

# INJECTOR LINEARITY & ACCURACY REPORT

## ACQUISITION INFORMATION

System Name: IClass\_BSM\_FTN\_FLR

Project Path: SQT\_E\_BSM\_FTN\_FLR

Processing Method: Automated Qualification PM

Sample Kit 1 Expiration Date: 28.02.2020 00:00:00 SGT

Sample Kit 1 Lot Number: 700002753

Acquired By: hzluo

Report Method: Injector Linearity RM

Column Serial Number: 03323902435101

Sample Set Name: Injector Linearity SSM

Sample Set Id: 3341

Result Set Id: 3641

The Injector Linearity & Accuracy test verifies that the injection volume delivered is linear and the injector is accurate within specified criteria. Injector linearity is determined by injecting four (4) different injection volumes of one (1) Anthracene concentration from the same vial. The Coefficient of Determination ( $R^2$ ) of the resulting injection volumes is calculated to define injector linearity. Injector accuracy is obtained by dividing the y-intercept of the Coefficient of Determination result by the slope.

The Injector Linearity & Accuracy test passes only when all four (4) expected Anthracene peaks are identified, the linearity  $R^2$  is  $\geq 0.9990$ , and injector accuracy is  $\leq 0.6$  礇.

Results are rounded to the same precision as displayed by the acceptance criterion prior to comparing against the specification.

### Injector Linearity & Accuracy Results

|   | Linearity $R^2$ Specification | Linearity $R^2$ | Linearity $R^2$ Pass/Fail | Injector Accuracy Specification (礇) | Accuracy (礇) | Accuracy Pass/Fail |
|---|-------------------------------|-----------------|---------------------------|-------------------------------------|--------------|--------------------|
| 1 | $\geq 0.9990$                 | 1.0000          | PASS                      | $\leq 0.6$                          | 0.1          | PASS               |

Certification

Comments

The undersigned performer attests that the values recorded above are accurate and complete.

Performer

Signature

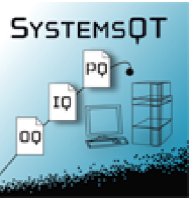
Date

The undersigned reviewer accepts that the values recorded above are accurate and complete.

Reviewer

Signature

Date



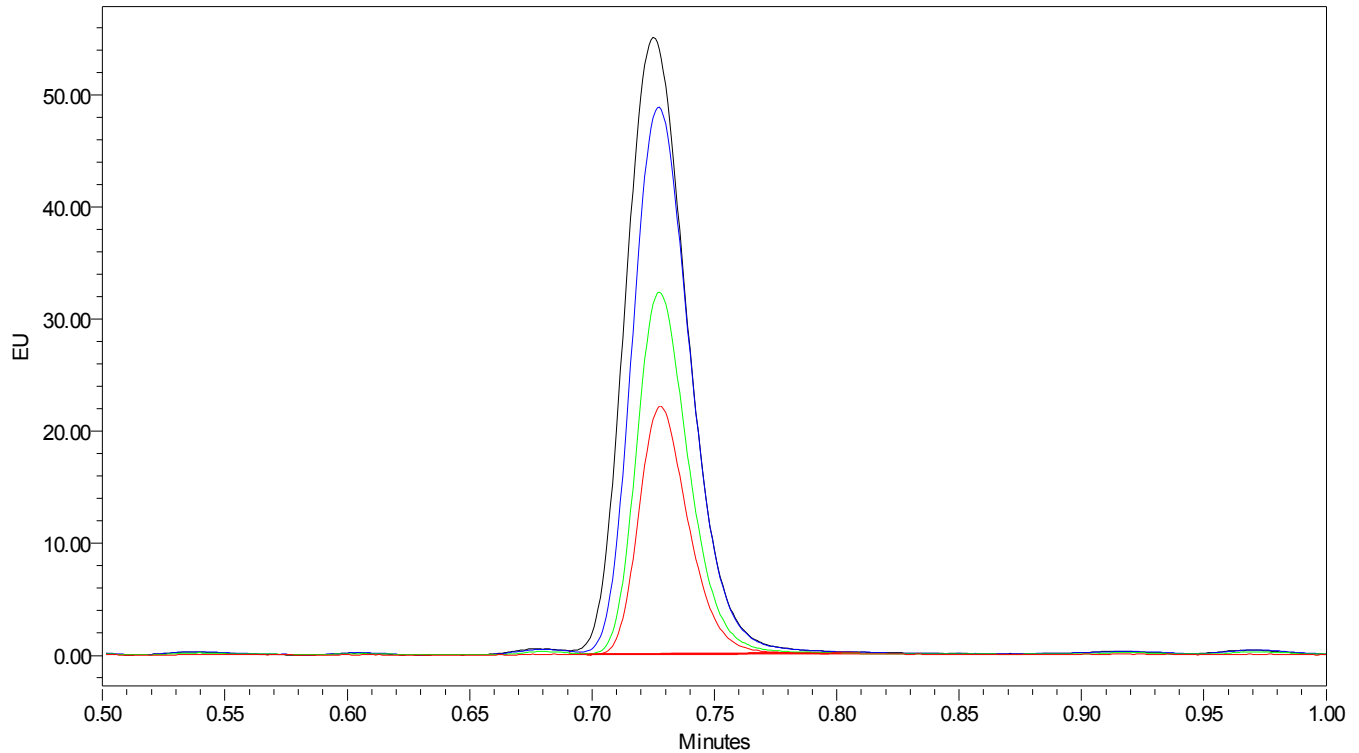
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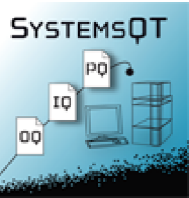
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### Injector Linearity Overlay Chromatograms



### Injector Results

|   | Sample Name     | Peak Name  | Injection Volume (uL) | Area (礦*sec) | Level | Channel Id | Result Id |
|---|-----------------|------------|-----------------------|--------------|-------|------------|-----------|
| 1 | Anthracene 2 uL | Anthracene | 2.00                  | 316614       | 1     | 3359       | 3644      |
| 2 | Anthracene 3 uL | Anthracene | 3.00                  | 482097       | 2     | 3368       | 3645      |
| 3 | Anthracene 5 uL | Anthracene | 5.00                  | 816169       | 3     | 3377       | 3646      |
| 4 | Anthracene 6 uL | Anthracene | 6.00                  | 977257       | 4     | 3386       | 3647      |



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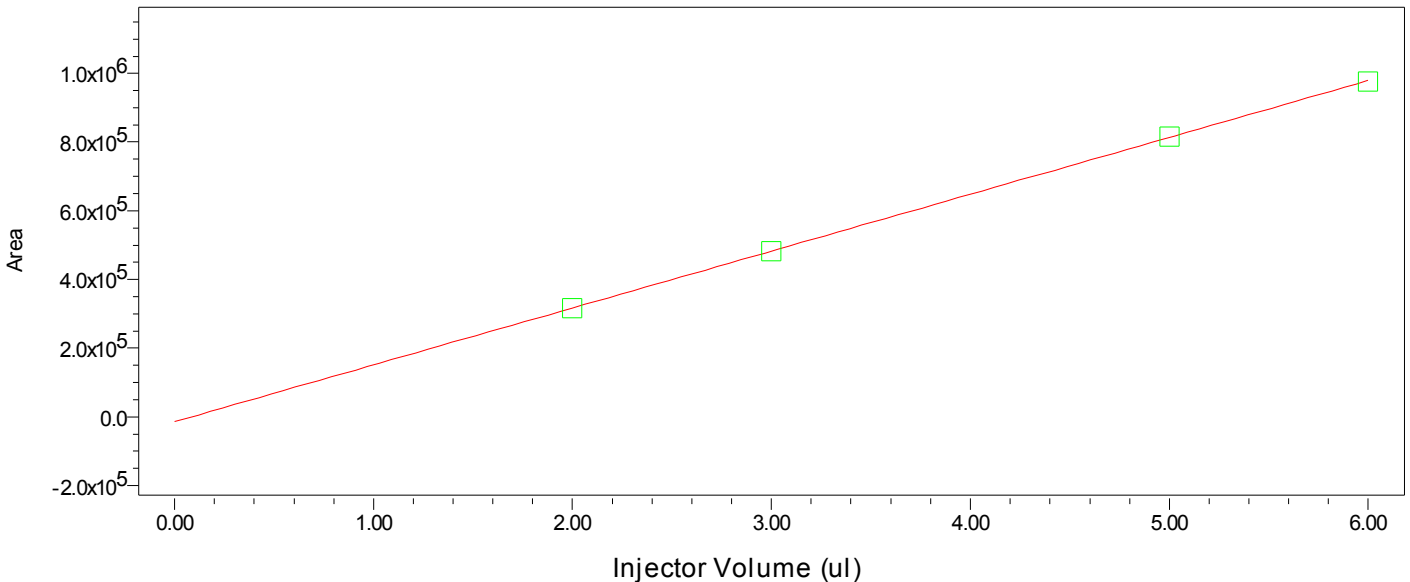
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### Injector Linearity Results

|                |                               |                |             |
|----------------|-------------------------------|----------------|-------------|
| Calibration Id | 3642                          | Y Intercept    | -14108.9329 |
| Equation       | $Y = 1.66e+005 X - 1.41e+004$ | Slope          | 165535.8478 |
| Fit Type       | Linear (1st Order)            | R <sup>2</sup> | 1.0000      |

### Injector Linearity Plot



**Accuracy Calculation:**     **Injector Accuracy = |Y intercept/Slope|**

Y intercept = -14109     Slope = 165536

**Injector Accuracy =**   | -14109 / 165536   | = 0.1