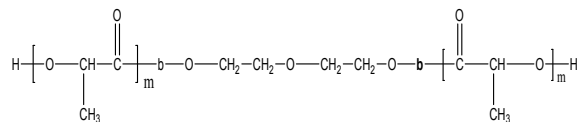


### Sample Name:

Dihydroxyl ended polylactide (DL form and initiator Diethylene glycol)

### Sample #: P8863-LA2OH (DL-Form)

### Structure:

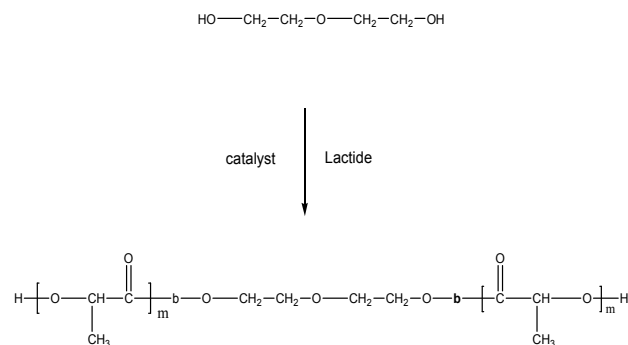


### Composition:

$M_n \times 10^3$	PDI
8.5	1.05
$T_g$ ( $^{\circ}\text{C}$ )	46

### Synthesis Procedure:

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



### Characterization:

The  $M_n$  is calculated from NMR by comparing the peak area of the ethylene glycol protons at about 3.6 ppm with the polylactide protons at about 5.1 ppm and polydispersity index (PDI) are obtained by size exclusion chromatography.

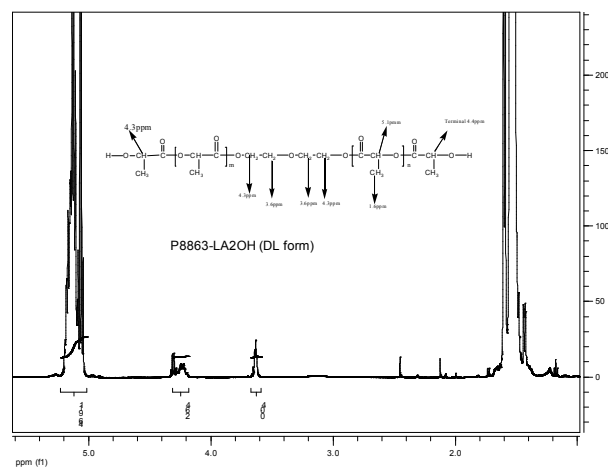
### Thermal analysis:

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of  $10^{\circ}\text{C}/\text{min}$ . 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:

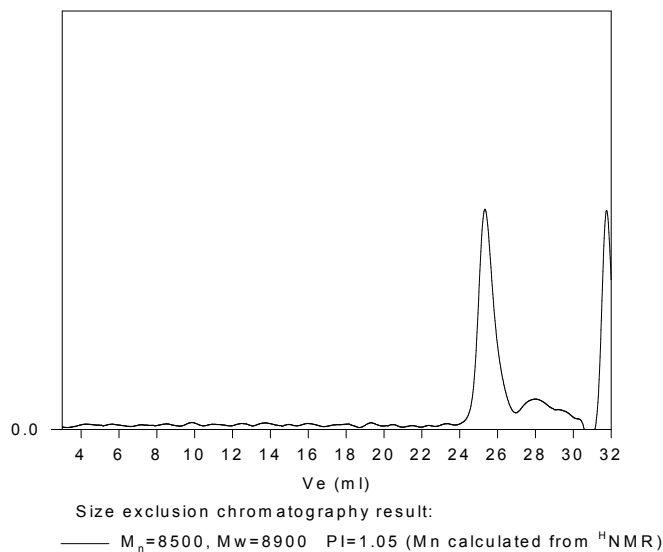
The polymer is soluble in toluene, THF,  $\text{CHCl}_3$  and  $\text{CH}_2\text{Cl}_2$ . The polymer is insoluble in methanol, hexane and ether.

### NMR of polymer:



### SEC of polymer:

#### P8863-LA2OH (DL form)



### DSC thermogram for the sample:

