

Data Path : Z:\voasrv\HPCHEM1\MSVOA\_L\Data\VL090425\  
 Data File : VL042892.D  
 Acq On : 04 Sep 2025 16:16  
 Operator : SY/MD  
 Sample : Q3000-02  
 Misc :  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :

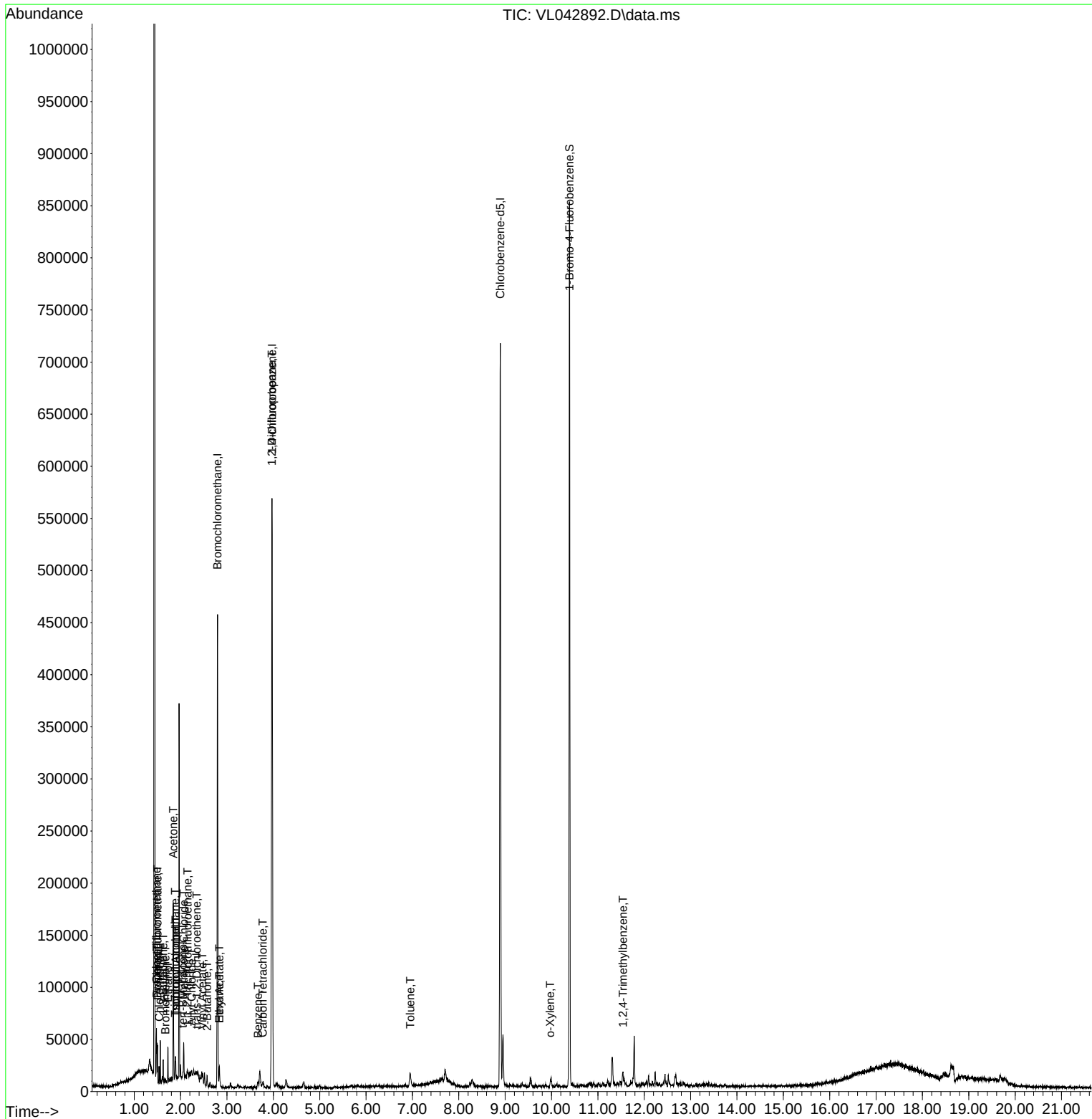
Quant Time: Sep 05 01:23:20 2025  
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA\_L\methods\VL081325AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Fri Aug 26 06:05:16 2022  
 QLast Update : Thu Aug 14 02:12:54 2025  
 Response via : Initial Calibration

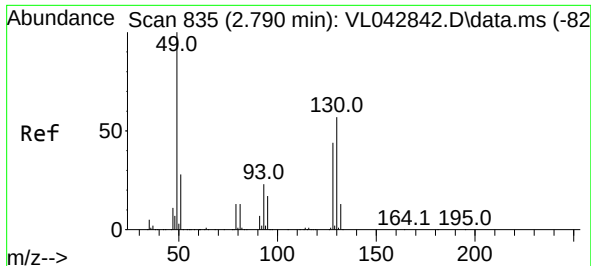
| Compound                      |  |        | R.T.           | QIon | Response | Conc       | Units  | Dev(Min) |
|-------------------------------|--|--------|----------------|------|----------|------------|--------|----------|
| -----                         |  |        |                |      |          |            |        |          |
| Internal Standards            |  |        |                |      |          |            |        |          |
| 1) Bromochloromethane         |  |        | 2.797          | 49   | 123311   | 10.000     | ppbv   | 0.00     |
| 33) 1,4-Difluorobenzene       |  |        | 3.972          | 114  | 330308   | 10.000     | ppbv   | 0.00     |
| 55) Chlorobenzene-d5          |  |        | 8.895          | 117  | 285076   | 10.000     | ppbv   | 0.00     |
| System Monitoring Compounds   |  |        |                |      |          |            |        |          |
| 68) 1-Bromo-4-Fluorobenzene   |  |        | 10.387         | 95   | 217596   | 10.178     | ppbv   | 0.00     |
| Spiked Amount                 |  | 10.000 | Range 65 - 135 |      | Recovery | = 101.800% |        |          |
| Target Compounds              |  |        |                |      |          |            |        |          |
|                               |  |        |                |      |          |            |        | Qvalue   |
| 2) Dichlorodifluoromethane    |  |        | 1.502          | 85   | 8318     | 0.460      | ppbv   | 95       |
| 3) Chlorodifluoromethane      |  |        | 1.479          | 51   | 19172    | 0.960      | ppbv   | 95       |
| 4) Chloromethane              |  |        | 1.534          | 50   | 3412     | 0.468      | ppbv   | 93       |
| 6) Bromomethane               |  |        | 1.674          | 94   | 261      | 0.091      | ppbv   | 97       |
| 9) Propene                    |  |        | 1.489          | 41   | 3042     | 0.353      | ppbv # | 17       |
| 11) Trichlorofluoromethane    |  |        | 1.881          | 101  | 4930     | 0.276      | ppbv   | 97       |
| 12) 1,1,2-Trichlorotrifluo... |  |        | 2.149          | 101  | 1117     | 0.079      | ppbv   | 99       |
| 13) Ethanol                   |  |        | 1.725          | 45   | 12082    | 15.317     | ppbv   | 97       |
| 15) Acetone                   |  |        | 1.842          | 43   | 71081    | 4.358      | ppbv   | 99       |
| 16) 1,3-Butadiene             |  |        | 1.625          | 39   | 1086     | 0.147      | ppbv # | 42       |
| 17) tert-Butyl alcohol        |  |        | 2.049          | 59   | 1089     | 0.056      | ppbv # | 71       |
| 19) Isopropyl Alcohol         |  |        | 1.894          | 45   | 8455     | 0.868      | ppbv # | 1        |
| 20) Methylene Chloride        |  |        | 2.068          | 84   | 5029     | 0.736      | ppbv # | 86       |
| 21) Allyl Chloride            |  |        | 2.240          | 41   | 728      | 0.063      | ppbv # | 44       |
| 22) trans-1,2-Dichloroethene  |  |        | 2.347          | 96   | 278      | 0.038      | ppbv # | 75       |
| 23) Vinyl Acetate             |  |        | 2.467          | 43   | 2406     | 0.107      | ppbv # | 92       |
| 25) Ethyl Acetate             |  |        | 2.839          | 43   | 3720     | 0.094      | ppbv # | 80       |
| 26) Hexane                    |  |        | 2.832          | 57   | 4193     | 0.230      | ppbv # | 50       |
| 34) 2-Butanone                |  |        | 2.570          | 43   | 6686     | 0.300      | ppbv   | 97       |
| 35) Carbon Tetrachloride      |  |        | 3.774          | 117  | 2040     | 0.090      | ppbv # | 61       |
| 36) Benzene                   |  |        | 3.671          | 78   | 982      | 0.031      | ppbv # | 64       |
| 39) 1,2-Dichloropropane       |  |        | 3.968          | 63   | 89627    | 7.759      | ppbv # | 26       |
| 53) Toluene                   |  |        | 6.953          | 91   | 6497     | 0.173      | ppbv # | 21       |
| 60) o-Xylene                  |  |        | 9.972          | 91   | 2017     | 0.051      | ppbv   | 92       |
| 74) 1,2,4-Trimethylbenzene    |  |        | 11.542         | 105  | 2363     | 0.053      | ppbv # | 50       |

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

**ClientSampleId :**

Response via : Initial Calibration

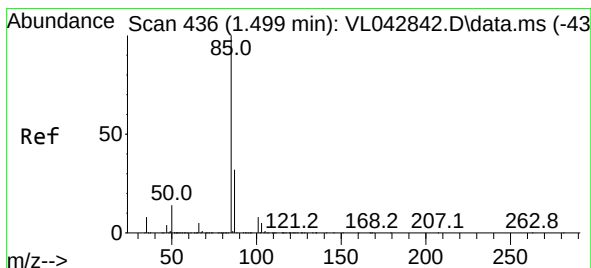
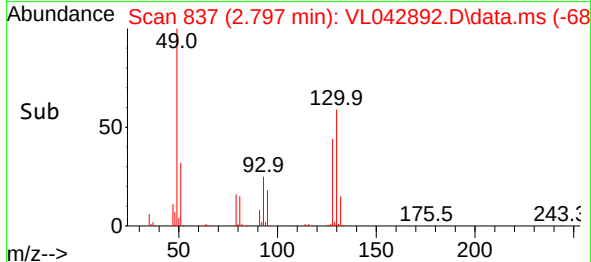
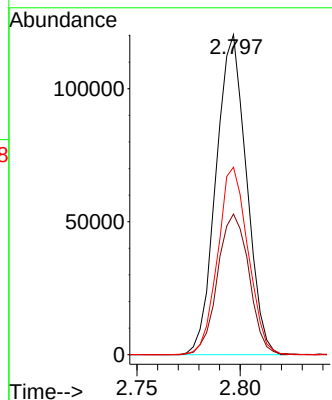
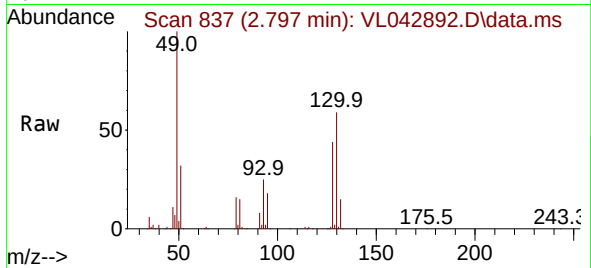




#1  
 Bromochloromethane  
 Concen: 10.000 ppbv  
 RT: 2.797 min Scan# 835  
 Delta R.T. 0.007 min  
 Lab File: VL042892.D  
 Acq: 04 Sep 2025 16:16

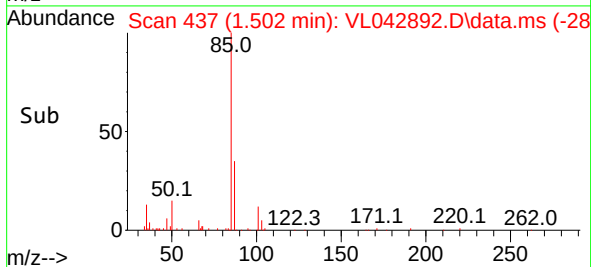
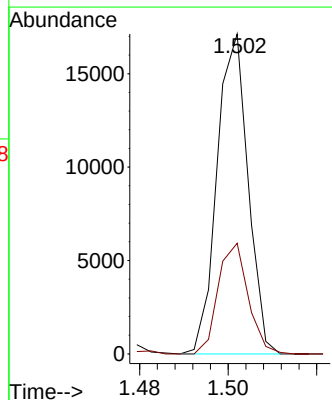
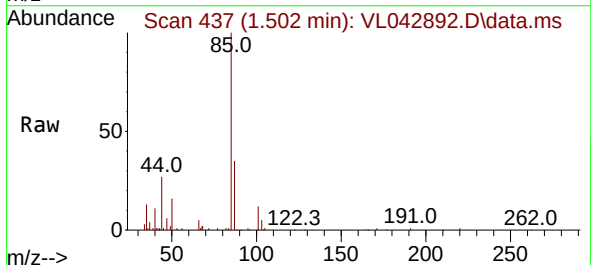
Instrument :  
 MSVOA\_L  
 ClientSampleId :

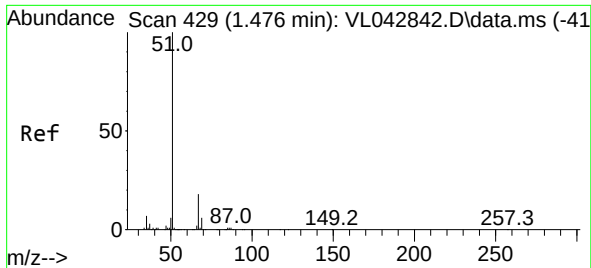
Tgt Ion: 49 Resp: 123311  
 Ion Ratio Lower Upper  
 49 100  
 128 45.3 23.7 71.1  
 130 58.5 30.6 91.6



#2  
 Dichlorodifluoromethane  
 Concen: 0.460 ppbv  
 RT: 1.502 min Scan# 437  
 Delta R.T. 0.003 min  
 Lab File: VL042892.D  
 Acq: 04 Sep 2025 16:16

Tgt Ion: 85 Resp: 8318  
 Ion Ratio Lower Upper  
 85 100  
 87 34.6 25.3 37.9

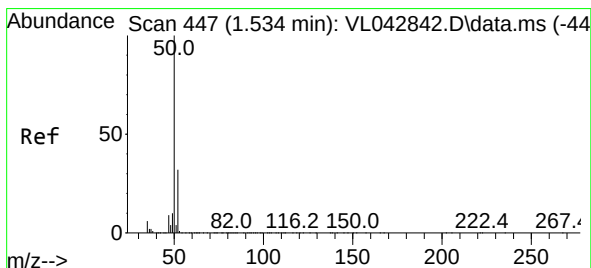
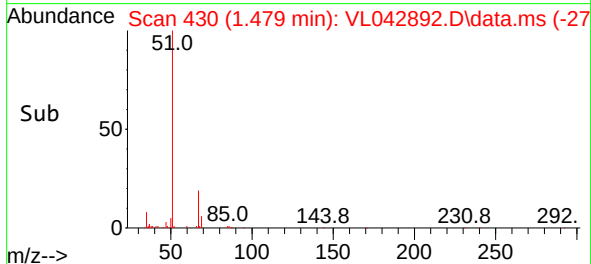
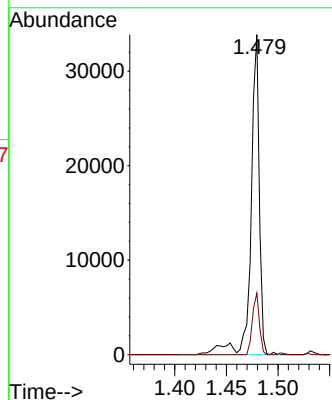
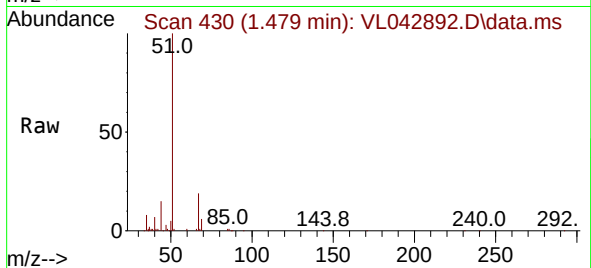




#3  
Chlorodifluoromethane  
Concen: 0.960 ppbv  
RT: 1.479 min Scan# 41  
Delta R.T. 0.003 min  
Lab File: VL042892.D  
Acq: 04 Sep 2025 16:16

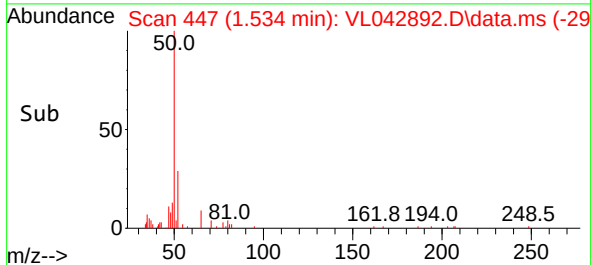
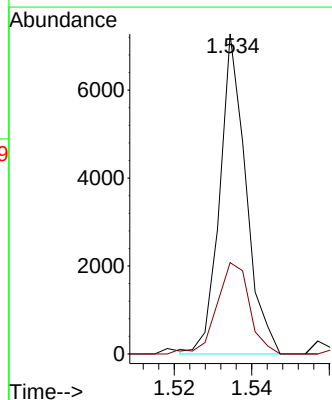
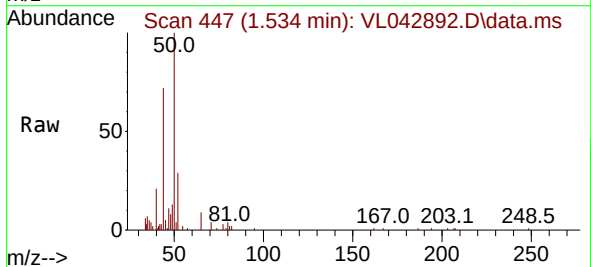
Instrument :  
MSVOA\_L  
ClientSampleId :

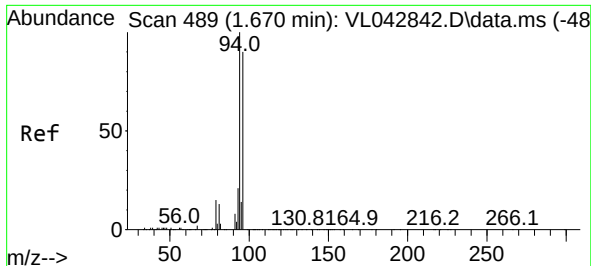
Tgt Ion: 51 Resp: 19172  
Ion Ratio Lower Upper  
51 100  
67 16.3 14.9 22.3



#4  
Chloromethane  
Concen: 0.468 ppbv  
RT: 1.534 min Scan# 447  
Delta R.T. -0.000 min  
Lab File: VL042892.D  
Acq: 04 Sep 2025 16:16

Tgt Ion: 50 Resp: 3412  
Ion Ratio Lower Upper  
50 100  
52 28.5 25.9 38.9

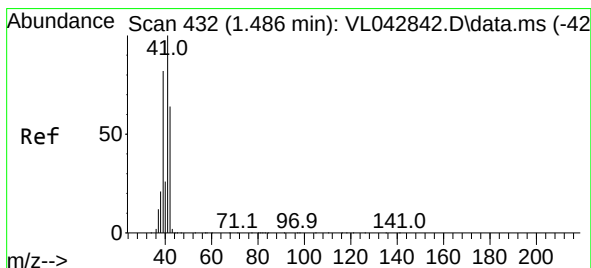
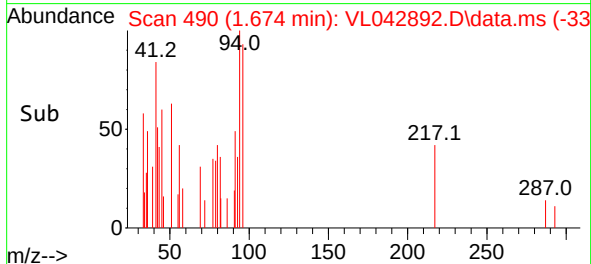
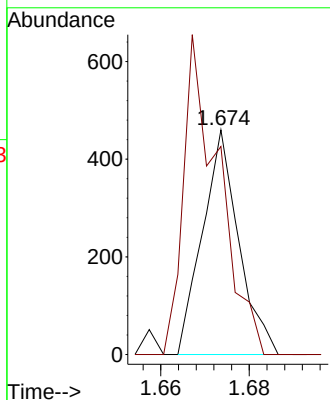
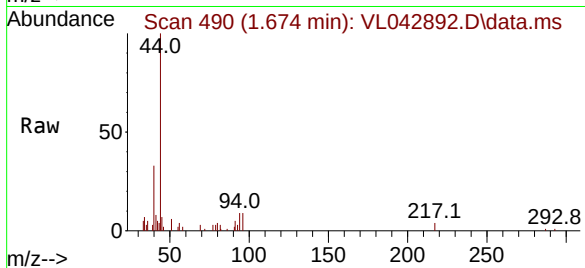




#6  
Bromomethane  
Concen: 0.091 ppbv  
RT: 1.674 min Scan# 490  
Delta R.T. 0.003 min  
Lab File: VL042892.D  
Acq: 04 Sep 2025 16:16

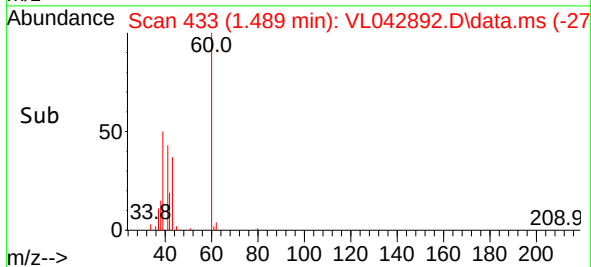
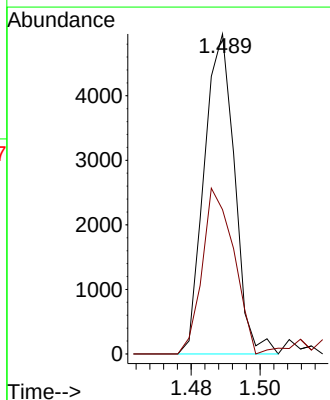
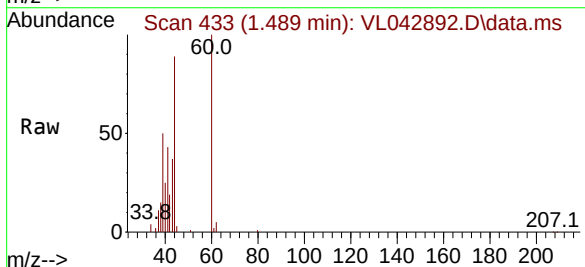
Instrument :  
MSVOA\_L  
ClientSampleId :

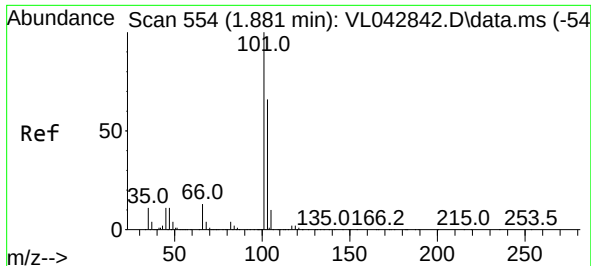
Tgt Ion: 94 Resp: 261  
Ion Ratio Lower Upper  
94 100  
96 92.6 72.1 108.1



#9  
Propene  
Concen: 0.353 ppbv  
RT: 1.489 min Scan# 433  
Delta R.T. 0.003 min  
Lab File: VL042892.D  
Acq: 04 Sep 2025 16:16

Tgt Ion: 41 Resp: 3042  
Ion Ratio Lower Upper  
41 100  
42 0.0 53.0 79.4#

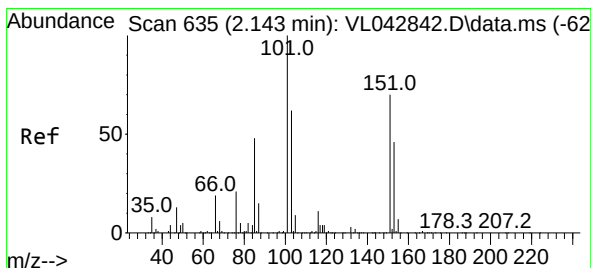
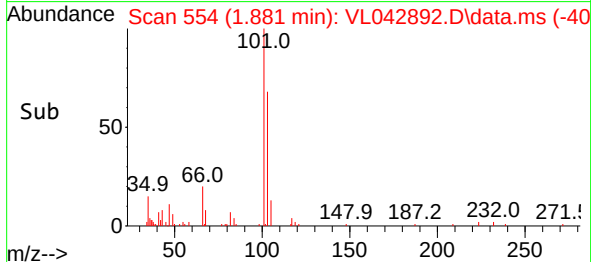
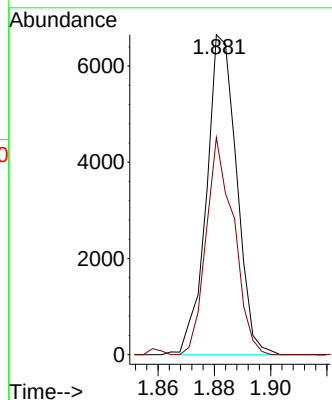
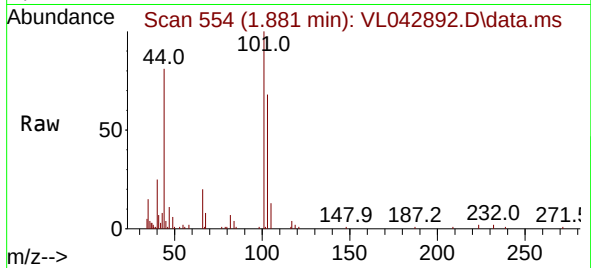




#11  
 Trichlorofluoromethane  
 Concen: 0.276 ppbv  
 RT: 1.881 min Scan# 511  
 Delta R.T. -0.000 min  
 Lab File: VL042892.D  
 Acq: 04 Sep 2025 16:16

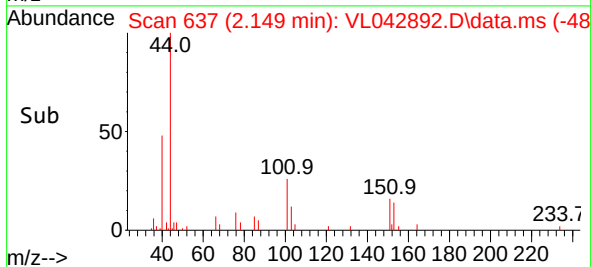
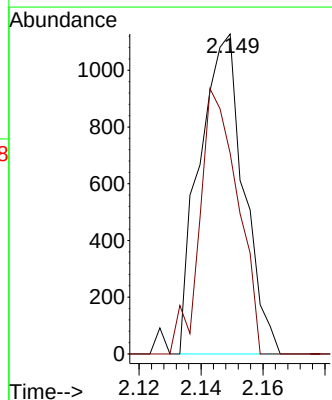
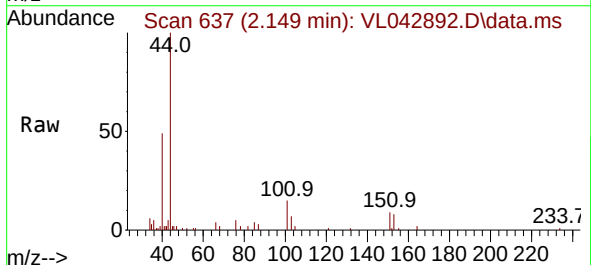
Instrument :  
 MSVOA\_L  
 ClientSampleId :

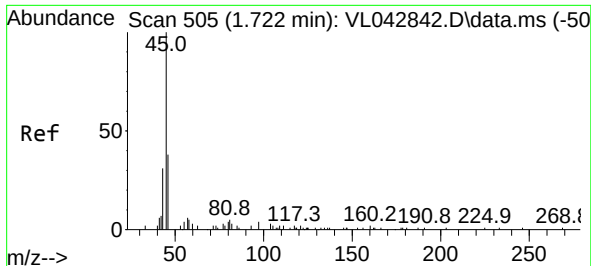
Tgt Ion:101 Resp: 4930  
 Ion Ratio Lower Upper  
 101 100  
 103 67.9 52.5 78.7



#12  
 1,1,2-Trichlorotrifluoroethane  
 Concen: 0.079 ppbv  
 RT: 2.149 min Scan# 637  
 Delta R.T. 0.006 min  
 Lab File: VL042892.D  
 Acq: 04 Sep 2025 16:16

Tgt Ion:101 Resp: 1117  
 Ion Ratio Lower Upper  
 101 100  
 151 71.0 56.4 84.6

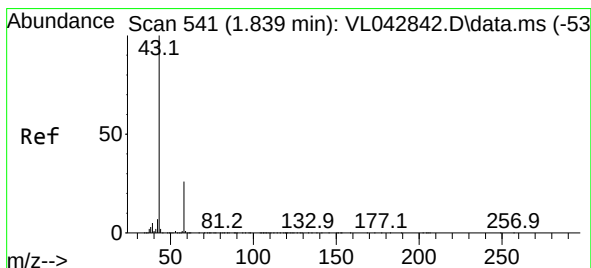
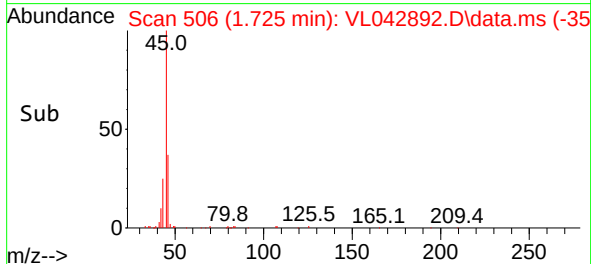
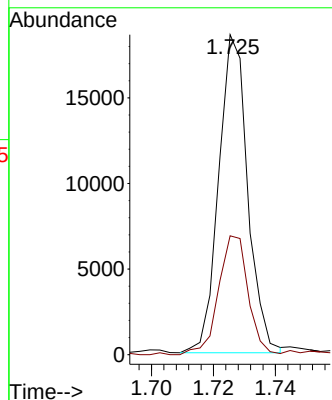
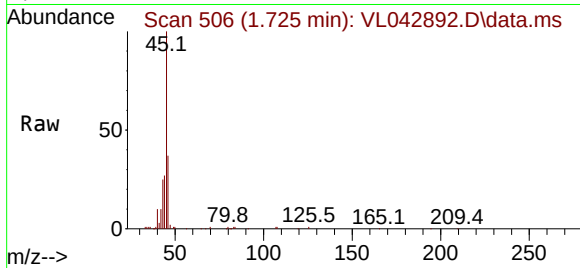




#13  
 Ethanol  
 Concen: 15.317 ppbv  
 RT: 1.725 min Scan# 50  
 Delta R.T. 0.003 min  
 Lab File: VL042892.D  
 Acq: 04 Sep 2025 16:16

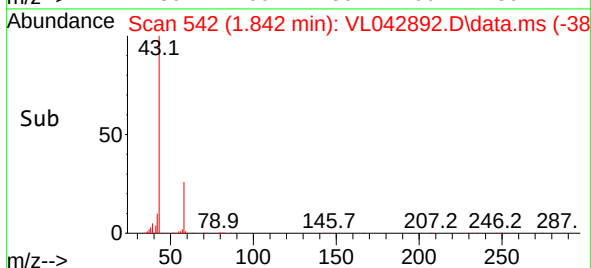
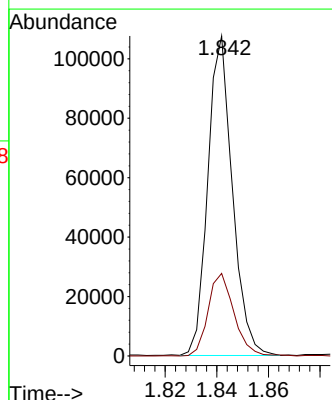
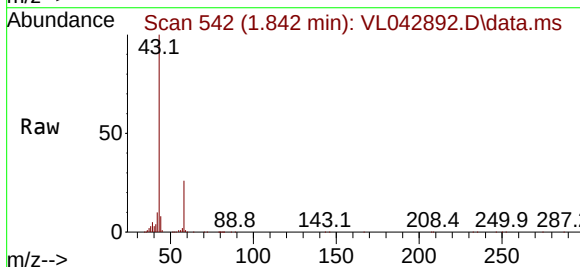
Instrument :  
 MSVOA\_L  
 ClientSampleId :

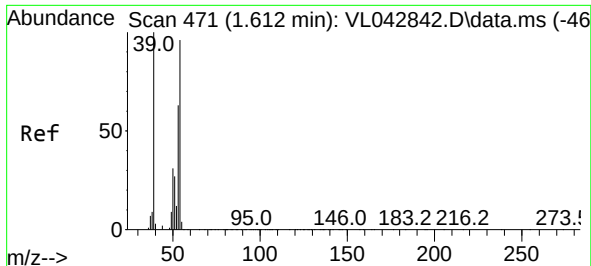
Tgt Ion: 45 Resp: 12082  
 Ion Ratio Lower Upper  
 45 100  
 46 41.6 17.5 69.9



#15  
 Acetone  
 Concen: 4.358 ppbv  
 RT: 1.842 min Scan# 542  
 Delta R.T. 0.003 min  
 Lab File: VL042892.D  
 Acq: 04 Sep 2025 16:16

Tgt Ion: 43 Resp: 71081  
 Ion Ratio Lower Upper  
 43 100  
 58 27.4 22.4 33.6





#16

1,3-Butadiene

Concen: 0.147 ppbv

RT: 1.625 min Scan# 41

Delta R.T. 0.013 min

Lab File: VL042892.D

Acq: 04 Sep 2025 16:16

Instrument :

MSVOA\_L

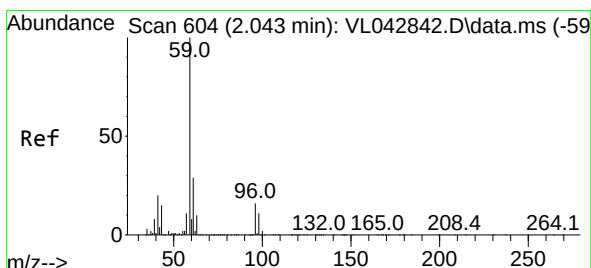
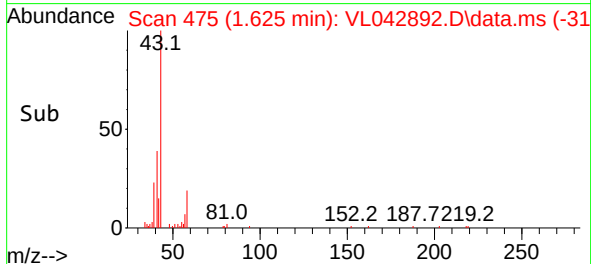
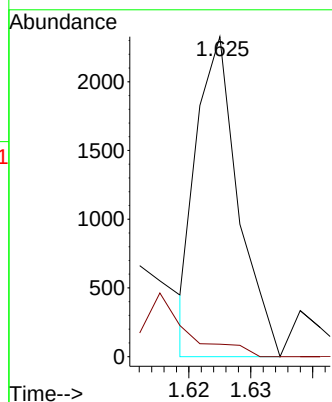
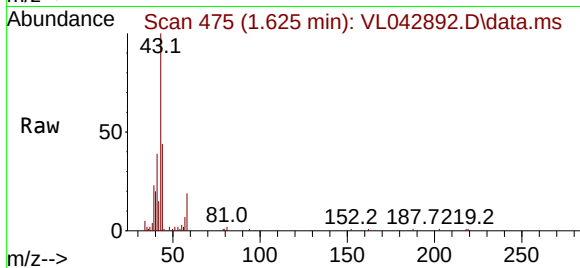
ClientSampleId :

Tgt Ion: 39 Resp: 1086

Ion Ratio Lower Upper

39 100

54 28.8 63.6 95.4#



#17

tert-Butyl alcohol

Concen: 0.056 ppbv

RT: 2.049 min Scan# 606

Delta R.T. 0.006 min

Lab File: VL042892.D

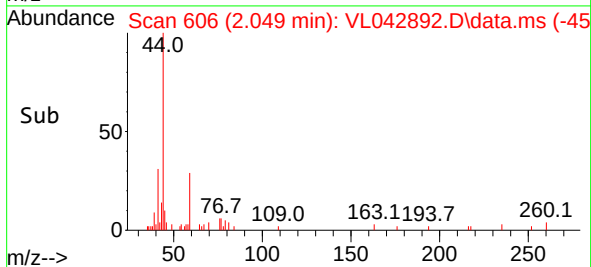
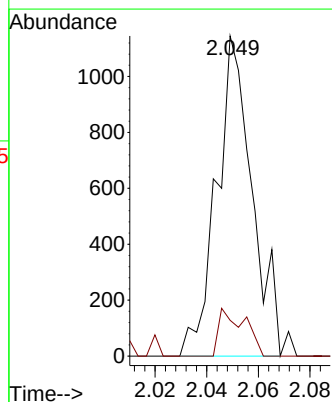
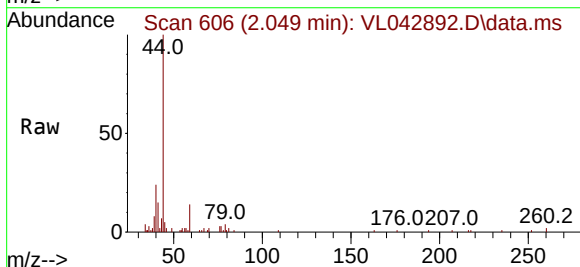
Acq: 04 Sep 2025 16:16

Tgt Ion: 59 Resp: 1089

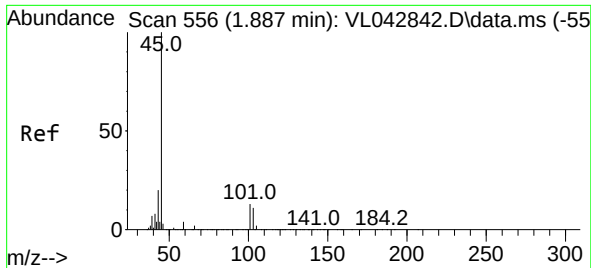
Ion Ratio Lower Upper

59 100

57 0.0 9.0 13.4#







#19

Isopropyl Alcohol

Concen: 0.868 ppbv

RT: 1.894 min Scan# 51

Delta R.T. 0.006 min

Lab File: VL042892.D

Acq: 04 Sep 2025 16:16

Instrument :

MSVOA\_L

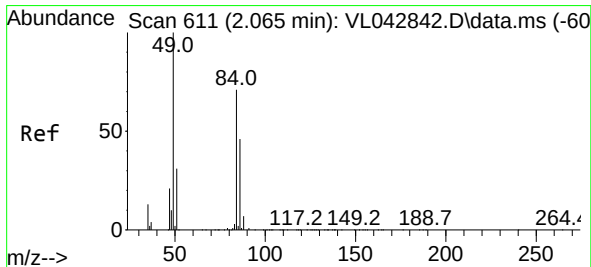
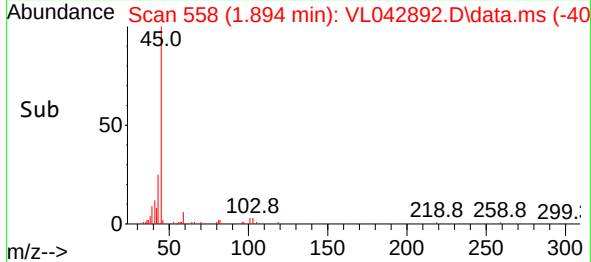
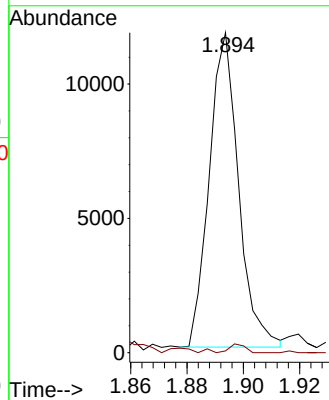
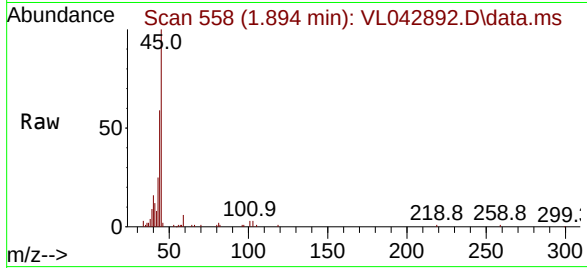
ClientSampleId :

Tgt Ion: 45 Resp: 8455

Ion Ratio Lower Upper

45 100

58 230.6 32.7 49.1#



#20

Methylene Chloride

Concen: 0.736 ppbv

RT: 2.068 min Scan# 612

Delta R.T. 0.003 min

Lab File: VL042892.D

Acq: 04 Sep 2025 16:16

Tgt Ion: 84 Resp: 5029

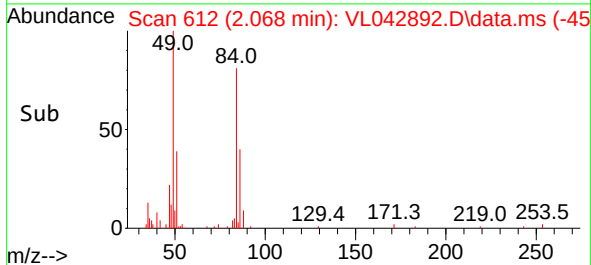
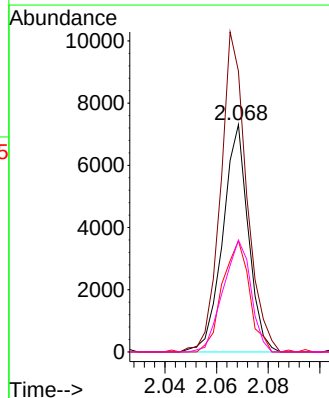
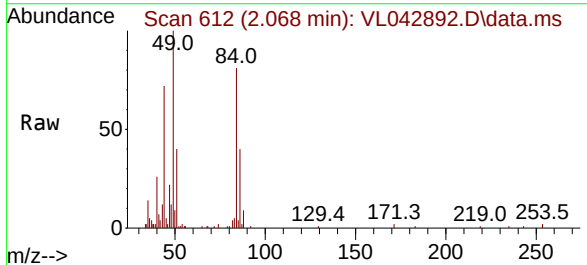
Ion Ratio Lower Upper

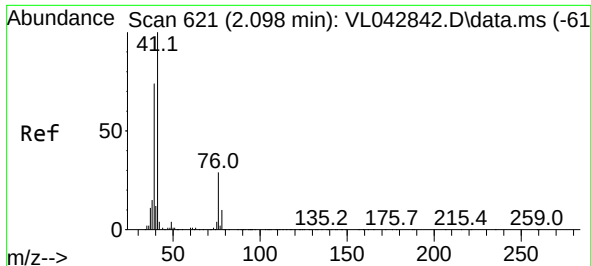
84 100

49 123.5 112.3 168.5

51 48.9 36.0 54.0

86 49.2 52.0 78.0#





#21

Allyl Chloride

Concen: 0.063 ppbv

RT: 2.240 min Scan# 60

Delta R.T. 0.142 min

Lab File: VL042892.D

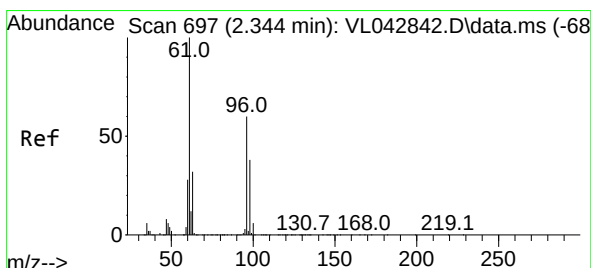
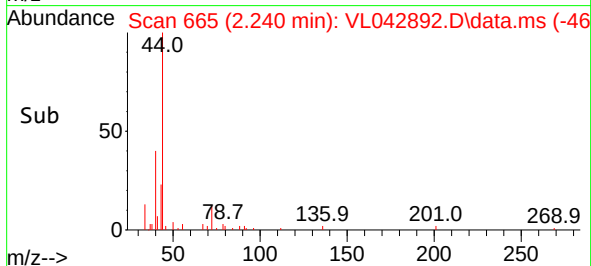
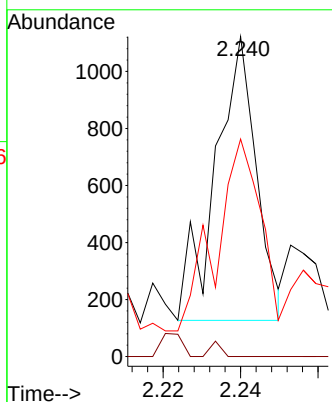
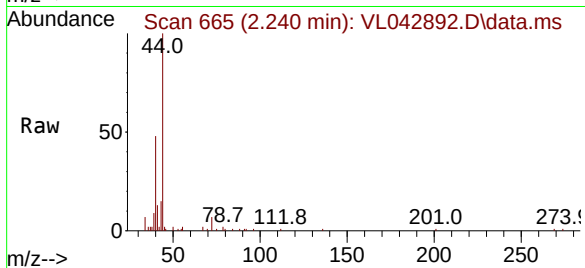
Acq: 04 Sep 2025 16:16

Instrument :

MSVOA\_L

ClientSampleId :

|             |                  |
|-------------|------------------|
| Tgt Ion: 41 | Resp: 728        |
| Ion Ratio   | Lower Upper      |
| 41          | 100              |
| 76          | 5.6 23.9 35.9#   |
| 39          | 122.9 57.8 86.6# |



#22

trans-1,2-Dichloroethene

Concen: 0.038 ppbv

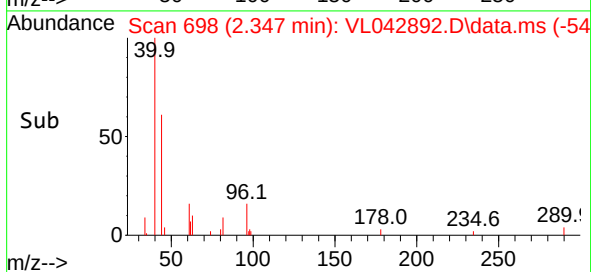
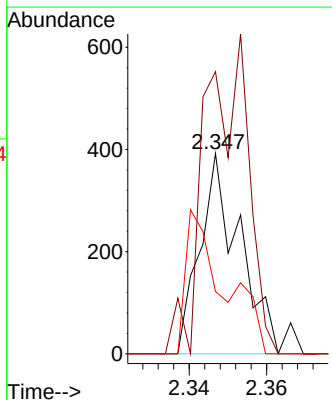
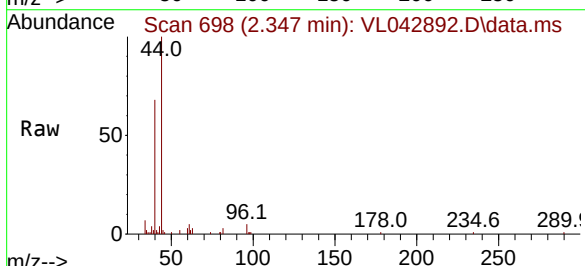
RT: 2.347 min Scan# 698

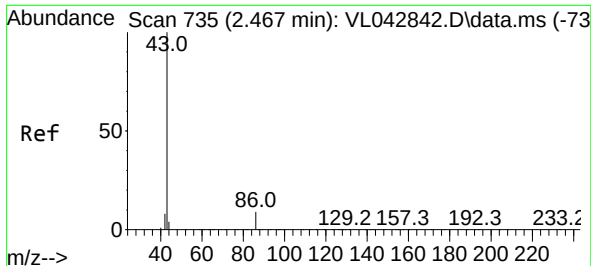
Delta R.T. 0.003 min

Lab File: VL042892.D

Acq: 04 Sep 2025 16:16

|             |                   |
|-------------|-------------------|
| Tgt Ion: 96 | Resp: 278         |
| Ion Ratio   | Lower Upper       |
| 96          | 100               |
| 61          | 140.8 132.6 199.0 |
| 98          | 31.1 50.0 75.0#   |

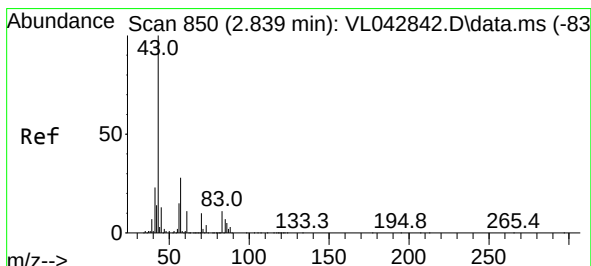
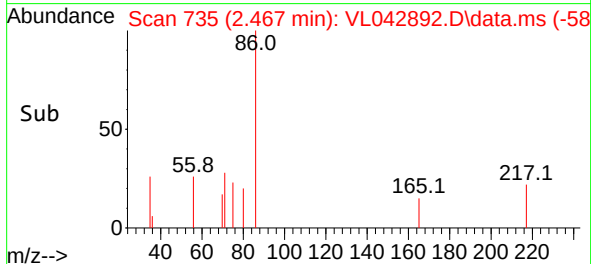
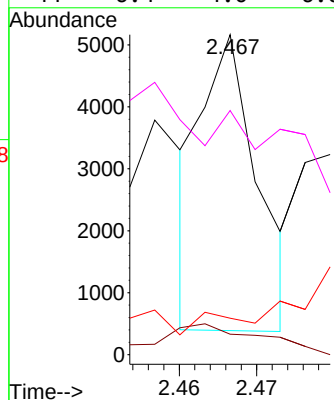
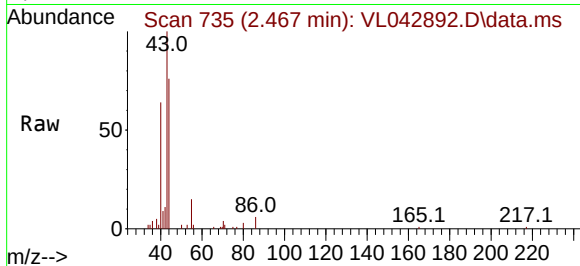




#23  
 Vinyl Acetate  
 Concen: 0.107 ppbv  
 RT: 2.467 min Scan# 71  
 Delta R.T. -0.000 min  
 Lab File: VL042892.D  
 Acq: 04 Sep 2025 16:16

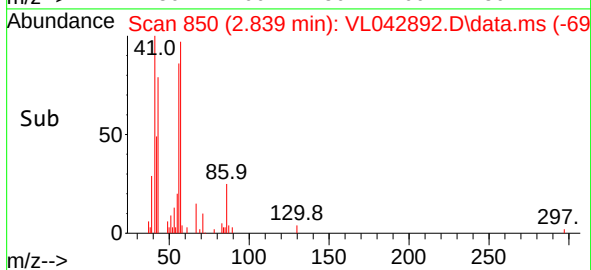
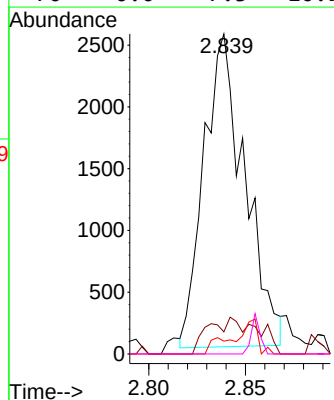
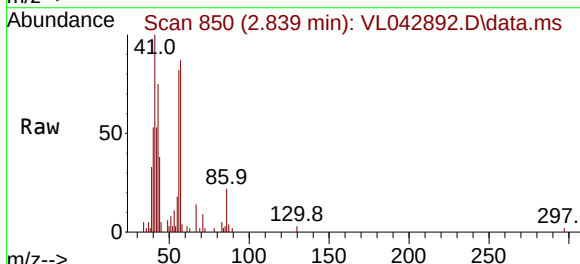
Instrument :  
 MSVOA\_L  
 ClientSampleId :

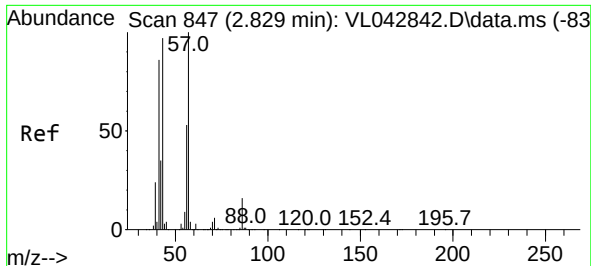
|             |             |
|-------------|-------------|
| Tgt Ion: 43 | Resp: 2406  |
| Ion Ratio   | Lower Upper |
| 43 100      |             |
| 86 1.5      | 6.6 9.8#    |
| 42 8.4      | 7.0 10.6    |
| 44 6.4      | 4.0 6.0#    |



#25  
 Ethyl Acetate  
 Concen: 0.094 ppbv  
 RT: 2.839 min Scan# 850  
 Delta R.T. -0.000 min  
 Lab File: VL042892.D  
 Acq: 04 Sep 2025 16:16

|     |         |       |       |
|-----|---------|-------|-------|
| Tgt | Ion: 43 | Resp: | 3720  |
| Ion | Ratio   | Lower | Upper |
| 43  | 100     |       |       |
| 45  | 14.0    | 8.1   | 12.1# |
| 61  | 0.0     | 7.4   | 11.2# |
| 70  | 0.0     | 7.3   | 10.9# |

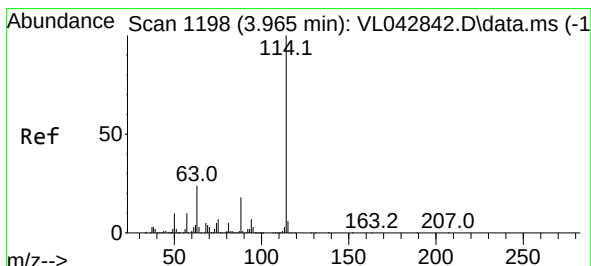
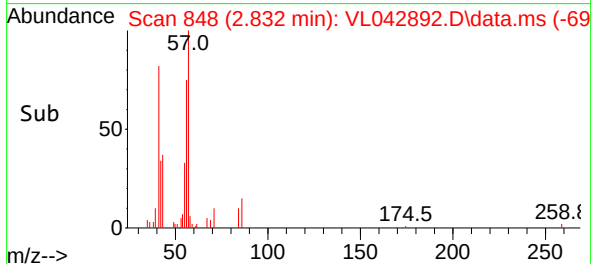
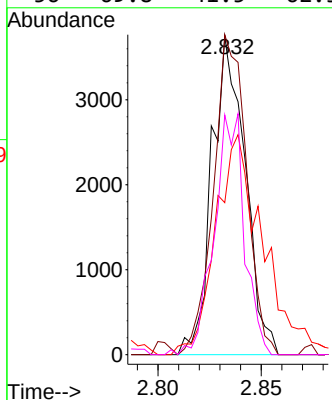
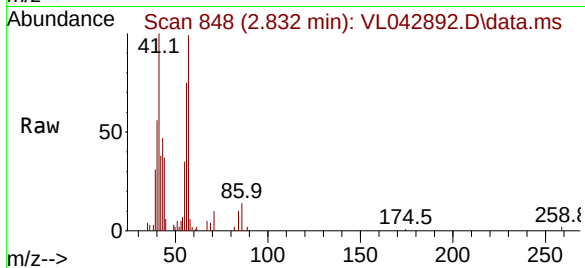




#26  
Hexane  
Concen: 0.230 ppbv  
RT: 2.832 min Scan# 84  
Delta R.T. 0.003 min  
Lab File: VL042892.D  
Acq: 04 Sep 2025 16:16

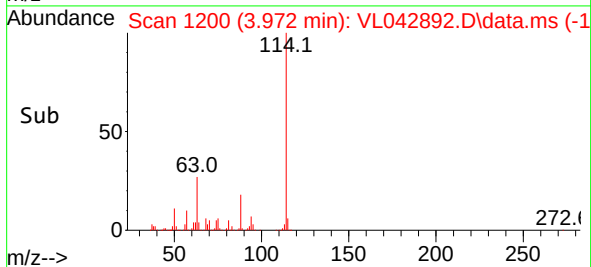
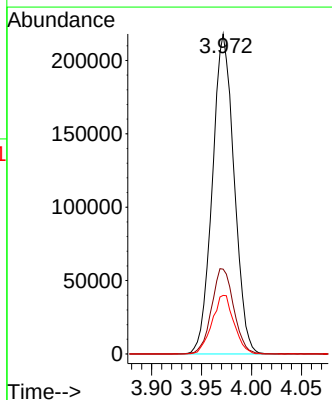
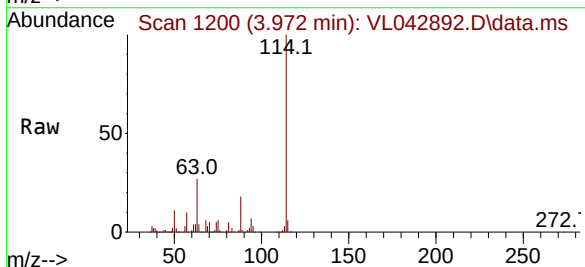
Instrument :  
MSVOA\_L  
ClientSampleId :

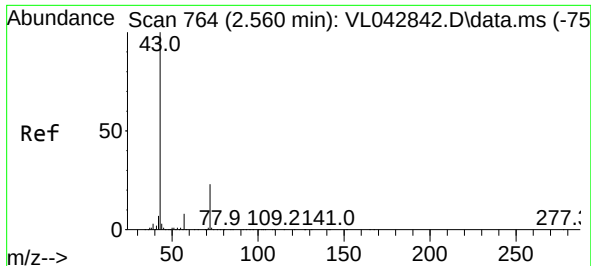
Tgt Ion: 57 Resp: 4193  
Ion Ratio Lower Upper  
57 100  
41 102.2 68.6 103.0  
43 102.3 168.5 252.7#  
56 69.8 41.5 62.3#



#33  
1,4-Difluorobenzene  
Concen: 10.000 ppbv  
RT: 3.972 min Scan# 1200  
Delta R.T. 0.006 min  
Lab File: VL042892.D  
Acq: 04 Sep 2025 16:16

Tgt Ion: 114 Resp: 330308  
Ion Ratio Lower Upper  
114 100  
63 27.2 19.7 29.5  
88 18.5 14.4 21.6

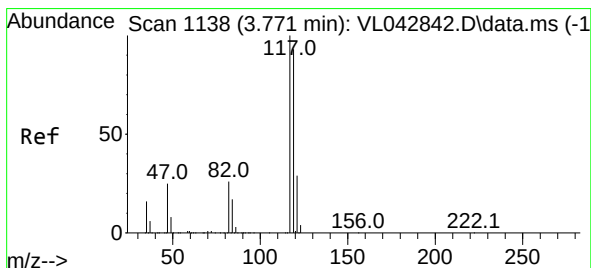
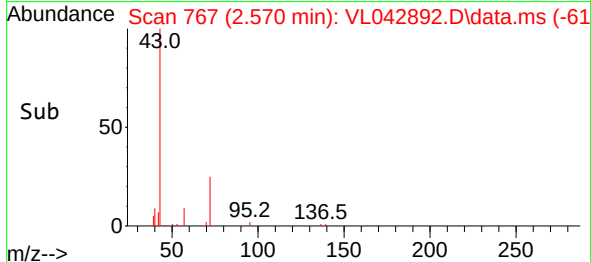
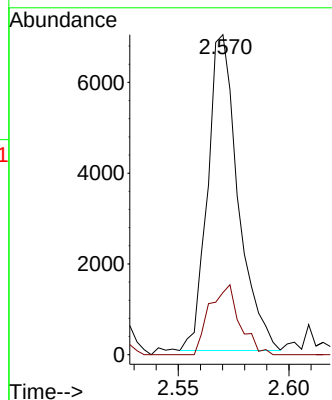
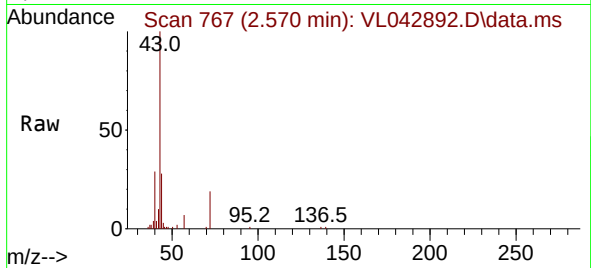




#34  
2-Butanone  
Concen: 0.300 ppbv  
RT: 2.570 min Scan# 767  
Delta R.T. 0.010 min  
Lab File: VL042892.D  
Acq: 04 Sep 2025 16:16

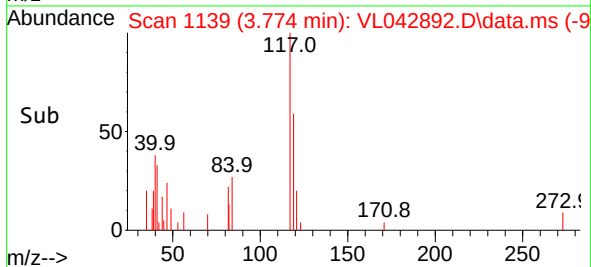
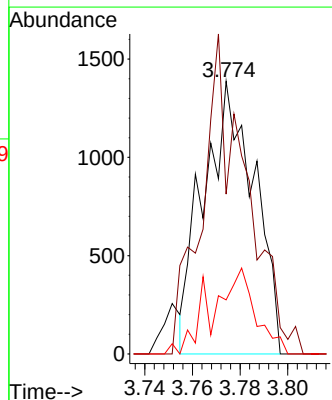
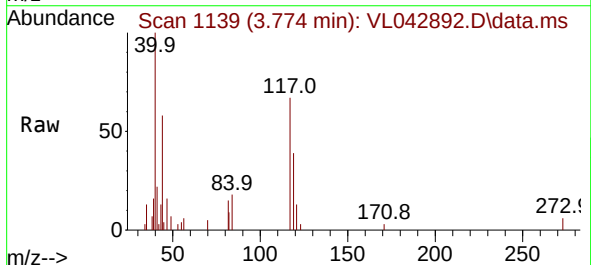
Instrument :  
MSVOA\_L  
ClientSampleId :

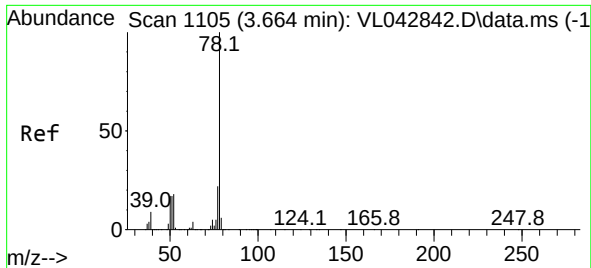
Tgt Ion: 43 Resp: 6686  
Ion Ratio Lower Upper  
43 100  
72 21.8 18.6 28.0



#35  
Carbon Tetrachloride  
Concen: 0.090 ppbv  
RT: 3.774 min Scan# 1139  
Delta R.T. 0.003 min  
Lab File: VL042892.D  
Acq: 04 Sep 2025 16:16

Tgt Ion: 117 Resp: 2040  
Ion Ratio Lower Upper  
117 100  
119 49.0 74.7 112.1#  
121 19.8 23.2 34.8#

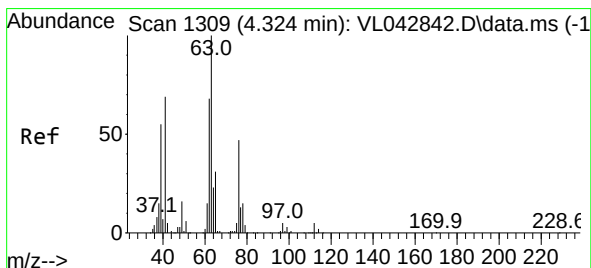
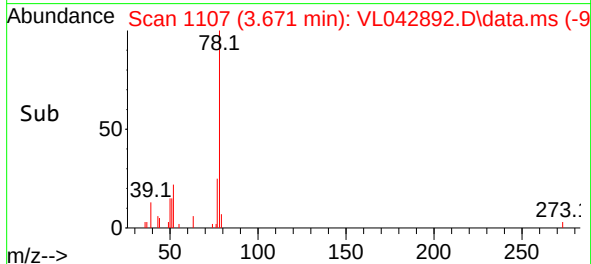
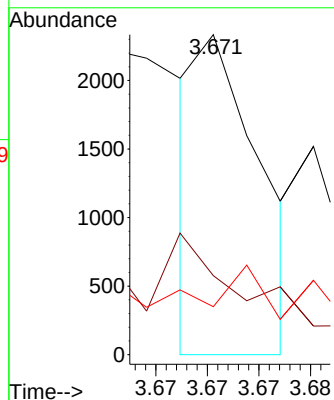
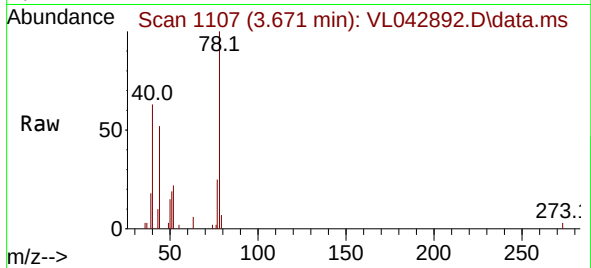




#36  
Benzene  
Concen: 0.031 ppbv  
RT: 3.671 min Scan# 1105  
Delta R.T. 0.006 min  
Lab File: VL042892.D  
Acq: 04 Sep 2025 16:16

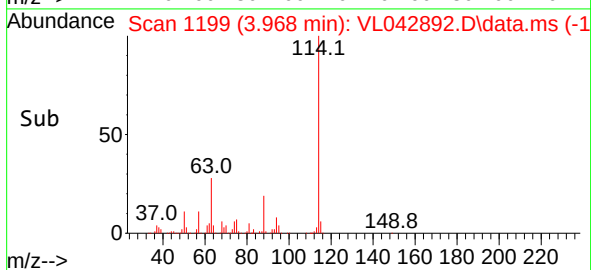
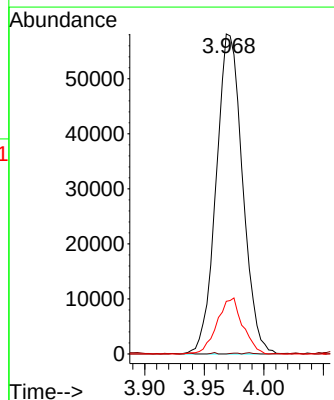
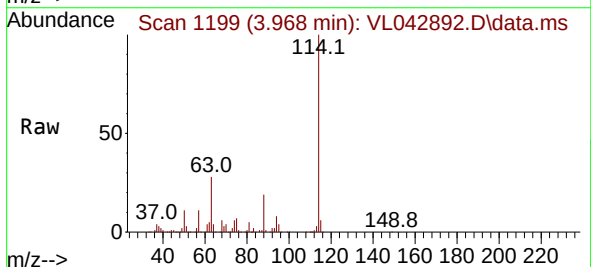
Instrument :  
MSVOA\_L  
ClientSampleId :

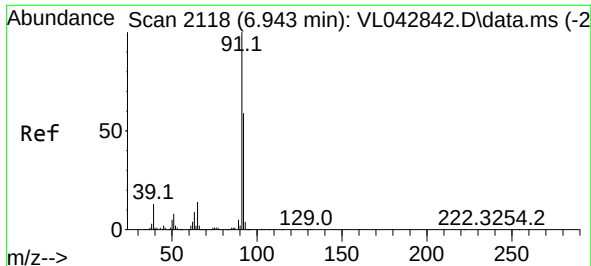
Tgt Ion: 78 Resp: 982  
Ion Ratio Lower Upper  
78 100  
77 6.7 17.7 26.5#  
50 0.0 13.9 20.9#



#39  
1,2-Dichloropropane  
Concen: 7.759 ppbv  
RT: 3.968 min Scan# 1199  
Delta R.T. -0.356 min  
Lab File: VL042892.D  
Acq: 04 Sep 2025 16:16

Tgt Ion: 63 Resp: 89627  
Ion Ratio Lower Upper  
63 100  
41 0.2 55.0 82.4#  
62 16.5 54.4 81.6#

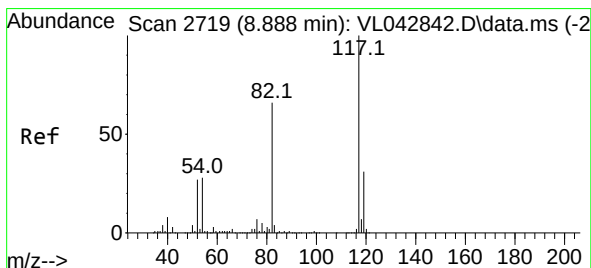
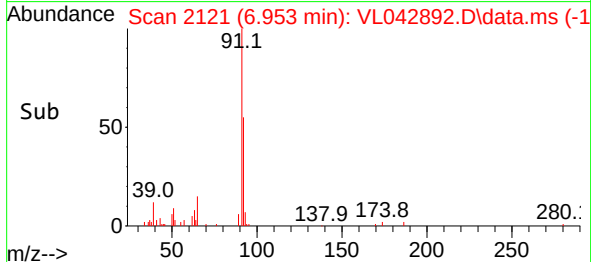
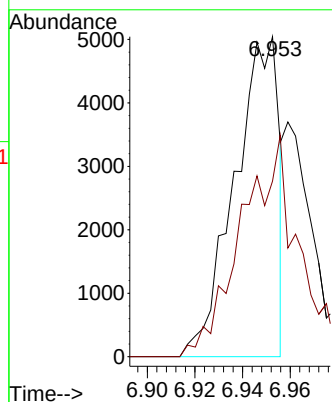
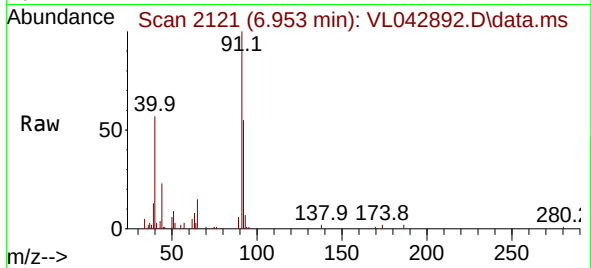




#53  
Toluene  
Concen: 0.173 ppbv  
RT: 6.953 min Scan# 2118  
Delta R.T. 0.010 min  
Lab File: VL042892.D  
Acq: 04 Sep 2025 16:16

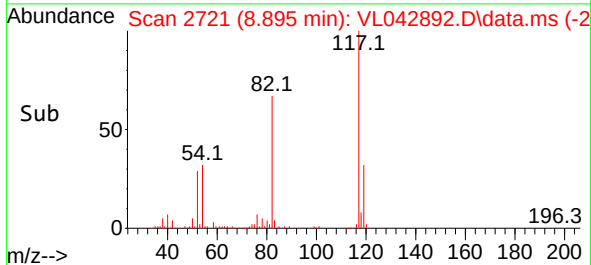
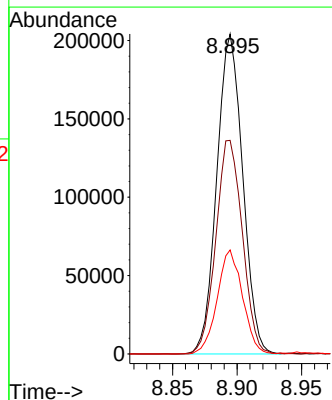
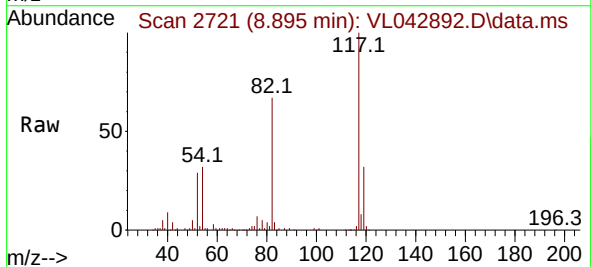
Instrument :  
MSVOA\_L  
ClientSampleId :

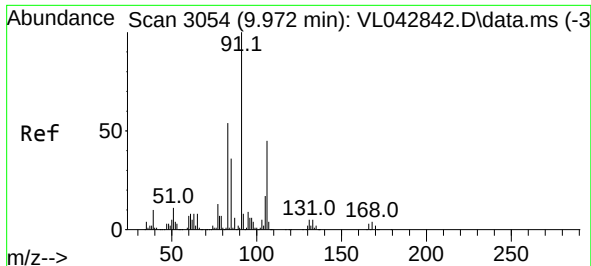
Tgt Ion: 91 Resp: 6497  
Ion Ratio Lower Upper  
91 100  
92 0.0 47.8 71.6#



#55  
Chlorobenzene-d5  
Concen: 10.000 ppbv  
RT: 8.895 min Scan# 2721  
Delta R.T. 0.006 min  
Lab File: VL042892.D  
Acq: 04 Sep 2025 16:16

Tgt Ion: 117 Resp: 285076  
Ion Ratio Lower Upper  
117 100  
82 68.2 54.6 81.8  
119 31.8 25.9 38.9





#60

o-Xylene

Concen: 0.051 ppbv

RT: 9.972 min Scan# 3054

Delta R.T. -0.000 min

Lab File: VL042892.D

Acq: 04 Sep 2025 16:16

Instrument :

MSVOA\_L

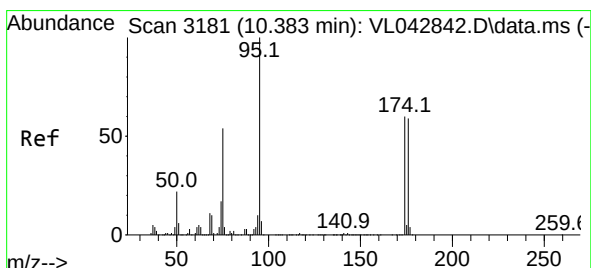
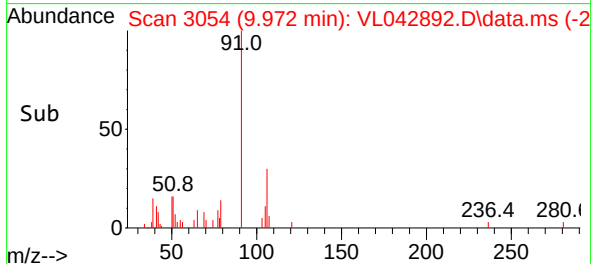
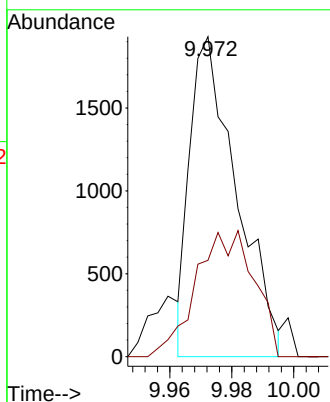
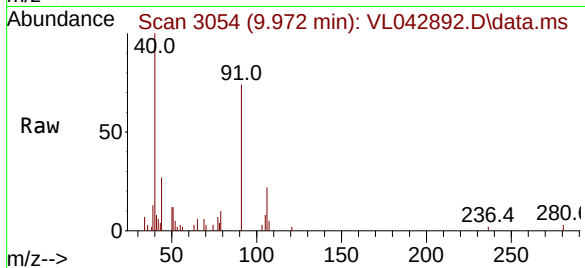
ClientSampleId :

Tgt Ion: 91 Resp: 2017

Ion Ratio Lower Upper

91 100

106 48.9 21.8 65.4



#68

1-Bromo-4-Fluorobenzene

Concen: 10.178 ppbv

RT: 10.387 min Scan# 3182

Delta R.T. 0.003 min

Lab File: VL042892.D

Acq: 04 Sep 2025 16:16

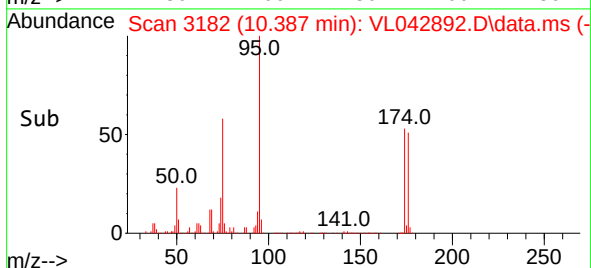
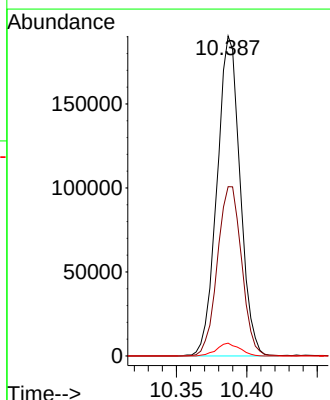
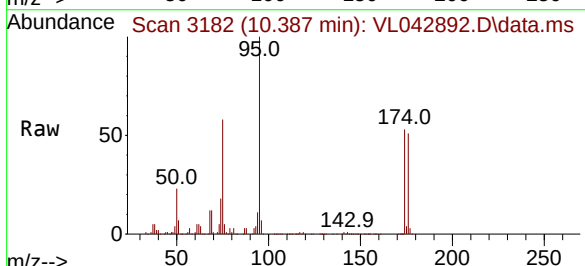
Tgt Ion: 95 Resp: 217596

Ion Ratio Lower Upper

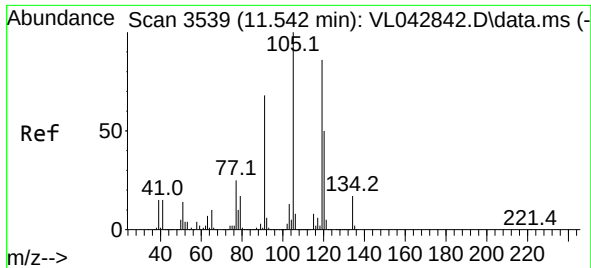
95 100

174 55.5 48.4 72.6

175 4.0 3.8 5.8

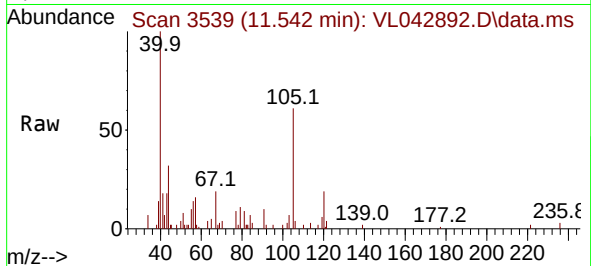






#74  
 1,2,4-Trimethylbenzene  
 Concen: 0.053 ppbv  
 RT: 11.542 min Scan# 31  
 Delta R.T. -0.000 min  
 Lab File: VL042892.D  
 Acq: 04 Sep 2025 16:16

Instrument :  
 MSVOA\_L  
 ClientSampleId :



|          |       |       |       |
|----------|-------|-------|-------|
| Tgt Ion: | 105   | Resp: | 2363  |
| Ion      | Ratio | Lower | Upper |
| 105      | 100   |       |       |
| 120      | 33.7  | 39.8  | 59.6# |
| 91       | 3.0   | 54.2  | 81.4# |
| 77       | 15.3  | 19.8  | 29.6# |

