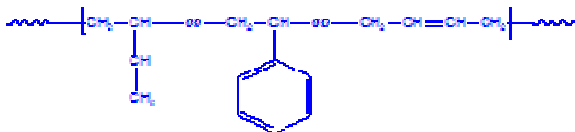


Sample Name:**Random Copolymer Poly(styrene-co-butadiene)****Sample #: P19145-SBdran****Structure:****Composition:**

Styrene (mol%) : 35.00

Mn x 10 ³ PS-co-PBd	PDI
324.0	1.17
T _g for random polymer	-22°C

Synthesis Procedure:

Random Copolymer Poly(styrene-co-butadiene) 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.

Thermal analysis:

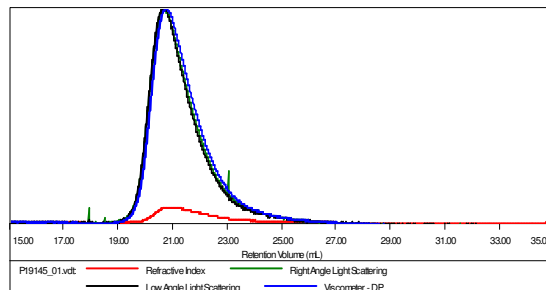
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

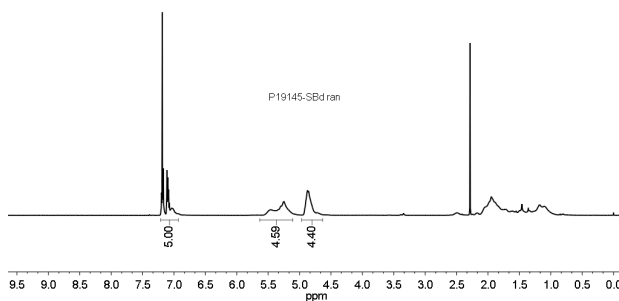
Random Copolymer Poly(styrene-co-methyl methacrylate) is soluble in CHCl₃, THF, DMF, toluene and precipitated out from methanol.

SEC of the random copolymer:**Sample ID: P19145-SBdran**

Concentration (mg/mL)	2.0381
Sample ch/dt (mL/g)	0.1380
Method File	PS80K-March6-2015-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P19145_01.vdt	323,931	379,825	439,381	1.173	1.9936

H NMR:**Thermogram of the sample:**