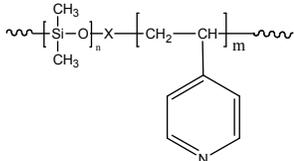


Sample Name: Poly(4-vinyl pyridine-b-dimethylsiloxane)

Sample #: P40472-4VPDMS

Structure:



Composition:

$M_n \times 10^3$ 4VP-b-DMS	Mw/Mn
1.4-b-5.0	1.2

Synthesis Procedure:

Poly (4-vinyl pyridine-b-dimethylsiloxane) was synthesized by RAFT Process.

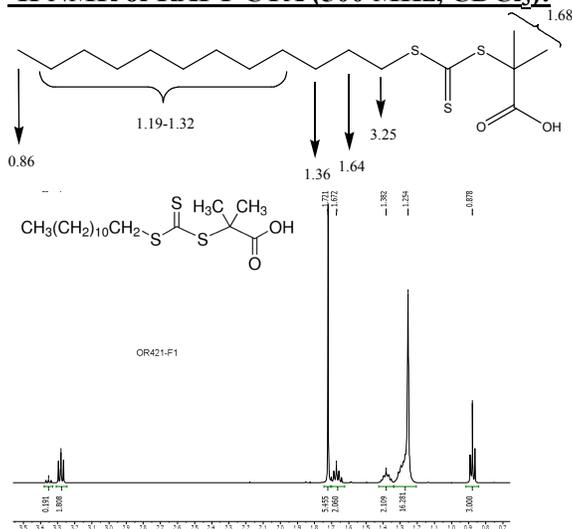
Characterization:

Polymers were analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The block copolymer composition was then calculated from ¹H-NMR spectroscopy by comparing the peak area of the 2-vinyl pyridine proton at about 8.2 ppm with the dimethyl siloxane protons at 0.08 ppm. Copolymer PDI is determined by SEC.

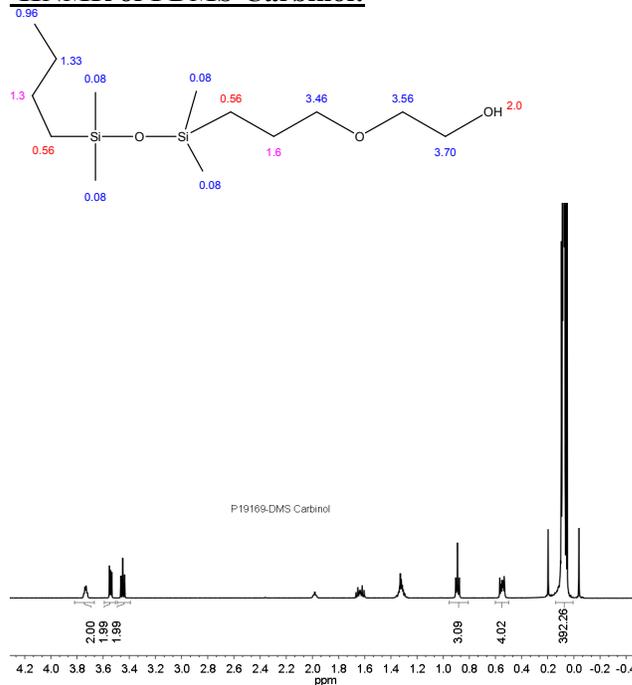
Solubility:

Poly(4-vinyl pyridine-b-dimethyl siloxane) is soluble in THF, CHCl₃ and toluene.

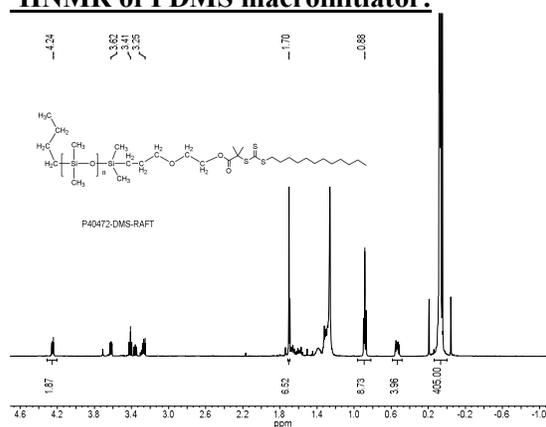
¹H NMR of RAFT CTA (500 MHz, CDCl₃):



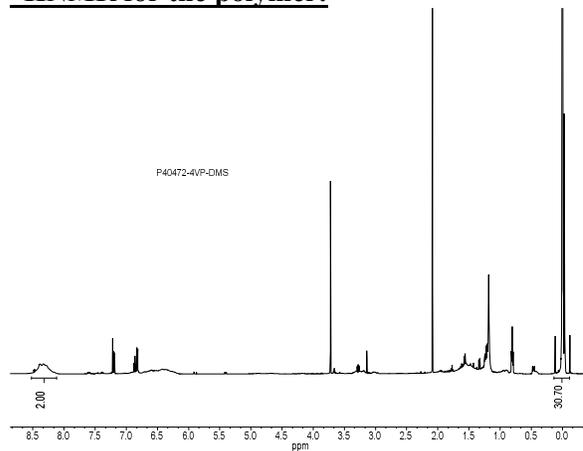
¹H NMR of PDMS-Carbinol:



¹H NMR of PDMS macroinitiator:

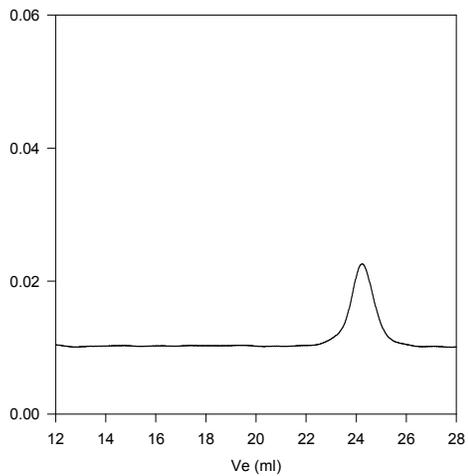


¹H NMR for the polymer:



SEC of the Polymer:

P40472-4VPDMS



Size exclusion chromatography of

Block Copolymer P4VP(1400)-b-PDMS(5000), PI= 1.2
run in CHCl₃

Composition for ¹H NMR

FTIR: The Composition of the polymer was also checked by FTIR.

Relationship between weight fraction & FTIR peak area of 2VP
in DMS

