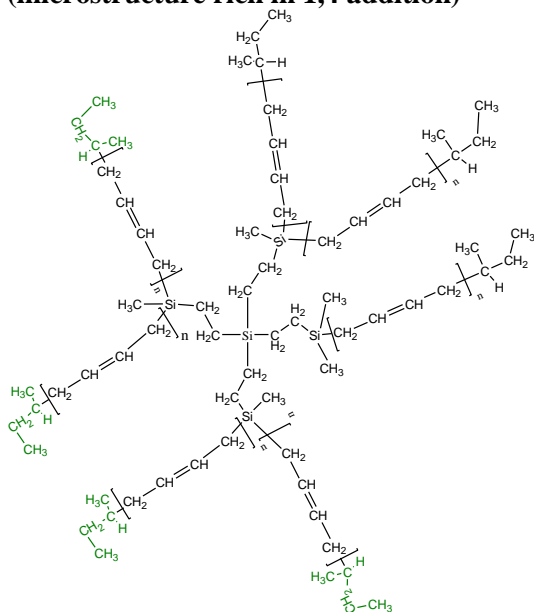


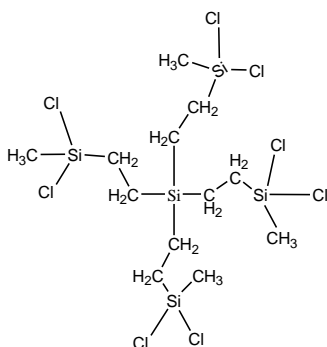
**Sample Name: P18387-7Bd**  
**Seven arms Poly butadiene**  
**(microstructure rich in 1,4 addition)**



Mn x 10 <sup>3</sup> (each Branch )	PDI
360.0	1.09
(Mn of each arm: (52.0))	

**Synthesis Procedure:**

The six arm-polymer was prepared by anionic living polymerization of butadiene in non-polar solvent, and then the star polymer was obtained by coupling reaction with hexachlorosilane derivative. Linker



**Purification** Using Octafunctional linker reagent does

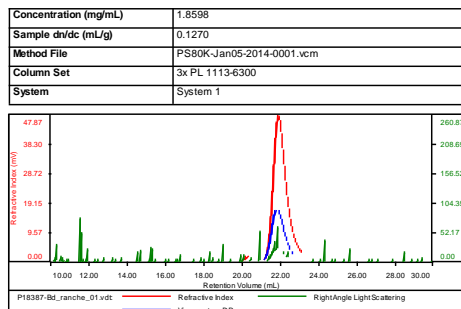
not guarantee the formation of 8 arms architecture. In this case the obtained polymer shows the formation of 7 arms architecture. The obtained polymer after drying dissolved in toluene and treated with methyl lithium to deactivate any remaining chlorosilane functional group. Polymer was fractionated to remove any unlinked fractions of homopolybutadiene.

Polymer precipitated in ethanol and dried under vacuum at 40 °C for 24h. **Characterization:**

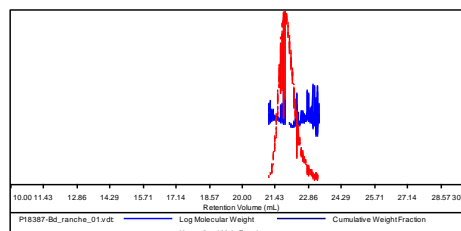
**Molecular Weight:** Size exclusion chromatography (SEC): Varian liquid chromatograph equipped with UV and refractive detector. SEC columns from Supelco were used with THF as the eluent. The molecular weights and the polydispersity indice of the side-arm were calculated. The absolute molecular weight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

For the PBd branch:

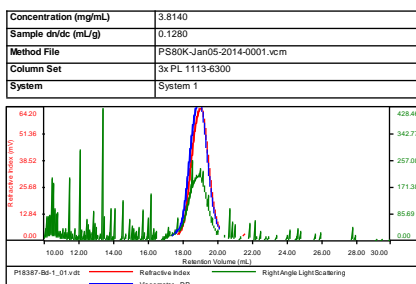
**Sample ID: P18387-Bd**



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18387-Bd_ranche_01.vdt	52,263	54,131	48,685	1.036	0.6981



**Sample ID: P18387-Bd Star**



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18387-Bd-1_01.vdt	360,381	392,218	365,771	1.088	1.4561

