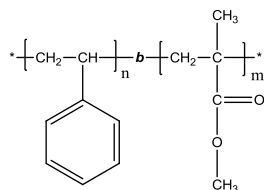


**Sample Name:** Poly (styrene-*b*-methyl methacrylate)  
(PMMA block is predominantly syndiotactic, >78%)

**Sample #:** P40651-SMMA

**Structure:**



**Composition:**

Mn x 10 <sup>3</sup> S-b-MMA	PDI
46.0-142.0	1.10

T <sub>g</sub> for PS block:	103°C
T <sub>g</sub> for PMMA block:	103°C

**Synthesis procedure:**

The polymer was synthesized by anionic polymerization.

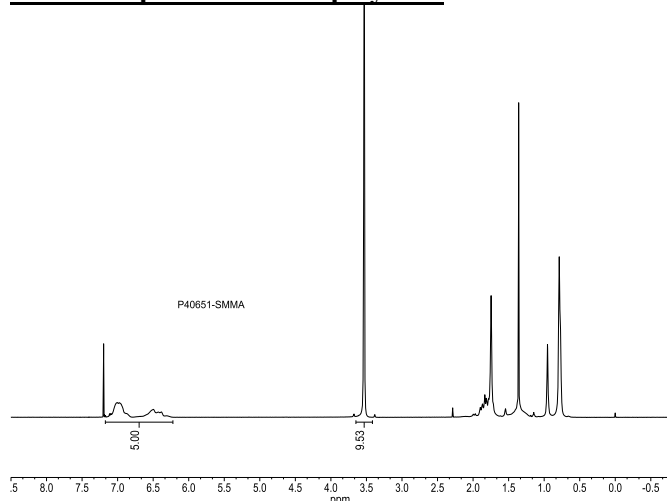
**Characterization:**

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

**Solubility:**

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

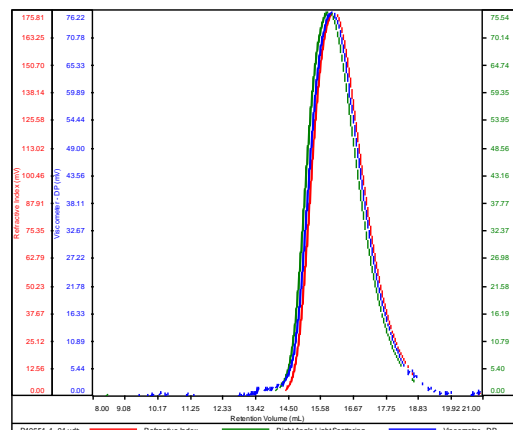
**<sup>1</sup>H NMR spectrum of the polymer:**



**SEC elugram of the Styrene block:**

**P40651-S**

Conc	8.8701
dn/dc	0.1650
Solvent	DMF w 0.023M LiBr
Flow Rate	0.7000
Method	PS80k_July-2017-0003.vcm

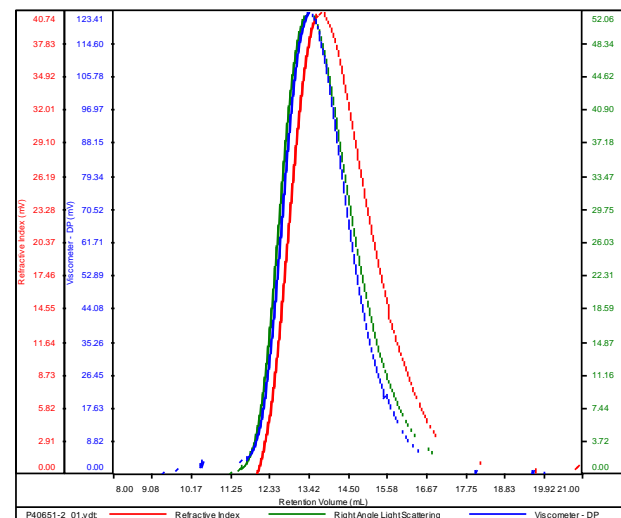


Sample	Mn	Mw	Mp	Mw/Mn	IV
P40651-1_01.vdt	45,448	48,464	45,394	1.066	1.0000

**SEC elugram of the polymer:**

**P40651-SMMA**

Conc	3.4035
dn/dc	0.1260
Solvent	DMF w 0.023M LiBr
Flow Rate	0.7000
Method	PS80k_July-2017-0003.vcm



Sample	Mn	Mw	Mp	Mw/Mn	IV
P40651-2_01.vdt	187,689	207,529	203,619	1.106	1.0000

**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.