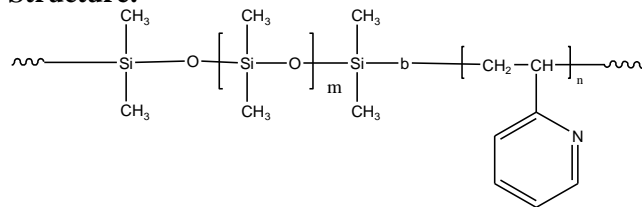


Sample Name:

**Poly(2-vinyl pyridine-b-dimethylsiloxane)**

Sample #: **P40474-2VPDMS**

**Structure:**



**Composition:**

$M_n \times 10^3$ 4VP-b-DMS	Mw/Mn
9.5-b-5.0	1.12

**Synthesis Procedure:**

Poly(2-vinyl pyridine-b-dimethylsiloxane) diblock copolymer is prepared by RAFT polymerization.

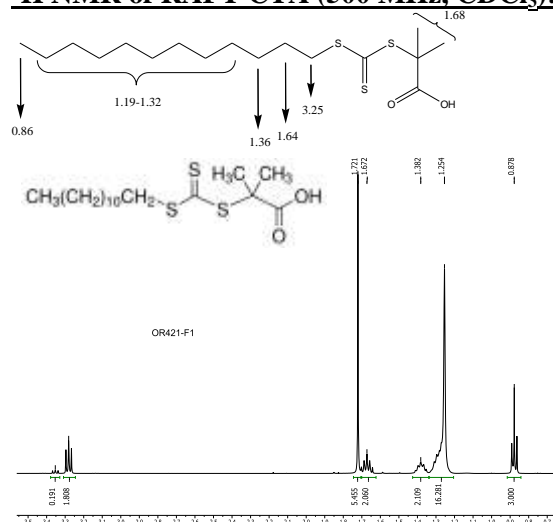
**Characterization:**

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  $^1\text{H-NMR}$  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.

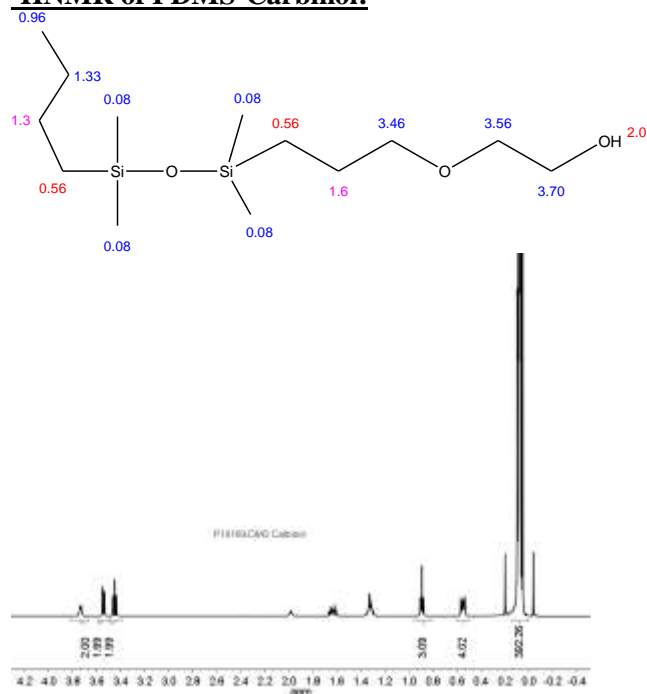
**Solubility:**

Poly(4-vinyl pyridine-b-dimethyl siloxane) is soluble in THF,  $\text{CHCl}_3$  and toluene.

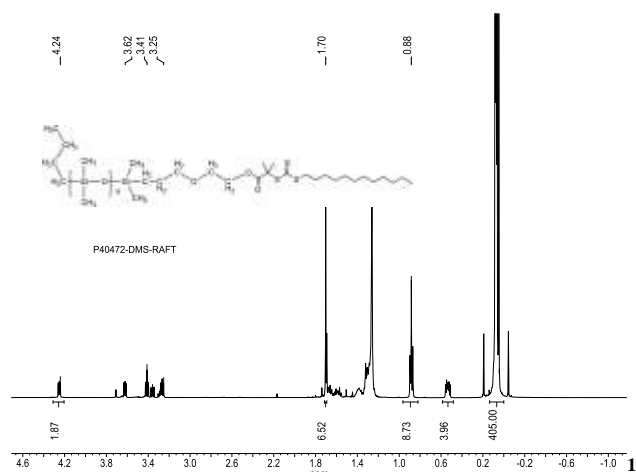
**$^1\text{H NMR}$  of RAFT CTA (500 MHz,  $\text{CDCl}_3$ ):**



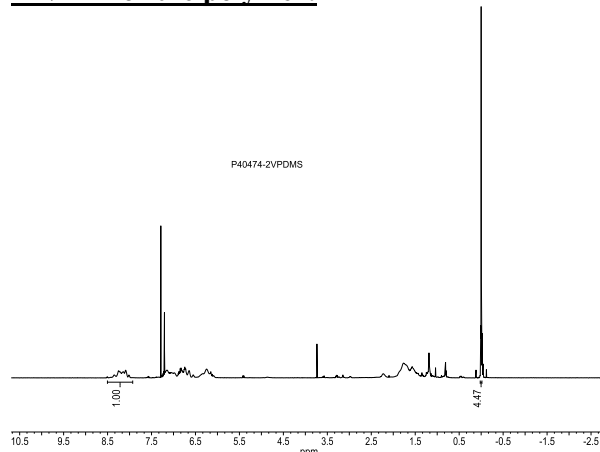
**$^1\text{HNMR}$  of PDMS-Carbinol:**



**$^1\text{HNMR}$  of PDMS macroinitiator:**

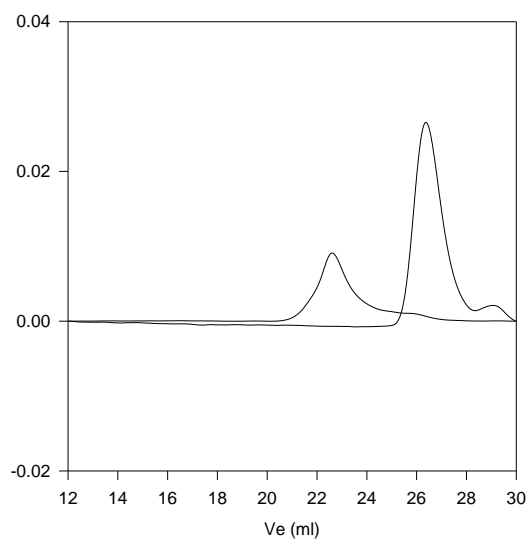


**$^1\text{HNMR}$  for the polymer:**



## SEC of the Polymer:

**P40474-2VPDMS**



- Poly(DMS-block),  $M_n=5,000$  Mw: 5,600 Mw/Mn 1.09
- Block Copolymer P2VP(9,500)-b-PDMS(5,000), PI= 1.12  
Composition for  $^1\text{H}$  NMR

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

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

