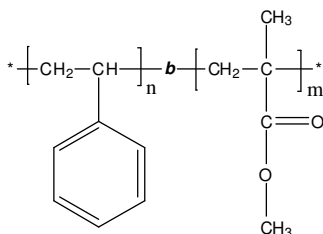


Sample Name: Poly (styrene-*b*-methyl methacrylate)
(PMMA block is predominantly syndiotactic, >78%)

Sample # P19599-SMMA

Structure:



Composition:

Mn x 10 ³ S-b-MMA	PDI
52.0-b-53.0	1.17

T _g for PS block:	102 °C
T _g for PMMA block:	111°C

Synthesis procedure:

The polymer was synthesized by anionic polymerization.

Characterization:

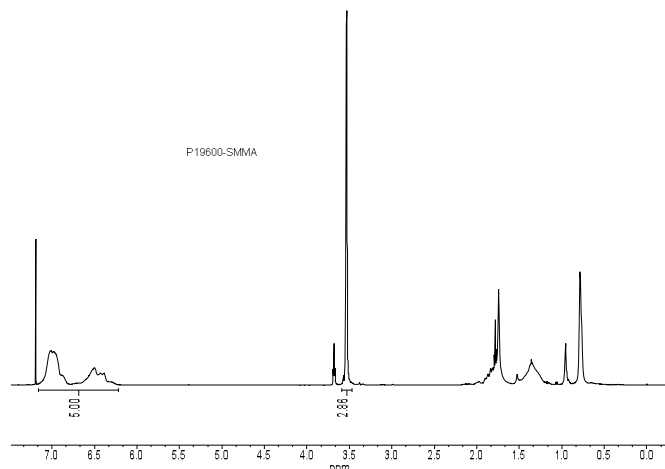
The polymer was characterized by SEC, ¹H NMR, and DSC.

Thermal analysis of the sample was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 15°C/min. The inflection glass transition temperature (T_g) of the sample has been considered.

Solubility:

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

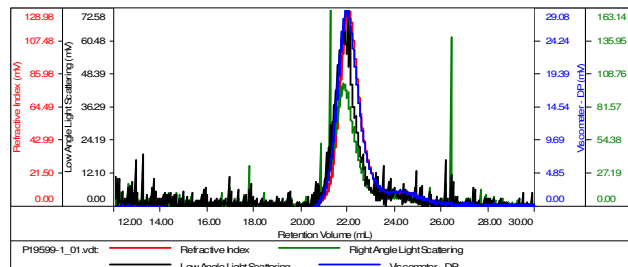
¹H-NMR spectrum of the polymer:



SEC of the polymer :first block

Sample ID-P19599-1

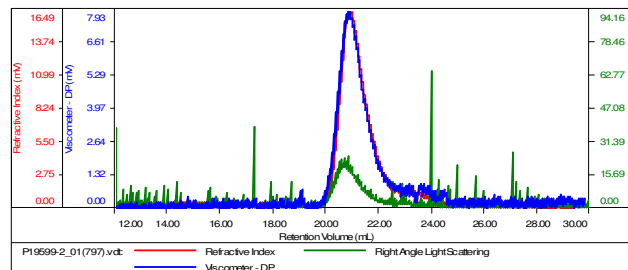
Concentration (mg/mL)	0.2831
Sample dn/dc (mL/g)	0.1850
Method File	PS80K-Nov-2015-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P19599-1_01.vcl	51,874	57,527	50,199	1.109	3.2930

Sample ID-P19599-SMMA

Concentration (mg/mL)	0.0549
Sample dn/dc (mL/g)	0.1330
Method File	PS80K-Nov-2015-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P19599-2_01(797).vcl	105,141	123,291	106,753	1.173	4.9902

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.
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.
5. A. Guyot Ed., NATO ASI Series C 215,101 (1987), CA Vol. 108, 12, 094992.