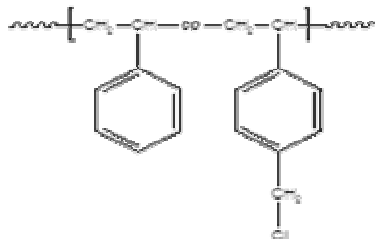


**Sample Name:**

### Random Copolymer Poly(styrene-co-p-chloromethyl styrene)

**Sample #: P2129 SSMeCran**

### Structure:



**Composition:**

PSMeCl (mol%) : 10.40

Mn x 10 <sup>3</sup> PS-co-PSMeCl	PDI
28.5	1.15
T <sub>g</sub> for random polymer	103°C

### Synthesis Procedure:

Random Copolymer Poly(styrene-co-p-chloromethyl styrene) is prepared by radical polymerization of styrene and p-chloromethyl styrene in the presence of TEMPO .

### 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 by comparing the peak area the aromatic protons of styrene at about 7.05 ppm with the protons of chloromethyl styrene at about 4.6 ppm.

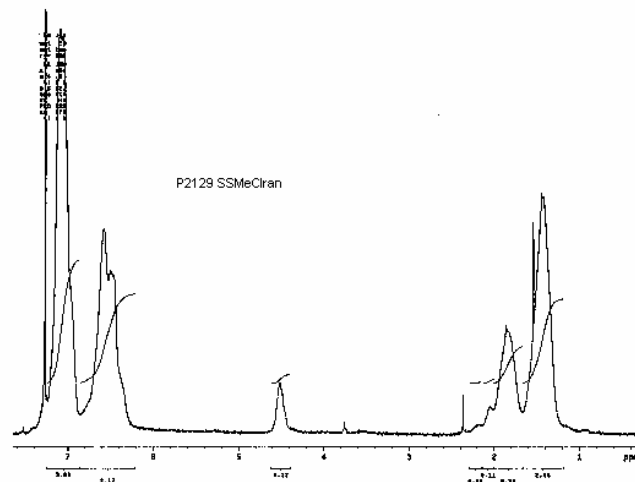
**Thermal analysis:**

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 ( $T_g$ ).

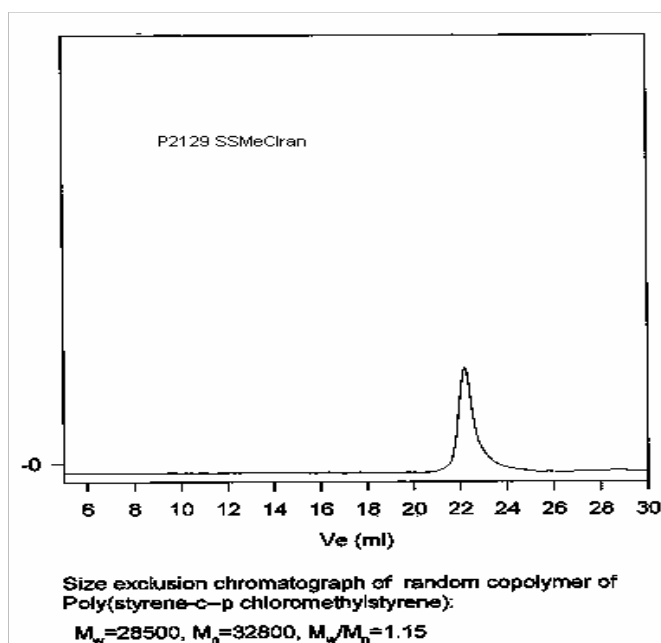
**Solubility:**

Random Copolymer Poly(styrene-co-methyl methacrylate) is soluble in  $\text{CHCl}_3$ , THF, DMF, toluene and precipitated out from methanol.

### <sup>1</sup>H-NMR Spectrum of the random copolymer:



### SEC for the polymer



### DSC thermogram for the sample

