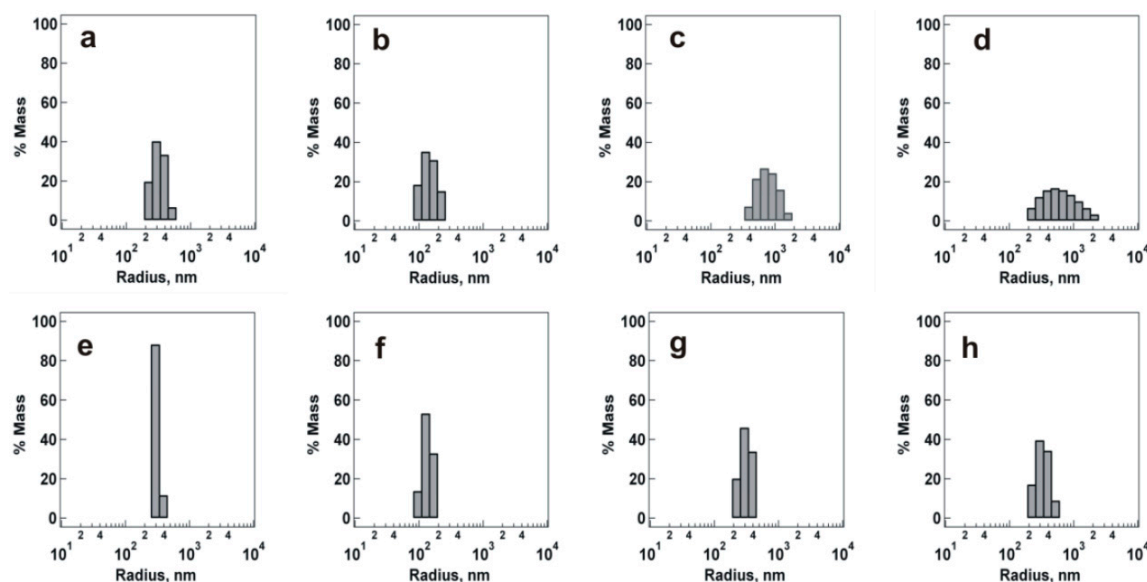
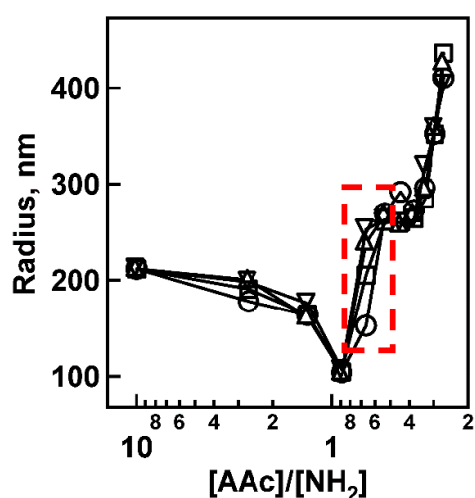


# Supplementary Materials: Characterization of Responsive Hydrogel Nanoparticles upon Polyelectrolyte Complexation

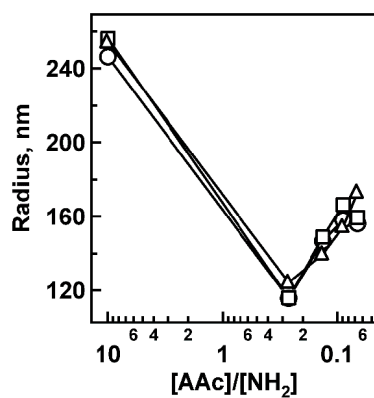
Su-Kyoung Lee, Gyuri Hwang, Jihyun Woo, Joseph Park and Jongseong Kim



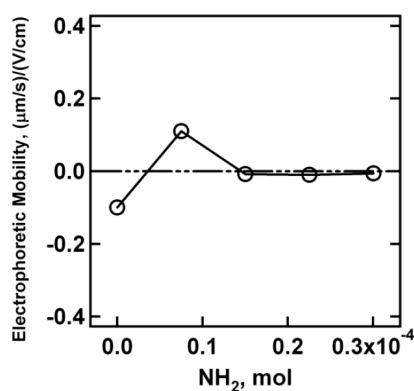
**Figure S1.** Histograms for the 0.5 and 5.0 L PAH aliquot addition cases for 2% BIS cross-linked microgels. As shown in panels (a,b,c,d), for the 0.5 L PAH aliquot addition as PAH is titrated into the system in small aliquots, the system goes from a point of high monodispersity before PAH addition (a) to a point of minimum radius (b); then, as more PAH is added to the system, the radius distribution significantly increases with a shift to extremely high radii indicative of aggregation (c,d). As shown in panels (e,g,h), for the 5.0 L PAH aliquot addition as PAH is titrated into the system in large aliquots, the system goes from a point of high monodispersity before PAH addition (e) to a point of minimum radius upon the first addition of PAH (f) and to a point of high radius and high monodispersity (g,h), indicative of osmotic/Coulombic swelling.  $[AAc]/[NH_2]$  for (b) is 0.67, (c) is 0.19, (d) is 0.13, (f) is 0.27, (g) is 0.067, (h) is 0.033.



**Figure S2.** Time-dependent nanogel titration plot for the 2% BIS and 10% AAc nanogels upon the addition of 0.5  $\mu$ L PAH aliquots at 0 (O), 210 ( $\square$ ), 420 ( $\Delta$ ), and 630 ( $\nabla$ ) s. Note that red-dashed box shows time-dependent kinetics.



**Figure S3.** Time-dependent nanogel titration plot for the 2% BIS and 10% AAc nanogels upon the addition of 5.0 L PAH aliquots at 0 (○), 210 (□), and 420 (△) s.



**Figure S4.** Electrophoretic mobility values as a function of PAH addition for 2% BIS and 98% NIPAm microgels.