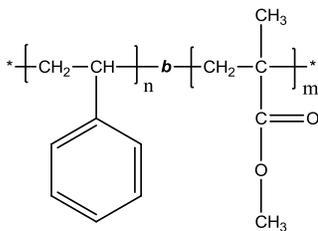


**Sample Name:** Poly (styrene-*b*-methyl methacrylate)

**Sample #:** P18253A-SMMA

**Structure:**



**Composition:**

Mn x 10 <sup>3</sup> S-b-MMA	PDI
465.0-b-35.0	1.22
Microstructure for PMMA block	S:H:I 48:52:0

**Synthesis procedure:**

Poly(styrene-*b*-methyl methacrylate) is prepared by living anionic polymerization in THF at -78 °C using cumyl potassium initiator in the presence of LiCl. Polystyrene macroanions were end capped with a unit of diphenyl ethylene (DPE) before adding methylmethacrylate (MMA) monomer. For further details please see our published articles.

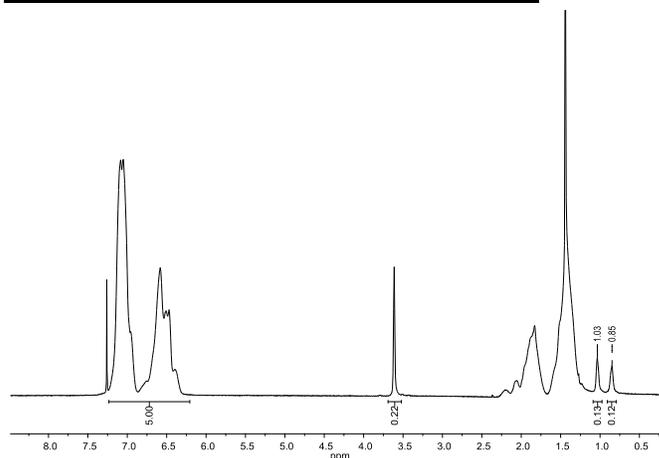
**Characterization:**

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

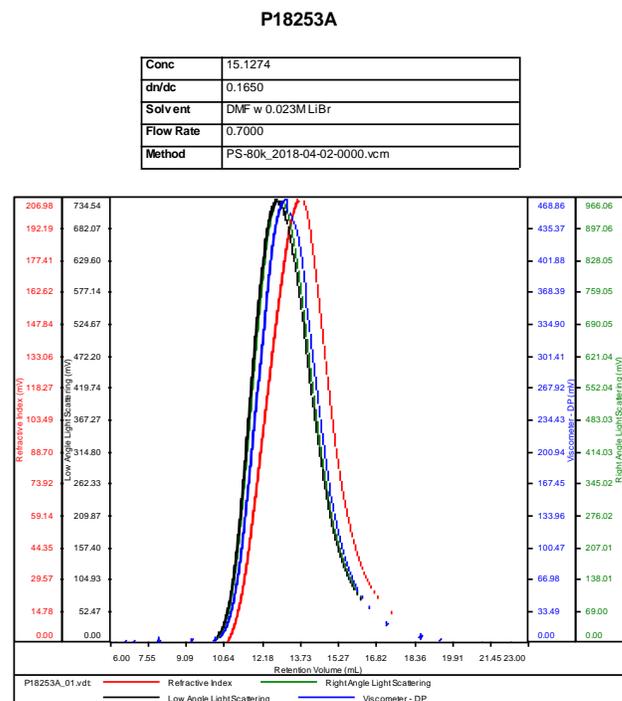
**Solubility:**

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

**<sup>1</sup>H NMR spectrum of the block copolymer:**



**SEC elugram of the block copolymer:**



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18253A_01.vdt	499,950	606,998	493,683	1.214	1,0406

**References:**

- 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.