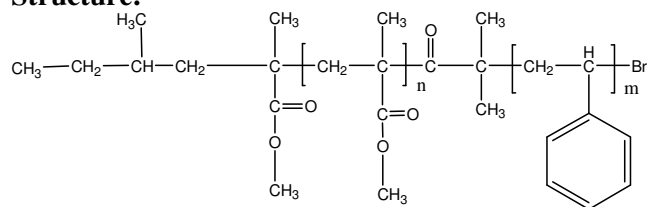


Sample Name: Bromo terminated
Poly(methyl methacrylate-b-Styrene) diblock
copolymer (Anionic process and controlled radical
process) PMMA : Isotactic rich

Sample #: P40015E-MMAS-Br

Structure:



Composition:

| | |
|--------------------------------------|------|
| Mn × 10 ³ (MMA-b-S-br) | PDI |
| 8.0-b-45.0 | 1.10 |

| | |
|---------------------------------|---------------------------|
| Microstructure of PMMA block | S:H:I contents 2:10:88 |
|---------------------------------|---------------------------|

| | |
|-------------------------------------|---|
| 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.

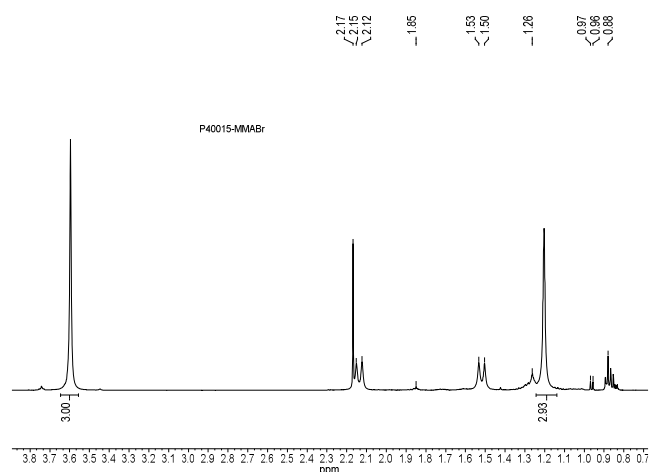
Characterization:

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.

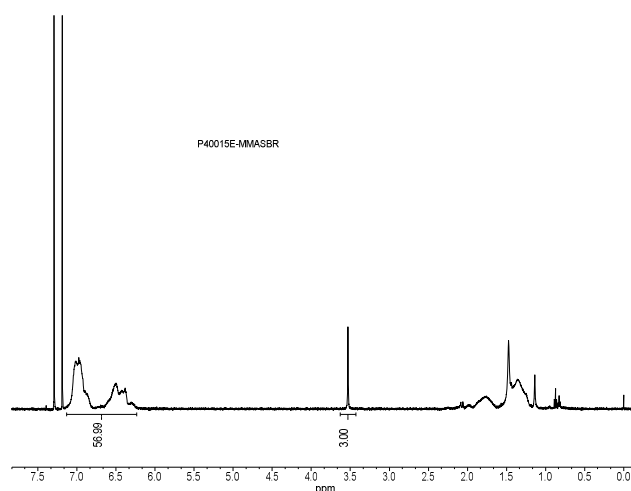
Solubility:

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

¹H NMR spectrum of MMABr:



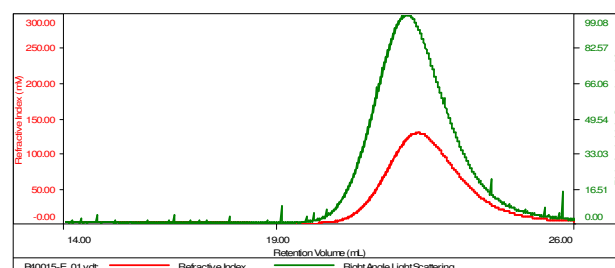
¹H NMR spectrum of MMASBr:



SEC elugram of the polymer:

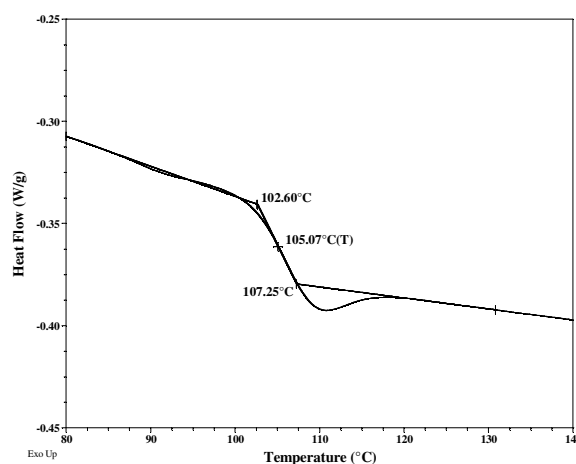
Sample ID: P40015E-MMASB

| | |
|-----------------------|----------------------------|
| Concentration (mg/mL) | 6.3789 |
| Sample dn/dc (mL/g) | 0.1650 |
| Method File | PS80K-4August2016.0000.vcm |
| Column Set | 3x PL 1113-6000 |
| Solvent | THF |



| Sample | Mn (Da) | Mw (Da) | Mw/Mn | IV (dL/g) | Mp (Da) |
|-----------------|---------|---------|-------|-----------|---------|
| P40015-E_01.vdt | 53,270 | 58,675 | 1.101 | 0.2509 | 54,718 |

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.