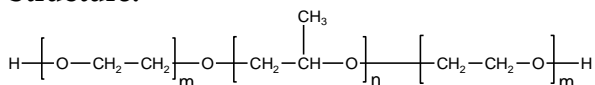


Sample Name:

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

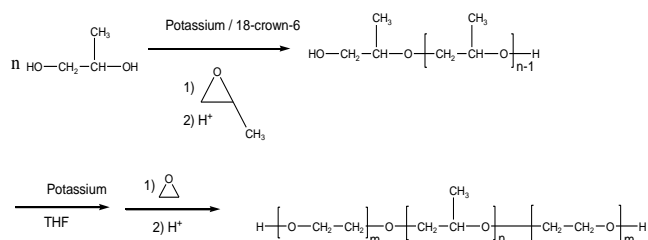
Sample #: P6071-EOPOEO

Structure:**Composition:**

$M_n \times 10^3$	PDI
2.2-b-1.8-b-2.2	1.10

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:**

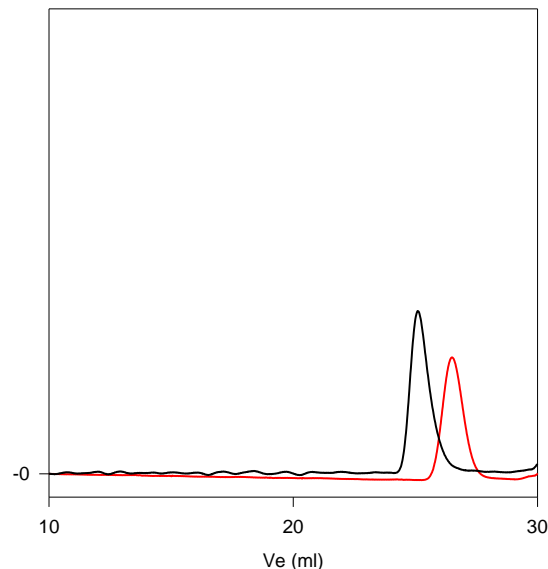
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

Solubility:

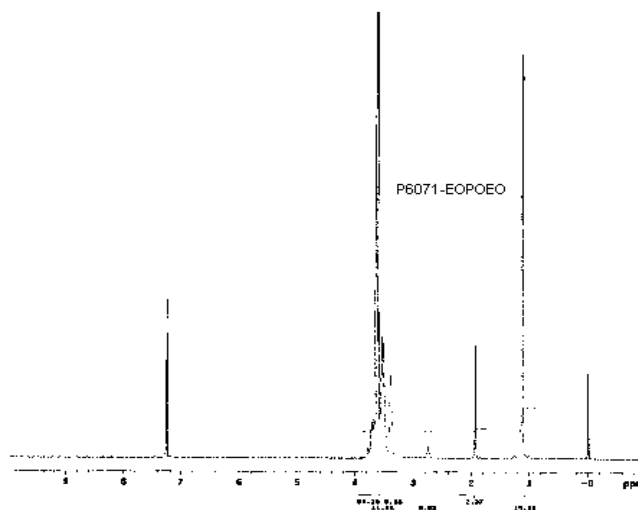
Polymer is soluble in THF, CHCl_3 , and toluene.

SEC of Sample:

P6071-EOPOEO



Size exclusion chromatography of:
(ethylene oxide-propylene oxide-ethylene oxide) triblock copolymer:
— Poly(propylene oxide) center block: $M_n=1850$, $M_w=2330$, $M_w/M_n=1.26$
— Block Copolymer EO(2200)-b-PO(1800)-b-EO(2200), $M_w/M_n=1.10$

 ^1H NMR of the Polymer:

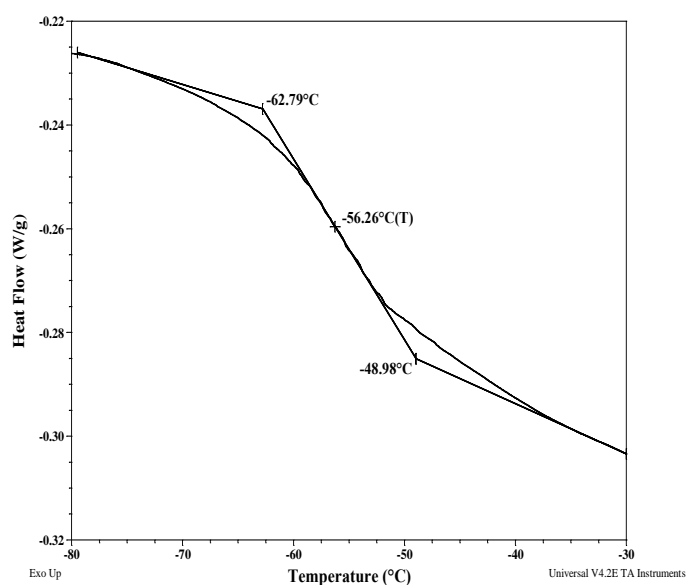
Thermal analysis of the sample# P6071-EOPOEO

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	39	3 & 17	-68
PO block		-	-68

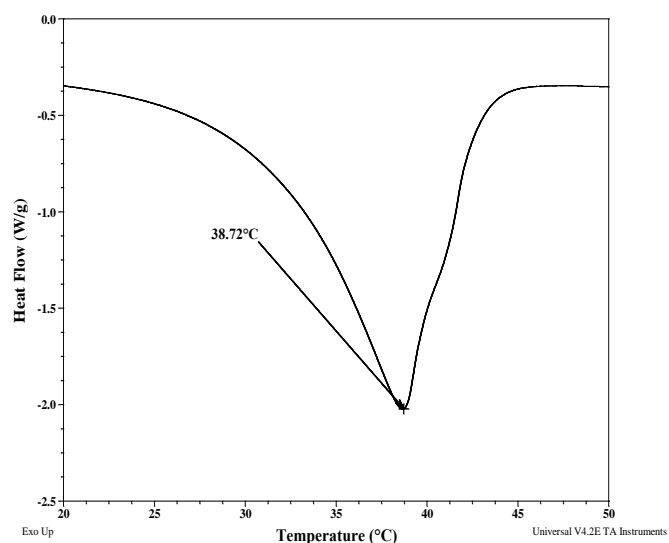
Typical thermogram for the PO-EO block



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:

