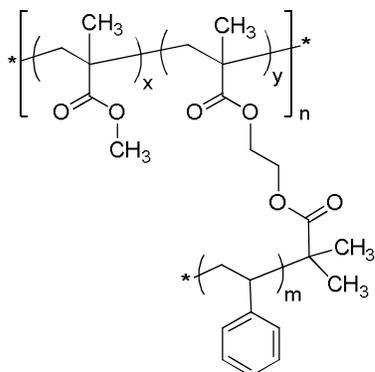


Sample Name: Poly(methyl methacrylate-*co*-[isobutrylethyl methacrylate-*graft*-polystyrene])

Sample #: P13069-MMAIBEMAran-g-S

Structure:



Composition:

MMA- <i>co</i> -BrIBEMA (starting random copolymer, lot # P13068-1)		
$M_n \times 10^3$ (g/mol)	BrIBEMA content	M_w/M_n
23.6	4 mol%	1.5

MMA- <i>co</i> -(IBEMA- <i>g</i> -S)	
$M_n \times 10^3$ (g/mol)	M_w/M_n
22.6- <i>co</i> -0.7- <i>g</i> -19.3	1.8

T_g of MMA- <i>co</i> -(IBEMA- <i>g</i> -S):	105°C
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Synthesis procedure:

Poly(methyl methacrylate-*co*-2-bromoisobutryl ethyl methacrylate) random copolymer was synthesized by living anionic polymerization, followed by grafting polystyrene on IBEMA units by controlled radical polymerization.

Characterization:

The molecular weight and polydispersity index of the polymer were determined by size exclusion chromatography (SEC) using THF (containing triethyl amine) as an eluent.

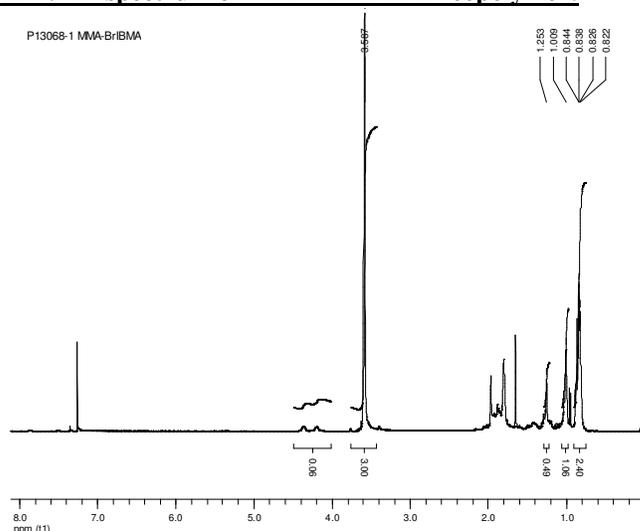
Thermal analysis:

Thermal analysis was performed on TA Instruments Q100 differential scanning calorimeter (DSC) under a nitrogen atmosphere. The glass transition temperature (T_g) of the polymer was measured at a scan rate of 10°C/min shortly after creating thermal history of the sample.

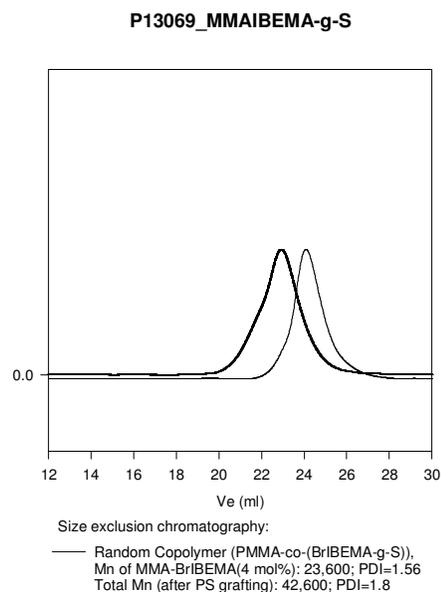
Solubility:

The polymer is soluble in THF, chloroform.

^1H NMR spectrum of MMA-BrIBEMA copolymer:



SEC elugram of MMA-BrIBEMA (random copolymer) and MMAIBEMAran-g-S (graft copolymer) in THF:



DSC thermogram of the polymer:

