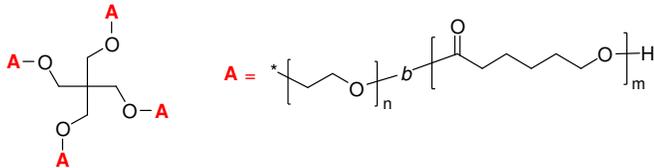


Sample Name:

Four-arm poly(ethylene oxide-*block*- ϵ -caprolactone) star polymer with pentaerythritol core

Sample # P3136-4EOCL

Structure:

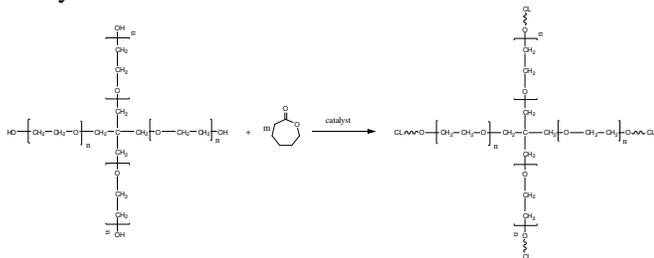


Composition:

$M_n \times 10^3$ (g/mol) of each PEO- <i>b</i> -PCL arm	M_w/M_n
2.5- <i>b</i> -2.7	1.19

Synthesis procedure:

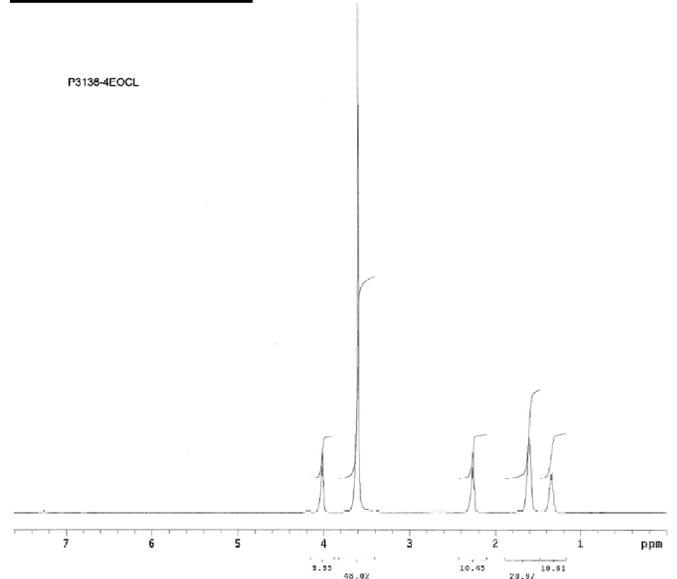
The polymer was prepared by ring opening polymerization of caprolactone using Tin octoate catalyst. The scheme of the reaction is shown below:



Characterization:

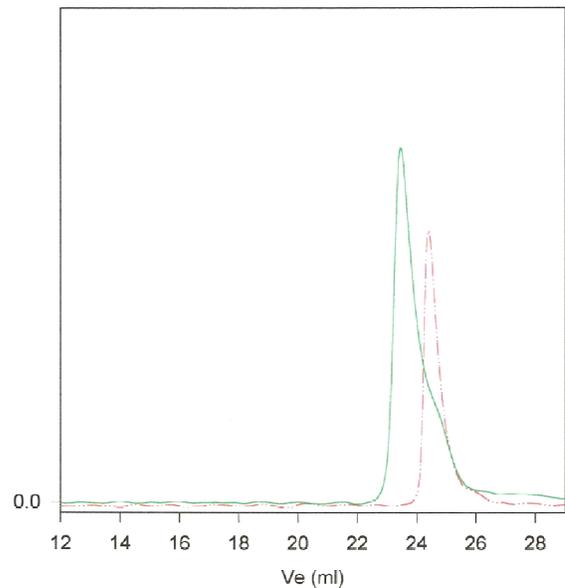
The molecular weight of the polymer was calculated by $^1\text{H-NMR}$ spectroscopy by comparing the integration of protons assigned to core (~ 3.6 ppm) and to ϵ -caprolactone (~ 4.1 ppm). Polydispersity index (M_w/M_n) was determined by size exclusion chromatography (SEC) on Varian liquid chromatograph equipped with triple detector, Supelco columns, and using THF (cont. 2 vol% Et_3N) as an eluent.

$^1\text{H NMR}$ spectrum:



SEC elugrams:

P3136- 4EO-CL



Size exclusion chromatography of Four arm block copolymer of Poly(ethylene oxide-*b*-caprolactone):

- Four arm Poly(ethylene oxide), $M_n=10000$, $M_w=10800$, $PI=1.08$
- Four arm Block Copolymer PEO(10000)-*b*-PCL(10800), M_w/M_n (PI)=1.19 Composition from $^1\text{H NMR}$
 M_n : of each Branch: PEO (2500) PCL(2700)