Sample Name:
Poly(N-N-diethylacrylamide)

Sample #: P9637C-DEAMD

Synthesis by Radical polymerization

Structure:
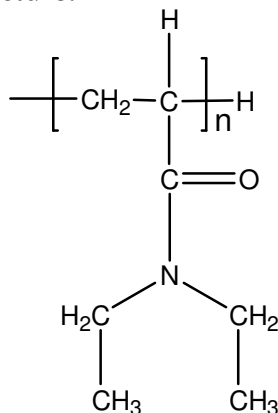
Composition:

Mn x 10^3 w.r.t Polystyrene	PDI
115.0	2.0
Mw x 10^3 203.0	2.0
T_g (°C)	97
Viscosity in Methanol at 25 oC: $[\eta]$= 90ml/g	Mv:286,000

Synthesis Procedure:
The polymer is synthesized by GTP polymerization.
Characterization:
The molecular weight and polydispersity index (PDI) of the polymer are obtained by size exclusion chromatography
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).
Solution viscosity :
Intrinsic viscosity was determined in methanol at 25 °C using ubbelhode viscometer. The molecular weight is calculated based on the following equation in Methanol at 25 °C:
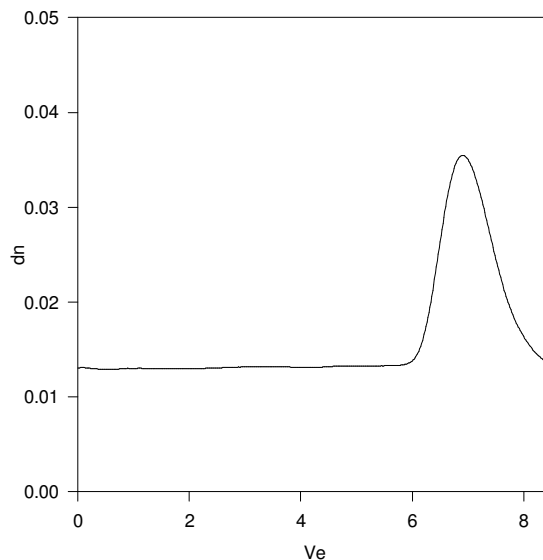
$$[\eta] = 0.0175 \times M_v^{0.68}$$

Solubility:
Polymer is soluble in methanol, ethanol and water, precipitated in hexane.

SEC of Homopolymer:
P9637C-DEAMD

Size Exclusion Chromatography of Poly(N,N-diethyl acrylamide)

M_n=115,000, M_w=230,000, PI=2.0

DSC thermogram for the polymer: