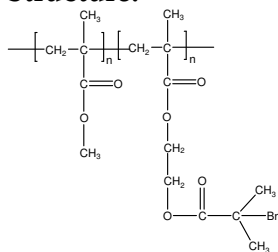


**Sample Name:**

Poly( methylmethacrylate-b- 2-(bromoisobutryl)ethylmethacrylate)

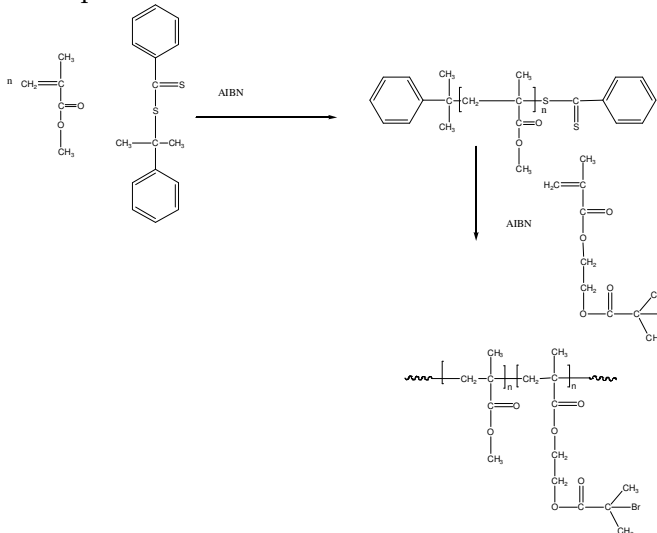
**Sample #:** P13037-MMABrIEMA

**Structure:****Composition:**

$M_n \times 10^3$ MMA-b-BrIEMA	PDI
6.5-b-1.5	1.12
$T_g$ for MMA: 114°C	$T_g$ for BrIEMA: 65°C

**Synthesis Procedure:**

Poly(Methylmethacrylate-b-2-bromoisobutryl)ethylmethacrylate) block copolymer is synthesized by ionic process.

**Characterization:**

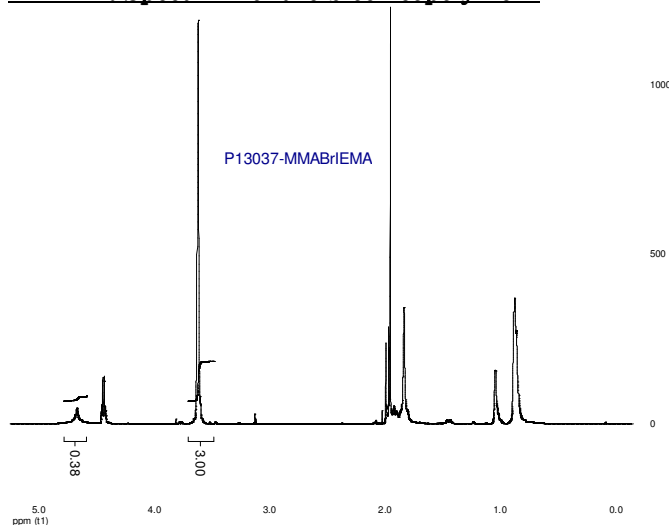
SEC analysis of the obtained block copolymer in THF was carried out in presence of triethyl amine as eluent. The final block copolymer composition was confirmed by  $^1\text{H-NMR}$  spectroscopy in  $\text{CdCl}_3$  by comparing the peak area of the methyl ester protons at 3.6 ppm against ethyl methacrylate at 4.2-4.17 ppm. Block copolymer PDI was determined by SEC.

**Thermal analysis:**

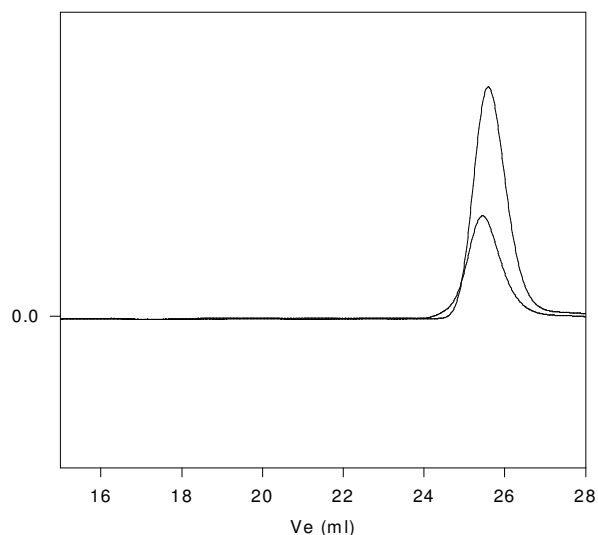
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature ( $T_g$ ).

**Solubility:**

Polymer is soluble in THF and  $\text{CHCl}_3$ .

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

**P13037-MMABrIEMA**



Size exclusion chromatography of poly(methyl methacrylate-b-Bromo isobutryl ethylmethacrylate):

- Poly(methyl methacrylate),  $M_n=6500$ ,  $PI=1.15$
- - - Block Copolymer PMMA(6500)-b-PBrIEMA(1500),  $PI=1.12$  composition from H NMR

**DSC thermogram for diblock polymer:**