

Data Path : Z:\voasrv\HPCHEM1\MSVOA\_L\Data\VL100825\  
 Data File : VL043076.D  
 Acq On : 09 Oct 2025 01:28  
 Operator : SY/MD  
 Sample : Q3320-07  
 Misc : 400mL/MSVOA\_L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 IA4

Quant Time: Oct 09 02:49:20 2025  
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA\_L\methods\VL100225AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Fri Aug 26 06:05:16 2022  
 QLast Update : Fri Oct 03 08:23:34 2025  
 Response via : Initial Calibration

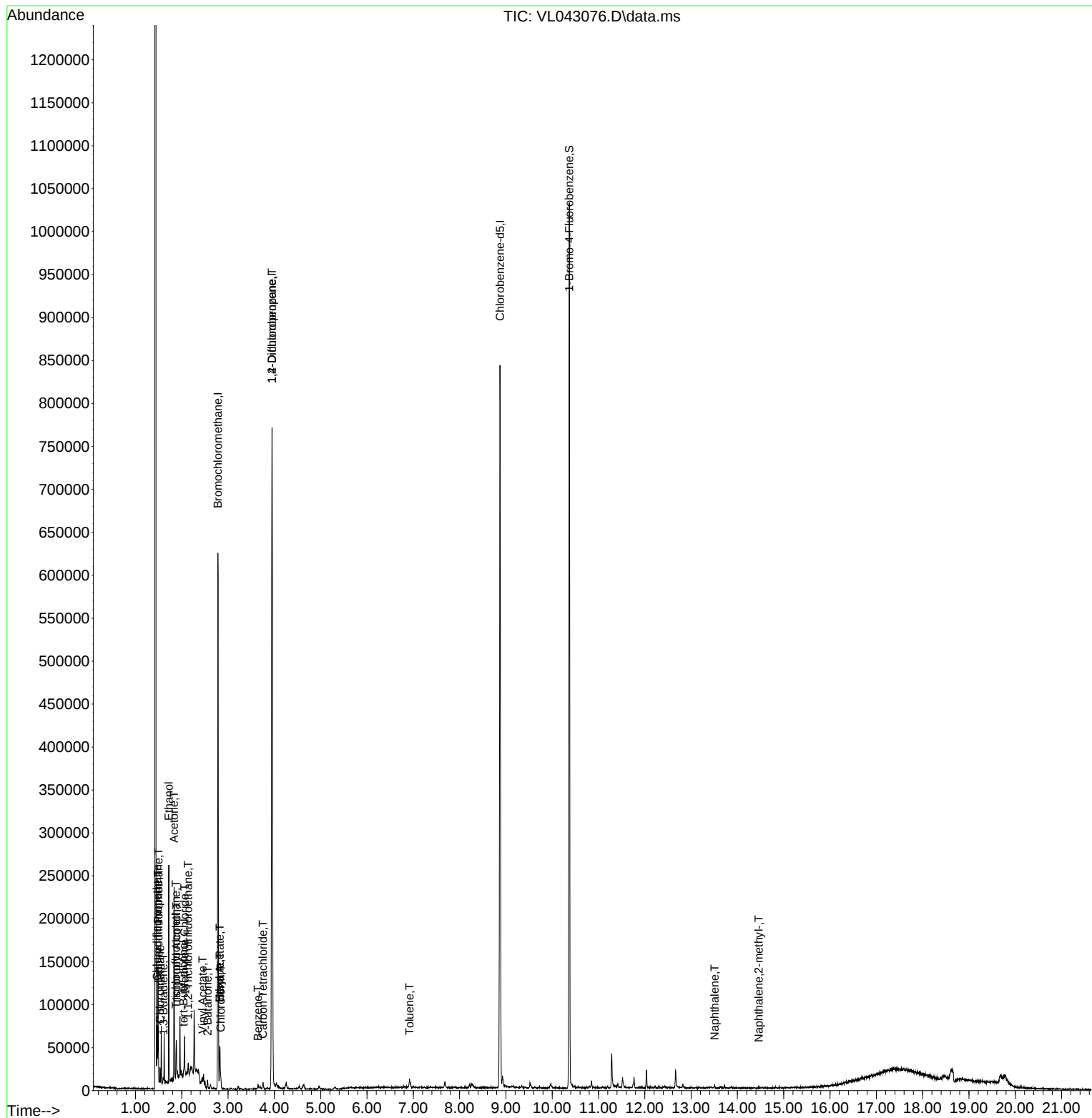
| Compound                      | R.T.   | QIon  | Response | Conc     | Units  | Dev(Min) |
|-------------------------------|--------|-------|----------|----------|--------|----------|
| -----                         |        |       |          |          |        |          |
| Internal Standards            |        |       |          |          |        |          |
| 1) Bromochloromethane         | 2.781  | 49    | 165718   | 10.000   | ppbv   | 0.00     |
| 33) 1,4-Difluorobenzene       | 3.949  | 114   | 421136   | 10.000   | ppbv   | 0.00     |
| 55) Chlorobenzene-d5          | 8.872  | 117   | 326320   | 10.000   | ppbv   | 0.00     |
| System Monitoring Compounds   |        |       |          |          |        |          |
| 68) 1-Bromo-4-Fluorobenzene   | 10.367 | 95    | 232249   | 9.880    | ppbv   | 0.00     |
| Spiked Amount                 | 10.000 | Range | 65 - 135 | Recovery | =      | 98.800%  |
| Target Compounds              |        |       |          |          |        |          |
|                               |        |       |          |          | Qvalue |          |
| 2) Dichlorodifluoromethane    | 1.496  | 85    | 14205    | 0.509    | ppbv   | 99       |
| 3) Chlorodifluoromethane      | 1.463  | 51    | 22885    | 0.847    | ppbv # | 77       |
| 4) Chloromethane              | 1.531  | 50    | 5127     | 0.503    | ppbv   | 91       |
| 9) Propene                    | 1.486  | 41    | 8443     | 0.775    | ppbv   | 85       |
| 11) Trichlorofluoromethane    | 1.874  | 101   | 7354     | 0.256    | ppbv   | 89       |
| 12) 1,1,2-Trichlorotrifluo... | 2.137  | 101   | 1874     | 0.083    | ppbv   | 96       |
| 13) Ethanol                   | 1.719  | 45    | 81826    | 205.996  | ppbv   | 89       |
| 15) Acetone                   | 1.832  | 43    | 95303    | 4.107    | ppbv   | 100      |
| 16) 1,3-Butadiene             | 1.603  | 39    | 861      | 0.090    | ppbv   | 86       |
| 17) tert-Butyl alcohol        | 2.036  | 59    | 1594     | 0.065    | ppbv # | 76       |
| 19) Isopropyl Alcohol         | 1.884  | 45    | 14967    | 1.346    | ppbv # | 1        |
| 20) Methylene Chloride        | 2.059  | 84    | 6262     | 0.618    | ppbv # | 93       |
| 23) Vinyl Acetate             | 2.447  | 43    | 3238     | 0.657    | ppbv # | 81       |
| 25) Ethyl Acetate             | 2.820  | 43    | 8558     | 0.147    | ppbv # | 88       |
| 26) Hexane                    | 2.820  | 57    | 8260     | 0.369    | ppbv # | 37       |
| 29) Chloroform                | 2.842  | 83    | 4055     | 0.106    | ppbv   | 98       |
| 34) 2-Butanone                | 2.557  | 43    | 6336     | 0.222    | ppbv   | 91       |
| 35) Carbon Tetrachloride      | 3.752  | 117   | 3019     | 0.087    | ppbv # | 84       |
| 36) Benzene                   | 3.645  | 78    | 2229     | 0.055    | ppbv # | 89       |
| 39) 1,2-Dichloropropane       | 3.949  | 63    | 106657   | 7.151    | ppbv # | 21       |
| 53) Toluene                   | 6.920  | 91    | 2947     | 0.073    | ppbv # | 10       |
| 79) Naphthalene               | 13.507 | 128   | 1674     | 0.275    | ppbv   | 95       |
| 80) Naphthalene,2-methyl-     | 14.462 | 142   | 543      | 0.688    | ppbv # | 79       |
| -----                         |        |       |          |          |        |          |

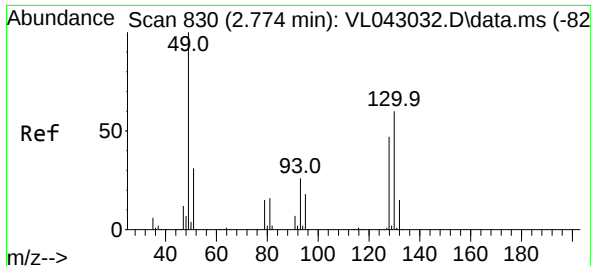
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\voasrv\HPCHEM1\MSVOA\_L\Data\VL100825\  
Data File : VL043076.D  
Acq On : 09 Oct 2025 01:28  
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Sample : Q3320-07  
Misc : 400mL/MSVOA\_L  
ALS Vial : 1 Sample Multiplier: 1

Instrument :  
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Quant Time: Oct 09 02:49:20 2025  
Quant Method : Z:\voasrv\HPCHEM1\MSVOA\_L\methods\VL100225AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Fri Aug 26 06:05:16 2022  
QLast Update : Fri Oct 03 08:23:34 2025  
Response via : Initial Calibration

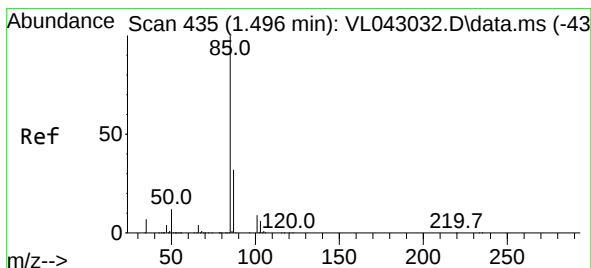
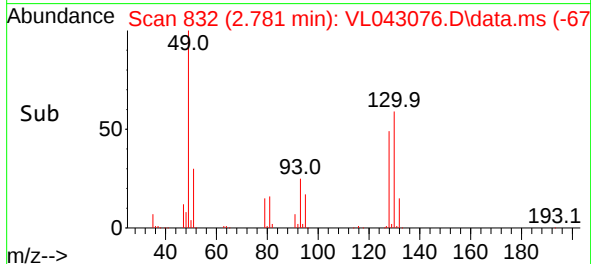
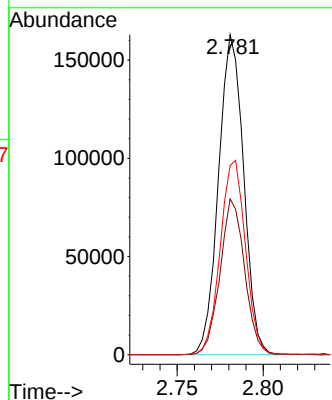
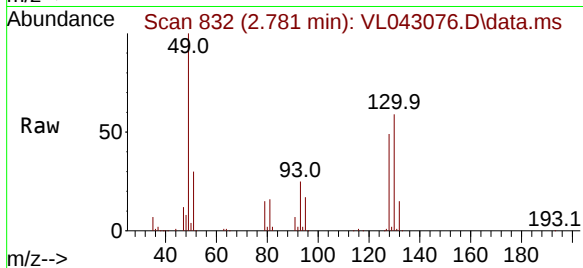




#1  
Bromochloromethane  
Concen: 10.000 ppbv  
RT: 2.781 min Scan# 830  
Delta R.T. 0.007 min  
Lab File: VL043076.D  
Acq: 09 Oct 2025 01:28

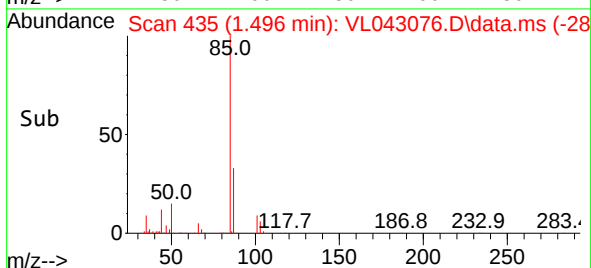
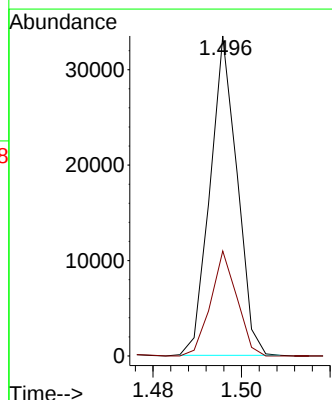
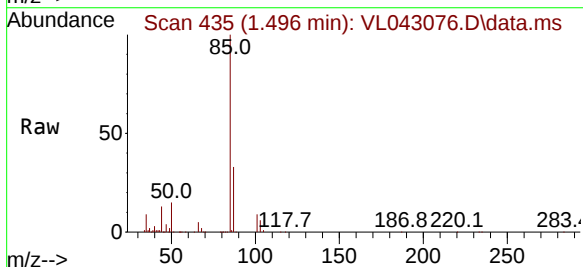
Instrument :  
MSVOA\_L  
ClientSampleId :  
IA4

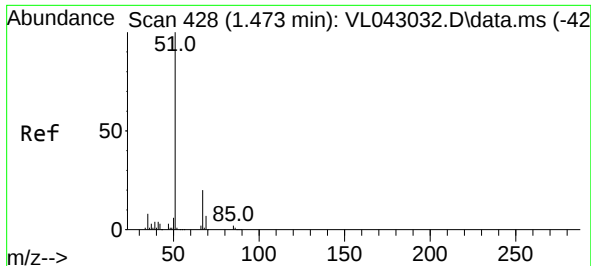
Tgt Ion: 49 Resp: 165718  
Ion Ratio Lower Upper  
49 100  
128 47.6 24.1 72.2  
130 61.1 31.4 94.3



#2  
Dichlorodifluoromethane  
Concen: 0.509 ppbv  
RT: 1.496 min Scan# 435  
Delta R.T. 0.000 min  
Lab File: VL043076.D  
Acq: 09 Oct 2025 01:28

Tgt Ion: 85 Resp: 14205  
Ion Ratio Lower Upper  
85 100  
87 32.9 25.8 38.6

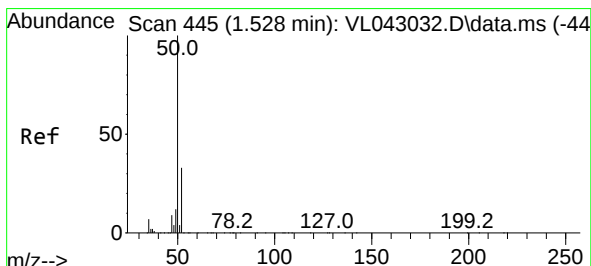
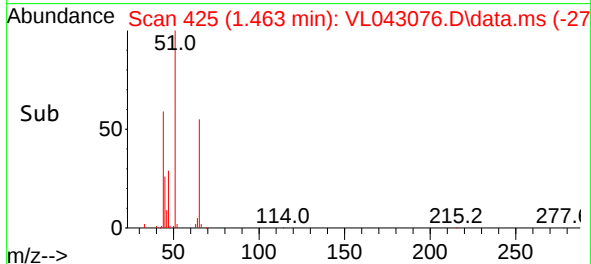
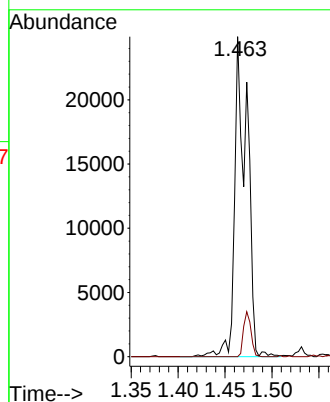
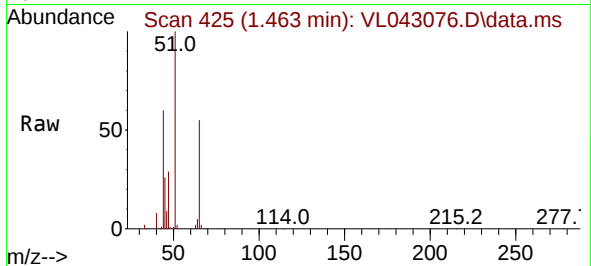




#3  
Chlorodifluoromethane  
Concen: 0.847 ppbv  
RT: 1.463 min Scan# 41  
Delta R.T. -0.010 min  
Lab File: VL043076.D  
Acq: 09 Oct 2025 01:28

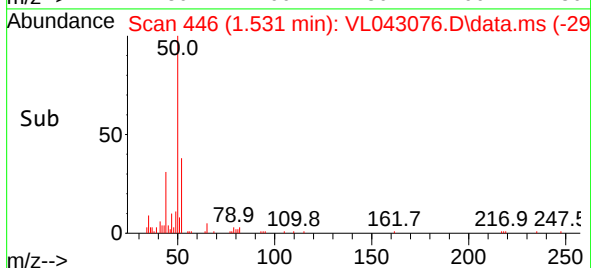
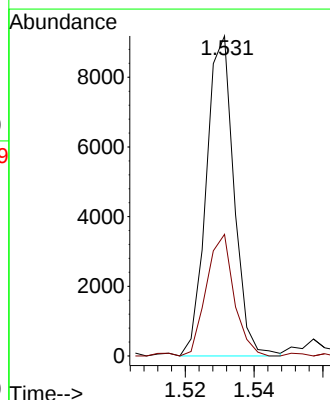
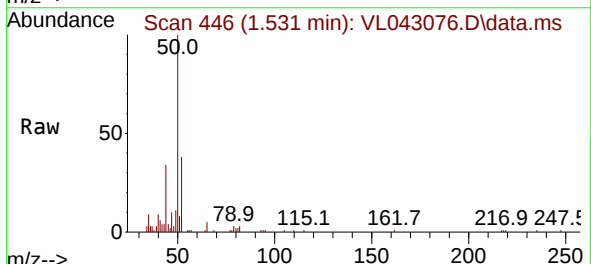
Instrument :  
MSVOA\_L  
ClientSampleId :  
IA4

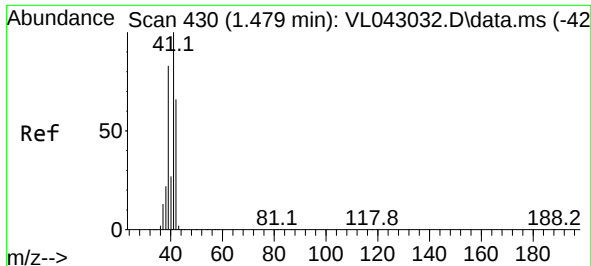
Tgt Ion: 51 Resp: 22885  
Ion Ratio Lower Upper  
51 100  
67 8.5 15.1 22.7#



#4  
Chloromethane  
Concen: 0.503 ppbv  
RT: 1.531 min Scan# 446  
Delta R.T. 0.003 min  
Lab File: VL043076.D  
Acq: 09 Oct 2025 01:28

Tgt Ion: 50 Resp: 5127  
Ion Ratio Lower Upper  
50 100  
52 38.0 26.2 39.2





#9

Propene

Concen: 0.775 ppbv

RT: 1.486 min Scan# 41

Delta R.T. 0.007 min

Lab File: VL043076.D

Acq: 09 Oct 2025 01:28

Instrument :

MSVOA\_L

ClientSampleId :

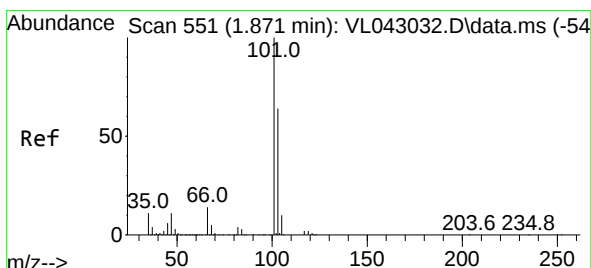
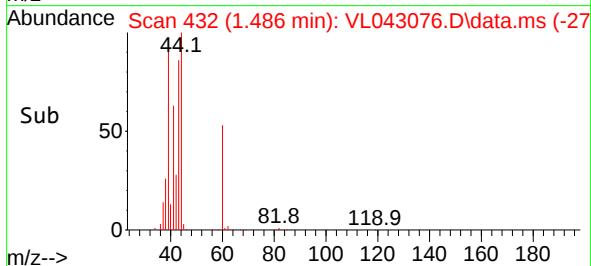
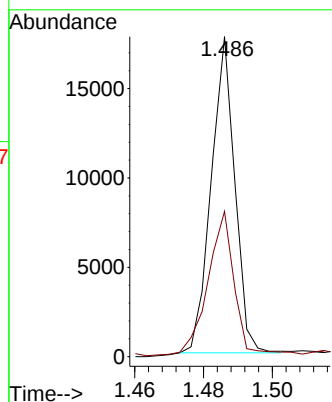
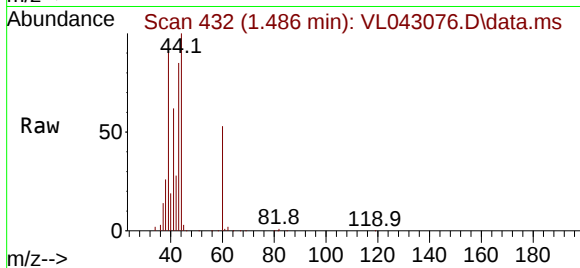
IA4

Tgt Ion: 41 Resp: 8443

Ion Ratio Lower Upper

41 100

42 54.7 53.3 79.9



#11

Trichlorofluoromethane

Concen: 0.256 ppbv

RT: 1.874 min Scan# 552

Delta R.T. 0.003 min

Lab File: VL043076.D

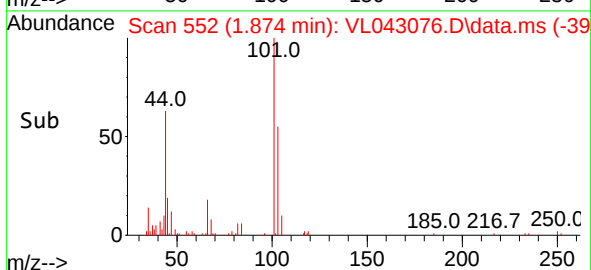
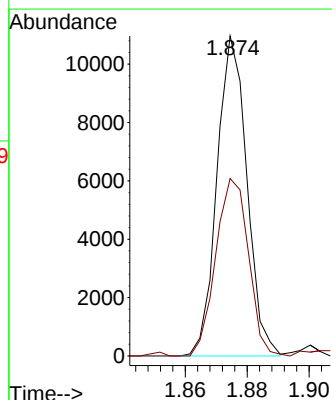
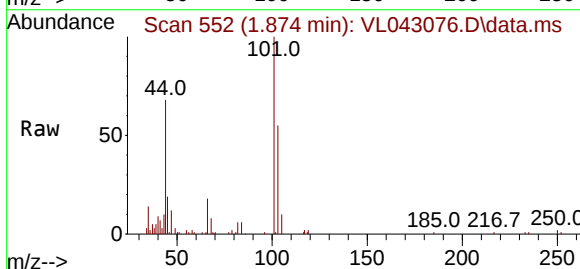
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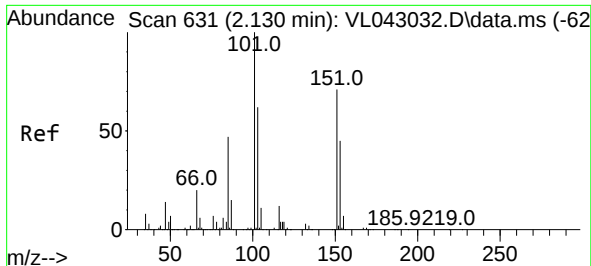
Tgt Ion: 101 Resp: 7354

Ion Ratio Lower Upper

101 100

103 55.5 51.1 76.7

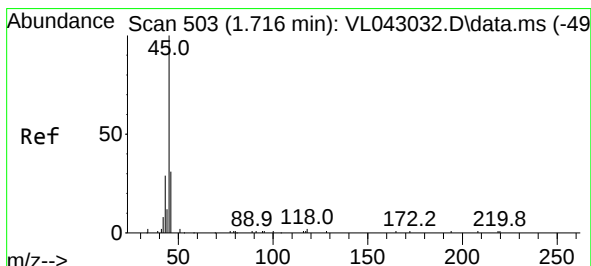
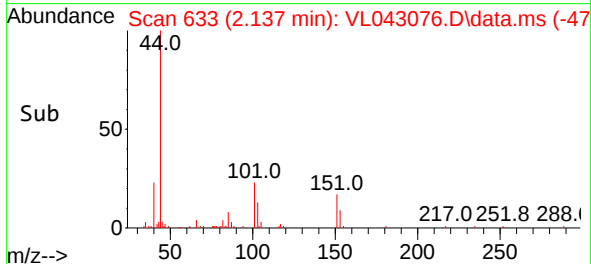
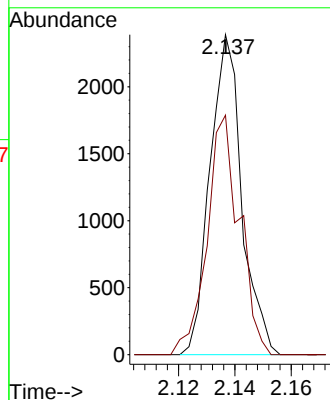
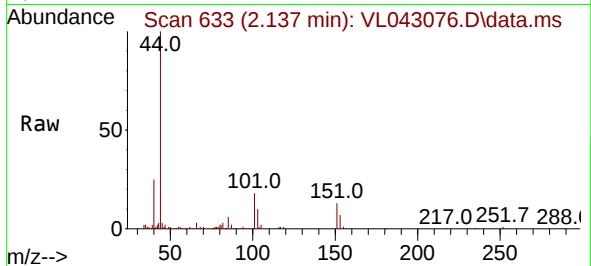




#12  
1,1,2-Trichlorotrifluoroethane  
Concen: 0.083 ppbv  
RT: 2.137 min Scan# 61  
Delta R.T. 0.007 min  
Lab File: VL043076.D  
Acq: 09 Oct 2025 01:28

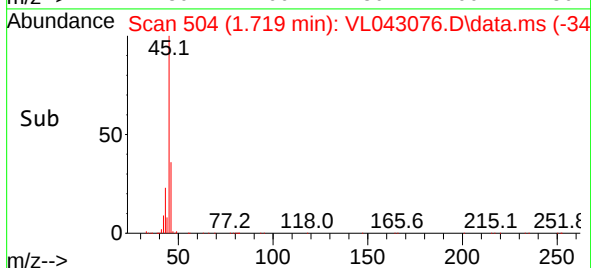
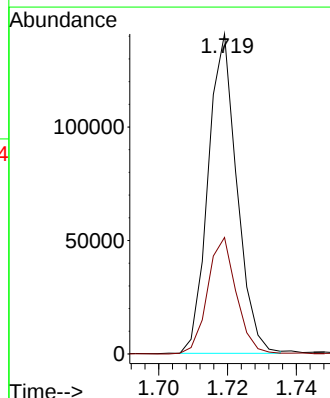
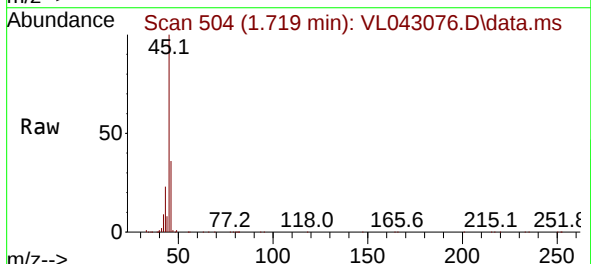
Instrument :  
MSVOA\_L  
ClientSampleId :  
IA4

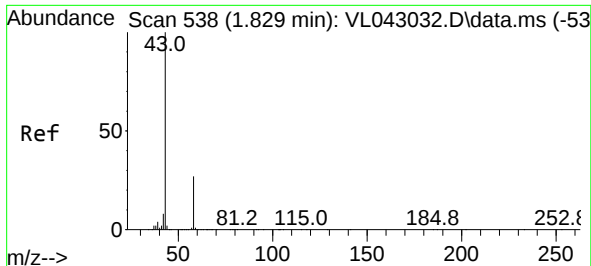
Tgt Ion:101 Resp: 1874  
Ion Ratio Lower Upper  
101 100  
151 76.3 58.1 87.1



#13  
Ethanol  
Concen: 205.996 ppbv  
RT: 1.719 min Scan# 504  
Delta R.T. 0.003 min  
Lab File: VL043076.D  
Acq: 09 Oct 2025 01:28

Tgt Ion: 45 Resp: 81826  
Ion Ratio Lower Upper  
45 100  
46 37.4 17.8 71.4

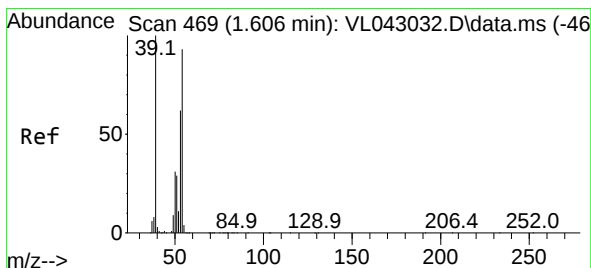
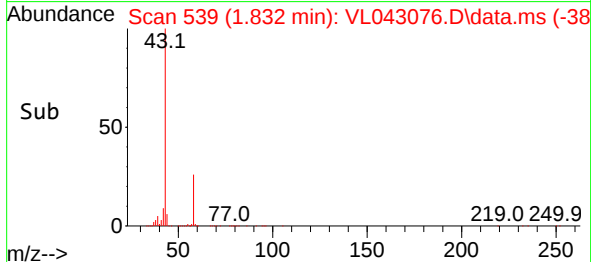
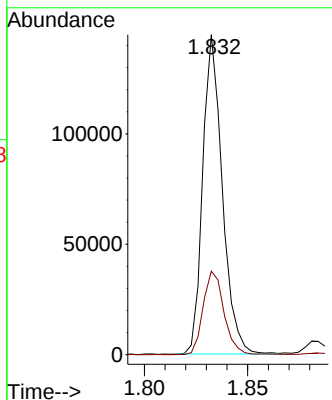
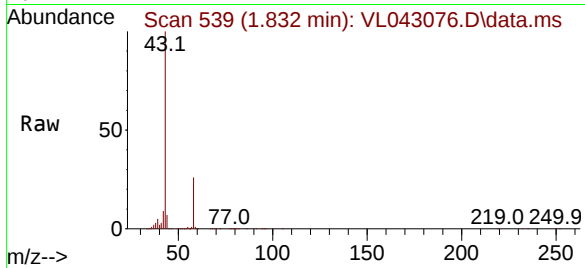




#15  
Acetone  
Concen: 4.107 ppbv  
RT: 1.832 min Scan# 51  
Delta R.T. 0.003 min  
Lab File: VL043076.D  
Acq: 09 Oct 2025 01:28

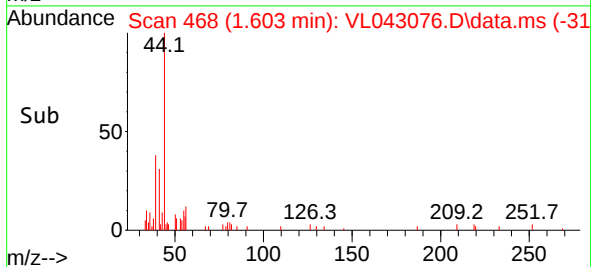
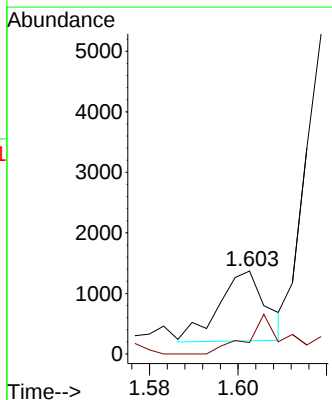
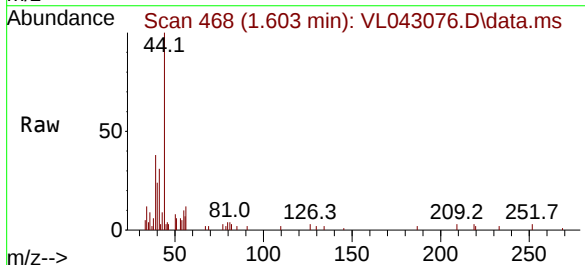
Instrument :  
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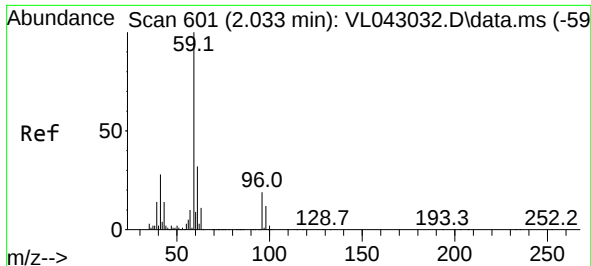
Tgt Ion: 43 Resp: 95303  
Ion Ratio Lower Upper  
43 100  
58 27.9 22.2 33.4



#16  
1,3-Butadiene  
Concen: 0.090 ppbv  
RT: 1.603 min Scan# 468  
Delta R.T. -0.003 min  
Lab File: VL043076.D  
Acq: 09 Oct 2025 01:28

Tgt Ion: 39 Resp: 861  
Ion Ratio Lower Upper  
39 100  
54 64.6 61.4 92.2





#17

tert-Butyl alcohol

Concen: 0.065 ppbv

RT: 2.036 min Scan# 601

Delta R.T. 0.003 min

Lab File: VL043076.D

Acq: 09 Oct 2025 01:28

Instrument :

MSVOA\_L

ClientSampleId :

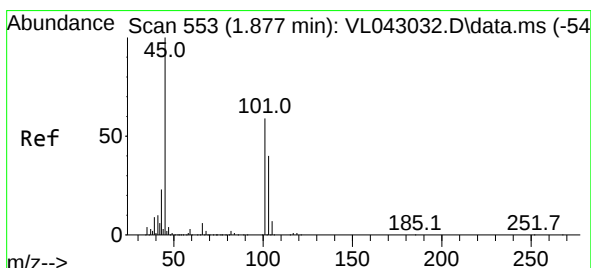
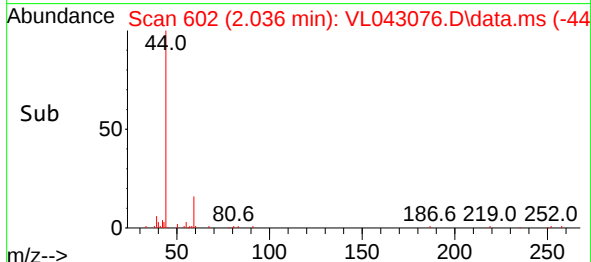
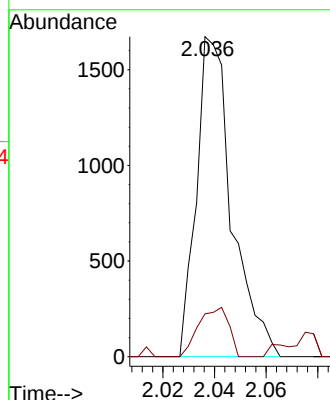
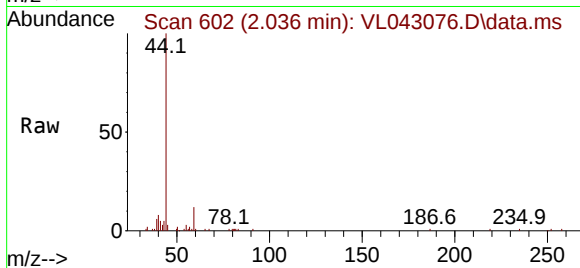
IA4

Tgt Ion: 59 Resp: 1594

Ion Ratio Lower Upper

59 100

57 19.6 8.5 12.7#



#19

Isopropyl Alcohol

Concen: 1.346 ppbv

RT: 1.884 min Scan# 555

Delta R.T. 0.007 min

Lab File: VL043076.D

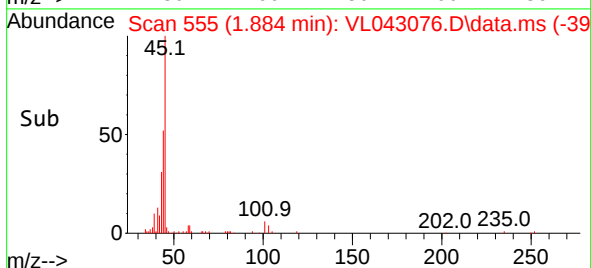
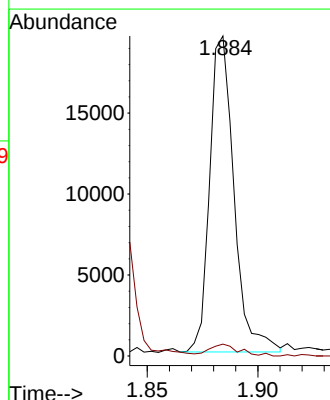
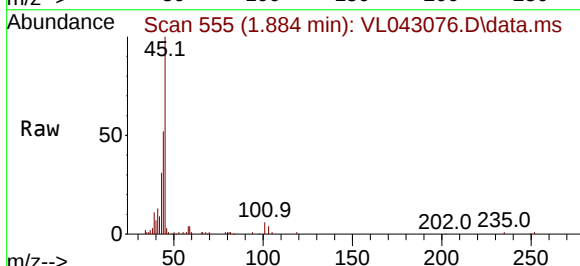
Acq: 09 Oct 2025 01:28

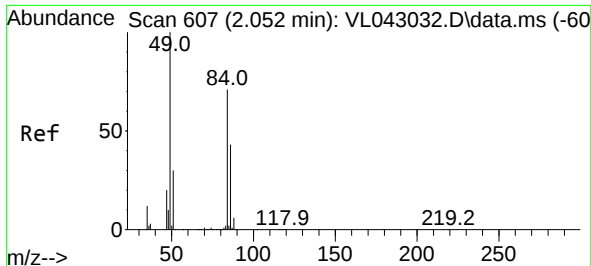
Tgt Ion: 45 Resp: 14967

Ion Ratio Lower Upper

45 100

58 177.9 42.3 63.5#





#20

Methylene Chloride

Concen: 0.618 ppbv

RT: 2.059 min Scan# 607

Delta R.T. 0.007 min

Lab File: VL043076.D

Acq: 09 Oct 2025 01:28

Instrument :

MSVOA\_L

ClientSampleId :

IA4

Tgt Ion: 84 Resp: 6262

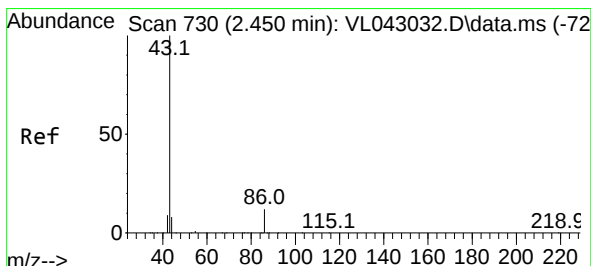
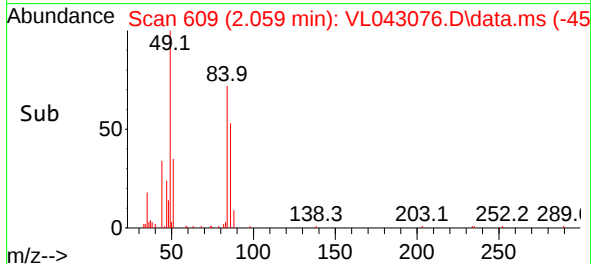
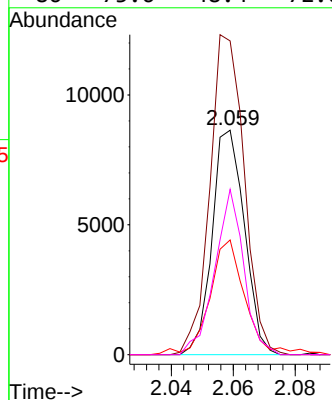
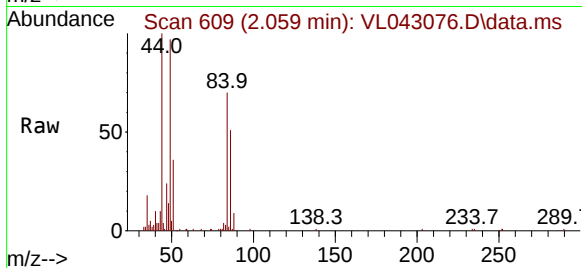
Ion Ratio Lower Upper

84 100

49 138.7 112.5 168.7

51 49.9 34.2 51.2

86 73.6 48.4 72.6#



#23

Vinyl Acetate

Concen: 0.657 ppbv

RT: 2.447 min Scan# 729

Delta R.T. -0.003 min

Lab File: VL043076.D

Acq: 09 Oct 2025 01:28

Tgt Ion: 43 Resp: 3238

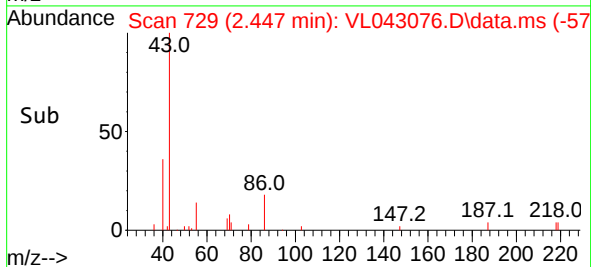
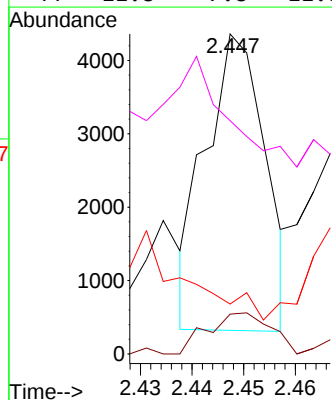
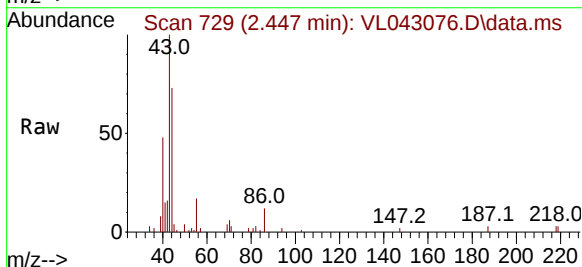
Ion Ratio Lower Upper

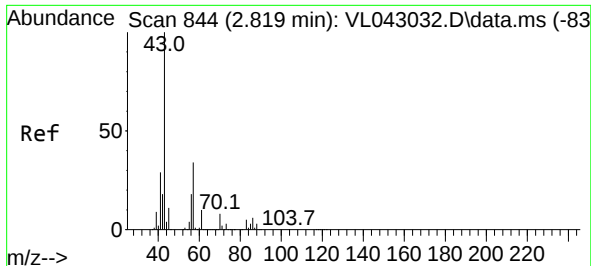
43 100

86 18.3 7.5 11.3#

42 0.0 8.4 12.6#

44 11.8 7.8 11.8#

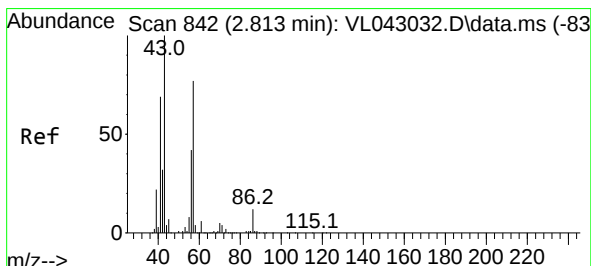
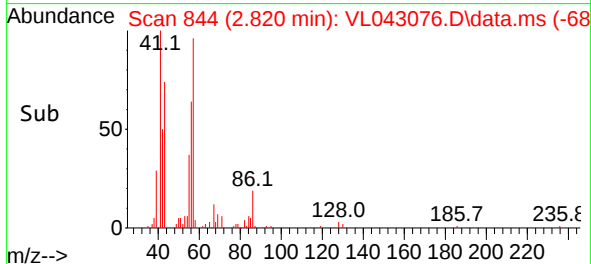
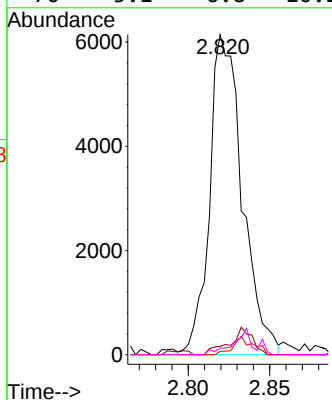
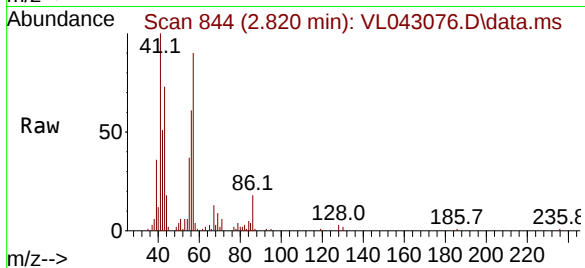




#25  
Ethyl Acetate  
Concen: 0.147 ppbv  
RT: 2.820 min Scan# 844  
Delta R.T. 0.000 min  
Lab File: VL043076.D  
Acq: 09 Oct 2025 01:28

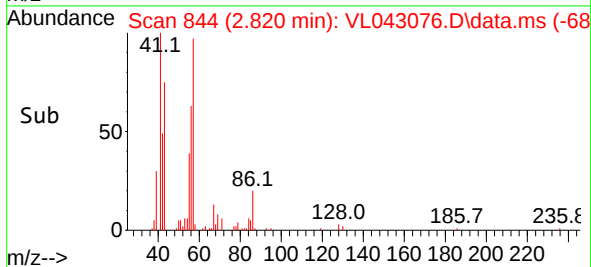
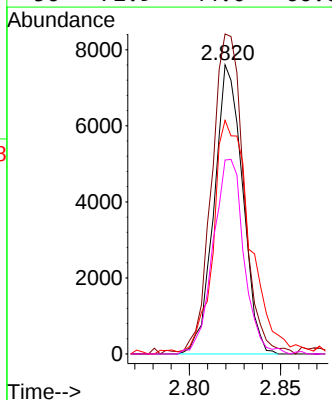
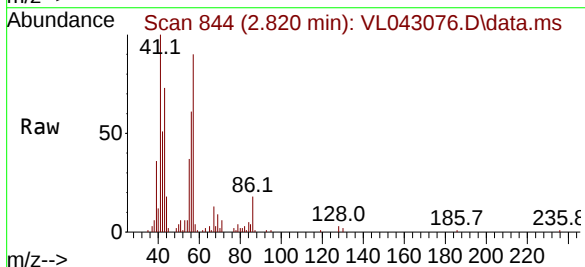
Instrument :  
MSVOA\_L  
ClientSampleId :  
IA4

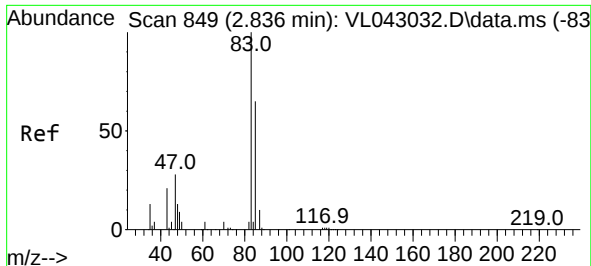
|             |             |
|-------------|-------------|
| Tgt Ion: 43 | Resp: 8558  |
| Ion Ratio   | Lower Upper |
| 43 100      |             |
| 45 6.6      | 8.3 12.5#   |
| 61 3.4      | 7.5 11.3#   |
| 70 5.1      | 6.8 10.2#   |



#26  
Hexane  
Concen: 0.369 ppbv  
RT: 2.820 min Scan# 844  
Delta R.T. 0.007 min  
Lab File: VL043076.D  
Acq: 09 Oct 2025 01:28

|             |              |
|-------------|--------------|
| Tgt Ion: 57 | Resp: 8260   |
| Ion Ratio   | Lower Upper  |
| 57 100      |              |
| 41 128.9    | 76.1 114.1#  |
| 43 108.5    | 201.4 302.0# |
| 56 72.9     | 44.0 66.0#   |





#29

Chloroform

Concen: 0.106 ppbv

RT: 2.842 min Scan# 81

Delta R.T. 0.007 min

Lab File: VL043076.D

Acq: 09 Oct 2025 01:28

Instrument :

MSVOA\_L

ClientSampleId :

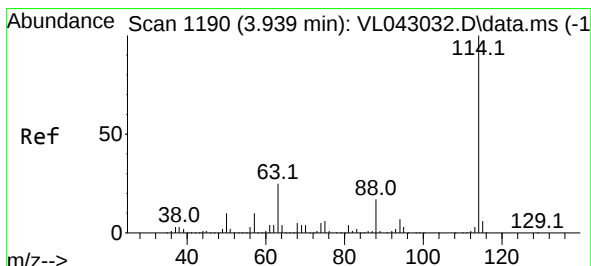
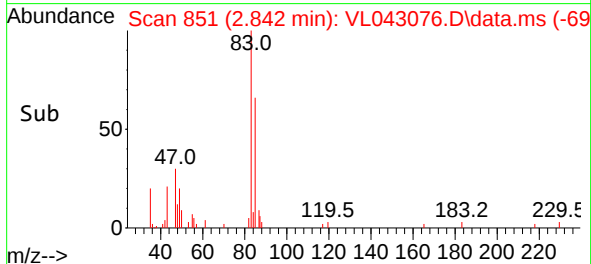
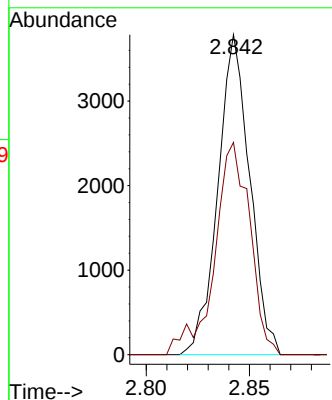
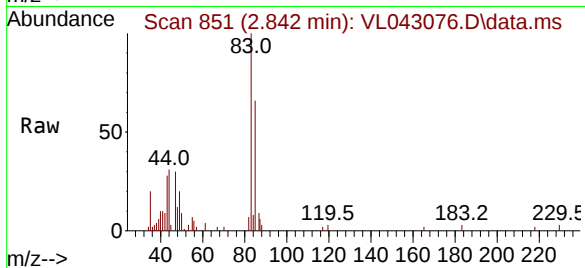
IA4

Tgt Ion: 83 Resp: 4055

Ion Ratio Lower Upper

83 100

85 66.3 52.0 78.0



#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 3.949 min Scan# 1193

Delta R.T. 0.010 min

Lab File: VL043076.D

Acq: 09 Oct 2025 01:28

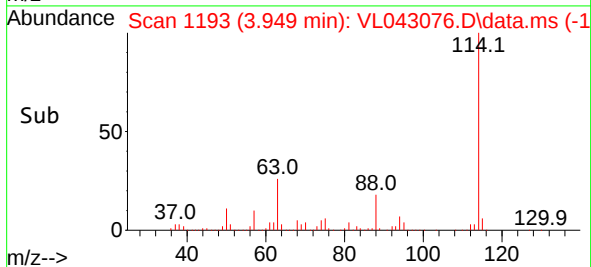
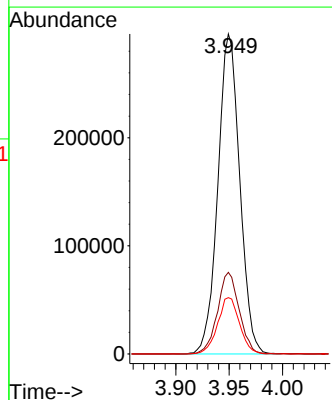
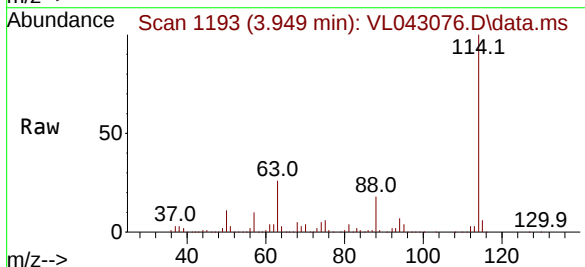
Tgt Ion: 114 Resp: 421136

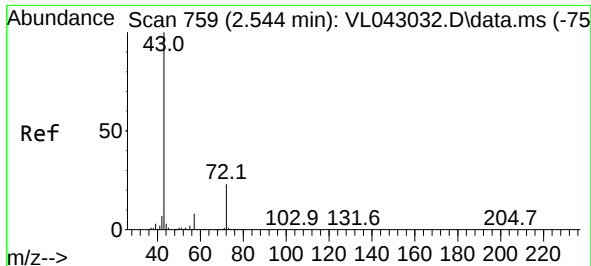
Ion Ratio Lower Upper

114 100

63 25.4 19.4 29.2

88 17.7 13.9 20.9

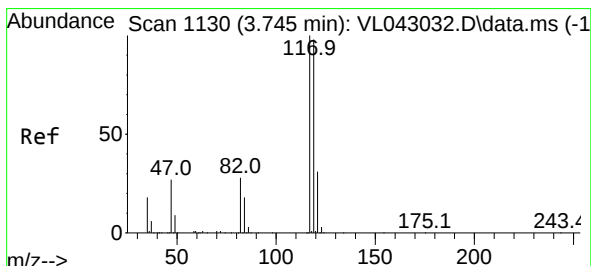
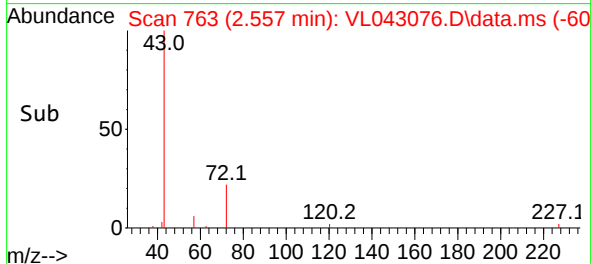
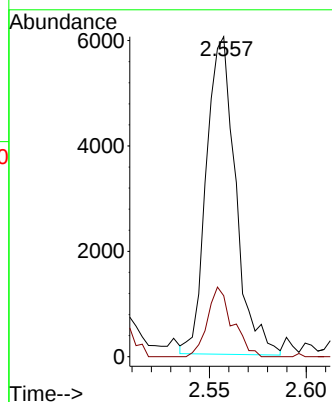
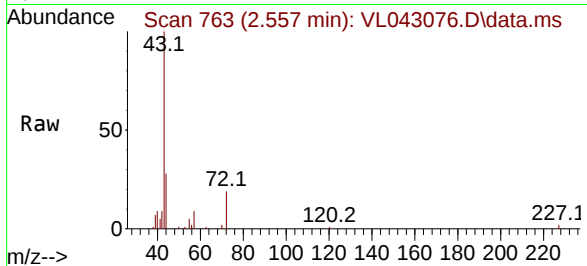




#34  
2-Butanone  
Concen: 0.222 ppbv  
RT: 2.557 min Scan# 70  
Delta R.T. 0.013 min  
Lab File: VL043076.D  
Acq: 09 Oct 2025 01:28

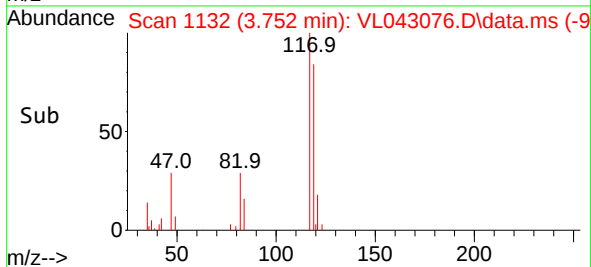
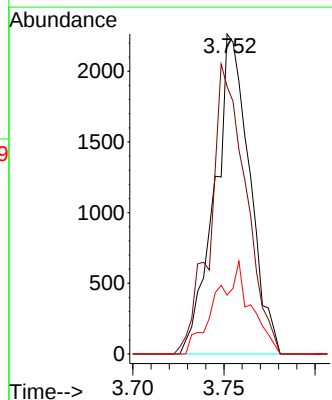
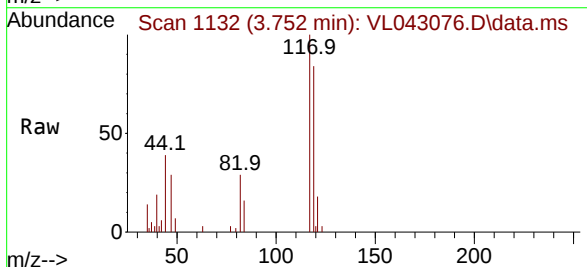
Instrument :  
MSVOA\_L  
ClientSampleId :  
IA4

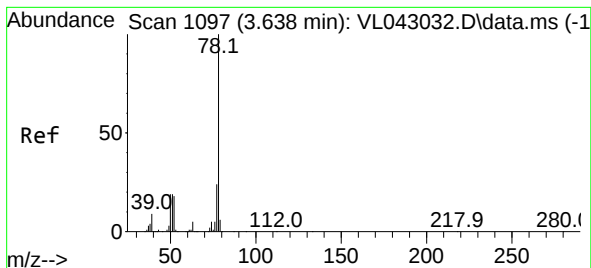
Tgt Ion: 43 Resp: 6336  
Ion Ratio Lower Upper  
43 100  
72 18.8 18.4 27.6



#35  
Carbon Tetrachloride  
Concen: 0.087 ppbv  
RT: 3.752 min Scan# 1132  
Delta R.T. 0.007 min  
Lab File: VL043076.D  
Acq: 09 Oct 2025 01:28

Tgt Ion: 117 Resp: 3019  
Ion Ratio Lower Upper  
117 100  
119 83.6 78.2 117.4  
121 18.4 24.8 37.2#





#36

Benzene

Concen: 0.055 ppbv

RT: 3.645 min Scan# 1109

Delta R.T. 0.007 min

Lab File: VL043076.D

Acq: 09 Oct 2025 01:28

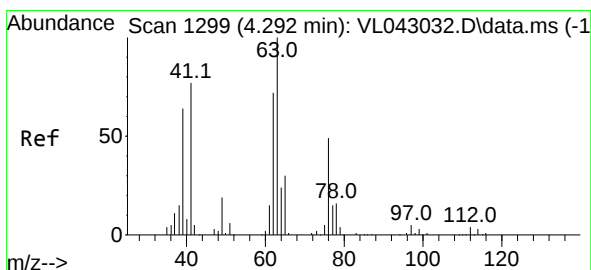
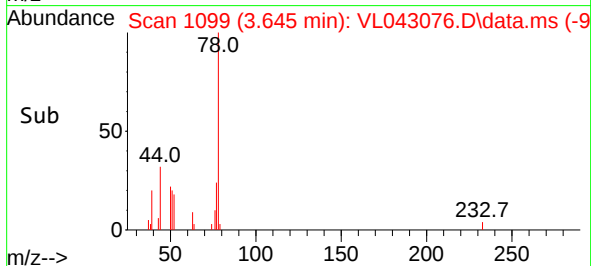
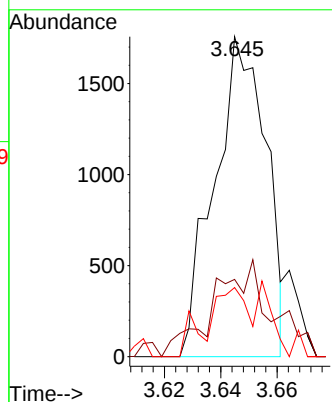
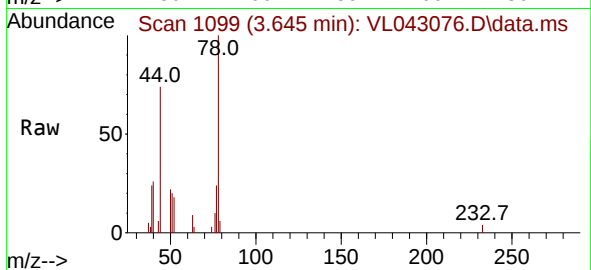
Instrument :

MSVOA\_L

ClientSampleId :

IA4

|             |             |
|-------------|-------------|
| Tgt Ion: 78 | Resp: 2229  |
| Ion Ratio   | Lower Upper |
| 78 100      |             |
| 77 16.8     | 19.2 28.8#  |
| 50 21.6     | 14.9 22.3   |



#39

1,2-Dichloropropane

Concen: 7.151 ppbv

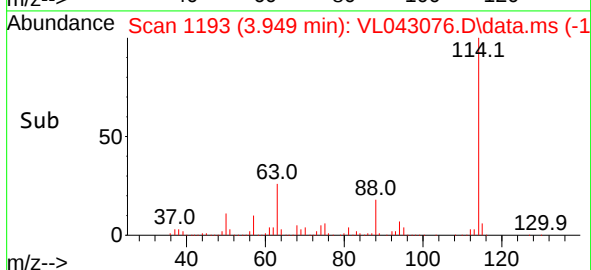
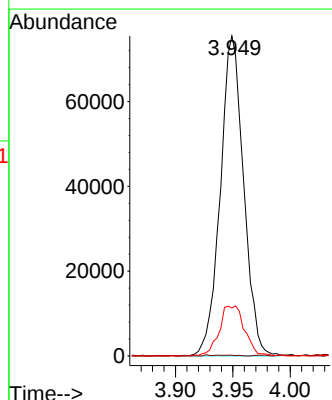
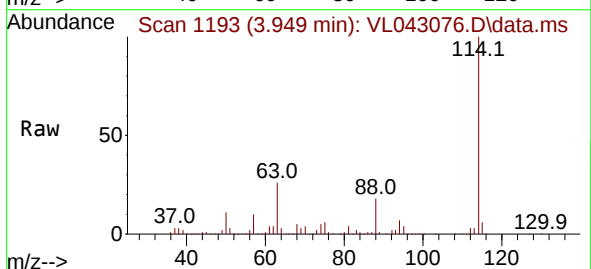
RT: 3.949 min Scan# 1193

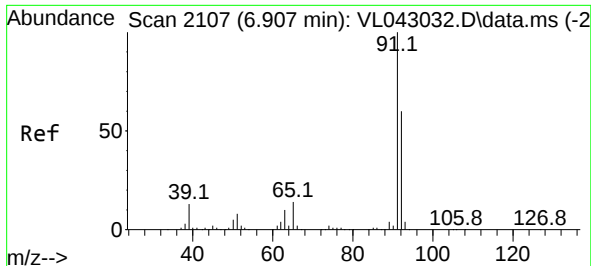
Delta R.T. -0.343 min

Lab File: VL043076.D

Acq: 09 Oct 2025 01:28

|             |              |
|-------------|--------------|
| Tgt Ion: 63 | Resp: 106657 |
| Ion Ratio   | Lower Upper  |
| 63 100      |              |
| 41 0.3      | 61.6 92.4#   |
| 62 15.0     | 58.1 87.1#   |

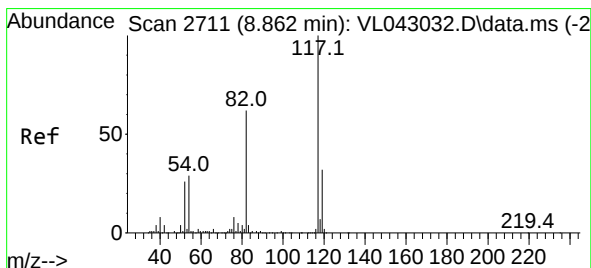
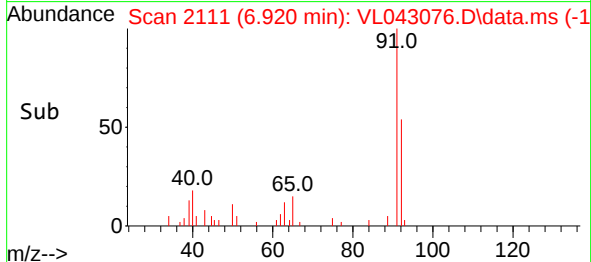
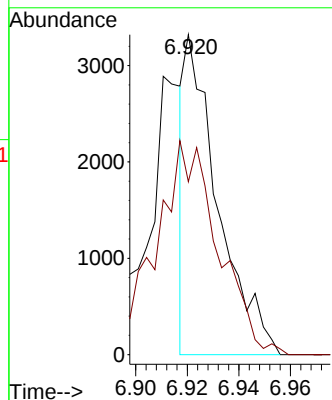
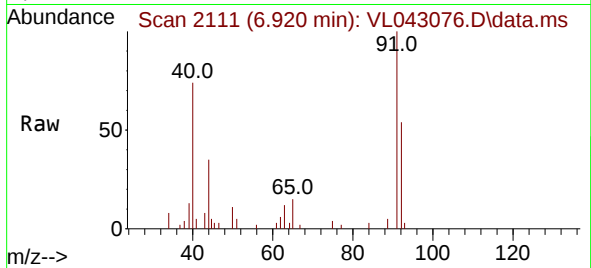




#53  
Toluene  
Concen: 0.073 ppbv  
RT: 6.920 min Scan# 2111  
Delta R.T. 0.013 min  
Lab File: VL043076.D  
Acq: 09 Oct 2025 01:28

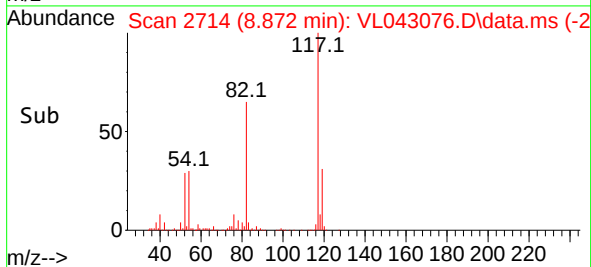
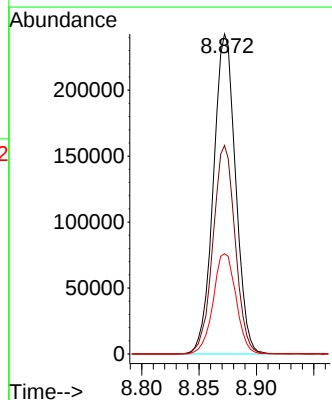
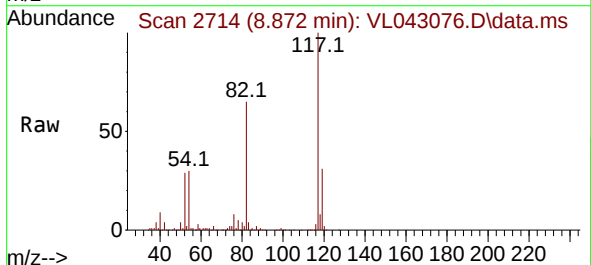
Instrument :  
MSVOA\_L  
ClientSampleId :  
IA4

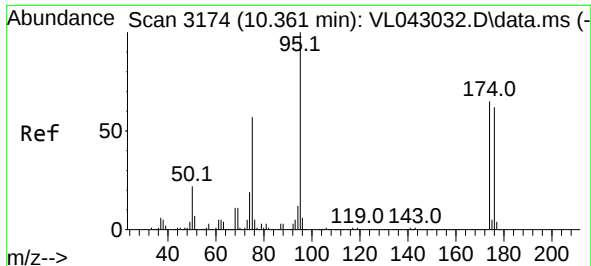
Tgt Ion: 91 Resp: 2947  
Ion Ratio Lower Upper  
91 100  
92 127.2 47.8 71.6#



#55  
Chlorobenzene-d5  
Concen: 10.000 ppbv  
RT: 8.872 min Scan# 2714  
Delta R.T. 0.010 min  
Lab File: VL043076.D  
Acq: 09 Oct 2025 01:28

Tgt Ion: 117 Resp: 326320  
Ion Ratio Lower Upper  
117 100  
82 65.2 53.0 79.6  
119 32.4 25.4 38.2

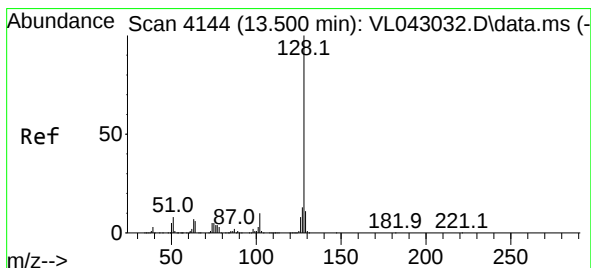
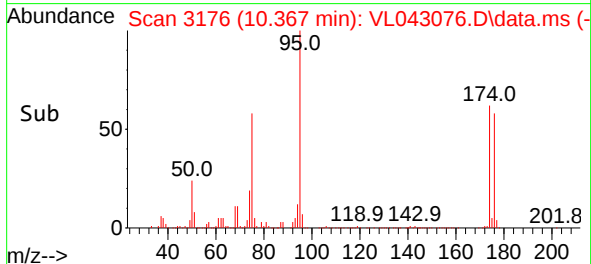
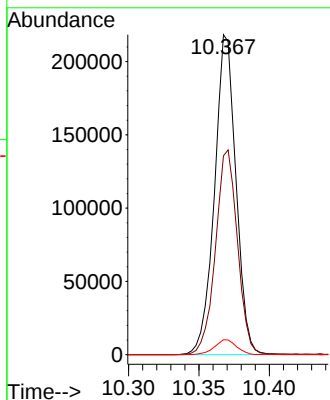
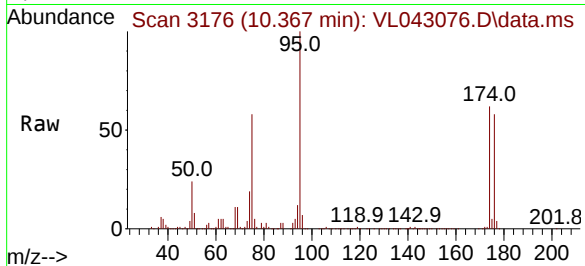




#68  
1-Bromo-4-Fluorobenzene  
Concen: 9.880 ppbv  
RT: 10.367 min Scan# 3176  
Delta R.T. 0.007 min  
Lab File: VL043076.D  
Acq: 09 Oct 2025 01:28

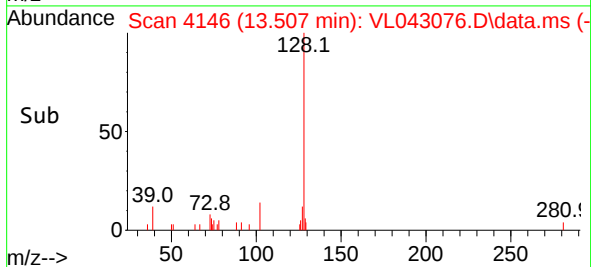
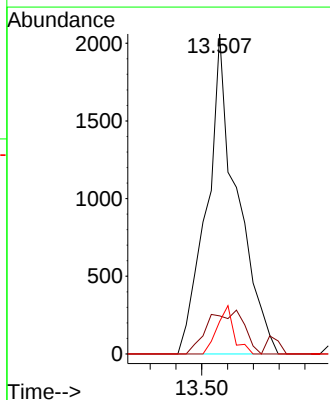
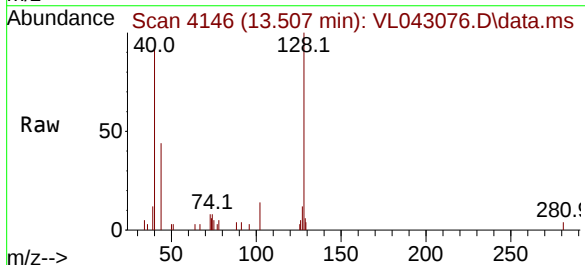
Instrument :  
MSVOA\_L  
ClientSampleId :  
IA4

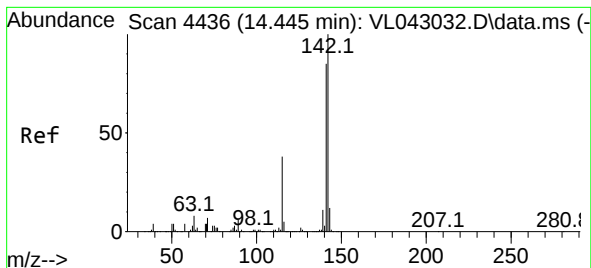
Tgt Ion: 95 Resp: 232249  
Ion Ratio Lower Upper  
95 100  
174 65.8 52.3 78.5  
175 4.9 3.8 5.8



#79  
Naphthalene  
Concen: 0.275 ppbv  
RT: 13.507 min Scan# 4146  
Delta R.T. 0.007 min  
Lab File: VL043076.D  
Acq: 09 Oct 2025 01:28

Tgt Ion: 128 Resp: 1674  
Ion Ratio Lower Upper  
128 100  
127 11.2 10.6 16.0  
129 9.6 8.8 13.2





#80

Naphthalene, 2-methyl-

Concen: 0.688 ppbv

RT: 14.462 min Scan# 44

Delta R.T. 0.017 min

Lab File: VL043076.D

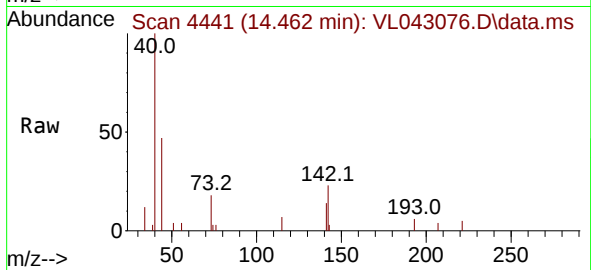
Acq: 09 Oct 2025 01:28

Instrument :

MSVOA\_L

ClientSampleId :

IA4



|          |       |       |        |
|----------|-------|-------|--------|
| Tgt Ion: | 142   | Resp: | 543    |
| Ion      | Ratio | Lower | Upper  |
| 142      | 100   |       |        |
| 141      | 58.9  | 66.6  | 100.0# |
| 115      | 33.0  | 30.1  | 45.1   |

