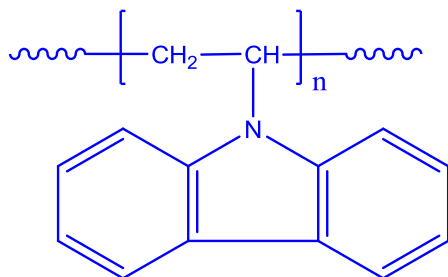


Sample Name:
Poly(N-vinyl carbazole)

Sample #: P8979-VK

Structure:

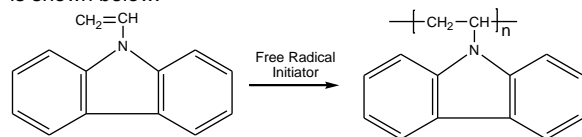


Composition:

$M_w \times 10^3$	PDI
1,041.00	1.6

Synthesis Procedure:

Poly(N-vinyl carbazole) is obtained by free radical polymerization of N-vinyl carbazole and the reaction scheme is shown below.



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.

Solubility:

Poly(N-vinyl carbazole) is soluble in DMF, THF, toluene and $CHCl_3$. It precipitates from methanol, ethanol, water and hexanes.

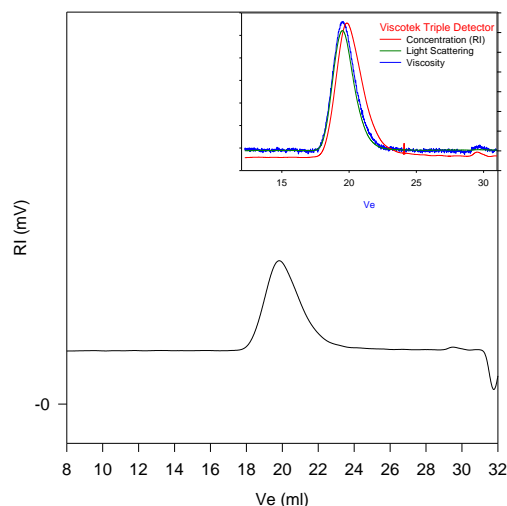
Purification of the Polymer:

Since the polymerization was carried out in a methanol and ter.butanol mixture it is necessary to purify the obtained polymer by removing the un-reacted monomer. Purification carried out as follows:

1. First precipitation in Hexane.
2. Re dissolved in $CHCl_3$ and precipitated in Hot methanol.
3. In hot methanol vinyl carbazole monomer is soluble and the absence of monomer in the polymer can be checked by GPC - absence of Vinyl carbazole elution at 29.8 elution count. .

SEC of Homopolymer:

P8979-VK



Size Exclusion Chromatography of polymer:

$M_w = 1,041,000$, $M_n = 650,000$, $M_w/M_n = 1.16$
 dn/dc in THF: 0.222 ml/g
Solution Viscosity in THF at 35 °C: 1.516 dl/g
Rgw: 34.31 nm