

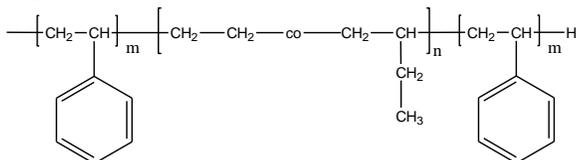
Sample Name:

**Poly(Styrene-b-ethylene /butylene-b-Styrene)**

Obtained from Hydrogenation of SBdS triblock copolymer where Poly butadiene rich in 1,2 microstructure

Sample#: **P42543-SEBS**

Structure:



Composition: **PS: 28 wt%**

Mn x 10 <sup>3</sup> (S-b-EB-b-S)	PDI
15.0-b-70.0-b-15.0	1.04

**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. Polymerization carried out in THF. The obtained polymer hydrogenated in presence of Pd/CaCo3/Wilkinson catalyst.

Purification after the Hydrogenation:

The obtained polymer was filtered to remove the catalyst.

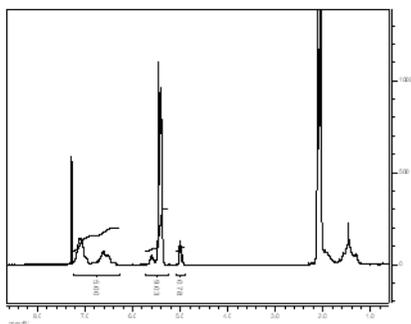
**Characterization:**

The product was characterized by size exclusion chromatography (SEC) and <sup>1</sup>H-NMR data analysis.

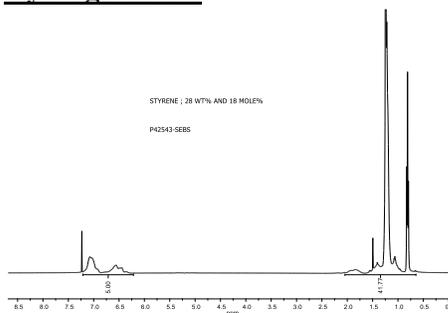
**Solubility:**

Polymer is soluble in THF, toluene and CHCl<sub>3</sub>. It precipitates from methanol, ethanol, water and hexanes (depending on the compositions).

**<sup>1</sup>H-NMR spectrum of the Polymer Before Hydrogenation:**

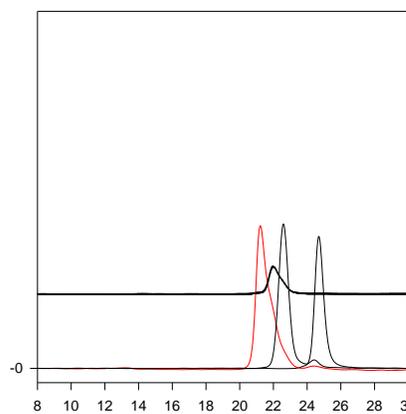


**<sup>1</sup>H-NMR spectrum of the product after Hydrogenation:**



**SEC chromatograms:**

**SBdS Precursor for P42543-SBES**

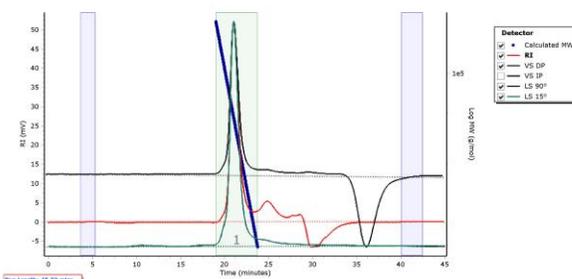


Size Exclusion Chromatography of:

- PS block, M<sub>n</sub>=15,000, M<sub>w</sub>: 15,600 PI=1.05
  - SBd, the diblock PS(15000)-b-PBd(35,000), PI=1.07
  - SBdS, triblock PS(15000)-b-PBd(70,000)-b-PS(15000), PI=1.04
- After Hydrogenation: 15000-b-70000-b-15000 PI: 1.04  
The Elution count after Hydrogenation was found lower than its SBdS triblock copolymer

**P42543-SEBS**

Chromatogram Plot



Molecular Weight Averages							
Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	75017	67949	71028	73648	75986	73371	1.045