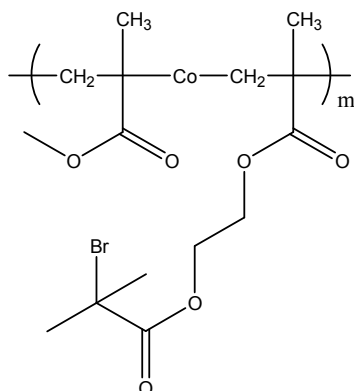


Sample Name:

Poly(methylmethacrylate-co-(isobutryl)ethylmethacrylate)

Sample #: P13068-8-MMABrIBEtMAran

Structure:**Composition:**

$M_n \times 10^3$ MMA-Co-BrIBEtMA	PDI
34.7	5.35
Mol % BrIBEMA: 72%	Synd:60% Hetero:36% Iso:4%
T_g for the polymer	49 °C

Synthesis Procedure:

Poly(Methylmethacrylate-Co-2-bromoisobutryl ethylmethacrylate) random copolymer was synthesized by Reversible Addition-Fragmentation chain-transfer (RAFT).

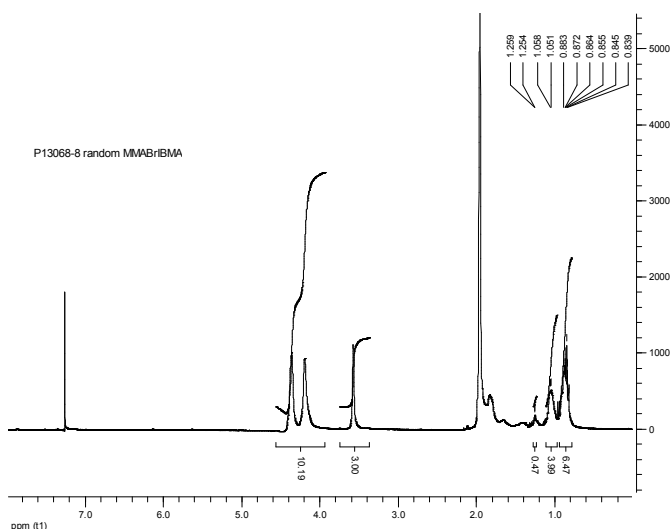
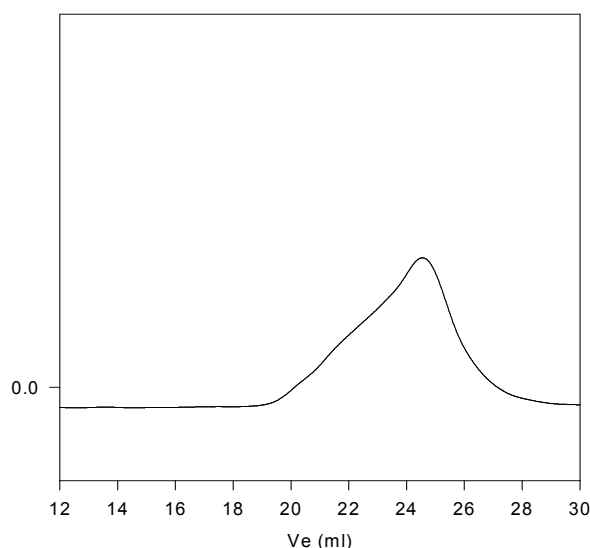
SEC analysis of the obtained block copolymer in THF was carried out in THF and triethyl amine as eluent. The final random copolymer composition was confirmed by $^1\text{H-NMR}$ spectroscopy in CdCl_2 by comparing the peak area of the methyl ester protons at 3.6 ppm against ethyl methacrylate at 4.2-4.17 ppm. Block copolymer PDI was determined by SEC.

Thermal analysis:

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of $10^\circ\text{C}/\text{min}$. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

Polymer is soluble in THF and CHCl_3 .

 $^1\text{H-NMR}$ Spectrum of the block copolymer :**SEC of the block copolymer:****P13068-8-MMA-Co-BrIBEMA**

Size exclusion chromatography:

— Random Copolymer PMMA-Co-BrIBEMA, M_n : 34.7, PI : 5.35
Mol % of Br: 72%
composition from H NMR: s: 60%, h: 36%, i: 4%

DSC thermogram for the polymer: