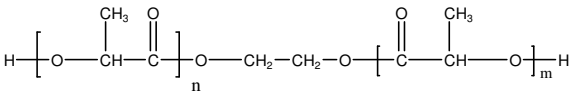
Sample Name: Dihydroxyl ended polylactide

Sample #: P7001-HOLAOH (DL-Form)

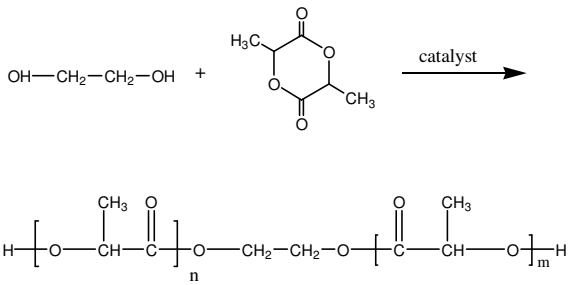
Structure:



Composition:

Mn x 10^3	PDI
1.1	1.17
T_g (°C)	10

Synthesis Procedure:
The polymerization of 3, 6-dimethyl-1,4-dioxane-2,5-dione was initiated with catalyst, and the reaction is showed as below:



Characterization:

The Mn is calculated from NMR by comparing the peak area of the ethylene glycol protons at about about 4.3 ppm with the lactide protons at about 5.1 ppm and polydispersity index (PDI) are obtained by size exclusion chromatography.

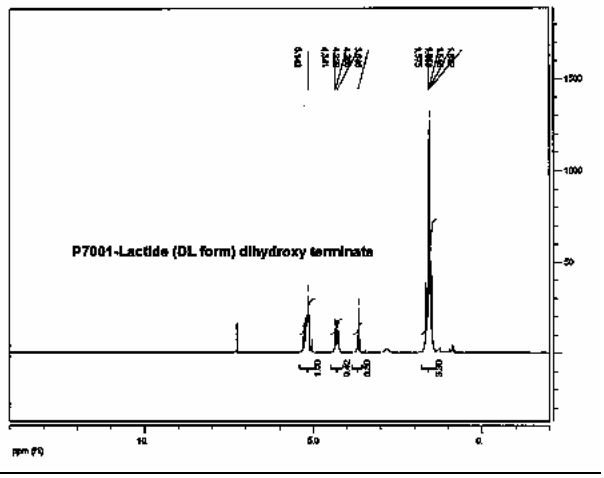
Thermal analysis:

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).

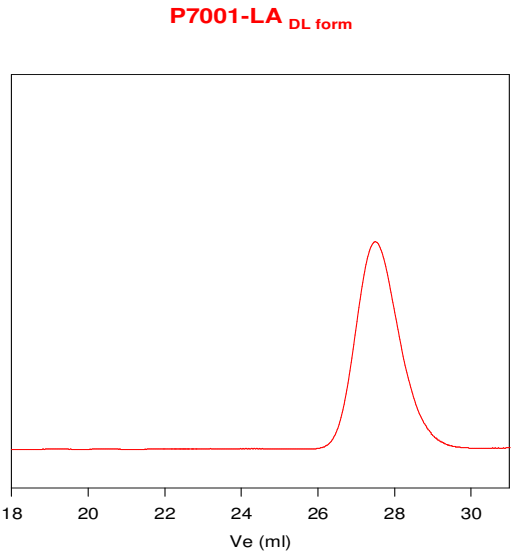
Solubility:

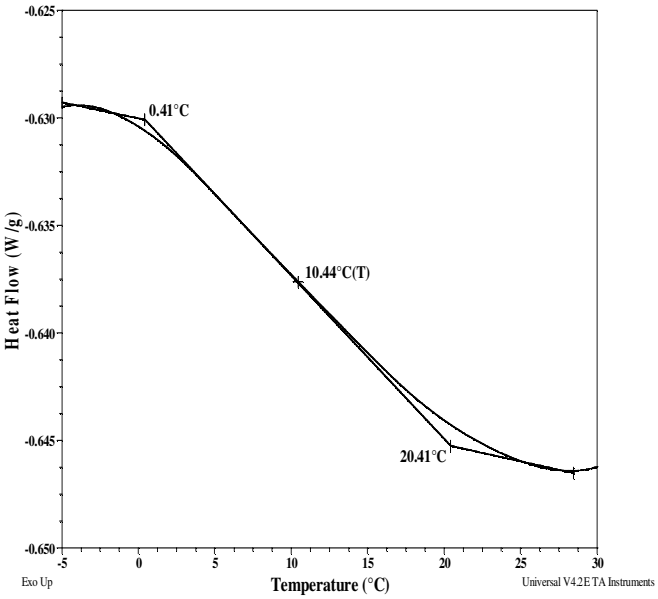
The polymer is soluble in toluene, THF, $CHCl_3$ and CH_2Cl_2. The polymer is insoluble in methanol, hexane and ether.

^{H}NMR of the polymer:



SEC of polymer:



Size exclusion chromatograph of dihydroxy terminated poly(DL–lactide) :
Light scattering date:
M_n=1100, (from ^{H} NMR) M_w=1300, PI=1.17

DSC thermogram for the sample: