

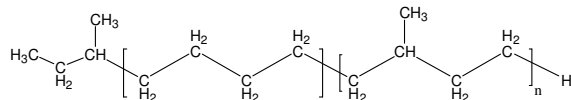
Sample name: Poly(Ethylene-*b*-Ethylene Propylene)

Other name:

**Hydrogenated form of Poly(Butadiene-*b*-Isoprene)  
predominantly in 1,4-addition**

Sample # P19649A-EEPr

**Structure:**



**Composition:**

Mn × 10 <sup>3</sup> (Bd-b-Ip)	PDI
45.0-b-120.0 (compositions from <sup>1</sup> H NMR)	1.02

After Hydrogenation 46.5-b-125.5	1.02
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Hydrogenation	> 98%
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**Synthesis procedure:**

The polymer was prepared by hydrogenation of polybutadiene-*b*-polyisoprene diblock copolymer, which was synthesized by anionic polymerization in cyclohexane.

**Characterization:**

The polymer was characterized by <sup>1</sup>H NMR and SEC.

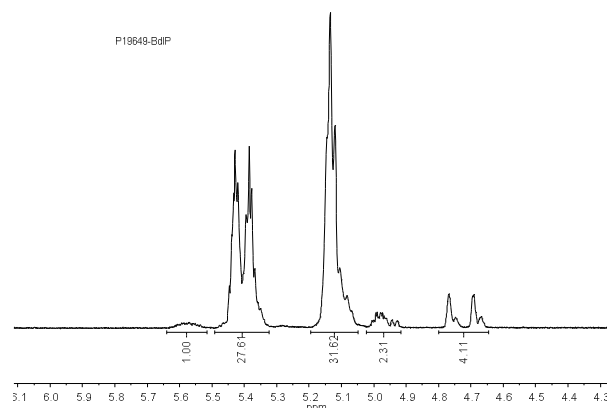
**DSC thermal analysis:**

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T<sub>g</sub>).

**<sup>1</sup>H NMR analysis:**

Chemical shifts of Unsaturated blocks:	
Polybutadiene (Bd):	Polyisoprene (Ip):
5.43 ppm	5.13 ppm
5.38 ppm	4.98 ppm
4.76 ppm	4.76 ppm
4.69 ppm	4.69 ppm

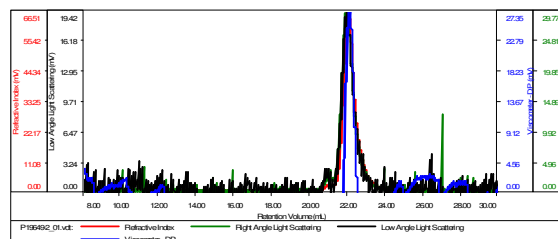
**<sup>1</sup>H NMR of Bd-Ip diblock copolymer in CDCl<sub>3</sub>:**



**SEC of polybutadiene (first block):**

Sample ID-P19649-Bd

Concentration (mg/mL)	0.4050
Sample dn/dc (mL/g)	0.1250
Method File	PS80K-June80-2015-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF

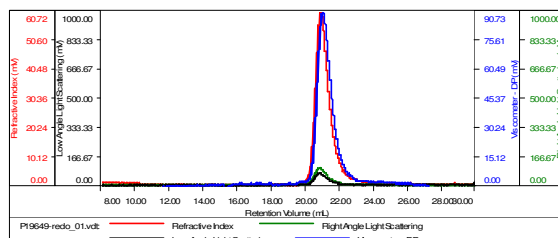


Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P19649-2_01.vcl	46,113	46,666	45,137	1.012	0.8887

**SEC of Bd-Ip diblock copolymer:**

Sample ID-P19649-BdIp

Concentration (mg/mL)	0.4057
Sample dn/dc (mL/g)	0.1380
Method File	PS80K-June80-2015-0000.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)
P19649-2_01.vcl	169,245	171,544	165,131	1.014	7.0570