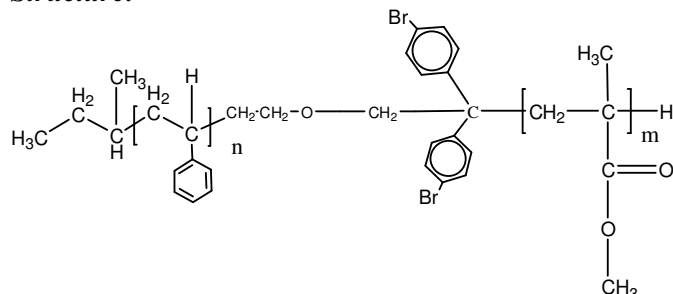


Sample Name:

Acid-cleavable poly(styrene-*b*-methyl methacrylate)
(PMMA is rich in syndiotactic contents, >78%)

Sample # P10293-SMMA

Structure:



Composition:

Mn x 10 ³ (g/mol) [PS- <i>b</i> -PMMA]	Mw/Mn
26.5- <i>b</i> -0.3	1.09

Synthesis procedure:

Cleavable poly(styrene-*b*-methyl methacrylate) was prepared by living anionic polymerization in THF.

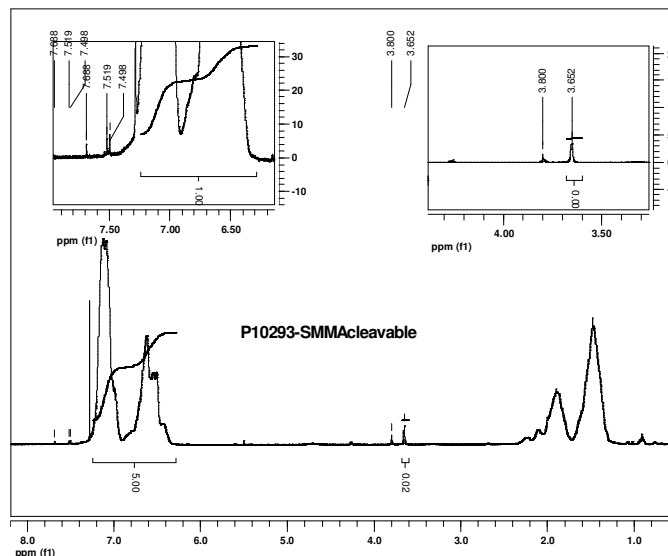
Characterization:

The molecular weight and polydispersity index of the polymer were determined by size exclusion chromatography (SEC). The ratio between blocks was also calculated from ¹H NMR spectrum by comparing peak area of -OCH₃ protons of poly(methyl methacrylate) (at 3.6 ppm) and aromatic protons of polystyrene (at 6.3–7.2 ppm).

References for further information:

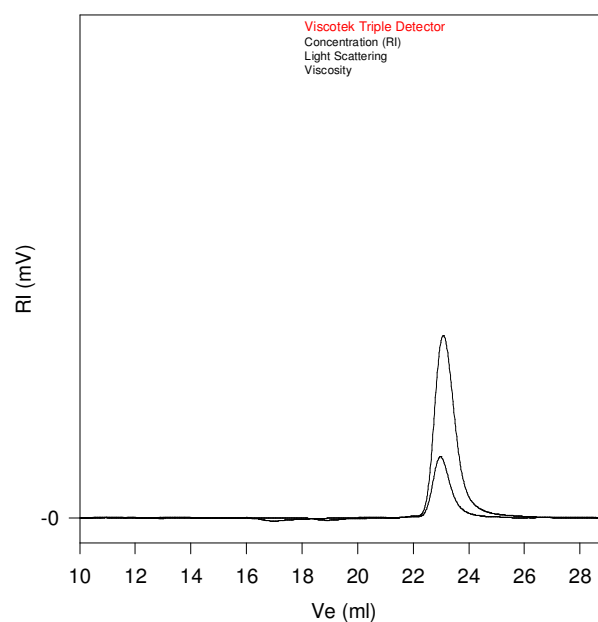
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2. Ph. Teyssie, Ph. Bayard, R. Jerome, S. K. Varshney, J. S. Wang. *35th IUPAC International Union of Pure & Applied Chemistry International Symposium on Macromolecules*, 1994, 67.
3. Ph. Teyssie, R. Fayt, J. P. Hautekeer, C. Jacobs, R. Jerome, L.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

¹H NMR spectrum of SMMA diblock copolymer:



SEC elugrams of first block and diblock copolymer:

P10293-SMMAcleavable



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

— PS block M_n = 26,000, M_w = 27,500, M_w/M_n = 1.06
PS-*b*-MMA: M_n = 26,000-*b*-300 PI: 1.09