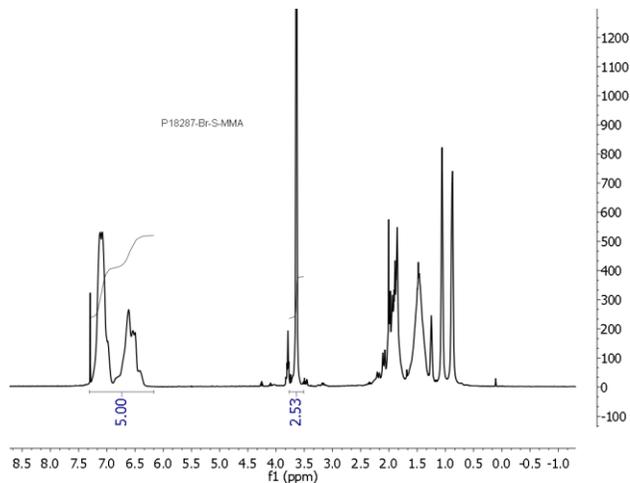
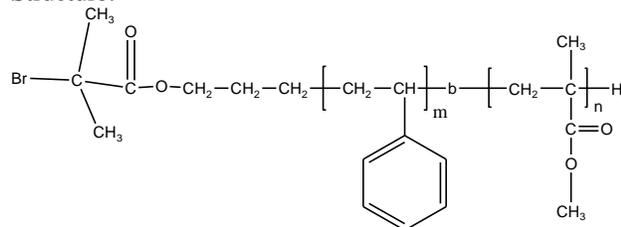


Sample Name: Bromo terminated Poly(Styrene-b-methyl methacrylate) diblock copolymer

(Anionic process) PMMA : Syndiotactic rich
Sample #: P18287-Br-SMMA

Structure:

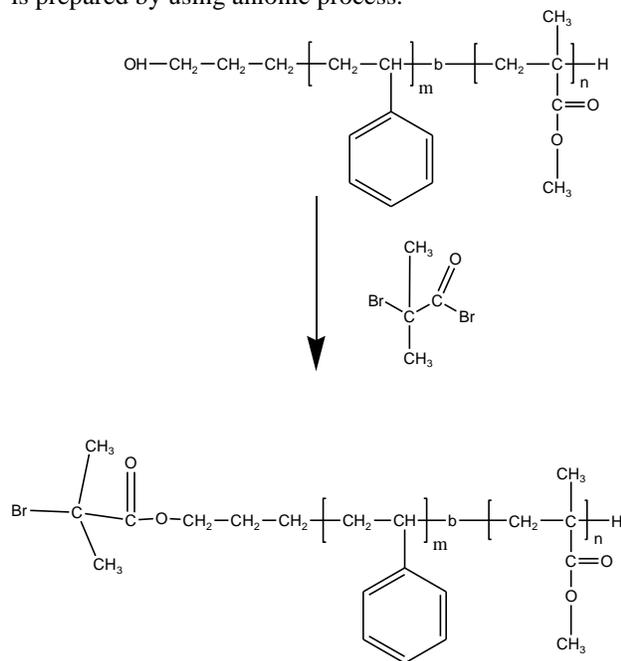


Composition:

Mn × 10 ³ (Br-S-b-MMA)	PDI
13.5-b-10.5	1.18
Microstructure of PMMA block	S:H:I contents 78:10:2
T _g for PS block: 100oC	T _g for MMA block: 120 °C

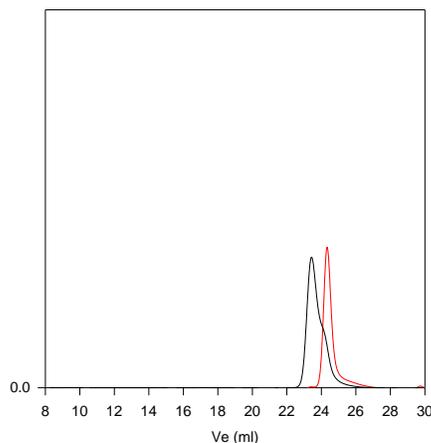
Synthesis Procedure:

Br end functionalized Poly(styrene-b-methylmethacrylate) is prepared by using anionic process.



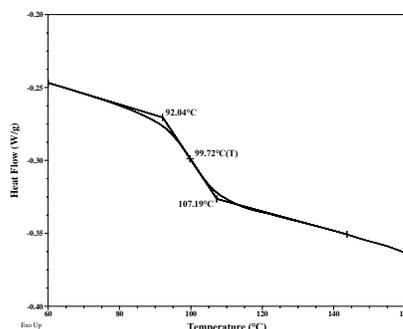
SEC of Sample:

P18287-Br-SMMA



Size exclusion chromatograph of the polymer:
Br-SMMA: Mn 13,500-b-10,500 Mw/Mn :1.18

DSC thermogram for MMA block:



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:

Br-SMMA diblock copolymer:

Reference:

- Zhengji Song, Carole Pelletier, Yinghua, Qi, Jasim Ahmed, Sunil K. Varshney, M. A. Jafar Mazumder, Synthesis and thermal properties of triblock copolymers of methyl methacrylate using combination of anionic and controlled radical polymerization: Poly(methyl methacrylate) center block bearing different microstructures e-polymer 2012, 067.
- 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.