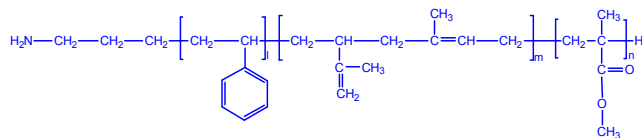


Sample Name:

Amino terminated Polystyrene-b-Isoprene (rich in 1,2-addition)-b-methylmethacrylate)

Sample #: P11142C-NH2-SIPMMA

Structure:



Composition:

Mn x 10 ³	PDI	
NH2-S-b-IP-b-MMA		
60.0-b-25.0-b-505.0	1.05	
T _g for PS block	T _g for IP block	T _g for MMA block
100 oC	Not clear	132°C

Synthesis Procedure:

The triblock polymer is synthesized by living anionic polymerization with sequence addition of styrene, isoprene (Ip), followed by methyl methacrylate (MMA). Amino protected lithium based initiator was used. For details you may read our published work.

Varshney, S. K.; Song, Z.; Zhang, Jian-Xin; Jerome, Robert. Rapid Communication; J. Polym. Sci. Part A, 2006, 44, 3400.

Characterization:

Size exclusion chromatography (SEC): Varian liquid chromatograph equipped with UV and refractive detector. SEC columns from Supelco were used with THF as the eluent. The molecular weights and the polydispersity index were calculated.

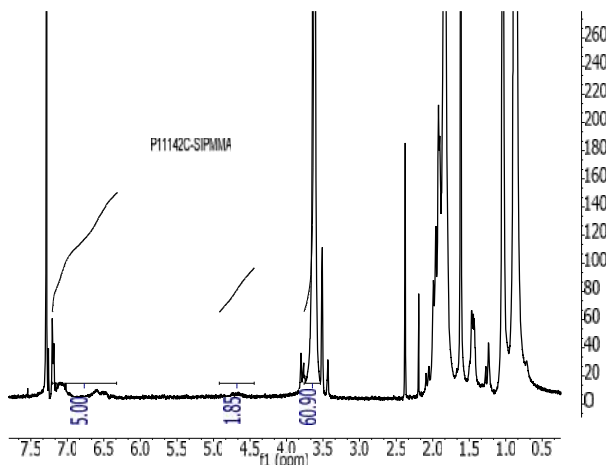
Thermal analysis:

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:

Polymer is soluble in THF, toluene, acetone and CHCl₃. The polymer readily precipitates from hexanes, ether and water.

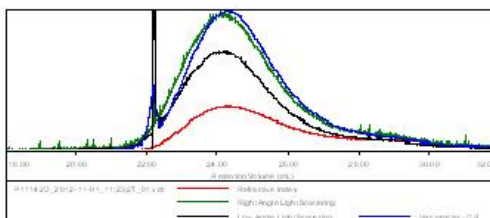
¹H-NMR Spectrum of the product



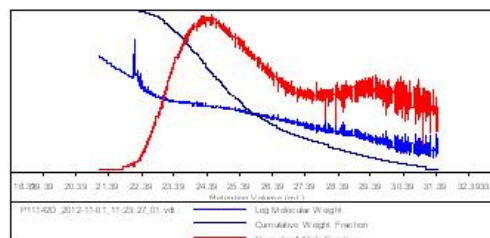
SEC of the polymer:

Sample ID: P11142D

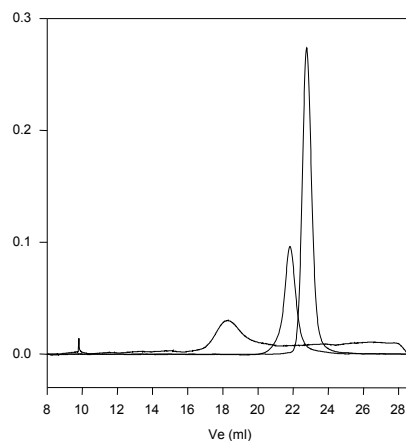
Concentration (mg/mL)	2.5274
Sample dn/dc (mL/g)	0.1050
Method File	P580 K Oct-2012-0002.vcm
Column Set	3x PL 1113-6300
System	System 1



Sample	Mn (Da)	Mw (Da)	Mp (Da)	Mw/Mn	IV (dL/g)
P11142D_2012-11-01_11:23:27_01.vst	479,300	969,521	660,516	1.188	1.7215



P11142C-NH2SIPMMA



Size exclusion chromatography of NH2-polystyrene-b-isoprene (1,2 rich addition)-b-MMA

— First block Poly styrene, M_n=60,000, M_w=64,800, PI=1.08
— Poly(styrene-b-Isoprene);PS(60,000)-b-PIp(25,000), PI=1.12
— Poly(styrene-b-Isoprene-b-MMA) Mn: 60,000-b-25,000-b-505,000
Mw/Mn : 1.05