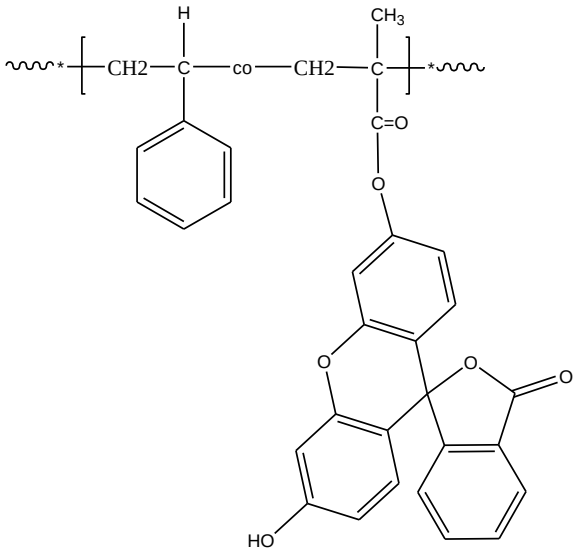
Sample Name:

Random Copolymer Poly(Styrene –co-fluorescein o methacrylate)

Sample #: **P8201-SFMMA ran**

Structure:



Composition:

Mn x 10^3 PFluoMA-co-S	PDI	Mol% FMMA
13.0	1.35	1.2
T_g for the random copolymer	109°C	

Synthesis Procedure:

The polymer is prepared by radical polymerization of fluorescein o methacrylate and styrene by control radical process.

Characterization:

The polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The UV absorbance at 495 nm was also detected. The copolymer composition was calculated from ^{1}H-NMR spectroscopy by comparing the peak area the aromatic protons of fluorescein at about 7.6 and 8 ppm with the styrene at 7.0-6.5ppm and also for the protons from flurosceine methacryklate monomer.

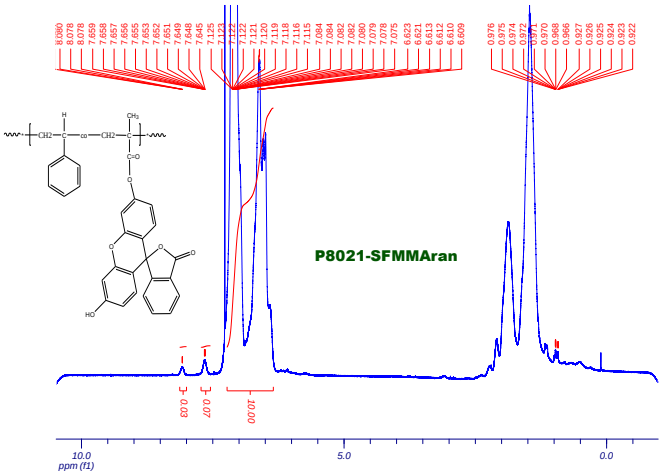
Thermal analysis:

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_g).

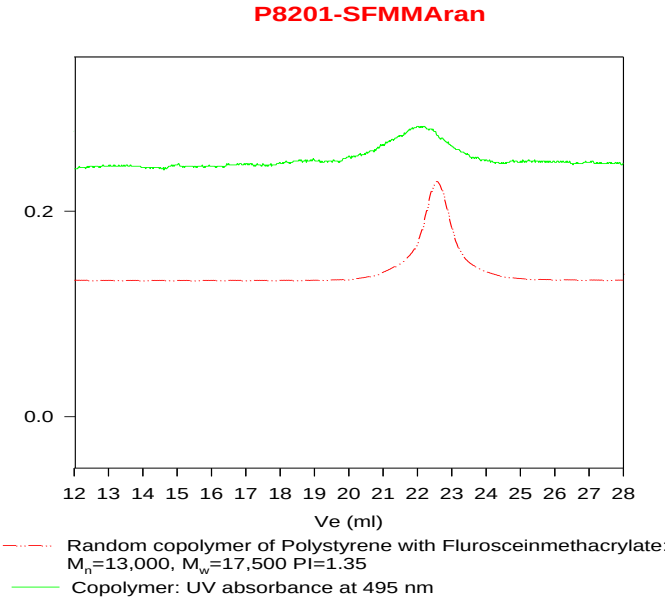
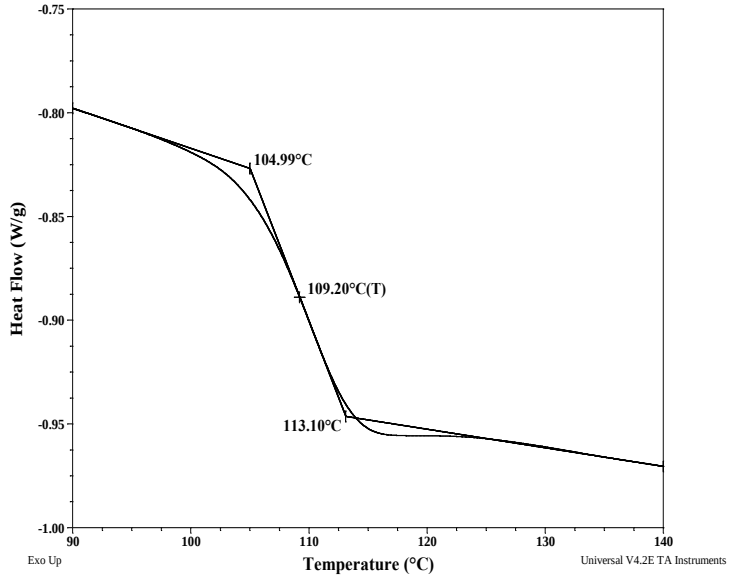
Solubility:

Random Copolymer is soluble in $CHCl_3$, THF, DMF, toluene and precipitated out from methanol.

^{1}H-NMR Spectrum of the random copolymer:



SEC of the random copolymer:



DSC thermogram for the sample: