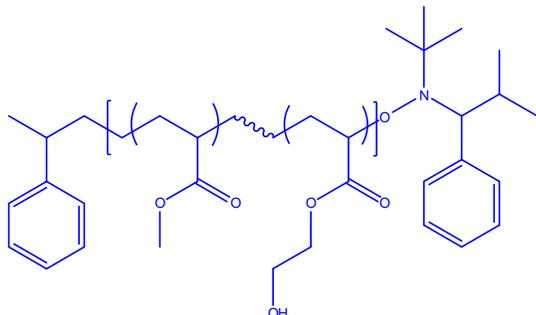


Sample Name:

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

Sample #: P6412F2-MMAHEMAran

Structure:



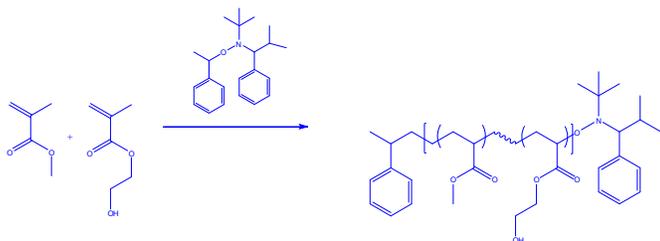
Composition:

PMMA (mol%) : 97.5%, HEMA: 2.5%

$M_n \times 10^3$ MMA-co-HEMA	PDI
43.6	1.93
T_g for the random copolymer	111°C

Synthesis Procedure:

Random Copolymer is prepared by nitroxide-mediated radical polymerization of 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:

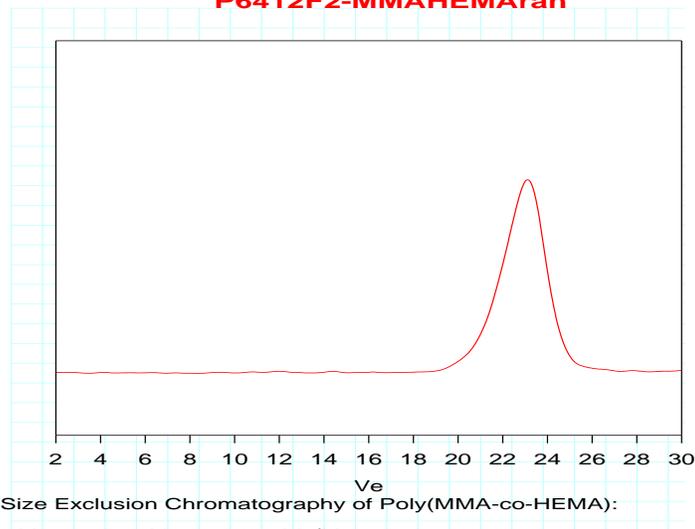
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of $10^\circ\text{C}/\text{min}$. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

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

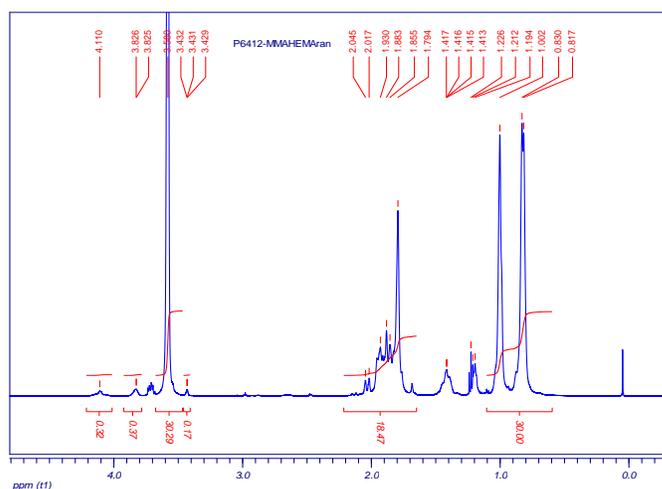
SEC of the random copolymer:

P6412F2-MMAHEMAran



$M_n = 43600$, $M_w = 84200$, $M_w/M_n = 1.93$

Proton NMR of copolymer:



DSC thermogram for the sample:

