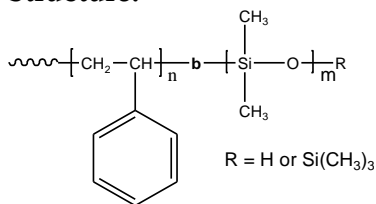


Sample Name:

Poly(styrene-b-dimethyl siloxane)

Sample #: P18267-SDMS (R=(Si(CH₃)₃))

Structure:



Composition:

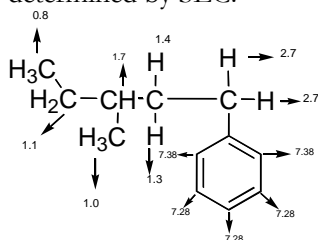
Mn × 10 ³ S-b-DMS	Mw/Mn (PDI)
28.0-b-6.0	1.09
T _g for PS block: 83°C	DMS block: T _g -121°C (Lit.)

Synthesis Procedure:

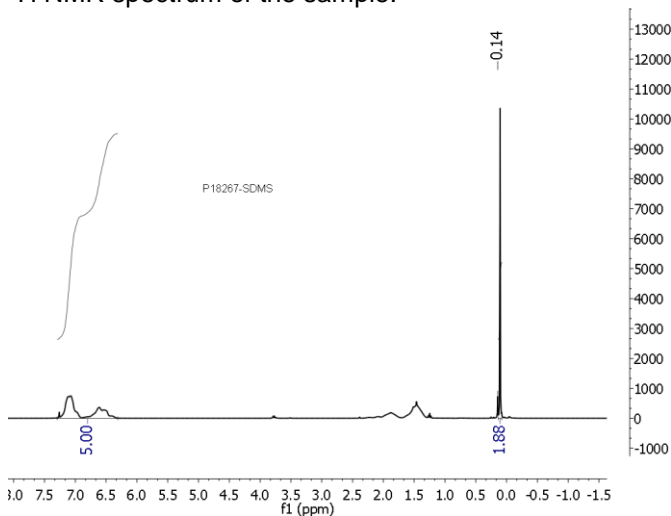
Poly(styrene-b-dimethyl siloxane) is prepared by living anionic polymerization with sequence addition of styrene followed by hexamethyl cyclotrisiloxane. For the details please see the references.

Characterization:

An aliquot of the polystyrene block was terminated before addition of hexamethyl cyclotrisiloxane and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the styrene protons at 6.3-7.2 ppm with the peak area of siloxane protons near 0.13 ppm. Block copolymer PDI is determined by SEC.



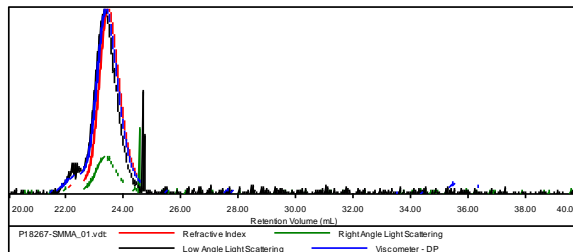
¹H NMR spectrum of the sample:



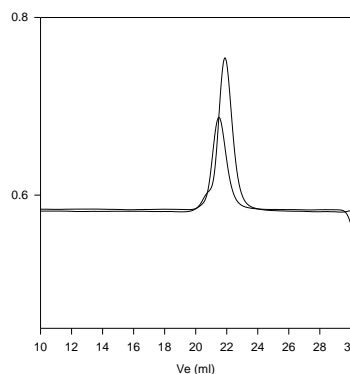
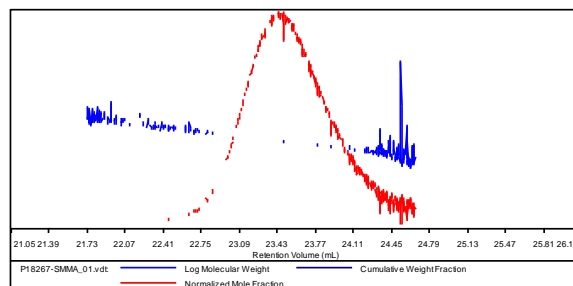
SEC profile of the block copolymer

Sample ID: P18267-sdms

Concentration (mg/mL)	3.4855
Sample dir/dc (mL/g)	0.1560
Method File	PS80K-NOV-2013-0000.vcm
Column Set	3x PL 1113-6300
System	System 1



Sample	MW Number Average	MW Weight Average	MW at Peak	Polydispersity	Intrinsic Viscosity
P18267-SMMA_01.vdt	34,357	37,656	35,721	1.096	0.2581



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

— Polystyrene, M_n=28,000, M_w=30,500, M_w/M_n=1.09
— Poly(styrene-b-dimethylsiloxane)
M_n: PS(28,000)-b-PDMS(6,000) M_w/M_n=1.09

DSC thermogram for PS block:

