

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL033121\  
 Data File : VL036604.D  
 Acq On : 31 Mar 2021 16:27  
 Operator : SY/AP  
 Sample : M1840-04DL 10X  
 Misc : 400mL/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :

Quant Time: Apr 01 04:27:43 2021  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL032521AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Thu Mar 25 09:42:40 2021  
 QLast Update : Thu Mar 25 09:42:40 2021  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.67  | 49   | 1711021  | 10.00 | ppbv  | 0.00     |
| 33) 1,4-Difluorobenzene | 7.18  | 114  | 3990744  | 10.00 | ppbv  | 0.00     |
| 55) Chlorobenzene-d5    | 12.09 | 117  | 3529699  | 10.00 | ppbv  | 0.00     |

| System Monitoring Compounds |        | R.T.  | QIon     | Response | Conc | Units  | Dev(Min) |
|-----------------------------|--------|-------|----------|----------|------|--------|----------|
| 68) 1-Bromo-4-Fluorobenzene | 14.42  | 95    | 2740477  | 9.74     | ppbv | 0.00   |          |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 97.40% |          |

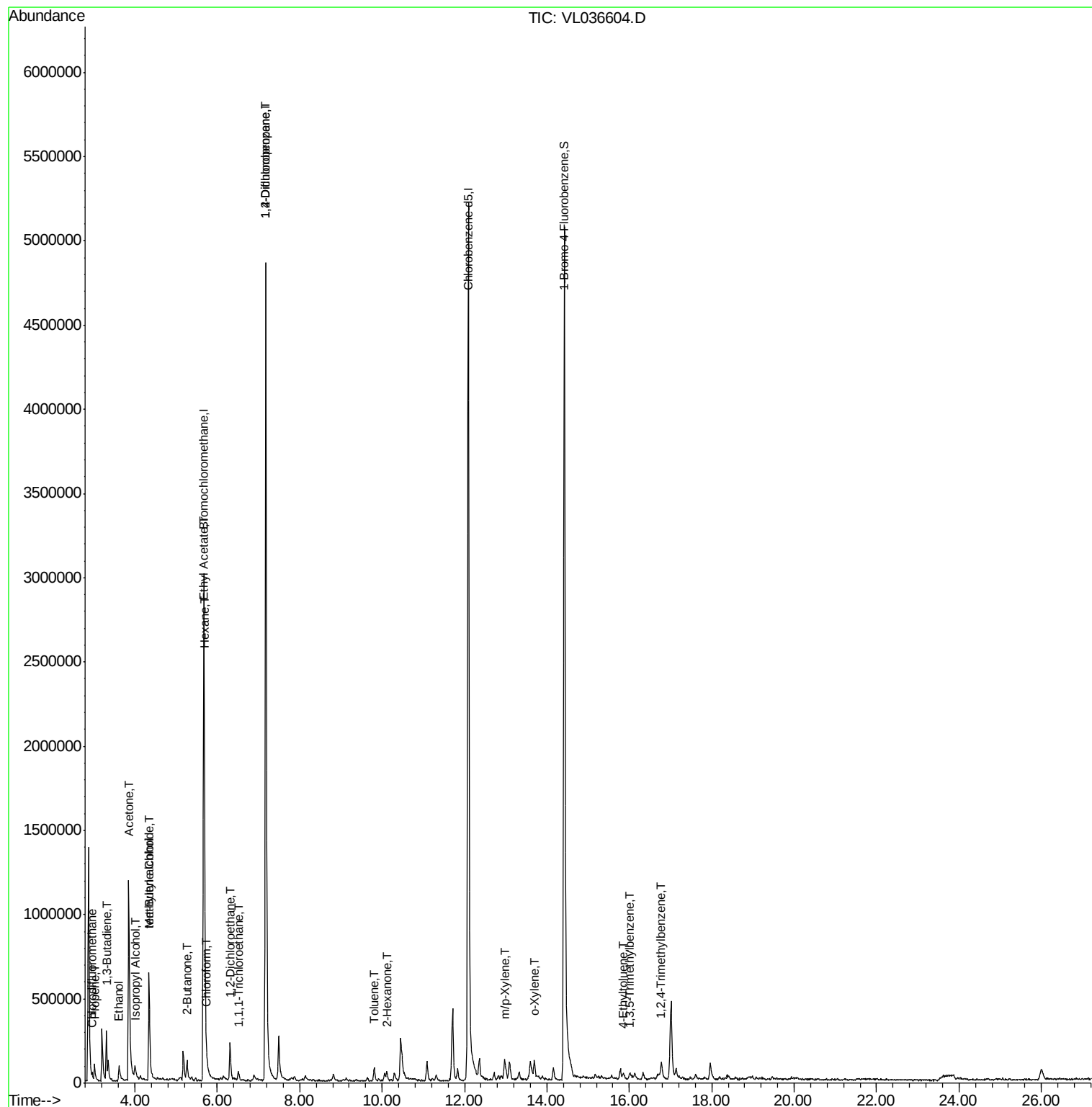
| Target Compounds           | R.T.  | QIon | Response | Conc   | Units  | Ovalue |
|----------------------------|-------|------|----------|--------|--------|--------|
| 3) Chlorodifluoromethane   | 2.96  | 51   | 32798    | 0.103  | ppbv # | 60     |
| 9) Propene                 | 3.02  | 41   | 25118    | 0.246  | ppbv   | 94     |
| 13) Ethanol                | 3.62  | 45   | 124467   | 10.256 | ppbv   | 98     |
| 15) Acetone                | 3.85  | 43   | 1697924  | 10.082 | ppbv   | 95     |
| 16) 1,3-Butadiene          | 3.31  | 39   | 87074    | 0.743  | ppbv # | 24     |
| 17) tert-Butyl alcohol     | 4.34  | 59   | 37812    | 0.258  | ppbv # | 72     |
| 19) Isopropyl Alcohol      | 4.00  | 45   | 49384    | 0.533  | ppbv # | 89     |
| 20) Methylene Chloride     | 4.35  | 84   | 209816   | 2.661  | ppbv   | 95     |
| 25) Ethyl Acetate          | 5.69  | 43   | 191193   | 0.478  | ppbv # | 76     |
| 26) Hexane                 | 5.69  | 57   | 262182   | 1.411  | ppbv # | 46     |
| 29) Chloroform             | 5.75  | 83   | 5986     | 0.020  | ppbv   | 87     |
| 32) 1,1,1-Trichloroethane  | 6.51  | 97   | 19187    | 0.064  | ppbv # | 35     |
| 34) 2-Butanone             | 5.26  | 43   | 139245   | 0.715  | ppbv # | 78     |
| 37) 1,2-Dichloroethane     | 6.31  | 62   | 182910   | 0.844  | ppbv   | 98     |
| 39) 1,2-Dichloropropane    | 7.18  | 63   | 1091324  | 7.310  | ppbv # | 23     |
| 51) 2-Hexanone             | 10.12 | 43   | 11217    | 0.079  | ppbv # | 37     |
| 53) Toluene                | 9.81  | 91   | 23244    | 0.059  | ppbv # | 20     |
| 59) m/p-Xylene             | 13.00 | 91   | 33640    | 0.075  | ppbv # | 32     |
| 60) o-Xylene               | 13.70 | 91   | 50770    | 0.117  | ppbv   | 71     |
| 72) 4-Ethyltoluene         | 15.85 | 105  | 15297    | 0.032  | ppbv # | 43     |
| 73) 1,3,5-Trimethylbenzene | 16.01 | 105  | 13547    | 0.031  | ppbv   | 89     |
| 74) 1,2,4-Trimethylbenzene | 16.77 | 105  | 22805    | 0.048  | ppbv # | 58     |

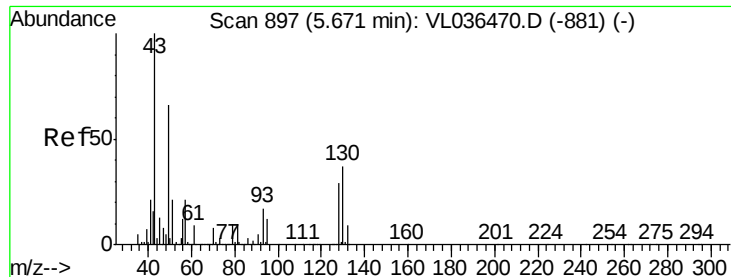
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\V0ASRV\HPCHEM1\MSVOA L\DATA\VL033121\  
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Instrument :  
MSVOA\_L  
ClientSampleId :

Quant Time: Apr 01 04:27:43 2021  
Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA L\METHODS\VL032521AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Thu Mar 25 09:42:40 2021  
QLast Update : Thu Mar 25 09:42:40 2021  
Response via : Initial Calibration





#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.67 min Scan# 896

Delta R.T. -0.00 min

Lab File: VL036604.D

Acq: 31 Mar 2021 16:27

Instrument :

MSVOA\_L

ClientSampleId :

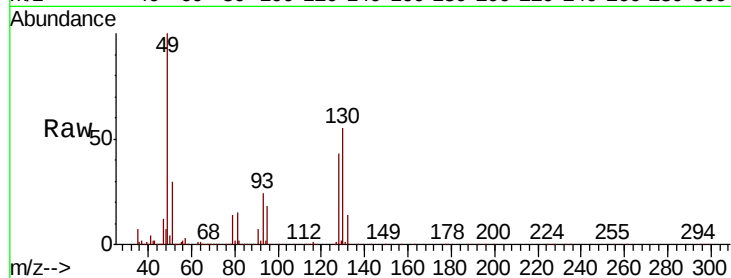
Tot Ion: 49 Resp: 1711021

| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 49  | 100   |       |       |
| 128 | 45.3  | 23.5  | 70.6  |
| 130 | 57.5  | 29.1  | 87.4  |

49 100

128 45.3 23.5 70.6

130 57.5 29.1 87.4



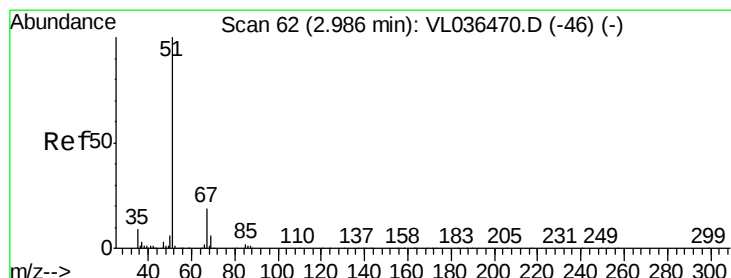
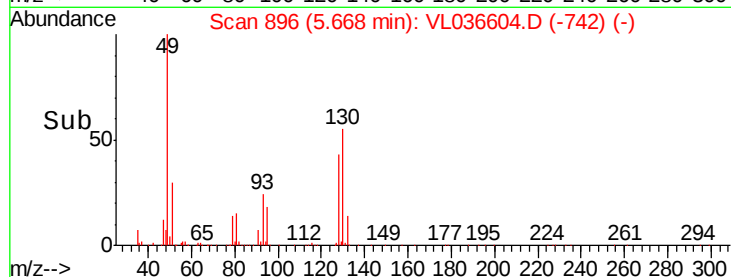
Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): V

Ion 130.00 (129.70 to 130.70): V

5.67

Time-->



#3

Chlorodifluoromethane

Concen: 0.103 ppbv

RT: 2.96 min Scan# 54

Delta R.T. -0.03 min

Lab File: VL036604.D

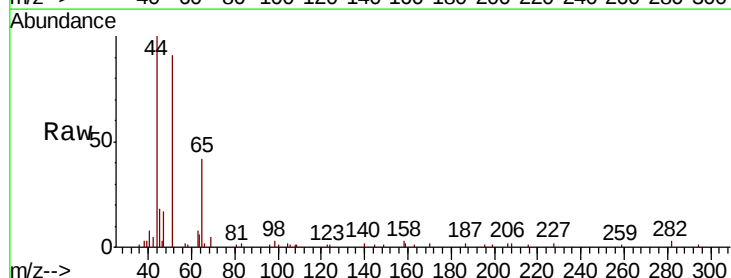
Acq: 31 Mar 2021 16:27

Tgt Ion: 51 Resp: 32798

| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 51  | 100   |       |       |
| 67  | 0.7   | 14.7  | 22.1  |

51 100

67 0.7 14.7 22.1#

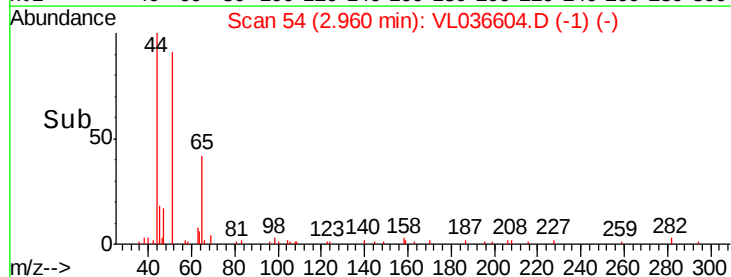


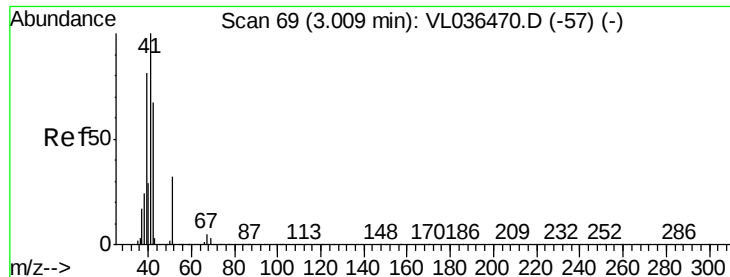
Abundance Ion 51.00 (50.70 to 51.70): VL0

Ion 67.00 (66.70 to 67.70): VL0

2.96

Time-->





#9

Propene

Concen: 0.246 ppbv

RT: 3.02 min Scan# 72

Delta R.T. 0.01 min

Lab File: VL036604.D

Acq: 31 Mar 2021 16:27

Instrument :

MSVOA\_L

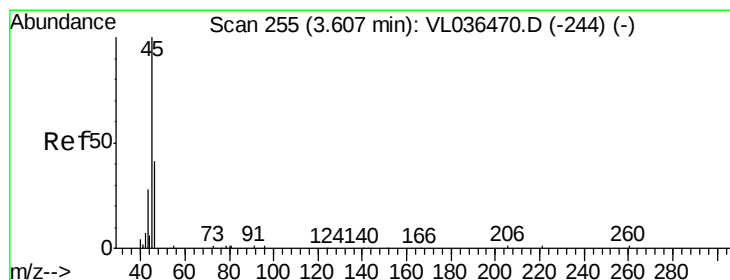
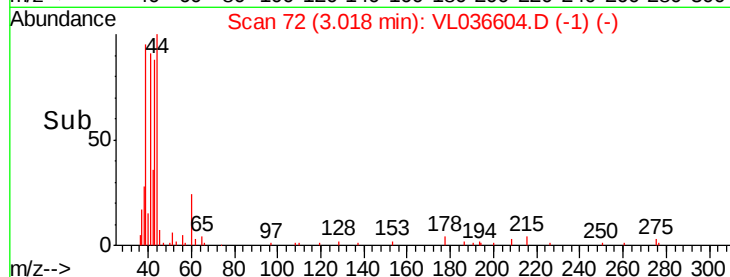
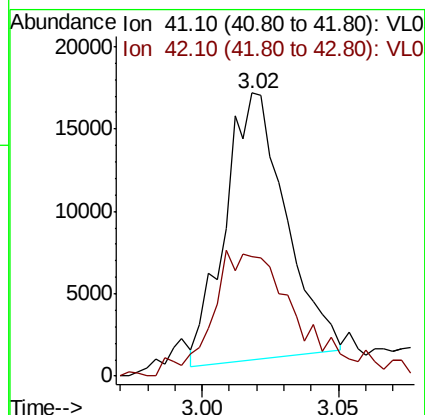
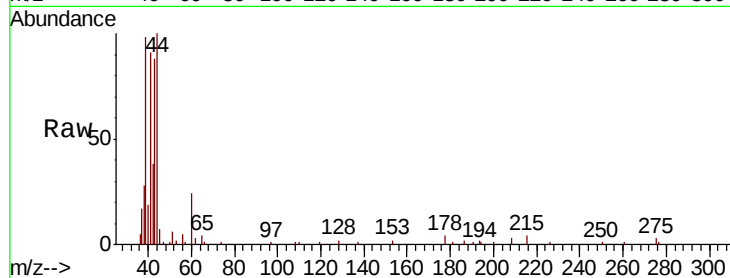
ClientSampleId :

Tot Ion: 41 Resp: 25118

Ion Ratio Lower Upper

41 100

42 66.5 57.0 85.4



#13

Ethanol

Concen: 10.256 ppbv

RT: 3.62 min Scan# 258

Delta R.T. 0.01 min

Lab File: VL036604.D

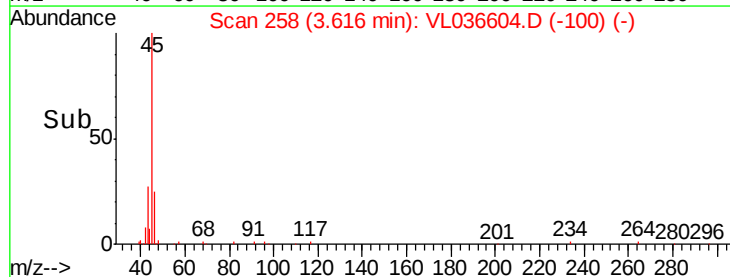
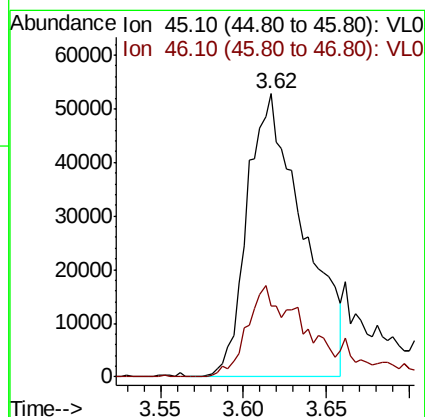
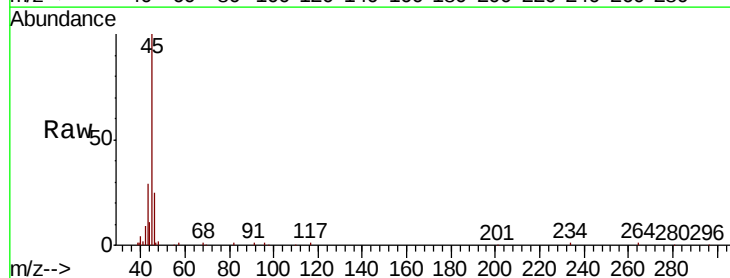
Acq: 31 Mar 2021 16:27

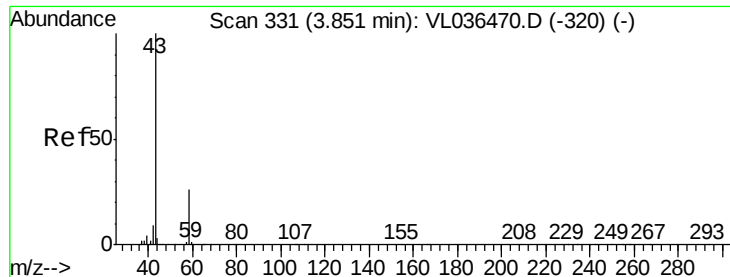
Tgt Ion: 45 Resp: 124467

Ion Ratio Lower Upper

45 100

46 40.0 16.6 66.2





#15

Acetone

Concen: 10.082 ppbv

RT: 3.85 min Scan# 331

Delta R.T. -0.00 min

Lab File: VL036604.D

Acq: 31 Mar 2021 16:27

Instrument :

MSVOA\_L

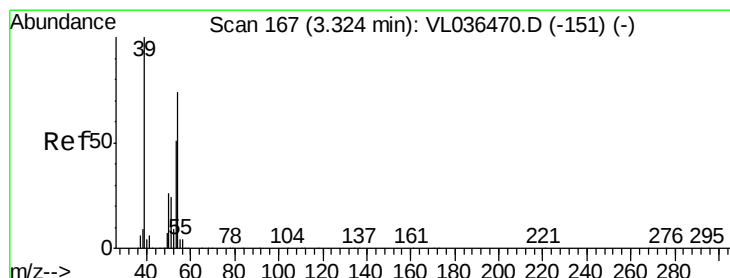
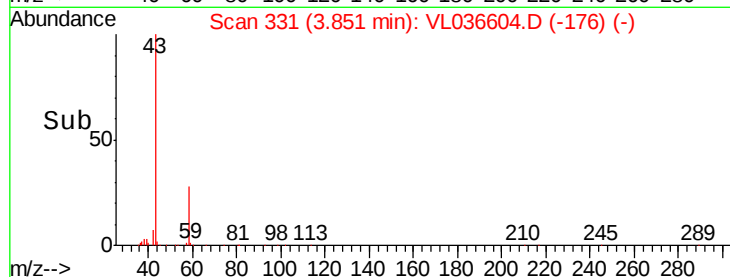
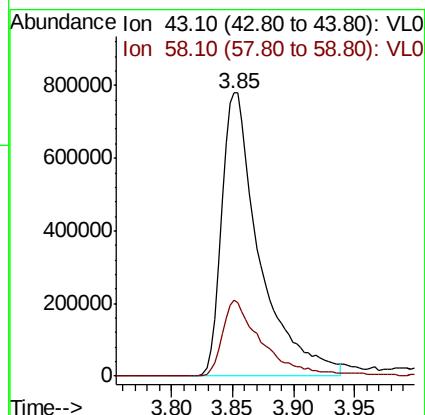
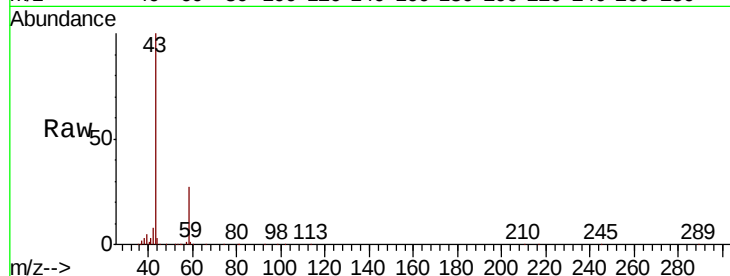
ClientSampleId :

Tot Ion: 43 Resp: 1697924

Ion Ratio Lower Upper

43 100

58 29.2 21.2 31.8



#16

1,3-Butadiene

Concen: 0.743 ppbv

RT: 3.31 min Scan# 162

Delta R.T. -0.02 min

Lab File: VL036604.D

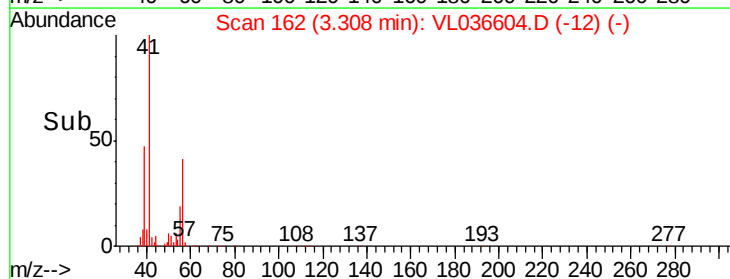
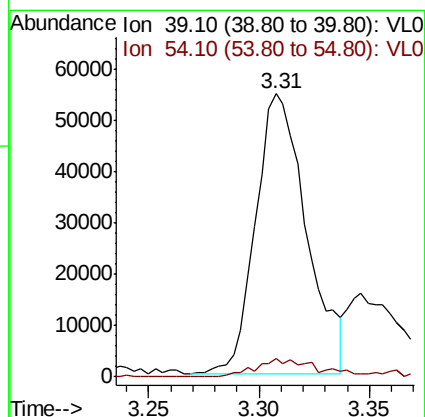
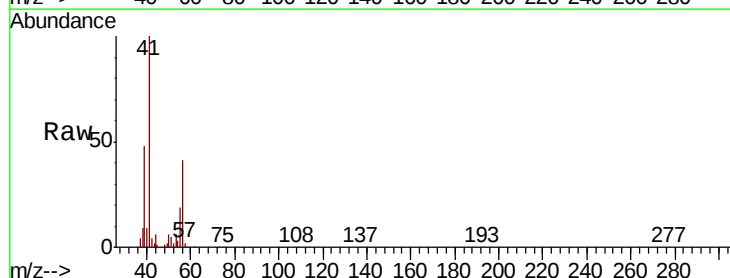
Acq: 31 Mar 2021 16:27

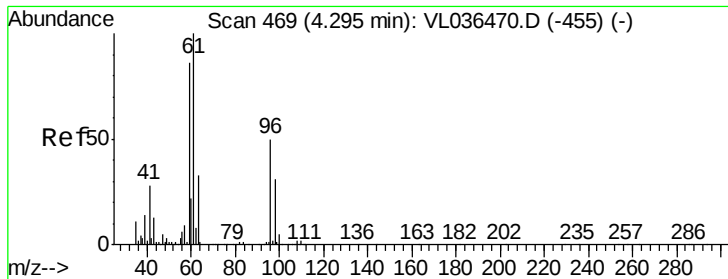
Tgt Ion: 39 Resp: 87074

Ion Ratio Lower Upper

39 100

54 9.4 58.8 88.2#



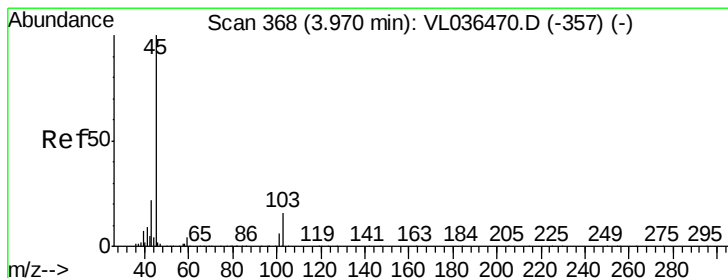
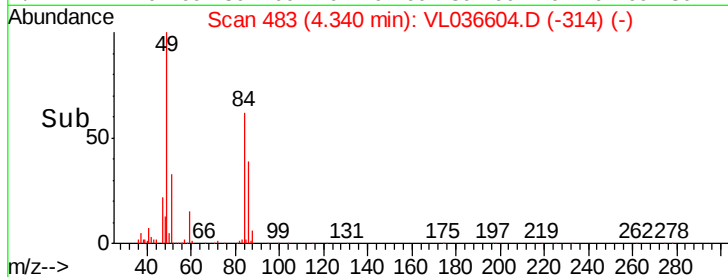
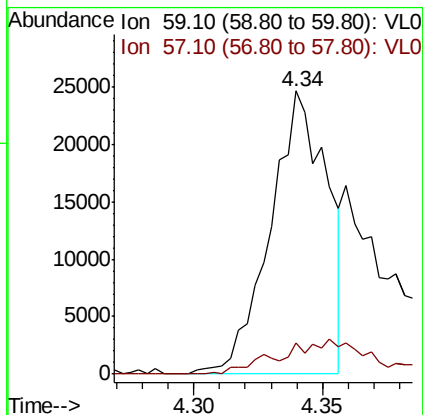
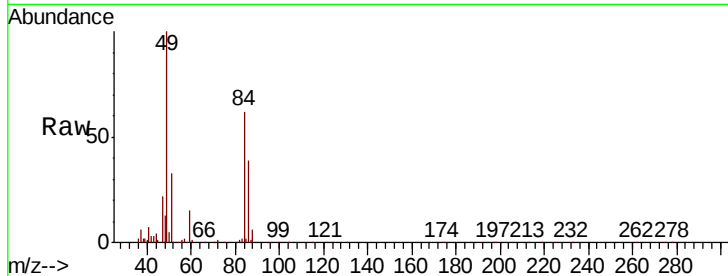


#17

tert-Butyl alcohol  
 Concen: 0.258 ppbv  
 RT: 4.34 min Scan# 483  
 Delta R.T. 0.04 min  
 Lab File: VL036604.D  
 Acq: 31 Mar 2021 16:27

Instrument :  
 MSVOA\_L  
 ClientSampleId :

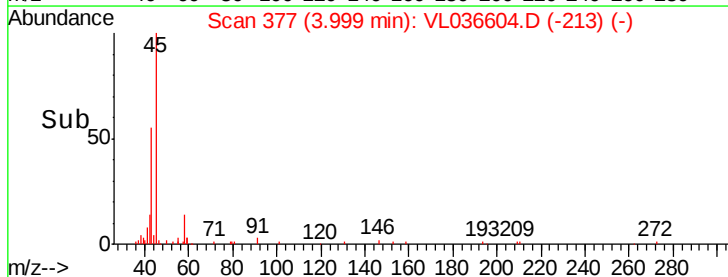
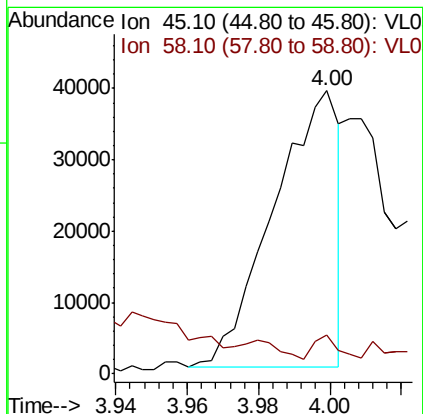
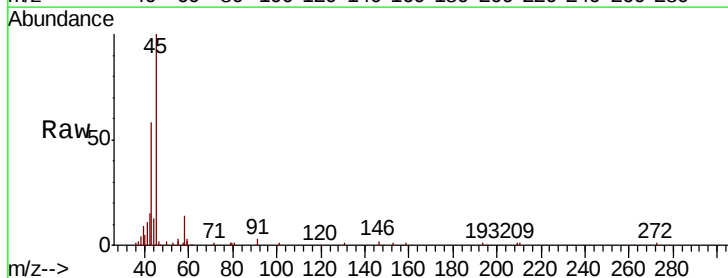
Tot Ion: 59 Resp: 37812  
 Ion Ratio Lower Upper  
 59 100  
 57 0.0 8.6 12.8#

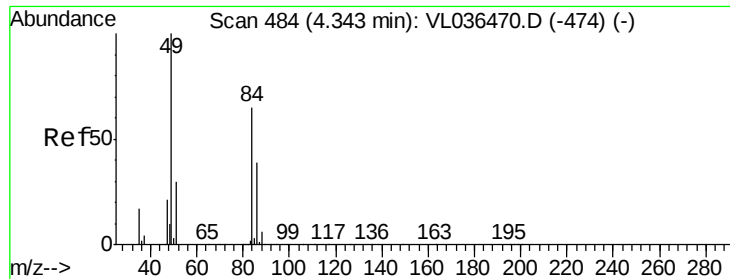


#19

Isopropyl Alcohol  
 Concen: 0.533 ppbv  
 RT: 4.00 min Scan# 377  
 Delta R.T. 0.03 min  
 Lab File: VL036604.D  
 Acq: 31 Mar 2021 16:27

Tgt Ion: 45 Resp: 49384  
 Ion Ratio Lower Upper  
 45 100  
 58 0.0 2.9 4.3#

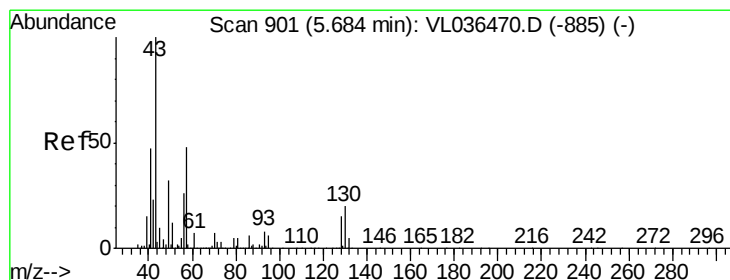
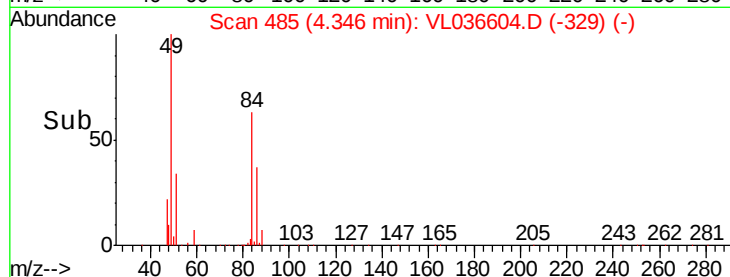
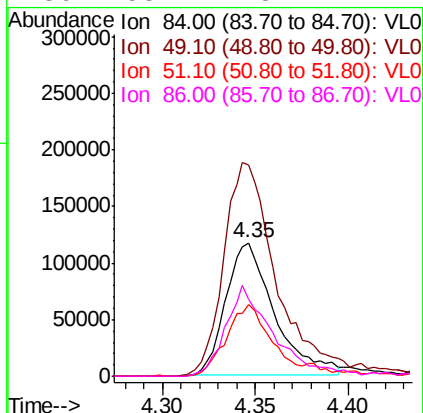
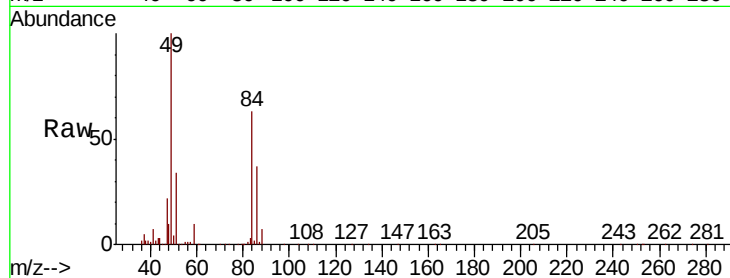




#20  
Methvlene Chloride  
Concen: 2.661 ppbv  
RT: 4.35 min Scan# 485  
Delta R.T. 0.00 min  
Lab File: VL036604.D  
Acq: 31 Mar 2021 16:27

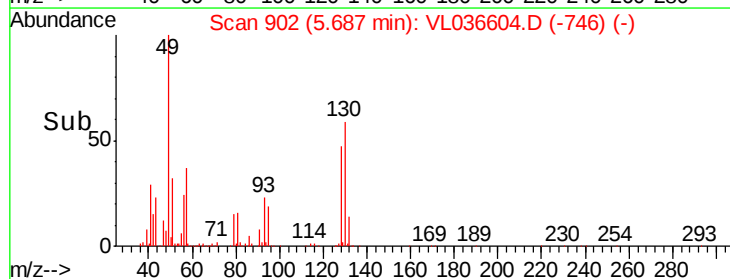
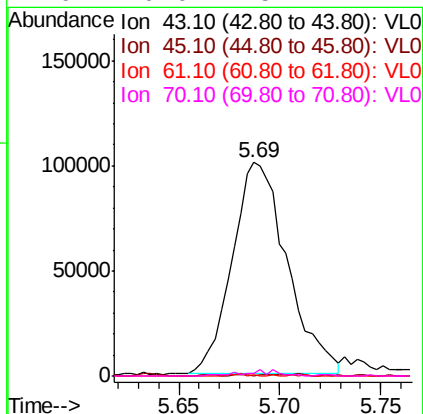
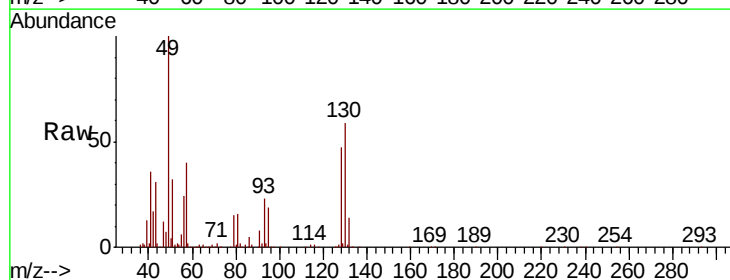
Instrument :  
MSVOA\_L  
ClientSampled :

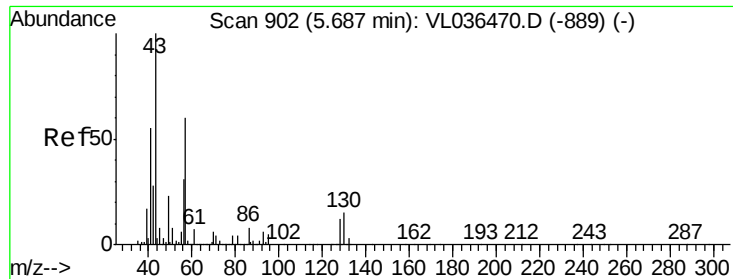
|          |       |       |        |
|----------|-------|-------|--------|
| Tot Ion: | 84    | Resp: | 209816 |
| Ion      | Ratio | Lower | Upper  |
| 84       | 100   |       |        |
| 49       | 158.3 | 122.9 | 184.3  |
| 51       | 53.0  | 36.9  | 55.3   |
| 86       | 58.4  | 48.2  | 72.4   |



#25  
Ethyl Acetate  
Concen: 0.478 ppbv  
RT: 5.69 min Scan# 902  
Delta R.T. 0.00 min  
Lab File: VL036604.D  
Acq: 31 Mar 2021 16:27

|          |       |       |        |
|----------|-------|-------|--------|
| Tgt Ion: | 43    | Resp: | 191193 |
| Ion      | Ratio | Lower | Upper  |
| 43       | 100   |       |        |
| 45       | 0.4   | 7.9   | 11.9#  |
| 61       | 0.3   | 7.4   | 11.2#  |
| 70       | 0.0   | 5.1   | 7.7#   |





#26

Hexane

Concen: 1.411 ppbv

RT: 5.69 min Scan# 903

Delta R.T. 0.00 min

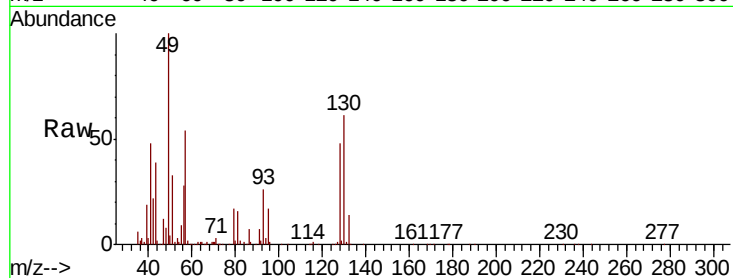
Lab File: VL036604.D

Acq: 31 Mar 2021 16:27

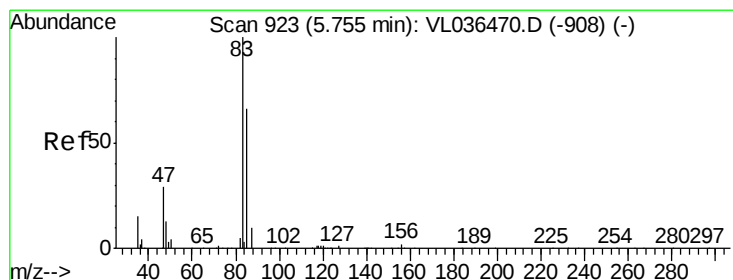
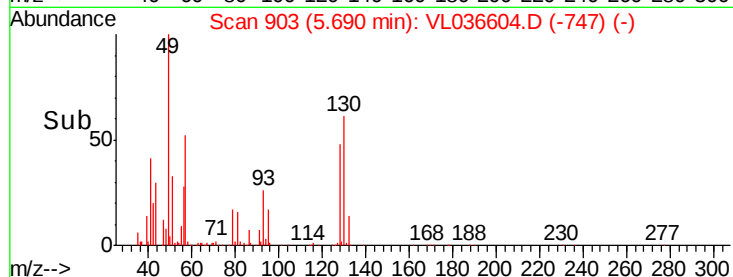
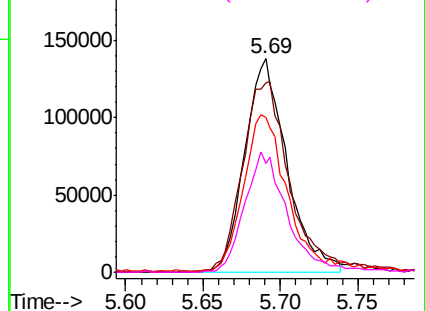
Instrument :  
MSVOA\_L  
ClientSampleId :

Tot Ion: 57 Resp: 262182

| Ion | Ratio | Lower | Upper  |
|-----|-------|-------|--------|
| 57  | 100   |       |        |
| 41  | 103.1 | 77.2  | 115.8  |
| 43  | 78.8  | 173.8 | 260.6# |
| 56  | 57.8  | 43.8  | 65.6   |



Abundance Ion 57.10 (56.80 to 57.80): VL0  
Ion 41.10 (40.80 to 41.80): VL0  
Ion 43.10 (42.80 to 43.80): VL0  
Ion 56.10 (55.80 to 56.80): VL0



#29

Chloroform

Concen: 0.020 ppbv

RT: 5.75 min Scan# 921

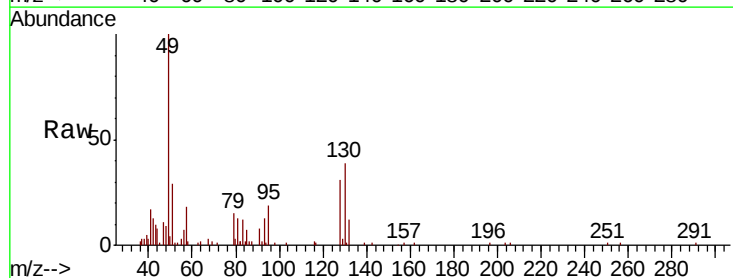
Delta R.T. -0.01 min

Lab File: VL036604.D

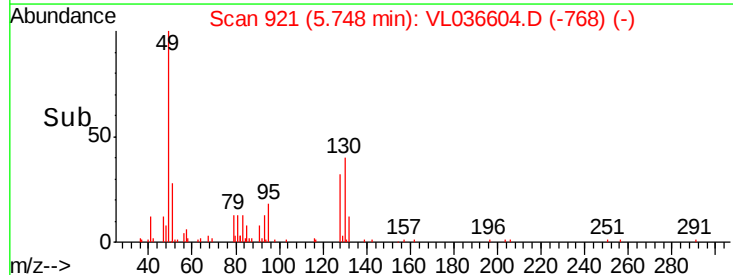
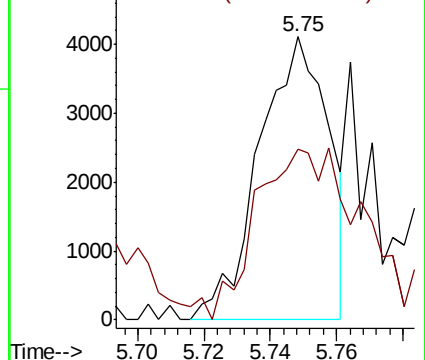
Acq: 31 Mar 2021 16:27

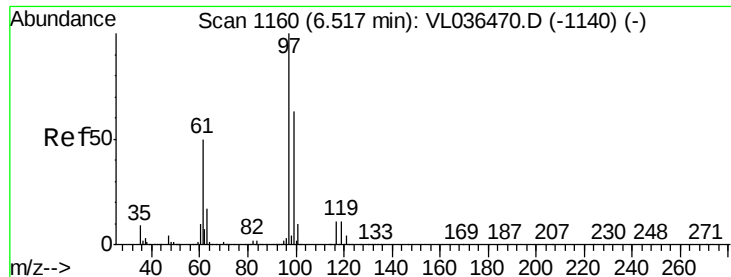
Tgt Ion: 83 Resp: 5986

| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 83  | 100   |       |       |
| 85  | 55.6  | 52.6  | 78.8  |



Abundance Ion 83.00 (82.70 to 83.70): VL0  
Ion 85.00 (84.70 to 85.70): VL0





#32

1,1,1-Trichloroethane

Concen: 0.064 ppbv

RT: 6.51 min Scan# 1157

Delta R.T. -0.01 min

Lab File: VL036604.D

Acq: 31 Mar 2021 16:27

Instrument :

MSVOA\_L

ClientSampleId :

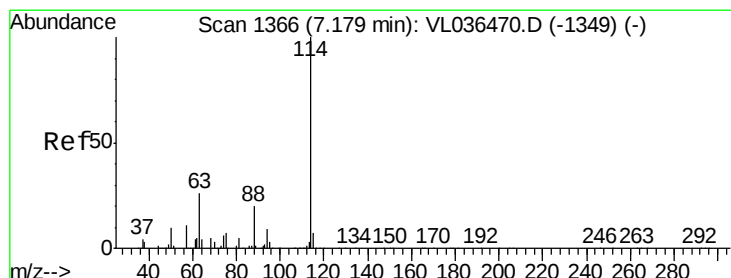
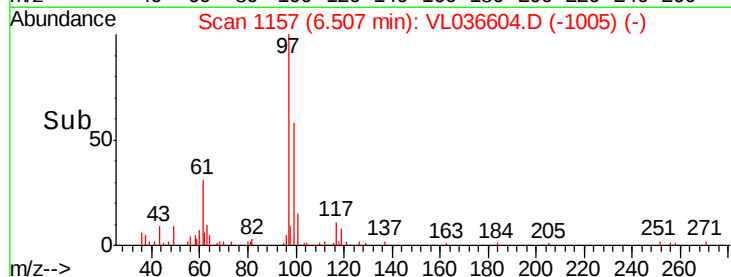
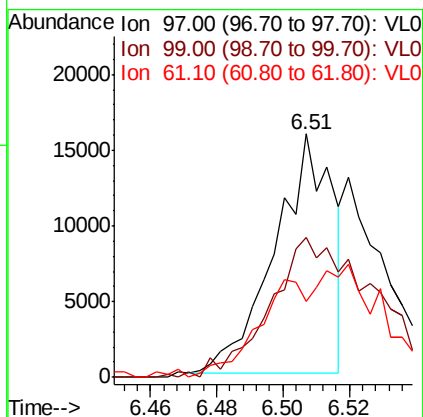
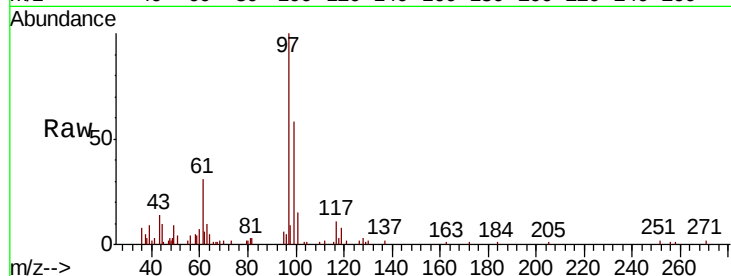
Tot Ion: 97 Resp: 19187

Ion Ratio Lower Upper

97 100

99 111.9 51.4 77.0#

61 99.0 40.6 60.8#



#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 7.18 min Scan# 1365

Delta R.T. -0.00 min

Lab File: VL036604.D

Acq: 31 Mar 2021 16:27

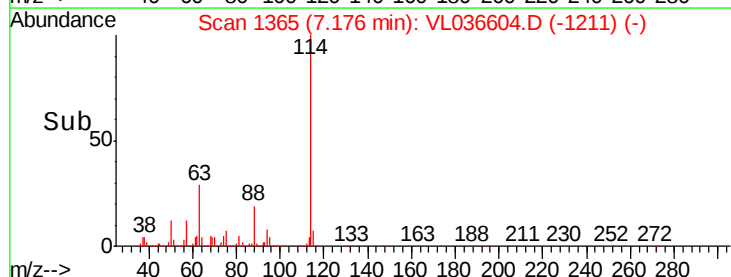
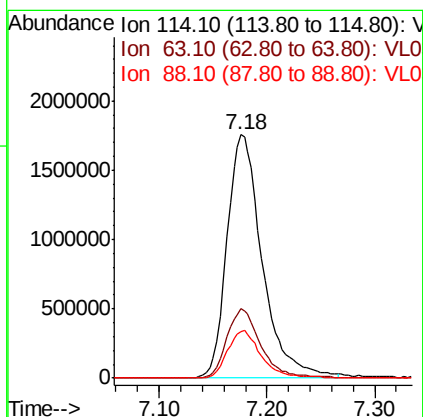
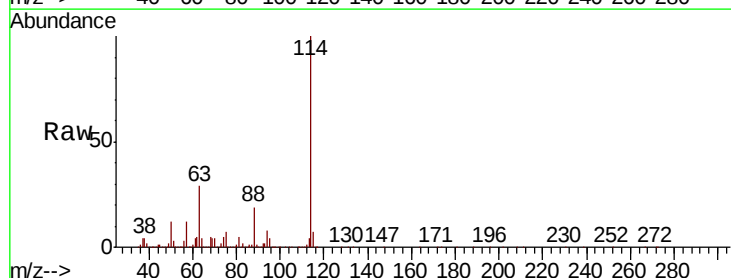
Tgt Ion: 114 Resp: 3990744

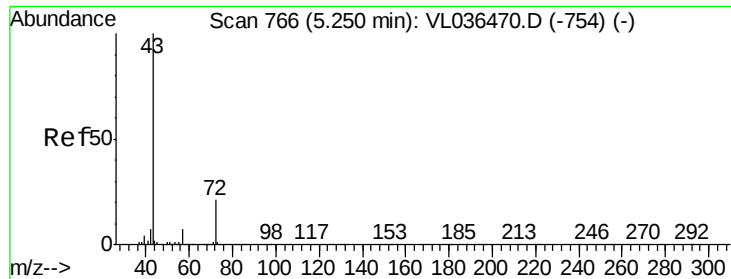
Ion Ratio Lower Upper

114 100

63 27.9 22.4 33.6

88 19.2 15.4 23.0

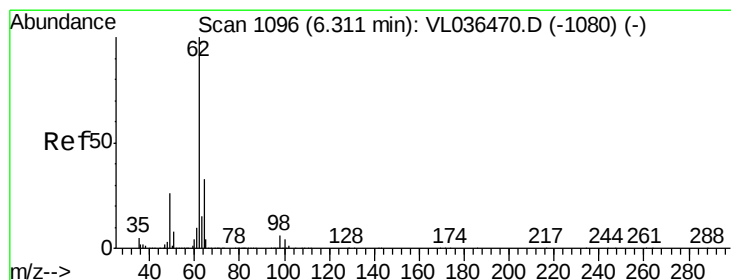
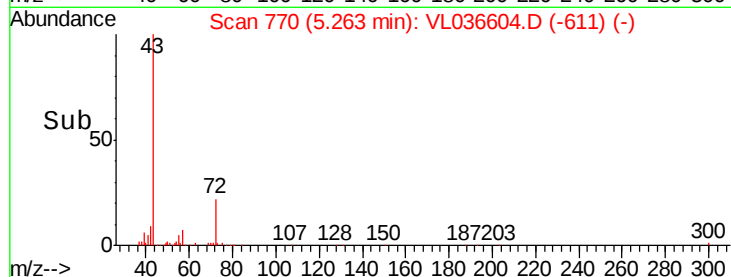
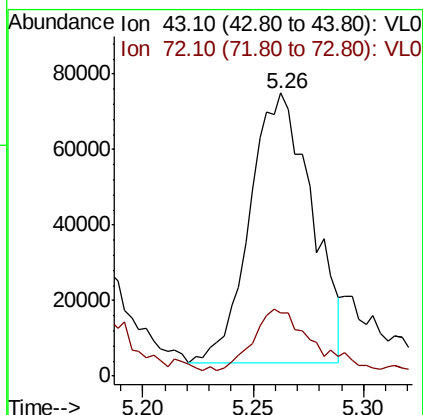
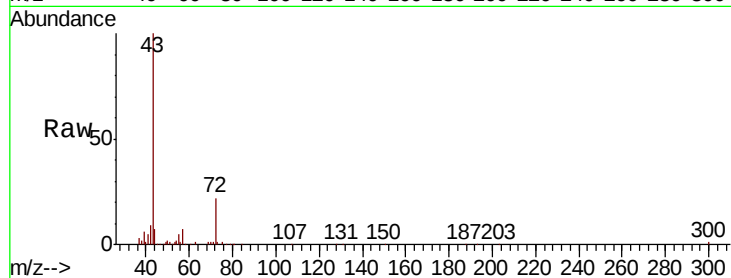




#34  
2-Butanone  
Concen: 0.715 ppbv  
RT: 5.26 min Scan# 770  
Delta R.T. 0.01 min  
Lab File: VL036604.D  
Acq: 31 Mar 2021 16:27

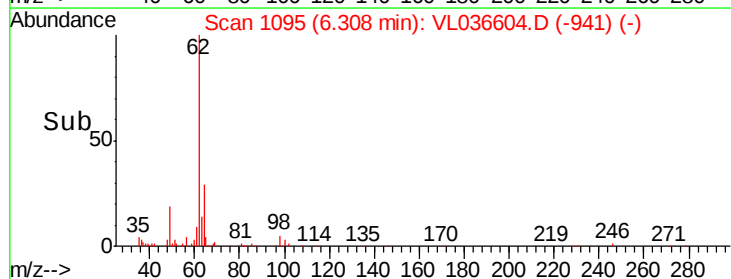
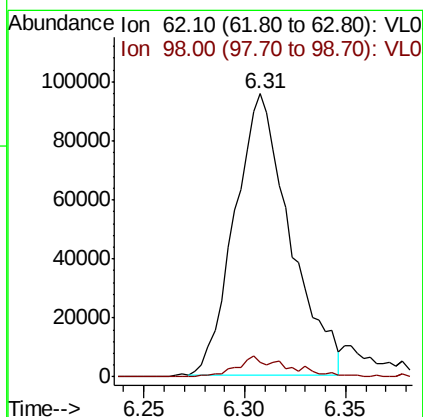
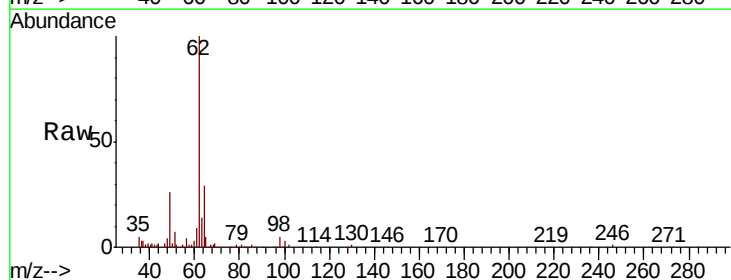
Instrument :  
MSVOA\_L  
ClientSampleId :

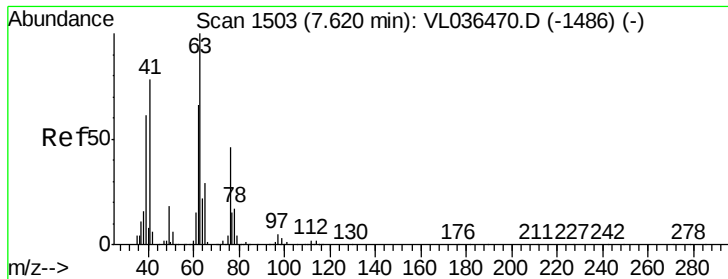
Tot Ion: 43 Resp: 139245  
Ion Ratio Lower Upper  
43 100  
72 31.9 17.0 25.6#



#37  
1,2-Dichloroethane  
Concen: 0.844 ppbv  
RT: 6.31 min Scan# 1095  
Delta R.T. -0.00 min  
Lab File: VL036604.D  
Acq: 31 Mar 2021 16:27

Tgt Ion: 62 Resp: 182910  
Ion Ratio Lower Upper  
62 100  
98 6.8 4.9 7.3

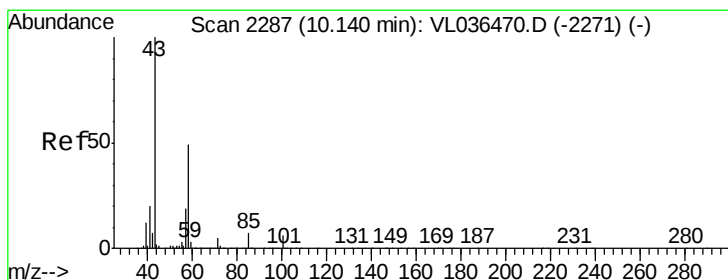
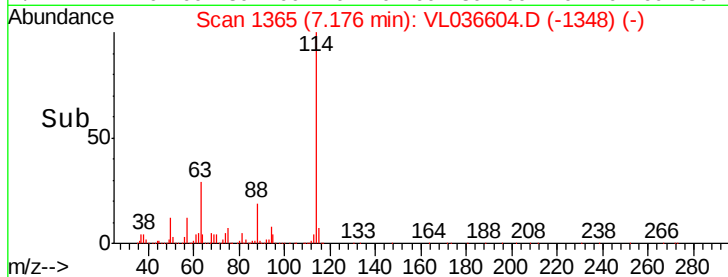
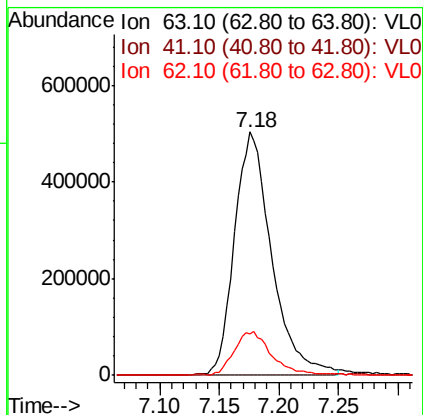
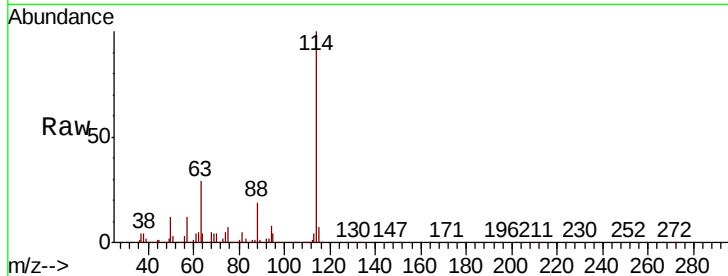




#39  
 1,2-Dichloropropane  
 Concen: 7.310 ppbv  
 RT: 7.18 min Scan# 1365  
 Delta R.T. -0.44 min  
 Lab File: VL036604.D  
 Acq: 31 Mar 2021 16:27

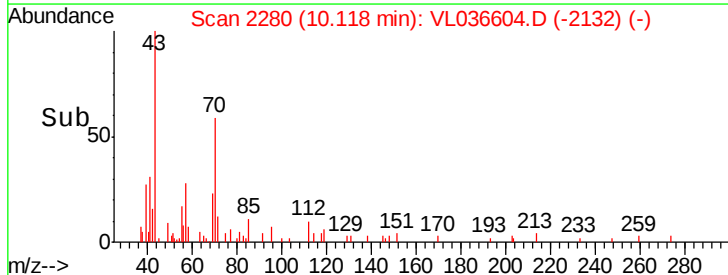
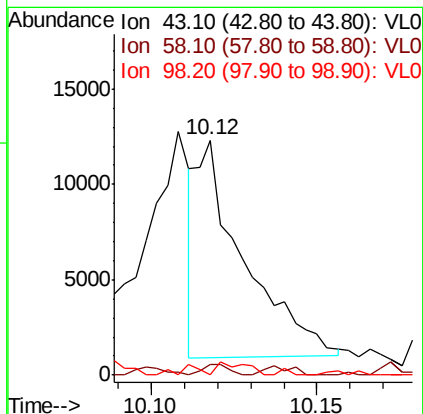
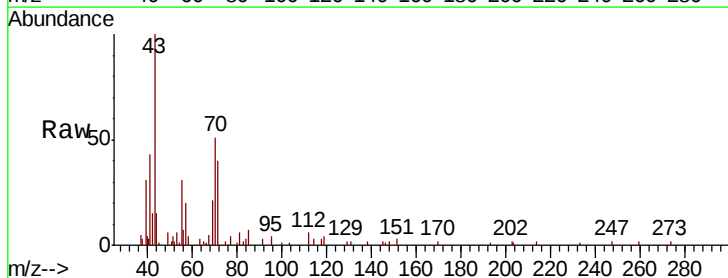
Instrument :  
 MSVOA\_L  
 ClientSampleId :

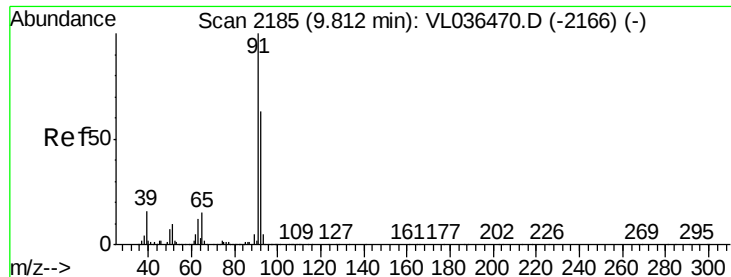
Tot Ion: 63 Resp: 1091324  
 Ion Ratio Lower Upper  
 63 100  
 41 0.0 62.4 93.6#  
 62 17.0 52.8 79.2#



#51  
 2-Hexanone  
 Concen: 0.079 ppbv  
 RT: 10.12 min Scan# 2280  
 Delta R.T. -0.02 min  
 Lab File: VL036604.D  
 Acq: 31 Mar 2021 16:27

Tgt Ion: 43 Resp: 11217  
 Ion Ratio Lower Upper  
 43 100  
 58 5.0 37.7 56.5#  
 98 4.3 0.2 0.2#





#53

Toluene

Concen: 0.059 ppbv

RT: 9.81 min Scan# 2183

Delta R.T. -0.01 min

Lab File: VL036604.D

Acq: 31 Mar 2021 16:27

Instrument :

MSVOA\_L

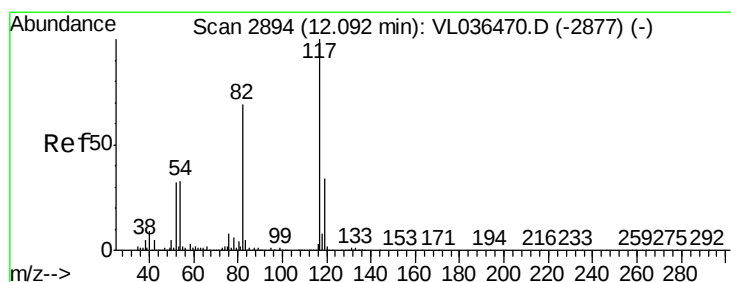
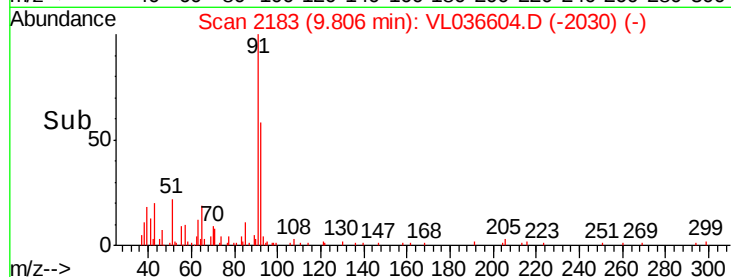
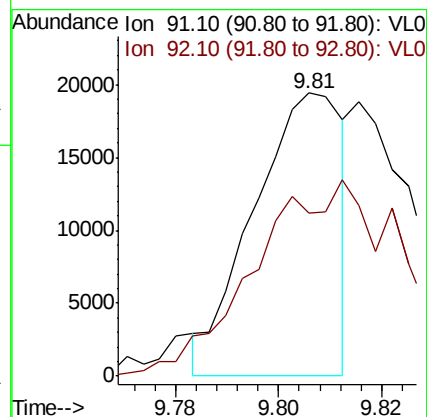
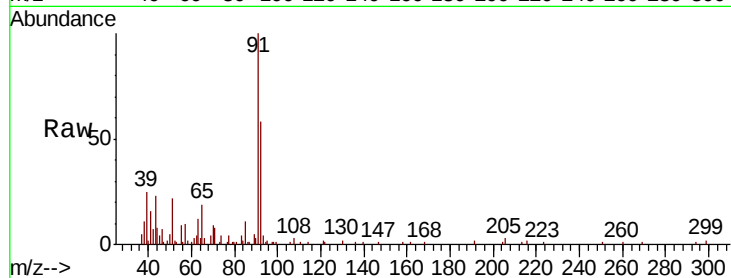
ClientSampled :

Tot Ion: 91 Resp: 23244

Ion Ratio Lower Upper

91 100

92 0.0 48.8 73.2#



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.09 min Scan# 2893

Delta R.T. -0.00 min

Lab File: VL036604.D

Acq: 31 Mar 2021 16:27

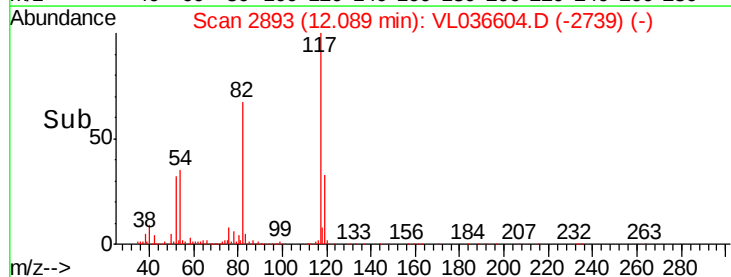
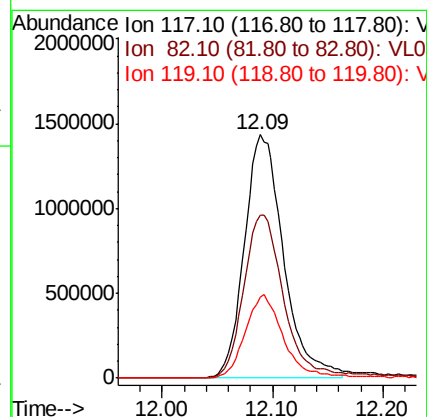
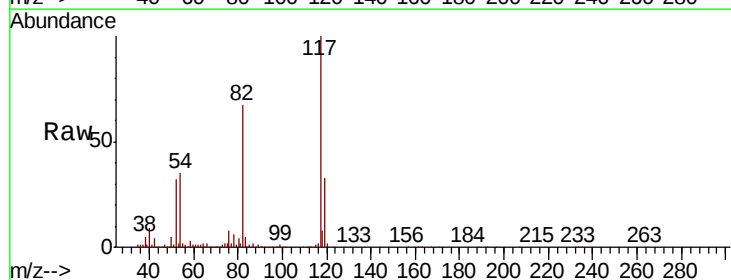
Tgt Ion: 117 Resp: 3529699

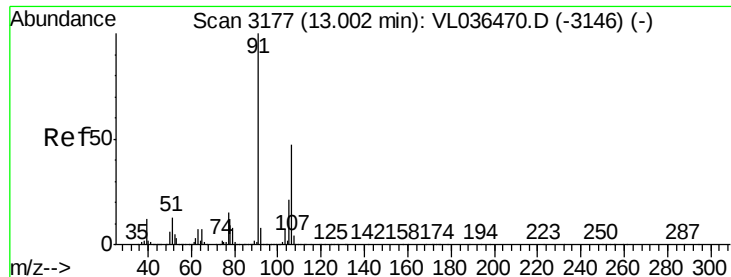
Ion Ratio Lower Upper

117 100

82 71.2 57.4 86.0

119 34.4 47.4 71.0#

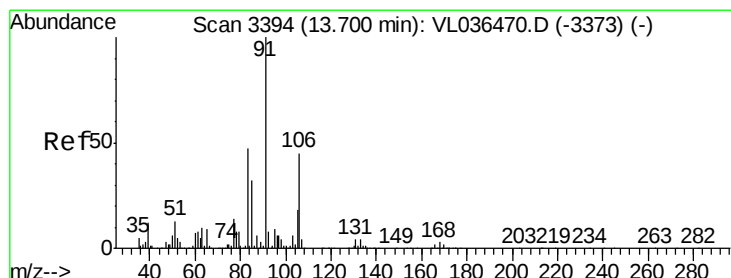
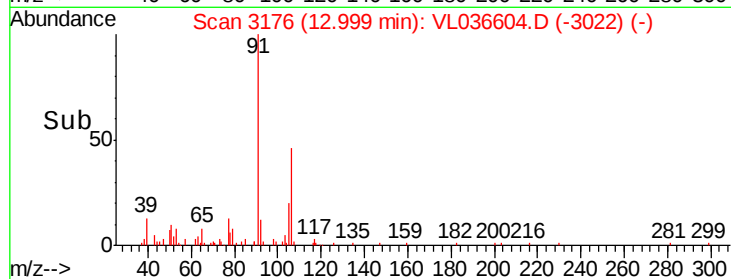
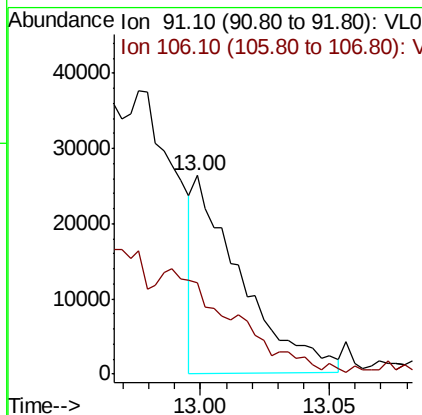
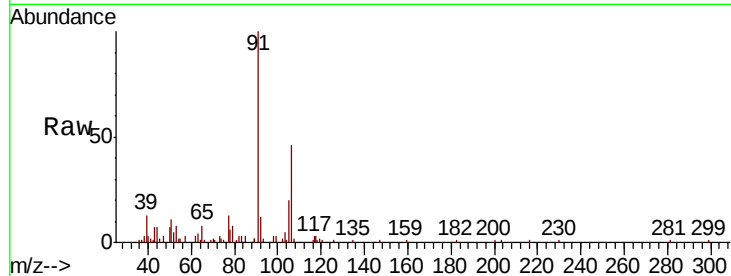




#59  
m/p-Xylene  
Concen: 0.075 ppbv  
RT: 13.00 min Scan# 3176  
Delta R.T. -0.00 min  
Lab File: VL036604.D  
Acq: 31 Mar 2021 16:27

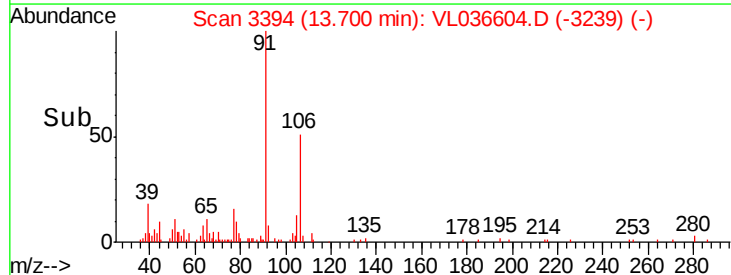
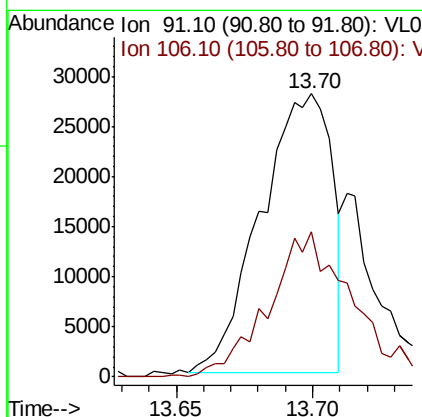
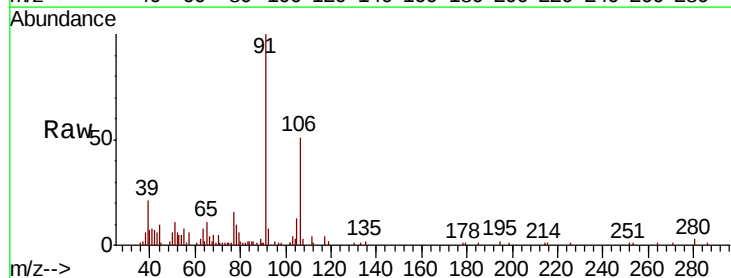
Instrument :  
MSVOA\_L  
ClientSampleId :

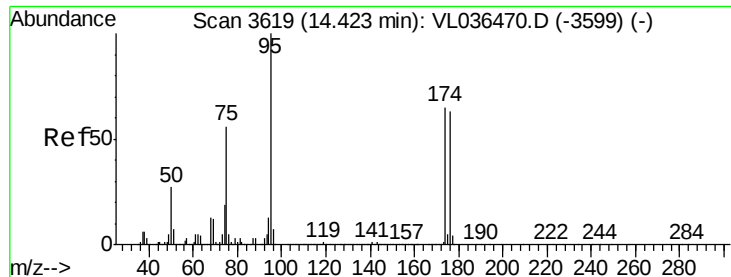
Tot Ion: 91 Resp: 33640  
Ion Ratio Lower Upper  
91 100  
106 0.0 35.3 52.9#



#60  
o-Xylene  
Concen: 0.117 ppbv  
RT: 13.70 min Scan# 3394  
Delta R.T. -0.00 min  
Lab File: VL036604.D  
Acq: 31 Mar 2021 16:27

Tgt Ion: 91 Resp: 50770  
Ion Ratio Lower Upper  
91 100  
106 63.3 22.3 66.9

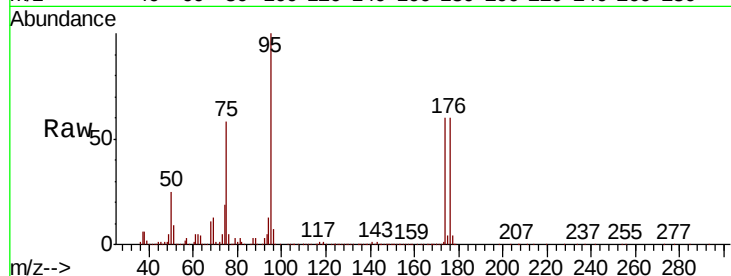




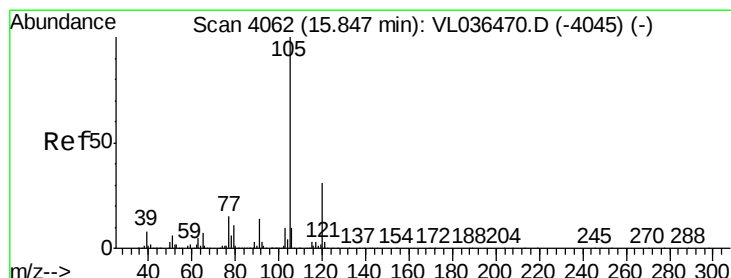
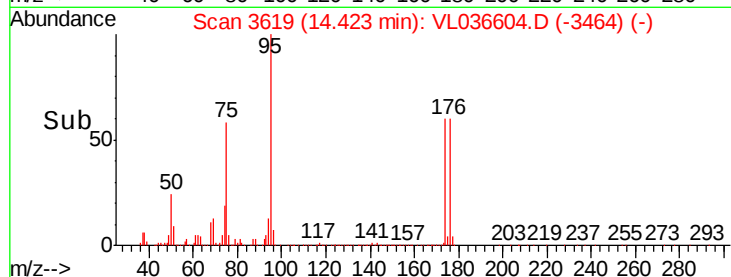
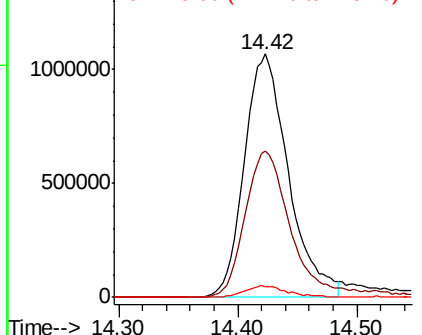
#68  
 1-Bromo-4-Fluorobenzene  
 Concen: 9.741 ppbv  
 RT: 14.42 min Scan# 3619  
 Delta R.T. -0.00 min  
 Lab File: VL036604.D  
 Acq: 31 Mar 2021 16:27

Instrument :  
 MSVOA\_L  
 ClientSampleId :

Tot Ion: 95 Resp: 2740477  
 Ion Ratio Lower Upper  
 95 100  
 174 65.6 51.0 76.6  
 175 4.9 3.9 5.9

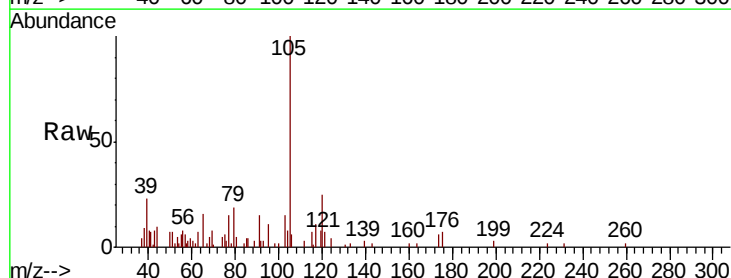


Abundance Ion 95.10 (94.80 to 95.80): VL0  
 Ion 174.00 (173.70 to 174.70): V  
 Ion 175.00 (174.70 to 175.70): V

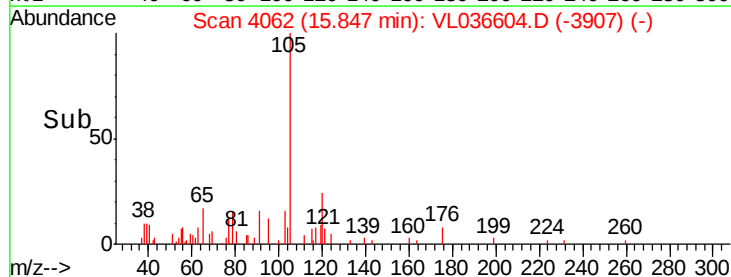
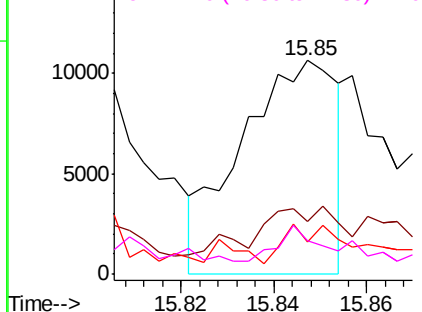


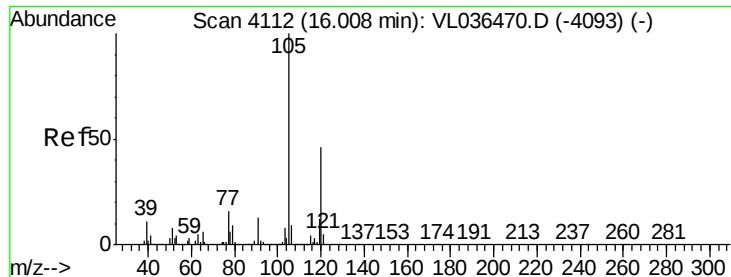
#72  
 4-Ethyltoluene  
 Concen: 0.032 ppbv  
 RT: 15.85 min Scan# 4062  
 Delta R.T. -0.00 min  
 Lab File: VL036604.D  
 Acq: 31 Mar 2021 16:27

Tgt Ion: 105 Resp: 15297  
 Ion Ratio Lower Upper  
 105 100  
 120 67.2 24.0 36.0#  
 91 43.9 11.0 16.4#  
 77 21.5 11.7 17.5#



Abundance Ion 105.10 (104.80 to 105.80): V  
 Ion 120.20 (119.90 to 120.90): V  
 Ion 91.10 (90.80 to 91.80): VL0  
 Ion 77.10 (76.80 to 77.80): VL0





#73

1,3,5-Trimethylbenzene

Concen: 0.031 ppbv

RT: 16.01 min Scan# 4112

Delta R.T. -0.00 min

Lab File: VL036604.D

Acq: 31 Mar 2021 16:27

Instrument :

MSVOA\_L

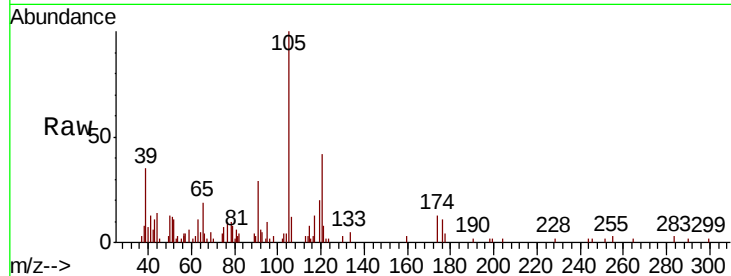
ClientSampled :

Tot Ion:105 Resp: 13547

Ion Ratio Lower Upper

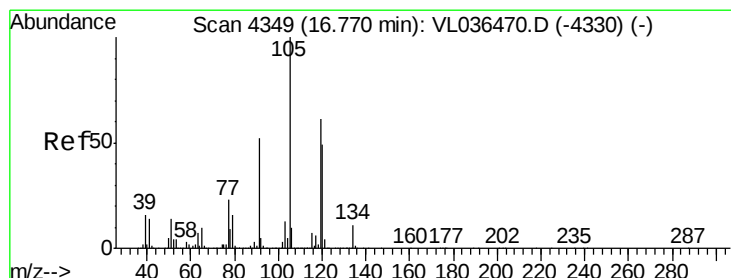
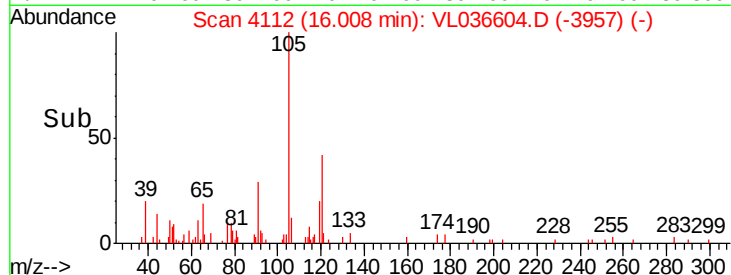
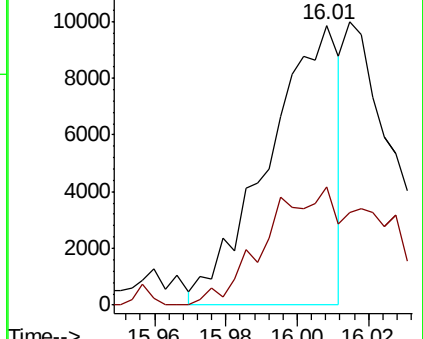
105 100

120 52.8 36.6 54.8



Abundance Ion 105.10 (104.80 to 105.80): V

Ion 120.20 (119.90 to 120.90): V



#74

1,2,4-Trimethylbenzene

Concen: 0.048 ppbv

RT: 16.77 min Scan# 4348

Delta R.T. -0.00 min

Lab File: VL036604.D

Acq: 31 Mar 2021 16:27

Tgt Ion:105 Resp: 22805

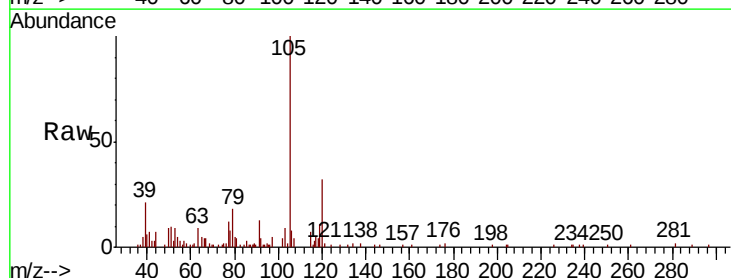
Ion Ratio Lower Upper

105 100

120 31.0 39.2 58.8#

91 9.3 42.6 64.0#

77 8.3 18.6 28.0#



Abundance Ion 105.10 (104.80 to 105.80): V

Ion 120.20 (119.90 to 120.90): V

Ion 91.10 (90.80 to 91.80): VL0

Ion 77.10 (76.80 to 77.80): VL0

