Sample Name:
Six arm Poly(ε-caprolactone)

Sample #: **P7174-6CL**
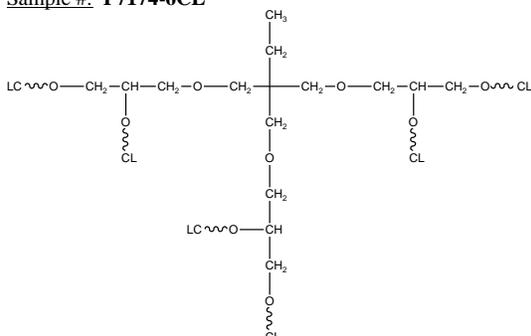
Mn x 10^3 (branch)	PDI
0.4 (Mn total 2400)	1.2

Synthesis Procedure:

The polymer was prepared by ring opening polymerization of caprolacton using Tin octoate as the catalyst and initiator bearing 6 OH groups, bears Mn of 380. The scheme of the reaction is illustrated below:
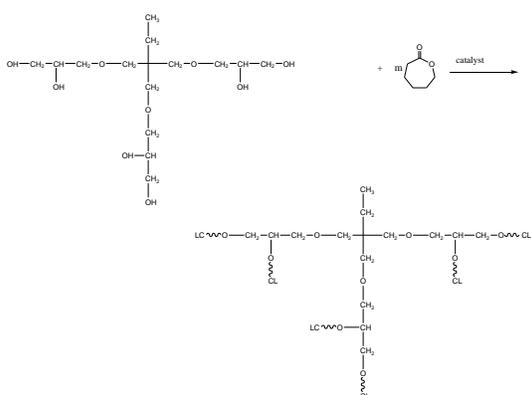

Characterization.

The Mn of the polymer is calculated from 1H-NMR spectroscopy by comparing the peak area of the core protons at about 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.

Solubility:

Polymer is soluble in toluene, THF, water and CHCl$_3$. The polymer is insoluble in hexane, ether, cold isopropanol and ethanol.

NMR of the product
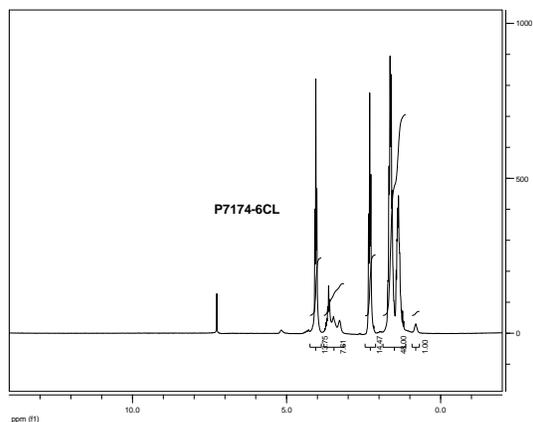
P7174-6CL

SEC of the product

P7174-6CL

Ve (ml)
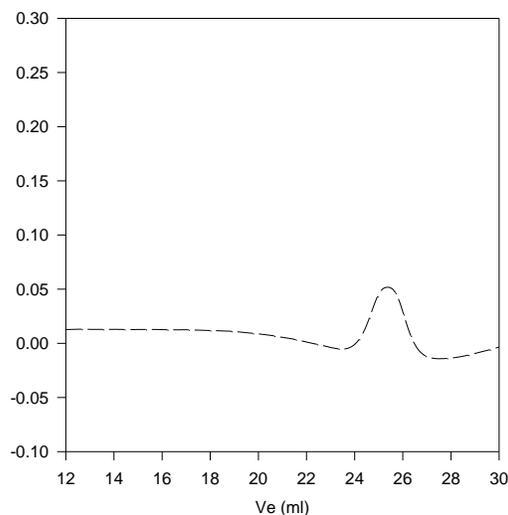
Size Exclusion Chromatogram of Six-Arm Poly(caprolactone)
Mn the core is 380

.... P7174-6CL: M$_n$=2400, M$_w$=2900, M$_w$/M$_n$=1.2
Core Mn 380