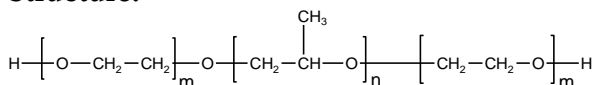


Sample Name:

Poly(ethylene oxide-b-propylene oxide-b-ethylene oxide)

Sample #: P6002-EOPOEO

Structure:

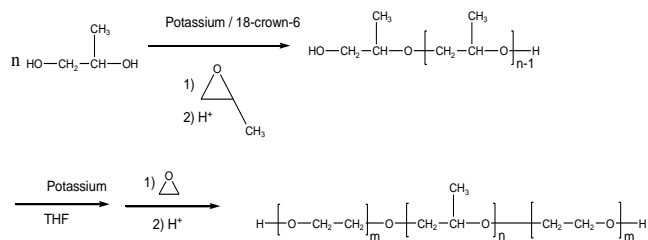


Composition:

$M_n \times 10^3$	PDI
1.6-b-0.5-b-1.6	1.07

Synthesis Procedure:

Poly(ethylene oxide-b-propylene oxide-b-ethylene oxide) is prepared by living anionic polymerization with sequence addition of propylene oxide followed by ethylene oxide. The scheme of the reaction is illustrated below:



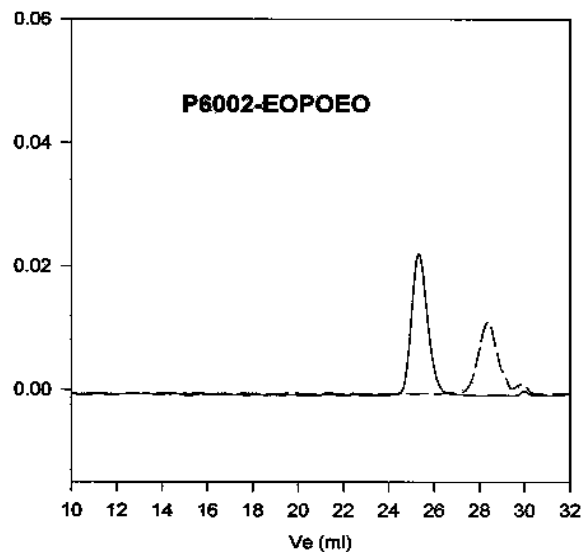
Characterization:

The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

Solubility:

Polymer is soluble in THF, CHCl_3 , and toluene.

SEC of Sample:

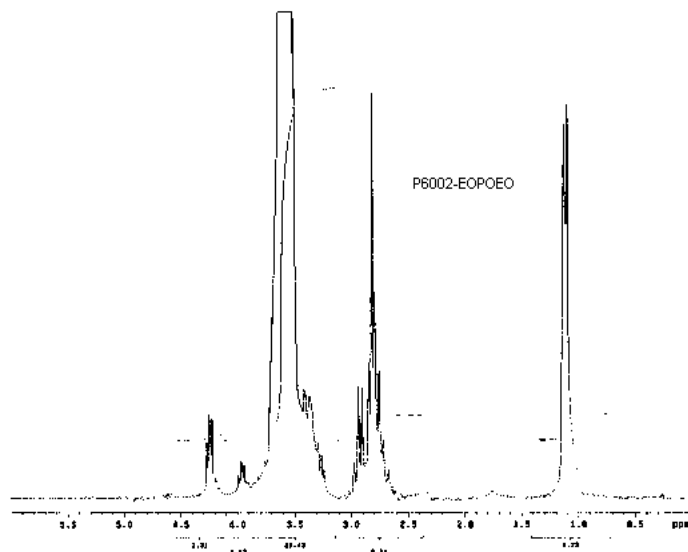


Size Exclusion Chromatogram of Hydroxyl terminated Poly(ethylene oxide-b-propylene oxide-b-ethylene oxide)

— Poly(propylene oxide) center block: $M_n=450$, $M_w=500$, $M_w/M_n=1.10$

— PEO-b-PPO-b-PEO: M_n 1600-450-1600, $M_w/M_n=1.07$

HNMR of the Polymer:



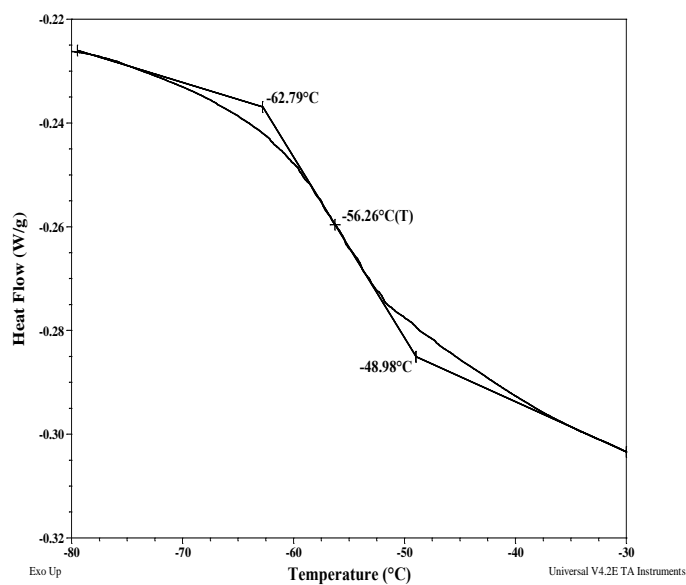
Thermal analysis of the sample# P6002-EOPOEO

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).

Thermal analysis results at a glance (EO-PO-EO)

Sample	T_m (°C)	T_c (°C)	T_g (°C)
EO block	46	17	-56
PO block		-	-56

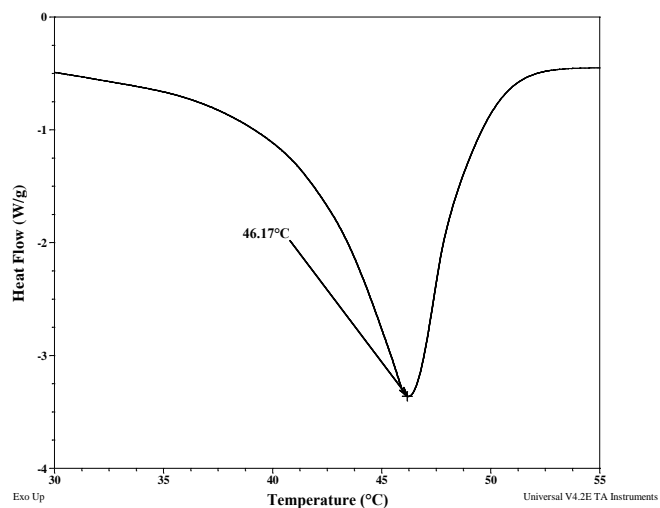
Typical thermogram for the PO-EO block



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.

Melting curve for PEO block:



Crystallization curve for PEO block:

