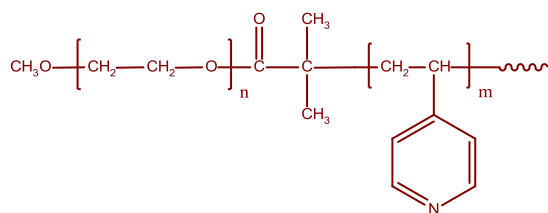


Sample Name:

**Poly(ethylene oxide-b-4-vinyl pyridine)**

Sample #: **P6518-EO4VP**

**Structure:**

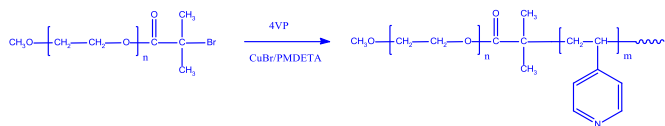


**Composition:**

|                                    |      |
|------------------------------------|------|
| Mn x 10 <sup>3</sup><br>PEO-b-P4VP | PDI  |
| 2.0-b-10.0                         | 1.25 |

**Synthesis Procedure:**

Poly(ethylene oxide-b-4-vinyl pyridine) is prepared by ATRP using bromo-terminated poly(ethylene glycol) methyl ether as a macro initiator. In this case the PEO block is end capped with methoxy group. The brief reaction is illustrated as follows:



**Characterization:**

Polymer was analyzed by size exclusion chromatography (SEC) in DMF to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from <sup>1</sup>H-NMR spectroscopy by comparing the peak area of the 4-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(4-vinyl pyridine -b- ethylene oxide) is soluble in ethanol, DMF, chloroform, and THF, and it is precipitated into ether and hexane.

**H-NMR Spectrum of the block copolymer:**

