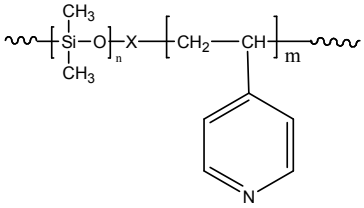
Sample Name:
Poly(4-vinyl pyridine-b-dimethylsiloxane)

Sample #: **P40490-4VPDMS**

Structure:



Composition:

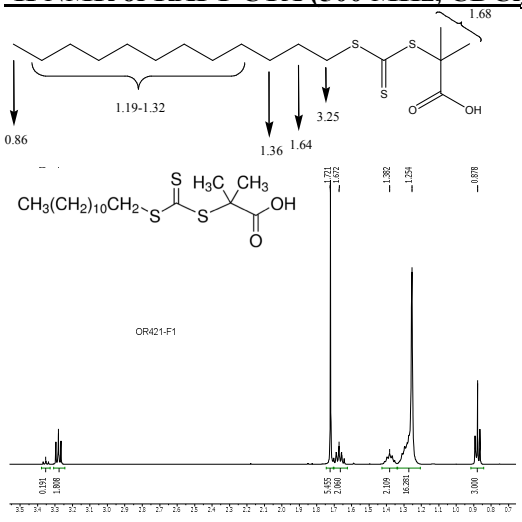
$M_n \times 10^3$ 4VP-b-DMS	Mw/Mn
62.5-b-8.0	1.32

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

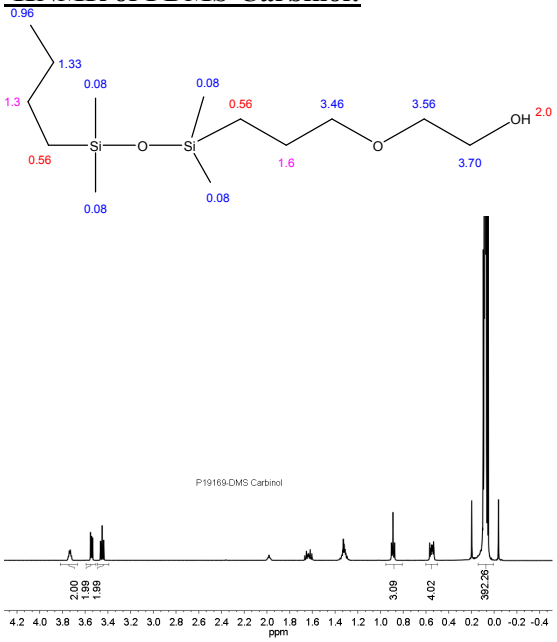
Characterization:
Polymers were analyzed by size exclusion chromatography (SEC) to obtain the polydispersity index (PDI). The block copolymer composition was then calculated from ^{1}H-NMR spectroscopy by comparing the peak area of the 4-vinyl pyridine proton at about 8.2 ppm with the dimethyl siloxane protons at 0.08 ppm. Copolymer PDI is determined by SEC.

Solubility:
Poly(4-vinyl pyridine-b-dimethyl siloxane) is soluble in THF, $CHCl_3$ and toluene.

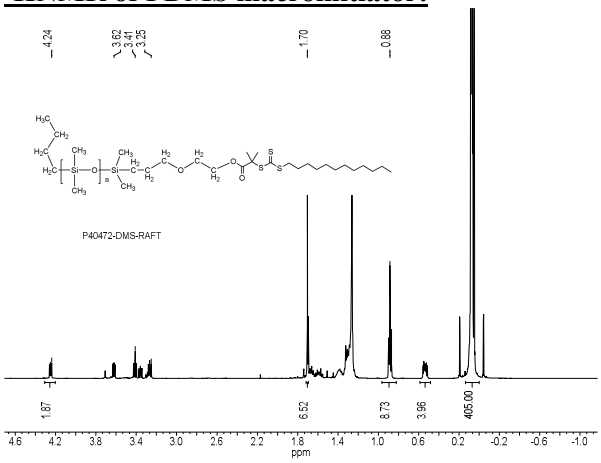
^{1}H NMR of RAFT CTA (500 MHz, $CDCl_3$):



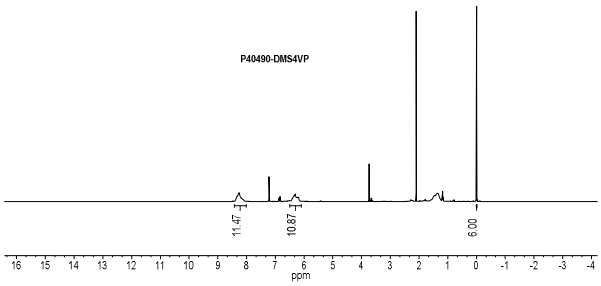
^{1}HNMR of PDMS-Carbinol:



^{1}HNMR of PDMS macroinitiator:



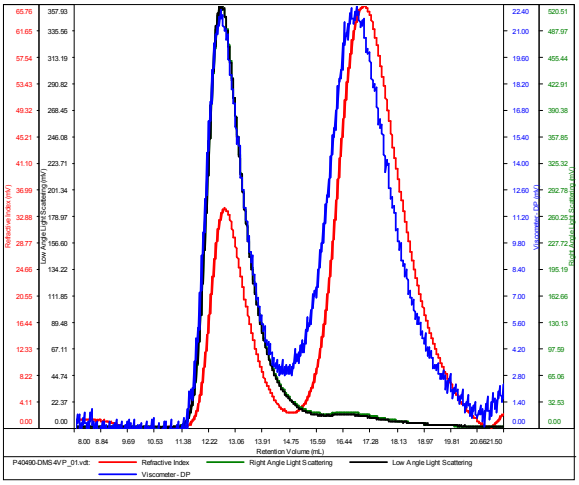
^{1} HNMR for the polymer:



SEC elugram of the Polymer:

P40490-4VPDMS (L.M.W fractions-Micellization)

Conc	9.6399
dn/dc	0.1000
Solvent	DMF w 0.023M LiBr
Flow Rate	0.7000
Method	PS80k-March2017-0002.vcm



Sample	Mn	Mw	Mp	Mw/Mn	IV
P40490-DMS4VP_01.vdt	51,726	68,524	47,106	1.325	0.0621

Note:GPC carried out in DMF at 50^{o}C . GPC profile shows micellization since 4VP block is insoluble in DMF. From the HNMR the compositions and its molecular weights determined. GPC profile only indicates Mw/Mn of the polymer

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

in DMS