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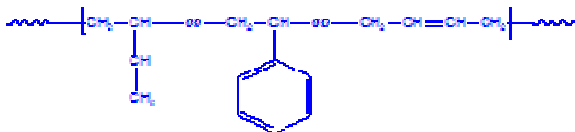**Random Copolymer Poly(styrene-co-butadiene)**

Sample #: P19147C-SBdran

Structure:

Composition:
Styrene (mol%) : 35.00

Mn x 10^3 PS-co-PBd	PDI
159.5	1.04
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 ^{1}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_g).
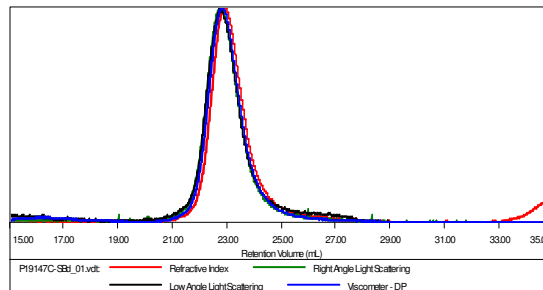
Solubility:
Random Copolymer Poly(styrene-co-butadiene) is soluble in CHCl$_3$, THF, DMF, toluene and precipitated out from methanol.
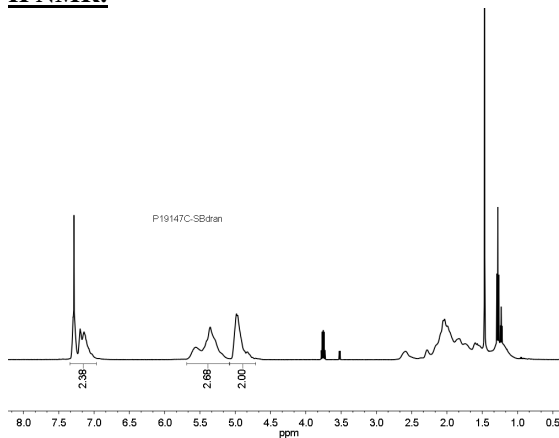
SEC of the random copolymer:
Sample ID: P19147C-SBdran

Concentration (mg/mL)	5.3262
Sample dn/dc (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)	Polydispersit	Intrinsic Viscosity (dL/g)
P19147C-SBd_01.vdt	159,475	166,336	155,946	1.043	0.8917

H NMR:

Thermogram of the sample: