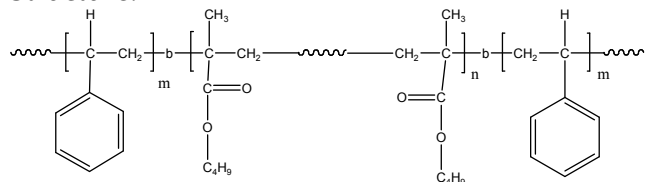


**Sample Name:****Poly(Styrene-*b*-methyl methacrylate-*b*-Styrene)****(radical process ) PMMA : atactic rich**

Sample #: P10046A-SMMAS

Structure:

**Composition:**

Mn × 10 <sup>3</sup> (S- <i>b</i> -MMA-S)	PDI
2.0- <i>b</i> -190.0- <i>b</i> -2.0	1.2
Microstructure of PMMA block	S:H:I contents 79:10:2
T <sub>g</sub> for PS block: Not distinct	T <sub>g</sub> for PMMA block: 132 °C

**Synthesis Procedure:**

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

**Characterization:**

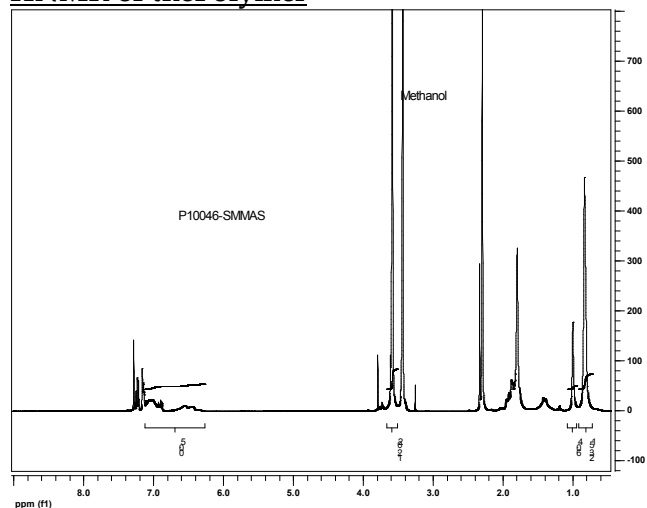
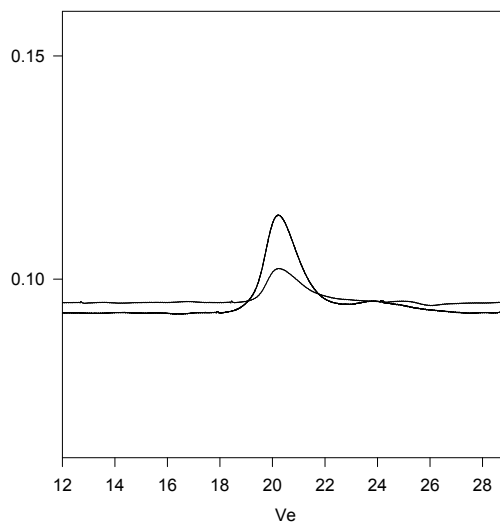
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

**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>).

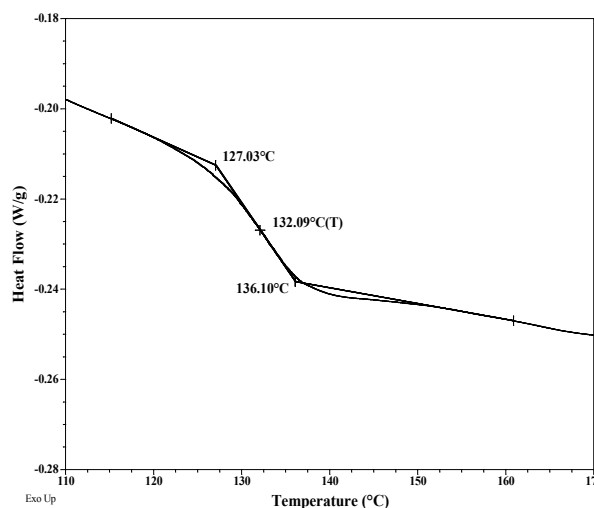
**Solubility:**

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

**HNMR of thePolymer****SEC of Sample:****P10046A-SMMAS**

Size Exclusion Chromatography of:

— PMMA center block, M<sub>n</sub>=190,000, PI=1.2  
 — SMMAS, the triblock PS(2000)-*b*-PMMA(190,000)-*b*-PS(2000), PI=1.2

**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.