

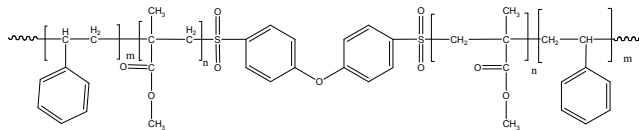
Sample Name:

Poly(Styrene-*b*-methyl methacrylate-*b*-Styrene)

(radical process) PMMA : atactic rich

Sample #: P11066D-SMMAS

Structure:



Composition:

| | |
|---|---|
| Mn × 10 ³ (S- <i>b</i> -MMA- <i>S</i>) | PDI |
| 5.0- <i>b</i> -578.0- <i>b</i> -5.0 | 1.45 |
| Microstructure of PMMA block | S:H:I contents 63:33:4 |
| T _g for PS block: Not distinct | T _g for MMA block: 110 °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.

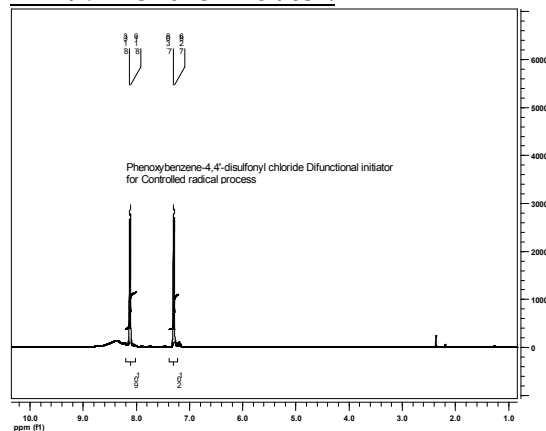
Thermal analysis:

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_g).

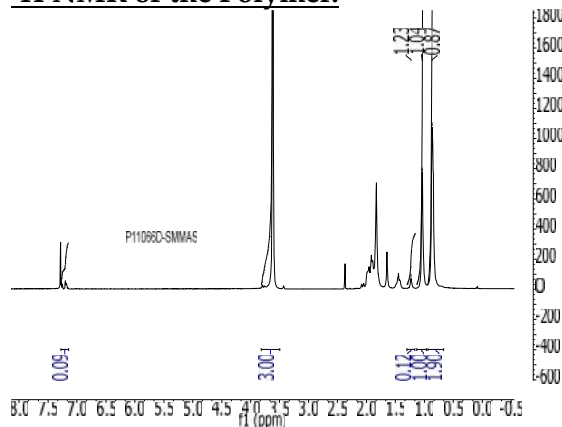
Solubility:

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

¹H NMR of the initiator:

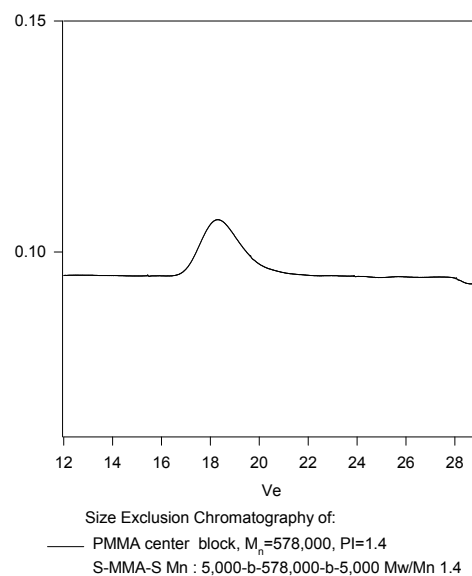


¹H NMR of the Polymer:

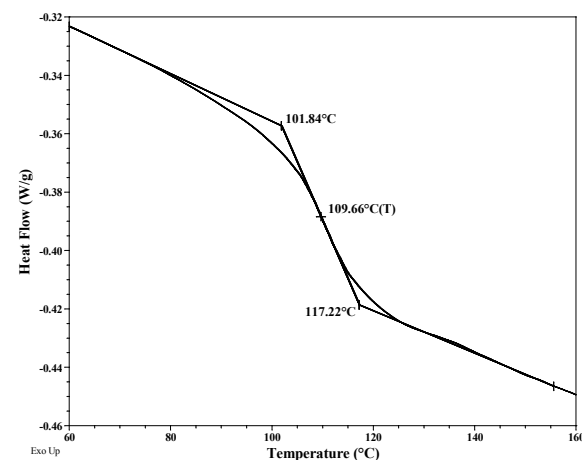


SEC of Sample:

P11066D-SMMAS



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.