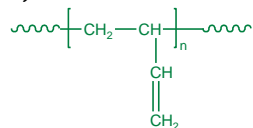


**Sample ID: P2365-Bd**

**: Polybutadiene**  
(rich in 1,2 microstructure)  
(1,2=85% trans-1,4=9% , cis 1,4 = 6%)

**1,2 rich microstructure: ( >85%)**



Mn x 10 <sup>3</sup>	PDI
43.0	1.03

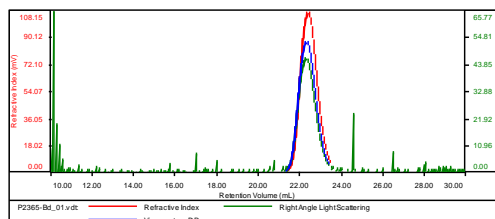
Polybutadiene (1,4-rich) is obtained by living anionic polymerization in toluene or cyclohexane. The reaction scheme is shown below:

$$n \text{ CH}_2=\text{CH}-\text{CH}=\text{CH}_2 \xrightarrow[\text{Cyclohexane or Toluene}]{\text{RLi}} \text{---}\left[\text{CH}_2-\text{CH}=\text{CH}-\text{CH}_2\right]_n\text{---}$$

Polymer microstructure can be confirmed by  $^1\text{H-NMR}$  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.

Polybutadiene is soluble in THF, toluene, hexane, pentane and cyclohexane and precipitates from methanol and ethanol.

Concentration (mg/mL)	3.9165
Sample dn/dc (mL/g)	0.1270
Method File	PS80K-NOV25-2013-0000.vcm
Column Set	3x PL 1113-6300
System	System 1



Sample	Mn	Mw	Mp	Mw/Mn	IV
P2365-Bd_01.vdt	42,884	44,110	42,749	1.029	0.8392

