

Data Path : Z:\voasrv\HPCHEM1\MSVOA\_L\Data\VL081523\  
 Data File : VL040640.D  
 Acq On : 15 Aug 2023 20:08  
 Operator : SY/MD  
 Sample : 03861-01DL 2X  
 Misc : 400mL/MSVOA\_L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :

Quant Time: Aug 16 05:58:16 2023  
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA\_L\methods\VL081523AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Fri Aug 26 06:05:16 2022  
 QLast Update : Wed Aug 16 05:43:50 2023  
 Response via : Initial Calibration

| Compound                | R.T.   | QIon | Response | Conc   | Units | Dev(Min) |
|-------------------------|--------|------|----------|--------|-------|----------|
| -----                   |        |      |          |        |       |          |
| Internal Standards      |        |      |          |        |       |          |
| 1) Bromochloromethane   | 5.192  | 49   | 935047   | 10.000 | ppbv  | 0.00     |
| 33) 1,4-Difluorobenzene | 6.655  | 114  | 2535327  | 10.000 | ppbv  | 0.00     |
| 55) Chlorobenzene-d5    | 11.471 | 117  | 2226674  | 10.000 | ppbv  | 0.00     |

|                             |        |       |          |          |      |          |
|-----------------------------|--------|-------|----------|----------|------|----------|
| System Monitoring Compounds |        |       |          |          |      |          |
| 68) 1-Bromo-4-Fluorobenzene | 13.780 | 95    | 1823133  | 10.295   | ppbv | -0.01    |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 103.000% |

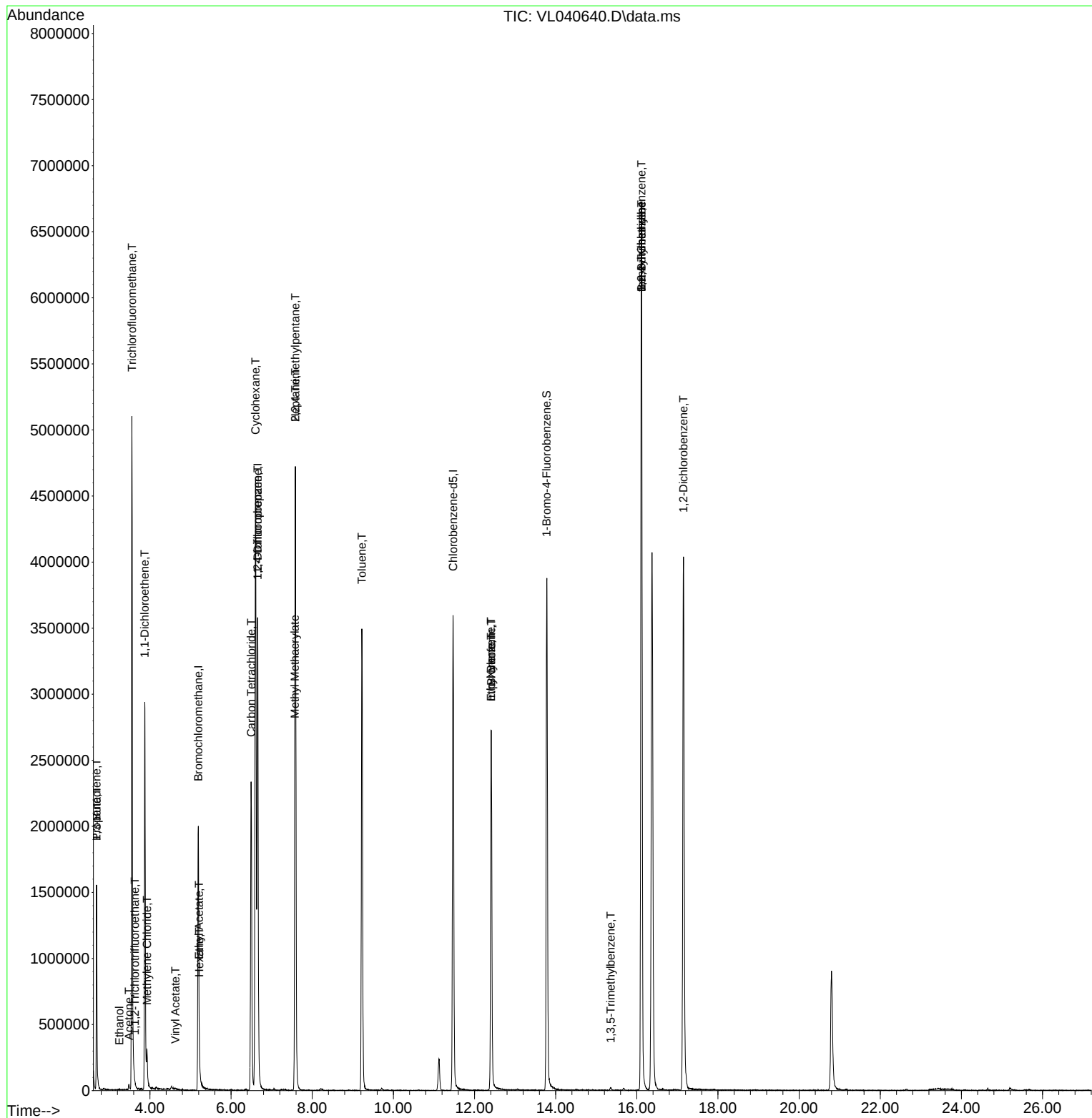
| Target Compounds              |        |     |         |        |        | Qvalue |
|-------------------------------|--------|-----|---------|--------|--------|--------|
| 9) Propene                    | 2.684  | 41  | 578586  | 12.162 | ppbv   | 99     |
| 10) Heptane                   | 7.584  | 43  | 2105654 | 19.222 | ppbv   | 99     |
| 11) Trichlorofluoromethane    | 3.555  | 101 | 3386772 | 20.830 | ppbv   | 99     |
| 12) 1,1,2-Trichlorotrifluo... | 3.626  | 101 | 27420   | 0.227  | ppbv # | 15     |
| 13) Ethanol                   | 3.250  | 45  | 1528    | 0.115  | ppbv # | 39     |
| 15) Acetone                   | 3.481  | 43  | 40412   | 0.353  | ppbv # | 83     |
| 16) 1,3-Butadiene             | 2.684  | 39  | 508127  | 8.934  | ppbv # | 8      |
| 18) 1,1-Dichloroethene        | 3.873  | 96  | 889733  | 16.269 | ppbv   | 92     |
| 20) Methylene Chloride        | 3.928  | 84  | 73022   | 1.307  | ppbv   | 92     |
| 23) Vinyl Acetate             | 4.629  | 43  | 3954    | 0.030  | ppbv # | 72     |
| 25) Ethyl Acetate             | 5.211  | 43  | 21194   | 0.099  | ppbv # | 82     |
| 26) Hexane                    | 5.214  | 57  | 12745   | 0.123  | ppbv # | 36     |
| 30) Cyclohexane               | 6.603  | 84  | 1703842 | 21.427 | ppbv   | 97     |
| 35) Carbon Tetrachloride      | 6.494  | 117 | 1440919 | 9.083  | ppbv   | 100    |
| 39) 1,2-Dichloropropane       | 6.651  | 63  | 642086  | 8.368  | ppbv # | 27     |
| 43) Methyl Methacrylate       | 7.568  | 69  | 13990   | 0.185  | ppbv # | 1      |
| 44) 2,2,4-Trimethylpentane    | 7.584  | 57  | 1100882 | 3.377  | ppbv # | 1      |
| 49) Bromoform                 | 12.413 | 173 | 1431869 | 13.174 | ppbv   | 98     |
| 53) Toluene                   | 9.224  | 91  | 2762835 | 12.890 | ppbv   | 98     |
| 58) Ethyl Benzene             | 12.407 | 91  | 264424  | 0.985  | ppbv # | 46     |
| 59) m/p-Xylene                | 12.407 | 91  | 264424  | 1.080  | ppbv # | 33     |
| 65) tert-Butylbenzene         | 16.117 | 119 | 559787  | 1.838  | ppbv # | 60     |
| 66) Benzyl Chloride           | 16.114 | 91  | 666076  | 17.395 | ppbv # | 66     |
| 73) 1,3,5-Trimethylbenzene    | 15.355 | 105 | 7271    | 0.031  | ppbv   | 86     |
| 74) 1,2,4-Trimethylbenzene    | 16.114 | 105 | 5176670 | 18.921 | ppbv # | 72     |
| 77) 1,2-Dichlorobenzene       | 17.149 | 146 | 2018547 | 12.970 | ppbv   | 98     |

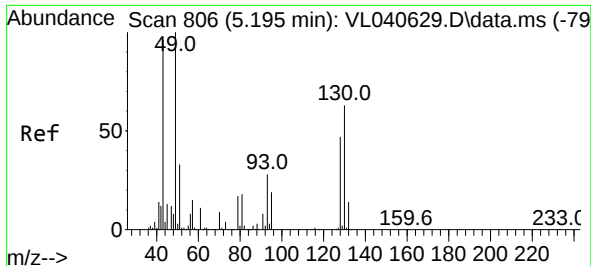
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\voasrv\HPCHEM1\MSVOA\_L\Data\VL081523\  
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MSVOA\_L  
ClientSampleId :

Quant Time: Aug 16 05:58:16 2023  
Quant Method : Z:\voasrv\HPCHEM1\MSVOA\_L\methods\VL081523AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Fri Aug 26 06:05:16 2022  
QLast Update : Wed Aug 16 05:43:50 2023  
Response via : Initial Calibration

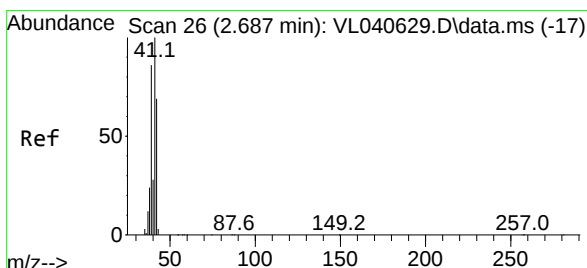
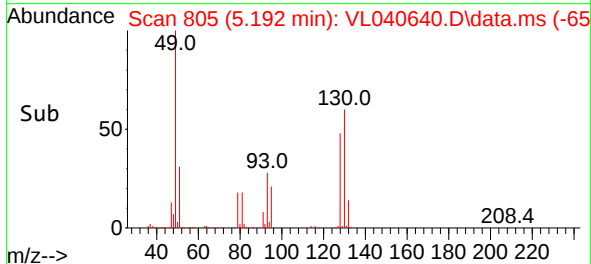
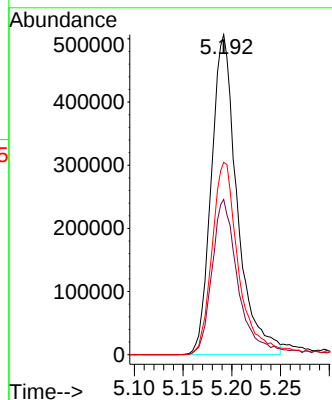
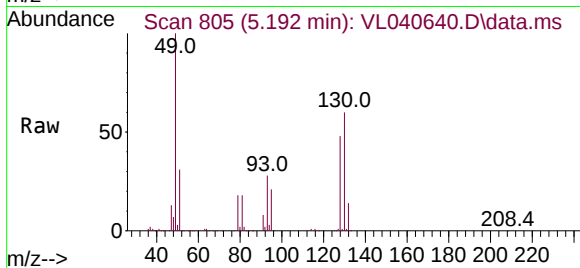




#1  
Bromochloromethane  
Concen: 10.000 ppbv  
RT: 5.192 min Scan# 80  
Delta R.T. -0.003 min  
Lab File: VL040640.D  
Acq: 15 Aug 2023 20:08

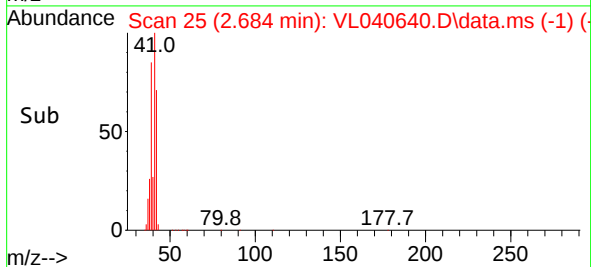
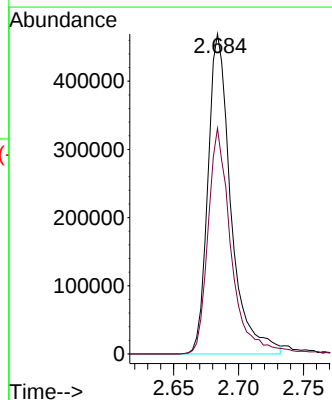
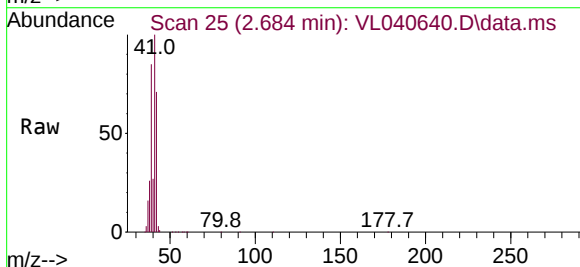
Instrument :  
MSVOA\_L  
ClientSampleId :

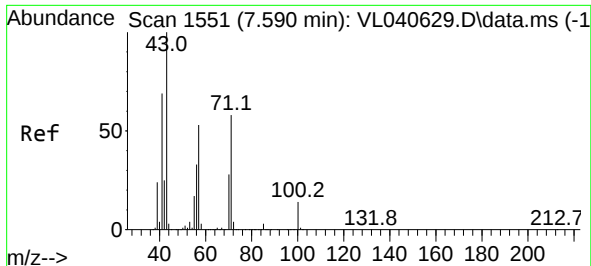
Tgt Ion: 49 Resp: 935047  
Ion Ratio Lower Upper  
49 100  
128 50.5 24.9 74.7  
130 64.3 32.2 96.6



#9  
Propene  
Concen: 12.162 ppbv  
RT: 2.684 min Scan# 25  
Delta R.T. -0.003 min  
Lab File: VL040640.D  
Acq: 15 Aug 2023 20:08

Tgt Ion: 41 Resp: 578586  
Ion Ratio Lower Upper  
41 100  
42 71.7 56.5 84.7

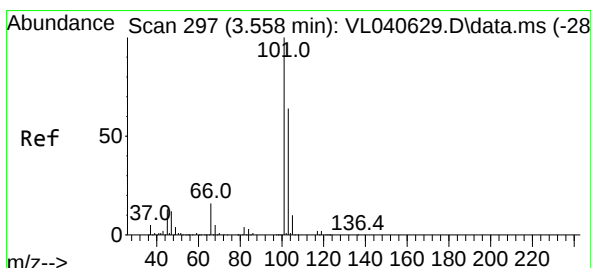
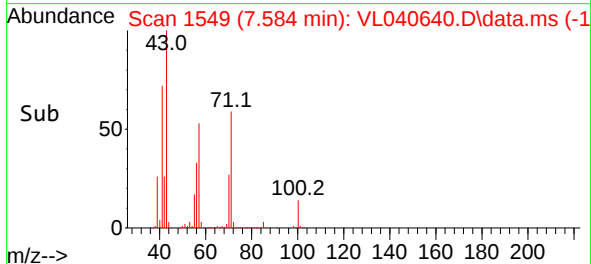
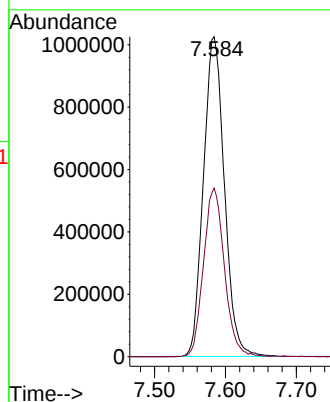
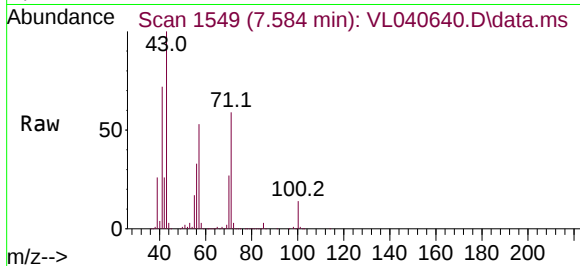




#10  
Heptane  
Concen: 19.222 ppbv  
RT: 7.584 min Scan# 11  
Delta R.T. -0.007 min  
Lab File: VL040640.D  
Acq: 15 Aug 2023 20:08

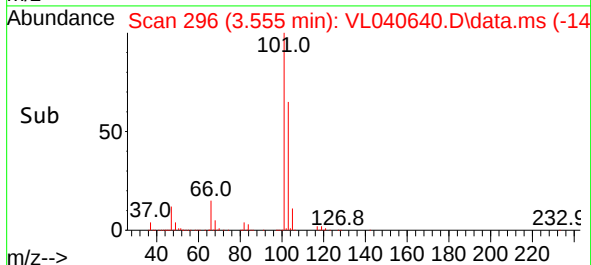
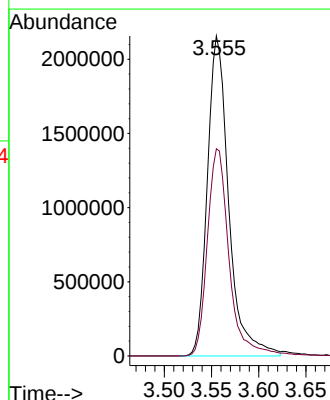
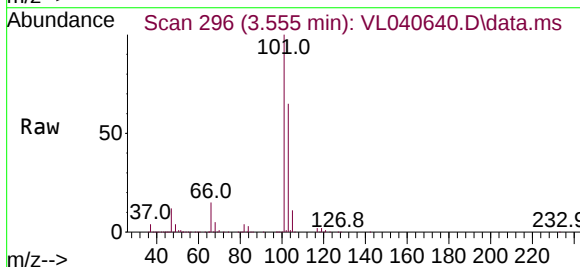
Instrument :  
MSVOA\_L  
ClientSampleId :

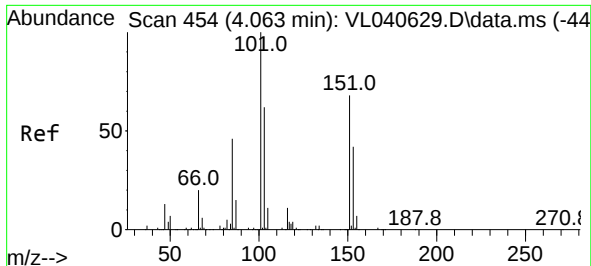
Tgt Ion: 43 Resp: 2105654  
Ion Ratio Lower Upper  
43 100  
57 52.7 42.5 63.7



#11  
Trichlorofluoromethane  
Concen: 20.830 ppbv  
RT: 3.555 min Scan# 296  
Delta R.T. -0.003 min  
Lab File: VL040640.D  
Acq: 15 Aug 2023 20:08

Tgt Ion:101 Resp: 3386772  
Ion Ratio Lower Upper  
101 100  
103 64.8 51.1 76.7

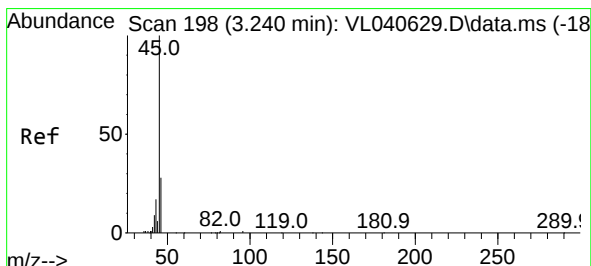
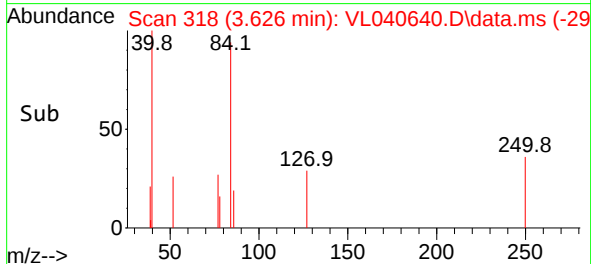
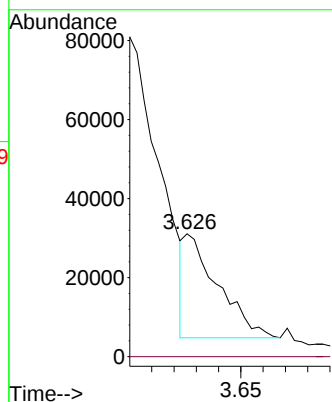
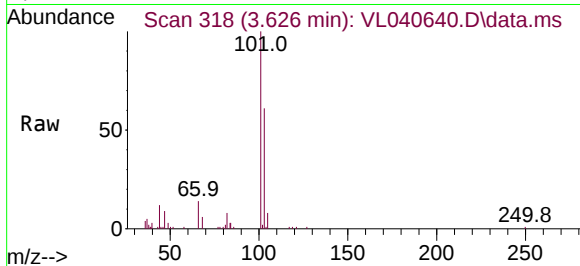




#12  
1,1,2-Trichlorotrifluoroethane  
Concen: 0.227 ppbv  
RT: 3.626 min Scan# 31  
Delta R.T. -0.437 min  
Lab File: VL040640.D  
Acq: 15 Aug 2023 20:08

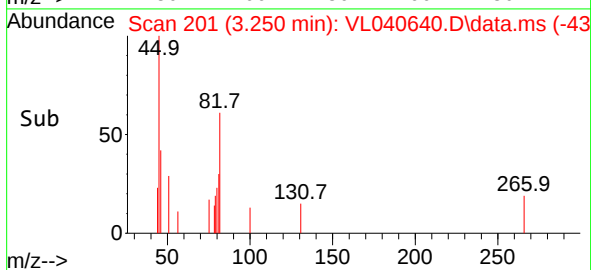
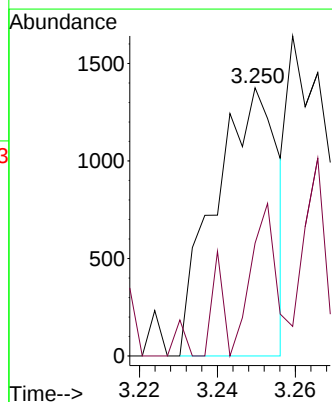
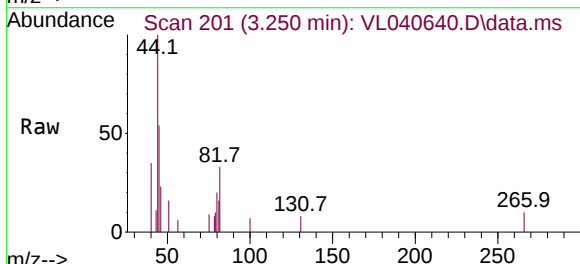
Instrument :  
MSVOA\_L  
ClientSampleId :

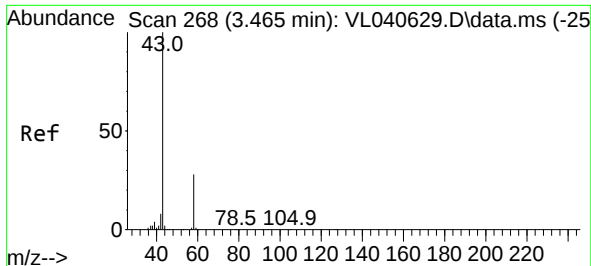
Tgt Ion:101 Resp: 27420  
Ion Ratio Lower Upper  
101 100  
151 0.0 56.2 84.2#



#13  
Ethanol  
Concen: 0.115 ppbv  
RT: 3.250 min Scan# 201  
Delta R.T. 0.010 min  
Lab File: VL040640.D  
Acq: 15 Aug 2023 20:08

Tgt Ion: 45 Resp: 1528  
Ion Ratio Lower Upper  
45 100  
46 0.0 14.2 56.6#





#15

Acetone

Concen: 0.353 ppbv

RT: 3.481 min Scan# 21

Delta R.T. 0.016 min

Lab File: VL040640.D

Acq: 15 Aug 2023 20:08

Instrument :

MSVOA\_L

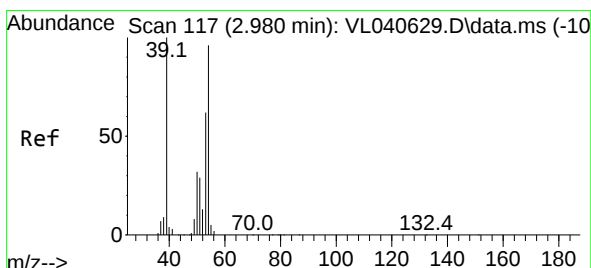
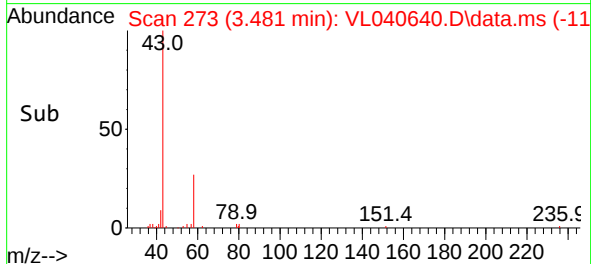
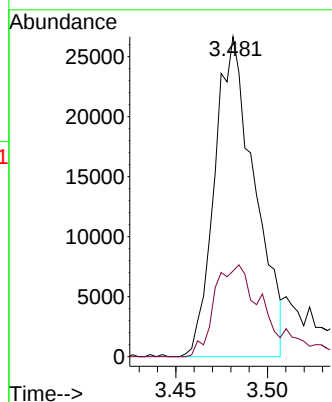
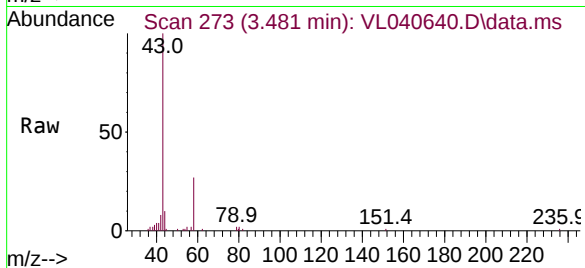
ClientSampleId :

Tgt Ion: 43 Resp: 40412

Ion Ratio Lower Upper

43 100

58 37.1 22.4 33.6#



#16

1,3-Butadiene

Concen: 8.934 ppbv

RT: 2.684 min Scan# 25

Delta R.T. -0.296 min

Lab File: VL040640.D

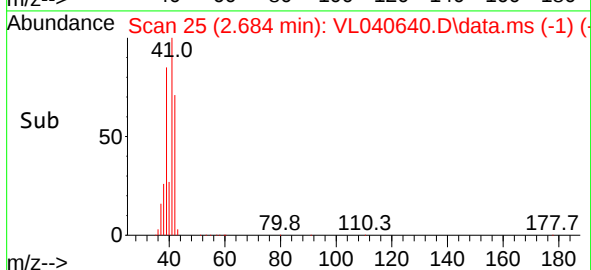
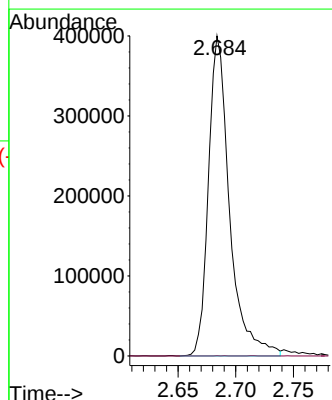
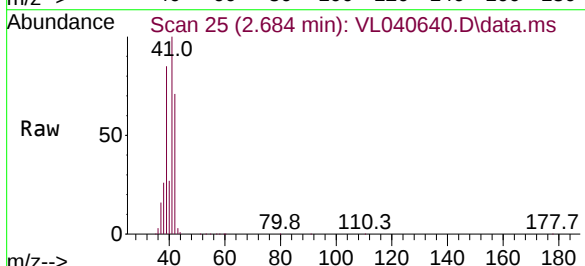
Acq: 15 Aug 2023 20:08

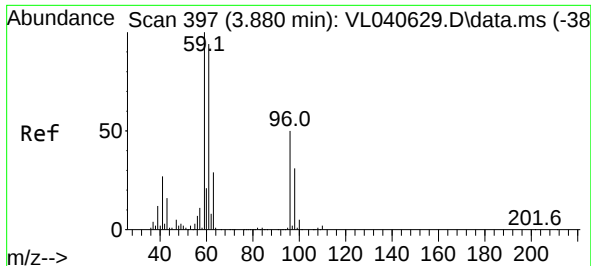
Tgt Ion: 39 Resp: 508127

Ion Ratio Lower Upper

39 100

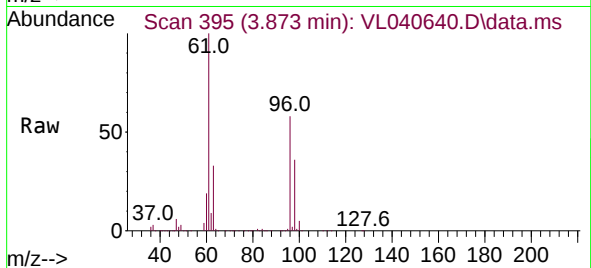
54 0.0 66.6 99.8#





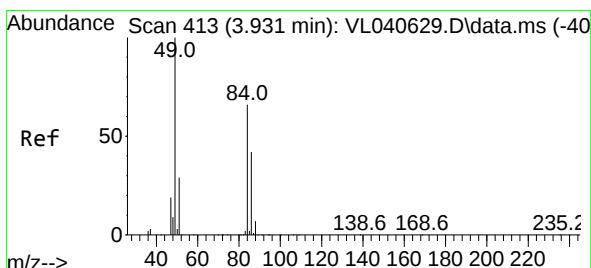
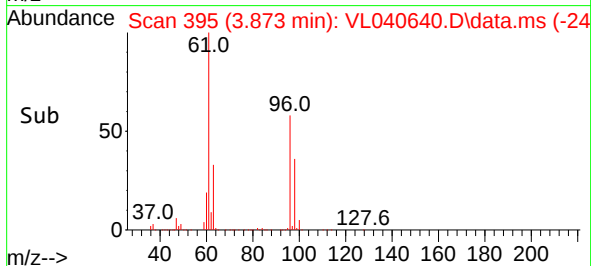
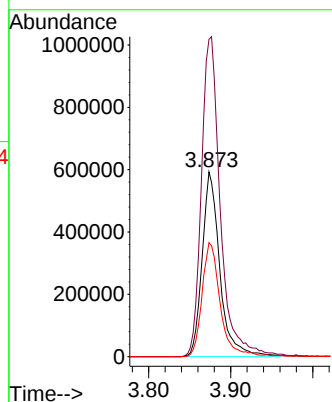
#18  
1,1-Dichloroethene  
Concen: 16.269 ppbv  
RT: 3.873 min Scan# 397  
Delta R.T. -0.007 min  
Lab File: VL040640.D  
Acq: 15 Aug 2023 20:08

Instrument :  
MSVOA\_L  
ClientSampleId :



Tgt Ion: 96 Resp: 889733

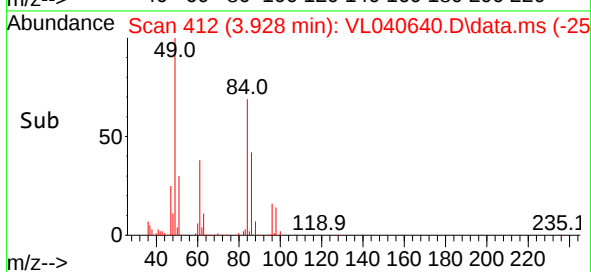
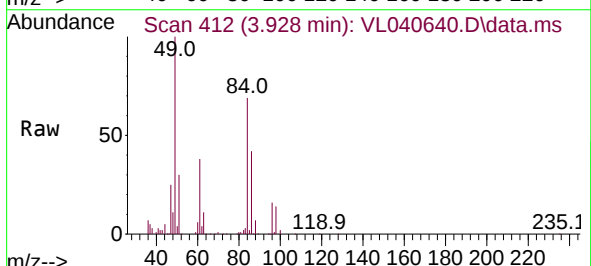
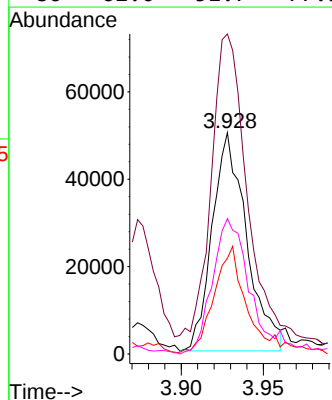
| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 96  | 100   |       |       |
| 61  | 171.8 | 150.4 | 225.6 |
| 98  | 61.8  | 49.7  | 74.5  |

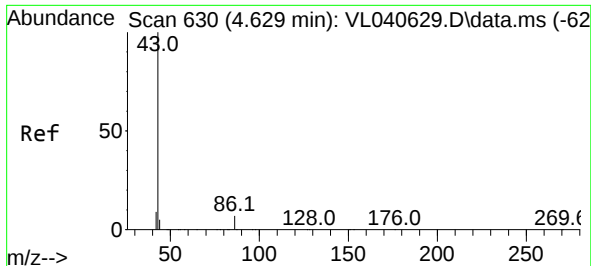


#20  
Methylene Chloride  
Concen: 1.307 ppbv  
RT: 3.928 min Scan# 412  
Delta R.T. -0.003 min  
Lab File: VL040640.D  
Acq: 15 Aug 2023 20:08

Tgt Ion: 84 Resp: 73022

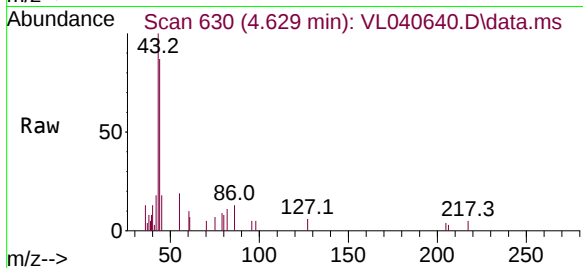
| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 84  | 100   |       |       |
| 49  | 138.1 | 122.1 | 183.1 |
| 51  | 43.0  | 35.4  | 53.2  |
| 86  | 62.0  | 51.7  | 77.5  |



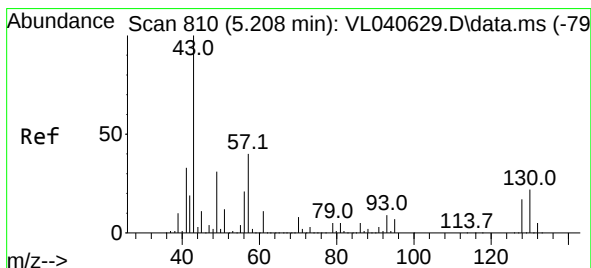
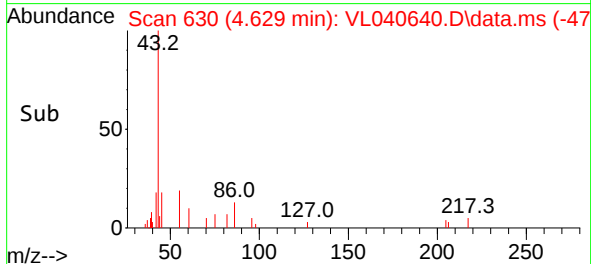
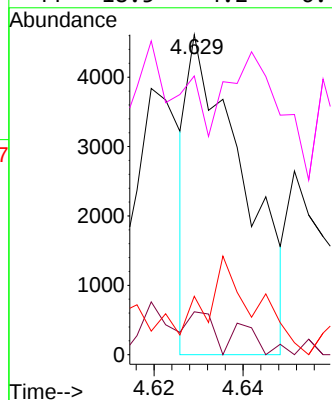


#23  
 Vinyl Acetate  
 Concen: 0.030 ppbv  
 RT: 4.629 min Scan# 61  
 Delta R.T. -0.000 min  
 Lab File: VL040640.D  
 Acq: 15 Aug 2023 20:08

Instrument :  
 MSVOA\_L  
 ClientSampleId :

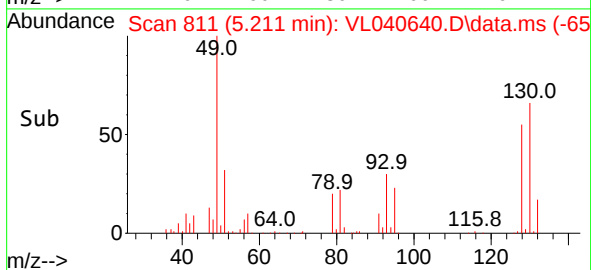
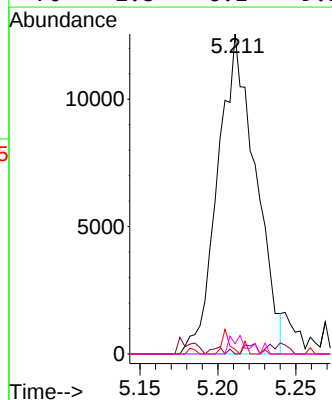
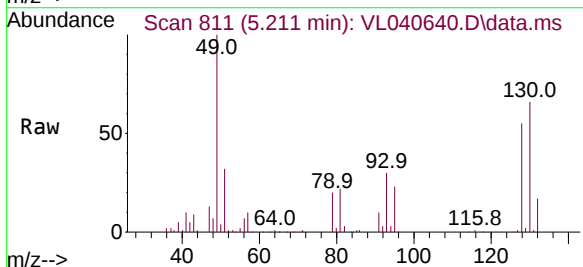


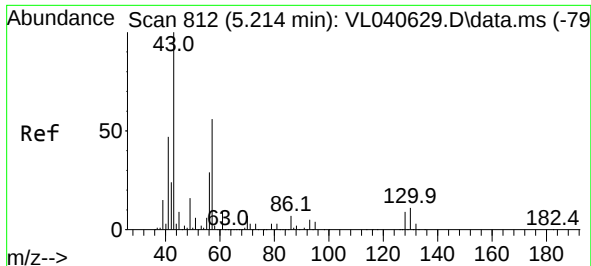
| Tgt Ion: | 43    | Resp: | 3954  |
|----------|-------|-------|-------|
| Ion      | Ratio | Lower | Upper |
| 43       | 100   |       |       |
| 86       | 15.4  | 5.0   | 7.6#  |
| 42       | 18.3  | 7.8   | 11.8# |
| 44       | 18.5  | 4.2   | 6.4#  |



#25  
 Ethyl Acetate  
 Concen: 0.099 ppbv  
 RT: 5.211 min Scan# 811  
 Delta R.T. 0.003 min  
 Lab File: VL040640.D  
 Acq: 15 Aug 2023 20:08

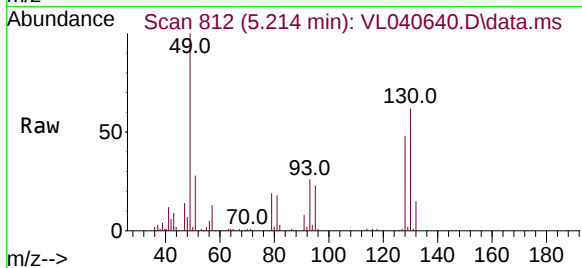
| Tgt Ion: | 43    | Resp: | 21194 |
|----------|-------|-------|-------|
| Ion      | Ratio | Lower | Upper |
| 43       | 100   |       |       |
| 45       | 3.6   | 8.2   | 12.4# |
| 61       | 2.1   | 8.3   | 12.5# |
| 70       | 2.8   | 6.1   | 9.1#  |



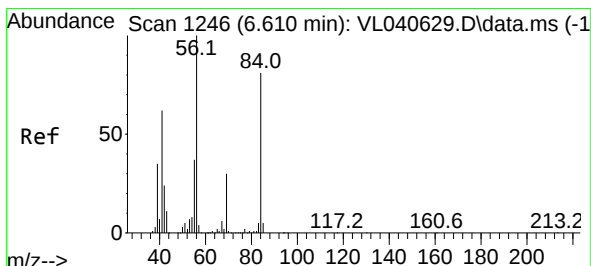
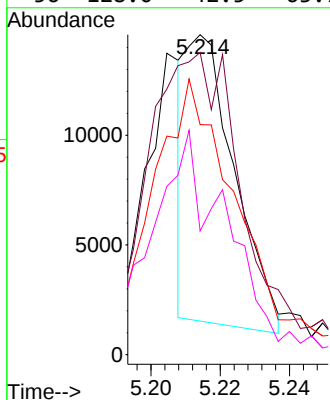
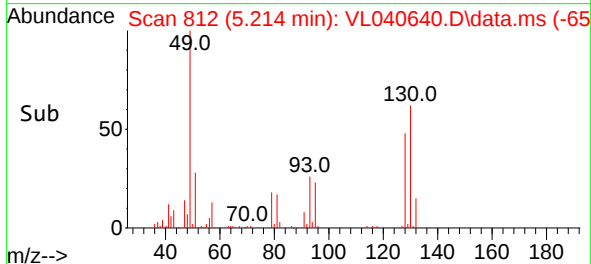


#26  
Hexane  
Concen: 0.123 ppbv  
RT: 5.214 min Scan# 812  
Delta R.T. -0.000 min  
Lab File: VL040640.D  
Acq: 15 Aug 2023 20:08

Instrument :  
MSVOA\_L  
ClientSampleId :

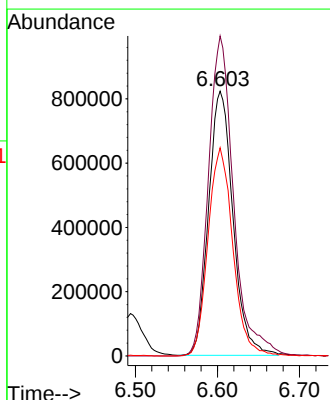
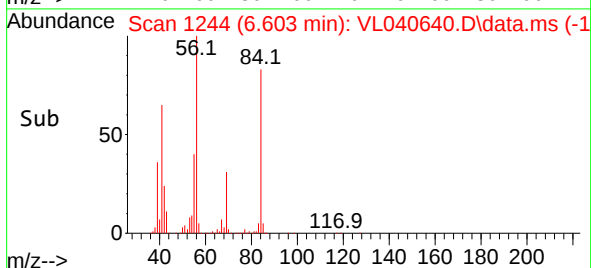
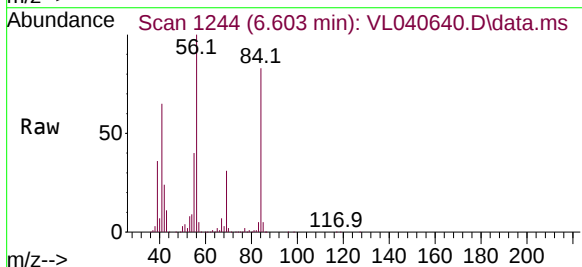


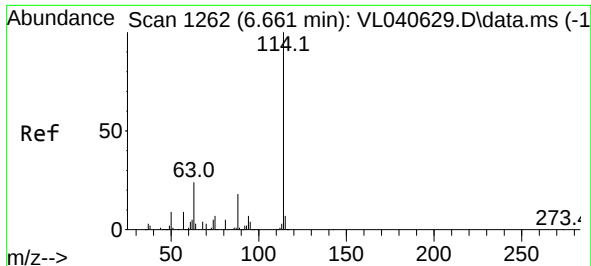
Tgt Ion: 57 Resp: 12745  
Ion Ratio Lower Upper  
57 100  
41 217.1 69.3 103.9#  
43 182.5 177.9 266.9  
56 128.0 42.5 63.7#



#30  
Cyclohexane  
Concen: 21.427 ppbv  
RT: 6.603 min Scan# 1244  
Delta R.T. -0.007 min  
Lab File: VL040640.D  
Acq: 15 Aug 2023 20:08

Tgt Ion: 84 Resp: 1703842  
Ion Ratio Lower Upper  
84 100  
56 125.5 105.4 158.2  
41 80.1 64.2 96.2





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 6.655 min Scan# 11

Delta R.T. -0.007 min

Lab File: VL040640.D

Acq: 15 Aug 2023 20:08

Instrument :

MSVOA\_L

ClientSampleId :

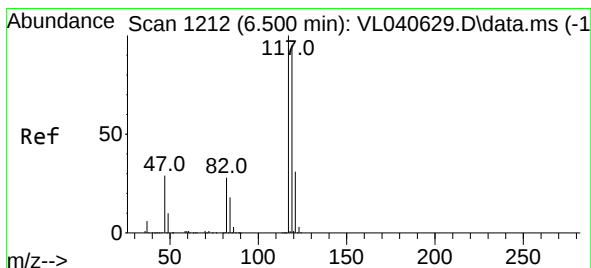
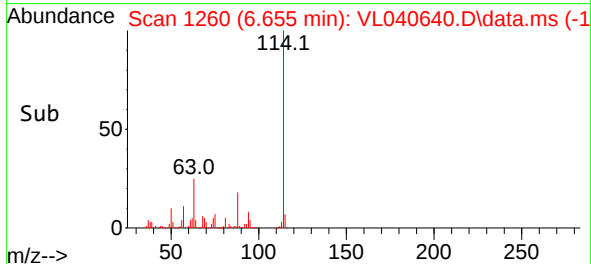
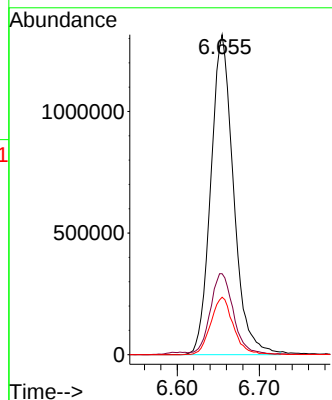
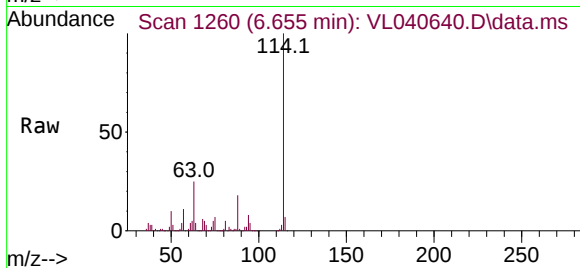
Tgt Ion:114 Resp: 2535327

Ion Ratio Lower Upper

114 100

63 26.9 20.2 30.2

88 18.0 14.1 21.1



#35

Carbon Tetrachloride

Concen: 9.083 ppbv

RT: 6.494 min Scan# 1210

Delta R.T. -0.007 min

Lab File: VL040640.D

Acq: 15 Aug 2023 20:08

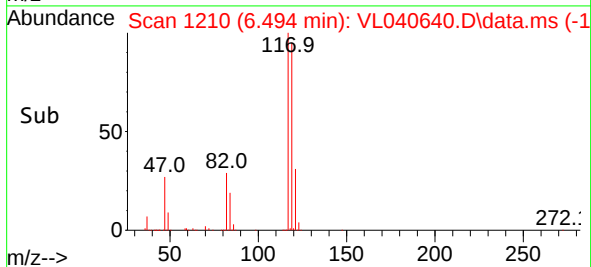
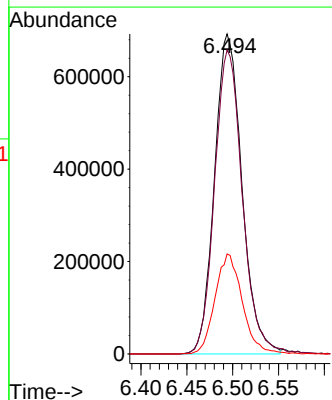
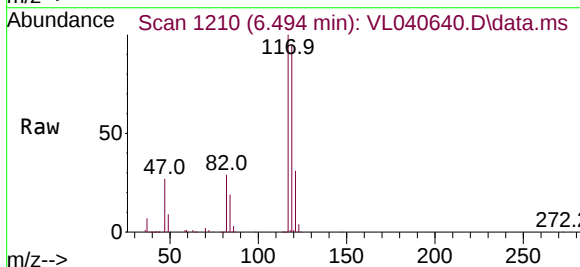
Tgt Ion:117 Resp: 1440919

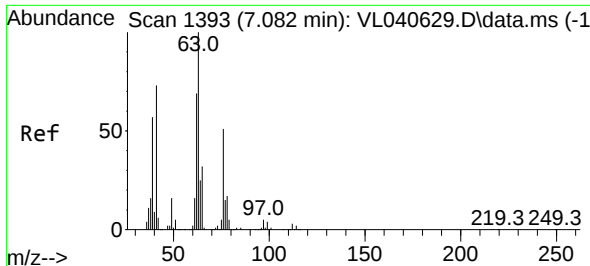
Ion Ratio Lower Upper

117 100

119 95.0 75.6 113.4

121 31.2 24.9 37.3





#39

1,2-Dichloropropane

Concen: 8.368 ppbv

RT: 6.651 min Scan# 1

Delta R.T. -0.431 min

Lab File: VL040640.D

Acq: 15 Aug 2023 20:08

Instrument :

MSVOA\_L

ClientSampleId :

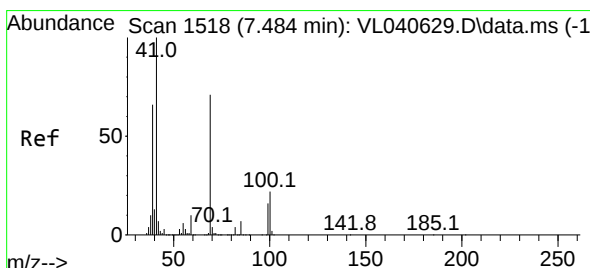
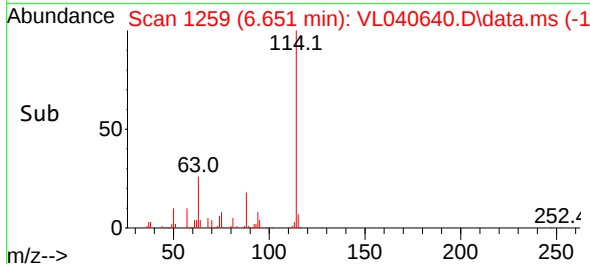
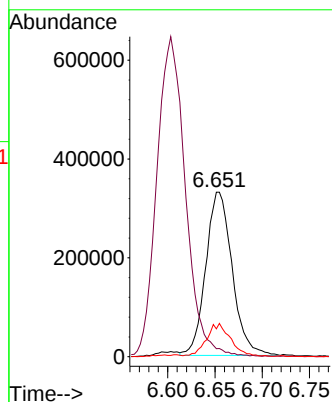
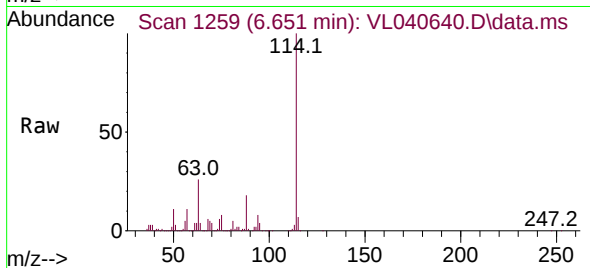
Tgt Ion: 63 Resp: 642086

Ion Ratio Lower Upper

63 100

41 4.7 58.2 87.2#

62 16.5 55.0 82.4#



#43

Methyl Methacrylate

Concen: 0.185 ppbv

RT: 7.568 min Scan# 1544

Delta R.T. 0.083 min

Lab File: VL040640.D

Acq: 15 Aug 2023 20:08

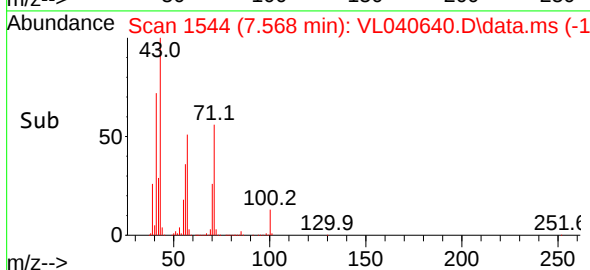
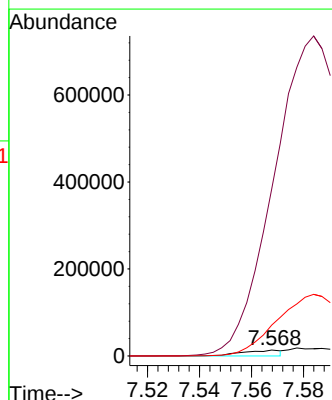
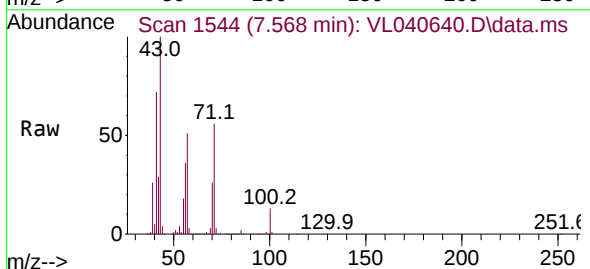
Tgt Ion: 69 Resp: 13990

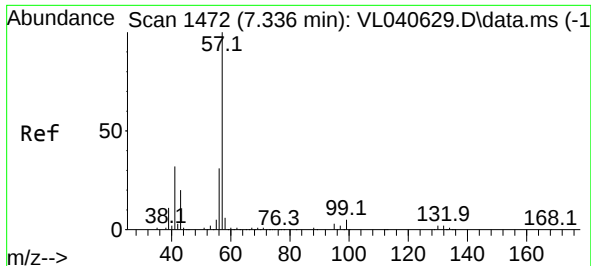
Ion Ratio Lower Upper

69 100

41 0.0 111.8 167.8#

100 0.0 25.8 38.6#





#44

2,2,4-Trimethylpentane

Concen: 3.377 ppbv

RT: 7.584 min Scan# 11

Delta R.T. 0.247 min

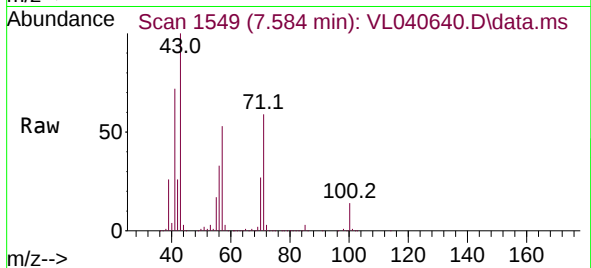
Lab File: VL040640.D

Acq: 15 Aug 2023 20:08

Instrument :

MSVOA\_L

ClientSampleId :



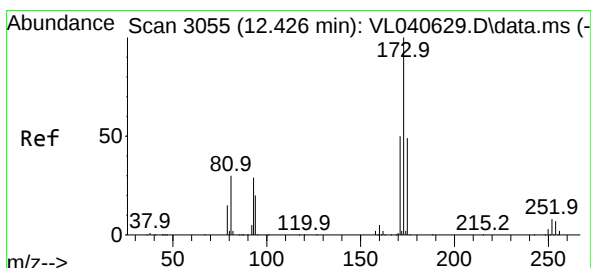
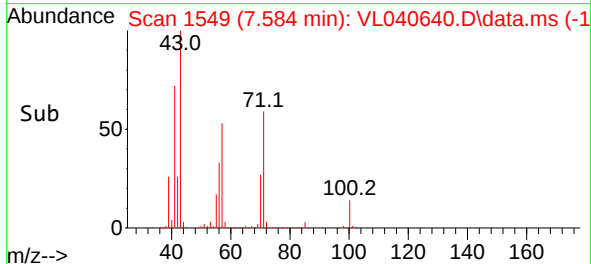
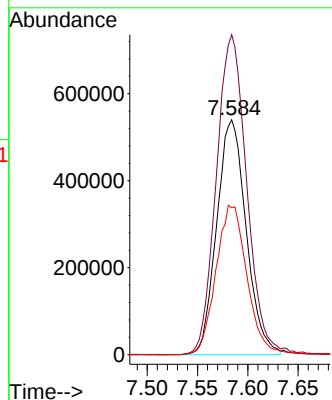
Tgt Ion: 57 Resp: 1100882

Ion Ratio Lower Upper

57 100

41 141.5 26.2 39.4#

56 67.2 24.7 37.1#



#49

Bromoform

Concen: 13.174 ppbv

RT: 12.413 min Scan# 3051

Delta R.T. -0.013 min

Lab File: VL040640.D

Acq: 15 Aug 2023 20:08

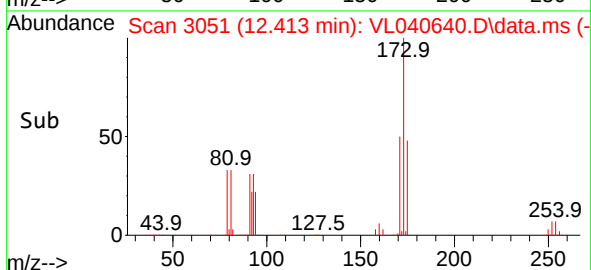
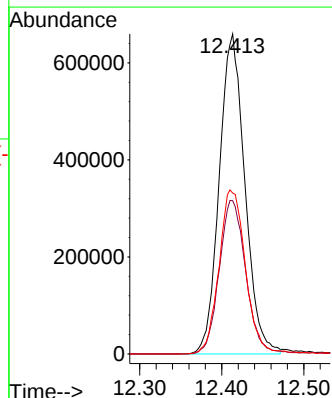
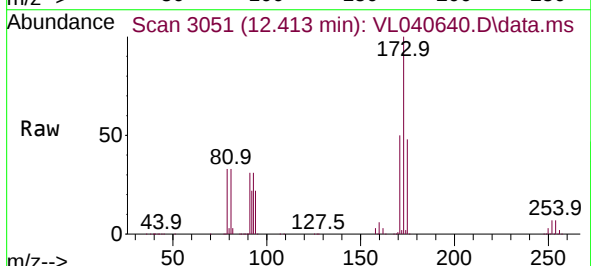
Tgt Ion: 173 Resp: 1431869

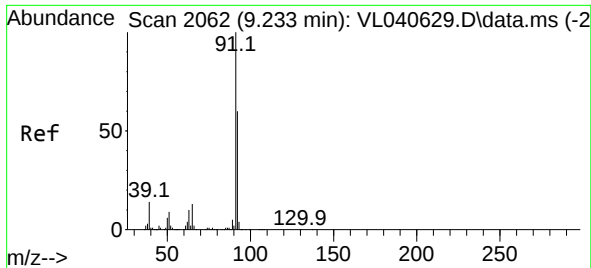
Ion Ratio Lower Upper

173 100

175 49.7 39.0 58.6

171 53.6 41.9 62.9





#53

Toluene

Concen: 12.890 ppbv

RT: 9.224 min Scan# 2062

Delta R.T. -0.010 min

Lab File: VL040640.D

Acq: 15 Aug 2023 20:08

Instrument :

MSVOA\_L

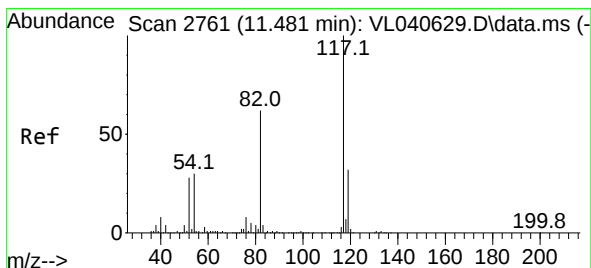
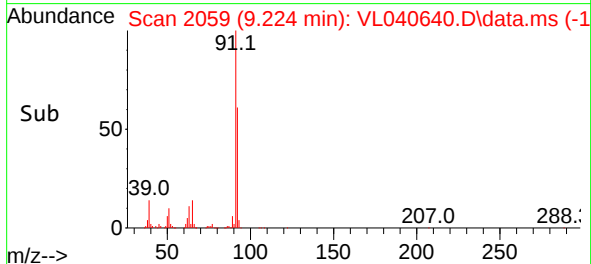
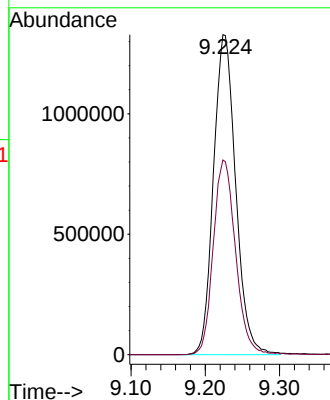
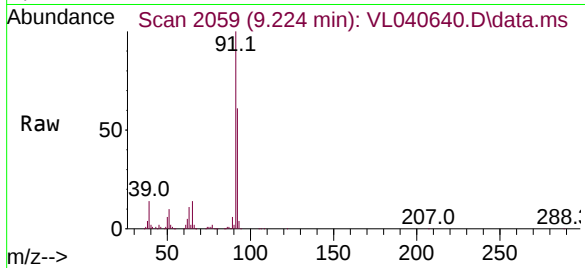
ClientSampleId :

Tgt Ion: 91 Resp: 2762835

Ion Ratio Lower Upper

91 100

92 61.1 48.0 72.0



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 11.471 min Scan# 2758

Delta R.T. -0.010 min

Lab File: VL040640.D

Acq: 15 Aug 2023 20:08

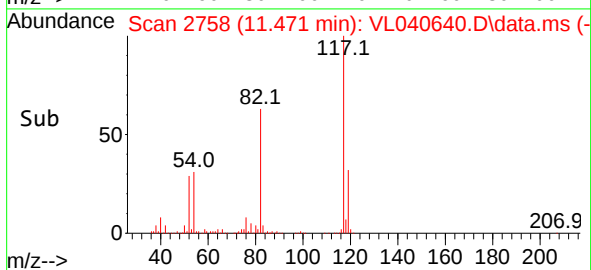
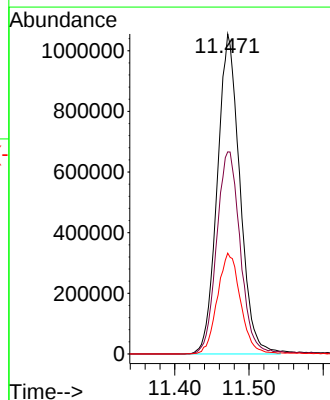
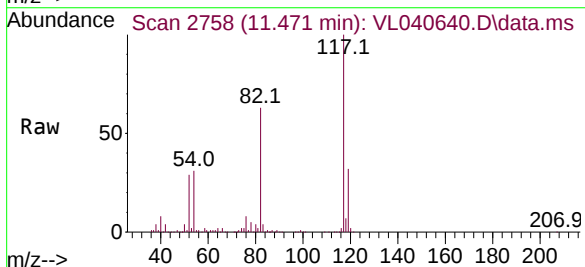
Tgt Ion: 117 Resp: 2226674

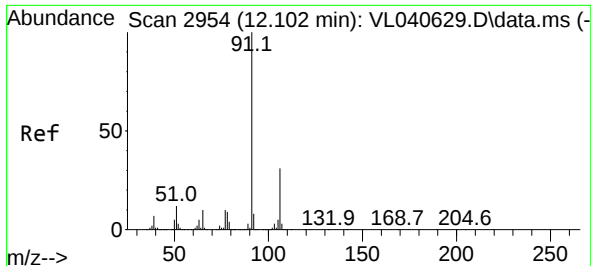
Ion Ratio Lower Upper

117 100

82 66.8 49.5 74.3

119 32.4 24.5 36.7

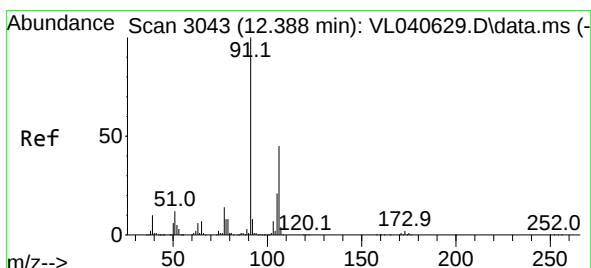
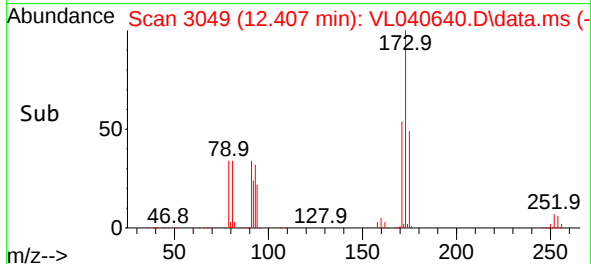
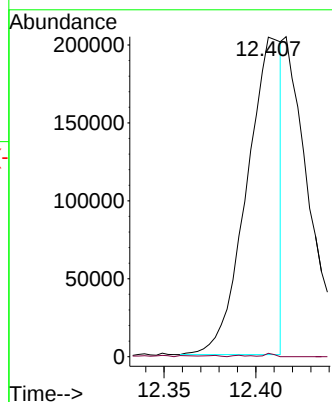
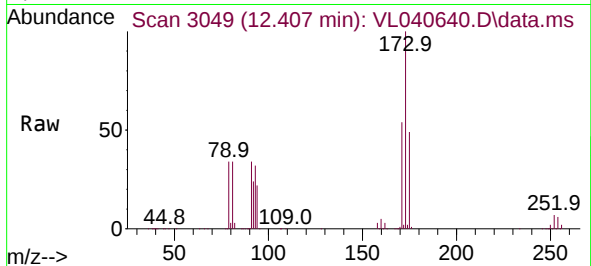




#58  
Ethyl Benzene  
Concen: 0.985 ppbv  
RT: 12.407 min Scan# 3049  
Delta R.T. 0.305 min  
Lab File: VL040640.D  
Acq: 15 Aug 2023 20:08

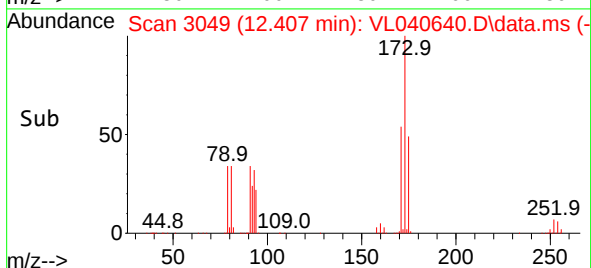
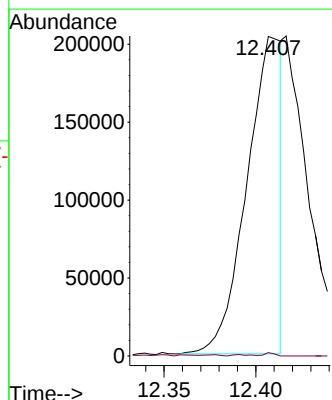
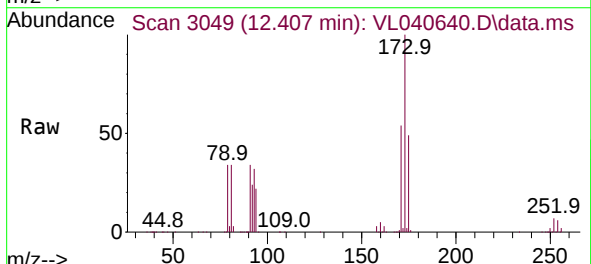
Instrument :  
MSVOA\_L  
ClientSampleId :

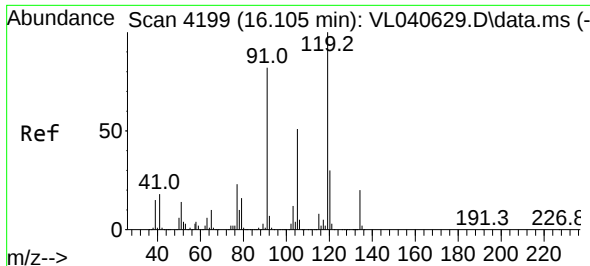
Tgt Ion: 91 Resp: 264424  
Ion Ratio Lower Upper  
91 100  
106 1.0 24.6 36.8#



#59  
m/p-Xylene  
Concen: 1.080 ppbv  
RT: 12.407 min Scan# 3049  
Delta R.T. 0.019 min  
Lab File: VL040640.D  
Acq: 15 Aug 2023 20:08

Tgt Ion: 91 Resp: 264424  
Ion Ratio Lower Upper  
91 100  
106 0.7 35.3 52.9#

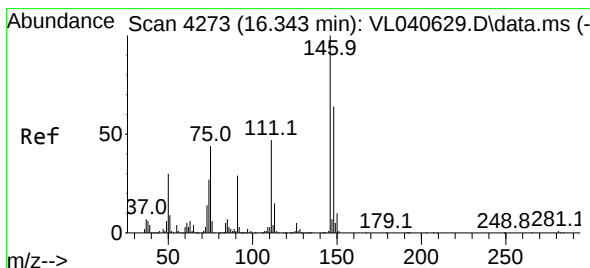
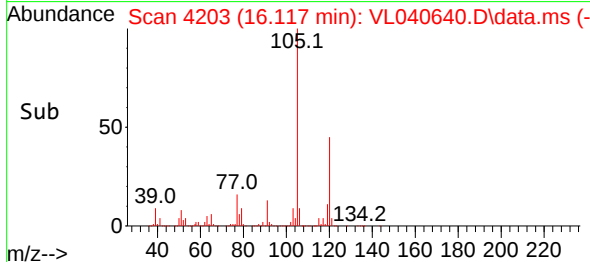
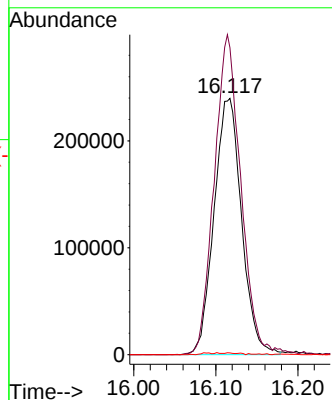
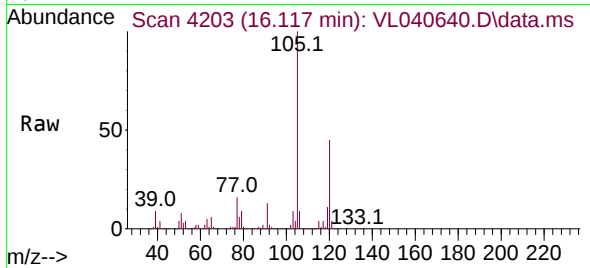




#65  
tert-Butylbenzene  
Concen: 1.838 ppbv  
RT: 16.117 min Scan# 4199  
Delta R.T. 0.013 min  
Lab File: VL040640.D  
Acq: 15 Aug 2023 20:08

