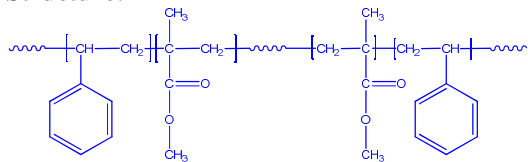


Poly(Styrene-*b*-methylmethacrylate-*b*-Styrene) (ATRP process)

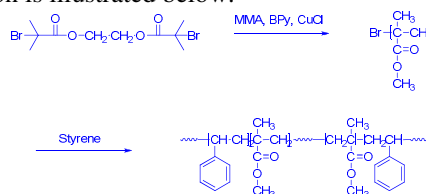
Structure:



Mn $\times 10^3$ (S-b-MMA-S)	PDI
1.4-b-19.0-b-1.4	1.20

Microstructure of PMMA block	S:H:I contents 59:37:4
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Poly(styrene-*b*-methyl methacrylate-*b*-styrene) is prepared by ATRP using difunctional initiator. The scheme of the reaction is illustrated below:



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

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.

¹H NMR spectrum of P11109-MMA2Br in CDCl₃. The x-axis represents the chemical shift δ (ppm) from 4.2 to 0.2. The y-axis represents intensity from -1500 to 7500. The spectrum shows several peaks with integration values indicated below them.

Chemical Shift δ (ppm)	Integration
3.54	3.00
3.39	3.00
2.7	2.00
1.8	1.00
1.15	0.19
0.95	1.10
0.77	1.76

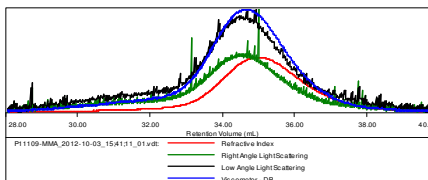
14889
 Company Polymer Source
 1d_proton_16scan CDCI3 (D:)Polymer Source PSource 42

7.8 7.6 7.4 7.2 7.0 6.8 6.6 6.4 6.2 6.0 5.8 5.6 5.4 5.2 5.0 4.8 4.6 4.4 4.2 4.0 3.8 3.6 3.4 3.2 3.0 2.8 2.6 2.4 2.2

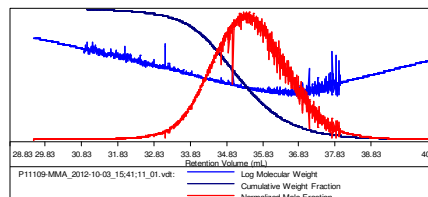
0.62
 3.00

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

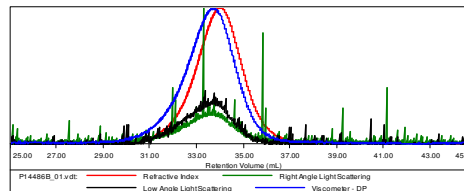


Sample	Mn (Da)	Mw(Da)	Mp (Da)	MwMn	IV (dL/g)
P11109-MMA_2012-10-03_15:41;11_01.vcl	18,990	24,204	18,448	1.275	0.1510



Sample ID: P14486B-SMMAS

Concentration (mg/mL)	16.7803
Sample dn/dc (mL/g)	0.0920
Method File	PS80K-Sep26-2013-0000.vcm
Column Set	3x PL 1113-6300
System	System 1



Sample	Mn	Mw	Mp	Mw/Mn	IV
P14486B_01.vdt	21,882	26,349	20,152	1.204	0.1498

