

Data Path : Z:\voasrv\HPCHEM1\MSVOA\_L\Data\VL122222\  
 Data File : VL040068.D  
 Acq On : 22 Dec 2022 15:09  
 Operator : SY/MD  
 Sample : N6181-01 4X  
 Misc : 400mL/MSVOA\_L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :

Quant Time: Dec 23 06:28:55 2022  
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA\_L\methods\VL121922AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Fri Aug 26 06:05:16 2022  
 QLast Update : Tue Dec 20 04:50:21 2022  
 Response via : Initial Calibration

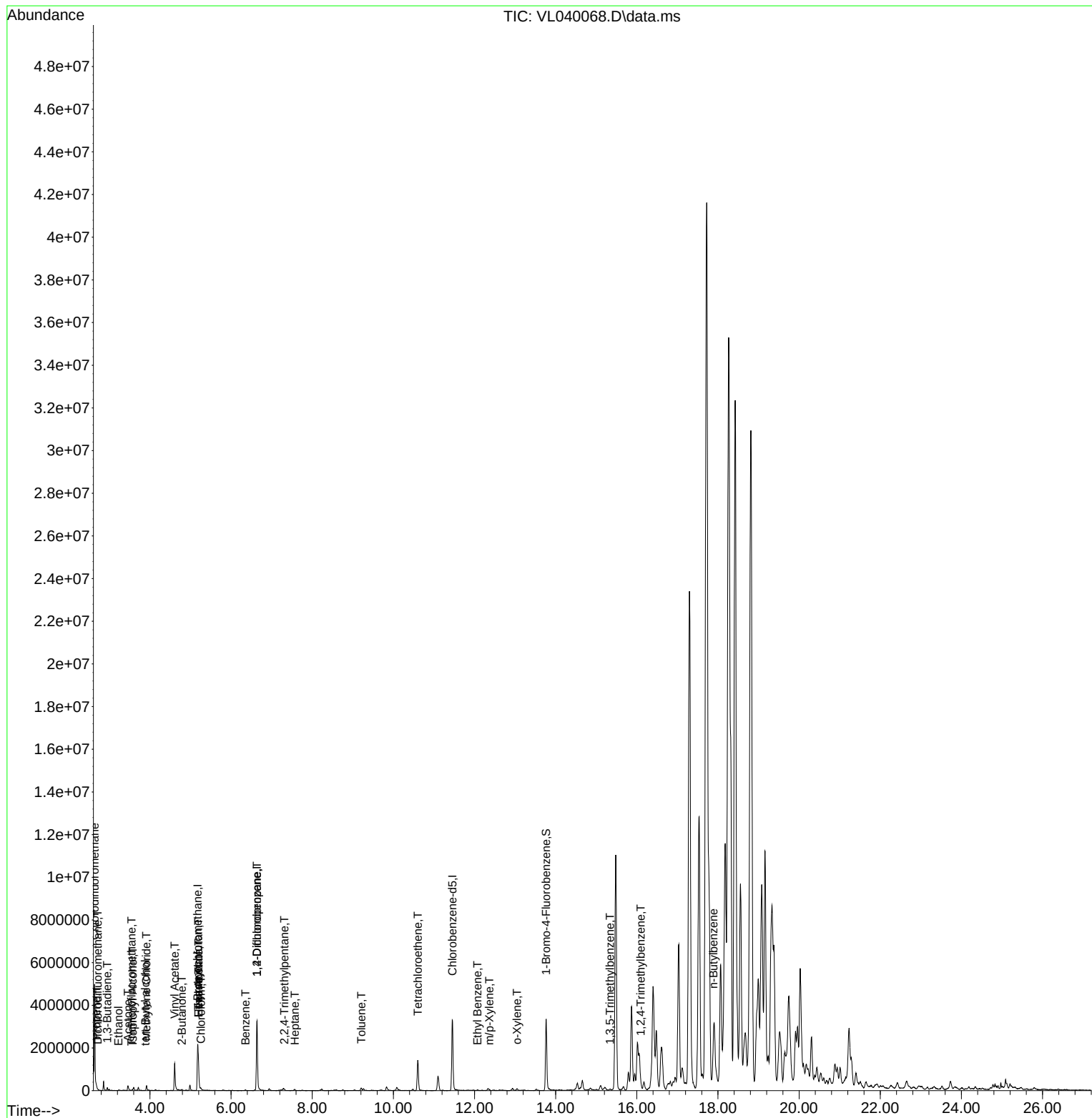
| Compound                    | R.T.   | QIon  | Response | Conc     | Units  | Dev(Min) |
|-----------------------------|--------|-------|----------|----------|--------|----------|
| Internal Standards          |        |       |          |          |        |          |
| 1) Bromochloromethane       | 5.176  | 49    | 890519   | 10.000   | ppbv   | 0.00     |
| 33) 1,4-Difluorobenzene     | 6.639  | 114   | 2445500  | 10.000   | ppbv   | 0.00     |
| 55) Chlorobenzene-d5        | 11.452 | 117   | 2135989  | 10.000   | ppbv   | 0.00     |
| System Monitoring Compounds |        |       |          |          |        |          |
| 68) 1-Bromo-4-Fluorobenzene | 13.764 | 95    | 1689921  | 10.357   | ppbv   | 0.00     |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =      | 103.600% |
| Target Compounds            |        |       |          |          |        | Qvalue   |
| 2) Dichlorodifluoromethane  | 2.716  | 85    | 15789    | 0.095    | ppbv   | 99       |
| 3) Chlorodifluoromethane    | 2.636  | 51    | 2491390  | 18.962   | ppbv # | 58       |
| 9) Propene                  | 2.677  | 41    | 38089    | 0.683    | ppbv   | 95       |
| 10) Heptane                 | 7.568  | 43    | 15668    | 0.115    | ppbv # | 57       |
| 11) Trichlorofluoromethane  | 3.546  | 101   | 9869     | 0.054    | ppbv   | 97       |
| 13) Ethanol                 | 3.227  | 45    | 10492    | 1.999    | ppbv # | 40       |
| 15) Acetone                 | 3.459  | 43    | 251145   | 1.823    | ppbv   | 92       |
| 16) 1,3-Butadiene           | 2.948  | 39    | 37334    | 0.623    | ppbv # | 23       |
| 17) tert-Butyl alcohol      | 3.890  | 59    | 6382     | 0.047    | ppbv # | 82       |
| 19) Isopropyl Alcohol       | 3.578  | 45    | 50465    | 0.743    | ppbv # | 86       |
| 20) Methylene Chloride      | 3.915  | 84    | 77661    | 1.326    | ppbv   | 96       |
| 23) Vinyl Acetate           | 4.610  | 43    | 1781506  | 40.791   | ppbv   | 98       |
| 25) Ethyl Acetate           | 5.198  | 43    | 249435   | 1.046    | ppbv # | 77       |
| 26) Hexane                  | 5.198  | 57    | 351721   | 3.508    | ppbv # | 32       |
| 29) Chloroform              | 5.256  | 83    | 42575    | 0.278    | ppbv # | 83       |
| 34) 2-Butanone              | 4.790  | 43    | 36494    | 0.275    | ppbv # | 87       |
| 36) Benzene                 | 6.353  | 78    | 18485    | 0.085    | ppbv # | 84       |
| 39) 1,2-Dichloropropane     | 6.639  | 63    | 620733   | 7.582    | ppbv # | 23       |
| 41) Tetrahydrofuran         | 5.192  | 42    | 150859   | 1.822    | ppbv # | 47       |
| 44) 2,2,4-Trimethylpentane  | 7.314  | 57    | 43175    | 0.120    | ppbv # | 1        |
| 52) Tetrachloroethene       | 10.603 | 164   | 328255   | 4.421    | ppbv   | 97       |
| 53) Toluene                 | 9.211  | 91    | 43678    | 0.181    | ppbv # | 38       |
| 58) Ethyl Benzene           | 12.069 | 91    | 11309    | 0.037    | ppbv   | 92       |
| 59) m/p-Xylene              | 12.365 | 91    | 10872    | 0.041    | ppbv # | 32       |
| 60) o-Xylene                | 13.047 | 91    | 62442    | 0.247    | ppbv   | 97       |
| 70) n-Butylbenzene          | 17.889 | 91    | 17252    | 0.046    | ppbv # | 55       |
| 73) 1,3,5-Trimethylbenzene  | 15.339 | 105   | 25733    | 0.101    | ppbv   | 90       |
| 74) 1,2,4-Trimethylbenzene  | 16.098 | 105   | 191273   | 0.684    | ppbv # | 64       |

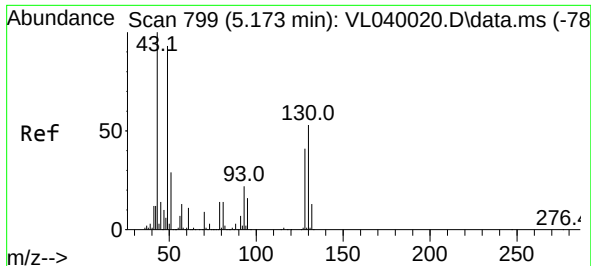
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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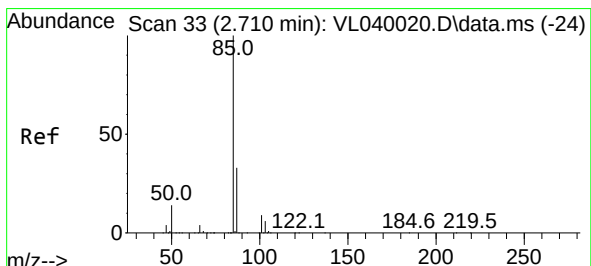
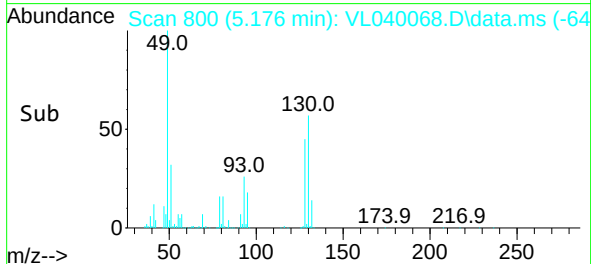
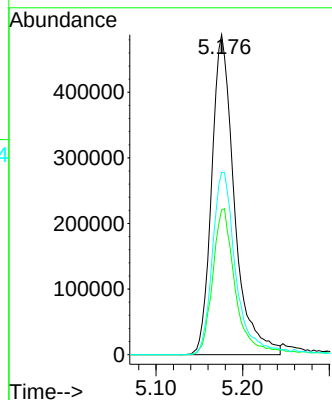
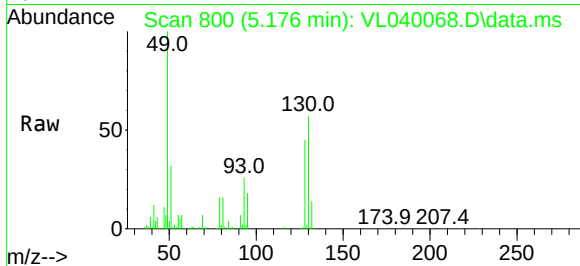




#1  
 Bromochloromethane  
 Concen: 10.000 ppbv  
 RT: 5.176 min Scan# 80  
 Delta R.T. 0.003 min  
 Lab File: VL040068.D  
 Acq: 22 Dec 2022 15:09

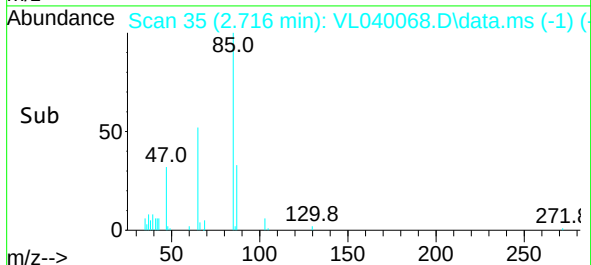
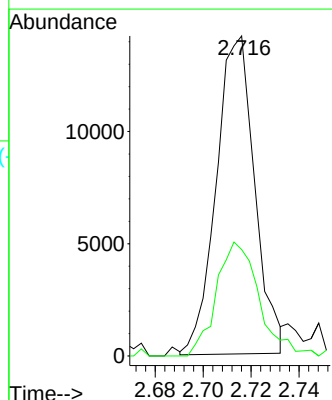
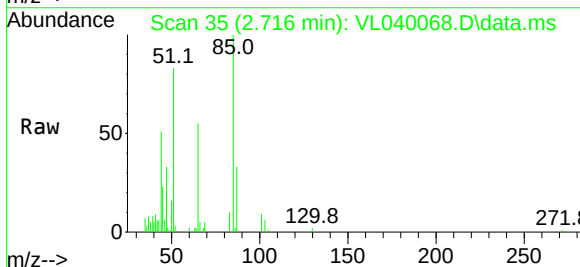
Instrument :  
 MSVOA\_L  
 ClientSampleId :

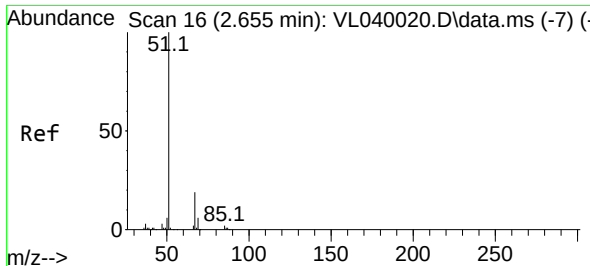
Tgt Ion: 49 Resp: 890519  
 Ion Ratio Lower Upper  
 49 100  
 128 47.0 22.4 67.3  
 130 61.0 28.9 86.8



#2  
 Dichlorodifluoromethane  
 Concen: 0.095 ppbv  
 RT: 2.716 min Scan# 35  
 Delta R.T. 0.006 min  
 Lab File: VL040068.D  
 Acq: 22 Dec 2022 15:09

Tgt Ion: 85 Resp: 15789  
 Ion Ratio Lower Upper  
 85 100  
 87 33.7 26.6 40.0

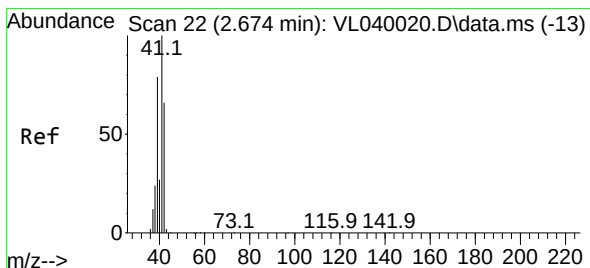
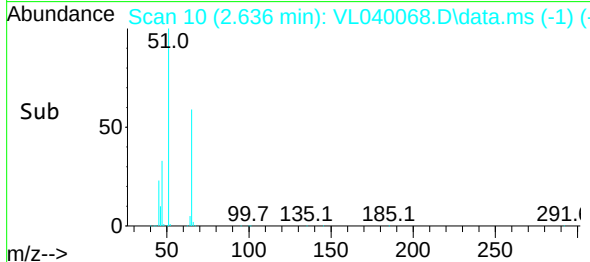
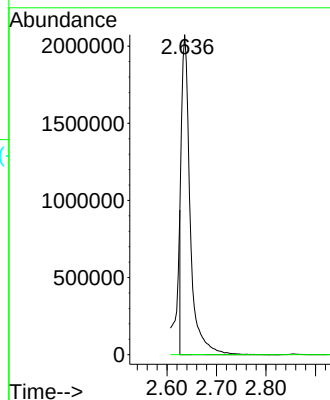
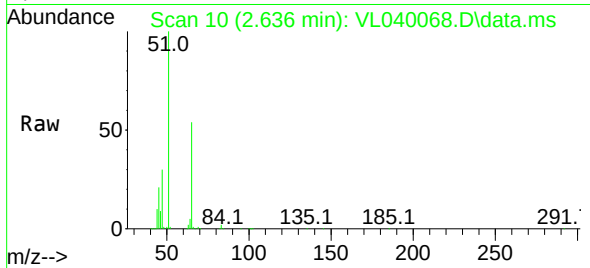




#3  
Chlorodifluoromethane  
Concen: 18.962 ppbv  
RT: 2.636 min Scan# 10  
Delta R.T. -0.019 min  
Lab File: VL040068.D  
Acq: 22 Dec 2022 15:09

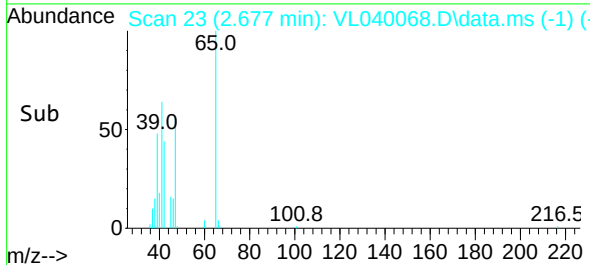
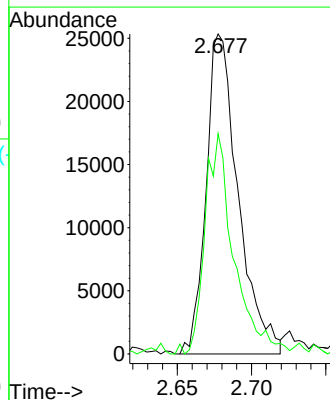
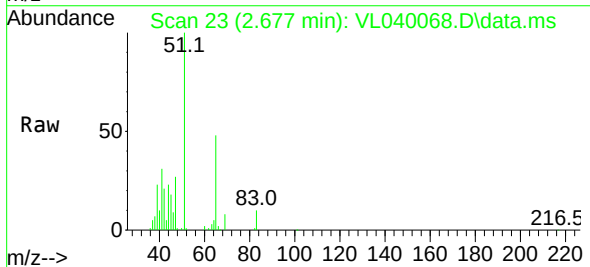
Instrument :  
MSVOA\_L  
ClientSampleId :

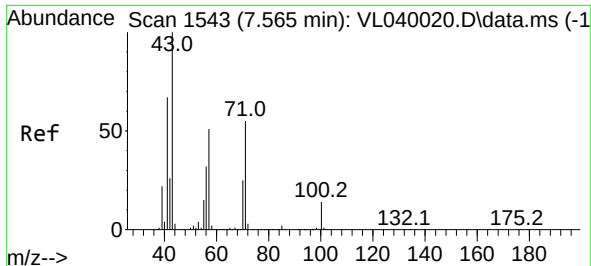
Tgt Ion: 51 Resp: 2491390  
Ion Ratio Lower Upper  
51 100  
67 0.1 15.3 22.9#



#9  
Propene  
Concen: 0.683 ppbv  
RT: 2.677 min Scan# 23  
Delta R.T. 0.003 min  
Lab File: VL040068.D  
Acq: 22 Dec 2022 15:09

Tgt Ion: 41 Resp: 38089  
Ion Ratio Lower Upper  
41 100  
42 64.4 54.8 82.2

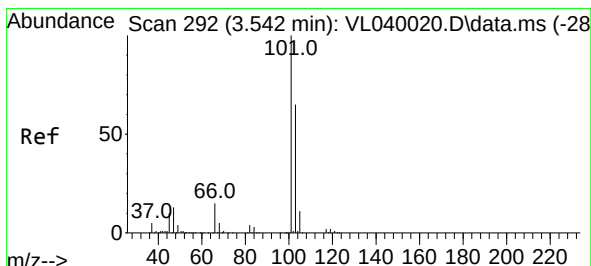
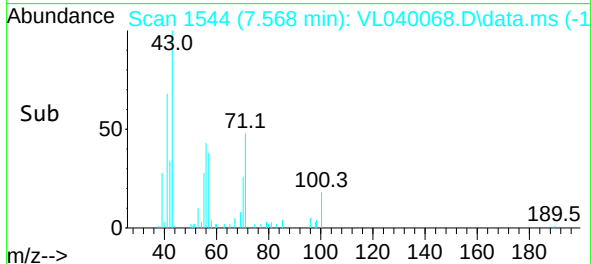
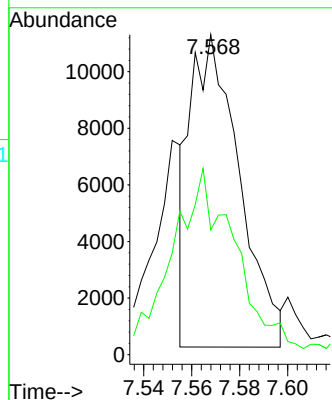
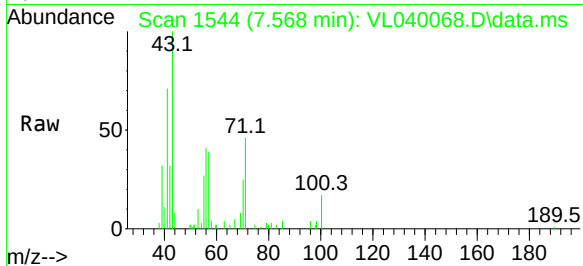




#10  
Heptane  
Concen: 0.115 ppbv  
RT: 7.568 min Scan# 11  
Delta R.T. 0.003 min  
Lab File: VL040068.D  
Acq: 22 Dec 2022 15:09

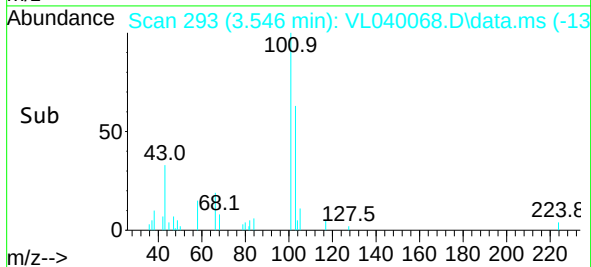
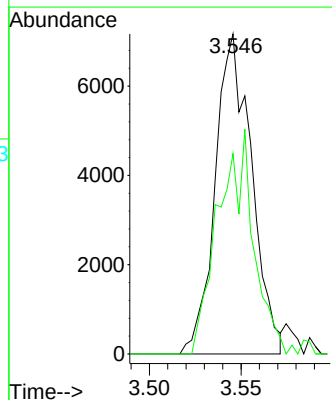
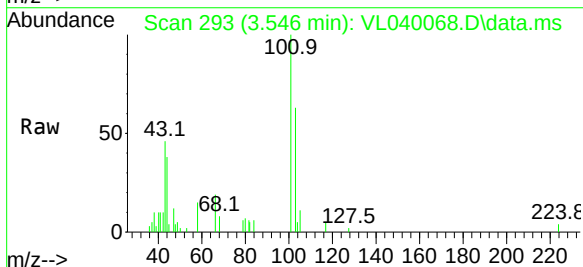
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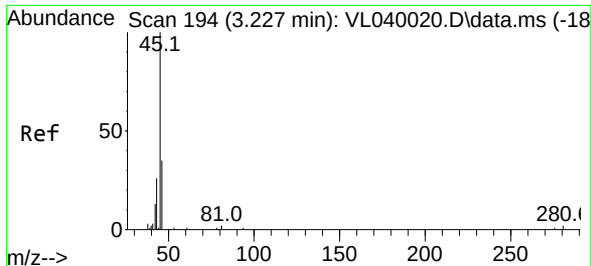
Tgt Ion: 43 Resp: 15668  
Ion Ratio Lower Upper  
43 100  
57 81.6 41.2 61.8#



#11  
Trichlorofluoromethane  
Concen: 0.054 ppbv  
RT: 3.546 min Scan# 293  
Delta R.T. 0.003 min  
Lab File: VL040068.D  
Acq: 22 Dec 2022 15:09

Tgt Ion:101 Resp: 9869  
Ion Ratio Lower Upper  
101 100  
103 62.6 51.7 77.5

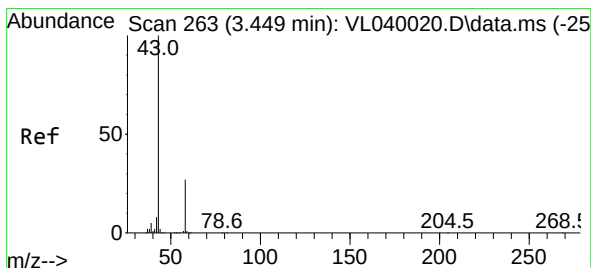
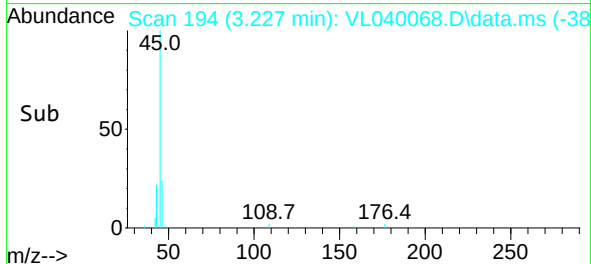
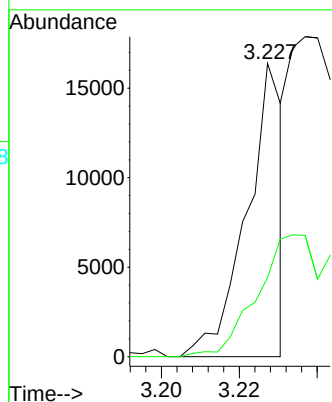
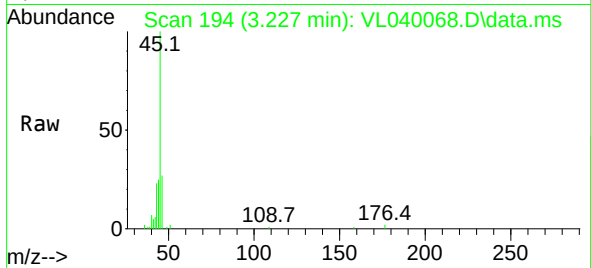




#13  
Ethanol  
Concen: 1.999 ppbv  
RT: 3.227 min Scan# 194  
Delta R.T. 0.000 min  
Lab File: VL040068.D  
Acq: 22 Dec 2022 15:09

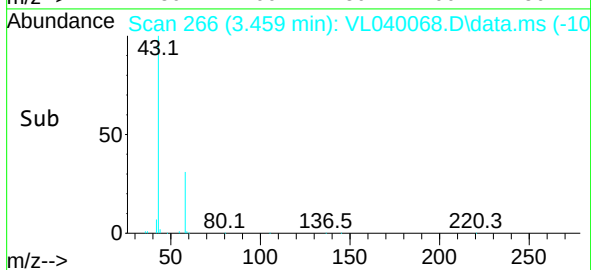
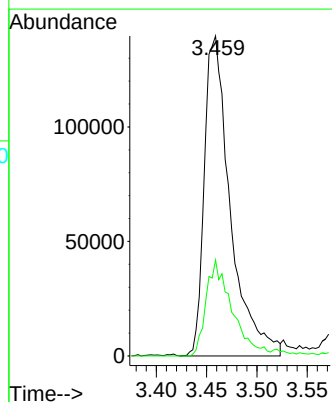
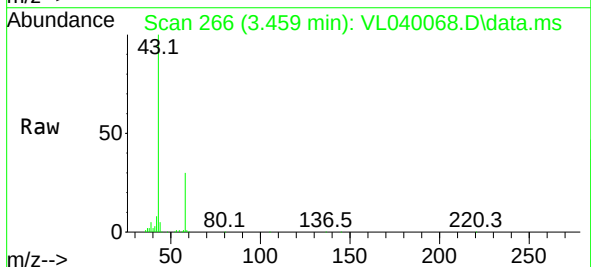
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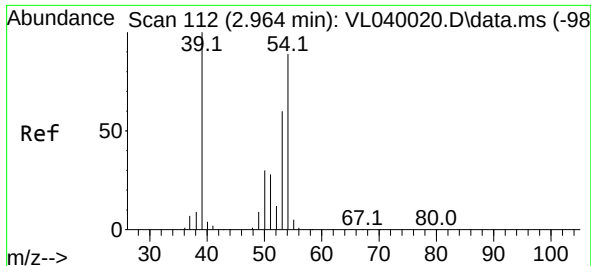
Tgt Ion: 45 Resp: 10492  
Ion Ratio Lower Upper  
45 100  
46 0.0 13.7 54.7#



#15  
Acetone  
Concen: 1.823 ppbv  
RT: 3.459 min Scan# 266  
Delta R.T. 0.010 min  
Lab File: VL040068.D  
Acq: 22 Dec 2022 15:09

Tgt Ion: 43 Resp: 251145  
Ion Ratio Lower Upper  
43 100  
58 31.4 21.8 32.8





#16

1,3-Butadiene

Concen: 0.623 ppbv

RT: 2.948 min Scan# 1

Delta R.T. -0.016 min

Lab File: VL040068.D

Acq: 22 Dec 2022 15:09

Instrument :

MSVOA\_L

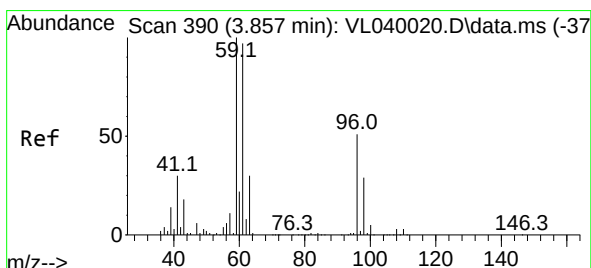
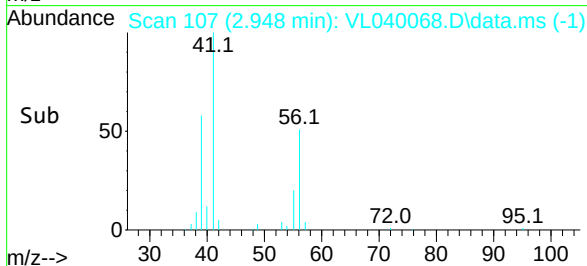
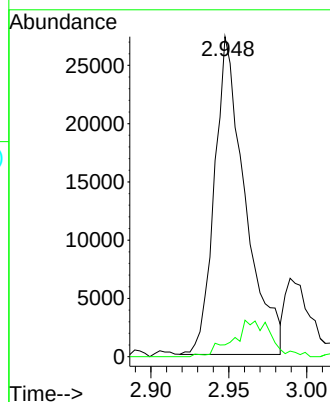
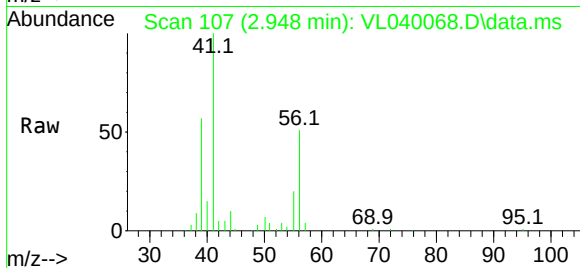
ClientSampleId :

Tgt Ion: 39 Resp: 37334

Ion Ratio Lower Upper

39 100

54 14.6 68.3 102.5#



#17

tert-Butyl alcohol

Concen: 0.047 ppbv

RT: 3.890 min Scan# 400

Delta R.T. 0.032 min

Lab File: VL040068.D

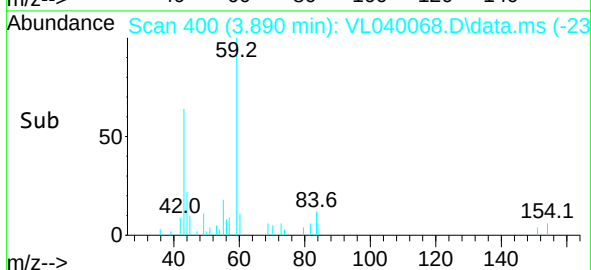
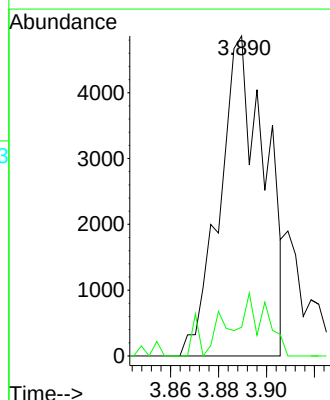
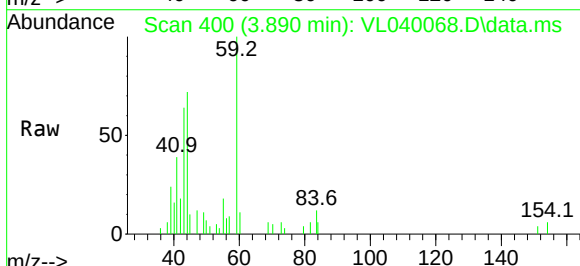
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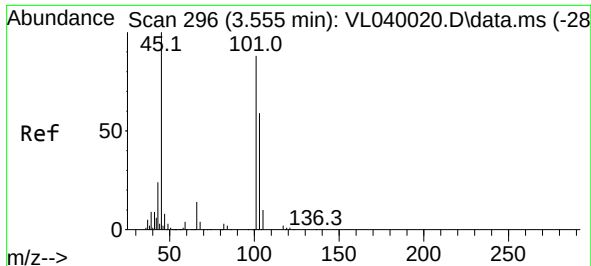
Tgt Ion: 59 Resp: 6382

Ion Ratio Lower Upper

59 100

57 17.3 8.4 12.6#

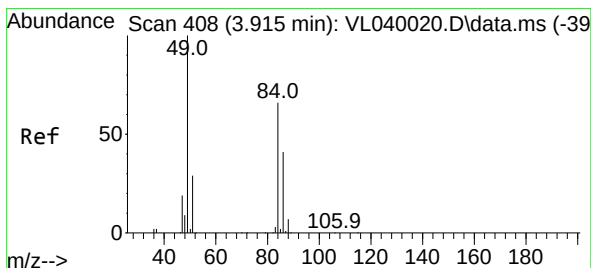
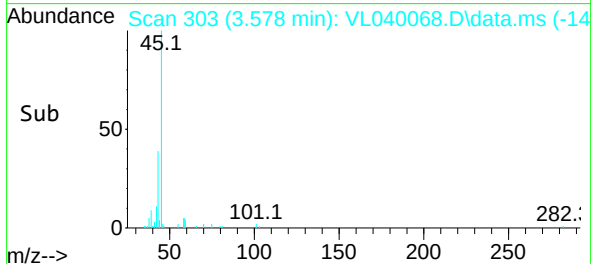
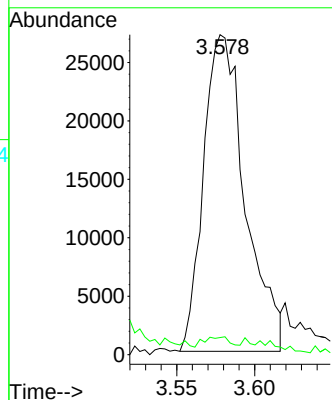
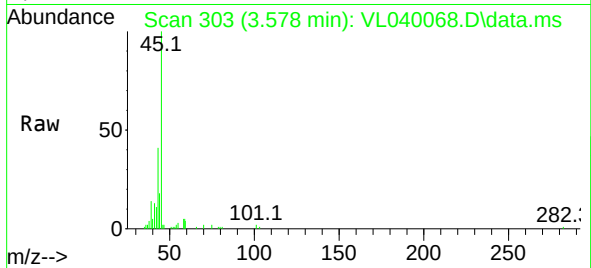




#19  
Isopropyl Alcohol  
Concen: 0.743 ppbv  
RT: 3.578 min Scan# 303  
Delta R.T. 0.022 min  
Lab File: VL040068.D  
Acq: 22 Dec 2022 15:09

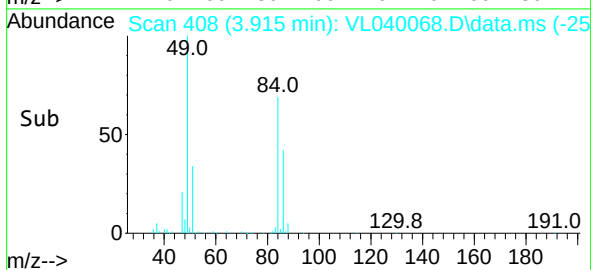
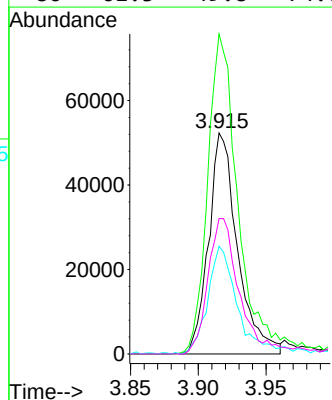
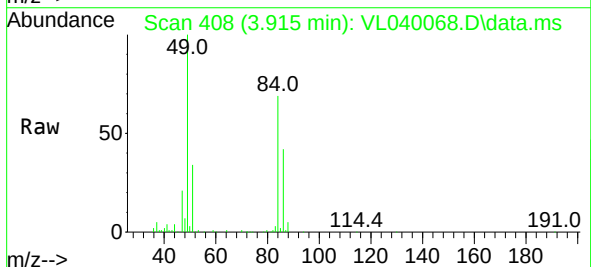
Instrument :  
MSVOA\_L  
ClientSampleId :

Tgt Ion: 45 Resp: 50465  
Ion Ratio Lower Upper  
45 100  
58 7.0 1.7 2.5#

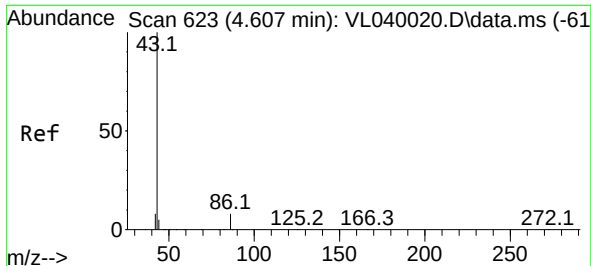


#20  
Methylene Chloride  
Concen: 1.326 ppbv  
RT: 3.915 min Scan# 408  
Delta R.T. -0.000 min  
Lab File: VL040068.D  
Acq: 22 Dec 2022 15:09

Tgt Ion: 84 Resp: 77661  
Ion Ratio Lower Upper  
84 100  
49 144.3 120.5 180.7  
51 48.7 35.2 52.8  
86 61.3 49.8 74.6



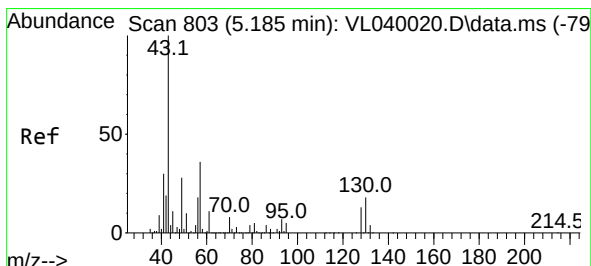
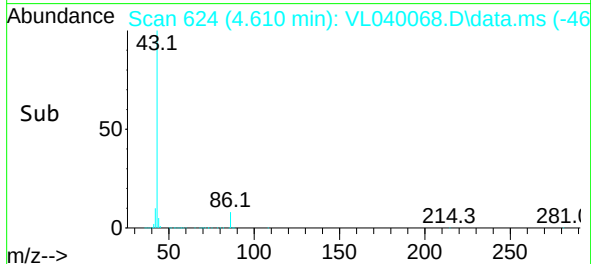
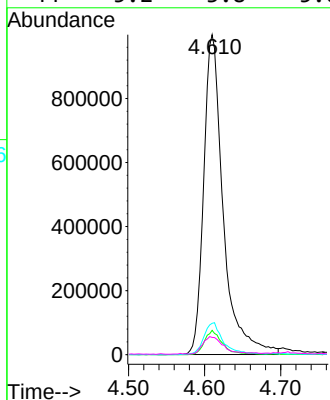
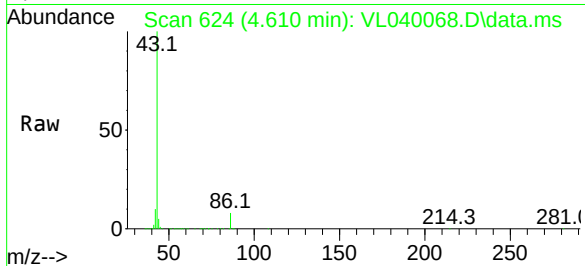




#23  
 Vinyl Acetate  
 Concen: 40.791 ppbv  
 RT: 4.610 min Scan# 61  
 Delta R.T. 0.003 min  
 Lab File: VL040068.D  
 Acq: 22 Dec 2022 15:09

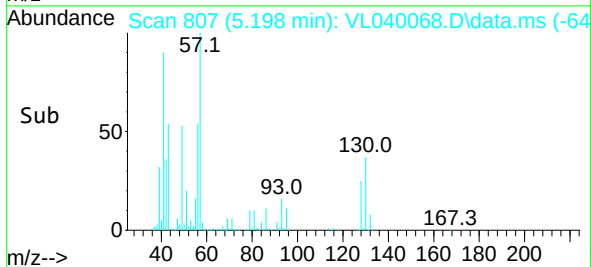
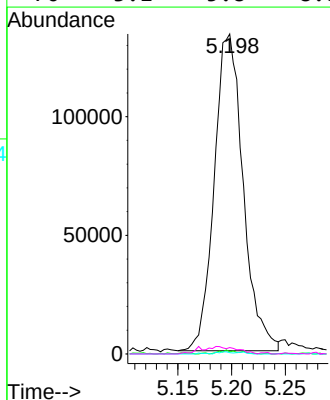
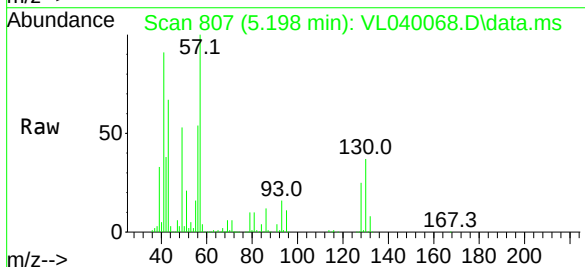
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 ClientSampleId :

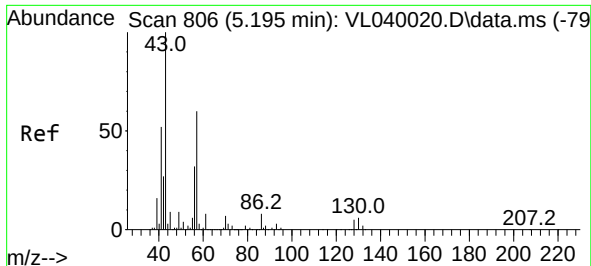
Tgt Ion: 43 Resp: 1781506  
 Ion Ratio Lower Upper  
 43 100  
 86 7.6 5.3 7.9  
 42 9.8 7.4 11.0  
 44 5.2 3.8 5.6



