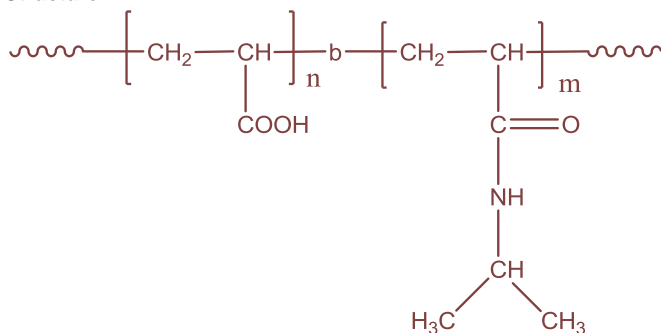


Sample Name: Poly(acrylic acid -b- N-isopropylacrylamide)

Sample #: P6712-AANIPAM

Structure:

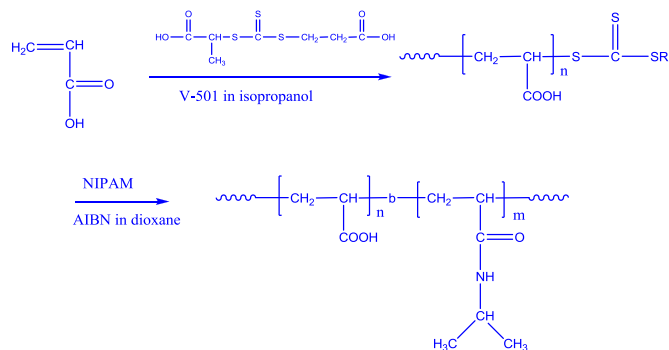


Composition:

Mn x 10 ³ PEO-b-PNIPAM	PDI
10.0-24.0	1.33

Synthesis Procedure:

Poly(acrylic acid -b- N-isopropylacrylamide) is prepared by RAFT using trithiocarbonate as CTA. The scheme of the reaction is illustrated below:



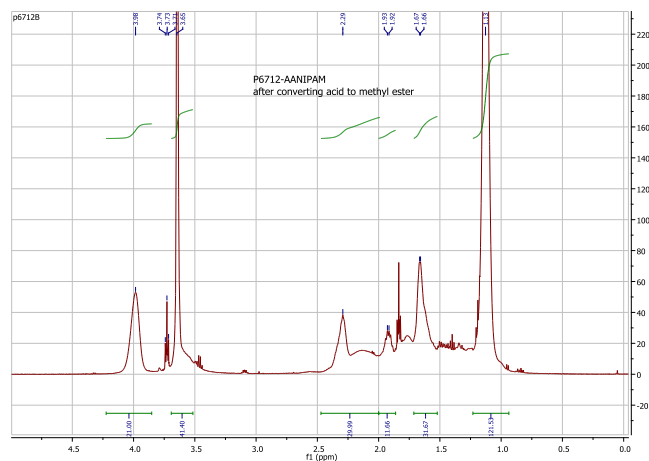
Characterization:

PAA-CTA and final block copolymer were analyzed by size exclusion chromatography (SEC) to obtain the molecular weight of PAA and polydispersity index (PDI) for both PAA and block copolymer. In order to perform NMR measurement, the acrylic acid was converted into methyl ester. The final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the methyl ester protons at about 3.6 ppm with the isopropyl protons at 1.1 ppm.

Solubility:

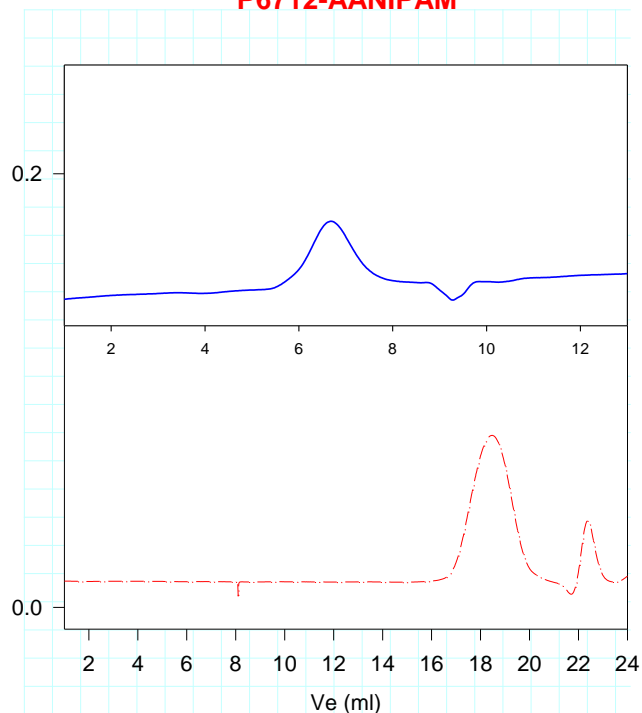
Poly(acrylic acid -b- N-isopropylacrylamide) is soluble in Methanol, and cold water and it precipitates out in hexane or ether.

¹H-NMR Spectrum of the block copolymer:



SEC of the block copolymer:

P6712-AANIPAM



Size exclusion chromatography of poly(AA-b-NIPAM)

--- PAA, Mn=10000, Mw=12500, Mw/Mn=1.25
in water with 0.2M NaNO3 + 0.01M NaH2PO4 pH=7

— Poly(acrylic acid-b-NIPAM) in DMF

Mn: PAA(10000)-b-PNIPAM(24000) Mw/Mn=1.33