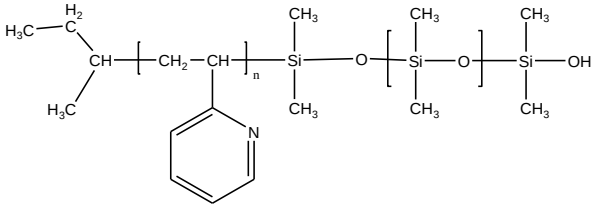
**Sample Name: Poly(2-vinyl pyridine-b-dimethylsiloxane)**
Sample #: P18682-2VPDMS
By controlled radical process

**Structure:**



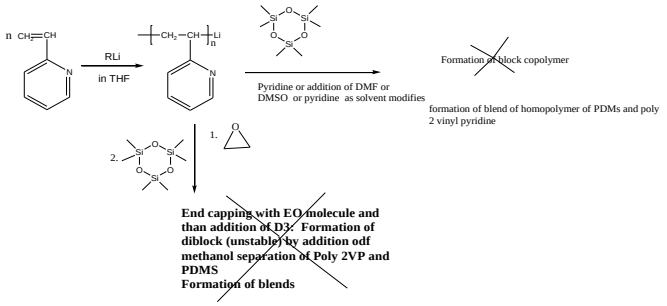
**Composition:**

| $Mn \times 10^3$ 2VP-b-DMS | Mw/Mn |
|---|---|
| 20.0-b-1.0 | 1.22 |

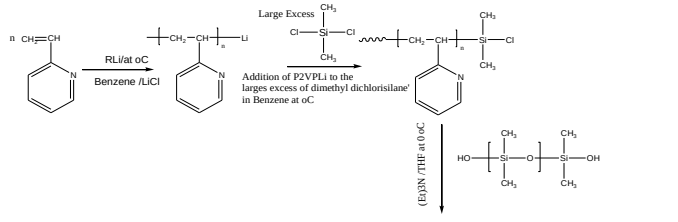
**Synthesis Procedure:**
Poly(2-vinyl pyridine-b-dimethylsiloxane) is synthesized by one of the following routes.

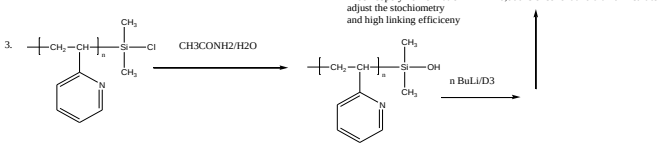
Differnt routes for the synthesis of poly 2 vinyl pyridine with polydimethyl siloxane:

1. Direct Anionic Polymerization by sequential addition of 2VP followed by D3 monomer

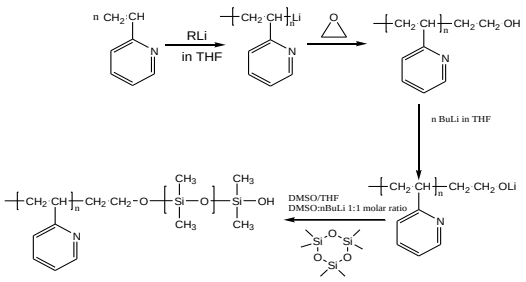



2. : From the linking reaction of end functionalized polymer: For the synthesis of Block copolymer > Mn 10,000



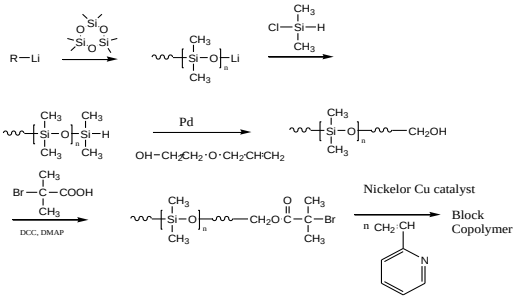




3. Formation of first Poly 2vinyl pyridine OH terminated polymer than reacting the isolated P2VPOH polymer with n BuLi foolwed by addition of D3 in the presence of DMSO equimolar amount with nBuLi




High purity diblock copolymer formation

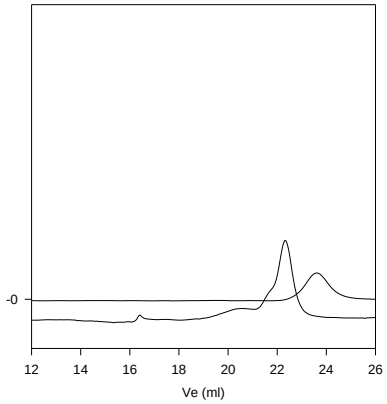
4. By Controlled radical process:




**Characterization:**
Polymers were analyzed by size exclusion chromatography (SEC) and $^1$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(2-vinyl pyridine-b-dimethyl siloxane) is soluble in THF, $CHCl_3$ and toluene

**P18682-2VPDMS**




Size exclusion chromatography of
Poly(2VP), $M_n$=20,000 Mw/Mn 1.18
Block Copolymer P2VP(20,000)-b-PDMS(1000), PI= 1.22
Composition for $^H$ NMR

**$^H$NMR for the polymer:**