#25  
 Ethyl Acetate  
 Concen: 1.046 ppbv  
 RT: 5.198 min Scan# 807  
 Delta R.T. 0.013 min  
 Lab File: VL040068.D  
 Acq: 22 Dec 2022 15:09

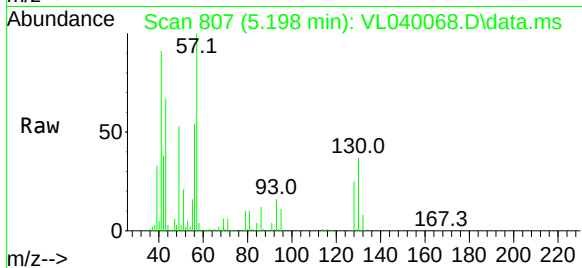
Tgt Ion: 43 Resp: 249435  
 Ion Ratio Lower Upper  
 43 100  
 45 0.9 8.6 12.8#  
 61 0.6 8.5 12.7#  
 70 3.1 5.8 8.8#



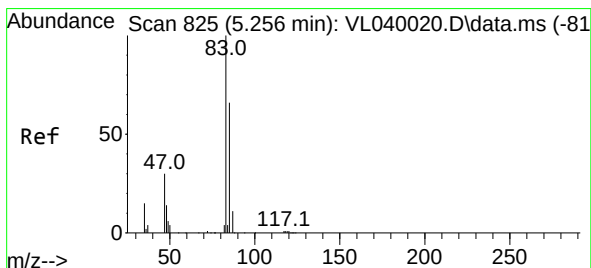
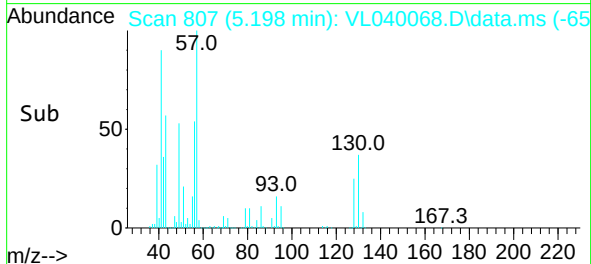
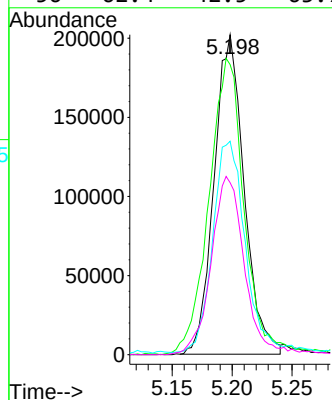


#26  
Hexane  
Concen: 3.508 ppbv  
RT: 5.198 min Scan# 806  
Delta R.T. 0.003 min  
Lab File: VL040068.D  
Acq: 22 Dec 2022 15:09

Instrument :  
MSVOA\_L  
ClientSampleId :

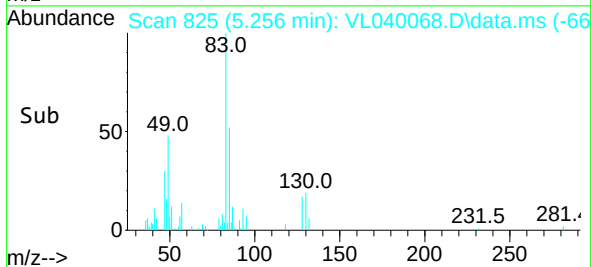
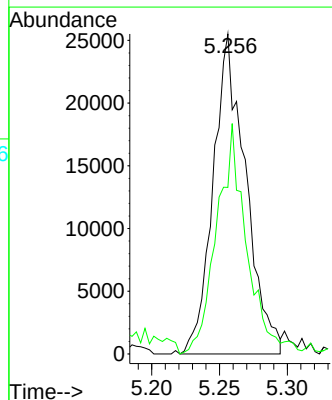
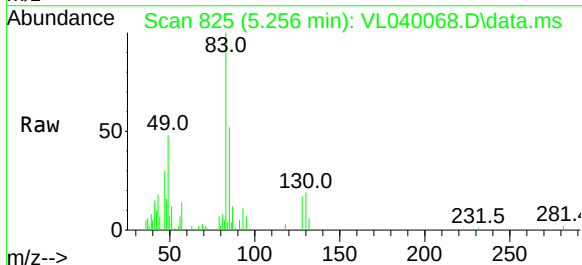


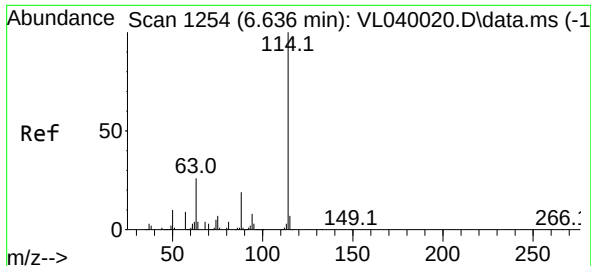
Tgt Ion: 57 Resp: 351721  
Ion Ratio Lower Upper  
57 100  
41 110.1 72.1 108.1#  
43 72.7 192.1 288.1#  
56 62.4 42.5 63.7



#29  
Chloroform  
Concen: 0.278 ppbv  
RT: 5.256 min Scan# 825  
Delta R.T. -0.000 min  
Lab File: VL040068.D  
Acq: 22 Dec 2022 15:09

Tgt Ion: 83 Resp: 42575  
Ion Ratio Lower Upper  
83 100  
85 52.1 52.4 78.6#





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 6.639 min Scan# 11

Delta R.T. 0.003 min

Lab File: VL040068.D

Acq: 22 Dec 2022 15:09

Instrument :

MSVOA\_L

ClientSampleId :

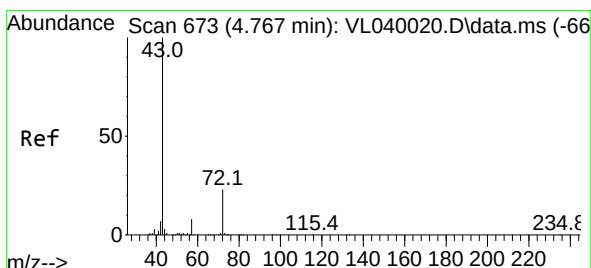
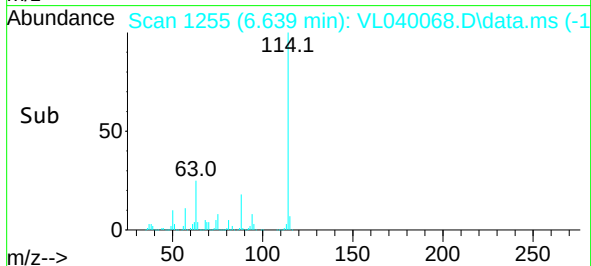
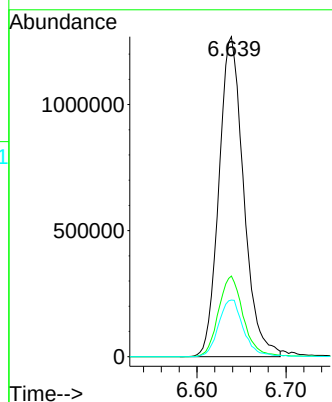
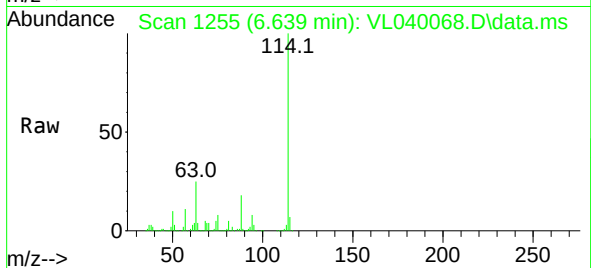
Tgt Ion:114 Resp: 2445500

Ion Ratio Lower Upper

114 100

63 25.6 20.2 30.2

88 18.1 14.6 21.8



#34

2-Butanone

Concen: 0.275 ppbv

RT: 4.790 min Scan# 680

Delta R.T. 0.022 min

Lab File: VL040068.D

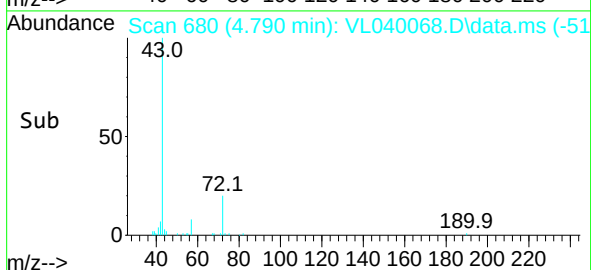
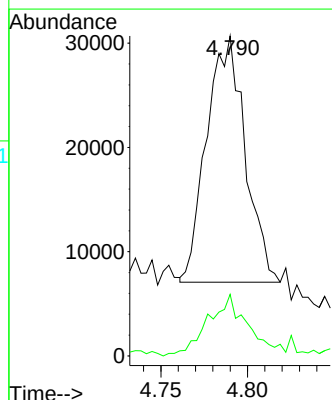
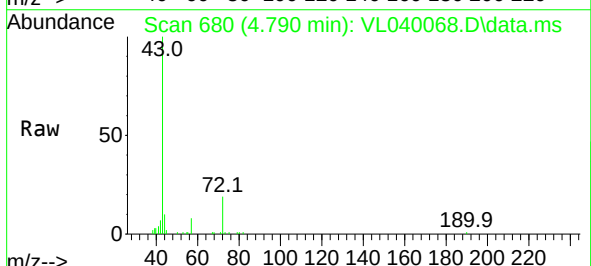
Acq: 22 Dec 2022 15:09

