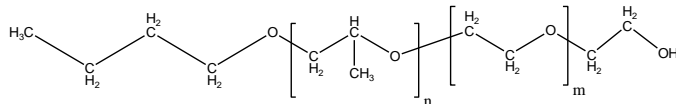


Sample Name:

Poly (propylene oxide-b-Ethylene oxide)

Sample #: **P10342-POEO**

Structure:

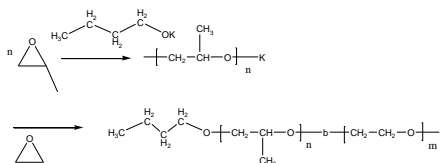


Composition:

Mn x 10 ³ PPO-b-PEO	PDI
3.5-b-4.0	1.13

Synthesis Procedure:

Poly(ethylene oxide -b- propylene oxide) is prepared by living anionic polymerization with sequence addition of ethylene oxide followed by propylene oxide or **vise versa depending on the chemical compositions**. The scheme of the reaction is illustrated below:



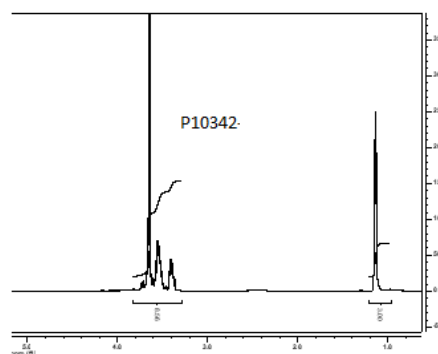
Characterization:

An aliquot of the anionic poly(ethylene oxide) block was terminated before addition of propylene oxide and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the ethylene oxide protons at about 3.6 ppm with the propylene oxide protons (CH(CH₃)) at about 1.08 ppm.

Solubility:

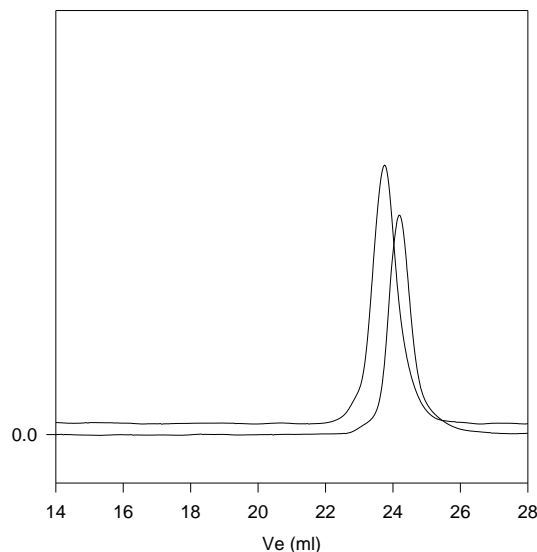
Poly(ethylene oxide -b- propylene oxide) is soluble in CHCl₃, THF and methanol ethanol. Precipitated pout from hexane and ether.

¹H-NMR spectrum of the polymer:



SEC profile of the block copolymer:

P10342-POEO



Size exclusion chromatography of poly(Popylene oxide-b-Ethylene Oxide):

— PPO Block M_n=3500, M_w=3950, PI=1.13

— 4lock Copolymer PPO(3500)-b-PEO(4000), PI=1.13