

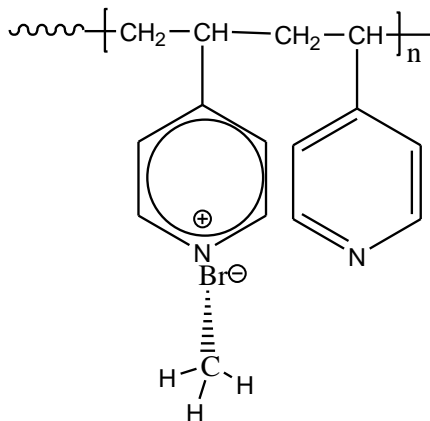
Sample Name:

Random Copolymer Poly(4-Vinyl Pyridine-co-4-Vinyl -N-methylpyridinium bromide)

Sample #: P18443-4VPQ.CH3Br

Degree of Quaternization : 50%

Structure:



Composition:

Mn $\times 10^3$	PDI
130.0	1.24
After Quaternization	
185.0	1.24

Synthesis Procedure:

50% quaternization of Poly 4VP was carried out in DMF/THF mixture at 0 oC by adding CH₃Br (B.P 4 oC) quantitatively to get 50% degree of quaternization. Polymer was washed with cold THF and dried under vacuum at 50 oC.

From the yield of the polymer also reveals 50% quaternization and also clear from its HNMR carried out in methanol:

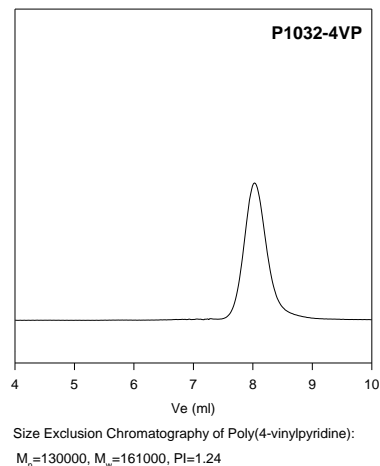
Characterization:

The molecular weight and polydispersity index (PDI) of poly(4-vinyl pyridium) are obtained by size exclusion chromatography. The quaternization is confirmed by FTIR with the disappearance of the -N= absorbance peak at 1412 cm⁻¹ and the degree of quaternization is about 50%.

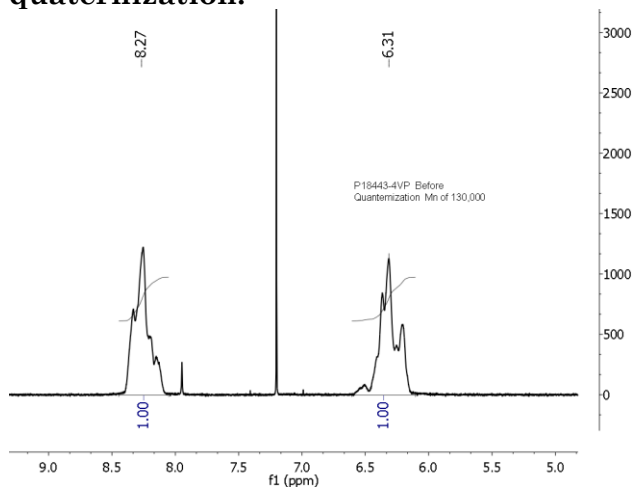
Solubility:

Polymer is soluble in methanol, ethanol and precipitate out from hexane, ether.

SEC of Homopolymer: used for Quaternization with CH₃Br



HNMR of the Polymer before quaternization:



HNMR of the Polymer in methanol after quaternization:

