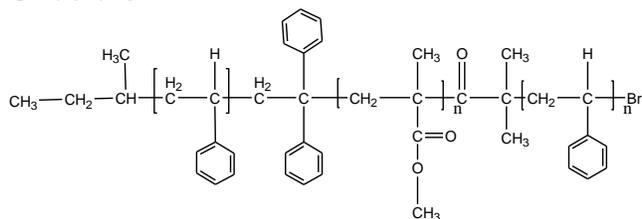


Sample Name: Unsymmetrical Poly(styrene-b-methyl methacrylate-b-Styrene) triblock copolymer (Anionic process) PMMA : Syndiotactic rich
 Sample #: P10061A-SMMAS
 Structure:



Composition:

Mn × 10 ³ (S-b-MMA-S)	PDI
7.0-b-9.0-b-3.8	1.18
Microstructure of PMMA block	S:H:I contents 78:10:2
T _g for PS block: 102 °C	T _g for MMA block: 118 °C

Synthesis Procedure:

Poly(styrene-b-methylmethacrylate-b-styrene) is prepared by using anionic and 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:

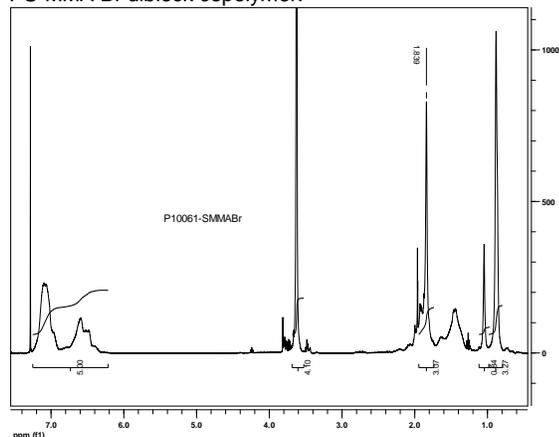
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

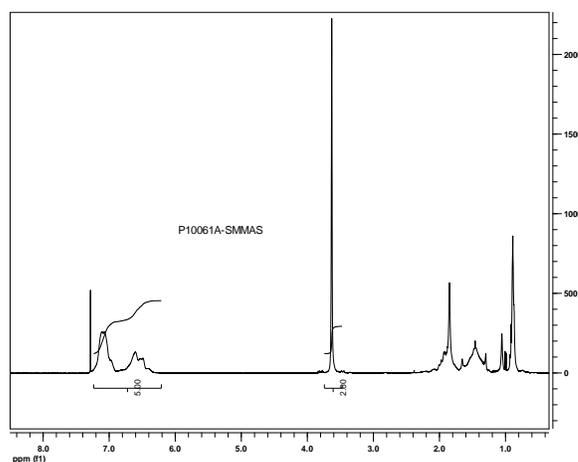
Polymer is soluble in THF, toluene and CHCl₃. It precipitates from methanol, ethanol, water and hexanes.

NMR of the initiator:

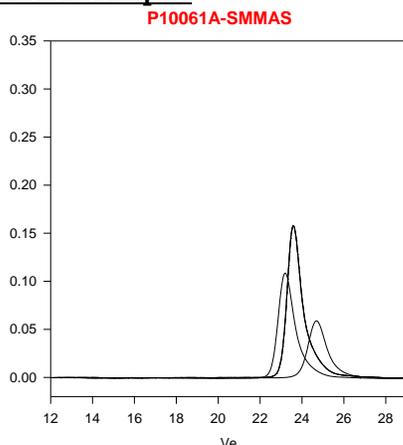
PS-MMA Br diblock copolymer:



PSMMAS triblock:

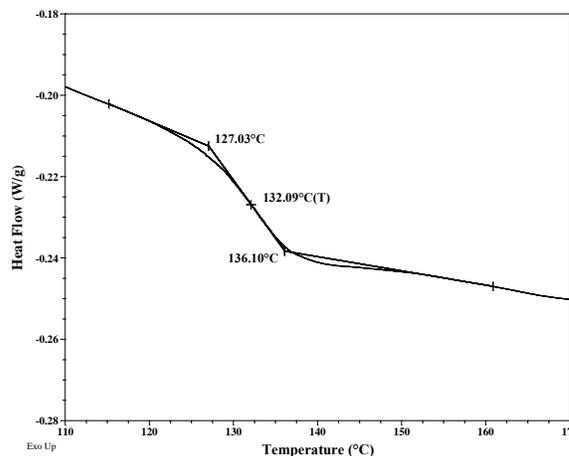


SEC of Sample:



Size Exclusion Chromatography of:
 — PS first block, M_n=7,000 Mw: 8000 PI=1.15
 — SMMAS, the Diblock PS(7,000)-b-PMMA(9000) PI=1.15
 — AMMAS triblock : Ps(7,000)-b-PMMA(9,000)-b-PS(3,800) Mw/Mn : 1.18

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.