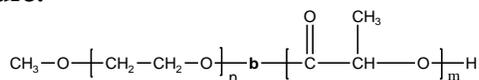


Sample Name:

Poly(ethylene oxide -b- lactide) (DL form)

Sample #: P9636-EOLA (DL form)

Structure:

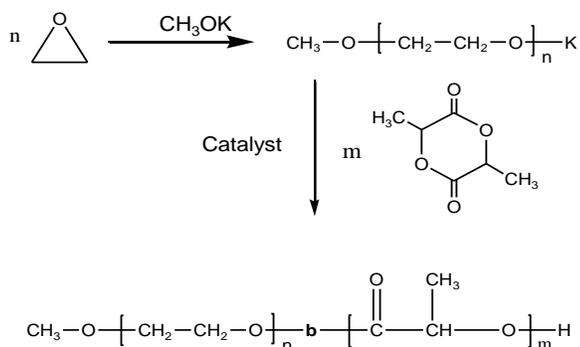


Composition:

| | |
|--------------------------------|------|
| $M_n \times 10^3$ PEO-b-PLA | PDI |
| 7.0-b-1.0 | 1.09 |

Synthesis Procedure:

Poly(ethylene oxide -b- lactide) is prepared by living anionic polymerization of ethylene oxide and coordination polymerization of lactide with Tin octoate as catalyst. The scheme of the reaction is illustrated below:



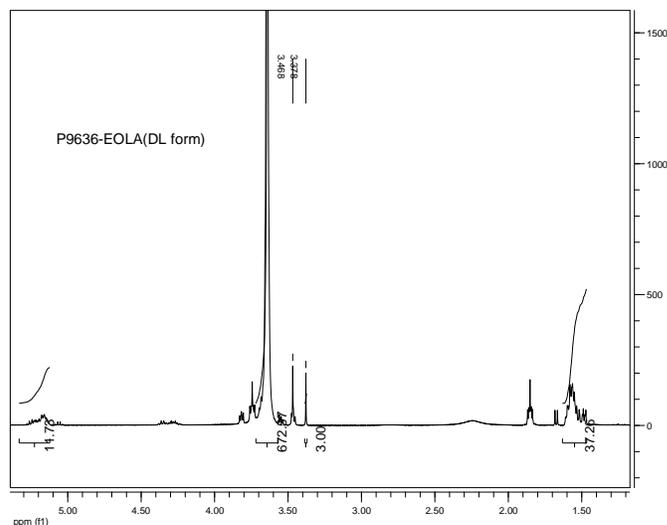
Characterization:

An aliquot of the anionic poly(ethylene oxide) block was terminated before addition of lactide 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 methoxyl protons of poly(ethylene oxide) at about 3.6 ppm with the polylactide protons at about 5.1 and 1.55 ppm.

Solubility:

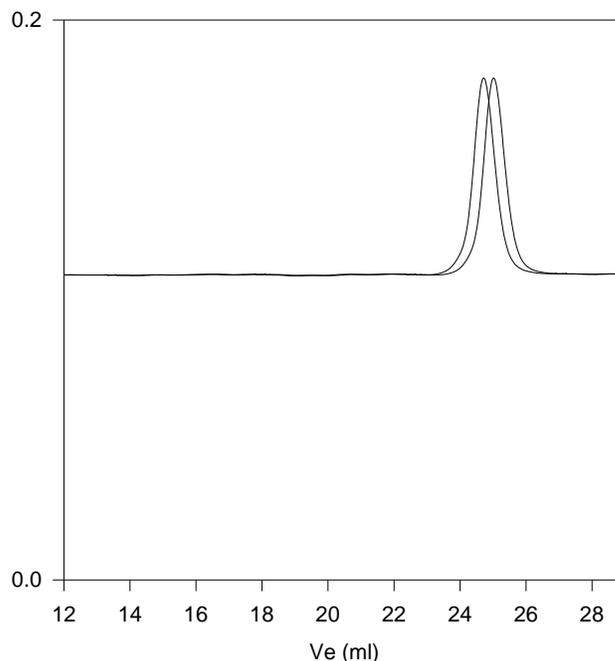
The polymer is soluble in chloroform, THF, DMF, toluene and precipitates from ethanol, ether and hexane.

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



SEC profile of the Polymer:

P9636- EOLA (DL form)



Size exclusion chromatography:

— Poly(ethylene glycol), $M_n=7000$, $M_w=7500$, $PI=1.08$

— Block Copolymer PEO(7000)-b-PLA(1000), $PI=1.09$
Composition from $^1\text{H-NMR}$