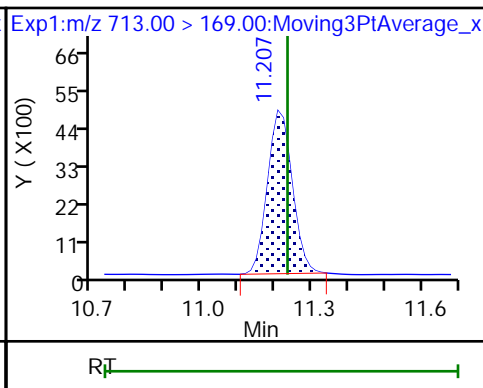
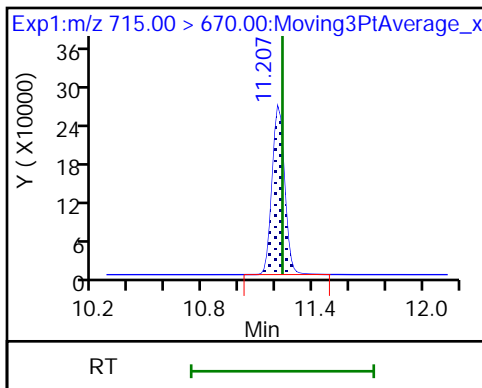
49 Perfluorotridecanoic acid



D 51 13C2 PFTeDA

50 Perfluorotetradecanoic acid

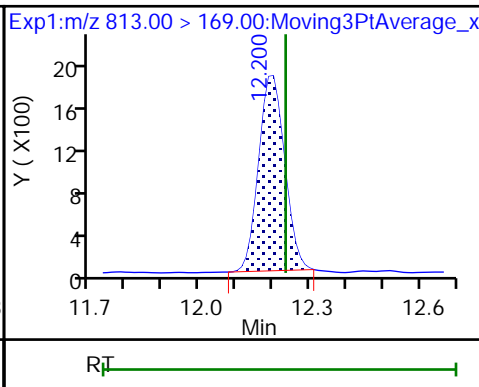
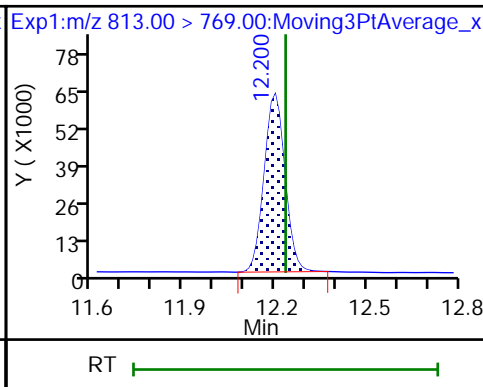
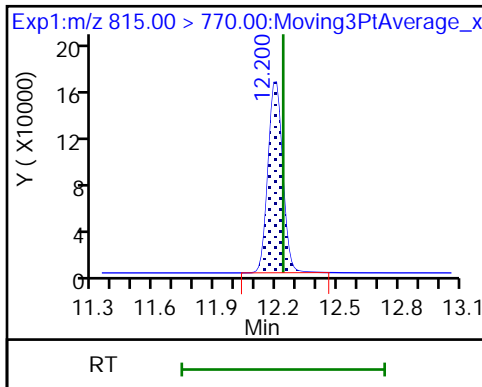
50 Perfluorotetradecanoic acid



D 52 13C2 PFHxDA

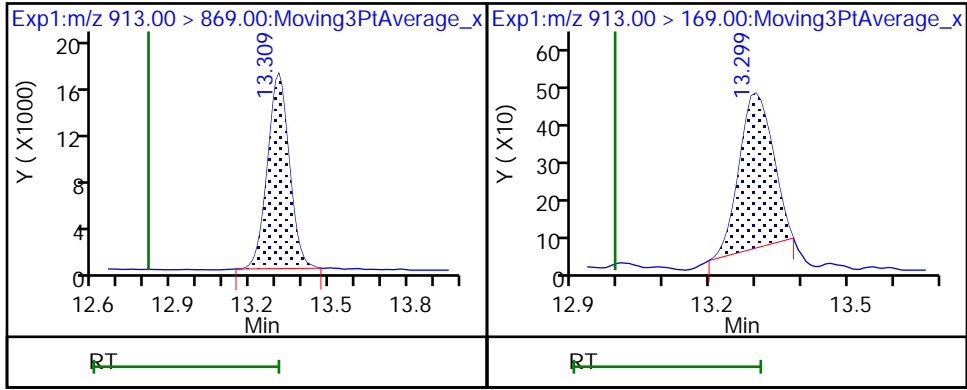
54 Perfluorohexadecanoic acid

54 Perfluorohexadecanoic acid



53 Perfluorooctadecanoic acid

53 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Lab Sample ID: CCV 320-461813/13 Calibration Date: 02/13/2021 14:26
 Instrument ID: A10 Calib Start Date: 02/09/2021 10:37
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/09/2021 12:46
 Lab File ID: 2021.02.13_A10_DI_A_020.d Conc. Units: ng/L

| ANALYTE | CURVE TYPE | AVE RRF | RRF | MIN RRF | CALC AMOUNT | SPIKE AMOUNT | %D | MAX %D |
|--|------------|----------|----------|---------|-------------|--------------|--------|--------|
| Perfluorobutanoic acid | AveID | 0.8917 | 0.8718 | | 48.9 | 50.0 | -2.2 | 40.0 |
| Perfluoropentanoic acid | AveID | 1.082 | 1.059 | | 48.9 | 50.0 | -2.1 | 40.0 |
| Perfluorobutanesulfonic acid (PFBS) | AveID | 1.048 | 1.047 | | 44.2 | 44.2 | -0.0 | 40.0 |
| Perfluorohexanoic acid | AveID | 0.9919 | 0.9822 | | 49.5 | 50.0 | -1.0 | 40.0 |
| Perfluoroheptanoic acid (PFHpA) | AveID | 0.9757 | 0.9796 | | 50.2 | 50.0 | 0.4 | 40.0 |
| Perfluorohexanesulfonic acid (PFHxS) | AveID | 1.139 | 1.130 | | 45.2 | 45.5 | -0.8 | 40.0 |
| 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2) | AveID | 2.999 | 2.367 | | 37.4 | 47.4 | -21.1 | 40.0 |
| Perfluoroheptanesulfonic acid | AveID | 1.276 | 1.237 | | 46.1 | 47.6 | -3.1 | 50.0 |
| Perfluorooctanoic acid (PFOA) | AveID | 0.9103 | 0.8861 | | 48.7 | 50.0 | -2.7 | 40.0 |
| Perfluorooctanesulfonic acid (PFOS) | AveID | 1.019 | 1.000 | | 45.5 | 46.4 | -1.9 | 40.0 |
| Perfluorononanoic acid (PFNA) | AveID | 0.9499 | 0.9386 | | 49.4 | 50.0 | -1.2 | 40.0 |
| Perfluorooctanesulfonamide | AveID | 1.014 | 1.036 | | 51.1 | 50.0 | 2.2 | 40.0 |
| 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2) | AveID | 2.362 | 2.225 | | 45.1 | 47.9 | -5.8 | 40.0 |
| Perfluorodecanoic acid | AveID | 0.8319 | 0.8208 | | 49.3 | 50.0 | -1.3 | 40.0 |
| N-methylperfluorooctanesulfonamidoacetic acid | AveID | 0.8548 | 0.8890 | | 52.0 | 50.0 | 4.0 | 40.0 |
| Perfluorodecanesulfonic acid | AveID | 0.6664 | 0.6610 | | 47.8 | 48.2 | -0.8 | 50.0 |
| Perfluoroundecanoic acid | AveID | 0.8819 | 0.9397 | | 53.3 | 50.0 | 6.6 | 40.0 |
| N-ethylperfluorooctanesulfonamidoacetic acid | AveID | 0.8713 | 0.9361 | | 53.7 | 50.0 | 7.4 | 40.0 |
| Perfluorododecanoic acid | AveID | 0.8858 | 0.9319 | | 52.6 | 50.0 | 5.2 | 40.0 |
| Perfluorotridecanoic acid | AveID | 1.196 | 1.071 | | 44.8 | 50.0 | -10.4 | 50.0 |
| Perfluorotetradecanoic acid | AveID | 0.0412 | 0.0424 | | 51.4 | 50.0 | 2.8 | 40.0 |
| Perfluorohexadecanoic acid | AveID | 1.001 | 0.9592 | | 47.9 | 50.0 | -4.2 | 50.0 |
| Perfluorooctadecanoic acid | AveID | 0.2124 | 0.4583 | | 108 | 50.0 | 115.7* | 50.0 |
| 13C4 PFBA | Ave | 58729800 | 51344540 | | 43.7 | 50.0 | -12.6 | 50.0 |
| 13C5 PFPeA | Ave | 43934310 | 38476320 | | 43.8 | 50.0 | -12.4 | 50.0 |
| 13C3 PFBS | Ave | 40751425 | 34406280 | | 39.3 | 46.5 | -15.6 | 50.0 |
| 13C2 PFHxA | Ave | 47448103 | 40347860 | | 42.5 | 50.0 | -15.0 | 50.0 |
| 13C4 PFHpA | Ave | 50044460 | 45058920 | | 45.0 | 50.0 | -10.0 | 50.0 |
| 18O2 PFHxS | Ave | 32862487 | 28265159 | | 40.7 | 47.3 | -14.0 | 50.0 |
| M2-6:2 FTS | Ave | 8214492 | 10599642 | | 61.3 | 47.5 | 29.0 | 50.0 |
| 13C4 PFOA | Ave | 66909148 | 58912660 | | 44.0 | 50.0 | -12.0 | 50.0 |
| 13C4 PFOS | Ave | 22745047 | 20316339 | | 42.7 | 47.8 | -10.7 | 50.0 |
| 13C5 PFNA | Ave | 49685090 | 43894120 | | 44.2 | 50.0 | -11.7 | 50.0 |
| 13C8 FOSA | Ave | 31560048 | 27295520 | | 43.2 | 50.0 | -13.5 | 50.0 |
| 13C2 PFDA | Ave | 47208335 | 43212180 | | 45.8 | 50.0 | -8.5 | 50.0 |
| M2-8:2 FTS | Ave | 7658823 | 8752192 | | 54.7 | 47.9 | 14.3 | 50.0 |

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Lab Sample ID: CCV 320-461813/13 Calibration Date: 02/13/2021 14:26
 Instrument ID: A10 Calib Start Date: 02/09/2021 10:37
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/09/2021 12:46
 Lab File ID: 2021.02.13_A10_DI_A_020.d Conc. Units: ng/L

| ANALYTE | CURVE TYPE | AVE CF | CF | MIN CF | CALC AMOUNT | SPIKE AMOUNT | %D | MAX %D |
|-------------|------------|----------|----------|--------|-------------|--------------|--------|--------|
| d3-NMeFOSAA | Ave | 19233788 | 20420000 | | 53.1 | 50.0 | 6.2 | 50.0 |
| 13C2 PFUnA | Ave | 45893880 | 37752920 | | 41.1 | 50.0 | -17.7 | 50.0 |
| d5-NEtFOSAA | Ave | 21832320 | 21151900 | | 48.4 | 50.0 | -3.1 | 50.0 |
| 13C2 PFDoA | Ave | 48155063 | 41322660 | | 42.9 | 50.0 | -14.2 | 50.0 |
| 13C2 PFTeDA | Ave | 56290190 | 39842000 | | 35.4 | 50.0 | -29.2 | 50.0 |
| 13C2 PFHxDA | Ave | 32512703 | 73944600 | | 114 | 50.0 | 127.4* | 50.0 |

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_020.d
 Lims ID: CCV L6
 Client ID:
 Sample Type: CCV
 Inject. Date: 13-Feb-2021 14:26:46 ALS Bottle#: 20 Worklist Smp#: 13
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: CCV L6
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Sublist: chrom-A10_In_Line_SPE*sub12
 Method: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 15-Feb-2021 04:10:47 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1652

First Level Reviewer: ruangyotsakuld Date: 15-Feb-2021 04:10:47

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 2 13C4 PFBA | | | | | | | | | | |
| 217.00 > 172.00 | 5.678 | 5.742 | -0.064 | | 2567227 | 0.0437 | | 87.4 | 14967 | |
| 1 Perfluorobutanoic acid | | | | | | | | | | |
| 212.90 > 169.00 | 5.678 | 5.763 | -0.085 | 1.000 | 2238019 | 0.0489 | | 97.8 | 806 | |
| D 4 13C5 PFPeA | | | | | | | | | | |
| 267.90 > 223.00 | 6.271 | 6.297 | -0.026 | | 1923816 | 0.0438 | | 87.6 | 12657 | |
| 5 Perfluoropentanoic acid | | | | | | | | | | |
| 262.90 > 219.00 | 6.271 | 6.297 | -0.026 | 1.000 | 2037676 | 0.0489 | | 97.9 | 738 | |
| D 3 13C3 PFBS | | | | | | | | | | |
| 301.90 > 80.00 | 6.317 | 6.343 | -0.026 | | 1599892 | 0.0393 | | 84.4 | 5815 | |
| 6 Perfluorobutanesulfonic acid | | | | | | | | | | |
| 298.90 > 80.00 | 6.317 | 6.343 | -0.026 | 1.000 | 1592714 | 0.0442 | Target=1.49 | 99.9 | 3421 | |
| 298.90 > 99.00 | 6.317 | 6.343 | -0.026 | 1.000 | 1086555 | | 1.47(0.74-2.23) | | 1632 | |
| 8 4:2 FTS | | | | | | | | | | |
| 327.00 > 307.00 | 6.688 | 6.715 | -0.027 | 1.000 | 962667 | NC | Target=2.63 | | 11129 | |
| 327.00 > 81.00 | 6.688 | 6.715 | -0.027 | 1.000 | 367889 | | 2.62(1.32-3.95) | | 1157 | |
| D 7 M2-4:2 FTS | | | | | | | | | | |
| 329.00 > 81.00 | 6.688 | 6.715 | -0.027 | | 359819 | NC | | | 1046 | |
| 10 Perfluorohexanoic acid | | | | | | | | | | |
| 313.00 > 269.00 | 6.734 | 6.761 | -0.027 | 1.000 | 1981553 | 0.0495 | Target=19.21 | 99.0 | 1505 | |
| 313.00 > 119.00 | 6.734 | 6.761 | -0.027 | 1.000 | 97061 | | 20.42(9.60-28.81) | | 789 | |
| D 9 13C2 PFHxA | | | | | | | | | | |
| 315.00 > 270.00 | 6.734 | 6.761 | -0.027 | | 2017393 | 0.0425 | | 85.0 | 16166 | |
| 11 Perfluoropentanesulfonic acid | | | | | | | | | | |
| 349.00 > 80.00 | 6.758 | 6.784 | -0.026 | 0.930 | 1501655 | NC | Target=1.46 | | 3533 | |
| 349.00 > 99.00 | 6.758 | 6.784 | -0.026 | 0.930 | 1052704 | | 1.43(0.73-2.19) | | 3085 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-------|--------|--------|--------|----------|--------------|------------------|------|-------|-------|
| D 12 13C3 HFPO-DA | | | | | | | | | | |
| 332.10 > 287.00 | 6.876 | 6.904 | -0.028 | | 108397 | NC | | | 757 | |
| 13 HPFO-DA | | | | | | | | | | |
| 329.10 > 285.00 | 6.900 | 6.904 | -0.004 | 1.003 | 316845 | NC | | | 326 | |
| 14 9CIFOS | | | | | | | | | | |
| 531.00 > 351.00 | 7.120 | 7.159 | -0.039 | 0.847 | 1872 | NC | | | 1.7 | |
| 16 Perfluorohexanesulfonic acid | | | | | | | | | | |
| 399.00 > 80.00 | 7.263 | 7.285 | -0.022 | 1.000 | 1453872 | 0.0452 | Target=5.70 | 99.2 | 3944 | |
| 399.00 > 99.00 | 7.263 | 7.285 | -0.022 | 1.000 | 248199 | | 5.86(2.85-8.55) | | 1135 | |
| D 15 18O2 PFHxS | | | | | | | | | | |
| 403.00 > 84.00 | 7.263 | 7.285 | -0.022 | | 1336942 | 0.0407 | | 86.0 | 18635 | |
| 18 Perfluoroheptanoic acid | | | | | | | | | | |
| 363.00 > 319.00 | 7.263 | 7.285 | -0.022 | 1.000 | 2206974 | 0.0502 | Target=9.14 | 100 | 532 | |
| 363.00 > 169.00 | 7.263 | 7.285 | -0.022 | 1.000 | 247167 | | 8.93(4.57-13.71) | | 6202 | |
| D 17 13C4 PFHpA | | | | | | | | | | |
| 367.00 > 322.00 | 7.263 | 7.285 | -0.022 | | 2252946 | 0.0450 | | 90.0 | 12827 | |
| 19 DONA | | | | | | | | | | |
| 377.00 > 251.00 | 7.319 | 7.341 | -0.022 | 0.871 | 8296993 | NC | Target=2.71 | | 23373 | |
| 377.00 > 85.00 | 7.319 | 7.341 | -0.022 | 0.871 | 3278332 | | 2.53(1.36-4.07) | | 9374 | |
| 23 6:2 FTS | | | | | | | | | | |
| 427.00 > 407.00 | 7.804 | 7.823 | -0.019 | 1.000 | 1189089 | 0.0374 | Target=2.56 | 78.9 | 14417 | |
| 427.00 > 81.00 | 7.804 | 7.823 | -0.019 | 1.000 | 460368 | | 2.58(1.28-3.83) | | 1474 | |
| D 22 M2-6:2 FTS | | | | | | | | | | |
| 429.00 > 81.00 | 7.804 | 7.823 | -0.019 | | 503483 | 0.0613 | | 129 | 1815 | |
| 21 Perfluoroheptanesulfonic acid | | | | | | | | | | |
| 449.00 > 80.00 | 7.820 | 7.840 | -0.020 | 0.931 | 1195987 | 0.0461 | Target=6.98 | 96.9 | 4142 | |
| 449.00 > 99.00 | 7.820 | 7.840 | -0.020 | 0.931 | 176000 | | 6.80(3.49-10.47) | | 1324 | |
| D 25 13C4 PFOA | | | | | | | | | | |
| 417.00 > 372.00 | 7.837 | 7.856 | -0.019 | | 2945633 | 0.0440 | | 88.0 | 20586 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | |
| 413.00 > 369.00 | 7.837 | 7.856 | -0.019 | 1.000 | 2610127 | 0.0487 | Target=1.58 | 97.3 | 572 | |
| 413.00 > 169.00 | 7.837 | 7.856 | -0.019 | 1.000 | 1680976 | | 1.55(0.79-2.37) | | 8815 | |
| D 26 13C4 PFOS | | | | | | | | | | |
| 503.00 > 80.00 | 8.402 | 8.448 | -0.046 | | 971121 | 0.0427 | | 89.3 | 5711 | |
| 27 Perfluorooctanesulfonic acid | | | | | | | | | | |
| 499.00 > 80.00 | 8.402 | 8.448 | -0.046 | 1.000 | 942480 | 0.0455 | Target=3.45 | 98.1 | 4692 | |
| 499.00 > 99.00 | 8.402 | 8.448 | -0.046 | 1.000 | 264571 | | 3.56(1.73-5.18) | | 1685 | |
| D 28 13C5 PFNA | | | | | | | | | | |
| 468.00 > 423.00 | 8.437 | 8.465 | -0.028 | | 2194706 | 0.0442 | | 88.3 | 14160 | |
| 29 Perfluorononanoic acid | | | | | | | | | | |
| 463.00 > 419.00 | 8.437 | 8.465 | -0.028 | 1.000 | 2059847 | 0.0494 | Target=7.90 | 98.8 | 1085 | |
| 463.00 > 169.00 | 8.437 | 8.465 | -0.028 | 1.000 | 277337 | | 7.43(3.95-11.85) | | 2917 | |
| D 30 13C8 FOSA | | | | | | | | | | |
| 506.00 > 78.00 | 8.966 | 8.966 | 0.0 | | 1364776 | 0.0432 | | 86.5 | 6092 | |
| 31 Perfluorooctanesulfonamide | | | | | | | | | | |
| 498.00 > 78.00 | 8.966 | 8.966 | 0.0 | 1.000 | 1413498 | 0.0511 | | 102 | 5909 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| 32 Perfluorononanesulfonic acid | | | | | | | | | | |
| 549.00 > 80.00 | 8.997 | 9.044 | -0.047 | 1.071 | 835577 | NC | Target=6.35 | | 6391 | |
| 549.00 > 99.00 | 8.997 | 9.044 | -0.047 | 1.071 | 145004 | | 5.76(3.17-9.52) | | 1237 | |
| D 33 13C2 PFDA | | | | | | | | | | |
| 515.00 > 470.00 | 9.043 | 9.075 | -0.032 | | 2160609 | 0.0458 | | 91.5 | 10883 | |
| 35 Perfluorodecanoic acid | | | | | | | | | | |
| 513.00 > 469.00 | 9.043 | 9.075 | -0.032 | 1.000 | 1773530 | 0.0493 | Target=16.15 | 98.7 | 1466 | |
| 513.00 > 169.00 | 9.043 | 9.075 | -0.032 | 1.000 | 109132 | | 16.25(8.08-24.23) | | 593 | |
| D 34 M2-8:2 FTS | | | | | | | | | | |
| 529.00 > 81.00 | 9.043 | 9.075 | -0.032 | | 419230 | 0.0547 | | 114 | 4141 | |
| 36 8:2 FTS | | | | | | | | | | |
| 527.00 > 507.00 | 9.043 | 9.075 | -0.032 | 1.000 | 932717 | 0.0451 | Target=2.35 | 94.2 | 5536 | |
| 527.00 > 81.00 | 9.043 | 9.075 | -0.032 | 1.000 | 429921 | | 2.17(1.17-3.52) | | 2497 | |
| 38 NMeFOSAA | | | | | | | | | | |
| 570.00 > 419.00 | 9.327 | 9.248 | 0.079 | 1.000 | 907679 | 0.0520 | Target=12.28 | 104 | 2425 | |
| 570.00 > 483.00 | 9.327 | 9.248 | 0.079 | 1.000 | 69170 | | 13.12(6.14-18.41) | | 1071 | |
| D 37 d3-NMeFOSAA | | | | | | | | | | |
| 573.00 > 419.00 | 9.327 | 9.361 | -0.034 | | 1021000 | 0.0531 | | 106 | 3384 | |
| 43 NEtFOSA | | | | | | | | | | |
| 584.00 > 419.00 | 9.617 | 9.533 | 0.084 | 1.000 | 990014 | 0.0537 | Target=13.05 | 107 | 14607 | |
| 584.00 > 483.00 | 9.617 | 9.533 | 0.084 | 1.000 | 75180 | | 13.17(6.52-19.57) | | 726 | |
| 39 Perfluorodecanesulfonic acid | | | | | | | | | | |
| 599.00 > 80.00 | 9.553 | 9.597 | -0.044 | 1.137 | 647274 | 0.0478 | Target=2.51 | 99.2 | 6190 | |
| 599.00 > 99.00 | 9.553 | 9.597 | -0.044 | 1.137 | 257043 | | 2.52(1.26-3.77) | | 4181 | |
| 41 Perfluoroundecanoic acid | | | | | | | | | | |
| 563.00 > 519.00 | 9.601 | 9.645 | -0.044 | 1.000 | 1773902 | 0.0533 | Target=20.47 | 107 | 1454 | |
| 563.00 > 169.00 | 9.601 | 9.645 | -0.044 | 1.000 | 83571 | | 21.23(10.24-30.71) | | 1336 | |
| D 42 13C2 PFUnA | | | | | | | | | | |
| 565.00 > 520.00 | 9.601 | 9.645 | -0.044 | | 1887646 | 0.0411 | | 82.3 | 12699 | |
| D 40 d5-NEtFOSAA | | | | | | | | | | |
| 589.00 > 419.00 | 9.617 | 9.661 | -0.044 | | 1057595 | 0.0484 | | 96.9 | 6066 | |
| 44 11C1FOS | | | | | | | | | | |
| 631.00 > 451.00 | 9.866 | 9.908 | -0.042 | 1.174 | 4667462 | NC | | | 8176 | |
| D 45 13C2 PFDoA | | | | | | | | | | |
| 615.00 > 570.00 | 10.159 | 10.197 | -0.038 | | 2066133 | 0.0429 | | 85.8 | 21848 | |
| 46 Perfluorododecanoic acid | | | | | | | | | | |
| 613.00 > 569.00 | 10.159 | 10.197 | -0.038 | 1.000 | 1925381 | 0.0526 | Target=17.11 | 105 | 693 | |
| 613.00 > 169.00 | 10.159 | 10.197 | -0.038 | 1.000 | 116901 | | 16.47(8.55-25.66) | | 1429 | |
| 47 10:2 FTS | | | | | | | | | | |
| 627.00 > 607.00 | 10.181 | 10.241 | -0.060 | 1.126 | 1424065 | NC | Target=32.58 | | 6925 | |
| 627.00 > 81.00 | 10.181 | 10.241 | -0.060 | 1.126 | 42129 | | 33.80(16.29-48.87) | | 806 | |
| 48 PFDoS | | | | | | | | | | |
| 699.00 > 80.00 | 10.606 | 10.656 | -0.050 | 1.262 | 252792 | NC | Target=0.47 | | 2810 | |
| 699.00 > 99.00 | 10.606 | 10.656 | -0.050 | 1.262 | 518120 | | 0.49(0.24-0.71) | | 3940 | |
| 49 Perfluorotridecanoic acid | | | | | | | | | | |
| 663.00 > 619.00 | 10.677 | 10.727 | -0.050 | 1.051 | 2212771 | 0.0448 | Target=18.64 | 89.6 | 649 | |
| 663.00 > 169.00 | 10.677 | 10.727 | -0.050 | 1.051 | 118290 | | 18.71(9.32-27.96) | | 2132 | |

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|------|-------|
| D 51 13C2 PFTeDA | | | | | | | | | | |
| 715.00 > 670.00 | 11.167 | 11.233 | -0.066 | | 1992100 | 0.0354 | | 70.8 | 9424 | |
| 50 Perfluorotetradecanoic acid | | | | | | | | | | |
| 713.00 > 169.00 | 11.182 | 11.233 | -0.051 | 1.001 | 84419 | 0.0514 | Target=1.23 | 103 | 1999 | |
| 713.00 > 219.00 | 11.182 | 11.233 | -0.051 | 1.001 | 70251 | | 1.20(0.62-1.85) | | 1462 | |
| D 52 13C2 PFHxDA | | | | | | | | | | |
| 815.00 > 770.00 | 12.134 | 12.234 | -0.100 | | 3697230 | 0.1137 | | 227 | 9772 | |
| 54 Perfluorohexadecanoic acid | | | | | | | | | | |
| 813.00 > 769.00 | 12.134 | 12.234 | -0.100 | 1.000 | 3546438 | 0.0479 | Target=29.80 | 95.8 | 2274 | |
| 813.00 > 169.00 | 12.134 | 12.234 | -0.100 | 1.000 | 108154 | | 32.79(14.90-44.69) | | 1821 | |
| 53 Perfluorooctadecanoic acid | | | | | | | | | | |
| 913.00 > 869.00 | 13.203 | 12.810 | 0.393 | 1.088 | 1694356 | 0.1079 | Target=33.62 | 216 | 604 | |
| 913.00 > 169.00 | 13.203 | 12.810 | 0.393 | 1.088 | 49158 | | 34.47(16.81-50.42) | | 681 | |

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

LCPFC-LL-L6_00031

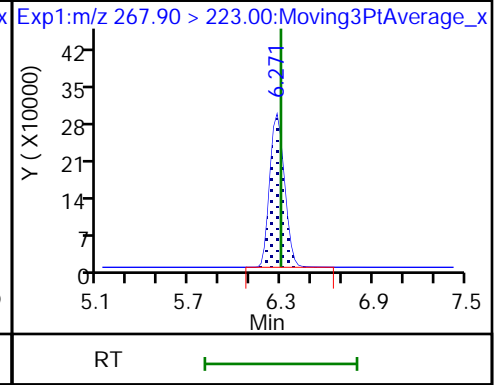
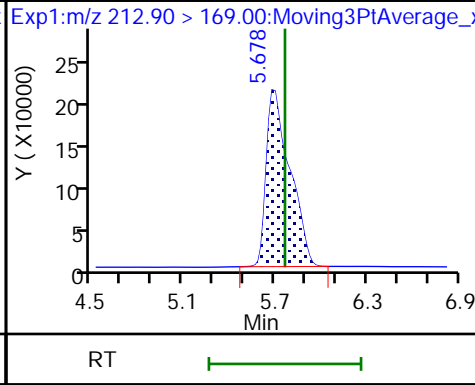
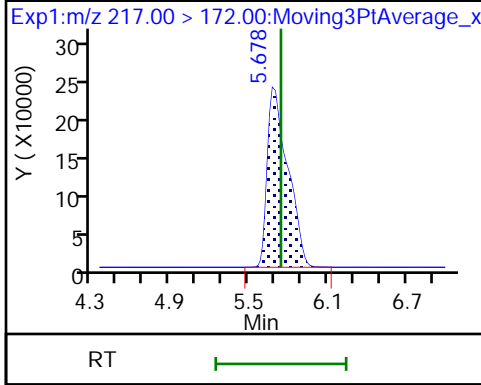
Amount Added: 1.00

Units: mL

D 2 13C4 PFBA

1 Perfluorobutanoic acid

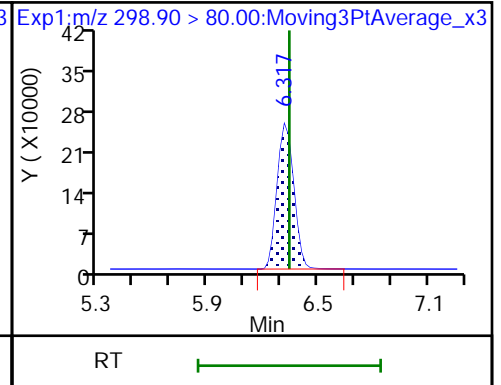
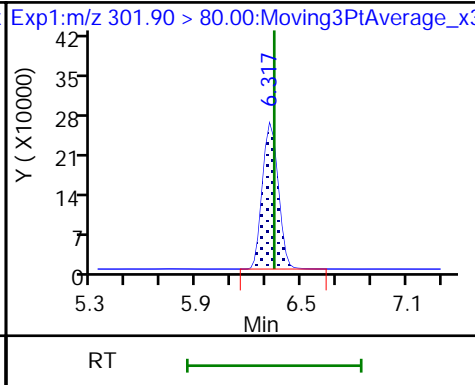
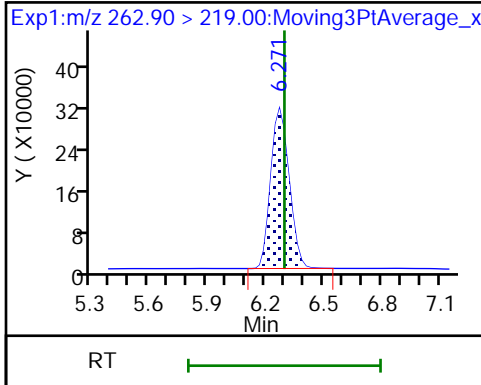
D 4 13C5 PFPeA



5 Perfluoropentanoic acid

D 3 13C3 PFBS

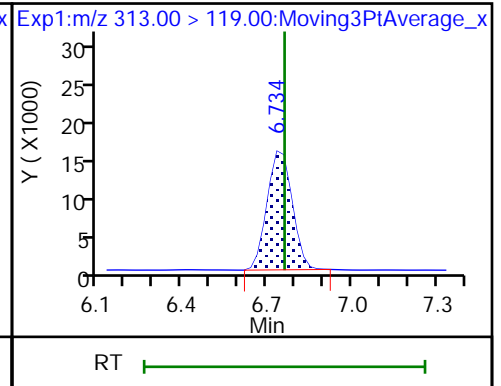
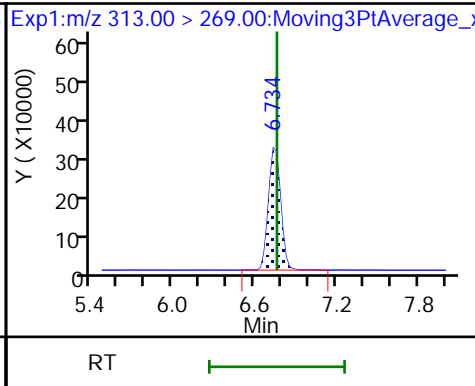
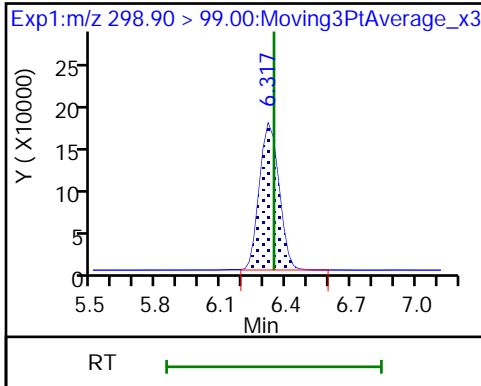
6 Perfluorobutanesulfonic acid



6 Perfluorobutanesulfonic acid

10 Perfluorohexanoic acid

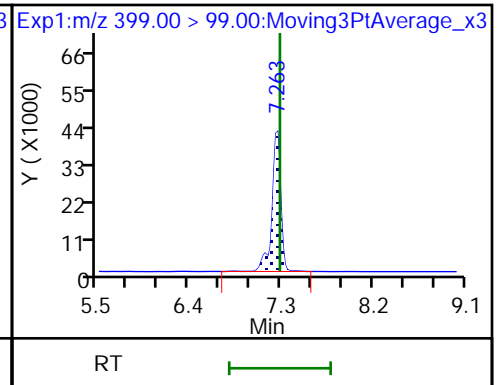
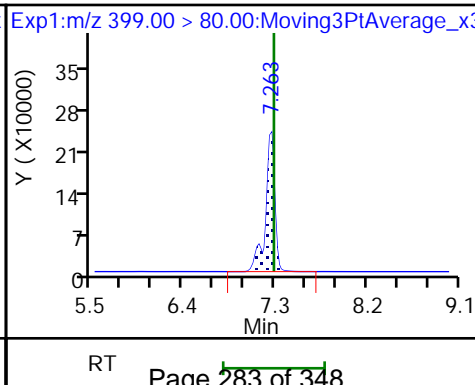
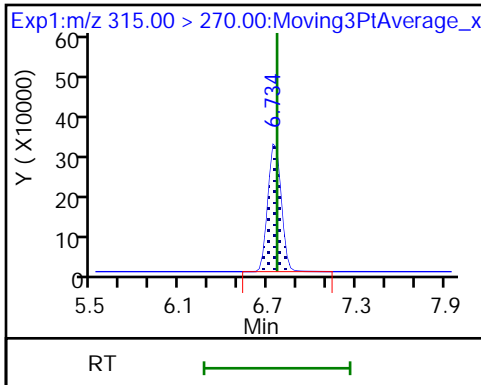
10 Perfluorohexanoic acid



D 9 13C2 PFHxA

16 Perfluorohexanesulfonic acid

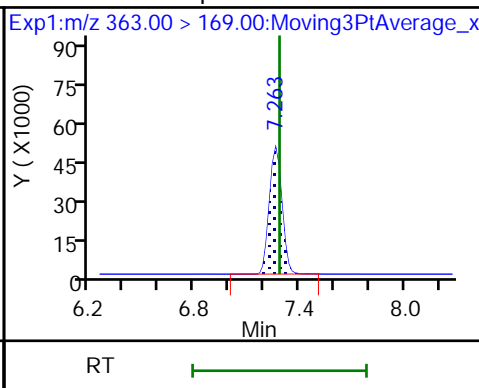
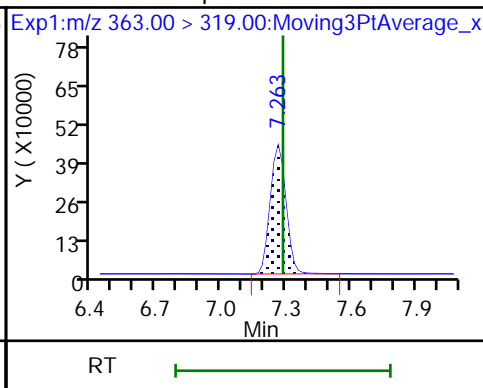
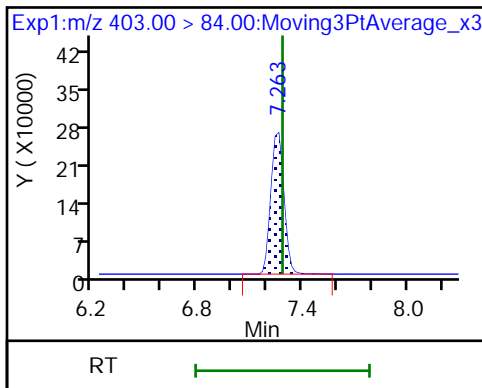
16 Perfluorohexanesulfonic acid



D 15 18O2 PFHxS

18 Perfluoroheptanoic acid

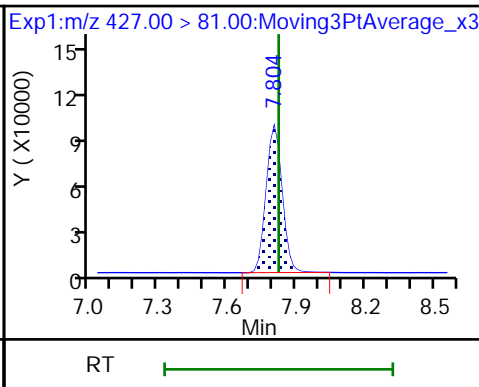
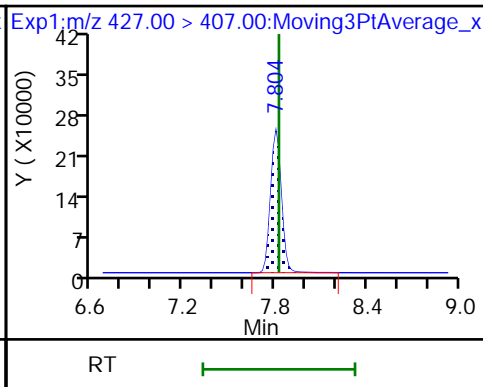
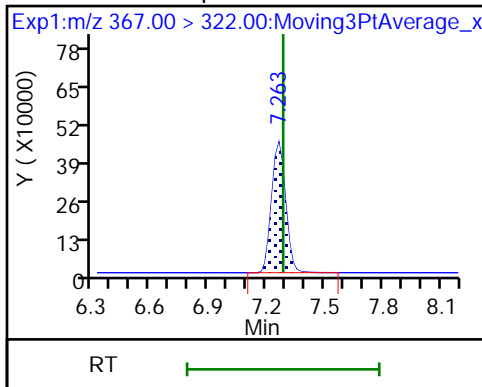
18 Perfluoroheptanoic acid



D 17 13C4 PFHpA

23 6:2 FTS

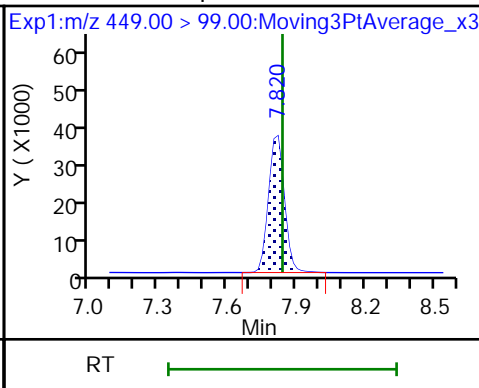
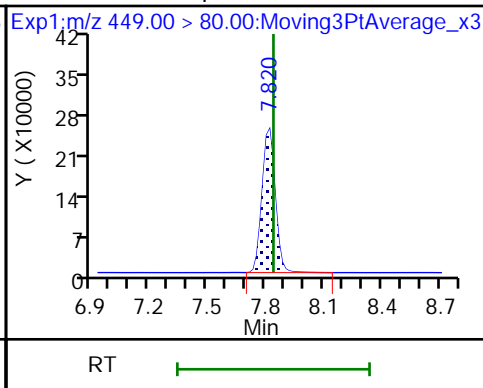
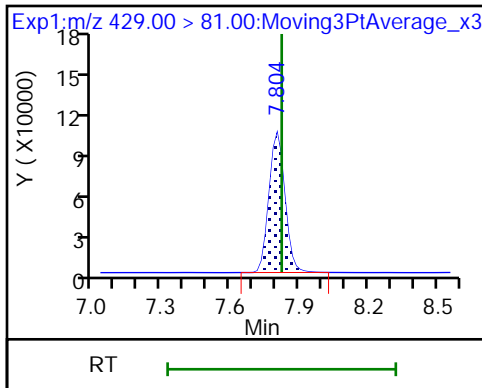
23 6:2 FTS



D 22 M2-6:2 FTS

21 Perfluoroheptanesulfonic acid

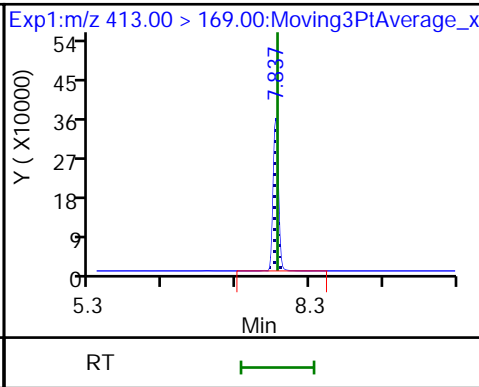
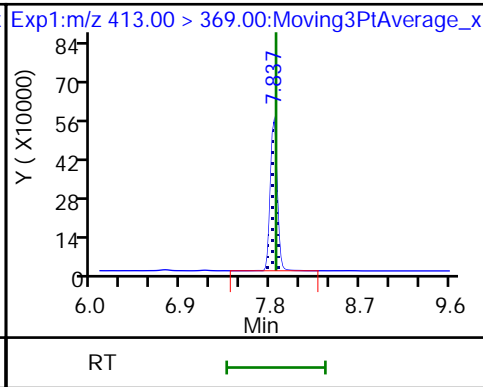
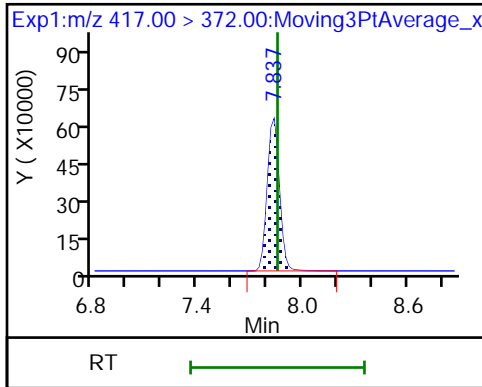
21 Perfluoroheptanesulfonic acid



D 25 13C4 PFOA

24 Perfluorooctanoic acid

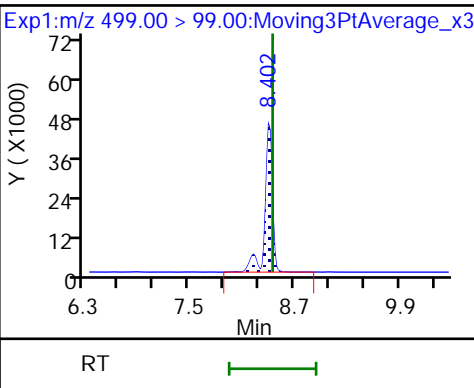
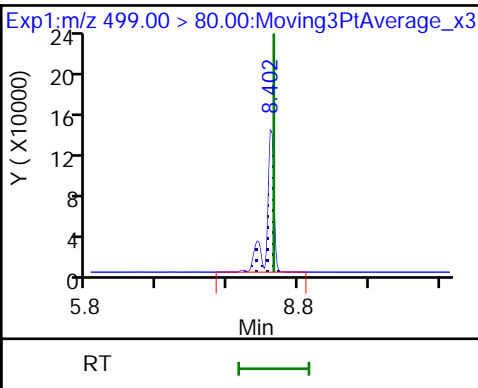
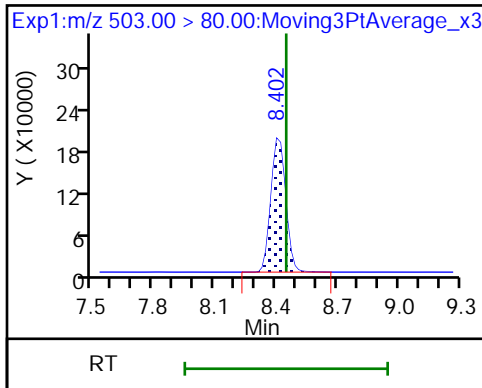
24 Perfluorooctanoic acid



D 26 13C4 PFOS

27 Perfluorooctanesulfonic acid

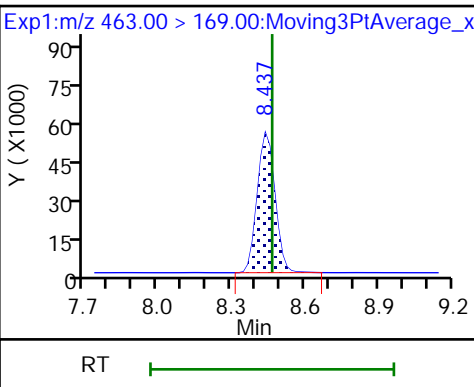
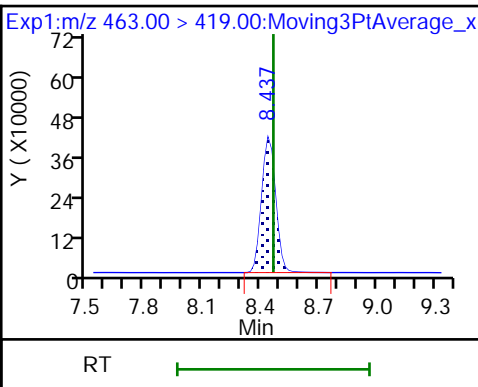
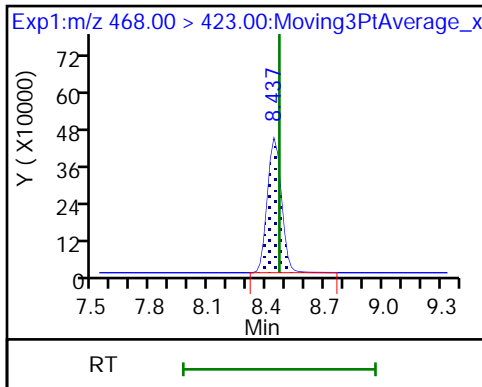
27 Perfluorooctanesulfonic acid



D 28 13C5 PFNA

29 Perfluorononanoic acid

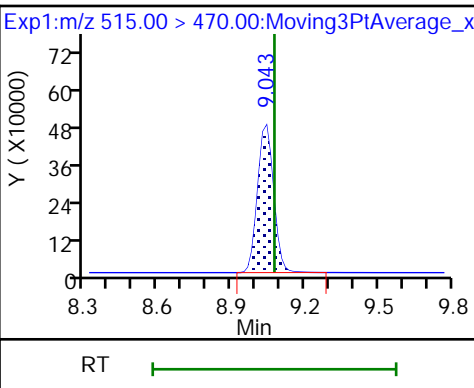
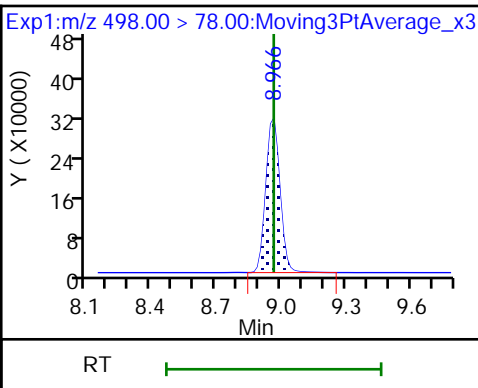
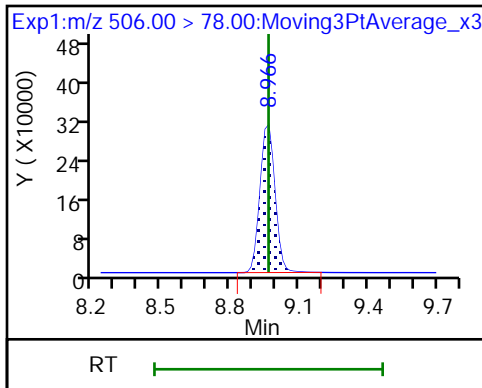
29 Perfluorononanoic acid



D 30 13C8 FOSA

31 Perfluorooctanesulfonamide

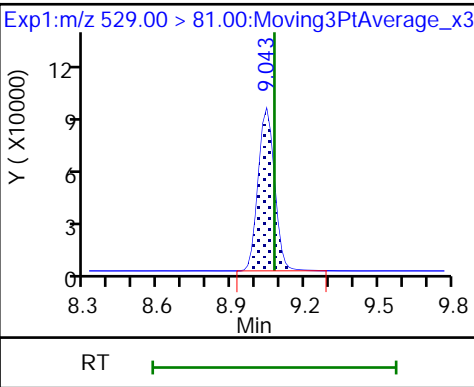
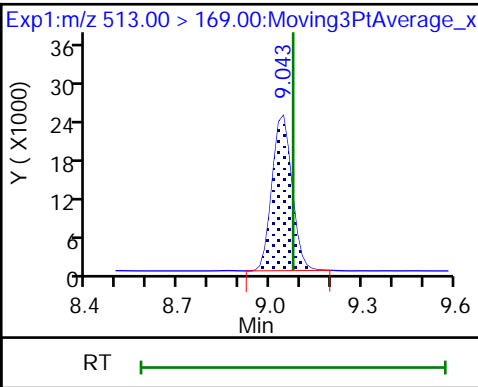
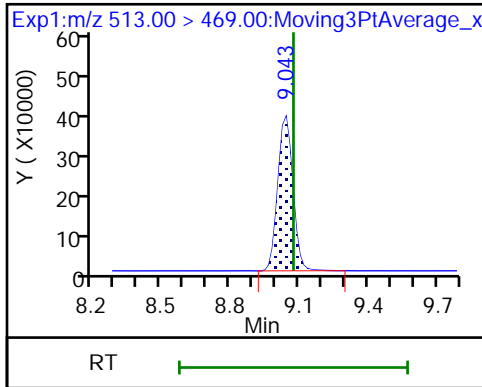
D 33 13C2 PFDA

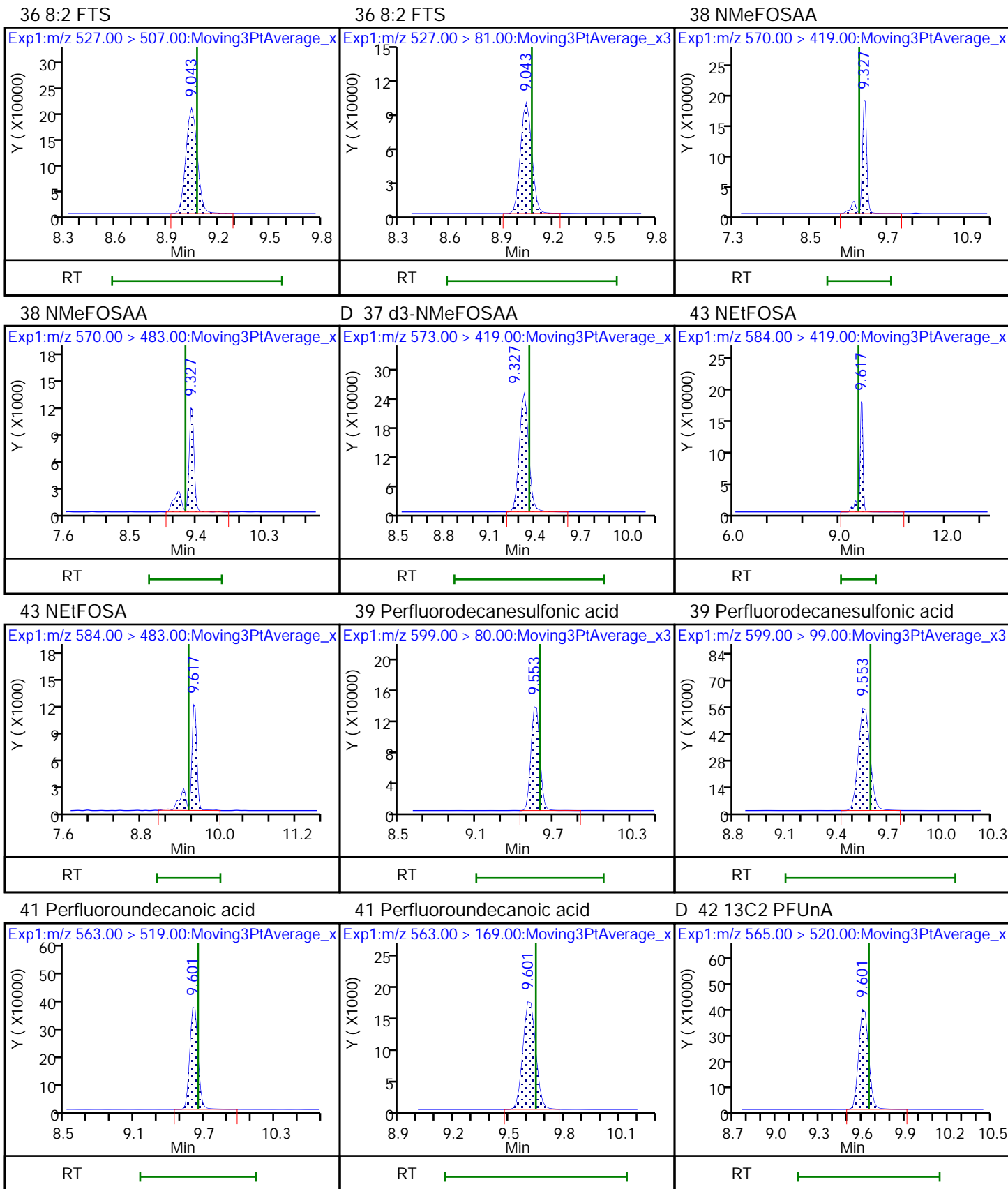


35 Perfluorodecanoic acid

35 Perfluorodecanoic acid

D 34 M2-8:2 FTS

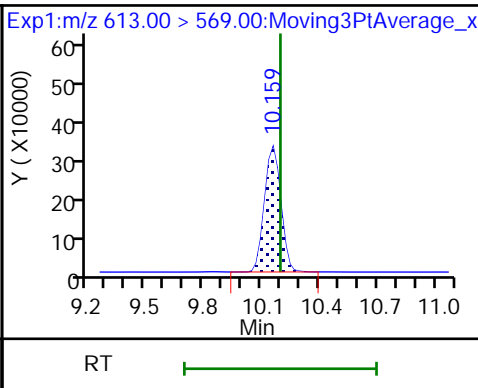
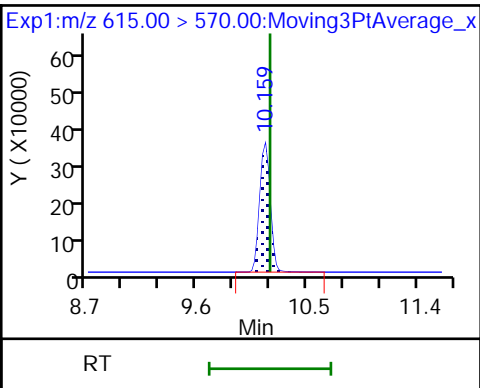
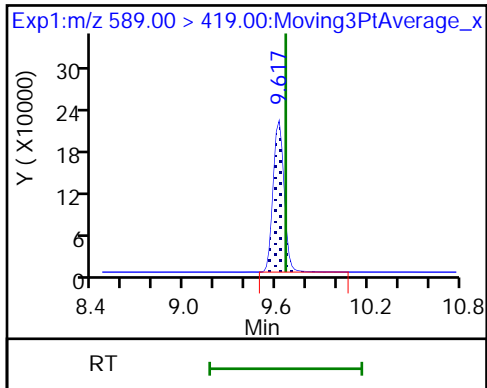




D 40 d5-NEtFOSAA

D 45 13C2 PFDoA

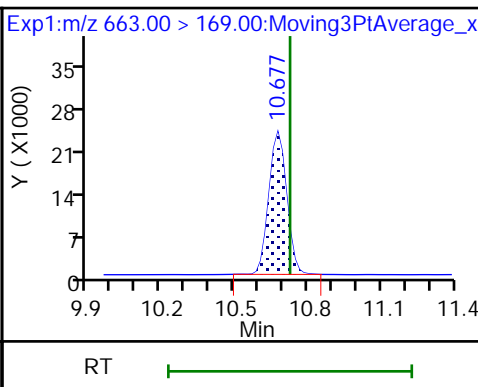
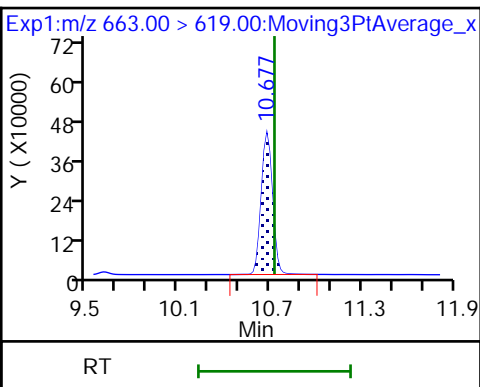
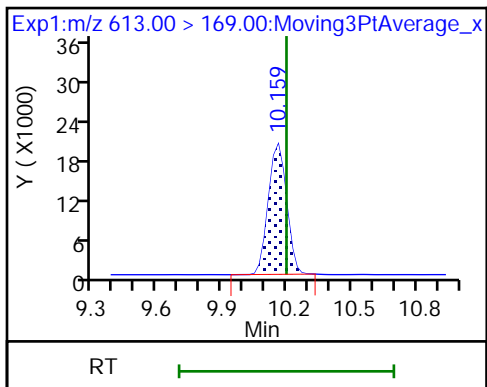
46 Perfluorododecanoic acid



46 Perfluorododecanoic acid

49 Perfluorotridecanoic acid

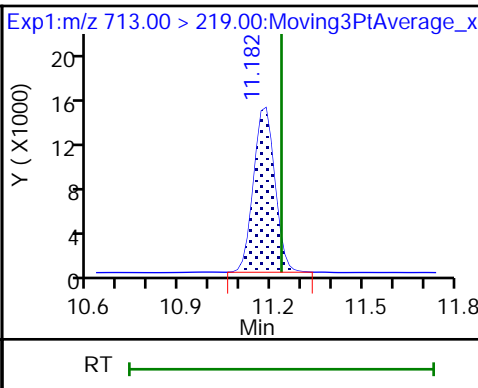
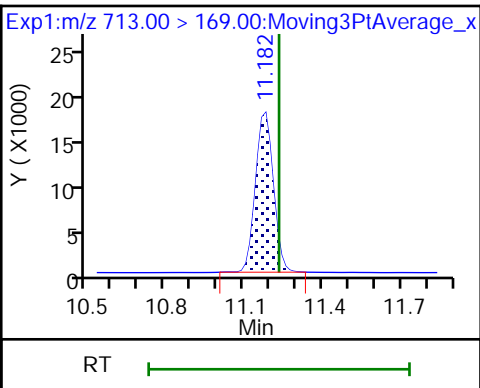
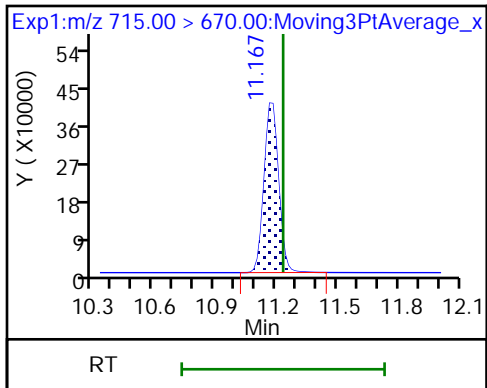
49 Perfluorotridecanoic acid



D 51 13C2 PFTeDA

50 Perfluorotetradecanoic acid

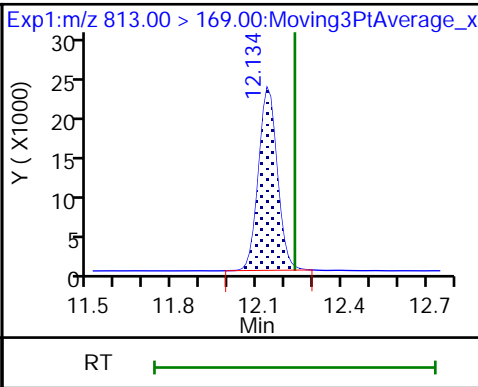
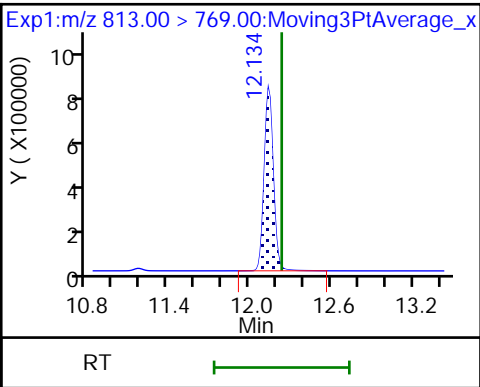
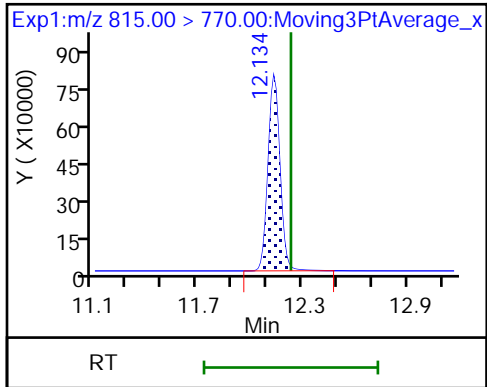
50 Perfluorotetradecanoic acid



D 52 13C2 PFHxDA

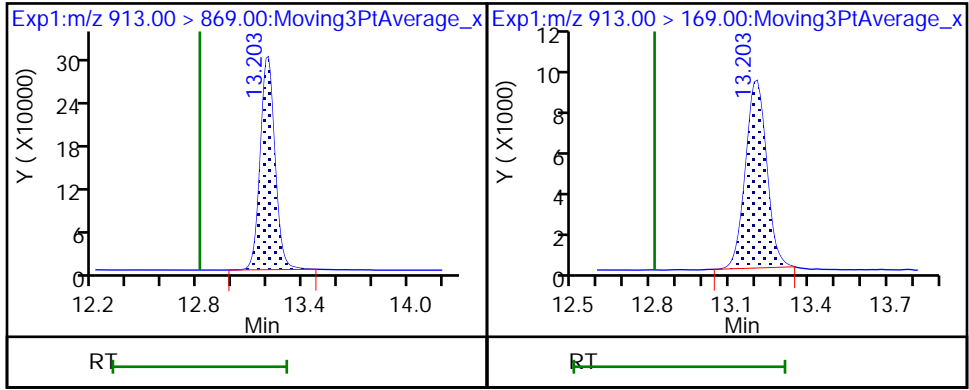
54 Perfluorohexadecanoic acid

54 Perfluorohexadecanoic acid



53 Perfluorooctadecanoic acid

53 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Lab Sample ID: CCV 320-461813/24 Calibration Date: 02/13/2021 17:49
 Instrument ID: A10 Calib Start Date: 02/09/2021 10:37
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/09/2021 12:46
 Lab File ID: 2021.02.13_A10_DI_A_031.d Conc. Units: ng/L

| ANALYTE | CURVE TYPE | AVE RRF | RRF | MIN RRF | CALC AMOUNT | SPIKE AMOUNT | %D | MAX %D |
|--|------------|----------|----------|---------|-------------|--------------|-------|--------|
| Perfluorobutanoic acid | AveID | 0.8917 | 0.8711 | | 19.5 | 20.0 | -2.3 | 40.0 |
| Perfluoropentanoic acid | AveID | 1.082 | 1.036 | | 19.1 | 20.0 | -4.3 | 40.0 |
| Perfluorobutanesulfonic acid (PFBS) | AveID | 1.048 | 0.9541 | | 16.1 | 17.7 | -9.0 | 40.0 |
| Perfluorohexanoic acid | AveID | 0.9919 | 0.997 | | 20.1 | 20.0 | 0.6 | 40.0 |
| Perfluorohexanesulfonic acid (PFHxS) | AveID | 1.139 | 1.012 | | 16.2 | 18.2 | -11.2 | 40.0 |
| Perfluoroheptanoic acid (PFHpA) | AveID | 0.9757 | 0.997 | | 20.4 | 20.0 | 2.1 | 40.0 |
| 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2) | AveID | 2.999 | 2.474 | | | 19.0 | -17.5 | 40.0 |
| Perfluoroheptanesulfonic acid | AveID | 1.276 | 1.238 | | 18.5 | 19.0 | -3.0 | 50.0 |
| Perfluorooctanoic acid (PFOA) | AveID | 0.9103 | 0.8761 | | 19.2 | 20.0 | -3.8 | 40.0 |
| Perfluorooctanesulfonic acid (PFOS) | AveID | 1.019 | 0.9791 | | 17.8 | 18.6 | -3.9 | 40.0 |
| Perfluorononanoic acid (PFNA) | AveID | 0.9499 | 0.9376 | | 19.7 | 20.0 | -1.3 | 40.0 |
| Perfluorooctanesulfonamide | AveID | 1.014 | 1.056 | | 20.8 | 20.0 | 4.1 | 40.0 |
| 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2) | AveID | 2.362 | 2.575 | | 20.9 | 19.2 | 9.0 | 40.0 |
| Perfluorodecanoic acid | AveID | 0.8319 | 0.8138 | | 19.6 | 20.0 | -2.2 | 40.0 |
| N-methylperfluorooctanesulfonamidoacetic acid | AveID | 0.8548 | 0.8965 | | 21.0 | 20.0 | 4.9 | 40.0 |
| Perfluorodecanesulfonic acid | AveID | 0.6664 | 0.6309 | | 18.3 | 19.3 | -5.3 | 50.0 |
| Perfluoroundecanoic acid | AveID | 0.8819 | 0.8657 | | 19.6 | 20.0 | -1.8 | 40.0 |
| N-ethylperfluorooctanesulfonamidoacetic acid | AveID | 0.8713 | 0.8530 | | | 20.0 | -2.1 | 40.0 |
| Perfluorododecanoic acid | AveID | 0.8858 | 0.8740 | | 19.7 | 20.0 | -1.3 | 40.0 |
| Perfluorotridecanoic acid | AveID | 1.196 | 0.9064 | | 15.2 | 20.0 | -24.2 | 50.0 |
| Perfluorotetradecanoic acid | AveID | 0.0412 | 0.0374 | | 18.1 | 20.0 | -9.4 | 40.0 |
| Perfluorohexadecanoic acid | AveID | 1.001 | 0.9689 | | 19.4 | 20.0 | -3.2 | 50.0 |
| Perfluorooctadecanoic acid | AveID | 0.2124 | 0.3120 | | 29.4 | 20.0 | 46.9 | 50.0 |
| 13C4 PFBA | Ave | 58729800 | 58766720 | | 50.0 | 50.0 | 0.0 | 50.0 |
| 13C5 PFPeA | Ave | 43934310 | 50438600 | | 57.4 | 50.0 | 14.8 | 50.0 |
| 13C3 PFBS | Ave | 40751425 | 48872774 | | 55.8 | 46.5 | 19.9 | 50.0 |
| 13C2 PFHxA | Ave | 47448103 | 46474420 | | 49.0 | 50.0 | -2.1 | 50.0 |
| 18O2 PFHxS | Ave | 32862487 | 33187992 | | 47.8 | 47.3 | 1.0 | 50.0 |
| 13C4 PFHpA | Ave | 50044460 | 48999800 | | 49.0 | 50.0 | -2.1 | 50.0 |
| M2-6:2 FTS | Ave | 8214492 | 12078063 | | 69.8 | 47.5 | 47.0 | 50.0 |
| 13C4 PFOA | Ave | 66909148 | 70773460 | | 52.9 | 50.0 | 5.8 | 50.0 |
| 13C4 PFOS | Ave | 22745047 | 23557908 | | 49.5 | 47.8 | 3.6 | 50.0 |
| 13C5 PFNA | Ave | 49685090 | 53714120 | | 54.1 | 50.0 | 8.1 | 50.0 |
| 13C8 FOSA | Ave | 31560048 | 26143200 | | 41.4 | 50.0 | -17.2 | 50.0 |
| 13C2 PFDA | Ave | 47208335 | 49636660 | | 52.6 | 50.0 | 5.1 | 50.0 |
| M2-8:2 FTS | Ave | 7658823 | 10287203 | | 64.3 | 47.9 | 34.3 | 50.0 |

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Lab Sample ID: CCV 320-461813/24 Calibration Date: 02/13/2021 17:49
 Instrument ID: A10 Calib Start Date: 02/09/2021 10:37
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/09/2021 12:46
 Lab File ID: 2021.02.13_A10_DI_A_031.d Conc. Units: ng/L

| ANALYTE | CURVE TYPE | AVE CF | CF | MIN CF | CALC AMOUNT | SPIKE AMOUNT | %D | MAX %D |
|-------------|------------|----------|----------|--------|-------------|--------------|-------|--------|
| d3-NMeFOSAA | Ave | 19233788 | 23162640 | | 60.2 | 50.0 | 20.4 | 50.0 |
| 13C2 PFUnA | Ave | 45893880 | 45858260 | | 50.0 | 50.0 | -0.0 | 50.0 |
| d5-NEtFOSAA | Ave | 21832320 | 26933500 | | 61.7 | 50.0 | 23.4 | 50.0 |
| 13C2 PFDoA | Ave | 48155063 | 48107000 | | 50.0 | 50.0 | -0.1 | 50.0 |
| 13C2 PFTeDA | Ave | 56290190 | 32157020 | | 28.6 | 50.0 | -42.9 | 50.0 |
| 13C2 PFHxDA | Ave | 32512703 | 20457360 | | 31.5 | 50.0 | -37.1 | 50.0 |

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_031.d
 Lims ID: CCV L5
 Client ID:
 Sample Type: CCV
 Inject. Date: 13-Feb-2021 17:49:38 ALS Bottle#: 31 Worklist Smp#: 24
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: CCV L5
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Sublist: chrom-A10_In_Line_SPE*sub12
 Method: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 15-Feb-2021 10:35:33 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1642

First Level Reviewer: ruangyotsakuld Date: 15-Feb-2021 10:35:33

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 2 13C4 PFBA | | | | | | | | | | |
| 217.00 > 172.00 | 5.759 | 5.742 | 0.017 | | 2938336 | 0.0500 | | 100 | 22606 | |
| 1 Perfluorobutanoic acid | | | | | | | | | | |
| 212.90 > 169.00 | 5.759 | 5.763 | -0.004 | 1.000 | 1023833 | 0.0195 | | 97.7 | 488 | |
| D 4 13C5 PFPeA | | | | | | | | | | |
| 267.90 > 223.00 | 6.271 | 6.297 | -0.026 | | 2521930 | 0.0574 | | 115 | 19119 | |
| 5 Perfluoropentanoic acid | | | | | | | | | | |
| 262.90 > 219.00 | 6.271 | 6.297 | -0.026 | 1.000 | 1044818 | 0.0191 | | 95.7 | 330 | |
| D 3 13C3 PFBS | | | | | | | | | | |
| 301.90 > 80.00 | 6.316 | 6.343 | -0.027 | | 2272584 | 0.0558 | | 120 | 8731 | |
| 6 Perfluorobutanesulfonic acid | | | | | | | | | | |
| 298.90 > 80.00 | 6.316 | 6.343 | -0.027 | 1.000 | 824441 | 0.0161 | Target=1.49 | 91.0 | 4020 | |
| 298.90 > 99.00 | 6.316 | 6.343 | -0.027 | 1.000 | 565495 | | 1.46(0.74-2.23) | | 1089 | |
| 8 4:2 FTS | | | | | | | | | | |
| 327.00 > 307.00 | 6.688 | 6.715 | -0.027 | 1.000 | 495706 | NC | Target=2.63 | | 6406 | |
| 327.00 > 81.00 | 6.688 | 6.715 | -0.027 | 1.000 | 174556 | | 2.84(1.32-3.95) | | 844 | |
| D 7 M2-4:2 FTS | | | | | | | | | | |
| 329.00 > 81.00 | 6.688 | 6.715 | -0.027 | | 463834 | NC | | | 1807 | |
| 10 Perfluorohexanoic acid | | | | | | | | | | |
| 313.00 > 269.00 | 6.734 | 6.761 | -0.027 | 1.000 | 927044 | 0.0201 | Target=19.21 | 101 | 857 | |
| 313.00 > 119.00 | 6.734 | 6.761 | -0.027 | 1.000 | 43096 | | 21.51(9.60-28.81) | | 373 | |
| D 9 13C2 PFHxA | | | | | | | | | | |
| 315.00 > 270.00 | 6.734 | 6.761 | -0.027 | | 2323721 | 0.0490 | | 97.9 | 27445 | |
| 11 Perfluoropentanesulfonic acid | | | | | | | | | | |
| 349.00 > 80.00 | 6.757 | 6.784 | -0.027 | 0.933 | 657263 | NC | Target=1.46 | | 1998 | |
| 349.00 > 99.00 | 6.757 | 6.784 | -0.027 | 0.933 | 464110 | | 1.42(0.73-2.19) | | 1522 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-------|--------|--------|--------|----------|--------------|------------------|------|-------|-------|
| D 12 13C3 HFPO-DA | | | | | | | | | | |
| 332.10 > 287.00 | 6.876 | 6.904 | -0.028 | | 147168 | NC | | | 790 | |
| 13 HPFO-DA | | | | | | | | | | |
| 329.10 > 285.00 | 6.876 | 6.904 | -0.028 | 1.000 | 146152 | NC | | | 160 | |
| 16 Perfluorohexanesulfonic acid | | | | | | | | | | |
| 399.00 > 80.00 | 7.244 | 7.285 | -0.041 | 1.000 | 611006 | 0.0162 | Target=5.70 | 88.8 | 2579 | |
| 399.00 > 99.00 | 7.244 | 7.285 | -0.041 | 1.000 | 115951 | | 5.27(2.85-8.55) | | 553 | |
| D 15 18O2 PFHxS | | | | | | | | | | |
| 403.00 > 84.00 | 7.244 | 7.285 | -0.041 | | 1569792 | 0.0478 | | 101 | 18522 | |
| 18 Perfluoroheptanoic acid | | | | | | | | | | |
| 363.00 > 319.00 | 7.263 | 7.285 | -0.022 | 1.000 | 976634 | 0.0204 | Target=9.14 | 102 | 276 | |
| 363.00 > 169.00 | 7.263 | 7.285 | -0.022 | 1.000 | 100747 | | 9.69(4.57-13.71) | | 1813 | |
| D 17 13C4 PFHpA | | | | | | | | | | |
| 367.00 > 322.00 | 7.263 | 7.285 | -0.022 | | 2449990 | 0.0490 | | 97.9 | 15749 | |
| 19 DONA | | | | | | | | | | |
| 377.00 > 251.00 | 7.318 | 7.341 | -0.023 | 0.871 | 3484616 | NC | Target=2.71 | | 12979 | |
| 377.00 > 85.00 | 7.318 | 7.341 | -0.023 | 0.871 | 1306871 | | 2.67(1.36-4.07) | | 4851 | |
| 23 6:2 FTS | | | | | | | | | | |
| 427.00 > 407.00 | 7.803 | 7.823 | -0.020 | 1.000 | 566568 | 0.0156 | Target=2.56 | 82.5 | 10561 | |
| 427.00 > 81.00 | 7.803 | 7.823 | -0.020 | 1.000 | 218386 | | 2.59(1.28-3.83) | | 926 | |
| D 22 M2-6:2 FTS | | | | | | | | | | |
| 429.00 > 81.00 | 7.803 | 7.823 | -0.020 | | 573708 | 0.0698 | | 147 | 2324 | |
| 21 Perfluoroheptanesulfonic acid | | | | | | | | | | |
| 449.00 > 80.00 | 7.803 | 7.840 | -0.037 | 0.928 | 555274 | 0.0185 | Target=6.98 | 97.0 | 2562 | |
| 449.00 > 99.00 | 7.803 | 7.840 | -0.037 | 0.928 | 74660 | | 7.44(3.49-10.47) | | 875 | |
| D 25 13C4 PFOA | | | | | | | | | | |
| 417.00 > 372.00 | 7.820 | 7.856 | -0.036 | | 3538673 | 0.0529 | | 106 | 17988 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | |
| 413.00 > 369.00 | 7.820 | 7.856 | -0.036 | 1.000 | 1240075 | 0.0192 | Target=1.58 | 96.2 | 267 | |
| 413.00 > 169.00 | 7.820 | 7.856 | -0.036 | 1.000 | 753455 | | 1.65(0.79-2.37) | | 5028 | |
| D 26 13C4 PFOS | | | | | | | | | | |
| 503.00 > 80.00 | 8.405 | 8.448 | -0.043 | | 1126068 | 0.0495 | | 104 | 6200 | |
| 27 Perfluorooctanesulfonic acid | | | | | | | | | | |
| 499.00 > 80.00 | 8.405 | 8.448 | -0.043 | 1.000 | 428090 | 0.0178 | Target=3.45 | 96.1 | 3517 | |
| 499.00 > 99.00 | 8.405 | 8.448 | -0.043 | 1.000 | 114182 | | 3.75(1.73-5.18) | | 753 | |
| D 28 13C5 PFNA | | | | | | | | | | |
| 468.00 > 423.00 | 8.422 | 8.465 | -0.043 | | 2685706 | 0.0541 | | 108 | 13782 | |
| 29 Perfluorononanoic acid | | | | | | | | | | |
| 463.00 > 419.00 | 8.422 | 8.465 | -0.043 | 1.000 | 1007206 | 0.0197 | Target=7.90 | 98.7 | 496 | |
| 463.00 > 169.00 | 8.422 | 8.465 | -0.043 | 1.000 | 129301 | | 7.79(3.95-11.85) | | 1629 | |
| D 30 13C8 FOSA | | | | | | | | | | |
| 506.00 > 78.00 | 8.951 | 8.966 | -0.015 | | 1307160 | 0.0414 | | 82.8 | 8996 | |
| 31 Perfluorooctanesulfonamide | | | | | | | | | | |
| 498.00 > 78.00 | 8.951 | 8.966 | -0.015 | 1.000 | 551959 | 0.0208 | | 104 | 4660 | |
| 32 Perfluorononanesulfonic acid | | | | | | | | | | |
| 549.00 > 80.00 | 8.983 | 9.044 | -0.061 | 1.069 | 387731 | NC | Target=6.35 | | 3706 | |
| 549.00 > 99.00 | 8.983 | 9.044 | -0.061 | 1.069 | 63667 | | 6.09(3.17-9.52) | | 524 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| D 33 13C2 PFDA | | | | | | | | | | |
| 515.00 > 470.00 | 9.029 | 9.075 | -0.046 | | 2481833 | 0.0526 | | 105 | 18139 | |
| 35 Perfluorodecanoic acid | | | | | | | | | | |
| 513.00 > 469.00 | 9.029 | 9.075 | -0.046 | 1.000 | 807901 | 0.0196 | Target=16.15 | 97.8 | 640 | |
| 513.00 > 169.00 | 9.029 | 9.075 | -0.046 | 1.000 | 48849 | | 16.54(8.08-24.23) | | 838 | |
| D 34 M2-8:2 FTS | | | | | | | | | | |
| 529.00 > 81.00 | 9.029 | 9.075 | -0.046 | | 492757 | 0.0643 | | 134 | 4400 | |
| 36 8:2 FTS | | | | | | | | | | |
| 527.00 > 507.00 | 9.029 | 9.075 | -0.046 | 1.000 | 507600 | 0.0209 | Target=2.35 | 109 | 3654 | |
| 527.00 > 81.00 | 9.029 | 9.075 | -0.046 | 1.000 | 206629 | | 2.46(1.17-3.52) | | 1181 | |
| 38 NMeFOSAA | | | | | | | | | | |
| 570.00 > 419.00 | 9.323 | 9.248 | 0.075 | 1.002 | 415284 | 0.0210 | Target=12.28 | 105 | 1560 | |
| 570.00 > 483.00 | 9.323 | 9.248 | 0.075 | 1.002 | 28953 | | 14.34(6.14-18.41) | | 505 | |
| D 37 d3-NMeFOSAA | | | | | | | | | | |
| 573.00 > 419.00 | 9.309 | 9.361 | -0.052 | | 1158132 | 0.0602 | | 120 | 5214 | |
| 43 NEtFOSA | | | | | | | | | | |
| 584.00 > 419.00 | 9.613 | 9.533 | 0.080 | 1.002 | 459461 | 0.0196 | Target=13.05 | 97.9 | 6418 | |
| 584.00 > 483.00 | 9.613 | 9.533 | 0.080 | 1.002 | 33693 | | 13.64(6.52-19.57) | | 239 | |
| 39 Perfluorodecanesulfonic acid | | | | | | | | | | |
| 599.00 > 80.00 | 9.549 | 9.597 | -0.048 | 1.136 | 286536 | 0.0183 | Target=2.51 | 94.7 | 2718 | |
| 599.00 > 99.00 | 9.549 | 9.597 | -0.048 | 1.136 | 112054 | | 2.56(1.26-3.77) | | 2205 | |
| 41 Perfluoroundecanoic acid | | | | | | | | | | |
| 563.00 > 519.00 | 9.597 | 9.645 | -0.048 | 1.000 | 794031 | 0.0196 | Target=20.47 | 98.2 | 648 | |
| 563.00 > 169.00 | 9.597 | 9.645 | -0.048 | 1.000 | 36437 | | 21.79(10.24-30.71) | | 709 | |
| D 42 13C2 PFUnA | | | | | | | | | | |
| 565.00 > 520.00 | 9.597 | 9.645 | -0.048 | | 2292913 | 0.0500 | | 99.9 | 24229 | |
| D 40 d5-NEtFOSAA | | | | | | | | | | |
| 589.00 > 419.00 | 9.597 | 9.661 | -0.064 | | 1346675 | 0.0617 | | 123 | 6209 | |
| 44 11C1FOS | | | | | | | | | | |
| 631.00 > 451.00 | 9.835 | 9.908 | -0.073 | 1.170 | 2061411 | NC | | | 3704 | |
| D 45 13C2 PFDaA | | | | | | | | | | |
| 615.00 > 570.00 | 10.131 | 10.197 | -0.066 | | 2405350 | 0.0500 | | 99.9 | 15386 | |
| 46 Perfluorododecanoic acid | | | | | | | | | | |
| 613.00 > 569.00 | 10.131 | 10.197 | -0.066 | 1.000 | 840912 | 0.0197 | Target=17.11 | 98.7 | 293 | |
| 613.00 > 169.00 | 10.131 | 10.197 | -0.066 | 1.000 | 54802 | | 15.34(8.55-25.66) | | 834 | |
| 47 10:2 FTS | | | | | | | | | | |
| 627.00 > 607.00 | 10.175 | 10.241 | -0.066 | 1.127 | 714752 | NC | Target=32.58 | | 4460 | |
| 627.00 > 81.00 | 10.175 | 10.241 | -0.066 | 1.127 | 19537 | | 36.58(16.29-48.87) | | 478 | |
| 48 PFDoS | | | | | | | | | | |
| 699.00 > 80.00 | 10.586 | 10.656 | -0.070 | 1.260 | 91935 | NC | Target=0.47 | | 1484 | |
| 699.00 > 99.00 | 10.586 | 10.656 | -0.070 | 1.260 | 199084 | | 0.46(0.24-0.71) | | 1655 | |
| 49 Perfluorotridecanoic acid | | | | | | | | | | |
| 663.00 > 619.00 | 10.657 | 10.727 | -0.070 | 1.052 | 872122 | 0.0152 | Target=18.64 | 75.8 | 236 | |
| 663.00 > 169.00 | 10.657 | 10.727 | -0.070 | 1.052 | 46421 | | 18.79(9.32-27.96) | | 908 | |
| D 51 13C2 PFTeDA | | | | | | | | | | |
| 715.00 > 670.00 | 11.160 | 11.233 | -0.073 | | 1607851 | 0.0286 | | 57.1 | 9049 | |

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|------|-------|
| 50 Perfluorotetradecanoic acid | | | | | | | | | | |
| 713.00 > 169.00 | 11.160 | 11.233 | -0.073 | 1.000 | 24031 | 0.0181 | Target=1.23 | 90.6 | 658 | |
| 713.00 > 219.00 | 11.160 | 11.233 | -0.073 | 1.000 | 20460 | | 1.17(0.62-1.85) | | 644 | |
| D 52 13C2 PFHxDA | | | | | | | | | | |
| 815.00 > 770.00 | 12.111 | 12.234 | -0.123 | | 1022868 | 0.0315 | | 62.9 | 4678 | |
| 54 Perfluorohexadecanoic acid | | | | | | | | | | |
| 813.00 > 769.00 | 12.111 | 12.234 | -0.123 | 1.000 | 396420 | 0.0194 | Target=29.80 | 96.8 | 211 | |
| 813.00 > 169.00 | 12.111 | 12.234 | -0.123 | 1.000 | 12941 | | 30.63(14.90-44.69) | | 343 | |
| 53 Perfluorooctadecanoic acid | | | | | | | | | | |
| 913.00 > 869.00 | 13.163 | 12.810 | 0.353 | 1.087 | 127641 | 0.0294 | Target=33.62 | 147 | 95.3 | |
| 913.00 > 169.00 | 13.153 | 12.810 | 0.343 | 1.086 | 3407 | | 37.46(16.81-50.42) | | 95.0 | |

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

LCPFC-LL-L5_00035

Amount Added: 1.00

Units: mL

Eurofins TestAmerica, Sacramento

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_031.d

Injection Date: 13-Feb-2021 17:49:38

Instrument ID: A10

Lims ID: CCV L5

Client ID:

Operator ID: Sac_inst_A10

ALS Bottle#: 31

Worklist Smp#: 24

Injection Vol: 950.0 ul

Dil. Factor: 1.0000

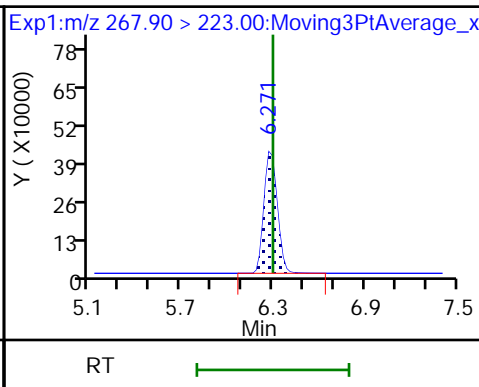
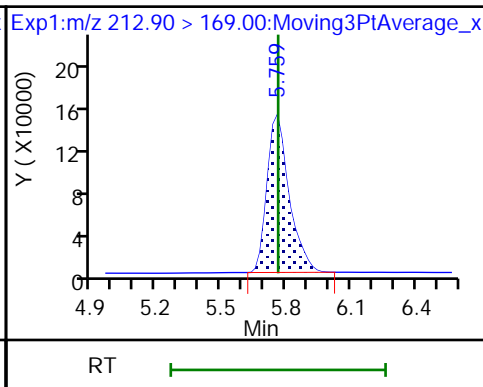
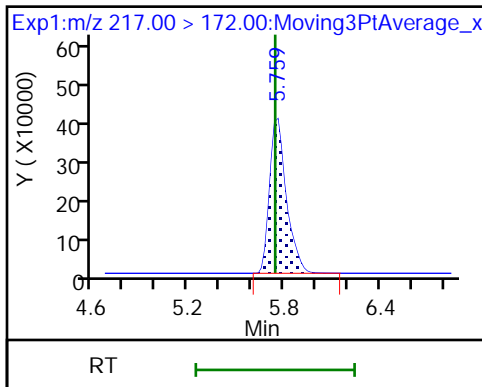
Method: A10_In_Line_SPE

Limit Group: LC PFAS_DW ICAL

D 2 13C4 PFBA

1 Perfluorobutanoic acid

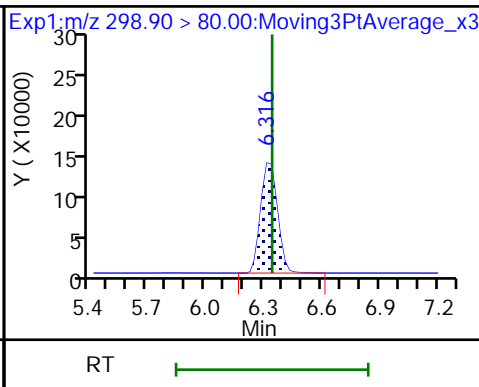
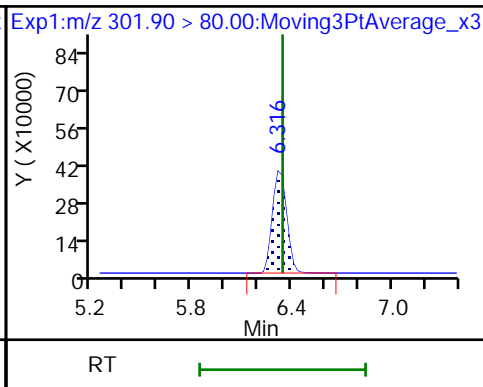
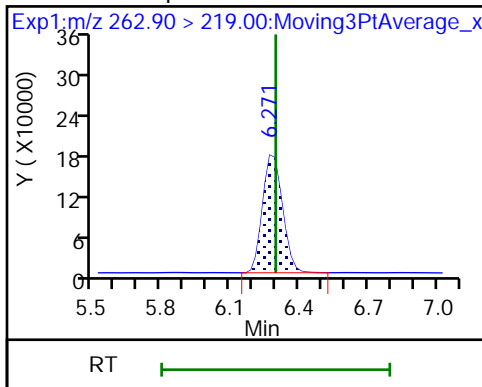
D 4 13C5 PFPeA



5 Perfluoropentanoic acid

D 3 13C3 PFBS

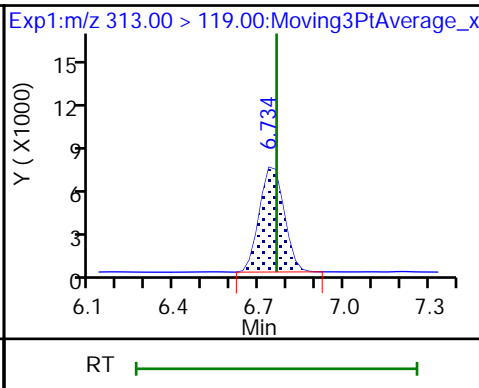
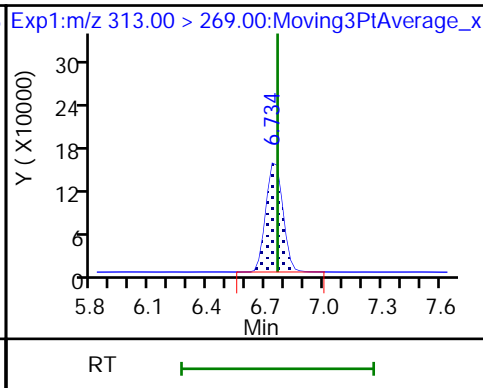
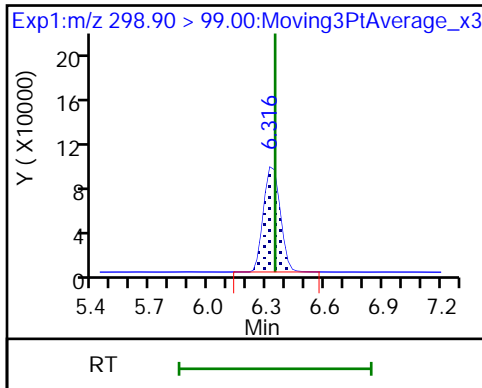
6 Perfluorobutanesulfonic acid



6 Perfluorobutanesulfonic acid

10 Perfluorohexanoic acid

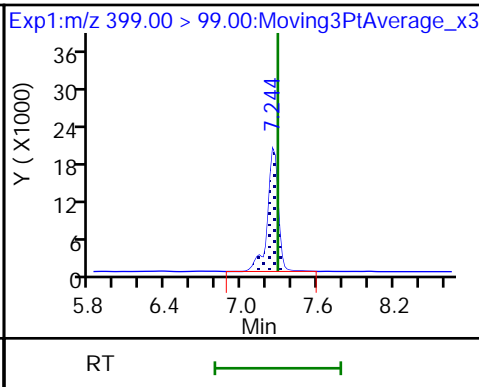
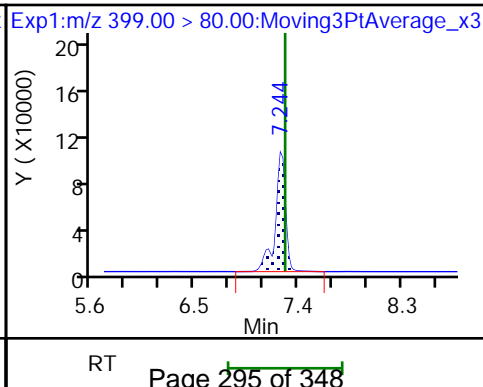
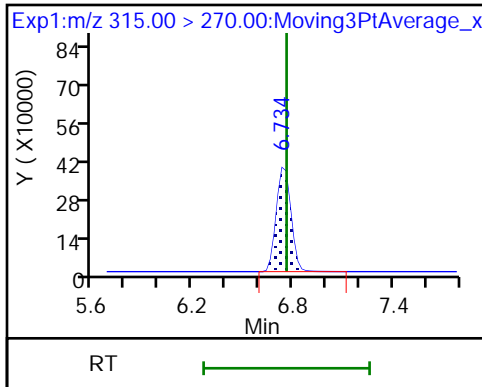
10 Perfluorohexanoic acid



D 9 13C2 PFHxA

16 Perfluorohexanesulfonic acid

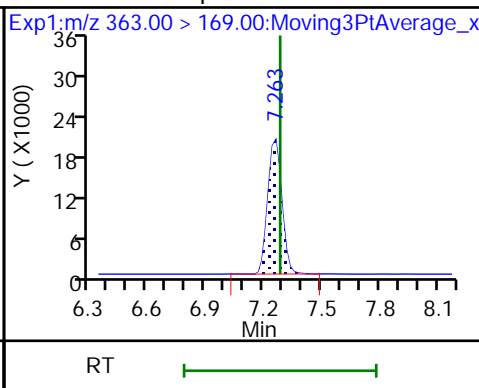
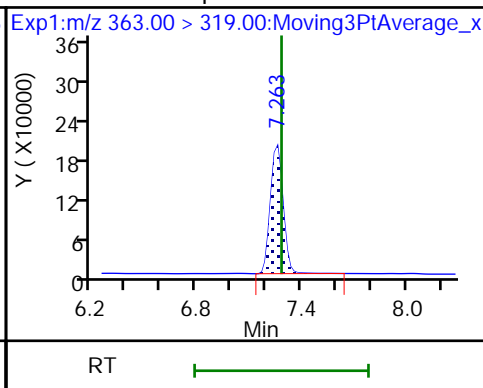
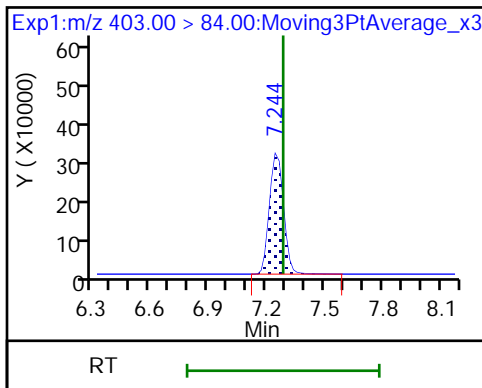
16 Perfluorohexanesulfonic acid



D 15 18O2 PFHxS

18 Perfluoroheptanoic acid

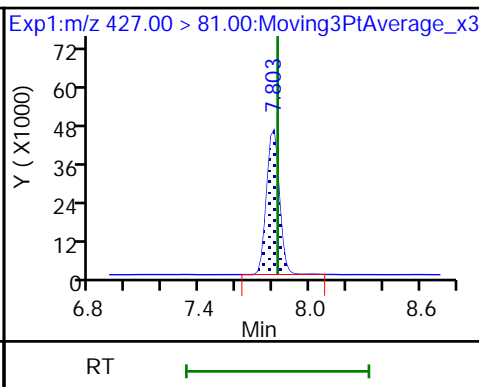
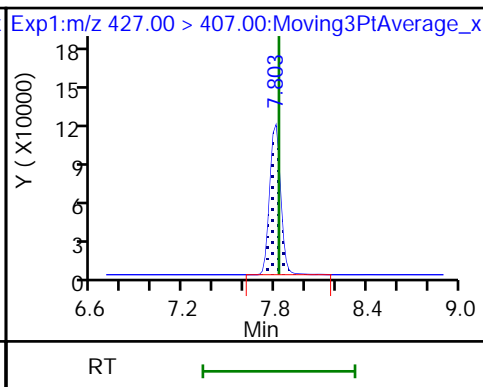
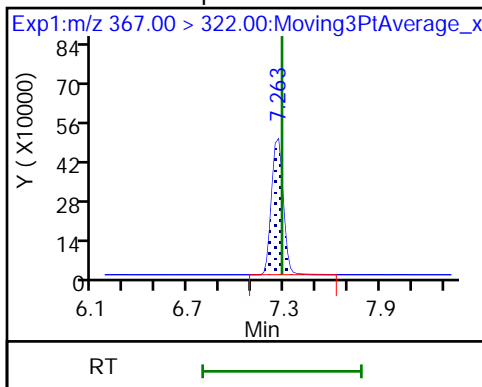
18 Perfluoroheptanoic acid



D 17 13C4 PFHpA

23 6:2 FTS

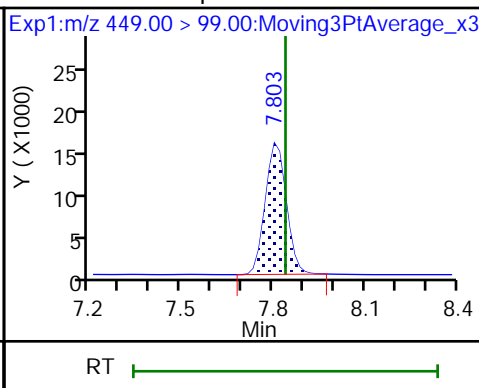
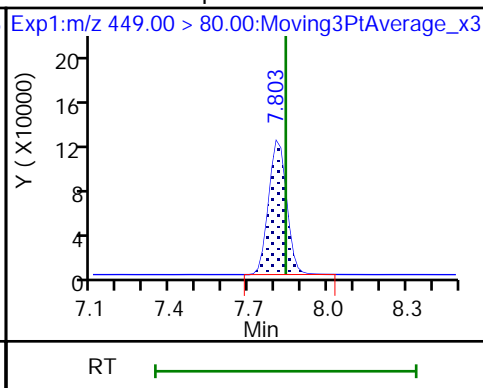
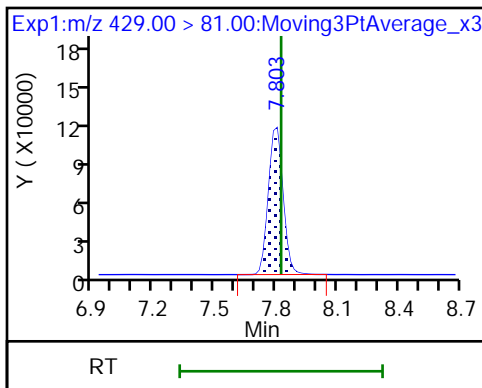
23 6:2 FTS



D 22 M2-6:2 FTS

21 Perfluoroheptanesulfonic acid

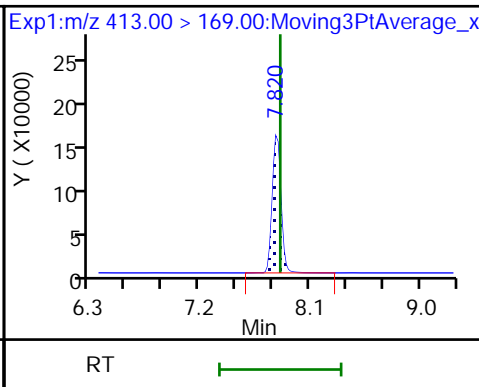
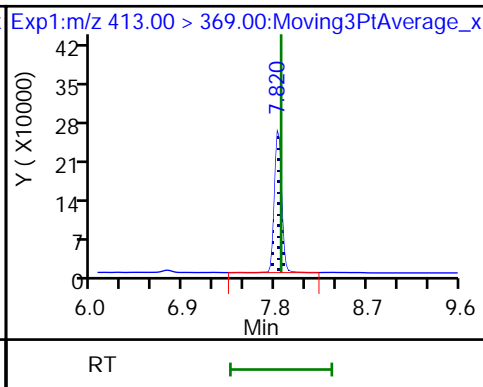
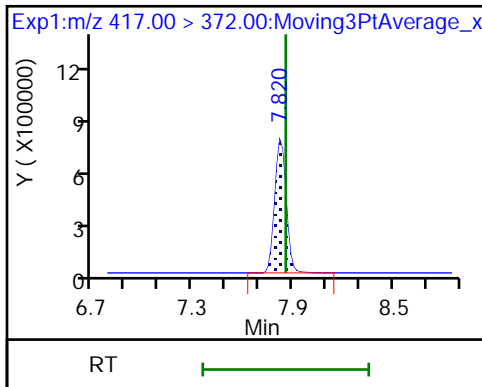
21 Perfluoroheptanesulfonic acid



D 25 13C4 PFOA

24 Perfluorooctanoic acid

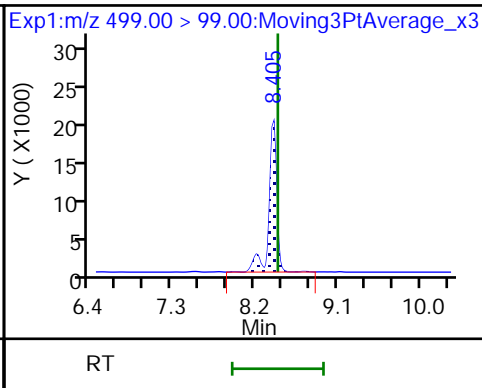
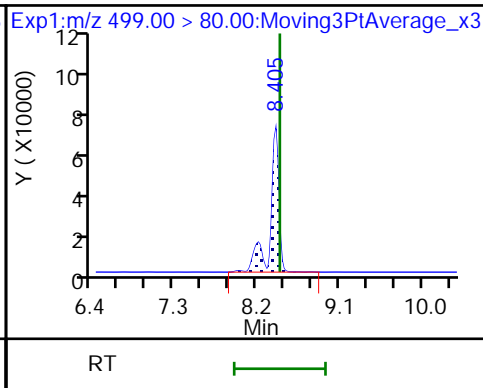
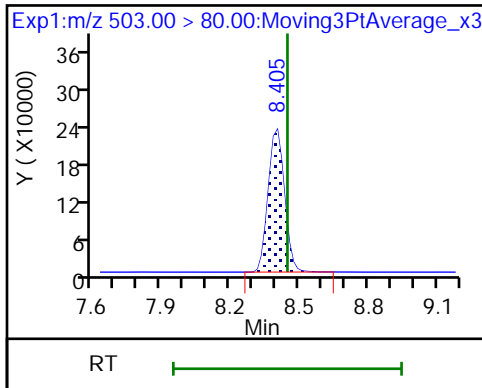
24 Perfluorooctanoic acid



D 26 13C4 PFOS

27 Perfluorooctanesulfonic acid

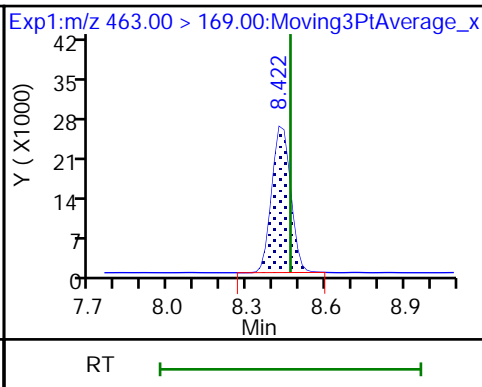
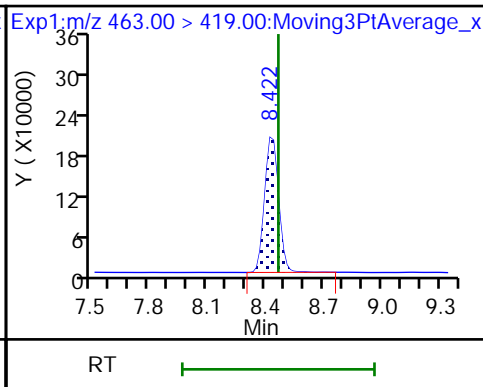
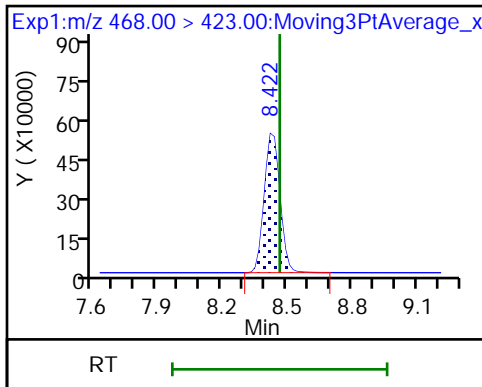
27 Perfluorooctanesulfonic acid



D 28 13C5 PFNA

29 Perfluorononanoic acid

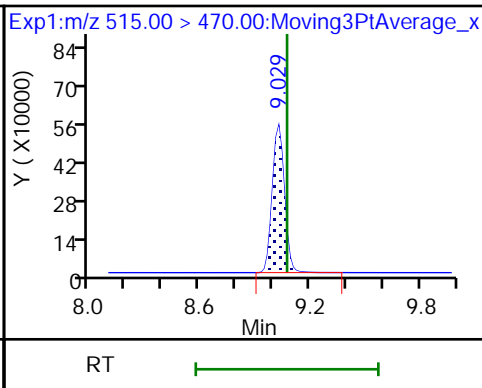
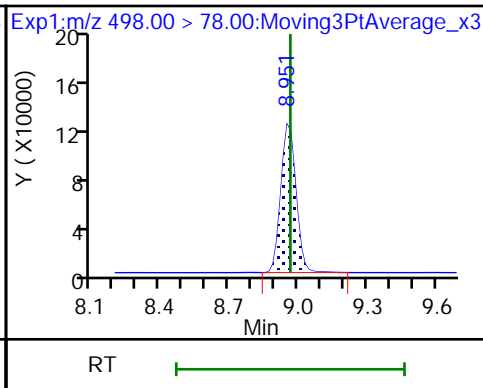
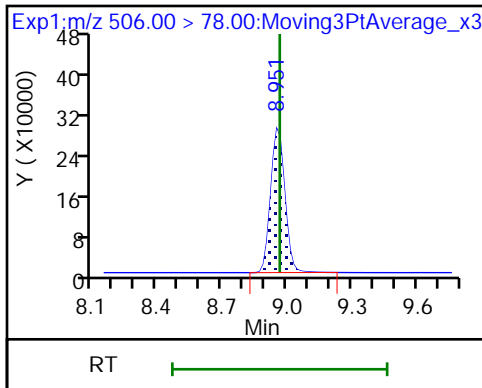
29 Perfluorononanoic acid



D 30 13C8 FOSA

31 Perfluorooctanesulfonamide

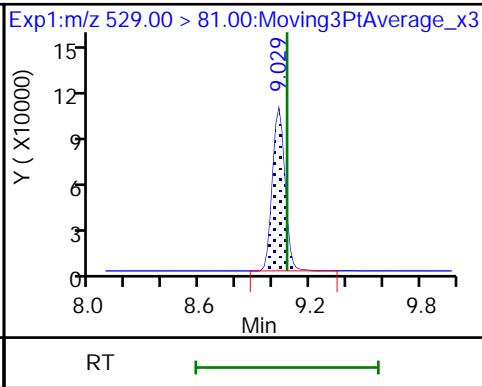
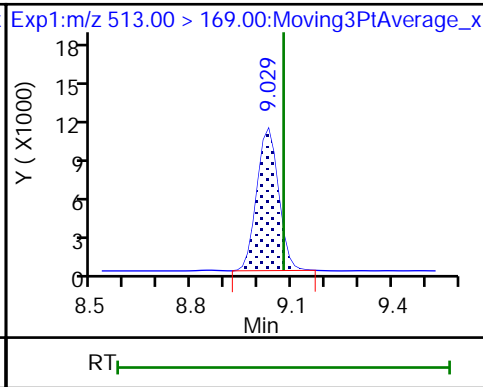
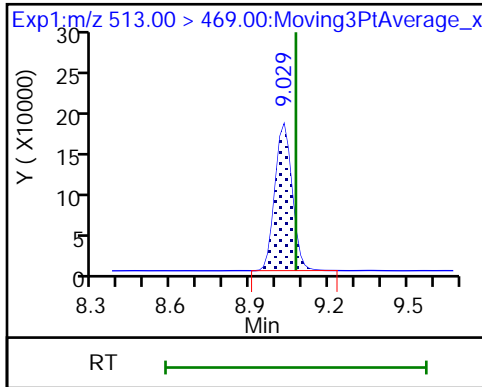
D 33 13C2 PFDA

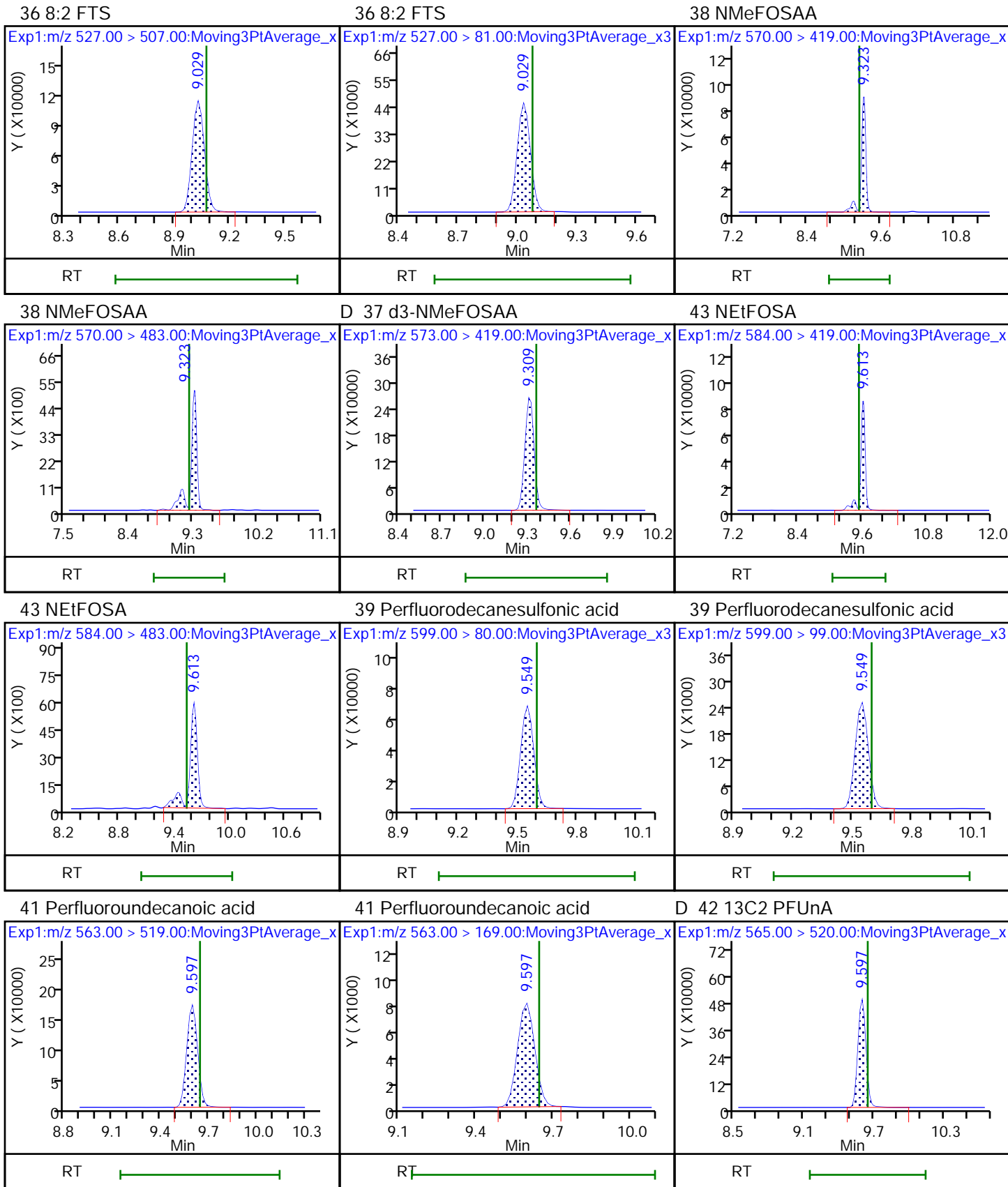


35 Perfluorodecanoic acid

35 Perfluorodecanoic acid

D 34 M2-8:2 FTS

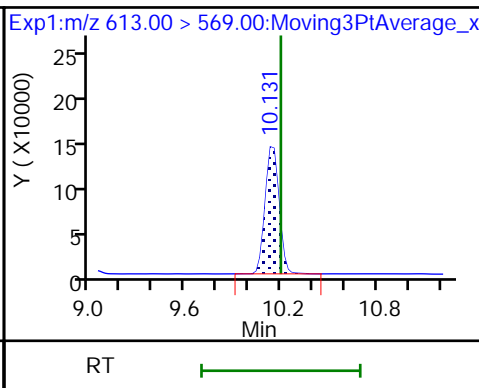
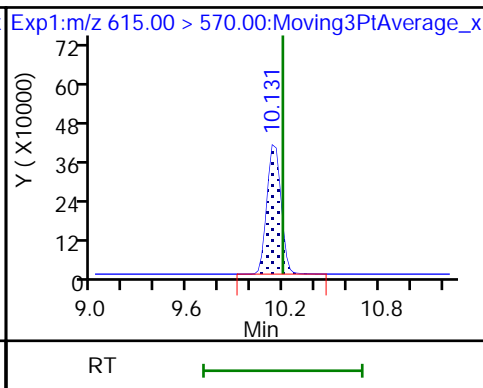
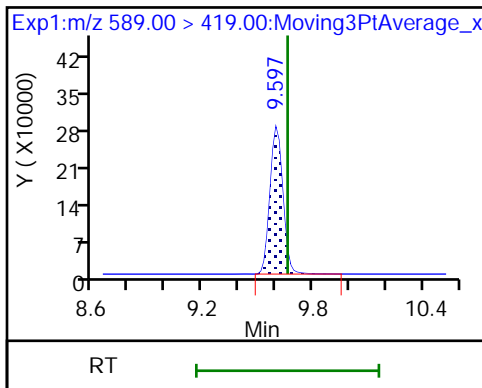




D 40 d5-NEtFOSAA

D 45 13C2 PFDoA

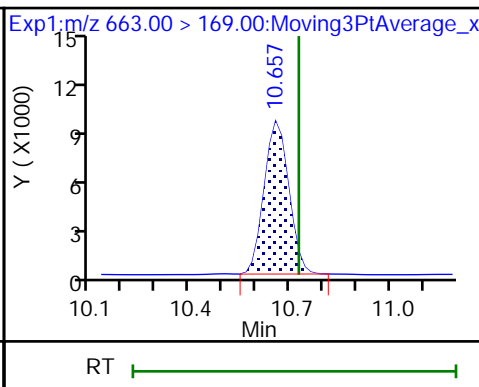
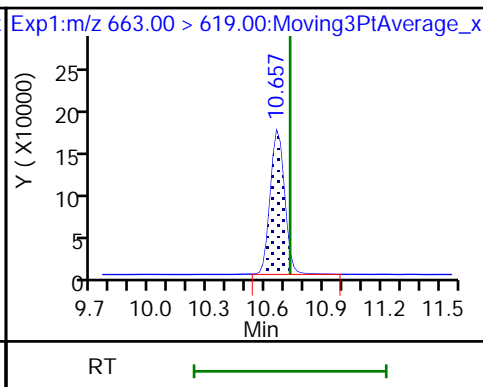
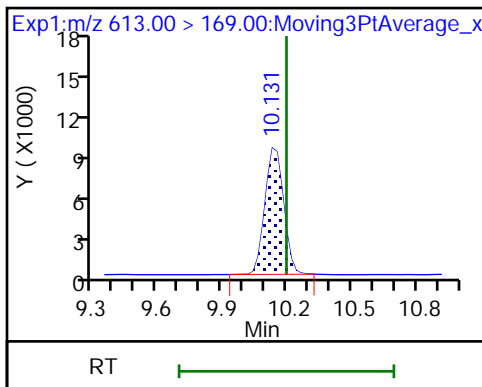
46 Perfluorododecanoic acid



46 Perfluorododecanoic acid

49 Perfluorotridecanoic acid

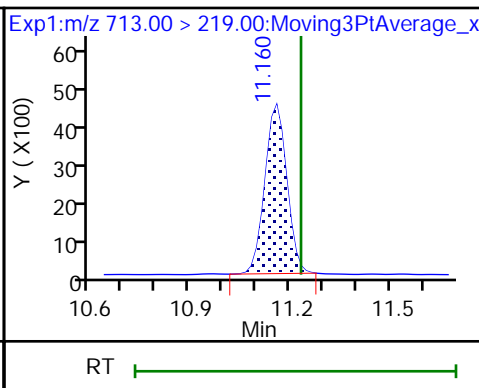
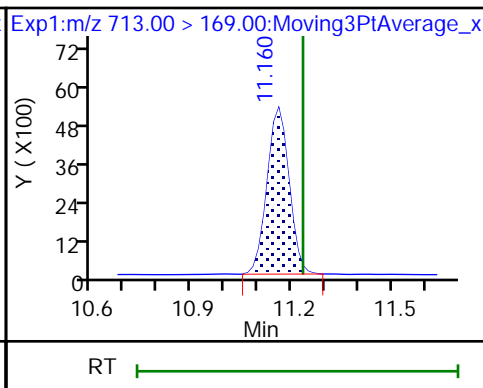
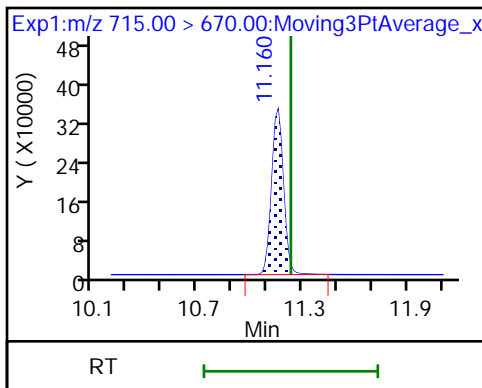
49 Perfluorotridecanoic acid



D 51 13C2 PFTeDA

50 Perfluorotetradecanoic acid

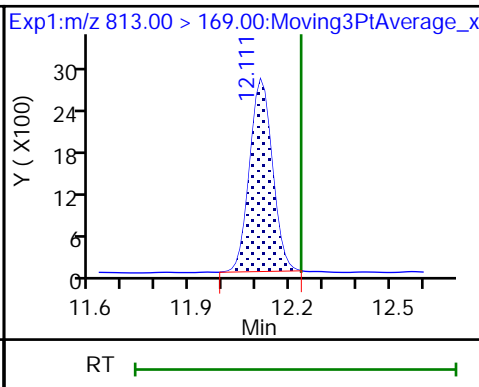
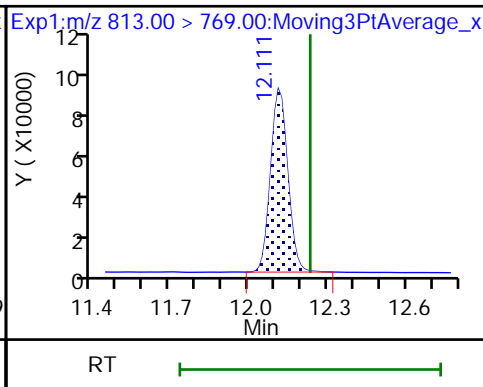
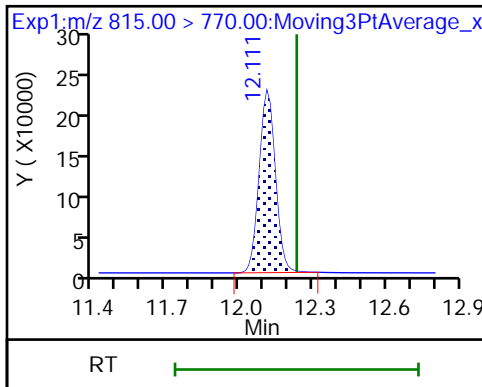
50 Perfluorotetradecanoic acid



D 52 13C2 PFHxDA

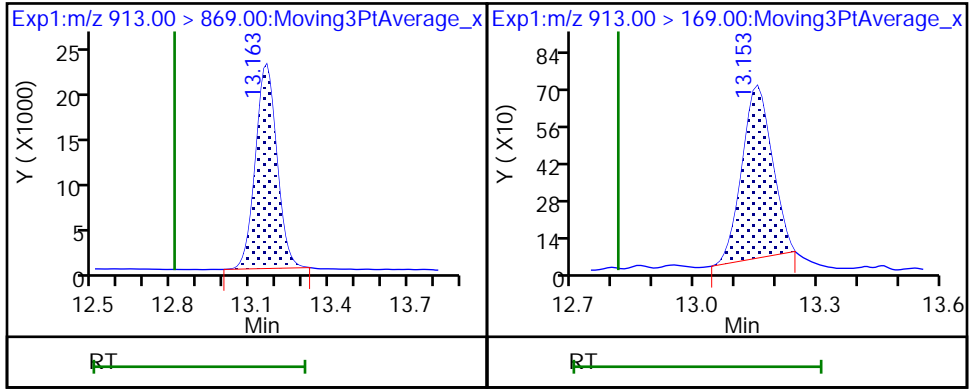
54 Perfluorohexadecanoic acid

54 Perfluorohexadecanoic acid



53 Perfluorooctadecanoic acid

53 Perfluorooctadecanoic acid



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Lab Sample ID: CCV 320-461813/27 Calibration Date: 02/13/2021 18:44
 Instrument ID: A10 Calib Start Date: 02/09/2021 10:37
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/09/2021 12:46
 Lab File ID: 2021.02.13_A10_DI_A_034.d Conc. Units: ng/L

| ANALYTE | CURVE TYPE | AVE RRF | RRF | MIN RRF | CALC AMOUNT | SPIKE AMOUNT | %D | MAX %D |
|--|------------|----------|----------|---------|-------------|--------------|--------|--------|
| Perfluorobutanoic acid | AveID | 0.8917 | 0.8701 | | 48.8 | 50.0 | -2.4 | 40.0 |
| Perfluoropentanoic acid | AveID | 1.082 | 1.056 | | 48.8 | 50.0 | -2.4 | 40.0 |
| Perfluorobutanesulfonic acid (PFBS) | AveID | 1.048 | 1.023 | | 43.1 | 44.2 | -2.4 | 40.0 |
| Perfluorohexanoic acid | AveID | 0.9919 | 0.9682 | | 48.8 | 50.0 | -2.4 | 40.0 |
| Perfluoroheptanoic acid (PFHpA) | AveID | 0.9757 | 0.9549 | | 48.9 | 50.0 | -2.1 | 40.0 |
| Perfluorohexanesulfonic acid (PFHxS) | AveID | 1.139 | 1.059 | | 42.3 | 45.5 | -7.1 | 40.0 |
| 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2) | AveID | 2.999 | 2.548 | | 40.3 | 47.4 | -15.0 | 40.0 |
| Perfluoroheptanesulfonic acid | AveID | 1.276 | 1.260 | | 47.0 | 47.6 | -1.2 | 50.0 |
| Perfluorooctanoic acid (PFOA) | AveID | 0.9103 | 0.9238 | | 50.7 | 50.0 | 1.5 | 40.0 |
| Perfluorooctanesulfonic acid (PFOS) | AveID | 1.019 | 1.064 | | 48.4 | 46.4 | 4.4 | 40.0 |
| Perfluorononanoic acid (PFNA) | AveID | 0.9499 | 0.9302 | | 49.0 | 50.0 | -2.1 | 40.0 |
| Perfluorooctanesulfonamide | AveID | 1.014 | 0.9852 | | 48.6 | 50.0 | -2.8 | 40.0 |
| 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2) | AveID | 2.362 | 2.414 | | 49.0 | 47.9 | 2.2 | 40.0 |
| Perfluorodecanoic acid | AveID | 0.8319 | 0.8327 | | 50.0 | 50.0 | 0.0 | 40.0 |
| N-methylperfluorooctanesulfonamidoacetic acid | AveID | 0.8548 | 0.9052 | | 53.0 | 50.0 | 5.9 | 40.0 |
| Perfluorodecanesulfonic acid | AveID | 0.6664 | 0.6625 | | 47.9 | 48.2 | -0.6 | 50.0 |
| Perfluoroundecanoic acid | AveID | 0.8819 | 0.9271 | | 52.6 | 50.0 | 5.1 | 40.0 |
| N-ethylperfluorooctanesulfonamidoacetic acid | AveID | 0.8713 | 0.8780 | | 50.4 | 50.0 | 0.8 | 40.0 |
| Perfluorododecanoic acid | AveID | 0.8858 | 0.9117 | | 51.5 | 50.0 | 2.9 | 40.0 |
| Perfluorotridecanoic acid | AveID | 1.196 | 0.998 | | 41.7 | 50.0 | -16.5 | 50.0 |
| Perfluorotetradecanoic acid | AveID | 0.0412 | 0.0446 | | 54.1 | 50.0 | 8.2 | 40.0 |
| Perfluorohexadecanoic acid | AveID | 1.001 | 0.9613 | | 48.0 | 50.0 | -4.0 | 50.0 |
| Perfluorooctadecanoic acid | AveID | 0.2124 | 0.4663 | | 110 | 50.0 | 119.5* | 50.0 |
| 13C4 PFBA | Ave | 58729800 | 55327760 | | 47.1 | 50.0 | -5.8 | 50.0 |
| 13C5 PFPeA | Ave | 43934310 | 43445540 | | 49.4 | 50.0 | -1.1 | 50.0 |
| 13C3 PFBS | Ave | 40751425 | 39172086 | | 44.7 | 46.5 | -3.9 | 50.0 |
| 13C2 PFHxA | Ave | 47448103 | 44888900 | | 47.3 | 50.0 | -5.4 | 50.0 |
| 13C4 PFHpA | Ave | 50044460 | 50003300 | | 50.0 | 50.0 | -0.0 | 50.0 |
| 18O2 PFHxS | Ave | 32862487 | 31136638 | | 44.8 | 47.3 | -5.3 | 50.0 |
| M2-6:2 FTS | Ave | 8214492 | 11164253 | | 64.6 | 47.5 | 35.9 | 50.0 |
| 13C4 PFOA | Ave | 66909148 | 63619620 | | 47.5 | 50.0 | -4.9 | 50.0 |
| 13C4 PFOS | Ave | 22745047 | 21530397 | | 45.2 | 47.8 | -5.3 | 50.0 |
| 13C5 PFNA | Ave | 49685090 | 50444600 | | 50.8 | 50.0 | 1.5 | 50.0 |
| 13C8 FOSA | Ave | 31560048 | 29445040 | | 46.6 | 50.0 | -6.7 | 50.0 |
| 13C2 PFDA | Ave | 47208335 | 47033800 | | 49.8 | 50.0 | -0.4 | 50.0 |
| M2-8:2 FTS | Ave | 7658823 | 9158622 | | 57.3 | 47.9 | 19.6 | 50.0 |

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Lab Sample ID: CCV 320-461813/27 Calibration Date: 02/13/2021 18:44
 Instrument ID: A10 Calib Start Date: 02/09/2021 10:37
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/09/2021 12:46
 Lab File ID: 2021.02.13_A10_DI_A_034.d Conc. Units: ng/L

| ANALYTE | CURVE TYPE | AVE CF | CF | MIN CF | CALC AMOUNT | SPIKE AMOUNT | %D | MAX %D |
|-------------|------------|----------|----------|--------|-------------|--------------|--------|--------|
| d3-NMeFOSAA | Ave | 19233788 | 22084280 | | 57.4 | 50.0 | 14.8 | 50.0 |
| 13C2 PFUnA | Ave | 45893880 | 41396020 | | 45.1 | 50.0 | -9.8 | 50.0 |
| d5-NEtFOSAA | Ave | 21832320 | 24697040 | | 56.6 | 50.0 | 13.1 | 50.0 |
| 13C2 PFDoA | Ave | 48155063 | 45783660 | | 47.5 | 50.0 | -4.9 | 50.0 |
| 13C2 PFTeDA | Ave | 56290190 | 41075720 | | 36.5 | 50.0 | -27.0 | 50.0 |
| 13C2 PFHxDA | Ave | 32512703 | 69884480 | | 107 | 50.0 | 114.9* | 50.0 |

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_034.d
 Lims ID: CCV L6
 Client ID:
 Sample Type: CCV
 Inject. Date: 13-Feb-2021 18:44:55 ALS Bottle#: 34 Worklist Smp#: 27
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: CCV L6
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Sublist: chrom-A10_In_Line_SPE*sub12
 Method: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 15-Feb-2021 10:36:38 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1642

First Level Reviewer: ruangyotsakuld Date: 15-Feb-2021 10:36:38

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 2 13C4 PFBA | | | | | | | | | | |
| 217.00 > 172.00 | 5.739 | 5.742 | -0.003 | | 2766388 | 0.0471 | | 94.2 | 17902 | |
| 1 Perfluorobutanoic acid | | | | | | | | | | |
| 212.90 > 169.00 | 5.739 | 5.763 | -0.024 | 1.000 | 2407085 | 0.0488 | | 97.6 | 1026 | |
| D 4 13C5 PFPeA | | | | | | | | | | |
| 267.90 > 223.00 | 6.271 | 6.297 | -0.026 | | 2172277 | 0.0494 | | 98.9 | 16588 | |
| 5 Perfluoropentanoic acid | | | | | | | | | | |
| 262.90 > 219.00 | 6.271 | 6.297 | -0.026 | 1.000 | 2293827 | 0.0488 | | 97.6 | 780 | |
| D 3 13C3 PFBS | | | | | | | | | | |
| 301.90 > 80.00 | 6.316 | 6.343 | -0.027 | | 1821502 | 0.0447 | | 96.1 | 5911 | |
| 6 Perfluorobutanesulfonic acid | | | | | | | | | | |
| 298.90 > 80.00 | 6.316 | 6.343 | -0.027 | 1.000 | 1771003 | 0.0431 | Target=1.49 | 97.6 | 3816 | |
| 298.90 > 99.00 | 6.316 | 6.343 | -0.027 | 1.000 | 1244149 | | 1.42(0.74-2.23) | | 2274 | |
| 8 4:2 FTS | | | | | | | | | | |
| 327.00 > 307.00 | 6.688 | 6.715 | -0.027 | 1.000 | 1050992 | NC | Target=2.63 | | 8344 | |
| 327.00 > 81.00 | 6.688 | 6.715 | -0.027 | 1.000 | 398698 | | 2.64(1.32-3.95) | | 1166 | |
| D 7 M2-4:2 FTS | | | | | | | | | | |
| 329.00 > 81.00 | 6.688 | 6.715 | -0.027 | | 389349 | NC | | | 1141 | |
| 10 Perfluorohexanoic acid | | | | | | | | | | |
| 313.00 > 269.00 | 6.734 | 6.761 | -0.027 | 1.000 | 2173067 | 0.0488 | Target=19.21 | 97.6 | 1880 | |
| 313.00 > 119.00 | 6.734 | 6.761 | -0.027 | 1.000 | 105068 | | 20.68(9.60-28.81) | | 983 | |
| D 9 13C2 PFHxA | | | | | | | | | | |
| 315.00 > 270.00 | 6.734 | 6.761 | -0.027 | | 2244445 | 0.0473 | | 94.6 | 16347 | |
| 11 Perfluoropentanesulfonic acid | | | | | | | | | | |
| 349.00 > 80.00 | 6.757 | 6.784 | -0.027 | 0.933 | 1613555 | NC | Target=1.46 | | 3110 | |
| 349.00 > 99.00 | 6.757 | 6.784 | -0.027 | 0.933 | 1110631 | | 1.45(0.73-2.19) | | 3273 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-------|--------|--------|--------|----------|--------------|------------------|------|-------|-------|
| D 12 13C3 HFPO-DA | | | | | | | | | | |
| 332.10 > 287.00 | 6.876 | 6.904 | -0.028 | | 108259 | NC | | | 667 | |
| 13 HPFO-DA | | | | | | | | | | |
| 329.10 > 285.00 | 6.876 | 6.904 | -0.028 | 1.000 | 349232 | NC | | | 446 | |
| 14 9CIFOS | | | | | | | | | | |
| 531.00 > 351.00 | 7.100 | 7.159 | -0.059 | 0.845 | 2665 | NC | | | 2.3 | |
| 16 Perfluorohexanesulfonic acid | | | | | | | | | | |
| 399.00 > 80.00 | 7.244 | 7.285 | -0.041 | 1.000 | 1499622 | 0.0423 | Target=5.70 | 92.9 | 3670 | |
| 399.00 > 99.00 | 7.244 | 7.285 | -0.041 | 1.000 | 278269 | | 5.39(2.85-8.55) | | 1573 | |
| D 15 18O2 PFHxS | | | | | | | | | | |
| 403.00 > 84.00 | 7.244 | 7.285 | -0.041 | | 1472763 | 0.0448 | | 94.7 | 13566 | |
| 18 Perfluoroheptanoic acid | | | | | | | | | | |
| 363.00 > 319.00 | 7.244 | 7.285 | -0.041 | 1.000 | 2387440 | 0.0489 | Target=9.14 | 97.9 | 631 | |
| 363.00 > 169.00 | 7.244 | 7.285 | -0.041 | 1.000 | 266600 | | 8.96(4.57-13.71) | | 3037 | |
| D 17 13C4 PFHpA | | | | | | | | | | |
| 367.00 > 322.00 | 7.244 | 7.285 | -0.041 | | 2500165 | 0.0500 | | 99.9 | 12002 | |
| 19 DONA | | | | | | | | | | |
| 377.00 > 251.00 | 7.300 | 7.341 | -0.041 | 0.869 | 8954589 | NC | Target=2.71 | | 19674 | |
| 377.00 > 85.00 | 7.300 | 7.341 | -0.041 | 0.869 | 3419478 | | 2.62(1.36-4.07) | | 10125 | |
| 23 6:2 FTS | | | | | | | | | | |
| 427.00 > 407.00 | 7.787 | 7.823 | -0.036 | 1.000 | 1348153 | 0.0403 | Target=2.56 | 85.0 | 10054 | |
| 427.00 > 81.00 | 7.787 | 7.823 | -0.036 | 1.000 | 505044 | | 2.67(1.28-3.83) | | 1391 | |
| D 22 M2-6:2 FTS | | | | | | | | | | |
| 429.00 > 81.00 | 7.787 | 7.823 | -0.036 | | 530302 | 0.0646 | | 136 | 1360 | |
| 21 Perfluoroheptanesulfonic acid | | | | | | | | | | |
| 449.00 > 80.00 | 7.803 | 7.840 | -0.037 | 0.929 | 1291599 | 0.0470 | Target=6.98 | 98.8 | 4624 | |
| 449.00 > 99.00 | 7.803 | 7.840 | -0.037 | 0.929 | 186590 | | 6.92(3.49-10.47) | | 1819 | |
| D 25 13C4 PFOA | | | | | | | | | | |
| 417.00 > 372.00 | 7.820 | 7.856 | -0.036 | | 3180981 | 0.0475 | | 95.1 | 15501 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | |
| 413.00 > 369.00 | 7.820 | 7.856 | -0.036 | 1.000 | 2938502 | 0.0507 | Target=1.58 | 101 | 604 | |
| 413.00 > 169.00 | 7.820 | 7.856 | -0.036 | 1.000 | 1774011 | | 1.66(0.79-2.37) | | 6267 | |
| D 26 13C4 PFOS | | | | | | | | | | |
| 503.00 > 80.00 | 8.401 | 8.448 | -0.047 | | 1029153 | 0.0452 | | 94.7 | 5484 | |
| 27 Perfluorooctanesulfonic acid | | | | | | | | | | |
| 499.00 > 80.00 | 8.401 | 8.448 | -0.047 | 1.000 | 1062842 | 0.0484 | Target=3.45 | 104 | 6534 | |
| 499.00 > 99.00 | 8.401 | 8.448 | -0.047 | 1.000 | 305691 | | 3.48(1.73-5.18) | | 2978 | |
| D 28 13C5 PFNA | | | | | | | | | | |
| 468.00 > 423.00 | 8.419 | 8.465 | -0.046 | | 2522230 | 0.0508 | | 102 | 13934 | |
| 29 Perfluorononanoic acid | | | | | | | | | | |
| 463.00 > 419.00 | 8.419 | 8.465 | -0.046 | 1.000 | 2346269 | 0.0490 | Target=7.90 | 97.9 | 1101 | |
| 463.00 > 169.00 | 8.419 | 8.465 | -0.046 | 1.000 | 311332 | | 7.54(3.95-11.85) | | 3110 | |
| D 30 13C8 FOSA | | | | | | | | | | |
| 506.00 > 78.00 | 8.962 | 8.966 | -0.004 | | 1472252 | 0.0466 | | 93.3 | 5085 | |
| 31 Perfluorooctanesulfonamide | | | | | | | | | | |
| 498.00 > 78.00 | 8.962 | 8.966 | -0.004 | 1.000 | 1450453 | 0.0486 | | 97.2 | 4514 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| 32 Perfluorononanesulfonic acid | | | | | | | | | | |
| 549.00 > 80.00 | 8.978 | 9.044 | -0.066 | 1.069 | 923738 | NC | Target=6.35 | | 6824 | |
| 549.00 > 99.00 | 8.978 | 9.044 | -0.066 | 1.069 | 160513 | | 5.75(3.17-9.52) | | 1226 | |
| D 33 13C2 PFDA | | | | | | | | | | |
| 515.00 > 470.00 | 9.026 | 9.075 | -0.049 | | 2351690 | 0.0498 | | 99.6 | 15459 | |
| 35 Perfluorodecanoic acid | | | | | | | | | | |
| 513.00 > 469.00 | 9.026 | 9.075 | -0.049 | 1.000 | 1958214 | 0.0500 | Target=16.15 | 100 | 1404 | |
| 513.00 > 169.00 | 9.026 | 9.075 | -0.049 | 1.000 | 124287 | | 15.76(8.08-24.23) | | 555 | |
| D 34 M2-8:2 FTS | | | | | | | | | | |
| 529.00 > 81.00 | 9.026 | 9.075 | -0.049 | | 438698 | 0.0573 | | 120 | 3627 | |
| 36 8:2 FTS | | | | | | | | | | |
| 527.00 > 507.00 | 9.026 | 9.075 | -0.049 | 1.000 | 1059073 | 0.0490 | Target=2.35 | 102 | 8893 | |
| 527.00 > 81.00 | 9.026 | 9.075 | -0.049 | 1.000 | 468190 | | 2.26(1.17-3.52) | | 2542 | |
| 38 NMeFOSAA | | | | | | | | | | |
| 570.00 > 419.00 | 9.324 | 9.248 | 0.076 | 1.001 | 999556 | 0.0530 | Target=12.28 | 106 | 2876 | |
| 570.00 > 483.00 | 9.310 | 9.248 | 0.062 | 1.000 | 75715 | | 13.20(6.14-18.41) | | 900 | |
| D 37 d3-NMeFOSAA | | | | | | | | | | |
| 573.00 > 419.00 | 9.310 | 9.361 | -0.051 | | 1104214 | 0.0574 | | 115 | 4237 | |
| 43 NEtFOSA | | | | | | | | | | |
| 584.00 > 419.00 | 9.614 | 9.533 | 0.081 | 1.002 | 1084234 | 0.0504 | Target=13.05 | 101 | 11855 | |
| 584.00 > 483.00 | 9.598 | 9.533 | 0.065 | 1.000 | 64359 | | 16.85(6.52-19.57) | | 78.3 | |
| 39 Perfluorodecanesulfonic acid | | | | | | | | | | |
| 599.00 > 80.00 | 9.550 | 9.597 | -0.047 | 1.137 | 687562 | 0.0479 | Target=2.51 | 99.4 | 5828 | |
| 599.00 > 99.00 | 9.550 | 9.597 | -0.047 | 1.137 | 282373 | | 2.43(1.26-3.77) | | 3343 | |
| 41 Perfluoroundecanoic acid | | | | | | | | | | |
| 563.00 > 519.00 | 9.598 | 9.645 | -0.047 | 1.002 | 1918966 | 0.0526 | Target=20.47 | 105 | 1450 | |
| 563.00 > 169.00 | 9.598 | 9.645 | -0.047 | 1.002 | 91155 | | 21.05(10.24-30.71) | | 1187 | |
| D 42 13C2 PFUnA | | | | | | | | | | |
| 565.00 > 520.00 | 9.582 | 9.645 | -0.063 | | 2069801 | 0.0451 | | 90.2 | 18730 | |
| D 40 d5-NEtFOSAA | | | | | | | | | | |
| 589.00 > 419.00 | 9.598 | 9.661 | -0.063 | | 1234852 | 0.0566 | | 113 | 6582 | |
| 44 11C1FOS | | | | | | | | | | |
| 631.00 > 451.00 | 9.836 | 9.908 | -0.072 | 1.171 | 4789532 | NC | | | 9166 | |
| D 45 13C2 PFDoA | | | | | | | | | | |
| 615.00 > 570.00 | 10.132 | 10.197 | -0.065 | | 2289183 | 0.0475 | | 95.1 | 13001 | |
| 46 Perfluorododecanoic acid | | | | | | | | | | |
| 613.00 > 569.00 | 10.132 | 10.197 | -0.065 | 1.000 | 2087040 | 0.0515 | Target=17.11 | 103 | 745 | |
| 613.00 > 169.00 | 10.132 | 10.197 | -0.065 | 1.000 | 125596 | | 16.62(8.55-25.66) | | 1347 | |
| 47 10:2 FTS | | | | | | | | | | |
| 627.00 > 607.00 | 10.154 | 10.241 | -0.087 | 1.125 | 1747898 | NC | Target=32.58 | | 12749 | |
| 627.00 > 81.00 | 10.154 | 10.241 | -0.087 | 1.125 | 50973 | | 34.29(16.29-48.87) | | 957 | |
| 48 PFDoS | | | | | | | | | | |
| 699.00 > 80.00 | 10.586 | 10.656 | -0.070 | 1.260 | 253729 | NC | Target=0.47 | | 2947 | |
| 699.00 > 99.00 | 10.586 | 10.656 | -0.070 | 1.260 | 506986 | | 0.50(0.24-0.71) | | 3652 | |
| 49 Perfluorotridecanoic acid | | | | | | | | | | |
| 663.00 > 619.00 | 10.656 | 10.727 | -0.071 | 1.052 | 2283939 | 0.0417 | Target=18.64 | 83.5 | 643 | |
| 663.00 > 169.00 | 10.656 | 10.727 | -0.071 | 1.052 | 118068 | | 19.34(9.32-27.96) | | 1383 | |

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| D 51 13C2 PFTeDA | | | | | | | | | | |
| 715.00 > 670.00 | 11.149 | 11.233 | -0.084 | | 2053786 | 0.0365 | | 73.0 | 10569 | |
| 50 Perfluorotetradecanoic acid | | | | | | | | | | |
| 713.00 > 169.00 | 11.149 | 11.233 | -0.084 | 1.000 | 91599 | 0.0541 | Target=1.23 | 108 | 2162 | |
| 713.00 > 219.00 | 11.149 | 11.233 | -0.084 | 1.000 | 72322 | | 1.27(0.62-1.85) | | 1410 | |
| D 52 13C2 PFHxDA | | | | | | | | | | |
| 815.00 > 770.00 | 12.106 | 12.234 | -0.128 | | 3494224 | 0.1075 | | 215 | 9320 | |
| 54 Perfluorohexadecanoic acid | | | | | | | | | | |
| 813.00 > 769.00 | 12.106 | 12.234 | -0.128 | 1.000 | 3358971 | 0.0480 | Target=29.80 | 96.0 | 1447 | |
| 813.00 > 169.00 | 12.106 | 12.234 | -0.128 | 1.000 | 108259 | | 31.03(14.90-44.69) | | 1603 | |
| 53 Perfluorooctadecanoic acid | | | | | | | | | | |
| 913.00 > 869.00 | 13.140 | 12.810 | 0.330 | 1.085 | 1629498 | 0.1098 | Target=33.62 | 220 | 514 | |
| 913.00 > 169.00 | 13.140 | 12.810 | 0.330 | 1.085 | 47847 | | 34.06(16.81-50.42) | | 684 | |

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

LCPFC-LL-L6_00031

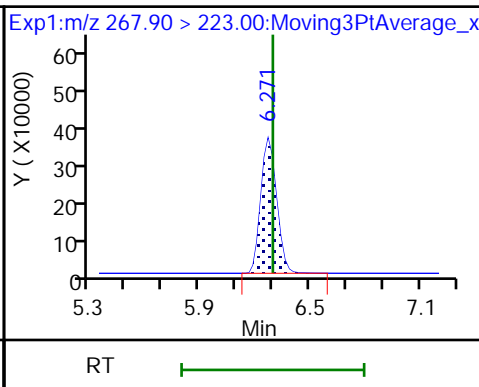
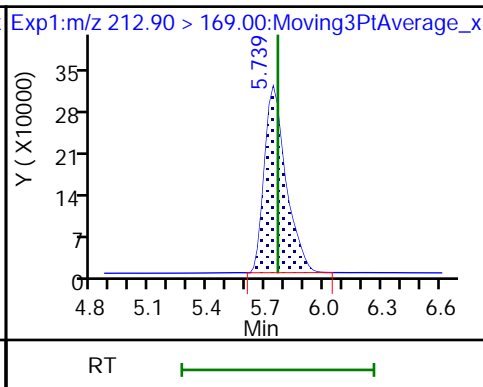
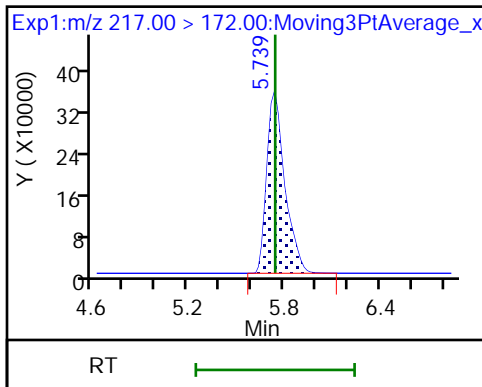
Amount Added: 1.00

Units: mL

D 2 13C4 PFBA

1 Perfluorobutanoic acid

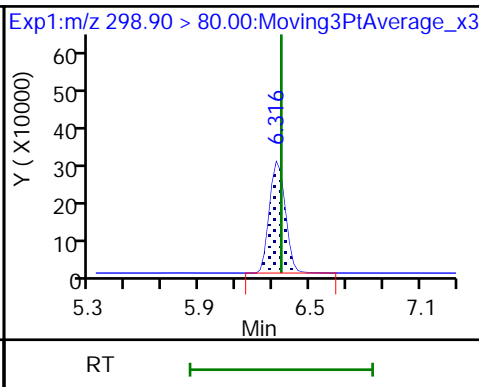
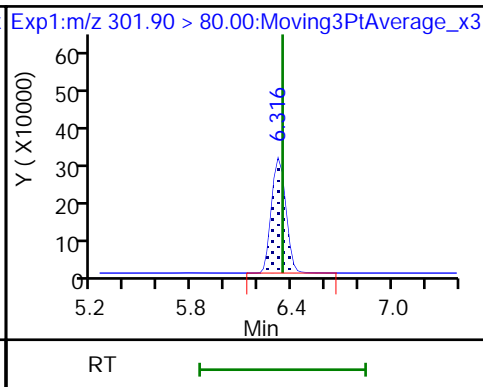
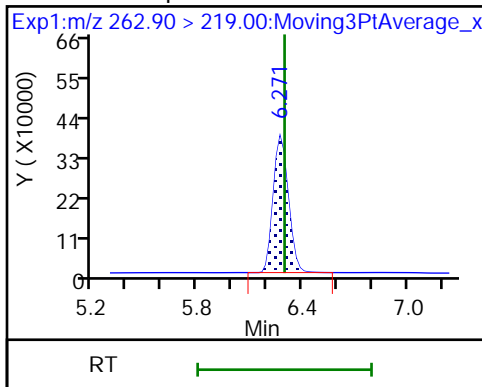
D 4 13C5 PFPeA



5 Perfluoropentanoic acid

D 3 13C3 PFBS

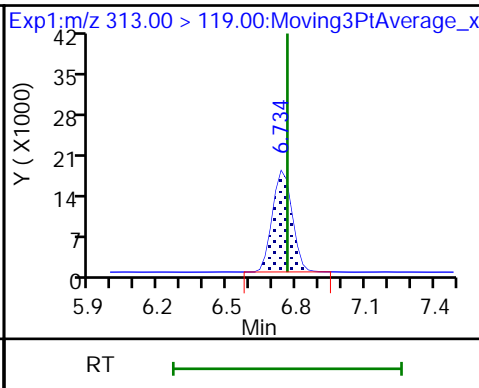
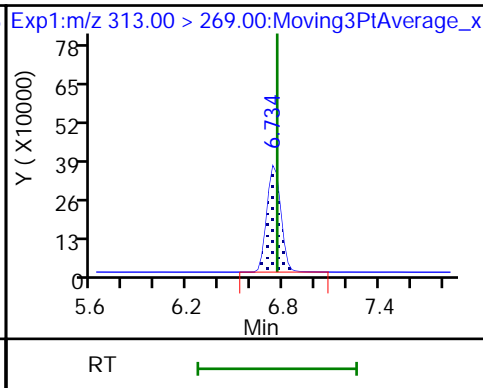
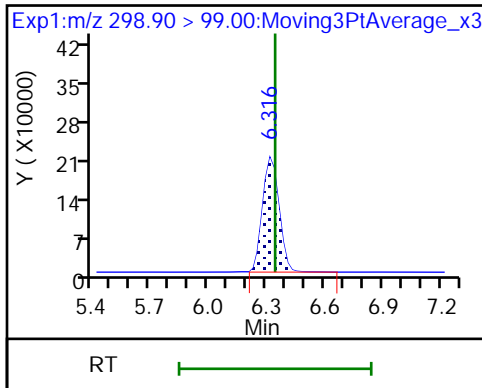
6 Perfluorobutanesulfonic acid



6 Perfluorobutanesulfonic acid

10 Perfluorohexanoic acid

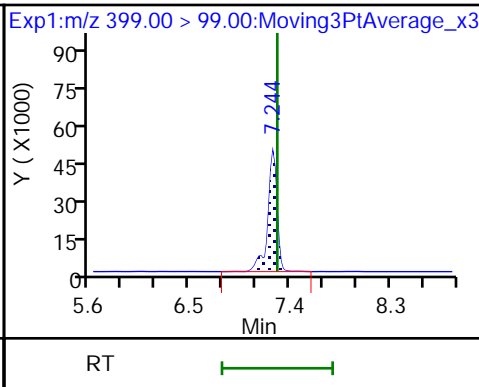
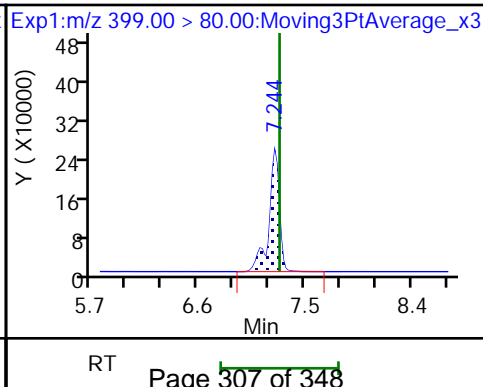
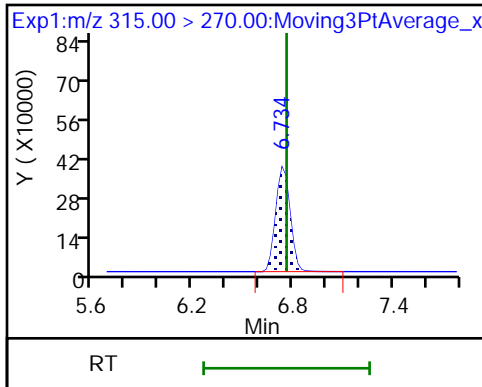
10 Perfluorohexanoic acid



D 9 13C2 PFXa

16 Perfluorohexanesulfonic acid

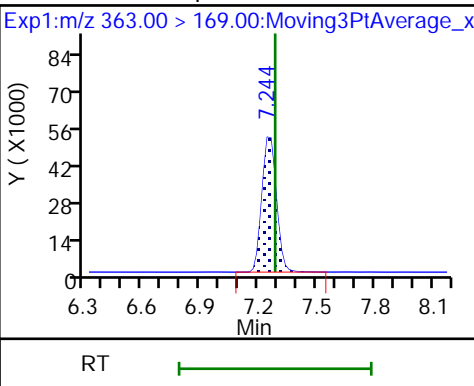
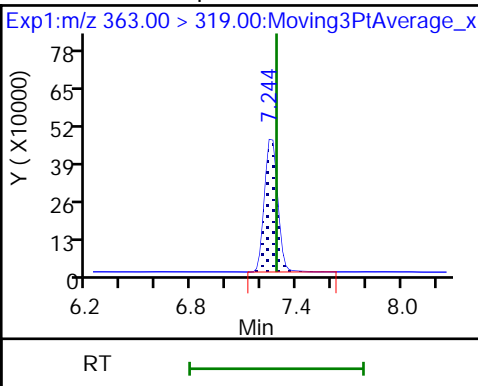
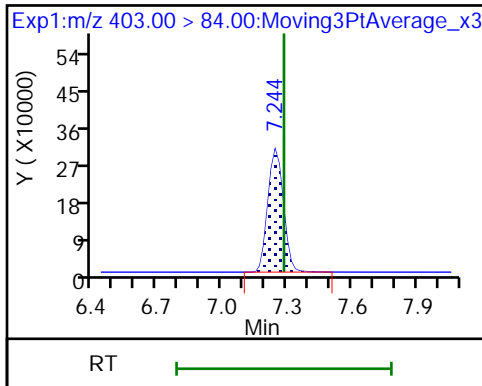
16 Perfluorohexanesulfonic acid



D 15 18O2 PFHxS

18 Perfluoroheptanoic acid

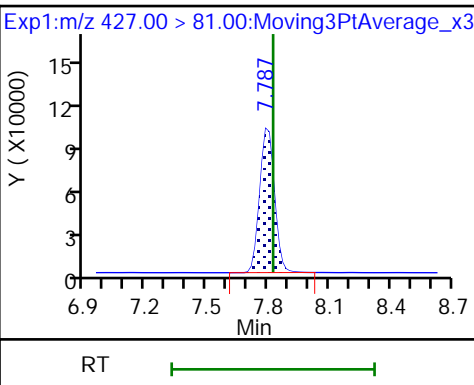
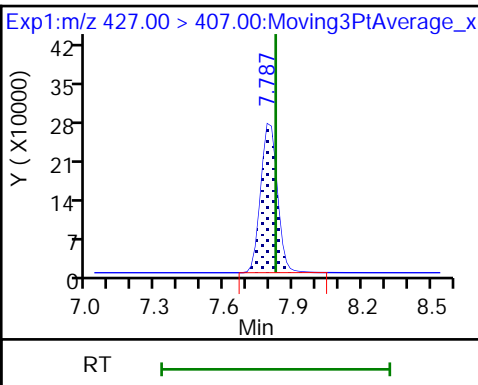
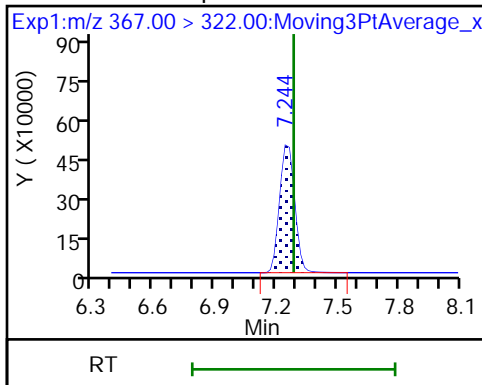
18 Perfluoroheptanoic acid



D 17 13C4 PFHpA

23 6:2 FTS

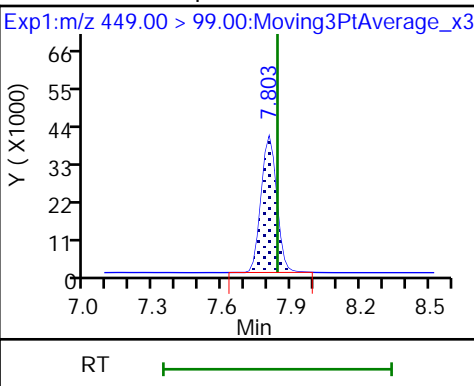
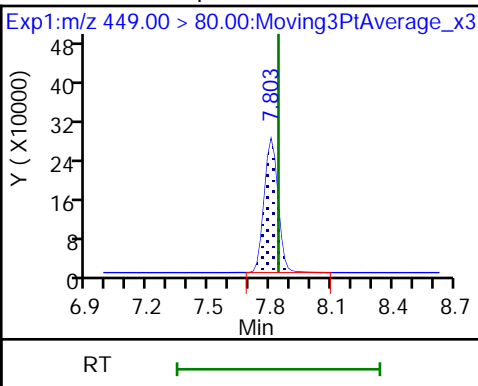
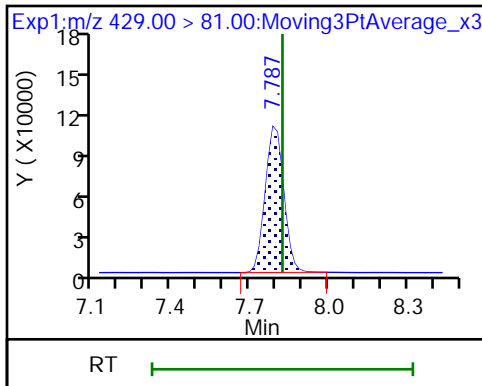
23 6:2 FTS



D 22 M2-6:2 FTS

21 Perfluoroheptanesulfonic acid

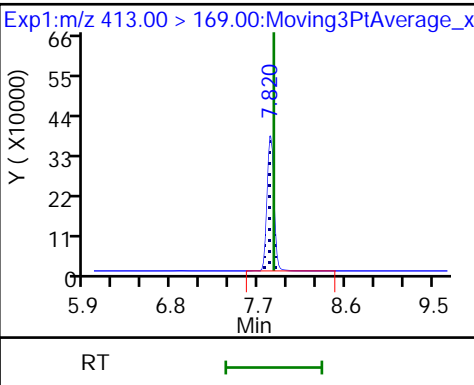
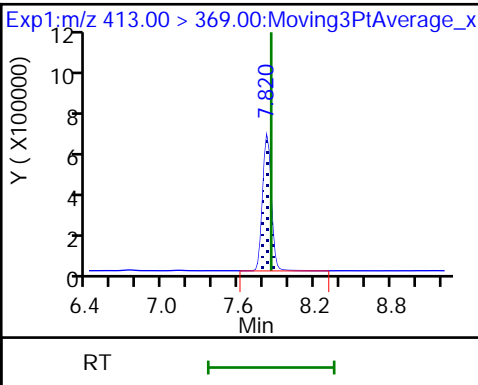
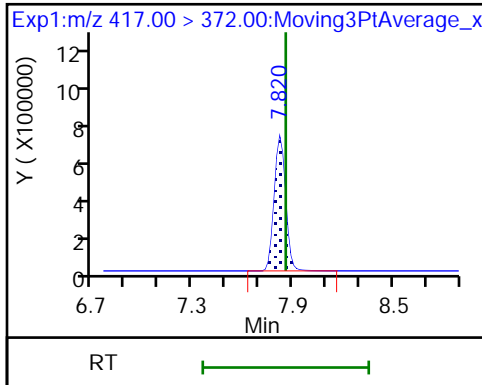
21 Perfluoroheptanesulfonic acid



D 25 13C4 PFOA

24 Perfluorooctanoic acid

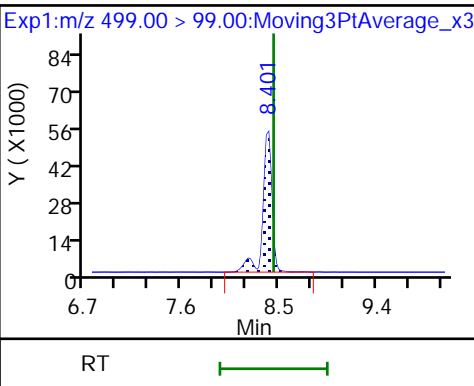
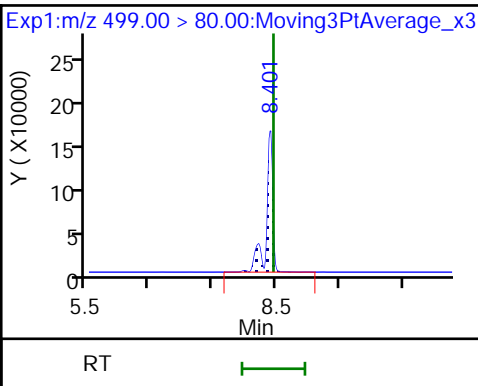
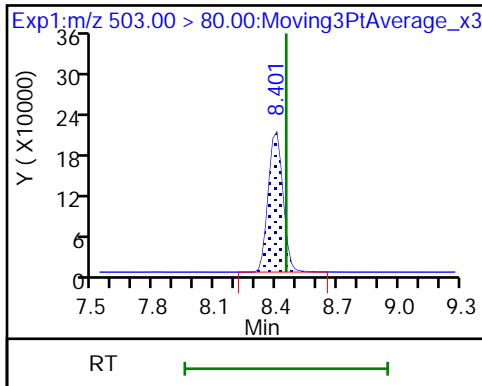
24 Perfluorooctanoic acid



D 26 13C4 PFOS

27 Perfluorooctanesulfonic acid

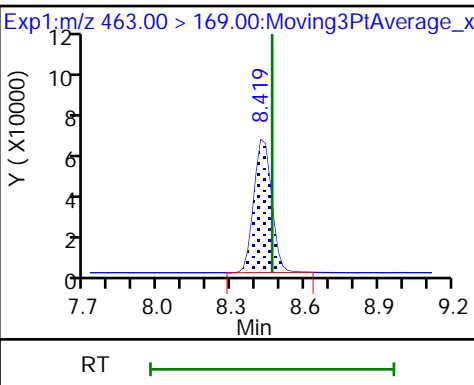
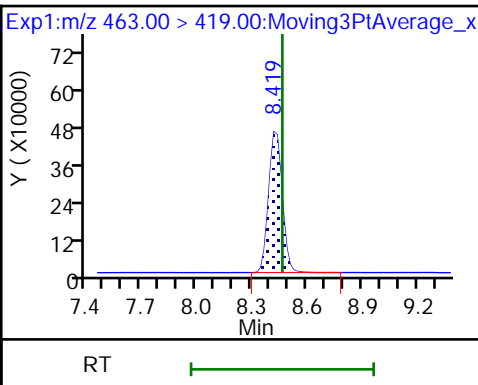
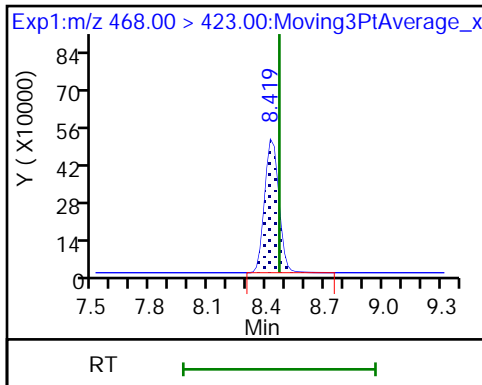
27 Perfluorooctanesulfonic acid



D 28 13C5 PFNA

29 Perfluorononanoic acid

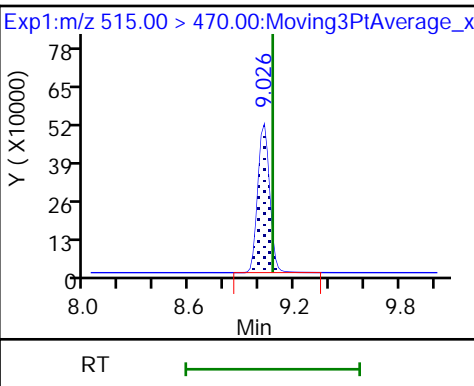
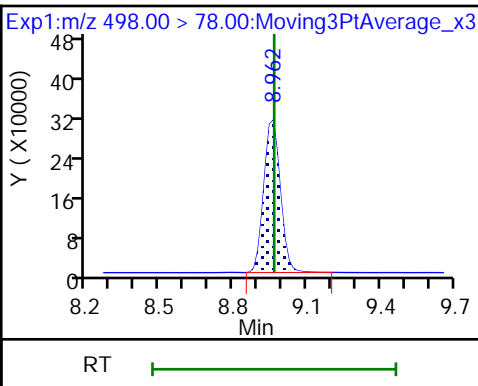
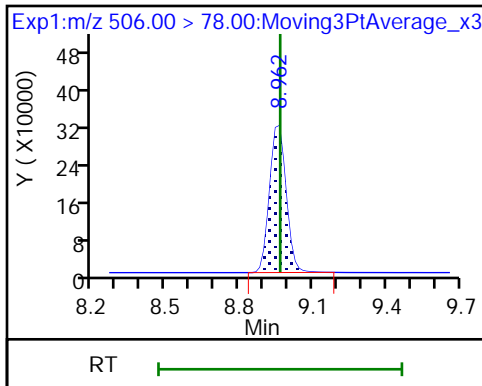
29 Perfluorononanoic acid



D 30 13C8 FOSA

31 Perfluorooctanesulfonamide

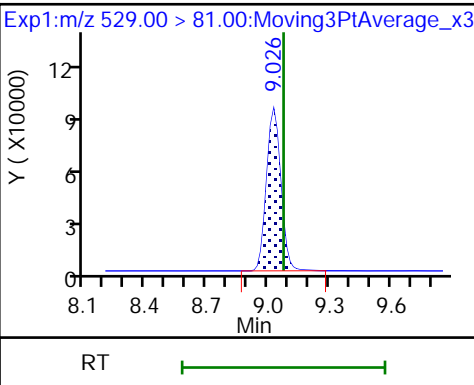
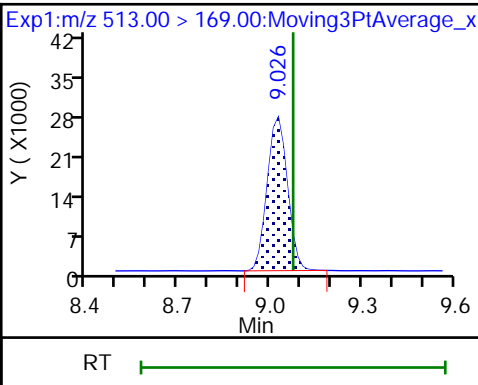
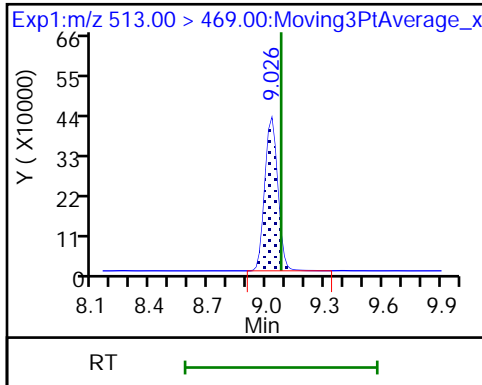
D 33 13C2 PFDA

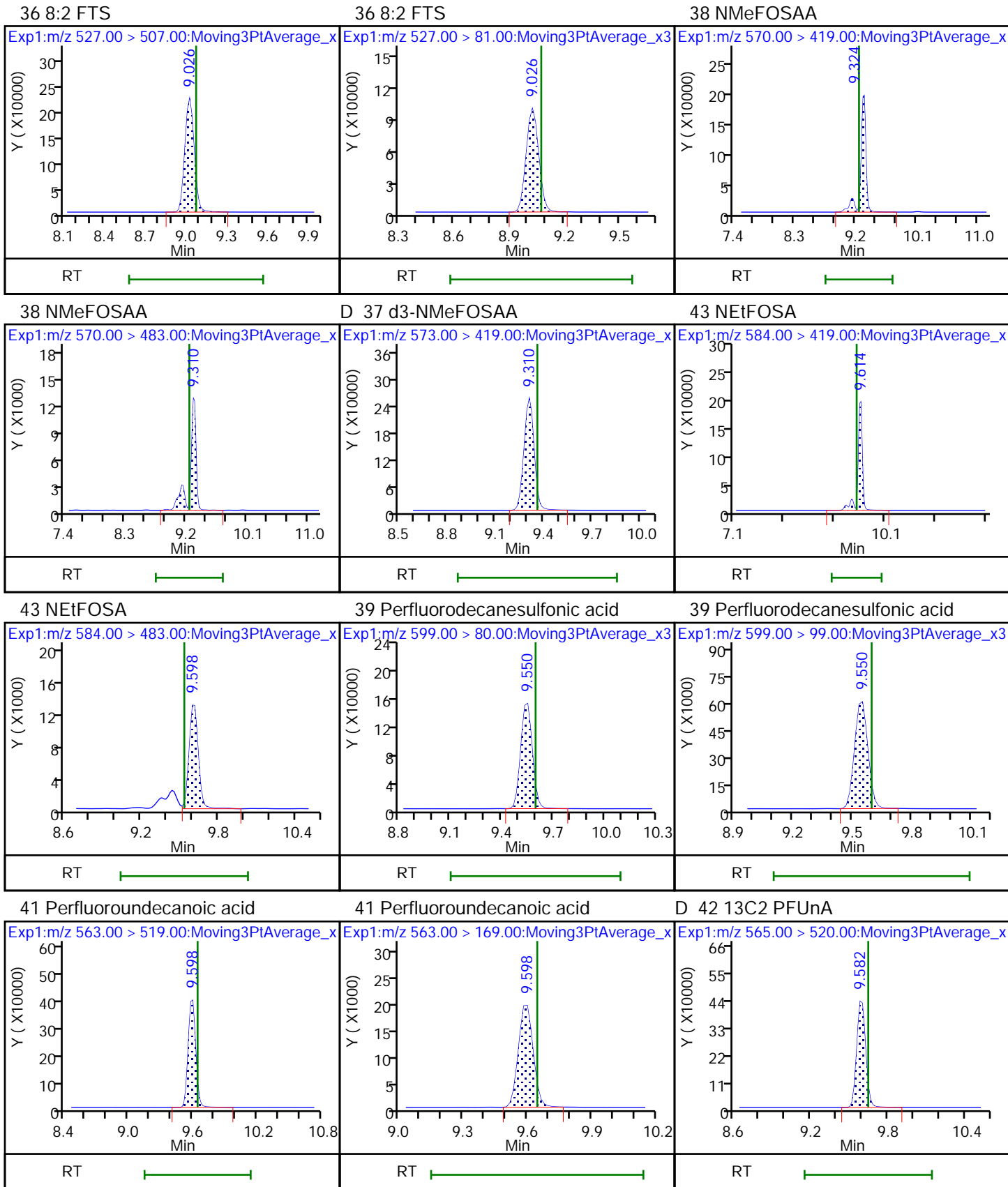


35 Perfluorodecanoic acid

35 Perfluorodecanoic acid

D 34 M2-8:2 FTS

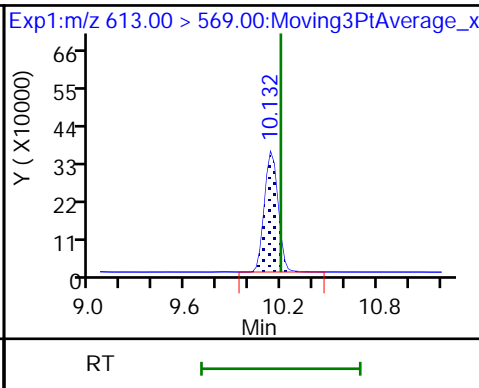
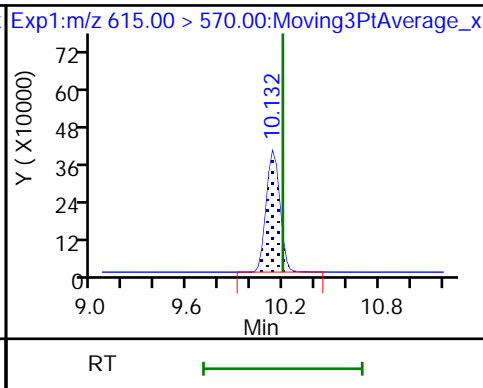
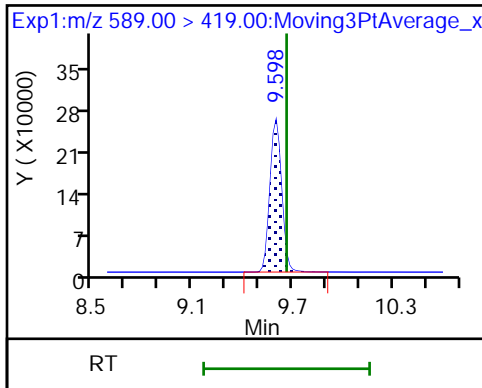




D 40 d5-NEtFOSAA

D 45 13C2 PFDoA

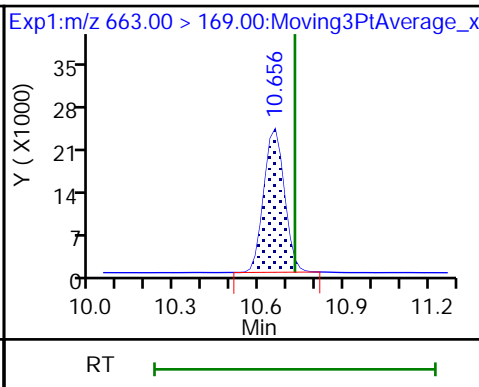
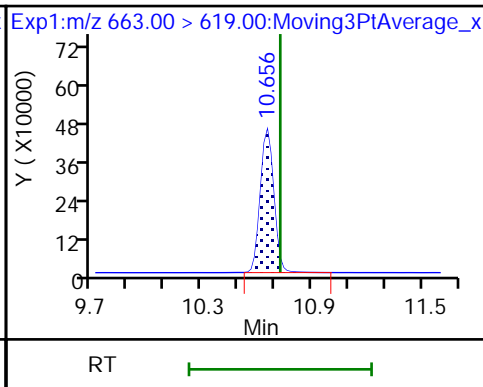
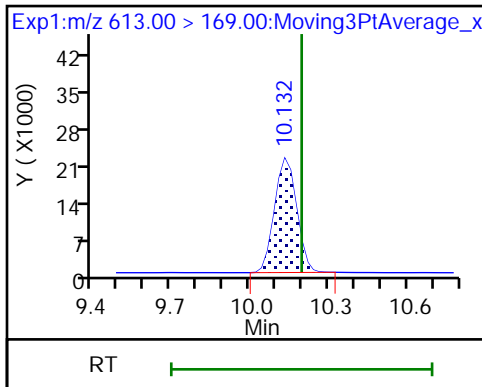
46 Perfluorododecanoic acid



46 Perfluorododecanoic acid

49 Perfluorotridecanoic acid

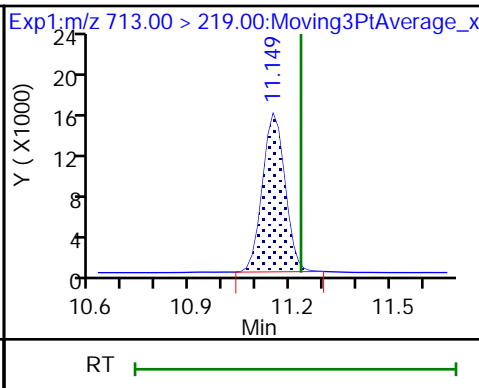
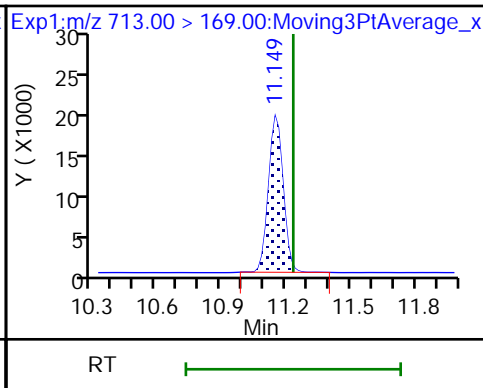
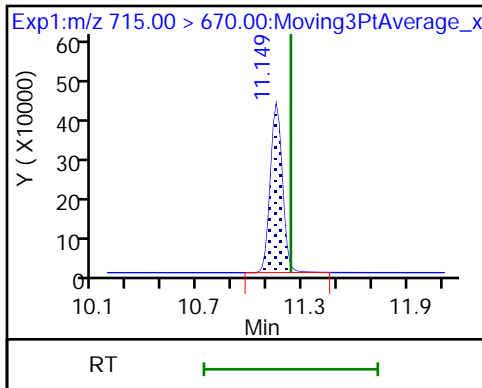
49 Perfluorotridecanoic acid



D 51 13C2 PFTeDA

50 Perfluorotetradecanoic acid

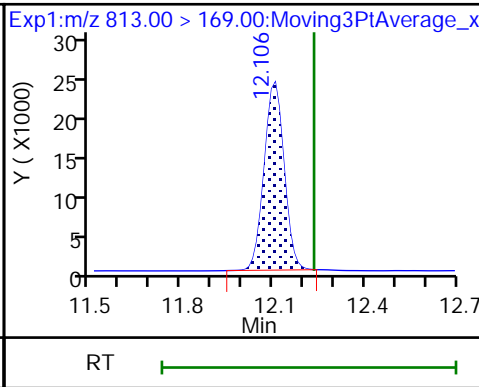
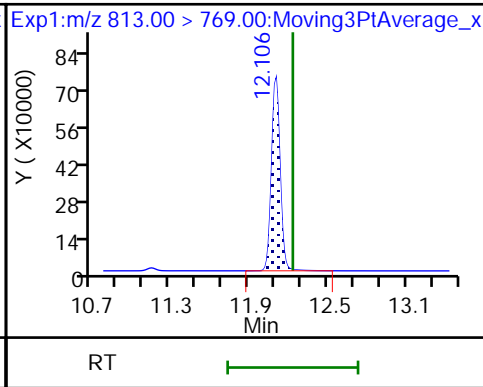
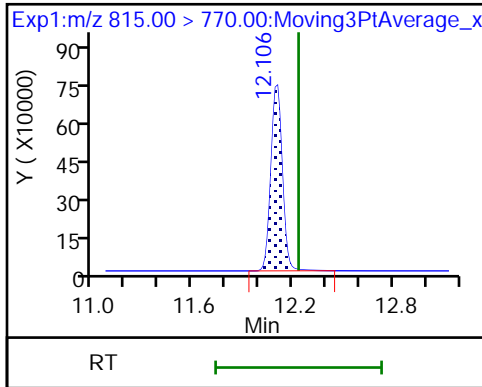
50 Perfluorotetradecanoic acid



D 52 13C2 PFHxDA

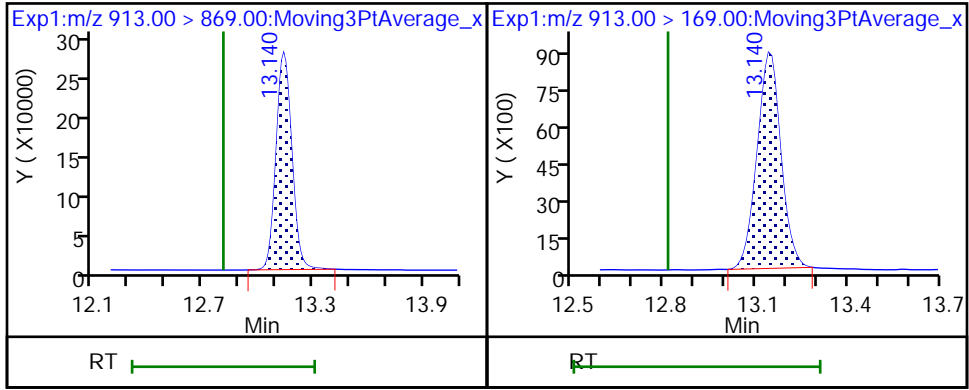
54 Perfluorohexadecanoic acid

54 Perfluorohexadecanoic acid



53 Perfluorooctadecanoic acid

53 Perfluorooctadecanoic acid



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: MB 320-461652/1-A
 Matrix: Water Lab File ID: 2021.02.13_A10_DI_A_010.d
 Analysis Method: WS-LC-0025 Att1 Date Collected: _____
 Extraction Method: PFAS Prep Date Extracted: 02/12/2021 12:41
 Sample wt/vol: 1.00 (mL) Date Analyzed: 02/13/2021 11:22
 Con. Extract Vol.: 1.66 (mL) Dilution Factor: 1
 Injection Volume: 950 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 461813 Units: ng/L

| CAS NO. | COMPOUND NAME | RESULT | Q | RL | |
|-----------|--------------------------------------|--------|---|-----|--|
| 375-73-5 | Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | |
| 355-46-4 | Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | |
| 375-85-9 | Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | |
| 335-67-1 | Perfluorooctanoic acid (PFOA) | ND | | 2.0 | |
| 1763-23-1 | Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | |
| 375-95-1 | Perfluorononanoic acid (PFNA) | ND | | 2.0 | |

| CAS NO. | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00994 | 18O2 PFHxS | 108 | | 25-150 |
| STL01892 | 13C4 PFHpA | 110 | | 25-150 |
| STL00990 | 13C4 PFOA | 110 | | 70-130 |
| STL00991 | 13C4 PFOS | 102 | | 70-130 |
| STL00995 | 13C5 PFNA | 105 | | 25-150 |
| STL02337 | 13C3 PFBS | 96 | | 25-150 |

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_010.d
 Lims ID: MB 320-461652/1-A
 Client ID:
 Sample Type: MB
 Inject. Date: 13-Feb-2021 11:22:22 ALS Bottle#: 10 Worklist Smp#: 3
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: mb 320-461652/1-a (DUE: 2/15) RX DI_DW
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Method: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 15-Feb-2021 04:12:55 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1652

First Level Reviewer: ruangyotsakuld Date: 15-Feb-2021 04:12:54
 Ratio Calibration: CCV Sample: \\chromfs\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_009.d

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------|-----------------|--------|--------|--------|----------|--------------|---------------|------|-------|-------|
| D 2 13C4 PFBA | 217.00 > 172.00 | 5.678 | 5.742 | -0.064 | 3020491 | 0.0514 | | 103 | 20050 | |
| 1 Perfluorobutanoic acid | | | | | | | | | | M |
| 212.90 > 169.00 | 5.657 | 5.763 | -0.106 | 0.996 | 10931 | 0.000203 | | 4.7 | | M |
| D 4 13C5 PFPeA | 267.90 > 223.00 | 6.271 | 6.297 | -0.026 | 2058111 | 0.0468 | | 93.7 | 18587 | |
| 5 Perfluoropentanoic acid | | | | | | | | | | |
| 262.90 > 219.00 | 6.271 | 6.297 | -0.026 | 1.000 | 8385 | 0.000188 | | 3.7 | | |
| D 3 13C3 PFBS | 301.90 > 80.00 | 6.316 | 6.343 | -0.027 | 1812610 | 0.0445 | | 95.7 | 8462 | |
| D 7 M2-4:2 FTS | 329.00 > 81.00 | 6.688 | 6.715 | -0.027 | 431458 | NC | | | 1488 | |
| D 9 13C2 PFHxA | 315.00 > 270.00 | 6.734 | 6.761 | -0.027 | 2347107 | 0.0495 | | 98.9 | 15850 | |
| D 12 13C3 HFPO-DA | 332.10 > 287.00 | 6.900 | 6.904 | -0.004 | 121073 | NC | | | 864 | |
| D 15 18O2 PFHxS | 403.00 > 84.00 | 7.263 | 7.285 | -0.022 | 1679349 | 0.0511 | | 108 | 11641 | |
| D 17 13C4 PFHpA | 367.00 > 322.00 | 7.263 | 7.285 | -0.022 | 2761429 | 0.0552 | | 110 | 16222 | |
| D 22 M2-6:2 FTS | 429.00 > 81.00 | 7.803 | 7.823 | -0.020 | 639166 | 0.0778 | | 164 | 2116 | |
| D 20 13C2 PFOA | 415.00 > 370.00 | 7.836 | 7.853 | -0.017 | 2095 | NC | | 0.0 | 42.6 | |
| D 25 13C4 PFOA | 417.00 > 372.00 | 7.836 | 7.856 | -0.020 | 3667592 | 0.0548 | | 110 | 14039 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|-------------------------------|--------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| 24 Perfluorooctanoic acid | | | | | | | | | | |
| 413.00 > 369.00 | 7.836 | 7.856 | -0.020 | 1.000 | 5403 | 0.00008091 | Target=1.60 | | 1.0 | |
| 413.00 > 169.00 | 7.836 | 7.856 | -0.020 | 1.000 | 3407 | | 1.59(0.80-2.40) | | 21.7 | |
| D 26 13C4 PFOS | | | | | | | | | | |
| 503.00 > 80.00 | 8.418 | 8.448 | -0.030 | | 1104731 | 0.0486 | | 102 | 8786 | |
| D 28 13C5 PFNA | | | | | | | | | | |
| 468.00 > 423.00 | 8.453 | 8.465 | -0.012 | | 2607367 | 0.0525 | | 105 | 20312 | |
| D 30 13C8 FOSA | | | | | | | | | | |
| 506.00 > 78.00 | 8.951 | 8.966 | -0.015 | | 1523576 | 0.0483 | | 96.6 | 8334 | |
| 31 Perfluorooctanesulfonamide | | | | | | | | | | |
| 498.00 > 78.00 | 8.966 | 8.966 | 0.0 | 1.002 | 8277 | 0.000268 | | | 109 | |
| D 33 13C2 PFDA | | | | | | | | | | |
| 515.00 > 470.00 | 9.044 | 9.075 | -0.031 | | 2512941 | 0.0532 | | 106 | 13116 | |
| D 34 M2-8:2 FTS | | | | | | | | | | |
| 529.00 > 81.00 | 9.060 | 9.075 | -0.015 | | 489592 | 0.0639 | | 133 | 4474 | |
| D 37 d3-NMeFOSAA | | | | | | | | | | |
| 573.00 > 419.00 | 9.335 | 9.361 | -0.026 | | 1145332 | 0.0595 | | 119 | 4926 | |
| D 42 13C2 PFUnA | | | | | | | | | | |
| 565.00 > 520.00 | 9.629 | 9.645 | -0.016 | | 2289249 | 0.0499 | | 99.8 | 24276 | |
| D 40 d5-NEtFOSAA | | | | | | | | | | |
| 589.00 > 419.00 | 9.629 | 9.661 | -0.032 | | 1343912 | 0.0616 | | 123 | 7025 | |
| D 45 13C2 PFDaA | | | | | | | | | | |
| 615.00 > 570.00 | 10.175 | 10.197 | -0.022 | | 2367865 | 0.0492 | | 98.3 | 13833 | |
| D 51 13C2 PFTeDA | | | | | | | | | | |
| 715.00 > 670.00 | 11.204 | 11.233 | -0.029 | | 2498247 | 0.0444 | | 88.8 | 17713 | |
| D 52 13C2 PFHxDA | | | | | | | | | | |
| 815.00 > 770.00 | 12.185 | 12.234 | -0.049 | | 2662216 | 0.0819 | | 164 | 14315 | |

QC Flag Legend

Processing Flags

NC - Not Calibrated

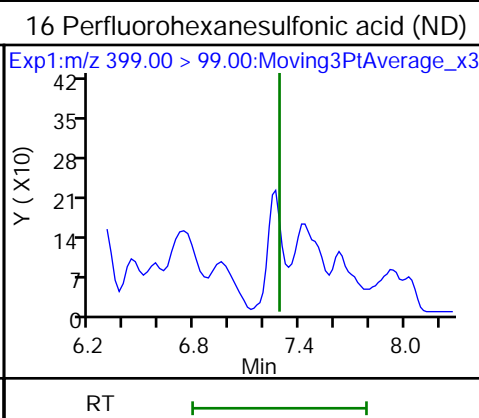
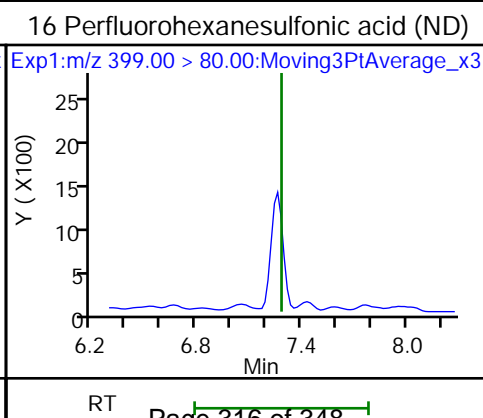
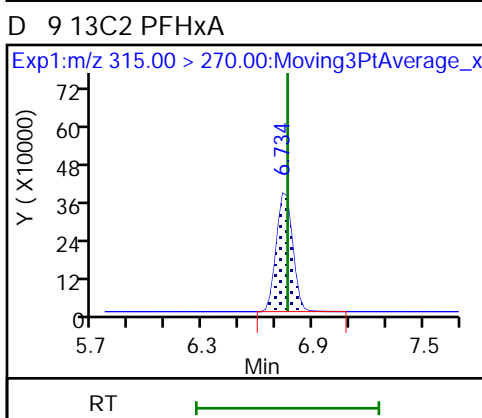
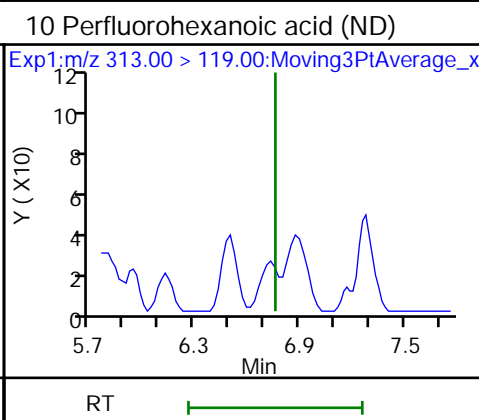
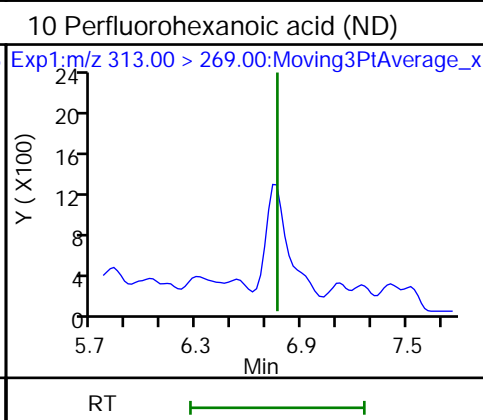
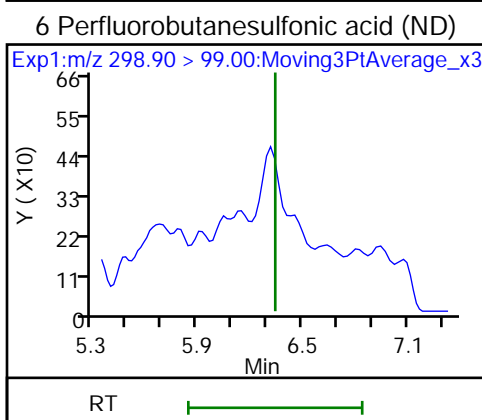
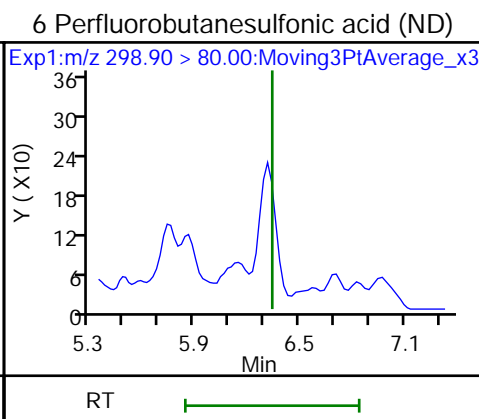
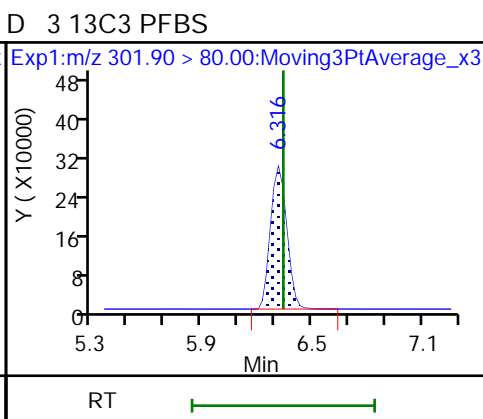
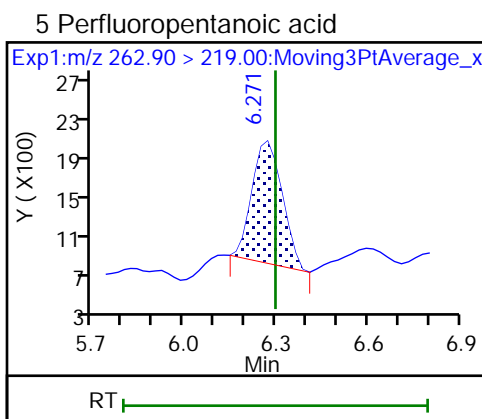
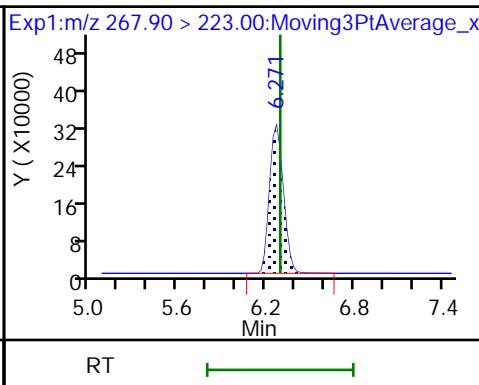
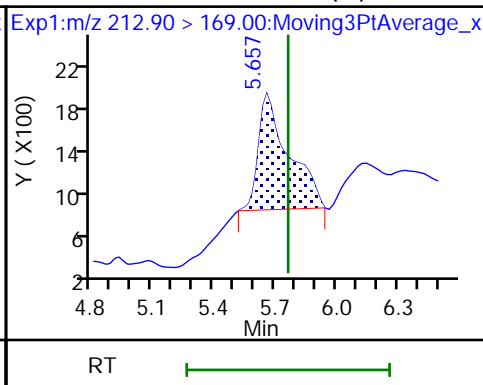
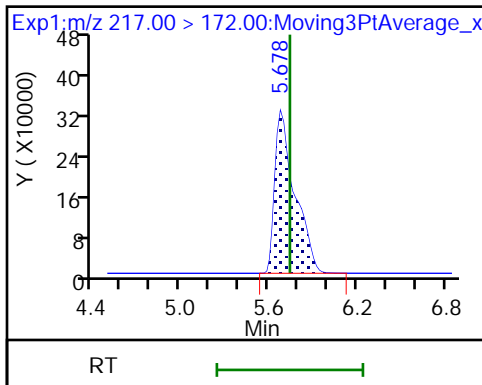
Review Flags

M - Manually Integrated

D 2 13C4 PFBA

1 Perfluorobutanoic acid (M)

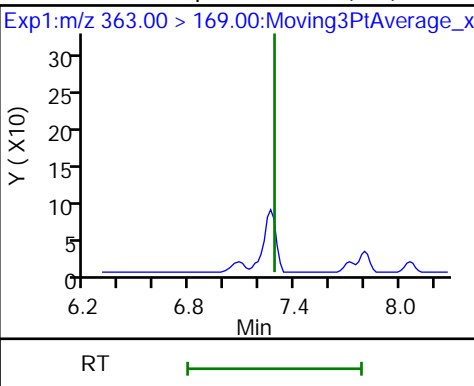
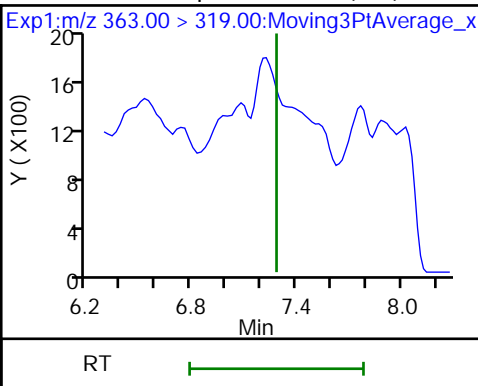
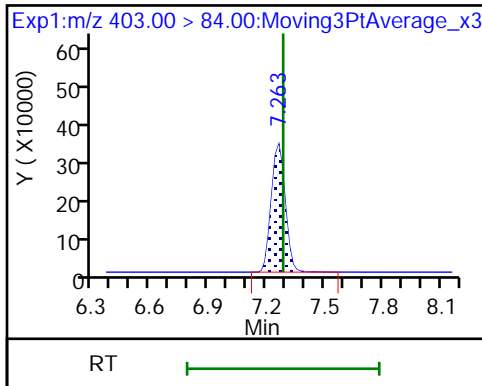
D 4 13C5 PFPeA



D 15 18O2 PFHxS

18 Perfluoroheptanoic acid (ND)

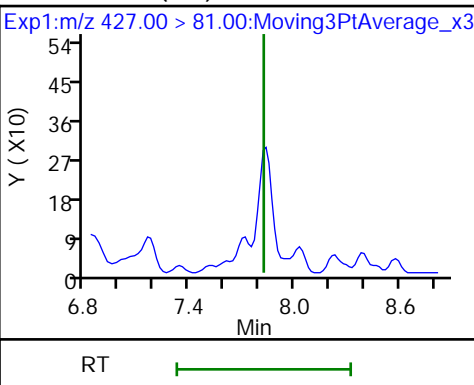
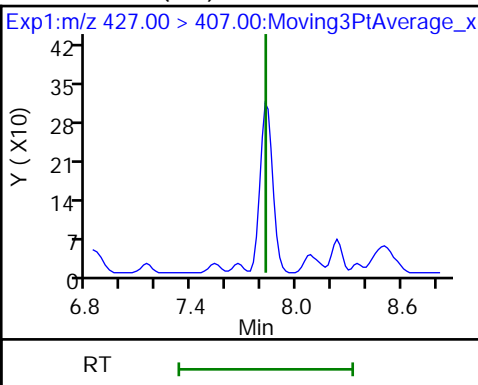
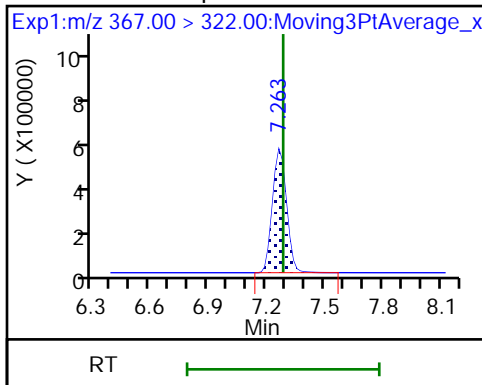
18 Perfluoroheptanoic acid (ND)



D 17 13C4 PFHpA

23 6:2 FTS (ND)

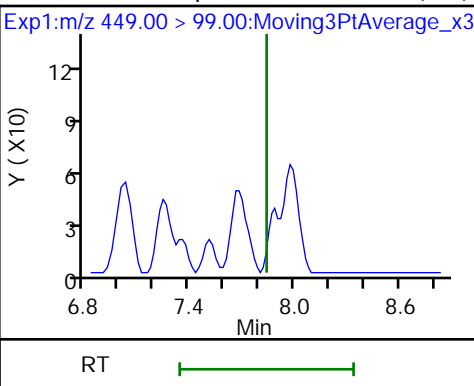
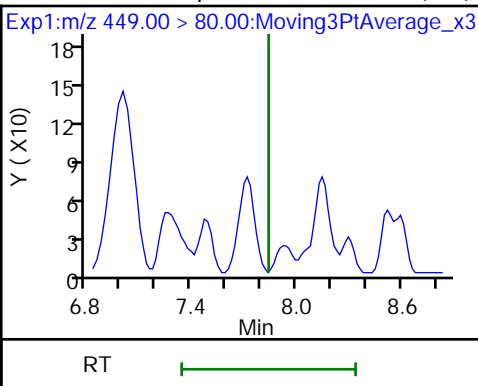
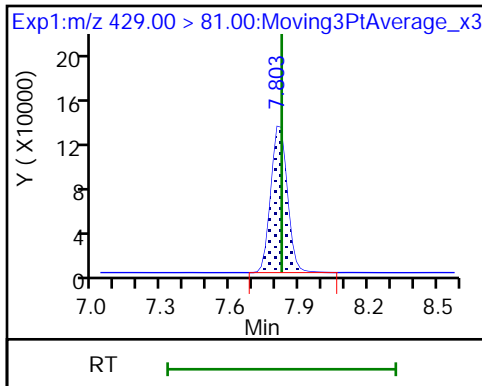
23 6:2 FTS (ND)



D 22 M2-6:2 FTS

21 Perfluoroheptanesulfonic acid (ND)

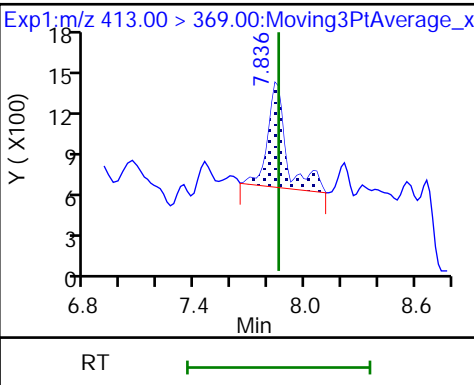
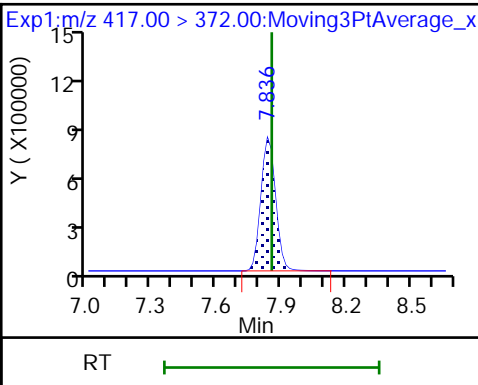
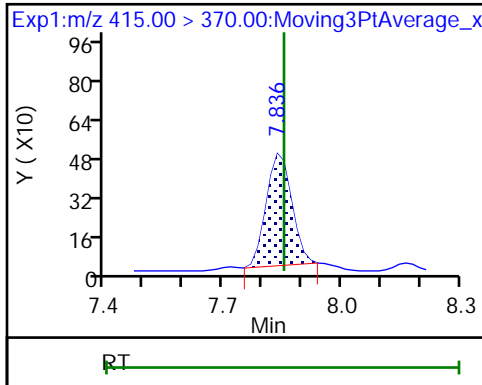
21 Perfluoroheptanesulfonic acid (ND)

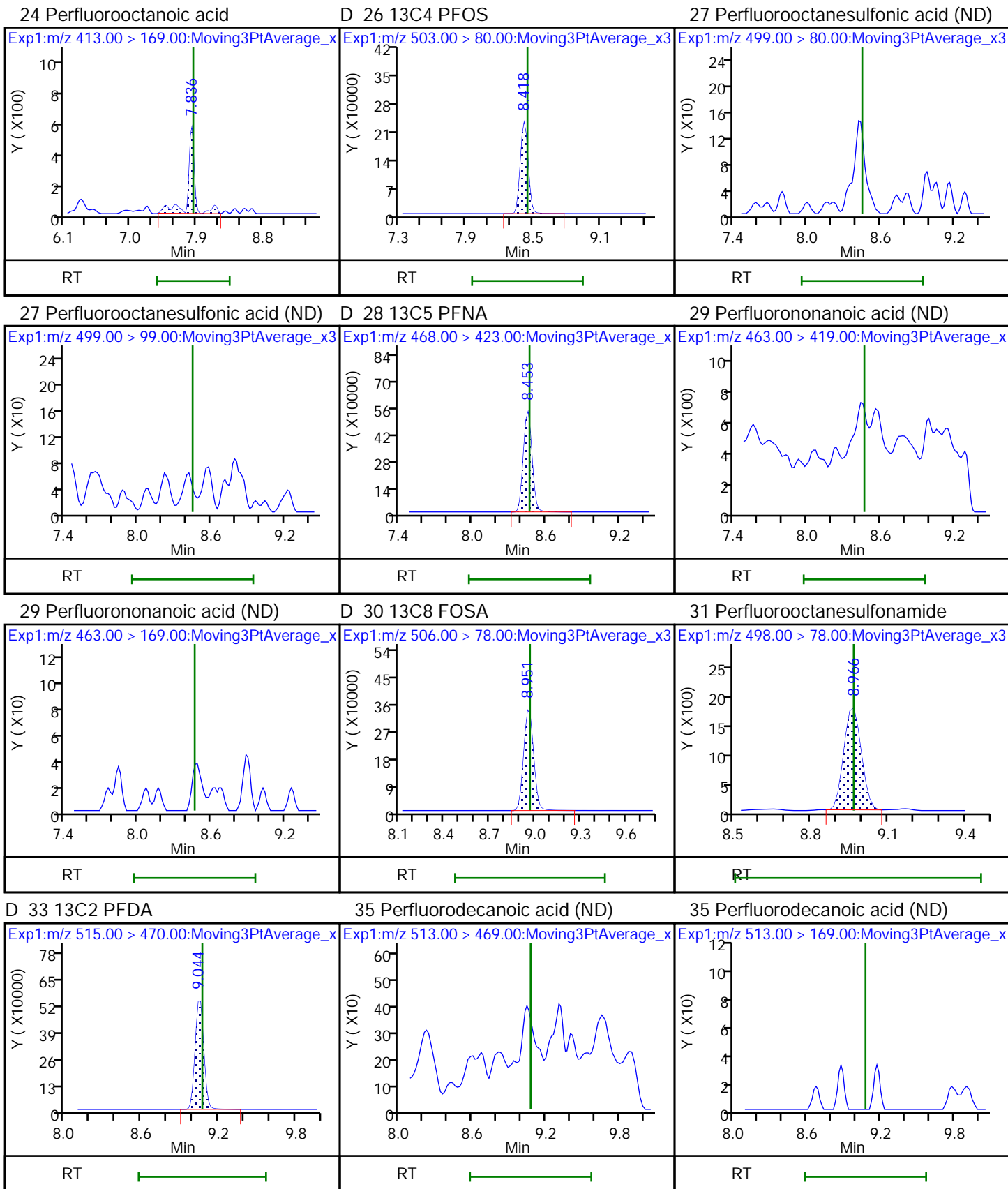


D 20 13C2 PFOA

D 25 13C4 PFOA

24 Perfluorooctanoic acid

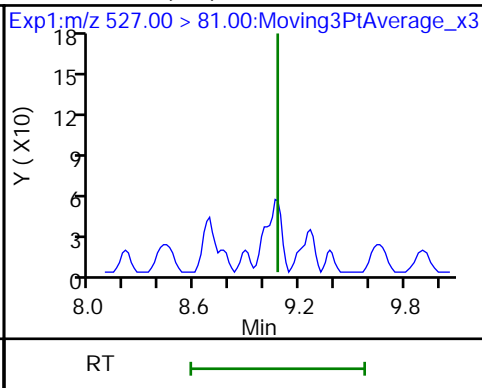
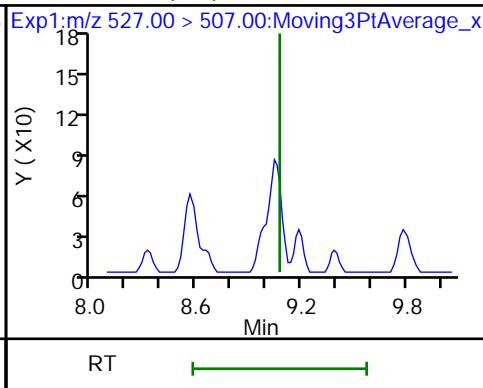
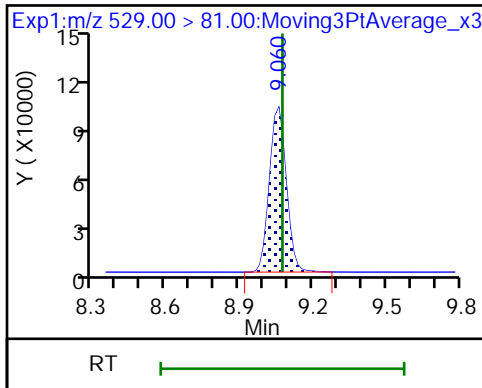




D 34 M2-8:2 FTS

36 8:2 FTS (ND)

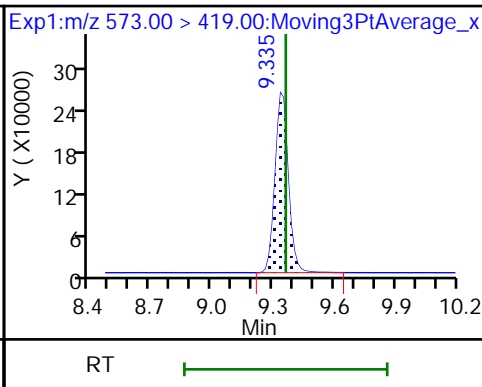
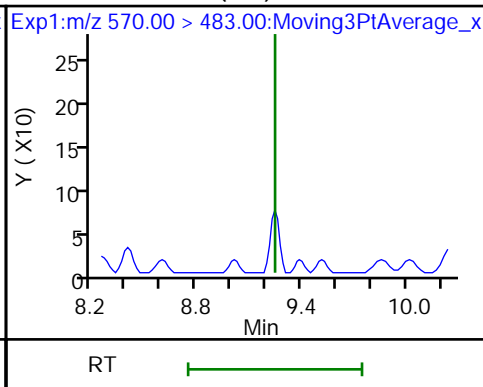
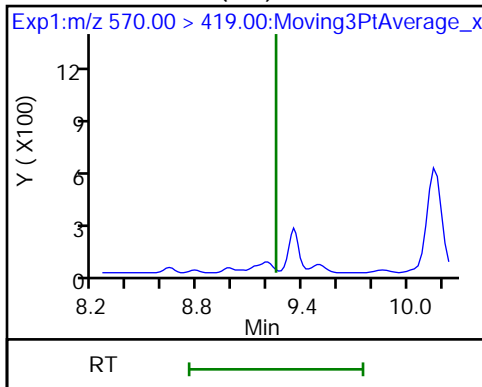
36 8:2 FTS (ND)



38 NMeFOSAA (ND)

38 NMeFOSAA (ND)

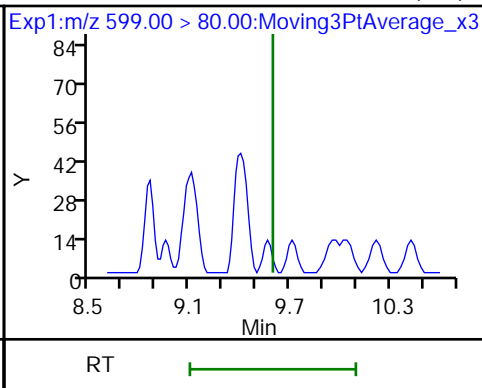
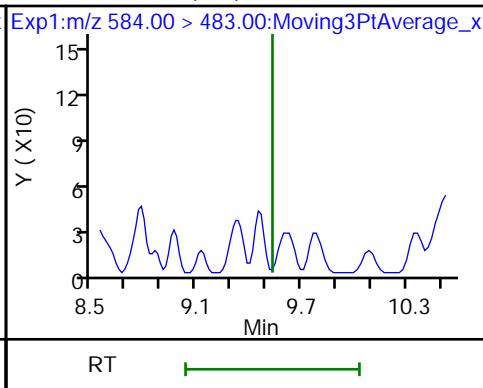
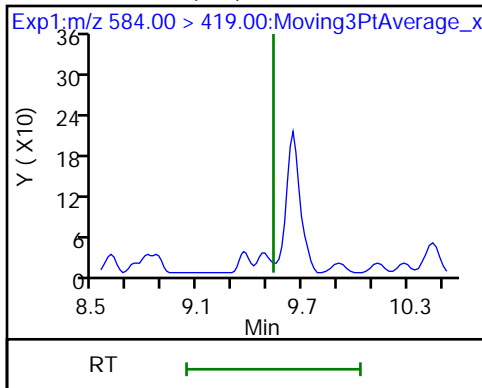
D 37 d3-NMeFOSAA



43 NEtFOSA (ND)

43 NEtFOSA (ND)

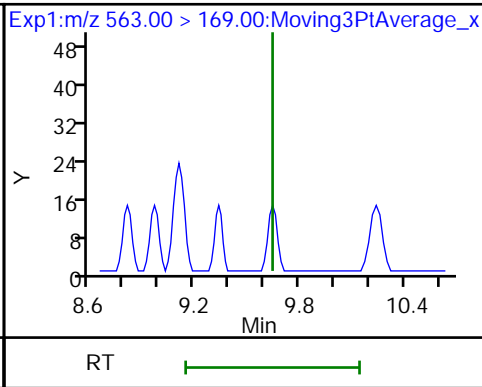
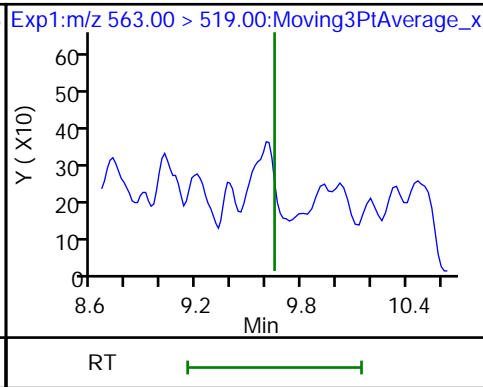
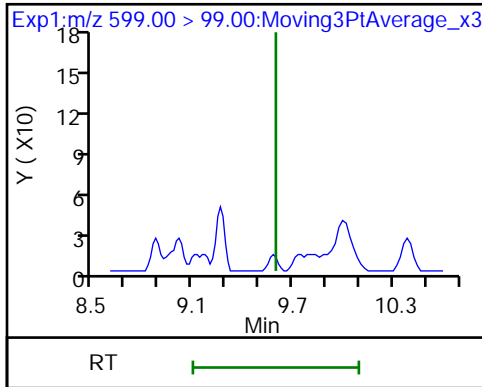
39 Perfluorodecanesulfonic acid (ND)



39 Perfluorodecanesulfonic acid (ND)

41 Perfluoroundecanoic acid (ND)

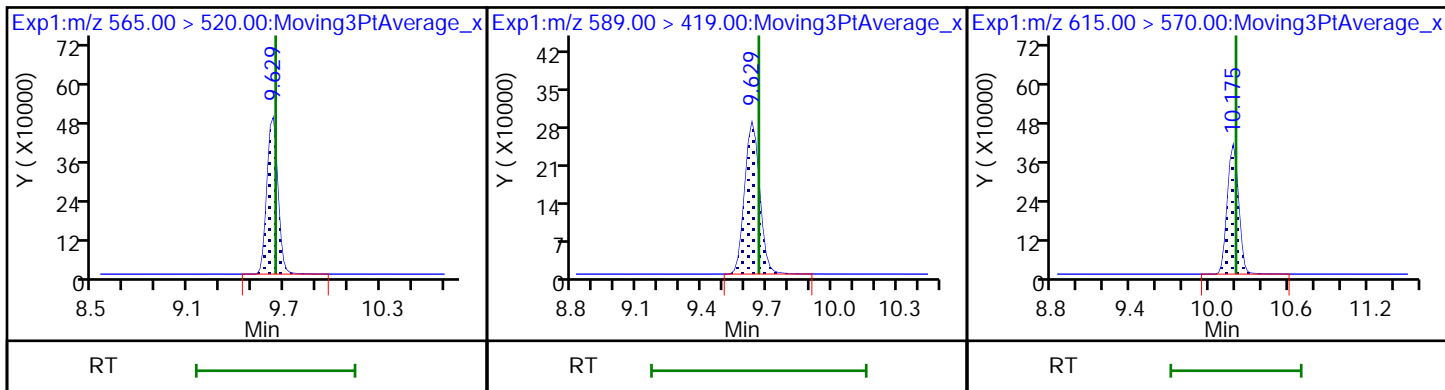
41 Perfluoroundecanoic acid (ND)



D 42 13C2 PFUnA

D 40 d5-NEtFOSAA

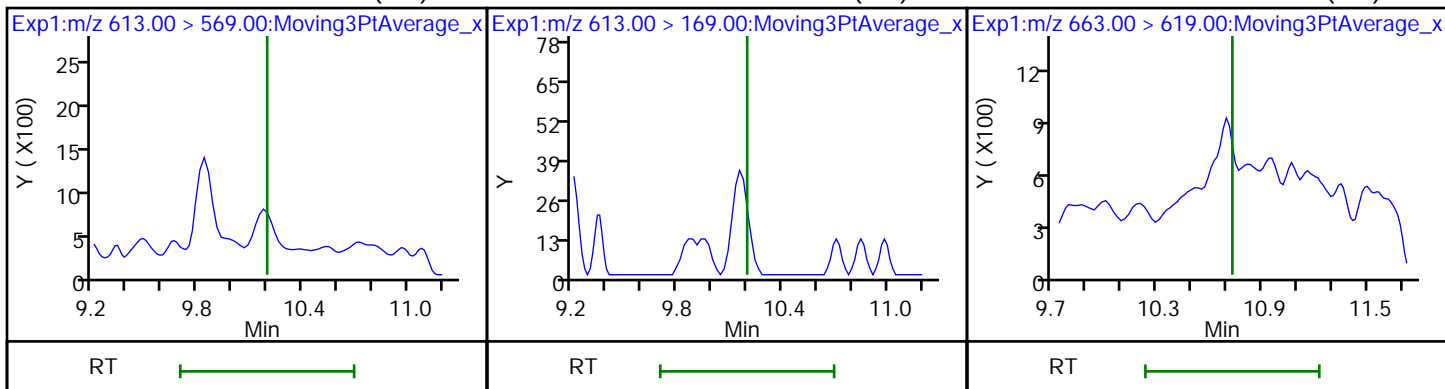
D 45 13C2 PFDoA



46 Perfluorododecanoic acid (ND)

46 Perfluorododecanoic acid (ND)

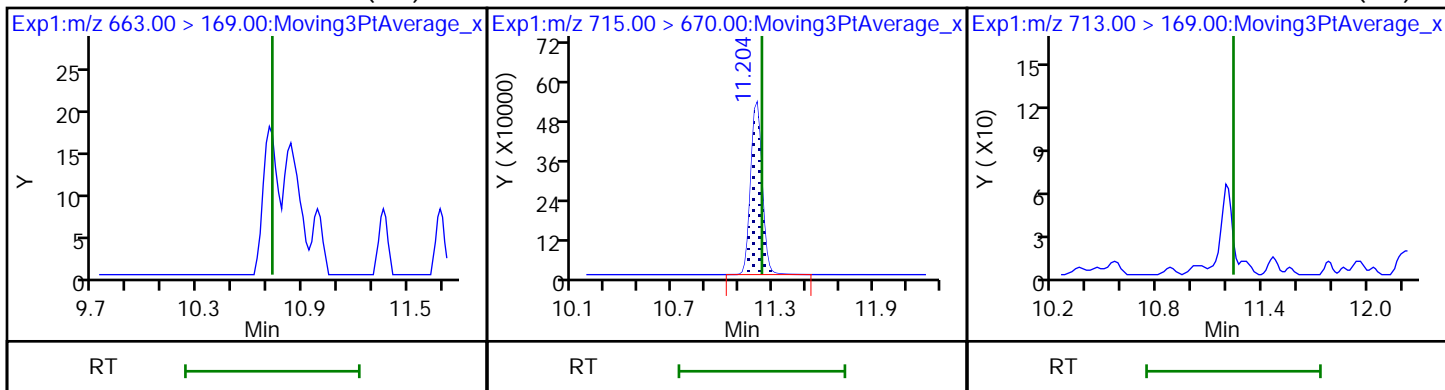
49 Perfluorotridecanoic acid (ND)



49 Perfluorotridecanoic acid (ND)

D 51 13C2 PFTeDA

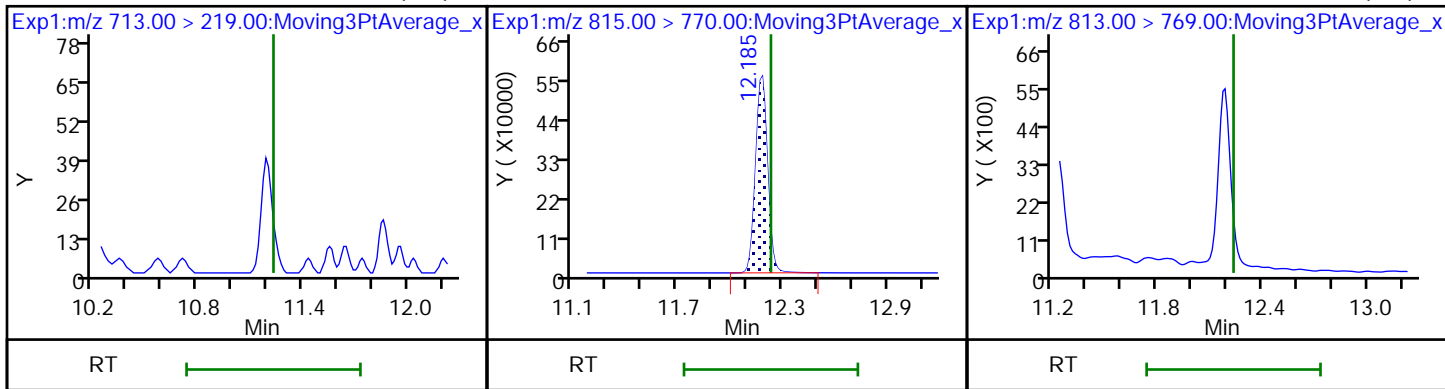
50 Perfluorotetradecanoic acid (ND)



50 Perfluorotetradecanoic acid (ND)

D 52 13C2 PFHxDA

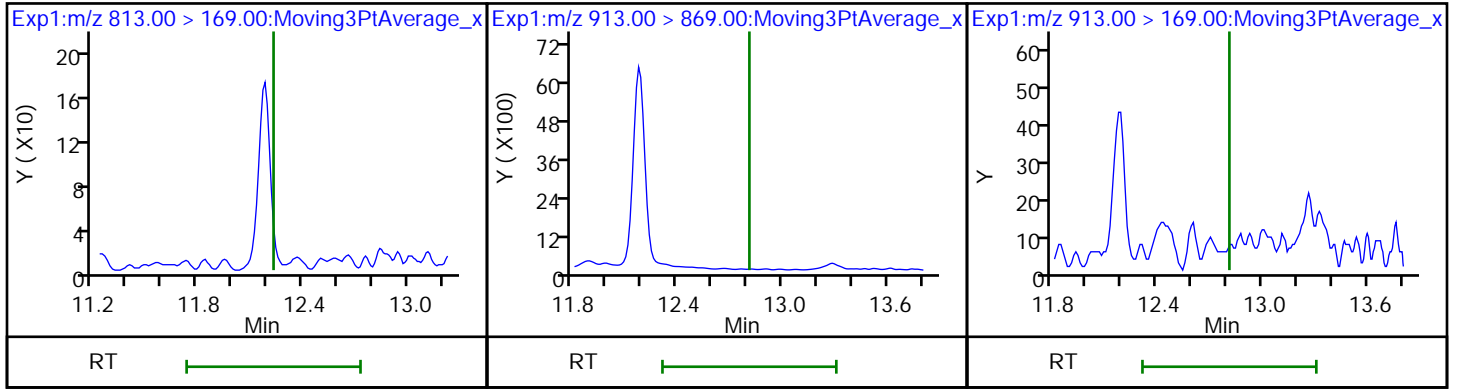
54 Perfluorohexadecanoic acid (ND)



54 Perfluorohexadecanoic acid (ND)

53 Perfluorooctadecanoic acid (ND)

53 Perfluorooctadecanoic acid (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: ICB 320-460141/10
 Matrix: Water Lab File ID: 2021.02.09_A10_DI_ICAL_A_010.d
 Analysis Method: WS-LC-0025 Att1 Date Collected: _____
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 1(mL) Date Analyzed: 02/09/2021 13:04
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 950 (uL) GC Column: GeminiC18 3x100 ID: 3(mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 460141 Units: ng/L

| CAS NO. | COMPOUND NAME | RESULT | Q | RL | |
|-----------|--------------------------------------|--------|---|-----|--|
| 375-73-5 | Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | |
| 355-46-4 | Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | |
| 375-85-9 | Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | |
| 335-67-1 | Perfluorooctanoic acid (PFOA) | ND | | 2.0 | |
| 1763-23-1 | Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | |
| 375-95-1 | Perfluorononanoic acid (PFNA) | ND | | 2.0 | |

| CAS NO. | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00994 | 18O2 PFHxS | 110 | | 25-150 |
| STL01892 | 13C4 PFHpA | 117 | | 25-150 |
| STL00990 | 13C4 PFOA | 114 | | 70-130 |
| STL00991 | 13C4 PFOS | 110 | | 70-130 |
| STL00995 | 13C5 PFNA | 122 | | 25-150 |
| STL02337 | 13C3 PFBS | 113 | | 25-150 |

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_010.d
 Lims ID: ICB
 Client ID:
 Sample Type: ICB
 Inject. Date: 09-Feb-2021 13:04:57 ALS Bottle#: 10 Worklist Smp#: 10
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: ICB (24)
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Method: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 09-Feb-2021 13:51:06 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1638

First Level Reviewer: vangm Date: 09-Feb-2021 13:34:52

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------------------------------|-----------------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 2 13C4 PFBA | 217.00 > 172.00 | 5.739 | 5.660 | 0.079 | 3418309 | 0.0582 | | 116 | 14056 | |
| 1 Perfluorobutanoic acid | 212.90 > 169.00 | 5.739 | 5.660 | 0.079 | 11173 | 0.000183 | | | 2.0 | |
| D 4 13C5 PFPeA | 267.90 > 223.00 | 6.316 | 6.297 | 0.019 | 2619948 | 0.0596 | | 119 | 11418 | |
| 5 Perfluoropentanoic acid | 262.90 > 219.00 | 6.316 | 6.297 | 0.019 | 10752 | 0.000190 | | | 3.7 | |
| D 3 13C3 PFBS | 301.90 > 80.00 | 6.363 | 6.343 | 0.020 | 2143338 | 0.0526 | | 113 | 4326 | |
| 6 Perfluorobutanesulfonic acid | 298.90 > 80.00 | 6.363 | 6.343 | 0.020 | 2365 | 0.00004895 | Target=1.49 | | 5.5 | |
| | 298.90 > 99.00 | 6.363 | 6.343 | 0.020 | 2280 | | 1.04(0.74-2.23) | | 3.0 | |
| D 7 M2-4:2 FTS | 329.00 > 81.00 | 6.734 | 6.738 | -0.004 | 385004 | NC | | | 943 | |
| D 9 13C2 PFHxA | 315.00 > 270.00 | 6.781 | 6.784 | -0.003 | 2857043 | 0.0602 | | 120 | 13615 | |
| D 12 13C3 HFPO-DA | 332.10 > 287.00 | 6.950 | 6.954 | -0.004 | 130506 | NC | | | 713 | |
| D 15 18O2 PFHxS | 403.00 > 84.00 | 7.318 | 7.312 | 0.006 | 1709584 | 0.0520 | | 110 | 18000 | |
| D 17 13C4 PFHpA | 367.00 > 322.00 | 7.318 | 7.336 | -0.018 | 2927664 | 0.0585 | | 117 | 15093 | |
| D 20 13C2 PFOA | 415.00 > 370.00 | 7.886 | 7.853 | 0.033 | 24227 | NC | | 0.0 | 323 | |

Ratio Calibration: Average of Initial Calibration

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|-------------------------------|--------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| 23 6:2 FTS | | | | | | | | | | |
| 427.00 > 407.00 | 7.853 | 7.867 | -0.014 | 1.000 | 10788 | 0.000362 | Target=2.56 | | 130 | |
| 427.00 > 81.00 | 7.869 | 7.867 | 0.002 | 1.002 | 4079 | | 2.64(1.28-3.83) | | 8.9 | |
| D 22 M2-6:2 FTS | | | | | | | | | | |
| 429.00 > 81.00 | 7.853 | 7.867 | -0.014 | | 472064 | 0.0575 | | 121 | 1073 | |
| D 25 13C4 PFOA | | | | | | | | | | |
| 417.00 > 372.00 | 7.886 | 7.905 | -0.019 | | 3808202 | 0.0569 | | 114 | 15804 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | |
| 413.00 > 369.00 | 7.886 | 7.905 | -0.019 | 1.000 | 6413 | 0.00009249 | Target=1.58 | | 1.5 | |
| 413.00 > 169.00 | 7.886 | 7.905 | -0.019 | 1.000 | 5684 | | 1.13(0.79-2.37) | | 18.3 | |
| D 26 13C4 PFOS | | | | | | | | | | |
| 503.00 > 80.00 | 8.453 | 8.481 | -0.028 | | 1197712 | 0.0527 | | 110 | 3747 | |
| D 28 13C5 PFNA | | | | | | | | | | |
| 468.00 > 423.00 | 8.488 | 8.500 | -0.012 | | 3025188 | 0.0609 | | 122 | 16277 | |
| D 30 13C8 FOSA | | | | | | | | | | |
| 506.00 > 78.00 | 8.993 | 9.009 | -0.016 | | 2335990 | 0.0740 | | 148 | 8324 | |
| 31 Perfluorooctanesulfonamide | | | | | | | | | | |
| 498.00 > 78.00 | 8.993 | 9.009 | -0.016 | 1.000 | 2568 | 0.00005422 | | | 25.7 | |
| D 33 13C2 PFDA | | | | | | | | | | |
| 515.00 > 470.00 | 9.071 | 9.111 | -0.040 | | 2876144 | 0.0609 | | 122 | 15451 | |
| D 34 M2-8:2 FTS | | | | | | | | | | |
| 529.00 > 81.00 | 9.071 | 9.111 | -0.040 | | 500743 | 0.0654 | | 136 | 2729 | |
| D 37 d3-NMeFOSAA | | | | | | | | | | |
| 573.00 > 419.00 | 9.358 | 9.389 | -0.031 | | 1297973 | 0.0675 | | 135 | 10202 | |
| D 42 13C2 PFUnA | | | | | | | | | | |
| 565.00 > 520.00 | 9.633 | 9.678 | -0.045 | | 2888244 | 0.0629 | | 126 | 17513 | |
| D 40 d5-NEtFOSAA | | | | | | | | | | |
| 589.00 > 419.00 | 9.650 | 9.678 | -0.028 | | 1448225 | 0.0663 | | 133 | 5038 | |
| D 45 13C2 PFDoA | | | | | | | | | | |
| 615.00 > 570.00 | 10.190 | 10.223 | -0.033 | | 3384263 | 0.0703 | | 141 | 23512 | |
| D 51 13C2 PFTeDA | | | | | | | | | | |
| 715.00 > 670.00 | 11.204 | 11.253 | -0.049 | | 4215239 | 0.0749 | | 150 | 15376 | |
| D 52 13C2 PFHxDA | | | | | | | | | | |
| 815.00 > 770.00 | 12.173 | 12.225 | -0.052 | | 1877233 | 0.0577 | | 115 | 8015 | |

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

LCPFC-LL-L0_00024

Amount Added: 1.00

Units: mL

Data File: \\chromfs\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_010.d

Injection Date: 09-Feb-2021 13:04:57

Instrument ID: A10

Lims ID: ICB

Client ID:

Operator ID: Sac_inst_A10

ALS Bottle#: 10

Worklist Smp#: 10

Injection Vol: 950.0 ul

Dil. Factor: 1.0000

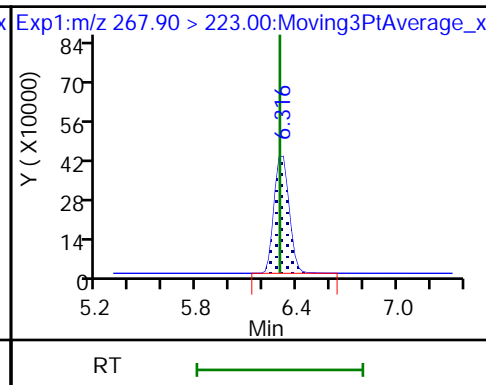
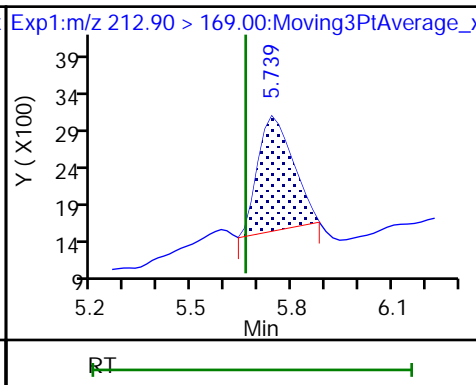
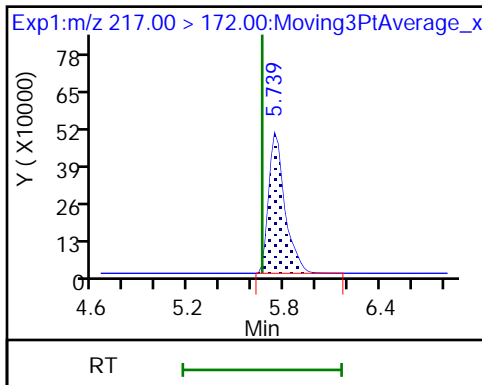
Method: A10_In_Line_SPE

Limit Group: LC PFAS_DW ICAL

D 2 13C4 PFBA

1 Perfluorobutanoic acid

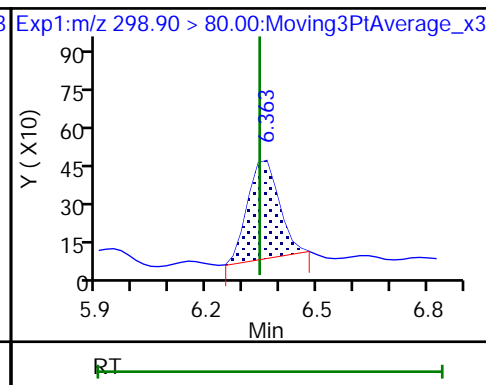
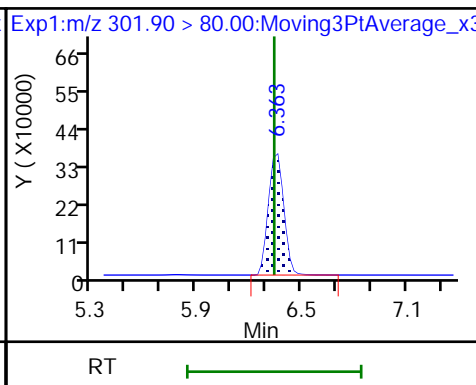
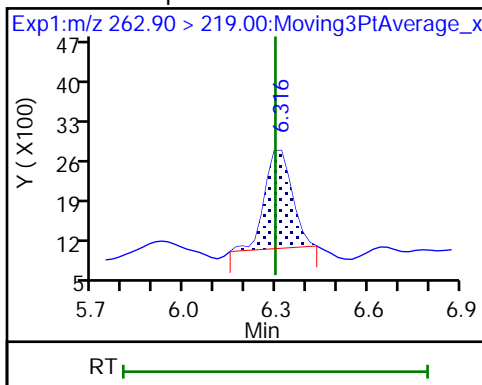
D 4 13C5 PFPeA



5 Perfluoropentanoic acid

D 3 13C3 PFBS

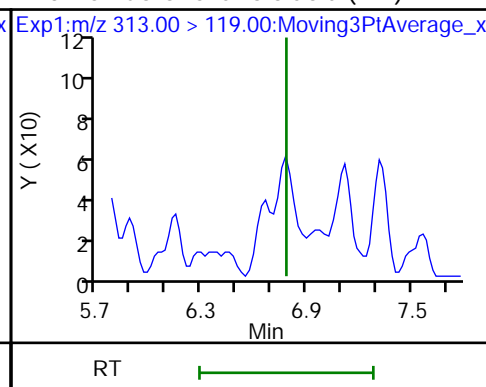
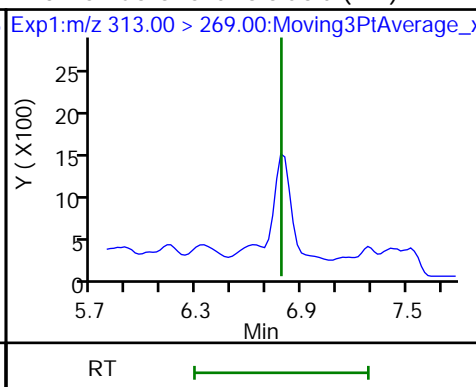
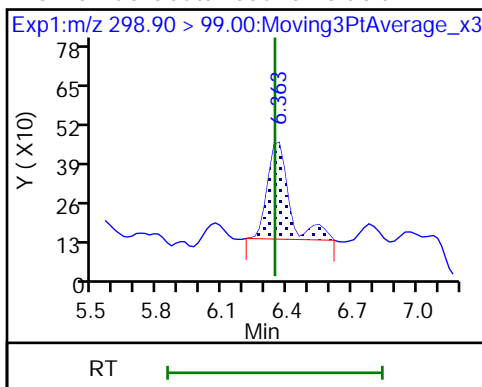
6 Perfluorobutanesulfonic acid



6 Perfluorobutanesulfonic acid

10 Perfluorohexanoic acid (ND)

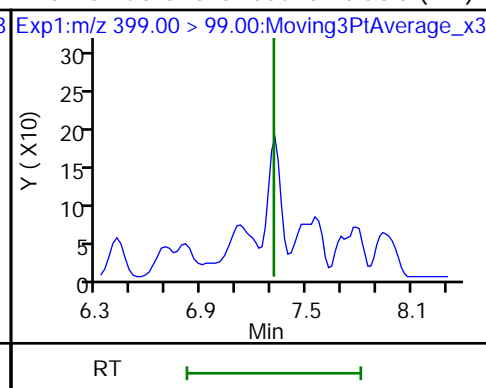
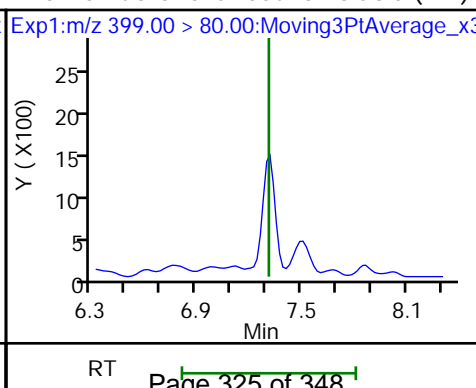
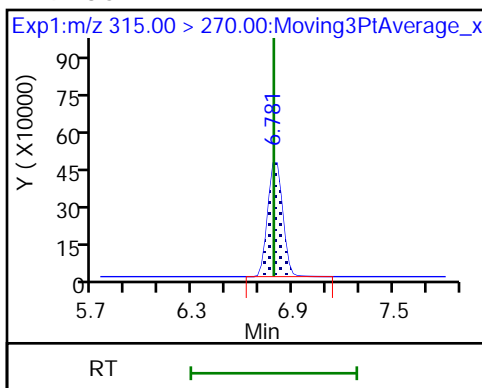
10 Perfluorohexanoic acid (ND)



D 9 13C2 PFHxA

16 Perfluorohexanesulfonic acid (ND)

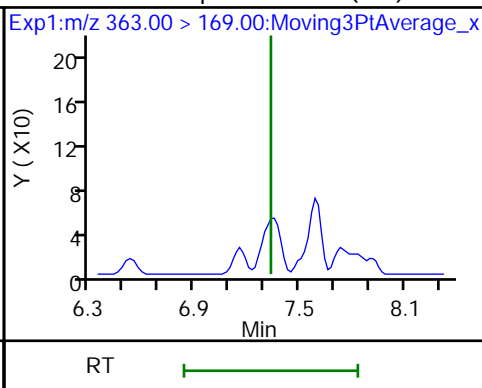
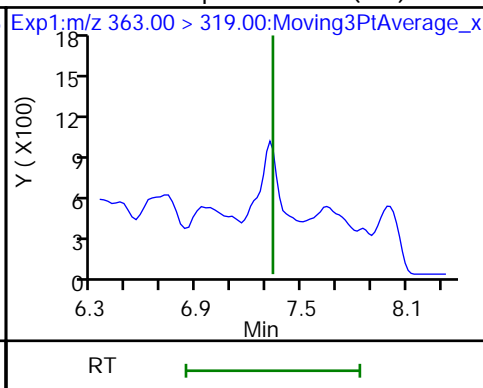
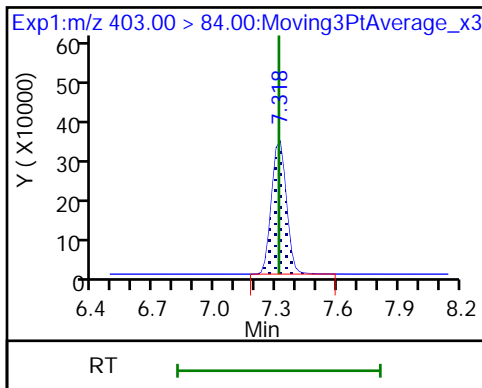
16 Perfluorohexanesulfonic acid (ND)



D 15 18O2 PFHxS

18 Perfluoroheptanoic acid (ND)

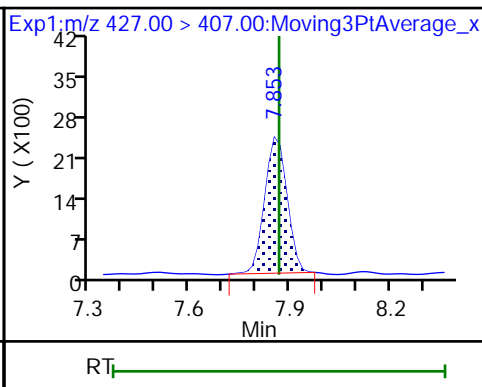
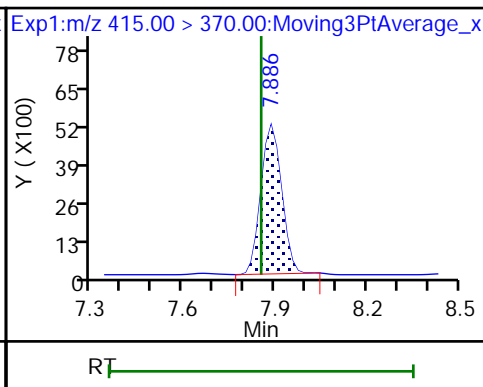
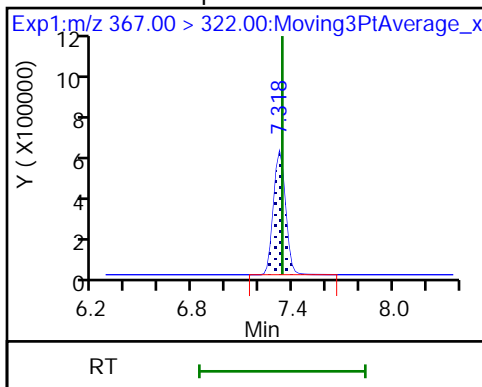
18 Perfluoroheptanoic acid (ND)



D 17 13C4 PFHpA

D 20 13C2 PFOA

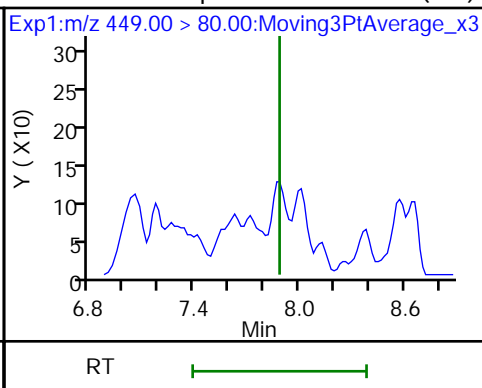
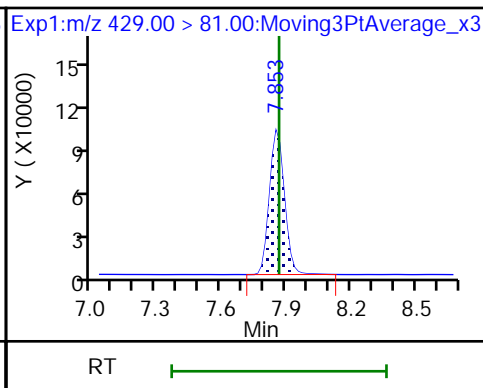
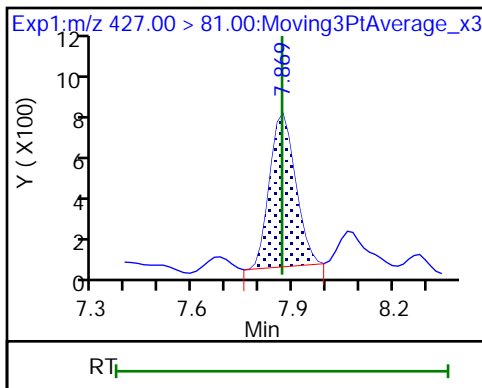
23 6:2 FTS



23 6:2 FTS

D 22 M2-6:2 FTS

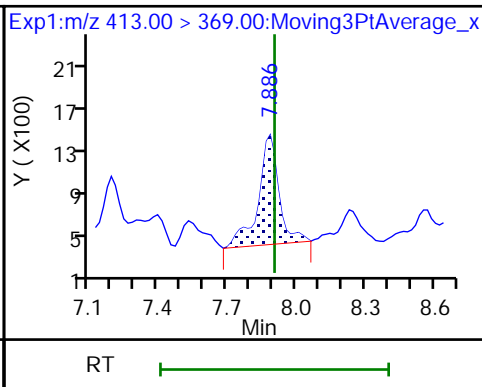
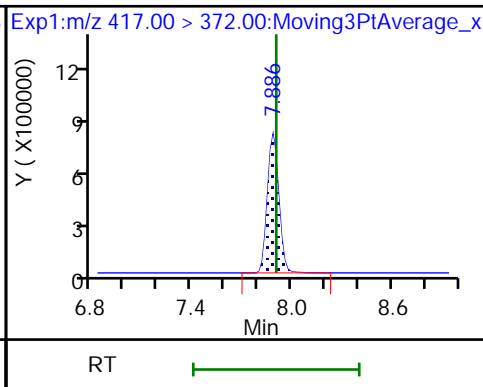
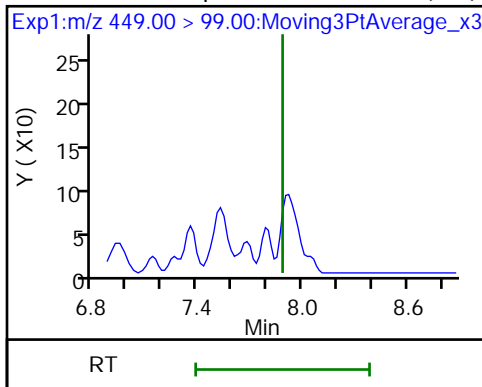
21 Perfluoroheptanesulfonic acid (ND)

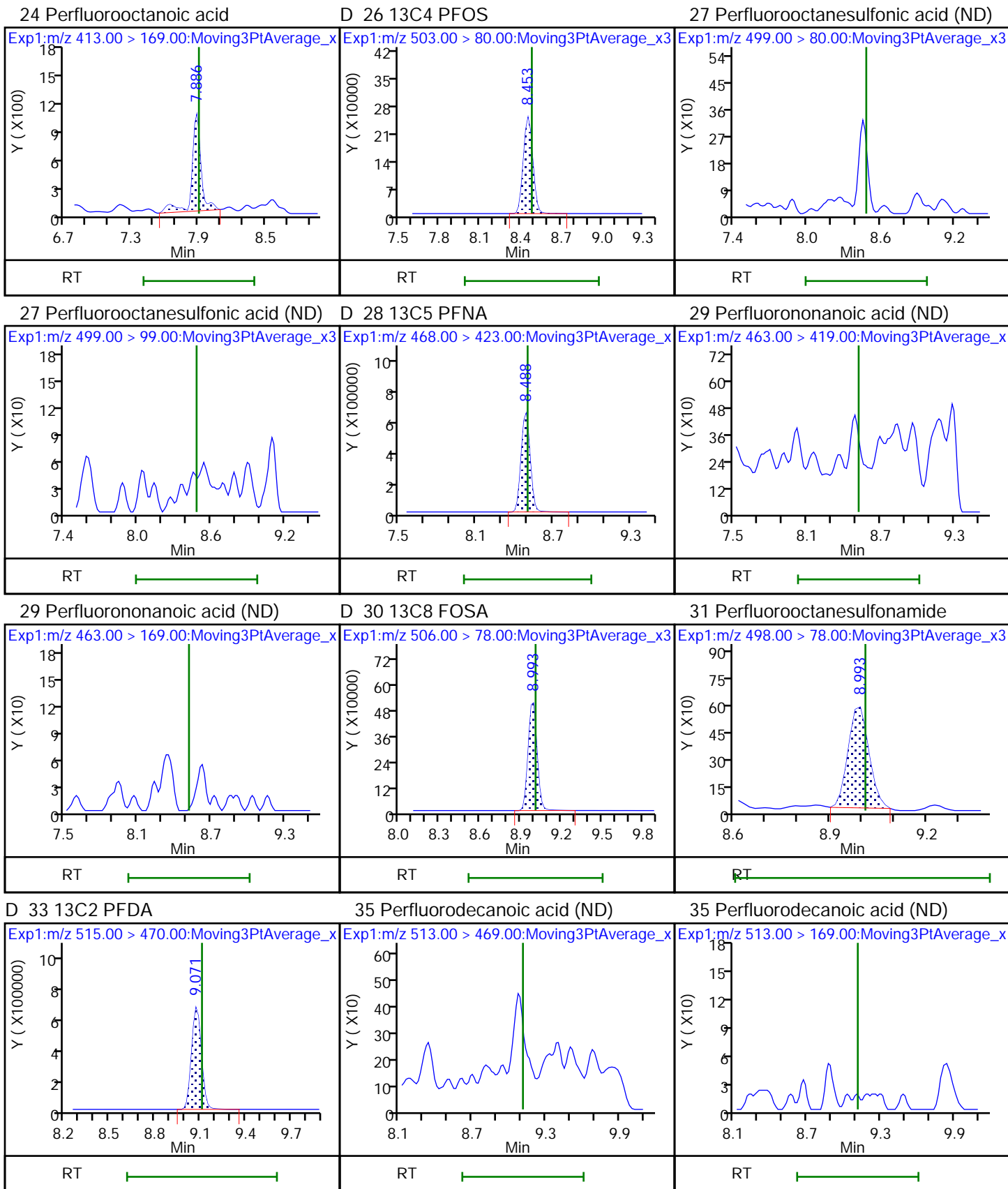


21 Perfluoroheptanesulfonic acid (ND)

D 25 13C4 PFOA

24 Perfluorooctanoic acid

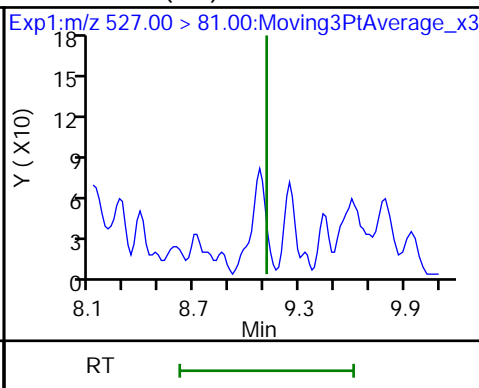
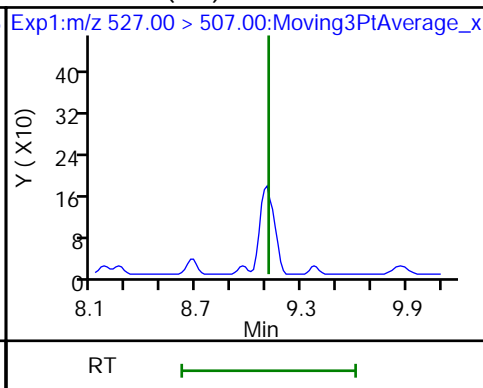
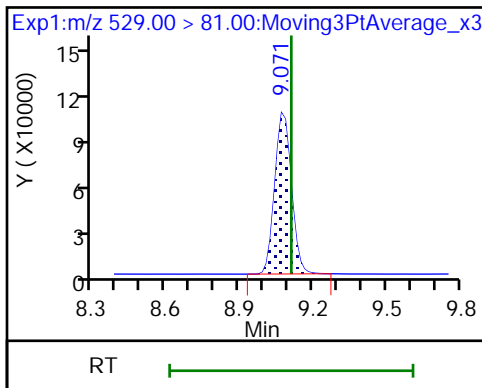




D 34 M2-8:2 FTS

36 8:2 FTS (ND)

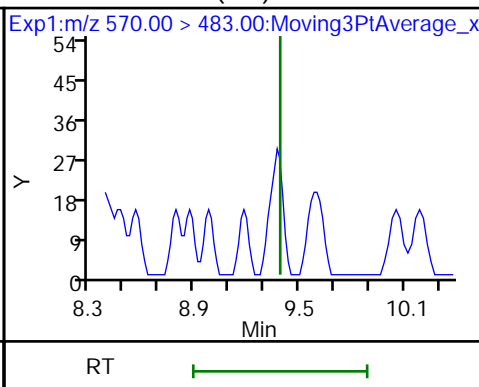
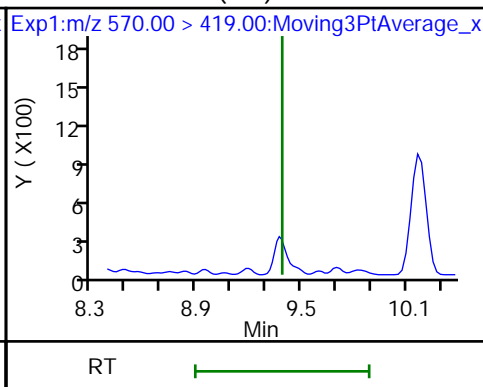
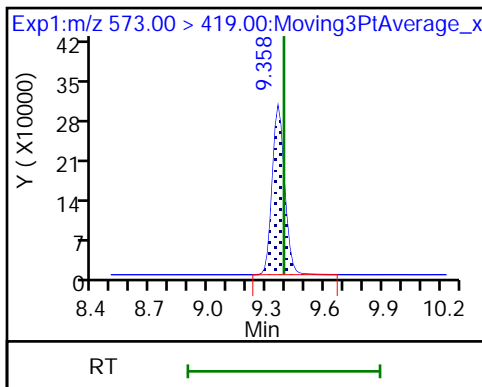
36 8:2 FTS (ND)



D 37 d3-NMeFOSAA

38 NMeFOSAA (ND)

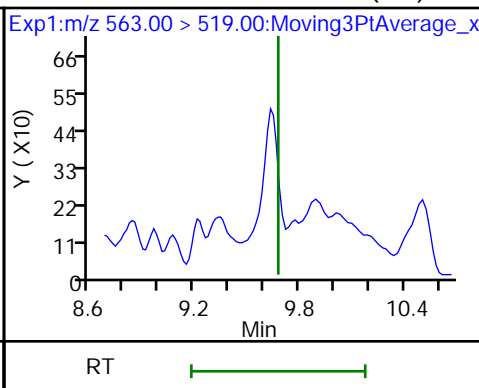
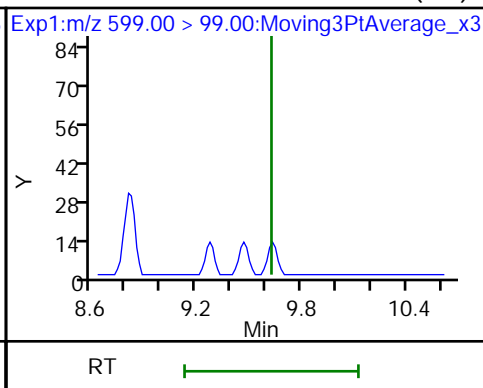
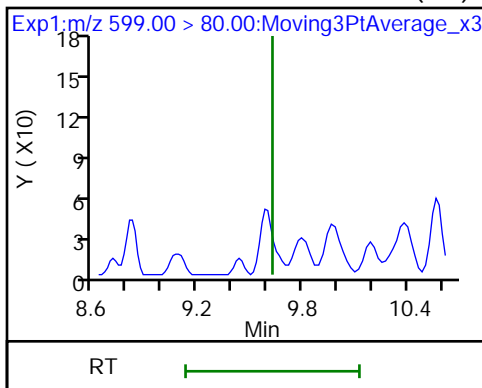
38 NMeFOSAA (ND)



39 Perfluorodecanesulfonic acid (ND)

39 Perfluorodecanesulfonic acid (ND)

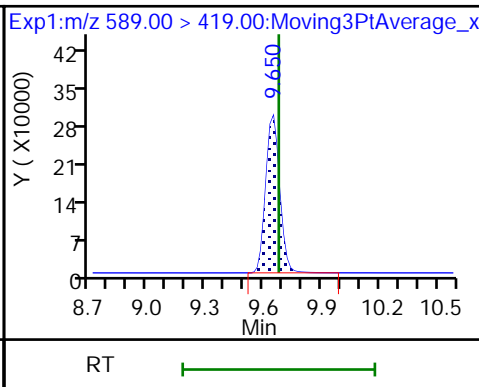
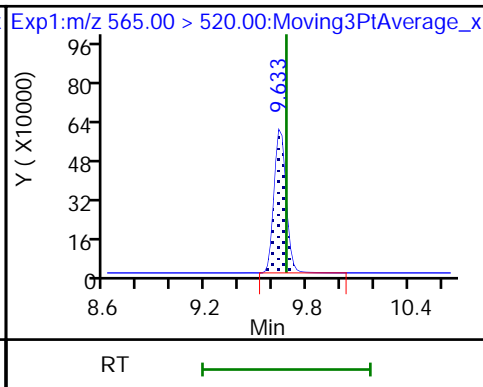
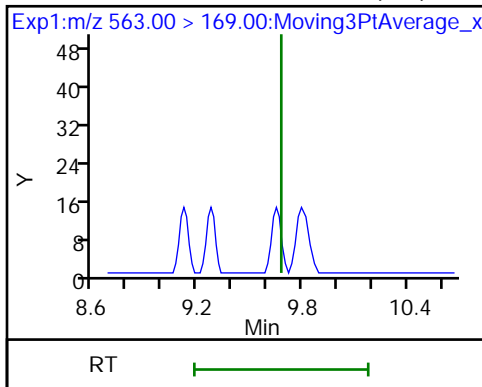
41 Perfluoroundecanoic acid (ND)

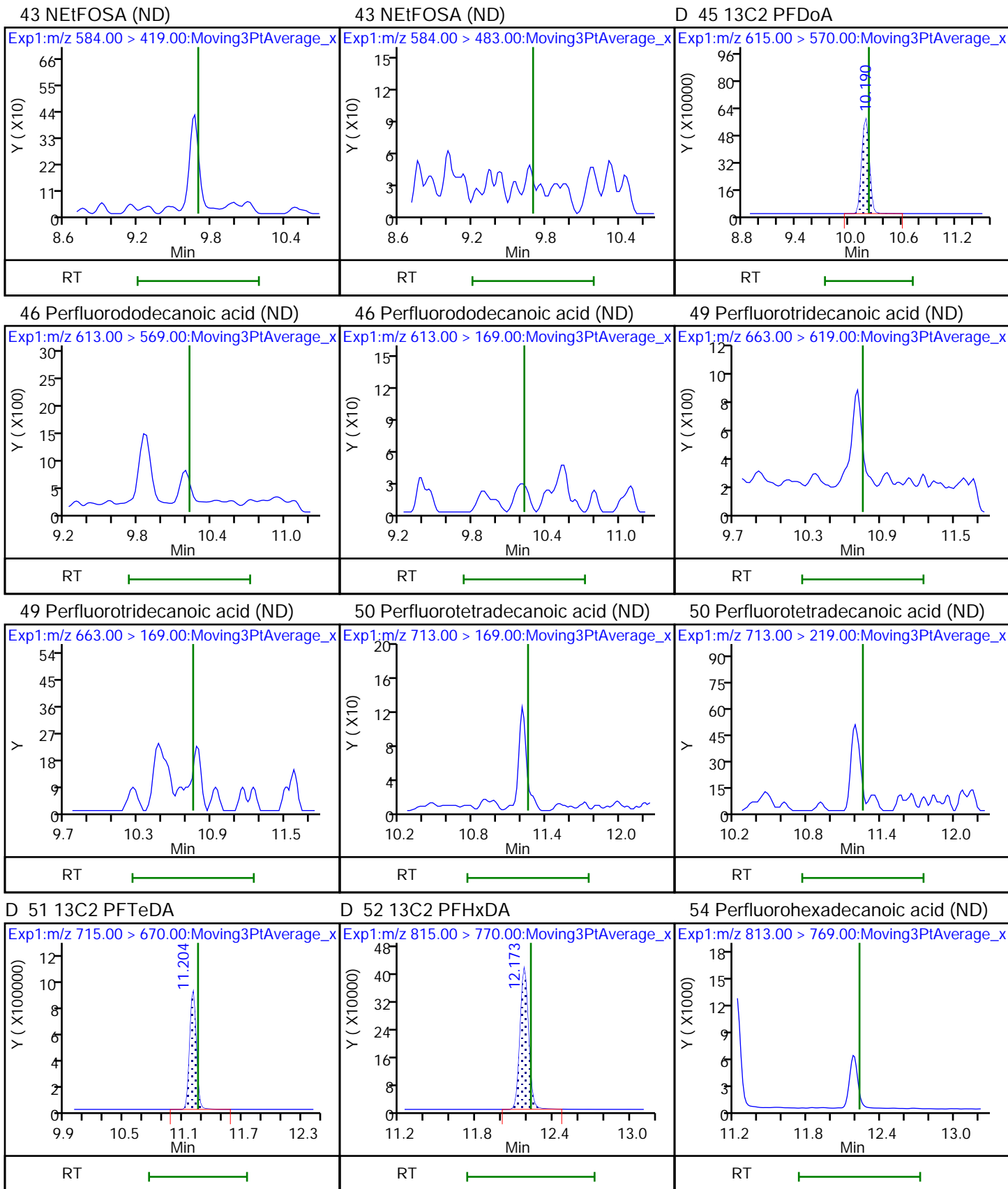


41 Perfluoroundecanoic acid (ND)

D 42 13C2 PFUnA

D 40 d5-NEtFOSAA

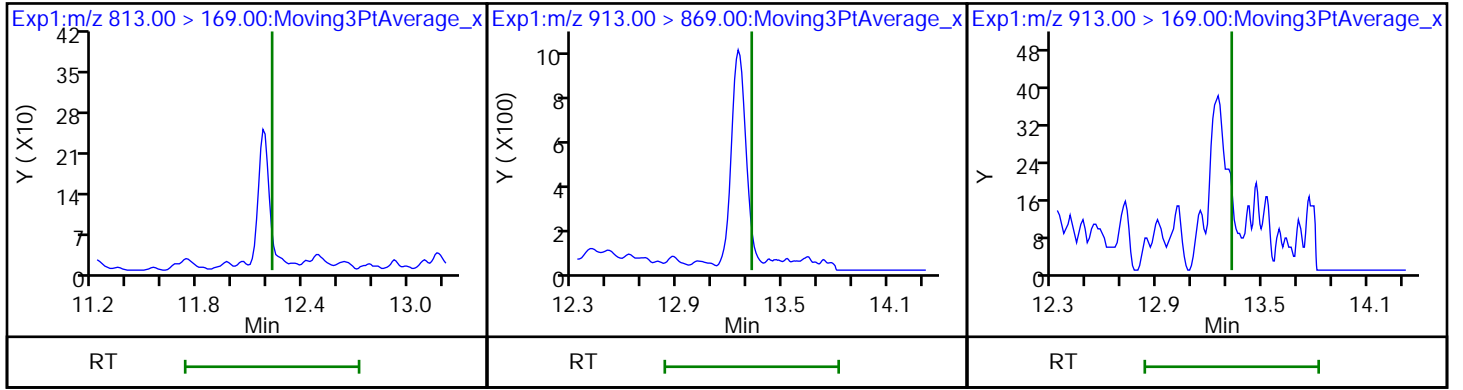




54 Perfluorohexadecanoic acid (ND)

53 Perfluorooctadecanoic acid (ND)

53 Perfluorooctadecanoic acid (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: LCS 320-461652/2-A
 Matrix: Water Lab File ID: 2021.02.13_A10_DI_A_011.d
 Analysis Method: WS-LC-0025 Att1 Date Collected: _____
 Extraction Method: PFAS Prep Date Extracted: 02/12/2021 12:41
 Sample wt/vol: 1.00 (mL) Date Analyzed: 02/13/2021 11:40
 Con. Extract Vol.: 1.66 (mL) Dilution Factor: 1
 Injection Volume: 950 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 461813 Units: ng/L

| CAS NO. | COMPOUND NAME | RESULT | Q | RL | |
|-----------|--------------------------------------|--------|---|-----|--|
| 375-73-5 | Perfluorobutanesulfonic acid (PFBS) | 16.4 | | 2.0 | |
| 355-46-4 | Perfluorohexanesulfonic acid (PFHxS) | 16.5 | | 2.0 | |
| 375-85-9 | Perfluoroheptanoic acid (PFHpA) | 19.5 | | 2.0 | |
| 335-67-1 | Perfluorooctanoic acid (PFOA) | 19.2 | | 2.0 | |
| 1763-23-1 | Perfluorooctanesulfonic acid (PFOS) | 17.3 | | 2.0 | |
| 375-95-1 | Perfluorononanoic acid (PFNA) | 19.8 | | 2.0 | |

| CAS NO. | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00994 | 18O2 PFHxS | 114 | | 25-150 |
| STL01892 | 13C4 PFHpA | 113 | | 25-150 |
| STL00990 | 13C4 PFOA | 110 | | 70-130 |
| STL00991 | 13C4 PFOS | 106 | | 70-130 |
| STL00995 | 13C5 PFNA | 112 | | 25-150 |
| STL02337 | 13C3 PFBS | 99 | | 25-150 |

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfms\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_011.d
 Lims ID: LCS 320-461652/2-A
 Client ID:
 Sample Type: LCS
 Inject. Date: 13-Feb-2021 11:40:48 ALS Bottle#: 11 Worklist Smp#: 4
 Injection Vol: 950.0 ul Dil. Factor: 1.0000
 Sample Info: lcs 320-461652/2-a
 Misc. Info.: Plate: 1 Rack: 1
 Operator ID: Sac_inst_A10 Instrument ID: A10
 Method: \\chromfms\Sacramento\ChromData\A10\20210213-113297.b\A10_In_Line_SPE.m
 Limit Group: LC PFAS_DW ICAL
 Last Update: 15-Feb-2021 04:13:21 Calib Date: 09-Feb-2021 12:46:31
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfms\Sacramento\ChromData\A10\20210209-112975.b\2021.02.09_A10_DI_ICAL_A_009.d
 Column 1 : Gemini C18 3um 3 x 100mm (3.00 mm) Det: EXP1
 Process Host: CTX1652

First Level Reviewer: ruangyotsakuld Date: 15-Feb-2021 04:13:21
 Ratio Calibration: CCV Sample: \\chromfms\Sacramento\ChromData\A10\20210213-113297.b\2021.02.13_A10_DI_A_009.d

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-----------------|--------|--------|--------|----------|--------------|-------------------|--------------|-------|-------|
| D 2 13C4 PFBA | 217.00 > 172.00 | 5.661 | 5.742 | -0.081 | 3151708 | 0.0537 | | 107 | 18850 | |
| 1 Perfluorobutanoic acid | 212.90 > 169.00 | 5.661 | 5.763 | -0.102 | 1.000 | 638939 | 0.0114 | 94.4 | 260 | |
| D 4 13C5 PFPeA | 267.90 > 223.00 | 6.254 | 6.297 | -0.043 | 2181131 | 0.0496 | | 99.3 | 15648 | |
| 5 Perfluoropentanoic acid | 262.90 > 219.00 | 6.254 | 6.297 | -0.043 | 1.000 | 521510 | 0.0110 | 91.7 | 230 | |
| D 3 13C3 PFBS | 301.90 > 80.00 | 6.320 | 6.343 | -0.023 | 1878592 | 0.0461 | | 99.1 | 8015 | |
| 6 Perfluorobutanesulfonic acid | 298.90 > 80.00 | 6.320 | 6.343 | -0.023 | 1.000 | 417211 | 0.009852 | Target=1.49 | 92.5 | 1475 |
| | 298.90 > 99.00 | 6.320 | 6.343 | -0.023 | 1.000 | 292225 | 1.43(0.74-2.23) | | 439 | |
| 8 4:2 FTS | 327.00 > 307.00 | 6.692 | 6.715 | -0.023 | 1.000 | 301456 | NC | Target=2.60 | 3789 | |
| | 327.00 > 81.00 | 6.692 | 6.715 | -0.023 | 1.000 | 123101 | 2.45(1.30-3.89) | | 363 | |
| D 7 M2-4:2 FTS | 329.00 > 81.00 | 6.692 | 6.715 | -0.023 | 487696 | NC | | | 1521 | |
| 10 Perfluorohexanoic acid | 313.00 > 269.00 | 6.738 | 6.761 | -0.023 | 1.000 | 550552 | 0.0118 | Target=19.91 | 98.3 | 436 |
| | 313.00 > 119.00 | 6.738 | 6.761 | -0.023 | 1.000 | 26121 | 21.08(9.95-29.86) | | 230 | |
| D 9 13C2 PFHxA | 315.00 > 270.00 | 6.738 | 6.761 | -0.023 | 2342937 | 0.0494 | | 98.8 | 14891 | |
| 11 Perfluoropentanesulfonic acid | 349.00 > 80.00 | 6.761 | 6.784 | -0.023 | 0.933 | 420148 | NC | Target=1.41 | 1090 | |
| | 349.00 > 99.00 | 6.761 | 6.784 | -0.023 | 0.933 | 281599 | 1.49(0.71-2.12) | | 1017 | |
| D 12 13C3 HFPO-DA | 332.10 > 287.00 | 6.880 | 6.904 | -0.024 | 123714 | NC | | | 1092 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|----------------------------------|-------|--------|--------|--------|----------|--------------|------------------|------|-------|-------|
| 13 HPFO-DA | | | | | | | | | | |
| 329.10 > 285.00 | 6.880 | 6.904 | -0.024 | 1.000 | 85799 | NC | | | 87.1 | |
| 14 9CIFOS | | | | | | | | | | |
| 531.00 > 351.00 | 7.104 | 7.159 | -0.055 | 0.844 | 3644 | NC | | | 2.4 | |
| 16 Perfluorohexanesulfonic acid | | | | | | | | | | |
| 399.00 > 80.00 | 7.248 | 7.285 | -0.037 | 1.000 | 424846 | 0.0099 | Target=5.27 | 90.4 | 1178 | |
| 399.00 > 99.00 | 7.248 | 7.285 | -0.037 | 1.000 | 73481 | | 5.78(2.63-7.90) | | 271 | |
| D 15 18O2 PFHxS | | | | | | | | | | |
| 403.00 > 84.00 | 7.248 | 7.285 | -0.037 | | 1779538 | 0.0542 | | 114 | 32212 | |
| 18 Perfluoroheptanoic acid | | | | | | | | | | |
| 363.00 > 319.00 | 7.267 | 7.285 | -0.018 | 1.000 | 646424 | 0.0117 | Target=9.84 | 97.3 | 132 | |
| 363.00 > 169.00 | 7.267 | 7.285 | -0.018 | 1.000 | 69671 | | 9.28(4.92-14.76) | | 1275 | |
| D 17 13C4 PFHpA | | | | | | | | | | |
| 367.00 > 322.00 | 7.267 | 7.285 | -0.018 | | 2825741 | 0.0565 | | 113 | 17933 | |
| 19 DONA | | | | | | | | | | |
| 377.00 > 251.00 | 7.322 | 7.341 | -0.019 | 0.870 | 2642896 | NC | Target=2.82 | | 11357 | |
| 377.00 > 85.00 | 7.322 | 7.341 | -0.019 | 0.870 | 942736 | | 2.80(1.41-4.24) | | 3008 | |
| 23 6:2 FTS | | | | | | | | | | |
| 427.00 > 407.00 | 7.807 | 7.823 | -0.016 | 1.000 | 406158 | 0.009844 | Target=2.68 | 86.2 | 4246 | |
| 427.00 > 81.00 | 7.807 | 7.823 | -0.016 | 1.000 | 166345 | | 2.44(1.34-4.02) | | 548 | |
| D 22 M2-6:2 FTS | | | | | | | | | | |
| 429.00 > 81.00 | 7.807 | 7.823 | -0.016 | | 653591 | 0.0796 | | 168 | 2438 | |
| 21 Perfluoroheptanesulfonic acid | | | | | | | | | | |
| 449.00 > 80.00 | 7.823 | 7.840 | -0.017 | 0.930 | 364017 | 0.0118 | Target=6.65 | 103 | 1711 | |
| 449.00 > 99.00 | 7.823 | 7.840 | -0.017 | 0.930 | 46800 | | 7.78(3.33-9.98) | | 346 | |
| D 25 13C4 PFOA | | | | | | | | | | |
| 417.00 > 372.00 | 7.840 | 7.856 | -0.016 | | 3676652 | 0.0549 | | 110 | 20325 | |
| 24 Perfluorooctanoic acid | | | | | | | | | | |
| 413.00 > 369.00 | 7.840 | 7.856 | -0.016 | 1.000 | 774563 | 0.0116 | Target=1.60 | 96.0 | 201 | |
| 413.00 > 169.00 | 7.840 | 7.856 | -0.016 | 1.000 | 504484 | | 1.54(0.80-2.40) | | 2972 | |
| D 26 13C4 PFOS | | | | | | | | | | |
| 503.00 > 80.00 | 8.414 | 8.448 | -0.034 | | 1156393 | 0.0508 | | 106 | 6407 | |
| 27 Perfluorooctanesulfonic acid | | | | | | | | | | |
| 499.00 > 80.00 | 8.414 | 8.448 | -0.034 | 1.000 | 256587 | 0.0104 | Target=3.73 | 93.1 | 1975 | |
| 499.00 > 99.00 | 8.414 | 8.448 | -0.034 | 1.000 | 74790 | | 3.43(1.86-5.59) | | 392 | |
| D 28 13C5 PFNA | | | | | | | | | | |
| 468.00 > 423.00 | 8.448 | 8.465 | -0.017 | | 2776752 | 0.0559 | | 112 | 10187 | |
| 29 Perfluorononanoic acid | | | | | | | | | | |
| 463.00 > 419.00 | 8.448 | 8.465 | -0.017 | 1.000 | 629285 | 0.0119 | Target=8.19 | 99.0 | 319 | |
| 463.00 > 169.00 | 8.448 | 8.465 | -0.017 | 1.000 | 87759 | | 7.17(4.09-12.28) | | 1144 | |
| D 30 13C8 FOSA | | | | | | | | | | |
| 506.00 > 78.00 | 8.950 | 8.966 | -0.016 | | 1636739 | 0.0519 | | 104 | 6856 | |
| 31 Perfluorooctanesulfonamide | | | | | | | | | | |
| 498.00 > 78.00 | 8.950 | 8.966 | -0.016 | 1.000 | 313110 | 0.009436 | | 78.3 | 2974 | |
| 32 Perfluorononanesulfonic acid | | | | | | | | | | |
| 549.00 > 80.00 | 9.012 | 9.044 | -0.032 | 1.071 | 201568 | NC | Target=5.80 | | 2907 | |
| 549.00 > 99.00 | 9.012 | 9.044 | -0.032 | 1.071 | 33468 | | 6.02(2.90-8.71) | | 344 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|---------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| D 33 13C2 PFDA | | | | | | | | | | |
| 515.00 > 470.00 | 9.043 | 9.075 | -0.032 | | 2599011 | 0.0551 | | 110 | 14004 | |
| 35 Perfluorodecanoic acid | | | | | | | | | | |
| 513.00 > 469.00 | 9.043 | 9.075 | -0.032 | 1.000 | 473240 | 0.0109 | Target=16.01 | 90.8 | 494 | |
| 513.00 > 169.00 | 9.043 | 9.075 | -0.032 | 1.000 | 27295 | | 17.34(8.00-24.01) | | 223 | |
| D 34 M2-8:2 FTS | | | | | | | | | | |
| 529.00 > 81.00 | 9.043 | 9.075 | -0.032 | | 497519 | 0.0650 | | 136 | 3161 | |
| 36 8:2 FTS | | | | | | | | | | |
| 527.00 > 507.00 | 9.043 | 9.075 | -0.032 | 1.000 | 288841 | 0.0118 | Target=2.20 | 102 | 3056 | |
| 527.00 > 81.00 | 9.043 | 9.075 | -0.032 | 1.000 | 124388 | | 2.32(1.10-3.30) | | 795 | |
| 38 NMeFOSAA | | | | | | | | | | |
| 570.00 > 419.00 | 9.348 | 9.248 | 0.100 | 1.001 | 221246 | 0.0103 | Target=17.44 | 85.6 | 932 | |
| 570.00 > 483.00 | 9.348 | 9.248 | 0.100 | 1.001 | 17466 | | 12.67(8.72-26.16) | | 279 | |
| D 37 d3-NMeFOSAA | | | | | | | | | | |
| 573.00 > 419.00 | 9.335 | 9.361 | -0.026 | | 1254349 | 0.0652 | | 130 | 4811 | |
| 43 NEtFOSA | | | | | | | | | | |
| 584.00 > 419.00 | 9.629 | 9.533 | 0.096 | 1.000 | 238331 | 0.0102 | Target=12.80 | 84.3 | 3240 | |
| 584.00 > 483.00 | 9.629 | 9.533 | 0.096 | 1.000 | 15068 | | 15.82(6.40-19.21) | | 99.1 | |
| 39 Perfluorodecanesulfonic acid | | | | | | | | | | |
| 599.00 > 80.00 | 9.564 | 9.597 | -0.033 | 1.137 | 150879 | 0.009359 | Target=2.55 | 80.6 | 1901 | |
| 599.00 > 99.00 | 9.564 | 9.597 | -0.033 | 1.137 | 59824 | | 2.52(1.28-3.83) | | 1169 | |
| 41 Perfluoroundecanoic acid | | | | | | | | | | |
| 563.00 > 519.00 | 9.612 | 9.645 | -0.033 | 1.000 | 421168 | 0.0102 | Target=19.69 | 84.7 | 386 | |
| 563.00 > 169.00 | 9.612 | 9.645 | -0.033 | 1.000 | 19615 | | 21.47(9.85-29.54) | | 447 | |
| D 42 13C2 PFUnA | | | | | | | | | | |
| 565.00 > 520.00 | 9.612 | 9.645 | -0.033 | | 2340955 | 0.0510 | | 102 | 23670 | |
| D 40 d5-NEtFOSAA | | | | | | | | | | |
| 589.00 > 419.00 | 9.629 | 9.661 | -0.032 | | 1345968 | 0.0617 | | 123 | 7529 | |
| 44 11C1FOS | | | | | | | | | | |
| 631.00 > 451.00 | 9.859 | 9.908 | -0.049 | 1.172 | 1135074 | NC | | | 2742 | |
| D 45 13C2 PFDaA | | | | | | | | | | |
| 615.00 > 570.00 | 10.174 | 10.197 | -0.023 | | 2622540 | 0.0545 | | 109 | 22084 | |
| 46 Perfluorododecanoic acid | | | | | | | | | | |
| 613.00 > 569.00 | 10.174 | 10.197 | -0.023 | 1.000 | 416870 | 0.008973 | Target=16.41 | 74.5 | 147 | |
| 613.00 > 169.00 | 10.174 | 10.197 | -0.023 | 1.000 | 28472 | | 14.64(8.21-24.62) | | 400 | |
| 47 10:2 FTS | | | | | | | | | | |
| 627.00 > 607.00 | 10.196 | 10.241 | -0.045 | 1.127 | 387306 | NC | Target=32.29 | | 3918 | |
| 627.00 > 81.00 | 10.196 | 10.241 | -0.045 | 1.127 | 10428 | | 37.14(16.14-48.43) | | 352 | |
| 48 PFDaS | | | | | | | | | | |
| 699.00 > 80.00 | 10.620 | 10.656 | -0.036 | 1.262 | 69996 | NC | Target=0.46 | | 1383 | |
| 699.00 > 99.00 | 10.620 | 10.656 | -0.036 | 1.262 | 153272 | | 0.46(0.23-0.69) | | 1787 | |
| 49 Perfluorotridecanoic acid | | | | | | | | | | |
| 663.00 > 619.00 | 10.691 | 10.727 | -0.036 | 1.051 | 598842 | 0.009550 | Target=18.39 | 79.3 | 168 | |
| 663.00 > 169.00 | 10.691 | 10.727 | -0.036 | 1.051 | 29690 | | 20.17(9.20-27.59) | | 439 | |
| D 51 13C2 PFTeDA | | | | | | | | | | |
| 715.00 > 670.00 | 11.189 | 11.233 | -0.044 | | 2705117 | 0.0481 | | 96.1 | 15651 | |

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------------------------------|--------|--------|--------|--------|----------|--------------|--------------------|------|-------|-------|
| 50 Perfluorotetradecanoic acid | | | | | | | | | | |
| 713.00 > 169.00 | 11.189 | 11.233 | -0.044 | 1.000 | 26027 | 0.0117 | Target=1.26 | 96.8 | 819 | |
| 713.00 > 219.00 | 11.189 | 11.233 | -0.044 | 1.000 | 20110 | | 1.29(0.63-1.90) | | 720 | |
| D 52 13C2 PFHxDA | | | | | | | | | | |
| 815.00 > 770.00 | 12.159 | 12.234 | -0.075 | | 2753640 | 0.0847 | | 169 | 12041 | |
| 54 Perfluorohexadecanoic acid | | | | | | | | | | |
| 813.00 > 769.00 | 12.172 | 12.234 | -0.062 | 1.001 | 607745 | 0.0110 | Target=32.38 | 91.5 | 253 | |
| 813.00 > 169.00 | 12.159 | 12.234 | -0.075 | 1.000 | 21674 | | 28.04(16.19-48.58) | | 468 | |
| 53 Perfluorooctadecanoic acid | | | | | | | | | | |
| 913.00 > 869.00 | 13.254 | 12.810 | 0.444 | 1.090 | 251241 | 0.0215 | Target=44.52 | 178 | 141 | |
| 913.00 > 169.00 | 13.254 | 12.810 | 0.444 | 1.090 | 7488 | | 33.55(22.26-66.78) | | 197 | |

QC Flag Legend

Processing Flags

NC - Not Calibrated

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Injection Date: 13-Feb-2021 11:40:48

Instrument ID: A10

Lims ID: LCS 320-461652/2-A

Client ID:

Operator ID: Sac_inst_A10

ALS Bottle#: 11

Worklist Smp#: 4

Injection Vol: 950.0 ul

Dil. Factor: 1.0000

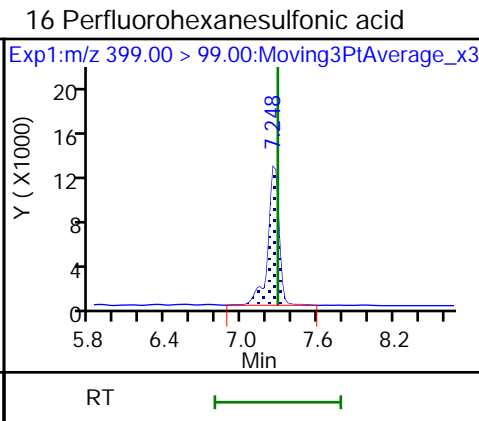
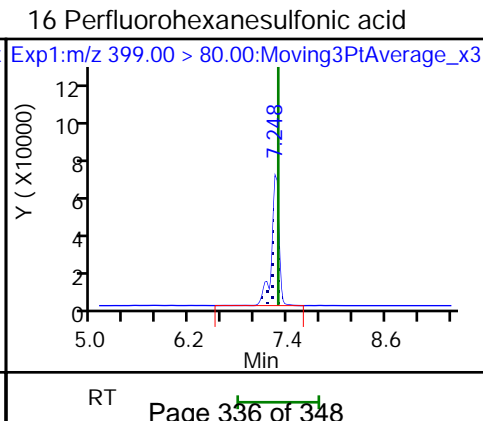
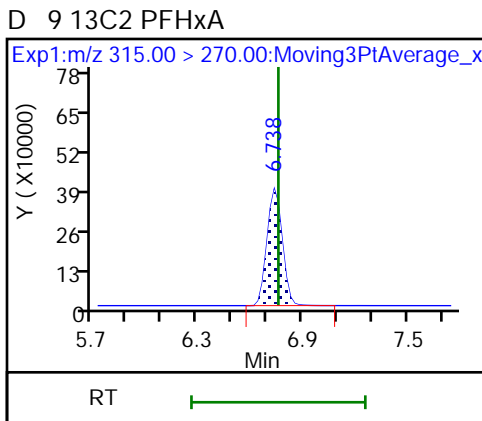
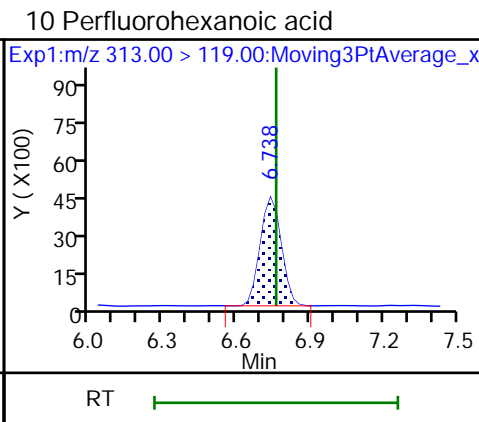
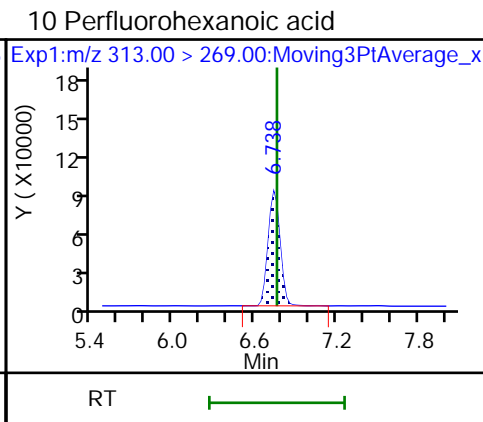
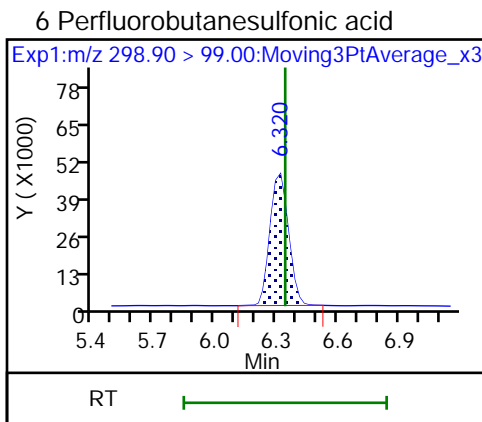
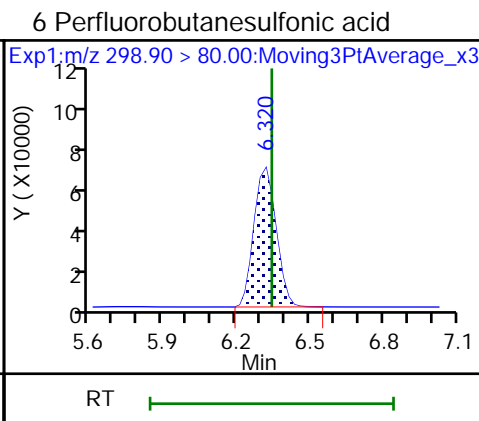
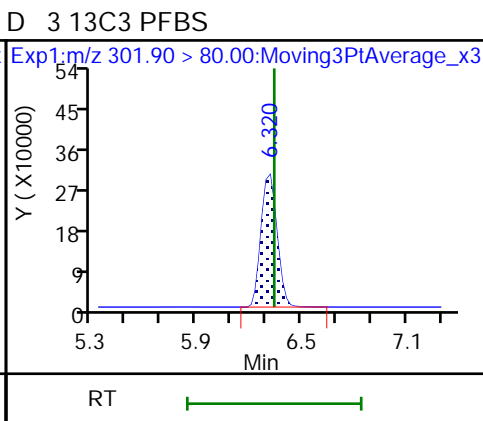
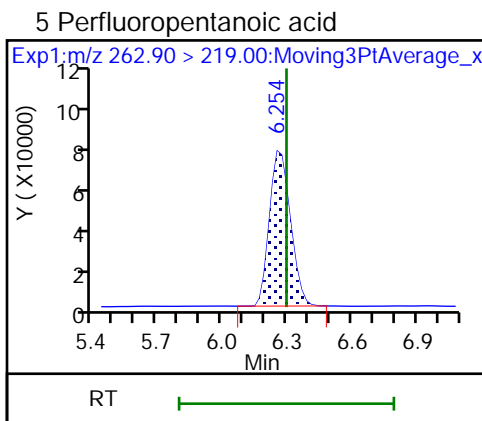
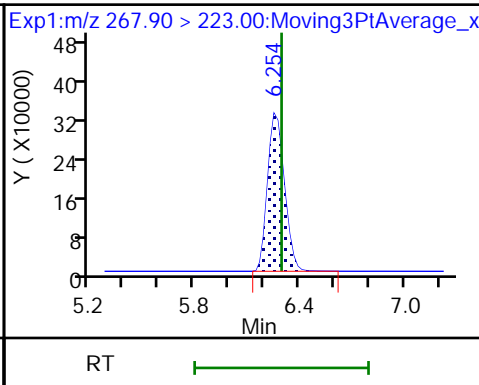
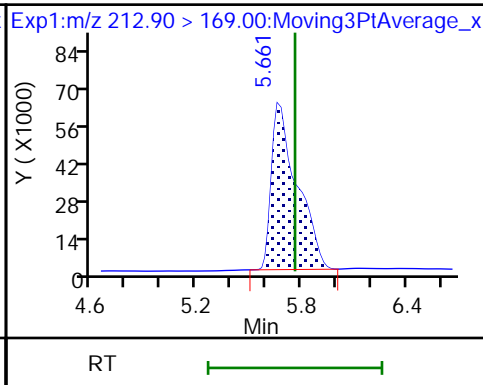
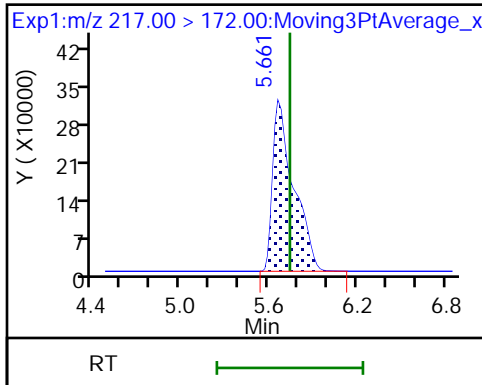
Method: A10_In_Line_SPE

