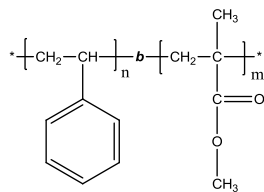


Sample Name: Poly (styrene-*b*-methyl methacrylate)
(PMMA block is predominantly syndiotactic, >78%)

Sample #: P40590-SMMA

Structure:



Composition:

| | |
|---------------------------------|------|
| Mn x 10 ³ S-b-MMA | PDI |
| 65.0-b-264.0 | 1.10 |

| | |
|--------------------------------|-------|
| T _g for PS block: | 103°C |
| T _g for PMMA block: | 103°C |

Synthesis procedure:

The polymer was synthesized by anionic polymerization.

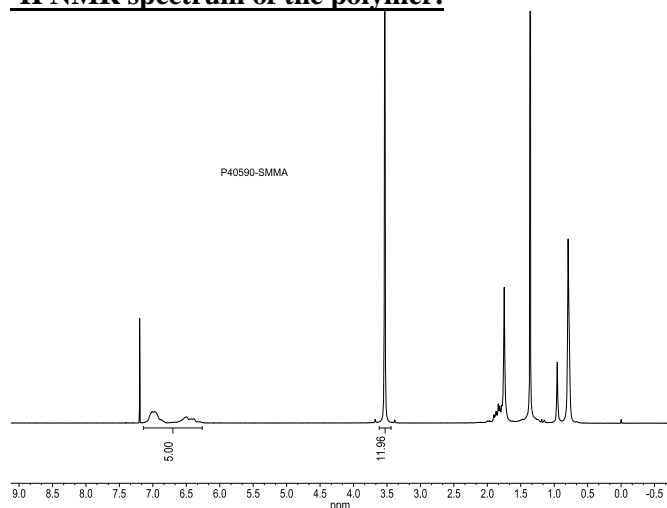
Characterization:

The molecular weight and polydispersity index of the polymer were determined by size exclusion chromatography (SEC). The ratio between blocks was calculated from ¹H NMR spectrum.

Solubility:

Poly(styrene-*b*-methyl methacrylate) is soluble in THF, toluene, dioxane, chloroform; and it precipitates from methanol, ethanol, hexanes, water.

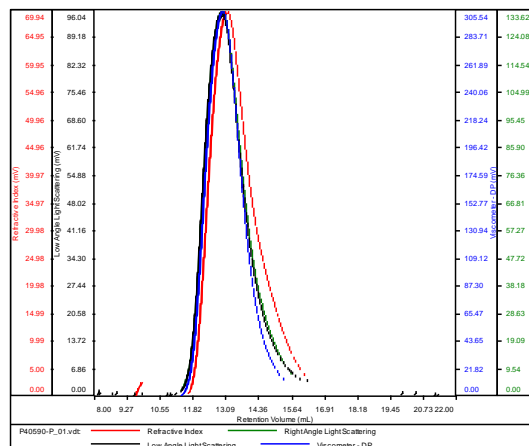
¹H NMR spectrum of the polymer:



SEC elugram of the Polymer:

P40590-SMMA

| | |
|-----------|------------------------|
| Conc | 9.8110 |
| dn/dc | 0.1020 |
| Solvent | DMF w 0.023M LiBr |
| Flow Rate | 0.7000 |
| Method | PS80k-May2017-0000.vcm |



| Sample | MW Number Average | MW Weight Average | MW at Peak | Polydispersity | Intrinsic Viscosity |
|-----------------|-------------------|-------------------|------------|----------------|---------------------|
| P40590-P_01.vdt | 329,057 | 364,532 | 368,734 | 1.108 | 0.5696 |

References:

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.