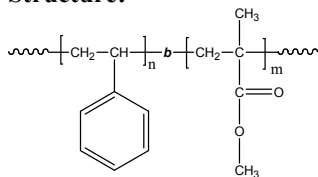


Sample Name: Poly(styrene-b-methyl methacrylate)
(polymethylmethacrylate rich in syndiotactic contents
> 78%)

Sample #: P10699-SMMA

Structure:



Composition:

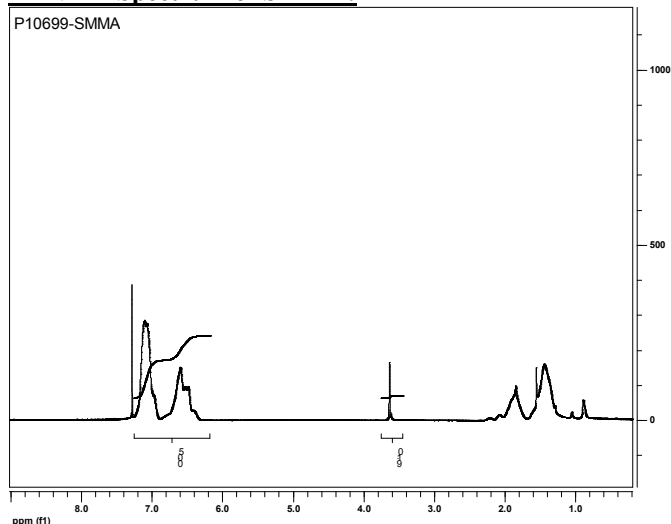
Mn x 10 ³ S-b-MMA	PDI
1,573.0-b-100.0	1.10
T _g for PS block: 107	T _g for PMMA block: 130 °C
dn/dc in THF at 35 °C	0.127

Synthesis Procedure:

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

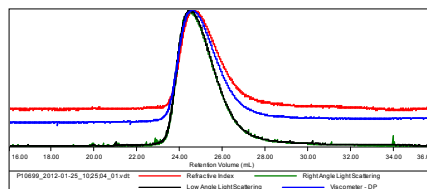
Characterization: Polymer analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the poly(methyl methacrylate) protons (eg. -OCH₃ at 3.6ppm) 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:

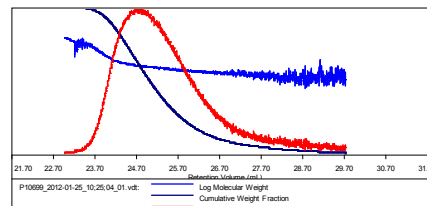


Sample ID: P10699-S

Concentration (mg/mL)	0.8555
Sample dn/dc (mL/g)	0.1850
Method File	PS80K-Jan52012-2-0000.vcm
Column Set	3x PL 1113-6300
System	System 1

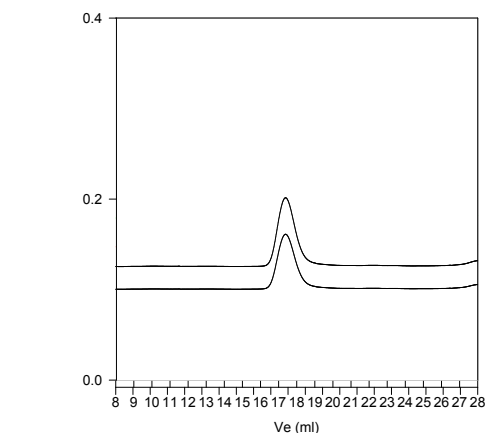


Sample	Mn (Da)	Mw (Da)	Mp (Da)	Mw/Mn	IV (dL/g)
P10699_2012-01-25_10:25:04_01.vdt	1.573 e 6	1.637 e 6	1.682 e 6	1.041	4.1740

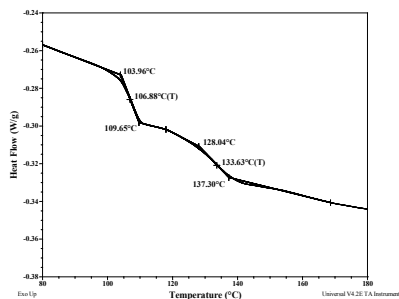


SEC of Sample -SMMA:

P10699-SMMA



Polystyrene, M_n=1,573,000 PI=1.04
 Block Copolymer:
 From composition from H NMR PS(1,573,000)-b-PMMA(100,000) Mw/Mn : 1.10



References for further information:

- S. K. Varshney, R. Fayt, Ph. Teyssie, and J.P. Hautekeer US Patent 5,264,527 (1993)
- 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.
- 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.
- S. K. Varshney, J. P. Hautekeer, R. Fayt, R. Jerome, and Ph.Teyssie Macromolecules, 1990, 23, 2618-2622.