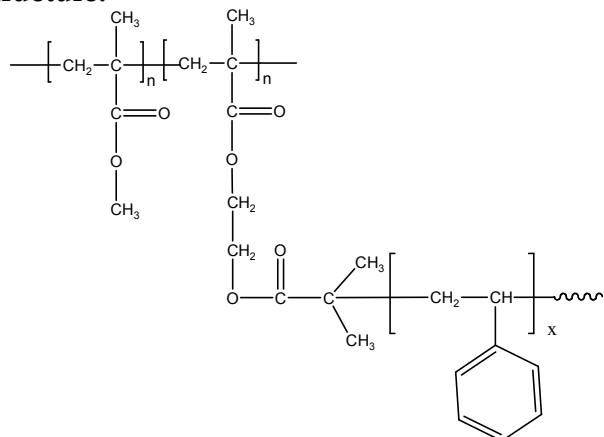


**Sample Name:**

Poly( methylmethacrylate-b-(isobutryl)ethylmethacrylate) grafted with polystyrene

**Sample #:** P13061-MMAIBEMA-G-S

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

Mn × 10 <sup>3</sup> MMA-b-IEMA-G-S	PDI
3.4-b-1.3-g-2.8	1.39
Number of grafts ≅ 5	Molecular weight of Polystyrene branch ≅ 560
T <sub>g</sub> for the polymer	75

**Synthesis Procedure:**

Poly(Methylmethacrylate-b-2-bromoisobutyryl ethylmethacrylate) block copolymer is synthesized by controlled radical polymerization with Poly(methylmethacrylate)-CTA macroinitiator. Proprietary procedure is under publication. Polystyrene graft was done by controlled radical process.

**Characterization:**

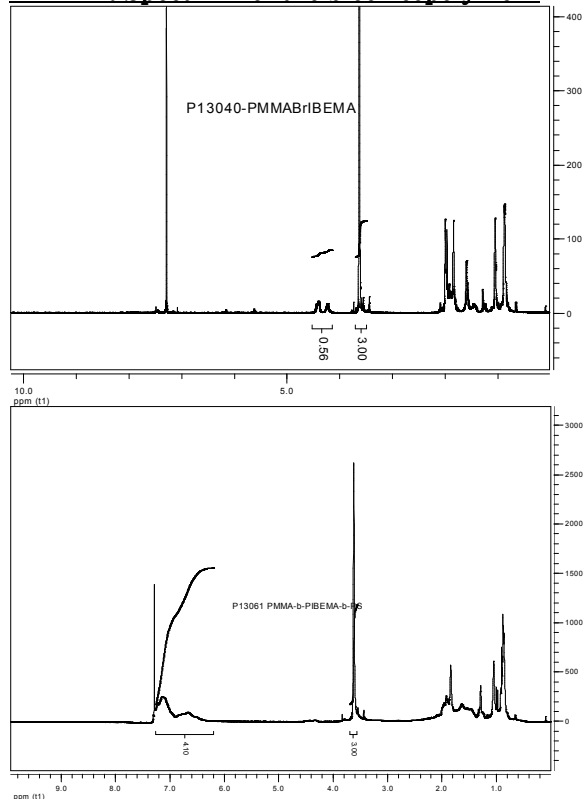
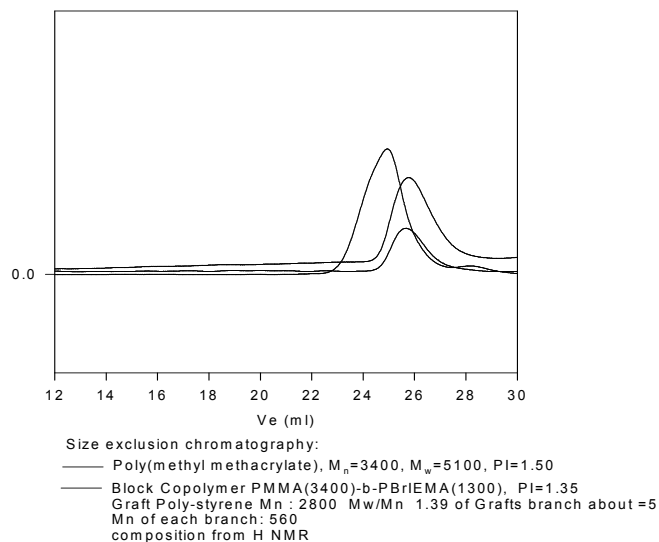
SEC analysis of the obtained block copolymer in THF was carried out in presence of triethyl amine as eluent. The final block copolymer composition was confirmed by <sup>1</sup>H-NMR spectroscopy in CdCl<sub>3</sub> by comparing the peak area of the methyl ester protons at 3.6 ppm against ethyl methacrylate 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<sub>g</sub>).

**Solubility:**

The polymer is soluble in THF and CHCl<sub>3</sub>.

**<sup>1</sup>H-NMR Spectrum of the block copolymer :****SEC of the block copolymer:****P13061-MMAIBEMA -G-St****DSC thermogram for the polymer:**