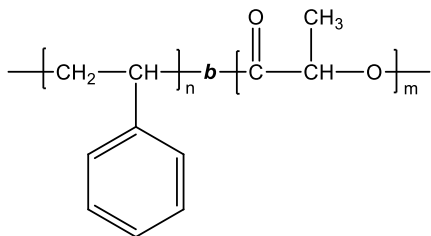


Sample Name: Poly(styrene-b-lactide)

Sample#: P42636-SLA (LA is D form)

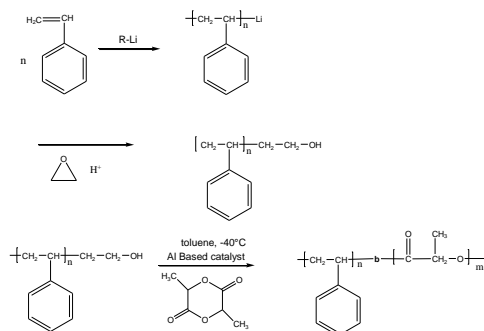
Structure:



Mn x 10 ³ S-b-LA	Mw/Mn (PDI)
18.5-b-12.0	1.07

Synthesis Procedure:

Poly(styrene-b-lactide) is prepared by living anionic polymerization in sequential addition of styrene followed by lactide monomer or by taking the OH end functionalized polystyrene and using co-ordination polymerization process. The scheme of the reaction is illustrated below:



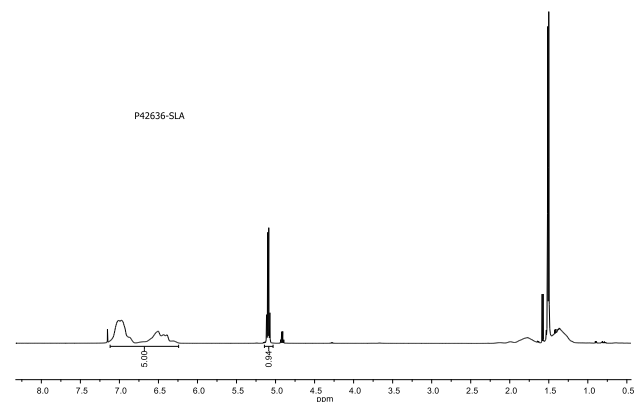
Characterization:

The product was characterized by size exclusion chromatography (SEC) and ¹H NMR data analysis.

Solubility:

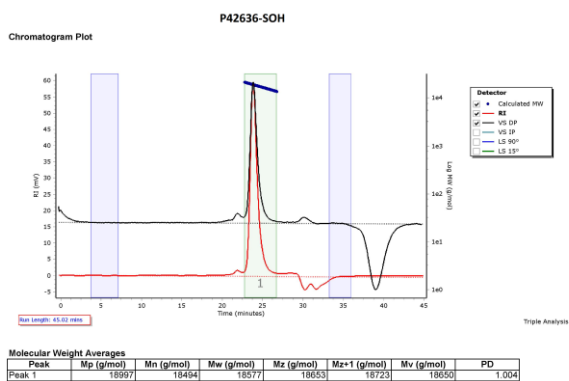
Poly(styrene-b-lactide) is soluble in chloroform, THF, and toluene.

¹H-NMR Spectrum of the block copolymer:



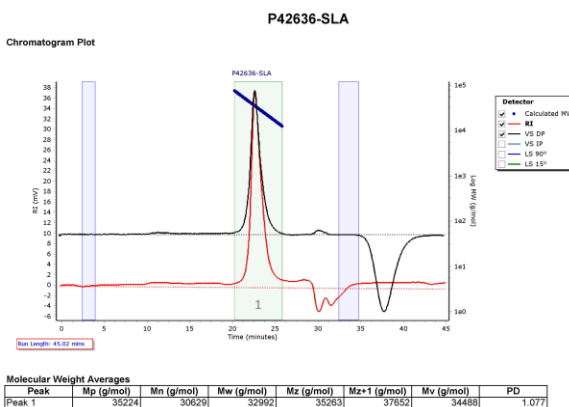
SEC elugram of P42636-SOH:

Agilent GPC/SEC Software



SEC elugram of P42636-SLA:

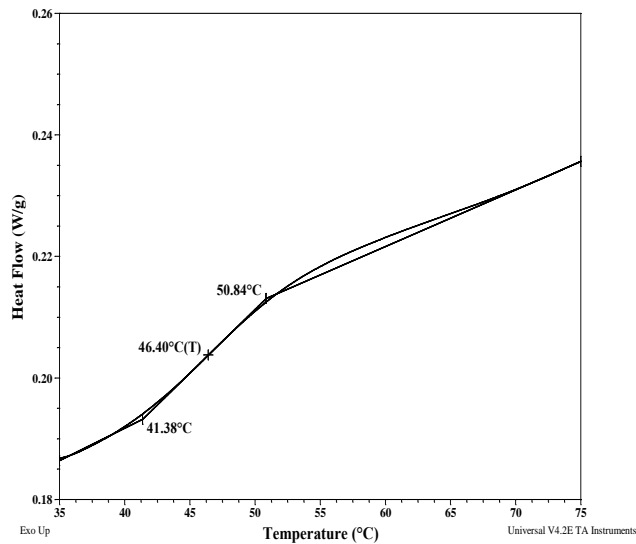
Agilent GPC/SEC Software



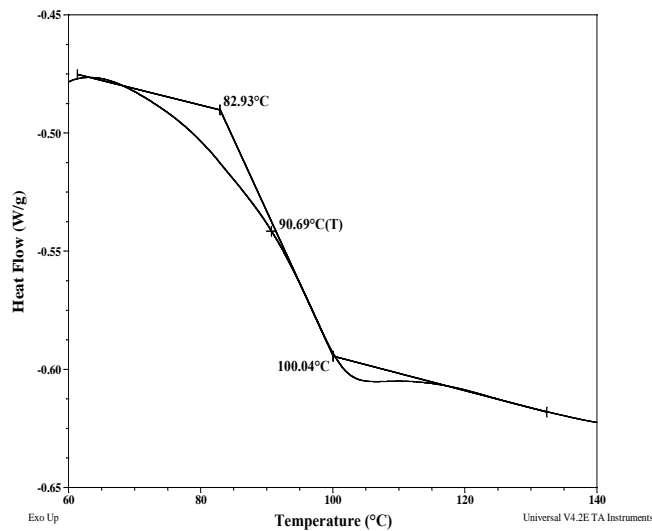
Thermal analysis of the sample# P42636A-SLA:

Thermal analysis of the block polymer 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).

Thermogram for PLA block:



Thermogram For PS block:



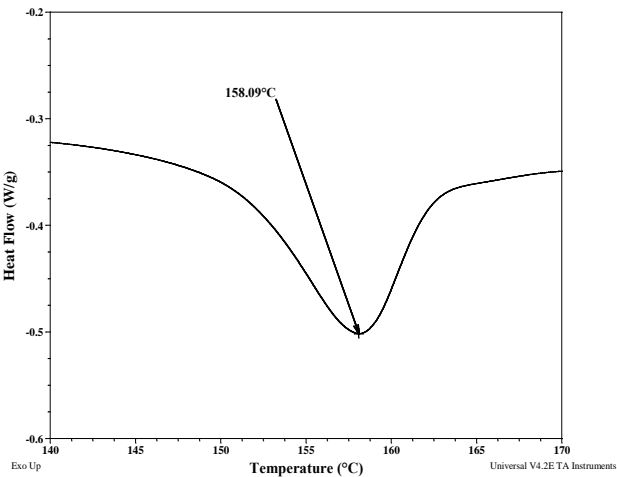
Thermal analysis results at a glance:

For PLA block		
T_g : 46°C	T_m : 158°C	T_c : 21°C
For PS block		
	T_g : 91°C	

Melting curve for the sample:

The melting temperature (T_m) was taken as the maximum of the endothermic peak during heating of the sample from 20°C to 200°C at heating rate of 10°C/min.

Melting curve for PLA block:



Crystallization curve:

