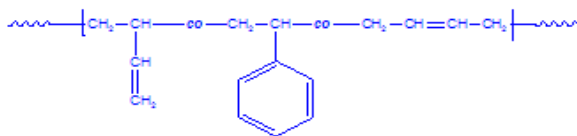


**Sample Name:**

Random Copolymer Poly(styrene-co-butadiene)

**Sample #: P44511-SBd ran****Structure:****Composition:**

Styrene (mol%) : 60.00

Mn x 10 <sup>3</sup> PS-co-PBd	PDI
120.0	1.15
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:**

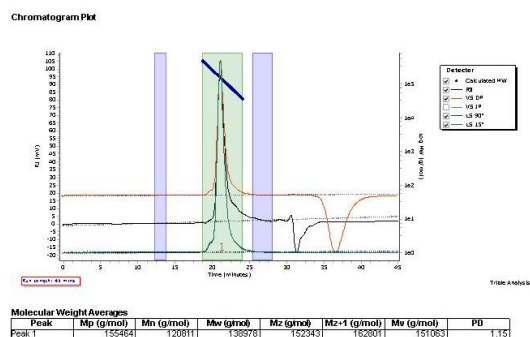
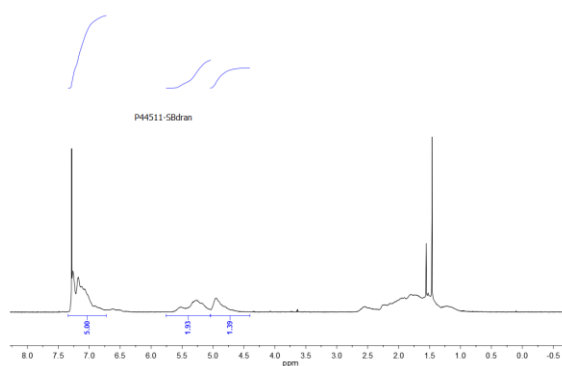
The polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The copolymer composition was calculated from <sup>1</sup>H-NMR spectroscopy.

**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:****<sup>1</sup>H NMR of Copolymer in CDCl<sub>3</sub>:****Thermogram of the sample:**