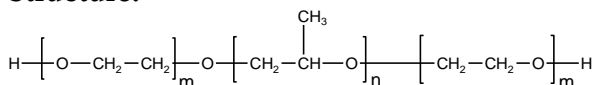


Sample Name:

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

Sample #: P8750-EOP OEO

Structure:

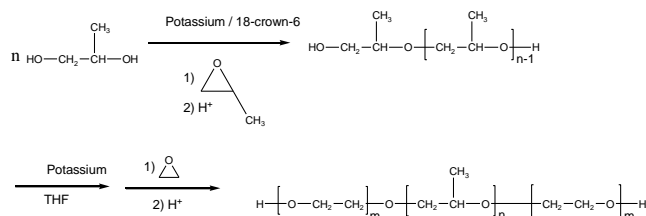


Composition:

Mn x 10 ³	PDI
5.6-b-3.1-b-5.6	1.18
Dp of each block: 127-b-53-127	

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:

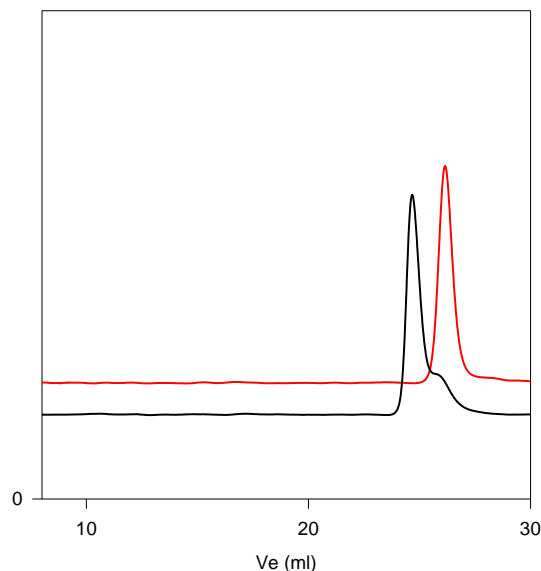
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

Solubility:

The polymer is soluble in THF, CHCl₃ and toluene.

SEC of Sample:

P8750-EOPOEO

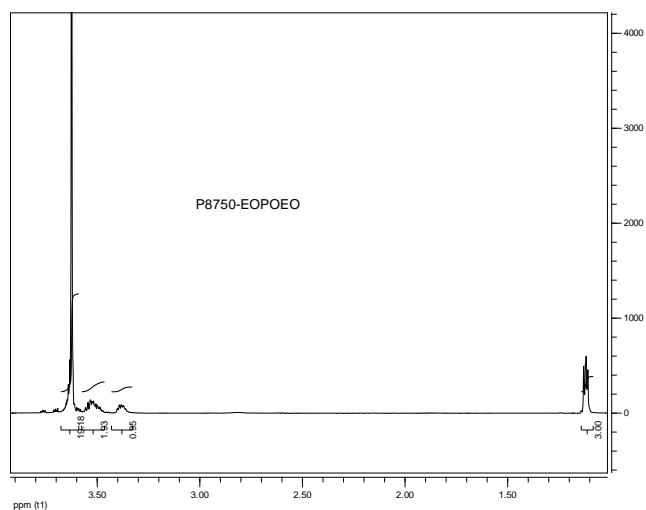


Size exclusion chromatography of:

(ethylene oxide-propylene oxide-ethylene oxide) triblock copolymer:

— Poly(propylene oxide) center block: $M_n=3100$, $M_w=3250$, $M_w/M_n=1.05$
 — Block Copolymer EO(5600)-b-PO(3100)-b-EO(5600), $M_w/M_n=1.18$

HNMR of the Polymer:



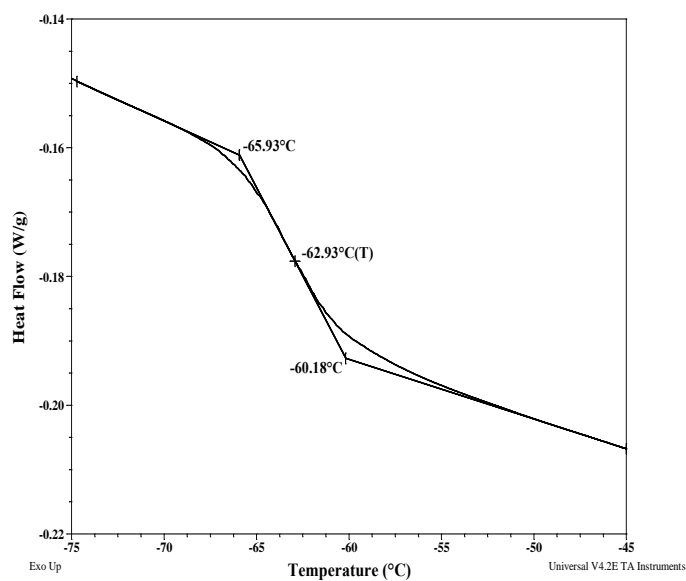
Thermal analysis of the sample# P8750-EOPOEO

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	57	27	-63
PO block		-	-63

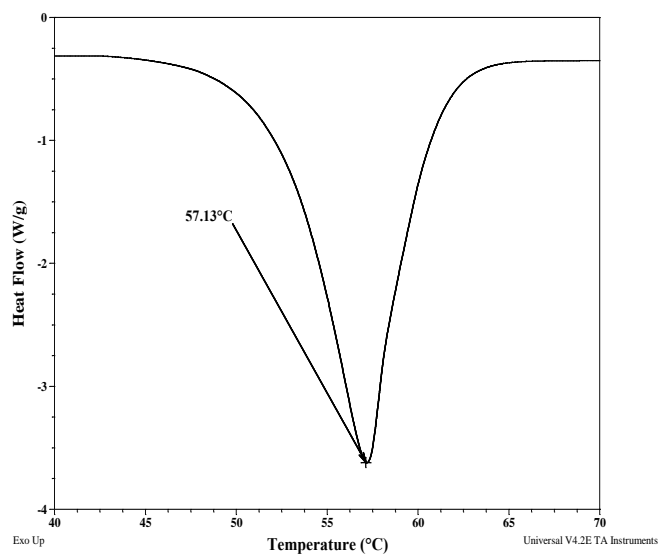
Typical thermogram for the PO-EO block



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:

