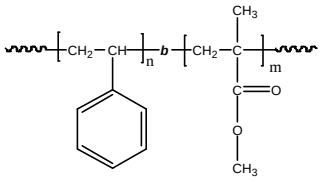
Sample Name: **Poly(styrene-b-methyl methacrylate)**
(polymethylmethacrylate rich in syndiotactic contents > 78%)
Sample #: **P10303-SMMA**

Structure:

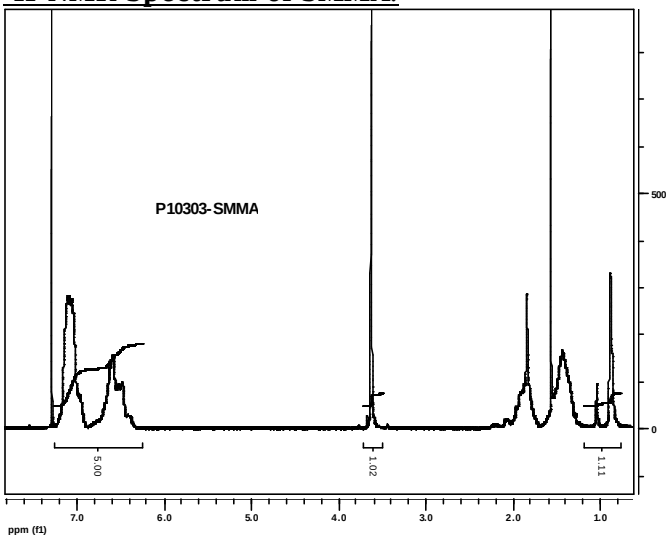


Composition:

Mn x 10^3 S-b-MMA	PDI
750.0-b-250.0	1.15
T_g for PS block: 107°C	T_g for PMMA block: 132 oC
Molecular weight Light scattering data	987,000
dn/dc in THF at 35 oC	0.127

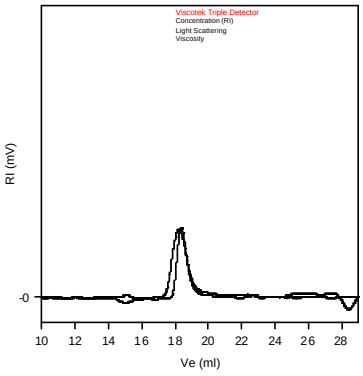
***Synthesis Procedure*:**
By anionic process: For further details please see our published articles.[1-5]
Characterization: Polymer analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ^{1}H-NMR spectroscopy by comparing the peak area of the poly(methyl methacrylate) protons (eg.–OCH_3 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.

^{1}H-NMR Spectrum of SMMA:



SEC of Sample -SMMA:

P10303-SMMA

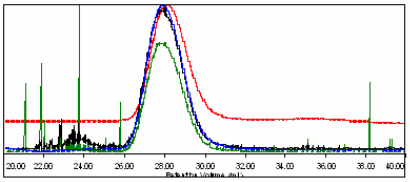


Size Exclusion Chromatography of Poly Styrene-b-MMA

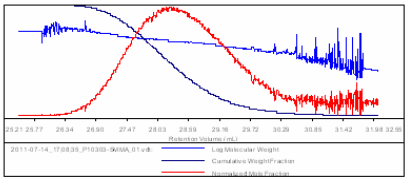
PS block M_n = =750,000, M_w = `795,500, M_w/M_n = 1.06
PS-b-MMA: Mn; =750,000-b-250,000 PI: 1.15

Sample ID: P10303-SMMA

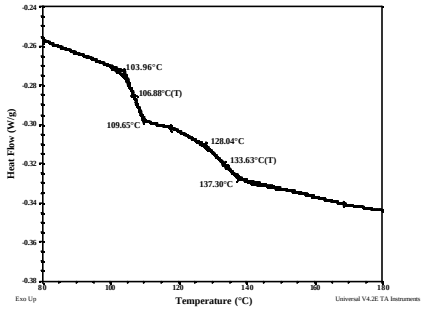
Concentration (mg/ml)	1.8681
Sample dn/dc	0.1270
Method File	PS80K-July-0000.vcm
Column Set	3xPL1113-6300
System	System 1



Sample	Mn (Daltons)	Mw (Daltons)	Mp (Daltons)	MwMn	IV (dl/g)
2011-07-14_17;08;35_P10303-SMMA_01.vdt	987,213	1.130 e 6	1.114 e 6	1.145	2.6033



Thermogram for the sample



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.*