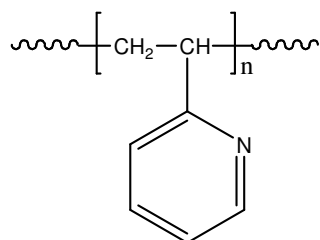


**Sample Name:** Poly(2-vinyl pyridine)

**Sample #:** P11462-2VP

**Structure:**

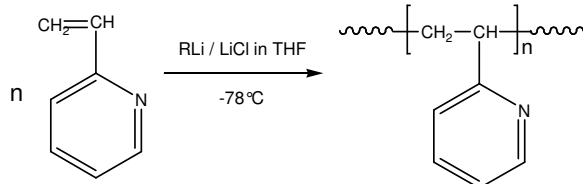


**Composition:**

Mn x 10 <sup>3</sup>	PDI
727.0	1.65

**Synthesis Procedure:**

Poly(2-vinyl pyridine) is obtained by living anionic polymerization of 2-vinyl pyridine using an adduct of Sec. butyllithium and diphenyl ethylene-LiCl. Polymerization is carried out in THF at  $-78^{\circ}\text{C}$ . Polymerization reaction is terminated using degassed methanol. The reaction scheme is illustrated as follows:



**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 was performed on TA Instruments Q100 differential scanning calorimeter (DSC) under a nitrogen atmosphere. The glass transition temperature ( $T_g$ ) of the polymer was measured at a scan rate of  $10^{\circ}\text{C}/\text{min}$  shortly after creating thermal history of the sample.

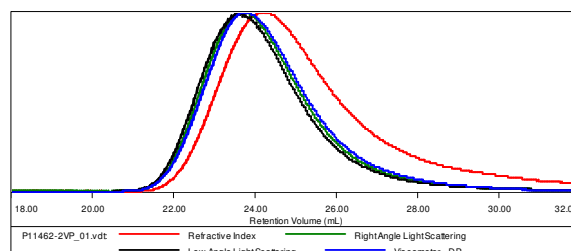
**Solubility:**

Poly 2 vinylpyridine is soluble in DMF, THF, toluene, methanol, ethanol and  $\text{CHCl}_3$ . It precipitates from water and hexane and ether.

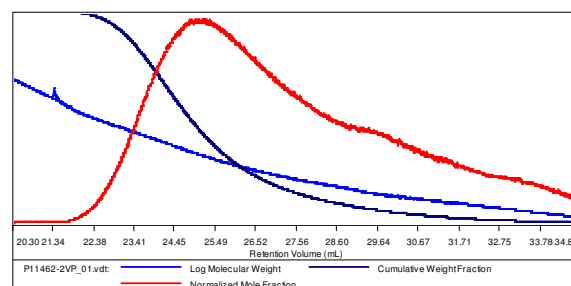
**SEC elugram of the polymer:**

Sample ID: 11462-2Vp

Concentration (mg/mL)	5.3981
Sample dn/dc (mL/g)	0.1670
Method File	PS80K-Apr-2013-0000.vcm
Column Set	3x PL 1113-6300
System	System 1



Sample	Mn	Mw	Mp	Mw/Mn	IV
P11462-2VP_01.vdt	727,692	1.207 e 6	1.420 e 6	1.658	2.0751



**Relationship between  $T_g$  and Mn of P2VP:**

