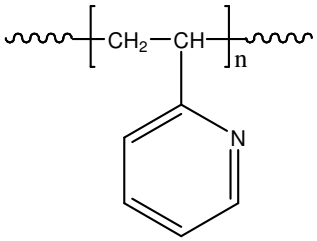
Sample Name: **Poly(2-vinyl pyridine)**

Sample #: **P9771-2VP**

Structure:

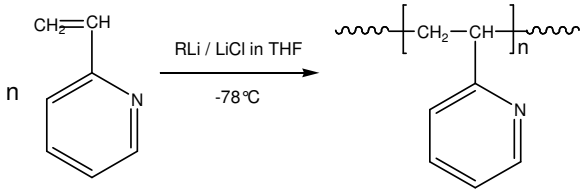


Composition:

Mn x 10^3	PDI
6.8	1.13
5.0 (w.r.t PS reference)	1.13

dn/dc	0.167ml/g

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°C. Polymerization reaction is terminated using degassed methanol. The reaction scheme is illustrated as follows:

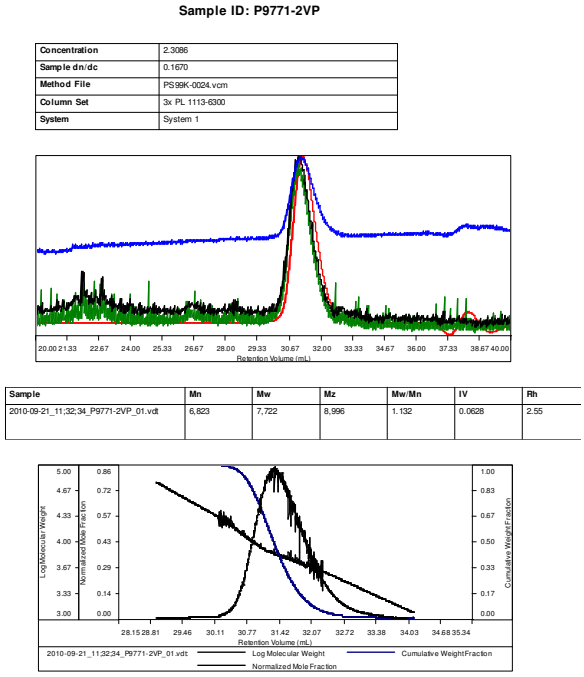


Characterization:
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) 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 (Tg) of the polymer was measured at a scan rate of 10°C/min shortly after creating thermal history of the sample.

Solubility:
Poly 2 vinylpyridine is soluble in DMF, THF, toluene, methanol, ethanol and $CHCl_3$. It precipitates from water and hexane and ether.

SEC elugram of the polymer:



Relationship between Tg and Mn of P2VP: