

Support information

for

Highly Photoluminescent Nitrogen-Rich Carbon Dots from Melamine and Citric Acid for Selective Detection of Iron(III) Ion

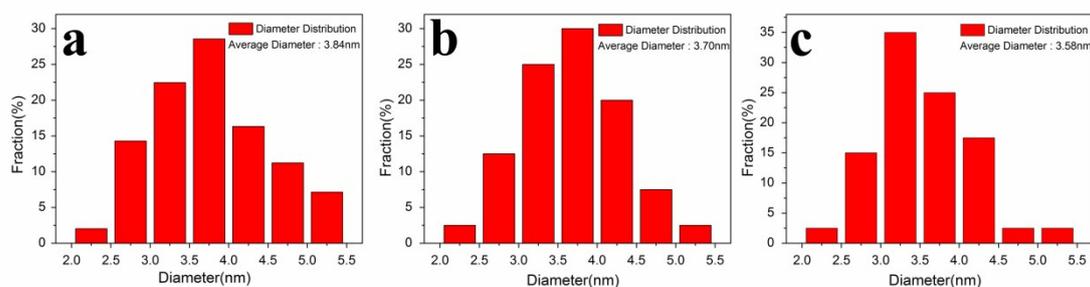


Figure S1. The size distribution histograms of a) NCDs-220; b) NCDs-240; c) NCDs-260

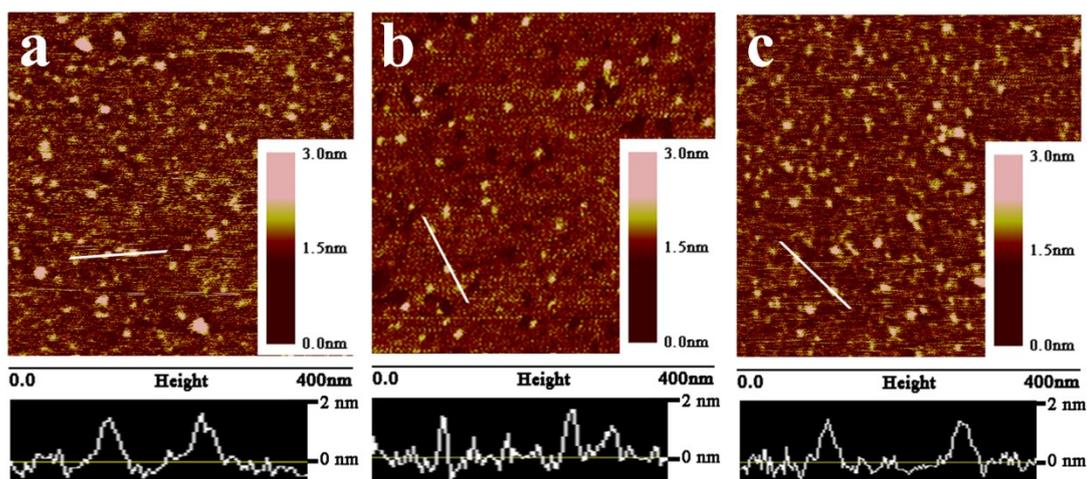


Figure S2. AFM images and the corresponding height profiles of (a) NCDs-220, (b) NCDs-240, and (c) NCDs-260.

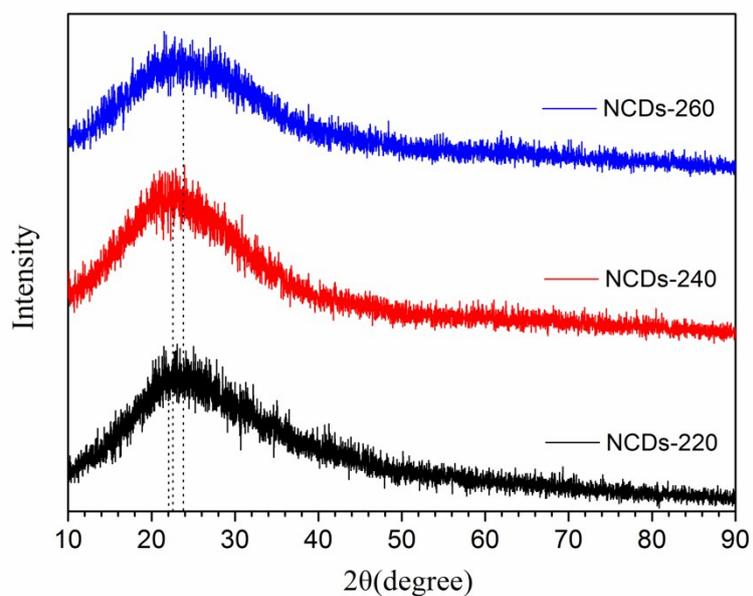


Figure S3. XRD patterns of the N-rich CDs.

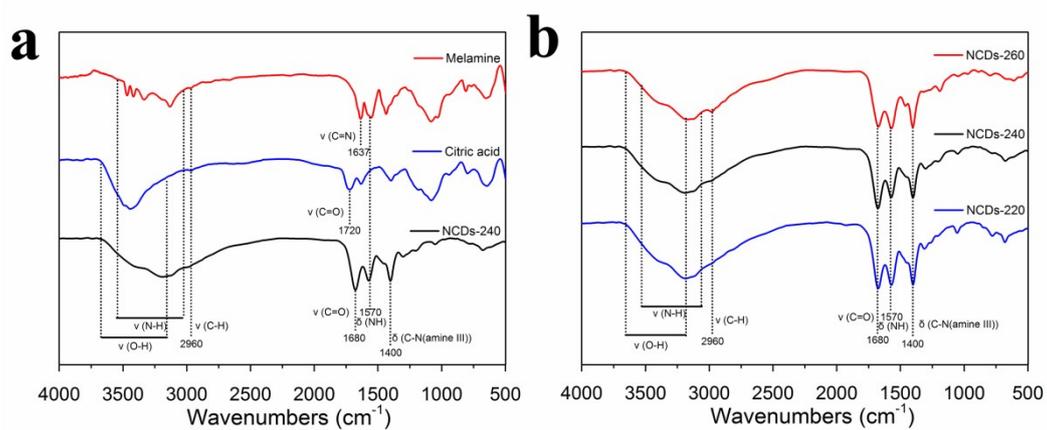


Figure S4. FTIR spectra of (a) melamine (red line), citric acid (blue line), and NCDs-240 (black line); (b) NCDs-220 (blue line), NCDs-240 (black line), NCDs-260 (red line).

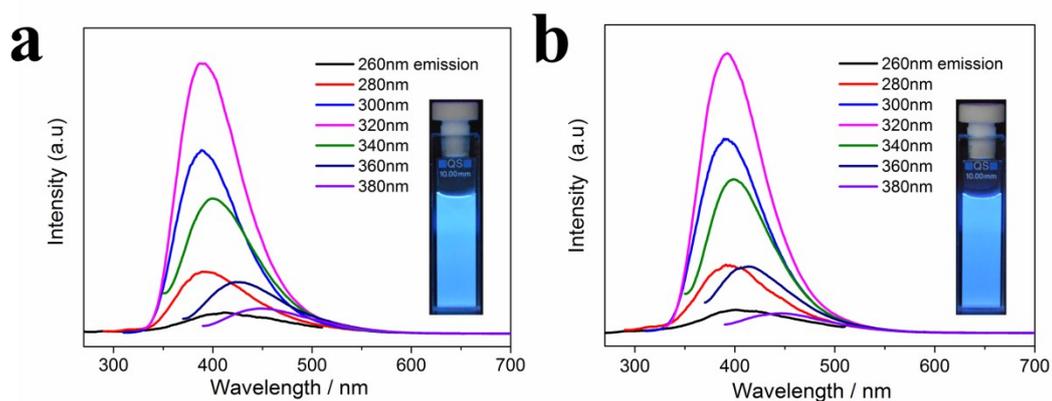


Figure S5. PL emission spectra of (a) NCDs-220 and (b) NCDs-260 with progressively increased excitation wavelengths from 260 to 380 nm with 20 nm increment. Inset of (a) and (b): the optical images of the corresponding N-rich CDs suspensions with strong blue luminescence under the excitation at 365 nm.

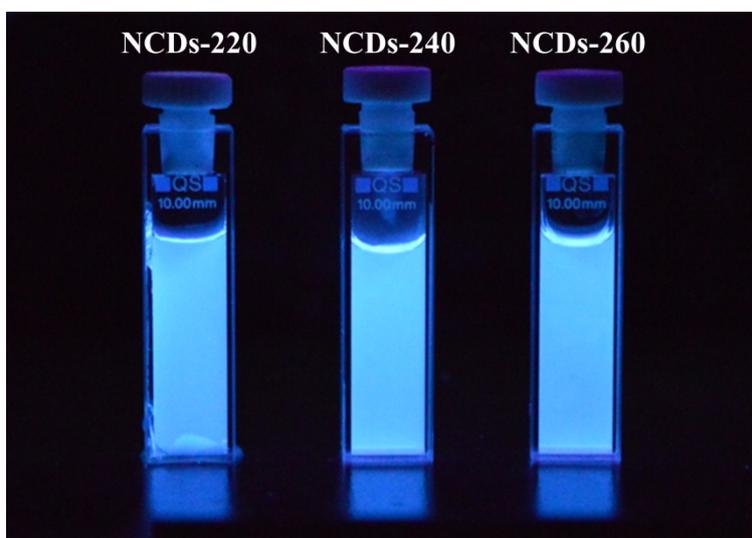


Figure S6. Photographs of the suspension of NCDs-220, NCDs-240, and NCDs-260 under 365 nm excitation after one year's storage.

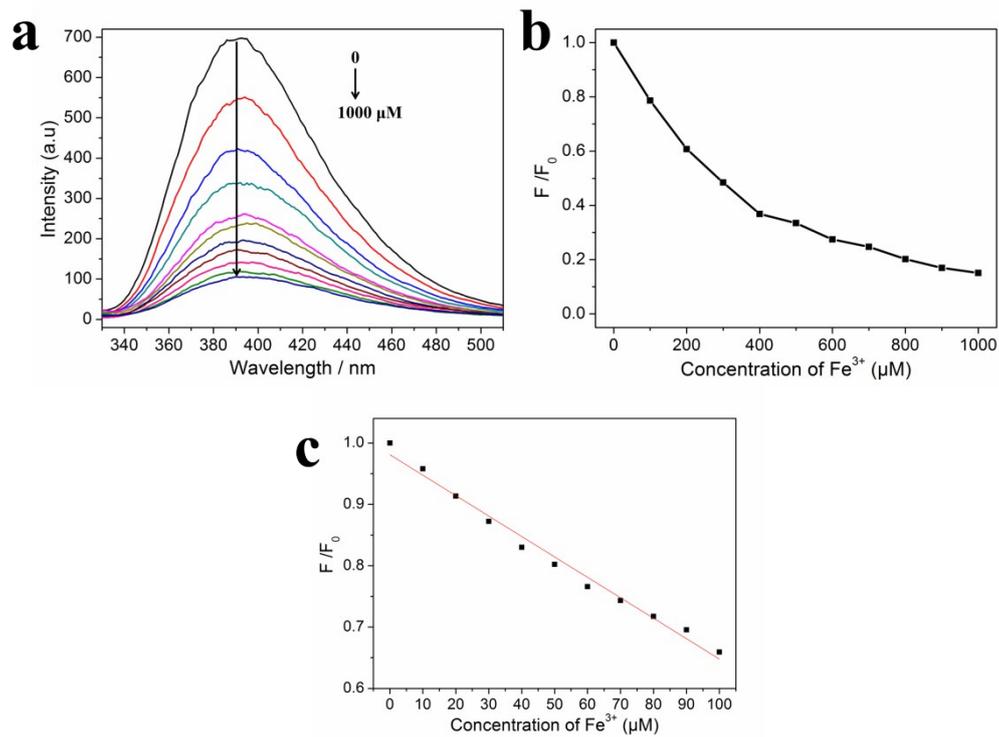


Figure S7. a) The fluorescent spectra in the presence of different concentrations of Fe^{3+} (0-1000 μM) in environmental water sample; b) The dependence of F/F_0 on the concentrations of Fe^{3+} ions within the range of 0-1000 μM ; c) the linear relationship between the F/F_0 and Fe^{3+} concentration (0-100 μM).