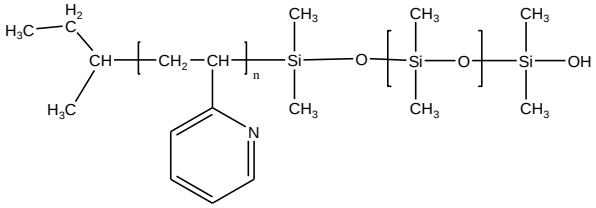
<u>Sample Name</u>: Poly(2-vinyl pyridine-b-dimethylsiloxane)
<u>Sample #:</u> P18684B-2VPDMS
By controlled radical process

Structure:



Composition:

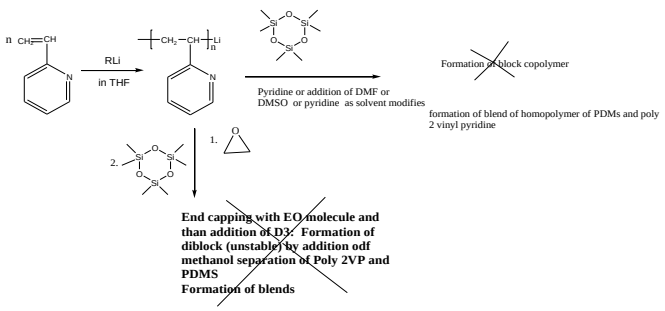
$Mn \times 10^3$ 2VP-b-DMS	Mw/Mn
15.0-b-1.0	1.22

Synthesis Procedure:

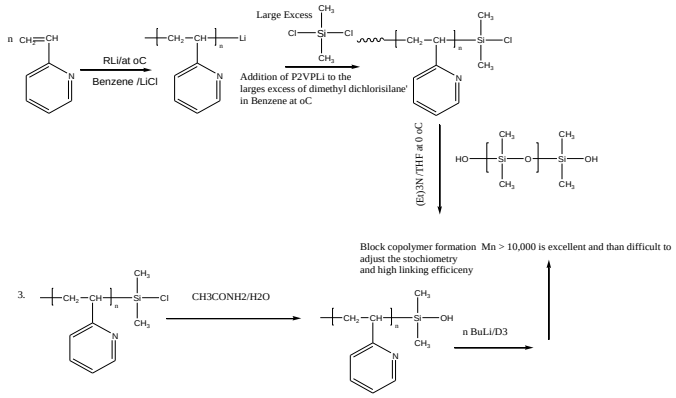
Poly(2-vinyl pyridine-b-dimethylsiloxane) is synthesized by one of the following routes.

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

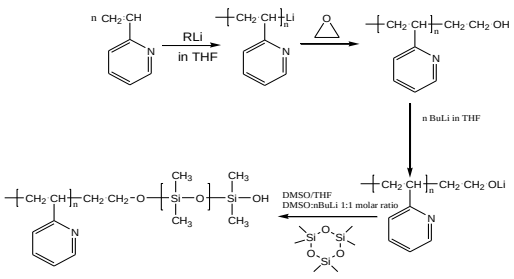


2. : From the linking reaction of end functionalized polymer: For the synthesis of Block copolymer > Mn 10,000



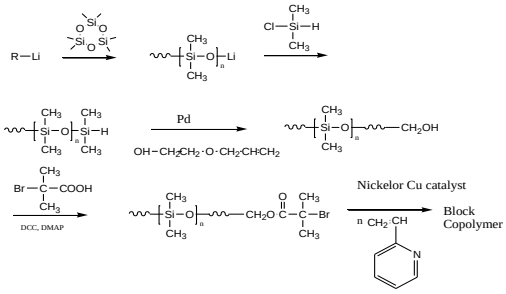
3. CH3CONH2/H2O

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:

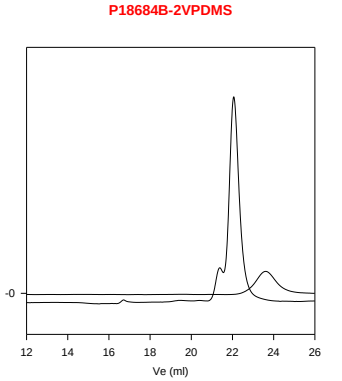


Characterization:

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



Size exclusion chromatography of
Poly(2VP), M_n=15,000 Mw/Mn 1.18
Block Copolymer P2VP(15,000)-b-PDMS(1000), PI= 1.22
Composition for ^{H} NMR

^{H}NMR for the polymer: