

Data Path : Z:\voasrv\HPCHEM1\MSVOA\_L\Data\VL010725\  
 Data File : VL041848.D  
 Acq On : 07 Jan 2025 17:33  
 Operator : SY/MD  
 Sample : Q1031-02DUP  
 Misc : 400mL/MSVOA\_L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :

Quant Time: Jan 08 03:55:54 2025  
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA\_L\methods\VL010725AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Fri Aug 26 06:05:16 2022  
 QLast Update : Wed Jan 08 03:26:12 2025  
 Response via : Initial Calibration

| Compound                | R.T.  | QIon | Response | Conc   | Units | Dev(Min) |
|-------------------------|-------|------|----------|--------|-------|----------|
| -----                   |       |      |          |        |       |          |
| Internal Standards      |       |      |          |        |       |          |
| 1) Bromochloromethane   | 2.800 | 49   | 81531    | 10.000 | ppbv  | 0.00     |
| 33) 1,4-Difluorobenzene | 3.978 | 114  | 178626   | 10.000 | ppbv  | 0.00     |
| 55) Chlorobenzene-d5    | 8.901 | 117  | 151437   | 10.000 | ppbv  | 0.00     |

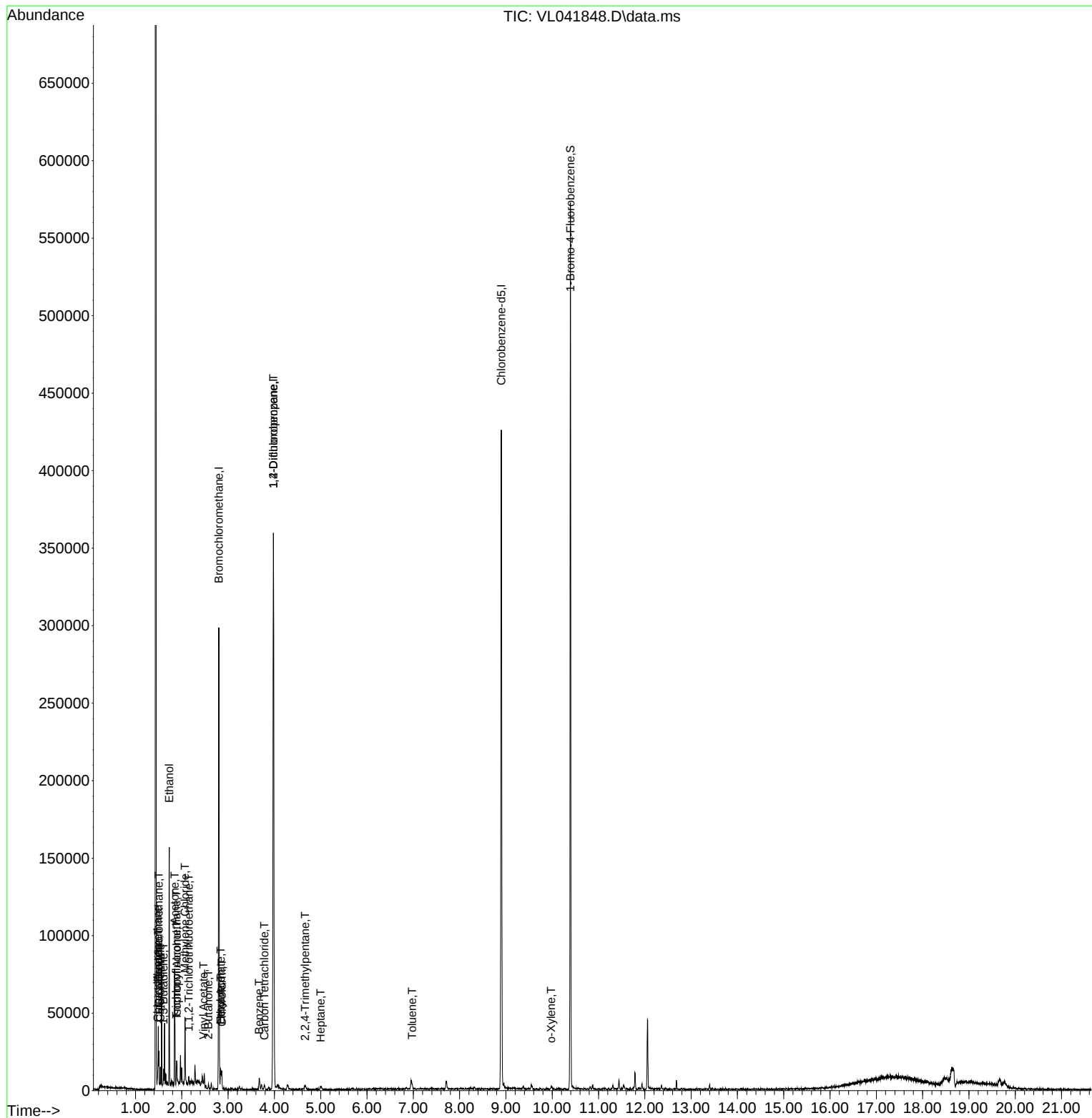
|                             |        |       |          |          |      |         |
|-----------------------------|--------|-------|----------|----------|------|---------|
| System Monitoring Compounds |        |       |          |          |      |         |
| 68) 1-Bromo-4-Fluorobenzene | 10.393 | 95    | 124224   | 9.578    | ppbv | 0.00    |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 95.800% |

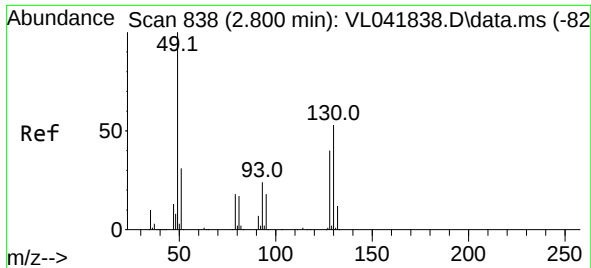
| Target Compounds              |       |     |       |        |        | Qvalue |
|-------------------------------|-------|-----|-------|--------|--------|--------|
| 2) Dichlorodifluoromethane    | 1.502 | 85  | 5363  | 0.401  | ppbv   | 98     |
| 3) Chlorodifluoromethane      | 1.483 | 51  | 5130  | 0.401  | ppbv # | 91     |
| 4) Chloromethane              | 1.538 | 50  | 2745  | 0.499  | ppbv   | 92     |
| 9) Propene                    | 1.492 | 41  | 4257  | 0.957  | ppbv   | 91     |
| 10) Heptane                   | 5.001 | 43  | 703   | 0.064  | ppbv # | 74     |
| 11) Trichlorofluoromethane    | 1.884 | 101 | 2935  | 0.216  | ppbv   | 92     |
| 12) 1,1,2-Trichlorotrifluo... | 2.149 | 101 | 760   | 0.075  | ppbv # | 83     |
| 13) Ethanol                   | 1.729 | 45  | 50348 | 86.128 | ppbv   | 99     |
| 15) Acetone                   | 1.845 | 43  | 34673 | 2.310  | ppbv   | 93     |
| 16) 1,3-Butadiene             | 1.606 | 39  | 1394  | 0.237  | ppbv # | 52     |
| 19) Isopropyl Alcohol         | 1.894 | 45  | 5103  | 0.724  | ppbv # | 90     |
| 20) Methylene Chloride        | 2.068 | 84  | 5699  | 1.328  | ppbv   | 97     |
| 23) Vinyl Acetate             | 2.470 | 43  | 450   | 0.096  | ppbv # | 1      |
| 25) Ethyl Acetate             | 2.839 | 43  | 1465  | 0.058  | ppbv # | 75     |
| 26) Hexane                    | 2.839 | 57  | 1841  | 0.211  | ppbv # | 40     |
| 29) Chloroform                | 2.865 | 83  | 3861  | 0.238  | ppbv   | 90     |
| 34) 2-Butanone                | 2.573 | 43  | 1509  | 0.107  | ppbv   | 96     |
| 35) Carbon Tetrachloride      | 3.784 | 117 | 733   | 0.054  | ppbv # | 64     |
| 36) Benzene                   | 3.671 | 78  | 1946  | 0.114  | ppbv   | 96     |
| 39) 1,2-Dichloropropane       | 3.978 | 63  | 50467 | 7.646  | ppbv # | 17     |
| 44) 2,2,4-Trimethylpentane    | 4.664 | 57  | 1412  | 0.050  | ppbv # | 40     |
| 53) Toluene                   | 6.972 | 91  | 722   | 0.048  | ppbv # | 21     |
| 60) o-Xylene                  | 9.976 | 91  | 633   | 0.036  | ppbv   | 95     |

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

**Instrument :**  
MSVOA\_L  
**ClientSampleId :**

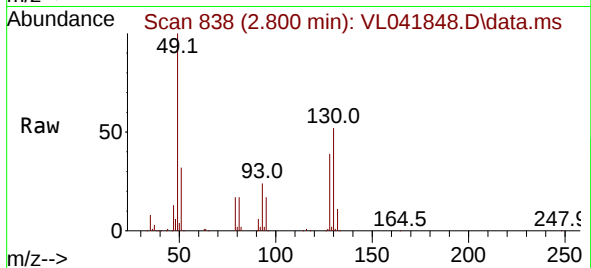
Quant Time: Jan 08 03:55:54 2025  
Quant Method : Z:\voasrv\HPCHEM1\MSVOA\_L\methods\VL010725AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_LFri Aug 26 06:05:16 2022  
QLast Update : Wed Jan 08 03:26:12 2025  
Response via : Initial Calibration



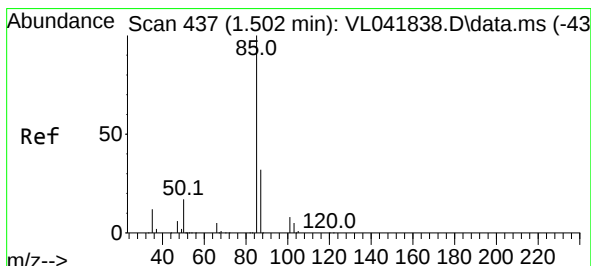
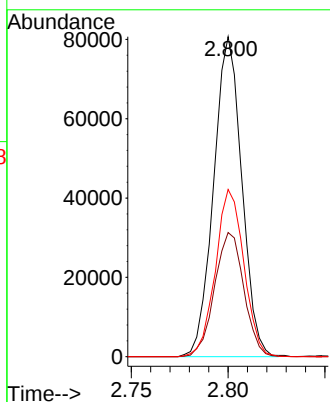
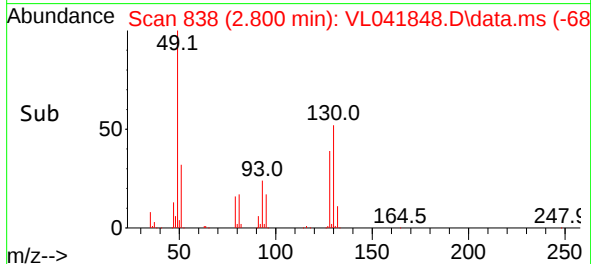


#1  
 Bromochloromethane  
 Concen: 10.000 ppbv  
 RT: 2.800 min Scan# 815  
 Delta R.T. -0.000 min  
 Lab File: VL041848.D  
 Acq: 07 Jan 2025 17:33

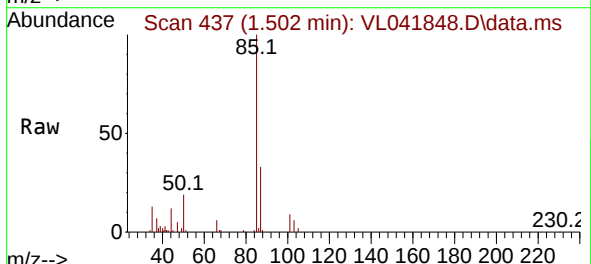
Instrument :  
 MSVOA\_L  
 ClientSampleId :



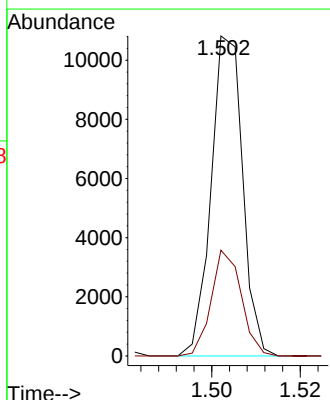
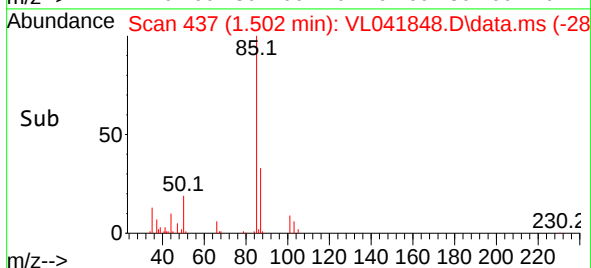
Tgt Ion: 49 Resp: 81531  
 Ion Ratio Lower Upper  
 49 100  
 128 40.4 19.7 59.1  
 130 52.9 26.4 79.2

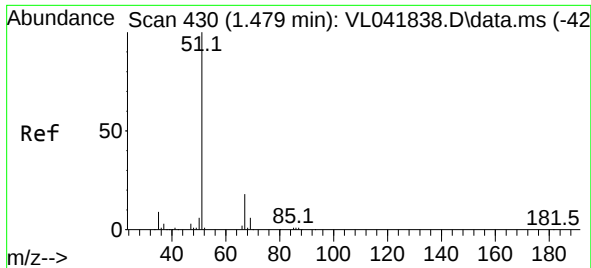


#2  
 Dichlorodifluoromethane  
 Concen: 0.401 ppbv  
 RT: 1.502 min Scan# 437  
 Delta R.T. 0.000 min  
 Lab File: VL041848.D  
 Acq: 07 Jan 2025 17:33



Tgt Ion: 85 Resp: 5363  
 Ion Ratio Lower Upper  
 85 100  
 87 33.0 25.6 38.4

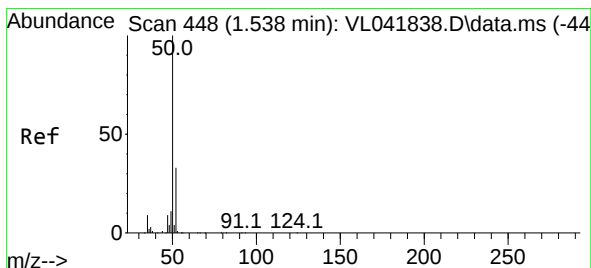
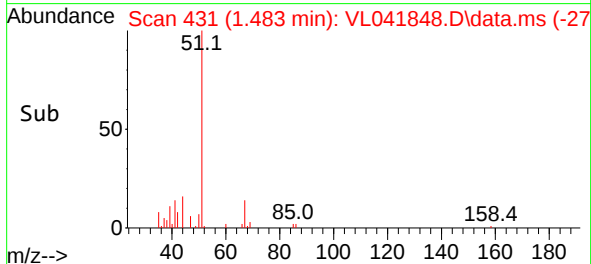
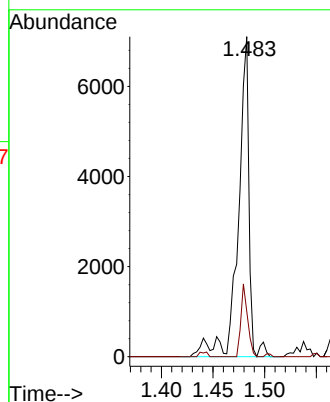
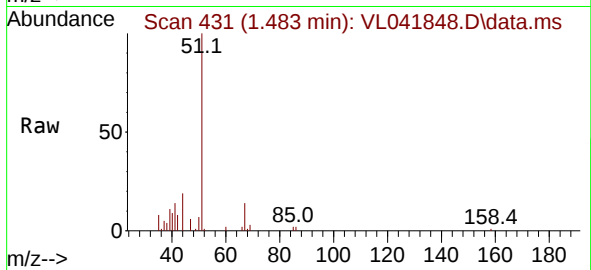




#3  
Chlorodifluoromethane  
Concen: 0.401 ppbv  
RT: 1.483 min Scan# 41  
Delta R.T. 0.003 min  
Lab File: VL041848.D  
Acq: 07 Jan 2025 17:33

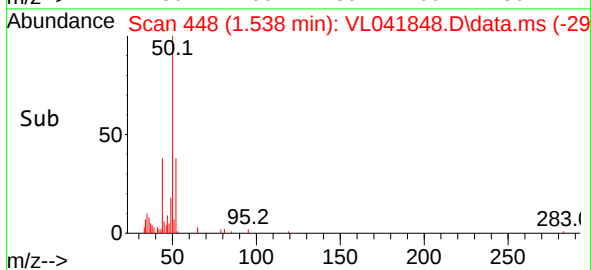
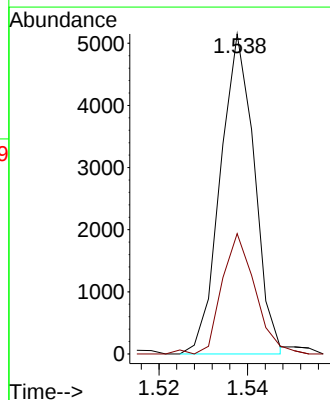
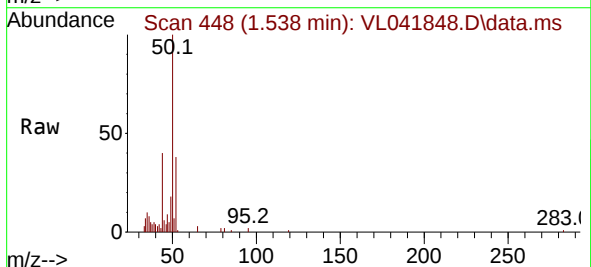
Instrument :  
MSVOA\_L  
ClientSampleId :

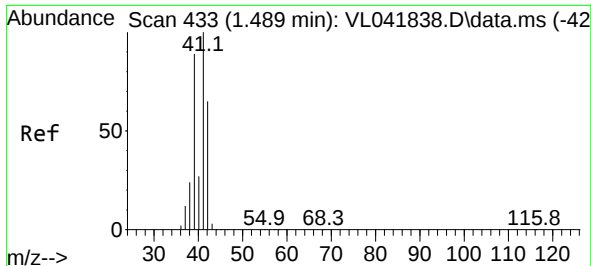
Tgt Ion: 51 Resp: 5130  
Ion Ratio Lower Upper  
51 100  
67 14.5 14.6 22.0#



#4  
Chloromethane  
Concen: 0.499 ppbv  
RT: 1.538 min Scan# 448  
Delta R.T. 0.000 min  
Lab File: VL041848.D  
Acq: 07 Jan 2025 17:33

Tgt Ion: 50 Resp: 2745  
Ion Ratio Lower Upper  
50 100  
52 36.9 26.1 39.1





#9

Propene

Concen: 0.957 ppbv

RT: 1.492 min Scan# 41

Delta R.T. 0.003 min

Lab File: VL041848.D

Acq: 07 Jan 2025 17:33

Instrument :

MSVOA\_L

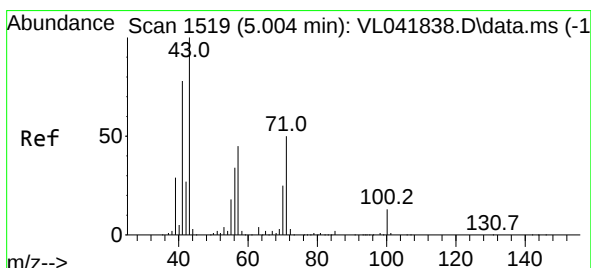
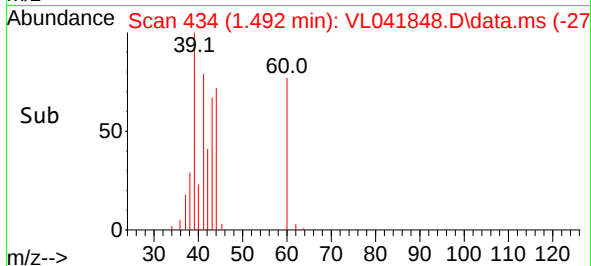
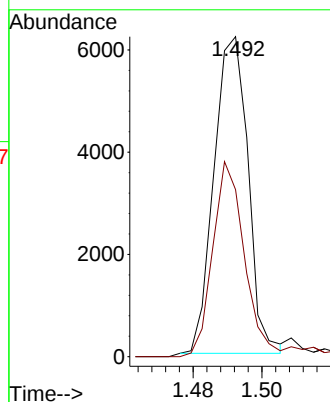
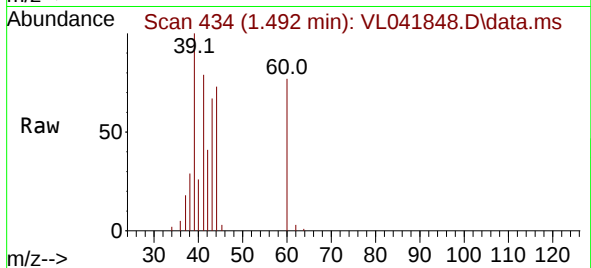
ClientSampleId :

Tgt Ion: 41 Resp: 4257

Ion Ratio Lower Upper

41 100

42 60.3 53.9 80.9



#10

Heptane

Concen: 0.064 ppbv

RT: 5.001 min Scan# 1518

Delta R.T. -0.003 min

Lab File: VL041848.D

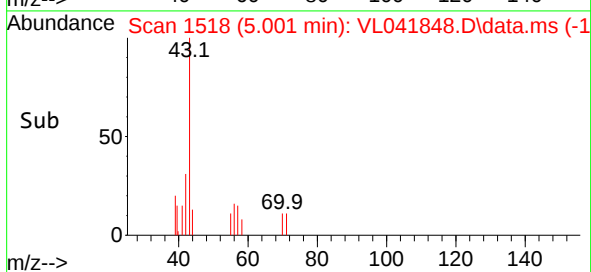
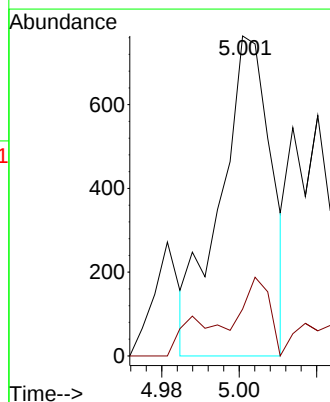
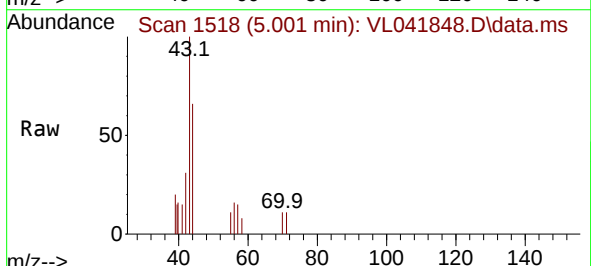
Acq: 07 Jan 2025 17:33

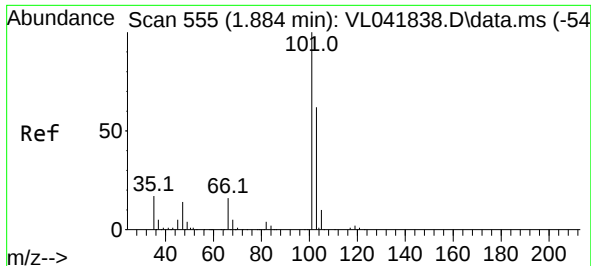
Tgt Ion: 43 Resp: 703

Ion Ratio Lower Upper

43 100

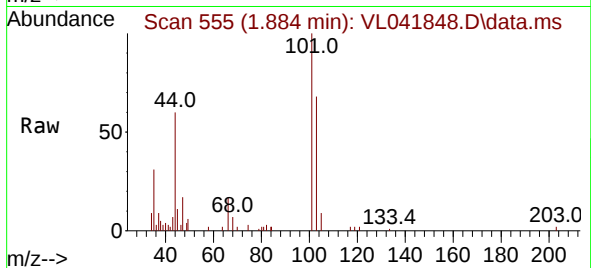
57 29.9 37.8 56.6#



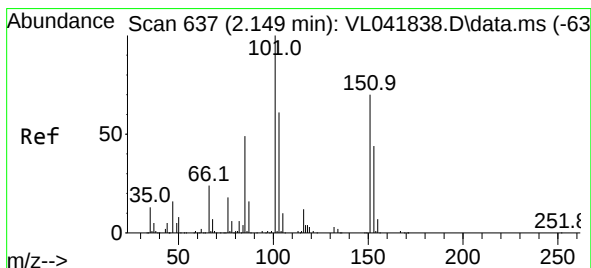
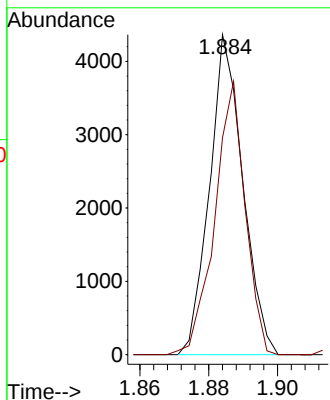
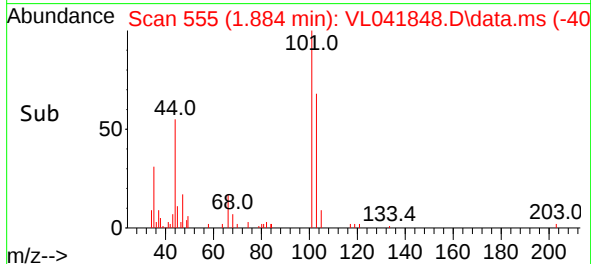


#11  
 Trichlorofluoromethane  
 Concen: 0.216 ppbv  
 RT: 1.884 min Scan# 511  
 Delta R.T. 0.000 min  
 Lab File: VL041848.D  
 Acq: 07 Jan 2025 17:33

Instrument :  
 MSVOA\_L  
 ClientSampleId :

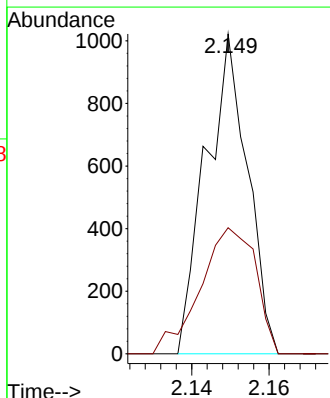
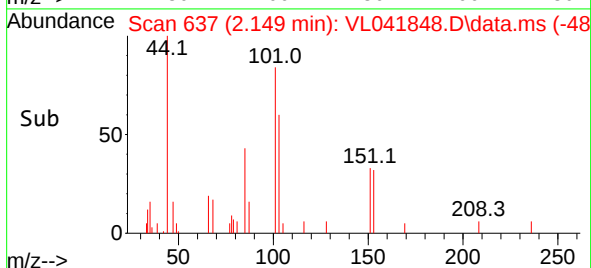
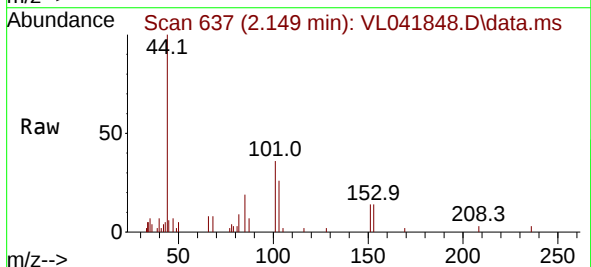


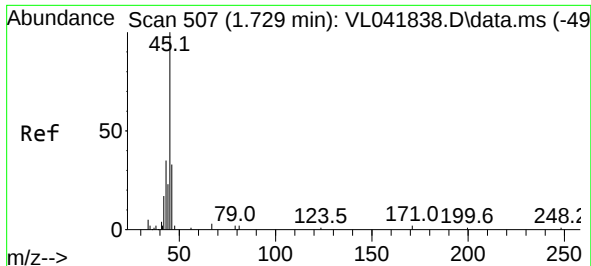
Tgt Ion:101 Resp: 2935  
 Ion Ratio Lower Upper  
 101 100  
 103 67.8 49.4 74.0



#12  
 1,1,2-Trichlorotrifluoroethane  
 Concen: 0.075 ppbv  
 RT: 2.149 min Scan# 637  
 Delta R.T. 0.000 min  
 Lab File: VL041848.D  
 Acq: 07 Jan 2025 17:33

Tgt Ion:101 Resp: 760  
 Ion Ratio Lower Upper  
 101 100  
 151 52.6 53.2 79.8#

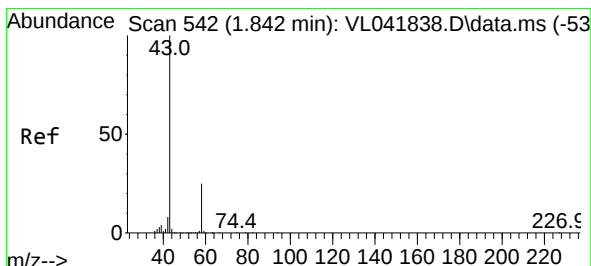
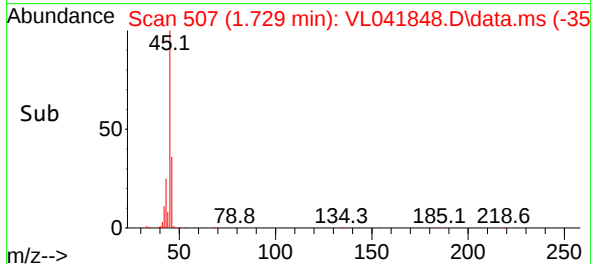
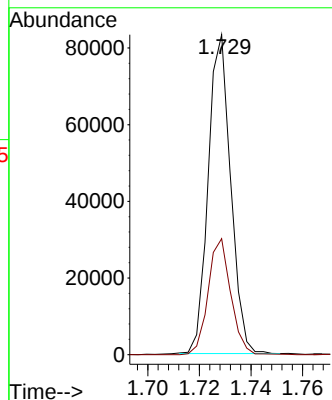
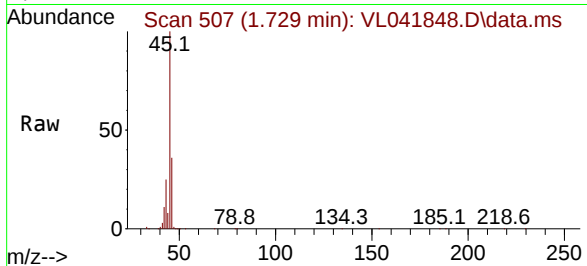




#13  
Ethanol  
Concen: 86.128 ppbv  
RT: 1.729 min Scan# 507  
Delta R.T. 0.000 min  
Lab File: VL041848.D  
Acq: 07 Jan 2025 17:33

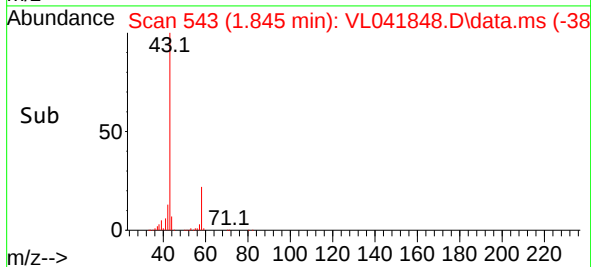
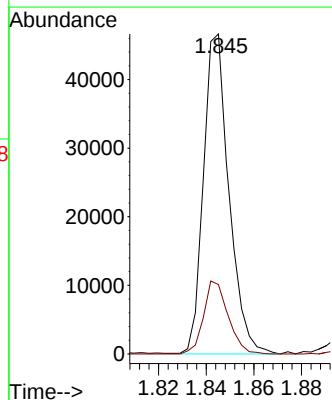
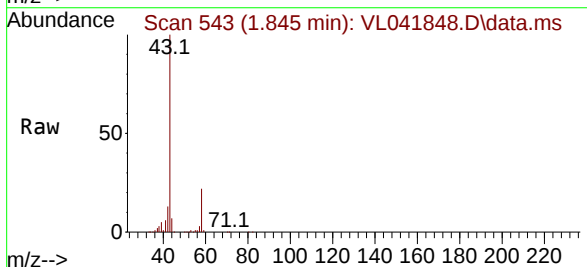
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MSVOA\_1  
ClientSampleId :

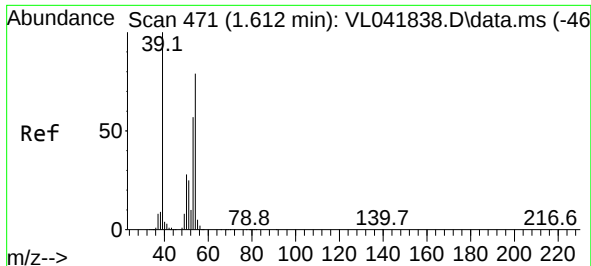
Tgt Ion: 45 Resp: 50348  
Ion Ratio Lower Upper  
45 100  
46 36.9 14.6 58.2



#15  
Acetone  
Concen: 2.310 ppbv  
RT: 1.845 min Scan# 543  
Delta R.T. 0.003 min  
Lab File: VL041848.D  
Acq: 07 Jan 2025 17:33

Tgt Ion: 43 Resp: 34673  
Ion Ratio Lower Upper  
43 100  
58 21.9 20.2 30.4

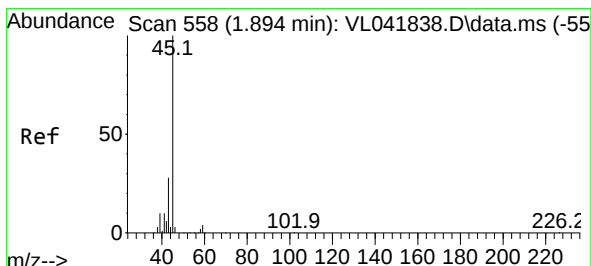
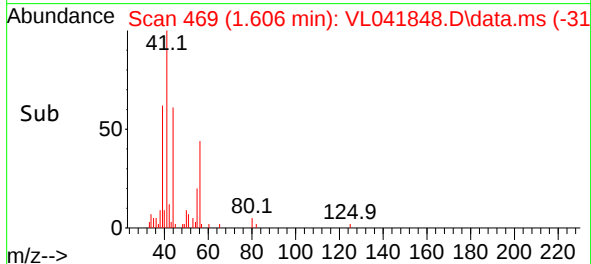
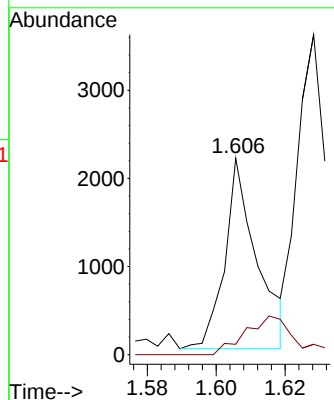
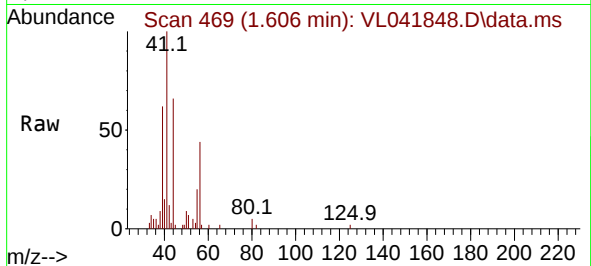




#16  
1,3-Butadiene  
Concen: 0.237 ppbv  
RT: 1.606 min Scan# 41  
Delta R.T. -0.006 min  
Lab File: VL041848.D  
Acq: 07 Jan 2025 17:33

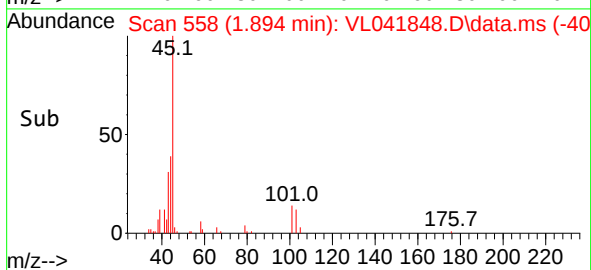
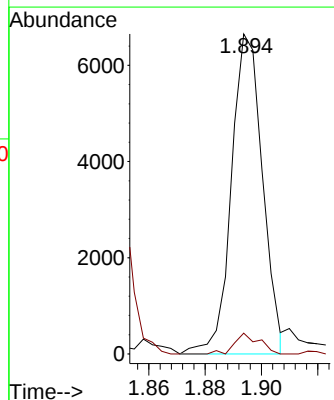
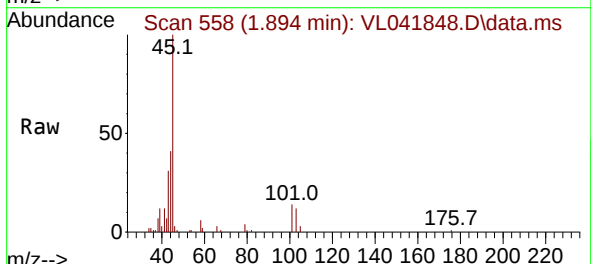
Instrument :  
MSVOA\_L  
ClientSampleId :

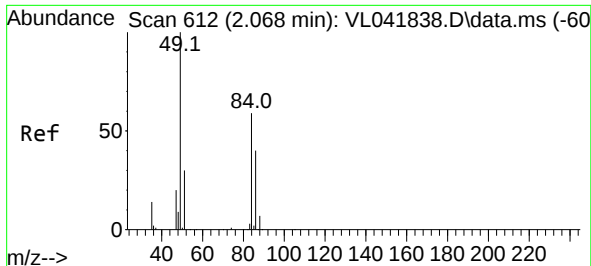
Tgt Ion: 39 Resp: 1394  
Ion Ratio Lower Upper  
39 100  
54 31.1 56.2 84.4#



#19  
Isopropyl Alcohol  
Concen: 0.724 ppbv  
RT: 1.894 min Scan# 558  
Delta R.T. 0.000 min  
Lab File: VL041848.D  
Acq: 07 Jan 2025 17:33

Tgt Ion: 45 Resp: 5103  
Ion Ratio Lower Upper  
45 100  
58 6.0 2.1 3.1#





#20

Methylene Chloride

Concen: 1.328 ppbv

RT: 2.068 min Scan# 612

Delta R.T. 0.000 min

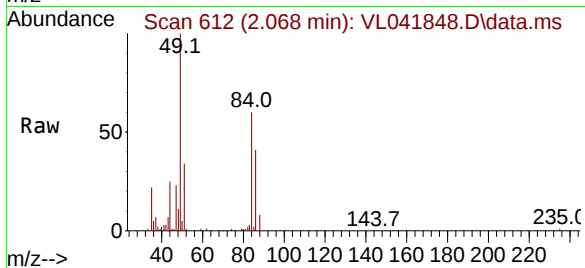
Lab File: VL041848.D

Acq: 07 Jan 2025 17:33

Instrument :

MSVOA\_L

ClientSampleId :



Tgt Ion: 84 Resp: 5699

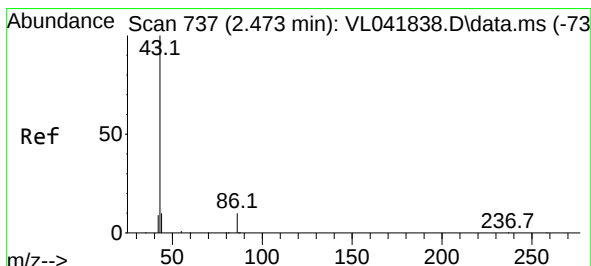
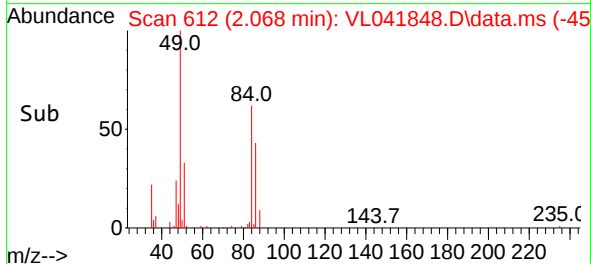
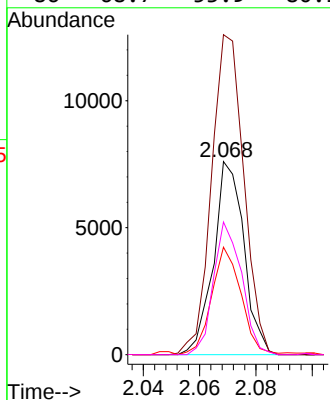
Ion Ratio Lower Upper

84 100

49 165.6 137.8 206.8

51 55.6 43.9 65.9

86 68.7 53.9 80.9



#23

Vinyl Acetate

Concen: 0.096 ppbv

RT: 2.470 min Scan# 736

Delta R.T. -0.003 min

Lab File: VL041848.D

Acq: 07 Jan 2025 17:33

Tgt Ion: 43 Resp: 450

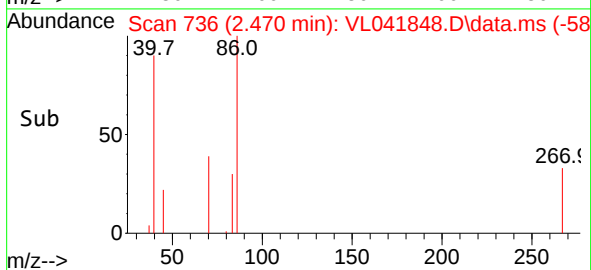
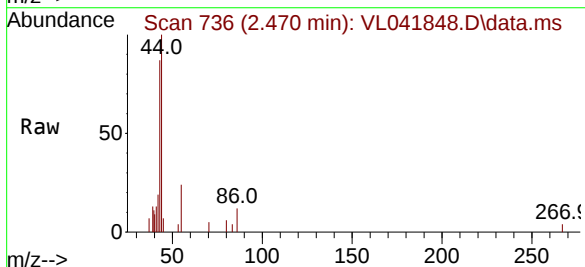
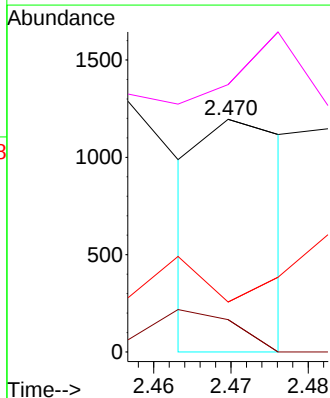
Ion Ratio Lower Upper

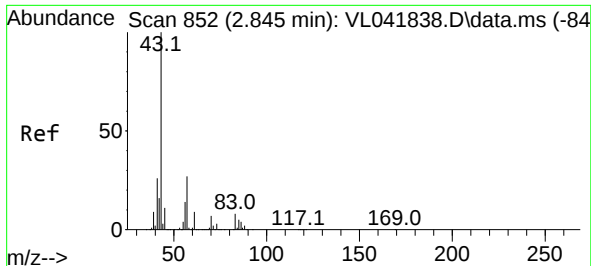
43 100

86 80.2 6.4 9.6#

42 0.0 9.5 14.3#

44 48.8 6.7 10.1#

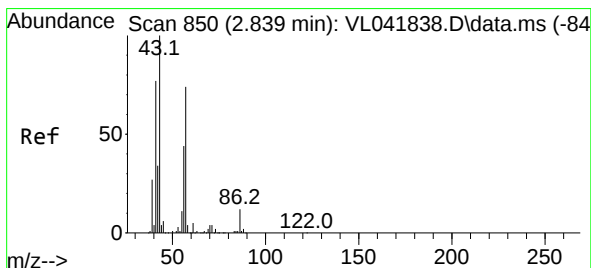
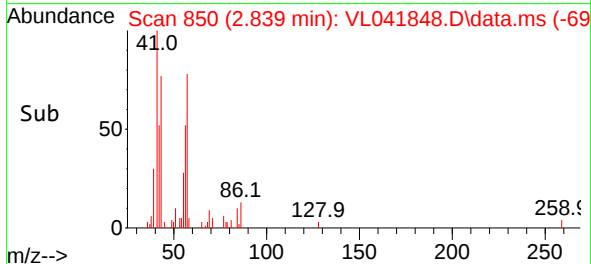
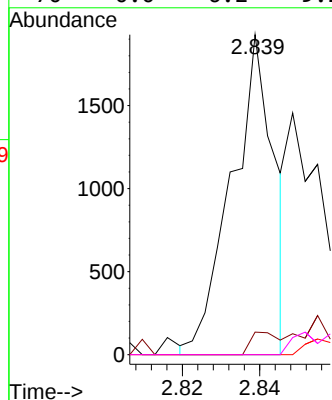
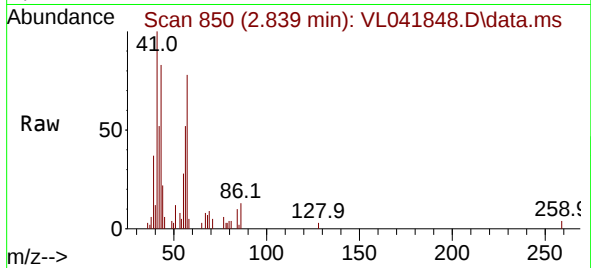




#25  
Ethyl Acetate  
Concen: 0.058 ppbv  
RT: 2.839 min Scan# 81  
Delta R.T. -0.006 min  
Lab File: VL041848.D  
Acq: 07 Jan 2025 17:33

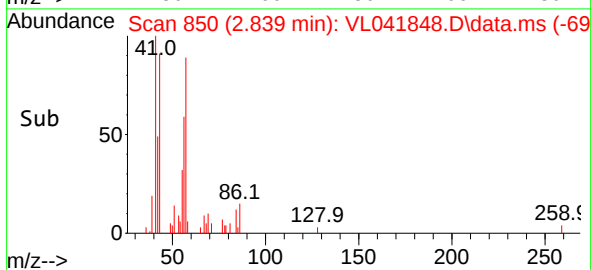
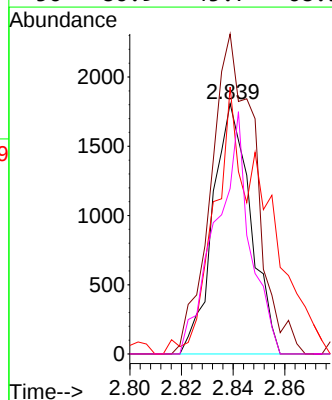
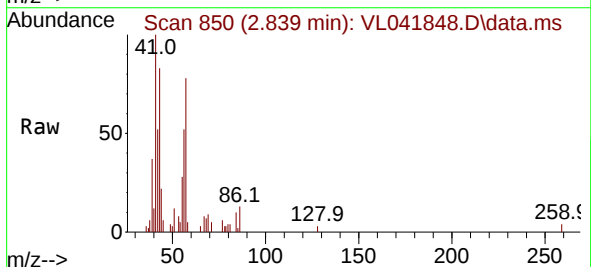
Instrument :  
MSVOA\_L  
ClientSampleId :

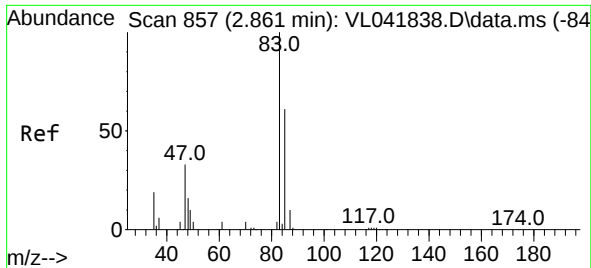
Tgt Ion: 43 Resp: 1465  
Ion Ratio Lower Upper  
43 100  
45 0.0 7.8 11.8#  
61 0.0 7.0 10.6#  
70 0.0 6.2 9.2#



#26  
Hexane  
Concen: 0.211 ppbv  
RT: 2.839 min Scan# 850  
Delta R.T. 0.000 min  
Lab File: VL041848.D  
Acq: 07 Jan 2025 17:33

Tgt Ion: 57 Resp: 1841  
Ion Ratio Lower Upper  
57 100  
41 152.8 84.0 126.0#  
43 146.1 218.4 327.6#  
56 86.9 45.7 68.5#

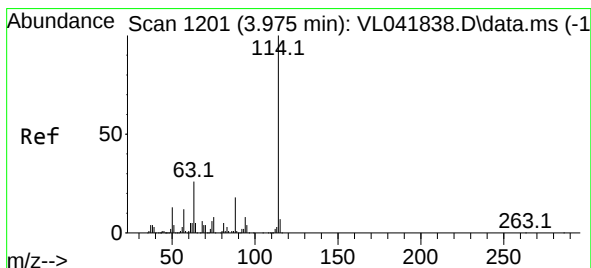
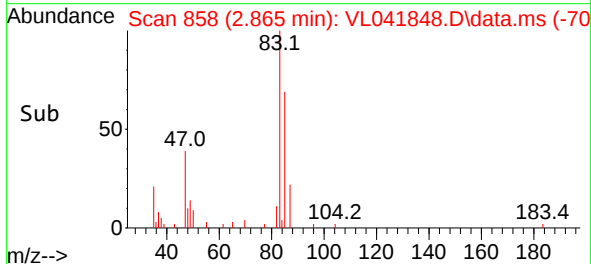
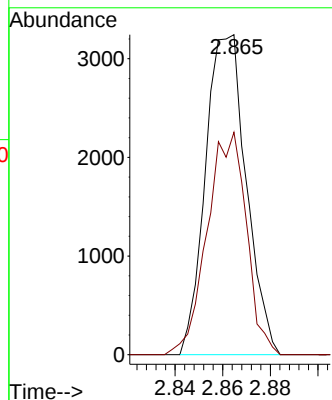
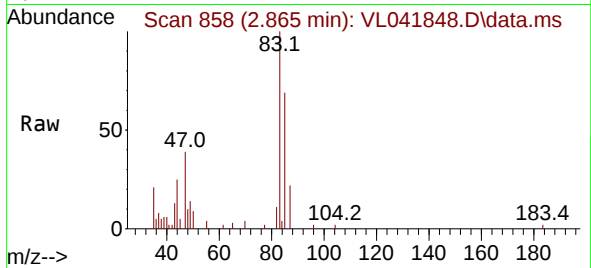




#29  
Chloroform  
Concen: 0.238 ppbv  
RT: 2.865 min Scan# 81  
Delta R.T. 0.003 min  
Lab File: VL041848.D  
Acq: 07 Jan 2025 17:33

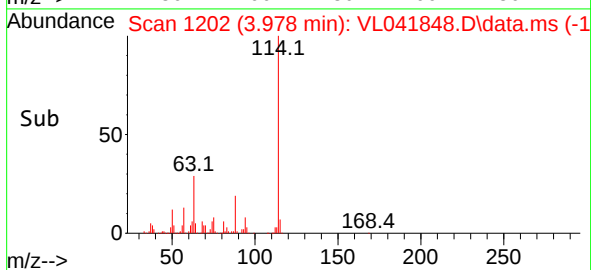
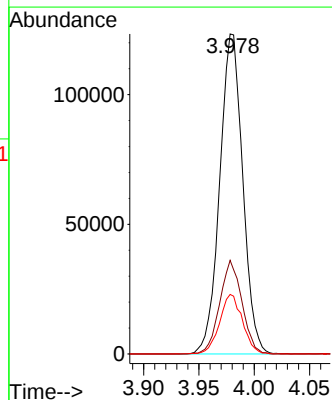
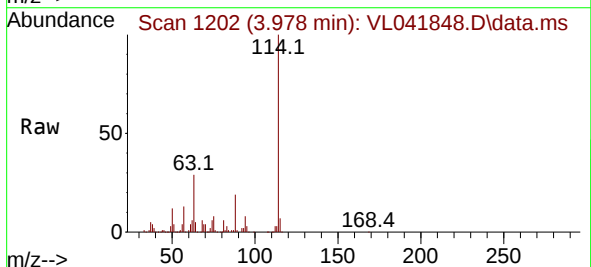
Instrument :  
MSVOA\_L  
ClientSampleId :

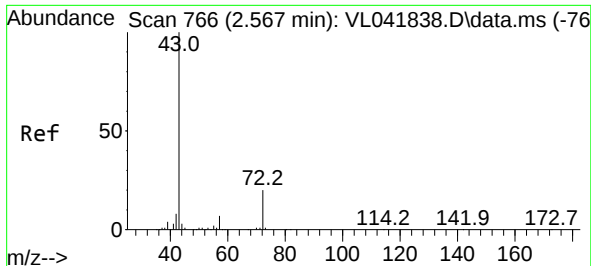
Tgt Ion: 83 Resp: 3861  
Ion Ratio Lower Upper  
83 100  
85 69.5 49.6 74.4



#33  
1,4-Difluorobenzene  
Concen: 10.000 ppbv  
RT: 3.978 min Scan# 1202  
Delta R.T. 0.003 min  
Lab File: VL041848.D  
Acq: 07 Jan 2025 17:33

Tgt Ion: 114 Resp: 178626  
Ion Ratio Lower Upper  
114 100  
63 28.3 22.3 33.5  
88 18.5 14.9 22.3

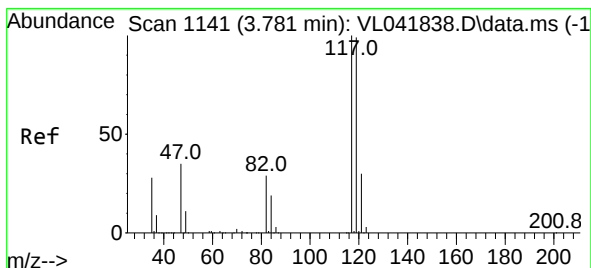
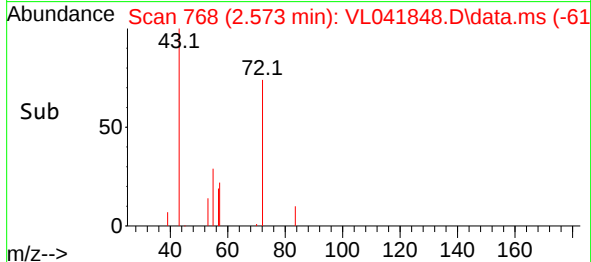
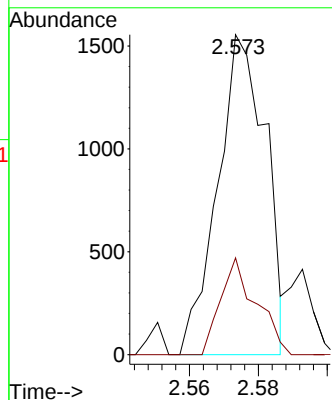
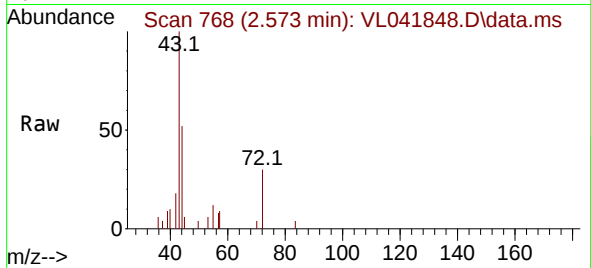




#34  
2-Butanone  
Concen: 0.107 ppbv  
RT: 2.573 min Scan# 768  
Delta R.T. 0.006 min  
Lab File: VL041848.D  
Acq: 07 Jan 2025 17:33

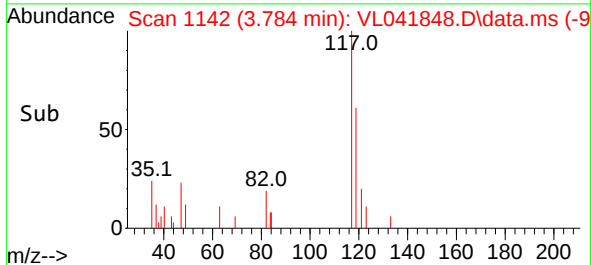
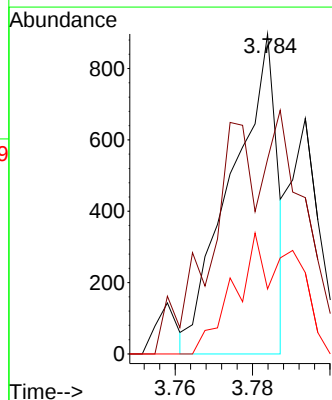
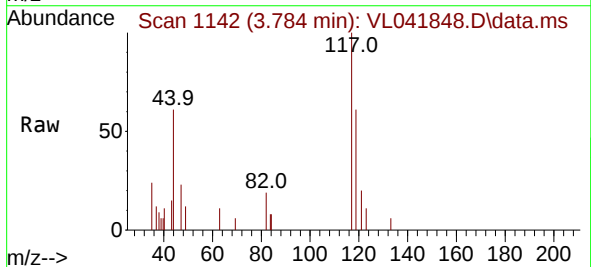
Instrument :  
MSVOA\_L  
ClientSampleId :

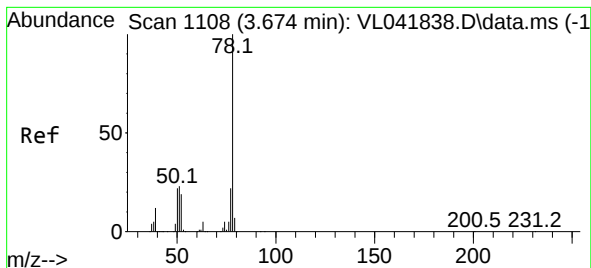
Tgt Ion: 43 Resp: 1509  
Ion Ratio Lower Upper  
43 100  
72 22.5 16.6 25.0



#35  
Carbon Tetrachloride  
Concen: 0.054 ppbv  
RT: 3.784 min Scan# 1142  
Delta R.T. 0.003 min  
Lab File: VL041848.D  
Acq: 07 Jan 2025 17:33

Tgt Ion: 117 Resp: 733  
Ion Ratio Lower Upper  
117 100  
119 56.4 79.1 118.7#  
121 21.7 24.2 36.2#





#36

Benzene

Concen: 0.114 ppbv

RT: 3.671 min Scan# 1107

Delta R.T. -0.003 min

Lab File: VL041848.D

Acq: 07 Jan 2025 17:33

Instrument :

MSVOA\_L

ClientSampleId :

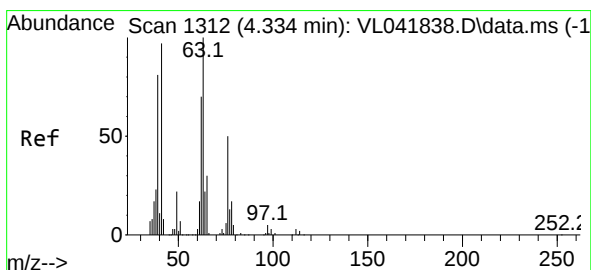
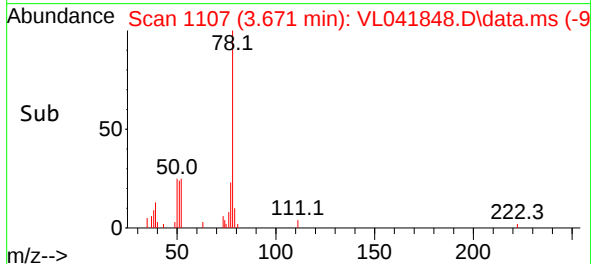
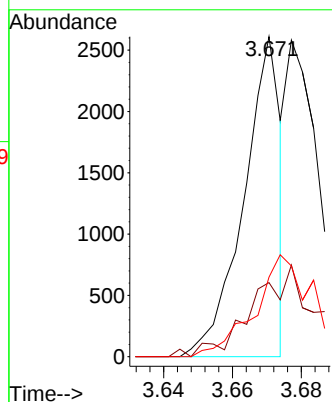
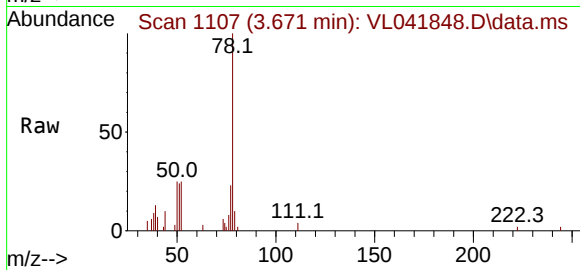
Tgt Ion: 78 Resp: 1946

Ion Ratio Lower Upper

78 100

77 20.8 17.4 26.0

50 24.9 17.3 25.9



#39

1,2-Dichloropropane

Concen: 7.646 ppbv

RT: 3.978 min Scan# 1202

Delta R.T. -0.356 min

Lab File: VL041848.D

Acq: 07 Jan 2025 17:33

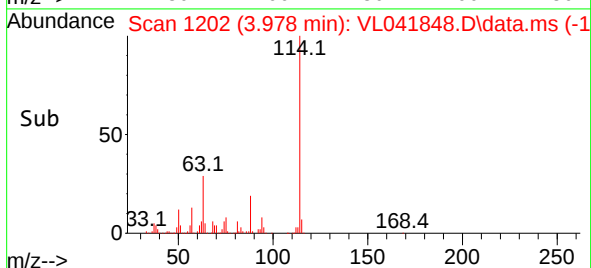
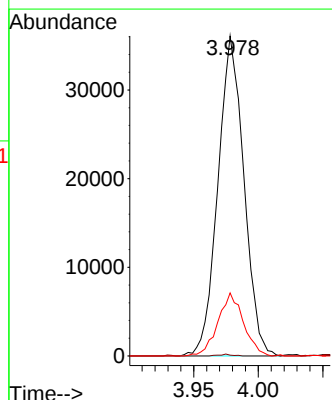
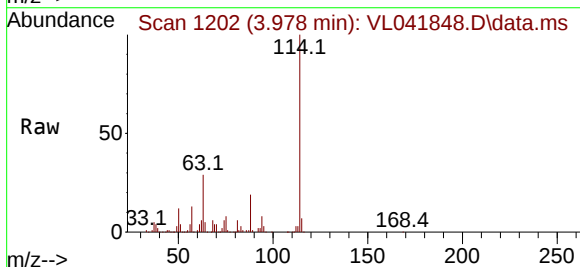
Tgt Ion: 63 Resp: 50467

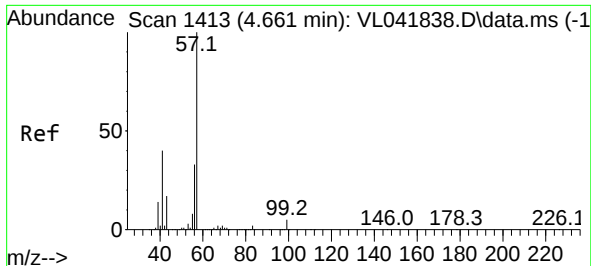
Ion Ratio Lower Upper

63 100

41 0.3 77.7 116.5#

62 19.7 56.2 84.2#





#44

2,2,4-Trimethylpentane

Concen: 0.050 ppbv

RT: 4.664 min Scan# 1414

Delta R.T. 0.003 min

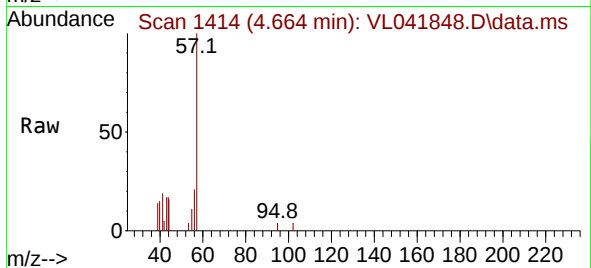
Lab File: VL041848.D

Acq: 07 Jan 2025 17:33

Instrument :

MSVOA\_L

ClientSampleId :



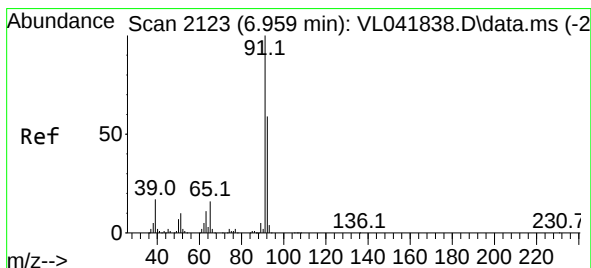
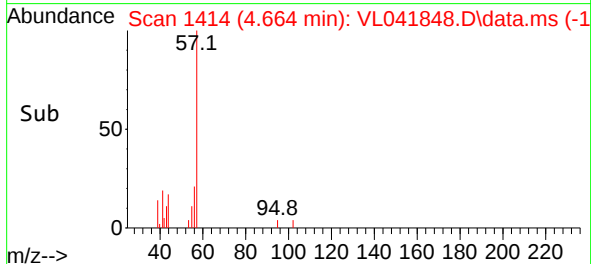
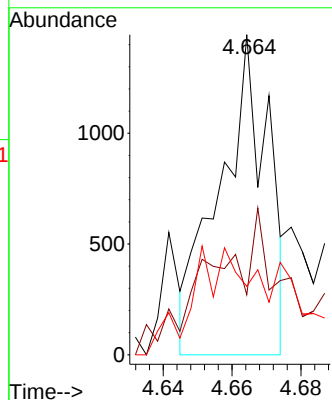
Tgt Ion: 57 Resp: 1412

Ion Ratio Lower Upper

57 100

41 76.5 31.4 47.2#

56 0.0 26.6 39.8#



#53

Toluene

Concen: 0.048 ppbv

RT: 6.972 min Scan# 2127

Delta R.T. 0.013 min

Lab File: VL041848.D

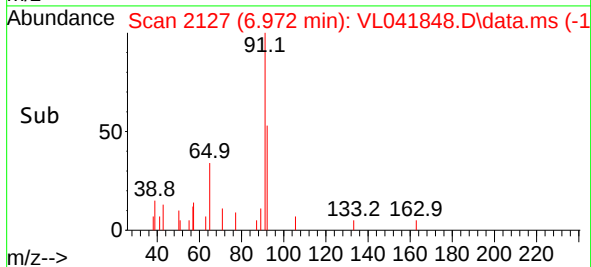
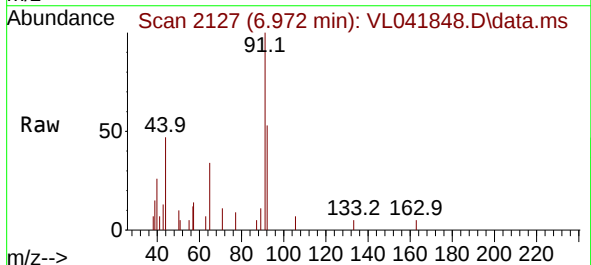
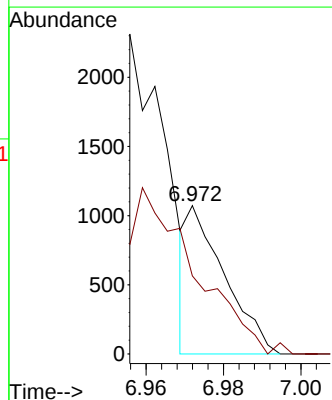
Acq: 07 Jan 2025 17:33

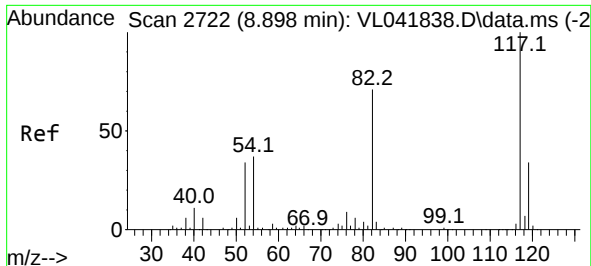
Tgt Ion: 91 Resp: 722

Ion Ratio Lower Upper

91 100

92 0.0 47.8 71.6#





#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 8.901 min Scan# 21

Delta R.T. 0.003 min

Lab File: VL041848.D

Acq: 07 Jan 2025 17:33

Instrument :

MSVOA\_L

ClientSampleId :

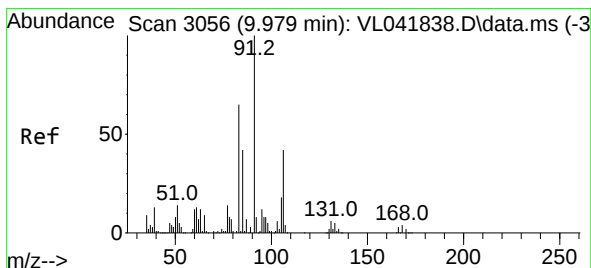
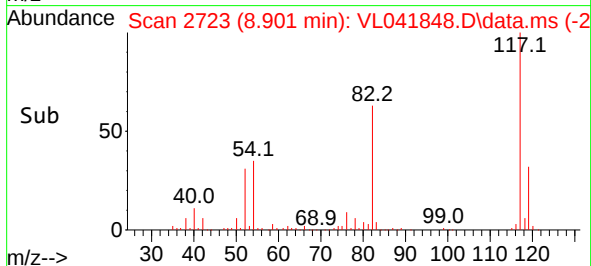
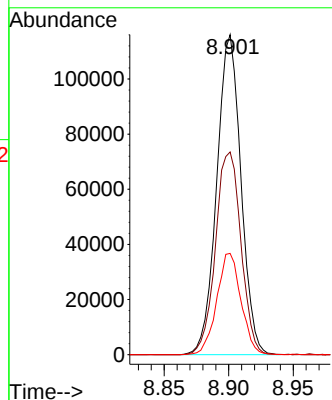
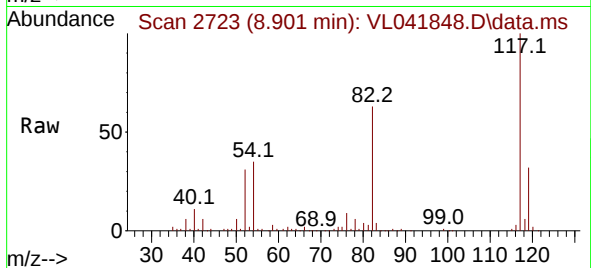
Tgt Ion:117 Resp: 151437

Ion Ratio Lower Upper

117 100

82 66.8 59.1 88.7

119 31.7 27.3 40.9



#60

o-Xylene

Concen: 0.036 ppbv

RT: 9.976 min Scan# 3055

Delta R.T. -0.003 min

Lab File: VL041848.D

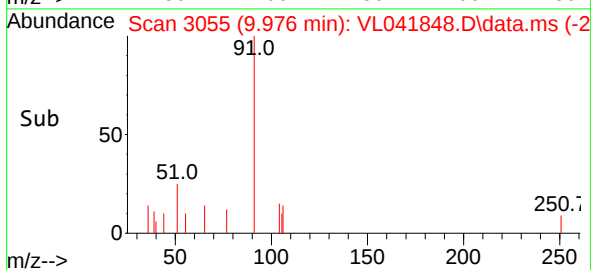
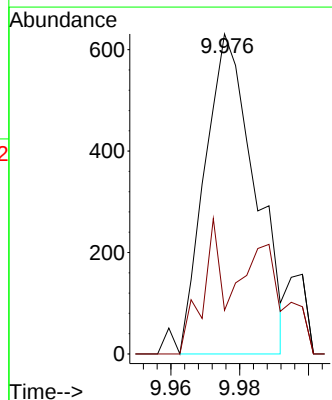
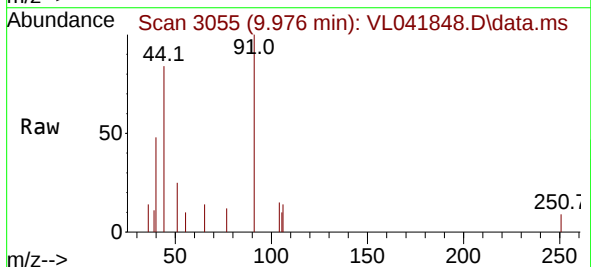
Acq: 07 Jan 2025 17:33

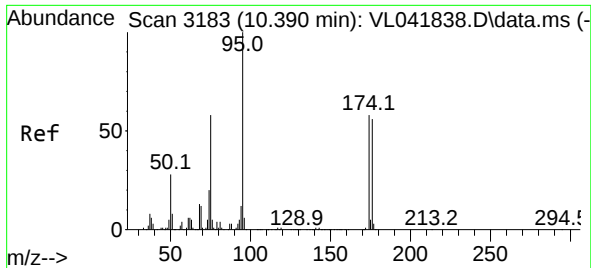
Tgt Ion: 91 Resp: 633

Ion Ratio Lower Upper

91 100

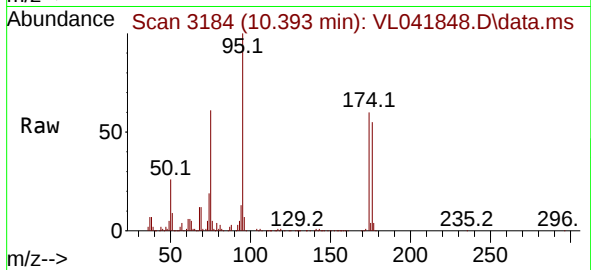
106 46.9 21.9 65.5





#68  
 1-Bromo-4-Fluorobenzene  
 Concen: 9.578 ppbv  
 RT: 10.393 min Scan# 31  
 Delta R.T. 0.003 min  
 Lab File: VL041848.D  
 Acq: 07 Jan 2025 17:33

Instrument :  
 MSVOA\_L  
 ClientSampleId :



Tgt Ion: 95 Resp: 124224  
 Ion Ratio Lower Upper  
 95 100  
 174 59.1 47.6 71.4  
 175 4.4 3.8 5.6

