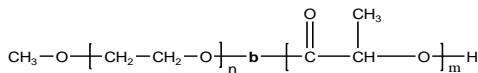


Sample Name:

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

Sample #: **P5116-EOLA (DL form)**

Structure:



Composition:

Mn x 10 ³ PEO-b-PLA	PDI
0.7-b-3.9	1.15
T _g for PLA block :	47°C
T _c for PLA block :	38°C

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.

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 ¹H-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.

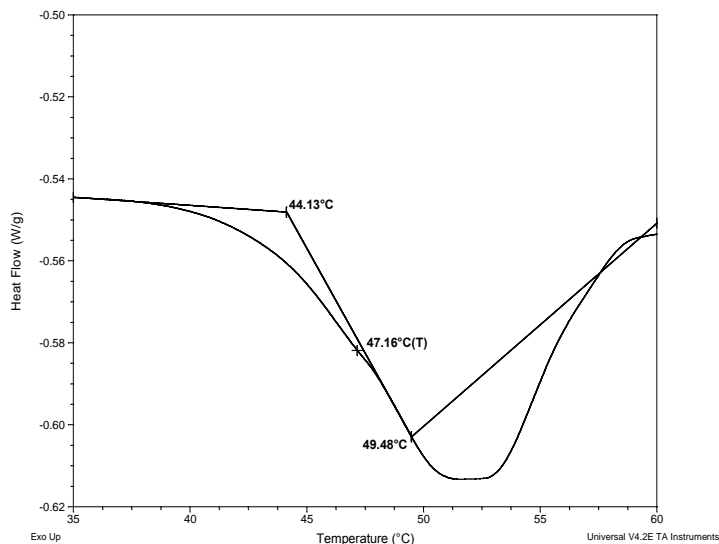
Thermal analysis:

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°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:

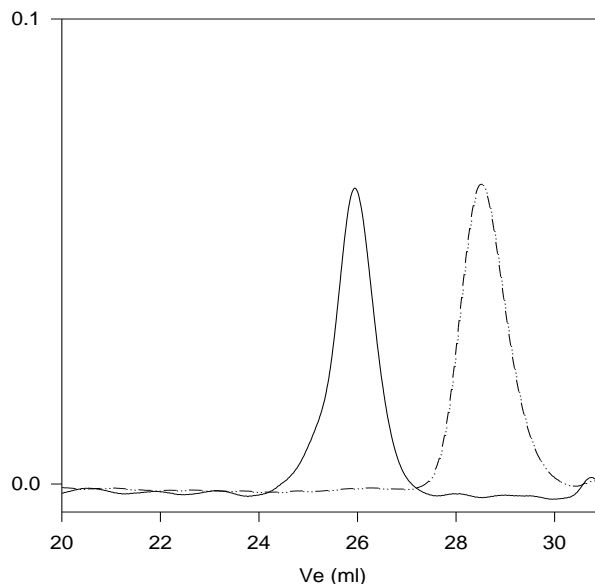
The polymer is soluble in chloroform, THF, DMF, toluene and precipitates from ethanol, ether and hexane.

Thermogram for PLA block:



SEC of the block copolymer:

P5116- EOLA (DL -lactide)



Size exclusion chromatography:

--- Poly(ethylene oxide), M_n=700, M_w=760, PI=1.09
(By SEC Mn 750)

Crystallization curve for PLA block:

