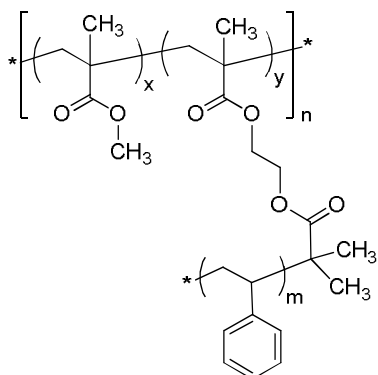


Sample Name: Poly(methyl methacrylate-*co*-[isobutyrylethyl methacrylate-*graft*-polystyrene])

Sample #: P13069-MMAIBEMARan-g-S

Structure:



Composition:

MMA-co-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-co-(IBEMA-g-S)	
$M_n \times 10^3$ (g/mol)	M_w/M_n
22.6-co-0.7-g-19.3	1.8
T_g of MMA-co-(IBEMA-g-S):	105°C

Synthesis procedure:

Poly(methyl methacrylate-*co*-2-bromoisobutyryl 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.

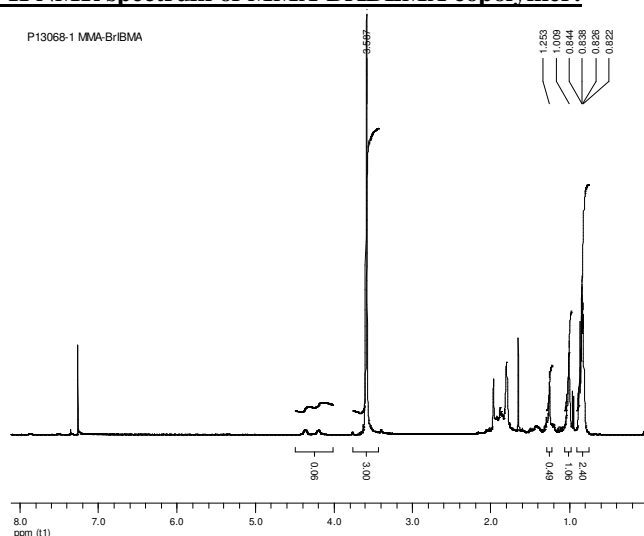
Thermal analysis:

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.

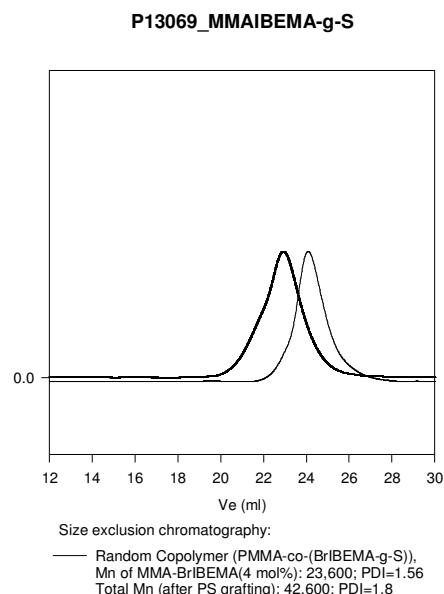
Solubility:

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:

