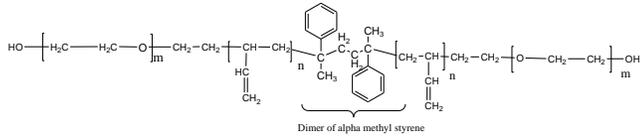


Sample Name: Poly (ethylene oxide(or glycol)-b-butadiene-b- ethylene oxide (glycol)

Polybutadiene, 1,2-rich microstructure

Sample #: P40646C-EObdEO

Structure:



Composition:

Mn x 10 ³	PDI	1,2 addition
35.0-b-12.5-b-35.0	1.25	>85%

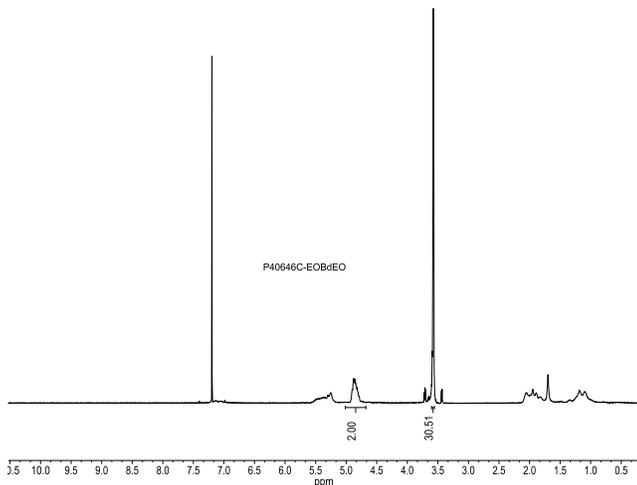
Synthesis Procedure:

1,2-rich microstructure addition dihydroxy terminated polybutadiene was prepared by anionic living polymerization (by lithium naphthalene) of butadiene in polar solvent such as THF at 0 °C followed by termination with ethylene oxide and than growing PEO block from its potassium salt.

Characterization:

The product was characterized by size exclusion chromatography (SEC) and ¹H NMR.

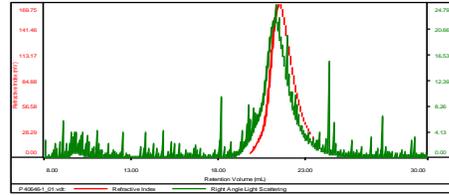
HNMR spectrum of the Product:



SEC elugram of Bd Block:

P40646-Bd

Concentration (mg/mL)	1.3827
Sample dn/dc (mL/g)	0.1270
Method File	PS80K-June272017-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF

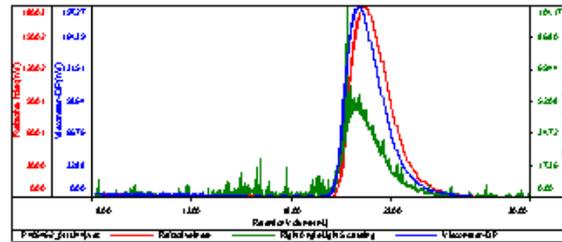


Sample	Mn (Da)	Mw (Da)	Mw/Mn	IV (dL/g)	Mp (Da)
P40646-1_01.vdt	12,453	14,306	1.149	1.6264	12,526

SEC of elugram of the Sample:

P40646-EO-Bd-EO

Concentration (mg/mL)	3.6810
Sample dn/dc (mL/g)	0.0970
Method File	PS80K-June272017-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Thermal analysis of the P40646-EOBdEO

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).

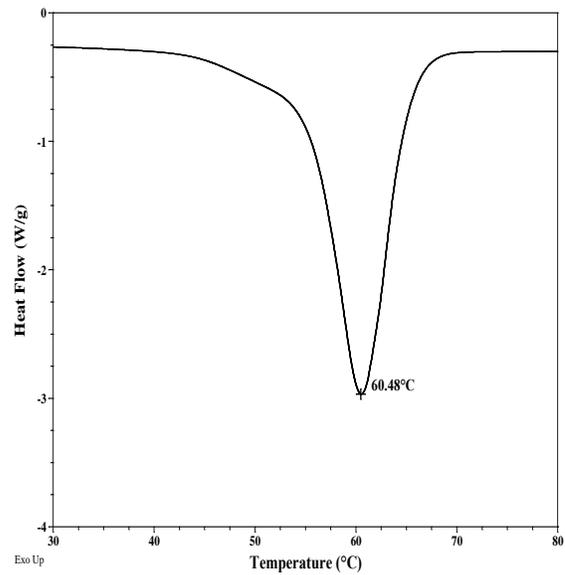
Melting and crystallization curve for the sample

The melting temperature (T_m) was taken as the maximum of the endothermic peak where as the crystallization temperature (T_c) was considered as the minimum of the exothermic peak.

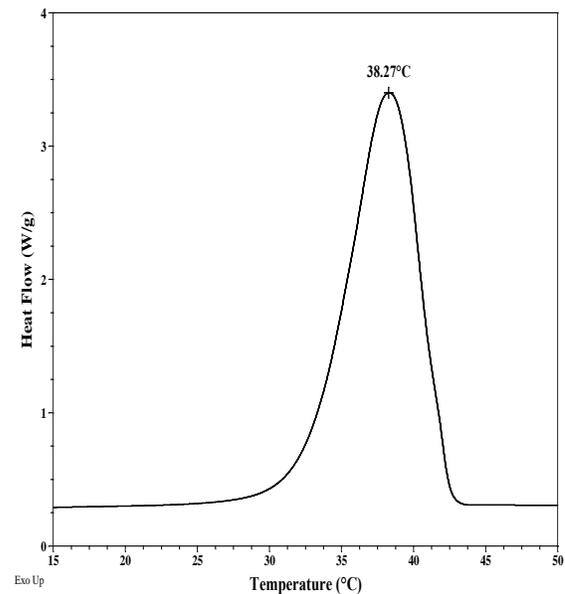
Thermal analysis results at a glance

Sample	T_m (°C)	T_c (°C)	T_g (°C)
PBd block	-	-	-
PEO block	60	38	-40

Melting curve for PEO block



Crystallization curve for PEO block:



Glass transition of PEO block:

