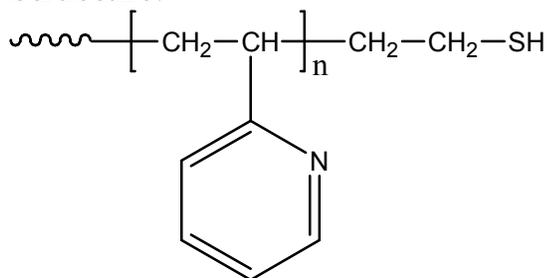


Sample Name:

## Thiol Terminated Poly(2-Vinyl Pyridine)

Sample #: P4672-2VPSH

### Structure:

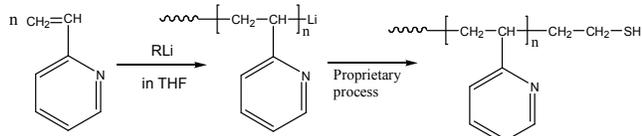


### Composition:

Mn x 10 <sup>3</sup>	PDI
1.3	1.08
T <sub>g</sub> (°C)	73

### 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.

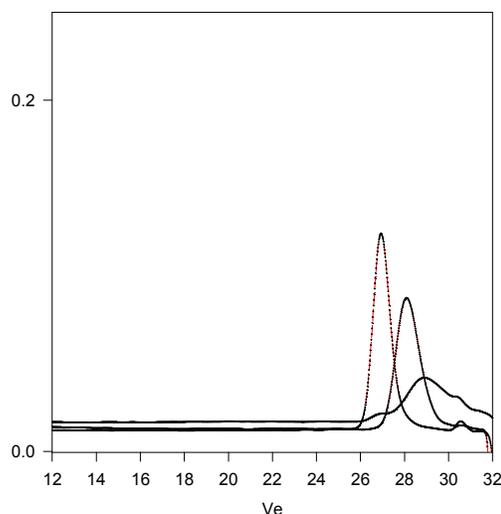
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T<sub>g</sub>).

### Solubility:

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

### SEC of Sample:

P4672- 2VPSH



Size Exclusion Chromatography profile of the product:

- Before SH end functionalized Poly 2VP M<sub>n</sub> = 1300, M<sub>w</sub> = 1400, PI=1.08
- - - 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 quatitative functionality

### DSC thermogram for the polymer:

