Electronic Supplementary Material (ESI) for RSC Advances.

Support information

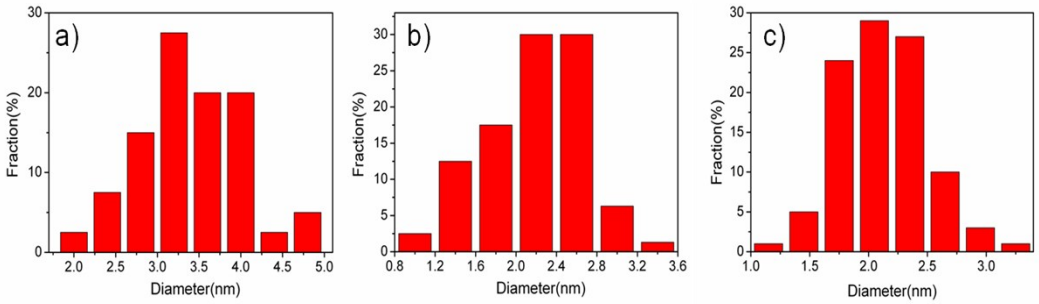

Figure S1. The corresponding dots size distribution histogram of a) CD-160; b) CD-200; c) CD-250

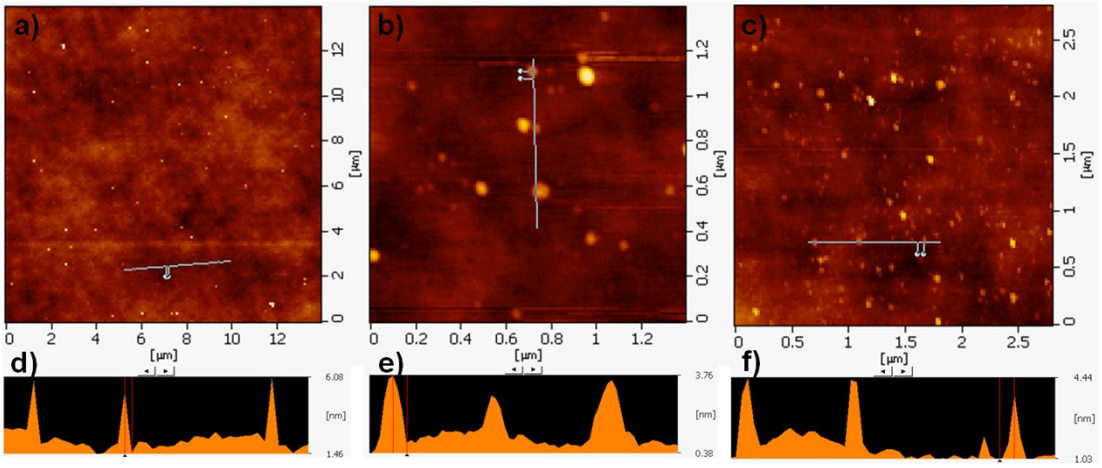

Figure S2. AFM images of a) CD-160; b) CD-200; c) CD-250; and the corresponding height profiles of e) CD-160; f) CD-200; g) CD-250.

Table S1. Element analysis results of straw and the CDs.

Samples	C (%)	H (%)	N (%)	S (%)	O (%)[a]
Straw	40.52	5.49	0	0.12	53.87
CD-160	53.07	5.80	13.30	0.79	27.04
CD-200	48.38	6.04	11.36	1.29	32.93
CD-250	46.81	5.71	11.73	1.64	34.11

a. Calculated values

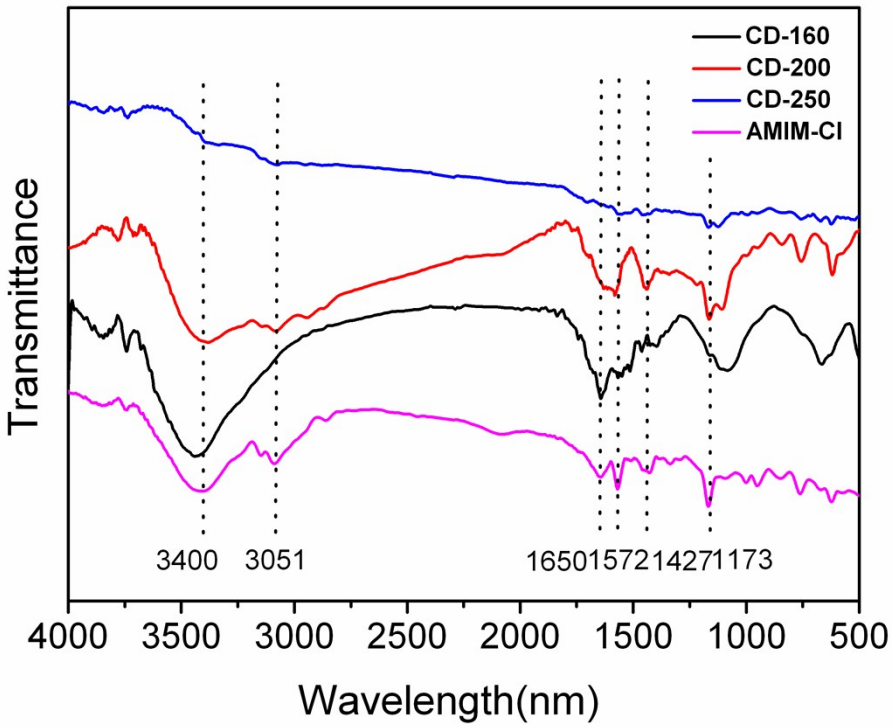

Figure S3. FTIR spectra of AMIM-Cl and the CDs.

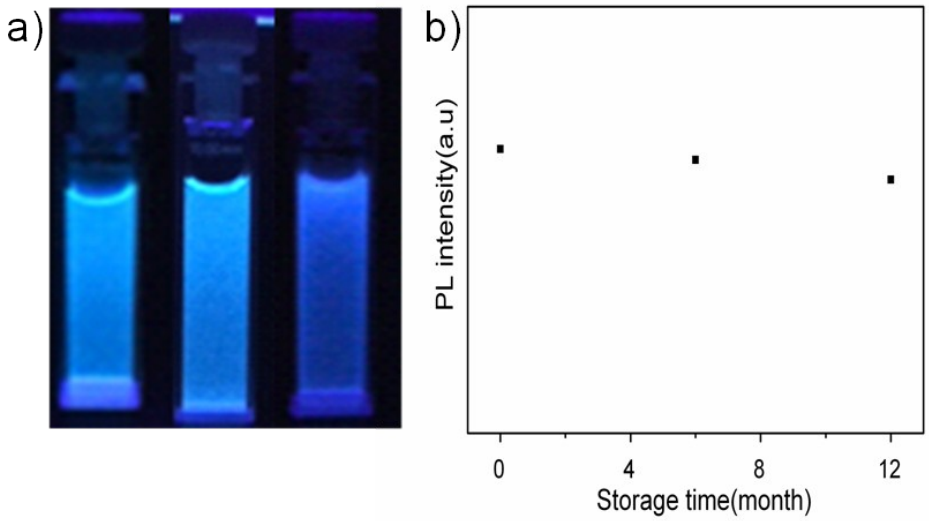

Figure S4. a) Photographs of the suspension of CD-160, CD-200, and CD-250 under 365 nm excitation; b) Stability of CD-200 as a function of the storage time.

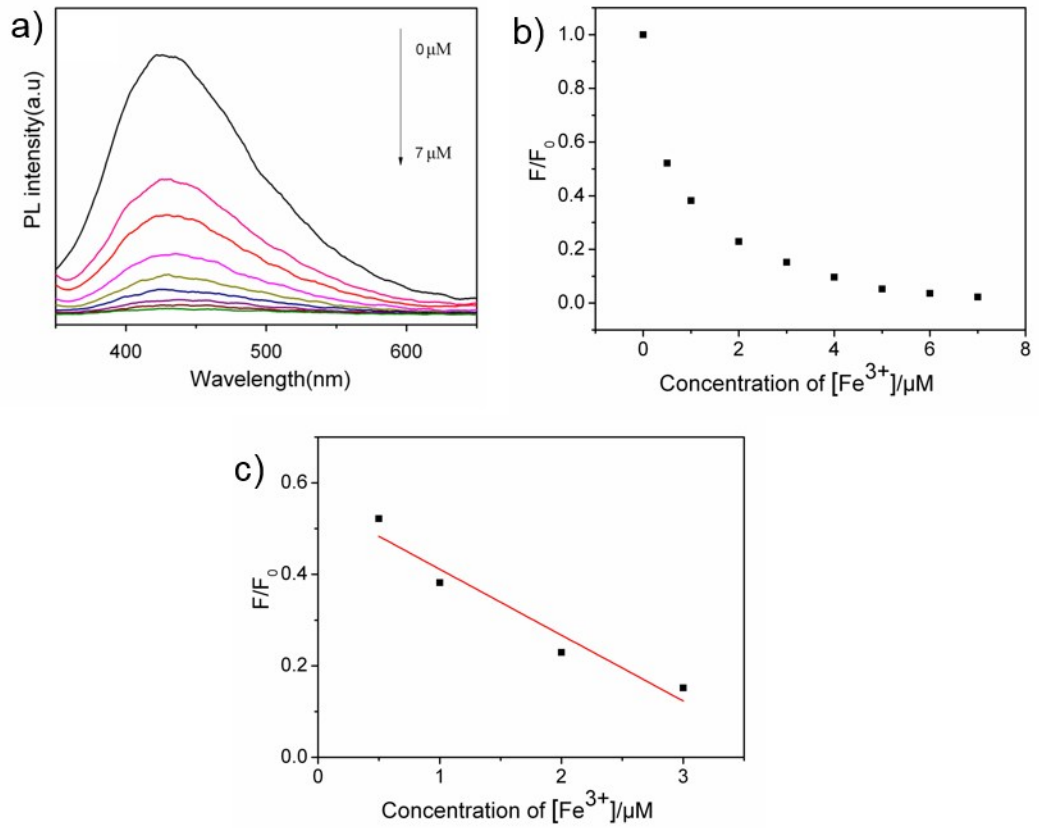

Figure S5. a) The fluorescent spectra in the presence of different concentrations of Fe^{3+} (0-7 μM) in environmental water sample; b) The dependence of of F/F_0 on the concentrations of Fe^{3+} ions within the range of 0-7 μM; c) The linear relationship between the F/F_0 and Fe^{3+} concentration.