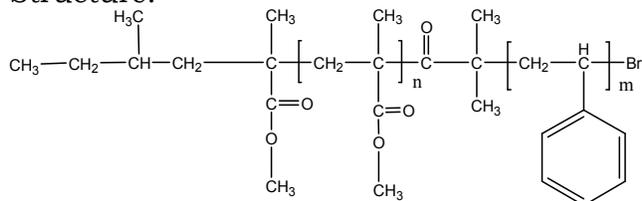


Sample Name: Bromo terminated Poly(methyl methacrylate-b-Styrene) diblock copolymer (Anionic process and controlled radical process) PMMA : Isotactic rich

Sample #: P10079-MMAS-Br

Structure:



Composition:

Mn × 10 ³ (MMA-b-S-br)	PDI
9.0-b-155.0	1.8
Microstructure of PMMA block	S:H:I contents 2:23:75
T _g for PS block: 104 °C	T _g for MMA block: Not distinct

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:

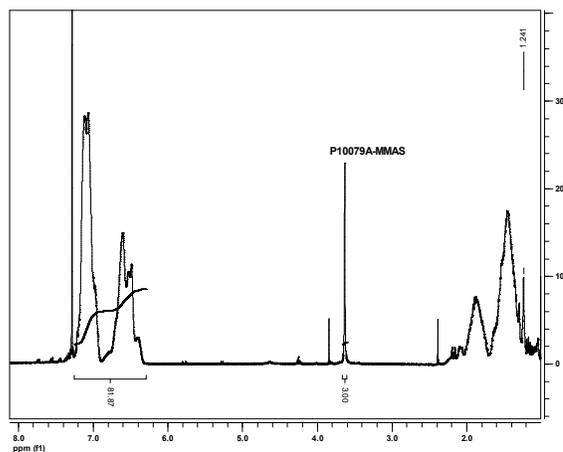
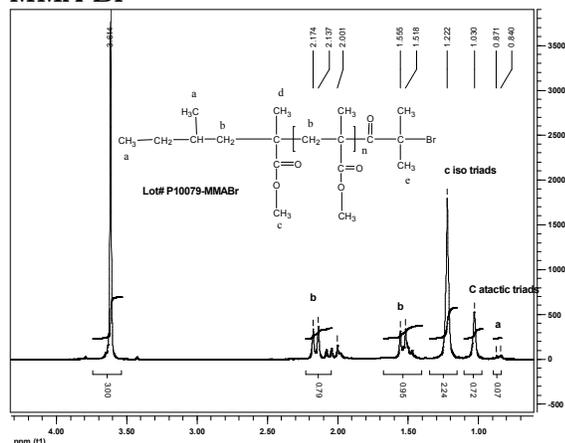
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

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

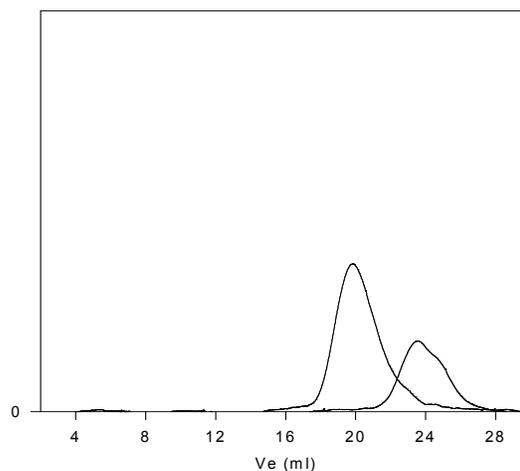
NMR of the initiator:

MMA Br



SEC of Sample:

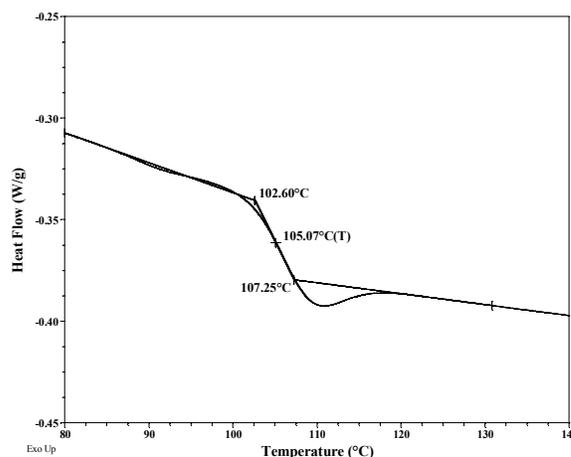
P10079A-MMASBr



Size exclusion chromatograph of polymer:

— Bromo end functionalized PMMA M_n=9000, M_w=12,600, M_w/M_n=1.4
 — Bromo end functionalized PMMA-b-S: M_n=9000-b-155.00 M_w/M_n=1.8

DSC thermogram for PS 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.