Supporting Information

pH-Triggered reversible morphological inversion of orthogonally-addressable poly(3-acrylamidophenylboronic acid)-*block*-poly(acrylamidoethylamine) micelles and their shell crosslinked nanoparticles

Jiong Zou,[a] Shiyi Zhang,[a,b] Ritu Shrestha,[a] Kellie Seetho,[a] Carrie L. Donley[c] and Karen L. Wooley*[a]

[a] *Departments of Chemistry and Chemical Engineering, Texas A&M University, P.O. BOX 30012, 3255 TAMU, College Station, Texas, 77842, (USA), E-mail: wooley@chem.tamu.edu*
[b] *Department of Chemistry, Washington University in St. Louis, St. Louis, Missouri, 63130, (USA).*
[c] *Chapel Hill Analytical and Nanofabrication Laboratory Institute for Advanced Materials, University of North Carolina 243 Chapman Hall, Chapel Hill, North Carolina, 27599, (USA)*

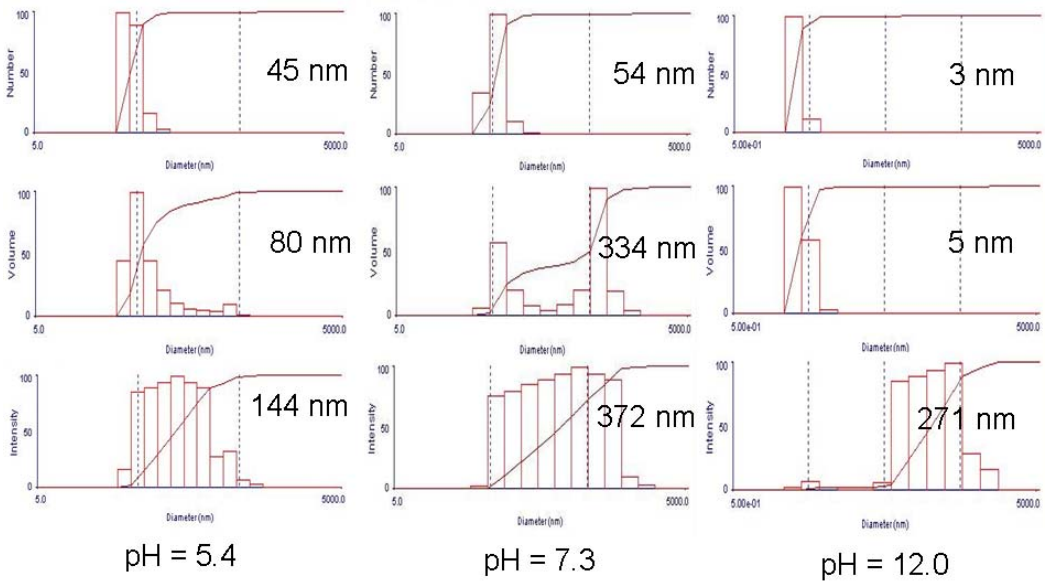

Figure S1. Number-, volume- and intensity-averaged DLS distribution profiles of micelles of **1** in nanopure water as a function of pH, adjusted by the addition of NaOH to the initial micelle solution. A range of pH values from 2 to 12 was studied, with three sets of data shown here, representative of the micellar assemblies at acidic, neutral and basic conditions.

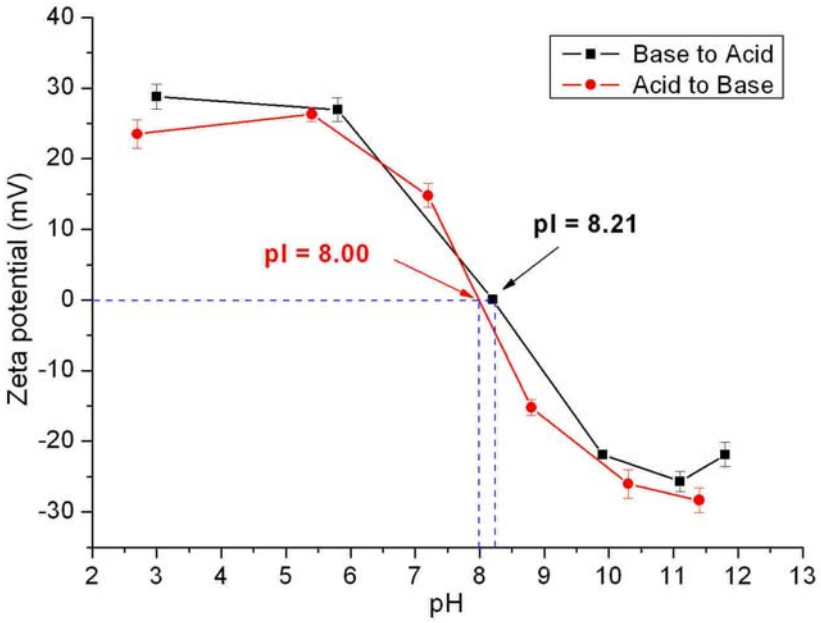

Figure S2. Zeta potential change for micelles/reverse micelles of **1** as a function of pH with 15 eq of D-glucose, giving an isoelectric point of 8.00 from acid to base change; and giving an isoelectric point of 8.21 from base to acid change. Error bars were made by standard deviation of 5 runs. pH change of each data point during the measurements was less than ±0.1.

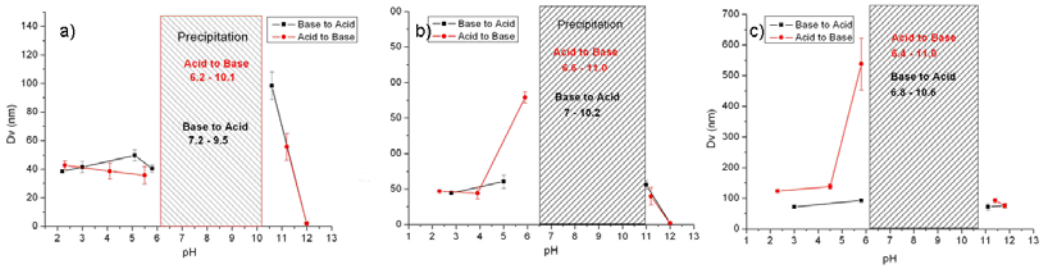

Figure S3. $(D_h)_v$ changes for micelles/reverse micelles of **1** as a function of pH (a): with 5 eq of D-glucose; (b): with 15 eq of D-glucose. C): 10 % zSCKs with 15 eq of D-glucose. Error bars represent standard deviation of 5 runs. pH change of each data point during the measurements was less than ± 0.1.

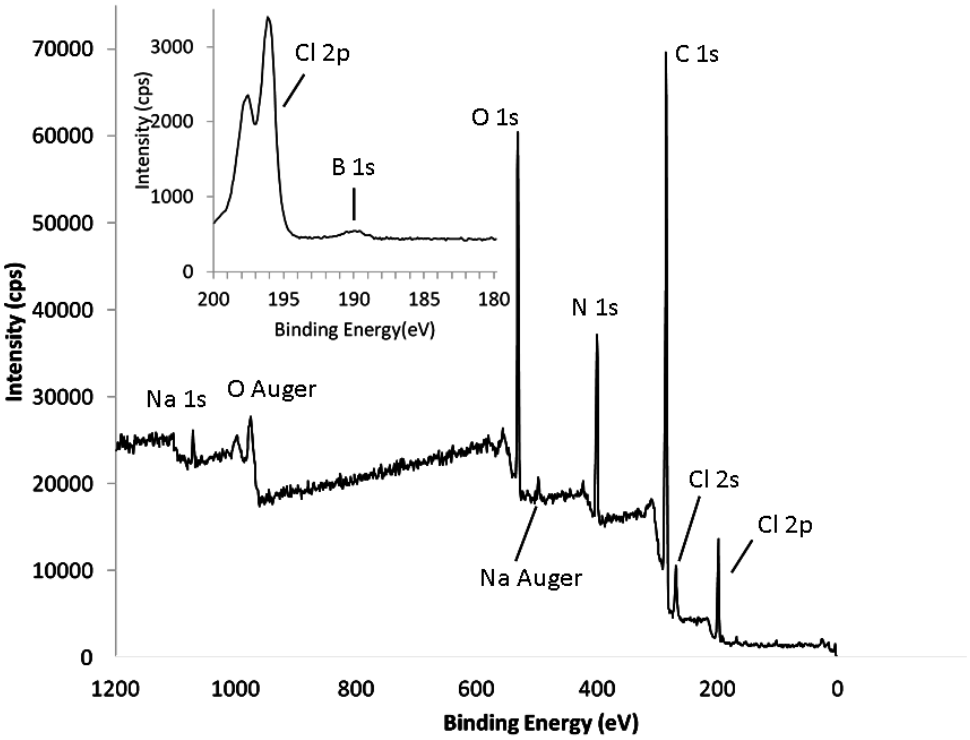

Figure S4. XPS wide-scan spectra of non-cross-linked czaSCKs at pH 2 (Table 1 Entry 1). Inset presents enlarged part for boron signal.

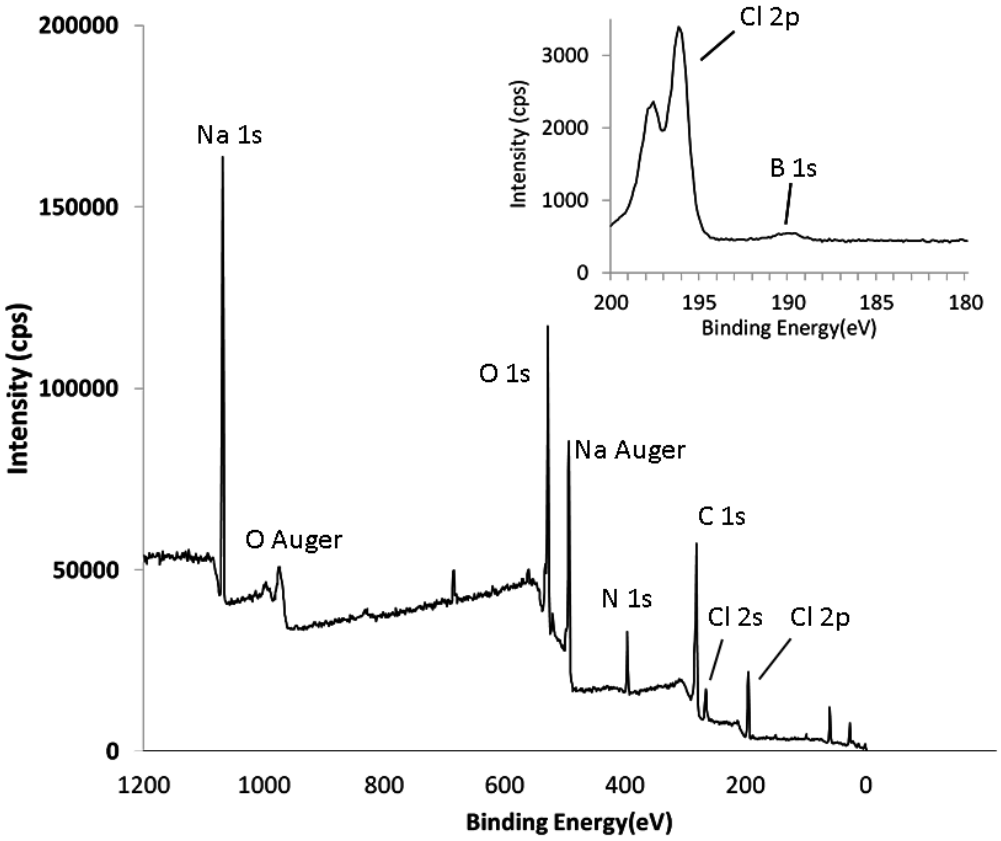

Figure S5. XPS wide-scan spectra of 10 % cross-linked czaSCKs at pH 12 (Table 1 Entry 8). Inset presents enlarged part for boron signal.