

Data Path : Z:\HPCHEM1\BNA F\DATA\BF060717\  
 Data File : BF095758.D  
 Acq On : 7 Jun 2017 21:39  
 Operator : SJ/MA  
 Sample : I3479-03 5X  
 Misc :  
 ALS Vial : 16 Sample Multiplier: 1

Instrument :  
 BNA\_F  
 ClientSampleId :  
 SB-8(0-2)20170603

Integration Parameters: rteint.p

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

Filtering: 5  
 Min Area: 3 % 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:\HPCHEM1\BNA\_F\METHODS\8270-BF060517.M  
 Title : ASP BNA STANDARDS FOR 5 POINT 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         | 4.569       | 504           | 507         | 518          | rBV4     | 7977           | 19607         | 1.94%           | 0.147%        |
| 2         | 5.287       | 626           | 629         | 649          | rBV      | 97615          | 252894        | 25.00%          | 1.890%        |
| 3         | 6.951       | 909           | 912         | 924          | rBV      | 111914         | 251599        | 24.87%          | 1.880%        |
| 4         | 7.045       | 924           | 928         | 941          | rVB      | 206635         | 365960        | 36.17%          | 2.735%        |
| 5         | 7.381       | 981           | 985         | 999          | rBV      | 325944         | 422077        | 41.72%          | 3.154%        |
| 6         | 7.622       | 1022          | 1026        | 1041         | rBV      | 191428         | 257255        | 25.43%          | 1.923%        |
| 7         | 8.298       | 1138          | 1141        | 1162         | rBV      | 92679          | 163912        | 16.20%          | 1.225%        |
| 8         | 9.416       | 1326          | 1331        | 1335         | rBV      | 458748         | 544878        | 53.86%          | 4.072%        |
| 9         | 10.586      | 1527          | 1530        | 1540         | rBB      | 16131          | 21945         | 2.17%           | 0.164%        |
| 10        | 10.733      | 1550          | 1555        | 1564         | rBB      | 17760          | 24780         | 2.45%           | 0.185%        |
| 11        | 11.192      | 1629          | 1633        | 1643         | rBV      | 332457         | 377786        | 37.34%          | 2.823%        |
| 12        | 11.722      | 1719          | 1723        | 1727         | rBV      | 11168          | 14408         | 1.42%           | 0.108%        |
| 13        | 11.892      | 1748          | 1752        | 1763         | rBB      | 34022          | 49725         | 4.92%           | 0.372%        |
| 14        | 12.239      | 1806          | 1811        | 1816         | rBV2     | 446284         | 530322        | 52.42%          | 3.963%        |
| 15        | 12.286      | 1816          | 1819        | 1829         | rVB      | 143018         | 182030        | 17.99%          | 1.360%        |
| 16        | 12.586      | 1866          | 1870        | 1880         | rBB      | 38865          | 55078         | 5.44%           | 0.412%        |
| 17        | 13.127      | 1959          | 1962        | 1974         | rVB      | 106564         | 133083        | 13.16%          | 0.995%        |
| 18        | 13.269      | 1983          | 1986        | 1991         | rVB      | 13565          | 16052         | 1.59%           | 0.120%        |
| 19        | 13.345      | 1996          | 1999        | 2004         | rVV      | 9491           | 11316         | 1.12%           | 0.085%        |
| 20        | 13.410      | 2006          | 2010        | 2015         | rVB2     | 11880          | 14398         | 1.42%           | 0.108%        |
| 21        | 13.533      | 2027          | 2031        | 2040         | rBV      | 104152         | 147591        | 14.59%          | 1.103%        |
| 22        | 13.868      | 2085          | 2088        | 2097         | rBB3     | 8181           | 12818         | 1.27%           | 0.096%        |
| 23        | 14.033      | 2109          | 2116        | 2120         | rBV2     | 14577          | 20409         | 2.02%           | 0.153%        |
| 24        | 14.357      | 2168          | 2171        | 2178         | rVB      | 16436          | 20969         | 2.07%           | 0.157%        |
| 25        | 14.416      | 2178          | 2181        | 2184         | rBV      | 7353           | 10865         | 1.07%           | 0.081%        |
| 26        | 14.463      | 2186          | 2189        | 2195         | rVB      | 41946          | 51602         | 5.10%           | 0.386%        |
| 27        | 14.633      | 2213          | 2218        | 2221         | rBV      | 360671         | 437446        | 43.24%          | 3.269%        |
| 28        | 14.674      | 2221          | 2225        | 2232         | rVB      | 823517         | 1011643       | 100.00%         | 7.560%        |
| 29        | 14.757      | 2232          | 2239        | 2246         | rVB      | 230510         | 304831        | 30.13%          | 2.278%        |
| 30        | 15.010      | 2279          | 2282        | 2286         | rBV      | 11830          | 14911         | 1.47%           | 0.111%        |
| 31        | 15.057      | 2286          | 2290        | 2301         | rVV      | 83853          | 109863        | 10.86%          | 0.821%        |
| 32        | 15.139      | 2301          | 2304        | 2306         | rVV      | 9830           | 10481         | 1.04%           | 0.078%        |
| 33        | 15.168      | 2306          | 2309        | 2314         | rVB3     | 10410          | 13991         | 1.38%           | 0.105%        |
| 34        | 15.304      | 2323          | 2332        | 2337         | rVB5     | 7914           | 19742         | 1.95%           | 0.148%        |

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Integration Parameters: rteint.p

Integrator: RTE

Smoothing : ON

Sampling : 1

Start Thrs: 0.2

Stop Thrs : 0

Filtering: 5

Min Area: 3 % 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:\HPCHEM1\BNA\_F\METHODS\8270-BF060517.M  
 Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

|    |        |      |      |      |      |        |        |        |        |
|----|--------|------|------|------|------|--------|--------|--------|--------|
| 35 | 15.433 | 2350 | 2354 | 2358 | rBV  | 69382  | 80410  | 7.95%  | 0.601% |
| 36 | 15.474 | 2358 | 2361 | 2366 | rVV  | 85454  | 99544  | 9.84%  | 0.744% |
| 37 | 15.551 | 2370 | 2374 | 2376 | rVV  | 38450  | 41746  | 4.13%  | 0.312% |
| 38 | 15.580 | 2376 | 2379 | 2384 | rVV3 | 112196 | 159989 | 15.81% | 1.196% |
| 39 | 15.627 | 2384 | 2387 | 2397 | rVB2 | 44946  | 71263  | 7.04%  | 0.533% |
| 40 | 15.792 | 2412 | 2415 | 2419 | rVB3 | 10941  | 12249  | 1.21%  | 0.092% |
| 41 | 15.886 | 2427 | 2431 | 2437 | rVB  | 58225  | 62224  | 6.15%  | 0.465% |
| 42 | 15.945 | 2437 | 2441 | 2446 | rBV  | 33605  | 44212  | 4.37%  | 0.330% |
| 43 | 16.098 | 2463 | 2467 | 2471 | rBV3 | 9001   | 13218  | 1.31%  | 0.099% |
| 44 | 16.145 | 2471 | 2475 | 2479 | rBV3 | 11312  | 14677  | 1.45%  | 0.110% |
| 45 | 16.245 | 2487 | 2492 | 2496 | rBV  | 28925  | 40654  | 4.02%  | 0.304% |
| 46 | 16.286 | 2496 | 2499 | 2503 | rVV3 | 18950  | 25790  | 2.55%  | 0.193% |
| 47 | 16.368 | 2509 | 2513 | 2521 | rVB  | 30219  | 40020  | 3.96%  | 0.299% |
| 48 | 16.451 | 2521 | 2527 | 2532 | rBV  | 880273 | 978915 | 96.76% | 7.316% |
| 49 | 16.498 | 2532 | 2535 | 2540 | rVB4 | 10458  | 13203  | 1.31%  | 0.099% |
| 50 | 16.551 | 2540 | 2544 | 2548 | rBV  | 21789  | 25969  | 2.57%  | 0.194% |
| 51 | 16.645 | 2555 | 2560 | 2566 | rBV2 | 24232  | 39527  | 3.91%  | 0.295% |
| 52 | 16.751 | 2571 | 2578 | 2583 | rBV  | 886630 | 983973 | 97.26% | 7.353% |
| 53 | 16.839 | 2588 | 2593 | 2597 | rVV3 | 21290  | 26907  | 2.66%  | 0.201% |
| 54 | 16.945 | 2607 | 2611 | 2615 | rBV  | 42635  | 50453  | 4.99%  | 0.377% |
| 55 | 17.004 | 2615 | 2621 | 2626 | rVV2 | 245615 | 305236 | 30.17% | 2.281% |
| 56 | 17.051 | 2626 | 2629 | 2631 | rVV2 | 17613  | 22116  | 2.19%  | 0.165% |
| 57 | 17.080 | 2631 | 2634 | 2637 | rVV  | 36902  | 47832  | 4.73%  | 0.357% |
| 58 | 17.121 | 2638 | 2641 | 2646 | rVB  | 20062  | 24088  | 2.38%  | 0.180% |
| 59 | 17.192 | 2646 | 2653 | 2654 | rBV4 | 30334  | 50056  | 4.95%  | 0.374% |
| 60 | 17.221 | 2654 | 2658 | 2662 | rVB  | 108638 | 126337 | 12.49% | 0.944% |
| 61 | 17.274 | 2662 | 2667 | 2669 | rBV6 | 8227   | 11789  | 1.17%  | 0.088% |
| 62 | 17.304 | 2669 | 2672 | 2676 | rVV  | 91537  | 103269 | 10.21% | 0.772% |
| 63 | 17.351 | 2676 | 2680 | 2688 | rVV3 | 67342  | 120825 | 11.94% | 0.903% |
| 64 | 17.421 | 2688 | 2692 | 2696 | rVV5 | 11012  | 23398  | 2.31%  | 0.175% |
| 65 | 17.468 | 2696 | 2700 | 2703 | rVV  | 34151  | 41035  | 4.06%  | 0.307% |
| 66 | 17.509 | 2703 | 2707 | 2713 | rVV  | 29331  | 37816  | 3.74%  | 0.283% |
| 67 | 17.651 | 2728 | 2731 | 2736 | rVB5 | 10493  | 14554  | 1.44%  | 0.109% |
| 68 | 17.862 | 2759 | 2767 | 2771 | rBV7 | 19212  | 34151  | 3.38%  | 0.255% |
| 69 | 17.904 | 2771 | 2774 | 2778 | rVB  | 28279  | 31942  | 3.16%  | 0.239% |
| 70 | 18.021 | 2790 | 2794 | 2796 | rBV  | 47432  | 47080  | 4.65%  | 0.352% |
| 71 | 18.051 | 2796 | 2799 | 2802 | rVV2 | 67005  | 73240  | 7.24%  | 0.547% |

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 SB-8(0-2)20170603

Integration Parameters: rteint.p  
 Integrator: RTE  
 Smoothing : ON  
 Sampling : 1  
 Start Thrs: 0.2  
 Stop Thrs : 0

Filtering: 5  
 Min Area: 3 % 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:\HPCHEM1\BNA\_F\METHODS\8270-BF060517.M  
 Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

|    |        |      |      |      |      |        |        |        |        |
|----|--------|------|------|------|------|--------|--------|--------|--------|
| 72 | 18.080 | 2802 | 2804 | 2807 | rVV  | 41127  | 42419  | 4.19%  | 0.317% |
| 73 | 18.121 | 2808 | 2811 | 2815 | rVB3 | 40029  | 47008  | 4.65%  | 0.351% |
| 74 | 18.180 | 2818 | 2821 | 2825 | rVB2 | 34377  | 37308  | 3.69%  | 0.279% |
| 75 | 18.245 | 2829 | 2832 | 2836 | rBV2 | 14818  | 19202  | 1.90%  | 0.144% |
| 76 | 18.339 | 2842 | 2848 | 2852 | rBV2 | 555314 | 883406 | 87.32% | 6.602% |
| 77 | 18.380 | 2852 | 2855 | 2867 | rVV  | 383553 | 467684 | 46.23% | 3.495% |
| 78 | 18.474 | 2867 | 2871 | 2874 | rVB  | 71750  | 79547  | 7.86%  | 0.594% |
| 79 | 18.556 | 2881 | 2885 | 2888 | rBV3 | 14336  | 23012  | 2.27%  | 0.172% |
| 80 | 18.621 | 2893 | 2896 | 2901 | rVV2 | 49524  | 61120  | 6.04%  | 0.457% |
| 81 | 18.668 | 2901 | 2904 | 2910 | rVB  | 42813  | 55082  | 5.44%  | 0.412% |
| 82 | 18.809 | 2924 | 2928 | 2930 | rBV3 | 10458  | 13110  | 1.30%  | 0.098% |
| 83 | 18.851 | 2930 | 2935 | 2939 | rBV2 | 58014  | 73826  | 7.30%  | 0.552% |
| 84 | 18.892 | 2939 | 2942 | 2946 | rVB2 | 34081  | 37048  | 3.66%  | 0.277% |
| 85 | 18.933 | 2946 | 2949 | 2950 | rBV3 | 11217  | 10145  | 1.00%  | 0.076% |
| 86 | 18.962 | 2951 | 2954 | 2958 | rVB3 | 31727  | 35618  | 3.52%  | 0.266% |
| 87 | 19.003 | 2958 | 2961 | 2962 | rBV2 | 21330  | 25627  | 2.53%  | 0.192% |
| 88 | 19.274 | 3005 | 3007 | 3013 | rVB5 | 19515  | 28223  | 2.79%  | 0.211% |
| 89 | 19.456 | 3035 | 3038 | 3041 | rVB3 | 25401  | 24684  | 2.44%  | 0.184% |
| 90 | 19.562 | 3053 | 3056 | 3061 | rBV5 | 14060  | 25796  | 2.55%  | 0.193% |
| 91 | 19.615 | 3061 | 3065 | 3067 | rVV  | 253234 | 346663 | 34.27% | 2.591% |
| 92 | 19.639 | 3067 | 3069 | 3076 | rVV  | 133258 | 157422 | 15.56% | 1.176% |
| 93 | 19.721 | 3080 | 3083 | 3087 | rVB  | 49656  | 56606  | 5.60%  | 0.423% |
| 94 | 19.903 | 3110 | 3114 | 3117 | rBV  | 146078 | 153096 | 15.13% | 1.144% |
| 95 | 19.962 | 3120 | 3124 | 3128 | rVB  | 202707 | 226418 | 22.38% | 1.692% |
| 96 | 20.015 | 3129 | 3133 | 3136 | rBV  | 279571 | 306395 | 30.29% | 2.290% |
| 97 | 21.197 | 3329 | 3334 | 3340 | rVB  | 92193  | 152172 | 15.04% | 1.137% |
| 98 | 21.333 | 3353 | 3357 | 3359 | rBV3 | 21170  | 31860  | 3.15%  | 0.238% |
| 99 | 21.527 | 3386 | 3390 | 3399 | rVB2 | 68030  | 124630 | 12.32% | 0.931% |

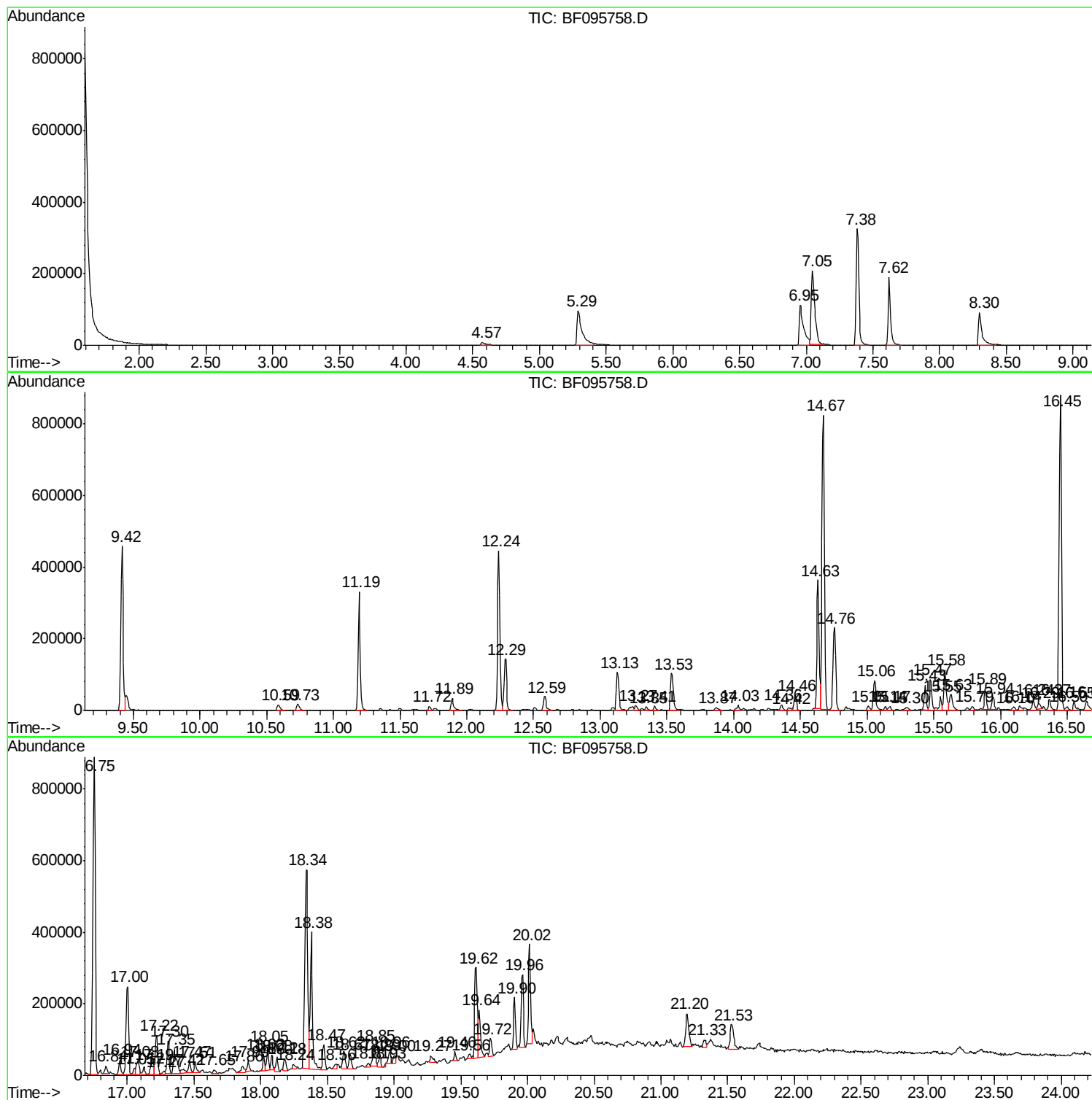
Sum of corrected areas: 13381101

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Misc :  
ALS Vial : 16 Sample Multiplier: 1

Instrument :  
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ClientSampleId :  
SB-8(0-2)20170603

Quant Method : Z:\HPCHEM1\BNA\_F\METHODS\8270-BF060517.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF060717\  
Data File : BF095758.D  
Acq On : 7 Jun 2017 21:39  
Operator : SJ/MA  
Sample : I3479-03 5X  
Misc :  
ALS Vial : 16 Sample Multiplier: 1

Instrument :  
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Quant Method : Z:\HPCHEM1\BNA\_F\METHODS\8270-BF060517.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

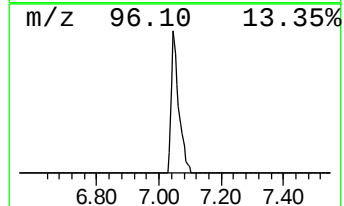
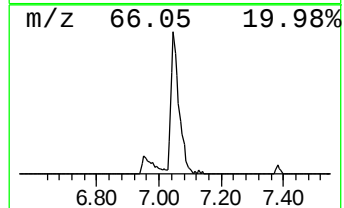
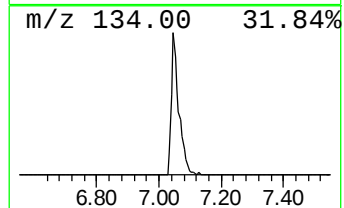
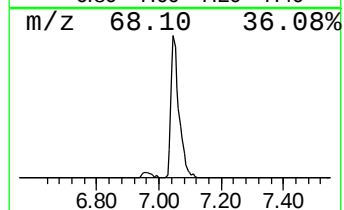
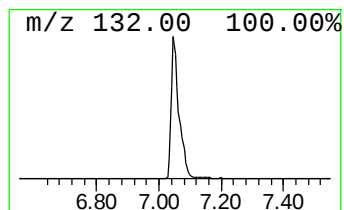
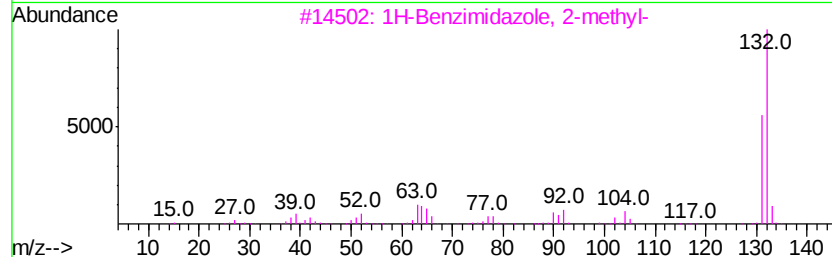
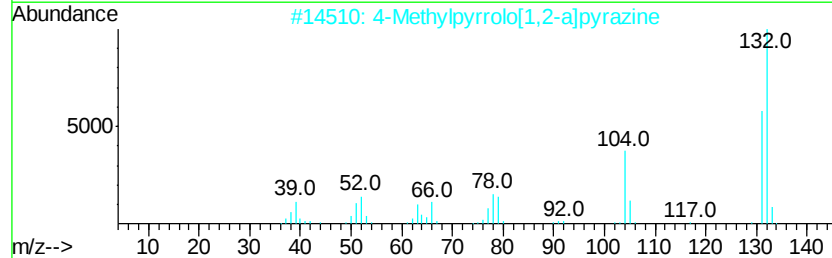
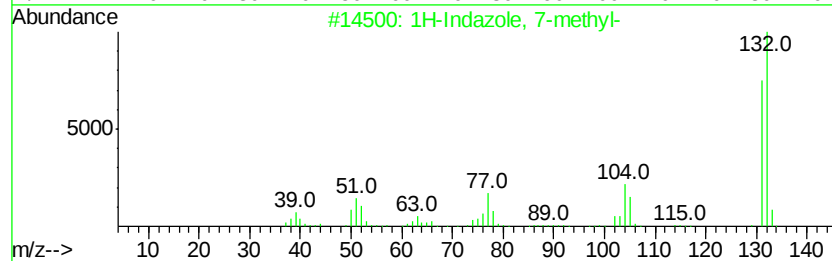
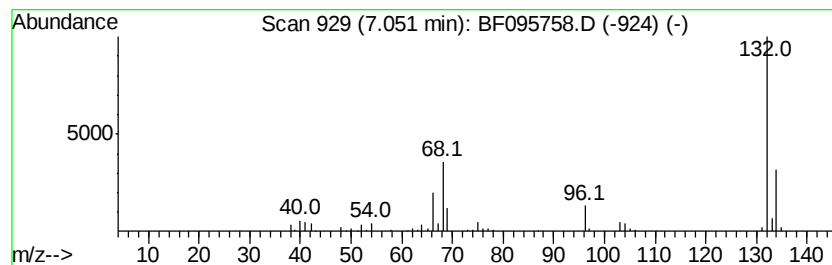
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 1 unknown7.05 Concentration Rank 1

| R.T. | EstConc  | Area   | Relative to ISTD       | R.T. |
|------|----------|--------|------------------------|------|
| 7.05 | 17.34 ng | 365960 | 1,4-Dichlorobenzene-d4 | 7.38 |

| Hit# | of | Tentative ID                     | MW  | MolForm | CAS#         | Qual |
|------|----|----------------------------------|-----|---------|--------------|------|
| 1    | 5  | 1H-Indazole, 7-methyl-           | 132 | C8H8N2  | 1000316-00-7 | 10   |
| 2    |    | 4-Methylpyrrolo[1,2-a]pyrazine   | 132 | C8H8N2  | 064608-60-2  | 9    |
| 3    |    | 1H-Benzimidazole, 2-methyl-      | 132 | C8H8N2  | 000615-15-6  | 9    |
| 4    |    | Imidazole, 4,5-dicyano-1-methyl- | 132 | C6H4N4  | 019485-35-9  | 9    |
| 5    |    | Xenon                            | 132 | Xe      | 007440-63-3  | 9    |



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Misc :  
ALS Vial : 16 Sample Multiplier: 1

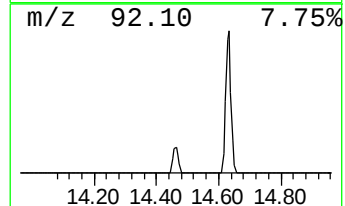
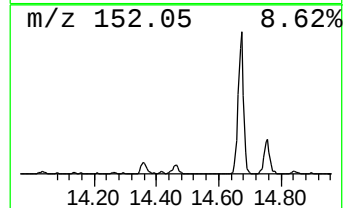
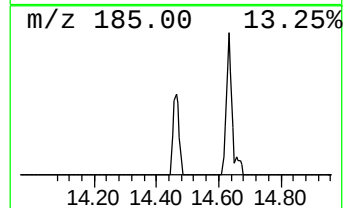
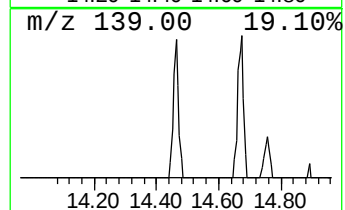
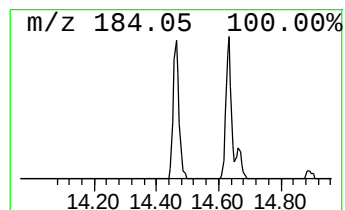
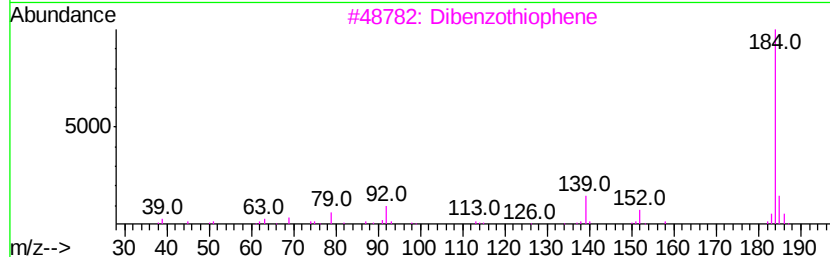
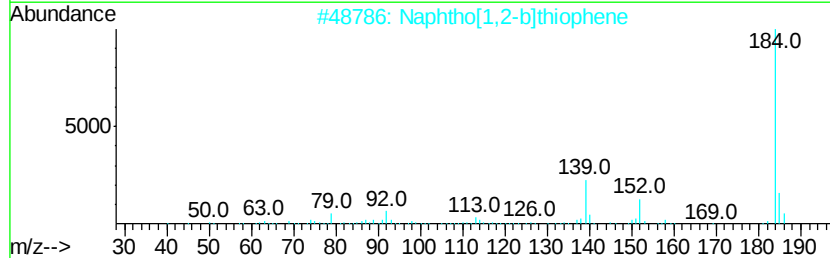
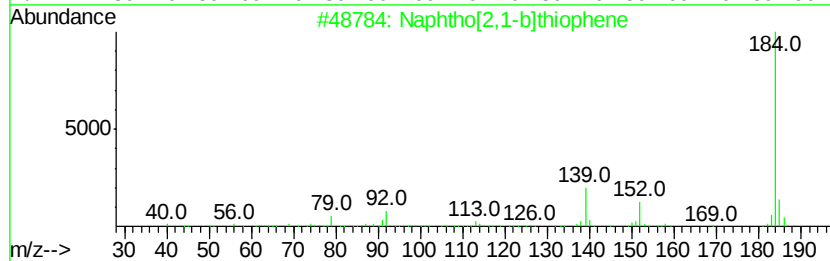
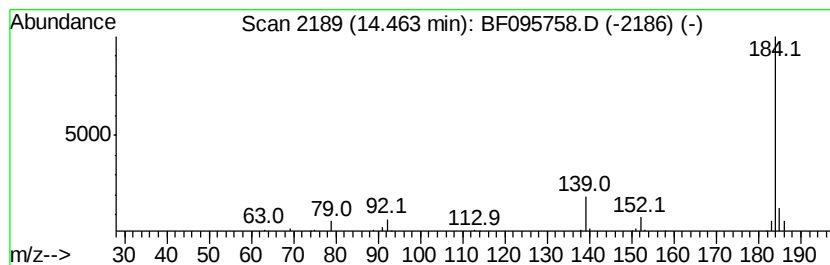
Instrument :  
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ClientSampleId :  
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Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF060517.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 3 Naphtho[2,1-b]thiophene Concentration Rank 12

| R.T.    | EstConc | Area                    | Relative to ISTD | R.T.    |             |      |
|---------|---------|-------------------------|------------------|---------|-------------|------|
| 14.46   | 2.36 ng | 51602                   | Phenanthrene-d10 | 14.63   |             |      |
| Hit# of | 5       | Tentative ID            | MW               | MolForm | CAS#        | Qual |
| 1       |         | Naphtho[2,1-b]thiophene | 184              | C12H8S  | 000233-02-3 | 96   |
| 2       |         | Naphtho[1,2-b]thiophene | 184              | C12H8S  | 000234-41-3 | 96   |
| 3       |         | Dibenzothiophene        | 184              | C12H8S  | 000132-65-0 | 95   |
| 4       |         | Naphtho[2,3-b]thiophene | 184              | C12H8S  | 000268-77-9 | 94   |
| 5       |         | Azuleno(2,1-b)thiophene | 184              | C12H8S  | 000248-13-5 | 93   |



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF060717\  
Data File : BF095758.D  
Acq On : 7 Jun 2017 21:39  
Operator : SJ/MA  
Sample : I3479-03 5X  
Misc :  
ALS Vial : 16 Sample Multiplier: 1

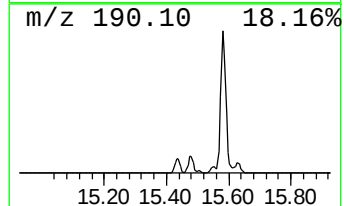
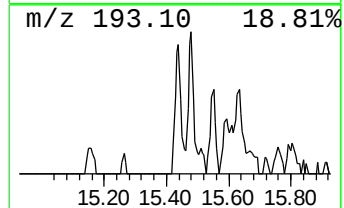
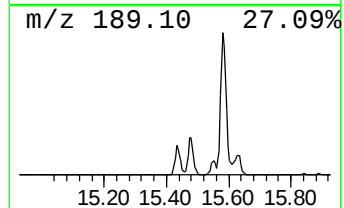
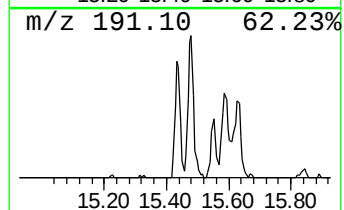
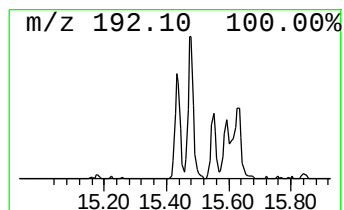
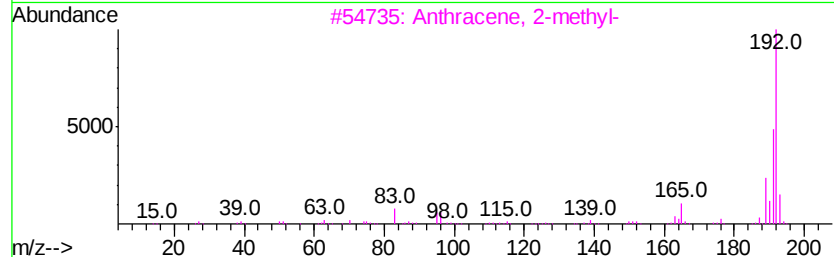
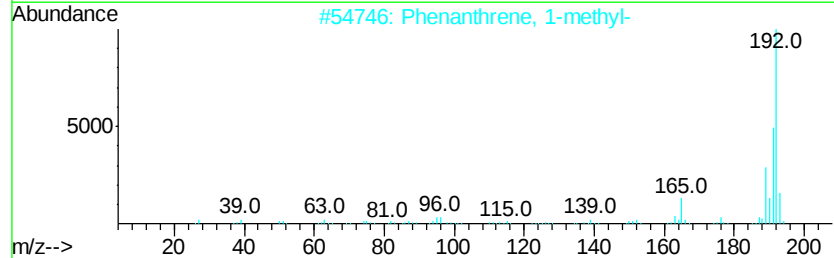
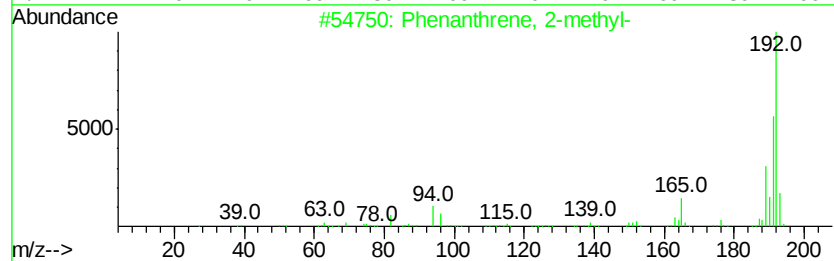
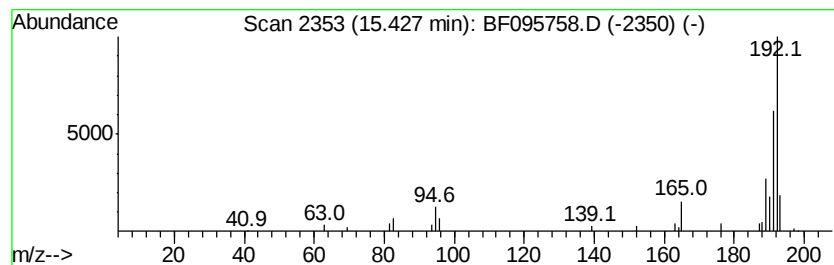
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SB-8(0-2)20170603

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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 4 Phenanthrene, 2-methyl- Concentration Rank 7

| R.T.      | EstConc                               | Area  | Relative to ISTD | R.T.        |      |
|-----------|---------------------------------------|-------|------------------|-------------|------|
| 15.43     | 3.68 ng                               | 80410 | Phenanthrene-d10 | 14.63       |      |
| Hit# of 5 | Tentative ID                          | MW    | MolForm          | CAS#        | Qual |
| 1         | Phenanthrene, 2-methyl-               | 192   | C15H12           | 002531-84-2 | 96   |
| 2         | Phenanthrene, 1-methyl-               | 192   | C15H12           | 000832-69-9 | 96   |
| 3         | Anthracene, 2-methyl-                 | 192   | C15H12           | 000613-12-7 | 96   |
| 4         | Anthracene, 1-methyl-                 | 192   | C15H12           | 000610-48-0 | 94   |
| 5         | 1H-Cyclopropa[1]phenanthrene, 1a, ... | 192   | C15H12           | 000949-41-7 | 94   |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF060717\  
Data File : BF095758.D  
Acq On : 7 Jun 2017 21:39  
Operator : SJ/MA  
Sample : I3479-03 5X  
Misc :  
ALS Vial : 16 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
SB-8(0-2)20170603

Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF060517.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

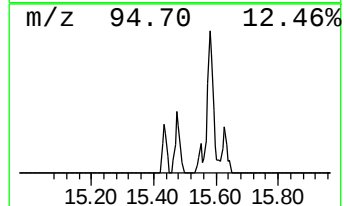
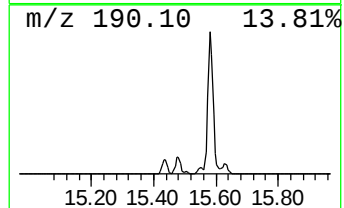
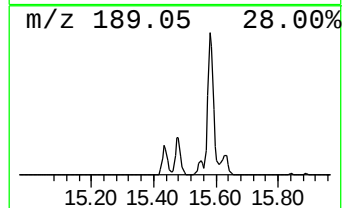
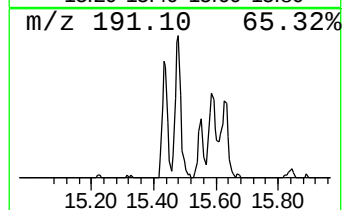
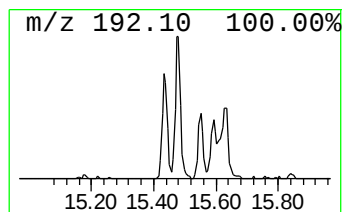
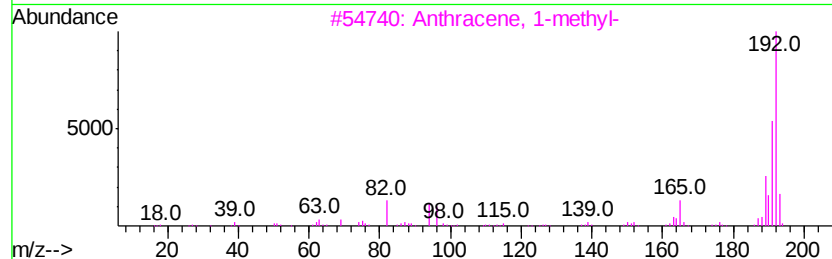
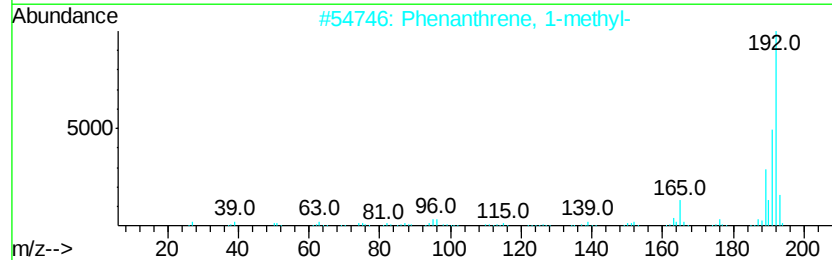
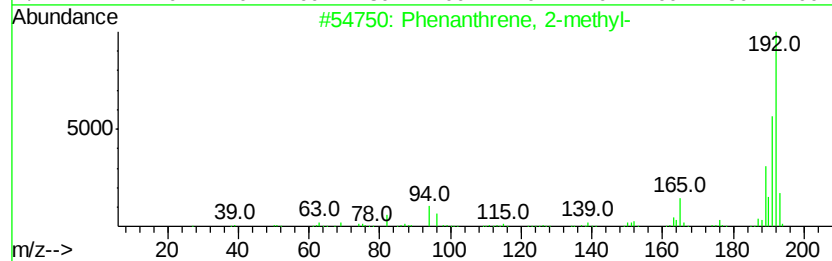
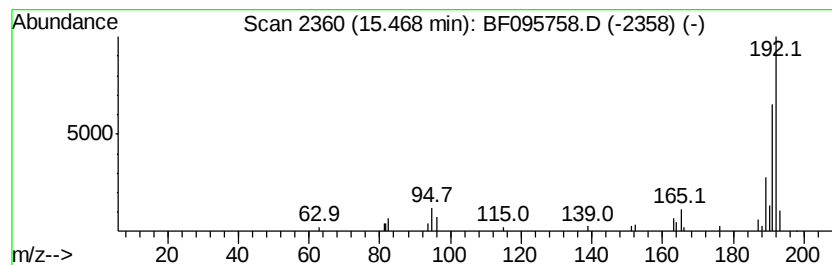
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TIC Integration Parameters: LSCINT.P

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Peak Number 5 Phenanthrene, 1-methyl- Concentration Rank 5

| R.T.  | EstConc | Area  | Relative to ISTD | R.T.  |
|-------|---------|-------|------------------|-------|
| 15.47 | 4.55 ng | 99544 | Phenanthrene-d10 | 14.63 |

| Hit# of | 5 | Tentative ID            | MW  | MolForm | CAS#        | Qual |
|---------|---|-------------------------|-----|---------|-------------|------|
| 1       |   | Phenanthrene, 2-methyl- | 192 | C15H12  | 002531-84-2 | 98   |
| 2       |   | Phenanthrene, 1-methyl- | 192 | C15H12  | 000832-69-9 | 96   |
| 3       |   | Anthracene, 1-methyl-   | 192 | C15H12  | 000610-48-0 | 96   |
| 4       |   | Anthracene, 2-methyl-   | 192 | C15H12  | 000613-12-7 | 95   |
| 5       |   | Anthracene, 9-methyl-   | 192 | C15H12  | 000779-02-2 | 93   |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF060717\  
Data File : BF095758.D  
Acq On : 7 Jun 2017 21:39  
Operator : SJ/MA  
Sample : I3479-03 5X  
Misc :  
ALS Vial : 16 Sample Multiplier: 1

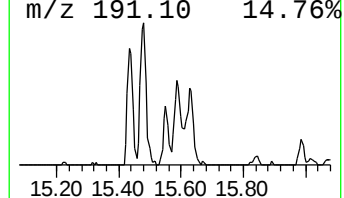
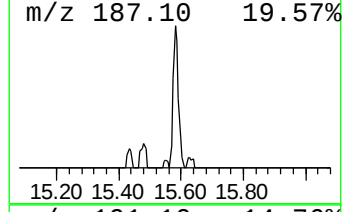
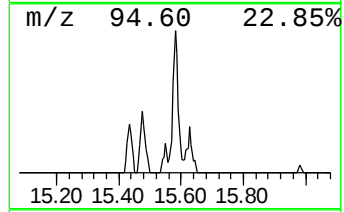
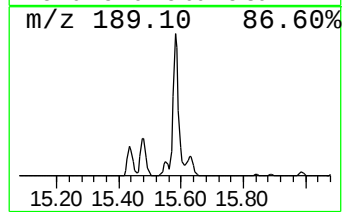
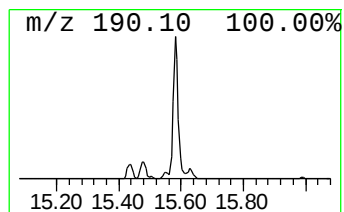
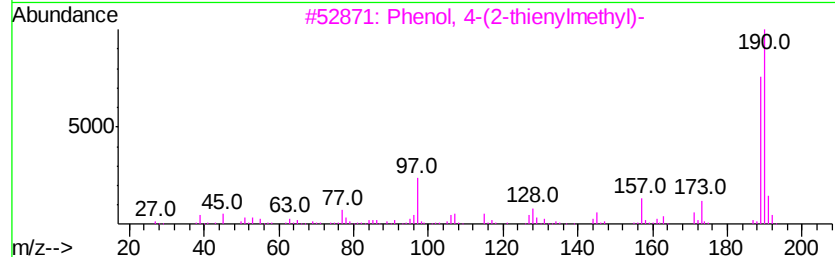
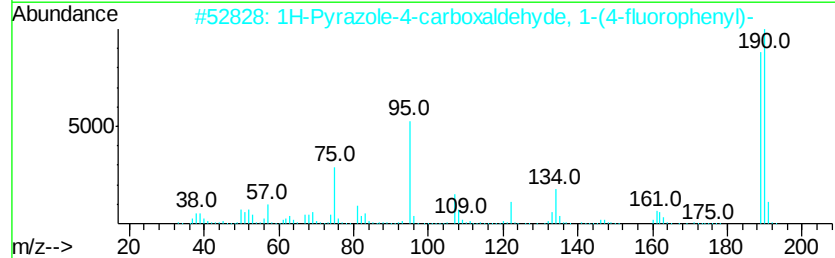
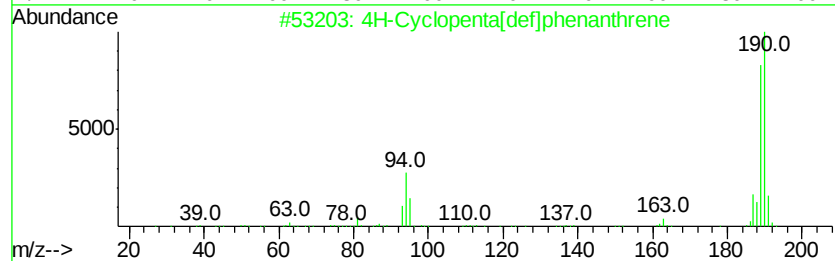
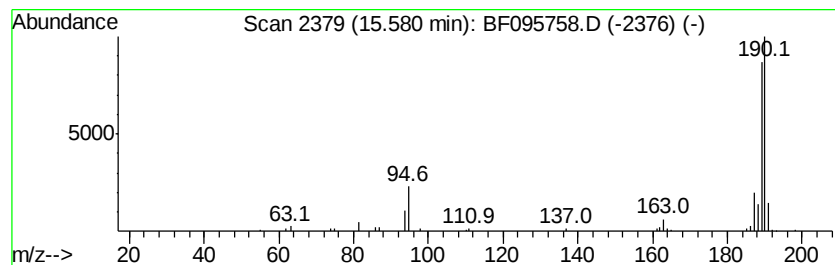
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ClientSampleId :  
SB-8(0-2)20170603

Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF060517.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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

| R.T.      | EstConc                             | Area   | Relative to ISTD | R.T.         |      |
|-----------|-------------------------------------|--------|------------------|--------------|------|
| 15.58     | 7.31 ng                             | 159989 | Phenanthrene-d10 | 14.63        |      |
| Hit# of 5 | Tentative ID                        | MW     | MolForm          | CAS#         | Qual |
| 1         | 4H-Cyclopenta[def]phenanthrene      | 190    | C15H10           | 000203-64-5  | 94   |
| 2         | 1H-Pyrazole-4-carboxaldehyde, 1-... | 190    | C10H7FN2O        | 1000338-05-6 | 64   |
| 3         | Phenol, 4-(2-thienylmethyl)-        | 190    | C11H10OS         | 091680-55-6  | 59   |
| 4         | 6,7-Methylenedioxy-4(3H)-quinazo... | 190    | C9H6N2O3         | 028310-11-4  | 59   |
| 5         | 6H-Cyclobuta[jk]phenanthrene        | 190    | C15H10           | 083469-43-6  | 50   |



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF060717\  
Data File : BF095758.D  
Acq On : 7 Jun 2017 21:39  
Operator : SJ/MA  
Sample : I3479-03 5X  
Misc :  
ALS Vial : 16 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
SB-8(0-2)20170603

Quant Method : Z:\HPCHEM1\BNA\_F\METHODS\8270-BF060517.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

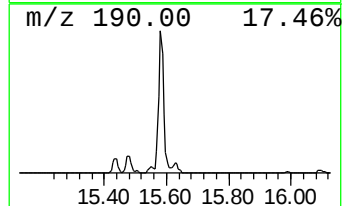
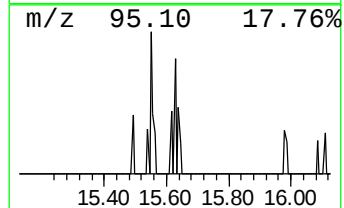
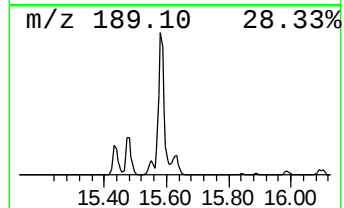
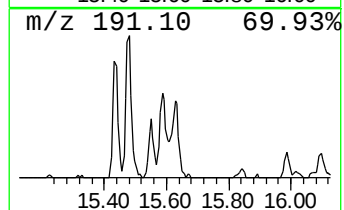
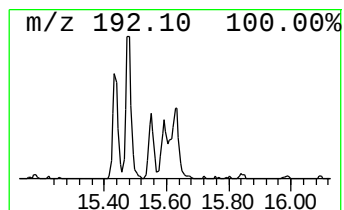
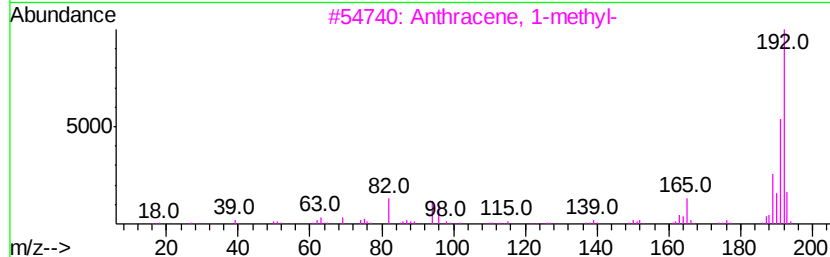
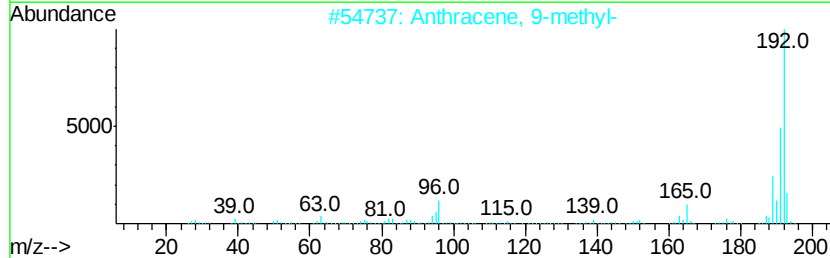
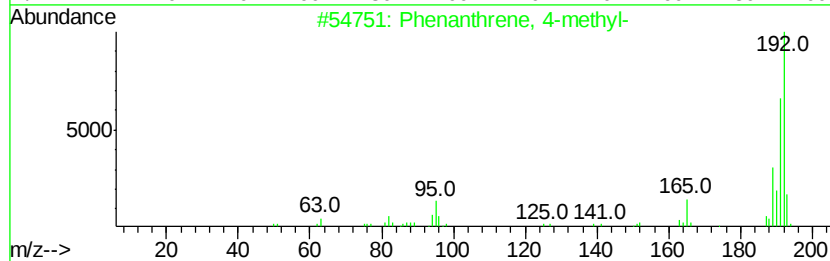
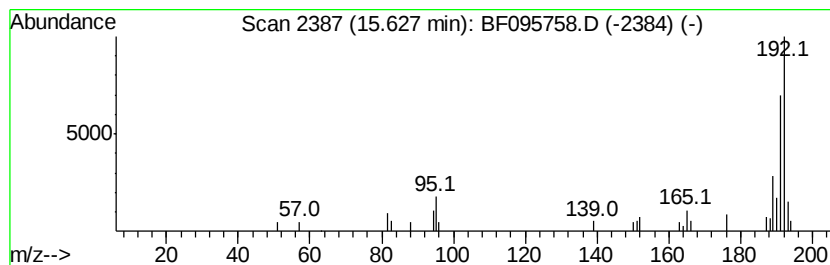
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 7 Phenanthrene, 4-methyl- Concentration Rank 8

| R.T.  | EstConc | Area  | Relative to ISTD | R.T.  |
|-------|---------|-------|------------------|-------|
| 15.63 | 3.26 ng | 71263 | Phenanthrene-d10 | 14.63 |

| Hit# | of | Tentative ID                | MW  | MolForm | CAS#         | Qual |
|------|----|-----------------------------|-----|---------|--------------|------|
| 1    | 5  | Phenanthrene, 4-methyl-     | 192 | C15H12  | 000832-64-4  | 81   |
| 2    |    | Anthracene, 9-methyl-       | 192 | C15H12  | 000779-02-2  | 74   |
| 3    |    | Anthracene, 1-methyl-       | 192 | C15H12  | 000610-48-0  | 64   |
| 4    |    | 5H-Dibenzo[a,d]cycloheptene | 192 | C15H12  | 000256-81-5  | 64   |
| 5    |    | Naphtho[1,2-b]norbornadiene | 192 | C15H12  | 1000210-14-8 | 59   |



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF060717\  
Data File : BF095758.D  
Acq On : 7 Jun 2017 21:39  
Operator : SJ/MA  
Sample : I3479-03 5X  
Misc :  
ALS Vial : 16 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
SB-8(0-2)20170603

Quant Method : Z:\HPCHEM1\BNA\_F\METHODS\8270-BF060517.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

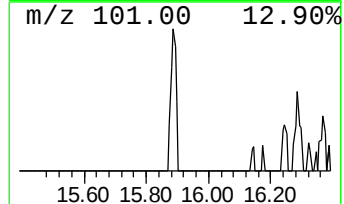
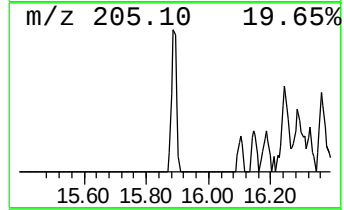
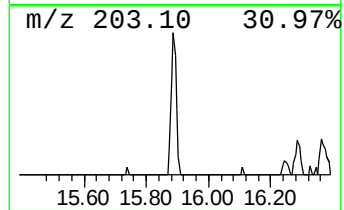
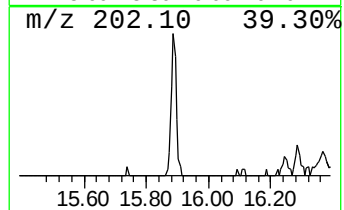
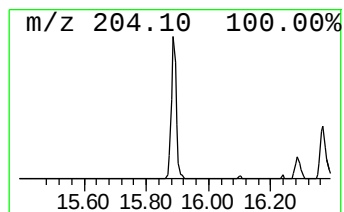
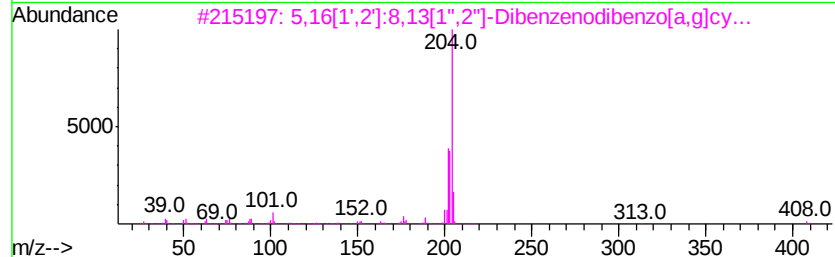
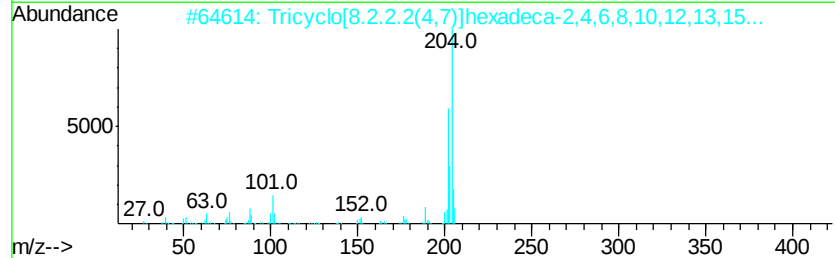
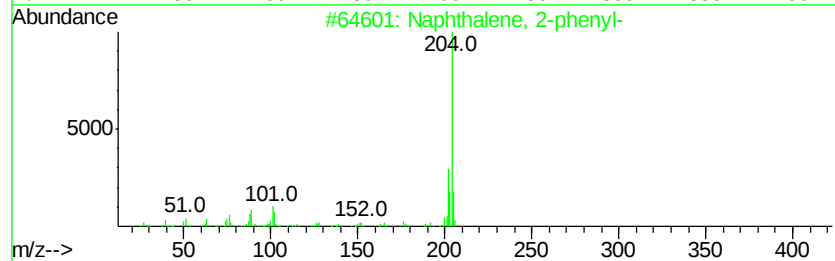
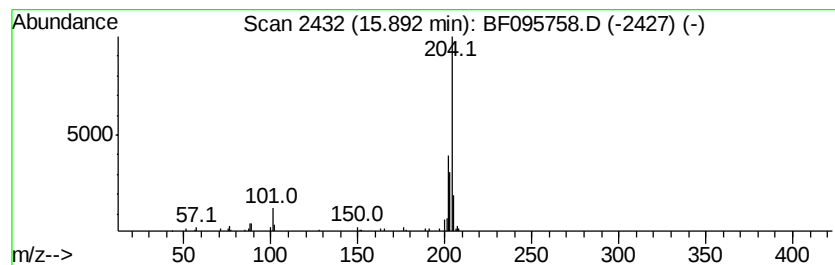
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 8 Naphthalene, 2-phenyl- Concentration Rank 10

| R.T.  | EstConc | Area  | Relative to ISTD | R.T.  |
|-------|---------|-------|------------------|-------|
| 15.89 | 2.84 ng | 62224 | Phenanthrene-d10 | 14.63 |

| Hit# | of | Tentative ID                        | MW  | MolForm   | CAS#        | Qual |
|------|----|-------------------------------------|-----|-----------|-------------|------|
| 1    | 5  | Naphthalene, 2-phenyl-              | 204 | C16H12    | 000612-94-2 | 96   |
| 2    |    | Tricyclo[8.2.2.2(4,7)]hexadeca-2... | 204 | C16H12    | 006572-60-7 | 89   |
| 3    |    | 5,16[1',2']8,13[1',2']-Dibenz...    | 408 | C32H24    | 005672-97-9 | 83   |
| 4    |    | 9,10-Bis(bromomethyl)anthracene     | 362 | C16H12Br2 | 034373-96-1 | 78   |
| 5    |    | Naphthalene, 1-phenyl-              | 204 | C16H12    | 000605-02-7 | 78   |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF060717\  
Data File : BF095758.D  
Acq On : 7 Jun 2017 21:39  
Operator : SJ/MA  
Sample : I3479-03 5X  
Misc :  
ALS Vial : 16 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
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Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF060517.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

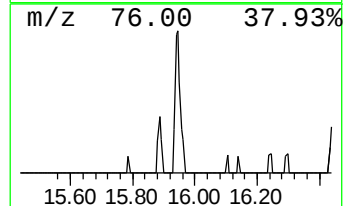
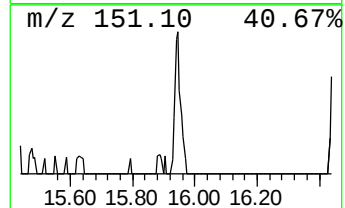
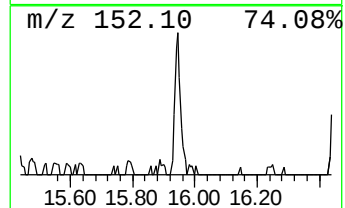
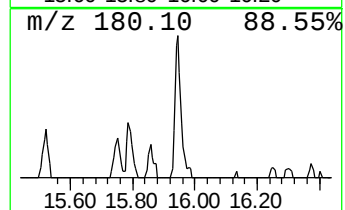
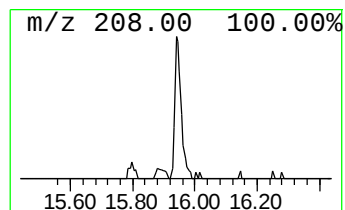
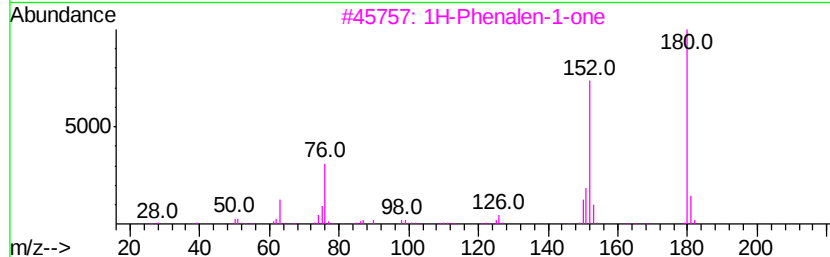
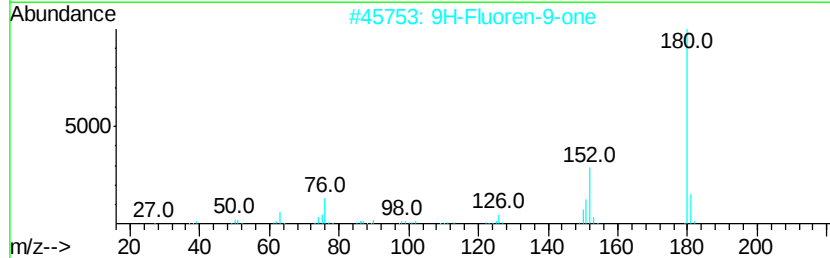
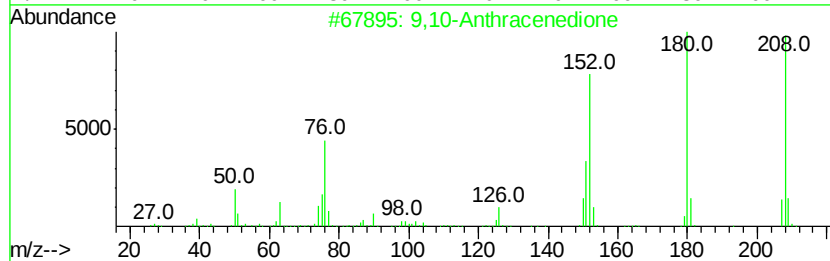
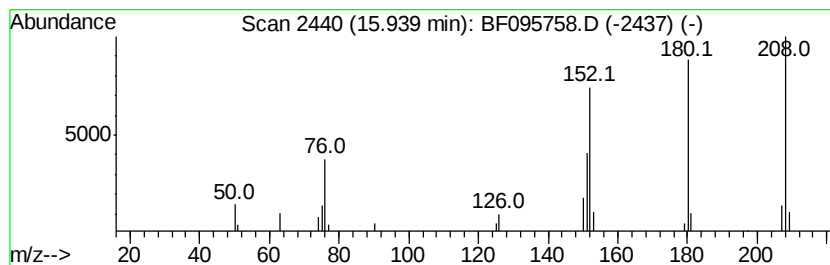
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 9 9,10-Anthracenedione Concentration Rank 15

| R.T.  | EstConc | Area  | Relative to ISTD | R.T.  |
|-------|---------|-------|------------------|-------|
| 15.94 | 2.02 ng | 44212 | Phenanthrene-d10 | 14.63 |

| Hit# | of | Tentative ID         | MW  | MolForm | CAS#        | Qual |
|------|----|----------------------|-----|---------|-------------|------|
| 1    | 5  | 9,10-Anthracenedione | 208 | C14H8O2 | 000084-65-1 | 97   |
| 2    |    | 9H-Fluoren-9-one     | 180 | C13H8O  | 000486-25-9 | 64   |
| 3    |    | 1H-Phenalen-1-one    | 180 | C13H8O  | 000548-39-0 | 64   |
| 4    |    | Benzo[c]cinnoline    | 180 | C12H8N2 | 000230-17-1 | 58   |
| 5    |    | 1,4-Anthracenedione  | 208 | C14H8O2 | 000635-12-1 | 52   |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF060717\  
Data File : BF095758.D  
Acq On : 7 Jun 2017 21:39  
Operator : SJ/MA  
Sample : I3479-03 5X  
Misc :  
ALS Vial : 16 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
SB-8(0-2)20170603

Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF060517.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

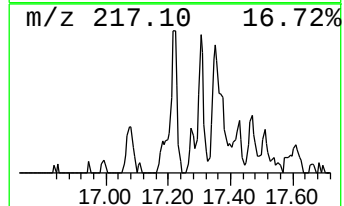
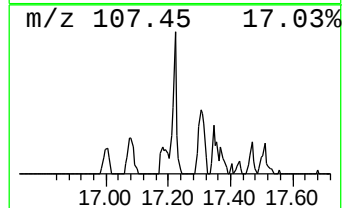
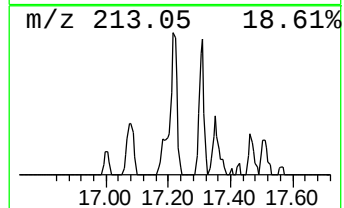
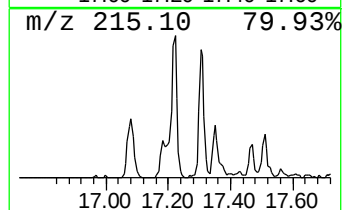
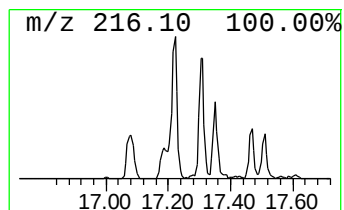
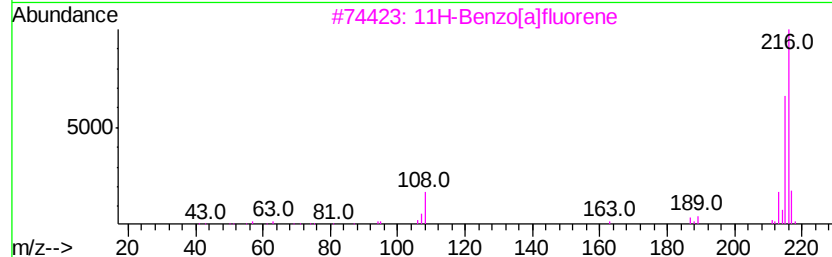
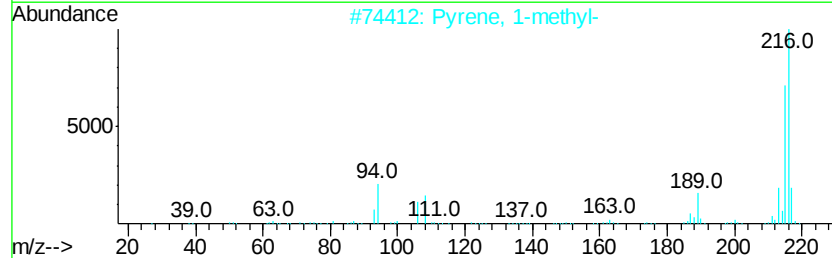
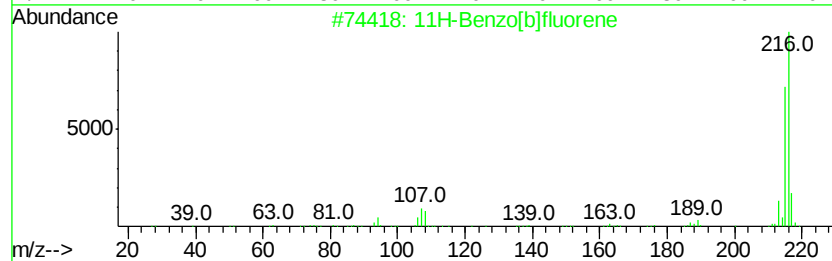
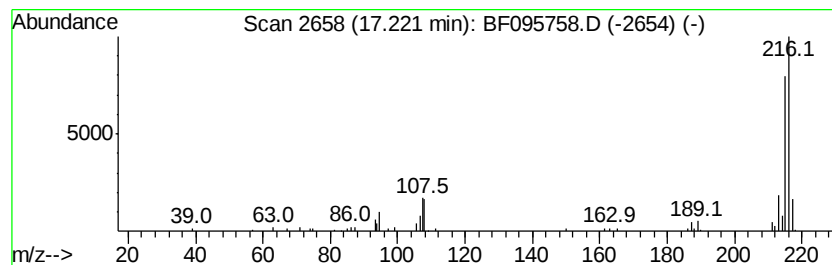
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 10 11H-Benzo[b]fluorene Concentration Rank 9

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 17.22 | 2.86 ng | 126337 | Chrysene-d12     | 18.34 |

| Hit# | of | Tentative ID            | MW  | MolForm | CAS#        | Qual |
|------|----|-------------------------|-----|---------|-------------|------|
| 1    | 5  | 11H-Benzo[b]fluorene    | 216 | C17H12  | 000243-17-4 | 94   |
| 2    |    | Pyrene, 1-methyl-       | 216 | C17H12  | 002381-21-7 | 93   |
| 3    |    | 11H-Benzo[a]fluorene    | 216 | C17H12  | 000238-84-6 | 91   |
| 4    |    | Fluoranthene, 2-methyl- | 216 | C17H12  | 033543-31-6 | 87   |
| 5    |    | Pyrene, 2-methyl-       | 216 | C17H12  | 003442-78-2 | 76   |



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF060717\  
Data File : BF095758.D  
Acq On : 7 Jun 2017 21:39  
Operator : SJ/MA  
Sample : I3479-03 5X  
Misc :  
ALS Vial : 16 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
SB-8(0-2)20170603

Quant Method : Z:\HPCHEM1\BNA\_F\METHODS\8270-BF060517.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

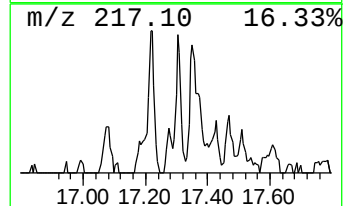
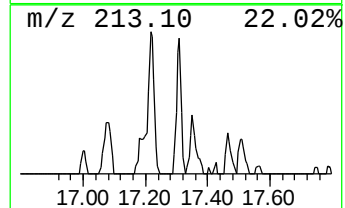
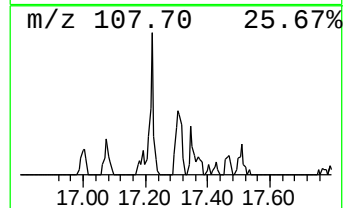
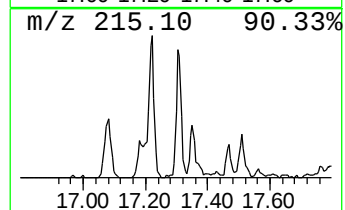
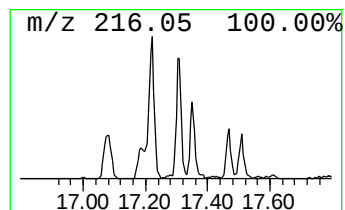
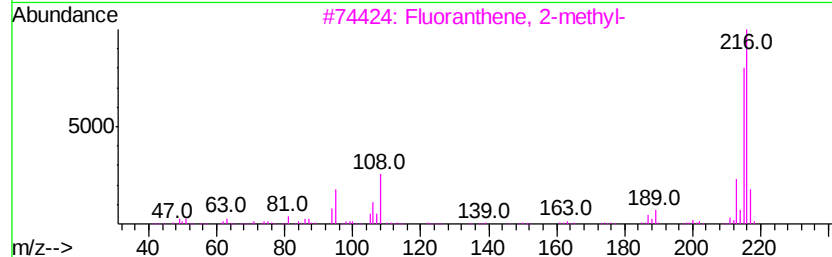
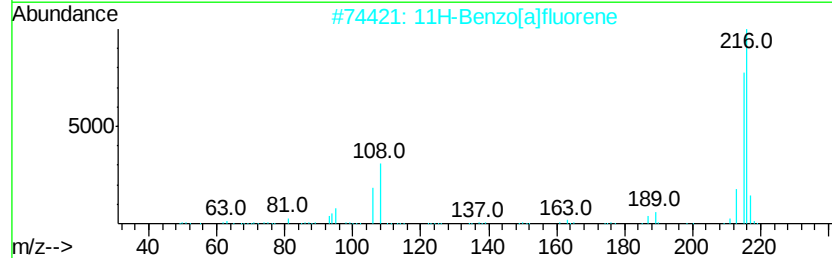
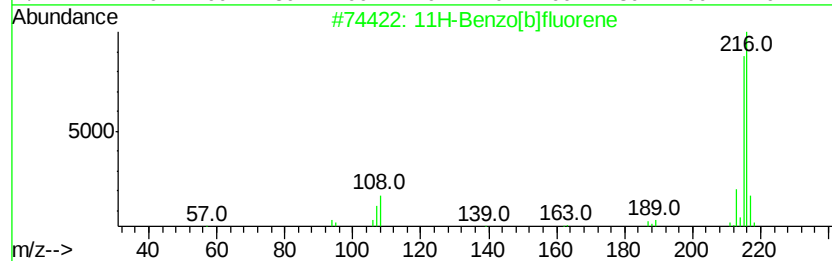
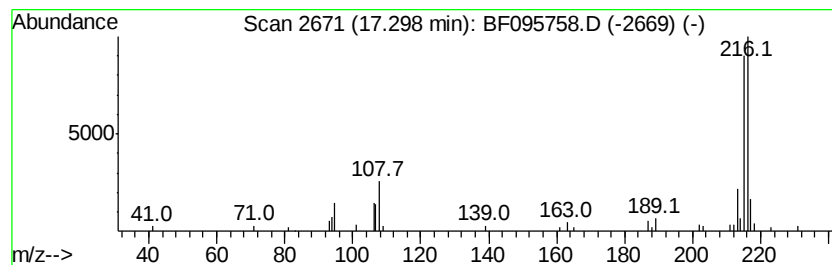
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 11 Fluoranthene, 2-methyl- Concentration Rank 13

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 17.30 | 2.34 ng | 103269 | Chrysene-d12     | 18.34 |

| Hit# | of | Tentative ID            | MW  | MolForm | CAS#        | Qual |
|------|----|-------------------------|-----|---------|-------------|------|
| 1    | 5  | 11H-Benzo[b]fluorene    | 216 | C17H12  | 000243-17-4 | 93   |
| 2    |    | 11H-Benzo[a]fluorene    | 216 | C17H12  | 000238-84-6 | 87   |
| 3    |    | Fluoranthene, 2-methyl- | 216 | C17H12  | 033543-31-6 | 87   |
| 4    |    | Pvrene, 1-methyl-       | 216 | C17H12  | 002381-21-7 | 83   |
| 5    |    | 7H-Benzo[c]fluorene     | 216 | C17H12  | 000205-12-9 | 74   |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF060717\  
Data File : BF095758.D  
Acq On : 7 Jun 2017 21:39  
Operator : SJ/MA  
Sample : I3479-03 5X  
Misc :  
ALS Vial : 16 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
SB-8(0-2)20170603

Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF060517.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

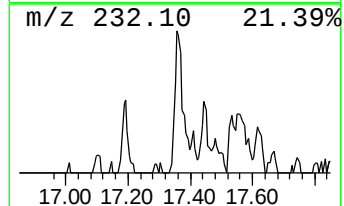
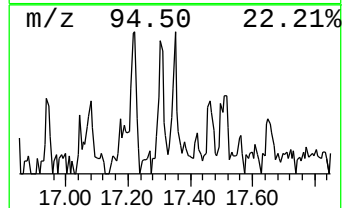
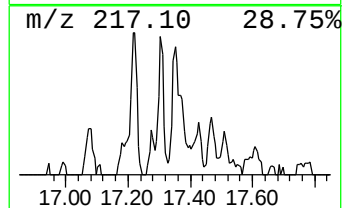
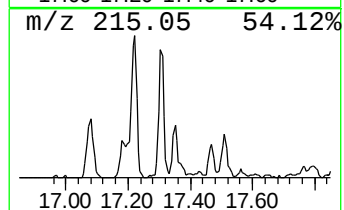
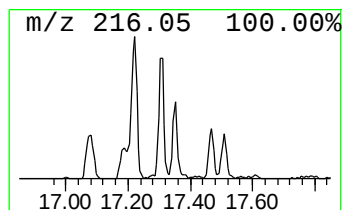
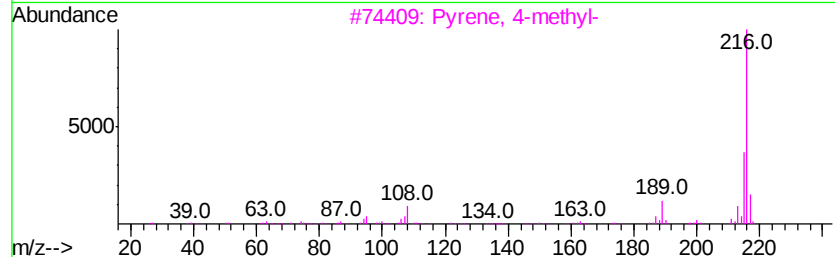
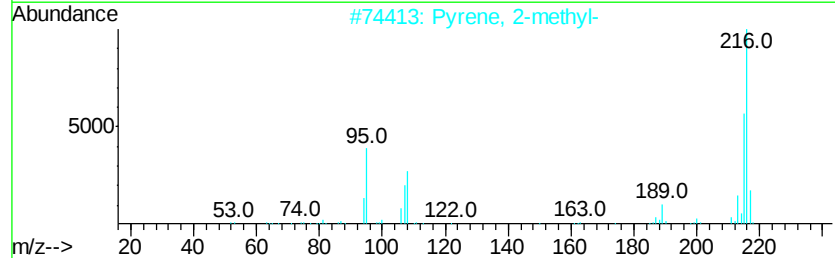
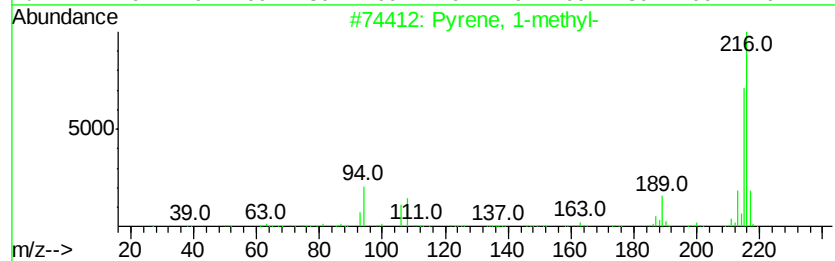
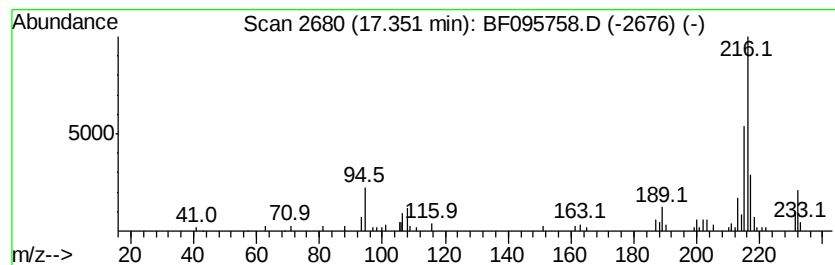
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 12 Pyrene, 1-methyl- Concentration Rank 11

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 17.35 | 2.74 ng | 120825 | Chrysene-d12     | 18.34 |

| Hit# | of | Tentative ID         | MW  | MolForm | CAS#        | Qual |
|------|----|----------------------|-----|---------|-------------|------|
| 1    | 5  | Pyrene, 1-methyl-    | 216 | C17H12  | 002381-21-7 | 96   |
| 2    |    | Pyrene, 2-methyl-    | 216 | C17H12  | 003442-78-2 | 76   |
| 3    |    | Pyrene, 4-methyl-    | 216 | C17H12  | 003353-12-6 | 62   |
| 4    |    | 11H-Benzo[a]fluorene | 216 | C17H12  | 000238-84-6 | 58   |
| 5    |    | 11H-Benzo[b]fluorene | 216 | C17H12  | 000243-17-4 | 50   |



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF060717\  
Data File : BF095758.D  
Acq On : 7 Jun 2017 21:39  
Operator : SJ/MA  
Sample : I3479-03 5X  
Misc :  
ALS Vial : 16 Sample Multiplier: 1

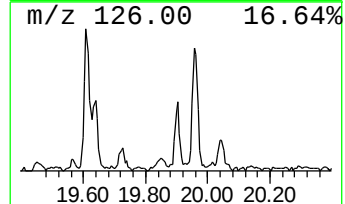
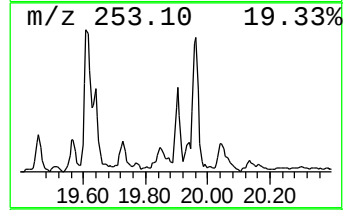
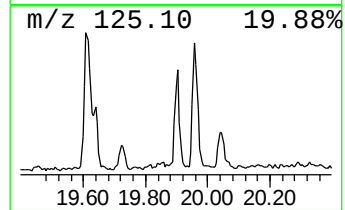
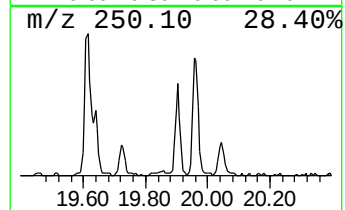
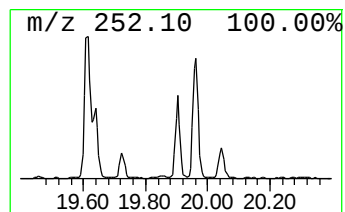
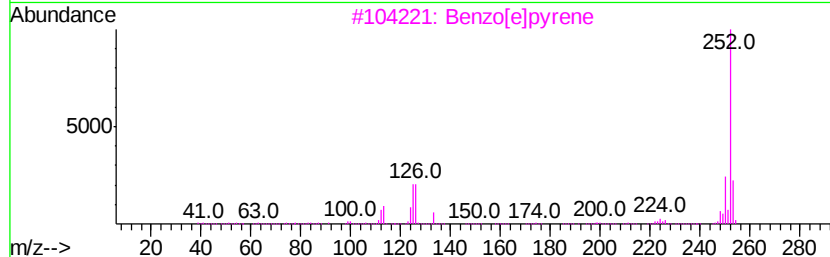
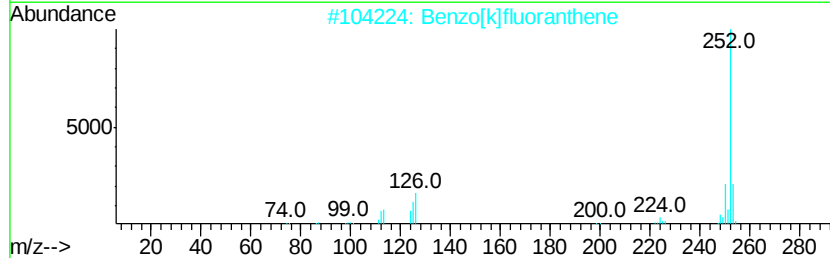
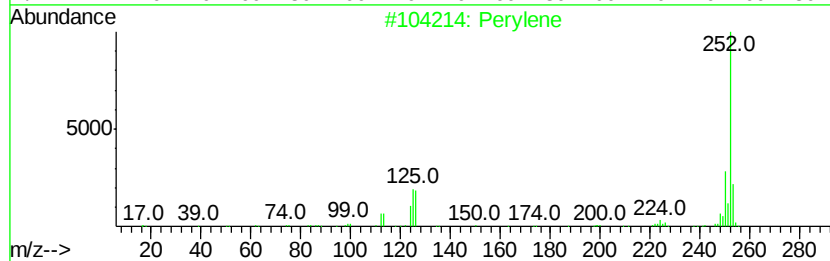
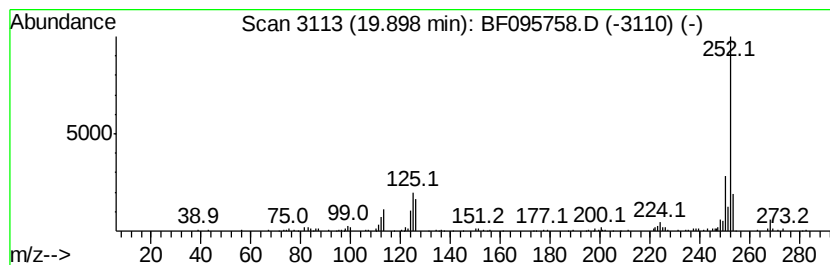
Instrument :  
BNA\_F  
ClientSampleId :  
SB-8(0-2)20170603

Quant Method : Z:\HPCHEM1\BNA\_F\METHODS\8270-BF060517.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 14 Perylene Concentration Rank 3

| R.T.    | EstConc                   | Area         | Relative to ISTD | R.T.      |
|---------|---------------------------|--------------|------------------|-----------|
| 19.90   | 9.99 ng                   | 153096       | Perylene-d12     | 20.02     |
| Hit# of | 5                         | Tentative ID | MW MolForm       | CAS# Qual |
| 1       | Perylene                  | 252 C20H12   | 000198-55-0      | 94        |
| 2       | Benzo[k]fluoranthene      | 252 C20H12   | 000207-08-9      | 94        |
| 3       | Benzo[e]pyrene            | 252 C20H12   | 000192-97-2      | 93        |
| 4       | Benzo[e]acephenanthrylene | 252 C20H12   | 000205-99-2      | 93        |
| 5       | Benzo[a]pyrene            | 252 C20H12   | 000050-32-8      | 89        |



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF060717\  
Data File : BF095758.D  
Acq On : 7 Jun 2017 21:39  
Operator : SJ/MA  
Sample : I3479-03 5X  
Misc :  
ALS Vial : 16 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
SB-8(0-2)20170603

Quant Method : Z:\HPCHEM1\BNA\_F\METHODS\8270-BF060517.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

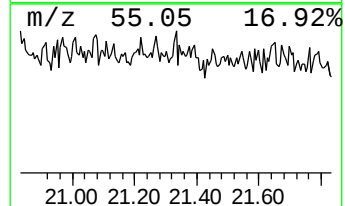
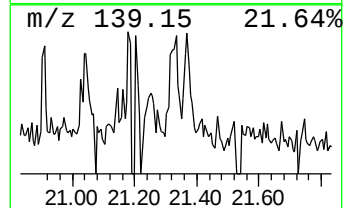
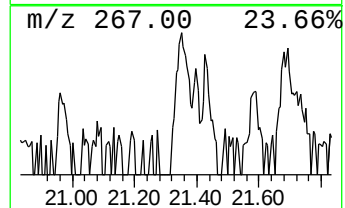
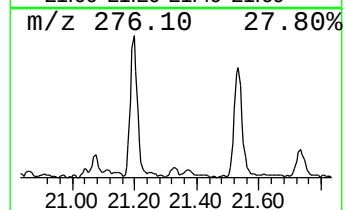
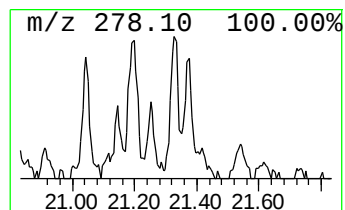
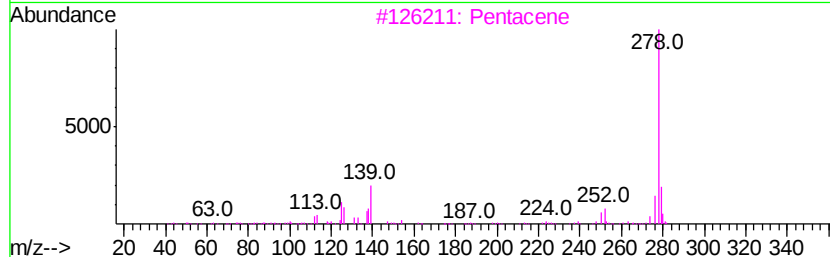
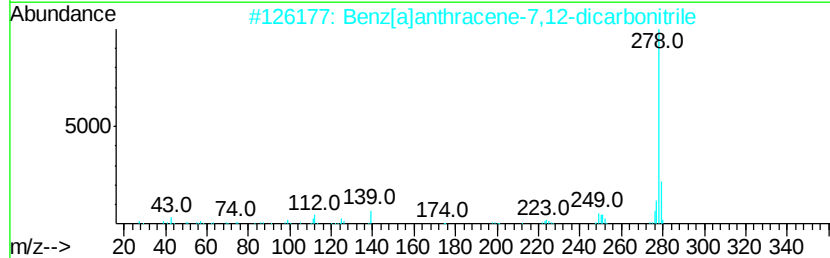
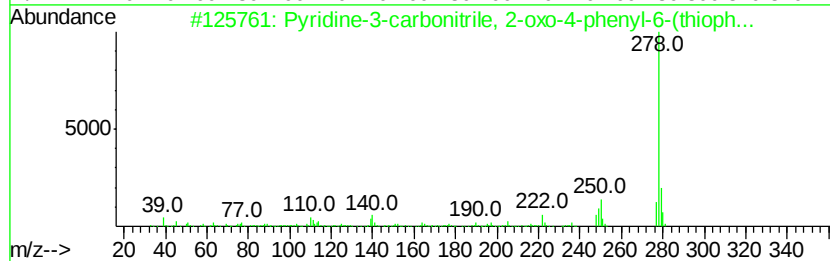
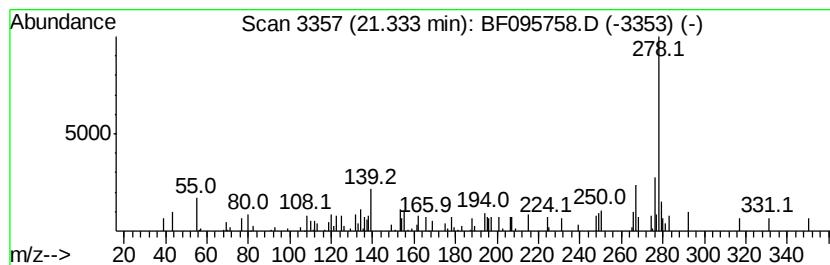
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 15 Pyridine-3-carbonitrile, 2-... Concentration Rank 14

| R.T.  | EstConc | Area  | Relative to ISTD | R.T.  |
|-------|---------|-------|------------------|-------|
| 21.33 | 2.08 ng | 31860 | Perylene-d12     | 20.02 |

| Hit# | of | Tentative ID                        | MW  | MolForm    | CAS#         | Qual |
|------|----|-------------------------------------|-----|------------|--------------|------|
| 1    | 5  | Pyridine-3-carbonitrile, 2-oxo-4... | 278 | C16H10N2OS | 1000304-72-3 | 55   |
| 2    |    | Benz[a]anthracene-7,12-dicarboni... | 278 | C20H10N2   | 035215-32-8  | 46   |
| 3    |    | Pentacene                           | 278 | C22H14     | 000135-48-8  | 45   |
| 4    |    | 0,0'-(2,2'-Biphenylene)thiophosp... | 278 | C13H11O3PS | 077671-17-1  | 43   |
| 5    |    | 3-Azaspiro[5.5]undeca-1,4-diene-... | 278 | C15H14N6   | 1000303-13-2 | 43   |



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF060717\  
 Data File : BF095758.D  
 Acq On : 7 Jun 2017 21:39  
 Operator : SJ/MA  
 Sample : I3479-03 5X  
 Misc :  
 ALS Vial : 16 Sample Multiplier: 1

Instrument :  
 BNA\_F  
 ClientSampleId :  
 SB-8(0-2)20170603

Quant Method : Z:\HPCHEM1\BNA\_F\METHODS\8270-BF060517.M  
 Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
 TIC Integration Parameters: LSCINT.P

| TIC Top Hit name     | RT    | EstConc | Units | Response | --Internal Standard-- |       |        |      |
|----------------------|-------|---------|-------|----------|-----------------------|-------|--------|------|
|                      |       |         |       |          | #                     | RT    | Resp   | Conc |
| unknown7.05          | 7.05  | 17.3    | ng    | 365960   | 1                     | 7.38  | 422077 | 20.0 |
| Naphtho[2,1-b]thi... | 14.46 | 2.4     | ng    | 51602    | 4                     | 14.63 | 437446 | 20.0 |
| Phenanthrene, 2-m... | 15.43 | 3.7     | ng    | 80410    | 4                     | 14.63 | 437446 | 20.0 |
| Phenanthrene, 1-m... | 15.47 | 4.5     | ng    | 99544    | 4                     | 14.63 | 437446 | 20.0 |
| 4H-Cyclopenta[def... | 15.58 | 7.3     | ng    | 159989   | 4                     | 14.63 | 437446 | 20.0 |
| Phenanthrene, 4-m... | 15.63 | 3.3     | ng    | 71263    | 4                     | 14.63 | 437446 | 20.0 |
| Naphthalene, 2-ph... | 15.89 | 2.8     | ng    | 62224    | 4                     | 14.63 | 437446 | 20.0 |
| 9,10-Anthracenedione | 15.94 | 2.0     | ng    | 44212    | 4                     | 14.63 | 437446 | 20.0 |
| 11H-Benzo[b]fluorene | 17.22 | 2.9     | ng    | 126337   | 5                     | 18.34 | 883406 | 20.0 |
| Fluoranthene, 2-m... | 17.30 | 2.3     | ng    | 103269   | 5                     | 18.34 | 883406 | 20.0 |
| Pyrene, 1-methyl-    | 17.35 | 2.7     | ng    | 120825   | 5                     | 18.34 | 883406 | 20.0 |
| Perylene             | 19.90 | 10.0    | ng    | 153096   | 6                     | 20.02 | 306395 | 20.0 |
| Pyridine-3-carbon... | 21.33 | 2.1     | ng    | 31860    | 6                     | 20.02 | 306395 | 20.0 |