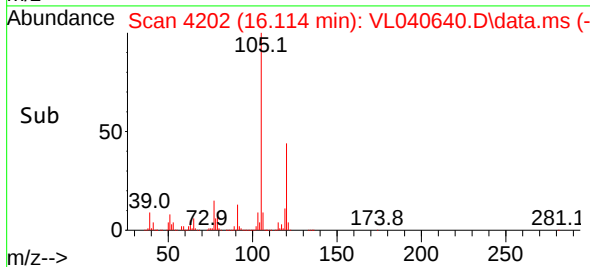
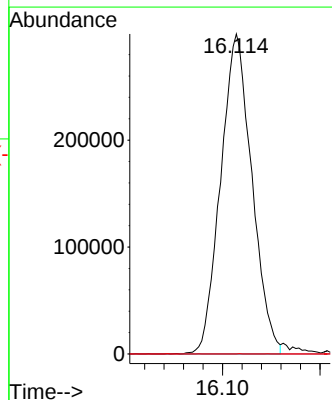
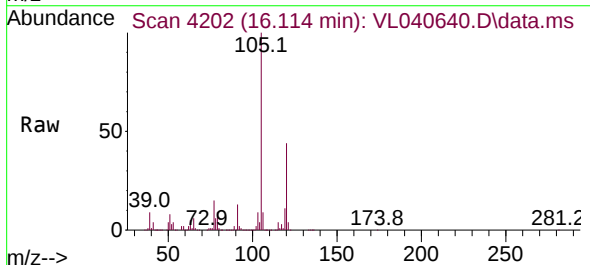
Instrument :  
MSVOA\_L  
ClientSampleId :

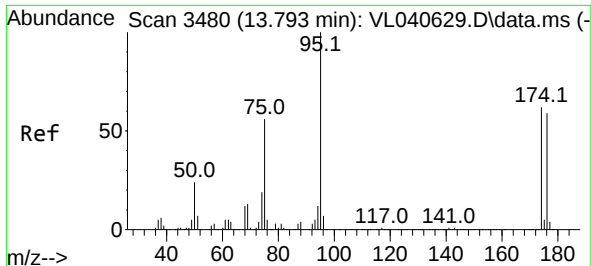
Tgt Ion:119 Resp: 559787  
Ion Ratio Lower Upper  
119 100  
91 121.5 67.8 101.6#  
134 1.0 15.7 23.5#



#66  
Benzyl Chloride  
Concen: 17.395 ppbv  
RT: 16.114 min Scan# 4202  
Delta R.T. -0.228 min  
Lab File: VL040640.D  
Acq: 15 Aug 2023 20:08

Tgt Ion: 91 Resp: 666076  
Ion Ratio Lower Upper  
91 100  
126 0.0 13.6 20.4#  
128 0.0 4.3 6.5#

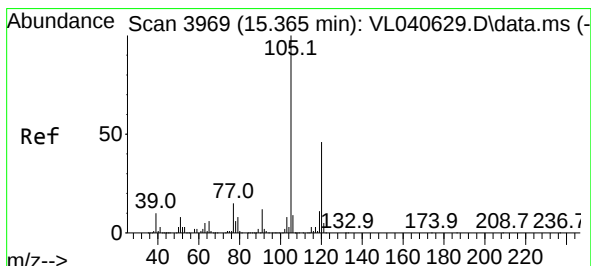
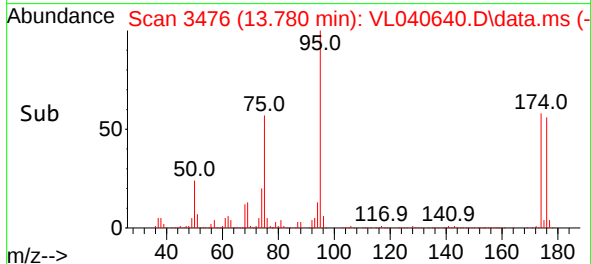
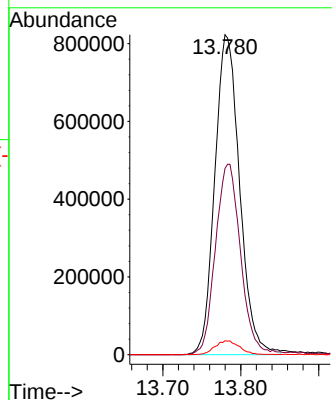
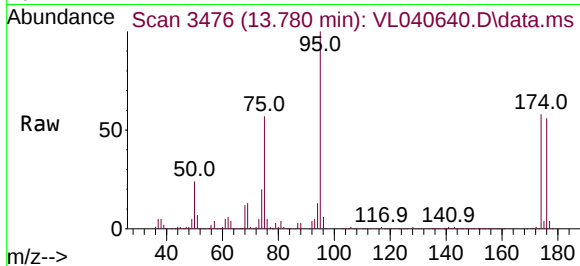




#68  
 1-Bromo-4-Fluorobenzene  
 Concen: 10.295 ppbv  
 RT: 13.780 min Scan# 3480  
 Delta R.T. -0.013 min  
 Lab File: VL040640.D  
 Acq: 15 Aug 2023 20:08

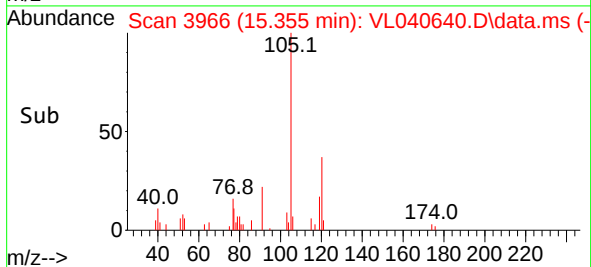
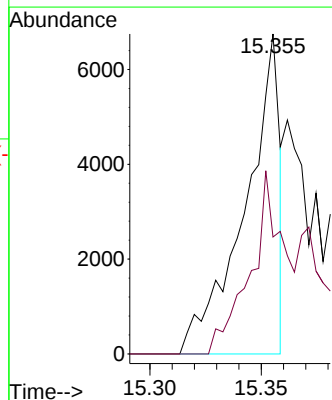
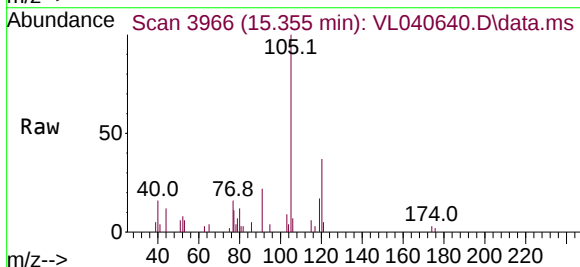
Instrument :  
 MSVOA\_L  
 ClientSampleId :

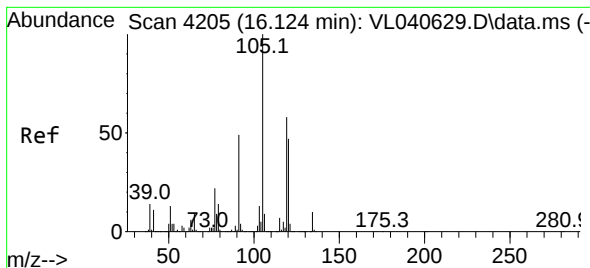
Tgt Ion: 95 Resp: 1823133  
 Ion Ratio Lower Upper  
 95 100  
 174 61.1 49.1 73.7  
 175 4.4 3.7 5.5



#73  
 1,3,5-Trimethylbenzene  
 Concen: 0.031 ppbv  
 RT: 15.355 min Scan# 3966  
 Delta R.T. -0.010 min  
 Lab File: VL040640.D  
 Acq: 15 Aug 2023 20:08

Tgt Ion: 105 Resp: 7271  
 Ion Ratio Lower Upper  
 105 100  
 120 36.5 36.5 54.7





#74

1,2,4-Trimethylbenzene

Concen: 18.921 ppbv

RT: 16.114 min Scan# 41

Delta R.T. -0.010 min

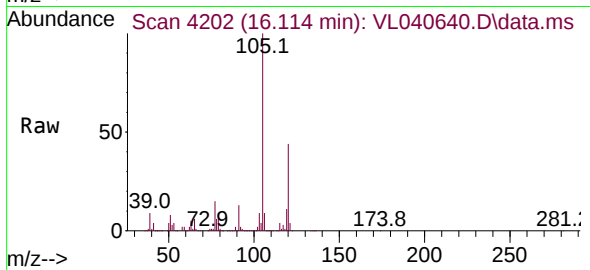
Lab File: VL040640.D

Acq: 15 Aug 2023 20:08

Instrument :

MSVOA\_L

ClientSampleId :



Tgt Ion:105 Resp: 5176670

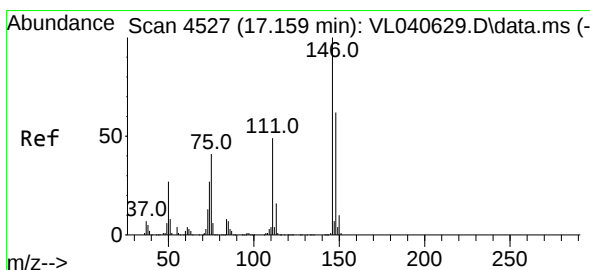
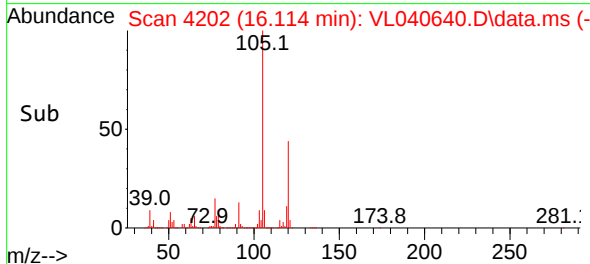
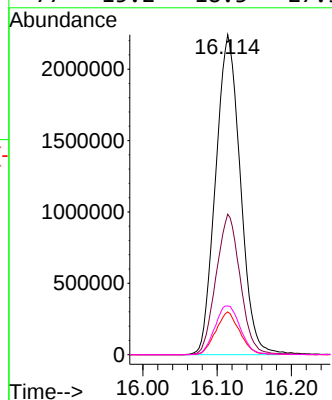
Ion Ratio Lower Upper

105 100

120 43.9 37.7 56.5

91 13.3 41.2 61.8#

77 15.2 18.3 27.5#



#77

1,2-Dichlorobenzene

Concen: 12.970 ppbv

RT: 17.149 min Scan# 4524

Delta R.T. -0.010 min

Lab File: VL040640.D

Acq: 15 Aug 2023 20:08

Tgt Ion:146 Resp: 2018547

Ion Ratio Lower Upper

146 100

111 51.9 24.6 74.0

148 65.4 32.1 96.5

