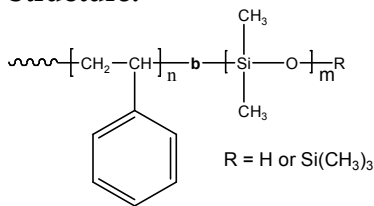


Sample Name:

Poly(styrene-b-dimethyl siloxane)

Sample #: P10647-SDMS (R=(Si(CH₃)₃))

Structure:



Composition:

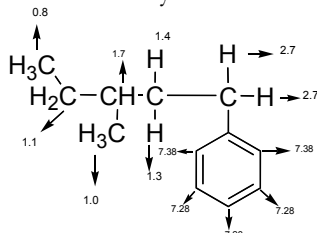
Mn × 10 ³ S-b-DMS	Mw/Mn (PDI)
8.0-b-1.4	1.09
T _g for PS block: 83°C	DMS block: T _g -121°C (Lit.)

Synthesis Procedure:

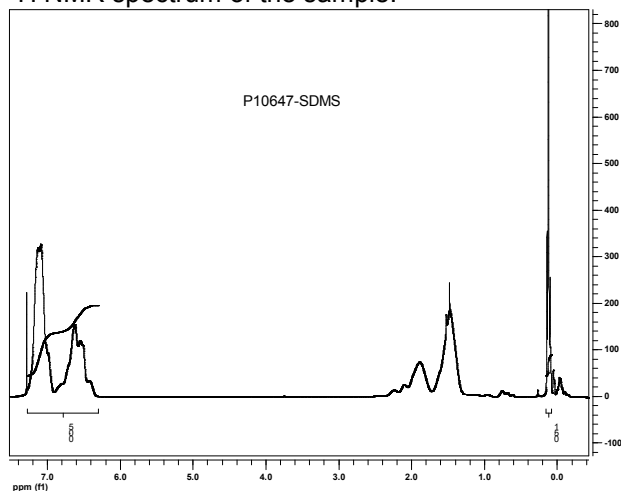
Poly(styrene-b-dimethyl siloxane) is prepared by living anionic polymerization with sequence addition of styrene followed by hexamethyl cyclotrisiloxane. For the details please see the references.

Characterization:

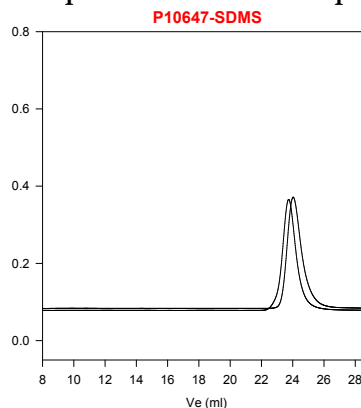
An aliquot of the polystyrene block was terminated before addition of hexamethyl cyclotrisiloxane and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing 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



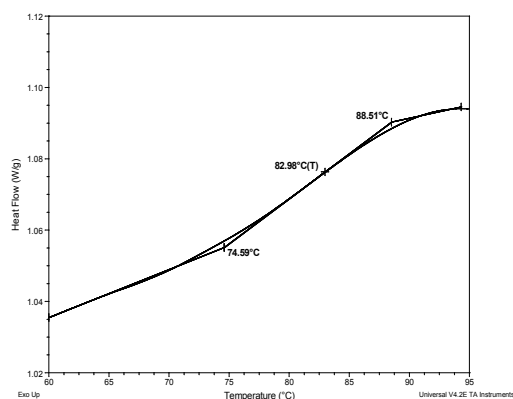
Size exclusion chromatography of poly(styrene-b-dimethylsiloxane)

— Polystyrene, M_n=8,000, M_w=8,400, M_w/M_n=1.08

— Poly(styrene-b-dimethylsiloxane)

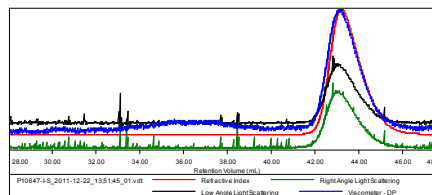
M_n: PS(8,000)-b-PDMS(1,400) M_w/M_n=1.09

DSC thermogram for PS block:



Sample ID: P10647-I-S

Concentration (mg/mL)	5.8643
Sample dn/dc (mL/g)	0.1850
Method File	PS80K-Oct-0000.vcm
Column Set	3x PL 1113-6300
System	System 1



Sample	Mn (Da)	Mw (Da)	Mp (Da)	Mw/Mn	IV (dL/g)
P10647-I-S_2011-12-22_13:51:45_01.vi	7,797	8,258	7,985	1.059	0.1339

