

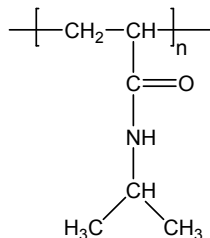
**Sample Name:** Poly(N-isopropyl acrylamide)

**SEC of Homopolymer:**

**Sample #:** P6671-NIPAM

**P6671-NIPAM**

**Structure:**

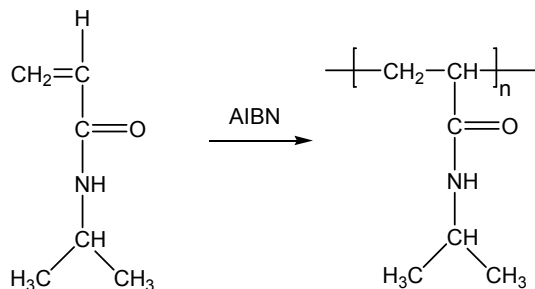


**Composition:**

Mn x 10 <sup>3</sup>	PDI
538.8	3.39

**Synthesis Procedure:**

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



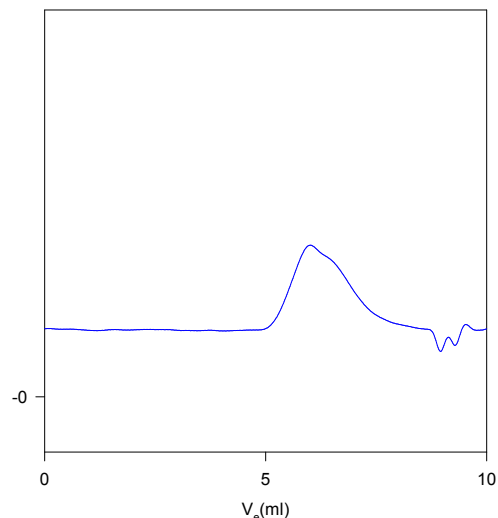
**Characterization:**

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.



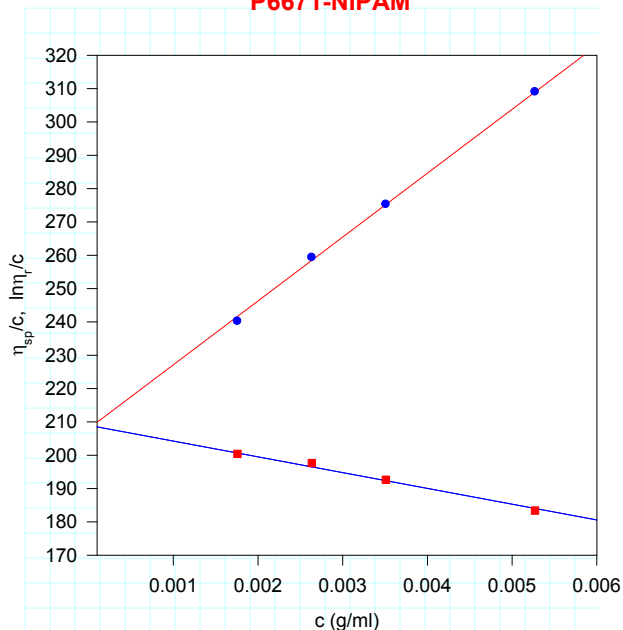
Size exclusion chromatography of N-Isopropyl Acrylamide in DMF/LiBr(0.05M)

Molecular weight distribution with respect to polystyrene standards:

Mn: 538,800 Mw: 1,8265,00  $M_w/M_n = 3.39$

Molecular Weight by Viscosity:  $[\eta] = 208.5$  ml/g (in Methanol, 25°C)  
 $M_v = 1,012,000$

**P6671-NIPAM**



Intrinsic Viscosity measurement of NIPAM in Methanol at 25°C  
 $[\eta] = 208.5$  ml/g

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

$M_v = 1012K$