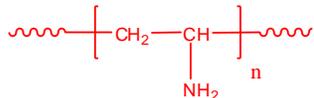


Sample Name: **Poly(N-vinyl amine)**

Sample #: **P44250-NVAm**

Structure:



Composition:

Mn x 10 <sup>3</sup>	Mw x 10 <sup>3</sup>	PDI
6.0	9.0	1.5

Synthesis Procedure:

Polymer is obtained by free radical polymerization using AIBN as free radical initiator, followed by hydrolysis under basic condition.

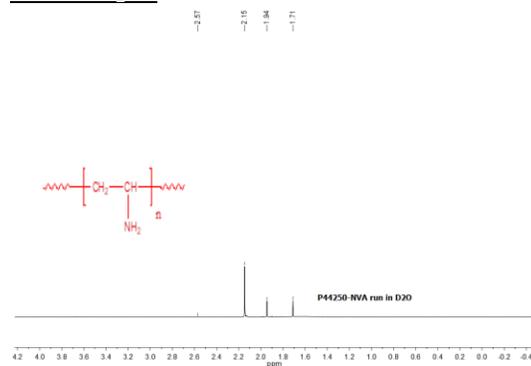
Characterization:

The molecular weight and polydispersity index (PDI) of parent polymer (poly(N-vinyl isobutyramide)) is obtained by size exclusion chromatography in water with 0.1M NaCl and 0.15 wt% of trifluoacetic acid. The columns were calibrated with poly(ethylene glycol) standards.

Solubility:

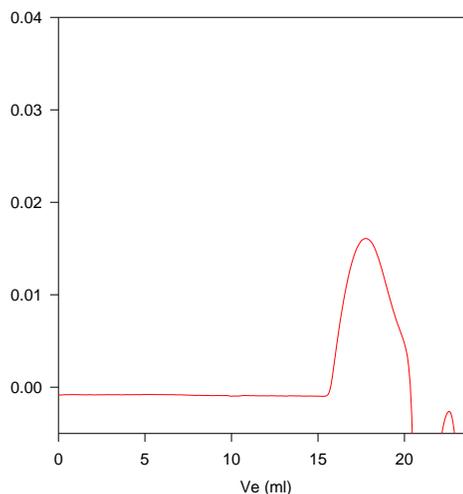
Polymer is soluble in water, and precipitated out from hexane, ether, acetone, even pure methanol.

**HNMR spectrum of Poly(N-vinyl amine)**  
**run in D<sub>2</sub>O:**



**SEC profile of Homopolymer used to convert to Poly vinyl amine:**

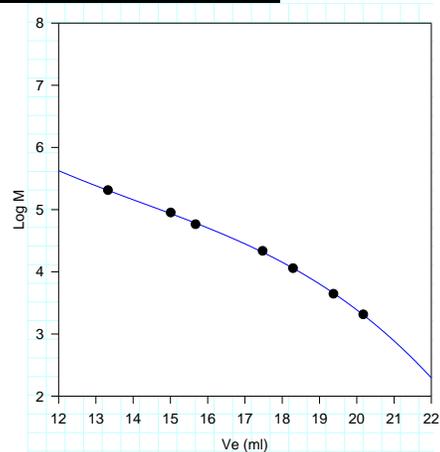
**P44250-NVF**



Size exclusion chromatography of poly(N-vinyl formamide)  
(with respect to poly(ethylene glycol) standards; Eluent: water with 0.1M NaCl)  
Mn=9600; Mw=15,000;  $M_w/M_n = 1.5$   
After hydrolysis:  $M_n=6000$ ,  $M_w/M_n = 1.5$

**Poly Vinyl amine Mw: 6,000**

**Calibration with PEGs:**



Calibration of SEC columns with poly(ethylene oxide) standards

Coefficients:  
b[0]=15.1316149127  
b[1]=-1.6695004384  
b[2]=0.1016326483  
b[3]=-2.3758487393e-3  
r 2=0.9995985048