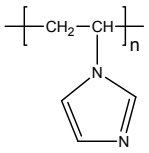
Sample Name:
Poly(N-vinyl imidazole)

Sample #P18151-VIMDZ

Structure:



Composition:

Mn × 10^3	PDI
14.0	3.1

Synthesis Procedure:
Polymer is obtained by free radical polymerization using AIBN as free radical initiator.

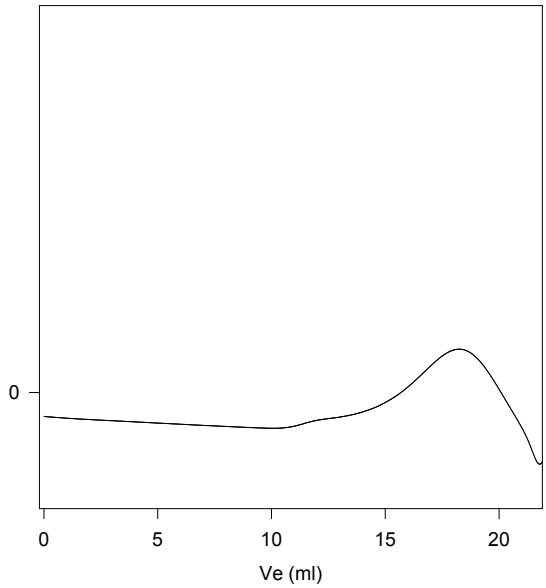
Characterization:
The molecular weight and polydispersity index (PDI) of polymer is obtained by size exclusion chromatography in aqueous system (water as eluent with 0.1% trifluroacetic acid and 0.2M NaCl). The columns were calibrated with poly ethylene glycol.

Thermal analysis
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_g).

Solubility:
Polymer is soluble in water, methanol and precipitated out from hexane, ether.

SEC of Homopolymer:

P18151-VIMDZ



Size exclusion chromatography of poly(vinylimidazole)
with respect to quaternized poly (2 vinyl pyridine) tandards:
Eluent: Water with 0.1% trifluroacetic acid and 0.2M NaCl
M_n=14,000 M_w=43,100, PI=3.1

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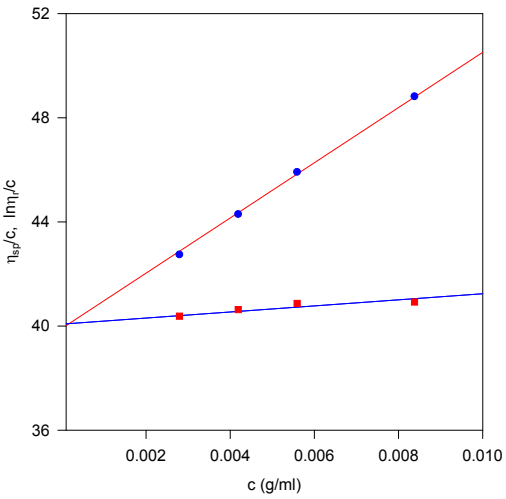

Intrinsic Viscosity measurement of Poly(N-vinyl imidazole) in Methanol at 25°C
$[\eta]$=39.96 ml/g
According to the Mark-Houwink equation for poly(1-vinyl imidazole):
$[\eta]=K M_v^{\alpha}$: K=0.0485 α=0.63 (ref: Polymer Handbook, 4th ed.)
The estimated Viscosity Average Molecular Weight
M_v=42,500