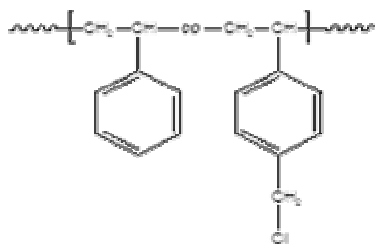


Sample Name:

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

Sample #: P2130SSMeClran

Structure:**Composition:**

PSMeCl (mol%) : 26.00

Mn x 10 ³ PS-co-PSMeCl	PDI
32.6	1.30
T _g for random polymer	94°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:

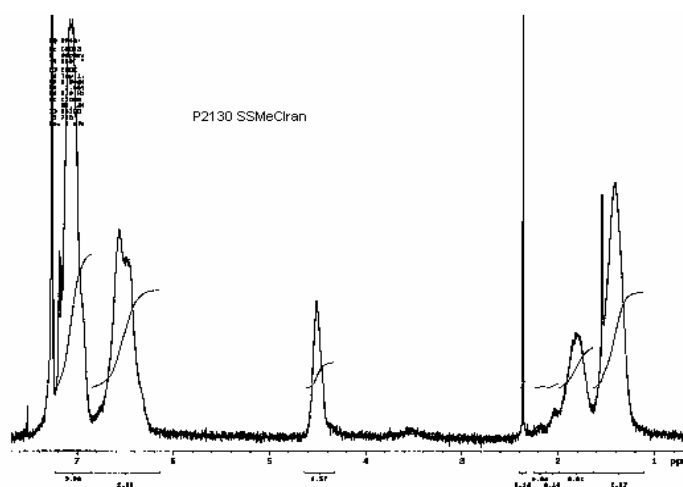
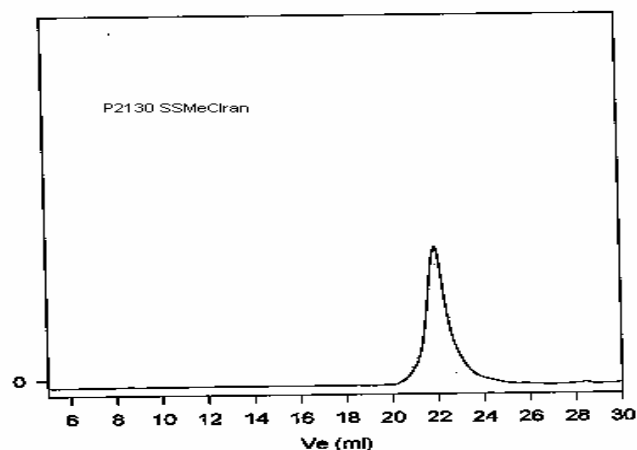
The polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area the aromatic protons of styrene at about 7.05 ppm with the protons of chloromethyl 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 CHCl₃, THF, DMF, toluene and precipitated out from methanol.

¹H-NMR Spectrum of the random copolymer:**SEC for the polymer**

Size exclusion chromatograph of random copolymer of Poly(styrene-c-p chloromethylstyrene):
M_n=32600, M_w=42400 M_w/M_n=1.30
(SMeCl: 26.00% from H NMR)

DSC thermogram for the sample