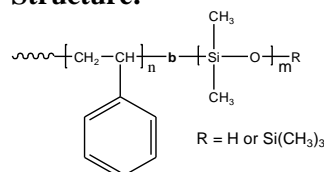


**Sample Name:** Poly(styrene-b-dimethyl siloxane)

**Sample #:** P41335-SDMS (R=H)

**Structure:**



**Composition:**

Mn x 10 <sup>3</sup> S-b-DMS	Mw/Mn (PDI)
29.0-b-14.0	1.05
Tg for PS block: 77 °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.

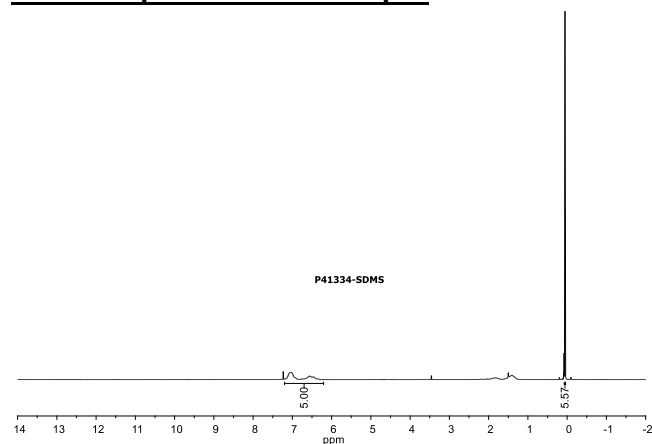
**Characterization:**

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

**Solubility:**

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

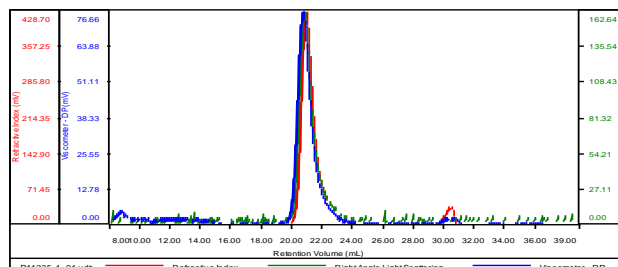
**<sup>1</sup>H NMR spectrum of the sample:**



**SEC profile of the S block:**

P41335-S

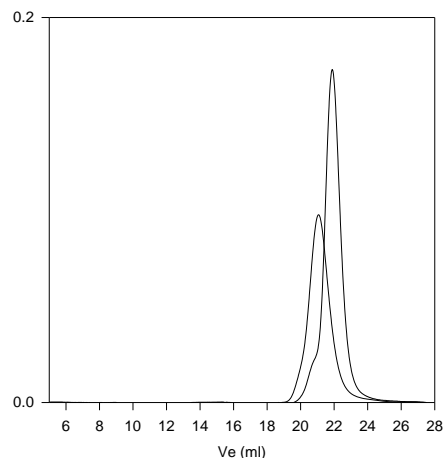
Concentration (mg/mL)	15.7646
Sample dn/dc (mL/g)	0.1850
Method File	PS80K_2017-12-21-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	Mn (Da)	Mw (Da)	Mw/Mn	IV (dL/g)	Mp (Da)
P41335-1_01.vdt	29,129	29,741	1.021	0.1282	27,600

**SEC profile of the block copolymer:**

P41335-SDMS



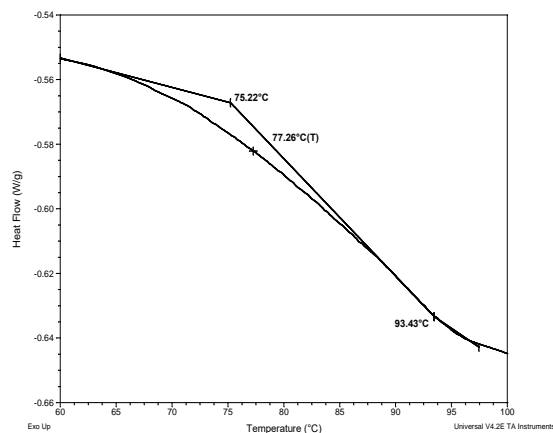
Size exclusion chromatography of poly(styrene-b-dimethylsiloxane)

— Polystyrene, M<sub>n</sub>=29,000, M<sub>w</sub>=29,800, M<sub>w</sub>/M<sub>n</sub>=1.02

— Poly(styrene-b-dimethylsiloxane)

M<sub>n</sub>: PS(29,000)-b-PDMS(14,000) M<sub>w</sub>/M<sub>n</sub>=1.05

**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.