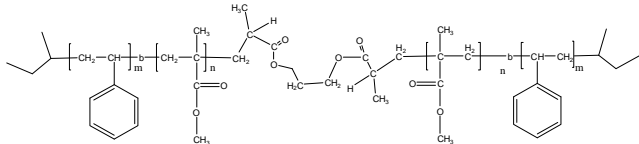


Sample Name:

Poly(Styrene-*b*-Methyl Methacrylate-*b*-Styrene)
(PMMA is atactic)

Sample # **P11084A-SMMAS**

Structure:

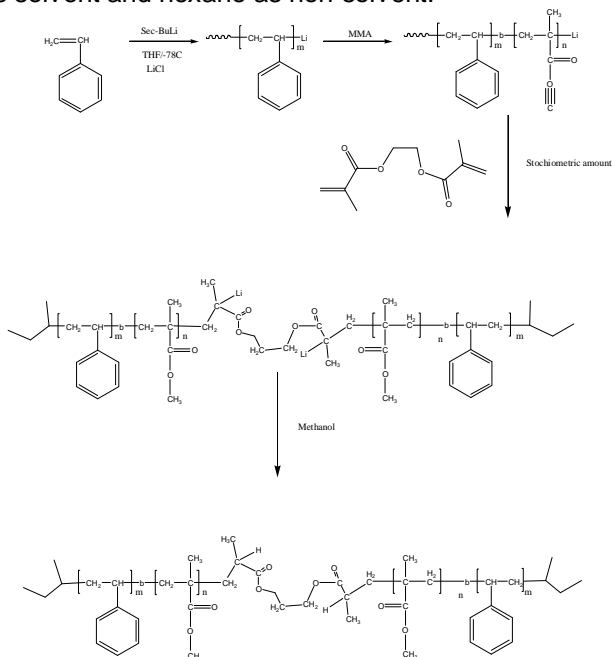


Composition:

Mn x 10 ³ S-b-MMA-b-S	PDI
120.0-b-400.0-b-120.0	1.22
Microstructure of PMMA block:	S:H:I = 79:18:3
T _g for PS block:	100°C
T _g for PMMA block:	116°C

Synthetic Procedure:

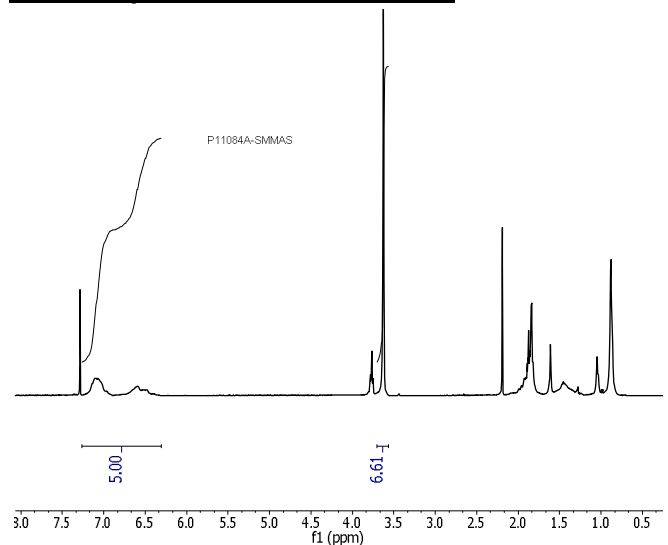
Poly(styrene-*b*-methylmethacrylate-*b*-styrene) triblock copolymer was prepared by anionic process. The obtained polymer was fractionated several times to remove unreacted diblock copolymer using acetone-THF as solvent and hexane as non-solvent.



Characterization:

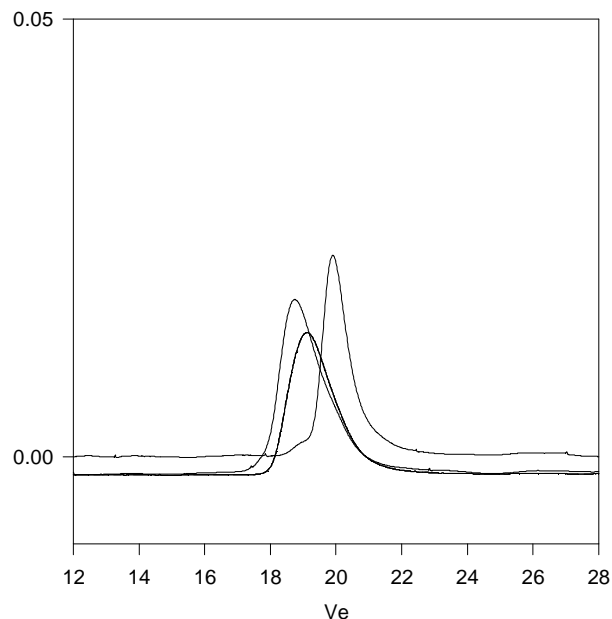
The molecular weight and polydispersity index of the polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

¹H-NMR spectrum of PS-PMMA-PS:



SEC elugram of PS-PMMA-PS:

P11084A-SMMAS



Size Exclusion Chromatography of:

- PStyrene first block, M_n=120,000 Mw: 131,000, PI=1.09
- SMMMA Diblock PS(120,000)-b-PMMA(200,000) PI=1.35
- After Linking reaction and fractionation :
PS-b-MMA-b-S Mn 120,000-b-400,000-b-120,000 Mw/Mn 1.22

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.