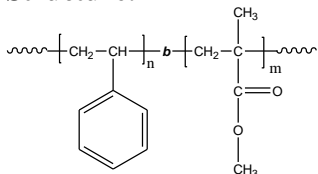


Sample Name: Poly (styrene-b-methyl methacrylate)
(polymethylmethacrylate rich in syndiotactic contents > 78%)

Sample #: P10476-SMMA

Structure:



Composition:

Mn x 10 ³ S-b-MMA	PDI
200.0-b-190.0	1.5
T _g for PS block: 107	T _g for PMMA block: 130 °C
dn/dc in THF at 35 °C	0.127

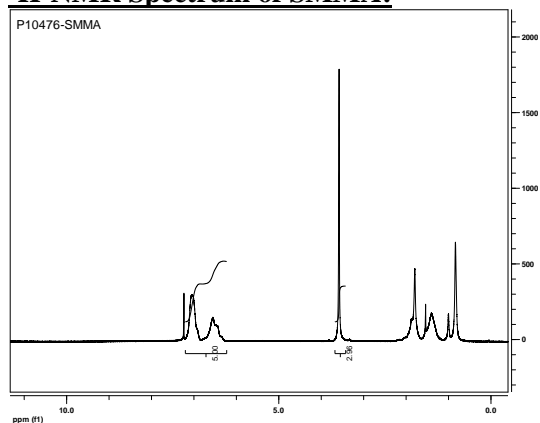
Synthesis Procedure:

The polymer was synthesized by anionic process. For further details please see our published articles.¹⁻⁵

Characterization:

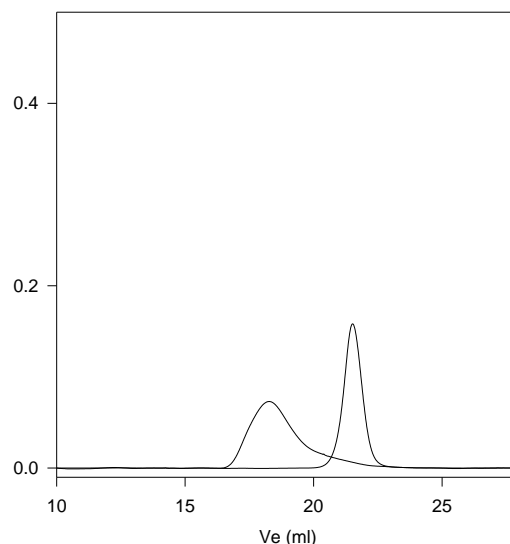
Polymer analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the poly (methyl methacrylate) protons (eg. -OCH₃ at 3.6ppm) with of aromatic protons of polystyrene at 6.3-7.2 ppm. Copolymer PDI is determined by SEC. Thermal analysis of the samples was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 10°C/min. The inflection glass transition temperature (T_g) of the sample has been considered.

¹H-NMR Spectrum of SMMA:



SEC of Sample -SMMA:

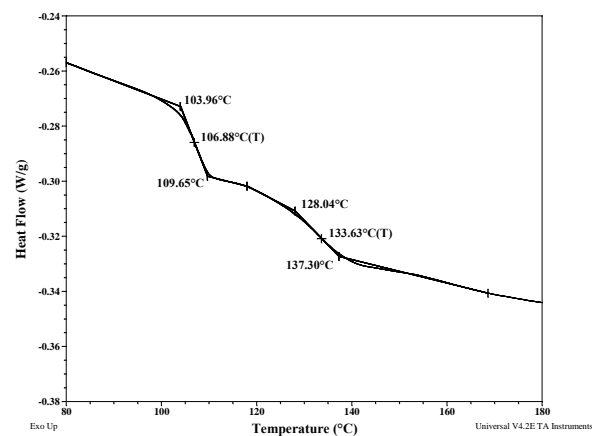
P10476-SMMA



— Polystyrene, M_n=200,000, M_w=218,000, PI=1.09

— Block Copolymer PS(200,000)-b-PMMA(190,000), PI=1.5

DSC thermogram of SMMA:



References for further information:

1. S. K. Varshney, R. Fayt, Ph. Teyssie, and J.P. Hautekeer US Patent 5,264,527 (1993)
2. Ph. Teyssie, Ph. Bayard, R. Jerome, S. K. Varshney, and J. S. Wang, *35th IUPAC International Union of Pure & Applied Chemistry International Symposium on Macromolecules* 1994, 67.
3. Ph. Teyssie, R. Fayt, J. P. Hautekeer, C. Jacobs, R. Jerome, L. Leemans and S. K. Varshney *Makromolekular Chemie, Macromol. Symp.*, 1990, 32,61-73.
4. S. K. Varshney, J. P. Hautekeer, R. Fayt, R. Jerome, and Ph.Teyssie *Macromolecules*, 1990, 23, 2618-2622.