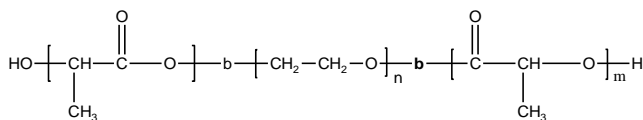


Sample Name:

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

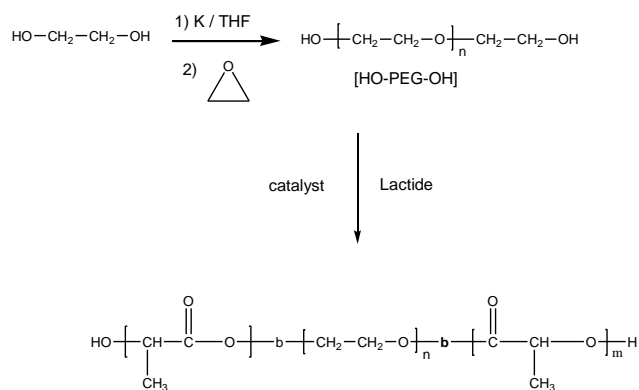
Sample #: P7333-LAEOLA (DL form)

Structure:**Composition:**

| | |
|-------------------|------|
| $M_n \times 10^3$ | PDI |
| 4.8-10-4.8 | 1.08 |

Synthesis Procedure:

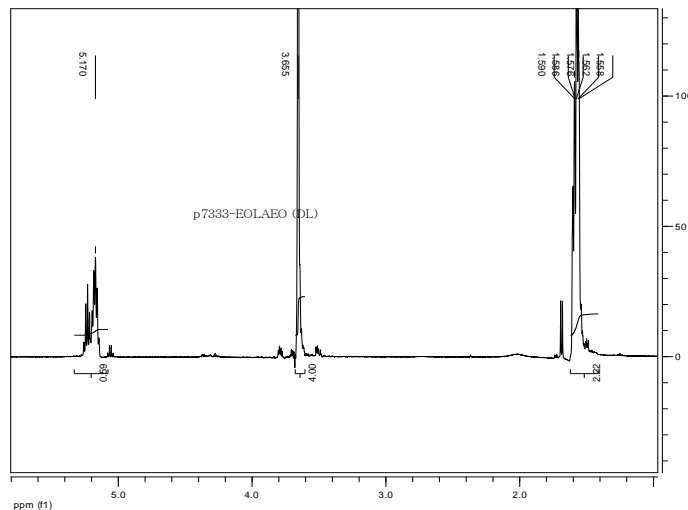
Poly(lactide-b-ethylene oxide-b-lactide) was prepared by of living anionic polymerization of ethylene oxide (EO) followed by living coordination polymerization of D,L-lactide (LA) using tin catalyst. The scheme of the reaction is illustrated below:

**Characterization:**

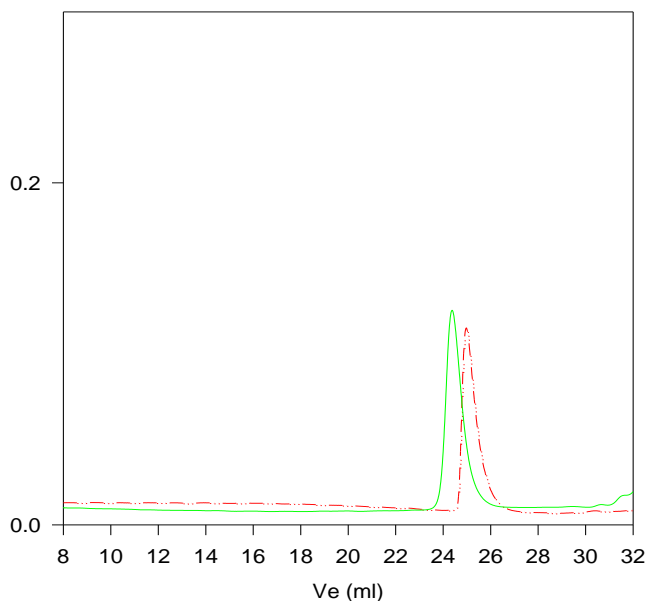
The molecular weight and polydispersity index of the poly(ethylene oxide) block was determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector. The composition of the lactide ABA triblock copolymer was determined using ^1H -NMR 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, but not soluble in hexane.

NMR of Sample:**SEC of Sample:**

P7333- LAEOLA (DL form)



Size exclusion chromatography:

- Poly(ethylene glycol) diol, $M_n=10000$, $M_w=10600$, $PI=1.05$
 - Block Copolymer PLA(4800)-PEO(10000)-b-PLA(4800), F
- Composition from ^1H NMR
Dp: LA(67 units)-b-EO(228 units)-b-LA (67units)

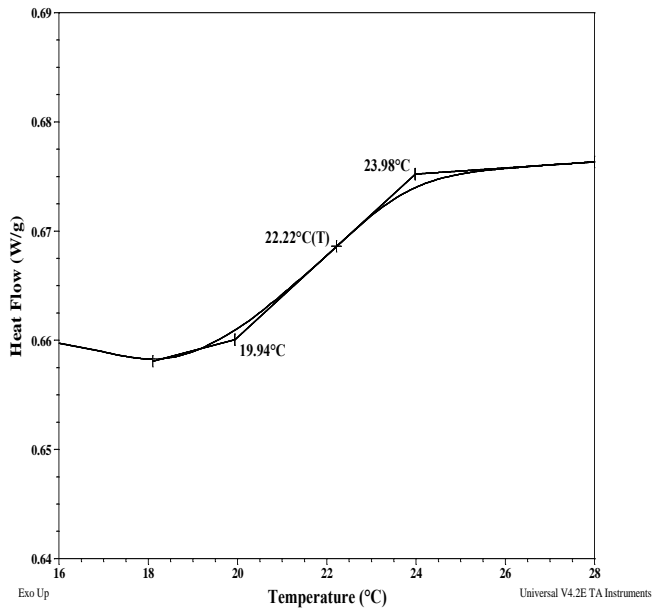
Thermal analysis of the sample# P7333-LAEOLA

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).

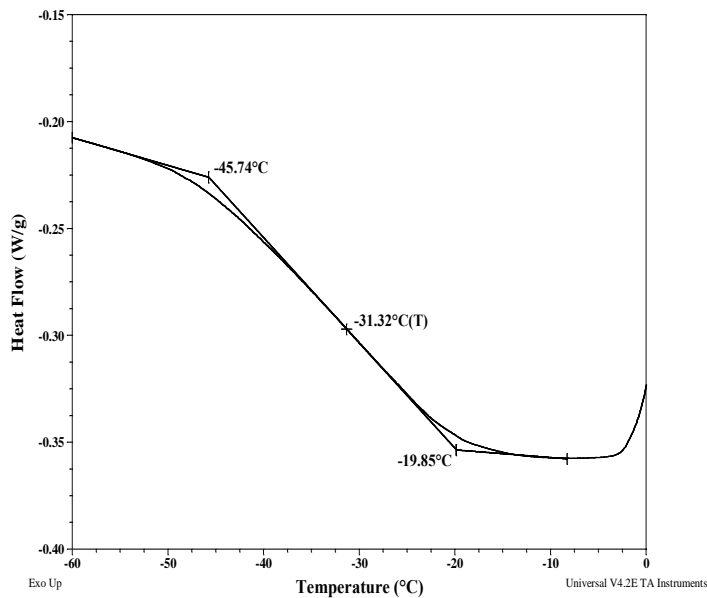
Thermal analysis results at a glance

| For PLA block (DL) | | |
|--------------------|--------------|--------------|
| T_g : 22°C | T_m : - | T_c : - |
| For PEO block | | |
| T_g : -31°C | T_m : 50°C | T_c : 09°C |

Thermogram for PLA block:



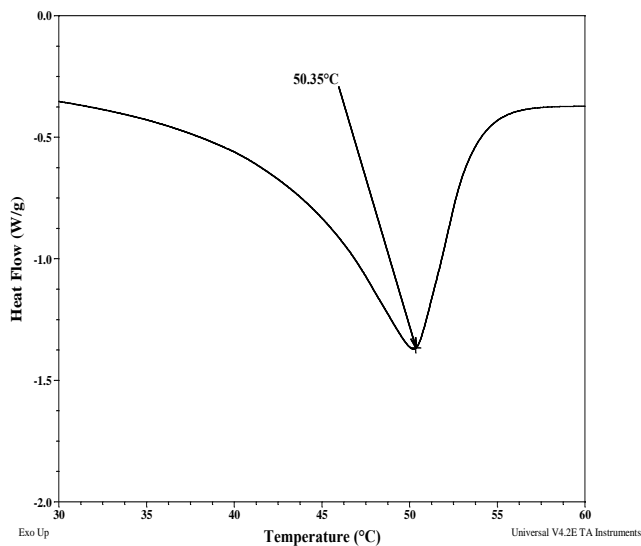
For PEO block



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.

Melting curve for PEO block



Crystallization curve For PEO block

