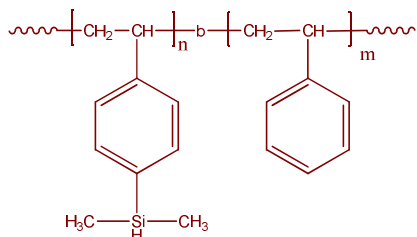


**Sample Name: Poly(4-dimethylsilyl styrene-b-styrene)**

**Sample #: P6548-4SSiHS**

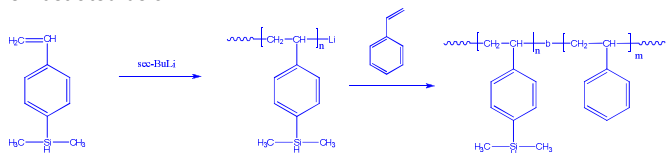


#### Composition:

Mn x 10 <sup>3</sup> 4SSiH-b-S	Mw/Mn (PDI)
10.0-38.0	1.15

#### Synthesis Procedure:

Poly(4-dimethylsilyl styrene-b-styrene) was synthesized via anionic polymerization in THF with sequence addition of 4-dimethylsilyl styrene followed by styrene. The scheme of the reaction is illustrated below:



#### Characterization:

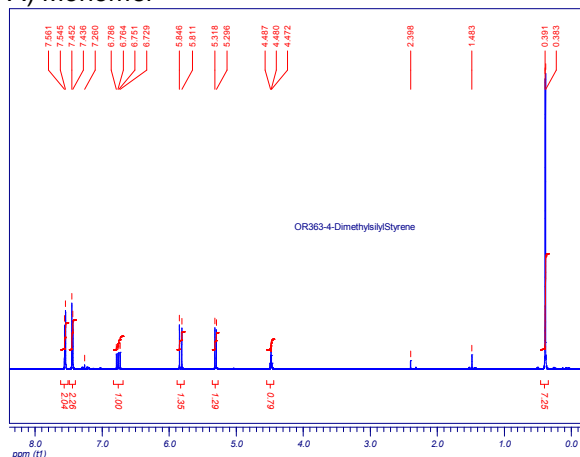
An aliquot of the anionic poly(4-dimethylsilyl styrene) block was terminated before addition of styrene and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The block copolymer composition was then calculated from <sup>1</sup>H-NMR spectroscopy by comparing the peak area of the silane proton at 4.4 and 0.33 ppm with the aromatic protons of polystyrene at 6.3-7.2 ppm. Copolymer PDI is determined by SEC.

#### Solubility:

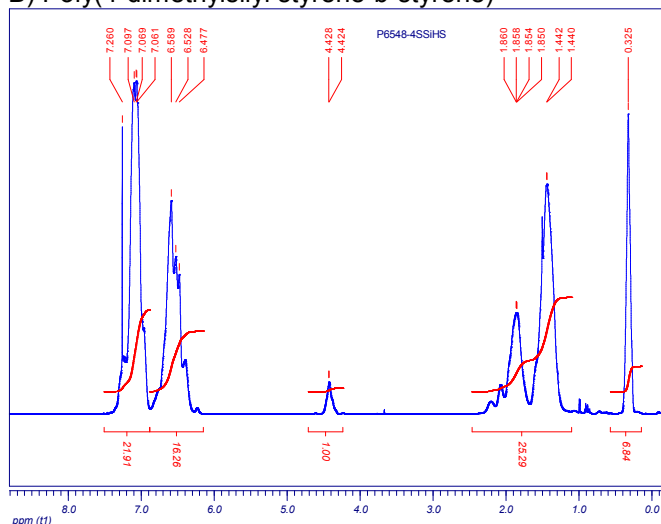
Poly(4-dimethylsilyl styrene-b-styrene) is soluble in THF, toluene, and CHCl<sub>3</sub>. This polymer readily precipitates from methanol and water.

### <sup>1</sup>H-NMR Spectrum of the block copolymer:

#### A) Monomer

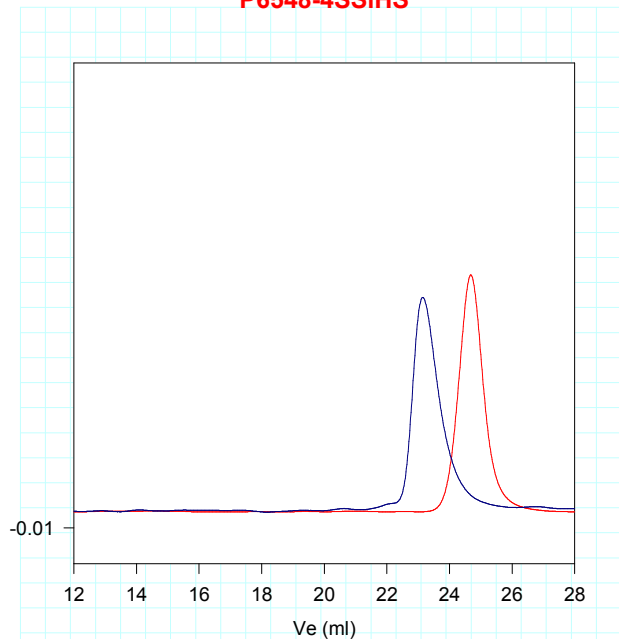


### B) Poly(4-dimethylsilyl styrene-b-styrene)



### SEC of Sample of the block copolymer:

#### P6548-4SSiHS



Size exclusion chromatography of poly(4-dimethylsilyl styrene-b-styrene):

— Poly(4-dimethylsilyl styrene), M<sub>n</sub>=10000, M<sub>w</sub>=11200, PI=1.12

— Block Copolymer P4SSiH(10000)-b-PS(38000), PI=1.15