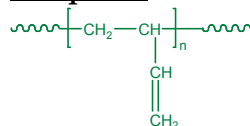


**Sample Name:** Polybutadiene  
(Rich in 1, 2 microstructure)  
(1, 2=88%, 1, 4 = 12%)

**Sample #:** P19294-Bd

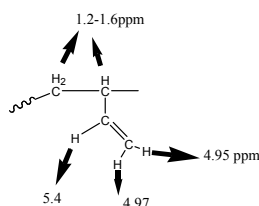
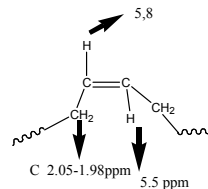
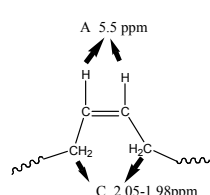
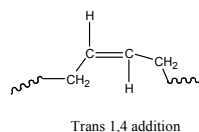
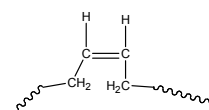


### Composition:

Mn x 10 <sup>3</sup>	PDI
170.0	1.05

### Synthesis Procedure:

Polybutadiene (1,2-rich) is obtained by living anionic polymerization in THF. Using cumyl potassium as initiator.



### Characterization:

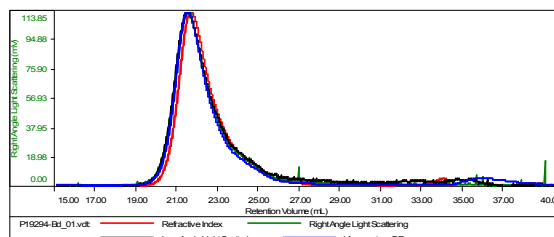
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple detectors from Viscotek Co.

Polymer microstructure can be confirmed by <sup>1</sup>H-NMR where the spectrum of 1,2-polybutadiene contains of 1 vinylic proton signal at 5.4 ppm and 2 vinylic protons at 5.0 ppm but the spectrum of 1,4-polybutadiene only contains vinylic signals at 5.4 ppm.

### SEC of the polymer:

Sample ID: P19294-Bd

Concentration (mg/mL)	3.5578
Sample chldc (mL/g)	0.1270
Method File	PS80K-Mb/20-2015-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P19294-Bd_01.vdt	169,716	176,970	162,511	1.043	3.5994

### NMR of the polymer:

