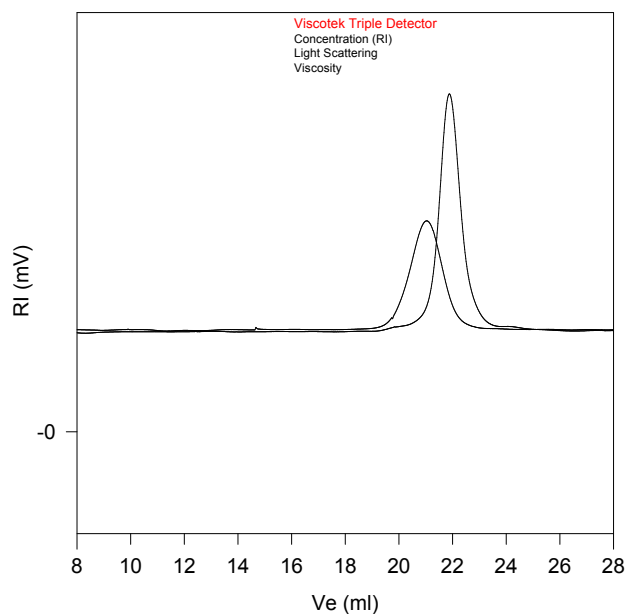


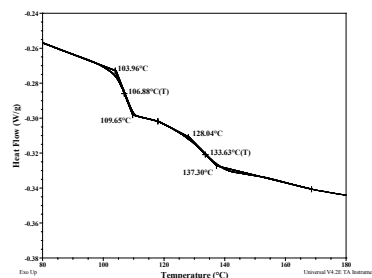
## SEC of Sample -SMMA:

### P10415-SMMA



Size Exclusion Chromatography of Poly Styrene-b-MMA

— PS block  $M_n = 68,000$ ,  $M_w = 73,500$ ,  $M_w/M_n = 1.08$   
PS-b-MMA:  $M_n = 68,000$ - $65,000$  PI: 1.25



## References for further information:

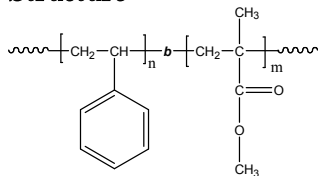
1. S. K. Varshney, R. Fayt, Ph. Teyssie, and J.P. Hautekeer US Patent 5,264,527 (1993)
2. Ph. Teyssie, Ph. Bayard, R. Jerome, S. K. Varshney, and J. S. Wang, *35th IUPAC International Union of Pure & Applied Chemistry International Symposium on Macromolecules* 1994, 67.
3. Ph. Teyssie, R. Fayt, J. P. 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.

**Sample Name:** Poly(styrene-b-methyl methacrylate)

*(polymethylmethacrylate rich in syndiotactic contents > 78%)*

**Sample #:** P10415-SMMA

**Structure:**



**Composition:**

$M_n \times 10^3$ S-b-MMA	PDI
68.0-b-65.0	1.19
$T_g$ 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.<sup>1-5</sup>

**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  $^1\text{H-NMR}$  spectroscopy by comparing the peak area of the poly(methyl methacrylate) protons (eg.  $-\text{OCH}_3$  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.

## $^1\text{H-NMR}$ Spectrum of SMMA:

