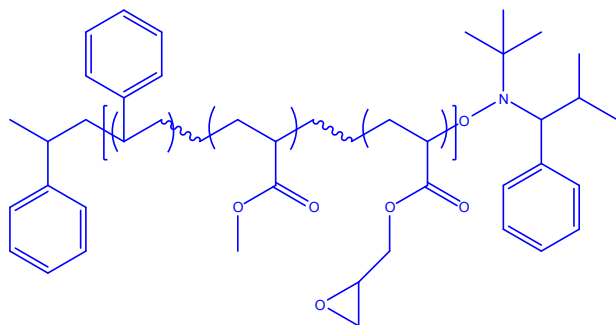


**Sample Name:**

Random Copolymer Poly(styrene-co-methyl methacrylate-co-glycidyl methacrylate)

**Sample #:** P6416-SMMAGMAran

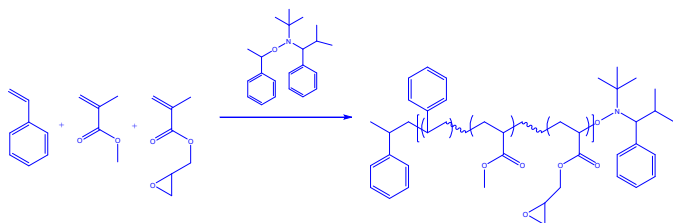
**Structure:****Composition:**

PS (mol%) : 59%, GMA: 2%

Mn x 10 <sup>3</sup> S-co-MMA-co-GMA	PDI
50.3	1.23
T <sub>g</sub> for the random copolymer	94°C

**Synthesis Procedure:**

Random Copolymer is prepared by nitroxide-mediated radical polymerization of styrene, GMA 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 by comparing the peak area the aromatic protons of 6.66-7.05 ppm with the protons of methyl methacrylate at about 0.8-3.8 ppm that deducts the contribution of the styrene back bone protons.

**Thermal analysis:**

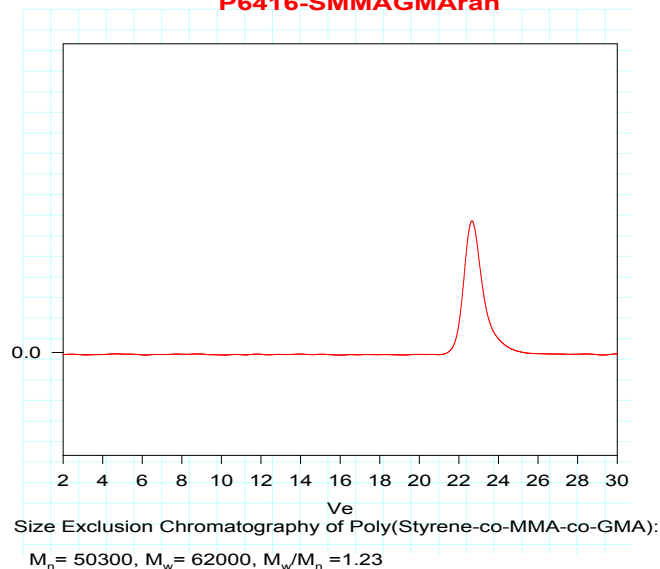
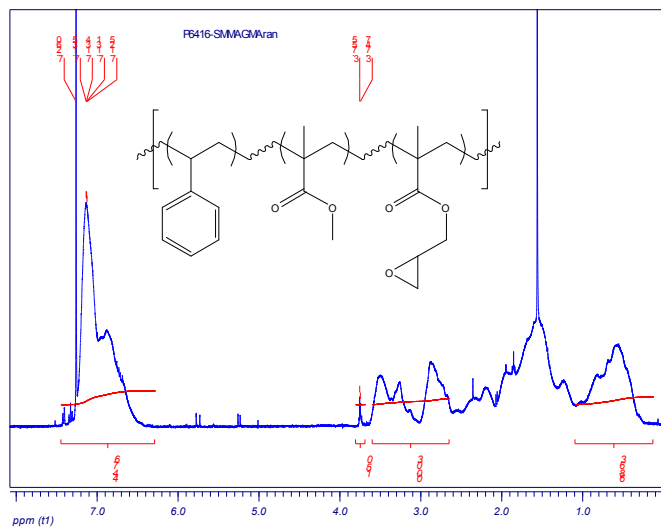
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 20°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T<sub>g</sub>).

**Solubility:**

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

**SEC of the random copolymer:**

**P6416-SMMAGMAran**

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