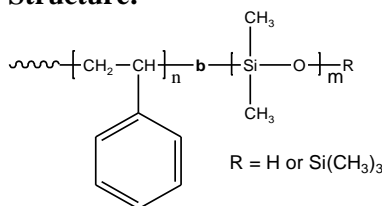


Sample Name: Poly(styrene-b-dimethyl siloxane)

Sample #: P41349-SDMS (R=H)

Structure:



Composition:

Mn x 10 ³ S-b-DMS	Mw/Mn (PDI)
30.0-b-10.0	1.02
Tg for PS block: 83°C	Tg for DMS block: -127°C (Lit. value)

Synthesis:

Poly(styrene-b-dimethyl siloxane) is prepared by living anionic polymerization with sequence addition of styrene followed by hexamethyl cyclotrisiloxane. For the details please consult the references.

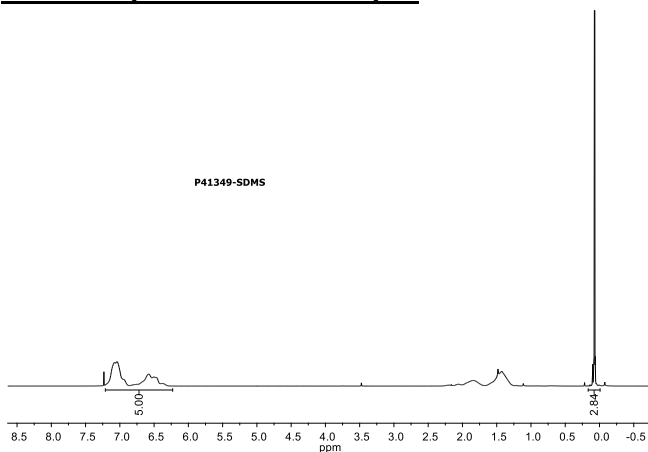
Characterization:

The product was characterized by size exclusion chromatography (SEC) and ¹H NMR.

Solubility:

Poly(styrene-b-dimethyl siloxane) is soluble in CHCl₃, toluene, and THF.

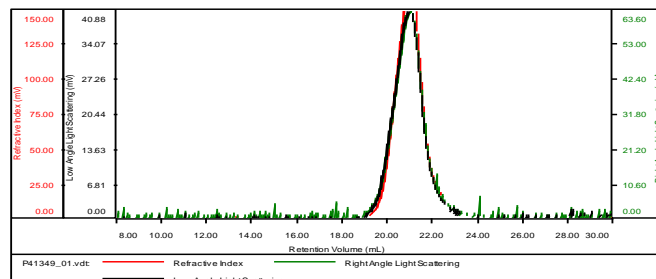
¹H NMR spectrum of the sample:



SEC profile of the block copolymer:

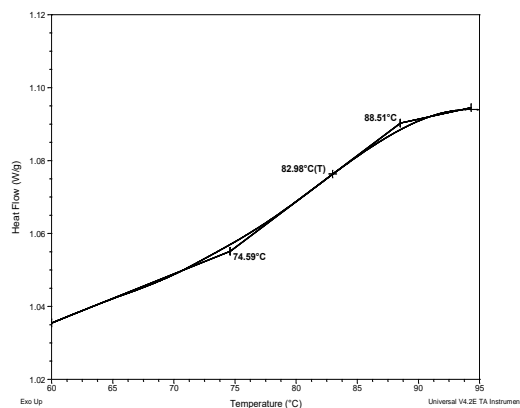
P41349-SDMS

Concentration (mg/mL)	12.1027
Sample dn/dc (mL/g)	0.1300
Method File	PS80K-sept-2018-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	Mn (Da)	Mw (Da)	Mw/Mn	IV (dL/g)	Mp (Da)
P41349_01.vdt	40,167	40,603	1.011	0.1601	37,865

Thermogram for PS block:



References:

A) S. K. Varshney, D. N. Khanna "Hexamethylcyclotrisiloxane-Styrene Block Copolymers and their Chemical Composition" *CA Vol. 093, 26, 240325, J. Appl. Polym. Sci., 1980, 25, 2501-2511*. B) P. Bajaj, S. K. Varshney, "Morphology and Properties of Poly(Dimethylsiloxane-b-Styrene-b-Dimethylsiloxane) Polymers" *CA Vol. 093, 02, 008652, Polymer, 1980, 21, 201-206*. (C) S. K. Varshney, C. L. Beatty "Synthesis and Characterization of Polymethylmethacrylate and Polydimethylsiloxane Block Copolymers Polymerizes with an Organometallic Initiator" *Org. Coat. Appl. Polym. Sci., 1981, 45, 151-157*. D) S. K. Varshney, C. L. Beatty, and P. Bajaj "Morphology and Properties of Styrene and Dimethylsiloxane Triblock and Multiblock Copolymers" *CA Vol. 098, 139, 017855, Am. Chem. Soc. Polym. Prepr., 1981, 22, 321-323*.