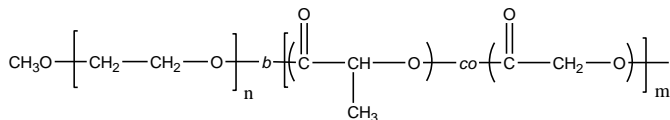


Sample Name: Poly(ethylene oxide)-*b*-poly[(D,L-lactide)-co-glycolide]*ran*

Sample #: P40634-EO-*b*-LAGAran (DL form LA)



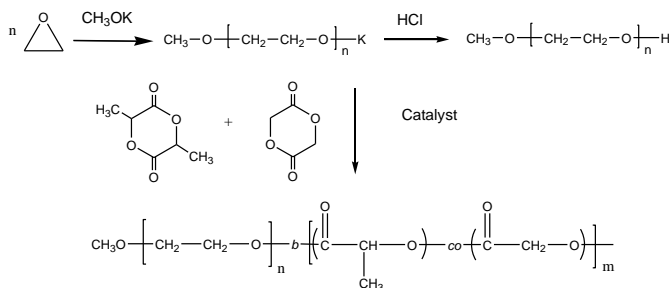
Composition:

$M_n \times 10^3$ (g/mol) [PEO- <i>b</i> -PLA- <i>co</i> -GA]	M_w/M_n
11.0- <i>b</i> -6.0- <i>co</i> -2.0	1.10

Glass transition temperature, T_g :	-26 °C
Cold crystallization temperature, $T_{c,cr}$:	21 °C
Melting point, T_m :	56 °C

Synthesis procedure:

The synthesis of poly(ethylene oxide)-*b*-poly[(D,L-lactide)-co-glycolide]*ran* is shown as follows:



Characterization:

The molecular weight of the first block PEO was determined by ^1H NMR and size exclusion chromatography (SEC). The final block copolymer composition was calculated from ^1H -NMR spectroscopy by comparing the peak area of the methoxy-protons of poly(ethylene oxide) at around 3.6 ppm and the poly(lactide) protons at around 5.1 and 1.55 ppm and the poly(glycolide) protons at around 4.7 ppm. The polydispersity index (M_w/M_n) of the block copolymer was obtained by SEC.

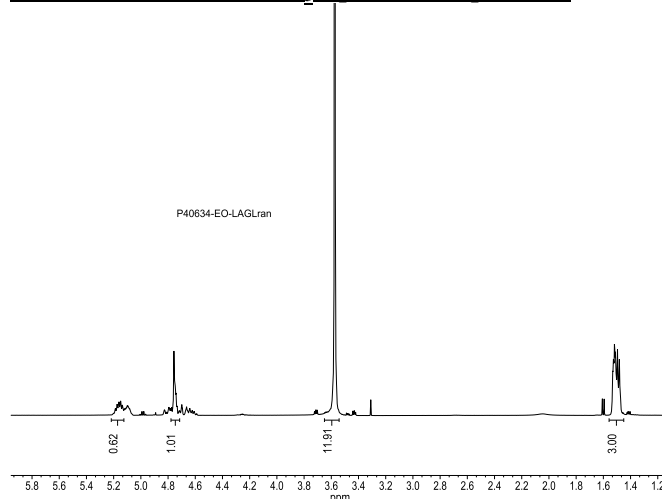
Thermal analysis:

Thermal analysis was performed on TA Instruments Q100 differential scanning calorimeter (DSC) under a nitrogen atmosphere. The glass transition temperature (T_g) of the polymer was measured at a scan rate of 10°C/min shortly after creating thermal history of the sample.

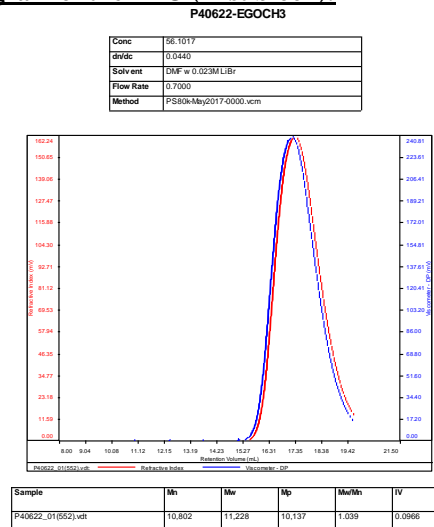
Solubility:

The polymer is soluble in chloroform, THF, DMF, toluene; and it precipitates from ethanol, ether, and hexanes.

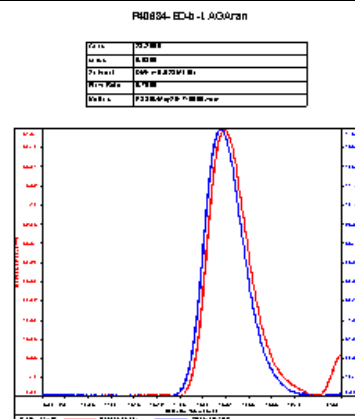
^1H -NMR (500 Mhz, CDCl_3) spectrum of product:



SEC elugram of the PEO (first block):



SEC elugram of the PEO-PLAGAran block copolymer:

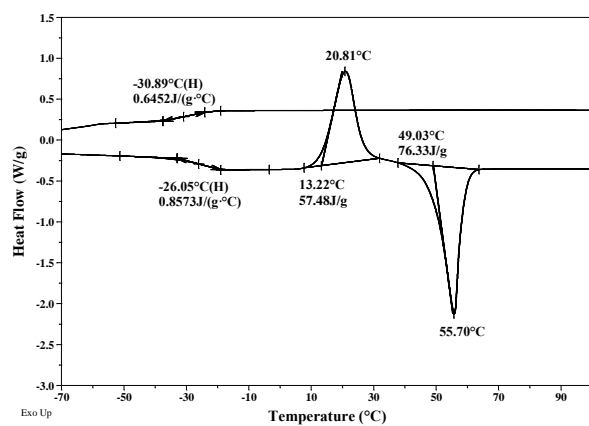


DSC thermograms of the polymer (10°C/min):

2nd cooling scan [top curve] and 3rd heating scan [bottom curve]:

Sample: P40634_EO-b-LA(DL-form)-co-GA
Size: 14.6000 mg

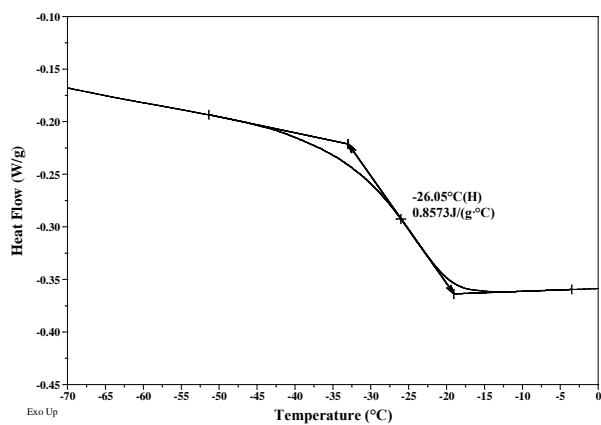
File: P40634_EO-b-LAGAran.001



3rd heating scan (10 °C):

Sample: P40634_EO-b-LA(DL-form)-co-GA
Size: 14.6000 mg

File: P40634_EO-b-LAGAran.001



Sample: P40634_EO-b-LA(DL-form)-co-GA
Size: 14.6000 mg

File: P40634_EO-b-LAGAran.001

