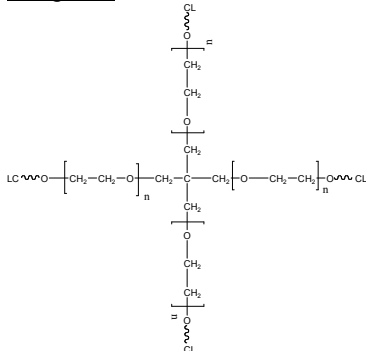
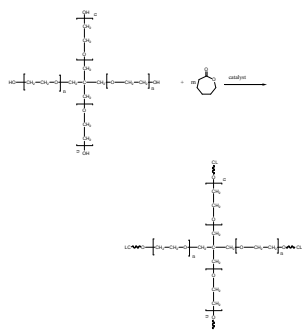


Sample #: P10517B-4EOCL



Mn x 10 ³ Total (branch)	PDI
0.32-b-0.90 Mn : (0.08-b-0.225)	1.15
Dp of each branch: EO-b-CL 2.0-b-2.0 (average)	

The polymer was prepared by ring opening polymerization of caprolacton using Tin octoate as the catalyst and pentaerthritol ethoxylate that bears Mn of 320. The scheme of the reaction is illustrated below:



Chemical shifts in DMSO

The chemical structure shows 1,2-bis(2-hydroxyethyl)ethane-1,2-dithiolane. The chemical shifts (in ppm) are indicated for various protons:

- Hydroxyl protons (H-O): 4.50 (top left), 4.5 (top right), 4.5 H-O (bottom left), 4.5 (bottom right)
- CH₂ protons adjacent to sulfur: 3.50 (top left), 3.50 (top right), 3.50 (bottom left), 3.50 (bottom right)
- CH₂ protons in the central chain: 3.29 (top center), 3.29 (top center), 3.29 (bottom center), 3.29 (bottom center)
- CH₂ protons adjacent to oxygen: 3.56 (top left), 3.56 (top right), 3.56 (bottom left), 3.56 (bottom right)

P10517B-4EOCL

Size Exclusion Chromatogram of core based on pentaerythritol ethoxylate

— $M_n=320$ $M_w=350$, $M_w/M_n=1.10$
 4EOCL : Mn 320-b-900 Mw/Mn 1.15
 Each branch Dp: 2-b-2.0

The Mn of the polymer is calculated from 1H-NMR spectroscopy by comparing the peak area of the core protons at about 3.6 ppm with the ϵ -caprolactone protons at about 4.1 ppm. Polydispersity is determined by size exclusion chromatography (SEC): Varian liquid chromatograph equipped with UV and refractive detector. SEC columns from Supelco were used with THF containing 2 vol% (Et)3N as the eluent.