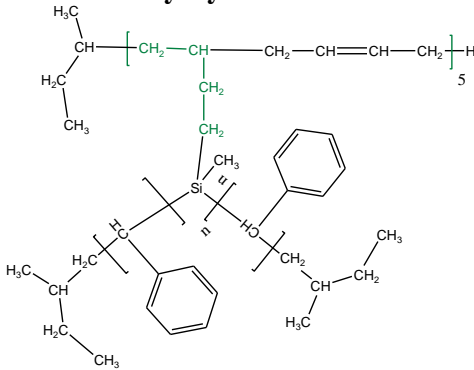
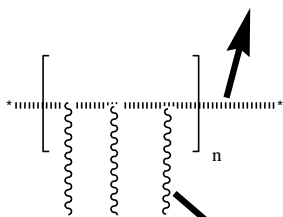


## 10- arms Poly styrene



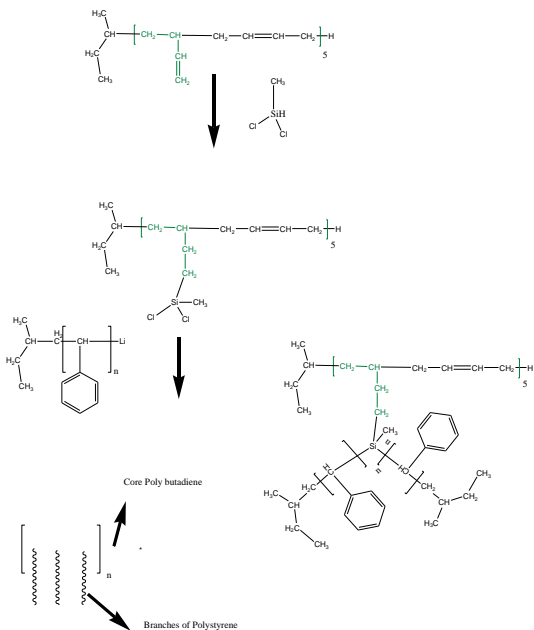
Core Poly butadiene



### Branches of Polystyrene

Mn x 10 <sup>3</sup> (total)	PDI
109.5 Mn of each arm: (10.5)	1.15

### Synthesis Procedure:

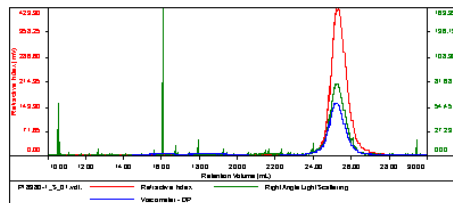


**Molecular Weight:** Size exclusion chromatography (SEC): Varian liquid chromatograph equipped with UV and refractive detector. SEC columns from Supelco were used with THF as the eluent. The columns were calibrated with monodisperse polystyrene. The molecular weights and the polydispersity index of the side-arm were calculated. The

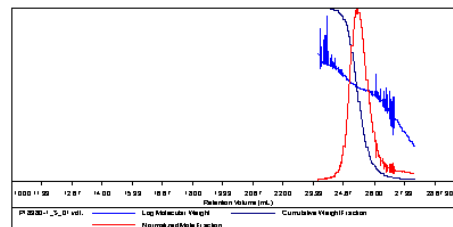
absolute molecular weight of the star-like polymer was determined by light scattering detector.

SEC of the Polymer: (eah branch of Polystyrene)  
Sample ID: P18380-S Branch

Concentration (mg/mL)	13.2653
Sample divide (mL/g)	0.1850
Method file	PS80-KJau05-2014-0001.ucm
Column set	3x PL 1113-6300
System	System 1

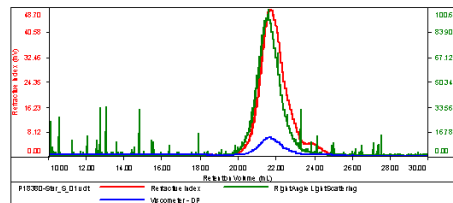


Sample	M1	M2	Mp	Mw/Mn	IV
P1838D-1_S_01.wdt	11,696	12,383	12,375	1.069	0.1138



**Sample ID: P18380-S Star**

Concentration (mg/mL)	2.2659
Sample dn/dc (mL/g)	0.1850
Method File	PS80K-J-an05-2014-0-0001.vcm
Column Set	3x PL 1113-6300
System	System 1



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18380-Star_S_01 .vot	109,197	125,032	129,287	1.145	0.3288

