

Sample Name:

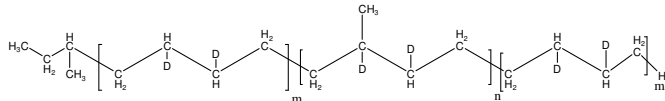
**Partially deuterated Poly(Ethylene-*b*-Ethylene
Propylene-*b*-Ethylene) triblock copolymer**

Other name:

**Deuterium-saturated Poly(Butadiene-*b*-Isoprene-*b*-
Butadiene), predominantly 1,4-addition**

Sample # **P19573B-EEPrE**

Structure:



Composition:

$M_n \times 10^3$ (Bd-b-IP-b-Bd)	PDI
18.5-b-246.0-b-18.0 (by NMR)	1.10
After Deuteration 20.0-b-255.0-b-20.0	1.10

Degree of Deuteration	> 98%
-----------------------	-------

Synthesis Procedure:

The Poly(Butadiene-*b*-Isoprene-*b*-Butadiene) was synthesized by anionic polymerization using cyclohexane as a solvent, followed by diene saturation with deuterium.

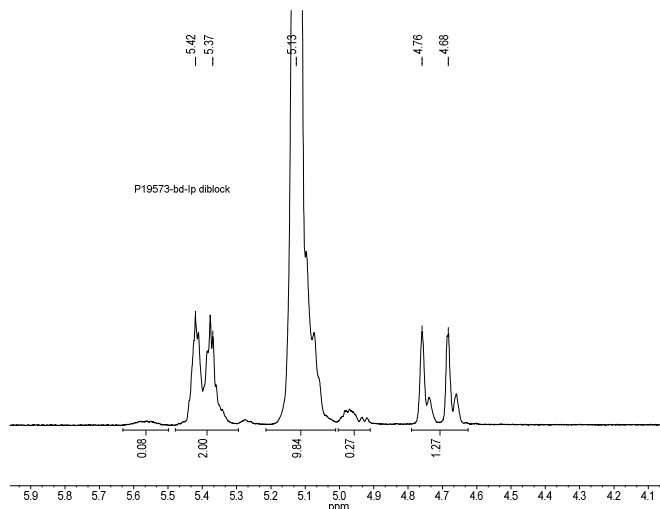
Characterization:

The polymer was analyzed by ^1H NMR, SEC, DSC.

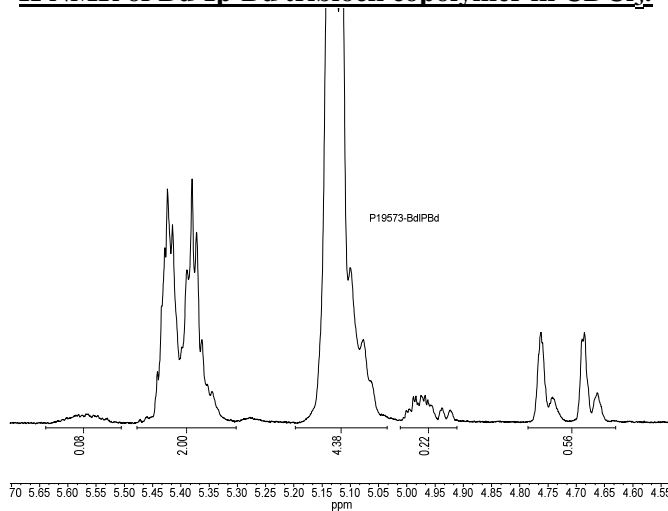
DSC thermal analysis:

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of $10^\circ\text{C}/\text{min}$. 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 of Bd-IP diblock copolymer in CDCl_3 :



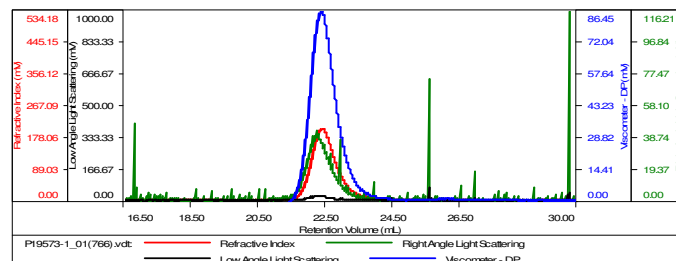
^1H NMR of Bd-IP-Bd triblock copolymer in CDCl_3 :



SEC elugram of the first polybutadiene block:

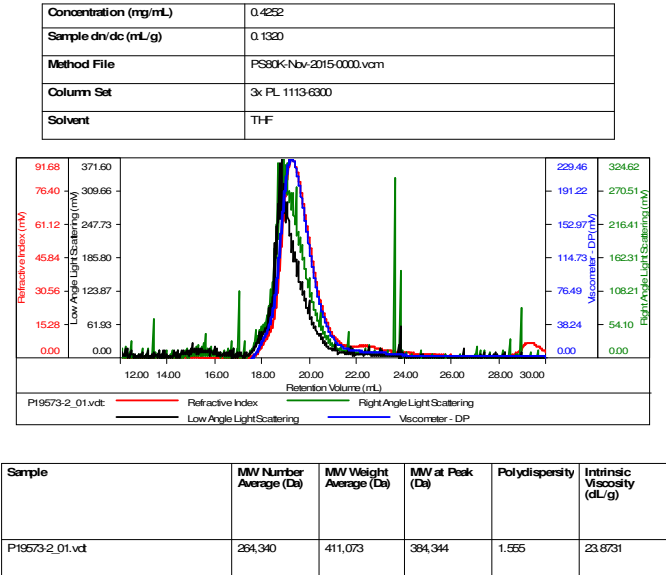
Sample ID-P19573-Bd first Block

Concentration (mg/mL)	0.5580
Sample dn/dc (mL/g)	0.1250
Method File	PS30K-Nov-2015-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF

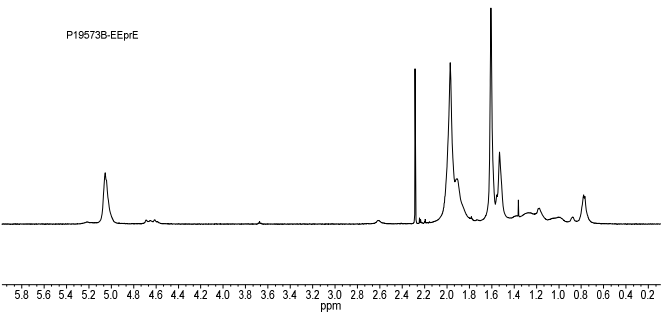


Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P19573-1_01(766).vdt	18,354	20,106	18,807	1.095	4.0816

SEC of Bd-Ip diblock copolymer:
Sample ID-P19573-BdIP



¹H NMR of Bd-Ip-Bd triblock copolymer after deuteration:



SEC of Bd-Ip-Bd triblock copolymer:
Sample ID-P19573-BdIPBd

