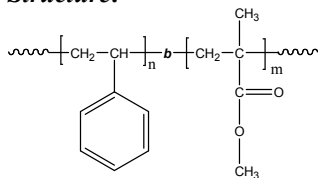


Sample Name: Poly(styrene-*b*-methyl methacrylate)
(polymethylmethacrylate rich in syndiotactic contents
> 78%)

Sample #: P11055-SMMA

Structure:



Composition:

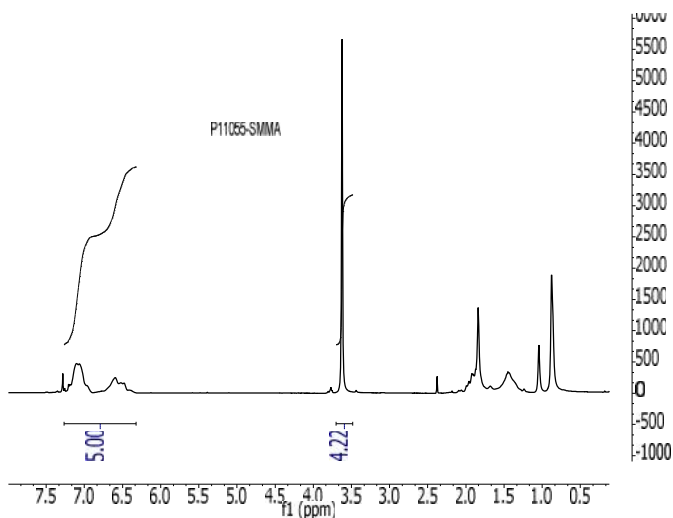
Mn x 10 ³ S-b-MMA	PDI
135.0-b-182.0	1.30
T _g for PS block: 107	T _g for PMMA block: 130 oC
dn/dc in THF at 35 oC	0.127

Synthesis Procedure:

By anionic process: For further details please see our published articles.¹⁻⁵

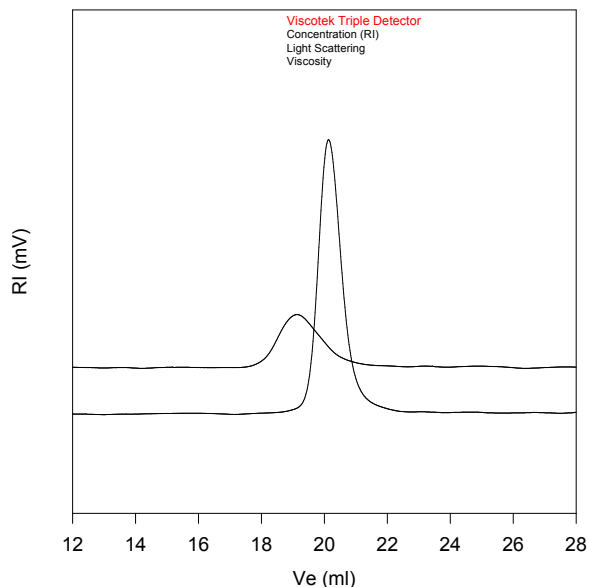
Characterization: The polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the poly(methyl methacrylate) protons (eg. -OCH₃ 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:



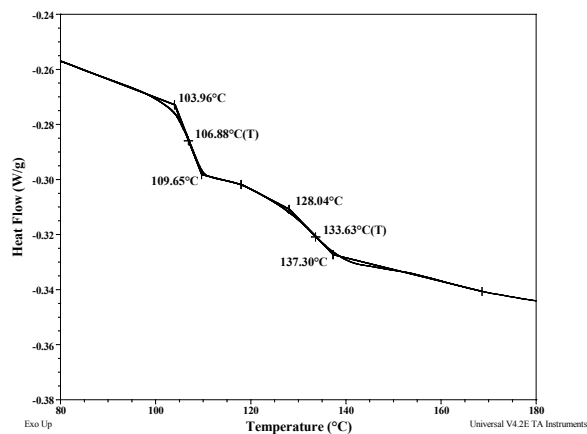
SEC of Sample -SMMA:

P11055-SMMA



Size Exclusion Chromatography of Poly Styrene-*b*-MMA

— PS block M_n = 135,000, M_w = 155,000, M_w/M_n = 1.15
 PS-*b*-MMA: Mn: 135,000-b-182,000 PI: 1.3



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.