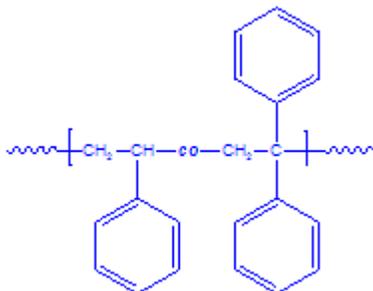


Sample Name:

Random Copolymer Poly(styrene-co-diphenyl ethylene)

Sample #: P3909B-SDPE**Structure:****Composition:**

PS (mol%) : 85

Mn x 10 ⁵ PS-co-PBr	PDI
29.5	1.10
T _g for random polymer	123°C

Synthesis Procedure:

Random Copolymer Poly(styrene-co-bromostyrene) is prepared by radical polymerization of styrene and butadiene.

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 methyl ester protons of methyl methacrylate at about 3.6 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.

Thermogram of the sample: