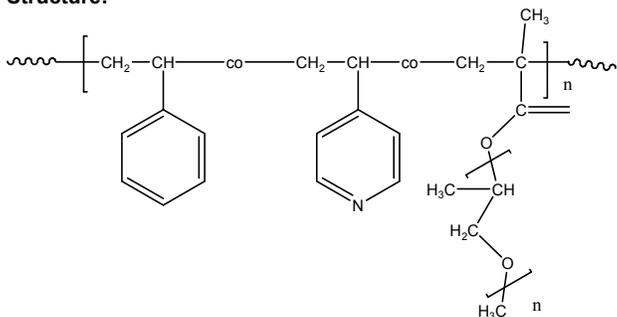


Sample Name:

Random Copolymer Poly(styrene-co-4-vinylpyridine-co-propylene glycol methyl ether methacrylate)

Sample #: P10398-S4VP-PGMAn

Structure:



Composition:

S: 4VP :PGMA; 30:40:30

Mn x 10 ³ PS-co-P4VP-co-PGMA	PDI
38.0	1.7

Synthesis Procedure:

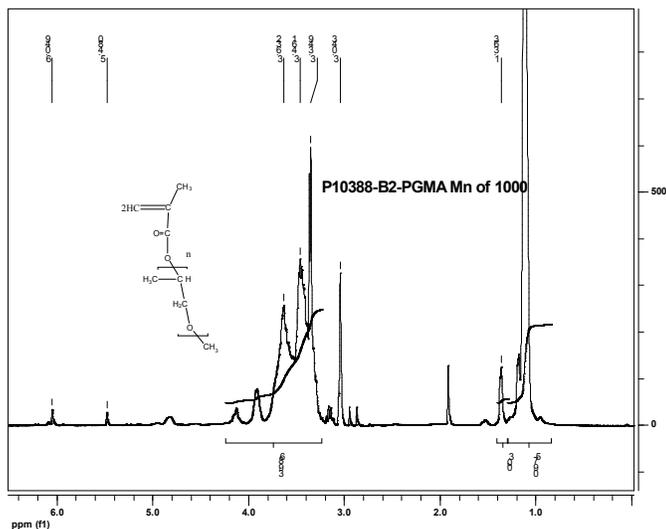
The polymer is prepared by radical polymerization of styrene and 4-vinylpyridine and polypropylene glycol methyl ether methacrylate of Mn 1000 by RAFT process.

Characterization:

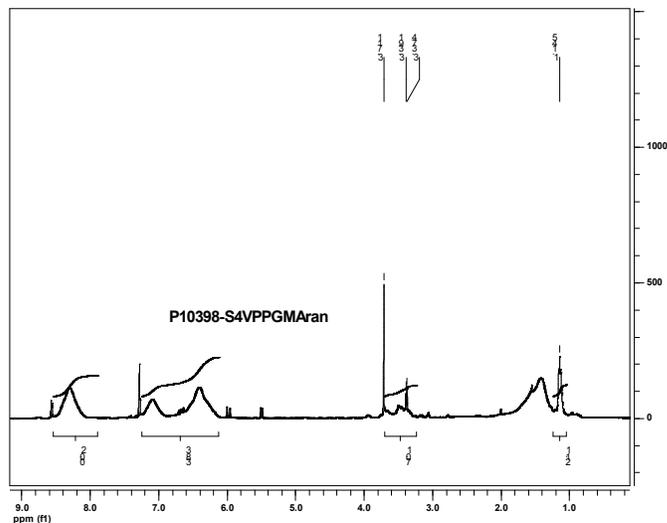
The polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of 4VP protons at 8.28 ppm with the styrene protons at about 6.1-7.2 ppm that deducts the contribution of the 4VP protons.

Solubility:

The polymer is soluble in CHCl₃, THF, DMF, methanol and precipitated out from hexane

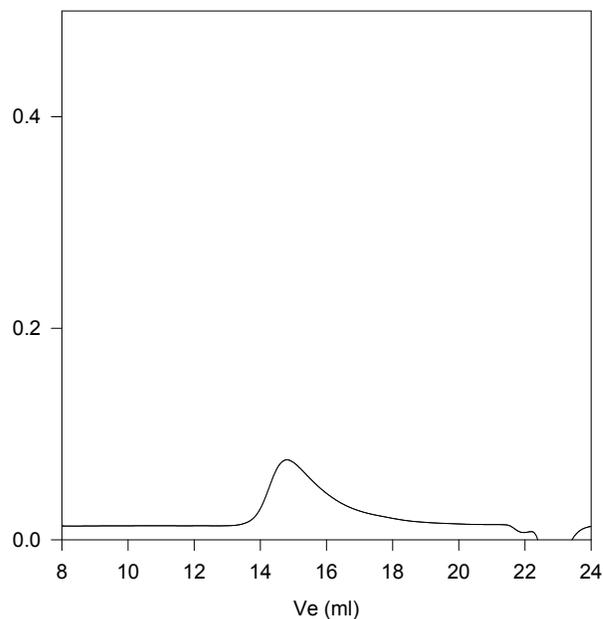


1H-NMR Spectrum of the random copolymer:



SEC of the random copolymer:

P10398-S4VPGMAPran



Size exclusion chromatography in DMF at 40 °C:

— M_n=38,000, M_w=65,000, PI=1.7 (SEC polystyrene standard)