

Data Path : Z:\VOASRV\HPCHEM1\MSVOA X\DATA\VX071919\  
 Data File : VX010982.D  
 Acq On : 19 Jul 2019 01:05  
 Operator : JC/SP  
 Sample : VX0718WBL02  
 Misc : 5.0mL/MSVOA X/WATER  
 ALS Vial : 39 Sample Multiplier: 1

Instrument :  
 MSVOA\_X  
 ClientSampleId :  
 VX0719WBL01

Quant Time: Jul 19 03:38:27 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA X\METHOD\624X071919W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Fri Jul 19 03:27:28 2019  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.01  | 128  | 38837    | 30.00 | ug/l  | 0.00     |
| 28) 1,4-Difluorobenzene | 6.86  | 114  | 215960   | 30.00 | ug/l  | 0.00     |
| 57) Chlorobenzene-d5    | 10.11 | 117  | 187534   | 30.00 | ug/l  | 0.00     |

## System Monitoring Compounds

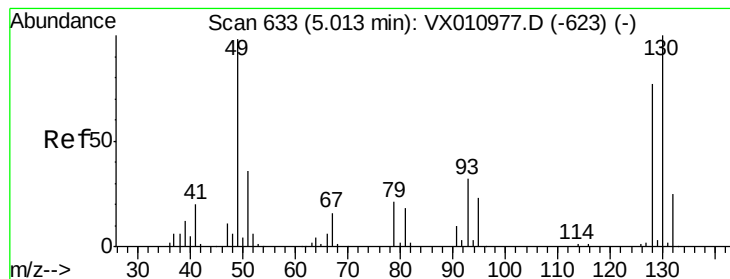
|                           |        |       |          |          |      |         |
|---------------------------|--------|-------|----------|----------|------|---------|
| 27) 1,2-Dichloroethane-d4 | 6.06   | 65    | 77411    | 29.40    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 50 - 169 | Recovery | =    | 98.00%  |
| 60) 4-Bromofluorobenzene  | 11.13  | 95    | 82825    | 26.83    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 56 - 143 | Recovery | =    | 89.43%  |
| 63) Toluene-d8            | 8.71   | 98    | 251578   | 30.52    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 66 - 137 | Recovery | =    | 101.73% |

## Target Compounds

|                               |       |     |       |        | Ovalue     |
|-------------------------------|-------|-----|-------|--------|------------|
| 5) Bromomethane               | 1.65  | 94  | 920   | 0.710  | ug/l 84    |
| 6) Chloroethane               | 1.67  | 64  | 543   | 0.390  | ug/l 97    |
| 11) Methyl Iodide             | 2.52  | 142 | 693   | 0.238  | ug/l 96    |
| 13) Acrolein                  | 2.20  | 56  | 90    | 0.246  | ug/l 100   |
| 14) Acrylonitrile             | 3.14  | 53  | 387   | 0.324  | ug/l 80    |
| 15) Acetone                   | 2.44  | 58  | 425   | 1.278  | ug/l 70    |
| 16) Carbon Disulfide          | 2.57  | 76  | 2733  | 0.490  | ug/l # 91  |
| 18) Methylene Chloride        | 2.86  | 84  | 740   | 0.306  | ug/l # 72  |
| 23) tert-Butyl Alcohol        | 3.01  | 59  | 6482  | 10.398 | ug/l # 100 |
| 38) Methylcyclohexane         | 7.46  | 83  | 970   | 0.253  | ug/l # 53  |
| 45) 1,4-Dioxane               | 7.78  | 88  | 49    | 0.734  | ug/l # 1   |
| 51) Ethyl methacrylate        | 8.72  | 69  | 911   | 0.240  | ug/l 94    |
| 55) 2-Chloroethyl vinyl ether | 8.32  | 63  | 788   | 0.491  | ug/l # 78  |
| 56) Bromoform                 | 11.13 | 173 | 818   | 0.415  | ug/l # 1   |
| 67) m/p-Xylenes               | 10.36 | 106 | 1379  | 0.321  | ug/l 99    |
| 77) t-1,4-Dichloro-2-butene   | 11.13 | 75  | 41519 | 41.761 | ug/l # 6   |
| 89) 1,2,4-Trichlorobenzene    | 13.65 | 180 | 743   | 0.206  | ug/l 92    |

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





#1

Bromochloromethane

Concen: 30.000 ug/l

RT: 5.01 min Scan# 633

Delta R.T. 0.00 min

Lab File: VX010982.D

Acq: 19 Jul 2019 01:05

Instrument :

MSVOA\_X

ClientSampleId :

VX0719WBL01

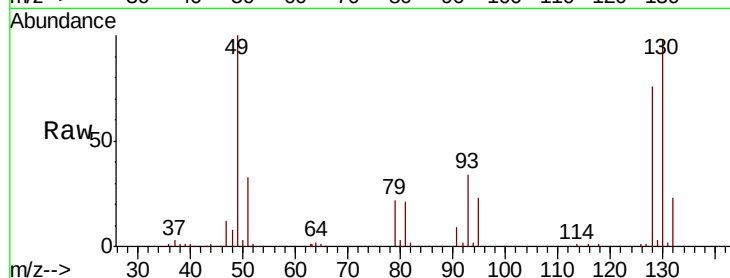
Tot Ion:128 Resp: 38837

Ion Ratio Lower Upper

128 100

49 132.8 0.0 343.5

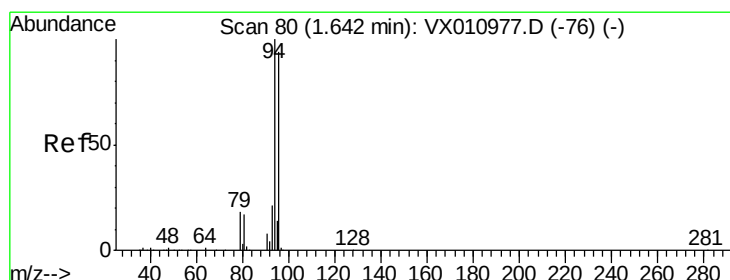
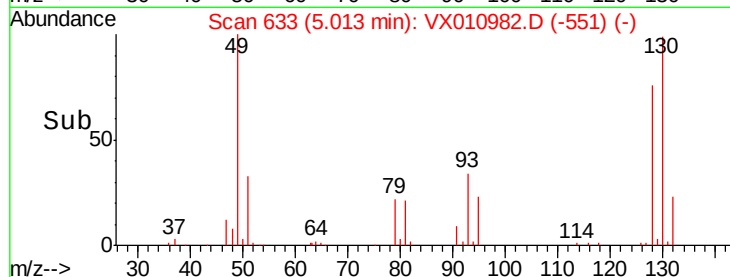
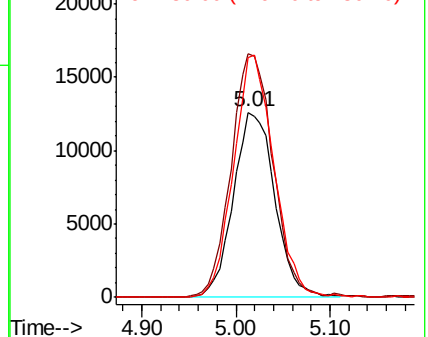
130 127.0 0.0 324.7



Abundance Ion 128.00 (127.70 to 128.70): V

Ion 49.00 (48.70 to 49.70): VX0

Ion 130.00 (129.70 to 130.70): V



#5

Bromomethane

Concen: 0.710 ug/l

RT: 1.65 min Scan# 81

Delta R.T. 0.01 min

Lab File: VX010982.D

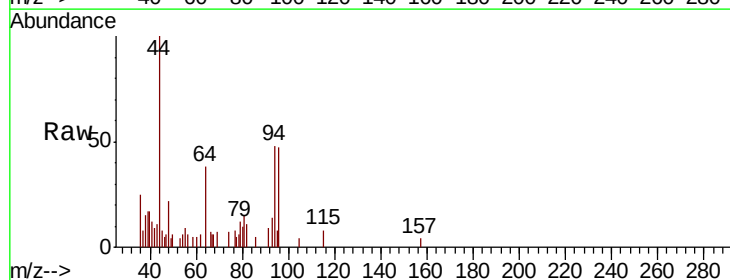
Acq: 19 Jul 2019 01:05

Tgt Ion: 94 Resp: 920

Ion Ratio Lower Upper

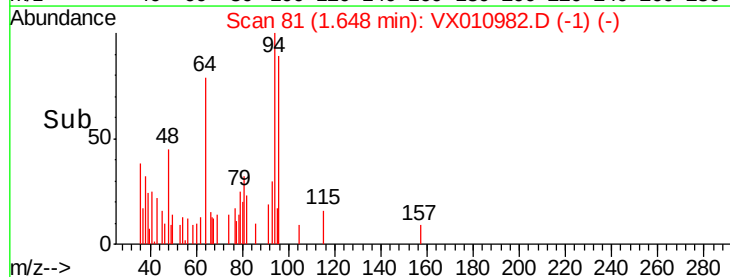
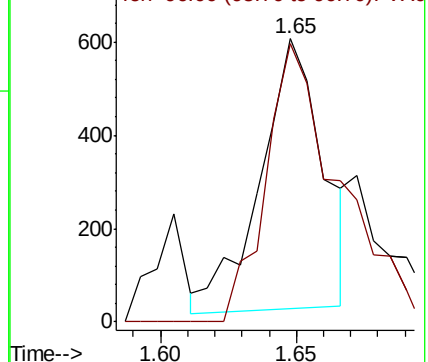
94 100

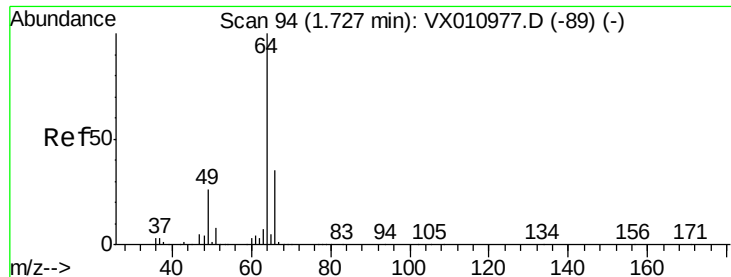
96 109.5 75.4 113.2



Abundance Ion 94.00 (93.70 to 94.70): VX0

Ion 96.00 (95.70 to 96.70): VX0





#6

Chloroethane

Concen: 0.390 ug/l

RT: 1.67 min Scan# 84

Delta R.T. -0.06 min

Lab File: VX010982.D

Acq: 19 Jul 2019 01:05

Instrument :

MSVOA\_X

ClientSampleId :

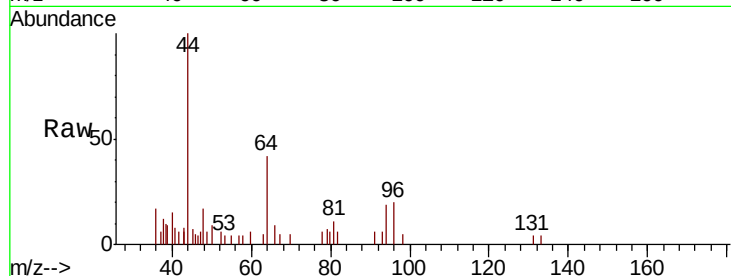
VX0719WBL01

Tot Ion: 64 Resp: 543

Ion Ratio Lower Upper

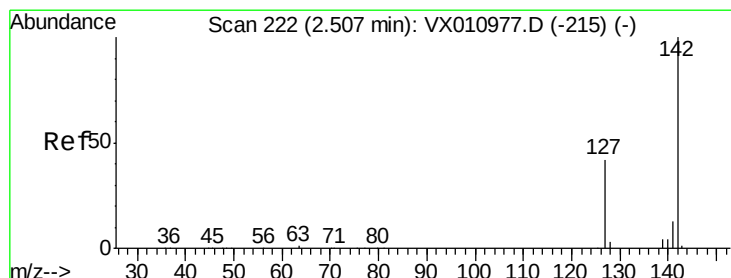
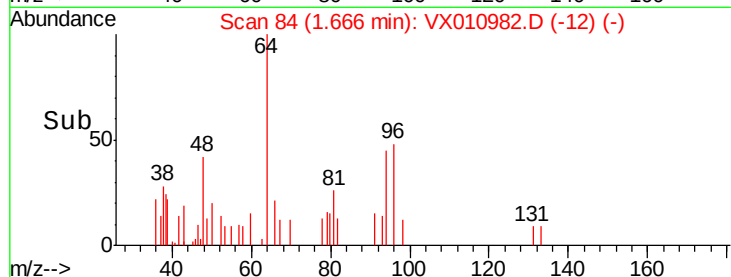
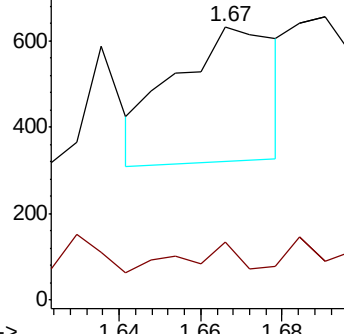
64 100

66 33.2 28.1 42.1



Abundance Ion 64.00 (63.70 to 64.70): VX0

Ion 66.00 (65.70 to 66.70): VX0



#11

Methyl Iodide

Concen: 0.238 ug/l

RT: 2.52 min Scan# 224

Delta R.T. 0.01 min

Lab File: VX010982.D

Acq: 19 Jul 2019 01:05

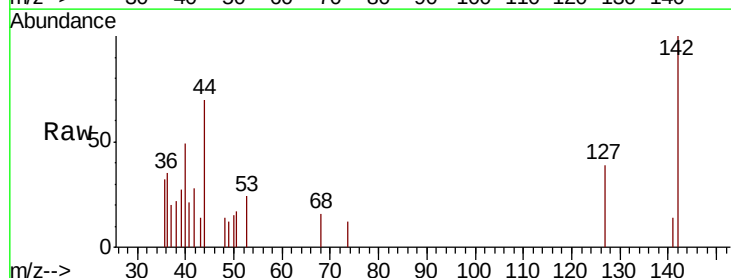
Tgt Ion: 142 Resp: 693

Ion Ratio Lower Upper

142 100

127 38.5 20.7 62.1

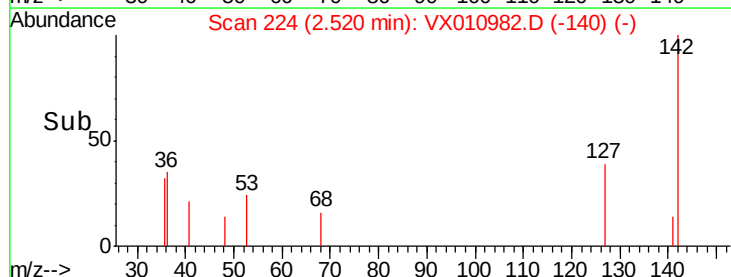
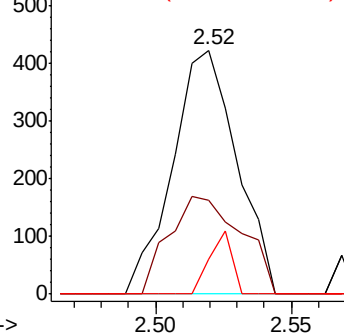
141 14.4 6.7 20.0

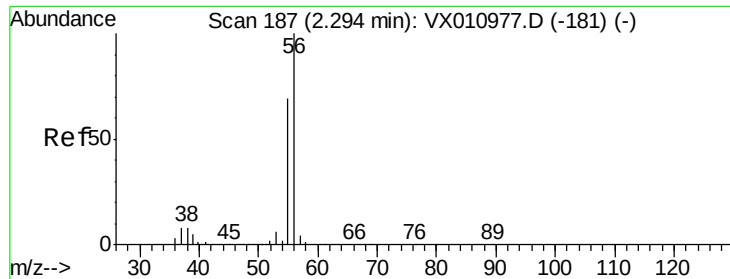


Abundance Ion 142.00 (141.70 to 142.70): V

Ion 127.00 (126.70 to 127.70): V

Ion 141.00 (140.70 to 141.70): V





#13

Acrolein

Concen: 0.246 ug/l

RT: 2.20 min Scan# 172

Delta R.T. -0.09 min

Lab File: VX010982.D

Acq: 19 Jul 2019 01:05

Instrument :

MSVOA\_X

ClientSampled :

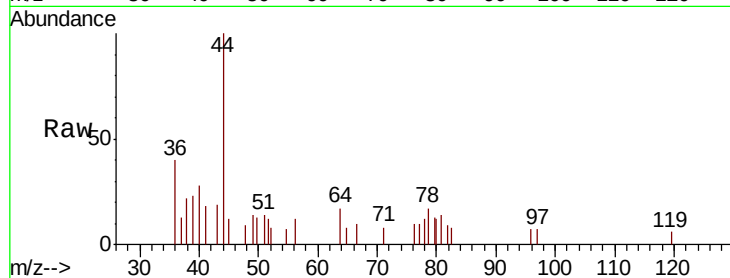
VX0719WBL01

Tot Ion: 56 Resp: 90

Ion Ratio Lower Upper

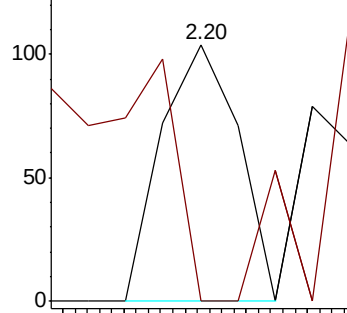
56 100

55 70.0 56.1 84.1

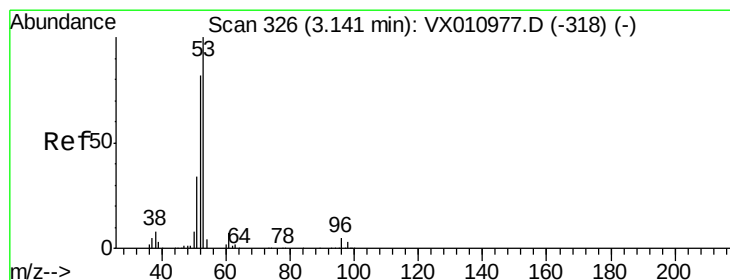
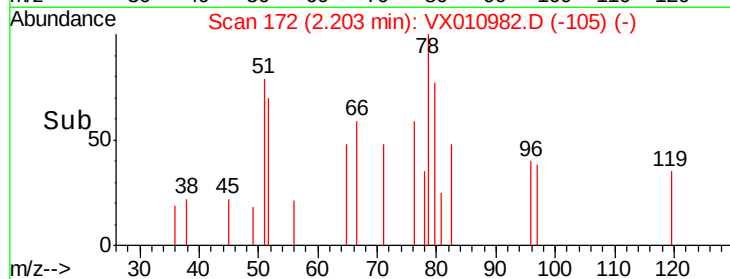


Abundance Ion 56.00 (55.70 to 56.70): VX0

Ion 55.00 (54.70 to 55.70): VX0



Time-->



#14

Acrylonitrile

Concen: 0.324 ug/l

RT: 3.14 min Scan# 326

Delta R.T. 0.00 min

Lab File: VX010982.D

Acq: 19 Jul 2019 01:05

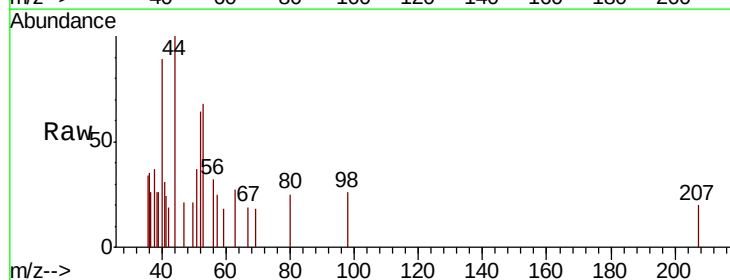
Tgt Ion: 53 Resp: 387

Ion Ratio Lower Upper

53 100

52 103.9 41.1 123.4

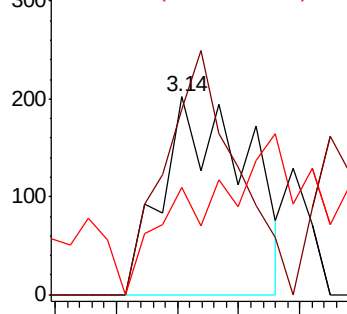
51 29.7 17.8 53.3



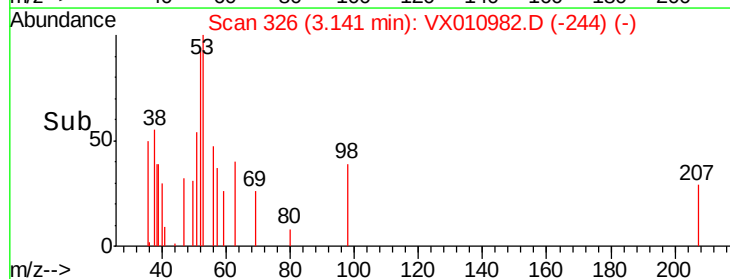
Abundance Ion 53.00 (52.70 to 53.70): VX0

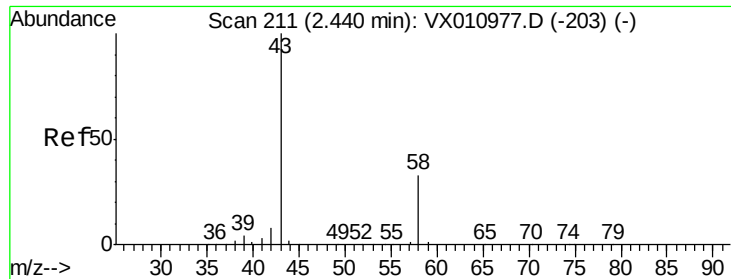
Ion 52.00 (51.70 to 52.70): VX0

Ion 51.00 (50.70 to 51.70): VX0



Time-->

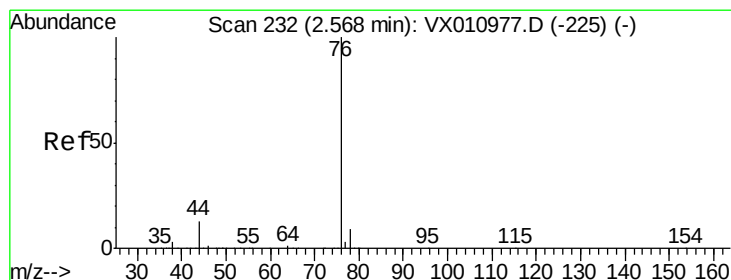
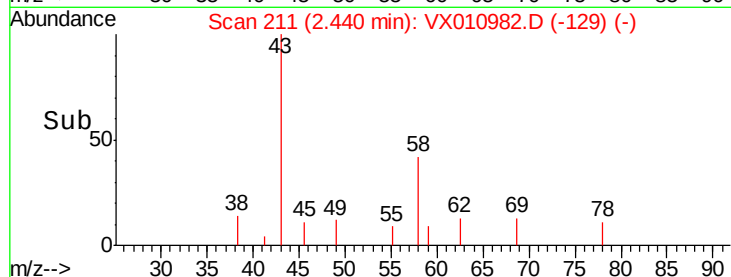
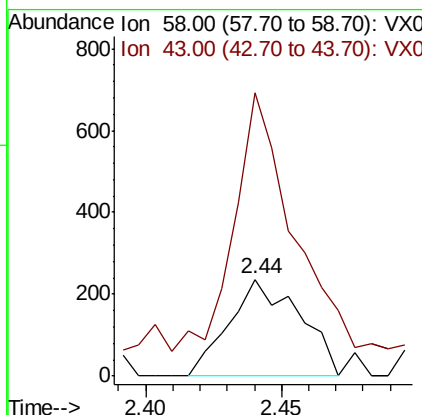
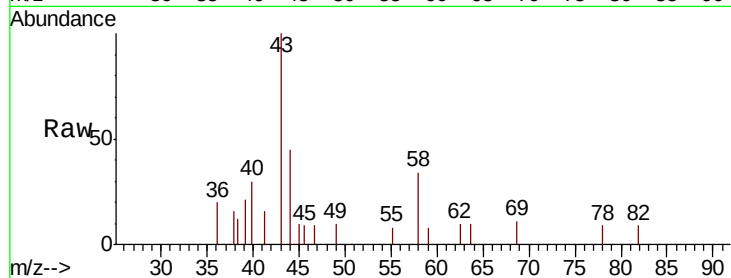




#15  
Acetone  
Concen: 1.278 ug/l  
RT: 2.44 min Scan# 211  
Delta R.T. 0.00 min  
Lab File: VX010982.D  
Acq: 19 Jul 2019 01:05

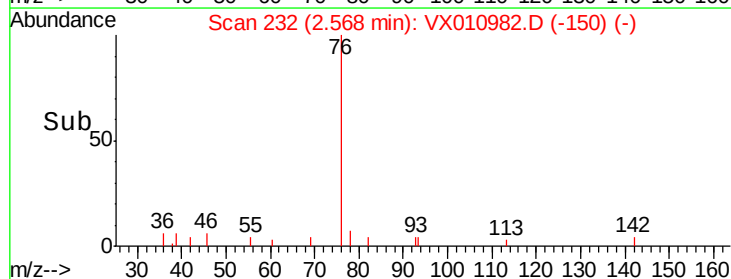
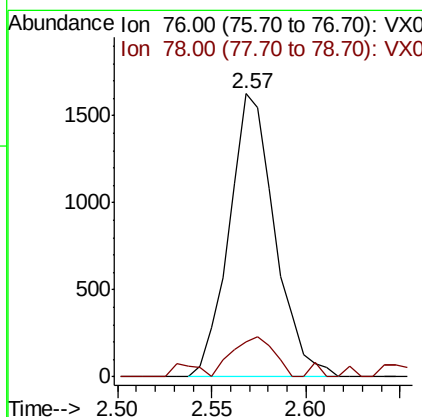
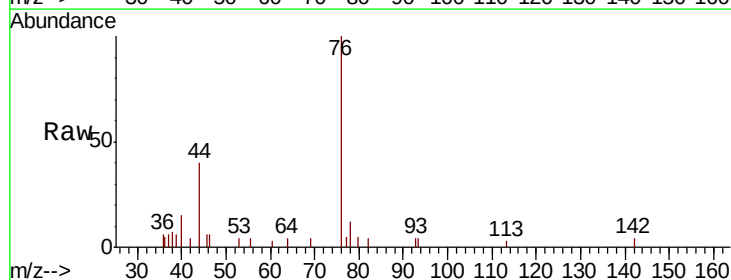
Instrument :  
MSVOA\_X  
ClientSampleId :  
VX0719WBL01

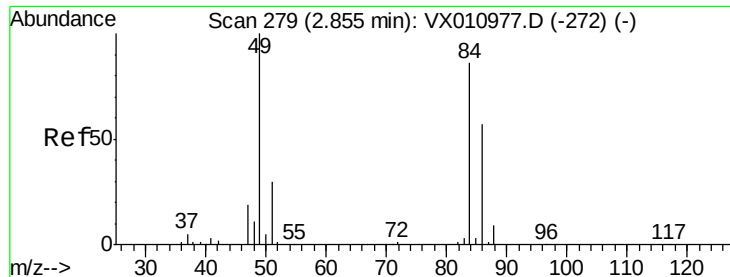
Tot Ion: 58 Resp: 425  
Ion Ratio Lower Upper  
58 100  
43 245.6 243.8 365.6



#16  
Carbon Disulfide  
Concen: 0.490 ug/l  
RT: 2.57 min Scan# 232  
Delta R.T. 0.00 min  
Lab File: VX010982.D  
Acq: 19 Jul 2019 01:05

Tgt Ion: 76 Resp: 2733  
Ion Ratio Lower Upper  
76 100  
78 12.4 7.3 10.9#

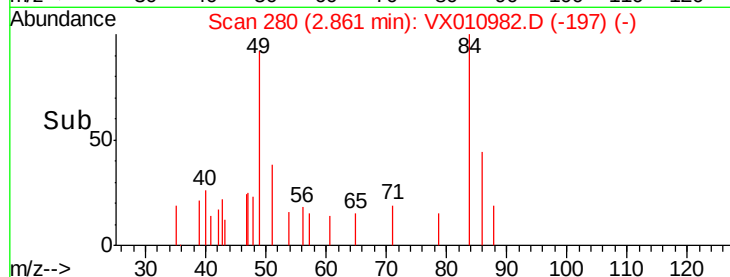
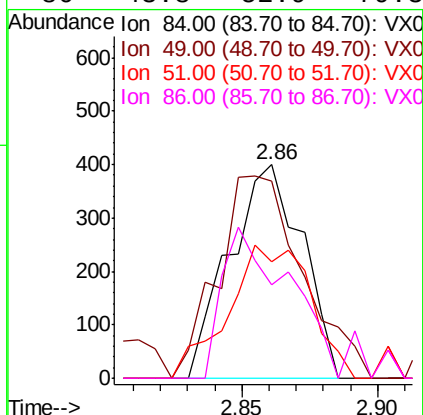
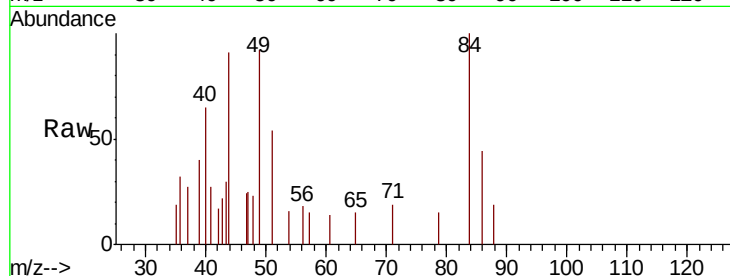




#18  
Methylene Chloride  
Concen: 0.306 ug/l  
RT: 2.86 min Scan# 280  
Delta R.T. 0.01 min  
Lab File: VX010982.D  
Acq: 19 Jul 2019 01:05

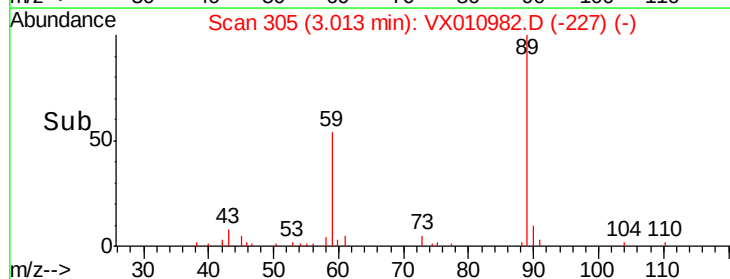
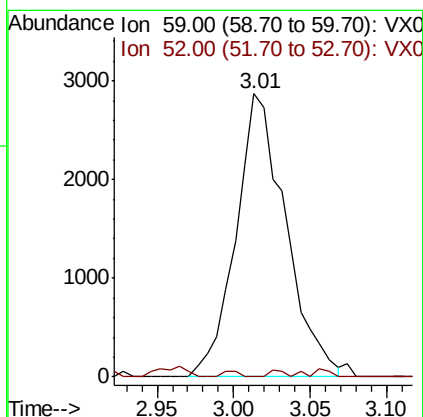
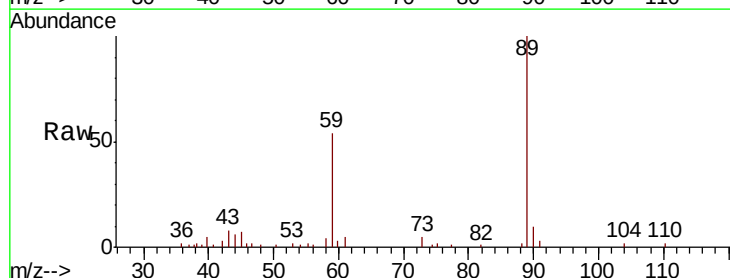
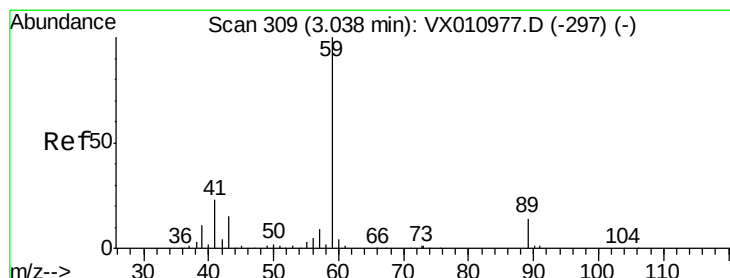
Instrument :  
MSVOA\_X  
ClientSampleId :  
VX0719WBL01

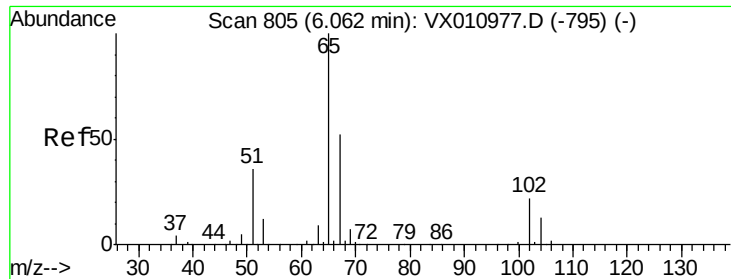
| Tot Ion: | 84    | Resp: | 740    |
|----------|-------|-------|--------|
| Ion      | Ratio | Lower | Upper  |
| 84       | 100   |       |        |
| 49       | 79.0  | 93.2  | 139.8# |
| 51       | 41.5  | 28.6  | 42.8   |
| 86       | 43.8  | 52.9  | 79.3#  |



#23  
tert-Butyl Alcohol  
Concen: 10.398 ug/l  
RT: 3.01 min Scan# 305  
Delta R.T. -0.02 min  
Lab File: VX010982.D  
Acq: 19 Jul 2019 01:05

| Tgt Ion: | 59    | Resp: | 6482  |
|----------|-------|-------|-------|
| Ion      | Ratio | Lower | Upper |
| 59       | 100   |       |       |
| 52       | 0.6   | 0.2   | 0.4#  |





#27

1,2-Dichloroethane-d4

Concen: 29.401 ug/l

RT: 6.06 min Scan# 805

Delta R.T. 0.00 min

Lab File: VX010982.D

Acq: 19 Jul 2019 01:05

Instrument :

MSVOA\_X

ClientSampleId :

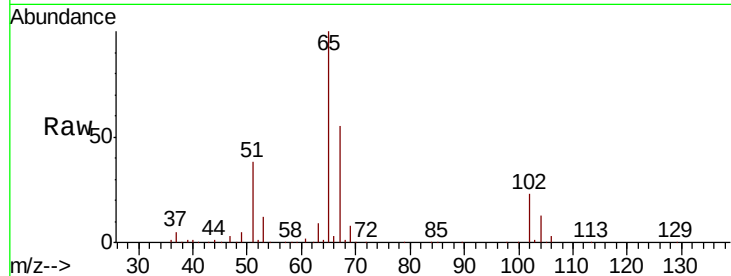
VX0719WBL01

Tot Ion: 65 Resp: 77411

Ion Ratio Lower Upper

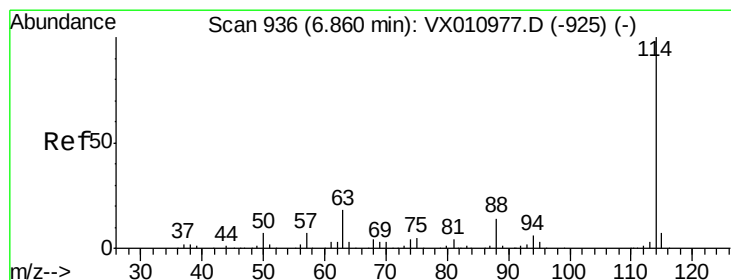
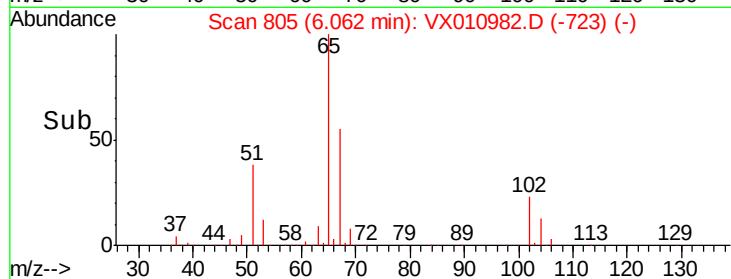
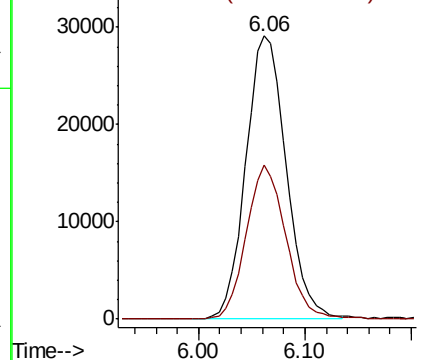
65 100

67 53.3 41.7 62.5



Abundance Ion 65.00 (64.70 to 65.70): VX0

Ion 67.00 (66.70 to 67.70): VX0



#28

1,4-Difluorobenzene

Concen: 30.000 ug/l

RT: 6.86 min Scan# 936

Delta R.T. 0.00 min

Lab File: VX010982.D

Acq: 19 Jul 2019 01:05

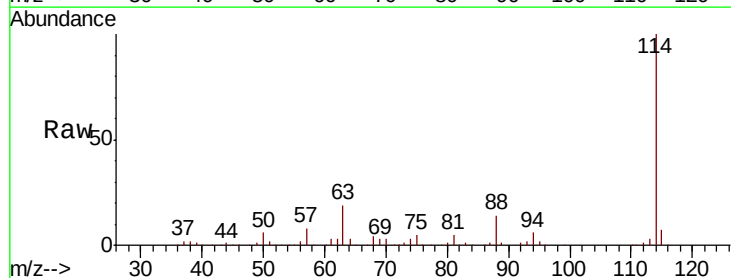
Tgt Ion: 114 Resp: 215960

Ion Ratio Lower Upper

114 100

63 18.7 14.6 22.0

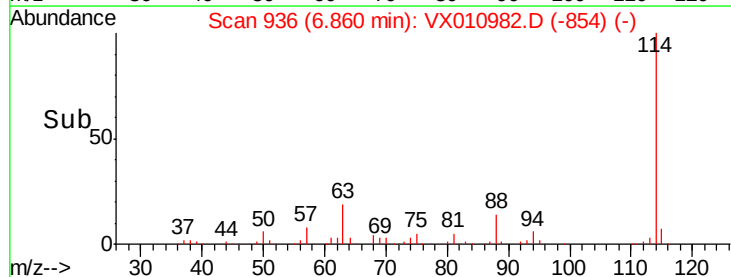
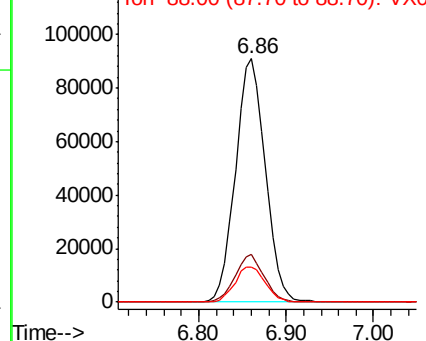
88 14.8 11.8 17.8



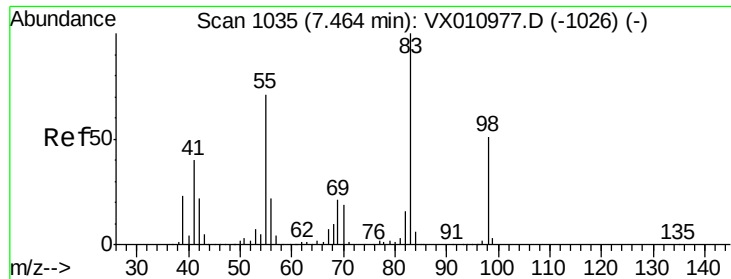
Abundance Ion 114.00 (113.70 to 114.70): V

Ion 63.00 (62.70 to 63.70): VX0

Ion 88.00 (87.70 to 88.70): VX0



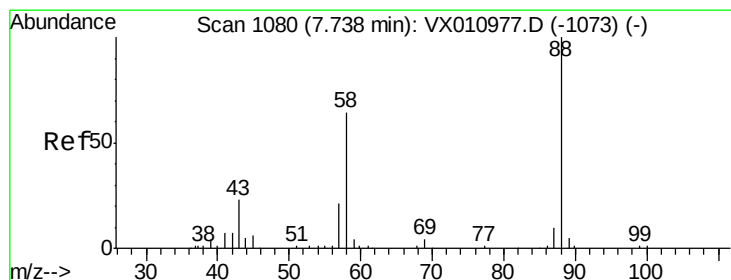
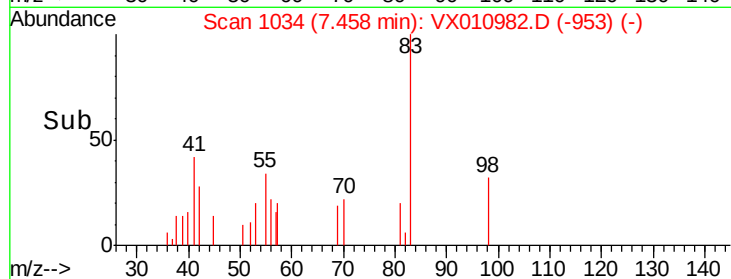
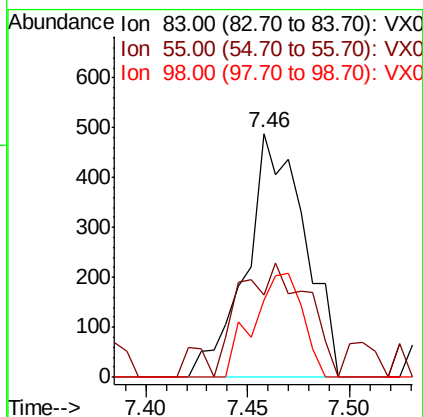
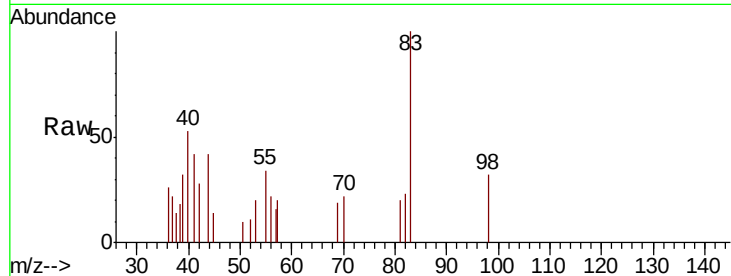




#38  
Methylcyclohexane  
Concen: 0.253 ug/l  
RT: 7.46 min Scan# 1034  
Delta R.T. -0.01 min  
Lab File: VX010982.D  
Acq: 19 Jul 2019 01:05

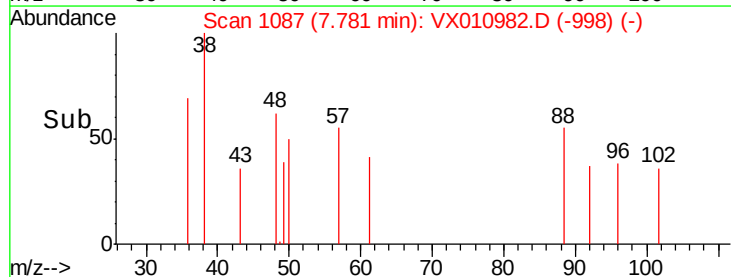
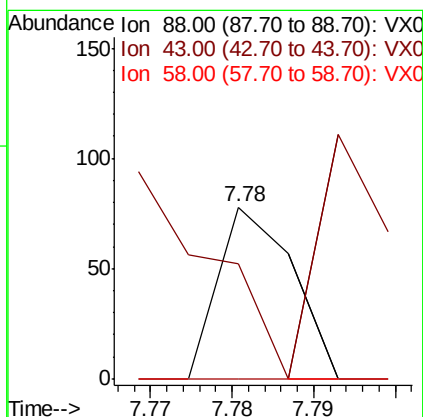
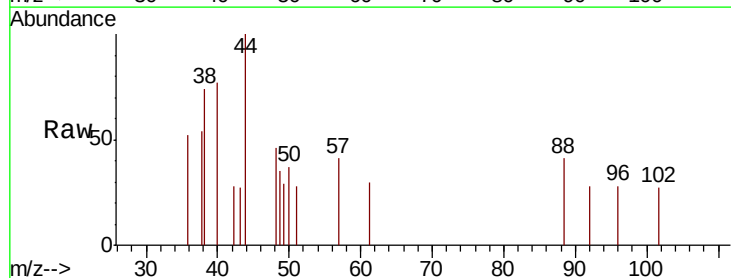
Instrument :  
MSVOA\_X  
ClientSampleId :  
VX0719WBL01

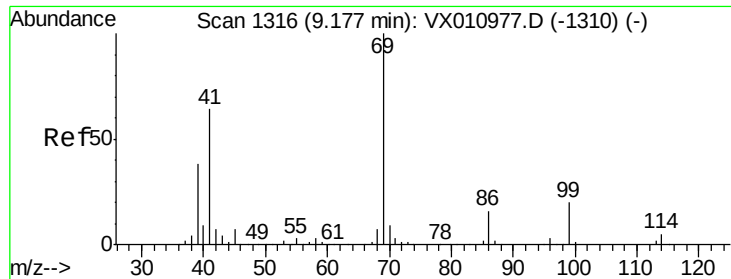
Tot Ion: 83 Resp: 970  
Ion Ratio Lower Upper  
83 100  
55 14.8 35.3 105.9#  
98 36.0 24.0 72.0



#45  
1,4-Dioxane  
Concen: 0.734 ug/l  
RT: 7.78 min Scan# 1087  
Delta R.T. 0.04 min  
Lab File: VX010982.D  
Acq: 19 Jul 2019 01:05

Tgt Ion: 88 Resp: 49  
Ion Ratio Lower Upper  
88 100  
43 183.7 21.6 32.4#  
58 0.0 52.2 78.2#





#51

Ethyl methacrylate

Concen: 0.240 ug/l

RT: 8.72 min Scan# 1241

Delta R.T. -0.46 min

Lab File: VX010982.D

Acq: 19 Jul 2019 01:05

Instrument :

MSVOA\_X

ClientSampleId :

VX0719WBL01

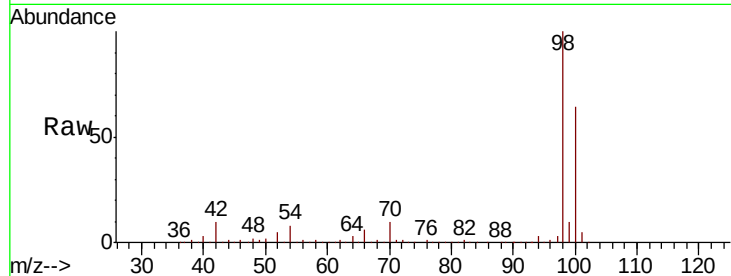
Tot Ion: 69 Resp: 911

Ion Ratio Lower Upper

69 100

41 69.6 32.1 96.3

39 35.7 19.1 57.3



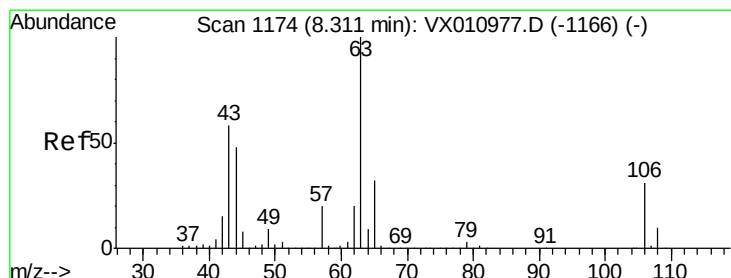
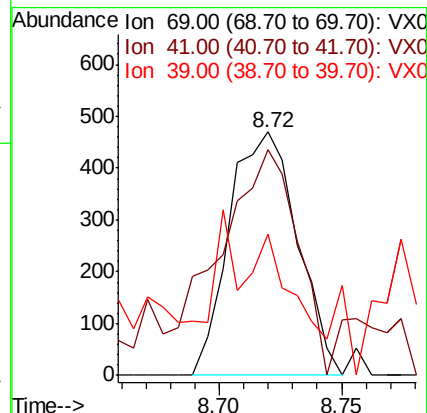
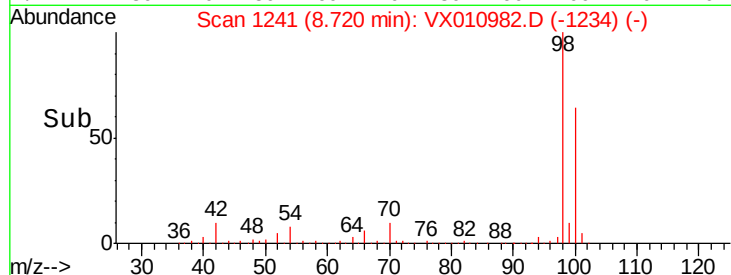
Abundance Ion 69.00 (68.70 to 69.70): VX0

Ion 41.00 (40.70 to 41.70): VX0

Ion 39.00 (38.70 to 39.70): VX0

8.72

8.75



#55

2-Chloroethyl vinyl ether

Concen: 0.491 ug/l

RT: 8.32 min Scan# 1175

Delta R.T. 0.01 min

Lab File: VX010982.D

Acq: 19 Jul 2019 01:05

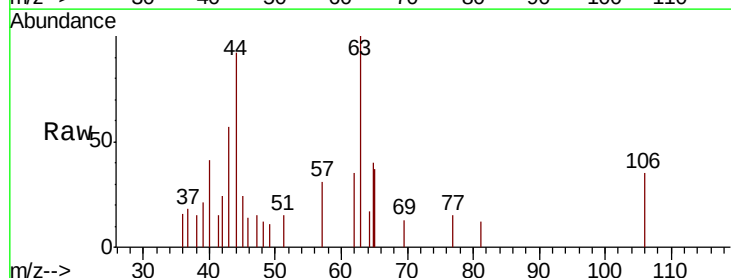
Tgt Ion: 63 Resp: 788

Ion Ratio Lower Upper

63 100

65 53.9 25.7 38.5#

106 28.3 24.8 37.2



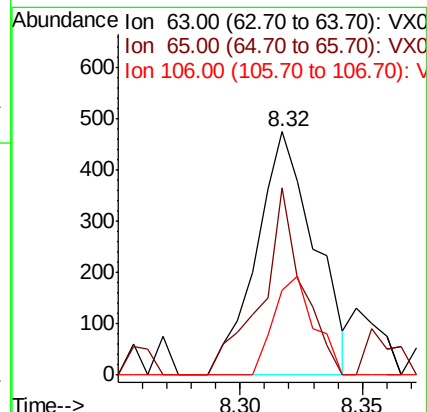
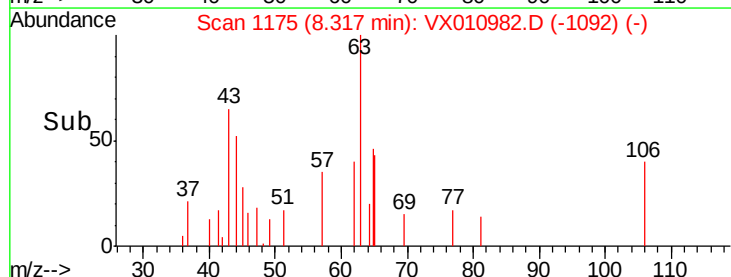
Abundance Ion 63.00 (62.70 to 63.70): VX0

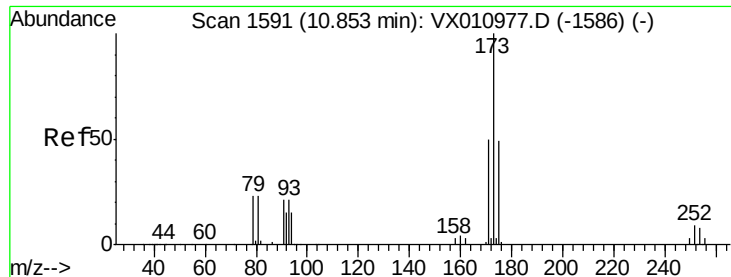
Ion 65.00 (64.70 to 65.70): VX0

Ion 106.00 (105.70 to 106.70): V

8.32

8.35





#56

Bromoform

Concen: 0.415 ug/l

RT: 11.13 min Scan# 1637

Delta R.T. 0.28 min

Lab File: VX010982.D

Acq: 19 Jul 2019 01:05

Instrument :

MSVOA\_X

ClientSampleId :

VX0719WBL01

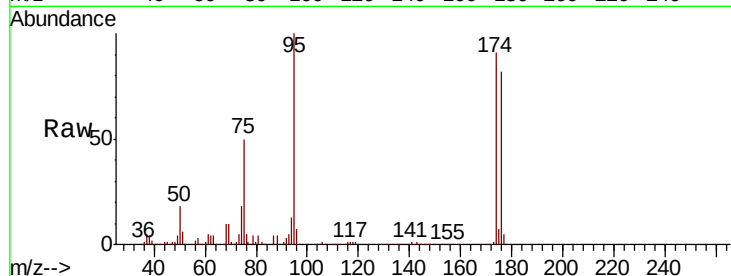
Tot Ion:173 Resp: 818

Ion Ratio Lower Upper

173 100

175 711.9 39.0 58.6#

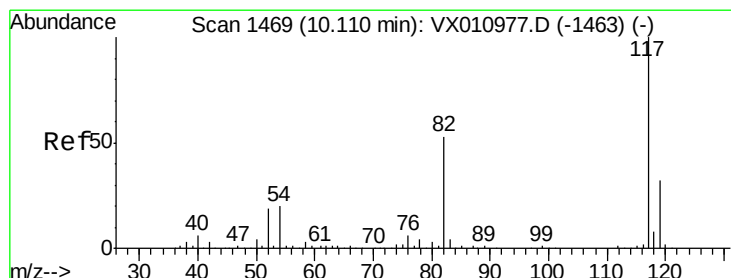
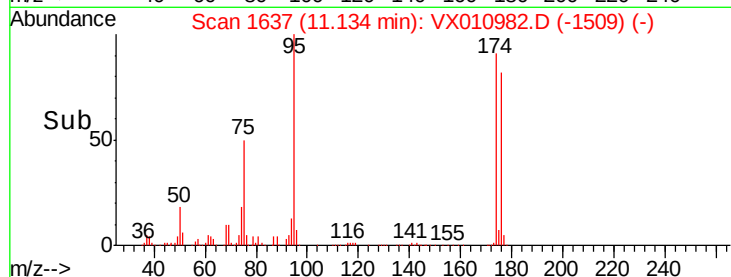
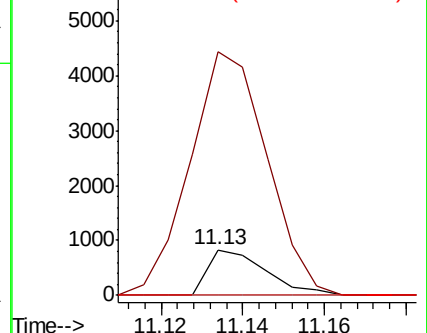
254 0.0 7.9 11.9#



Abundance Ion 173.00 (172.70 to 173.70): V

Ion 175.00 (174.70 to 175.70): V

Ion 254.00 (253.70 to 254.70): V



#57

Chlorobenzene-d5

Concen: 30.000 ug/l

RT: 10.11 min Scan# 1469

Delta R.T. 0.00 min

Lab File: VX010982.D

Acq: 19 Jul 2019 01:05

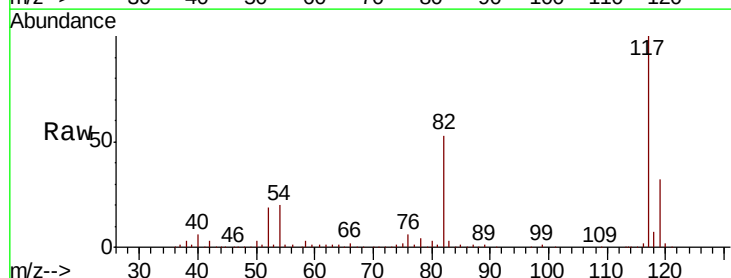
Tgt Ion:117 Resp: 187534

Ion Ratio Lower Upper

117 100

82 51.7 41.6 62.4

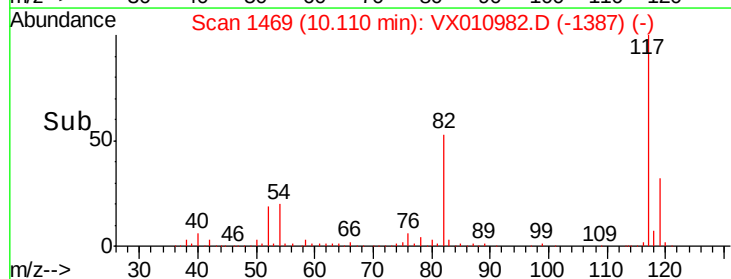
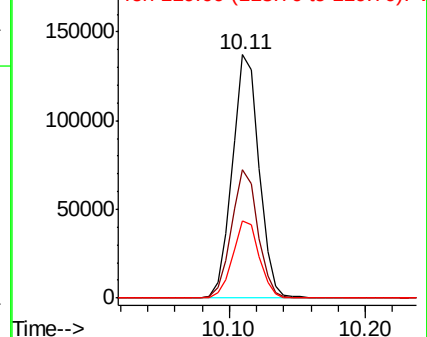
119 31.6 26.0 39.0

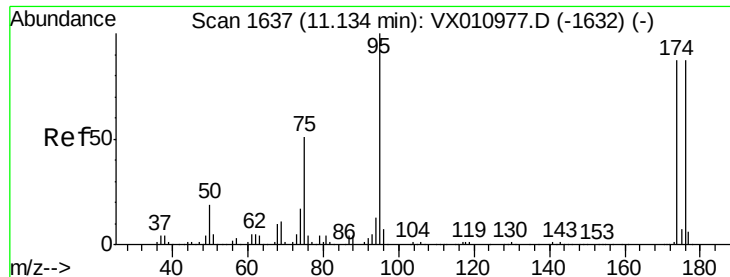


Abundance Ion 117.00 (116.70 to 117.70): V

Ion 82.00 (81.70 to 82.70): VX0

Ion 119.00 (118.70 to 119.70): V





#60

4-Bromofluorobenzene

Concen: 26.834 ug/l

RT: 11.13 min Scan# 1637

Delta R.T. 0.00 min

Lab File: VX010982.D

Acq: 19 Jul 2019 01:05

Instrument :

MSVOA\_X

ClientSampleId :

VX0719WBL01

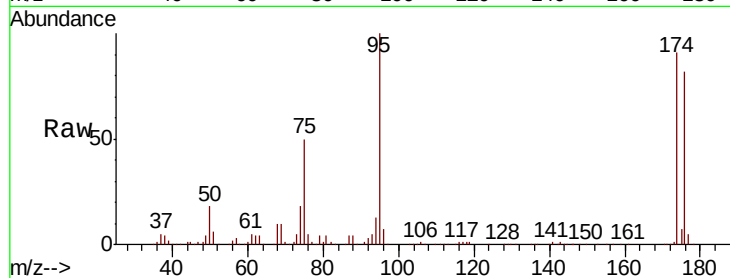
Tot Ion: 95 Resp: 82825

Ion Ratio Lower Upper

95 100

174 90.2 73.3 109.9

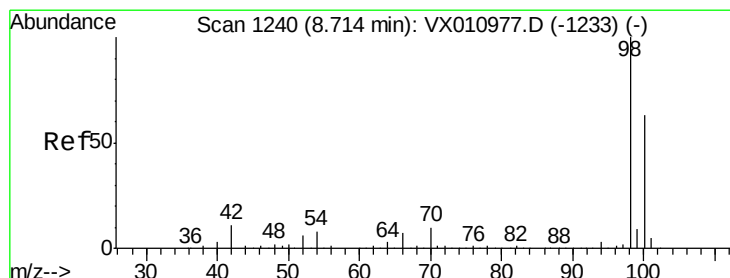
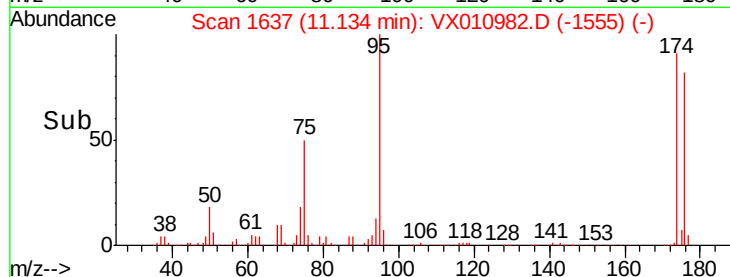
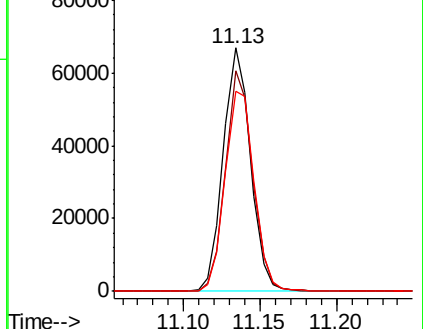
176 87.8 71.2 106.8



Abundance Ion 95.00 (94.70 to 95.70): VX0

Ion 174.00 (173.70 to 174.70): V

Ion 176.00 (175.70 to 176.70): V



#63

Toluene-d8

Concen: 30.521 ug/l

RT: 8.71 min Scan# 1240

Delta R.T. 0.00 min

Lab File: VX010982.D

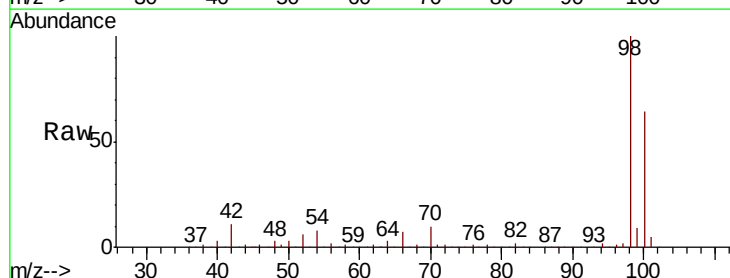
Acq: 19 Jul 2019 01:05

Tgt Ion: 98 Resp: 251578

Ion Ratio Lower Upper

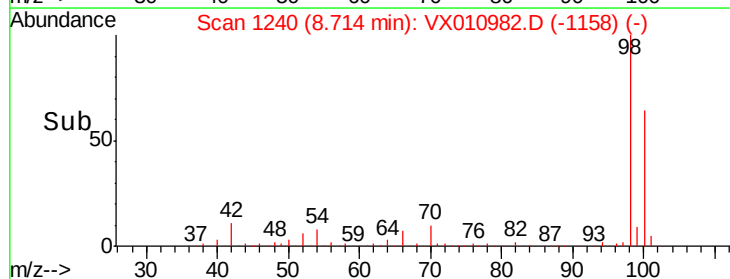
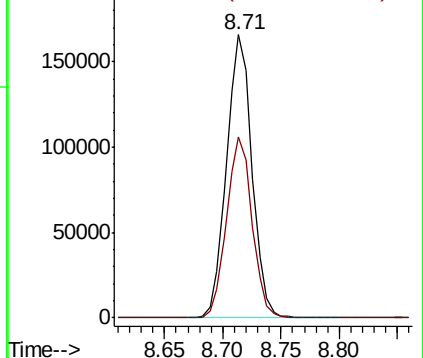
98 100

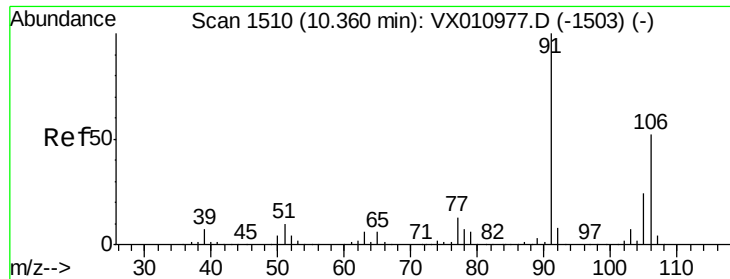
100 64.2 51.4 77.0



Abundance Ion 98.00 (97.70 to 98.70): VX0

Ion 100.00 (99.70 to 100.70): V





#67

m/p-Xvlenes

Concen: 0.321 ug/l

RT: 10.36 min Scan# 1510

Delta R.T. 0.00 min

Lab File: VX010982.D

Acq: 19 Jul 2019 01:05

Instrument :

MSVOA\_X

ClientSampleId :

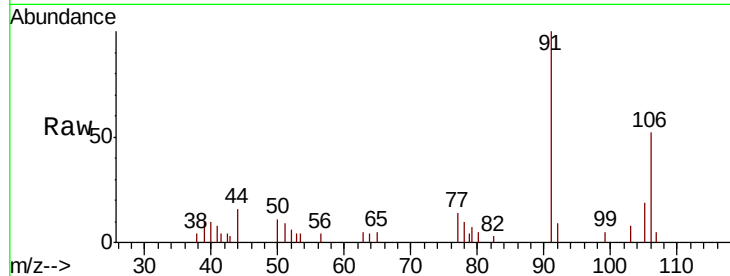
VX0719WBL01

Tot Ion:106 Resp: 1379

Ion Ratio Lower Upper

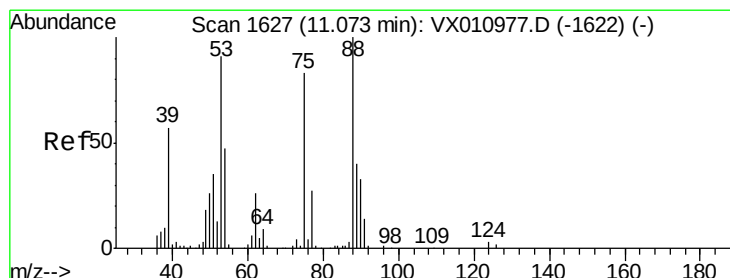
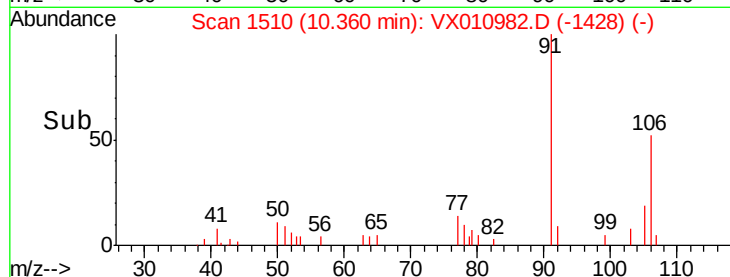
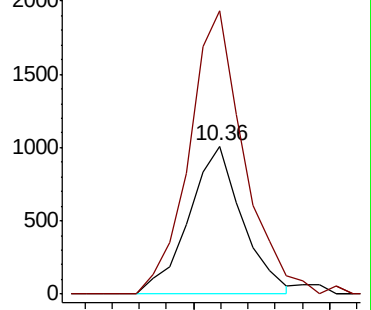
106 100

91 194.4 156.6 235.0



Abundance Ion 106.00 (105.70 to 106.70): VX0

Ion 91.00 (90.70 to 91.70): VX0



#77

t-1,4-Dichloro-2-butene

Concen: 41.761 ug/l

RT: 11.13 min Scan# 1637

Delta R.T. 0.06 min

Lab File: VX010982.D

Acq: 19 Jul 2019 01:05

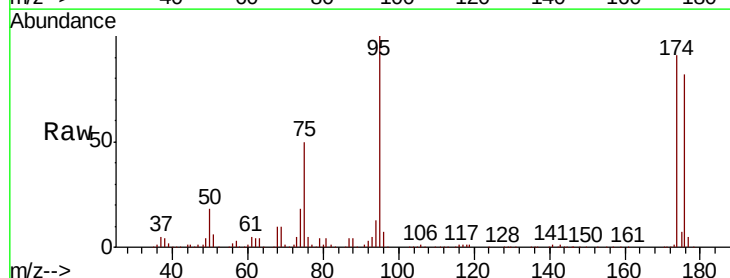
Tgt Ion: 75 Resp: 41519

Ion Ratio Lower Upper

75 100

53 0.0 54.8 164.3#

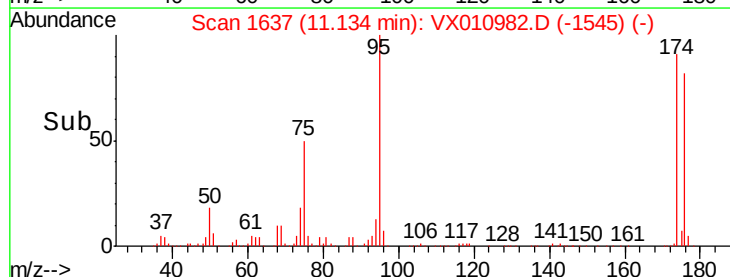
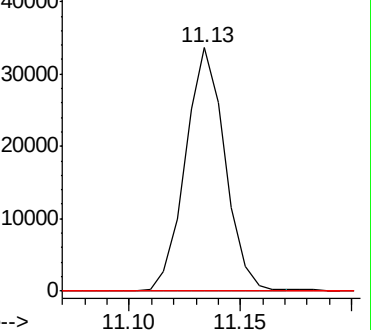
89 0.2 24.6 73.6#

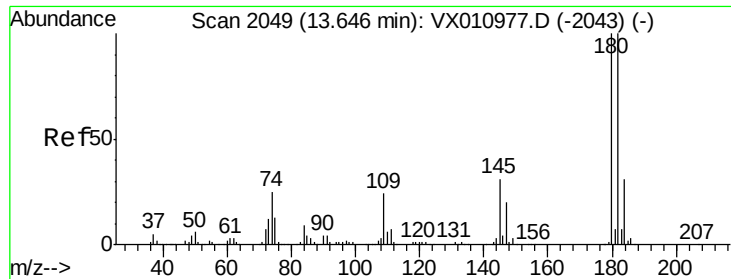


Abundance Ion 75.00 (74.70 to 75.70): VX0

Ion 53.00 (52.70 to 53.70): VX0

Ion 89.00 (88.70 to 89.70): VX0





#89  
 1,2,4-Trichlorobenzene  
 Concen: 0.206 ug/l  
 RT: 13.65 min Scan# 2049  
 Delta R.T. 0.00 min  
 Lab File: VX010982.D  
 Acq: 19 Jul 2019 01:05

Instrument :  
 MSVOA\_X  
 ClientSampleId :  
 VX0719WBL01

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 180     | 100   |       |       |
| 182     | 87.6  | 77.6  | 116.4 |
| 145     | 27.5  | 23.8  | 35.6  |

