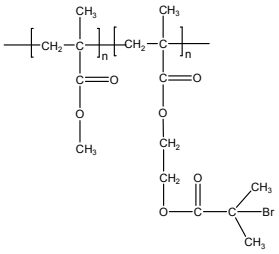
Sample Name:
Poly(methylmethacrylate-b- 2-(bromoisobutryl)ethylmethacrylate)
Sample #: P5848-MMABrIEMA
Structure:



Composition:

Mn × 10^3 MMA-b-BrIEMA	PDI
6.0-b-2.6	1.25
T_g for MMA: 26°C	T_g for BrIEMA: 91°C

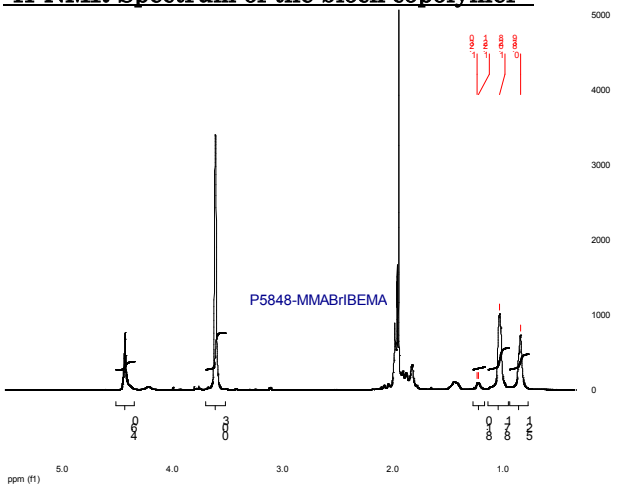
Synthesis Procedure:
Poly(Methylmethacrylate-b-2-bromoisobutyryl) ethylmethacrylate) block copolymer is synthesized by living anionic polymerization with sequential addition of methyl methacrylate and 2-(bromoisobutyryl) ethylmethacrylate- Proprietary procedure is under publication.

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}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.

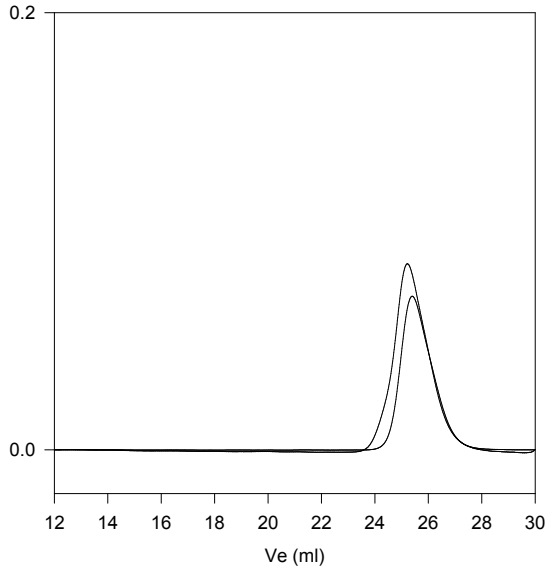
Thermal analysis:
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min.The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:
Polymer is soluble in THF and $CHCl_3$.

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



SEC of the block copolymer:
P5848-MMABrIBEtMA

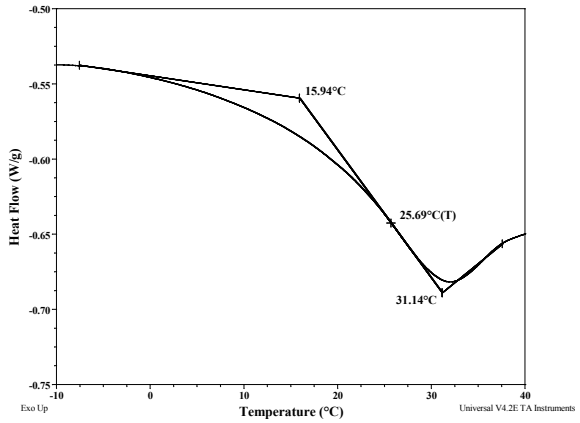
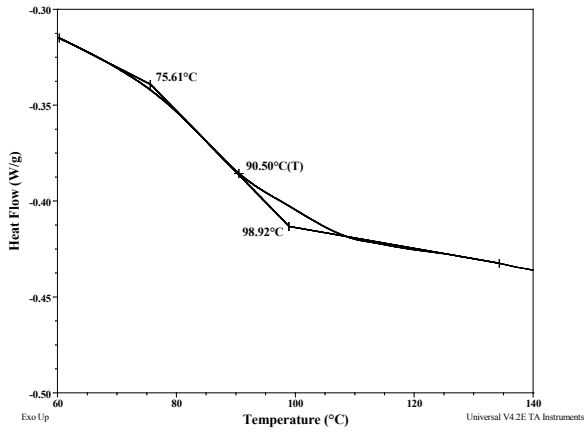


Size exclusion chromatography of poly(methyl methacrylate-b-Bromo isobutyrl ethylmethacrylate):

—— Poly(methyl methacrylate), M_n=6000, PI=1.2

—— Block Copolymer PMMA(6000)-b-PBrIBEtMA(2600), PI=1.25 composition from H NMR

DSC thermogram for MMA block:



DSC thermogram for BrIEMA block: