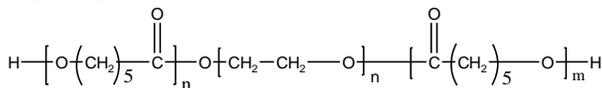


**Sample Name:**

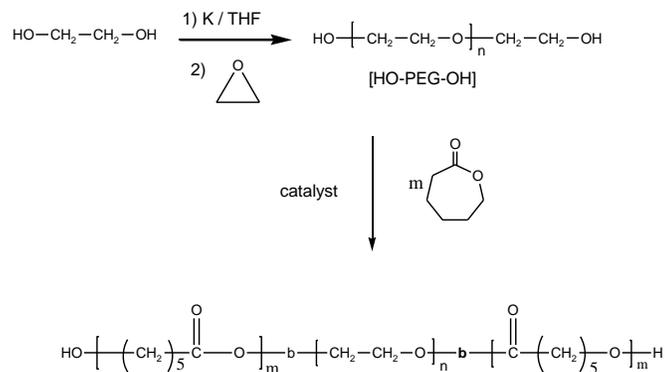
**Poly( $\epsilon$ -caprolactone - ethylene oxide -b-  $\epsilon$  - caprolactone)**

**Sample #: P10682- CLEOCL****Structure:****Composition:**

$M_n \times 10^3$ PCL-b-PEO-b-PCL	PDI
2.3-b-4.0-b-2.3	1.2

**Synthesis Procedure:**

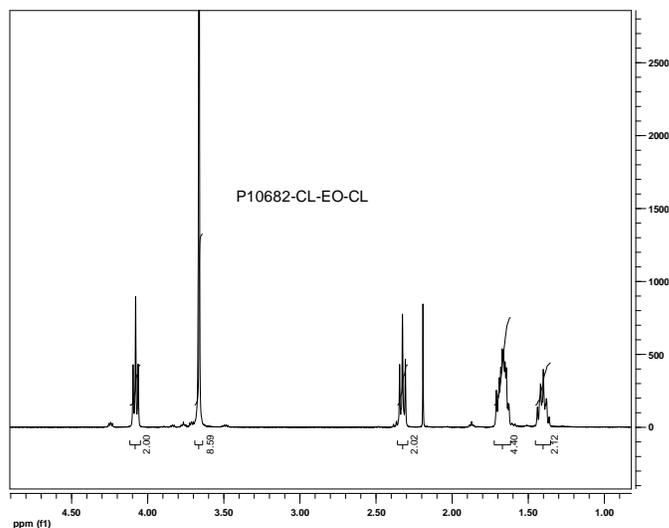
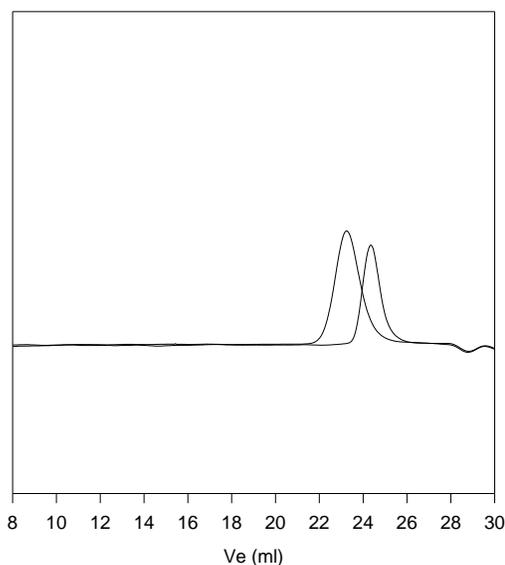
The polymer is prepared by living anionic polymerization of ethylene oxide and coordination polymerization of  $\epsilon$  - caprolactone. The scheme of the reaction is illustrated below:

**Characterization:**

An aliquot of the anionic poly(ethylene oxide) block was terminated before addition of caprolactone and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from  $^1\text{H-NMR}$  spectroscopy by comparing the peak area of the ethylene oxide protons at about 3.6 ppm with the  $\epsilon$  - caprolactone protons at about 4.1 ppm.

**Solubility:**

Poly( $\epsilon$  - caprolactone - ethylene oxide -b-  $\epsilon$  - caprolactone) is soluble in  $\text{CHCl}_3$ , THF, DMF, toluene and precipitated out from cold ethanol and diethyl ether.

 **$^1\text{H-NMR}$  Spectrum of the block copolymer:****SEC of the block copolymer:****P10682-CLEOCL**

Size exclusion chromatography:

- Poly(ethylene glycol) diol,  $M_n=4,000$ ,  $M_w=4,500$ ,  $PI=1.05$
- Block Copolymer PCL(2,300) -PEO(4,000)-b-PCL(2,300),  $PI=1.2$   
Composition from  $^1\text{H NMR}$