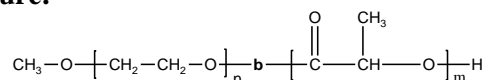


Sample Name:

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

Sample #: **P10895-EOLA (DL form)**

Structure:

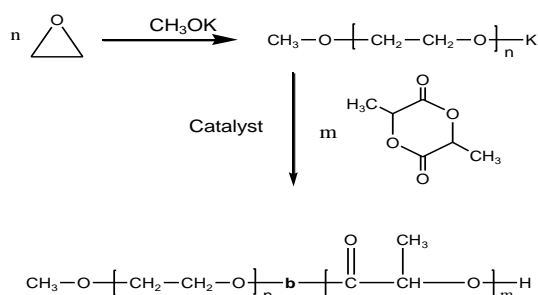


Composition:

Mn x 10 ³ PEO-b-PLA (DL)	PDI
2.0-b-41.0	1.3

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 and molecular weight was calculated from ¹H-NMR spectroscopy by comparing the peak area of the methoxyl protons of poly(ethylene oxide) at about a 3.6 ppm with the polylactide protons at about 5.1 and 1.55 ppm. The polydispersity index (PDI) of final block copolymer was obtained from SEC in THF.

Thermal analysis

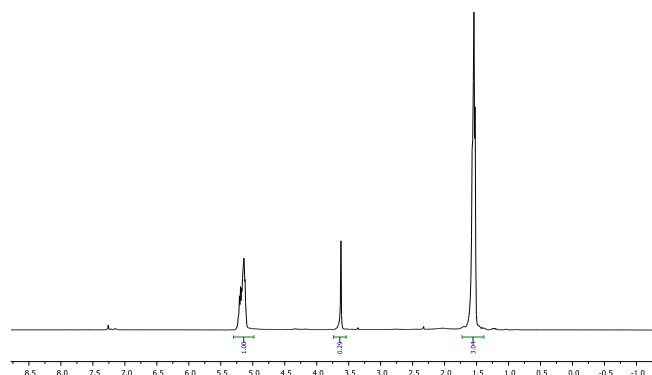
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 20°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

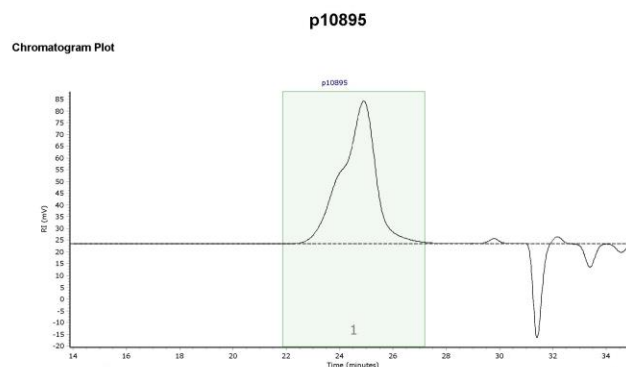
The polymer is soluble in chloroform, THF, DMF, toluene and precipitates from ethanol, ether and hexane.

¹H-NMR Spectrum of the block copolymer:

P10895



SEC elugram of the block copolymer:



Peak	Mn (g/mol)	Mw (g/mol)	PDI
Peak 1	43,000	55,500	1.3