ASTRA 6 Report Experiment3





**File Name:**Experiment3
**Collection Operator:**AYRESGPC\Ayres Research Group (AYRESGPC\Ayres Research Group (Ayres Research Group))
**Processing Operator:**AYRESGPC\Ayres Research Group (Ayres Research Group)

**Sample:**sample

**Concentration:**7.700 mg/mL

**Configuration**

**Concentration Source:**RI
**Flow Rate:**1.000 mL/min

**Light Scattering Instrument:**miniDAWN TREOS

**Band Broadening Correction:**n/a
**Cell Type:**Fused Silica
**Wavelength:**656.0 nm
**Calibration Constant:**6.1050×10-5 1/(V cm)

| **Detector** | **Scattering angle** | **Gain** | **Normalization coefficient** |
| --- | --- | --- | --- |
| 1 | 46.6º | n/a | 0.745 |
| 2 | 90.0º | n/a | 1.000 |
| 3 | 133.4º | n/a | 0.837 |

**RI Instrument:**Optilab rEX

**Band Broadening Correction:**n/a
**Wavelength:**658.0 nm

**Viscometer:**ViscoStar

**Band Broadening Correction:**n/a
**Dilution Factor:**0.4976

**Solvent:**thf

**Refractive Index:**1.402

| **Fluid Connections** |
| --- |
| **Source Instrument** | **Destination Instrument** | **Delay Volume (mL)** |
| Generic Pump | Injector | 0.000 |
| Injector | Generic Column | 0.000 |
| Generic Column | miniDAWN TREOS | 0.000 |
| miniDAWN TREOS | ViscoStar | 0.000 |
| ViscoStar | Optilab rEX | 0.000 |

**Processing**

**Collection Time:**Monday January 27, 2014 03:10:18 PM Eastern Daylight Time
**Processing time:**Monday January 27, 2014 03:52:13.218 PM Eastern Daylight Time

**Basic Collection:**

**LS Instrument Collection Interval:**1.000 sec

**Baselines:**

| **Series** | **Start** | **Stop** | **Type** |
| --- | --- | --- | --- |
| detector 1 | (5.352, 0.051) | (29.547, 0.051) | manual x, auto y |
| detector 2 | (3.995, 0.030) | (29.585, 0.030) | manual x, auto y |
| detector 3 | (3.467, 0.039) | (29.811, 0.039) | manual x, auto y |
| differential refractive index data | (4.657, -0.000) | (29.671, -0.000) | manual x, auto y |
| Differential Pressure | (7.023, -0.000) | (29.890, 0.000) | manual x, auto y |

**Peak settings:**

|  |
| --- |
| **Peak Name** | Peak 1 | Peak 2 |
| **Light Scattering Model** | Zimm | Zimm |
| **Fit Degree** | 1 | 1 |
| **dn/dc (mL/g)** | 0.0200 | 0.0200 |
| **A2 (mol mL/g²)** | 0.000 | 0.000 |
| **Injected Mass (µg)** | 0.000 | 0.000 |
| **Viscometry Model** | Huggins | Huggins |
| **Huggins Equation Parameter** | 0 | 0 |
| **Kraemers Equation Parameter** | 0 | 0 |

**Results Fitting Procedure:**

| **Data** | **Fit Model** | **Degree** | **R2** | **Extrapolation** |
| --- | --- | --- | --- | --- |

**Results**

| **Peak Results** |
| --- |
|  | **Peak 1** | **Peak 2** |
| **Masses** |
| **Calculated Mass (µg)** | 555.81 | 1391.88 |
| **Molar mass moments (g/mol)** |
| **Mn** | 7.030×104 (±12.639%) | 1.471×103 (±31.951%) |
| **Mp** | 7.508×104 (±8.397%) | 1.526×103 (±43.211%) |
| **Mv** | 7.763×104 (±-1.589%) | 1.695×103 (±-7.807%) |
| **Mw** | 1.315×105 (±5.706%) | 6.311×103 (±50.799%) |
| **Mz** | 4.505×105 (±7.514%) | 8.004×104 (±133.120%) |
| **Mz+1** | 9.393×105 (±3.804%) | 1.247×105 (±148.717%) |
| **M(avg)** | 3.442×105 (±0.142%) | 1.670×103 (±3.126%) |
| **Polydispersity** |
| **Mw/Mn** | 1.871 (±13.867%) | 4.291 (±60.012%) |
| **Mz/Mn** | 6.409 (±14.704%) | 54.420 (±136.901%) |
| **rms radius moments** |
| **Rn** | n/a | n/a |
| **Rw** | n/a | 52.6 (±58.2%) |
| **Rz** | n/a | 136.9 (±21.9%) |
| **R(avg)** | 60.5 (±10.8%) |  |
| **Intrinsic viscosity moments (mL/g)** |
| **ηn** | 1.566 (±22.003%) | 0.582 (±7.125%) |
| **ηw** | 1.86 (±24.75%) | 0.70 (±8.88%) |
| **ηz** | 3.052 (±52.717%) | 1.846 (±10.169%) |
| **η(avg)** | 1.785 (±1.505%) | 0.794 (±0.772%) |
| **Hydrodynamic radius moments (nm)** |
| **Rh(n)** | 2.5 (±8.4%) | 0.5 (±12.2%) |
| **Rh(w)** | 3.1 (±7.9%) | 0.7 (±15.7%) |
| **Rh(z)** | 5.5 (±10.7%) | 2.6 (±21.1%) |
| **Rh(avg)** | 2.9 (±0.6%) | 0.5 (±2.0%) |

**Mark-Houwink-Sakurada a:**-0.381 (±-0.691%)
**Mark-Houwink-Sakurada K:**1.048×101 (±2.877%) mL/g