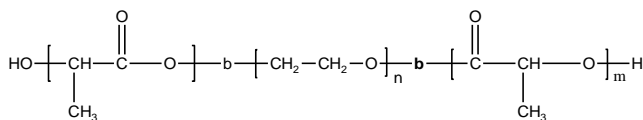


Sample Name:

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

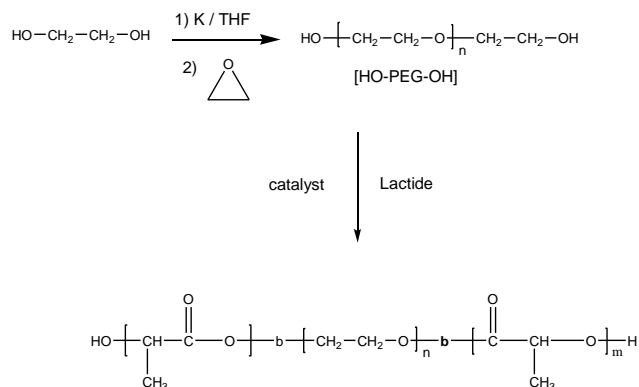
Sample #: P8479-LAEOLA (DL form)

Structure:**Composition:**

$M_n \times 10^3$	PDI
1.3-b-8.0-b-1.3	1.06

Synthesis Procedure:

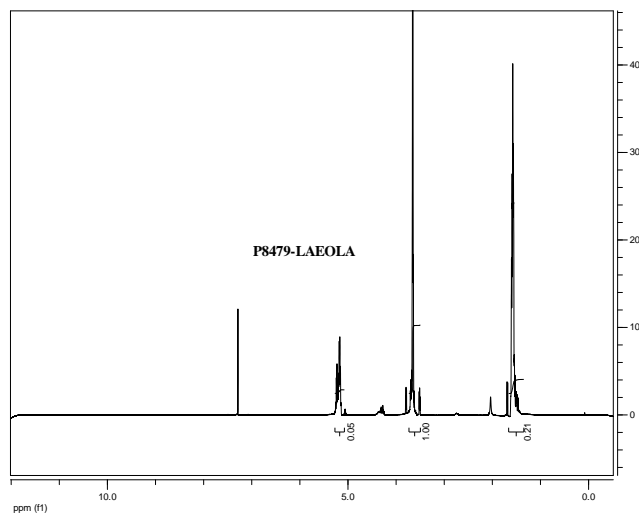
Poly(lactide -b-ethylene oxide -b-lactide) was prepared by of living anionic polymerization of ethylene oxide (EO) followed by living coordination polymerization of D,L-lactide (LA) using tin catalyst. The scheme of the reaction is illustrated below:

**Characterization:**

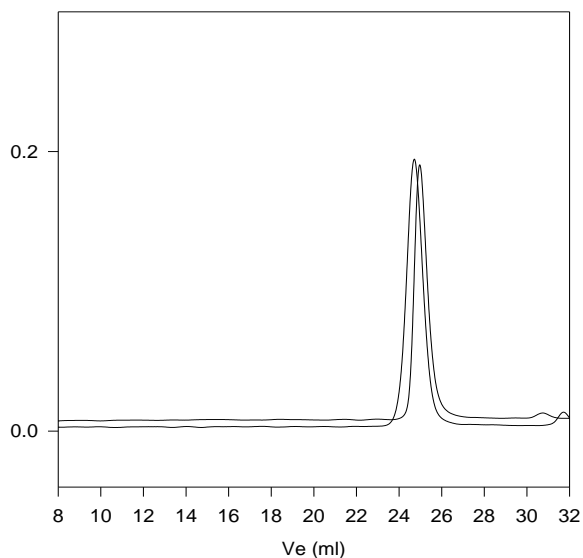
The molecular weight and polydispersity index of the poly(ethylene oxide) block was determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector. The composition of the lactide ABA triblock copolymer was determined using ^1H -NMR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

P8479- LAEOLA (DL form)



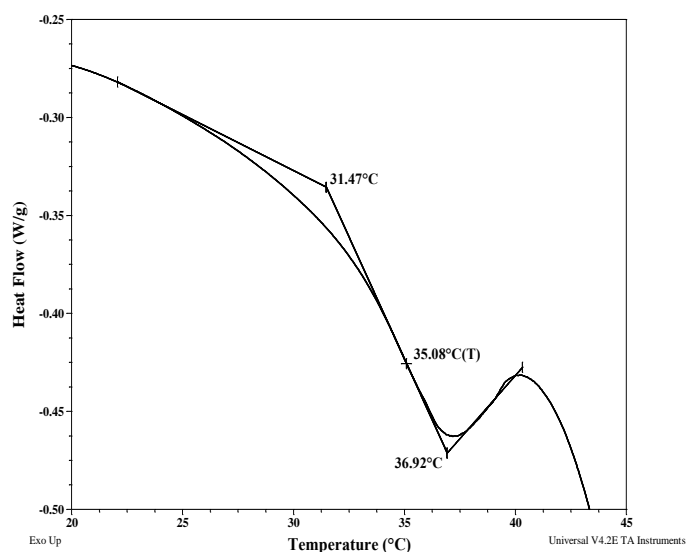
Size exclusion chromatography:

- Poly(ethylene glycol) diol, $M_n=8000$, $M_w=8400$, $PI=1.05$
 - Block Copolymer PLA(1300)-PEO(8000)-b-PLA(1300), $PI=1.06$
- Composition from ^1H NMR
Dp: LA(18)-EO(182)-b-LA(18)

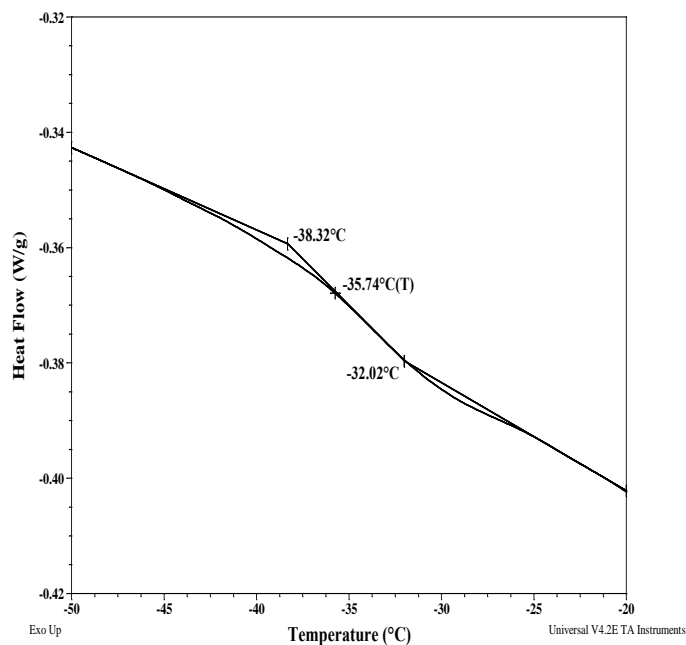
Thermal analysis of the sample# P8479-LAEOLA

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).

For PLA block



For PEO block



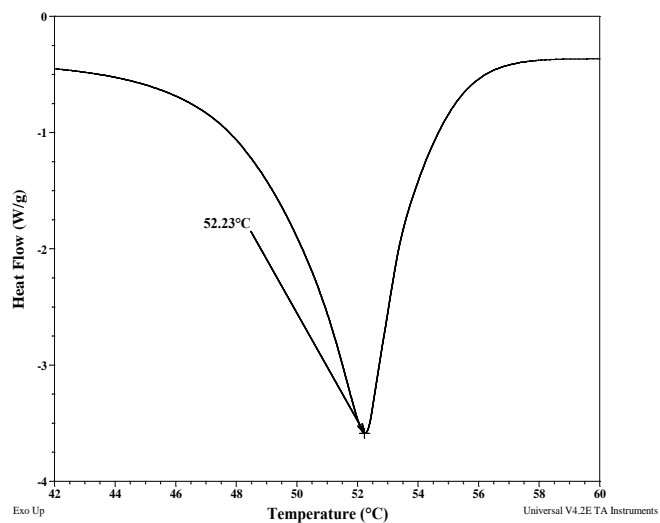
Thermal analysis results at a glance

For PLA block (DL)		
T_g : 35°C	T_m : -	T_c : -
For PEO block		
T_g : -36°C	T_m : 52°C	T_c : 22°C

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

