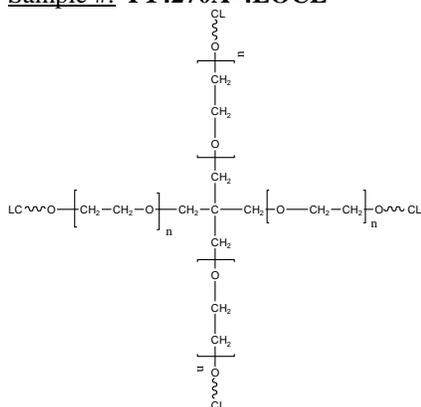


Sample Name:

Four arm Poly(ethylene oxide –b-ε-caprolactone)

Sample #: **P14270A-4EOCL**

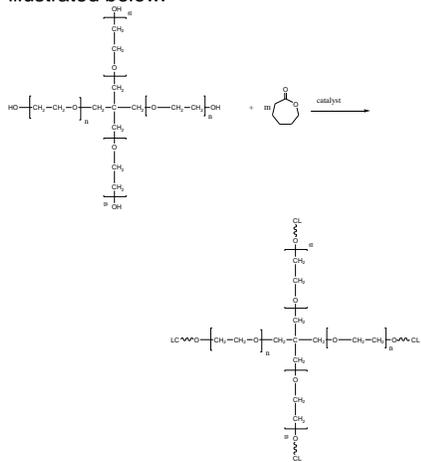


Composition:

| | |
|---|-------------------------------|
| Mn x 10 ³ Total (branch) | PDI |
| 0.22-b-1.6 | 1.15 |
| Dp of each branch: | EO-b-CL 1.0-b-1.0(average) |

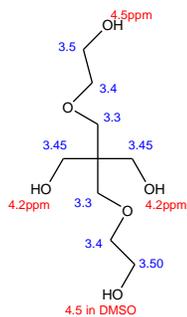
Synthesis Procedure:

The polymer was prepared by ring opening polymerization of caprolactone using Tin octoate as the catalyst and pentaerythritol ethoxylate that bears Mn of 224. The scheme of the reaction is illustrated below:

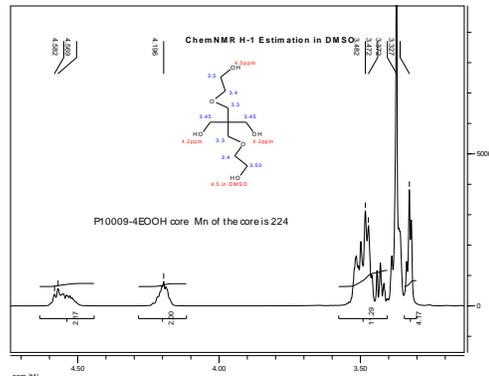


Characterization data for the core bearing Mn : 224

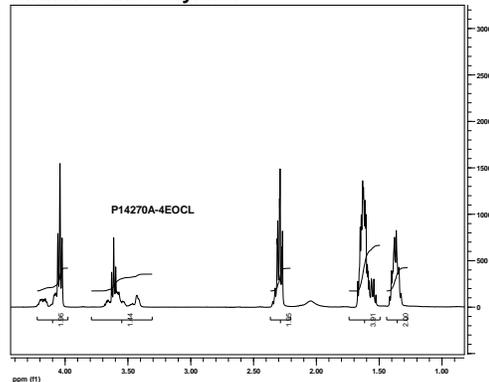
Chemical shifts of Core: Estimation in DMSO



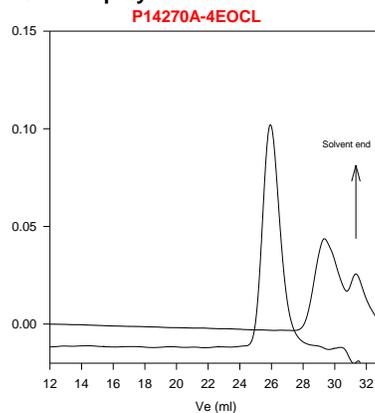
HNMR of the core:



HNMR of the Polymer:



SEC of the polymer:



Size Exclusion Chromatogram of core based on pentaerythritol ethoxylate

— M_n=224 M_w=250, M_w/M_n=1.10
4EOCL
Mn 224-b-1600 Mw/Mn 1.15

Characterization.

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.