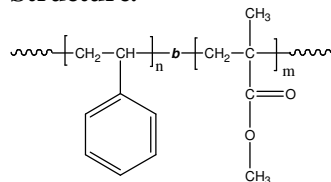


**Sample Name:** Poly (styrene-*b*-methyl methacrylate)  
(polymethylmethacrylate rich in syndiotactic contents  
> 78%)

**Sample #:** P19437-SMMA

#### Structure:



#### Composition:

|                                 |     |
|---------------------------------|-----|
| Mn x 10 <sup>3</sup><br>S-b-MMA | PDI |
| 210.0-b-244.0                   | 1.6 |

|                                    |                                    |
|------------------------------------|------------------------------------|
| T <sub>g</sub> for PS block: 107°C | T <sub>g</sub> for PS block: 133°C |
|------------------------------------|------------------------------------|

#### Synthesis Procedure:

The polymer was synthesized by anionic polymerization

#### Characterization:

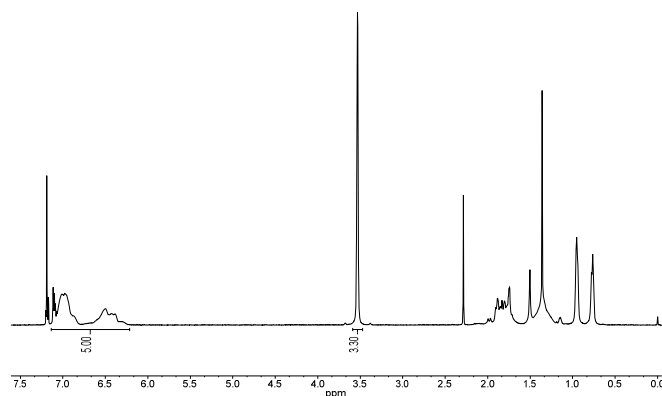
The polymer was characterized by SEC and <sup>1</sup>H NMR.

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

#### Solubility:

Poly (styrene-*b*-methyl methacrylate) is soluble in THF, toluene, dioxane and CHCl<sub>3</sub>. This polymer readily precipitates from methanol, ethanol, hexanes and water.

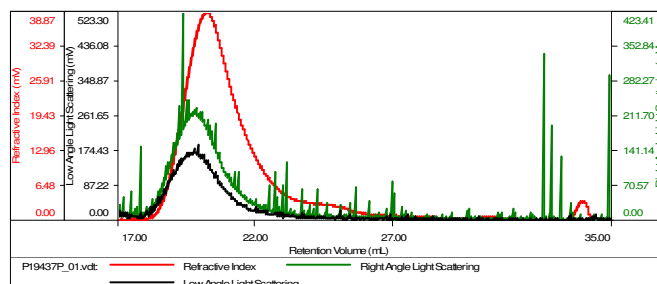
#### <sup>1</sup>H-NMR Spectrum of the Polymer:



#### SEC elugram of the polymer: run in DMF

Sample ID: P19437-SMMA

|                       |                          |
|-----------------------|--------------------------|
| Concentration (mg/mL) | 1.6795                   |
| Sample dn/dc (mL/g)   | 0.1300                   |
| Method File           | PS80K-May112016-0000.vcm |
| Column Set            | 3x PL 1113-6300          |
| Solvent               | THF                      |



| Sample         | Mn (Da) | Mw (Da) | Mw/Mn | IV (dL/g) | Mp (Da) |
|----------------|---------|---------|-------|-----------|---------|
| P19437P_01.vdt | 453,795 | 740,779 | 1.632 | 3.8942    | 558,830 |

#### *References for the further information:*

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