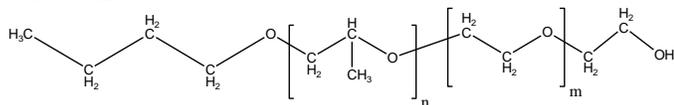


Sample Name:

**Poly (propylene oxide-b-Ethylene oxide)**

Sample #: **P10342-POEO**

Structure:

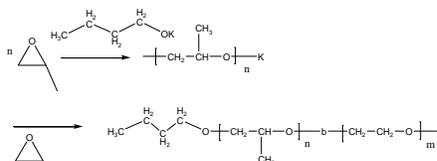


Composition:

Mn x 10 <sup>3</sup> 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 **visé versa depending on the chemical compositions**. The scheme of the reaction is illustrated below:



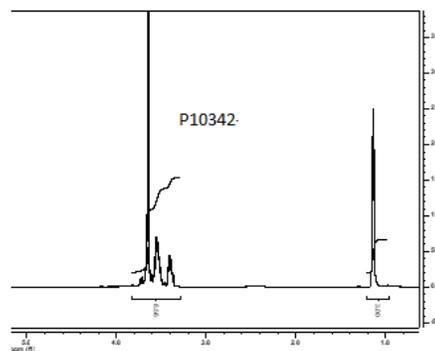
Characterization:

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 <sup>1</sup>H-NMR spectroscopy by comparing the peak area of the ethylene oxide protons at about 3.6 ppm with the propylene oxide protons (CH(CH<sub>3</sub>)) at about 1.08 ppm.

Solubility:

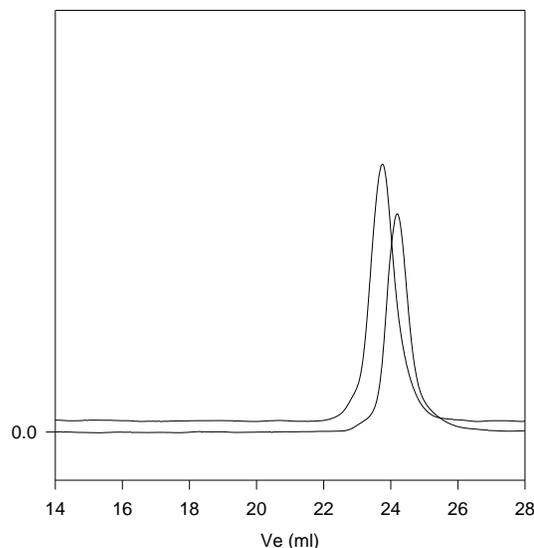
Poly(ethylene oxide -b- propylene oxide) is soluble in CHCl<sub>3</sub>, THF and methanol ethanol. Precipitated out from hexane and ether.

**<sup>1</sup>H-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<sub>n</sub>=3500, M<sub>w</sub>=3950, PI=1.13

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