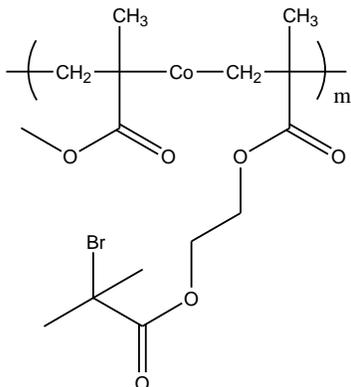


Sample Name:

Poly(methylmethacrylate-co-bromo isobutryl ethylmethacrylate)

Sample #: P13076-MMABrIBEtM Aran

Structure:



Composition:

$M_n \times 10^3$ MMA-Co-BrIBEMA	PDI
11.5	2.5
Mol % MMA: 88%	Synd:60%; Hetero:36%; Iso:4%
T_g for the polymer	46°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.

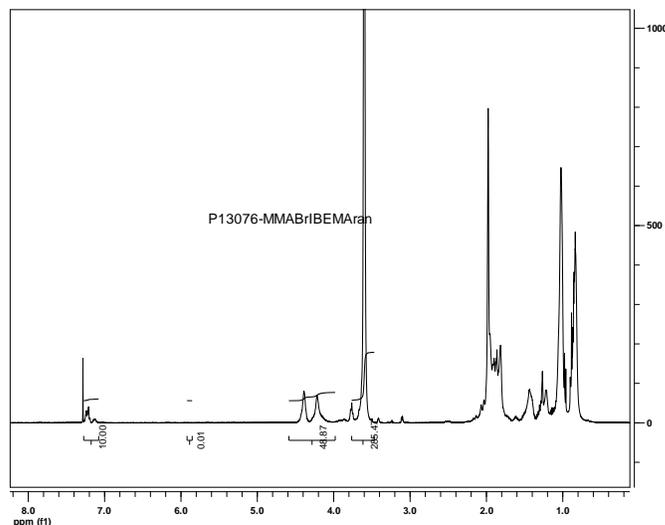
Thermal analysis:

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:

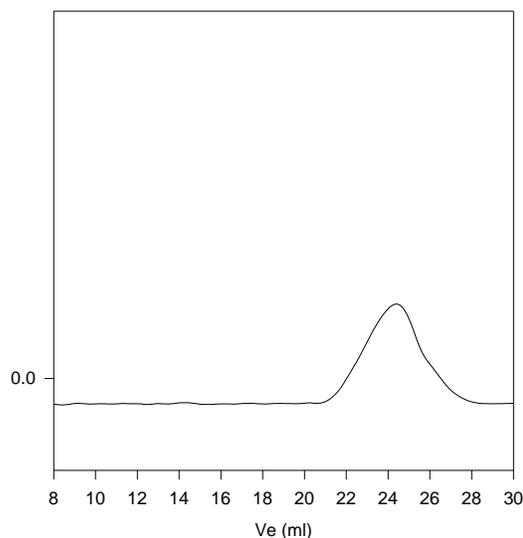
Polymer is soluble in THF and CHCl_3 .

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



SEC of the block copolymer:

P13076-MMABrIBEMAran



Size exclusion chromatography:

— Random Copolymer M_n : 11,500 M_w : 28,500 M_w/M_n 2.5
Mol % of MMA: 88%
composition from H NMR: s: 60%, h: 36%, i: 4%

DSC thermogram for the polymer:

