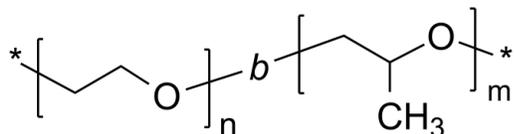


Sample Name:

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

Sample #: **P1960F-EOPO**

Structure:

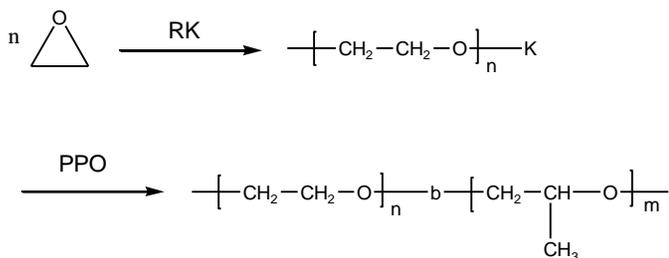


Composition:

$M_n \times 10^3$ (g/mol) [PEO- <i>b</i> -PPO]	$M_w/M_n$
13.8- <i>b</i> -3.5	1.13

Synthesis Procedure:

Poly(ethylene oxide-*b*-propylene oxide) diblock copolymer was prepared by living anionic polymerization. The scheme of reaction is shown below:



Characterization:

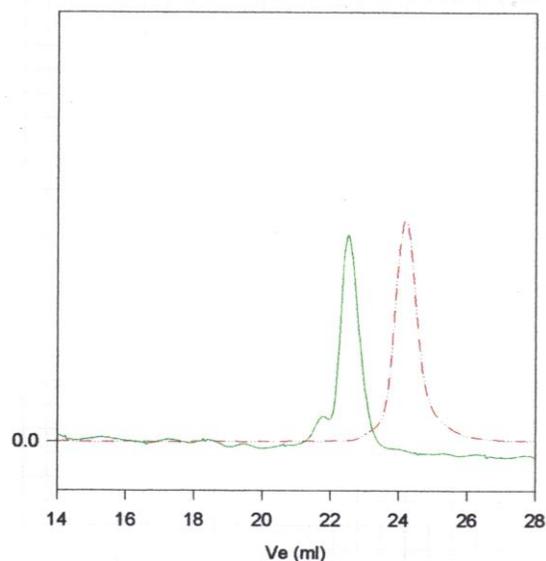
An aliquot of the anionic block was terminated and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight of the first block. The molecular weight of the second block was calculated from proton NMR spectroscopy by comparing the peak area of the ethylene oxide protons at ~3.6 ppm with the propylene oxide protons at ~1.08 ppm. The polydispersity of the final diblock copolymer was obtained by SEC.

Solubility:

Poly(ethylene oxide-*b*-propylene oxide) is soluble in chloroform, THF, methanol and ethanol. The polymer precipitates from hexane and ether.

**SEC chromatograms:**

**P1960<sub>F</sub>-EOPO**



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

--- PPO Block  $M_n=3500$ ,  $M_w=3950$ ,  $PI=1.13$

— Block Copolymer PPO(3500)-*b*-PEO(13800),  $PI=1.13$