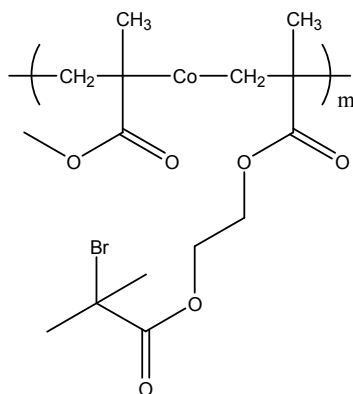## Sample Name:

Poly(methylmethacrylate-co- (isobutryl)ethylmethacrylate)

gSample #: P13068-1-MMABrIBEtMAran

Structure:

Composition:

Mn × 10^3 MMA-Co-BrIBEMA	PDI
23.6	1.54
Mol % BrIBEMA: 1.5 %	Synd:61% Hetero:27% Iso:12%
T_g for the polymer	104 ºC

Synthesis Procedure:

Poly(Methylmethacrylate-Co-2-bromoisobutyryl ethylmethacrylate) random copolymer was synthesized by Reversible Addition-Fragmentation cahin-transfert (RAFT).
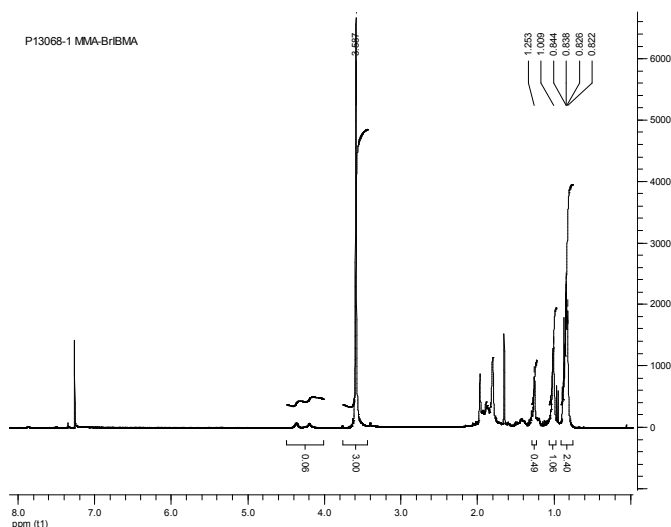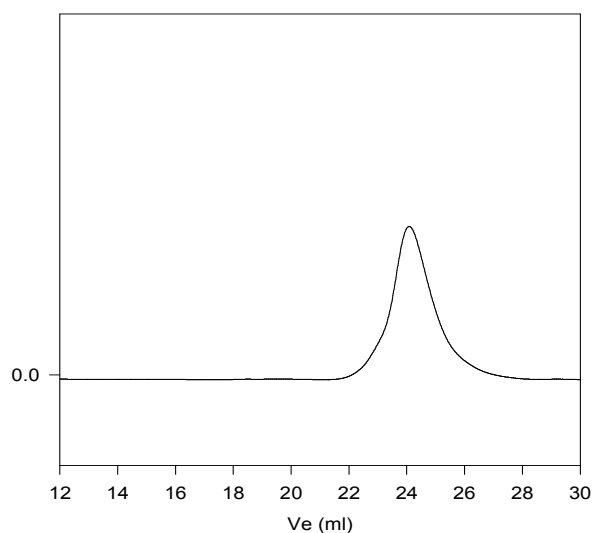
SEC analysis of the obtained block copolymer in THF was carried out in THF and triethyl amine as eluent. The final random copolymer composition was confirmed by ^{1}H-NMR spectroscopy in CdCl3 by comparing the peak area of the methyl ester protons at 3.6 ppm against ethyl methacrylate at 4.2-4.17 ppm. 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 10ºC/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 CHCl3.

^{1}H-NMR Spectrum of the block copolymer :

SEC of the block copolymer:

P13068-1-MMA-Co-BrIBEMA

Ve (ml)

Size exclusion chromatography:

— Random Copolymer PMMA-Co-BrIBEMA, Mn: 23.6, PI=1.54
Mol % of Br: 1.5%
composition from H NMR: s: 61%, h: 27%, i;12%

DSC thermogram for the polymer: