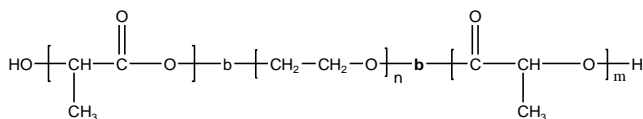


Sample Name:

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

Sample #: P7090-LAEOLA (DL form)

Structure:

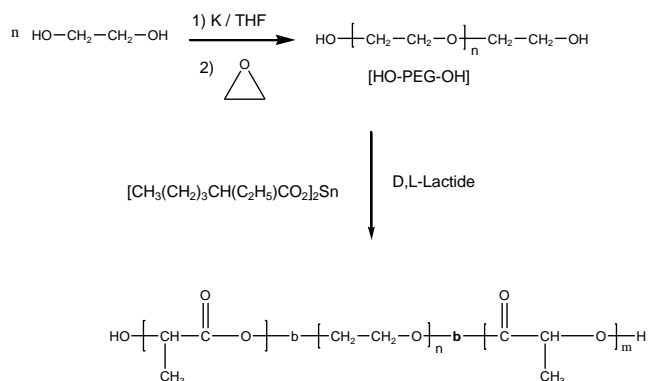


Composition:

Mn x 10 ³	PDI
1.4-1.2-1.4	1.09

Synthesis Procedure:

Poly(lactide -b- ethylene oxide -b- lactide) was prepared by of living anionic polymerization of ethylene oxide(EO) followed by living coordination polymerization of D,L-lactide(LA) using tin catalyst. The scheme of the reaction is illustrated below:



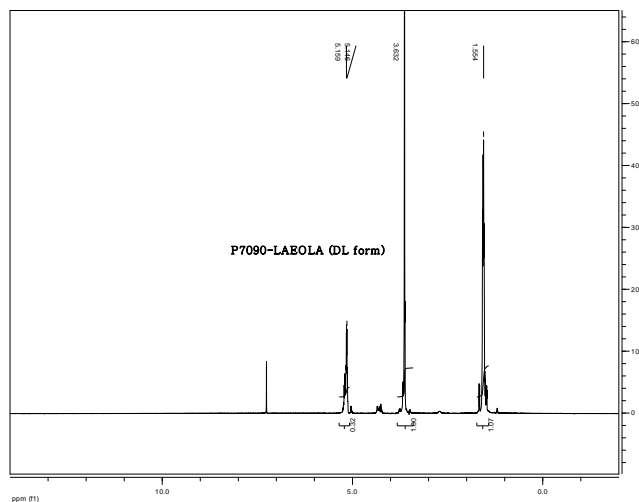
Characterization:

The molecular weight and polydispersity index of the poly(ethylene oxide) block was determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector. The composition of the lactide ABA triblock copolymer was determined using ^1H -NMR spectroscopy by comparing the integration of the lactide peaks (5.2ppm) with that of the ethylene oxide peaks (3.6ppm).

Solubility:

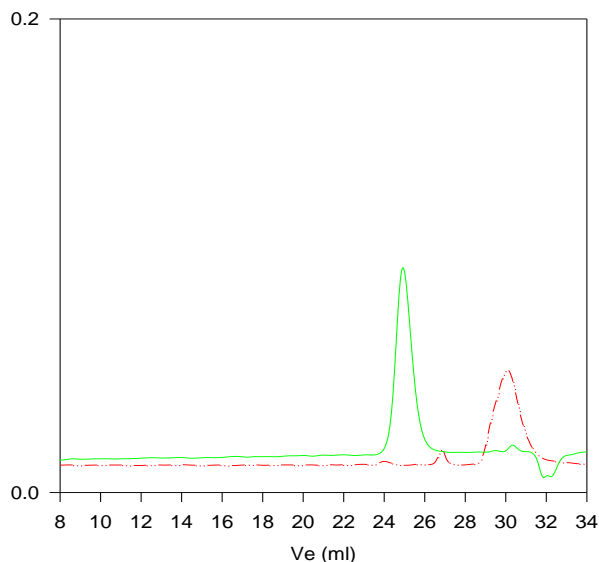
The polymer is soluble in THF, chloroform, DMF and toluene, however not soluble in hexane.

NMR of Sample:



SEC of Sample:

P7090- LAEOLA (DL form)



Size exclusion chromatography:

— · — · — Poly(ethylene glycol) diol, $M_n=1200$, $M_w=1400$, $PI=1.2$

Block Copolymer PLA(1400)-PEO(1200)-b-PLA(1400), PI=1.09

Composition from ^1H NMR

Dp: LA(19 units)-EO(27 units)-b-LA (19 units)

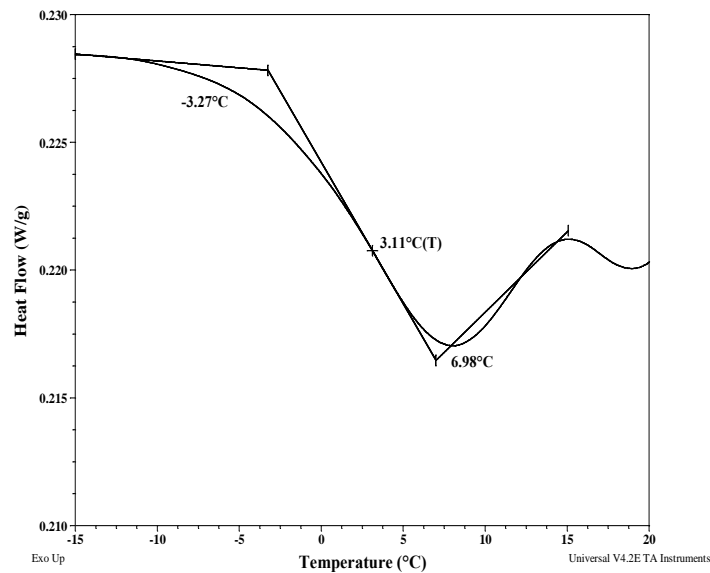
Thermal analysis of the sample# P7090-LAEOLA

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).

Thermal analysis results at a glance

For PLA block (DL)		
T_g : 03°C	T_m : Not found	T_c : Not found
For PEO block		
T_g : -31°C	T_m : Not found	T_c : Not found

Thermogram for PLA block:



For PEO block

