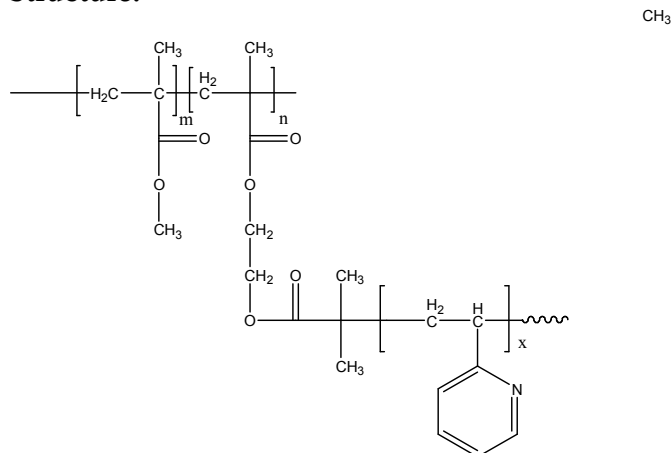


Sample Name:

Poly(methylmethacrylate-b-(isobutryl)ethylmethacrylate) grafted with poly(2-vinyl pyridine)

Sample #: P13062-MMAIBEMA-G-2VP

Structure:**Composition:**

Mn × 10 ³ MMA-b-IEMA-G-2VP	PDI
5.5-b-2.5-g-3.5	1.2
Number of grafts ≈ 9	Molecular weight of Poly 2VP branch ≈ 350
T _g for the polymer	

Synthesis Procedure:

Poly(Methylmethacrylate-b-2-bromoisobutryl ethylmethacrylate) block copolymer is synthesized by living anionic polymerization with sequential addition of methyl methacrylate and 2-(bromoisobutryl) ethylmethacrylate. Proprietary procedure is under publication. Poly-2-vinylpyridine graft was done by controlled radical process.

Characterization:

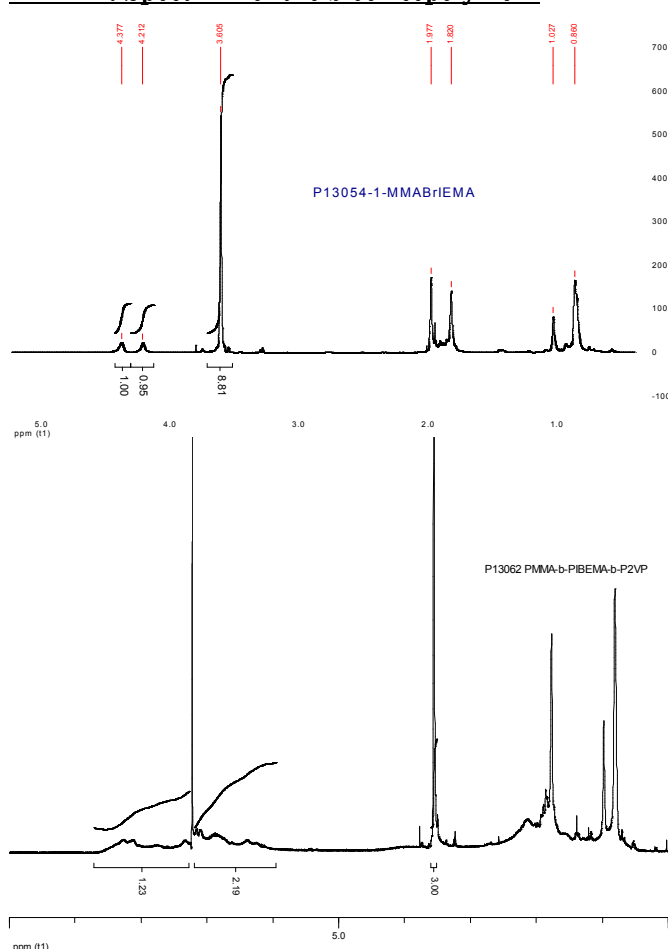
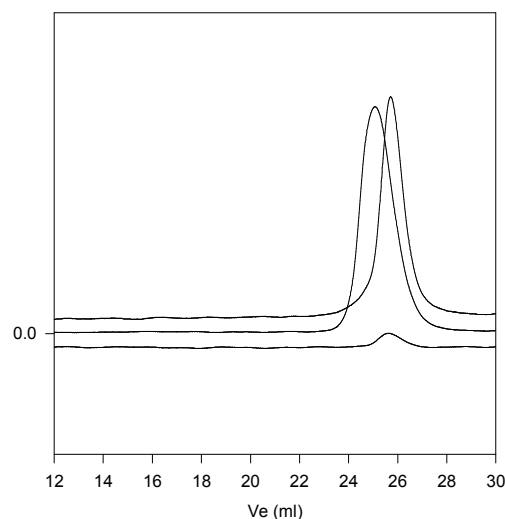
SEC analysis of the obtained block copolymer in THF was carried out in presence of triethyl amine as eluent. The final block copolymer composition was confirmed by ¹H-NMR spectroscopy in CdCl₃ by comparing the peak area of the methyl ester protons at 3.6 ppm against ethyl methacrylate at 4.2-4.17 ppm. 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 CHCl₃.

¹H-NMR Spectrum of the block copolymer :**SEC of the block copolymer:****P13062-MMAIBEMA -G-2VP**

Size exclusion chromatography:

— Poly(methyl methacrylate), M_n=5500, M_w=6000, PI=1.09

— Block Copolymer PMMA(5500)-b-PBrEMA(2500), PI=1.20

Graft Poly-2-vinylpyridine Mn : 6700 Mw/Mn # of Grafts branch about =9
Mn of each branch: 740
composition from H NMR