

## SEC of the polymer:

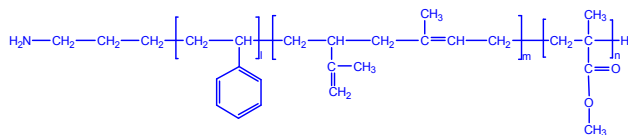
**P11171-NH2SIpMMA**

### Sample Name:

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

Sample #: P11171-NH2-SIPMMA

### Structure:



### Composition:

Mn x 10 <sup>3</sup>		PDI
NH2-S-b-Ip-b-MMA		
30.0-b-2.0-b-85.0		1.45
T <sub>g</sub> for PS block 100 oC	T <sub>g</sub> for Ip block Not clear	T <sub>g</sub> for MMA block 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.

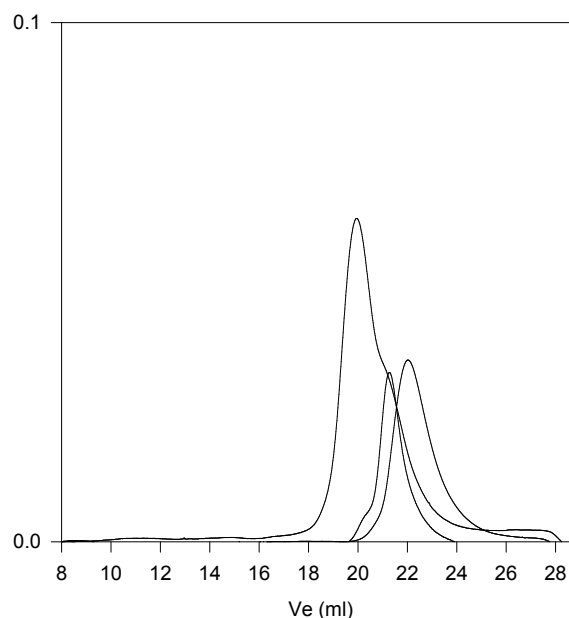
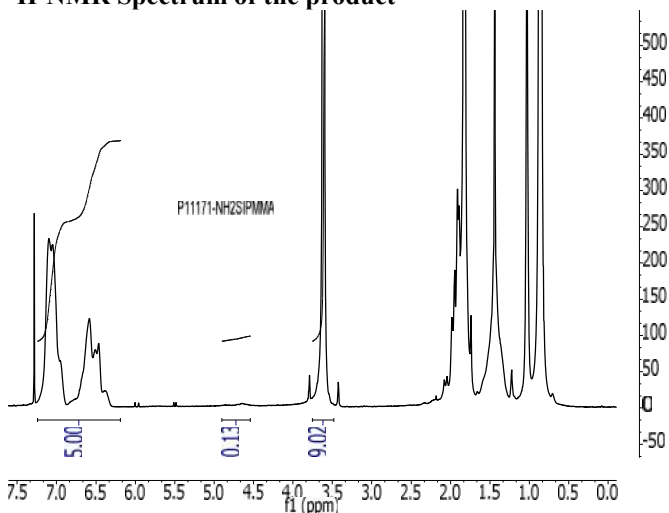
### Characterization:

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.

### Solubility:

Polymer is soluble in THF, toluene, acetone and CHCl<sub>3</sub>. The polymer readily precipitates from hexanes, ether and water.

### <sup>1</sup>H-NMR Spectrum of the product



Size exclusion chromatography of  
NH<sub>2</sub>-polystyrene-b-butadiene<sub>(1,2 rich addition)</sub>

- First bloPoly styrene, M<sub>n</sub>=30,000, M<sub>w</sub>=36,000, PI=1.2
  - Poly(styrene-b- polybutadiene):PS(30,000)-b-PBd(2,000), PI=1.11
  - Poly(styrene-b-Polybutadiene-b-MMA) Mn: 30,000-b-2,000-b-85000
- Mw/Mn : 1.45