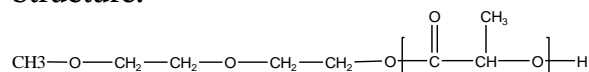


**Sample Name:** Polylactide monomethoxy terminated (L form)

**Sample #:** P5751-LA (L-Form)

**Structure:**

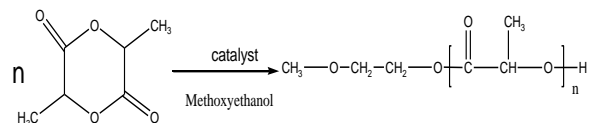


**Composition: By HNMR Mn : 12,000**

$M_n \times 10^3$	PDI
18.0	1.6
$T_g$	54.2 oC
$T_m$	172.1 oC
$T_c$	106.44oC

**Synthesis Procedure:**

The polymerization of 3, 6-dimethyl-1,4-dioxane-2,5-dione was initiated with an catalyst and the reaction was carried out in THF.



**Characterization:**

The molecular weight is calculated from NMR by comparing methane proton of lactide at 5.1ppm and methoxyethanol protons at 3.4 and polydispersity index (PDI) is obtained by size exclusion chromatography.

**Thermal analysis:**

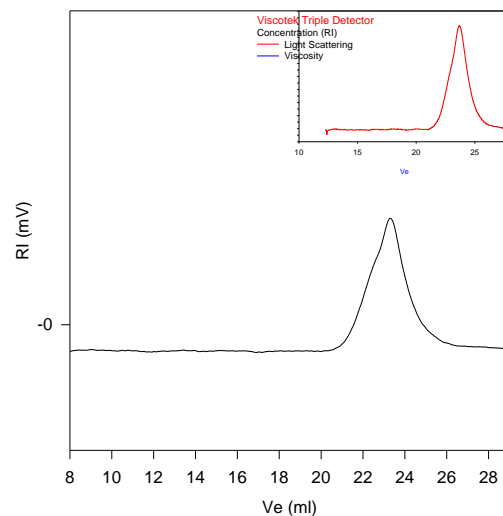
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature ( $T_g$ ).

**Solubility:**

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

**SEC of Homopolymer:**

**P5751-LA (L form)**



Size Exclusion Chromatography of Poly lactide (L form)

—  $M_n = 18,000$ ,  $M_w = 28,800$ ,  $M_w/M_n = 1.6$   
 Solution Viscosity in THF at 35 oC: 0.527dl/g  
 $dn/dc$  in THF at 35 oC: 0.046 ml/g  
 $R_{gw}$ : 5.38nm

**Reference: for further reading :**

1. Ahmed, J., Zhang, J-X., Song, Z., Varshney, S.K. J. Thermal Analysis and Calorimetry, 95, 3, 957-964, 2009