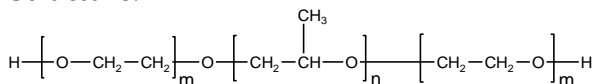


Sample Name:

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

Sample #: P9829-EOPOEO

Structure:



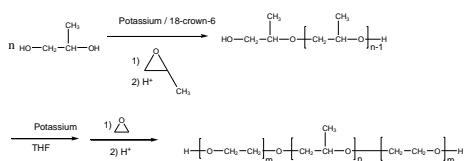
Composition:

| | |
|----------------------|------|
| Mn x 10 ³ | PDI |
| 0.6-b-0.3-b-0.6 | 1.10 |
| Dp: 14-b-5-b-14 | |

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:



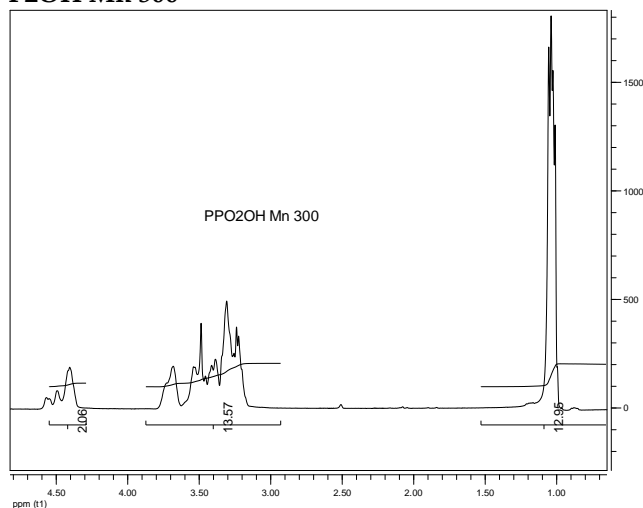
Characterization:

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.

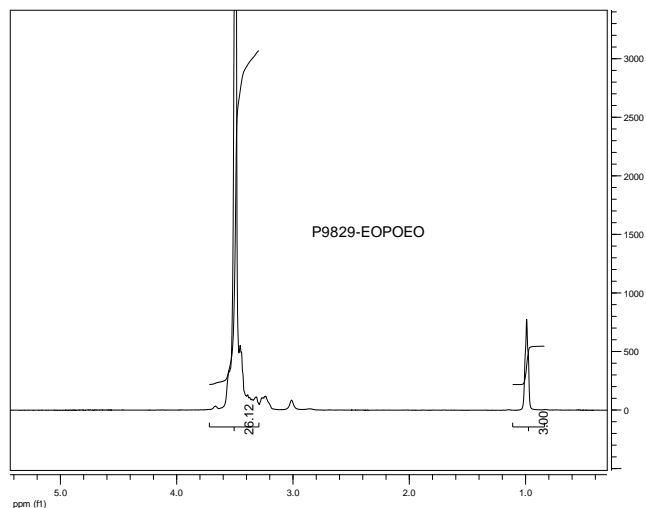
Solubility:

Polymer is soluble in THF, CHCl_3 , and toluene.

P2OH Mn 300

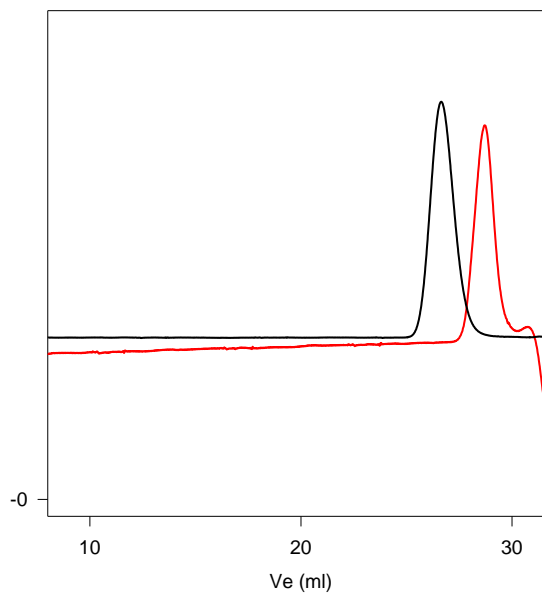


H NMR of the Polymer:



SEC of Sample:

P9829-EOPOEO



Size exclusion chromatography of:
(ethylene oxide-propylene oxide-ethylene oxide) triblock copolymer:

— Poly(propylene oxide) center block: $M_n=300$, $M_w=330$, $M_w/M_n=1.10$

— Block Copolymer EO(600)-b-PO(300)-b-EO(600), $M_w/M_n=1.10$

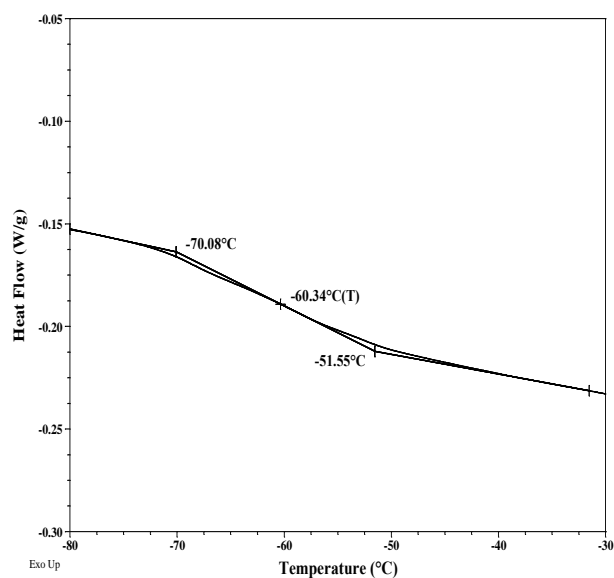
Thermal analysis of the sample# P9829-EOPOEO

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 | 35 | 09 | -60 |
| PO block | | - | - |

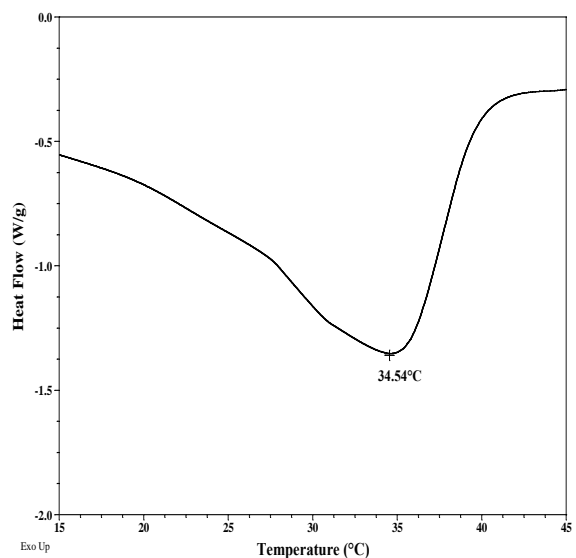
Typical thermogram for the PO-EO block



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:

