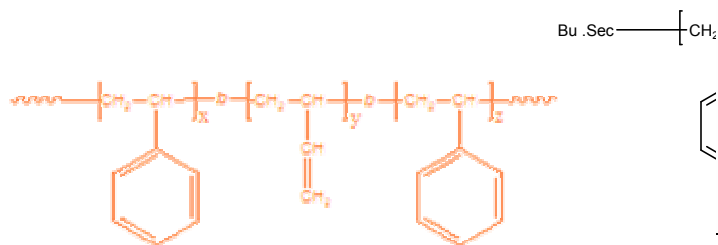


Sample Name:Poly(Styrene-*b*-butadiene-*b*-Styrene)

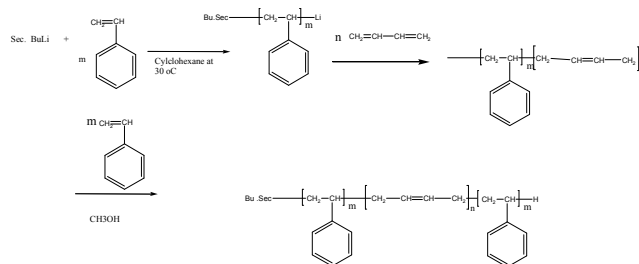
Poly butadiene rich in 1,2 microstructure

Sample #: P2860-SBdS**Structure:****Composition:**

Mn x 10 ³ (S-b-Bd-S)	PDI
59.0-b-129.0-b-55.0	1.15
T _g for PBd block	-20°C
T _g for PS block	96°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:**

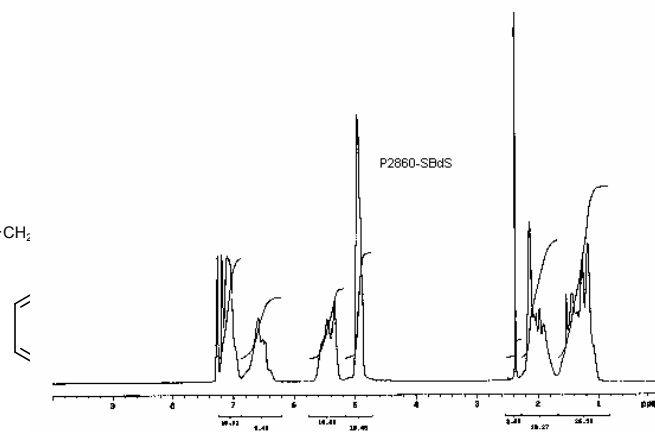
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

Thermal analysis

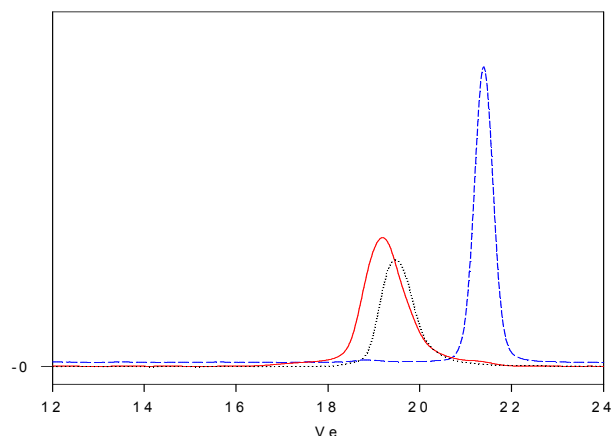
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 20°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

Polymer is soluble in THF, toluene and CHCl₃. It precipitates from methanol, ethanol, water and hexane (depending on the compositions).

NMR of the sample:**SEC of Sample:**

P 2860 S B d S



Size Exclusion Chromatography of:

..... P St, first PS block, M_n=59000, PI=1.04

- - - - - SBd, the diblock PS(59000)-b-PBd(129000), PI=1.08

— — — — — SBdS, triblock PS(59000)-b-PBd(129000)-b-PS(50000), PI=1.15

Thermogram for Bd and PS block polymers: