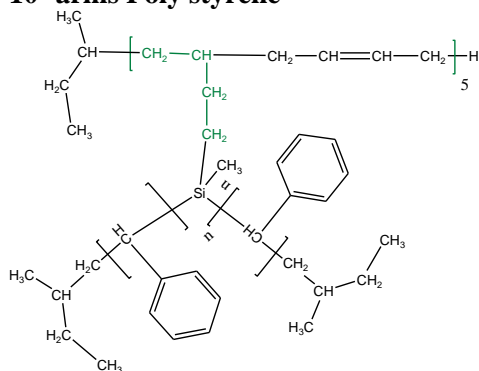
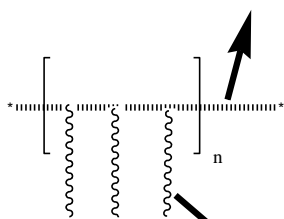


## Sample Name: P18375A-10S 10- arms Poly styrene



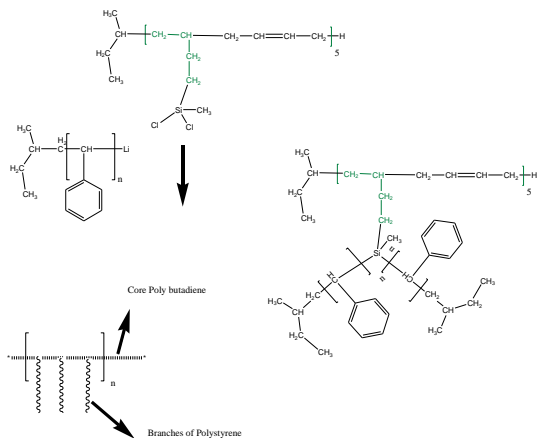
Core Poly butadiene



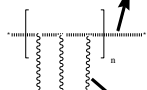
Branches of Polystyrene

|                                 |      |
|---------------------------------|------|
| Mn x 10 <sup>3</sup><br>(total) | PDI  |
| 10.5                            | 1.05 |
| Mn of each arm: (1.0)           |      |

### Synthesis Procedure:



Core Poly butadiene



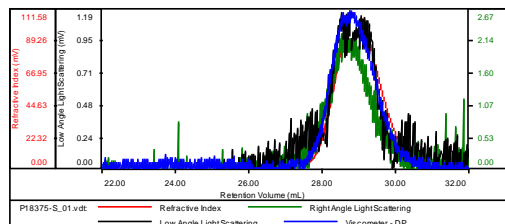
Branches of Polystyrene

**Molecular Weight:** Size exclusion chromatography (SEC): Varian liquid chromatograph equipped with UV and refractive detector. SEC columns from Supelco were used with THF as the eluent. The columns were calibrated with monodisperse polystyrene. The molecular weights and the polydispersity indice of the side-arm were calculated. The absolute molecular weight of the star-like polymer was determined by light scattering detector.

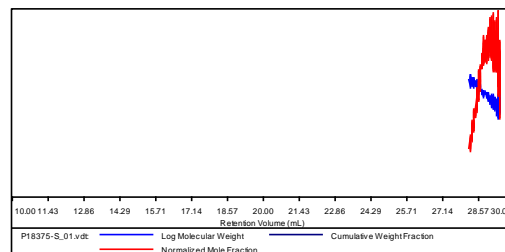
SEC of the Polymer: (eah branch of Polystyrene)

Sample ID: P18375-S

|                       |                           |
|-----------------------|---------------------------|
| Concentration (mg/mL) | 4.0164                    |
| Sample dn/dc (mL/g)   | 0.1850                    |
| Method File           | PS80K-NOV25-2013-0001.vcm |
| Column Set            | 3x PL 1113-6300           |
| System                | System 1                  |

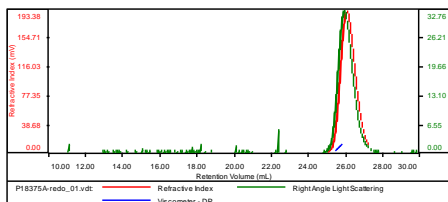


| Sample          | Mn    | Mw    | Mp    | Mw/Mn | IV     |
|-----------------|-------|-------|-------|-------|--------|
| P18375-S_01.vdt | 1,141 | 1,237 | 1,321 | 1.085 | 0.0401 |



Sample ID: P18375A-9 arms Polystyrene

|                       |                           |
|-----------------------|---------------------------|
| Concentration (mg/mL) | 4.7342                    |
| Sample dn/dc (mL/g)   | 0.1850                    |
| Method File           | PS80K-NOV25-2013-0001.vcm |
| Column Set            | 3x PL 1113-6300           |
| System                | System 1                  |



| Sample              | Mn     | Mw     | Mp     | Mw/Mn | IV     |
|---------------------|--------|--------|--------|-------|--------|
| P18375A-redo_01.vdt | 10,505 | 11,164 | 10,954 | 1.063 | 0.0588 |