Limit Group: LC PFAS_DW ICAL

D 2 13C4 PFBA

1 Perfluorobutanoic acid

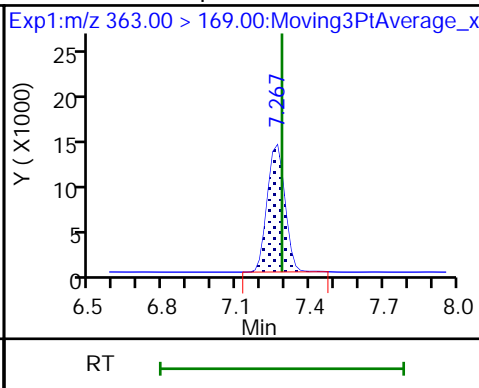
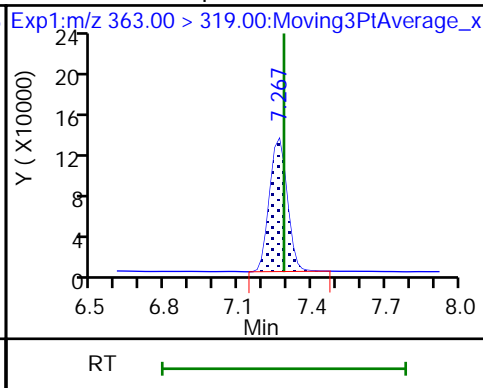
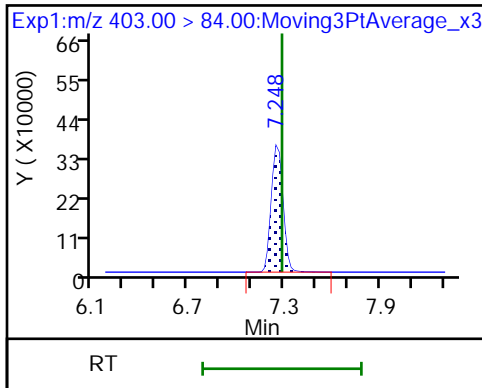
D 4 13C5 PFPeA



D 15 18O2 PFHxS

18 Perfluoroheptanoic acid

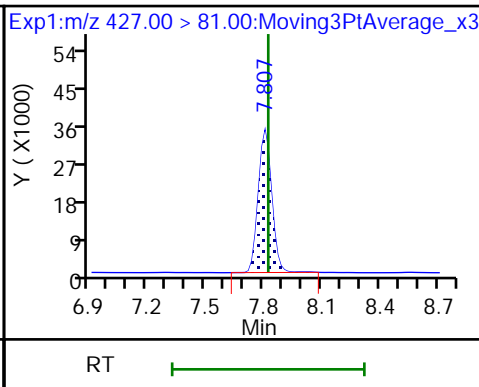
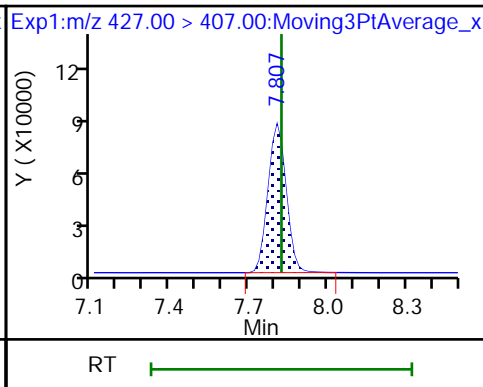
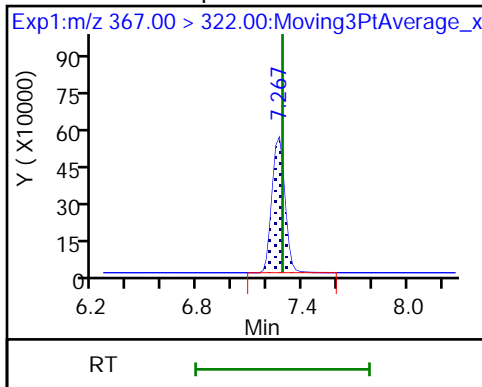
18 Perfluoroheptanoic acid



D 17 13C4 PFHpA

23 6:2 FTS

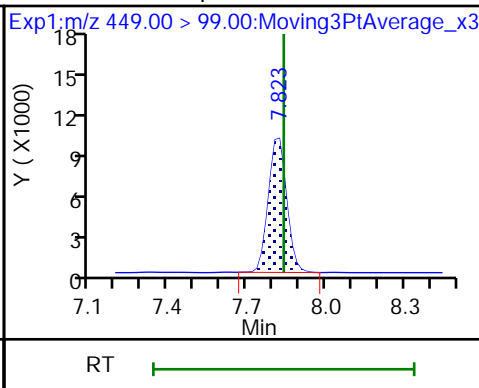
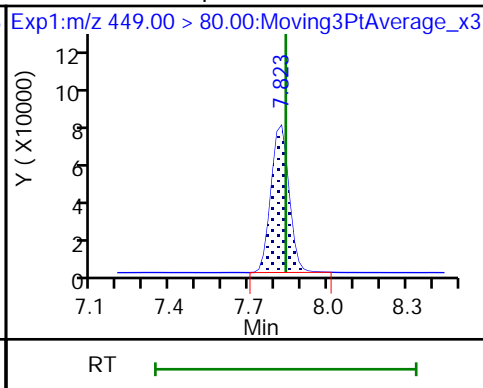
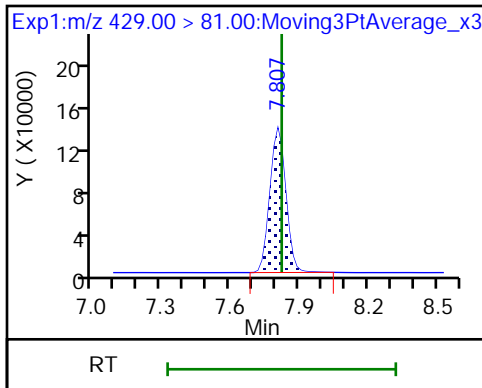
23 6:2 FTS



D 22 M2-6:2 FTS

21 Perfluoroheptanesulfonic acid

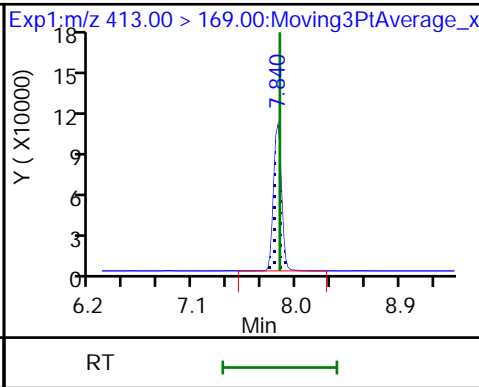
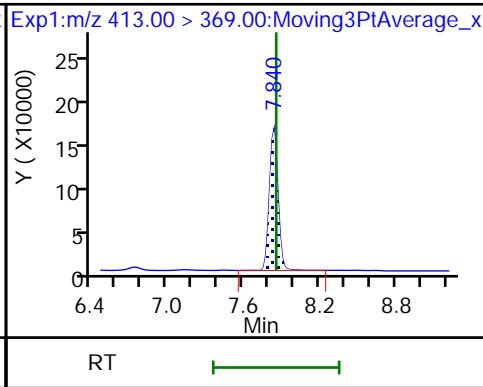
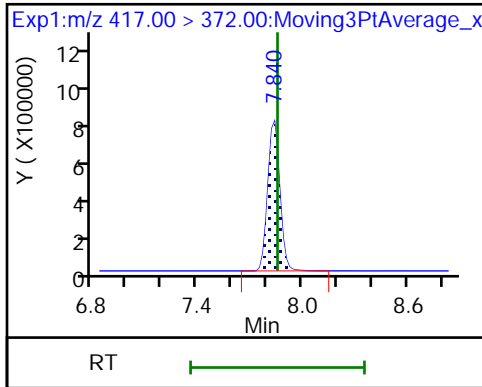
21 Perfluoroheptanesulfonic acid



D 25 13C4 PFOA

24 Perfluorooctanoic acid

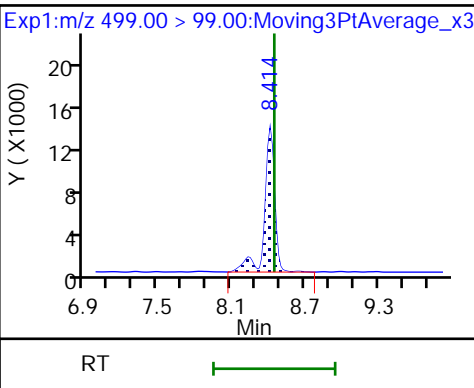
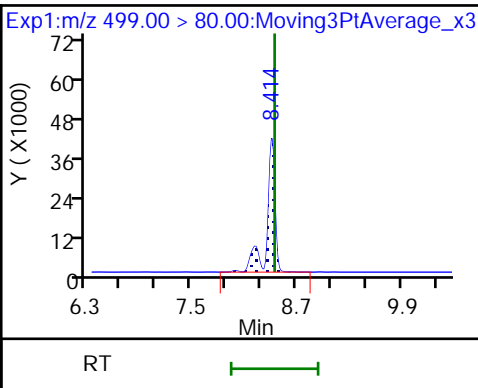
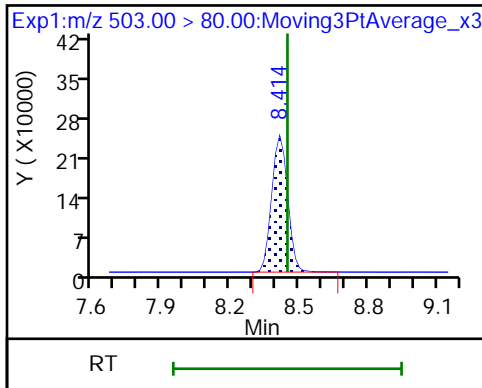
24 Perfluorooctanoic acid



D 26 13C4 PFOS

27 Perfluorooctanesulfonic acid

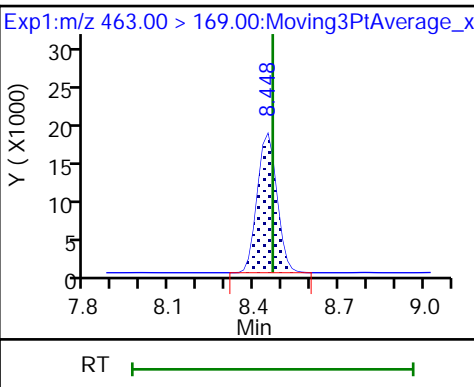
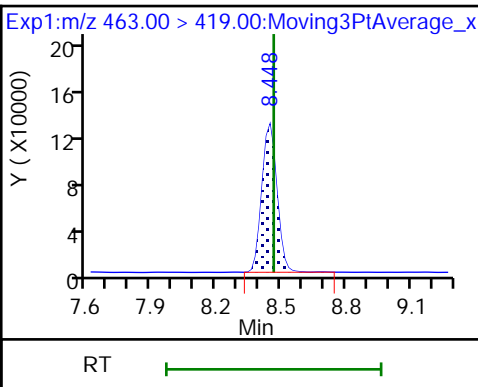
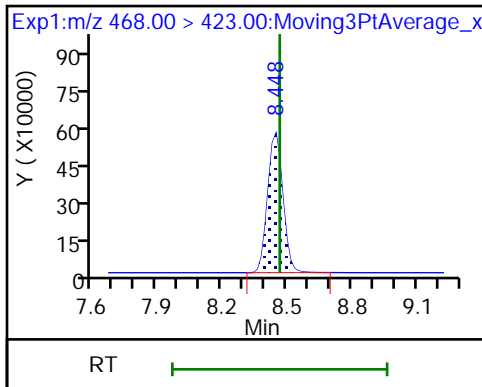
27 Perfluorooctanesulfonic acid



D 28 13C5 PFNA

29 Perfluorononanoic acid

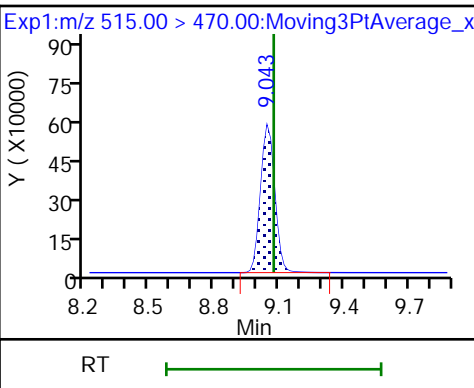
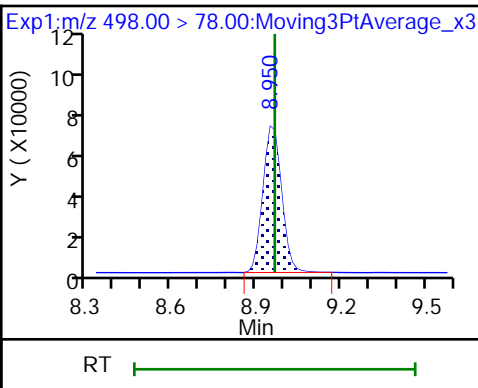
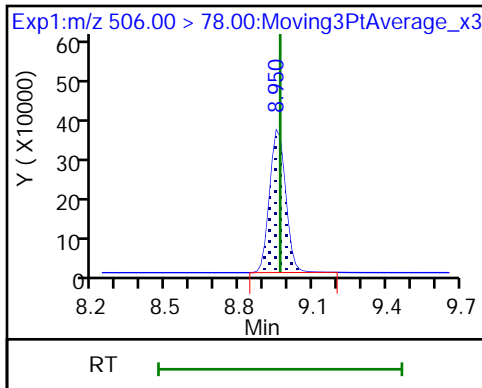
29 Perfluorononanoic acid



D 30 13C8 FOSA

31 Perfluorooctanesulfonamide

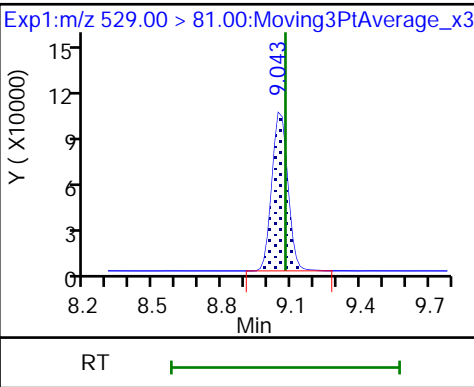
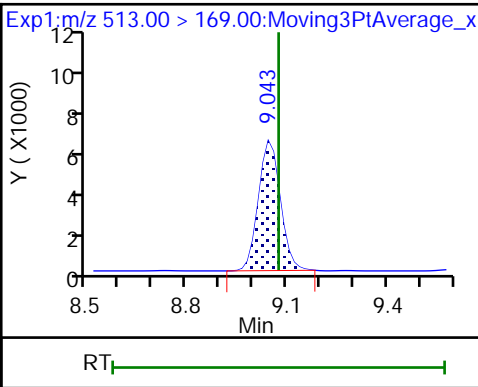
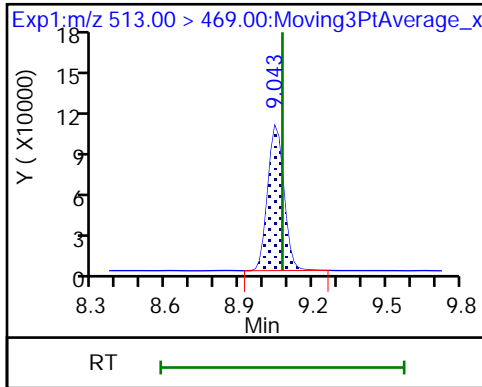
D 33 13C2 PFDA

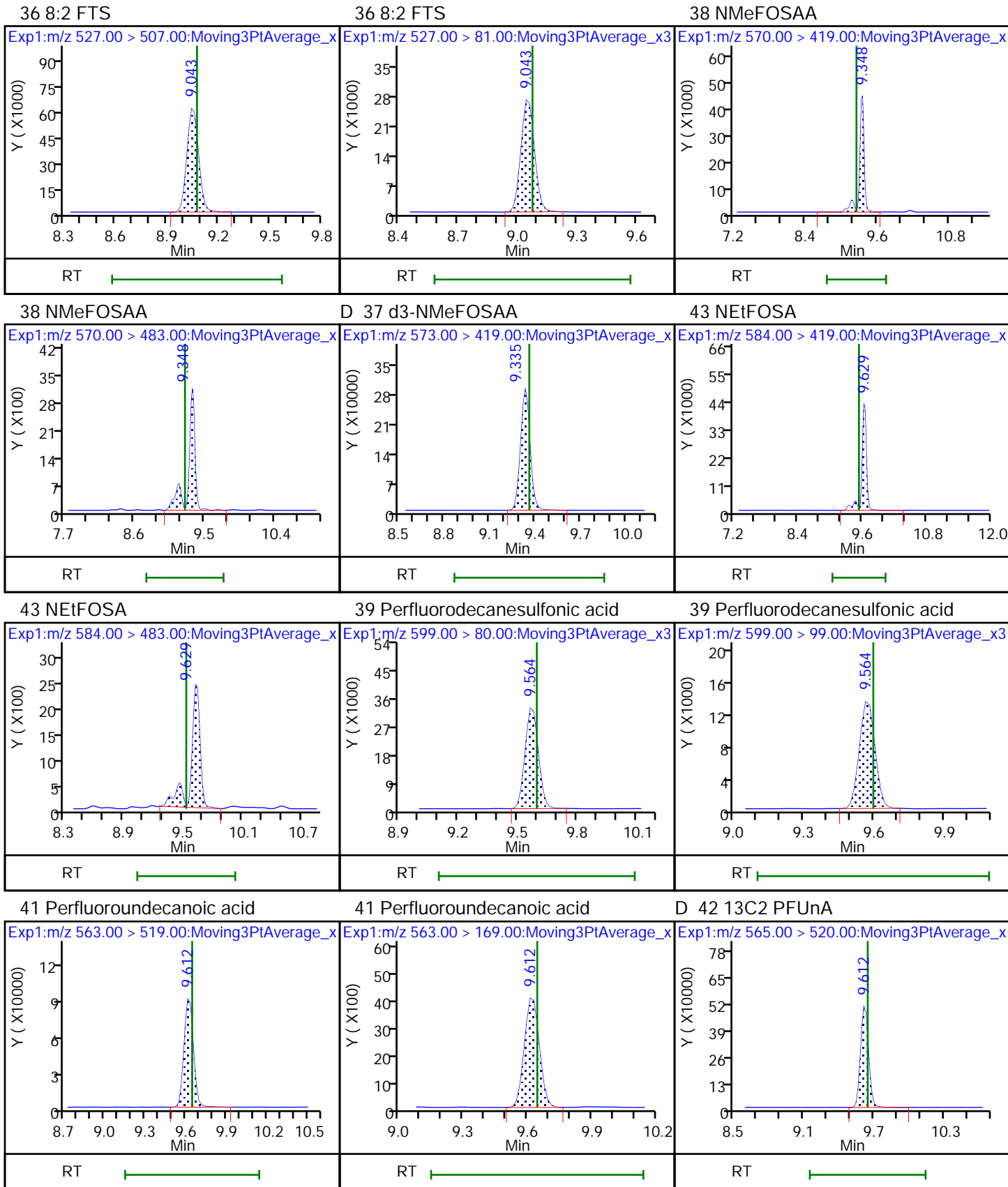


35 Perfluorodecanoic acid

35 Perfluorodecanoic acid

D 34 M2-8:2 FTS

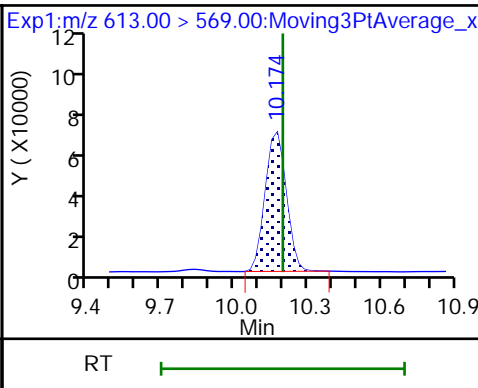
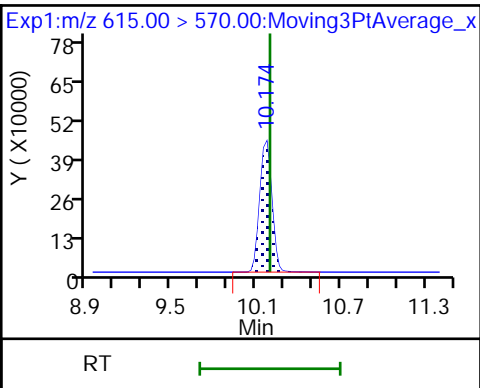
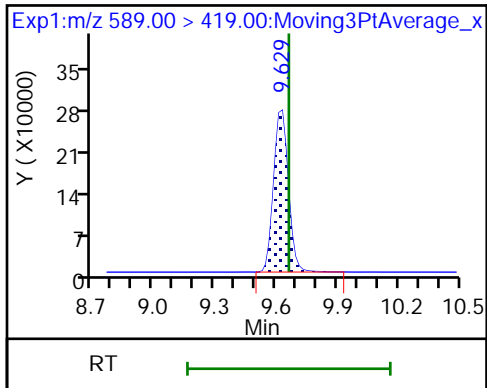




D 40 d5-NEtFOSAA

D 45 13C2 PFDoA

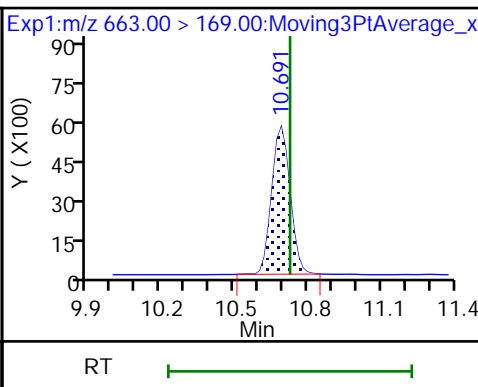
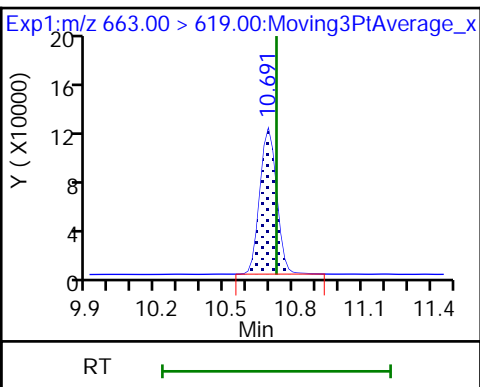
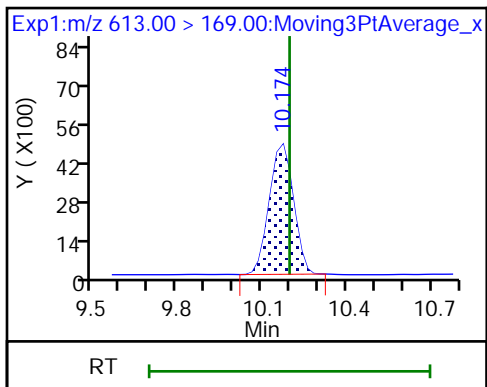
46 Perfluorododecanoic acid



46 Perfluorododecanoic acid

49 Perfluorotridecanoic acid

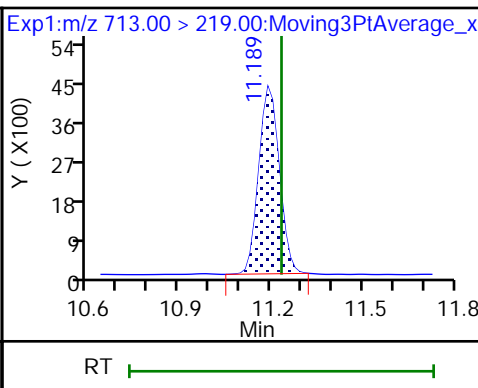
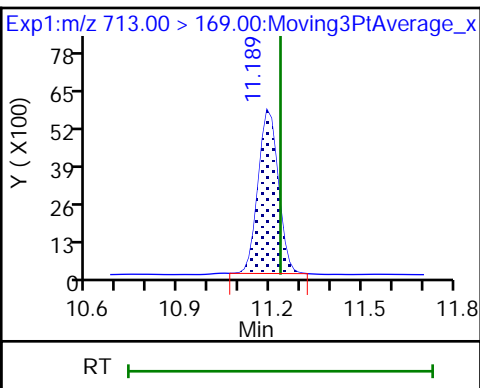
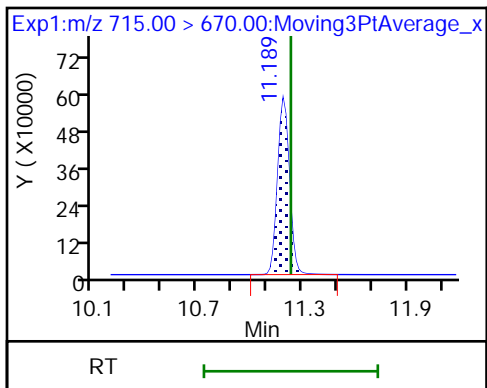
49 Perfluorotridecanoic acid



D 51 13C2 PFTeDA

50 Perfluorotetradecanoic acid

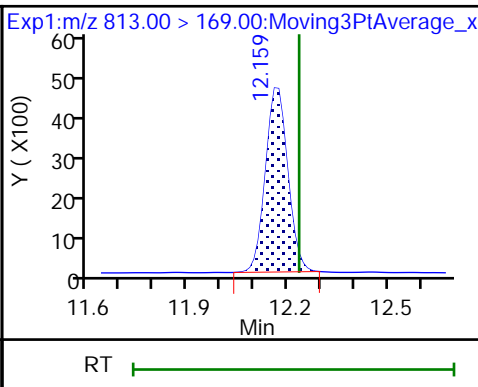
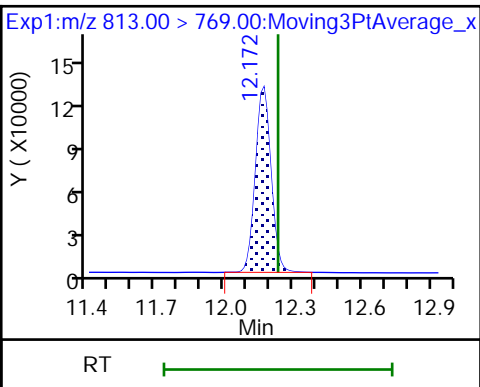
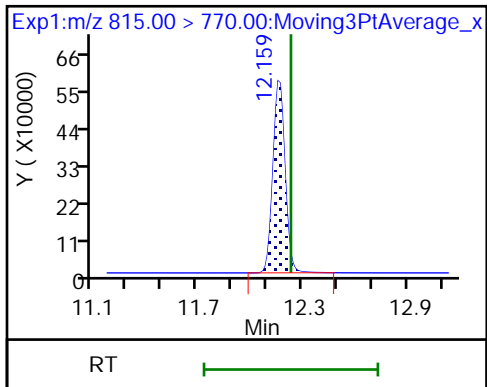
50 Perfluorotetradecanoic acid



D 52 13C2 PFHxDA

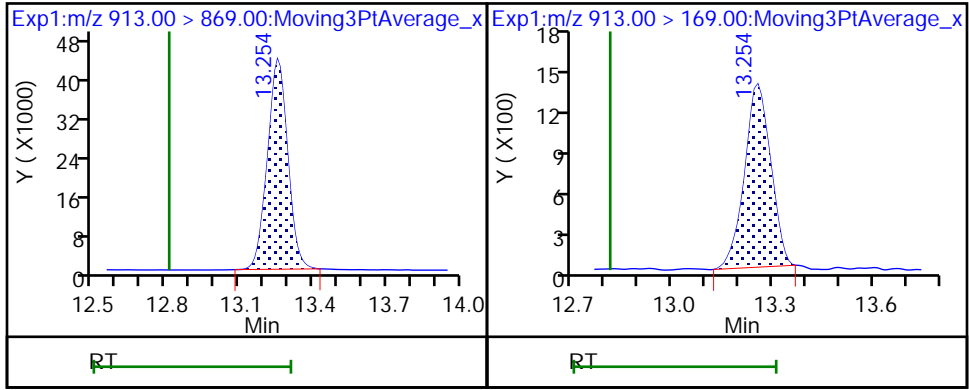
54 Perfluorohexadecanoic acid

54 Perfluorohexadecanoic acid



53 Perfluorooctadecanoic acid

53 Perfluorooctadecanoic acid



LCMS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1

SDG No.: _____

Instrument ID: A10 Start Date: 02/09/2021 10:37

Analysis Batch Number: 460141 End Date: 02/09/2021 13:41

| LAB SAMPLE ID | CLIENT SAMPLE ID | DATE ANALYZED | DILUTION FACTOR | LAB FILE ID | COLUMN ID |
|-------------------|------------------|------------------|-----------------|--------------------------------|-----------------------|
| IC 320-460141/2 | | 02/09/2021 10:37 | 1 | 2021.02.09_A10_DI_ICAL_A_002.d | GeminiC18 3x100 3(mm) |
| IC 320-460141/3 | | 02/09/2021 10:55 | 1 | 2021.02.09_A10_DI_ICAL_A_003.d | GeminiC18 3x100 3(mm) |
| IC 320-460141/4 | | 02/09/2021 11:14 | 1 | 2021.02.09_A10_DI_ICAL_A_004.d | GeminiC18 3x100 3(mm) |
| IC 320-460141/5 | | 02/09/2021 11:32 | 1 | 2021.02.09_A10_DI_ICAL_A_005.d | GeminiC18 3x100 3(mm) |
| IC 320-460141/6 | | 02/09/2021 11:51 | 1 | 2021.02.09_A10_DI_ICAL_A_006.d | GeminiC18 3x100 3(mm) |
| IC 320-460141/7 | | 02/09/2021 12:09 | 1 | 2021.02.09_A10_DI_ICAL_A_007.d | GeminiC18 3x100 3(mm) |
| IC 320-460141/8 | | 02/09/2021 12:28 | 1 | 2021.02.09_A10_DI_ICAL_A_008.d | GeminiC18 3x100 3(mm) |
| IC 320-460141/9 | | 02/09/2021 12:46 | 1 | 2021.02.09_A10_DI_ICAL_A_009.d | GeminiC18 3x100 3(mm) |
| ICB 320-460141/10 | | 02/09/2021 13:04 | 1 | 2021.02.09_A10_DI_ICAL_A_010.d | GeminiC18 3x100 3(mm) |
| ICV 320-460141/11 | | 02/09/2021 13:23 | 1 | 2021.02.09_A10_DI_ICAL_A_011.d | GeminiC18 3x100 3(mm) |
| ZZZZZ | | 02/09/2021 13:41 | 1 | | GeminiC18 3x100 3(mm) |

LCMS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-69953-1

SDG No.: _____

Instrument ID: A10 Start Date: 02/13/2021 10:27

Analysis Batch Number: 461813 End Date: 02/13/2021 20:35

| LAB SAMPLE ID | CLIENT SAMPLE ID | DATE ANALYZED | DILUTION FACTOR | LAB FILE ID | COLUMN ID |
|--------------------|------------------|------------------|-----------------|---------------------------|-----------------------|
| CCVL 320-461813/1 | | 02/13/2021 10:27 | 1 | 2021.02.13_A10_DI A 006.d | GeminiC18 3x100 3(mm) |
| CCV 320-461813/2 | | 02/13/2021 11:03 | 1 | 2021.02.13_A10_DI A 009.d | GeminiC18 3x100 3(mm) |
| MB 320-461652/1-A | | 02/13/2021 11:22 | 1 | 2021.02.13_A10_DI A 010.d | GeminiC18 3x100 3(mm) |
| LCS 320-461652/2-A | | 02/13/2021 11:40 | 1 | 2021.02.13_A10_DI A 011.d | GeminiC18 3x100 3(mm) |
| ZZZZZ | | 02/13/2021 11:59 | 1 | | GeminiC18 3x100 3(mm) |
| ZZZZZ | | 02/13/2021 12:17 | 1 | | GeminiC18 3x100 3(mm) |
| ZZZZZ | | 02/13/2021 12:36 | 1 | | GeminiC18 3x100 3(mm) |
| ZZZZZ | | 02/13/2021 12:54 | 1 | | GeminiC18 3x100 3(mm) |
| ZZZZZ | | 02/13/2021 13:13 | 1 | | GeminiC18 3x100 3(mm) |
| ZZZZZ | | 02/13/2021 13:31 | 1 | | GeminiC18 3x100 3(mm) |
| ZZZZZ | | 02/13/2021 13:49 | 1 | | GeminiC18 3x100 3(mm) |
| ZZZZZ | | 02/13/2021 14:08 | 1 | | GeminiC18 3x100 3(mm) |
| CCV 320-461813/13 | | 02/13/2021 14:26 | 1 | 2021.02.13_A10_DI A 020.d | GeminiC18 3x100 3(mm) |
| ZZZZZ | | 02/13/2021 14:45 | 1 | | GeminiC18 3x100 3(mm) |
| ZZZZZ | | 02/13/2021 15:03 | 1 | | GeminiC18 3x100 3(mm) |
| 320-69953-1 | Effluent | 02/13/2021 15:22 | 1 | 2021.02.13_A10_DI A 023.d | GeminiC18 3x100 3(mm) |
| 320-69953-2 | Mid Point | 02/13/2021 15:40 | 1 | 2021.02.13_A10_DI A 024.d | GeminiC18 3x100 3(mm) |
| 320-69953-3 | Raw Water | 02/13/2021 15:59 | 1 | 2021.02.13_A10_DI A 025.d | GeminiC18 3x100 3(mm) |
| 320-69953-4 | Duplicate | 02/13/2021 16:17 | 1 | 2021.02.13_A10_DI A 026.d | GeminiC18 3x100 3(mm) |
| 320-69953-5 | A-25 | 02/13/2021 16:35 | 1 | 2021.02.13_A10_DI A 027.d | GeminiC18 3x100 3(mm) |
| 320-69953-6 | A-50 | 02/13/2021 16:54 | 1 | 2021.02.13_A10_DI A 028.d | GeminiC18 3x100 3(mm) |
| 320-69953-7 | A-75 | 02/13/2021 17:12 | 1 | 2021.02.13_A10_DI A 029.d | GeminiC18 3x100 3(mm) |
| 320-69953-8 | B-25 | 02/13/2021 17:31 | 1 | 2021.02.13_A10_DI A 030.d | GeminiC18 3x100 3(mm) |
| CCV 320-461813/24 | | 02/13/2021 17:49 | 1 | 2021.02.13_A10_DI A 031.d | GeminiC18 3x100 3(mm) |
| 320-69953-9 | B-50 | 02/13/2021 18:08 | 1 | 2021.02.13_A10_DI A 032.d | GeminiC18 3x100 3(mm) |
| 320-69953-10 | B-75 | 02/13/2021 18:26 | 1 | 2021.02.13_A10_DI A 033.d | GeminiC18 3x100 3(mm) |
| CCV 320-461813/27 | | 02/13/2021 18:44 | 1 | 2021.02.13_A10_DI A 034.d | GeminiC18 3x100 3(mm) |
| CCV 320-461813/33 | | 02/13/2021 20:35 | 1 | | GeminiC18 3x100 3(mm) |

LCMS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 320-69953-1

SDG No.: _____

Batch Number: 461652 Batch Start Date: 02/12/21 12:39 Batch Analyst: Henley, Evan J

Batch Method: PFAS Prep Batch End Date: 02/12/21 14:30

| Lab Sample ID | Client Sample ID | Method Chain | Basis | InitialAmount | FinalAmount | LCMPFCLLSU 00203 | LCPFCSF 00362 | AnalysisComment | |
|---------------------|------------------|----------------------------------|-------|---------------|-------------|---------------------|---------------|--|--|
| MB 320-461652/1 | | PFAS Prep, WS-LC-0025 Att1 | | 1.00 mL | 1.66 mL | 83 uL | | | |
| LCS 320-461652/2 | | PFAS Prep, WS-LC-0025 Att1 | | 1.00 mL | 1.66 mL | 83 uL | 1 uL | Spiked with 250 uL of 0.02 ppm into 250 mL. Aliquot of 1 mL taken. | |
| 320-69953-B-1 | Effluent | PFAS Prep, WS-LC-0025 Att1 | T | 1.00 mL | 1.66 mL | 83 uL | | | |
| 320-69953-B-2 | Mid Point | PFAS Prep, WS-LC-0025 Att1 | T | 1.00 mL | 1.66 mL | 83 uL | | | |
| 320-69953-B-3 | Raw Water | PFAS Prep, WS-LC-0025 Att1 | T | 1.00 mL | 1.66 mL | 83 uL | | | |
| 320-69953-B-4 | Duplicate | PFAS Prep, WS-LC-0025 Att1 | T | 1.00 mL | 1.66 mL | 83 uL | | | |
| 320-69953-B-5 | A-25 | PFAS Prep, WS-LC-0025 Att1 | T | 1.00 mL | 1.66 mL | 83 uL | | | |
| 320-69953-B-6 | A-50 | PFAS Prep, WS-LC-0025 Att1 | T | 1.00 mL | 1.66 mL | 83 uL | | | |
| 320-69953-B-7 | A-75 | PFAS Prep, WS-LC-0025 Att1 | T | 1.00 mL | 1.66 mL | 83 uL | | | |
| 320-69953-B-8 | B-25 | PFAS Prep, WS-LC-0025 Att1 | T | 1.00 mL | 1.66 mL | 83 uL | | | |
| 320-69953-B-9 | B-50 | PFAS Prep, WS-LC-0025 Att1 | T | 1.00 mL | 1.66 mL | 83 uL | | | |
| 320-69953-B-10 | B-75 | PFAS Prep, WS-LC-0025 Att1 | T | 1.00 mL | 1.66 mL | 83 uL | | | |

| Batch Notes | |
|-------------|--|
| | |
| | |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 320-69953-1

SDG No.: _____







Batch Number: 461652 Batch Start Date: 02/12/21 12:39 Batch Analyst: Henley, Evan J

Batch Method: PFAS Prep Batch End Date: 02/12/21 14:30

| Basis | Basis Description |
|-------|-------------------|
| T | Total/NA |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---|--|---|--|--|--|---|--|--|--|--|--|---|--|--|--|--|--|------------------|--|--|--|
| Client Information Company: Precision Environmental Services Inc. Address: 831 State Route 67 Ste 38 City: Balliston Spa State, Zip: NY, 12020 Phone: 518-402-9813(Tel) Email: bneumann@pesnyinc.com Project Name: Slewart ANG Base #336089 Kroll Well Site: | | Lab PM: Stone, Judy L E-Mail: Judy.Stone@Eurofinset.com PWSID: | | Carrier Tracking No(s): 480-155659-34475.1 State of Origin: | | COC No: 480-155659-34475.1 Page: Page 1 of 1 Job #: | | | | | | | | | | | | | | | | | |
| Due Date Requested: TAT Requested (days): 72 Hr (3-Days) Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No PO #: Callout ID: 137132 WO #: | | Analysis Requested  320-69953 Chain of Custody | | Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: | | Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify) | | | | | | | | | | | | | | | | | |
| Sample Identification Effluent Mid Point Raw Water Duplicate A-25 A-50 A-75 B-25 B-50 B-75 | | Sample Date 2-9-21 1130 1150 1145 1140 1135 1125 1120 1115 | | Sample Time 1100 1130 1150 1145 1140 1135 1125 1120 1115 | | Sample Type (C=Comp, G=grab) G-5 G-5 G-5 G-5 G-5 G-5 G-5 G-5 G-5 | | Matrix (W=water, S=solid, O=water/soil, BT=Tissue, A=air) Water Water Water Water Water Water Water Water Water | | Field Filtered Sample (Yes or No) N X X X X X X X X | | Perform MSD (Yes or No) N X X X X X X X X | | Total Number of Containers 2 2 2 2 2 2 2 2 2 | | Special Instructions/Note: *Request certified method for drinking water | | | | | | | |
| Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological | | | | | | | | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months | | | | | | | | | | | | | | | |
| Deliverable Requested: I, II, III, IV, Other (specify) cut B Deliverables | | | | | | | | Special Instructions/QC Requirements: | | | | | | | | | | | | | | | |
| Empty Kit Relinquished by: | | | | | | | | Method of Shipment: | | | | | | | | | | | | | | | |
| Relinquished by:  | | | | Date: 2-9-21 | | | | Company: PES | | | | Received by:  | | | | Date/Time: 2-9-21 1436 | | | | Company: KETA | | | |
| Relinquished by:  | | | | Date: 2-5-21 | | | | Company: KETA | | | | Received by:  | | | | Date/Time: 02/10/21 940 | | | | Company: eta sac | | | |
| Relinquished by:  | | | | Date: 1479004 | | | | Company: | | | | Received by: | | | | Date/Time: | | | | Company: | | | |
| Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | Custody Seal No.: 1.2 | | | | | | | | Cooler Temperature(s) °C and Other Remarks: | | | | | | | |

Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 320-69953-1

Login Number: 69953

List Source: Eurofins TestAmerica, Sacramento

List Number: 1

Creator: Nuval, Mark-Anthony M

| Question | Answer | Comment |
|--|---------------|----------------|
| Radioactivity either was not measured or, if measured, is at or below background | True | |
| The cooler's custody seal, if present, is intact. | True | 1479004 |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time (Excluding tests with immediate HTs).. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Sampling Company provided. | True | |
| Samples received within 48 hours of sampling. | True | |
| Samples requiring field filtration have been filtered in the field. | True | |
| Chlorine Residual checked. | N/A | |