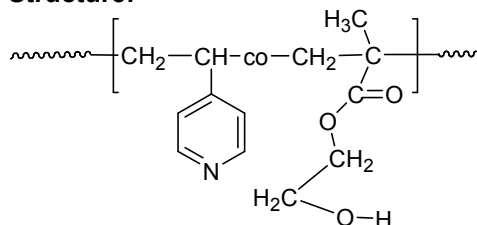


Sample Name:

Random Copolymer Poly(4-vinylpyridine –co-2-Hydroxy ethyl methacrylate)

Sample #: **P10808A-4VPHEMAran**

Structure:



Composition:

Mn x 10 ³ P4VP-co-HEMA	PDI
260.0	1.2
4VP:HEMA	28:72

Synthesis Procedure:

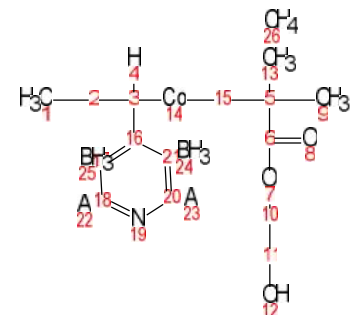
The polymer is prepared by controlled radical polymerization of 4-vinylpyridine and 2-Hydroxy ethyl methacrylate process.

Characterization:

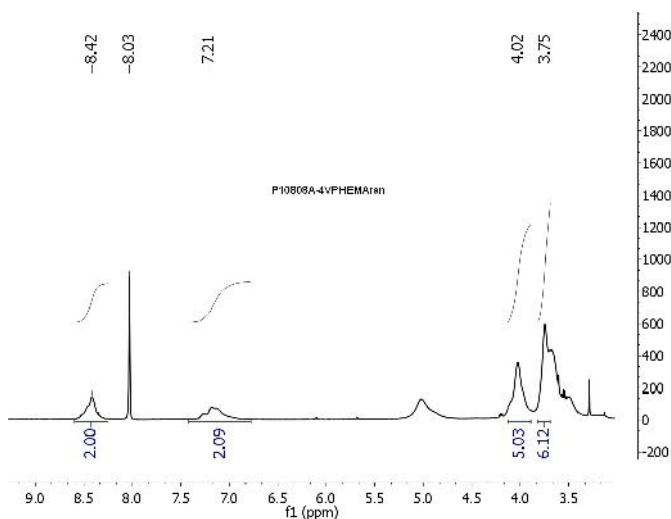
The polymer was analyzed by size exclusion chromatography (SEC) in DMF at 60 °C to obtain the molecular weight and polydispersity index (PDI). Polystyrene and polyHEMA, poly4VP standards were used to calculate molecular weights. With respect to polystyrene, the values obtained were well above the theoretical values. Molecular weights were determined with respect to polyHEMA homopolymers obtained by anionic living polymerization of 2-trimethyl siloxy protected HEMA monomer. The copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of 4VP protons at 8.28 ppm with the PHEMA protons at about 3.7ppm.

Solubility:

The polymer is soluble in THF, DMF, methanol and precipitated out from hexane.

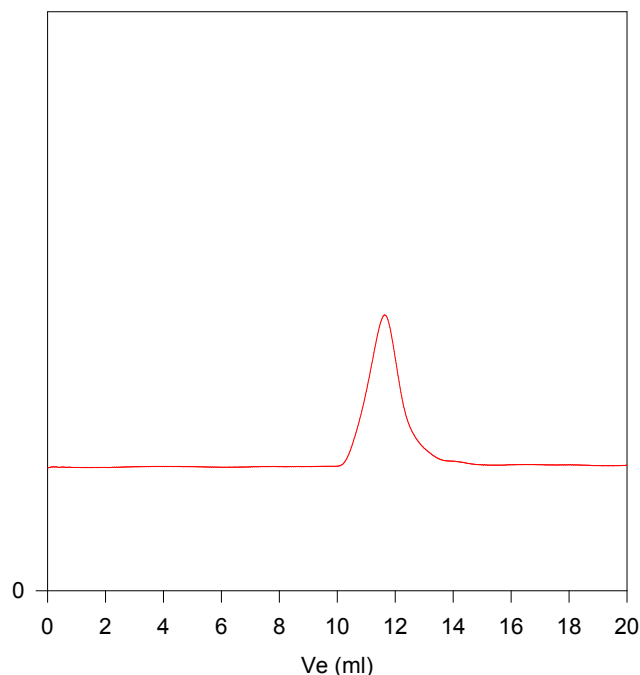


¹H-NMR Spectrum of the random copolymer:



SEC of the random copolymer:

P10808A-4VPHEMAran



Size exclusion chromatograph of polymer:

M_w=260,000, M_n=307,000, M_w/M_n=1.2

Composition by HNMR