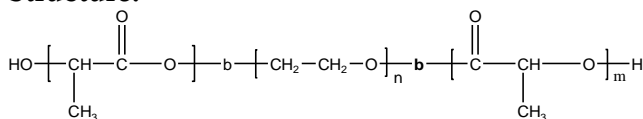


Sample Name:

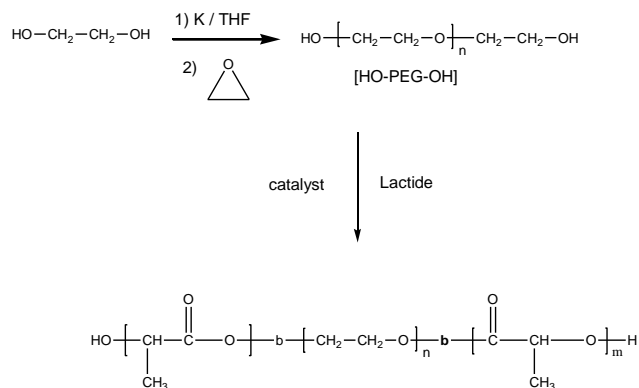
Poly(lactide -b- ethylene oxide -b- lactide) (DL form)

Sample #: P7200-LAEOLA (DL form)**Structure:****Composition:**

| | |
|-------------------|------|
| $M_n \times 10^3$ | PDI |
| 0.9-2.0-0.9 | 1.06 |

Synthesis Procedure:

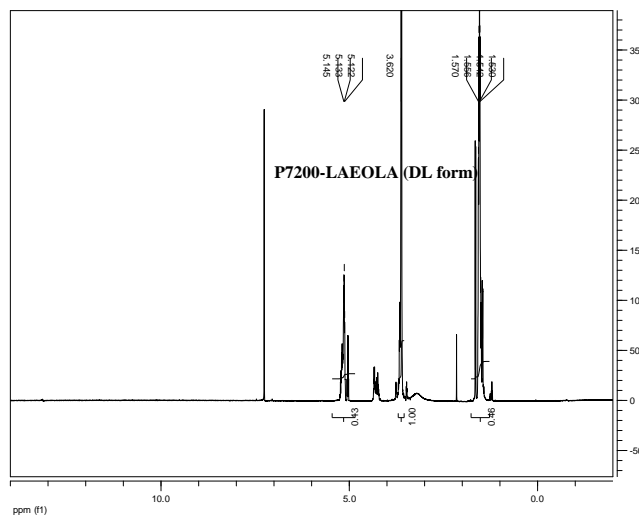
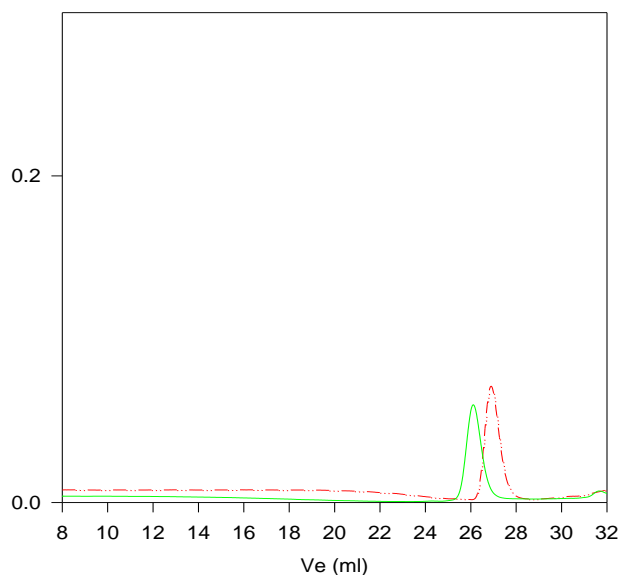
Poly(lactide -b- ethylene oxide -b- lactide) was prepared by living anionic polymerization of ethylene oxide (EO) followed by living coordination polymerization of D,L-lactide (LA) using tin catalyst. The scheme of the reaction is illustrated below:

**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, not soluble in hexane.

NMR of Sample:**SEC of Sample:****P7200- LAEOLA (DL form)**

Size exclusion chromatography:

--- Poly(ethylene glycol) diol, $M_n=2000$, $M_w=2100$, $PI=1.04$

— Block Copolymer PLA(880)-PEO(2000)-b-PLA(880), $PI=1.06$

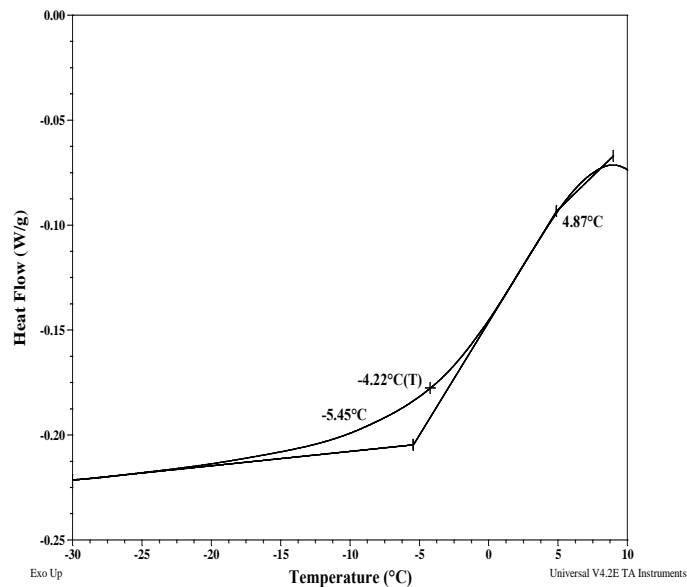
Composition from ^1H NMR

Dp: LA(13 units)-EO(45 units)-b-LA (13 units)

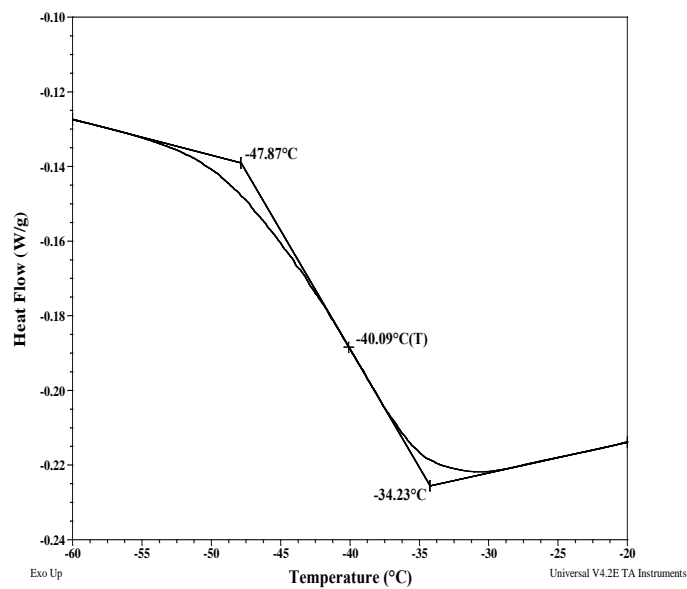
Thermal analysis of the sample# P7200-LAEOLA

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).

Thermograms for PLA block:



Thermograms for PEO block



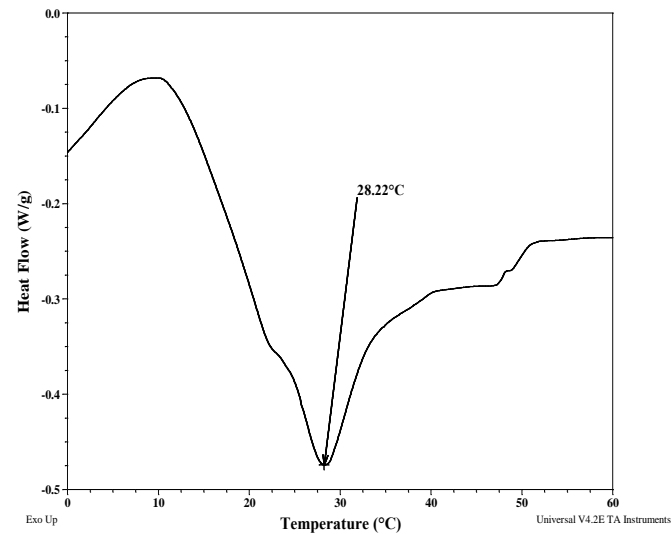
Melting and crystallization curve for the sample

The melting temperature (T_m) was taken as the maximum of the endothermic peak where as the crystallization temperature (T_c) was considered as the minimum of the exothermic peak.

Thermal analysis results at a glance

| For PLA block (DL) | | |
|--------------------|--------------|--------------|
| T_g : -04°C | T_m : - | T_c : - |
| For PEO block | | |
| T_g : -40°C | T_m : 28°C | T_c : 16°C |

Melting curve for PEO block



Crystallization curve For PEO block

