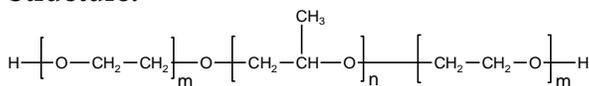


### Sample Name:

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

### Sample #: P6073-EOPOEO

### Structure:

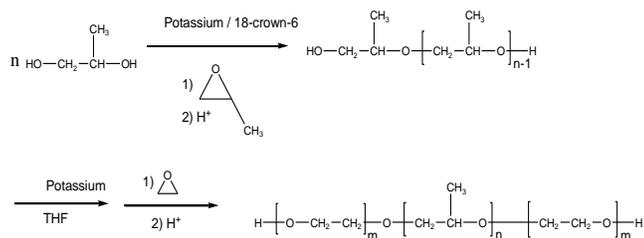


### Composition:

$M_n \times 10^3$	PDI
3.9-b-1.8-b-3.9	1.05

### 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:



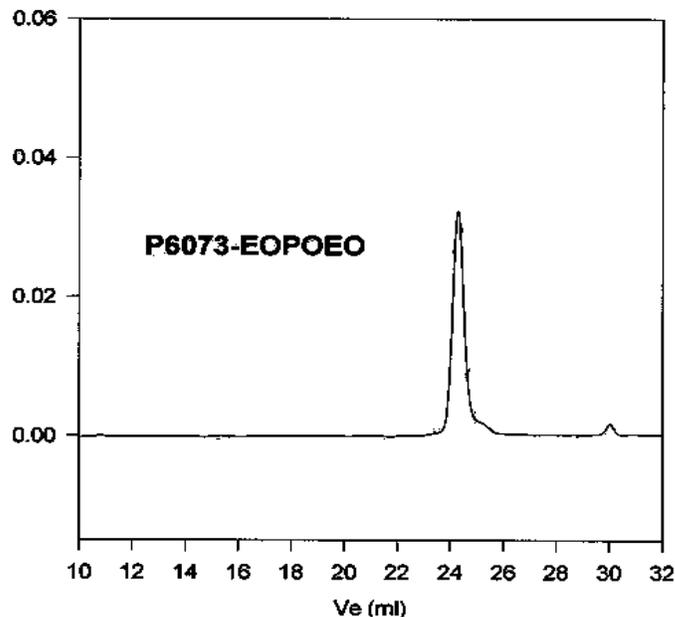
### Characterization:

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<sub>3</sub>, and toluene.

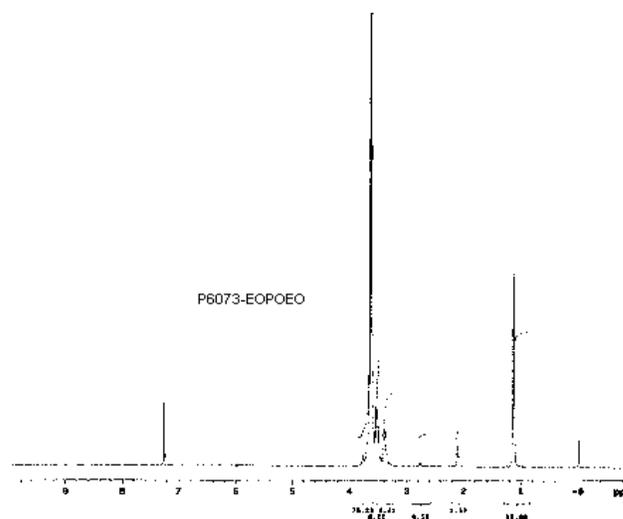
### SEC of Sample:



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

— PEO-b-PPO-b-PEO:  $M_n$  3900-1800-3900,  $M_w/M_n=1.05$

### <sup>1</sup>H NMR of the Polymer:



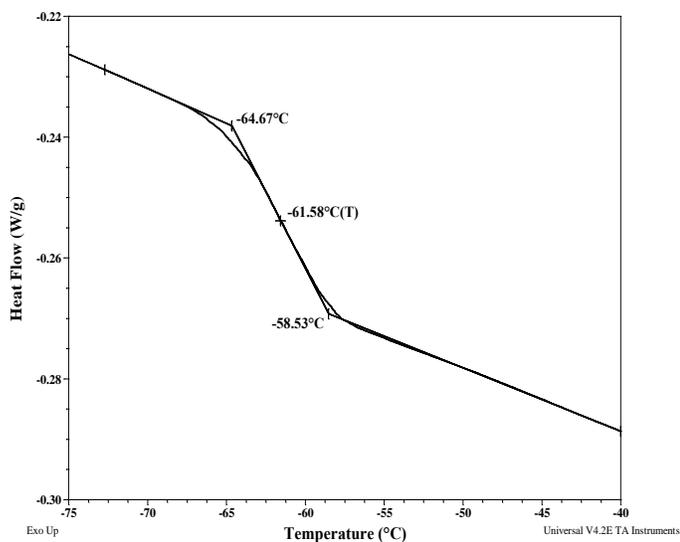
## Thermal analysis of the sample# P6073-EOPOEO

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	56	33	-62
PO block		-	-62

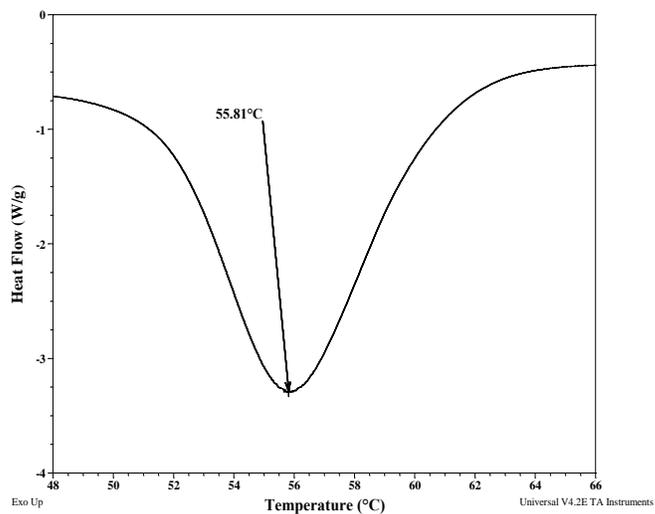
### Typical thermogram for the PO-EO block



## 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:

