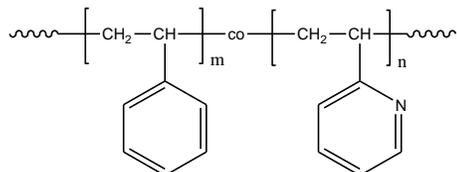


Sample Name:
Random Copolymer Poly(styrene-co-2-vinylpyridine)

Sample #: P7616-S2VPran

Structure:



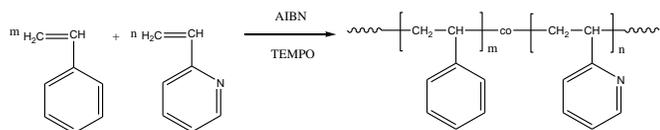
Composition:

2VP (mol%) : 77%

$M_n \times 10^3$ PS-co-P2VP	PDI
28.5	1.5

Synthesis Procedure:

The polymer is prepared by radical polymerization of styrene and 2-vinylpyridine in the presence of TEMPO and AIBN. The scheme of the reaction is illustrated below:



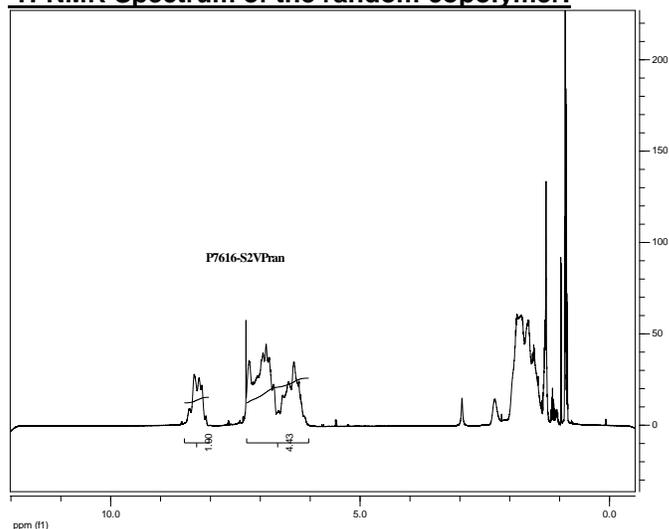
Characterization:

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 2VP protons at 8.3 ppm with the styrene protons at about 6.1-7.2 ppm that deducts the contribution of the 2VP protons.

Solubility:

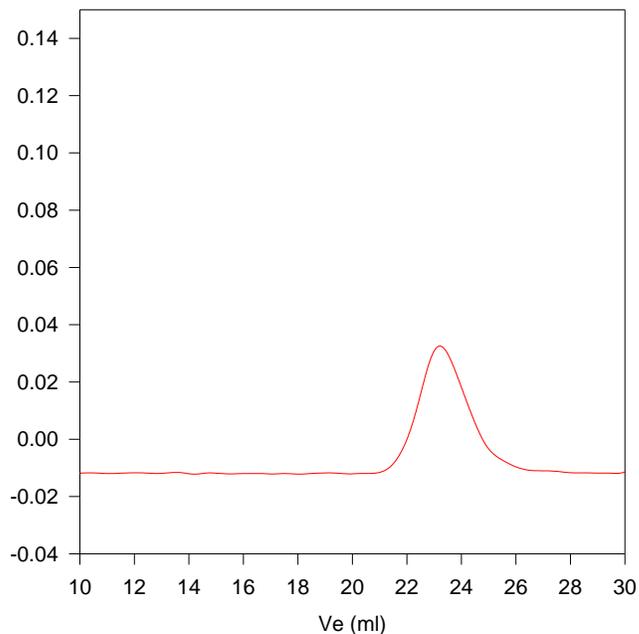
The polymer is soluble in CHCl₃, THF, DMF, toluene and precipitated out from hexane

¹H-NMR Spectrum of the random copolymer:



SEC of the random copolymer:

P7616-S2VPran



Size exclusion chromatograph of the polymer:

$M_n=28500$, $M_w=44800$, $M_w/M_n=1.5$

2VP= 77.0 mole% from NMR