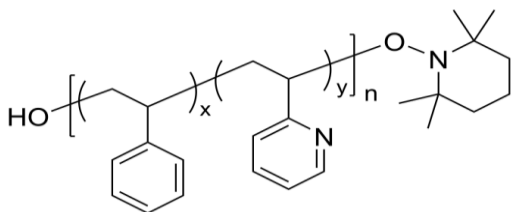


Sample Name:

Poly (styrene-co-2-vinyl pyridine), (α -hydroxy, ω -TEMPO)-terminated

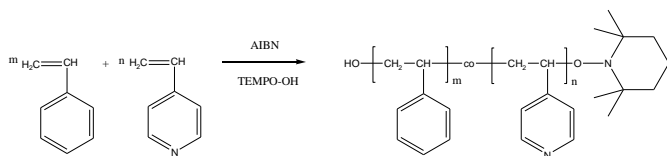
Sample #: P41938-S2VPranOHT

Structure:**Composition:**

Mn x 10 ³ PS-co-P2VP	40.5
PDI	1.2
PS: P2VP	65:35

Synthesis Procedure:

The polymer is prepared by controlled radical polymerization of styrene and 4-vinylpyridine in the presence of OH end capped TEMPO. The scheme of the reaction is illustrated below:

**Characterization:**

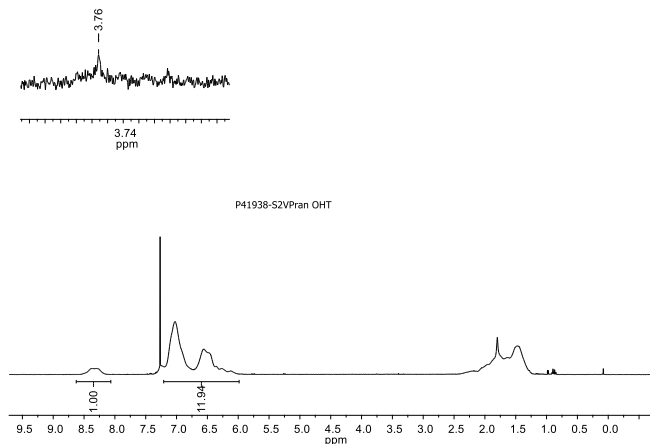
The polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of 4VP protons at 8.28 ppm with the styrene protons at about 6.1-7.2 ppm that deducts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

Thermal analysis:

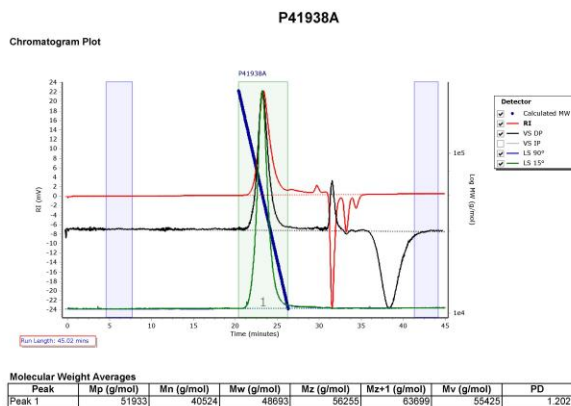
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

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

¹H-NMR Spectrum of the random copolymer:**SEC elugram of the random copolymer:**

Agilent GPC/SEC Software



Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	51933	40524	48693	56255	63699	55425	1.202