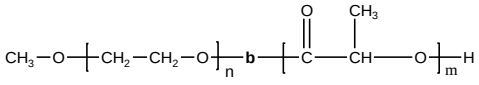
Sample Name:
Poly(ethylene oxide -b- lactide) (DL form)

Sample #: P7327-EOLA (DL form)

Structure:



Composition:

Mn x 10^3 PEO-b-PLA	PDI
10-b-8	1.10

Synthesis Procedure:

Poly(ethylene oxide -b- lactide) is prepared by living anionic polymerization of ethylene oxide and coordination polymerization of lactide.

Characterization:

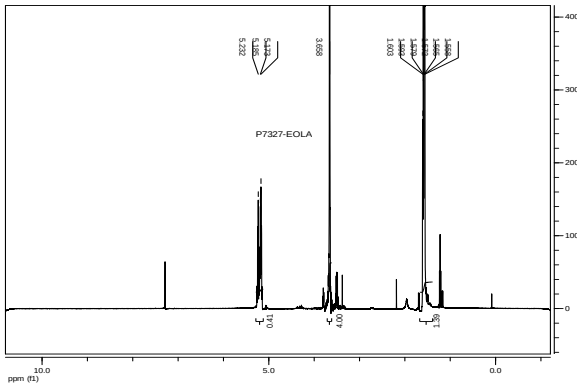
An aliquot of the anionic poly(ethylene oxide) block was terminated before addition of lactide and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ^{1}H-NMR spectroscopy by comparing the peak area of the methoxyl protons of poly(ethylene oxide) at about 3.6 ppm with the lactide protons at about 5.1 and 1.55 ppm.

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).

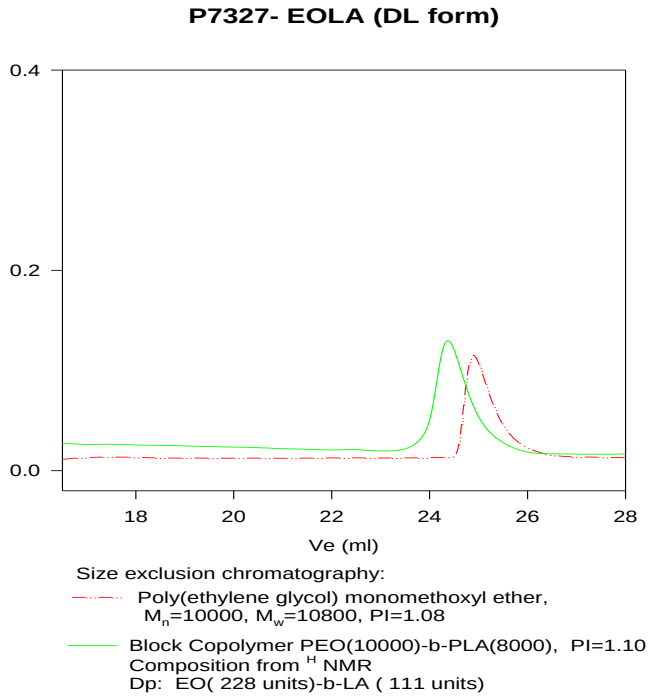
Solubility:

Poly(ethylene oxide -b- lactide) is soluble in chloroform, THF, DMF, toluene and precipitates from ethanol, ether and hexane.

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



SEC of the block copolymer:



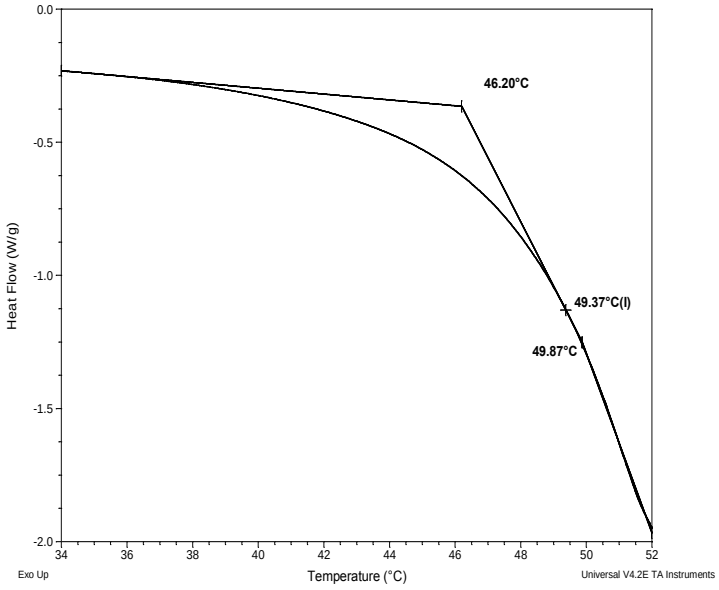
Thermal analysis of the sample# P7327-EOLA

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 20^{o}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).

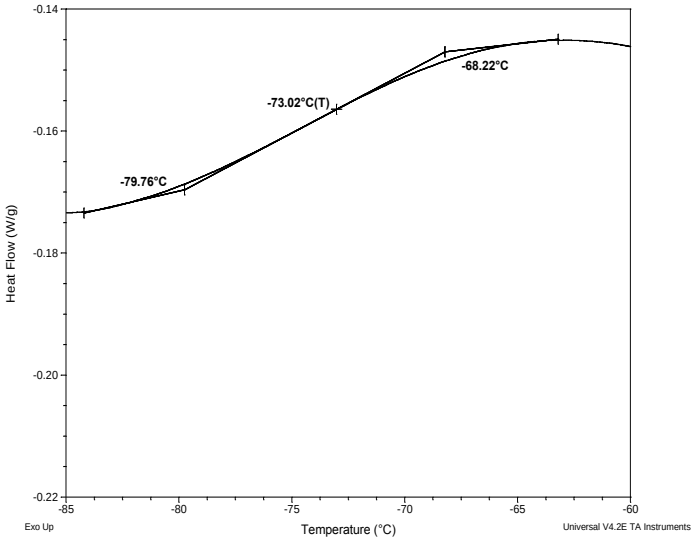
Thermal analysis results at a glance

For PLA block		
T_g: 49^{o}C	T_m: Not found	T_c: Not found
For PEO block		
T_g: -73^{o}C	T_m: Not observed	T_c: -17^{o}C

Thermogram for PLA block:



Thermogram for PEO block



Crystallization curve for the sample

The crystallization temperature (T_c) was considered as the minimum of the exothermic peak.

Crystallization curve for PEO block: