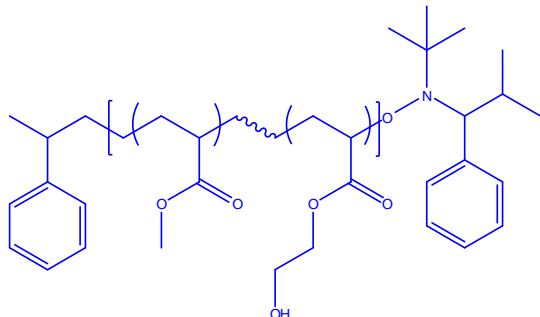


### Sample Name:

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

### Sample #: P6410F3-MMAHEMAran

### Structure:



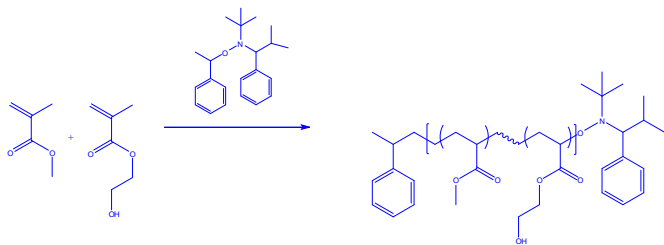
### Composition:

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

Mn x 10 <sup>3</sup> MMA-co-HEMA	PDI
18.9	1.37
T <sub>g</sub> for the random copolymer	102°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 <sup>1</sup>H-NMR spectroscopy.

### Thermal analysis:

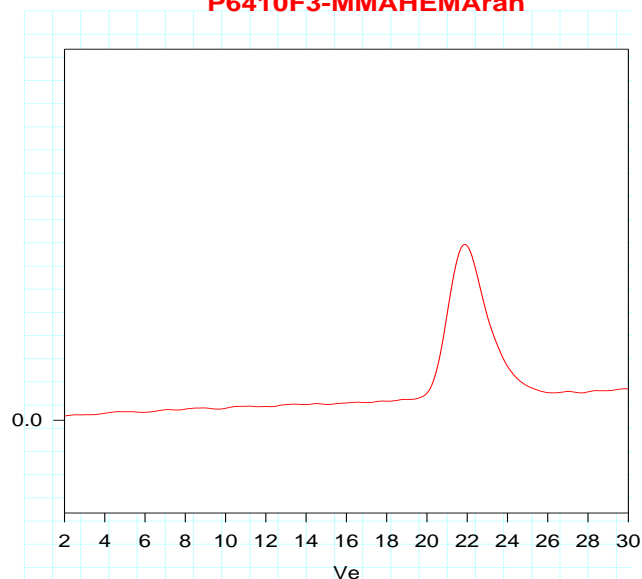
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T<sub>g</sub>).

### Solubility:

Random Copolymer Poly(MMA-co-HEMA) is soluble in CHCl<sub>3</sub>, THF, DMF, toluene and precipitated out from methanol.

### SEC of the random copolymer:

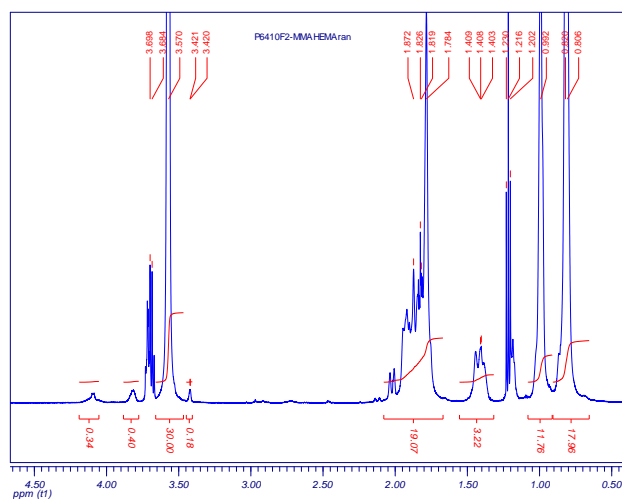
P6410F3-MMAHEMAran



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

M<sub>n</sub> = 18900, M<sub>w</sub> = 26000, M<sub>w</sub>/M<sub>n</sub> = 1.37

### Proton NMR of copolymer:



### DSC thermogram for the sample:

