

Data Path : Z:\voasrv\HPCHEM1\MSVOA\_L\Data\VL112025\  
 Data File : VL043271.D  
 Acq On : 20 Nov 2025 18:38  
 Operator : SY/MD  
 Sample : Q3698-04  
 Misc : 400mL/MSVOA\_L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 OA1

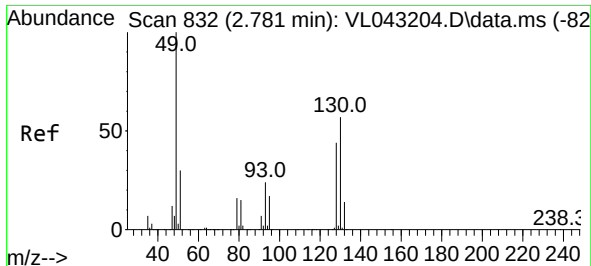
Quant Time: Nov 21 00:42:13 2025  
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA\_L\methods\VL111825AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Fri Aug 26 06:05:16 2022  
 QLast Update : Wed Nov 19 01:11:25 2025  
 Response via : Initial Calibration

| Compound                      | R.T.   | QIon  | Response | Conc     | Units  | Dev(Min) |
|-------------------------------|--------|-------|----------|----------|--------|----------|
| -----                         |        |       |          |          |        |          |
| Internal Standards            |        |       |          |          |        |          |
| 1) Bromochloromethane         | 2.787  | 49    | 106528   | 10.000   | ppbv   | 0.00     |
| 33) 1,4-Difluorobenzene       | 3.955  | 114   | 274528   | 10.000   | ppbv   | 0.00     |
| 55) Chlorobenzene-d5          | 8.875  | 117   | 211337   | 10.000   | ppbv   | 0.00     |
| System Monitoring Compounds   |        |       |          |          |        |          |
| 68) 1-Bromo-4-Fluorobenzene   | 10.371 | 95    | 153411   | 9.903    | ppbv   | 0.00     |
| Spiked Amount                 | 10.000 | Range | 65 - 135 | Recovery | =      | 99.000%  |
| Target Compounds              |        |       |          |          |        |          |
|                               |        |       |          |          | Qvalue |          |
| 2) Dichlorodifluoromethane    | 1.499  | 85    | 7605     | 0.506    | ppbv   | 99       |
| 3) Chlorodifluoromethane      | 1.476  | 51    | 6676     | 0.452    | ppbv # | 85       |
| 4) Chloromethane              | 1.535  | 50    | 2676     | 0.476    | ppbv   | 93       |
| 9) Propene                    | 1.489  | 41    | 5019     | 0.800    | ppbv # | 1        |
| 11) Trichlorofluoromethane    | 1.878  | 101   | 3661     | 0.251    | ppbv   | 93       |
| 12) 1,1,2-Trichlorotrifluo... | 2.136  | 101   | 944      | 0.083    | ppbv   | 98       |
| 13) Ethanol                   | 1.722  | 45    | 11875    | 5.382    | ppbv   | 97       |
| 15) Acetone                   | 1.835  | 43    | 82758    | 5.592    | ppbv   | 98       |
| 16) 1,3-Butadiene             | 1.602  | 39    | 598      | 0.091    | ppbv # | 73       |
| 19) Isopropyl Alcohol         | 1.887  | 45    | 9524     | 1.139    | ppbv # | 1        |
| 20) Methylene Chloride        | 2.062  | 84    | 4541     | 0.278    | ppbv   | 93       |
| 23) Vinyl Acetate             | 2.473  | 43    | 1649     | 0.092    | ppbv # | 22       |
| 26) Hexane                    | 2.823  | 57    | 2420     | 0.173    | ppbv # | 67       |
| 34) 2-Butanone                | 2.557  | 43    | 12254    | 0.632    | ppbv   | 100      |
| 35) Carbon Tetrachloride      | 3.758  | 117   | 1414     | 0.068    | ppbv # | 78       |
| 36) Benzene                   | 3.658  | 78    | 3264     | 0.124    | ppbv # | 96       |
| 39) 1,2-Dichloropropane       | 3.955  | 63    | 69508    | 7.224    | ppbv # | 23       |
| 53) Toluene                   | 6.927  | 91    | 4466     | 0.143    | ppbv # | 52       |
| 58) Ethyl Benzene             | 9.351  | 91    | 2985     | 0.073    | ppbv # | 83       |
| 59) m/p-Xylene                | 9.542  | 91    | 2413     | 0.074    | ppbv # | 31       |
| 60) o-Xylene                  | 9.959  | 91    | 2528     | 0.078    | ppbv   | 93       |
| 74) 1,2,4-Trimethylbenzene    | 11.532 | 105   | 1486     | 0.041    | ppbv # | 50       |
| -----                         |        |       |          |          |        |          |

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

Quant Time: Nov 21 00:42:13 2025  
Quant Method : Z:\voasrv\HPCHEM1\MSVOA\_L\methods\VL111825AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_LFri Aug 26 06:05:16 2022  
QLast Update : Wed Nov 19 01:11:25 2025  
Response via : Initial Calibration

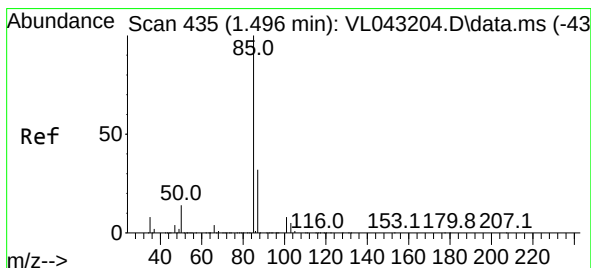
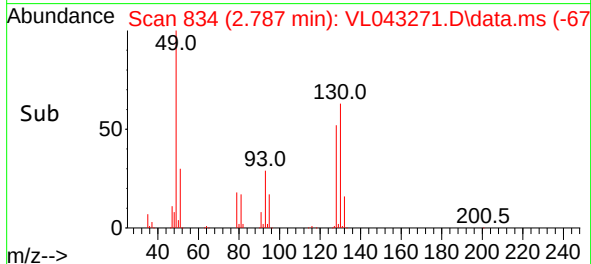
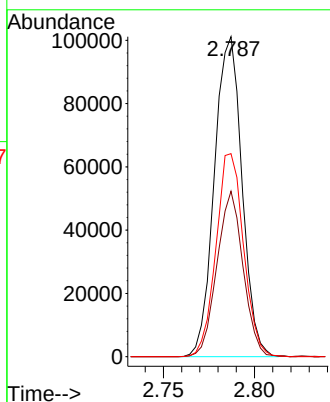
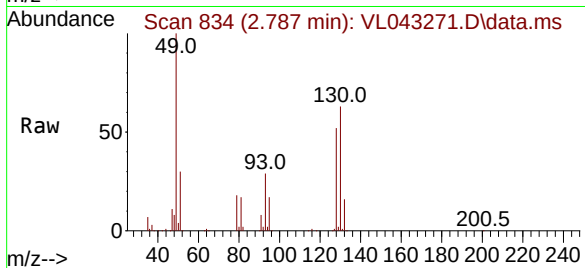




#1  
Bromochloromethane  
Concen: 10.000 ppbv  
RT: 2.787 min Scan# 832  
Delta R.T. 0.006 min  
Lab File: VL043271.D  
Acq: 20 Nov 2025 18:38

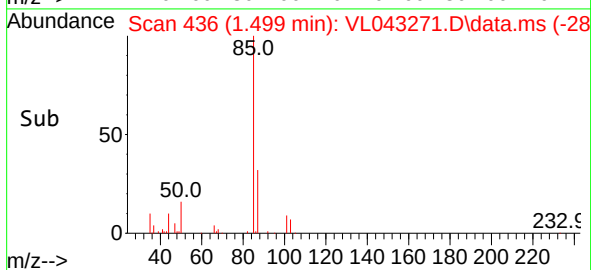
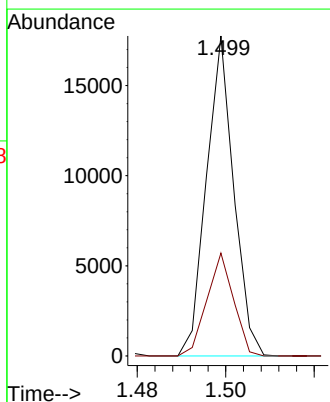
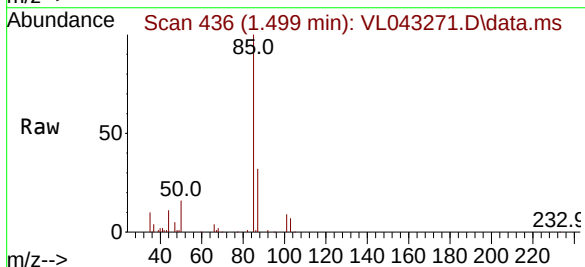
Instrument :  
MSVOA\_L  
ClientSampleId :  
OA1

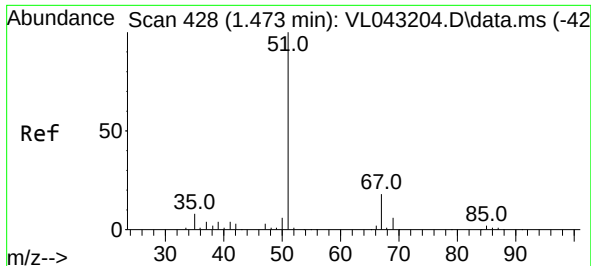
Tgt Ion: 49 Resp: 106528  
Ion Ratio Lower Upper  
49 100  
128 49.0 23.0 69.0  
130 63.4 29.9 89.7



#2  
Dichlorodifluoromethane  
Concen: 0.506 ppbv  
RT: 1.499 min Scan# 436  
Delta R.T. 0.003 min  
Lab File: VL043271.D  
Acq: 20 Nov 2025 18:38

Tgt Ion: 85 Resp: 7605  
Ion Ratio Lower Upper  
85 100  
87 32.2 25.4 38.2





#3

Chlorodifluoromethane

Concen: 0.452 ppbv

RT: 1.476 min Scan# 41

Delta R.T. 0.003 min

Lab File: VL043271.D

Acq: 20 Nov 2025 18:38

Instrument :

MSVOA\_1

ClientSampleId :

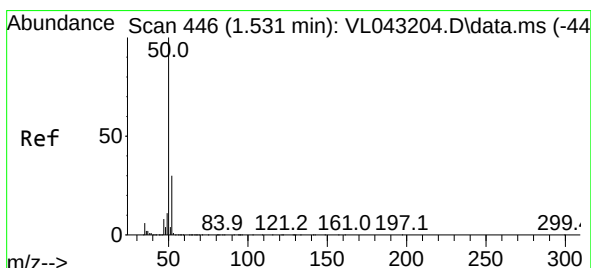
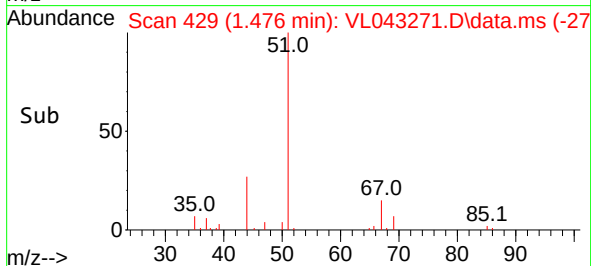
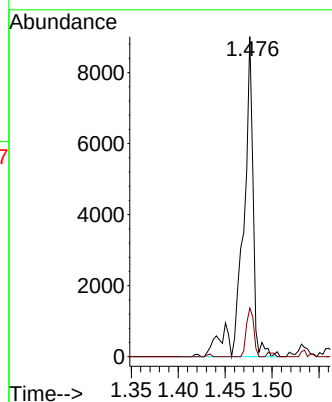
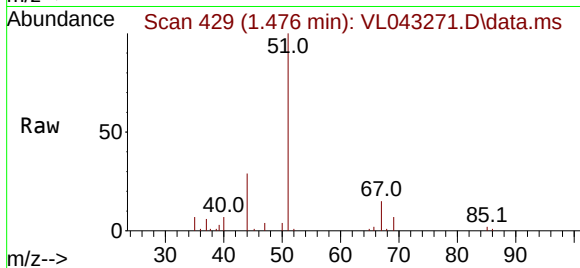
OA1

Tgt Ion: 51 Resp: 6676

Ion Ratio Lower Upper

51 100

67 12.1 14.9 22.3#



#4

Chloromethane

Concen: 0.476 ppbv

RT: 1.535 min Scan# 447

Delta R.T. 0.003 min

Lab File: VL043271.D

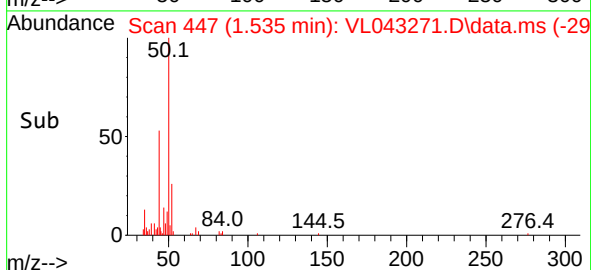
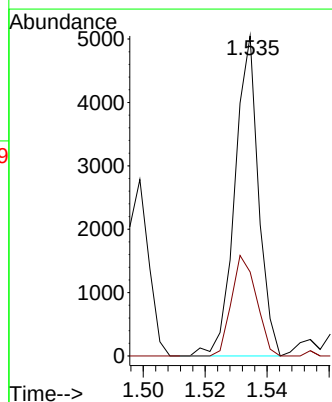
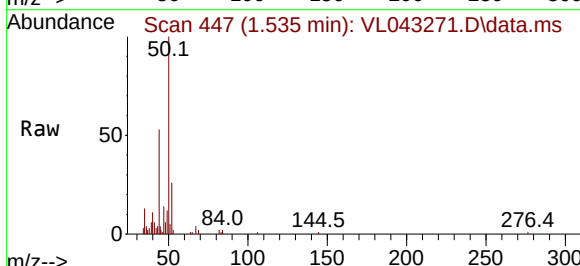
Acq: 20 Nov 2025 18:38

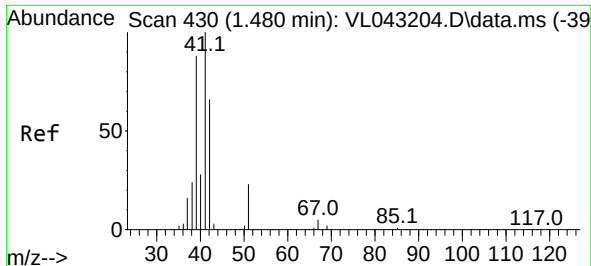
Tgt Ion: 50 Resp: 2676

Ion Ratio Lower Upper

50 100

52 26.3 24.1 36.1





#9

Propene

Concen: 0.800 ppbv

RT: 1.489 min Scan# 41

Delta R.T. 0.010 min

Lab File: VL043271.D

Acq: 20 Nov 2025 18:38

Instrument :

MSVOA\_L

ClientSampleId :

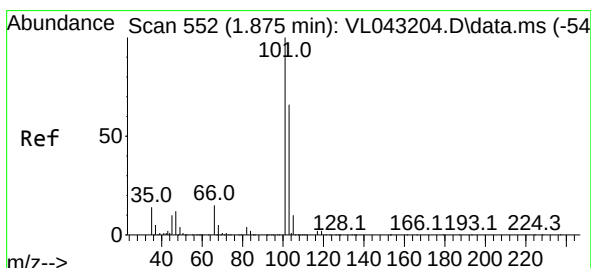
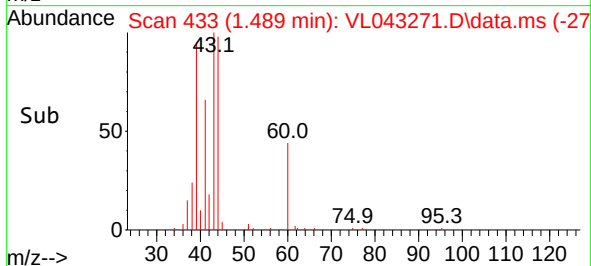
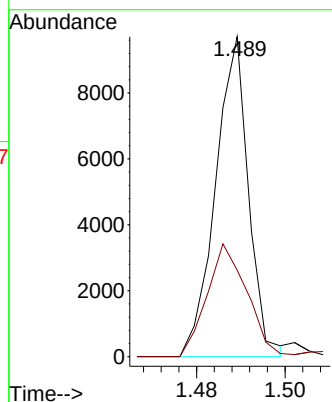
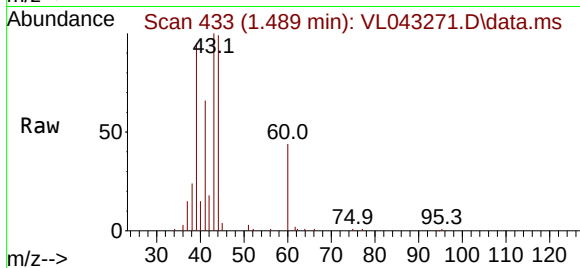
OA1

Tgt Ion: 41 Resp: 5019

Ion Ratio Lower Upper

41 100

42 44.8 3.7 5.5#



#11

Trichlorofluoromethane

Concen: 0.251 ppbv

RT: 1.878 min Scan# 553

Delta R.T. 0.003 min

Lab File: VL043271.D

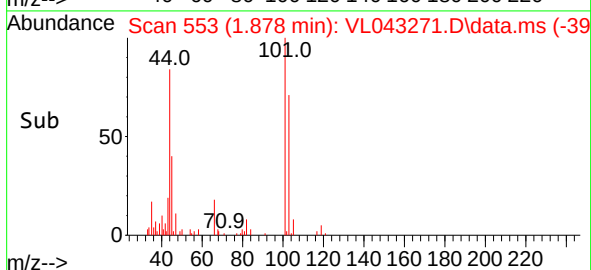
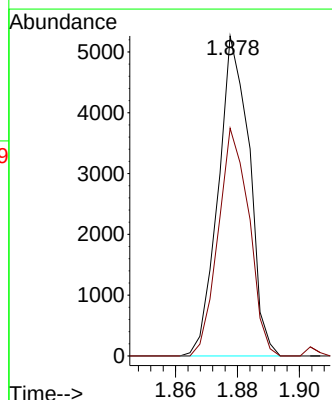
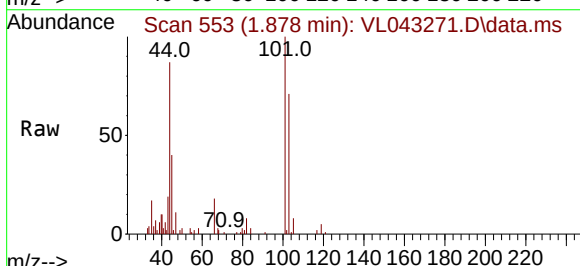
Acq: 20 Nov 2025 18:38

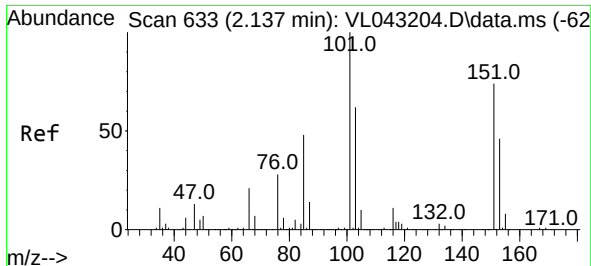
Tgt Ion: 101 Resp: 3661

Ion Ratio Lower Upper

101 100

103 71.2 52.6 79.0

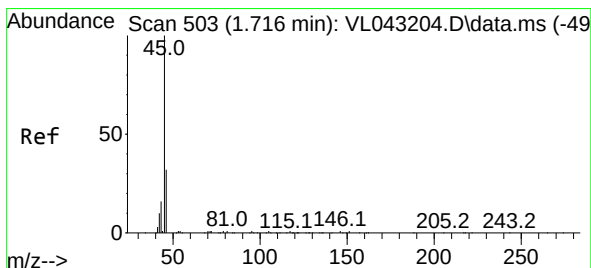
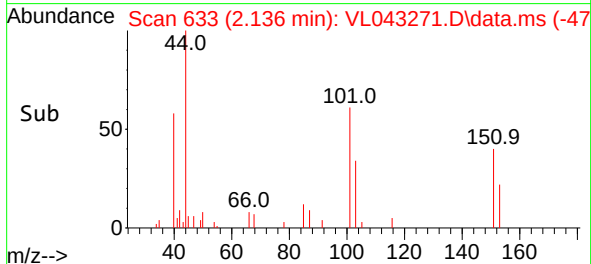
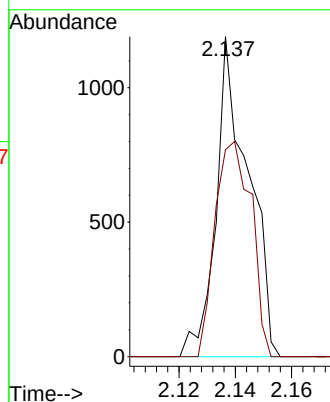
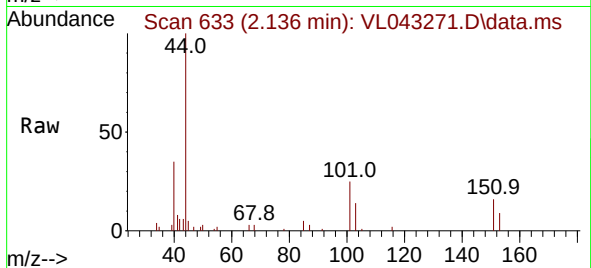




#12  
 1,1,2-Trichlorotrifluoroethane  
 Concen: 0.083 ppbv  
 RT: 2.136 min Scan# 61  
 Delta R.T. -0.000 min  
 Lab File: VL043271.D  
 Acq: 20 Nov 2025 18:38

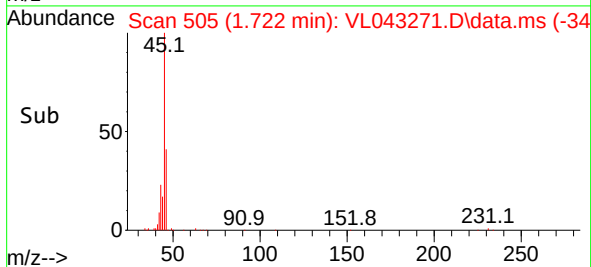
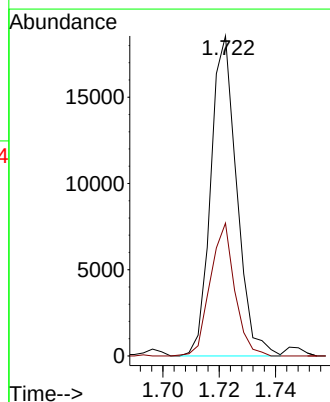
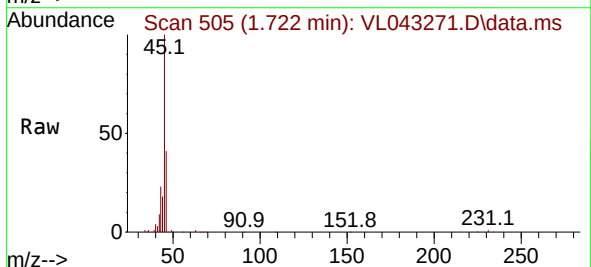
Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 OA1

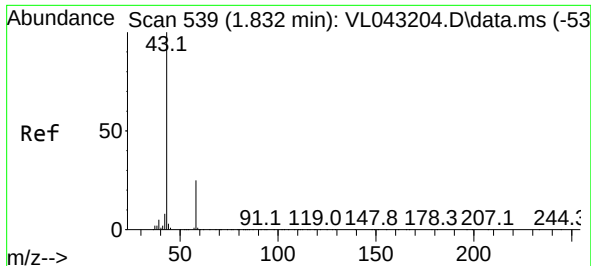
Tgt Ion:101 Resp: 944  
 Ion Ratio Lower Upper  
 101 100  
 151 75.8 59.2 88.8



#13  
 Ethanol  
 Concen: 5.382 ppbv  
 RT: 1.722 min Scan# 505  
 Delta R.T. 0.006 min  
 Lab File: VL043271.D  
 Acq: 20 Nov 2025 18:38

Tgt Ion: 45 Resp: 11875  
 Ion Ratio Lower Upper  
 45 100  
 46 39.3 15.0 59.8

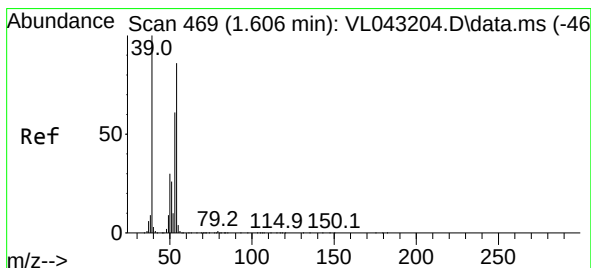
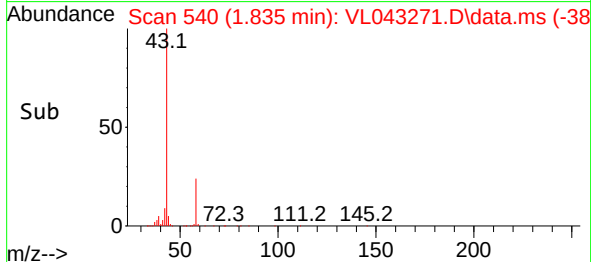
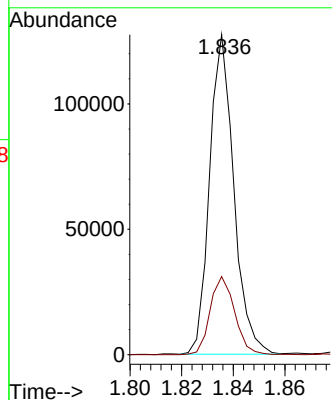
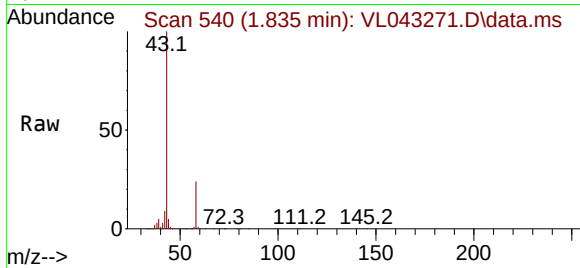




#15  
Acetone  
Concen: 5.592 ppbv  
RT: 1.835 min Scan# 54  
Delta R.T. 0.003 min  
Lab File: VL043271.D  
Acq: 20 Nov 2025 18:38

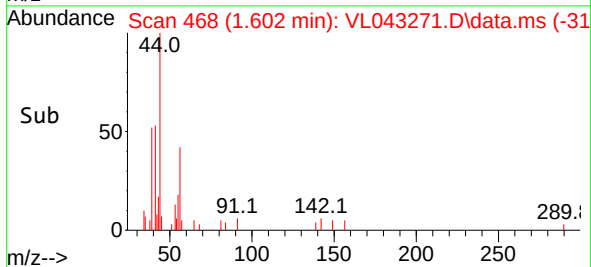
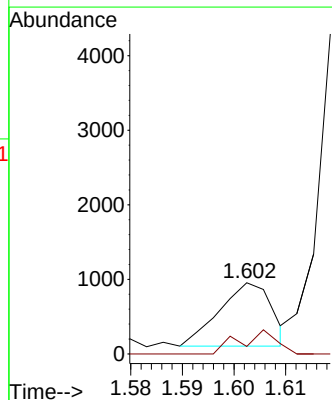
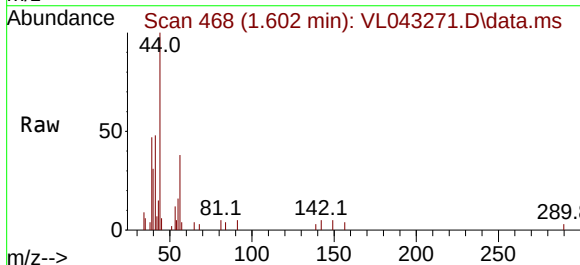
Instrument :  
MSVOA\_L  
ClientSampleId :  
OA1

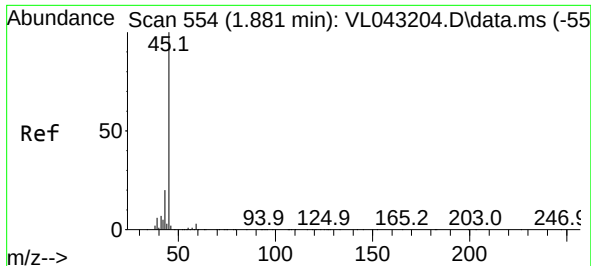
Tgt Ion: 43 Resp: 82758  
Ion Ratio Lower Upper  
43 100  
58 24.8 20.7 31.1



#16  
1,3-Butadiene  
Concen: 0.091 ppbv  
RT: 1.602 min Scan# 468  
Delta R.T. -0.003 min  
Lab File: VL043271.D  
Acq: 20 Nov 2025 18:38

Tgt Ion: 39 Resp: 598  
Ion Ratio Lower Upper  
39 100  
54 51.3 59.4 89.2#

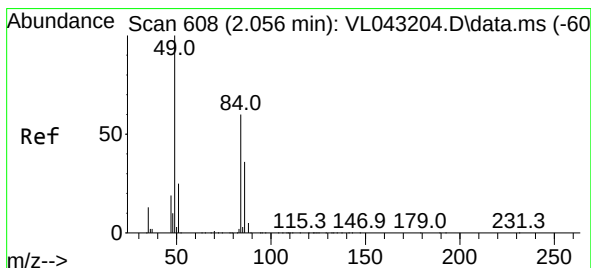
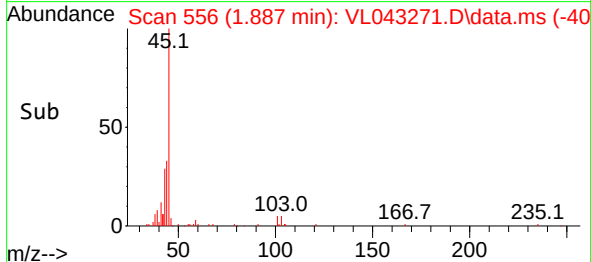
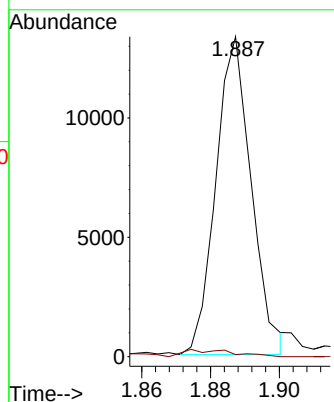
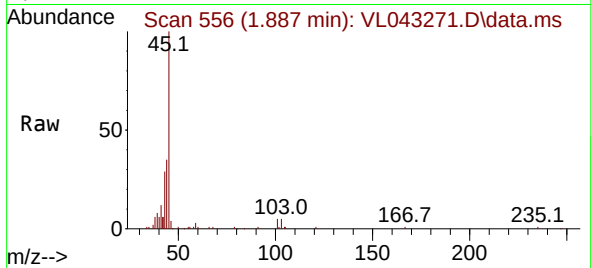




#19  
Isopropyl Alcohol  
Concen: 1.139 ppbv  
RT: 1.887 min Scan# 51  
Delta R.T. 0.006 min  
Lab File: VL043271.D  
Acq: 20 Nov 2025 18:38

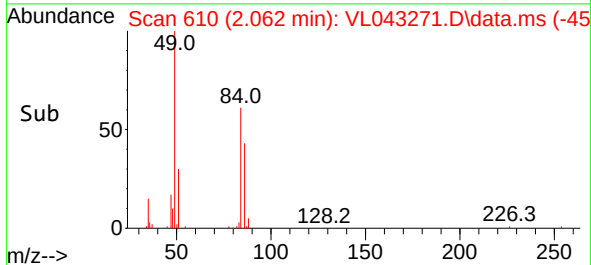
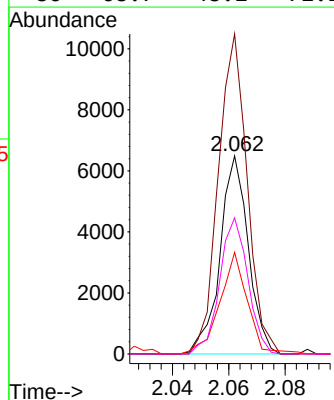
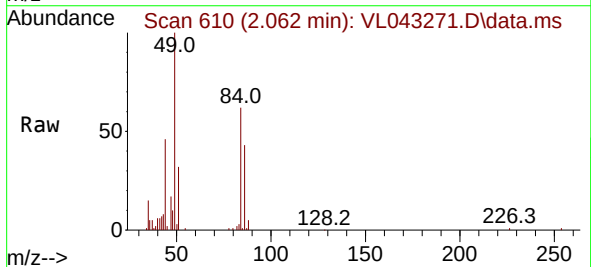
Instrument :  
MSVOA\_1  
ClientSampleId :  
OA1

Tgt Ion: 45 Resp: 9524  
Ion Ratio Lower Upper  
45 100  
58 215.6 31.3 46.9#

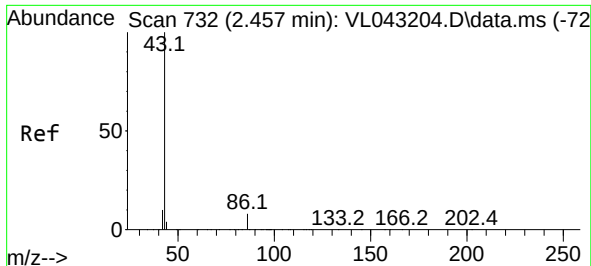


#20  
Methylene Chloride  
Concen: 0.278 ppbv  
RT: 2.062 min Scan# 610  
Delta R.T. 0.006 min  
Lab File: VL043271.D  
Acq: 20 Nov 2025 18:38

Tgt Ion: 84 Resp: 4541  
Ion Ratio Lower Upper  
84 100  
49 161.5 132.9 199.3  
51 51.3 34.8 52.2  
86 68.7 48.2 72.2



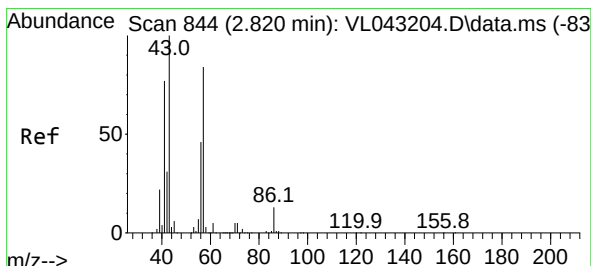
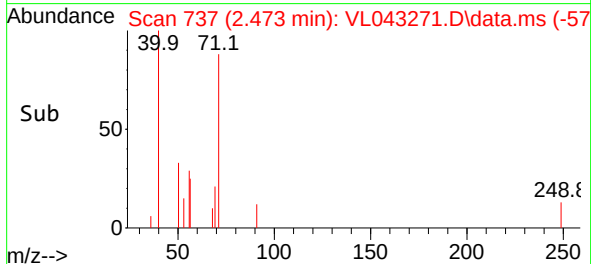
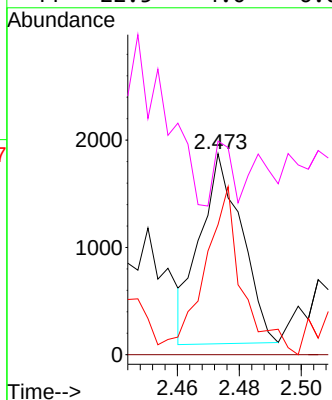
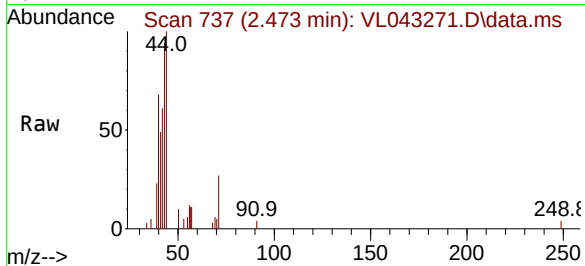




#23  
Vinyl Acetate  
Concen: 0.092 ppbv  
RT: 2.473 min Scan# 71  
Delta R.T. 0.016 min  
Lab File: VL043271.D  
Acq: 20 Nov 2025 18:38

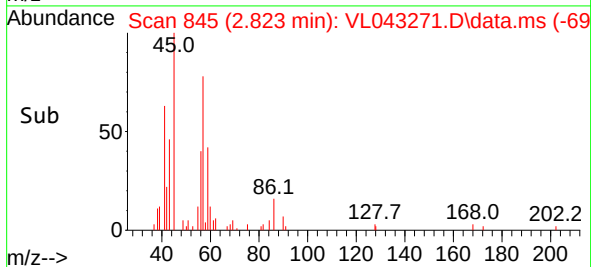
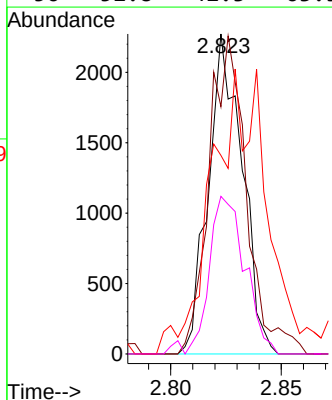
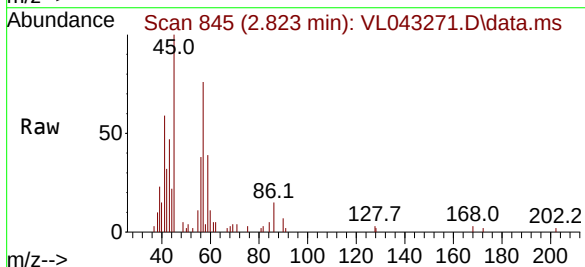
Instrument :  
MSVOA\_1  
ClientSampleId :  
OA1

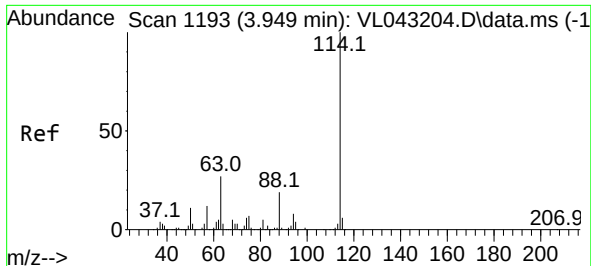
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Ion Ratio Lower Upper  
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86 0.0 6.2 9.2#  
42 59.6 8.0 12.0#  
44 22.5 4.0 6.0#



#26  
Hexane  
Concen: 0.173 ppbv  
RT: 2.823 min Scan# 845  
Delta R.T. 0.003 min  
Lab File: VL043271.D  
Acq: 20 Nov 2025 18:38

Tgt Ion: 57 Resp: 2420  
Ion Ratio Lower Upper  
57 100  
41 109.6 74.6 111.8  
43 146.2 179.0 268.4#  
56 52.8 42.3 63.5





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 3.955 min Scan# 1193

Delta R.T. 0.006 min

Lab File: VL043271.D

Acq: 20 Nov 2025 18:38

Instrument :

MSVOA\_L

ClientSampleId :

OA1

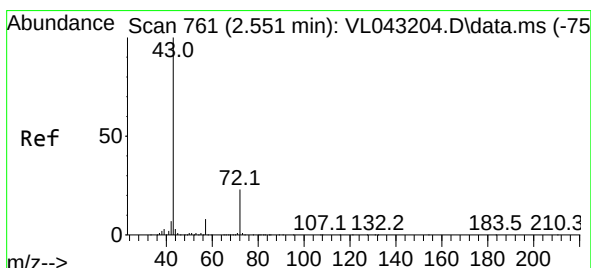
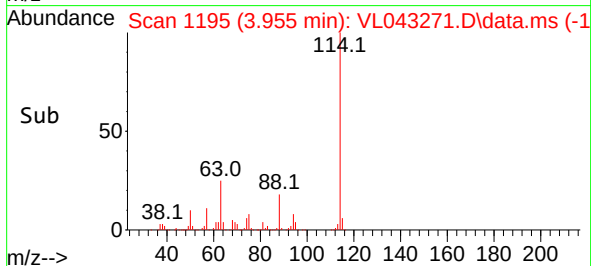
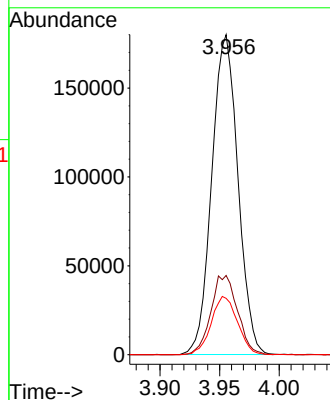
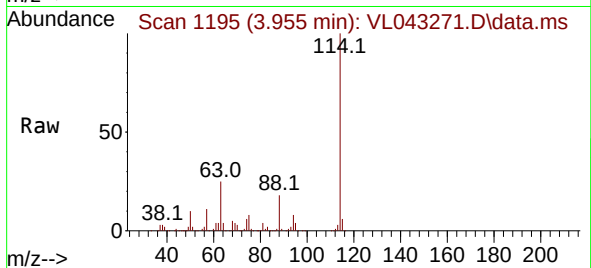
Tgt Ion:114 Resp: 274528

Ion Ratio Lower Upper

114 100

63 25.4 21.0 31.6

88 18.3 14.9 22.3



#34

2-Butanone

Concen: 0.632 ppbv

RT: 2.557 min Scan# 763

Delta R.T. 0.006 min

Lab File: VL043271.D

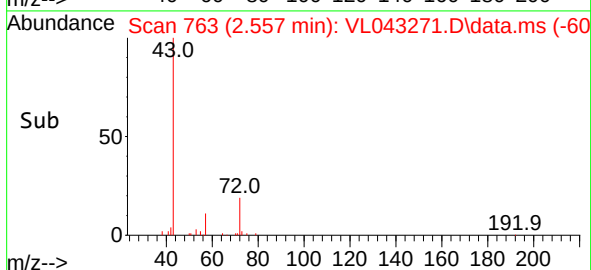
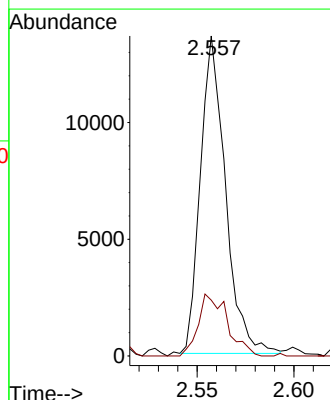
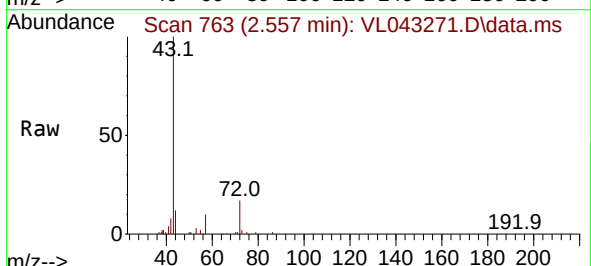
Acq: 20 Nov 2025 18:38

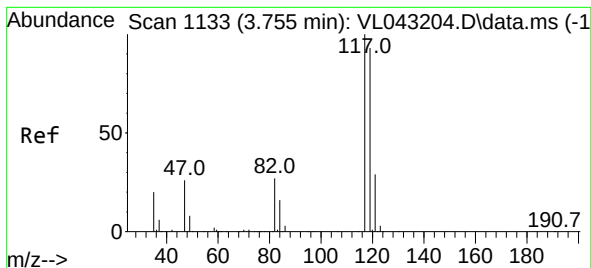
Tgt Ion: 43 Resp: 12254

Ion Ratio Lower Upper

43 100

72 22.7 18.1 27.1





#35

Carbon Tetrachloride

Concen: 0.068 ppbv

RT: 3.758 min Scan# 1133

Delta R.T. 0.003 min

Lab File: VL043271.D

Acq: 20 Nov 2025 18:38

Instrument :

MSVOA\_L

ClientSampleId :

OA1

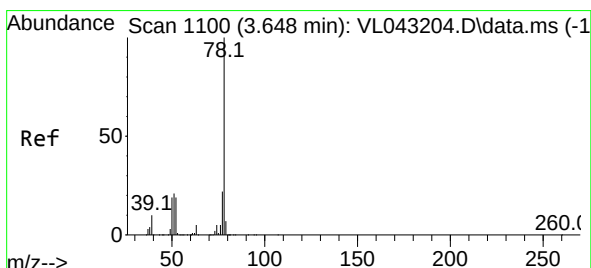
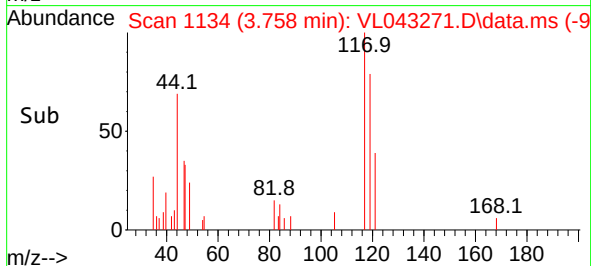
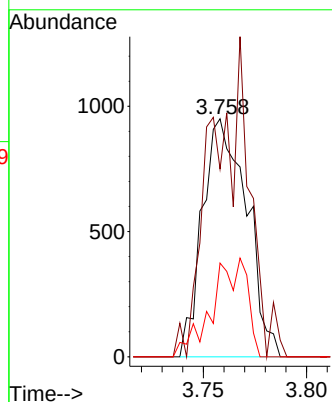
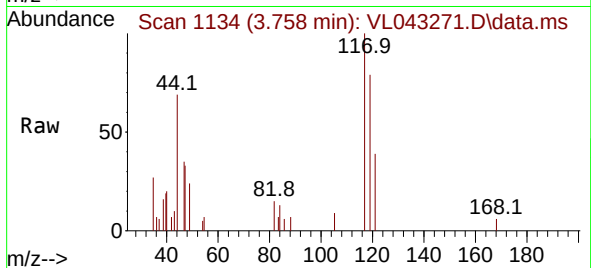
Tgt Ion:117 Resp: 1414

Ion Ratio Lower Upper

117 100

119 71.9 74.6 112.0#

121 39.4 23.2 34.8#



#36

Benzene

Concen: 0.124 ppbv

RT: 3.658 min Scan# 1103

Delta R.T. 0.010 min

Lab File: VL043271.D

Acq: 20 Nov 2025 18:38

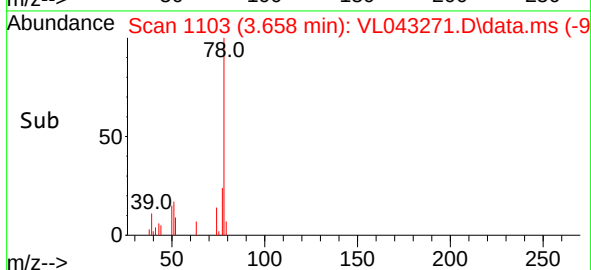
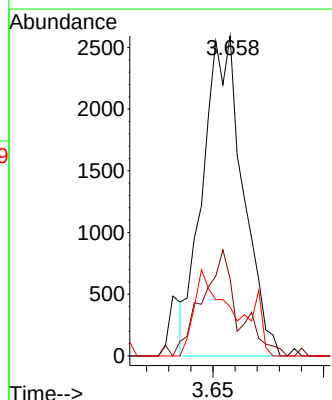
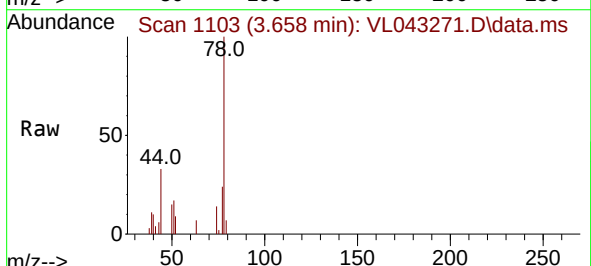
Tgt Ion: 78 Resp: 3264

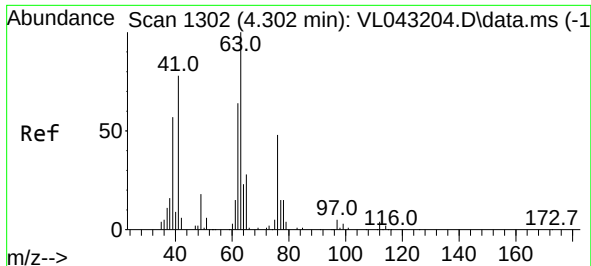
Ion Ratio Lower Upper

78 100

77 21.9 17.5 26.3

50 15.3 15.5 23.3#





#39

1,2-Dichloropropane

Concen: 7.224 ppbv

RT: 3.955 min Scan# 1195

Delta R.T. -0.346 min

Lab File: VL043271.D

Acq: 20 Nov 2025 18:38

Instrument :

MSVOA\_1

ClientSampleId :

OA1

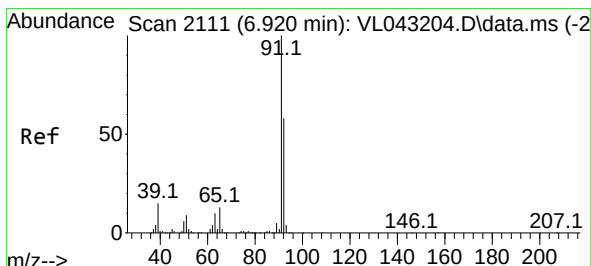
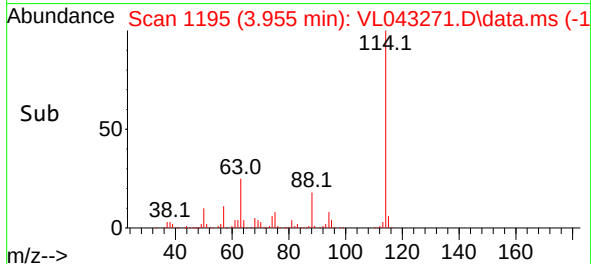
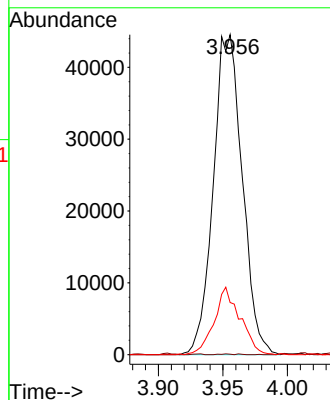
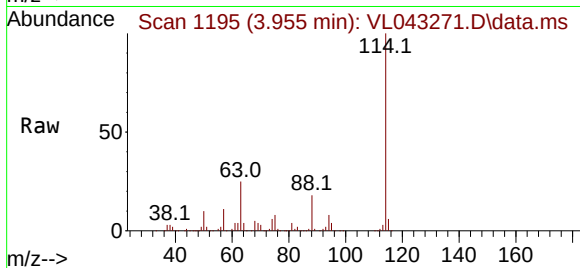
Tgt Ion: 63 Resp: 69508

Ion Ratio Lower Upper

63 100

41 0.1 62.6 93.8#

62 16.0 51.0 76.6#



#53

Toluene

Concen: 0.143 ppbv

RT: 6.927 min Scan# 2113

Delta R.T. 0.006 min

Lab File: VL043271.D

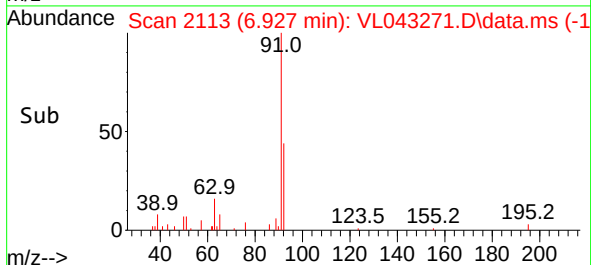
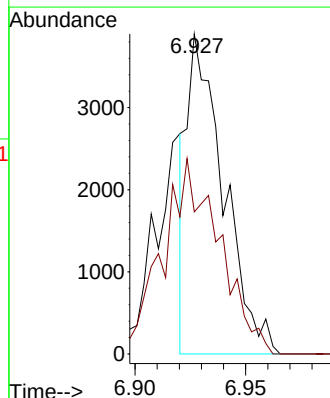
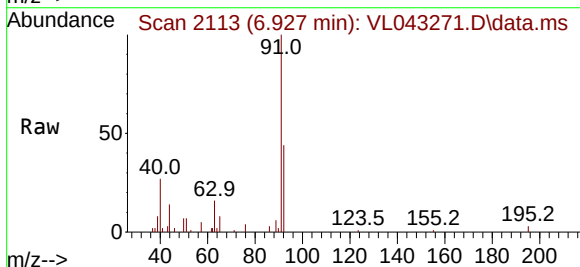
Acq: 20 Nov 2025 18:38

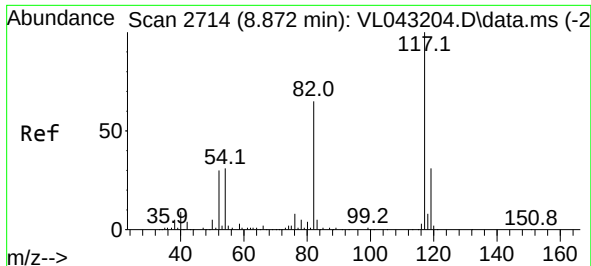
Tgt Ion: 91 Resp: 4466

Ion Ratio Lower Upper

91 100

92 95.2 47.4 71.0#

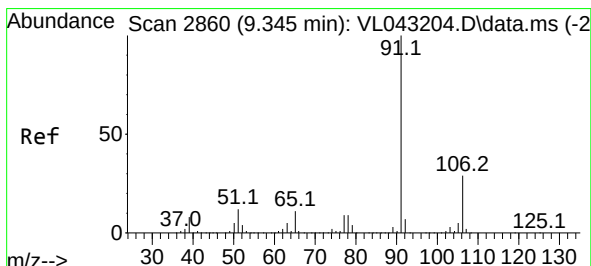
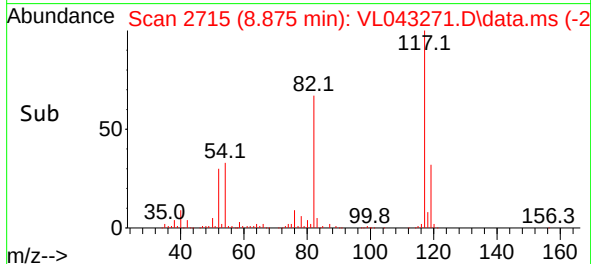
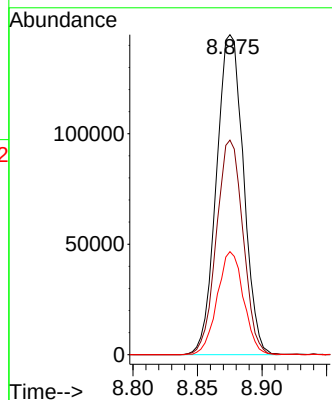
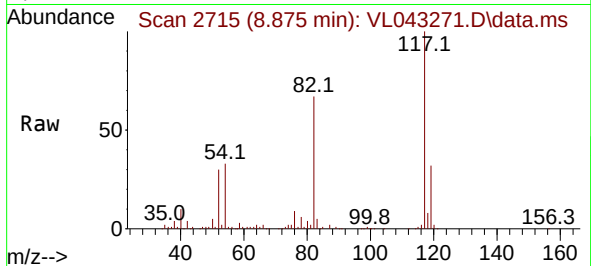




#55  
Chlorobenzene-d5  
Concen: 10.000 ppbv  
RT: 8.875 min Scan# 2113  
Delta R.T. 0.003 min  
Lab File: VL043271.D  
Acq: 20 Nov 2025 18:38

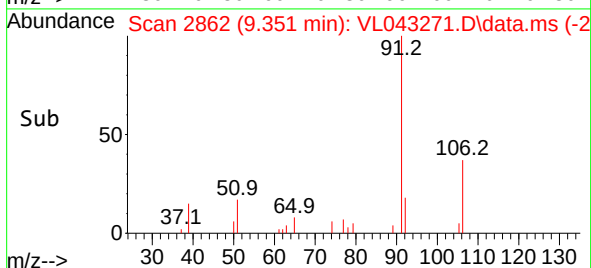
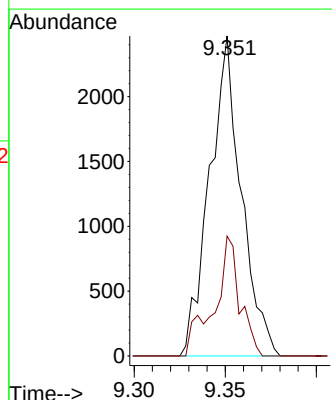
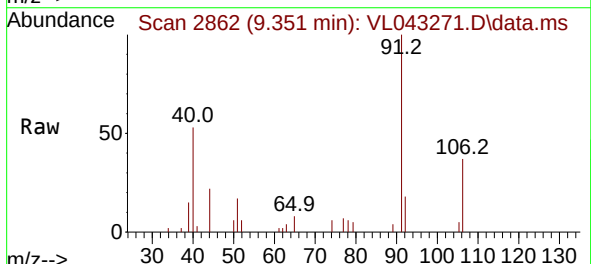
Instrument :  
MSVOA\_L  
ClientSampleId :  
OA1

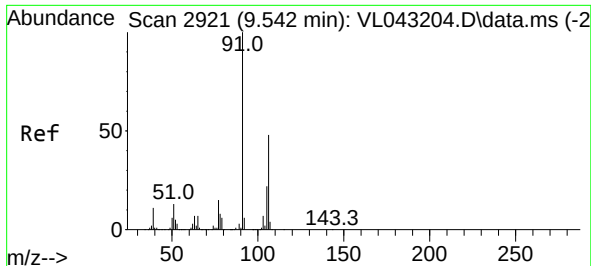
Tgt Ion:117 Resp: 211337  
Ion Ratio Lower Upper  
117 100  
82 66.1 56.1 84.1  
119 31.4 25.0 37.6



