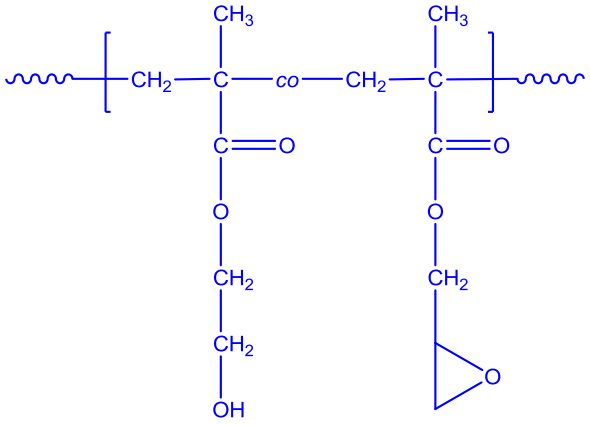
Sample Name:
Random Copolymer Poly(hydroxyethyl methacrylate-co-glycidyl methacrylate)

Sample #: P6802-HEMAGMAran

Structure:



Composition:

Mn x 10^3 HEMA-co-GMA	8.8
Mw/Mn	1.40
Chemical Composition (wt%)	61.5 (GMA)

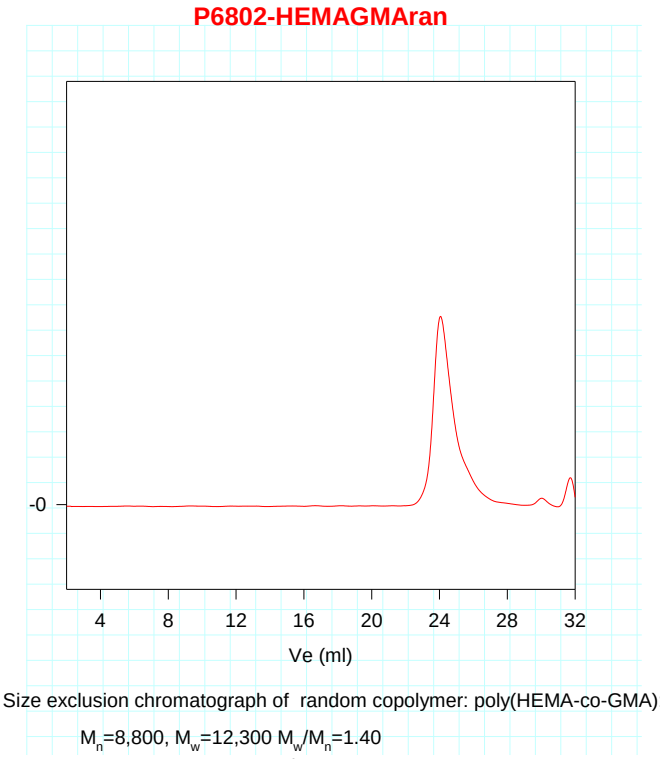
Synthesis Procedure:
Random copolymer is prepared by GTP polymerization of GMA and trimethyl siloxy ethyl methacrylate, following hydrolysis by acid to recover the free hydroxyl in HEMA.

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 (in DMSO-d6) by comparing the peak area the glycidyl ester at 2.6-2.8ppm with the protons of hydroxyethyl at 3.90ppm .

Thermal analysis:
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10^{o}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 of poly(HEMA-co-GMA) is soluble in DMSO, DMF, and THF dependent on the composition.

SEC of the random copolymer:



Size exclusion chromatograph of random copolymer: poly(HEMA-co-GMA):

M_n=8,800, M_w=12,300 M_w/M_n=1.40
GMA content: 61.5 wt% by NMR

Proton NMR of copolymer: