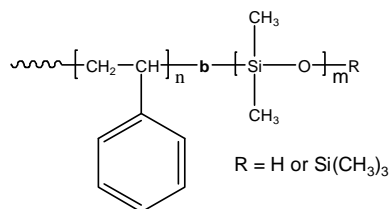


**Sample Name:** Poly(styrene-b-dimethyl siloxane),  
**electronic grade**

**Sample #:** P6197P-SDMSP (R=(Si(CH<sub>3</sub>)<sub>3</sub>))

**Structure:**



**Composition:**

Mn x 10 <sup>3</sup> S-b-DMS	Mw/Mn (PDI)
31.0-b-11.0	1.10
PS block:	T <sub>g</sub> = 99°C
DMS block:	T <sub>m</sub> = -44°C T <sub>g</sub> = -127°C (Lit.)

**Synthesis Procedure:**

Poly(styrene-b-dimethyl siloxane) was prepared by living anionic polymerization.

**Characterization:**

By size exclusion chromatography (SEC) and <sup>1</sup>H NMR.

**Thermal analysis**

Thermal analysis of the samples was carried out on a TA Q100 DSC at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow was considered as the glass transition temperature (T<sub>g</sub>). The melting temperature (T<sub>m</sub>) was taken as the maximum of the endothermic peak.

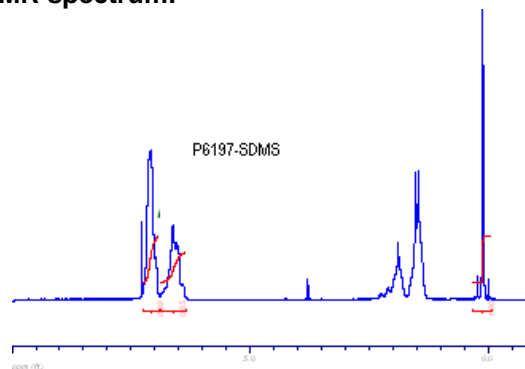
**Solubility:**

Poly(styrene-b-dimethyl siloxane) is soluble in CHCl<sub>3</sub>, toluene, and THF.

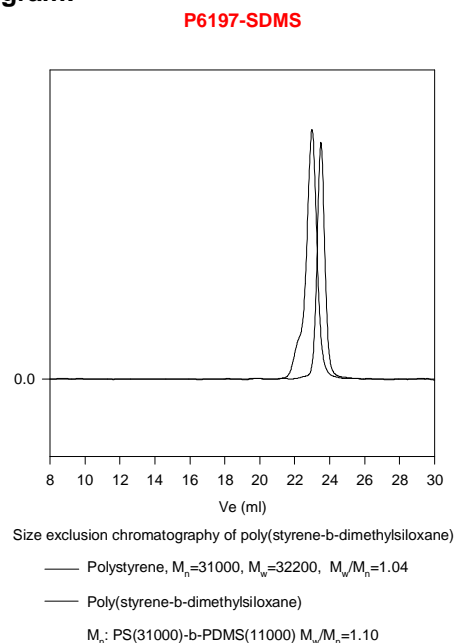
**Purification** of the obtained polymer was carried out rigorously to ensure the removal of the catalyst side product as follows:

1. The polymer was dissolved in chloroform and washed with de-ionized distilled water to remove the any soluble organic catalyst side product.
2. The polymer was extracted from water with CHCl<sub>3</sub>.
3. Polymer solution in CHCl<sub>3</sub> was dried over anhydrous sodium sulfate.
4. The solution was filtered and passed through a column packed with neutral Al<sub>2</sub>O<sub>3</sub>.
5. The solution was concentrated on rotavap and precipitated in cold methanol.
6. The product was dissolved in benzene, filtered, and freeze dried, followed by final drying under reduced pressure for 48h at 50°C.

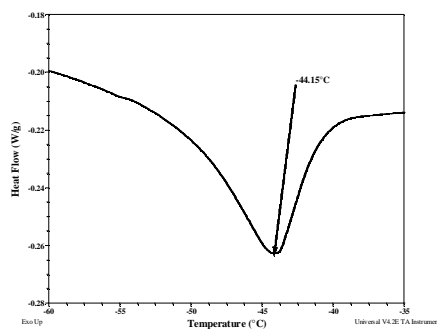
**<sup>1</sup>H NMR spectrum:**



**SEC elugram:**



**DSC thermogram for DMS block (melting curve)**



**DSC thermogram for PS block (glass transition):**

