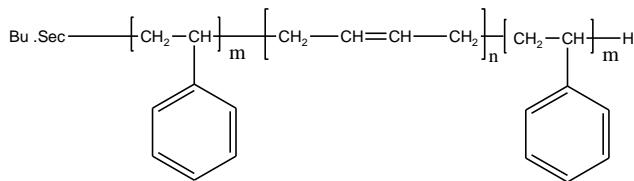


**Sample Name:** Poly (Styrene-b-butadiene-b-Styrene)  
Poly butadiene rich in 1,4 microstructure

**Sample #:** P1220-SBdS

**Structure:**

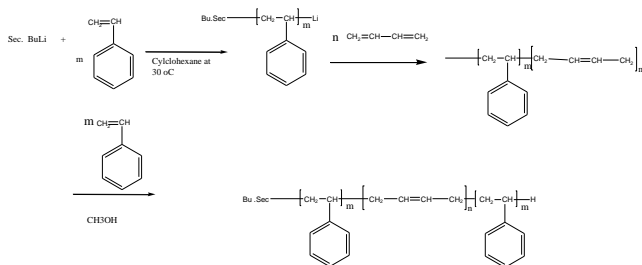


**Composition:**

Mn x 10 <sup>3</sup> (S-b-Bd-S)	PDI
14.0-b-73.0-b-15.0	1.05
T <sub>g</sub> for PBd block	-03°C
T <sub>g</sub> for PS block	108°C

**Synthesis Procedure:**

Poly(styrene-b-butadiene-b-styrene) is prepared by living anionic polymerization with sequence addition of styrene followed by butadiene and then styrene again. The scheme of the reaction is illustrated below:



**Characterization:**

The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

**Thermal analysis**

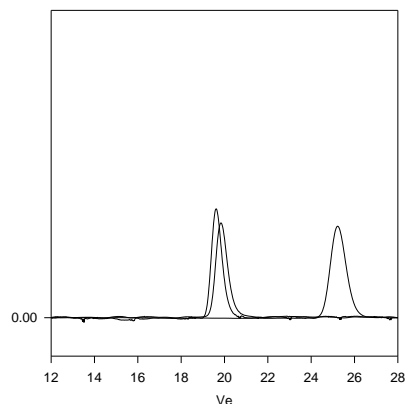
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 20°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T<sub>g</sub>).

**Solubility:**

Polymer is soluble in THF, toluene and  $\text{CHCl}_3$ . It precipitates from methanol, ethanol, water and hexane (depending on the compositions).

**SEC of Sample:**

P1220-SBdS

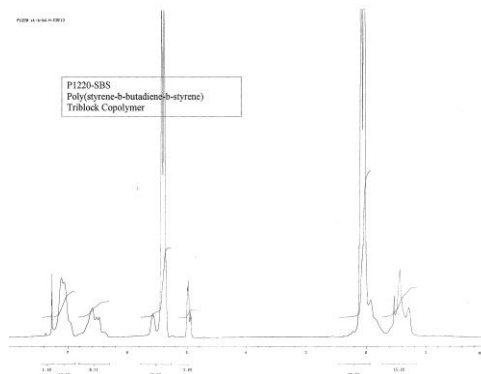


Size Exclusion Chromatography of:

— P1220-St, the first PS block,  $M_n=14000$ ,  $PI=1.03$

— P1220-SB, the diblock PS(14000)-b-PB(73000),  $PI=1.03$

— P1220-SBS, the triblock PS(14000)-b-PB(73000)-b-PS(15000),  $PI=1.05$



**Thermogram for Bd and PS block polymers:**

