

Data Path : Z:\voasrv\HPCHEM1\MSVOA\_L\Data\VL041923\  
 Data File : VL040381.D  
 Acq On : 19 Apr 2023 15:54  
 Operator : SY/MD  
 Sample : 02368-04  
 Misc : 400mL/MSVOA\_L  
 ALS Vial : 1 Sample Multiplier: 1

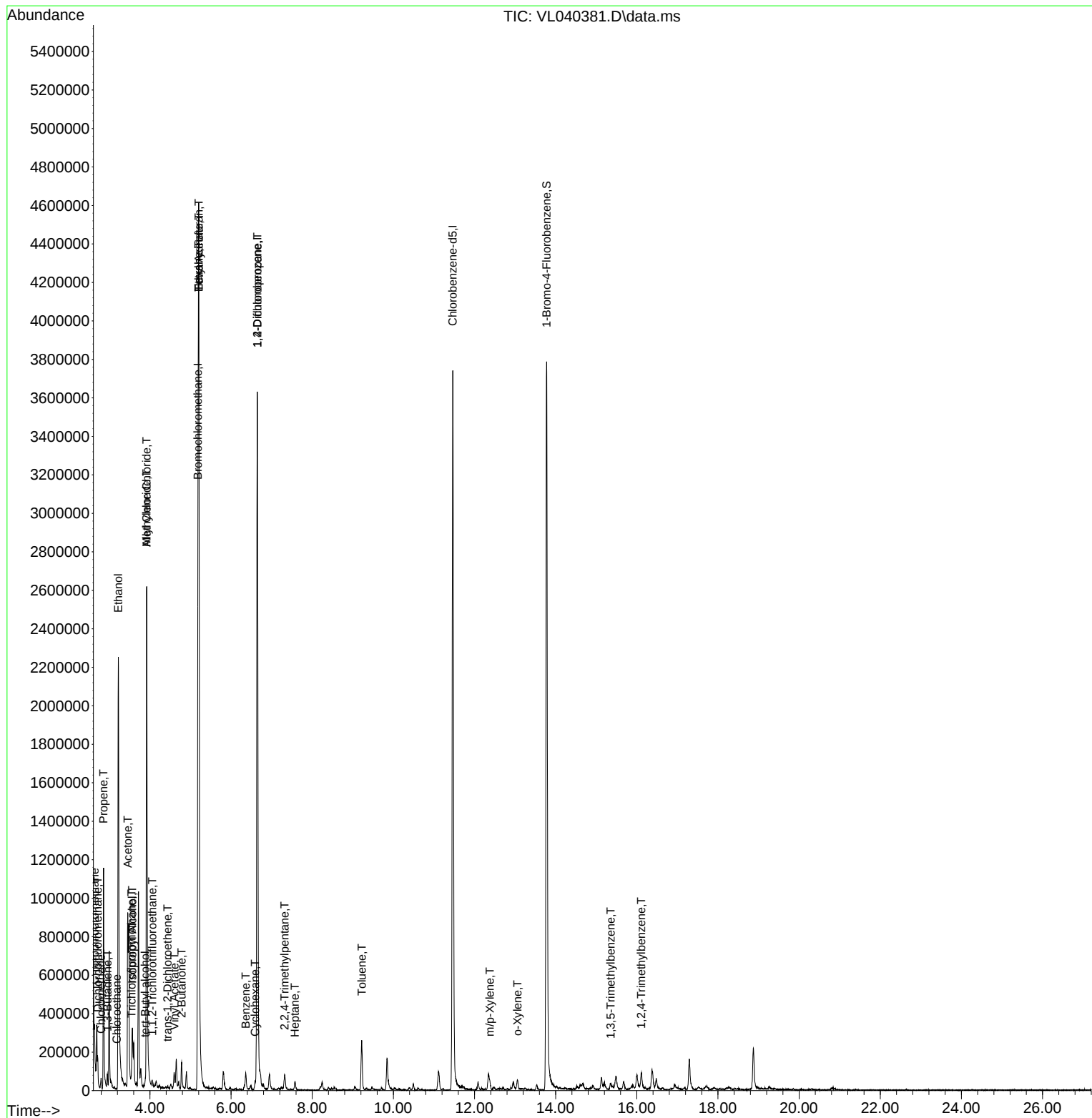
Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 AP1-A

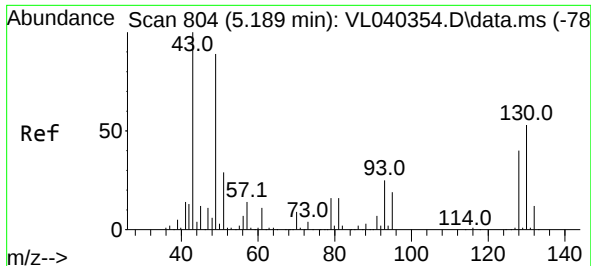
Quant Time: Apr 20 05:11:01 2023  
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA\_L\methods\VL041323AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Fri Aug 26 06:05:16 2022  
 QLast Update : Thu Apr 13 14:37:02 2023  
 Response via : Initial Calibration

| Compound                      | R.T.   | QIon  | Response | Conc     | Units  | Dev(Min) |
|-------------------------------|--------|-------|----------|----------|--------|----------|
| -----                         |        |       |          |          |        |          |
| Internal Standards            |        |       |          |          |        |          |
| 1) Bromochloromethane         | 5.182  | 49    | 1085558  | 10.000   | ppbv   | 0.00     |
| 33) 1,4-Difluorobenzene       | 6.645  | 114   | 2700435  | 10.000   | ppbv   | 0.00     |
| 55) Chlorobenzene-d5          | 11.465 | 117   | 2371301  | 10.000   | ppbv   | 0.00     |
| System Monitoring Compounds   |        |       |          |          |        |          |
| 68) 1-Bromo-4-Fluorobenzene   | 13.780 | 95    | 1914743  | 9.765    | ppbv   | 0.00     |
| Spiked Amount                 | 10.000 | Range | 65 - 135 | Recovery | =      | 97.600%  |
| Target Compounds              |        |       |          |          |        |          |
|                               |        |       |          |          | Qvalue |          |
| 2) Dichlorodifluoromethane    | 2.713  | 85    | 91499    | 0.467    | ppbv   | 92       |
| 3) Chlorodifluoromethane      | 2.636  | 51    | 156335   | 1.102    | ppbv # | 74       |
| 4) Chloromethane              | 2.796  | 50    | 39349    | 0.439    | ppbv   | 92       |
| 7) Chloroethane               | 3.182  | 64    | 1277     | 0.046    | ppbv   | 99       |
| 9) Propene                    | 2.857  | 41    | 277205   | 4.947    | ppbv   | 96       |
| 10) Heptane                   | 7.574  | 43    | 11149    | 0.088    | ppbv # | 63       |
| 11) Trichlorofluoromethane    | 3.549  | 101   | 42531    | 0.215    | ppbv   | 97       |
| 12) 1,1,2-Trichlorotrifluo... | 4.057  | 101   | 4807     | 0.035    | ppbv # | 1        |
| 13) Ethanol                   | 3.221  | 45    | 2273215  | 485.906  | ppbv   | 97       |
| 15) Acetone                   | 3.452  | 43    | 1087492  | 7.073    | ppbv   | 94       |
| 16) 1,3-Butadiene             | 2.954  | 39    | 18198    | 0.286    | ppbv # | 34       |
| 17) tert-Butyl alcohol        | 3.880  | 59    | 7819     | 0.055    | ppbv # | 72       |
| 19) Isopropyl Alcohol         | 3.568  | 45    | 335910   | 4.788    | ppbv   | 99       |
| 20) Methylene Chloride        | 3.918  | 84    | 905233   | 14.747   | ppbv   | 100      |
| 21) Allyl Chloride            | 3.918  | 41    | 27646    | 0.316    | ppbv # | 25       |
| 22) trans-1,2-Dichloroethene  | 4.436  | 96    | 2361     | 0.038    | ppbv # | 43       |
| 23) Vinyl Acetate             | 4.603  | 43    | 46332    | 1.184    | ppbv # | 44       |
| 25) Ethyl Acetate             | 5.205  | 43    | 1146866  | 4.433    | ppbv # | 77       |
| 26) Hexane                    | 5.201  | 57    | 1668261  | 15.295   | ppbv # | 36       |
| 30) Cyclohexane               | 6.594  | 84    | 5397     | 0.064    | ppbv # | 1        |
| 34) 2-Butanone                | 4.780  | 43    | 153862   | 1.057    | ppbv   | 97       |
| 36) Benzene                   | 6.362  | 78    | 61294    | 0.278    | ppbv   | 93       |
| 39) 1,2-Dichloropropane       | 6.645  | 63    | 680842   | 7.854    | ppbv # | 25       |
| 41) Tetrahydrofuran           | 5.205  | 42    | 603231   | 7.564    | ppbv # | 47       |
| 44) 2,2,4-Trimethylpentane    | 7.320  | 57    | 57282    | 0.156    | ppbv # | 75       |
| 53) Toluene                   | 9.220  | 91    | 183168   | 0.784    | ppbv   | 98       |
| 59) m/p-Xylene                | 12.378 | 91    | 14729    | 0.055    | ppbv # | 32       |
| 60) o-Xylene                  | 13.060 | 91    | 39834    | 0.155    | ppbv   | 98       |
| 73) 1,3,5-Trimethylbenzene    | 15.355 | 105   | 11346    | 0.043    | ppbv   | 100      |
| 74) 1,2,4-Trimethylbenzene    | 16.108 | 105   | 32868    | 0.110    | ppbv # | 68       |
| -----                         |        |       |          |          |        |          |

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

Quant Time: Apr 20 05:11:01 2023  
Quant Method : Z:\voasrv\HPCHEM1\MSVOA\_L\methods\VL041323AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_LFri Aug 26 06:05:16 2022  
QLast Update : Thu Apr 13 14:37:02 2023  
Response via : Initial Calibration

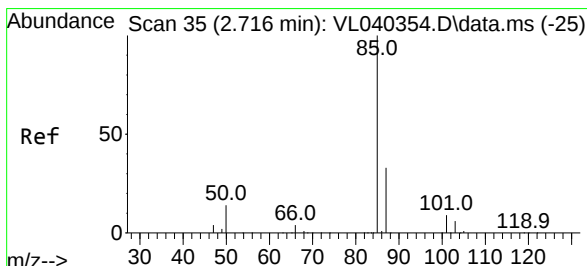
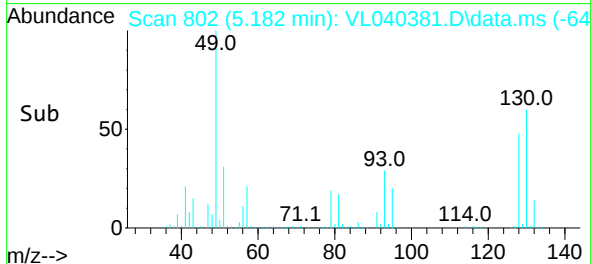
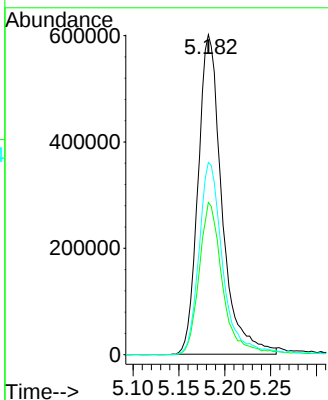
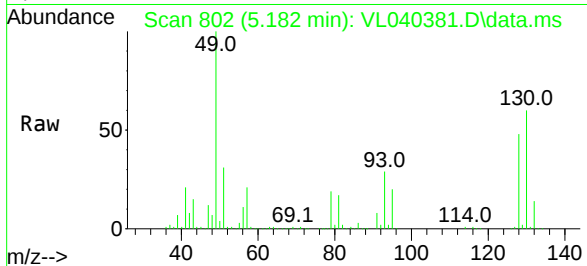




#1  
 Bromochloromethane  
 Concen: 10.000 ppbv  
 RT: 5.182 min Scan# 80  
 Delta R.T. -0.007 min  
 Lab File: VL040381.D  
 Acq: 19 Apr 2023 15:54

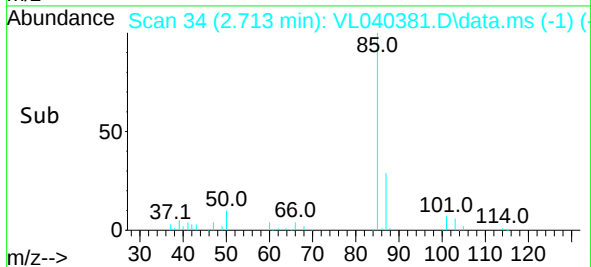
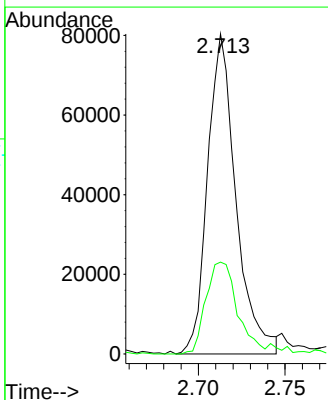
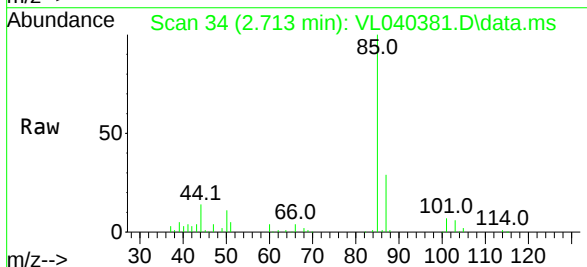
Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 AP1-A

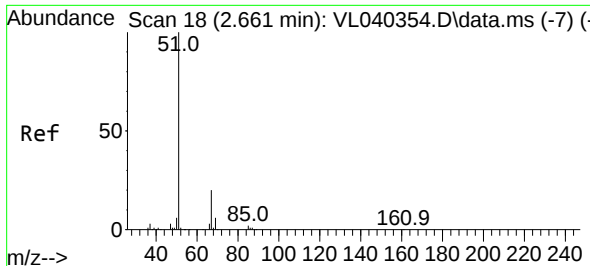
Tgt Ion: 49 Resp: 1085558  
 Ion Ratio Lower Upper  
 49 100  
 128 47.7 23.7 71.1  
 130 61.4 29.9 89.8



#2  
 Dichlorodifluoromethane  
 Concen: 0.467 ppbv  
 RT: 2.713 min Scan# 34  
 Delta R.T. -0.003 min  
 Lab File: VL040381.D  
 Acq: 19 Apr 2023 15:54

Tgt Ion: 85 Resp: 91499  
 Ion Ratio Lower Upper  
 85 100  
 87 28.7 26.6 40.0

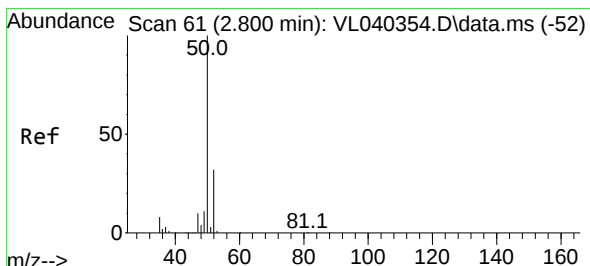
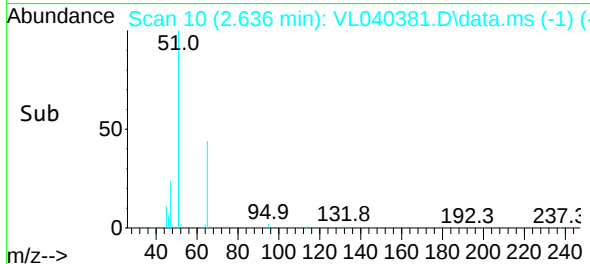
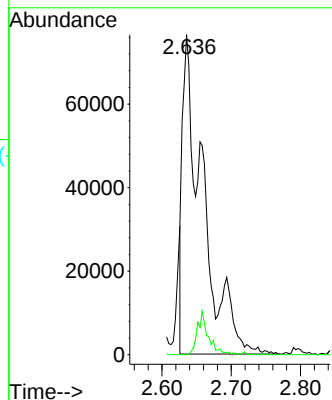
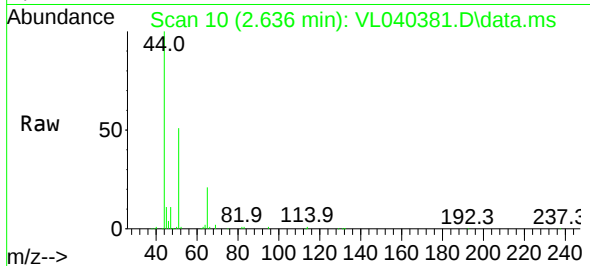




#3  
Chlorodifluoromethane  
Concen: 1.102 ppbv  
RT: 2.636 min Scan# 10  
Delta R.T. -0.025 min  
Lab File: VL040381.D  
Acq: 19 Apr 2023 15:54

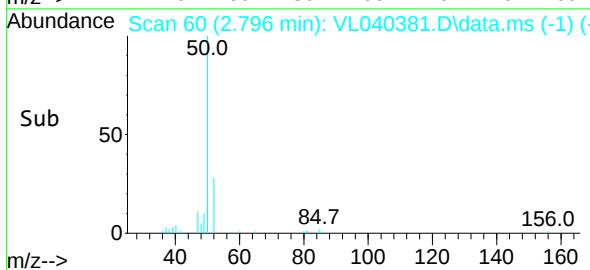
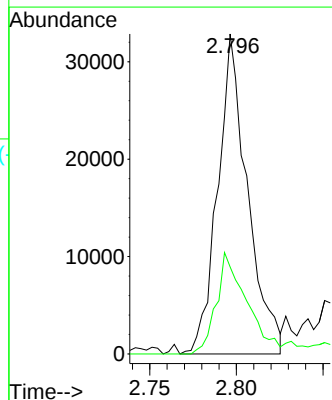
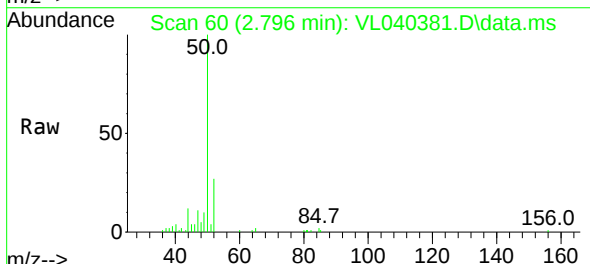
Instrument :  
MSVOA\_L  
ClientSampleId :  
AP1-A

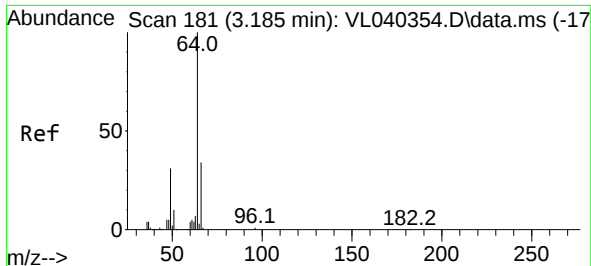
Tgt Ion: 51 Resp: 156335  
Ion Ratio Lower Upper  
51 100  
67 7.6 15.5 23.3#



#4  
Chloromethane  
Concen: 0.439 ppbv  
RT: 2.796 min Scan# 60  
Delta R.T. -0.004 min  
Lab File: VL040381.D  
Acq: 19 Apr 2023 15:54

Tgt Ion: 50 Resp: 39349  
Ion Ratio Lower Upper  
50 100  
52 27.3 25.3 37.9

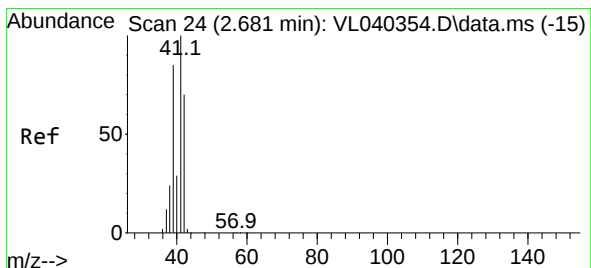
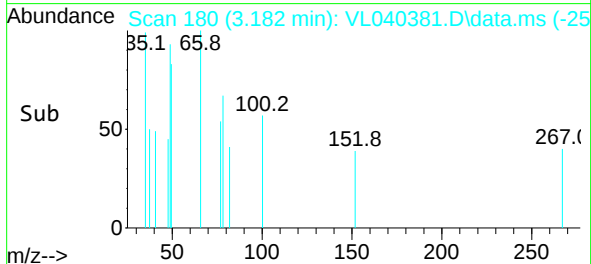
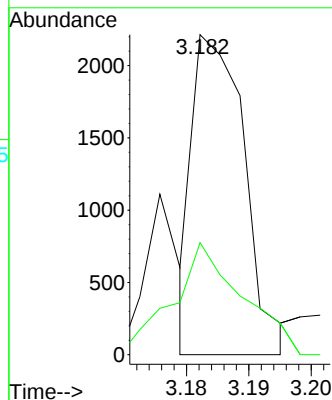
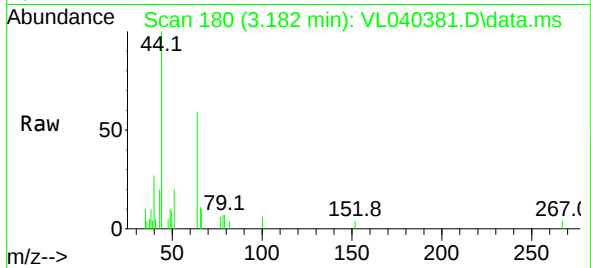




#7  
Chloroethane  
Concen: 0.046 ppbv  
RT: 3.182 min Scan# 11  
Delta R.T. -0.003 min  
Lab File: VL040381.D  
Acq: 19 Apr 2023 15:54

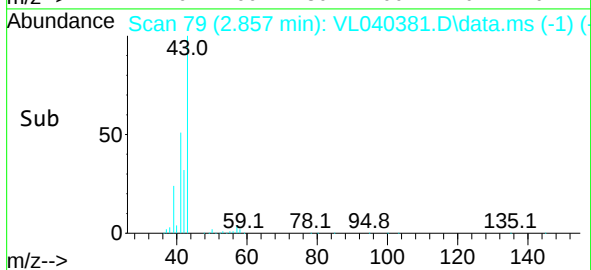
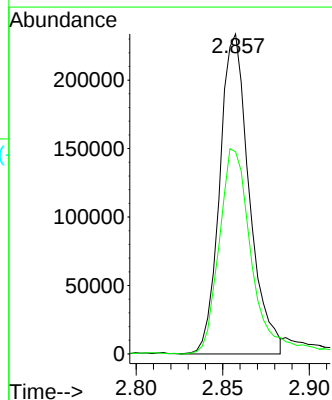
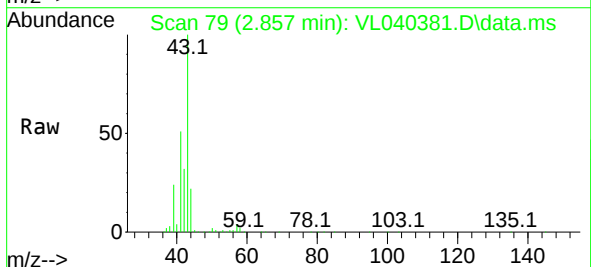
Instrument :  
MSVOA\_L  
ClientSampleId :  
AP1-A

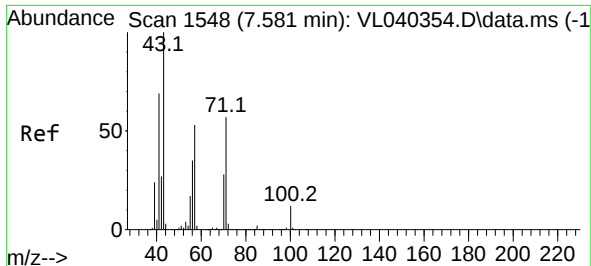
Tgt Ion: 64 Resp: 1277  
Ion Ratio Lower Upper  
64 100  
66 35.0 27.5 41.3



#9  
Propene  
Concen: 4.947 ppbv  
RT: 2.857 min Scan# 79  
Delta R.T. 0.176 min  
Lab File: VL040381.D  
Acq: 19 Apr 2023 15:54

Tgt Ion: 41 Resp: 277205  
Ion Ratio Lower Upper  
41 100  
42 73.5 56.5 84.7

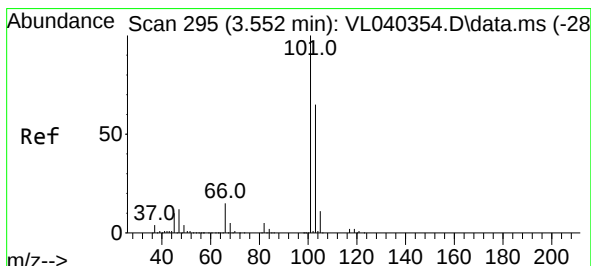
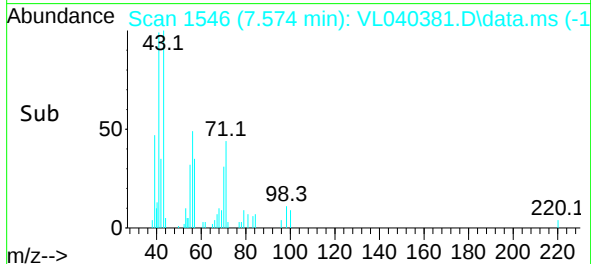
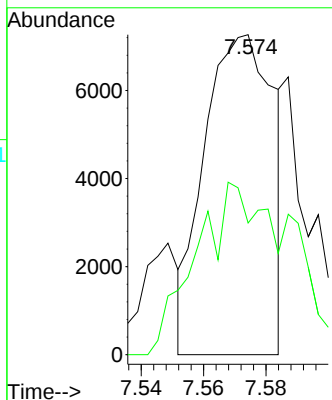
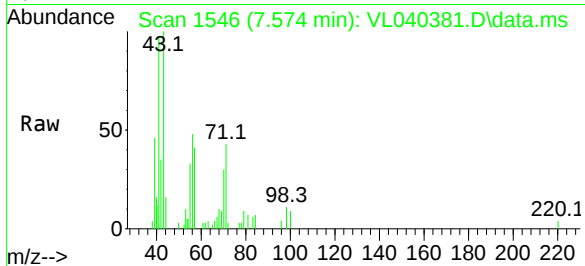




#10  
Heptane  
Concen: 0.088 ppbv  
RT: 7.574 min Scan# 11  
Delta R.T. -0.007 min  
Lab File: VL040381.D  
Acq: 19 Apr 2023 15:54

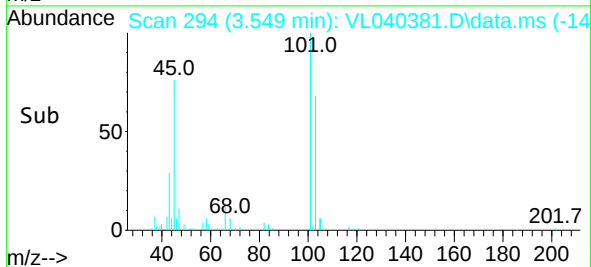
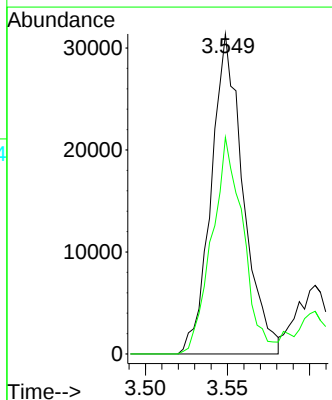
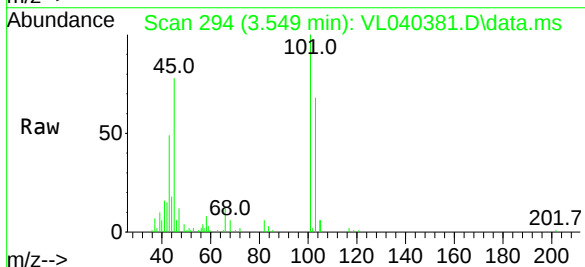
Instrument :  
MSVOA\_L  
ClientSampleId :  
AP1-A

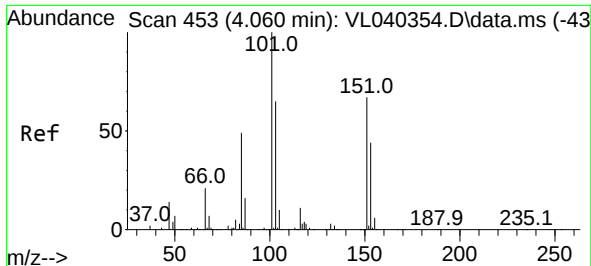
Tgt Ion: 43 Resp: 11149  
Ion Ratio Lower Upper  
43 100  
57 78.7 42.2 63.4#



#11  
Trichlorofluoromethane  
Concen: 0.215 ppbv  
RT: 3.549 min Scan# 294  
Delta R.T. -0.003 min  
Lab File: VL040381.D  
Acq: 19 Apr 2023 15:54

Tgt Ion:101 Resp: 42531  
Ion Ratio Lower Upper  
101 100  
103 67.7 52.2 78.4





#12

1,1,2-Trichlorotrifluoroethane

Concen: 0.035 ppbv

RT: 4.057 min Scan# 4

Delta R.T. -0.003 min

Lab File: VL040381.D

Acq: 19 Apr 2023 15:54

Instrument :

MSVOA\_L

ClientSampleId :

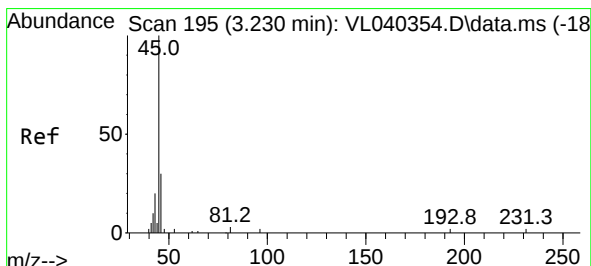
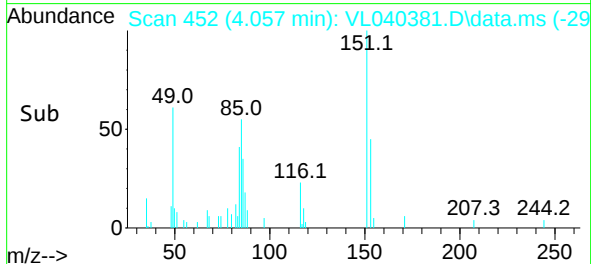
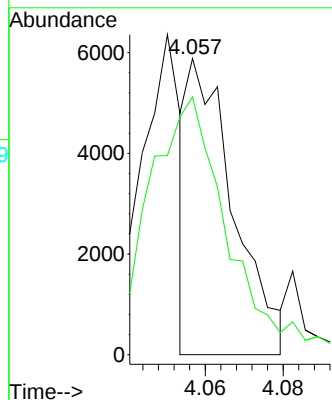
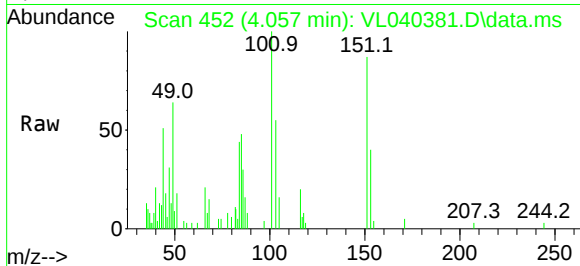
AP1-A

Tgt Ion:101 Resp: 4807

Ion Ratio Lower Upper

101 100

151 155.9 54.7 82.1#



#13

Ethanol

Concen: 485.906 ppbv

RT: 3.221 min Scan# 192

Delta R.T. -0.009 min

Lab File: VL040381.D

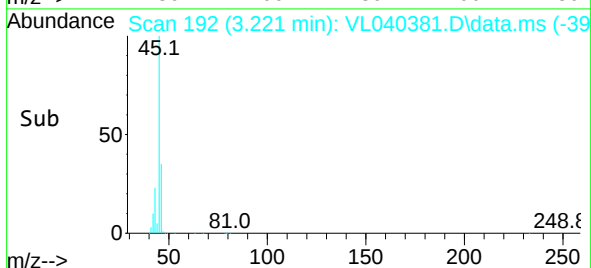
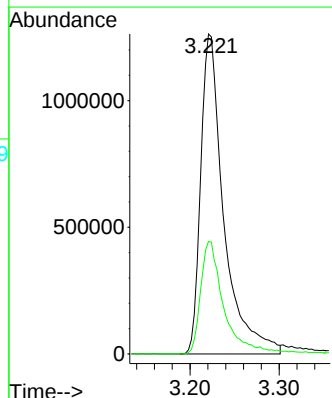
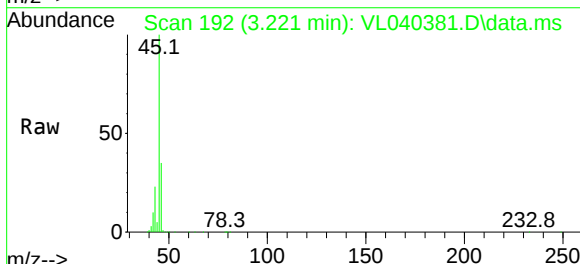
Acq: 19 Apr 2023 15:54

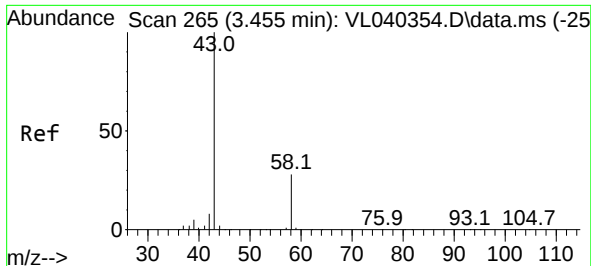
Tgt Ion: 45 Resp: 2273215

Ion Ratio Lower Upper

45 100

46 36.4 15.3 61.3

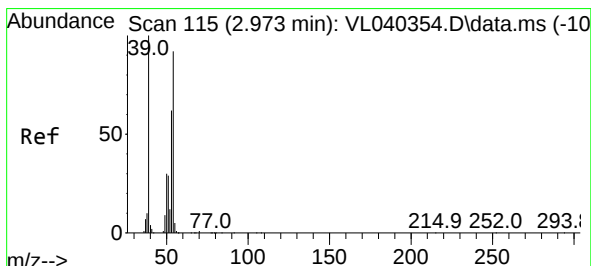
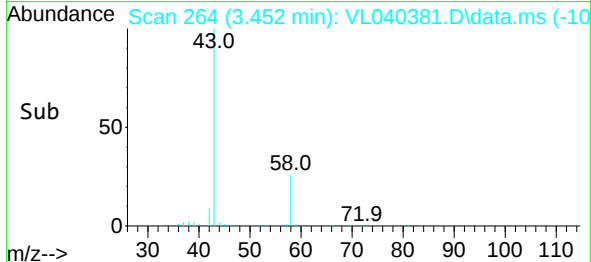
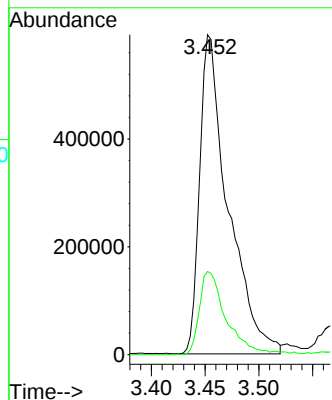
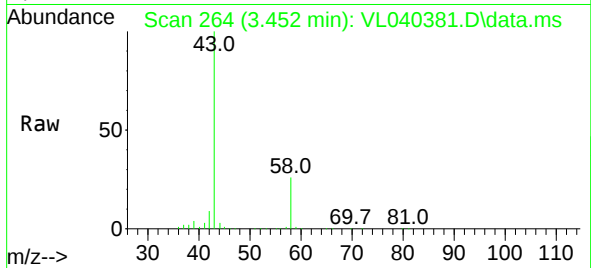




#15  
Acetone  
Concen: 7.073 ppbv  
RT: 3.452 min Scan# 210  
Delta R.T. -0.003 min  
Lab File: VL040381.D  
Acq: 19 Apr 2023 15:54

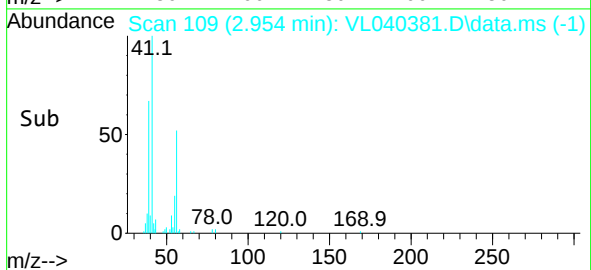
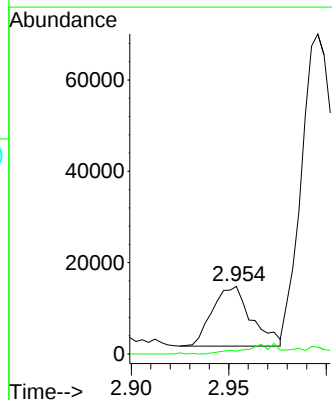
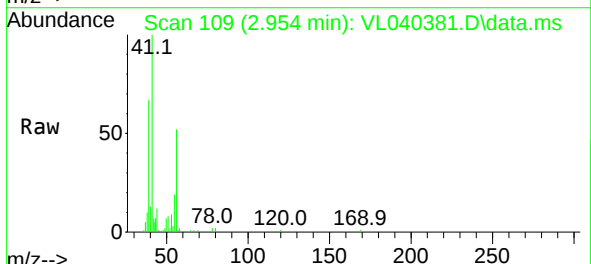
Instrument : MSVOA\_L  
ClientSampleId : AP1-A

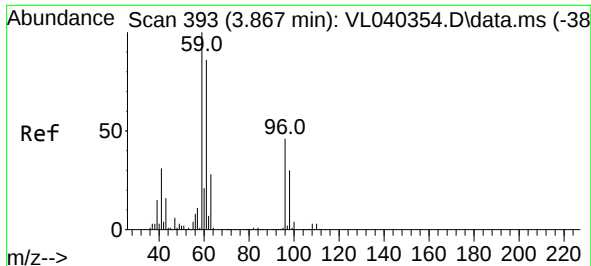
Tgt Ion: 43 Resp: 1087492  
Ion Ratio Lower Upper  
43 100  
58 24.8 22.2 33.2



#16  
1,3-Butadiene  
Concen: 0.286 ppbv  
RT: 2.954 min Scan# 109  
Delta R.T. -0.019 min  
Lab File: VL040381.D  
Acq: 19 Apr 2023 15:54

Tgt Ion: 39 Resp: 18198  
Ion Ratio Lower Upper  
39 100  
54 25.8 68.8 103.2#





#17

tert-Butyl alcohol

Concen: 0.055 ppbv

RT: 3.880 min Scan# 30

Delta R.T. 0.013 min

Lab File: VL040381.D

Acq: 19 Apr 2023 15:54

Instrument :

MSVOA\_L

ClientSampleId :

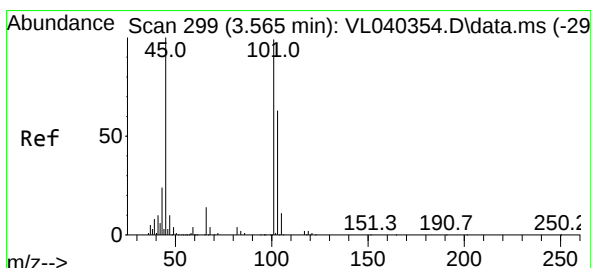
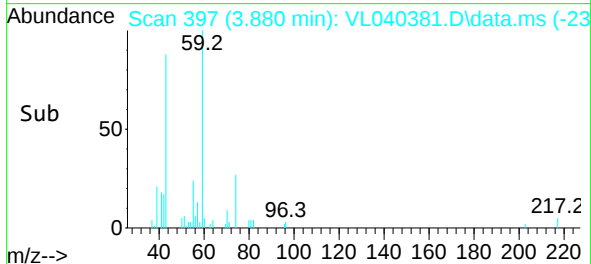
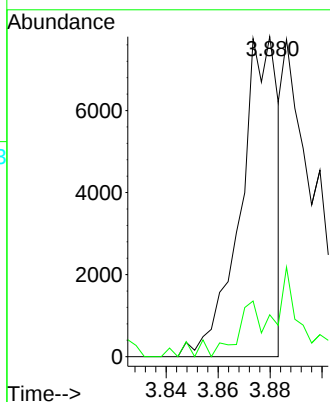
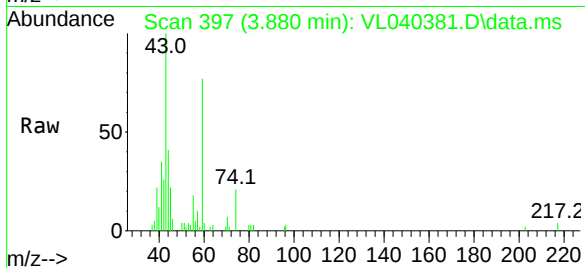
AP1-A

Tgt Ion: 59 Resp: 7819

Ion Ratio Lower Upper

59 100

57 0.0 8.5 12.7#



#19

Isopropyl Alcohol

Concen: 4.788 ppbv

RT: 3.568 min Scan# 300

Delta R.T. 0.003 min

Lab File: VL040381.D

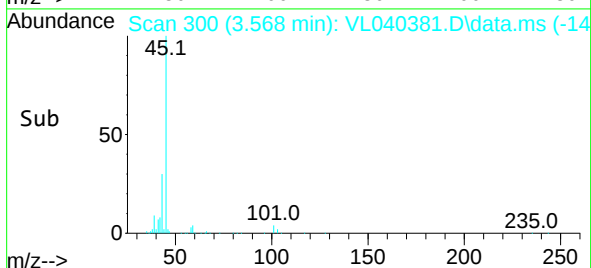
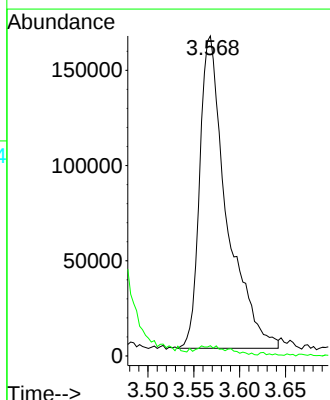
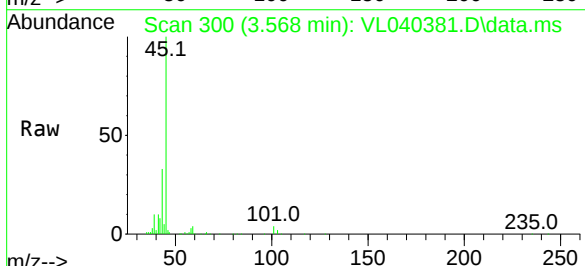
Acq: 19 Apr 2023 15:54

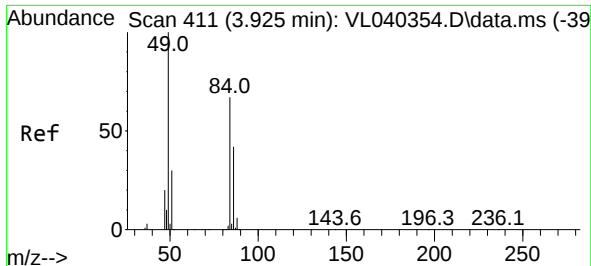
Tgt Ion: 45 Resp: 335910

Ion Ratio Lower Upper

45 100

58 3.7 2.6 4.0





#20

Methylene Chloride

Concen: 14.747 ppbv

RT: 3.918 min Scan# 409

Delta R.T. -0.007 min

Lab File: VL040381.D

Acq: 19 Apr 2023 15:54

Instrument :

MSVOA\_L

ClientSampleId :

AP1-A

Tgt Ion: 84 Resp: 905233

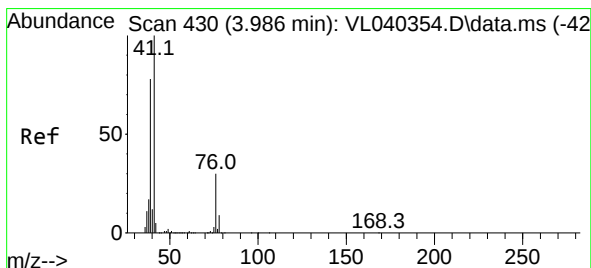
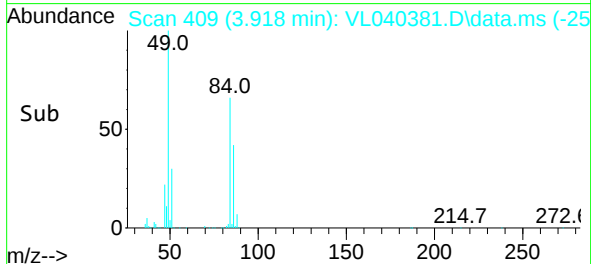
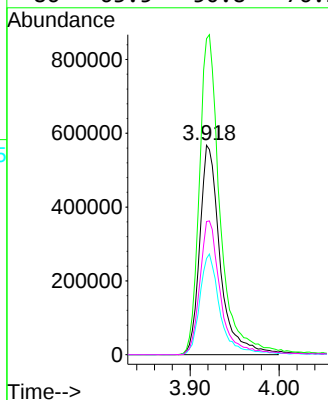
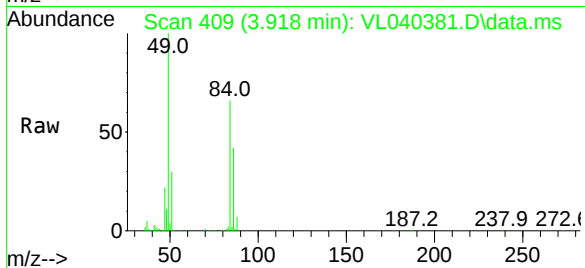
Ion Ratio Lower Upper

