Supporting Information for

Understanding the UCST-type Transition of P(AAm-*co*-AN) in H_2O and D_2O: Dramatic Effect of Solvent Isotope

*Lei Hou, Peiyi Wu**

Stat Key Laboratory of Molecular Engineering of Polymers, Collaborative Innovation Center of Polymers and Polymer Composite Materials, Department of Macromolecular Science, and Laboratory of Advanced Materials, Fudan University, Shanghai, 200433, China

*corresponding author, email: peiyiwu@fudan.edu.cn

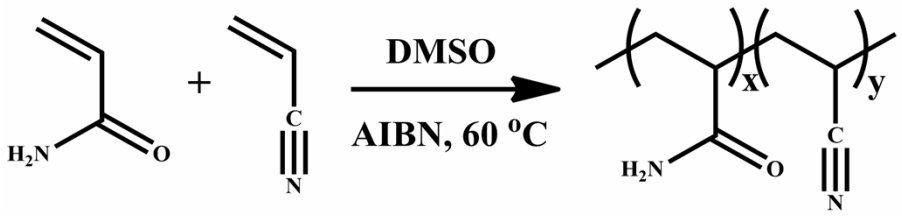

Figure S1. Chemical structure and synthesis of P(AAm-*co*-AN)s.

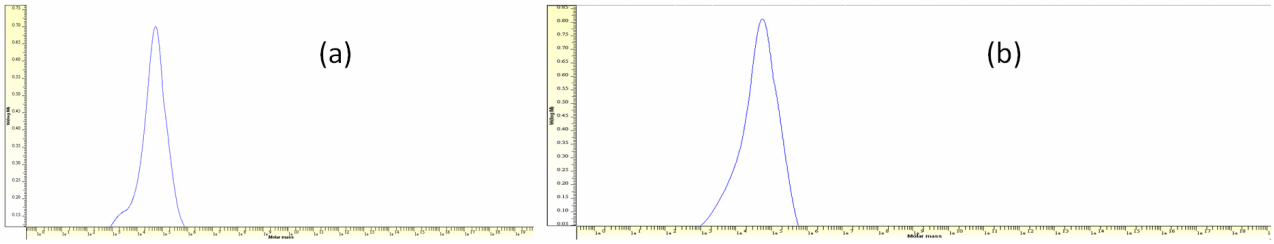

Figure S2. GPC traces of P(AAm-*co*-AN) (a) and P(AAm-*co*-AN)* (b) using DMSO as an eluent. (Conditions: PLgel MIXED-C columns (particle size: 5 um; dimensions: 7.5 mm × 300 mm) that had been calibrated with narrow dextran monodisperse standards were employed with a differential refractive index detector.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

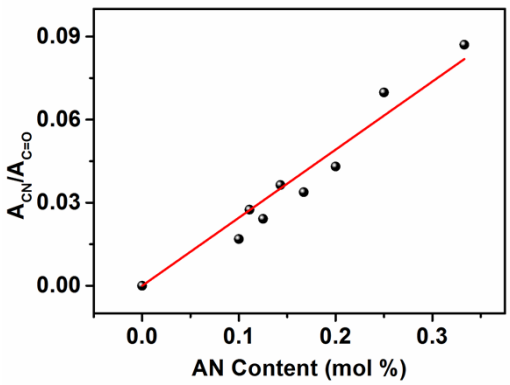

Figure S3. Calibration curve used for the determination of the copolymer compositions of poly(AAm-*co*-AN)s. (Standards were thoroughly mixed using polyacrylamide and polyacrylonitrile homopolymers.)

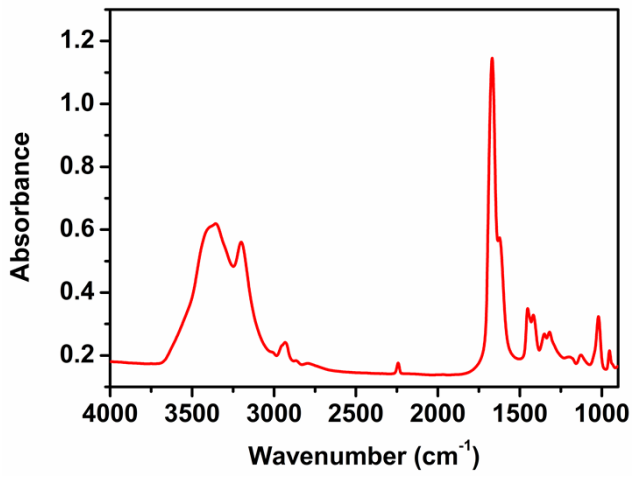

Figure S4. FTIR spectrum of P(AAm-*co*-AN) neat film.

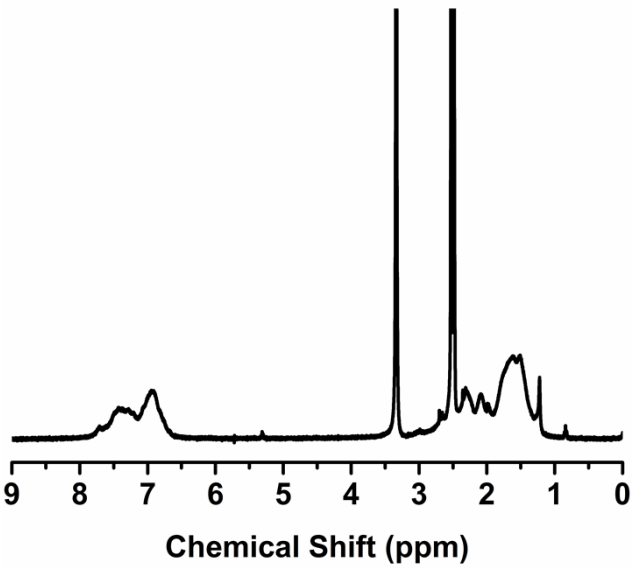

Figure S5. ^{1}H NMR spectrum of P(AAm-*co*-AN) in DMSO-d_6.

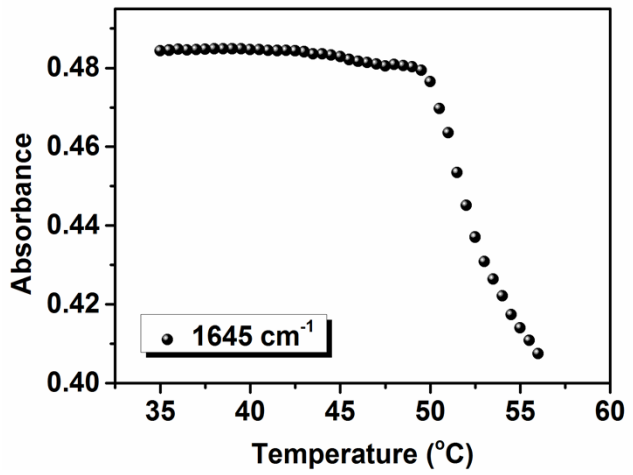

Figure S6. Temperature-dependent FTIR absorbance at 1645 cm^{-1} in FTIR spectra of P(AAm-*co*-AN) D_2O solution.