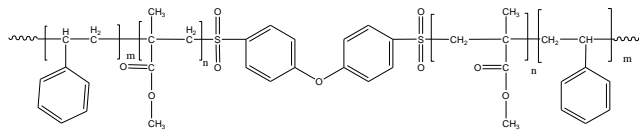


**Sample Name:****Poly(Styrene-b-methyl methacrylate-b-Styrene)****(radical process ) PMMA : atactic rich**

Sample #: P10050-SMMAS

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

Mn $\times 10^3$ (S-b-MMA-S)	PDI
2.5-b-40.0-b-2.5	1.3
Microstructure of PMMA block	S:H:I contents 55:37:8
T <sub>g</sub> for PS block: Not distinct	T <sub>g</sub> for MMA block: 116 °C

**Synthesis Procedure:**

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

**Characterization:**

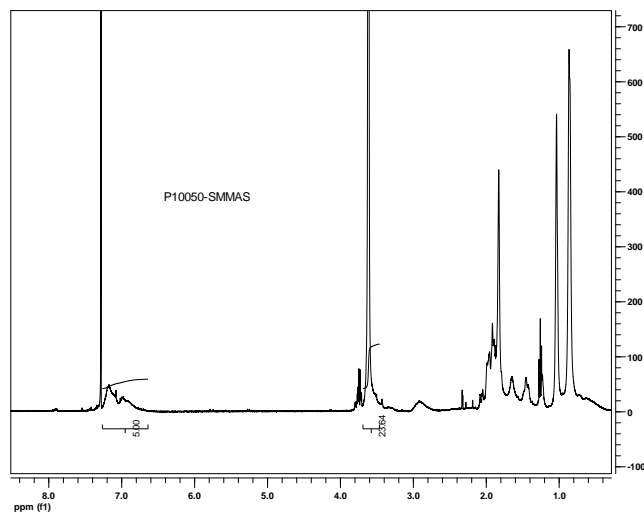
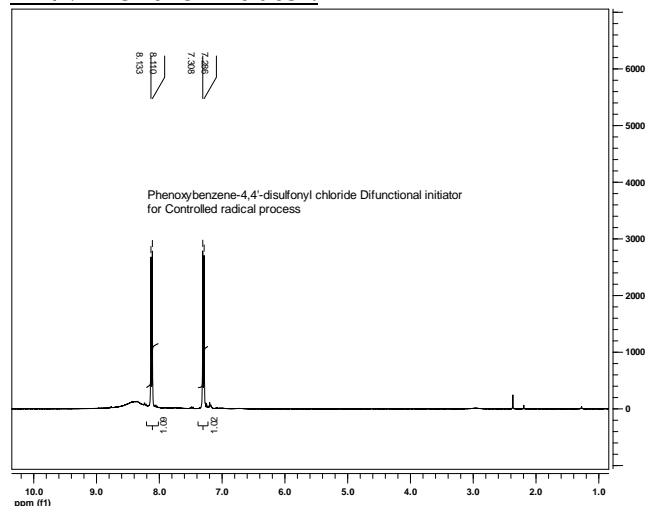
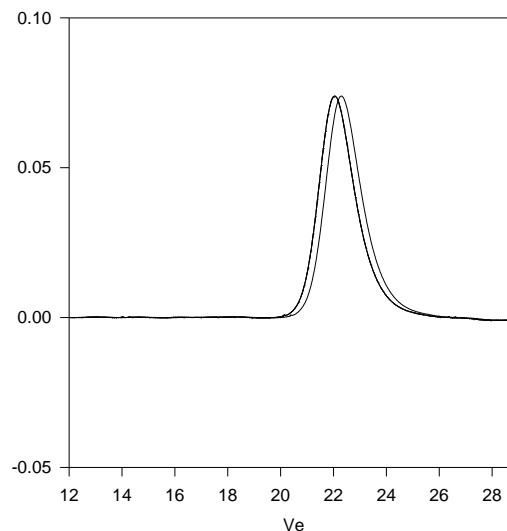
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

**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:**

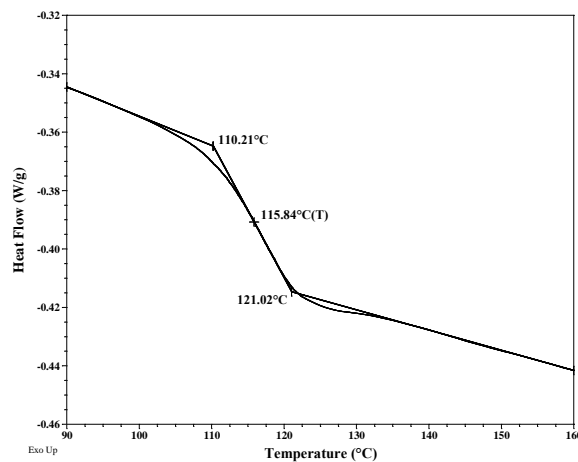
Polymer is soluble in THF, toluene and CHCl<sub>3</sub>. It precipitates from methanol, ethanol, water and hexanes.

**HNMR of the initiator:****SEC of Sample:****P10050-SMMAS**

Size Exclusion Chromatography of:

— PMMA center block, M<sub>n</sub>=40,000, PI=1.3

— SMMAS, the triblock PS(2,500)-b-PMMA(40,000)-b-PS(2500), PI=1.3

**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.