84 100

49 150.8 120.1 180.1

51 45.8 36.3 54.5

86 63.5 50.8 76.2



#21

Allyl Chloride

Concen: 0.316 ppbv

RT: 3.918 min Scan# 409

Delta R.T. -0.068 min

Lab File: VL040381.D

Acq: 19 Apr 2023 15:54

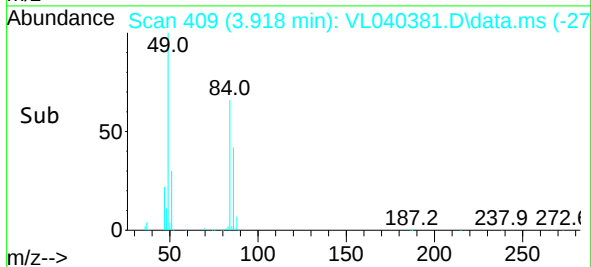
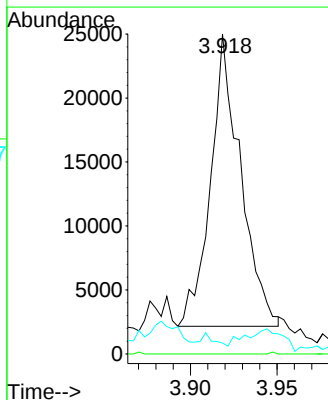
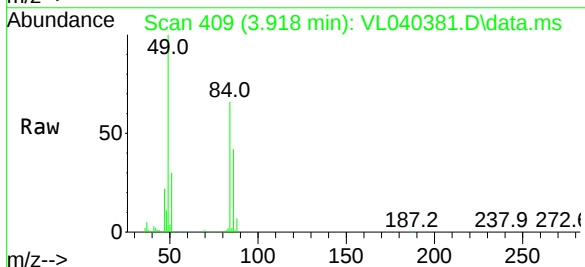
Tgt Ion: 41 Resp: 27646

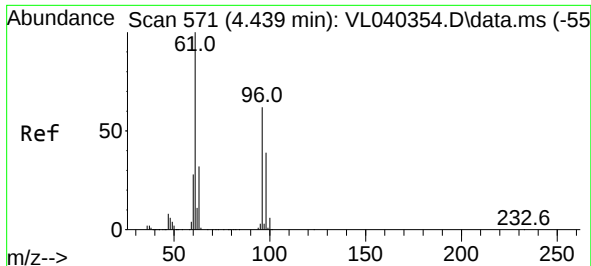
Ion Ratio Lower Upper

41 100

76 11.3 25.5 38.3#

39 0.0 64.0 96.0#

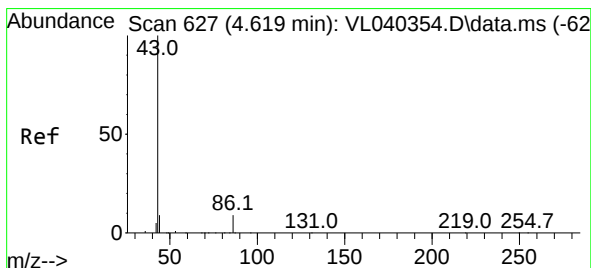
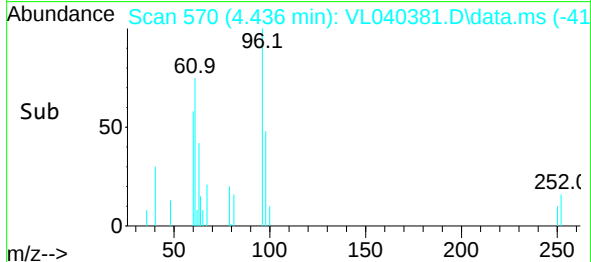
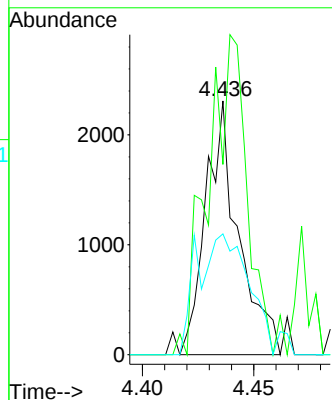
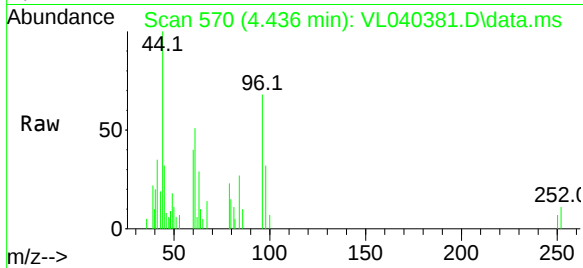




#22  
trans-1,2-Dichloroethene  
Concen: 0.038 ppbv  
RT: 4.436 min Scan# 571  
Delta R.T. -0.003 min  
Lab File: VL040381.D  
Acq: 19 Apr 2023 15:54

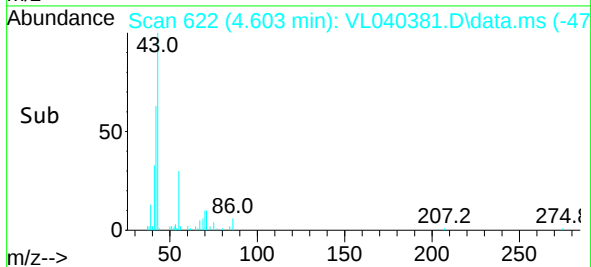
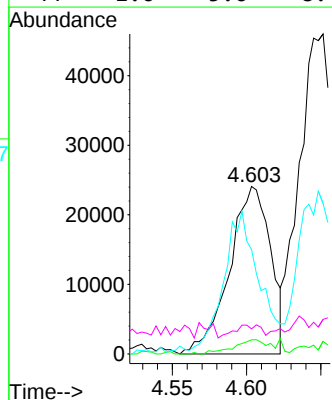
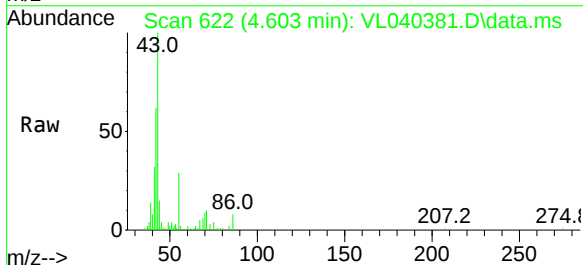
Instrument :  
MSVOA\_L  
ClientSampleId :  
AP1-A

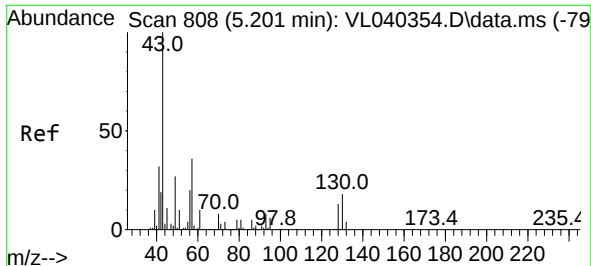
Tgt Ion: 96 Resp: 2361  
Ion Ratio Lower Upper  
96 100  
61 66.8 129.4 194.2#  
98 47.6 51.0 76.4#



#23  
Vinyl Acetate  
Concen: 1.184 ppbv  
RT: 4.603 min Scan# 622  
Delta R.T. -0.016 min  
Lab File: VL040381.D  
Acq: 19 Apr 2023 15:54

Tgt Ion: 43 Resp: 46332  
Ion Ratio Lower Upper  
43 100  
86 8.5 6.0 9.0  
42 57.6 6.4 9.6#  
44 1.6 5.6 8.4#





#25

Ethyl Acetate

Concen: 4.433 ppbv

RT: 5.205 min Scan# 808

Delta R.T. 0.004 min

Lab File: VL040381.D

Acq: 19 Apr 2023 15:54

Instrument :

MSVOA\_L

ClientSampleId :

AP1-A

Tgt Ion: 43 Resp: 1146866

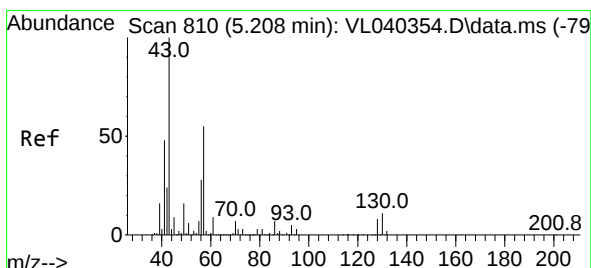
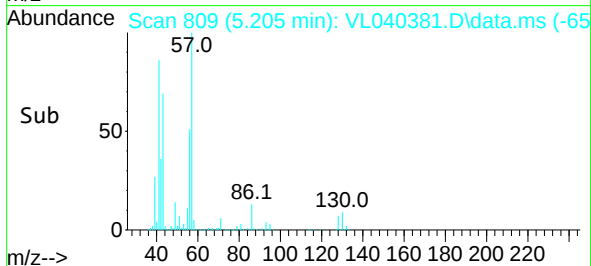
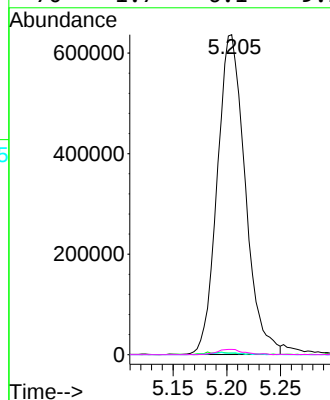
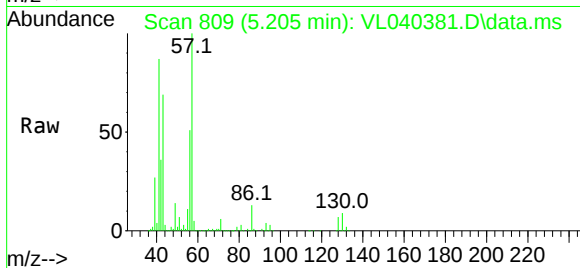
Ion Ratio Lower Upper

43 100

45 1.1 8.5 12.7#

61 0.7 8.5 12.7#

70 1.7 6.1 9.1#



#26

Hexane

Concen: 15.295 ppbv

RT: 5.201 min Scan# 808

Delta R.T. -0.007 min

Lab File: VL040381.D

Acq: 19 Apr 2023 15:54

Tgt Ion: 57 Resp: 1668261

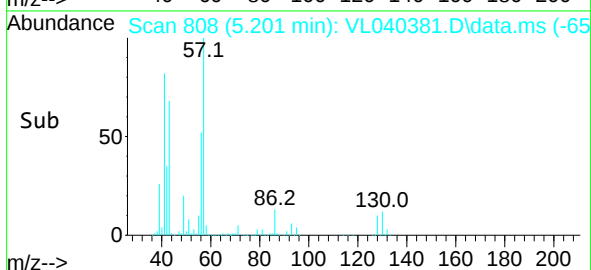
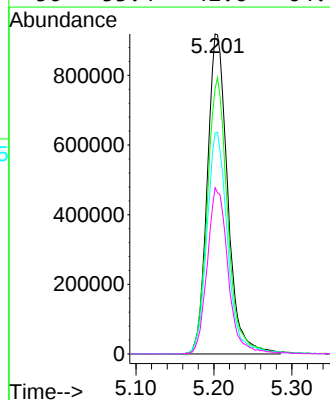
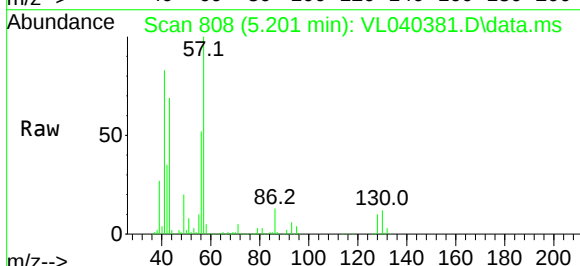
Ion Ratio Lower Upper

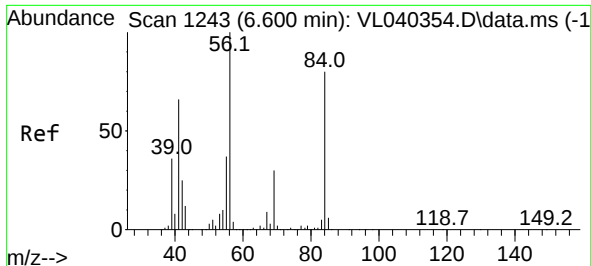
57 100

41 87.1 74.8 112.2

43 70.6 192.7 289.1#

56 53.4 42.6 64.0

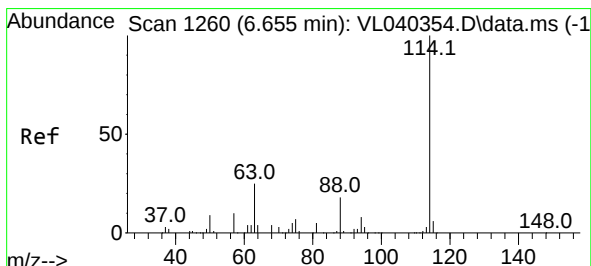
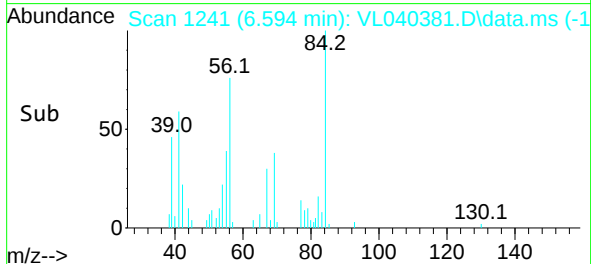
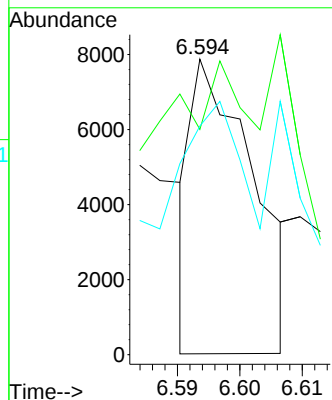
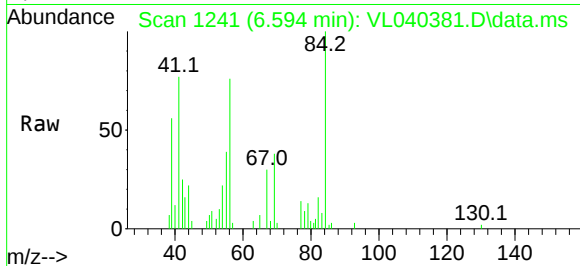




#30  
Cyclohexane  
Concen: 0.064 ppbv  
RT: 6.594 min Scan# 11  
Delta R.T. -0.006 min  
Lab File: VL040381.D  
Acq: 19 Apr 2023 15:54

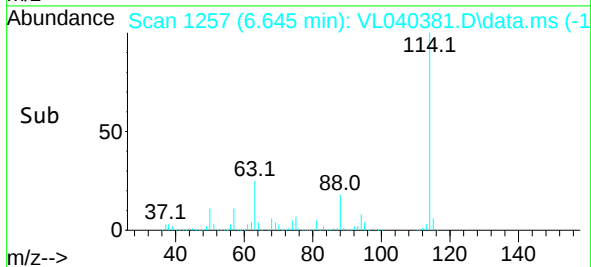
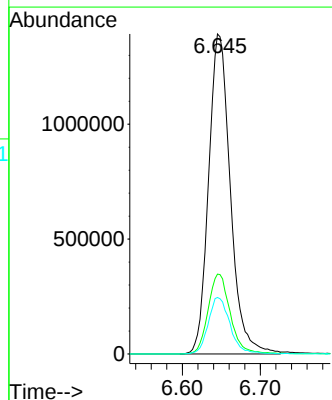
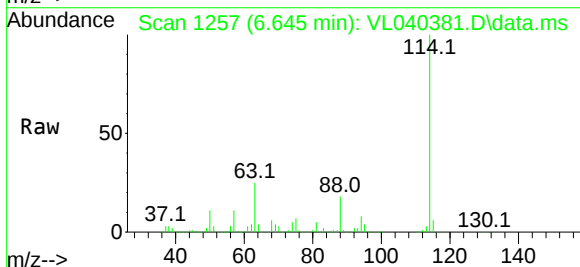
Instrument :  
MSVOA\_L  
ClientSampleId :  
AP1-A

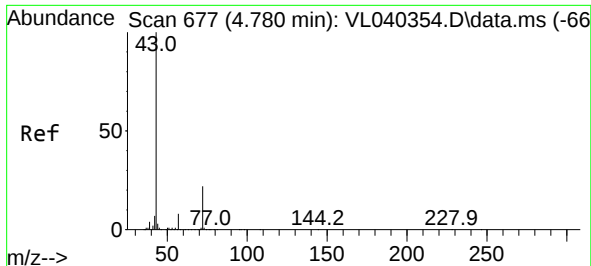
Tgt Ion: 84 Resp: 5397  
Ion Ratio Lower Upper  
84 100  
56 280.0 107.0 160.6#  
41 0.0 66.7 100.1#



#33  
1,4-Difluorobenzene  
Concen: 10.000 ppbv  
RT: 6.645 min Scan# 1257  
Delta R.T. -0.010 min  
Lab File: VL040381.D  
Acq: 19 Apr 2023 15:54

Tgt Ion: 114 Resp: 2700435  
Ion Ratio Lower Upper  
114 100  
63 25.5 21.4 32.0  
88 17.9 14.6 22.0

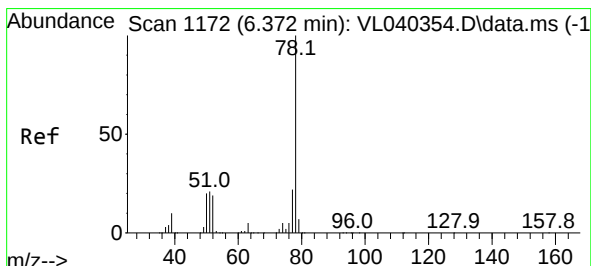
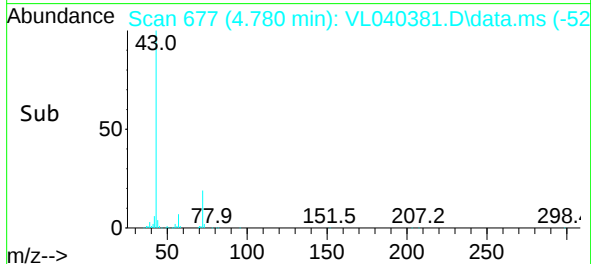
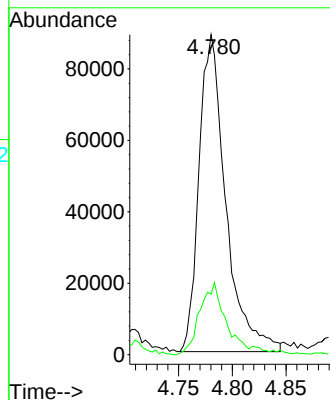
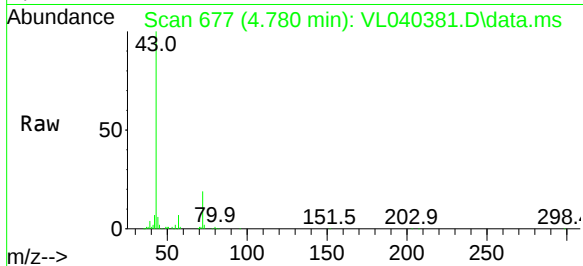




#34  
2-Butanone  
Concen: 1.057 ppbv  
RT: 4.780 min Scan# 61  
Delta R.T. 0.000 min  
Lab File: VL040381.D  
Acq: 19 Apr 2023 15:54

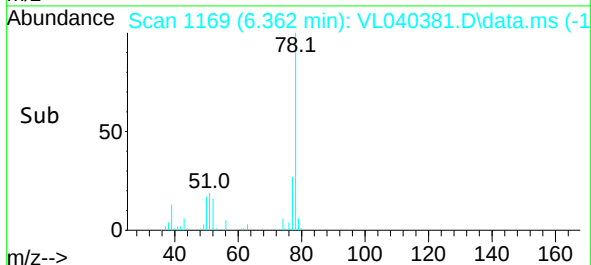
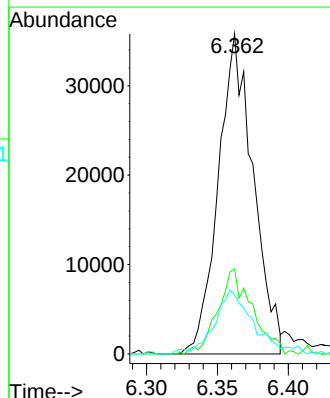
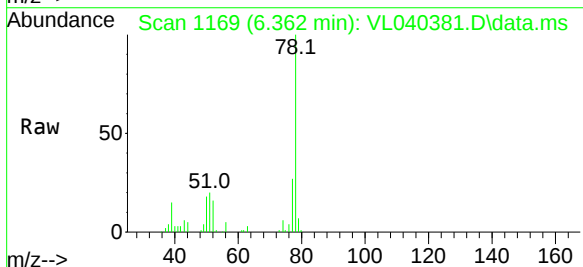
Instrument :  
MSVOA\_L  
ClientSampleId :  
AP1-A

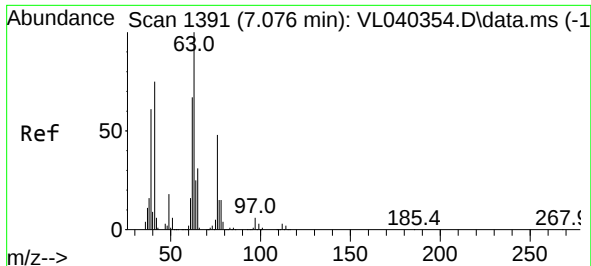
Tgt Ion: 43 Resp: 153862  
Ion Ratio Lower Upper  
43 100  
72 24.4 18.4 27.6



#36  
Benzene  
Concen: 0.278 ppbv  
RT: 6.362 min Scan# 1169  
Delta R.T. -0.010 min  
Lab File: VL040381.D  
Acq: 19 Apr 2023 15:54

Tgt Ion: 78 Resp: 61294  
Ion Ratio Lower Upper  
78 100  
77 26.0 17.8 26.8  
50 17.0 15.6 23.4





#39

1,2-Dichloropropane

Concen: 7.854 ppbv

RT: 6.645 min Scan# 1

Delta R.T. -0.431 min

Lab File: VL040381.D

Acq: 19 Apr 2023 15:54

Instrument :

MSVOA\_L

ClientSampleId :

AP1-A

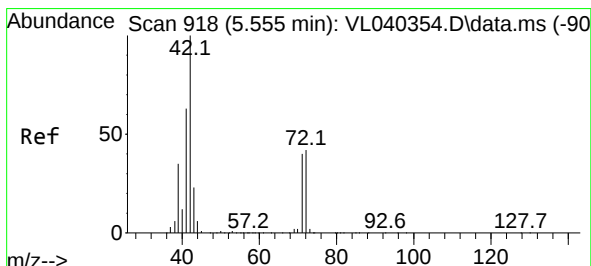
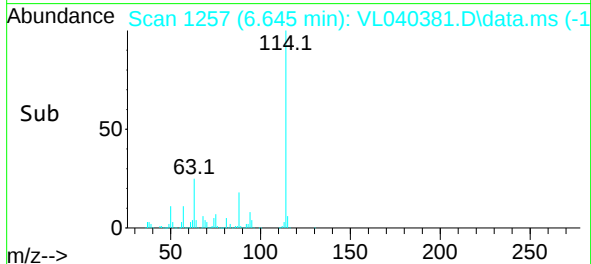
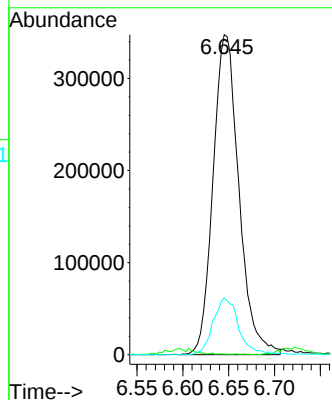
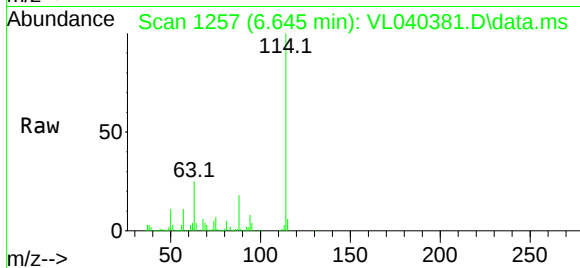
Tgt Ion: 63 Resp: 680842

Ion Ratio Lower Upper

63 100

41 0.0 59.6 89.4#

62 17.8 53.9 80.9#



#41

Tetrahydrofuran

Concen: 7.564 ppbv

RT: 5.205 min Scan# 809

Delta R.T. -0.350 min

Lab File: VL040381.D

Acq: 19 Apr 2023 15:54

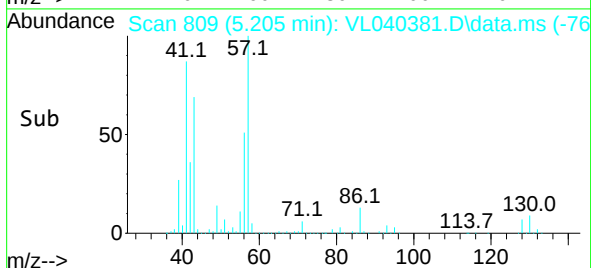
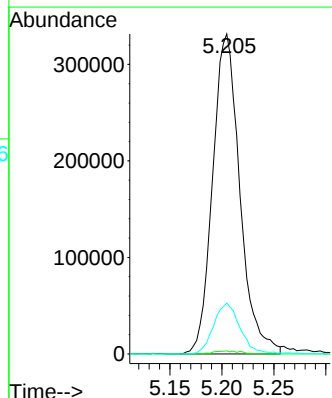
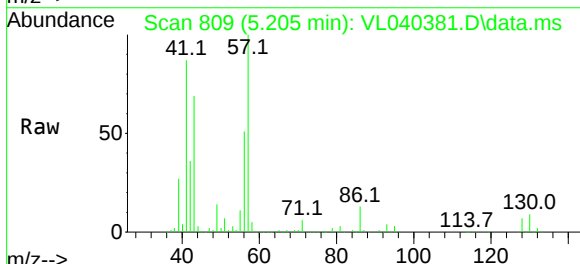
Tgt Ion: 42 Resp: 603231

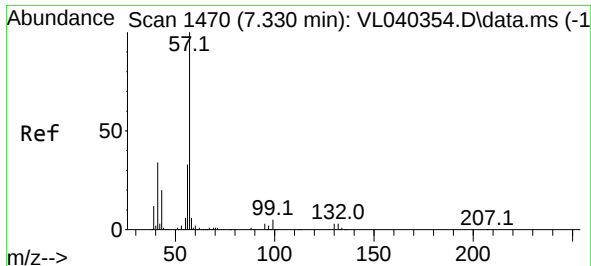
Ion Ratio Lower Upper

42 100

72 0.9 33.7 50.5#

71 15.6 32.2 48.2#

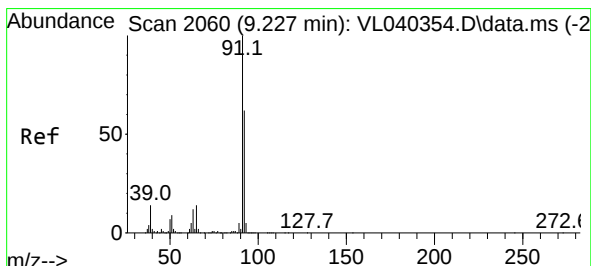
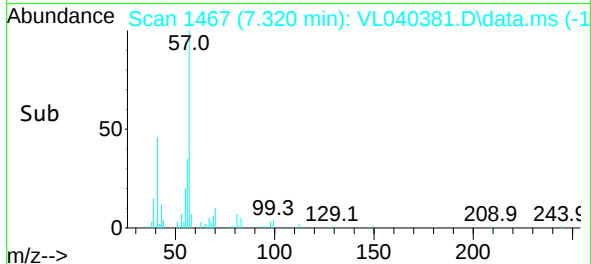
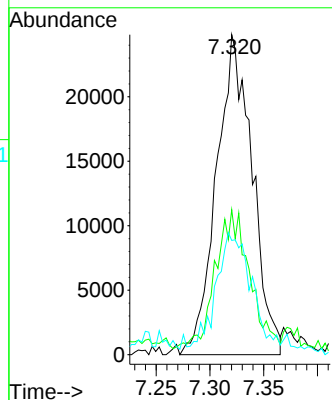
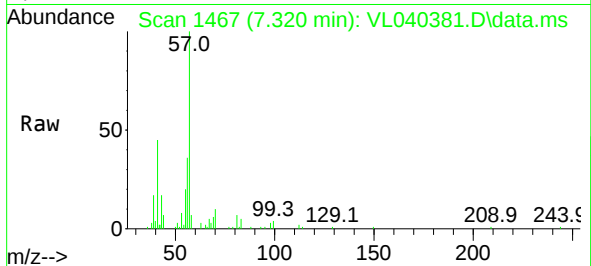




#44  
2,2,4-Trimethylpentane  
Concen: 0.156 ppbv  
RT: 7.320 min Scan# 1470  
Delta R.T. -0.010 min  
Lab File: VL040381.D  
Acq: 19 Apr 2023 15:54

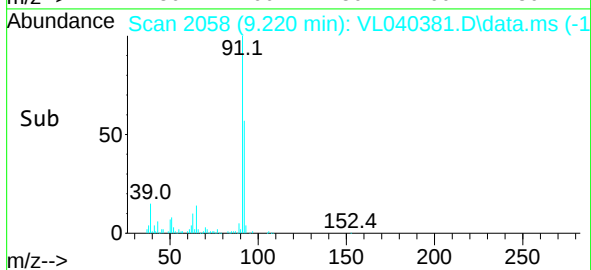
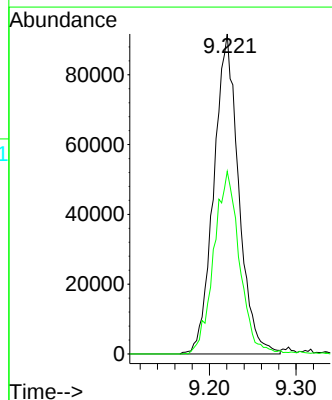
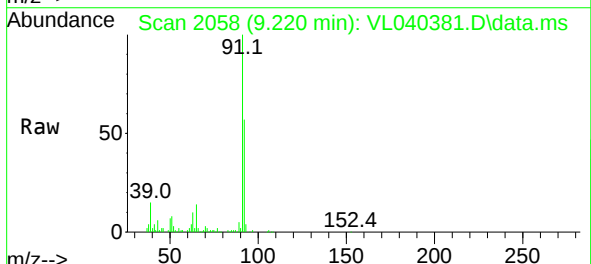
Instrument :  
MSVOA\_1  
ClientSampleId :  
AP1-A

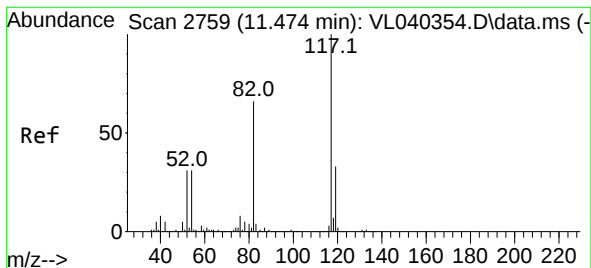
Tgt Ion: 57 Resp: 57282  
Ion Ratio Lower Upper  
57 100  
41 50.6 26.9 40.3#  
56 42.9 25.1 37.7#



#53  
Toluene  
Concen: 0.784 ppbv  
RT: 9.220 min Scan# 2058  
Delta R.T. -0.007 min  
Lab File: VL040381.D  
Acq: 19 Apr 2023 15:54

Tgt Ion: 91 Resp: 183168  
Ion Ratio Lower Upper  
91 100  
92 59.5 48.9 73.3





#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 11.465 min Scan# 21

Delta R.T. -0.009 min

Lab File: VL040381.D

Acq: 19 Apr 2023 15:54

Instrument :

MSVOA\_L

ClientSampleId :

AP1-A

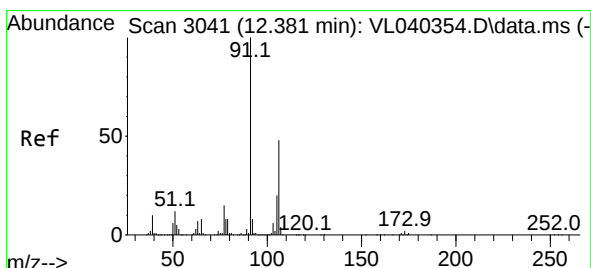
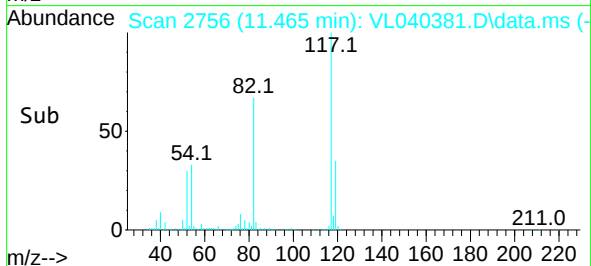
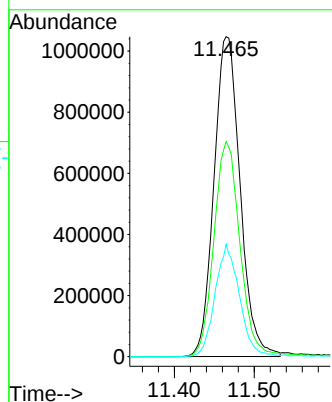
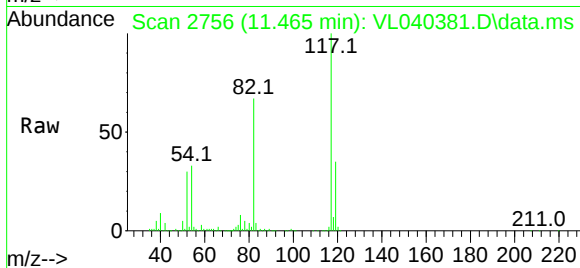
Tgt Ion:117 Resp: 2371301

Ion Ratio Lower Upper

117 100

82 67.5 52.5 78.7

119 33.2 24.3 36.5



#59

m/p-Xylene

Concen: 0.055 ppbv

RT: 12.378 min Scan# 3040

Delta R.T. -0.003 min

Lab File: VL040381.D

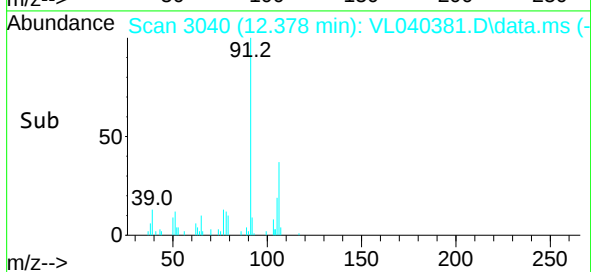
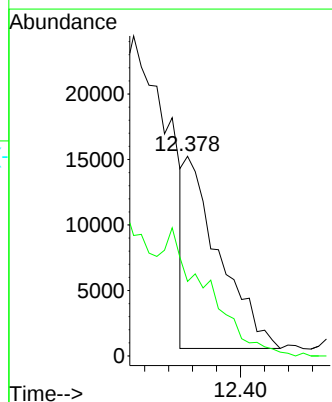
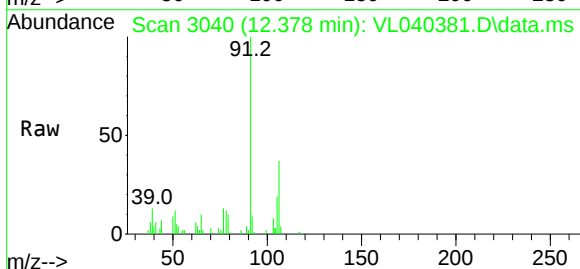
Acq: 19 Apr 2023 15:54

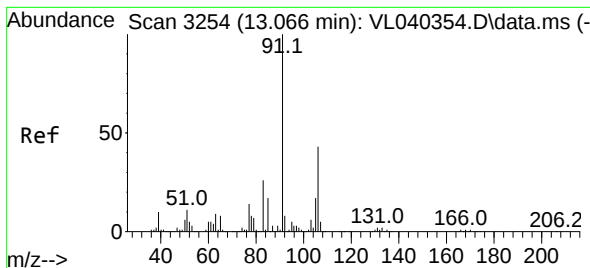
Tgt Ion: 91 Resp: 14729

Ion Ratio Lower Upper

91 100

106 0.0 34.7 52.1#





#60

o-Xylene

Concen: 0.155 ppbv

RT: 13.060 min Scan# 31

Delta R.T. -0.006 min

Lab File: VL040381.D

Acq: 19 Apr 2023 15:54

Instrument :

MSVOA\_L

ClientSampleId :

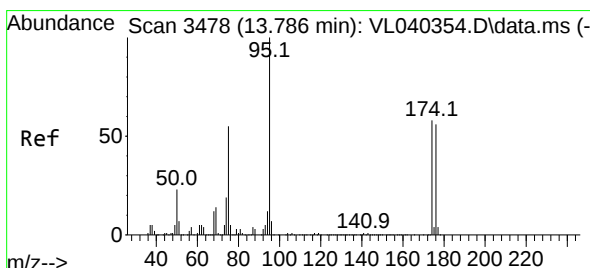
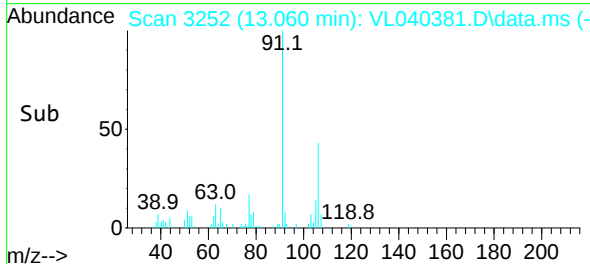
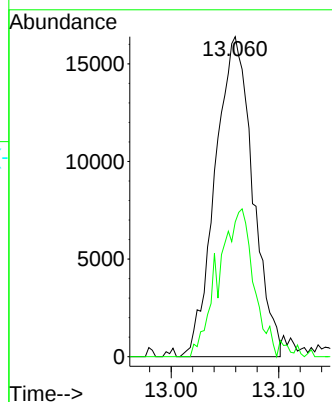
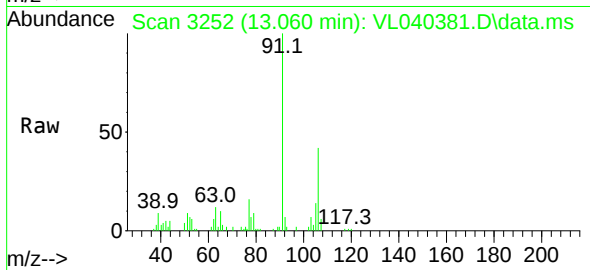
AP1-A

Tgt Ion: 91 Resp: 39834

Ion Ratio Lower Upper

91 100

106 44.9 21.9 65.8



#68

1-Bromo-4-Fluorobenzene

Concen: 9.765 ppbv

RT: 13.780 min Scan# 3476

Delta R.T. -0.006 min

Lab File: VL040381.D

Acq: 19 Apr 2023 15:54

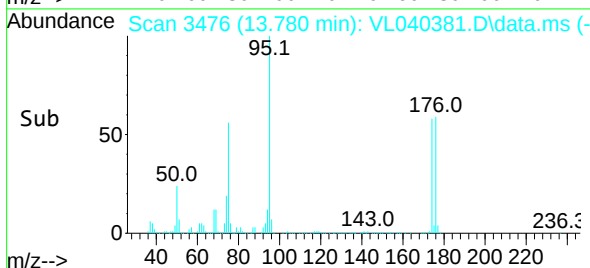
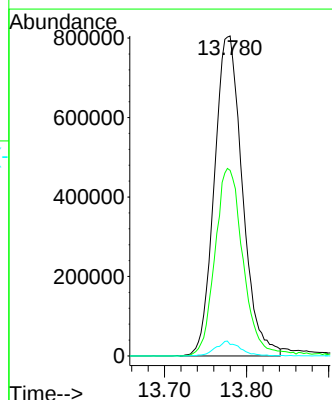
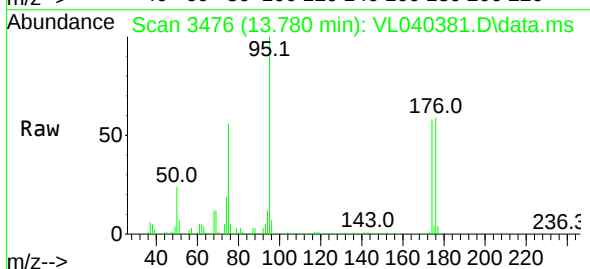
Tgt Ion: 95 Resp: 1914743

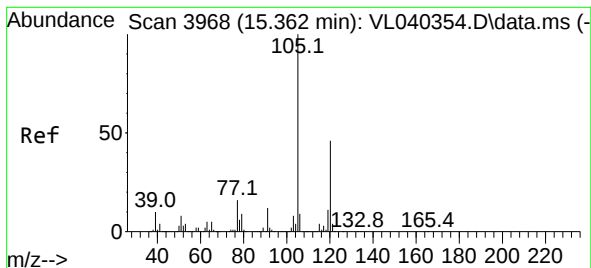
Ion Ratio Lower Upper

95 100

174 60.0 47.2 70.8

175 4.2 3.5 5.3





#73

1,3,5-Trimethylbenzene

Concen: 0.043 ppbv

RT: 15.355 min Scan# 3966

Delta R.T. -0.007 min

Lab File: VL040381.D

Acq: 19 Apr 2023 15:54

Instrument :

MSVOA\_L

ClientSampleId :

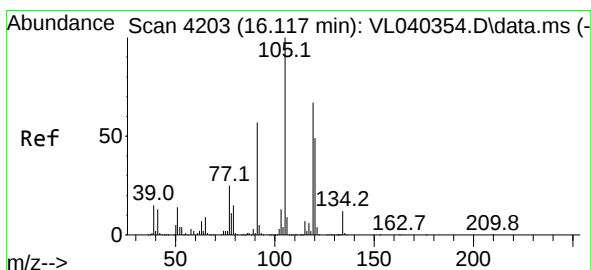
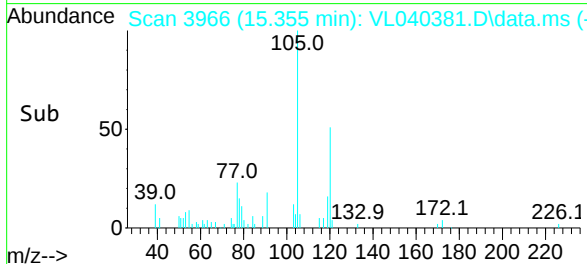
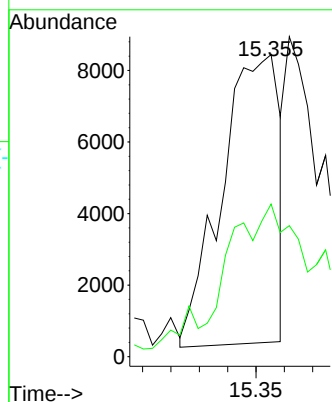
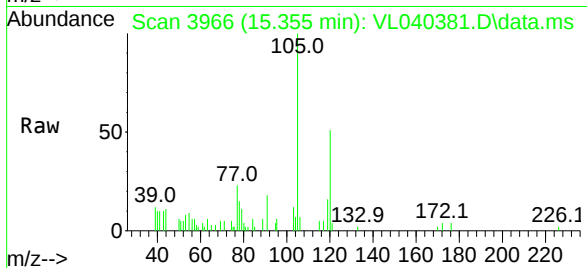
AP1-A

Tgt Ion:105 Resp: 11346

Ion Ratio Lower Upper

105 100

120 46.3 36.9 55.3



#74

1,2,4-Trimethylbenzene

Concen: 0.110 ppbv

RT: 16.108 min Scan# 4200

Delta R.T. -0.009 min

Lab File: VL040381.D

Acq: 19 Apr 2023 15:54

Tgt Ion:105 Resp: 32868

Ion Ratio Lower Upper

105 100

120 42.1 38.9 58.3

91 15.3 46.0 69.0#

77 15.8 20.0 30.0#

