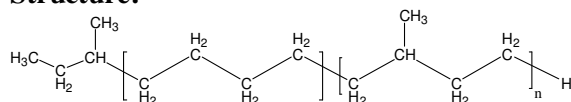


Sample name: Poly(ethylene-*b*-ethylene propylene)

Other name: Hydrogenated form of Poly(butadiene-*b*-isoprene) predominantly in 1,4-addition

Sample # P19574A-EEPr

Structure:



Composition:

Mn × 10 ³ (Bd-b-Ip)	PDI
25.0-b-146.0 (compositions from ¹ H NMR)	1.2

After Hydrogenation 26.0-b-150.0	1.2
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Hydrogenation	> 96%
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Synthesis procedure:

The polymer was synthesized by anionic polymerization in cyclohexane.

Characterization:

The polymer was characterized by ¹H NMR, SEC, FTIR and DSC.

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_g).

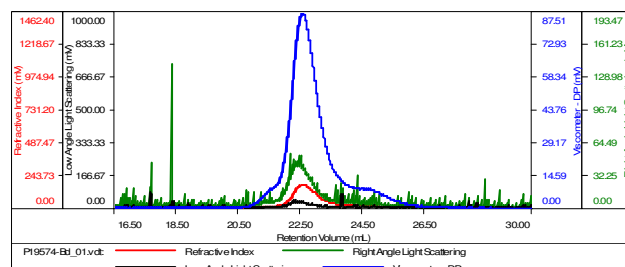
¹H NMR analysis:

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

SEC of polybutadiene fist block:

Sample ID-P19574-Bd block

Concentration (mg/mL)	0.5392
Sample dn/dc (mL/g)	0.1270
Method File	PS80K-Nov-2015-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF

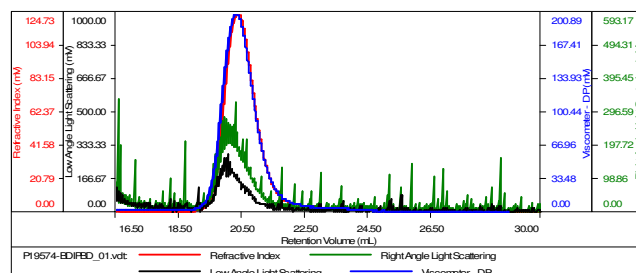


Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P19574-Bd_01.vct	25,230	27,668	22,997	1.096	5.2369

SEC of diblock copolymer:

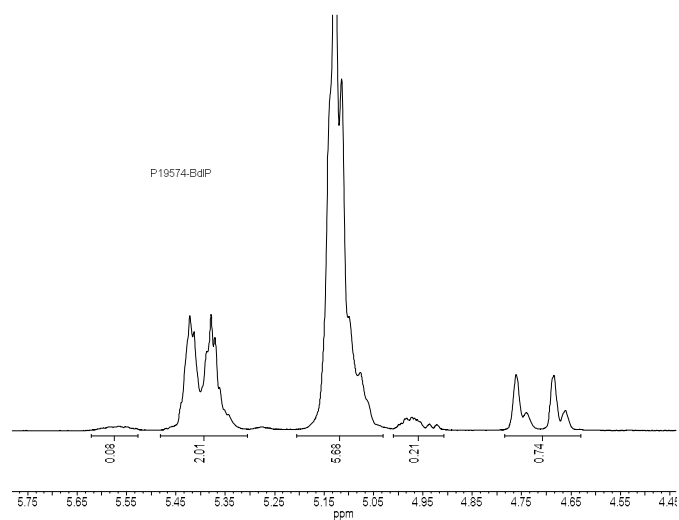
Sample ID-P19574-BdIP AB diblock copolymer

Concentration (mg/mL)	0.3468
Sample dn/dc (mL/g)	0.1480
Method File	PS80K-Nov-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)
P19574-BdIPBD_01.vct	171,416	206,990	173,649	1.208	17.1849

¹H NMR of Bd-Ip diblock copolymer in CDCl₃:



¹H NMR of hydrogenated form

