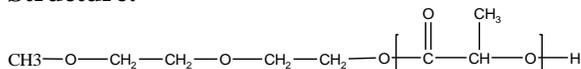


Sample Name:

Poly lactide monomethoxy terminated (L form)

Sample #: **P5749-LA (L-Form)**

Structure:



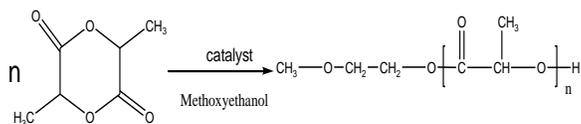
Composition:

$M_n \times 10^3$	PDI
11.5	1.15
Tg	54.2 oC
Tm	172.1 oC
Tc	106.44oC

By HNMR M_n : 12,000

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:

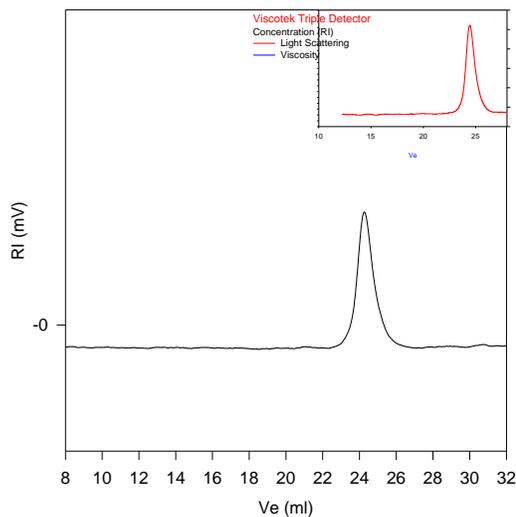
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

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

SEC of Homopolymer:

P5749-LA (L form)



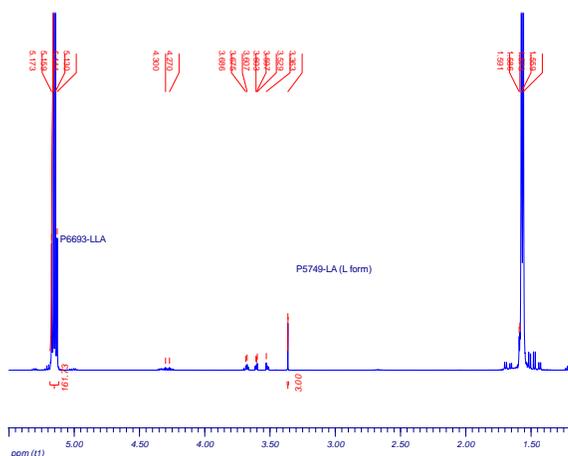
Size Exclusion Chromatography of Poly lactide (L form)

$M_n = 11,500$, $M_w = 13,100$, $M_w/M_n = 1.15$

Solution Viscosity in THF at 35 oC: 0.301dl/g

dn/dcin THF at 35 oC: 0.046 ml/g

Rgw: 5.72nm



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