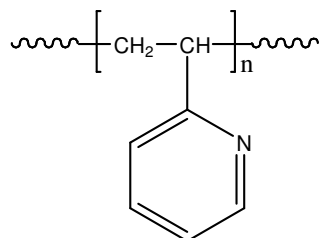


Sample Name: Poly(2-vinyl pyridine)

Sample #: P9998-2VP

Structure:

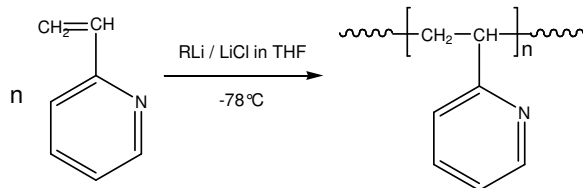


Composition:

Mn x 10 ³	PDI
46.5	1.14

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 (T_g) of the polymer was measured at a scan rate of 10°C/min shortly after creating thermal history of the sample.

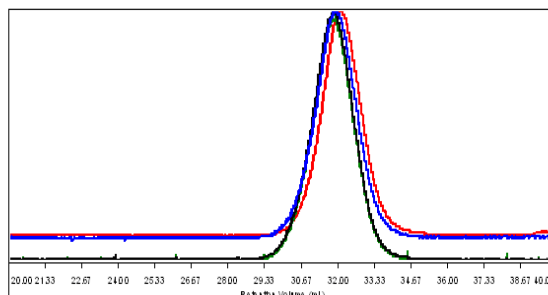
Solubility:

Poly(2-vinyl pyridine) is soluble in DMF, THF, toluene, methanol, ethanol and CHCl₃. It precipitates from water and hexanes, ether.

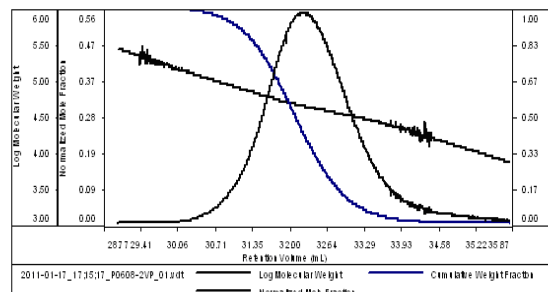
SEC elugram of the polymer:

Sample # P9998-2VP

Concentration	8.7889
Sample dn/dc	0.1670
Method File	PS80-Jan162011-0000.vcm
Column Set	3x PL 1113-6300
System	System 1



Sample	Mn	Mw	Mz	Mw/Mn	IV	Rh
2011-01-17_17:15:17_P0608-2VP_0	46,326	53,193	61,887	1.148	0.2555	7.73



Relationship between T_g and Mn of P2VP:

