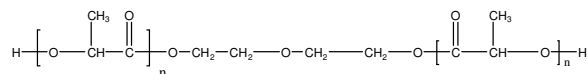


Sample Name: Polylactide dihydroxy end functionalized

Sample #: P8987-LA2OH (D-Form)

Structure:

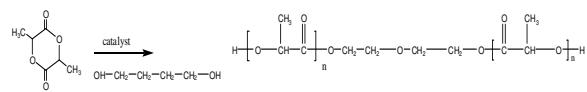


Composition:

$M_n \times 10^3$	PDI
25.0	1.07

Synthesis Procedure:

The polymerization of (D+) 3, 6-dimethyl-1,4-dioxane-2,5-dione was initiated with tin octoate catalyst and the reaction was carried out in apolar solvent.



Purification:

Polymer was precipitated employing a large excess of hexane. The polymer was further dissolved in chloroform; filtered and precipitated in ethanol/hexane mixture.

Characterization:

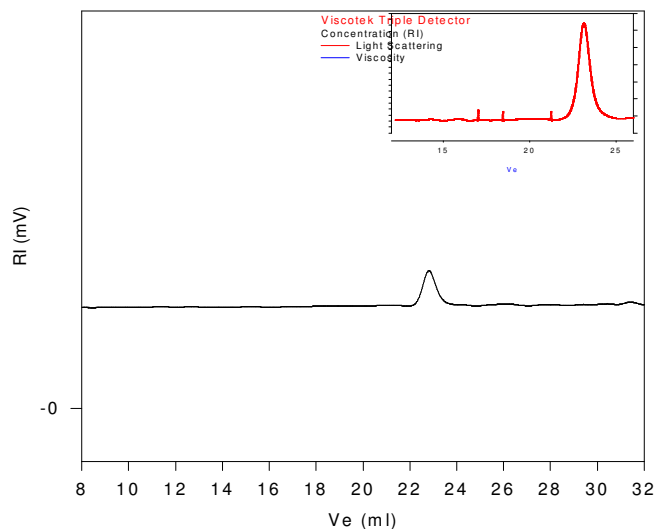
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple detectors from Viscotek Co.

Solubility:

Polymer is soluble in CHCl_3 and CH_2Cl_2 . The polymer is insoluble in methanol, hexane and ether.

SEC of Homopolymer:

P8987-LA(D form)



Size Exclusion Chromatography of Polymer;

$M_n = 25000$, $M_w = 26700$, $M_w/M_n = 1.07$
Solution Viscosity in THF at 35 °C: 0.597/g
 dn/dc in THF at 35 °C: 0.046 ml/g
Rgw: 8.46nm

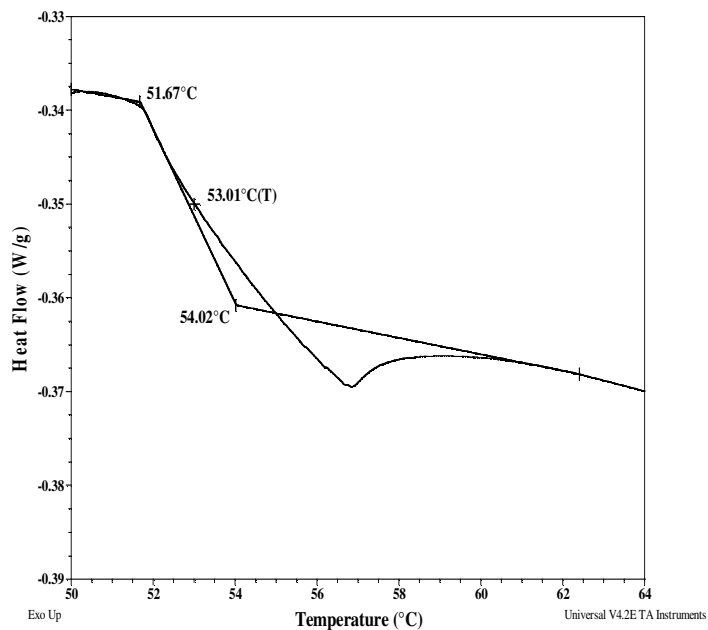
Thermal analysis of the sample P8987-LA

Thermal analysis of the polymer 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 (D-form)		
T_g : 53°C	T_m : 165°C	T_c : 90°C

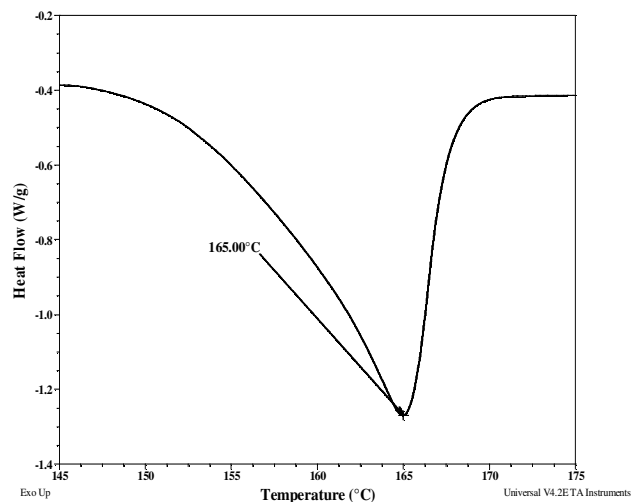
Thermogram for PLA block:



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 PLA block:



Crystallization curve:

