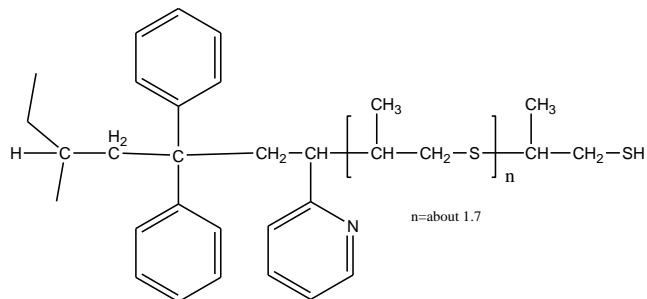


Sample Name:  
**Thiol Terminated Poly(2-Vinyl Pyridine)**

Sample #: P8384-2VPSH

**Structure:**

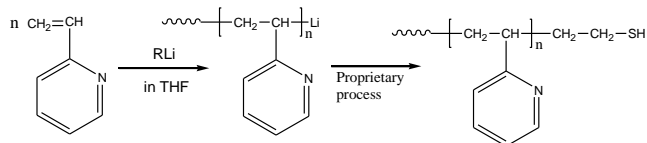


**Composition:**

Mn x 10 <sup>3</sup>	PDI
2.5	1.16
C:H:S analysis (%)	76.88: 7.31: 2.46
T <sub>g</sub> (°C)	82

**Synthesis Procedure:**

Thiol terminated poly(2-vinyl pyridine) was prepared by living anionic polymerization of 2-vinyl pyridine in THF. The methodology for the SH fictionalization is proprietary. The scheme of the reaction is illustrated below:



**Characterization:**

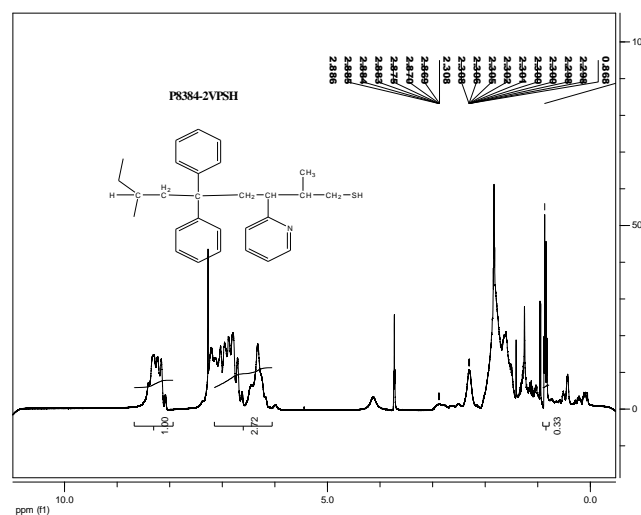
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple detectors from Viscotek Co.

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<sub>g</sub>).

**Solubility:**

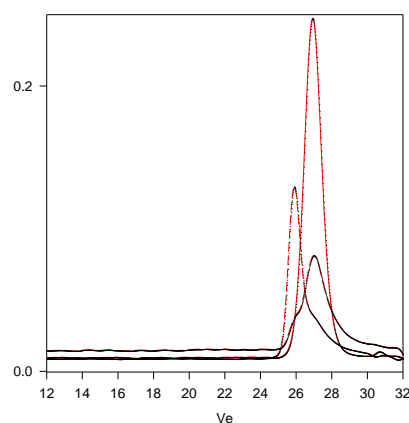
Polymer is soluble in DMF, THF, toluene, methanol, ethanol and CHCl<sub>3</sub>. It precipitates from water and hexanes.

**H NMR of the Polymer:**



**SEC of Sample:**

P8384- 2VPSH



Size Exclusion Chromatography profile of the product:

- Before SH end functionalized Poly 2VP M<sub>n</sub> = 2500, M<sub>w</sub> = 2900, PI=1.16
- - - Thiol ended Poly 2VP shows strong adsorption with the packing materials of our columns Therefore the elution retarded
- . . . Thiol ended Poly 2VP after oxidation in the presence of iodine crystal Formation of disulfide and the molecular weight increase by 2 folds: These results shows qualitative functionality

**DSC thermogram for the polymer:**