#58  
Ethyl Benzene  
Concen: 0.073 ppbv  
RT: 9.351 min Scan# 2862  
Delta R.T. 0.006 min  
Lab File: VL043271.D  
Acq: 20 Nov 2025 18:38

Tgt Ion: 91 Resp: 2985  
Ion Ratio Lower Upper  
91 100  
106 37.4 22.8 34.2#





#59

m/p-Xylene

Concen: 0.074 ppbv

RT: 9.542 min Scan# 2921

Delta R.T. -0.000 min

Lab File: VL043271.D

Acq: 20 Nov 2025 18:38

Instrument :

MSVOA\_L

ClientSampleId :

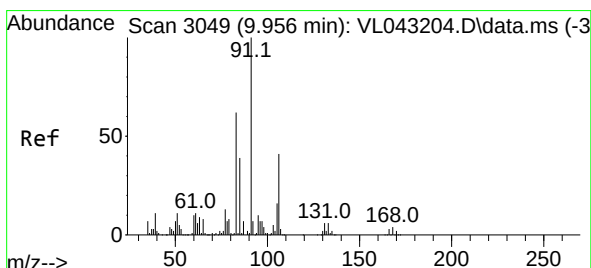
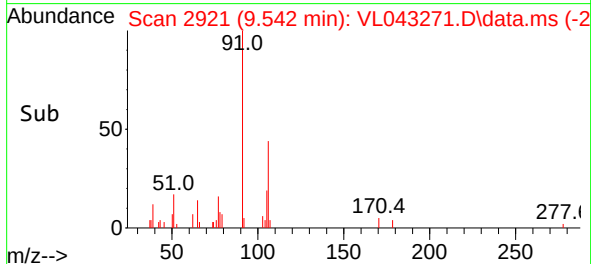
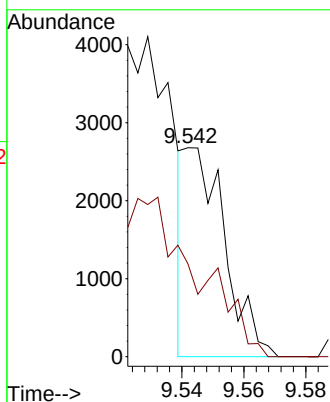
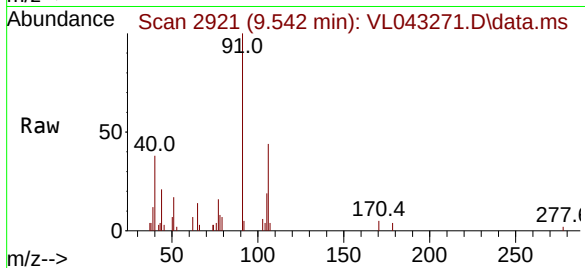
OA1

Tgt Ion: 91 Resp: 2413

Ion Ratio Lower Upper

91 100

106 0.0 36.1 54.1#



#60

o-Xylene

Concen: 0.078 ppbv

RT: 9.959 min Scan# 3050

Delta R.T. 0.003 min

Lab File: VL043271.D

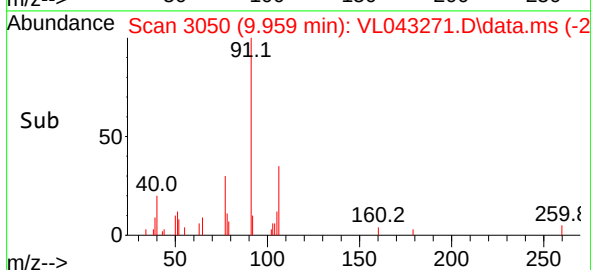
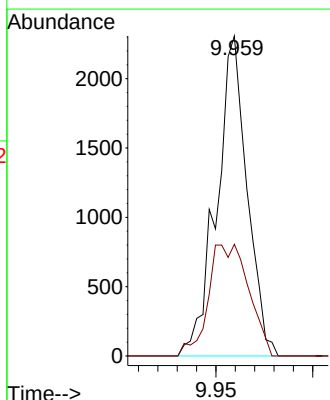
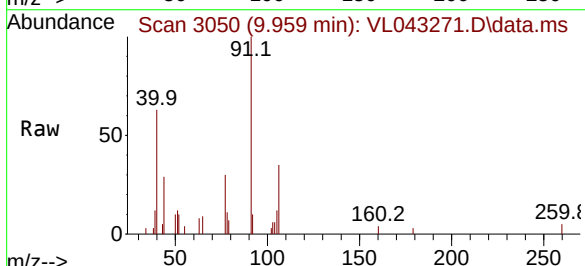
Acq: 20 Nov 2025 18:38

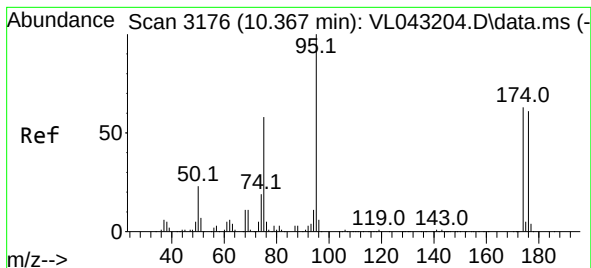
Tgt Ion: 91 Resp: 2528

Ion Ratio Lower Upper

91 100

106 46.3 20.9 62.8

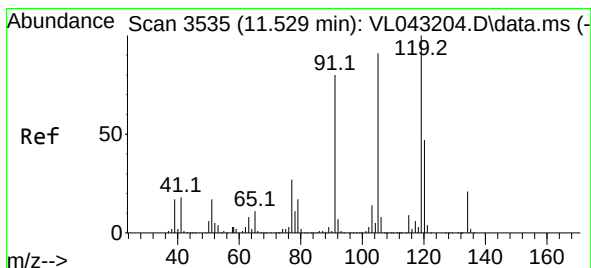
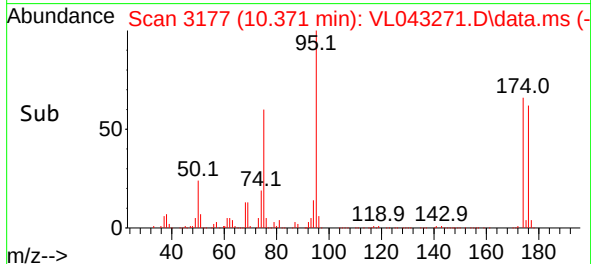
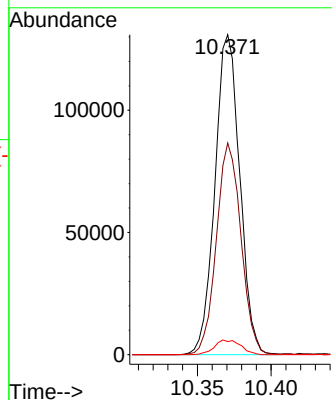
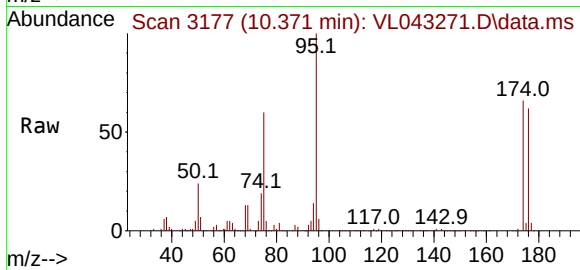




#68  
 1-Bromo-4-Fluorobenzene  
 Concen: 9.903 ppbv  
 RT: 10.371 min Scan# 3177  
 Delta R.T. 0.003 min  
 Lab File: VL043271.D  
 Acq: 20 Nov 2025 18:38

Instrument :  
 MSVOA\_1  
 ClientSampleId :  
 OA1

Tgt Ion: 95 Resp: 153411  
 Ion Ratio Lower Upper  
 95 100  
 174 65.6 50.2 75.2  
 175 4.9 4.1 6.1



#74  
 1,2,4-Trimethylbenzene  
 Concen: 0.041 ppbv  
 RT: 11.532 min Scan# 3536  
 Delta R.T. 0.003 min  
 Lab File: VL043271.D  
 Acq: 20 Nov 2025 18:38

Tgt Ion: 105 Resp: 1486  
 Ion Ratio Lower Upper  
 105 100  
 120 42.4 41.7 62.5  
 91 16.7 70.0 105.0#  
 77 11.2 23.8 35.8#