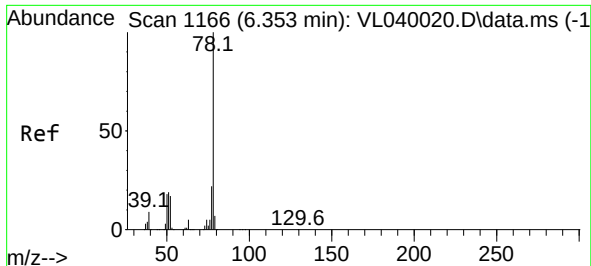
Tgt Ion: 43 Resp: 36494

Ion Ratio Lower Upper

43 100

72 28.9 18.0 27.0#

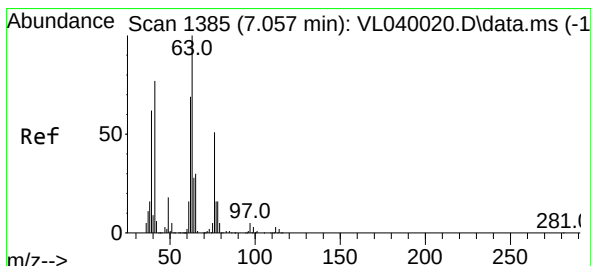
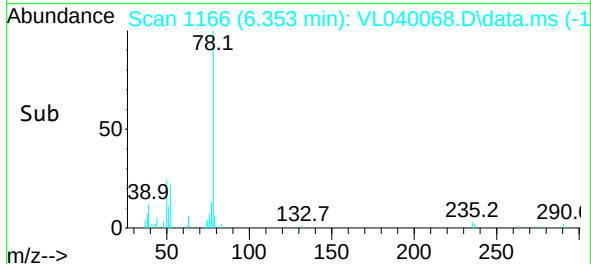
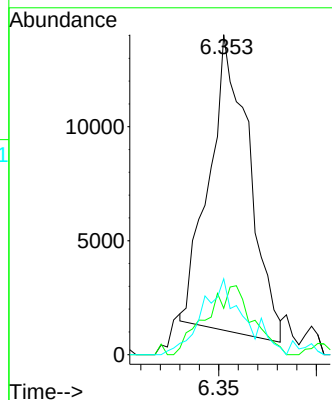
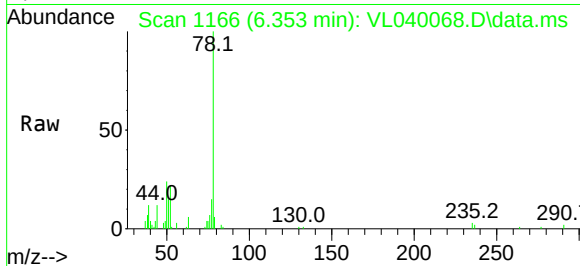




#36  
Benzene  
Concen: 0.085 ppbv  
RT: 6.353 min Scan# 1166  
Delta R.T. -0.000 min  
Lab File: VL040068.D  
Acq: 22 Dec 2022 15:09

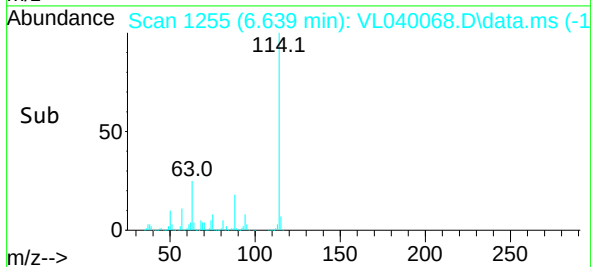
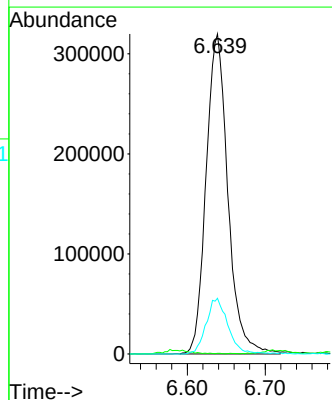
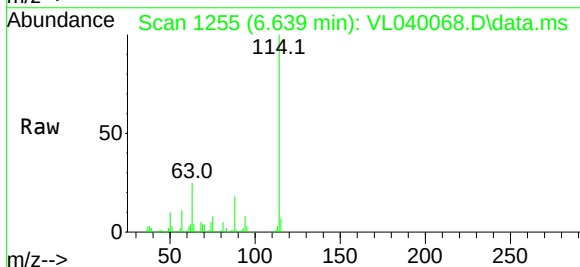
Instrument :  
MSVOA\_L  
ClientSampleId :

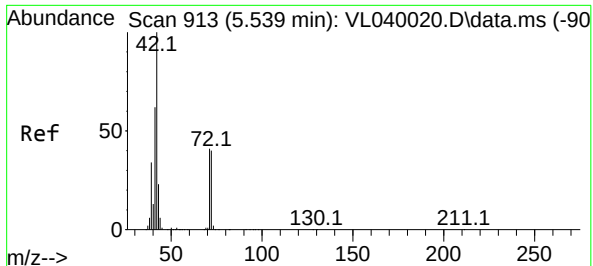
Tgt Ion: 78 Resp: 18485  
Ion Ratio Lower Upper  
78 100  
77 13.9 17.5 26.3#  
50 23.9 14.2 21.2#



#39  
1,2-Dichloropropane  
Concen: 7.582 ppbv  
RT: 6.639 min Scan# 1255  
Delta R.T. -0.418 min  
Lab File: VL040068.D  
Acq: 22 Dec 2022 15:09

Tgt Ion: 63 Resp: 620733  
Ion Ratio Lower Upper  
63 100  
41 0.0 61.4 92.0#  
62 17.4 55.4 83.2#





#41

Tetrahydrofuran

Concen: 1.822 ppbv

RT: 5.192 min Scan# 80

Delta R.T. -0.347 min

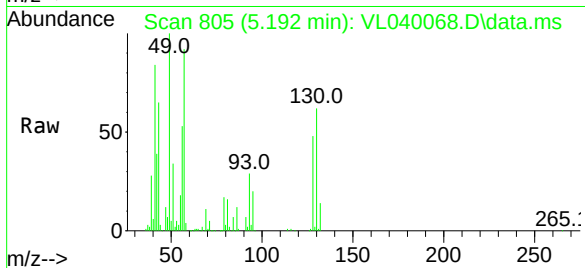
Lab File: VL040068.D

Acq: 22 Dec 2022 15:09

Instrument :

MSVOA\_L

ClientSampleId :



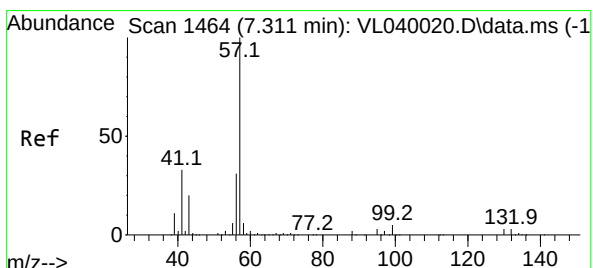
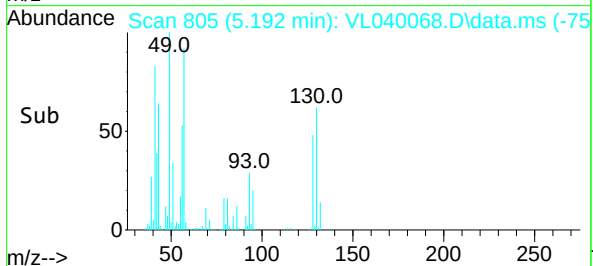
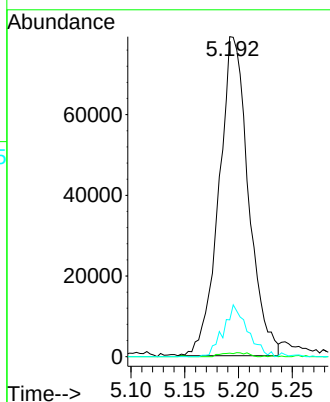
Tgt Ion: 42 Resp: 150859

Ion Ratio Lower Upper

42 100

72 1.2 32.9 49.3#

71 13.7 32.2 48.2#



#44

2,2,4-Trimethylpentane

Concen: 0.120 ppbv

RT: 7.314 min Scan# 1465

Delta R.T. 0.003 min

Lab File: VL040068.D

Acq: 22 Dec 2022 15:09

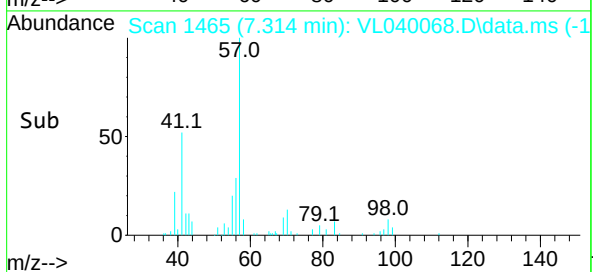
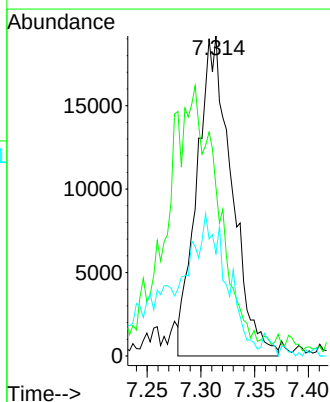
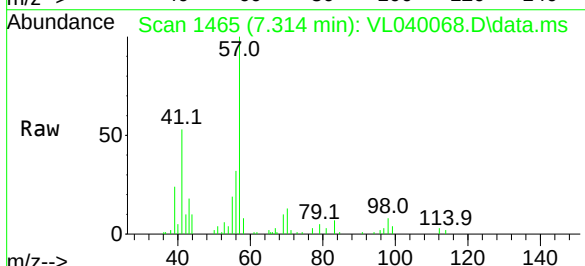
Tgt Ion: 57 Resp: 43175

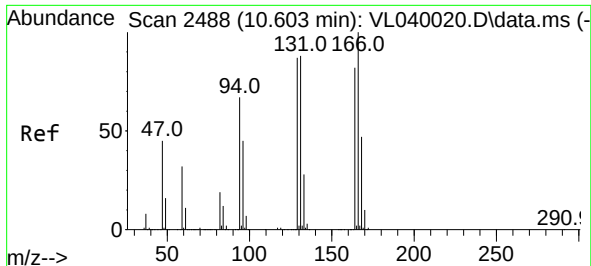
Ion Ratio Lower Upper

57 100

41 138.6 26.2 39.4#

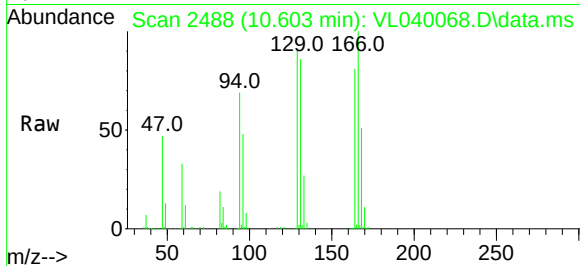
56 77.2 25.1 37.7#



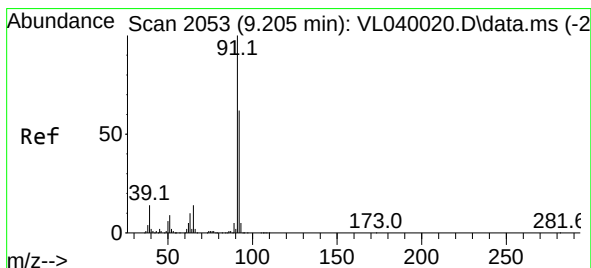
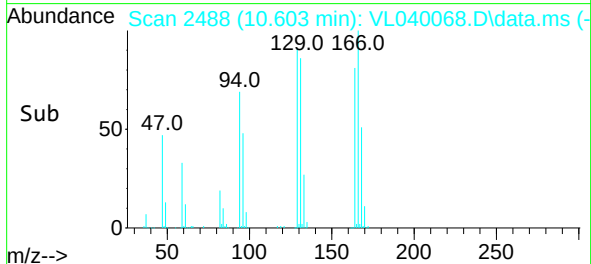
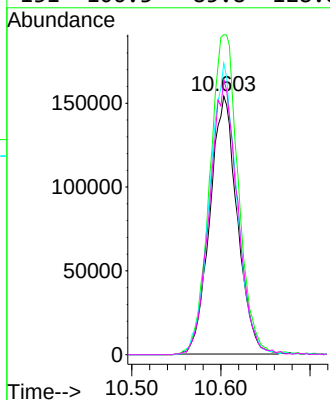


#52  
Tetrachloroethene  
Concen: 4.421 ppbv  
RT: 10.603 min Scan# 2488  
Delta R.T. -0.000 min  
Lab File: VL040068.D  
Acq: 22 Dec 2022 15:09

Instrument :  
MSVOA\_L  
ClientSampleId :

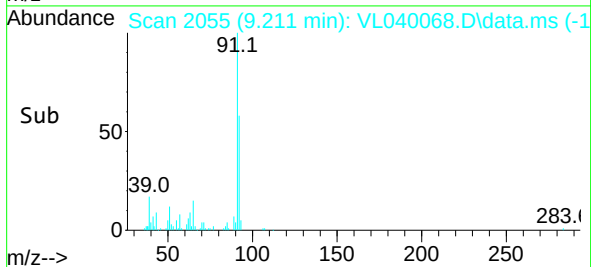
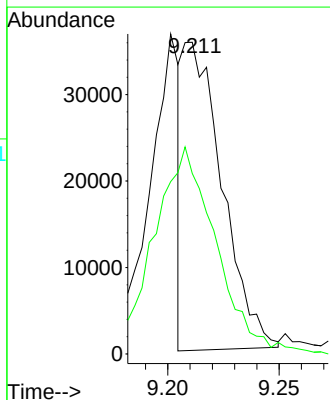
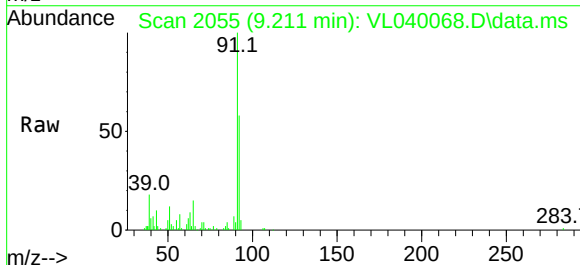


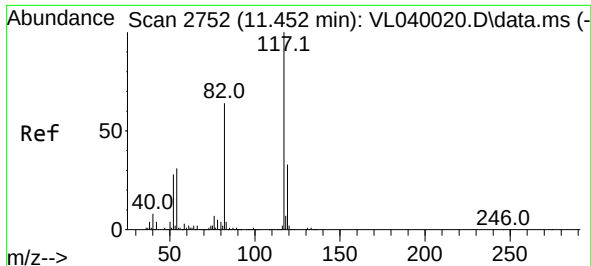
Tgt Ion:164 Resp: 328255  
Ion Ratio Lower Upper  
164 100  
166 124.0 97.4 146.0  
129 112.7 84.3 126.5  
131 106.3 85.8 128.8



#53  
Toluene  
Concen: 0.181 ppbv  
RT: 9.211 min Scan# 2055  
Delta R.T. 0.006 min  
Lab File: VL040068.D  
Acq: 22 Dec 2022 15:09

Tgt Ion: 91 Resp: 43678  
Ion Ratio Lower Upper  
91 100  
92 108.5 48.7 73.1#

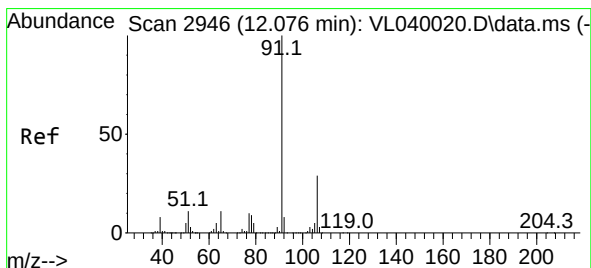
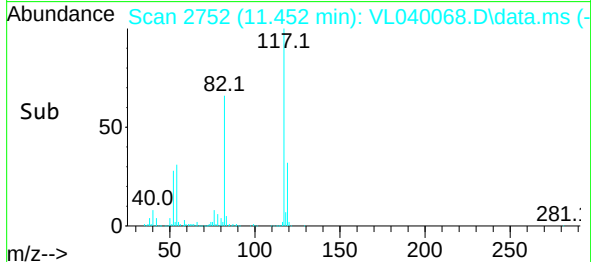
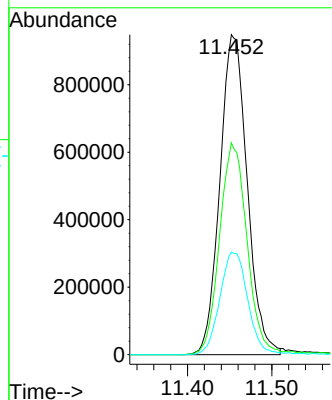
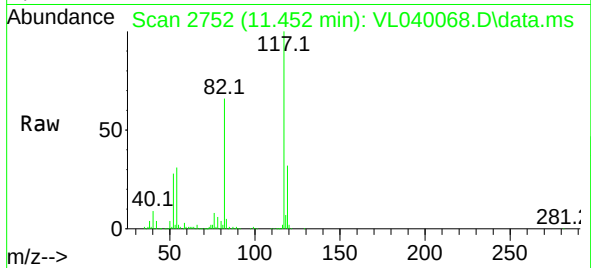




#55  
Chlorobenzene-d5  
Concen: 10.000 ppbv  
RT: 11.452 min Scan# 21  
Delta R.T. 0.000 min  
Lab File: VL040068.D  
Acq: 22 Dec 2022 15:09

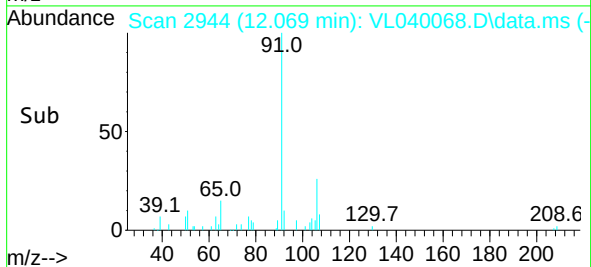
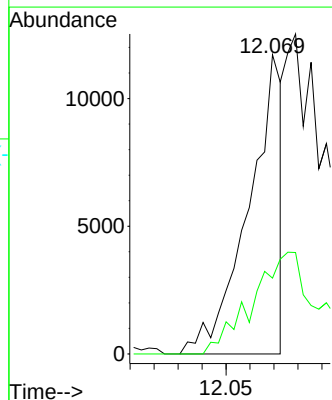
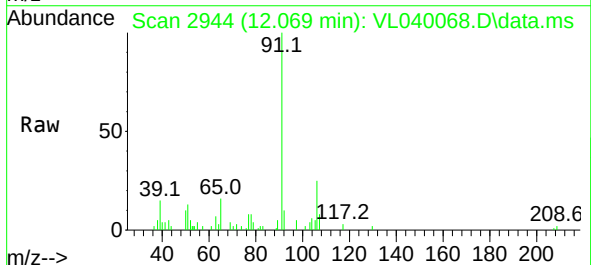
Instrument :  
MSVOA\_L  
ClientSampleId :

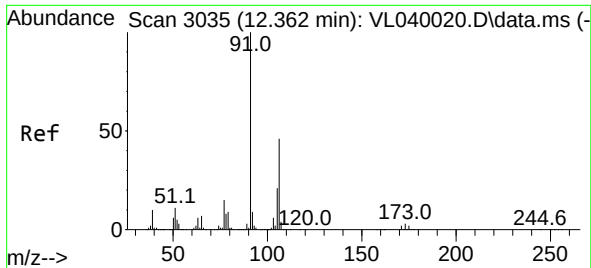
Tgt Ion:117 Resp: 2135989  
Ion Ratio Lower Upper  
117 100  
82 68.0 51.2 76.8  
119 33.0 23.2 34.8



#58  
Ethyl Benzene  
Concen: 0.037 ppbv  
RT: 12.069 min Scan# 2944  
Delta R.T. -0.006 min  
Lab File: VL040068.D  
Acq: 22 Dec 2022 15:09

Tgt Ion: 91 Resp: 11309  
Ion Ratio Lower Upper  
91 100  
106 25.3 23.5 35.3

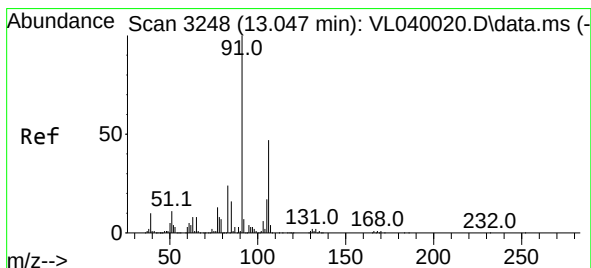
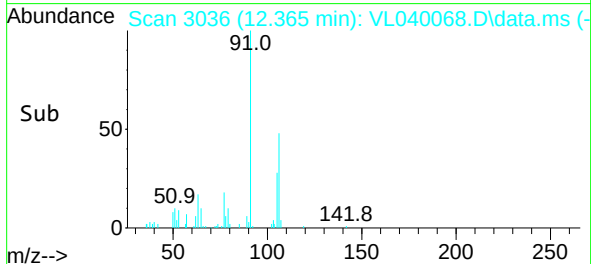
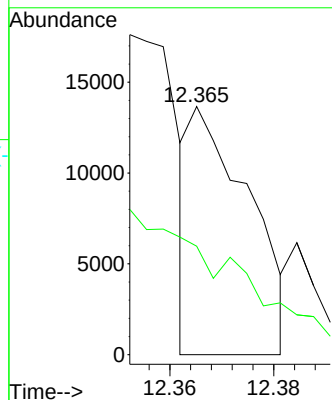
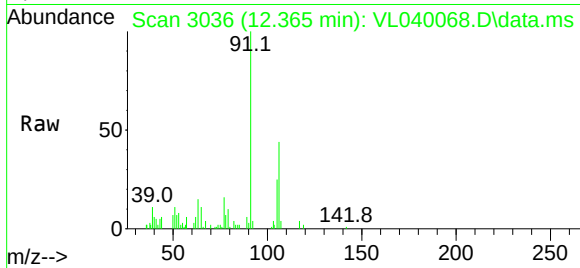




#59  
m/p-Xylene  
Concen: 0.041 ppbv  
RT: 12.365 min Scan# 3036  
Delta R.T. 0.003 min  
Lab File: VL040068.D  
Acq: 22 Dec 2022 15:09

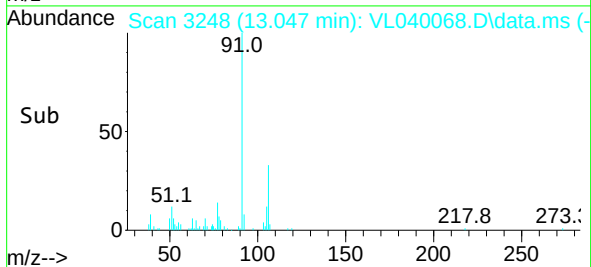
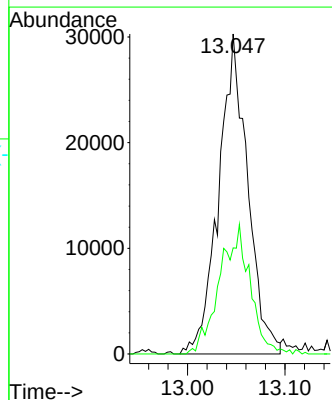
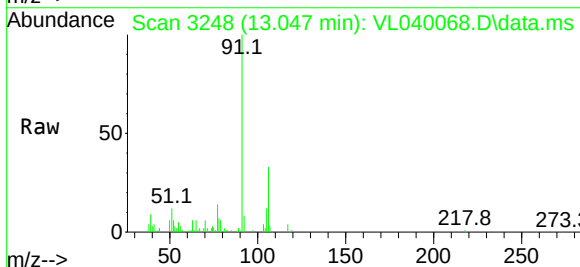
Instrument :  
MSVOA\_L  
ClientSampleId :

Tgt Ion: 91 Resp: 10872  
Ion Ratio Lower Upper  
91 100  
106 0.0 35.5 53.3#

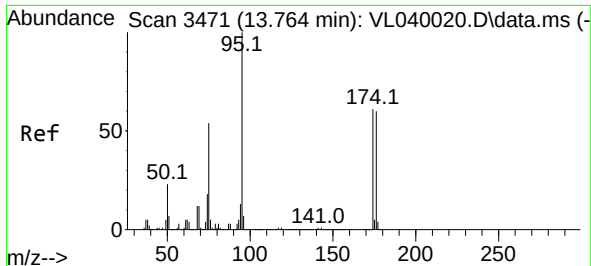


#60  
o-Xylene  
Concen: 0.247 ppbv  
RT: 13.047 min Scan# 3248  
Delta R.T. -0.000 min  
Lab File: VL040068.D  
Acq: 22 Dec 2022 15:09

Tgt Ion: 91 Resp: 62442  
Ion Ratio Lower Upper  
91 100  
106 43.0 22.4 67.0



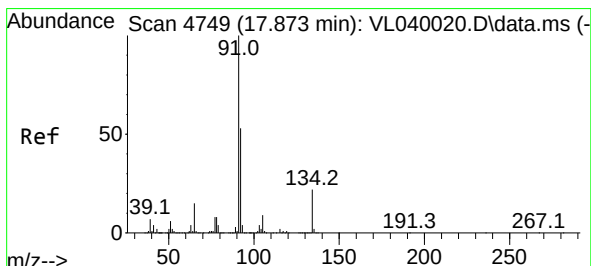
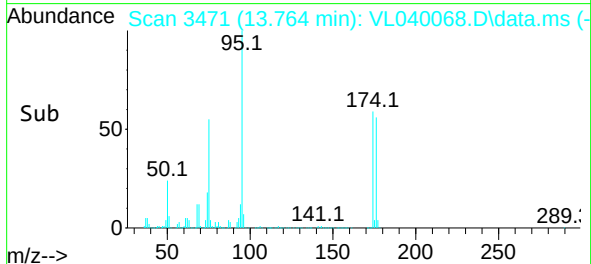
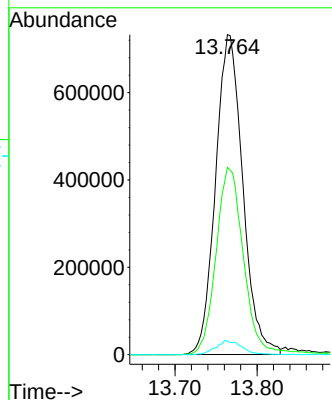
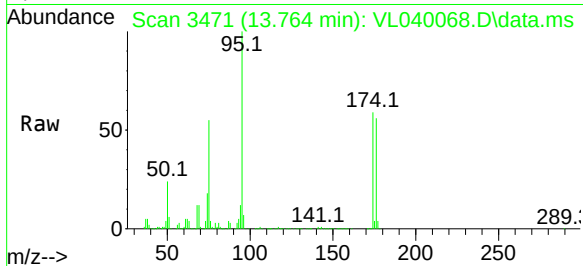




#68  
1-Bromo-4-Fluorobenzene  
Concen: 10.357 ppbv  
RT: 13.764 min Scan# 3471  
Delta R.T. -0.000 min  
Lab File: VL040068.D  
Acq: 22 Dec 2022 15:09

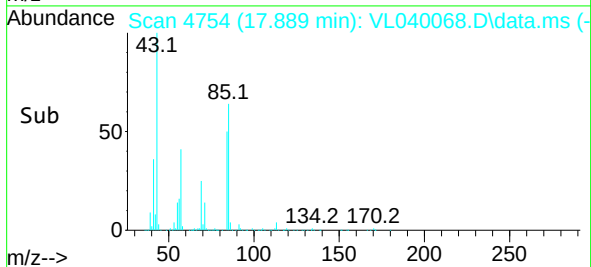
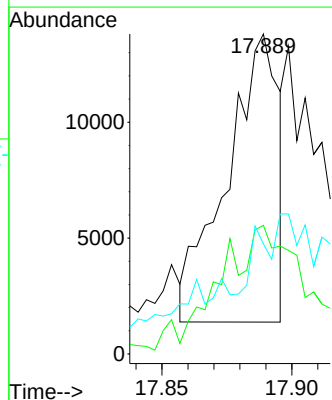
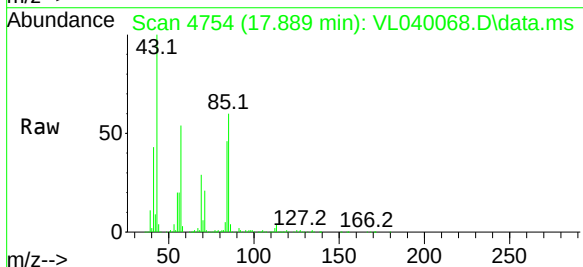
Instrument :  
MSVOA\_L  
ClientSampleId :

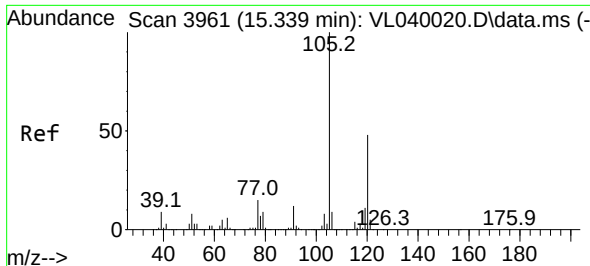
Tgt Ion: 95 Resp: 1689921  
Ion Ratio Lower Upper  
95 100  
174 60.2 48.6 73.0  
175 4.3 3.4 5.2



#70  
n-Butylbenzene  
Concen: 0.046 ppbv  
RT: 17.889 min Scan# 4754  
Delta R.T. 0.016 min  
Lab File: VL040068.D  
Acq: 22 Dec 2022 15:09

Tgt Ion: 91 Resp: 17252  
Ion Ratio Lower Upper  
91 100  
92 86.0 43.2 64.8#  
134 0.0 17.4 26.2#

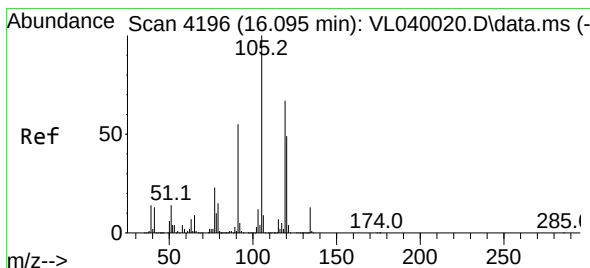
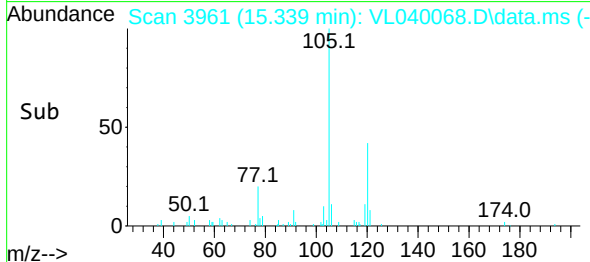
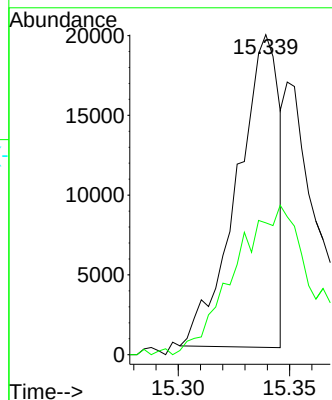
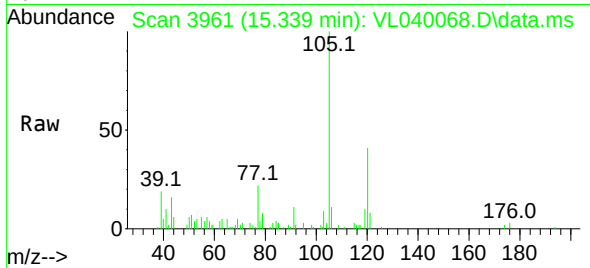




#73  
 1,3,5-Trimethylbenzene  
 Concen: 0.101 ppbv  
 RT: 15.339 min Scan# 3961  
 Delta R.T. 0.000 min  
 Lab File: VL040068.D  
 Acq: 22 Dec 2022 15:09

Instrument :  
 MSVOA\_L  
 ClientSampleId :

Tgt Ion:105 Resp: 25733  
 Ion Ratio Lower Upper  
 105 100  
 120 41.0 38.4 57.6



#74  
 1,2,4-Trimethylbenzene  
 Concen: 0.684 ppbv  
 RT: 16.098 min Scan# 4197  
 Delta R.T. 0.003 min  
 Lab File: VL040068.D  
 Acq: 22 Dec 2022 15:09

Tgt Ion:105 Resp: 191273  
 Ion Ratio Lower Upper  
 105 100  
 120 39.5 39.3 58.9  
 91 12.5 44.2 66.4#  
 77 10.5 18.8 28.2#

