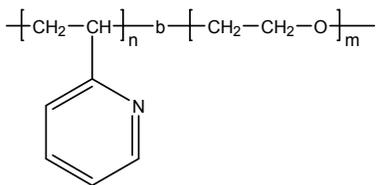


Sample Name: Poly(2-vinyl pyridine -b- ethylene oxide)

Sample #: P13119-2VPEO

Structure:

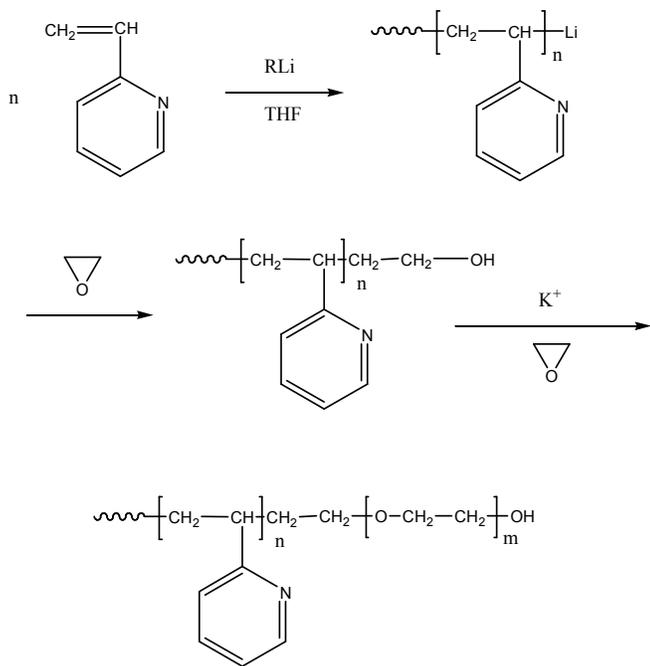


Composition:

Mn x 10 ³ P2VP-b-PEO	PDI
3.0-b-9.0	1.3

Synthesis Procedure:

Poly(2-vinyl pyridine -b- ethylene oxide) is prepared by living anionic polymerization of ethylene oxide using potassium salt of hydroxyl terminated poly(2-vinyl pyridine) as a macro-initiator. The reaction scheme is shown below:



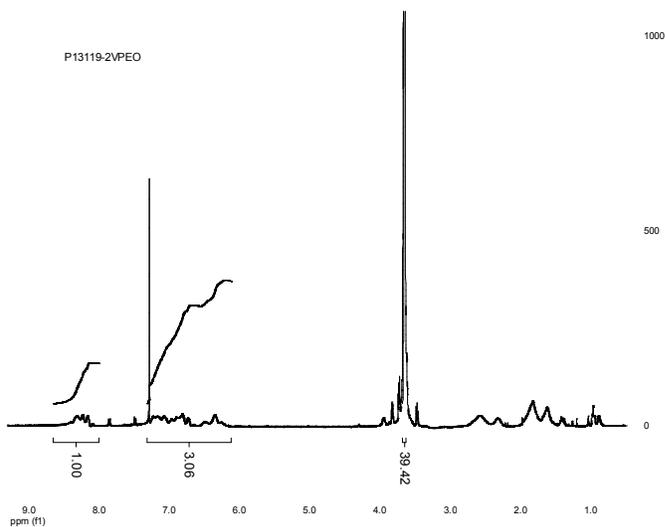
Characterization:

An aliquot of the hydroxyl terminated poly(2-vinyl pyridine) was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the 2-vinyl pyridine proton at about 8.2 ppm with the peak area of the ethylene oxide protons at about 3.6 ppm. Block copolymer PDI is determined by SEC.

Solubility:

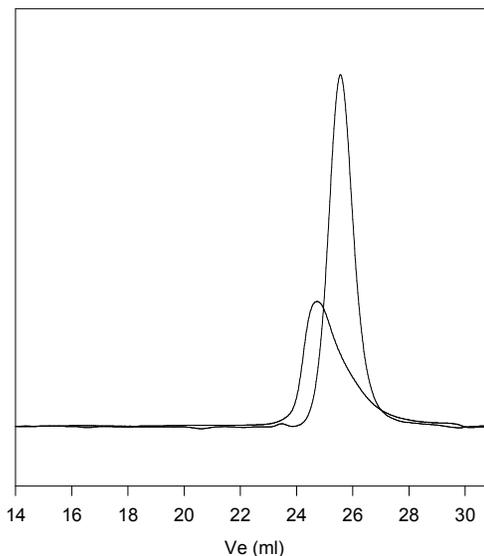
Poly(2-vinyl pyridine -b- ethylene oxide) is soluble in ethanol, DMF, chloroform, and THF. Hexanes are its non-solvent.

¹H-NMR Spectrum of the block copolymer:



SEC of the block copolymer:

P13119-2VPEO



Size exclusion chromatography of poly(2-vinylpyridine)-b-poly(ethylene oxide):

- Poly(2-vinylpyridine), M_n=3000, M_w=3600, PI=1.2
- Block Copolymer P2VP(3000)-b-PEO(9,000), PI=1.3