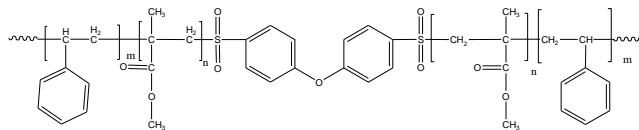


**Sample Name:****Poly(Styrene-b-methyl methacrylate-b-Styrene)****(radical process ) PMMA : atactic rich**

Sample #: P11066A-SMMAS

**Structure:****Composition:**

Mn × 10 <sup>3</sup> (S-b-MMA-S)	PDI
0.5-b-12.0-b-0.5	1.9
Microstructure of PMMA block	S:H:I contents 63:33:4
T <sub>g</sub> for PS block: Not distinct	T <sub>g</sub> for MMA block: 110 °C

**Synthesis Procedure:**

Poly(styrene-b-methylmethacrylate-b-styrene) is prepared by controlled process.

**Characterization:**

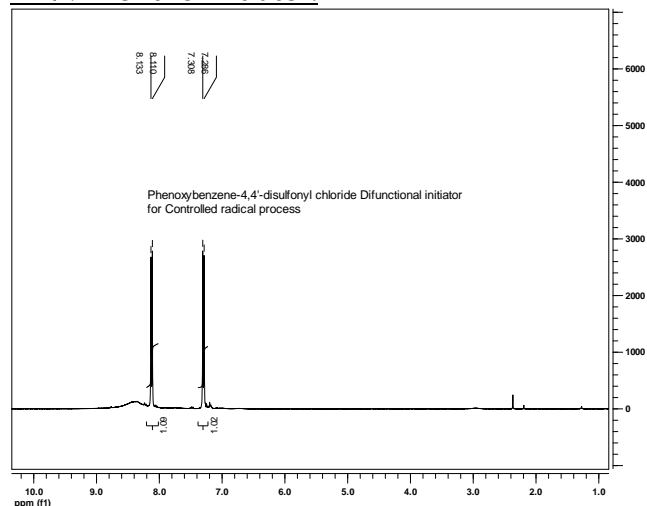
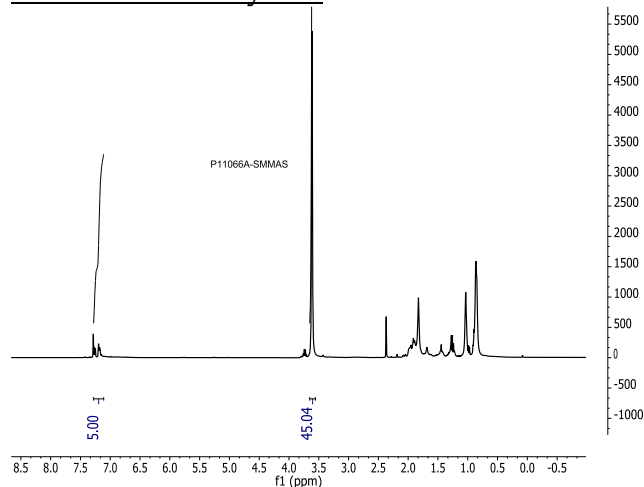
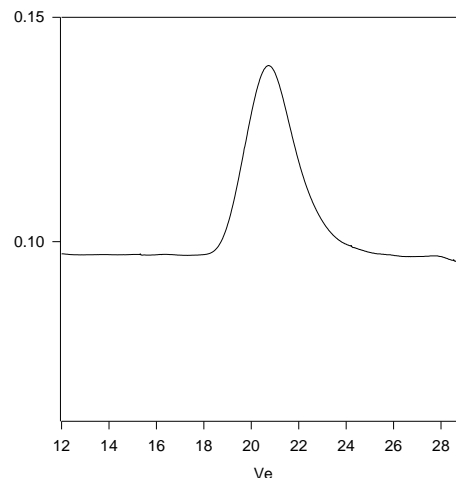
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

**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<sub>g</sub>).

**Solubility:**

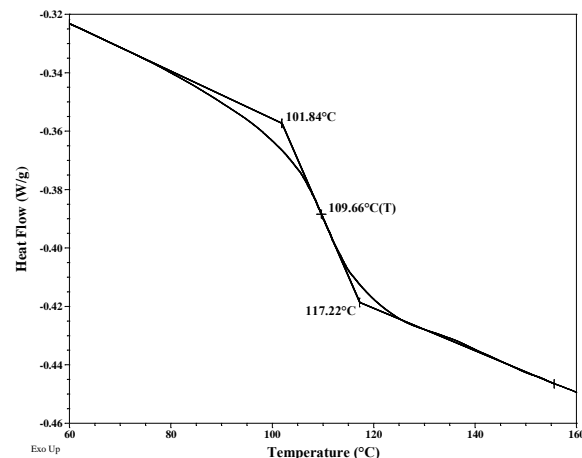
Polymer is soluble in THF, toluene and CHCl<sub>3</sub>. It precipitates from methanol, ethanol, water and hexanes.

**HNMR of the initiator:****HNMR of the Polymer:****SEC of Sample:****P11066B-SMMAS**

Size Exclusion Chromatography of:

— PMMA center block, M<sub>n</sub>=75,000, PI=1.9

S-MMA-S Mn : 5,000-b-75,000-b-5,000 Mw/Mn 1.9

**DSC thermogram for MMA block:****Reference:**

S.K. Varshney, P. Kesani, N. Agarwal, J. Xin. Zhang, and M. Rafailovich. Synthesis of ABA type thermoplastic elastomers based on Polyacrylates, *Macromolecules*, 1999, 32, 235.