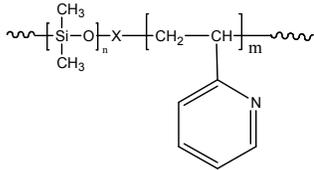


Sample Name: Poly(2-vinyl pyridine-b-dimethylsiloxane)

Sample #: P5302-2VPDMS

By anionic polymerization using EO as end capping of Poly 2VP macroanions

Structure:



Composition:

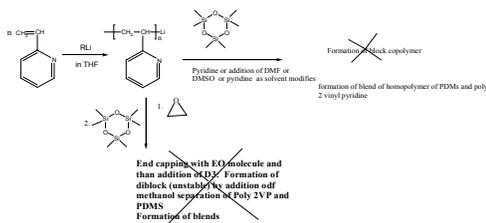
$M_n \times 10^3$ 2VP-b-DMS	Mw/Mn
2.0-b-1.5	1.25

Synthesis Procedure:

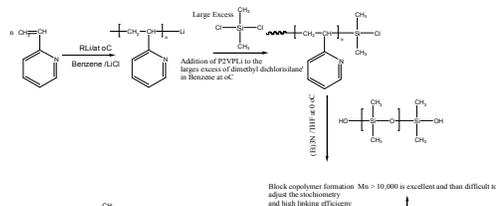
Poly(2-vinyl pyridine-b-dimethylsiloxane) is synthesized by one of the following routes.

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

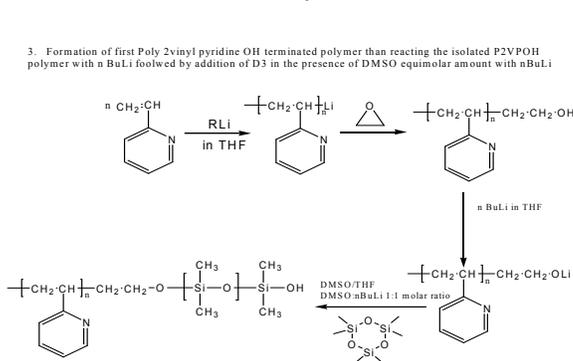
1. Direct Anionic Polymerization by sequential addition of 2VP followed by D3 monomer



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

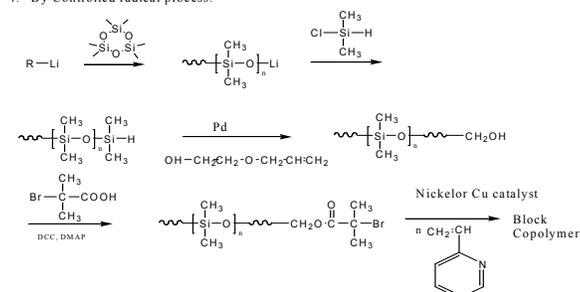


3. Formation of first Poly 2vinyl pyridine OH terminated polymer than reacting the isolated P2VPOH polymer with nBuLi followed by addition of D3 in the presence of DMSO equimolar amount with nBuLi



High purity diblock copolymer formation

4. By Controlled radical process:

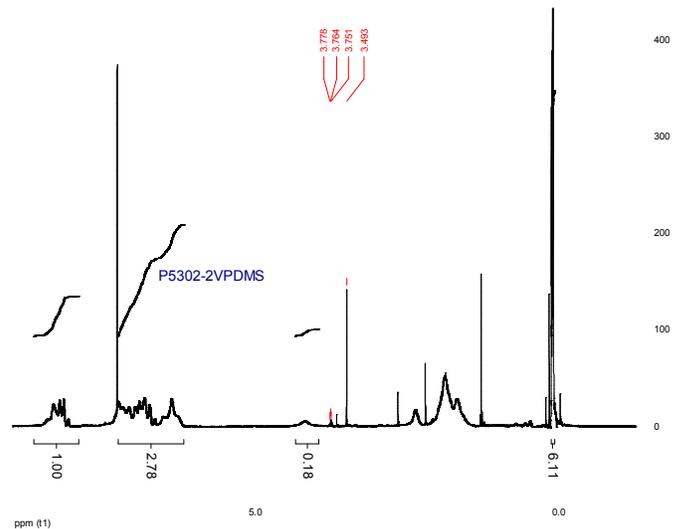


Characterization:

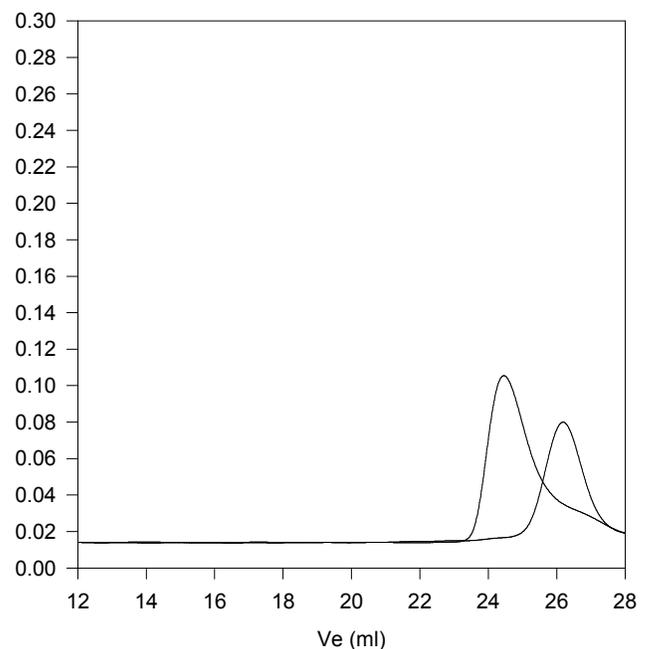
Polymers were analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The block copolymer composition was then calculated from $^1\text{H-NMR}$ spectroscopy by comparing the peak area of the 2-vinyl pyridine proton at about 8.2 ppm with the dimethyl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

Solubility:

Poly(2-vinyl pyridine-b-dimethyl siloxane) is soluble in THF, CHCl_3 and toluene.



P5302-2VPDMS



Size exclusion chromatography of

— Poly(dimethylsiloxane), $M_n = 2000$ Mw: 2100 Mw/Mn 1.09
 — Block Copolymer P2VP(2000)-b-PDMS(1500), PI= 1.25
 Composition for ^1H NMR