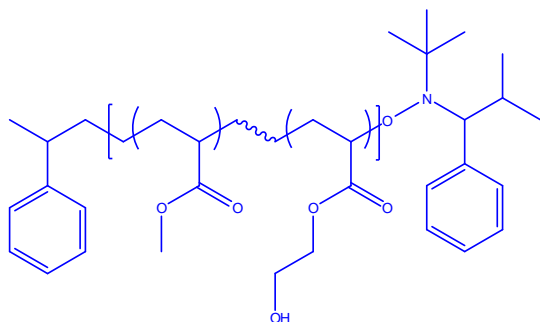


Sample Name:

Random Copolymer Poly(methyl methacrylate-co-hydroxyethyl methacrylate)

Sample #: P6410F1-MMAHEMAran

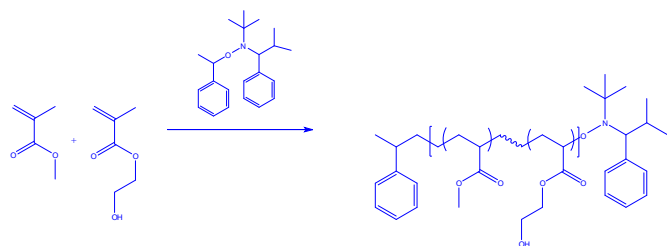
Structure:**Composition:**

PMMA (mol%) : 98%, HEMA: 2%

$M_n \times 10^3$ MMA-co-HEMA	PDI
66.6	1.91
T_g for the random copolymer	111°C

Synthesis Procedure:

Random Copolymer is prepared by nitroxide-mediated radical polymerization of styrene, HEMA and MMA .

**Characterization:**

The polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The copolymer composition was calculated from $^1\text{H-NMR}$ spectroscopy.

Thermal analysis:

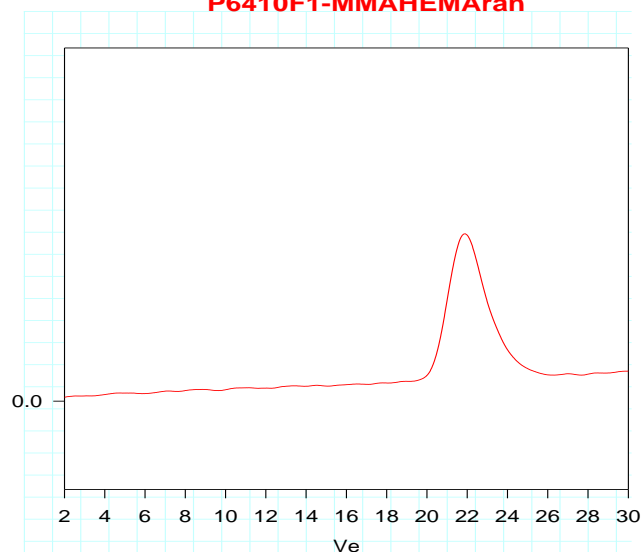
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

Random Copolymer Poly(MMA-co-HEMA) is soluble in CHCl_3 , THF, DMF, toluene and precipitated out from methanol.

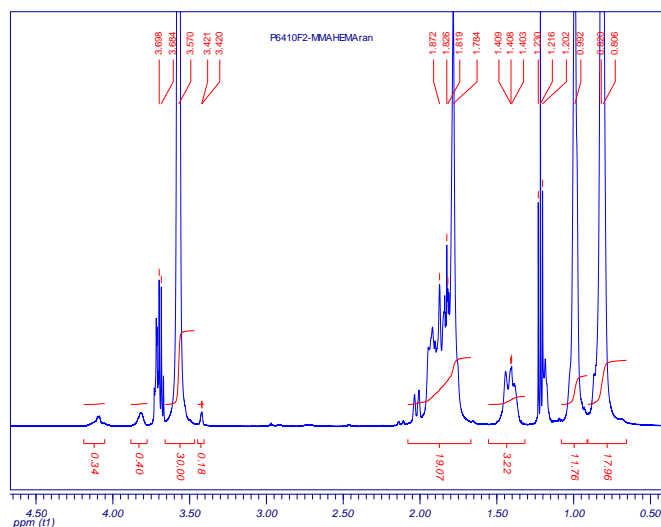
SEC of the random copolymer:

P6410F1-MMAHEMAran



Size Exclusion Chromatography of Poly(MMA-co-HEMA):

$M_n = 66600$, $M_w = 127200$, $M_w/M_n = 1.91$

Proton NMR of copolymer:**DSC thermogram for the sample:**