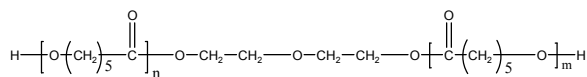


Sample Name:
Dihydroxyl ended Poly(ϵ -caprolactone)

Sample #: P8652-CL2OH

Structure:

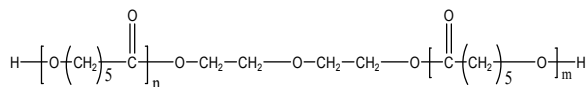
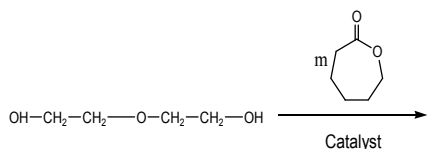


Composition:

$M_n \times 10^3$	PDI
9.0	1.15

Synthesis Procedure:

The poly(ϵ -caprolactone) is prepared by ring opening polymerization with the Tin catalyst. The reaction scheme is shown below:



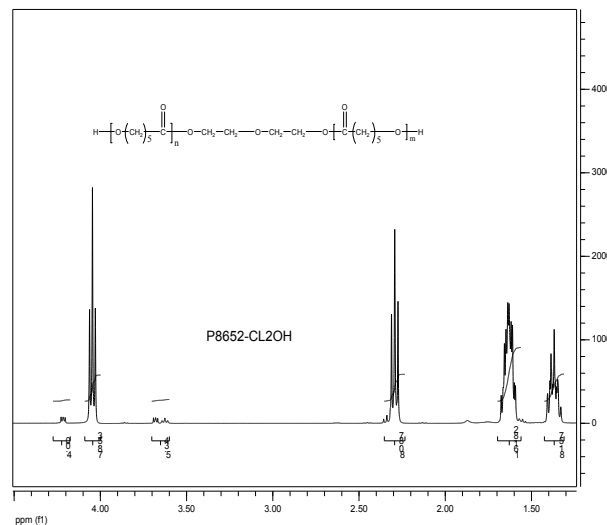
Characterization:

The molecular weight is calculated from NMR of poly(ϵ -caprolactone) by comparing the peak area of the ethylene oxide protons at about 3.6 ppm with the ϵ -caprolactone protons at about 4.1 ppm. The polydispersity index (PDI) is obtained by size exclusion chromatography.

Solubility:

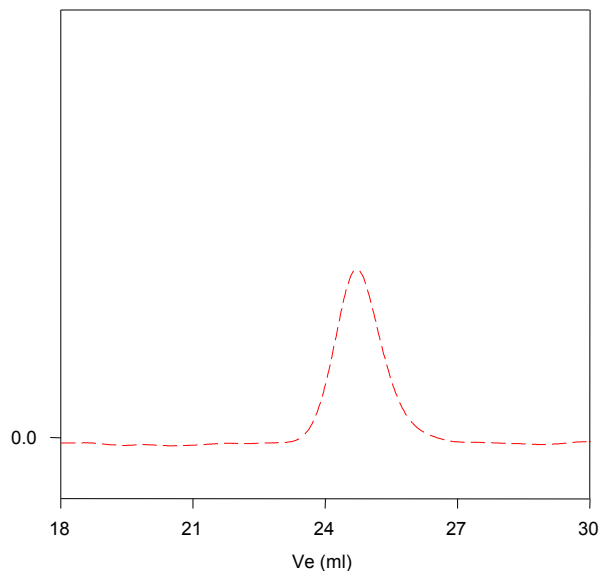
Poly(ϵ -caprolactone) is soluble in toluene, THF, CHCl_3 and CH_2Cl_2 . The polymer is insoluble in methanol, hexane and ether.

NMR of sample:



SEC of Sample:

P8652-CL2OH



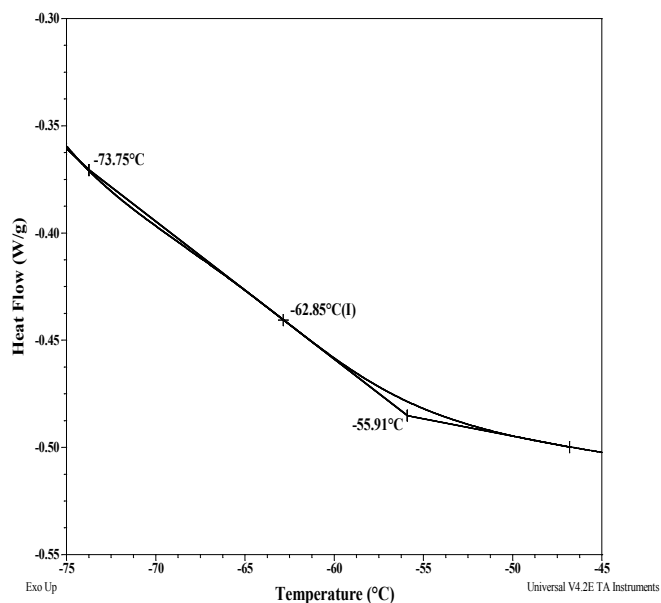
Thermal analysis of the sample P8652-CL2OH

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).

Thermal analysis results at a glance

T_m (°C)	T_c (°C)	T_g (°C)
62	32	-63

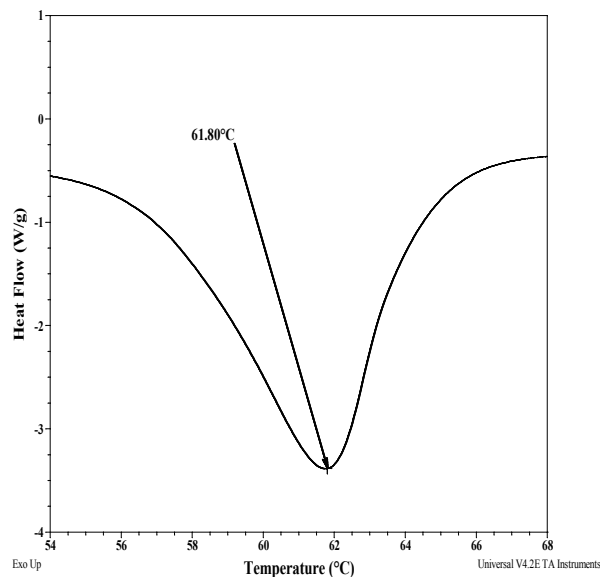
Thermogram for the sample



Melting and crystallization curves 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 the CL sample:



Crystallization curve for the CL sample:

