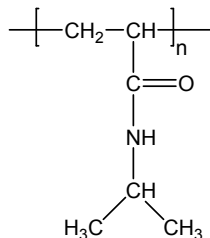


Sample Name: Poly(N-isopropyl acrylamide)

Sample #: P6672-NIPAM

Structure:

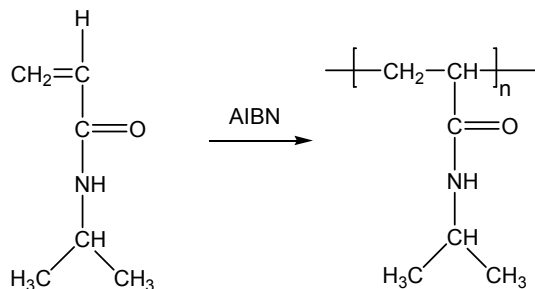


Composition:

Mn x 10 ³	PDI
637.7	2.9

Synthesis Procedure:

Poly(N-isopropyl acrylamide) is obtained by free radical polymerization. The scheme of the polymerization is illustrated below:



Characterization:

The molecular weight polydispersity index (PDI) of poly(N-isopropyl acrylamide) is obtained by size exclusion chromatography. Molecular weight is calculated based on intrinsic viscosity in Methanol at 25 °C:

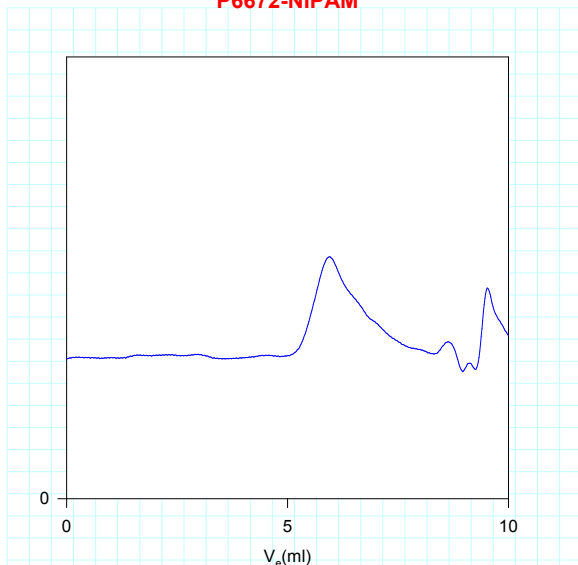
$$[\eta] = 0.0299 \times M_v^{0.64}$$

Solubility:

Poly(N-isopropyl acrylamide) is soluble in water, DMF, THF, acetone, insoluble in hexane and ether.

SEC of Homopolymer:

P6672-NIPAM



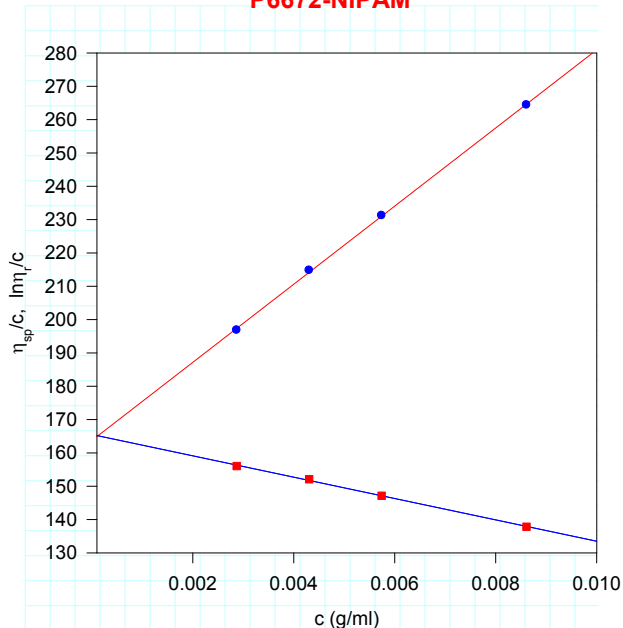
Size exclusion chromatography of N-Isopropyl Acrylamide in DMF/LiBr(0.05M)

Molecular weight distribution with respect to polystyrene standards:

Mn: 637,700 Mw: 1,862,800 $M_w/M_n = 2.9$

Molecular Weight by Viscosity: $[\eta] = 165$ ml/g (in Methanol, 25°C)
 $M_v = 702,000$

P6672-NIPAM



Intrinsic Viscosity measurement of NIPAM in Methanol at 25°C
 $[\eta] = 165$ ml/g

$$[\eta] = 2.99 \times 10^{-2} M_v^{0.64}$$

$M_v = 702K$