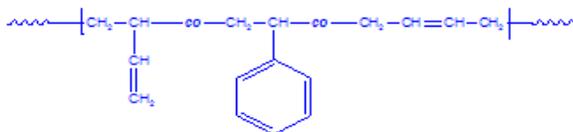


Sample Name:

Random Copolymer Poly(styrene-co-butadiene)

Sample #: **P43000-SBdran**

Structure:



Composition:

Styrene (mol%): 25.00

$\text{Mn} \times 10^3$ PS-co-PBd	PDI
7.5	1.02
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 $^1\text{H-NMR}$ spectroscopy.

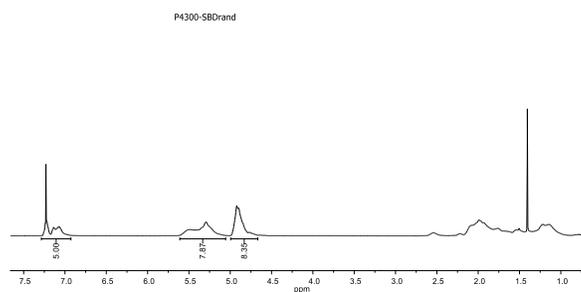
Thermal analysis:

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of $10^\circ\text{C}/\text{min}$. 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).

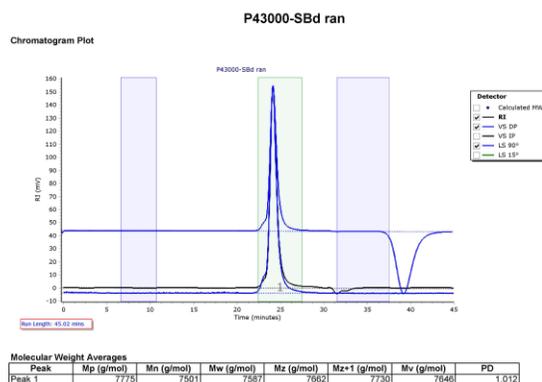
Solubility:

Random Copolymer Poly(styrene-co-butadiene) is soluble in CHCl_3 , THF, DMF, toluene and precipitated out from methanol.

$^1\text{H-NMR}$ spectrum of the sample:



SEC elugram of the random copolymer:



Thermogram of the sample:

