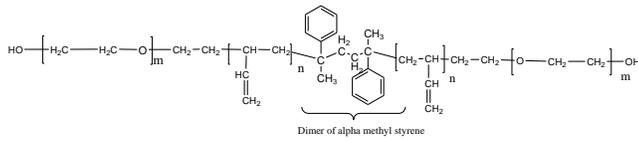


Sample Name: Poly (ethylene oxide(or glycol)-b-butadiene-b- ethylene oxide (glycol)
Polybutadiene, 1,2-rich microstructure

Sample #: P44092-EOBdEO

Structure:



Composition:

Mn x 10 ³	PDI	1,2 addition
0.35-b-1.2-b-0.35	1.02	>85%

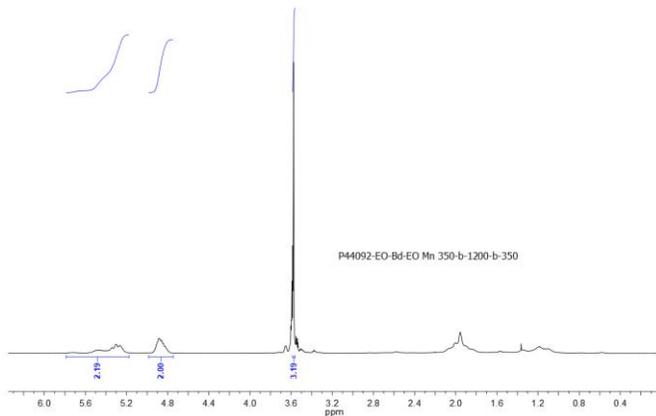
Synthesis Procedure:

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.

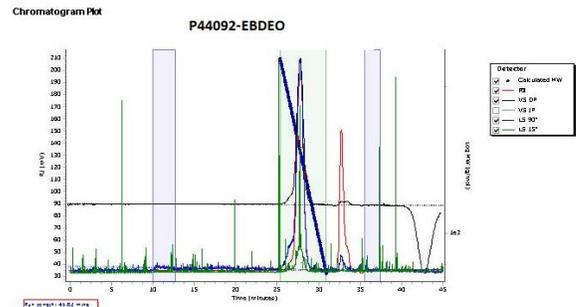
Characterization:

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

HNMR spectrum of the Product:



SEC of elugram of the Sample:



Molecular Weight Averages

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mo (g/mol)	PD
Peak 1	1938	1938	1979	2020	2066	2000	1.021

Thermal analysis of the P44092-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).

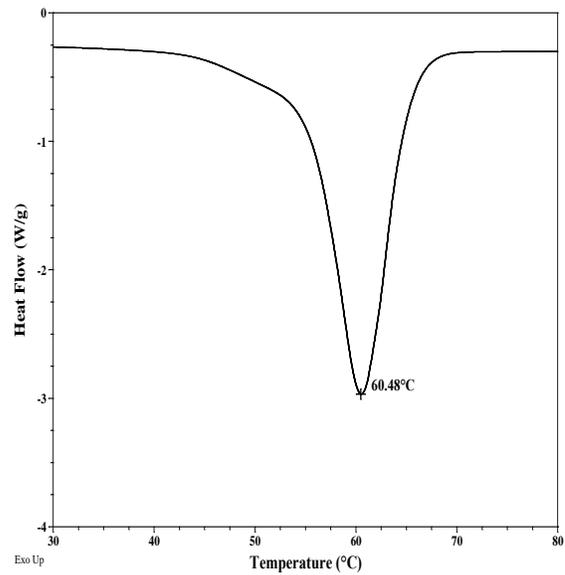
Melting and crystallization curve for the sample

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.

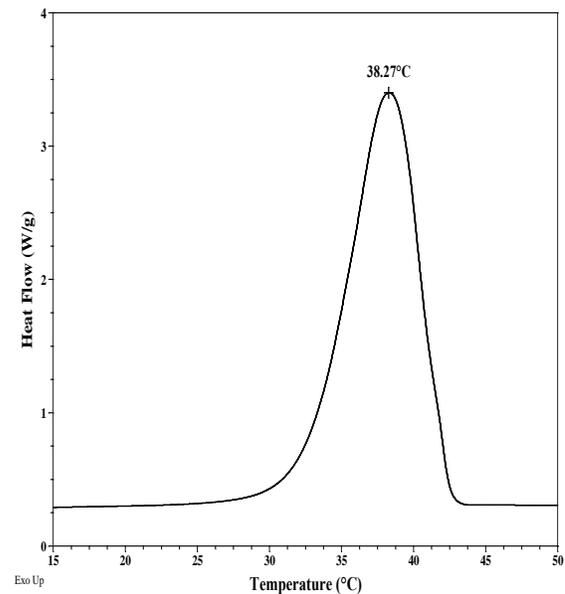
Thermal analysis results at a glance

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:

