

Data Path : Z:\SVOASRV\HPCHEM1\BNA M\DATA\BM121418\  
 Data File : BM018191.D  
 Acq On : 15 Dec 2018 05:47  
 Operator : JU/SJ  
 Sample : J6238-06  
 Misc :  
 ALS Vial : 25 Sample Multiplier: 1

Instrument :  
 BNA\_M  
 ClientSampleId :  
 BE8B5

## Integration Parameters: LSCINT.P

Integrator: RTE  
 Smoothing : OFF  
 Sampling : 1  
 Start Thrs: 0.2  
 Stop Thrs : 0

Filtering: 5  
 Min Area: 0.1 % of largest Peak  
 Max Peaks: 100  
 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >  
 Peak separation: 5

Method : Z:\SVOASRV\HPCHEM1\BNA\_M\METHODS\SOM-EPA-BM121318MA.M  
 Title : SVOA CALIBRATION

Signal : TIC

| peak<br># | R.T.<br>min | first<br>scan | max<br>scan | last<br>scan | PK<br>TY | peak<br>height | corr.<br>area | corr.<br>% max. | % of<br>total |
|-----------|-------------|---------------|-------------|--------------|----------|----------------|---------------|-----------------|---------------|
| 1         | 3.105       | 34            | 37          | 42           | rVB2     | 14433          | 18540         | 0.25%           | 0.027%        |
| 2         | 3.599       | 117           | 121         | 127          | rBV2     | 24248          | 34846         | 0.47%           | 0.050%        |
| 3         | 3.699       | 134           | 138         | 146          | rVB2     | 18840          | 32995         | 0.45%           | 0.047%        |
| 4         | 3.899       | 166           | 172         | 178          | rBV2     | 19853          | 30827         | 0.42%           | 0.044%        |
| 5         | 4.675       | 299           | 304         | 306          | rBV      | 32896          | 46236         | 0.63%           | 0.066%        |
| 6         | 5.940       | 513           | 519         | 526          | rVB      | 19034          | 28868         | 0.39%           | 0.041%        |
| 7         | 6.710       | 644           | 650         | 665          | rBV2     | 262678         | 554904        | 7.54%           | 0.795%        |
| 8         | 6.863       | 670           | 676         | 687          | rVV      | 230478         | 354760        | 4.82%           | 0.508%        |
| 9         | 7.051       | 701           | 708         | 717          | rBV      | 299346         | 509431        | 6.93%           | 0.730%        |
| 10        | 7.510       | 779           | 786         | 795          | rBV      | 532247         | 842591        | 11.45%          | 1.208%        |
| 11        | 8.228       | 902           | 908         | 921          | rBV      | 325469         | 590852        | 8.03%           | 0.847%        |
| 12        | 8.669       | 976           | 983         | 992          | rBV      | 272060         | 480526        | 6.53%           | 0.689%        |
| 13        | 9.040       | 1043          | 1046        | 1053         | rVB      | 14010          | 20700         | 0.28%           | 0.030%        |
| 14        | 9.381       | 1097          | 1104        | 1114         | rBV      | 223916         | 387717        | 5.27%           | 0.556%        |
| 15        | 9.916       | 1188          | 1195        | 1209         | rBV      | 316845         | 613624        | 8.34%           | 0.879%        |
| 16        | 10.275      | 1248          | 1256        | 1262         | rBV      | 740084         | 1252854       | 17.03%          | 1.796%        |
| 17        | 10.328      | 1262          | 1265        | 1273         | rVB      | 73402          | 114799        | 1.56%           | 0.165%        |
| 18        | 10.439      | 1276          | 1284        | 1295         | rBV      | 193919         | 429895        | 5.84%           | 0.616%        |
| 19        | 11.957      | 1537          | 1542        | 1548         | rBV2     | 19292          | 31905         | 0.43%           | 0.046%        |
| 20        | 12.180      | 1574          | 1580        | 1586         | rBV2     | 25227          | 43236         | 0.59%           | 0.062%        |
| 21        | 12.986      | 1712          | 1717        | 1725         | rVB6     | 10993          | 23481         | 0.32%           | 0.034%        |
| 22        | 13.322      | 1769          | 1774        | 1776         | rBV5     | 14282          | 21123         | 0.29%           | 0.030%        |
| 23        | 13.480      | 1795          | 1801        | 1806         | rBV2     | 39607          | 71271         | 0.97%           | 0.102%        |
| 24        | 13.539      | 1807          | 1811        | 1813         | rVV2     | 20387          | 28671         | 0.39%           | 0.041%        |
| 25        | 13.586      | 1813          | 1819        | 1824         | rVV      | 671444         | 972782        | 13.22%          | 1.394%        |
| 26        | 13.639      | 1824          | 1828        | 1833         | rVB      | 82228          | 122358        | 1.66%           | 0.175%        |
| 27        | 13.722      | 1838          | 1842        | 1846         | rBV2     | 19808          | 28601         | 0.39%           | 0.041%        |
| 28        | 13.857      | 1856          | 1865        | 1877         | rBV2     | 770554         | 1358650       | 18.47%          | 1.947%        |
| 29        | 14.169      | 1911          | 1918        | 1924         | rVV2     | 1047913        | 1655605       | 22.51%          | 2.373%        |
| 30        | 14.233      | 1924          | 1929        | 1937         | rVB      | 202203         | 308892        | 4.20%           | 0.443%        |
| 31        | 14.386      | 1949          | 1955        | 1958         | rBV7     | 11386          | 26384         | 0.36%           | 0.038%        |
| 32        | 14.433      | 1958          | 1963        | 1968         | rVV2     | 84561          | 175732        | 2.39%           | 0.252%        |
| 33        | 14.480      | 1969          | 1971        | 1977         | rVB      | 48547          | 61858         | 0.84%           | 0.089%        |
| 34        | 14.574      | 1982          | 1987        | 1994         | rVV      | 106241         | 174864        | 2.38%           | 0.251%        |

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Method : Z:\SVOASRV\HPCHEM1\BNA\_M\METHODS\SOM-EPA-BM121318MA.M  
 Title : SVOA CALIBRATION

|    |        |      |      |      |      |         |         |        |        |
|----|--------|------|------|------|------|---------|---------|--------|--------|
| 35 | 14.651 | 1994 | 2000 | 2004 | rVB4 | 32845   | 65295   | 0.89%  | 0.094% |
| 36 | 14.698 | 2004 | 2008 | 2014 | rVB9 | 10939   | 20106   | 0.27%  | 0.029% |
| 37 | 14.792 | 2017 | 2024 | 2030 | rBV4 | 29768   | 55491   | 0.75%  | 0.080% |
| 38 | 14.845 | 2030 | 2033 | 2038 | rBV2 | 21961   | 31056   | 0.42%  | 0.045% |
| 39 | 14.963 | 2045 | 2053 | 2058 | rBV7 | 27237   | 66300   | 0.90%  | 0.095% |
| 40 | 15.033 | 2063 | 2065 | 2073 | rVB4 | 14220   | 21705   | 0.30%  | 0.031% |
| 41 | 15.169 | 2082 | 2088 | 2094 | rBV  | 1047188 | 1480183 | 20.12% | 2.121% |
| 42 | 15.227 | 2094 | 2098 | 2103 | rVB2 | 222628  | 301648  | 4.10%  | 0.432% |
| 43 | 15.345 | 2110 | 2118 | 2122 | rBV5 | 68868   | 185029  | 2.52%  | 0.265% |
| 44 | 15.386 | 2122 | 2125 | 2131 | rVV5 | 52025   | 103841  | 1.41%  | 0.149% |
| 45 | 15.439 | 2131 | 2134 | 2138 | rVV5 | 40216   | 57847   | 0.79%  | 0.083% |
| 46 | 15.480 | 2138 | 2141 | 2144 | rVV4 | 26199   | 38697   | 0.53%  | 0.055% |
| 47 | 15.521 | 2144 | 2148 | 2158 | rVB  | 74772   | 132730  | 1.80%  | 0.190% |
| 48 | 15.674 | 2170 | 2174 | 2182 | rVB  | 71537   | 135173  | 1.84%  | 0.194% |
| 49 | 15.763 | 2182 | 2189 | 2197 | rVB8 | 28556   | 72972   | 0.99%  | 0.105% |
| 50 | 15.904 | 2210 | 2213 | 2220 | rVB6 | 45354   | 83865   | 1.14%  | 0.120% |
| 51 | 16.039 | 2234 | 2236 | 2241 | rVV6 | 18054   | 20866   | 0.28%  | 0.030% |
| 52 | 16.233 | 2263 | 2269 | 2274 | rBV4 | 70739   | 150226  | 2.04%  | 0.215% |
| 53 | 16.286 | 2274 | 2278 | 2284 | rBV3 | 51085   | 74865   | 1.02%  | 0.107% |
| 54 | 16.380 | 2292 | 2294 | 2300 | rVB2 | 40941   | 65406   | 0.89%  | 0.094% |
| 55 | 16.439 | 2300 | 2304 | 2305 | rBV4 | 24785   | 29814   | 0.41%  | 0.043% |
| 56 | 16.468 | 2305 | 2309 | 2312 | rVV4 | 40689   | 53148   | 0.72%  | 0.076% |
| 57 | 16.510 | 2312 | 2316 | 2318 | rVB3 | 47492   | 60423   | 0.82%  | 0.087% |
| 58 | 16.592 | 2326 | 2330 | 2336 | rVB2 | 94562   | 153137  | 2.08%  | 0.219% |
| 59 | 16.668 | 2338 | 2343 | 2350 | rVV6 | 61118   | 172750  | 2.35%  | 0.248% |
| 60 | 16.745 | 2352 | 2356 | 2364 | rVB  | 150031  | 252252  | 3.43%  | 0.362% |
| 61 | 16.933 | 2382 | 2388 | 2391 | rBV  | 1331818 | 1970785 | 26.79% | 2.825% |
| 62 | 16.974 | 2391 | 2395 | 2400 | rVV  | 3218155 | 4333921 | 58.91% | 6.212% |
| 63 | 17.027 | 2400 | 2404 | 2407 | rVV2 | 1146762 | 1644613 | 22.36% | 2.357% |
| 64 | 17.063 | 2407 | 2410 | 2415 | rVV  | 1047317 | 1389078 | 18.88% | 1.991% |
| 65 | 17.133 | 2416 | 2422 | 2427 | rVB4 | 58376   | 130481  | 1.77%  | 0.187% |
| 66 | 17.315 | 2449 | 2453 | 2454 | rBV3 | 55407   | 70598   | 0.96%  | 0.101% |
| 67 | 17.345 | 2455 | 2458 | 2468 | rVB  | 209452  | 328154  | 4.46%  | 0.470% |
| 68 | 17.451 | 2473 | 2476 | 2480 | rVV  | 85331   | 109266  | 1.49%  | 0.157% |
| 69 | 17.645 | 2506 | 2509 | 2515 | rVB3 | 120395  | 172422  | 2.34%  | 0.247% |
| 70 | 17.727 | 2518 | 2523 | 2527 | rVV2 | 265494  | 382524  | 5.20%  | 0.548% |
| 71 | 17.804 | 2532 | 2536 | 2540 | rVV  | 436623  | 663476  | 9.02%  | 0.951% |

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Method : Z:\SVOASRV\HPCHEM1\BNA\_M\METHODS\SOM-EPA-BM121318MA.M  
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|     |        |      |      |      |      |         |         |         |         |
|-----|--------|------|------|------|------|---------|---------|---------|---------|
| 72  | 17.851 | 2540 | 2544 | 2551 | rVV  | 656501  | 1156211 | 15.72%  | 1.657%  |
| 73  | 17.939 | 2555 | 2559 | 2563 | rVV  | 252685  | 377331  | 5.13%   | 0.541%  |
| 74  | 18.004 | 2564 | 2570 | 2573 | rVV2 | 692084  | 1239041 | 16.84%  | 1.776%  |
| 75  | 18.039 | 2573 | 2576 | 2583 | rVV2 | 313927  | 569738  | 7.74%   | 0.817%  |
| 76  | 18.104 | 2583 | 2587 | 2594 | rVB2 | 352199  | 539614  | 7.34%   | 0.773%  |
| 77  | 18.315 | 2619 | 2623 | 2627 | rVB  | 330596  | 435963  | 5.93%   | 0.625%  |
| 78  | 18.368 | 2628 | 2632 | 2638 | rVB2 | 238151  | 330592  | 4.49%   | 0.474%  |
| 79  | 18.433 | 2641 | 2643 | 2648 | rVB2 | 82479   | 93090   | 1.27%   | 0.133%  |
| 80  | 18.615 | 2671 | 2674 | 2678 | rBV2 | 138973  | 181495  | 2.47%   | 0.260%  |
| 81  | 18.739 | 2690 | 2695 | 2699 | rBV  | 265448  | 419449  | 5.70%   | 0.601%  |
| 82  | 18.886 | 2716 | 2720 | 2727 | rVB3 | 184777  | 350108  | 4.76%   | 0.502%  |
| 83  | 19.004 | 2735 | 2740 | 2746 | rBV  | 5317466 | 7356268 | 100.00% | 10.543% |
| 84  | 19.104 | 2755 | 2757 | 2759 | rBV2 | 122519  | 122463  | 1.66%   | 0.176%  |
| 85  | 19.139 | 2760 | 2763 | 2764 | rBV2 | 183901  | 189800  | 2.58%   | 0.272%  |
| 86  | 19.339 | 2792 | 2797 | 2799 | rBV2 | 1976063 | 2680732 | 36.44%  | 3.842%  |
| 87  | 19.374 | 2799 | 2803 | 2811 | rVV  | 4924012 | 6791354 | 92.32%  | 9.734%  |
| 88  | 19.445 | 2812 | 2815 | 2822 | rVB2 | 223193  | 353329  | 4.80%   | 0.506%  |
| 89  | 19.556 | 2830 | 2834 | 2837 | rBV  | 221836  | 301056  | 4.09%   | 0.431%  |
| 90  | 19.868 | 2885 | 2887 | 2891 | rVB  | 571825  | 684702  | 9.31%   | 0.981%  |
| 91  | 19.974 | 2902 | 2905 | 2909 | rVB  | 436711  | 460285  | 6.26%   | 0.660%  |
| 92  | 20.027 | 2912 | 2914 | 2918 | rVB  | 434957  | 533467  | 7.25%   | 0.765%  |
| 93  | 20.633 | 3014 | 3017 | 3022 | rVB  | 318696  | 475282  | 6.46%   | 0.681%  |
| 94  | 20.833 | 3047 | 3051 | 3053 | rBV2 | 434960  | 581531  | 7.91%   | 0.833%  |
| 95  | 20.868 | 3054 | 3057 | 3064 | rVV2 | 512725  | 874460  | 11.89%  | 1.253%  |
| 96  | 21.139 | 3098 | 3103 | 3108 | rBV2 | 2855097 | 5634282 | 76.59%  | 8.075%  |
| 97  | 21.186 | 3108 | 3111 | 3116 | rVB  | 2237725 | 2689506 | 36.56%  | 3.855%  |
| 98  | 22.674 | 3360 | 3364 | 3369 | rBV  | 1559553 | 3144769 | 42.75%  | 4.507%  |
| 99  | 23.227 | 3454 | 3458 | 3465 | rVB  | 1800404 | 3101514 | 42.16%  | 4.445%  |
| 100 | 23.315 | 3469 | 3473 | 3477 | rVB  | 1026007 | 1574281 | 21.40%  | 2.256%  |

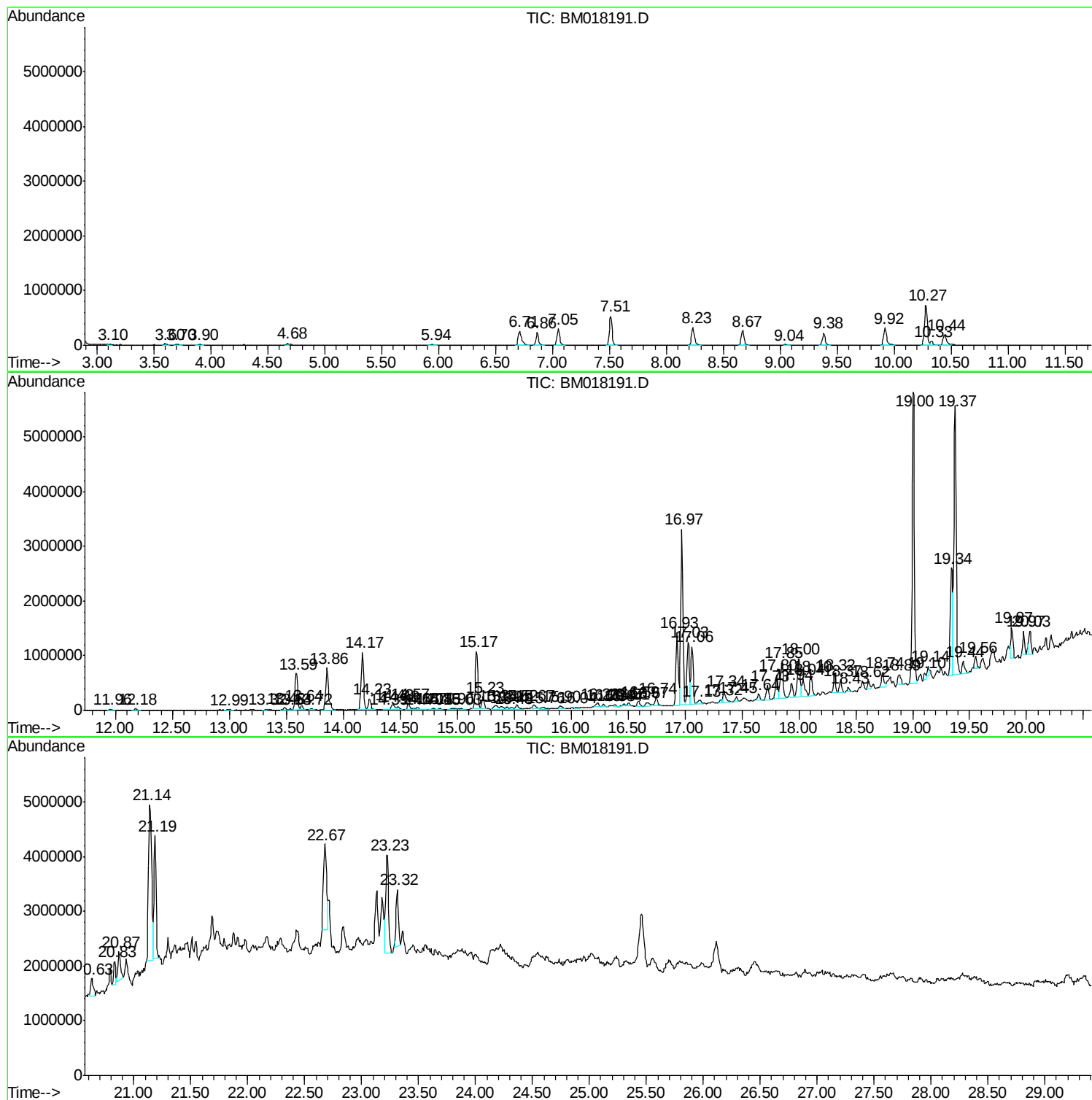
Sum of corrected areas: 69772234

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Quant Method : Z:\SVOASRV\HPCHEM1\BNA\_M\METHODS\SOM-EPA-BM121318MA.M  
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L  
TIC Integration Parameters: LSCINT.P



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Quant Method : Z:\SVOASRV\HPCHEM1\BNA\_M\METHODS\SOM-EPA-BM121318MA.M  
Quant Title : SVOA CALIBRATION

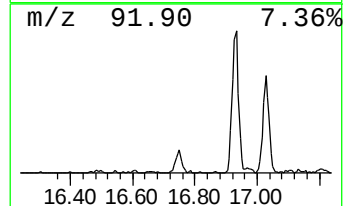
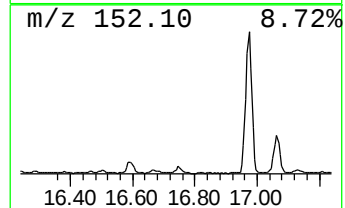
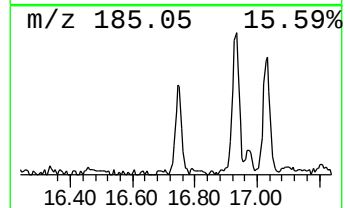
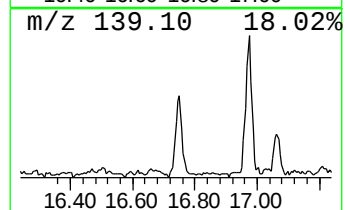
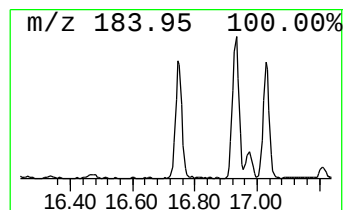
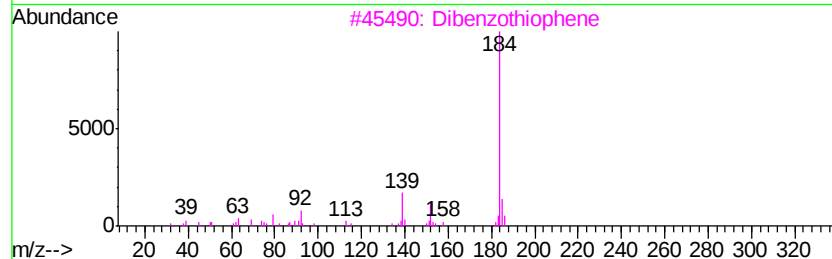
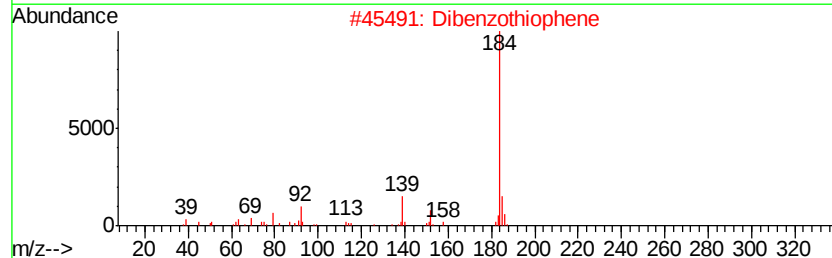
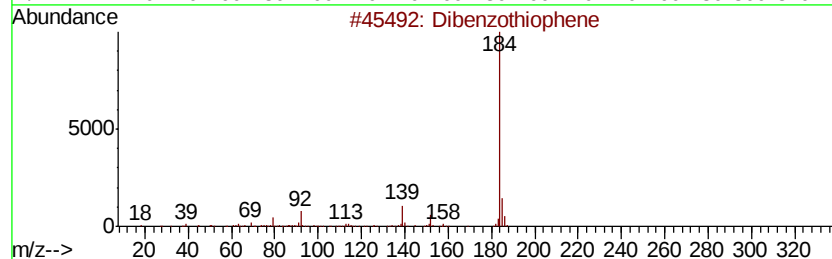
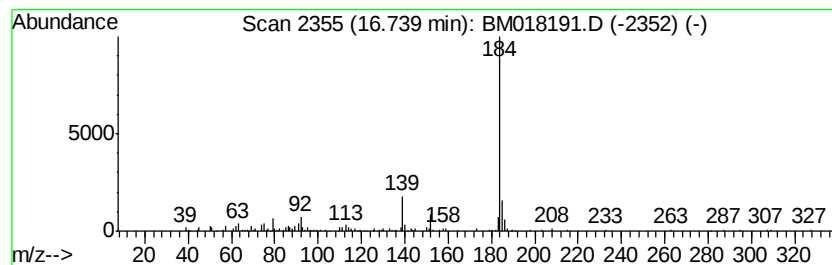
TIC Library : C:\DATABASE\NIST02.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 1 Dibenzothiophene Concentration Rank 13

| R.T.  | EstConc    | Area   | Relative to ISTD | R.T.  |
|-------|------------|--------|------------------|-------|
| 16.74 | 2.56 ng/ul | 252252 | Phenanthrene-d10 | 16.93 |

| Hit# | of | Tentative ID     | MW  | MolForm | CAS#        | Qual |
|------|----|------------------|-----|---------|-------------|------|
| 1    | 5  | Dibenzothiophene | 184 | C12H8S  | 000132-65-0 | 93   |
| 2    |    | Dibenzothiophene | 184 | C12H8S  | 000132-65-0 | 93   |
| 3    |    | Dibenzothiophene | 184 | C12H8S  | 000132-65-0 | 91   |
| 4    |    | Dibenzothiophene | 184 | C12H8S  | 000132-65-0 | 91   |
| 5    |    | Dibenzothiophene | 184 | C12H8S  | 000132-65-0 | 90   |



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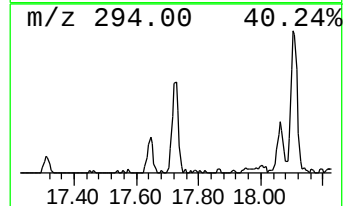
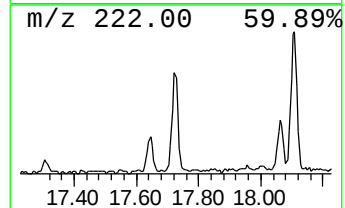
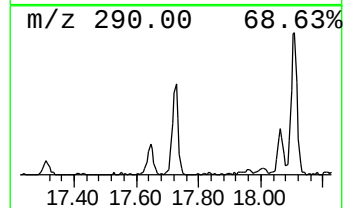
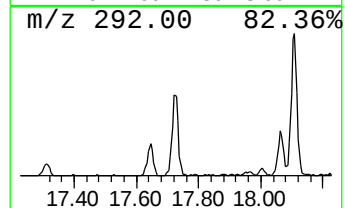
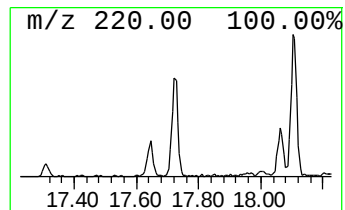
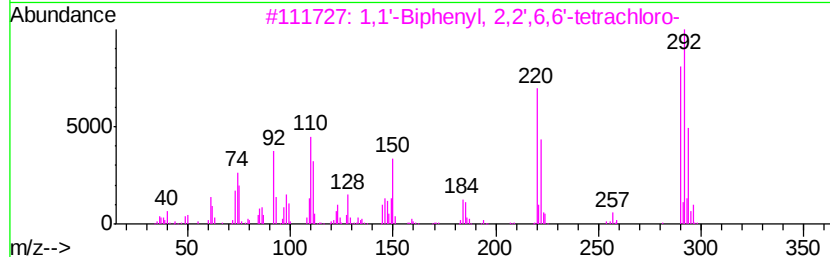
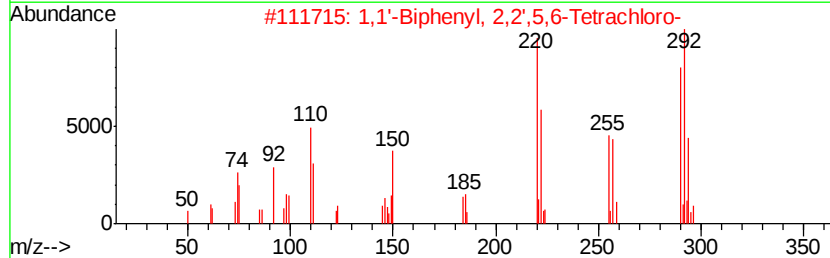
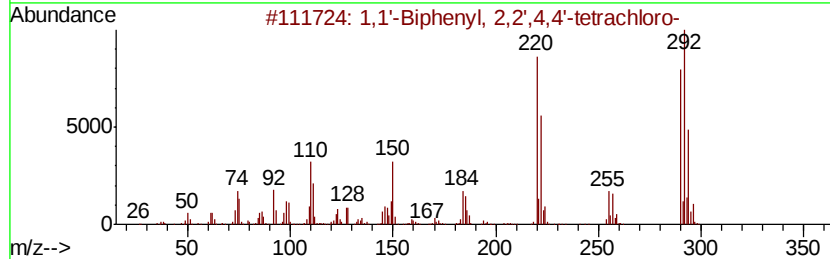
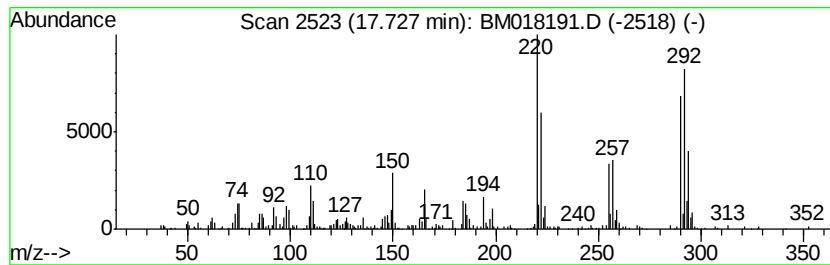
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\*\*\*\*\*  
Peak Number 2 1,1'-Biphenyl, 2,2',4,4'-te... Concentration Rank 8

| R.T.  | EstConc    | Area      | Relative to ISTD      |     | R.T.     |             |      |
|-------|------------|-----------|-----------------------|-----|----------|-------------|------|
| 17.73 | 3.88 ng/ul | 382524    | Phenanthrene-d10      |     | 16.93    |             |      |
| Hit#  | of         | 5         | Tentative ID          | MW  | MolForm  | CAS#        | Qual |
| 1     | 1,1'       | -Biphenyl | 2,2',4,4'-tetrachl... | 290 | C12H6Cl4 | 002437-79-8 | 99   |
| 2     | 1,1'       | -Biphenyl | 2,2',5,6-Tetrachl...  | 290 | C12H6Cl4 | 041464-41-9 | 99   |
| 3     | 1,1'       | -Biphenyl | 2,2',6,6'-tetrach...  | 290 | C12H6Cl4 | 015968-05-5 | 99   |
| 4     | 1,1'       | -Biphenyl | 2,2',3,4'-tetrach...  | 290 | C12H6Cl4 | 036559-22-5 | 99   |
| 5     | 1,1'       | -Biphenyl | 2,2',4,6-Tetrachl...  | 290 | C12H6Cl4 | 062796-65-0 | 99   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA M\DATA\BM121418\  
Data File : BM018191.D  
Acq On : 15 Dec 2018 05:47  
Operator : JU/SJ  
Sample : J6238-06  
Misc :  
ALS Vial : 25 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BE8B5

Quant Method : Z:\SVOASRV\HPCHEM1\BNA\_M\METHODS\SOM-EPA-BM121318MA.M  
Quant Title : SVOA CALIBRATION

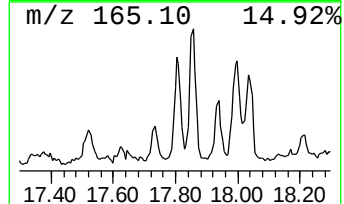
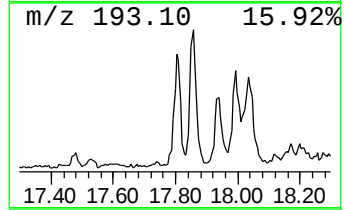
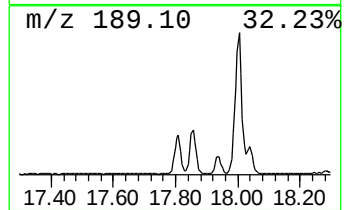
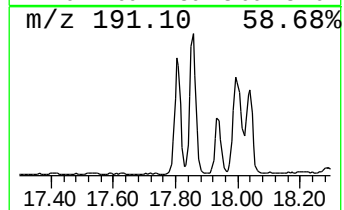
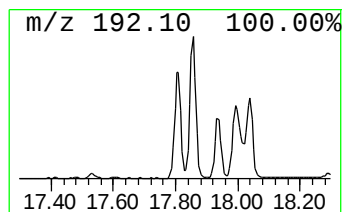
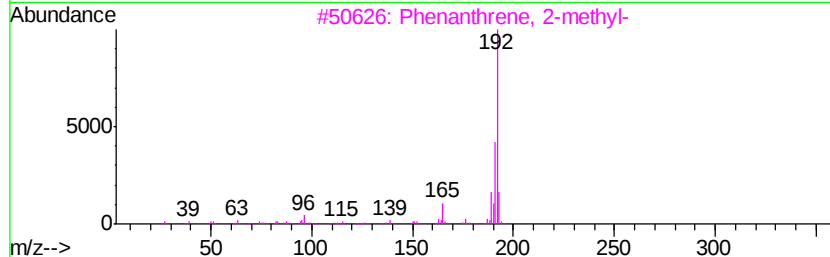
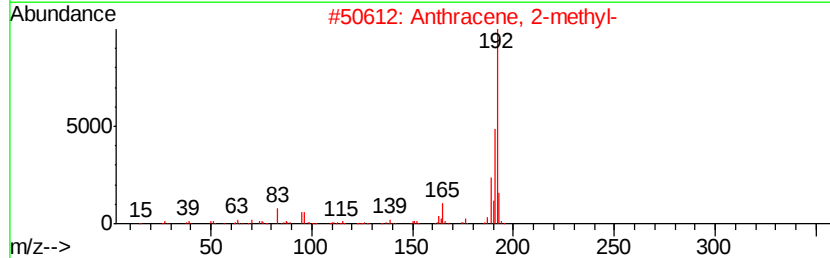
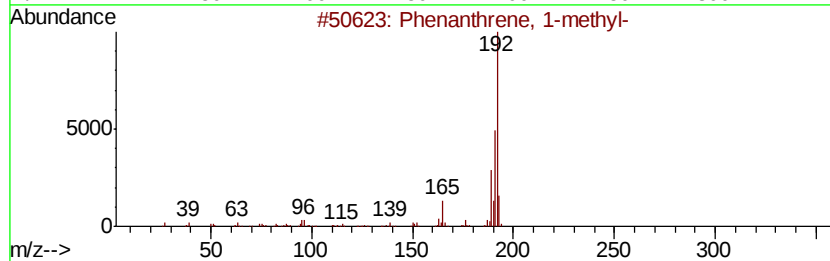
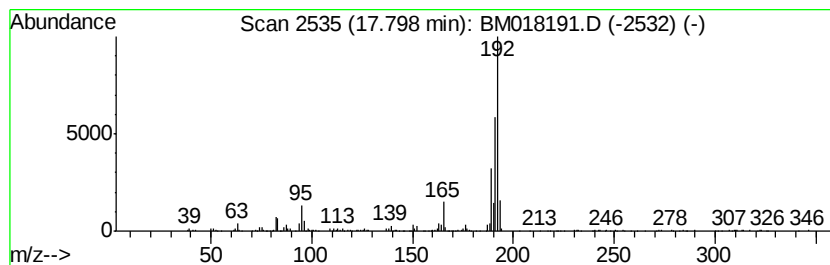
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TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 3 Phenanthrene, 1-methyl- Concentration Rank 3

| R.T.  | EstConc    | Area   | Relative to ISTD | R.T.  |
|-------|------------|--------|------------------|-------|
| 17.80 | 6.73 ng/ul | 663476 | Phenanthrene-d10 | 16.93 |

| Hit# of | 5 | Tentative ID                           | MW  | MolForm | CAS#        | Qual |
|---------|---|----------------------------------------|-----|---------|-------------|------|
| 1       |   | Phenanthrene, 1-methyl-                | 192 | C15H12  | 000832-69-9 | 97   |
| 2       |   | Anthracene, 2-methyl-                  | 192 | C15H12  | 000613-12-7 | 97   |
| 3       |   | Phenanthrene, 2-methyl-                | 192 | C15H12  | 002531-84-2 | 96   |
| 4       |   | 1H-Cyclopropa[1,1]phenanthrene, 1a,... | 192 | C15H12  | 000949-41-7 | 96   |
| 5       |   | Phenanthrene, 1-methyl-                | 192 | C15H12  | 000832-69-9 | 95   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA M\DATA\BM121418\  
Data File : BM018191.D  
Acq On : 15 Dec 2018 05:47  
Operator : JU/SJ  
Sample : J6238-06  
Misc :  
ALS Vial : 25 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BE8B5

Quant Method : Z:\SVOASRV\HPCHEM1\BNA\_M\METHODS\SOM-EPA-BM121318MA.M  
Quant Title : SVOA CALIBRATION

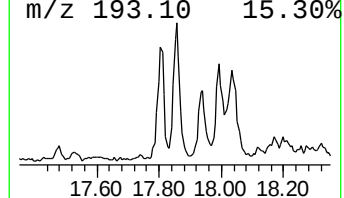
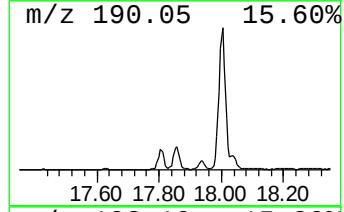
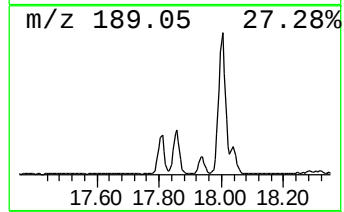
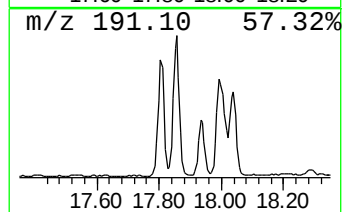
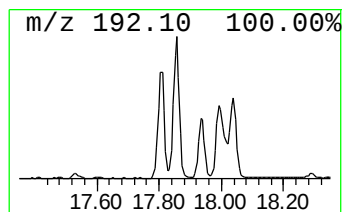
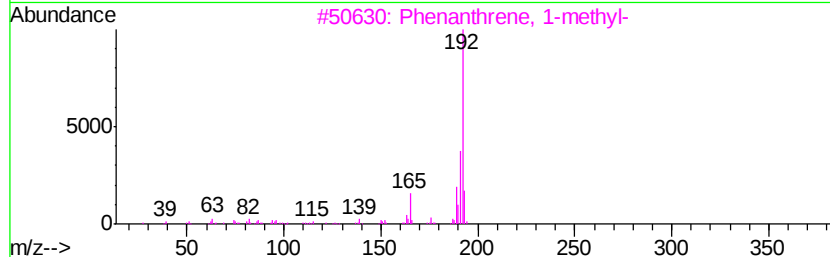
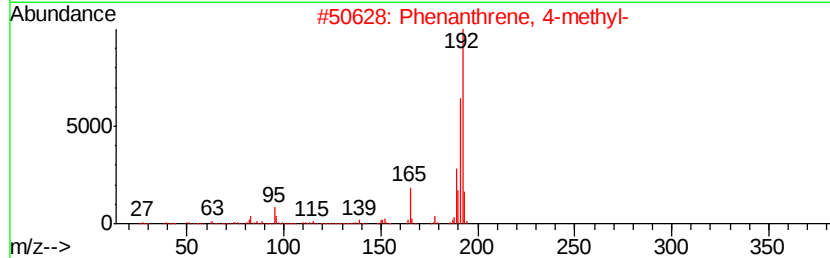
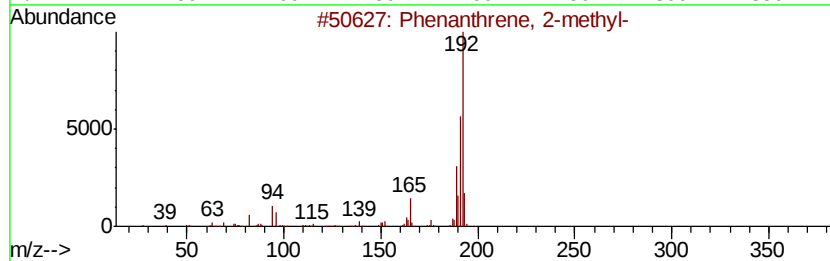
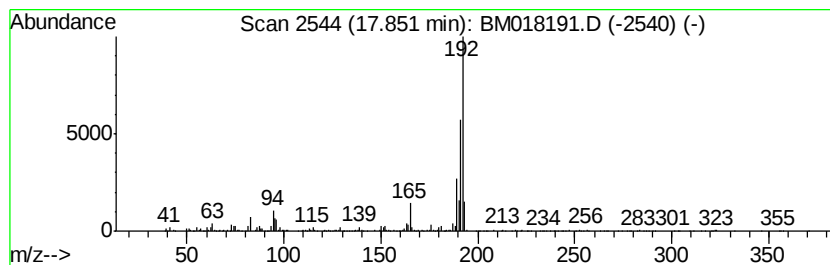
TIC Library : C:\DATABASE\NIST02.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 4 Phenanthrene, 2-methyl- Concentration Rank 2

| R.T.  | EstConc     | Area    | Relative to ISTD | R.T.  |
|-------|-------------|---------|------------------|-------|
| 17.85 | 11.73 ng/ul | 1156210 | Phenanthrene-d10 | 16.93 |

| Hit# of | 5 | Tentative ID            | MW  | MolForm | CAS#        | Qual |
|---------|---|-------------------------|-----|---------|-------------|------|
| 1       |   | Phenanthrene, 2-methyl- | 192 | C15H12  | 002531-84-2 | 98   |
| 2       |   | Phenanthrene, 4-methyl- | 192 | C15H12  | 000832-64-4 | 96   |
| 3       |   | Phenanthrene, 1-methyl- | 192 | C15H12  | 000832-69-9 | 95   |
| 4       |   | Anthracene, 2-methyl-   | 192 | C15H12  | 000613-12-7 | 95   |
| 5       |   | Phenanthrene, 2-methyl- | 192 | C15H12  | 002531-84-2 | 94   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA M\DATA\BM121418\  
Data File : BM018191.D  
Acq On : 15 Dec 2018 05:47  
Operator : JU/SJ  
Sample : J6238-06  
Misc :  
ALS Vial : 25 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BE8B5

Quant Method : Z:\SVOASRV\HPCHEM1\BNA\_M\METHODS\SOM-EPA-BM121318MA.M  
Quant Title : SVOA CALIBRATION

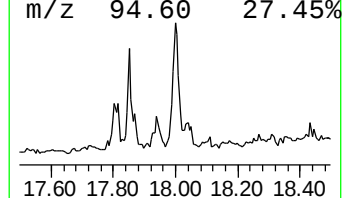
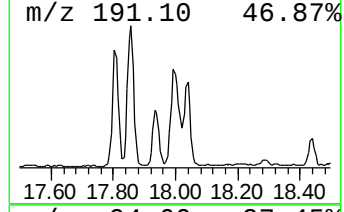
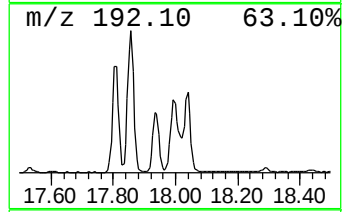
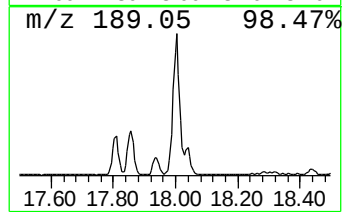
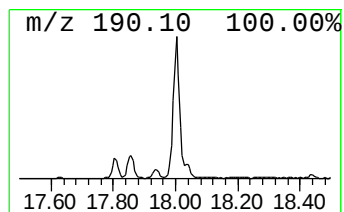
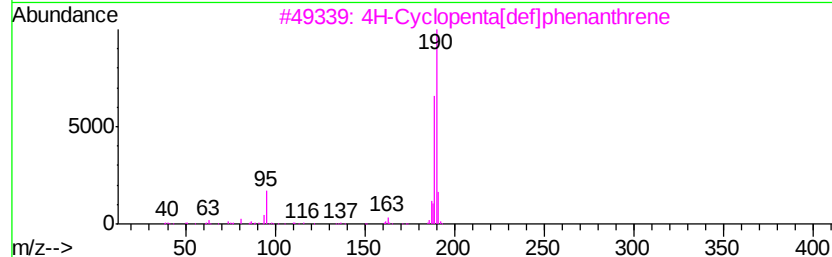
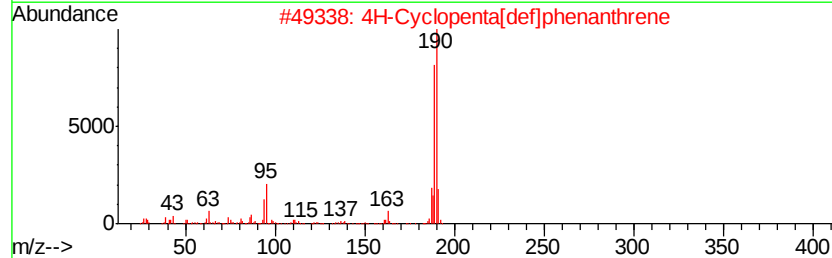
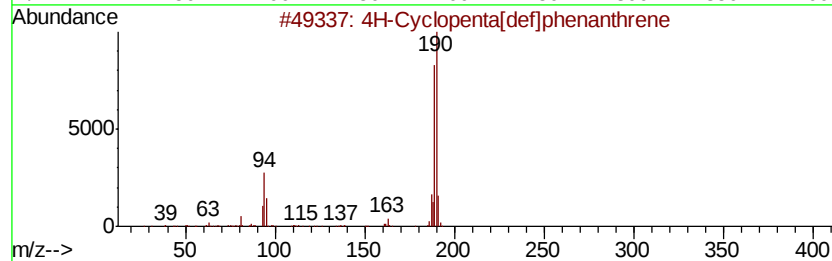
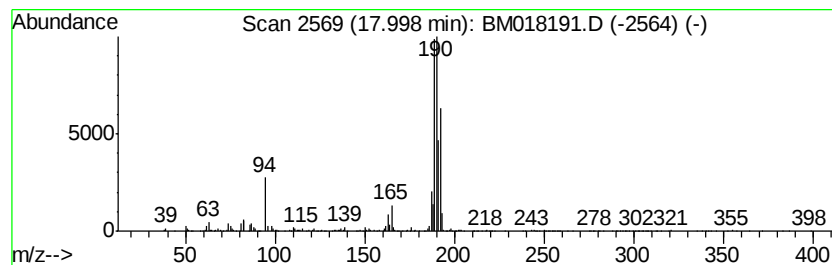
TIC Library : C:\DATABASE\NIST02.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 6 4H-Cyclopenta[def]phenanthrene Concentration Rank 1

| R.T.  | EstConc     | Area    | Relative to ISTD | R.T.  |
|-------|-------------|---------|------------------|-------|
| 18.00 | 12.57 ng/ul | 1239040 | Phenanthrene-d10 | 16.93 |

| Hit# | of | Tentative ID                        | MW  | MolForm    | CAS#        | Qual |
|------|----|-------------------------------------|-----|------------|-------------|------|
| 1    | 5  | 4H-Cyclopenta[def]phenanthrene      | 190 | C15H10     | 000203-64-5 | 74   |
| 2    |    | 4H-Cyclopenta[def]phenanthrene      | 190 | C15H10     | 000203-64-5 | 62   |
| 3    |    | 4H-Cyclopenta[def]phenanthrene      | 190 | C15H10     | 000203-64-5 | 58   |
| 4    |    | Thiophene-3-carboxaldehyde, 5-ch... | 190 | C5H4BCl03S | 036155-87-0 | 50   |
| 5    |    | 6H-Cyclobuta[jk]phenanthrene        | 190 | C15H10     | 083469-43-6 | 45   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA M\DATA\BM121418\  
Data File : BM018191.D  
Acq On : 15 Dec 2018 05:47  
Operator : JU/SJ  
Sample : J6238-06  
Misc :  
ALS Vial : 25 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BE8B5

Quant Method : Z:\SVOASRV\HPCHEM1\BNA\_M\METHODS\SOM-EPA-BM121318MA.M  
Quant Title : SVOA CALIBRATION

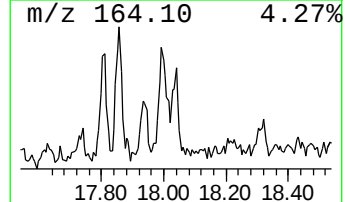
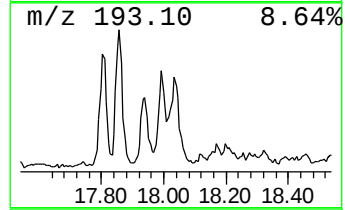
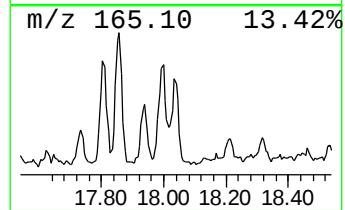
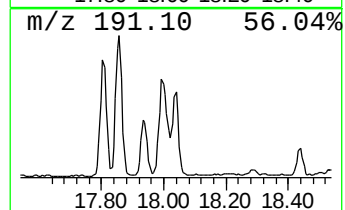
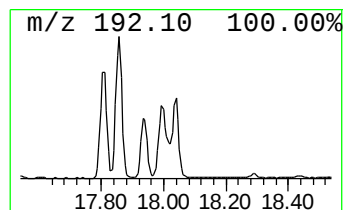
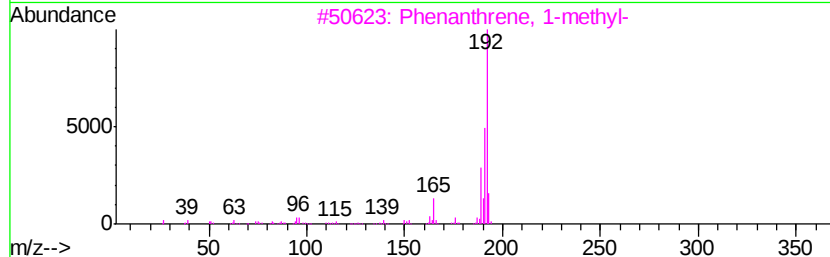
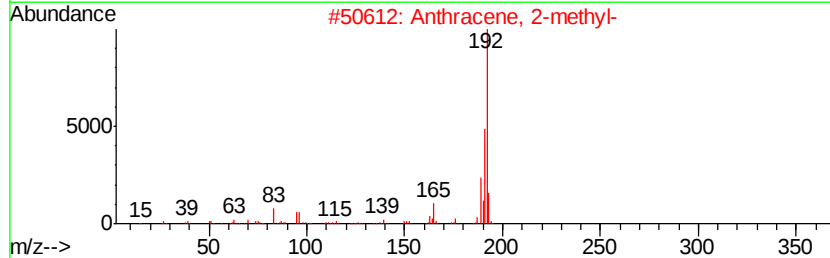
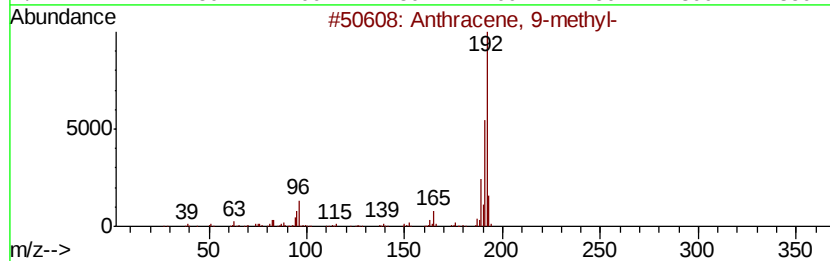
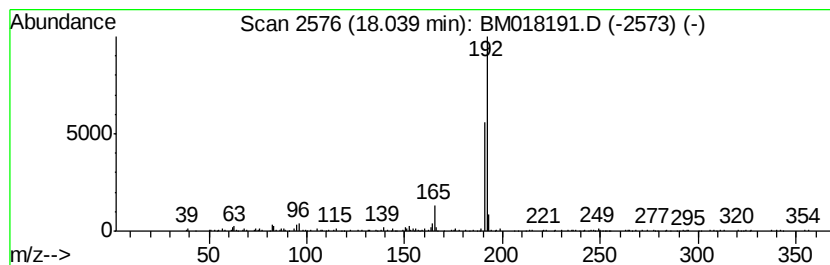
TIC Library : C:\DATABASE\NIST02.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 7 Anthracene, 9-methyl- Concentration Rank 4

| R.T.  | EstConc    | Area   | Relative to ISTD | R.T.  |
|-------|------------|--------|------------------|-------|
| 18.04 | 5.78 ng/ul | 569738 | Phenanthrene-d10 | 16.93 |

| Hit# of | 5 | Tentative ID            | MW  | MolForm | CAS#        | Qual |
|---------|---|-------------------------|-----|---------|-------------|------|
| 1       |   | Anthracene, 9-methyl-   | 192 | C15H12  | 000779-02-2 | 86   |
| 2       |   | Anthracene, 2-methyl-   | 192 | C15H12  | 000613-12-7 | 86   |
| 3       |   | Phenanthrene, 1-methyl- | 192 | C15H12  | 000832-69-9 | 86   |
| 4       |   | Phenanthrene, 2-methyl- | 192 | C15H12  | 002531-84-2 | 83   |
| 5       |   | Anthracene, 1-methyl-   | 192 | C15H12  | 000610-48-0 | 80   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA M\DATA\BM121418\  
Data File : BM018191.D  
Acq On : 15 Dec 2018 05:47  
Operator : JU/SJ  
Sample : J6238-06  
Misc :  
ALS Vial : 25 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BE8B5

Quant Method : Z:\SVOASRV\HPCHEM1\BNA\_M\METHODS\SOM-EPA-BM121318MA.M  
Quant Title : SVOA CALIBRATION

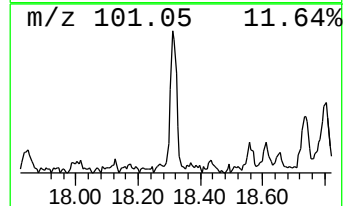
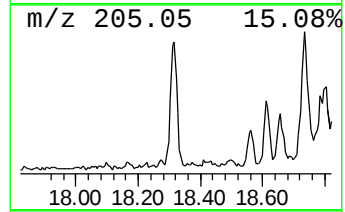
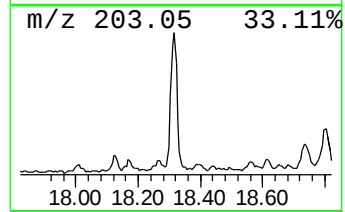
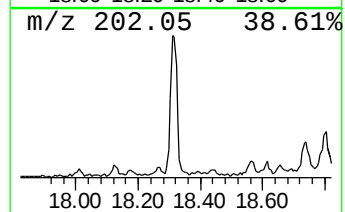
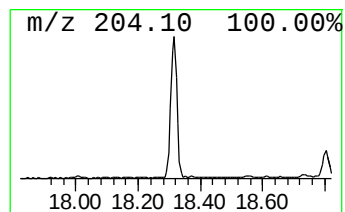
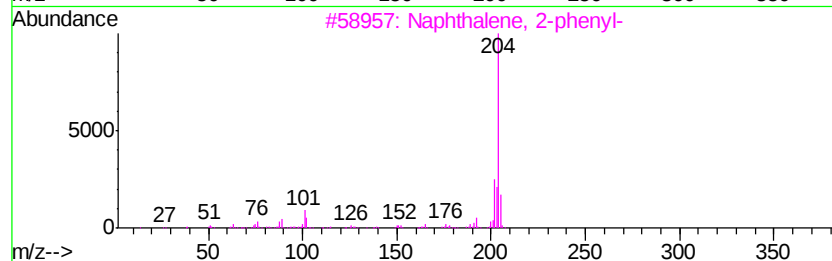
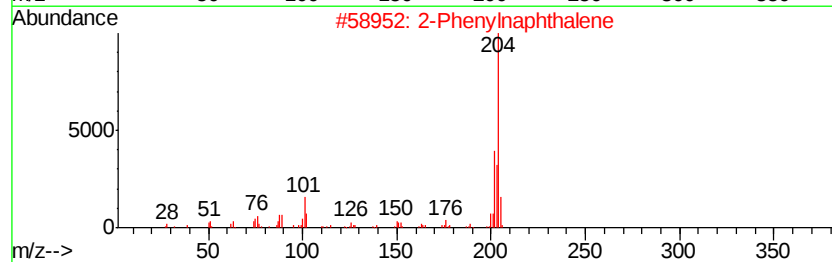
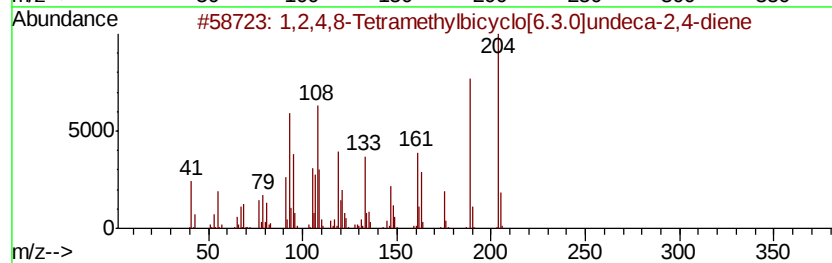
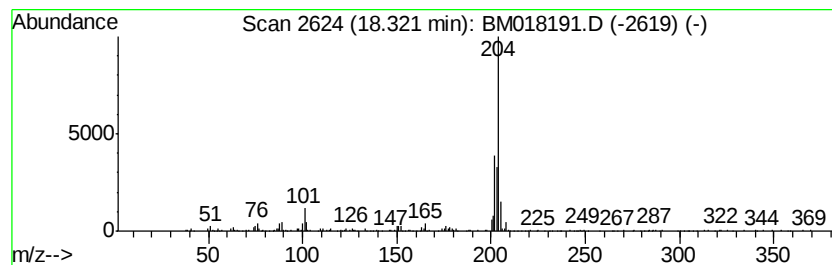
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TIC Integration Parameters: LSCINT.P

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Peak Number 9 1,2,4,8-Tetramethylbicyclo[...] Concentration Rank 6

| R.T.  | EstConc    | Area   | Relative to ISTD | R.T.  |
|-------|------------|--------|------------------|-------|
| 18.32 | 4.42 ng/ul | 435963 | Phenanthrene-d10 | 16.93 |

| Hit# | of | 5 | Tentative ID                         | MW  | MolForm | CAS#        | Qual |
|------|----|---|--------------------------------------|-----|---------|-------------|------|
| 1    |    |   | 1,2,4,8-Tetramethylbicyclo[6.3.0]... | 204 | C15H24  | 137235-51-9 | 95   |
| 2    |    |   | 2-Phenylnaphthalene                  | 204 | C16H12  | 035465-71-5 | 93   |
| 3    |    |   | Naphthalene, 2-phenyl-               | 204 | C16H12  | 000612-94-2 | 93   |
| 4    |    |   | 5,16[1',2'l:8,13[1'',2'']-Dibenz...  | 408 | C32H24  | 005672-97-9 | 87   |
| 5    |    |   | Naphthalene, 2-phenyl-               | 204 | C16H12  | 000612-94-2 | 81   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA M\DATA\BM121418\  
Data File : BM018191.D  
Acq On : 15 Dec 2018 05:47  
Operator : JU/SJ  
Sample : J6238-06  
Misc :  
ALS Vial : 25 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BE8B5

Quant Method : Z:\SVOASRV\HPCHEM1\BNA\_M\METHODS\SOM-EPA-BM121318MA.M  
Quant Title : SVOA CALIBRATION

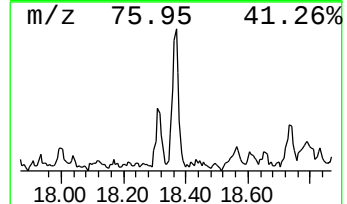
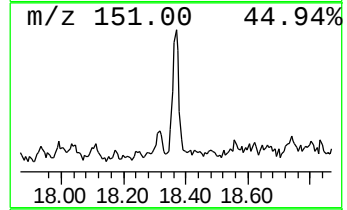
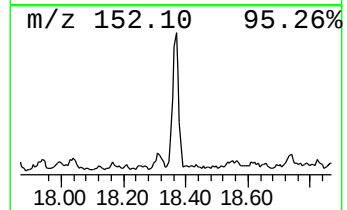
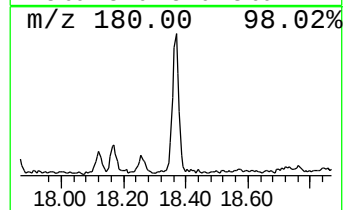
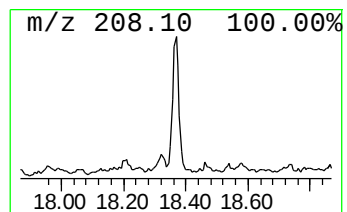
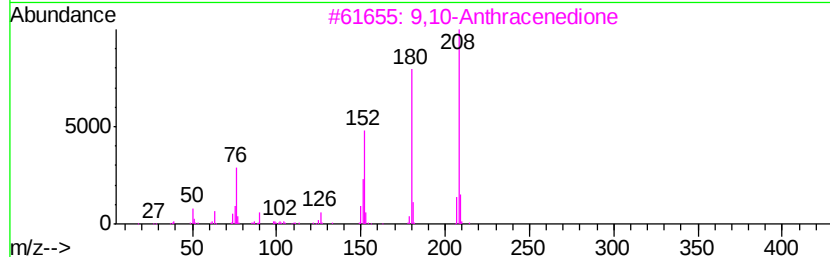
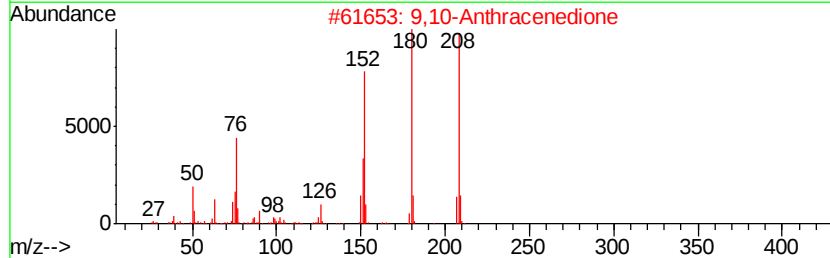
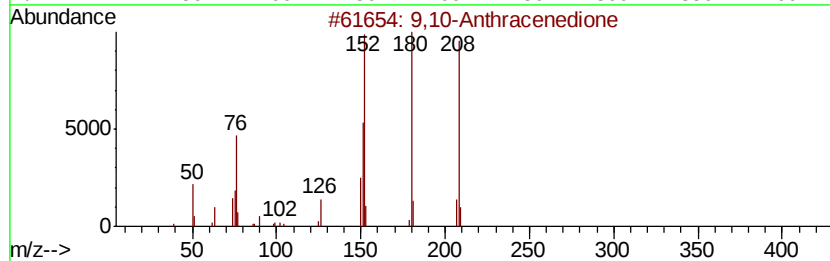
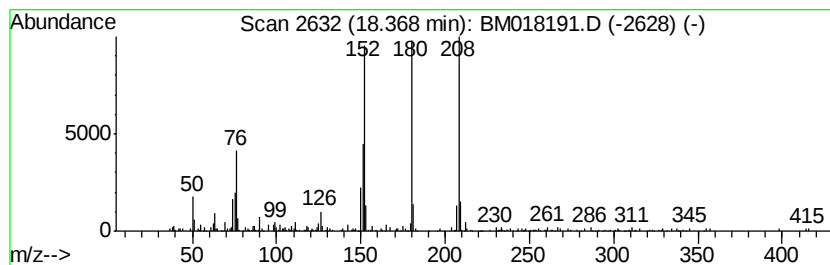
TIC Library : C:\DATABASE\NIST02.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 10 9,10-Anthracenedione Concentration Rank 11

| R.T.  | EstConc    | Area   | Relative to ISTD | R.T.  |
|-------|------------|--------|------------------|-------|
| 18.37 | 3.35 ng/ul | 330592 | Phenanthrene-d10 | 16.93 |

| Hit# | of | 5 | Tentative ID         | MW  | MolForm | CAS#        | Qual |
|------|----|---|----------------------|-----|---------|-------------|------|
| 1    |    |   | 9,10-Anthracenedione | 208 | C14H8O2 | 000084-65-1 | 99   |
| 2    |    |   | 9,10-Anthracenedione | 208 | C14H8O2 | 000084-65-1 | 95   |
| 3    |    |   | 9,10-Anthracenedione | 208 | C14H8O2 | 000084-65-1 | 89   |
| 4    |    |   | Benzo[c]cinnoline    | 180 | C12H8N2 | 000230-17-1 | 86   |
| 5    |    |   | Benzo[h]cinnoline    | 180 | C12H8N2 | 000230-31-9 | 62   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA M\DATA\BM121418\  
Data File : BM018191.D  
Acq On : 15 Dec 2018 05:47  
Operator : JU/SJ  
Sample : J6238-06  
Misc :  
ALS Vial : 25 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BE8B5

Quant Method : Z:\SVOASRV\HPCHEM1\BNA\_M\METHODS\SOM-EPA-BM121318MA.M  
Quant Title : SVOA CALIBRATION

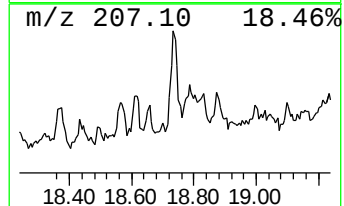
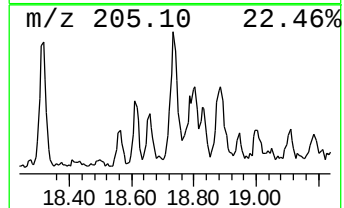
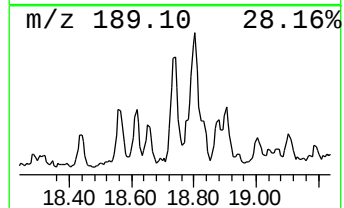
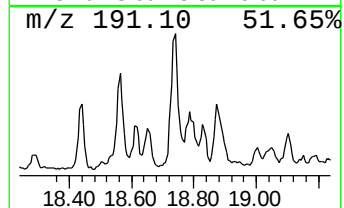
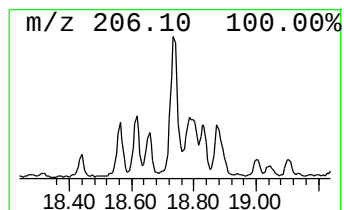
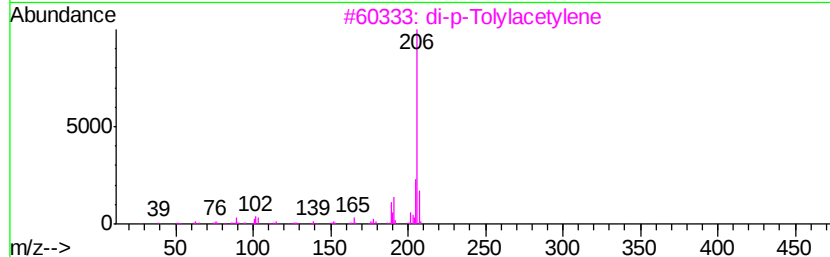
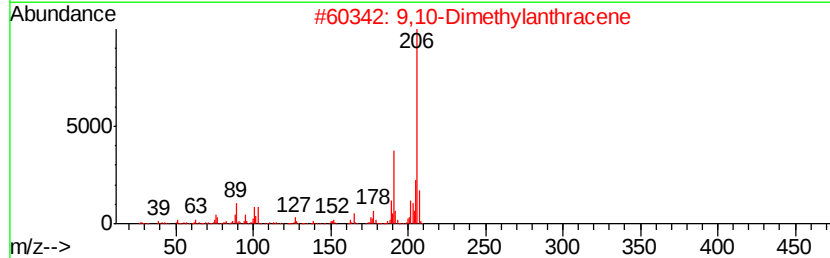
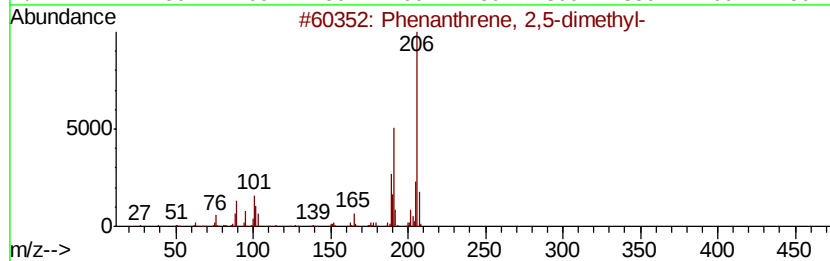
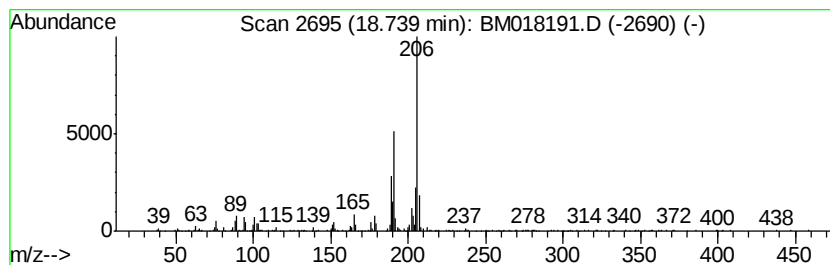
TIC Library : C:\DATABASE\NIST02.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 11 Phenanthrene, 2,5-dimethyl- Concentration Rank 7

| R.T.  | EstConc    | Area   | Relative to ISTD | R.T.  |
|-------|------------|--------|------------------|-------|
| 18.74 | 4.26 ng/ul | 419449 | Phenanthrene-d10 | 16.93 |

| Hit# | of | Tentative ID                | MW  | MolForm | CAS#        | Qual |
|------|----|-----------------------------|-----|---------|-------------|------|
| 1    | 5  | Phenanthrene, 2,5-dimethyl- | 206 | C16H14  | 003674-66-6 | 93   |
| 2    |    | 9,10-Dimethylantracene      | 206 | C16H14  | 000781-43-1 | 91   |
| 3    |    | di-p-Tolylacetylene         | 206 | C16H14  | 002789-88-0 | 91   |
| 4    |    | 9,10-Dimethylantracene      | 206 | C16H14  | 000781-43-1 | 90   |
| 5    |    | Anthracene, 1,4-dimethyl-   | 206 | C16H14  | 000781-92-0 | 90   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA M\DATA\BM121418\  
Data File : BM018191.D  
Acq On : 15 Dec 2018 05:47  
Operator : JU/SJ  
Sample : J6238-06  
Misc :  
ALS Vial : 25 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BE8B5

Quant Method : Z:\SVOASRV\HPCHEM1\BNA\_M\METHODS\SOM-EPA-BM121318MA.M  
Quant Title : SVOA CALIBRATION

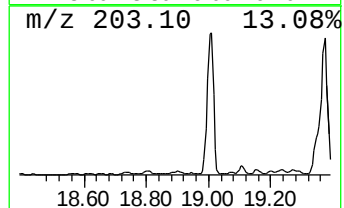
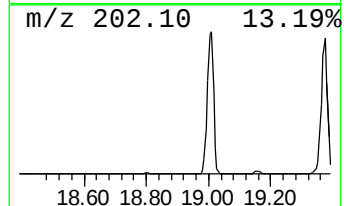
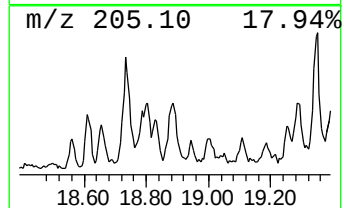
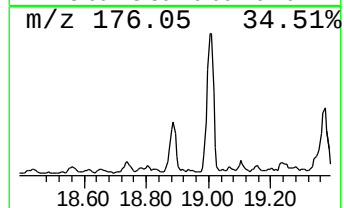
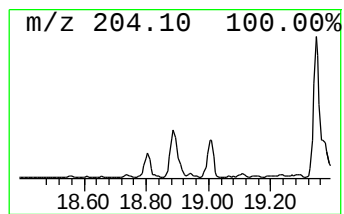
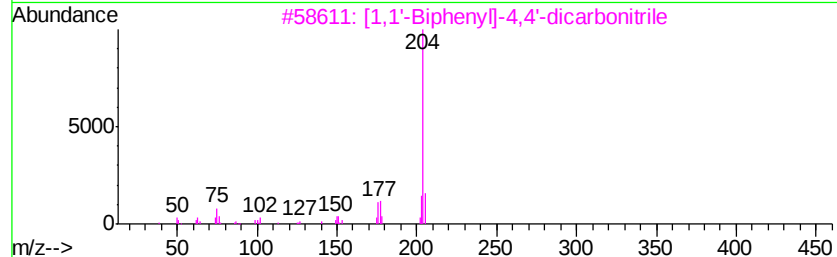
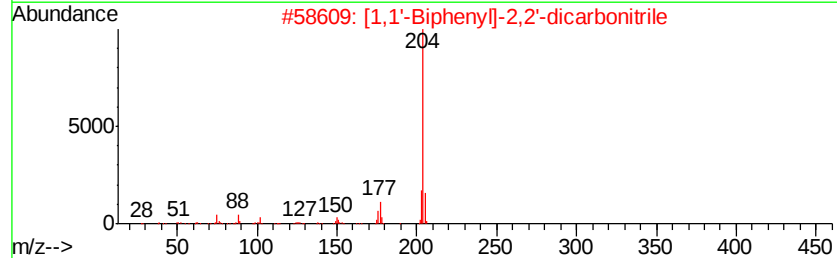
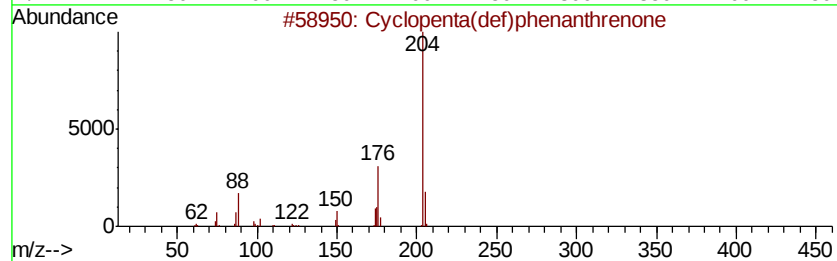
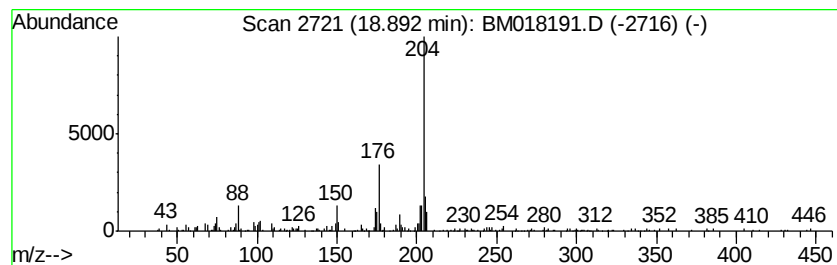
TIC Library : C:\DATABASE\NIST02.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 12 Cyclopenta(def)phenanthrenone Concentration Rank 10

| R.T.  | EstConc    | Area   | Relative to ISTD | R.T.  |
|-------|------------|--------|------------------|-------|
| 18.89 | 3.55 ng/ul | 350108 | Phenanthrene-d10 | 16.93 |

| Hit# | of | Tentative ID                        | MW  | MolForm | CAS#        | Qual |
|------|----|-------------------------------------|-----|---------|-------------|------|
| 1    | 5  | Cyclopenta(def)phenanthrenone       | 204 | C15H8O  | 005737-13-3 | 91   |
| 2    |    | [1,1'-Biphenyl]-2,2'-dicarbonitrile | 204 | C14H8N2 | 004341-02-0 | 53   |
| 3    |    | [1,1'-Biphenyl]-4,4'-dicarbonitrile | 204 | C14H8N2 | 001591-30-6 | 49   |
| 4    |    | 5H-Dibenzo[a,d]cycloheptene, 5-m... | 204 | C16H12  | 002975-79-3 | 49   |
| 5    |    | 1,2,4,8-Tetramethylbicyclo[6.3.0... | 204 | C15H24  | 137235-51-9 | 49   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA M\DATA\BM121418\  
Data File : BM018191.D  
Acq On : 15 Dec 2018 05:47  
Operator : JU/SJ  
Sample : J6238-06  
Misc :  
ALS Vial : 25 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BE8B5

Quant Method : Z:\SVOASRV\HPCHEM1\BNA\_M\METHODS\SOM-EPA-BM121318MA.M  
Quant Title : SVOA CALIBRATION

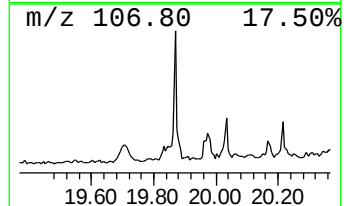
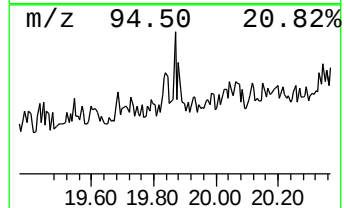
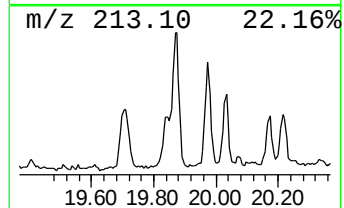
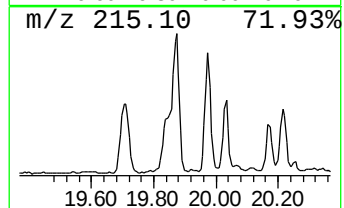
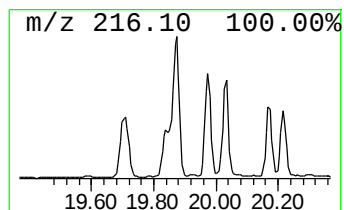
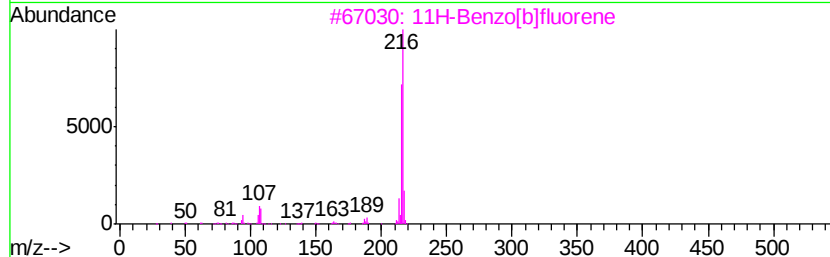
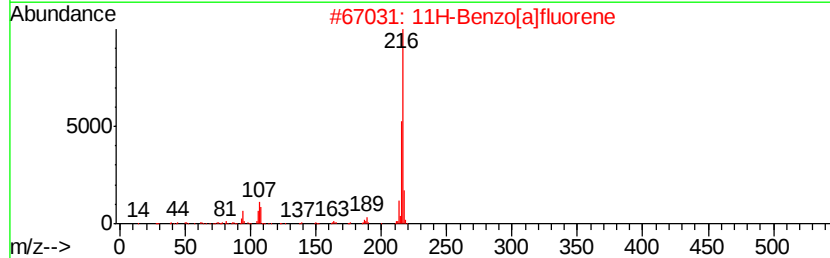
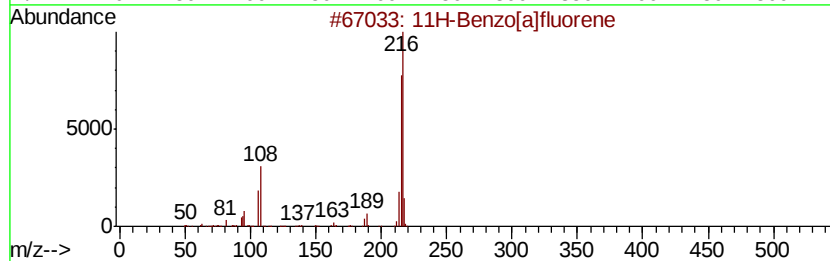
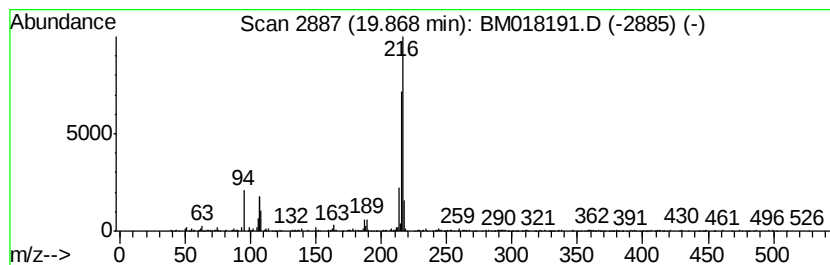
TIC Library : C:\DATABASE\NIST02.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 13 11H-Benzo[a]fluorene Concentration Rank 14

| R.T.  | EstConc    | Area   | Relative to ISTD | R.T.  |
|-------|------------|--------|------------------|-------|
| 19.87 | 2.43 ng/ul | 684702 | Chrysene-d12     | 21.15 |

| Hit# | of | Tentative ID         | MW  | MolForm | CAS#        | Qual |
|------|----|----------------------|-----|---------|-------------|------|
| 1    | 5  | 11H-Benzo[a]fluorene | 216 | C17H12  | 000238-84-6 | 94   |
| 2    |    | 11H-Benzo[a]fluorene | 216 | C17H12  | 000238-84-6 | 74   |
| 3    |    | 11H-Benzo[b]fluorene | 216 | C17H12  | 000243-17-4 | 70   |
| 4    |    | Pyrene, 1-methyl-    | 216 | C17H12  | 002381-21-7 | 64   |
| 5    |    | 11H-Benzo[a]fluorene | 216 | C17H12  | 000238-84-6 | 58   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA M\DATA\BM121418\  
Data File : BM018191.D  
Acq On : 15 Dec 2018 05:47  
Operator : JU/SJ  
Sample : J6238-06  
Misc :  
ALS Vial : 25 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BE8B5

Quant Method : Z:\SVOASRV\HPCHEM1\BNA\_M\METHODS\SOM-EPA-BM121318MA.M  
Quant Title : SVOA CALIBRATION

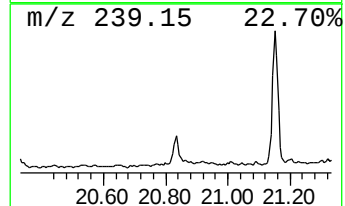
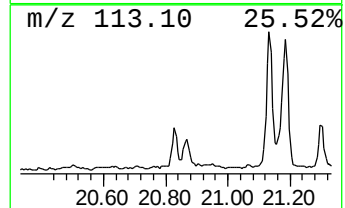
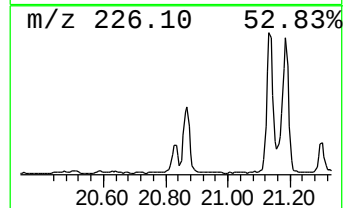
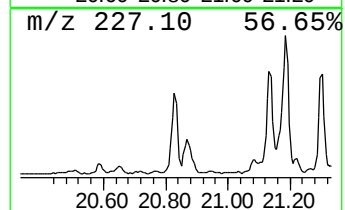
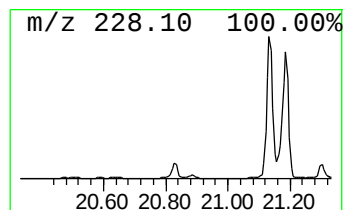
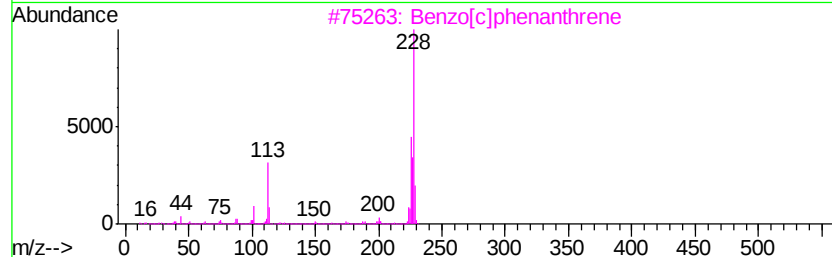
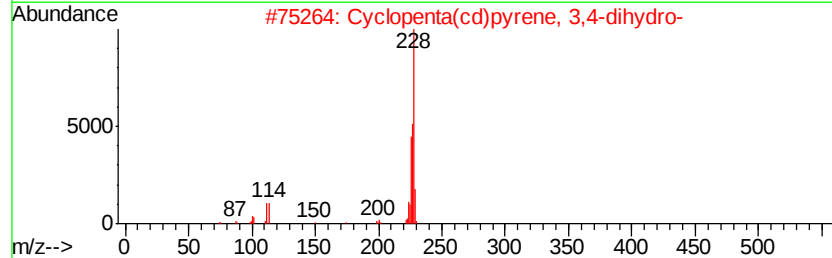
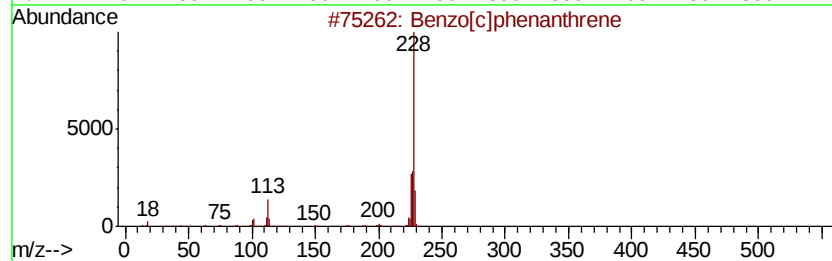
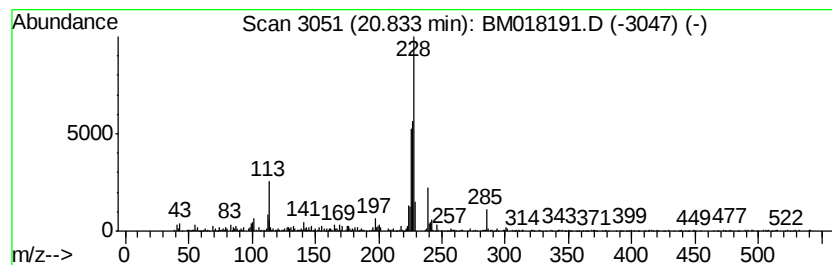
TIC Library : C:\DATABASE\NIST02.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 14 Benzo[c]phenanthrene Concentration Rank 15

| R.T.  | EstConc    | Area   | Relative to ISTD | R.T.  |
|-------|------------|--------|------------------|-------|
| 20.83 | 2.06 ng/ul | 581531 | Chrysene-d12     | 21.15 |

| Hit# | of | Tentative ID                        | MW  | MolForm  | CAS#        | Qual |
|------|----|-------------------------------------|-----|----------|-------------|------|
| 1    | 5  | Benzo[c]phenanthrene                | 228 | C18H12   | 000195-19-7 | 53   |
| 2    |    | Cyclopenta(cd)pyrene, 3,4-dihydro-  | 228 | C18H12   | 025732-74-5 | 46   |
| 3    |    | Benzo[c]phenanthrene                | 228 | C18H12   | 000195-19-7 | 43   |
| 4    |    | 1(2H)-Phenanthrenone, 3,4,9,10-t... | 228 | C15H16O2 | 014427-61-3 | 43   |
| 5    |    | 9,10-Anthracenedicarbonitrile       | 228 | C16H8N2  | 001217-45-4 | 38   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA M\DATA\BM121418\  
Data File : BM018191.D  
Acq On : 15 Dec 2018 05:47  
Operator : JU/SJ  
Sample : J6238-06  
Misc :  
ALS Vial : 25 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BE8B5

Quant Method : Z:\SVOASRV\HPCHEM1\BNA\_M\METHODS\SOM-EPA-BM121318MA.M  
Quant Title : SVOA CALIBRATION

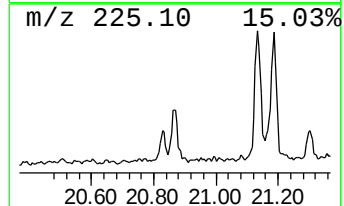
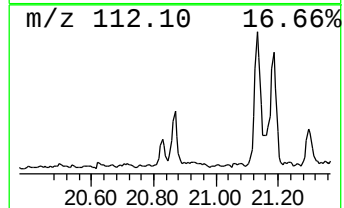
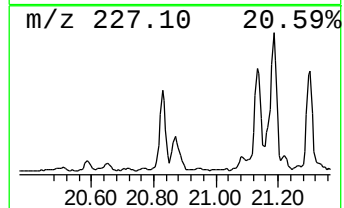
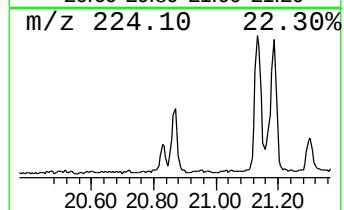
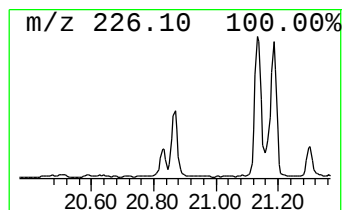
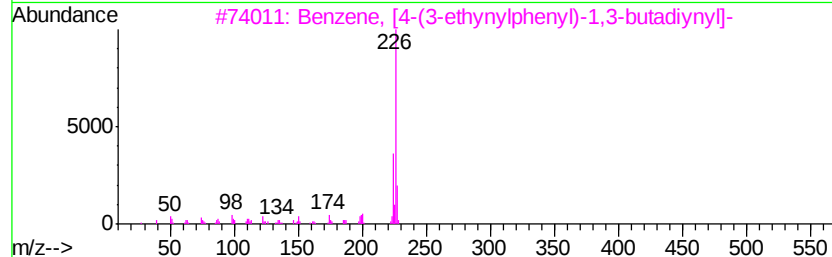
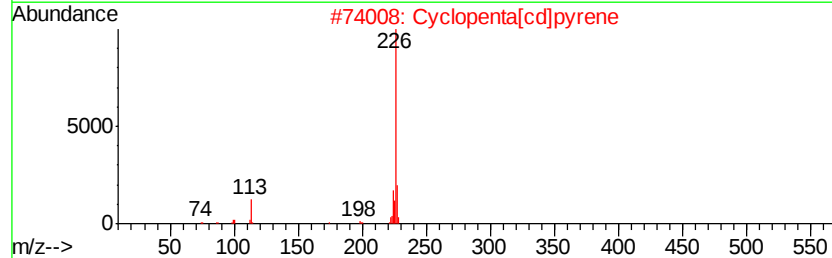
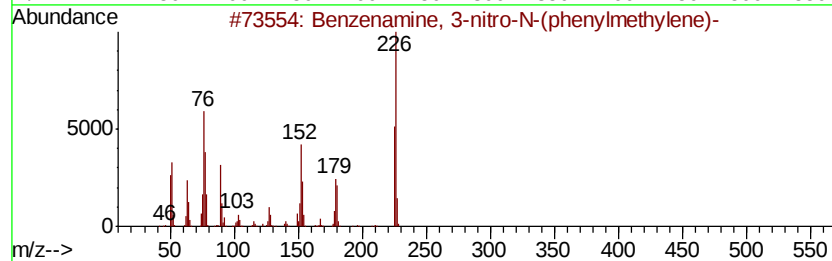
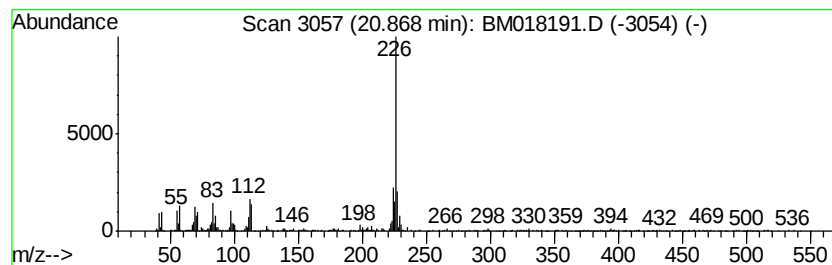
TIC Library : C:\DATABASE\NIST02.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 15 Benzenamine, 3-nitro-N-(phe... Concentration Rank 12

| R.T.  | EstConc    | Area   | Relative to ISTD | R.T.  |
|-------|------------|--------|------------------|-------|
| 20.87 | 3.10 ng/ul | 874460 | Chrysene-d12     | 21.15 |

| Hit# | of | Tentative ID                        | MW  | MolForm    | CAS#         | Qual |
|------|----|-------------------------------------|-----|------------|--------------|------|
| 1    | 5  | Benzenamine, 3-nitro-N-(phenylme... | 226 | C13H10N2O2 | 005341-44-6  | 70   |
| 2    |    | Cyclopenta[cd]pyrene                | 226 | C18H10     | 027208-37-3  | 70   |
| 3    |    | Benzene, [4-(3-ethynylphenyl)-1,... | 226 | C18H10     | 1000115-87-3 | 58   |
| 4    |    | 9H-Carbazole, 9-methyl-3-nitro-     | 226 | C13H10N2O2 | 061166-05-0  | 58   |
| 5    |    | 9H-Xanthen-9-one, 3-methoxy-        | 226 | C14H10O3   | 003722-52-9  | 53   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA\_M\DATA\BM121418\  
 Data File : BM018191.D  
 Acq On : 15 Dec 2018 05:47  
 Operator : JU/SJ  
 Sample : J6238-06  
 Misc :  
 ALS Vial : 25 Sample Multiplier: 1

Instrument :  
 BNA\_M  
 ClientSampleId :  
 BE8B5

Quant Method : Z:\SVOASRV\HPCHEM1\BNA\_M\METHODS\SOM-EPA-BM121318MA.M  
 Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L  
 TIC Integration Parameters: LSCINT.P

| TIC Top Hit name     | RT    | EstConc | Units | Response | --Internal Standard-- |       |         |      |
|----------------------|-------|---------|-------|----------|-----------------------|-------|---------|------|
|                      |       |         |       |          | #                     | RT    | Resp    | Conc |
| Dibenzothiophene     | 16.74 | 2.6     | ng/ul | 252252   | 4                     | 16.93 | 1970790 | 20.0 |
| 1,1'-Biphenyl, 2,... | 17.73 | 3.9     | ng/ul | 382524   | 4                     | 16.93 | 1970790 | 20.0 |
| Phenanthrene, 1-m... | 17.80 | 6.7     | ng/ul | 663476   | 4                     | 16.93 | 1970790 | 20.0 |
| Phenanthrene, 2-m... | 17.85 | 11.7    | ng/ul | 1156210  | 4                     | 16.93 | 1970790 | 20.0 |
| 4H-Cyclopenta[def... | 18.00 | 12.6    | ng/ul | 1239040  | 4                     | 16.93 | 1970790 | 20.0 |
| Anthracene, 9-met... | 18.04 | 5.8     | ng/ul | 569738   | 4                     | 16.93 | 1970790 | 20.0 |
| 1,2,4,8-Tetrameth... | 18.32 | 4.4     | ng/ul | 435963   | 4                     | 16.93 | 1970790 | 20.0 |
| 9,10-Anthracenedione | 18.37 | 3.4     | ng/ul | 330592   | 4                     | 16.93 | 1970790 | 20.0 |
| Phenanthrene, 2,5... | 18.74 | 4.3     | ng/ul | 419449   | 4                     | 16.93 | 1970790 | 20.0 |
| Cyclopenta(def)ph... | 18.89 | 3.5     | ng/ul | 350108   | 4                     | 16.93 | 1970790 | 20.0 |
| 11H-Benzo[a]fluorene | 19.87 | 2.4     | ng/ul | 684702   | 5                     | 21.15 | 5634280 | 20.0 |
| Benzo[c]phenanthrene | 20.83 | 2.1     | ng/ul | 581531   | 5                     | 21.15 | 5634280 | 20.0 |
| Benzenamine, 3-ni... | 20.87 | 3.1     | ng/ul | 874460   | 5                     | 21.15 | 5634280 | 20.0 |