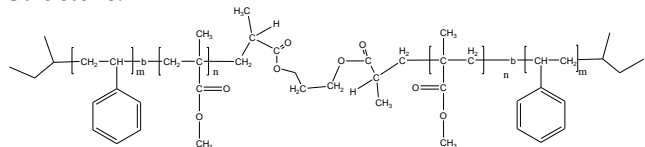


**Sample Name:**  
**Poly(Styrene-b-methylmethacrylate-b-Styrene)**  
**(radical process )**

Sample #: P14486C-SMMAS

Structure:

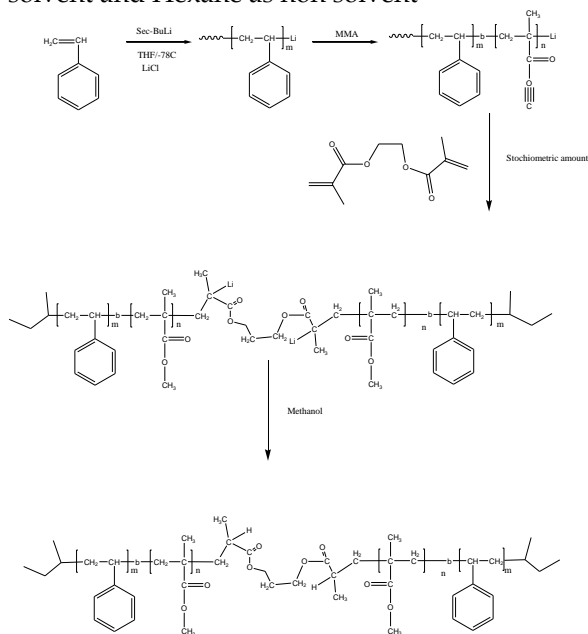


**Composition:**

|                                     |                                      |
|-------------------------------------|--------------------------------------|
| Mn $\times 10^3$<br>(S-b-MMA-S)     | PDI                                  |
| 8.0-b-19.0-b-8.0                    | 1.16                                 |
| Microstructure of<br>PMMA block     | S:H:I contents<br>59:37:4            |
| T <sub>g</sub> for PS block: 100 oC | T <sub>g</sub> for MMA block: 116 °C |

**Synthesis Procedure:**

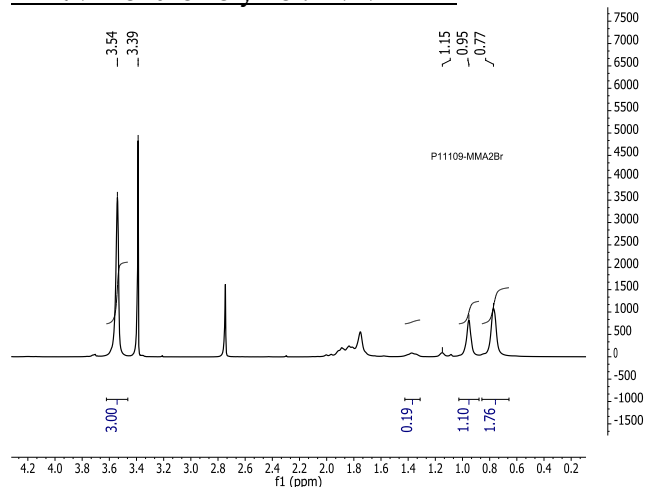
Poly(styrene-b-methylmethacrylate-b-styrene) is prepared by Anionic process and the obtained polymer was fractionated repeated time to remove unreacted diblock copolymer using Aceton-THF as solvent and Hexane as non solvent



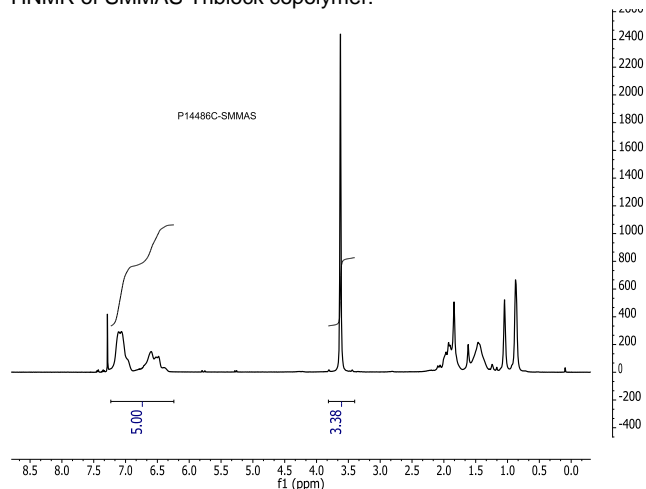
**Characterization:**

The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

**<sup>1</sup>H NMR of the Polymer: PMMA-2Br**



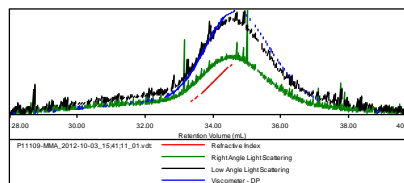
**HNMR of SMMAS Triblock copolymer:**



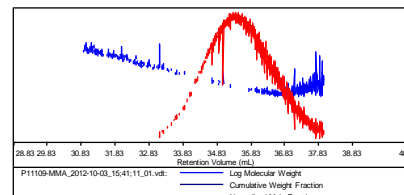
**SEC of PMMA-2Br**

Sample ID: P11109-MMA

|                       |                         |
|-----------------------|-------------------------|
| Concentration (mg/mL) | 14.0396                 |
| Sample dn/dc (mL/g)   | 0.0840                  |
| Method File           | PS80K-Oct-2012-0001.vcm |
| Column Set            | 3x PL 1113-6300         |
| System                | System 1                |

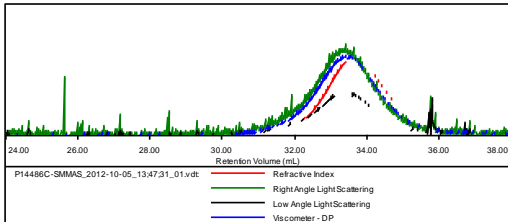


| Sample                                | Mn (Da) | Mw (Da) | Mp (Da) | Mw/Mn | IV (dL/g) |
|---------------------------------------|---------|---------|---------|-------|-----------|
| P11109-MMA_2012-10-03_15:41:11_01.vcl | 18,990  | 24,204  | 18,448  | 1.275 | 0.1510    |

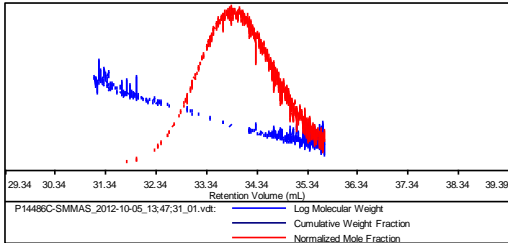


Sample ID: P14486C-SMMAS

|                       |                         |
|-----------------------|-------------------------|
| Concentration (mg/mL) | 3.8655                  |
| Sample dn/dc (mL/g)   | 0.1100                  |
| Method File           | PS80K-Oct-2012-0001.vcm |
| Column Set            | 3x PL 1113-6300         |
| System                | System 1                |



| Sample                                | Mn (Da) | Mw (Da) | Mp (Da) | Mw/Mn | IV (dL/g) |
|---------------------------------------|---------|---------|---------|-------|-----------|
| P14486C-SMMAS_2012-10-05_13:47:31_01. | 33,953  | 39,279  | 36,323  | 1.157 | 0.1918    |



Reference:

S.K. Varshney, P. Kesani, N. Agarwal, J. Xin. Zhang, and M. Rafailovich. Synthesis of ABA type thermoplastic elastomers based on Polyacrylates, Macromolecules,1999, 32,235.