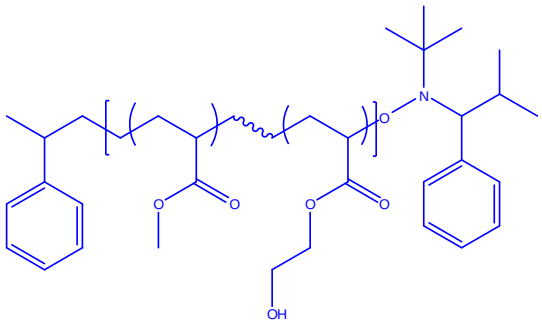
Sample Name:
Random Copolymer Poly(methyl methacrylate-co-hydroxyethyl methacrylate)

Sample #: P6412F3-MMAHEMAran

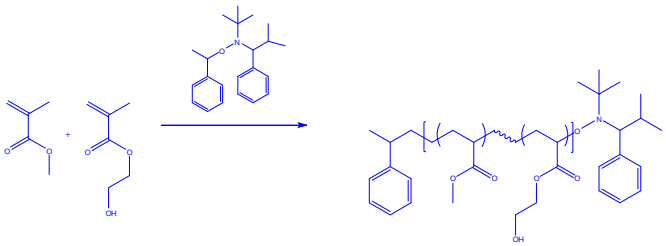
Structure:



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

Mn x 10^3 MMA-co-HEMA	PDI
17.8	1.36
T_g for the random copolymer	**99°C**

Synthesis Procedure:
Random Copolymer is prepared by nitroxide-mediated radical polymerization of HEMA and MMA .

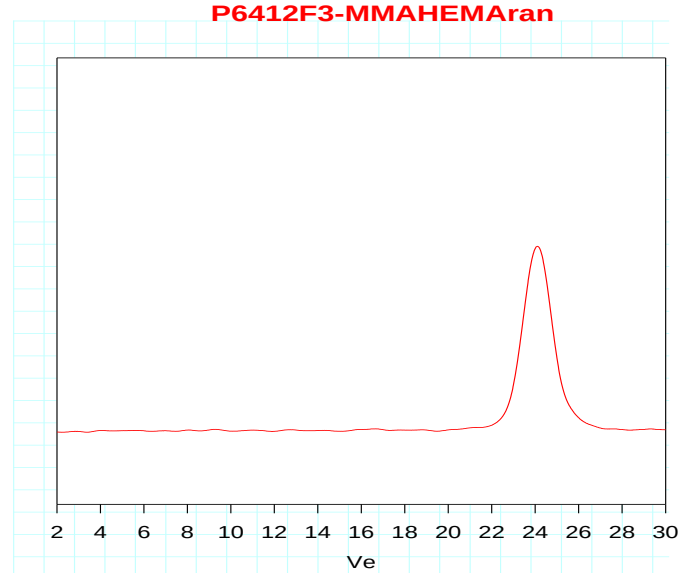


Characterization:
The polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The copolymer composition was calculated from ^{1}H-NMR spectroscopy.

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).

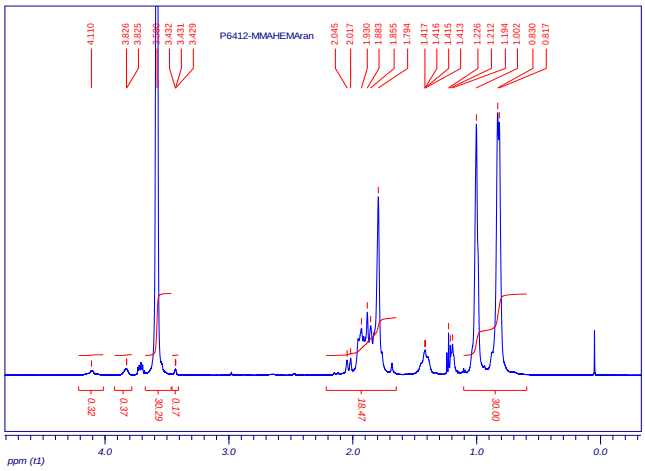
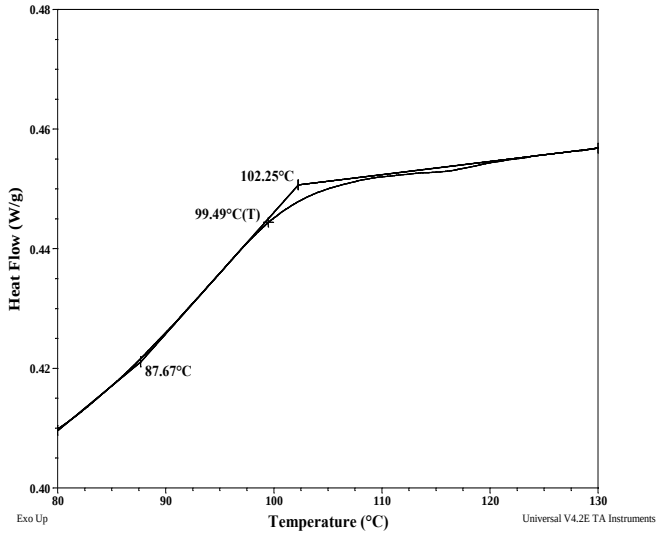
Solubility:
Random Copolymer Poly(MMA-co-HEMA) is soluble in $CHCl_3$, THF, DMF, toluene and precipitated out from methanol.

SEC of the random copolymer:



Size Exclusion Chromatography of Poly(MMA-co-HEMA):
M_n= 17800, M_w= 24300, M_w/M_n =1.36

Proton NMR of copolymer:



DSC thermogram for the sample: