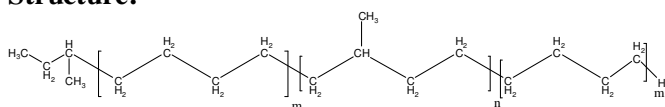


**Poly(Ethylene-*b*-ethylene propylene-*b*-ethylene)  
triblock copolymer**

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

**Structure:**



$M_n \times 10^3$ <b>(Bd-b-IP-b-Bd)</b>	PDI
14.0-b-172.0-b-14 (by NMR)	1.04
After Hydrogenation 14.5-b-177.0-b-14.5	1.04

Degree of Hydrogenation	> 96%
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The polymer was synthesized by anionic polymerization using cyclohexane as a solvent.

The polymer was analyzed by  $^1\text{H}$  NMR, SEC, DSC.

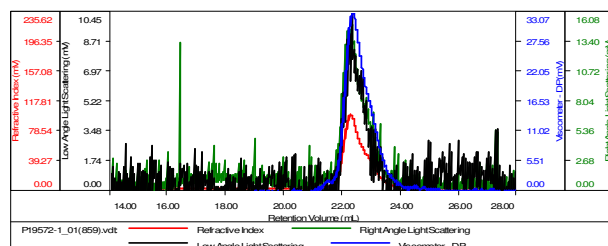
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature ( $T_g$ ).

1H NMR spectrum of P19572-BdlP in DMSO-d<sub>6</sub>. The x-axis represents chemical shift in ppm, ranging from 3.5 to 6.1. The spectrum shows several peaks: a small peak at ~3.7 ppm, a multiplet between 4.6-4.8 ppm, a small peak at ~4.9 ppm, a large multiplet between 5.3-5.5 ppm, a very large sharp peak at ~5.1 ppm, a small peak at ~5.2 ppm, and a multiplet between 5.4-5.5 ppm. Integration values are shown below the baseline: 0.10, 2.00, 10.47, 0.20, and 1.23.

1H NMR spectrum of P19572-BdpBD in DMSO-d<sub>6</sub>. The x-axis represents chemical shift in ppm, ranging from 10.5 to 3.6. The spectrum shows several peaks: a broad peak around 5.5 ppm, a sharp peak at 5.2 ppm, a very tall sharp peak at 5.1 ppm, a small peak at 4.9 ppm, and two peaks at 4.7 and 4.6 ppm. Integration values are shown below the baseline: 0.02, 2.00, 4.00, and 0.05.

**Sample ID-P19572-1**

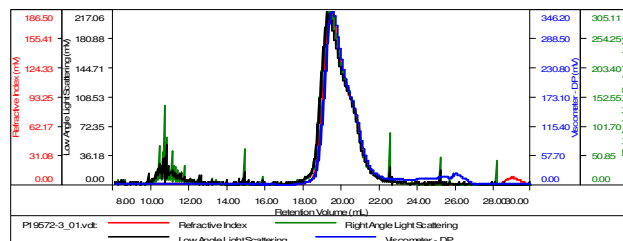
Concentration (mg/mL)	0.6741
Sample dilvdc (mL/g)	0.1250
Method File	PS30K_Jun80_2015-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P19572-1_01(859).vcl	15,026	15,138	14,466	1.007	1.3265

**Sample ID-P19572-Bd-IP-Bd**

Concentration (mg/mL)	2.1471
Sample dn/dc (mL/g)	0.1250
Method File	PS80KJune80-2015-0000.vom
Column Set	3x PL 1113-G300
Solvent	THF



Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P195/2-3_01.vcl	201,014	205,048	184,722	1.020	6.8602