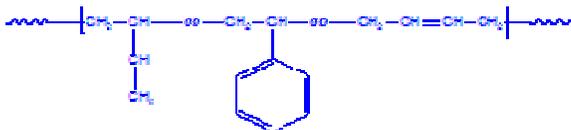


**Sample Name:**  
**Random Copolymer Poly(styrene-co-butadiene)**

**Sample #: P19145A-SBdran**

**Structure:**



**Composition:**

Styrene (mol%) : 45.00

Mn x 10 <sup>3</sup> PS-co-PBd	PDI
304.0	1.12
T <sub>g</sub> 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 <sup>1</sup>H-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<sub>g</sub>).

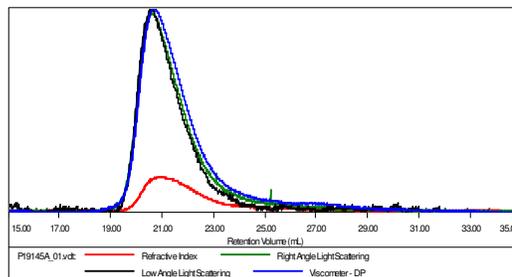
**Solubility:**

Random Copolymer Poly(styrene-co-butadiene) is soluble in CHCl<sub>3</sub>, THF, DMF, toluene and precipitated out from methanol.

**SEC of the random copolymer:**

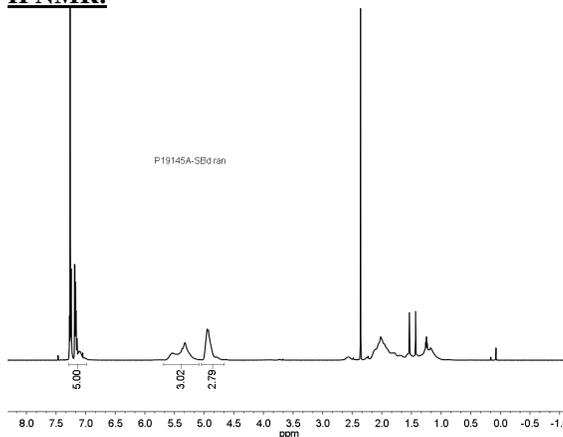
Sample ID: P19145ASBdran

Concentration (mg/mL)	1.2241
Sample ch/d: (mL/g)	0.1380
Method File	PSB0K-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)
P19145A_01.vdt	304,075	351,558	442,282	1.156	1.9379

**H NMR:**



**Thermogram of the sample:**

