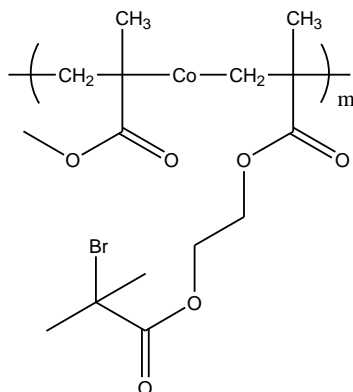


Sample Name:

Poly(methylmethacrylate-co-bromo isobutryl ethylmethacrylate)

Sample #: P5868-MMABrIBEtMAran

Structure:**Composition:**

$M_n \times 10^3$ MMA-Co-BrIBEMA	PDI
6.5	1.4
Mol % MMA: 60%	Synd:60%; Hetero:36%; Iso:4%
T_g for the polymer	51°C

Synthesis Procedure:

Poly(Methylmethacrylate-Co-2-bromoisobutryl ethylmethacrylate) random copolymer was synthesized by reversible addition-fragmentation chain-transfer (RAFT).

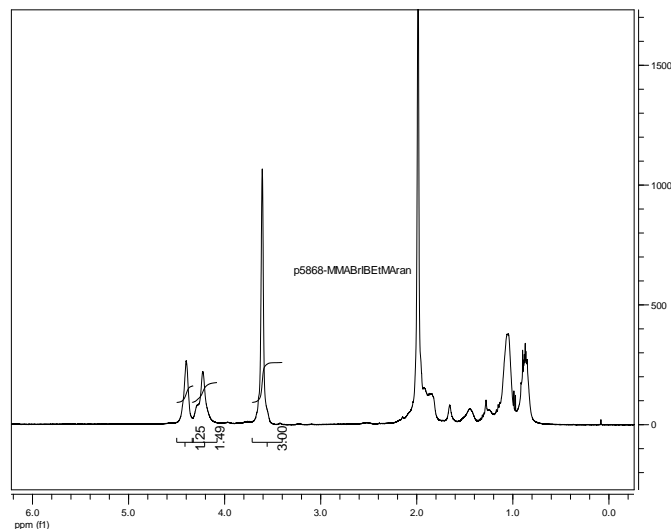
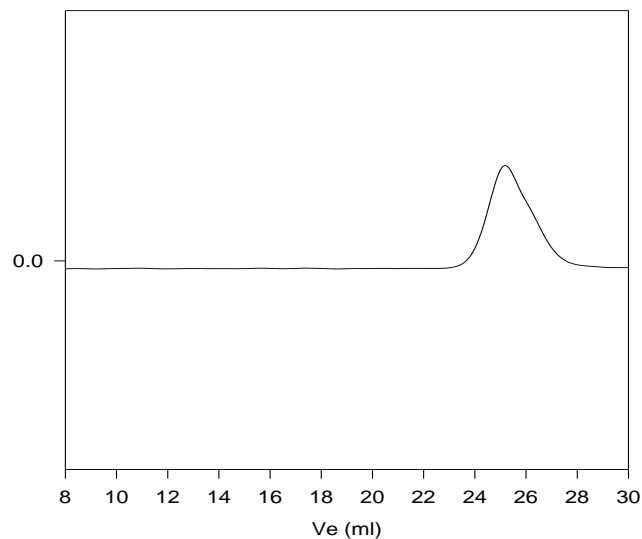
SEC analysis of the obtained block copolymer in THF was carried out in THF and triethyl amine as eluent. The final random copolymer composition was confirmed by $^1\text{H-NMR}$ spectroscopy in CdCl_2 by comparing the peak area of the methyl ester protons at 3.6 ppm against ethyl methacrylate at 4.2-4.17 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°C/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 copolymer :**SEC of the block copolymer:****P5868-MMABrIBEMAran**

Size exclusion chromatography:

— Random Copolymer M_n : 6500 M_w : 9000 M_w/M_n 1.4
Mol % of MMA: 60%
composition from H NMR: s: 60%, h: 36%, i:4%

DSC thermogram for the polymer: