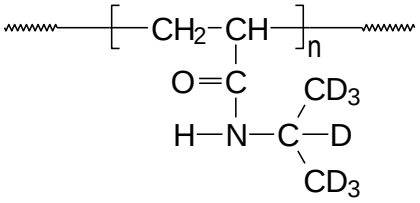
Sample Name: **Deuterated Poly(N-isopropyl acrylamide)**

Sample #: **P1519-d7PNIPAM**

Structure:

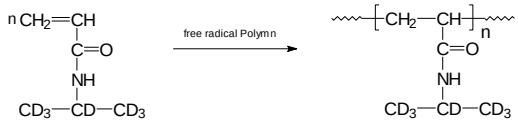


Composition:

Mn x 10^3	PDI
415.4	3,28

Synthesis Procedure:

Polymer is obtained by free radical polymerization. Scheme of the polymerization is illustrated below:



Characterization:

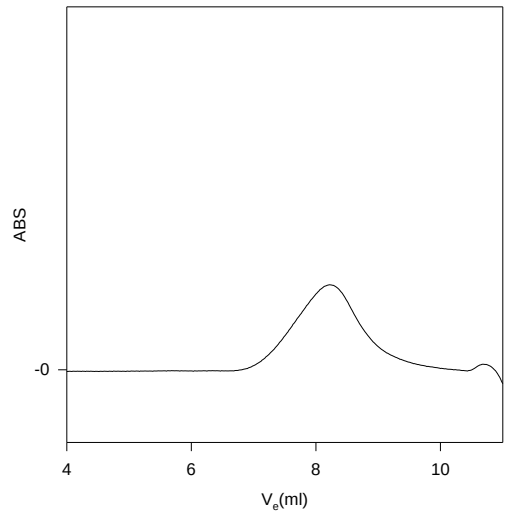
Size exclusion chromatography (SEC) was carried out on a Varian liquid chromatograph equipped with a refractive index detector. A Shodex 806L GPC columns from Supelco was used with DMF(0.01M LiBr) as the eluent. The columns were calibrated with monodisperse polystyrene standards. The polydispersity index was calculated.

Viscosity measurement was carried out in a Ubbelohde viscometer at 25°C. Four solutions in methanol of different concentrations were measured. The intrinsic viscosity was obtained by extrapolation to c=0. From viscosity-molecular weight relationship $[\eta]=2.99\times10^{-2}\ M^{0.64}$ (Makromolecular Chem. V180, P969, 1979), the viscosity average molecular weight was calculated accordingly.

Absolute molecular weight was measured by light scattering with dn/dc = 0.1800ml/g at 632.8nm in methanol. The molecular weight was obtained by a Zimm plot analysis.

SCE of the Product:

P1519-NIPAM-d7



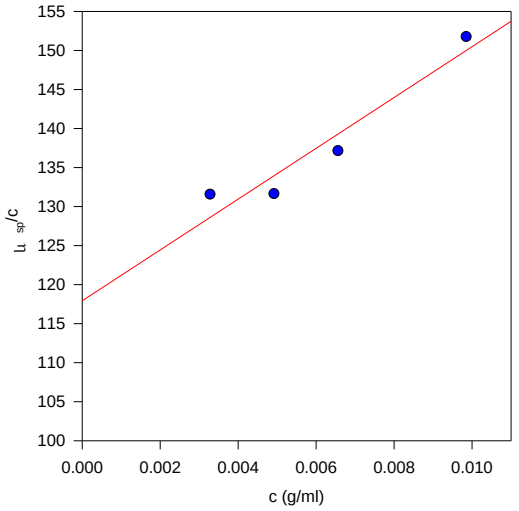
Size exclusion chromatography of N-Isopropyl Acrylamide-d_7 in DMF/LiBr(0.01M)

Molecular Weight Distribution with respect to Polystyrene Standards: M_w/M_n= 3.28

Viscosity Average Molecular Weight: M_v=415400

Molecular Weight from LS: M_w= 422000

P1519-NIPAM-d7



Intrinsic Viscosity measurement of Poly(N-isopropyl acrylamide) in Methanol at 25^0C

$[\eta]$=117.9

Viscosity Average Molecular Weight Mv=415400