Supporting Information for

Understanding the UCST-type Transition of P(AAm-co-AN) in H₂O and D₂O: Dramatic Effect of Solvent Isotope

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Figure S1. Chemical structure and synthesis of P(AAm-co-AN)s.

![Chemical structure](image)

Figure S2. GPC traces of P(AAm-co-AN) (a) and P(AAm-co-AN)* (b) using DMSO as an eluent. (Conditions: PLgel MIXED-C columns (particle size: 5 um; dimensions: 7.5 mm × 300 mm) that had been calibrated with narrow dextran monodisperse standards were employed with a differential refractive index detector. The flow rate was 0.6 mL/min.)

![GPC traces](image)

Figure S3. Calibration curve used for the determination of the copolymer compositions of poly(AAm-co-AN)s. (Standards were thoroughly mixed using polyacrylamide and polyacrylonitrile homopolymers.)

![Calibration curve](image)
Figure S4. FTIR spectrum of P(AAm-co-AN) neat film.

Figure S5. $^1$H NMR spectrum of P(AAm-co-AN) in DMSO-$d_6$.

Figure S6. Temperature-dependent FTIR absorbance at 1645 cm$^{-1}$ in FTIR spectra of P(AAm-co-AN) D$_2$O solution.