**High Performance Liquid Chromatography**

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Course\_\_\_\_\_\_Section\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| **Standards** | **Peak Height** | **Retention Time (sec)** |
| 250 ppm theobromine |  |  |
| 500 ppm theophylline |  |  |
| 100 ppm caffeine |  |  |
| 200 ppm caffeine |  |  |
| 300 ppm caffeine |  |  |
| 500 ppm caffeine |  |  |
| Mixture: 500 ppm theophylline  500 ppm caffeine  250 ppm theobromine |  |  |

Is the retention time of all caffeine standards the same? (Y/N) \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Is the retention time of all of the analytes in the chromatogram of solution 4 the same as it was in their individual chromatograms? (Y/N) \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Is qualitative analysis of caffeine, theophylline, and theobromine in a mixture possible? (Y/N) \_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
|  | Caffeine Peak Height | Caffeine using Calibration Curve (ppm) | Caffeine using Standard Addition (ppm) |
| Tea Sample |  |  |  |
| Extra Sample |  |  |  |

**Species in Tea**: Caffeine Theobromine Theophylline

**Species in Extra Sample**: Caffeine Theobromine Theophylline