

Supporting Information

Facile synthesis of two ionized fluorescent carbon dots and selective detection toward Fe²⁺ and Cu²⁺

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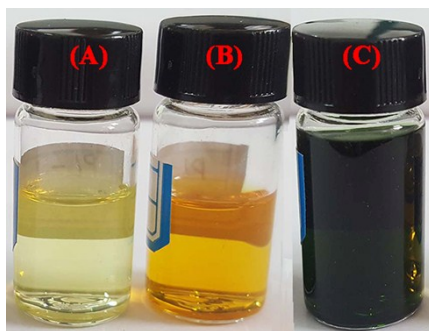


Fig. S1 Photos of (A) CDs-1, (B) CDs-2 at room temperature, and (C) CDs-2 at 80 °C.

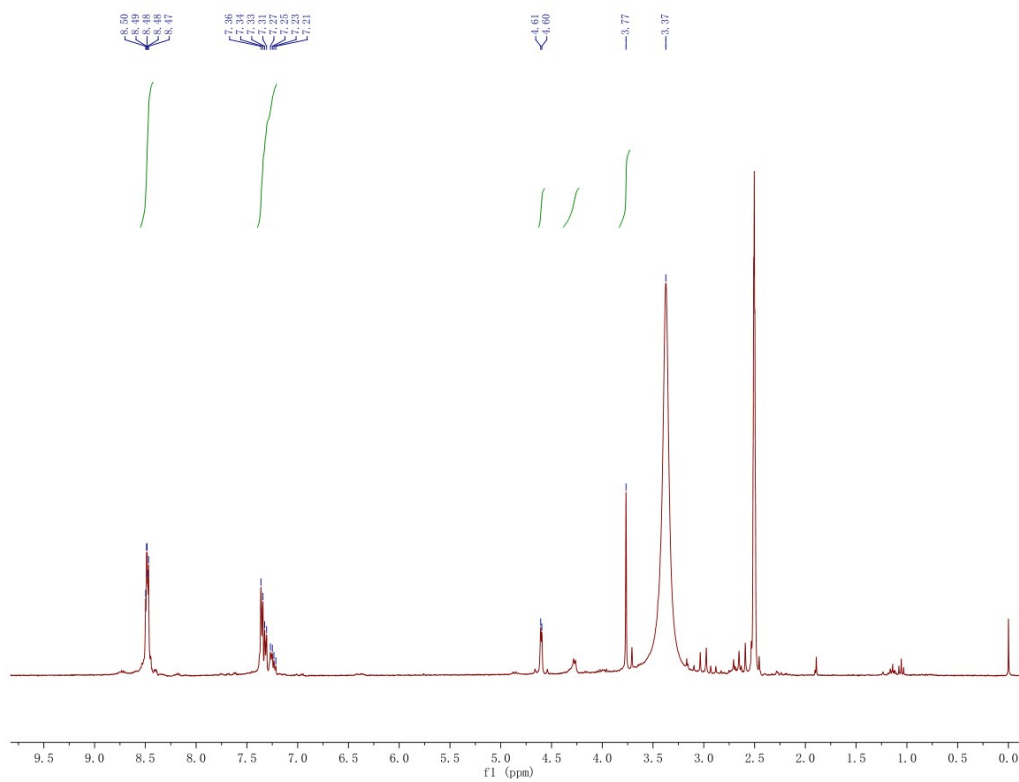


Fig. S2 ^1H NMR of CDs-1.

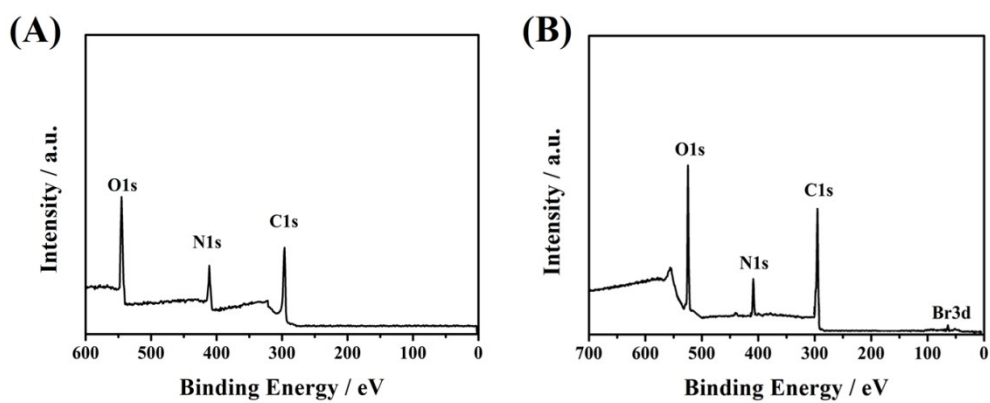


Fig. S3 XPS survey of (A) CDs-1 and (B) CDs-2.

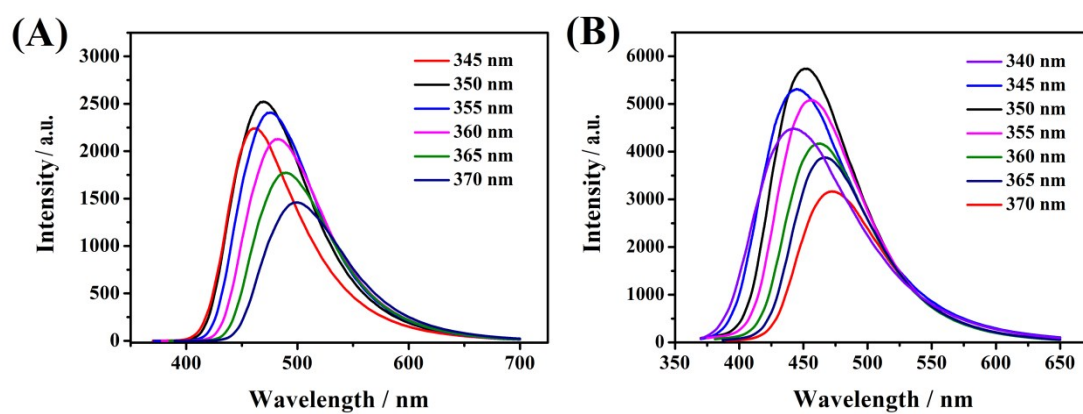


Fig. S4 Fluorescence spectra of (A) CDs-2 and (B) CDs-3 monitored at different excitation wavelengths.

Table S1 Parameters of TRF curves for CDs-1, CDs-2, and CDs-3.

	$R(t) = B_1 e^{\left(-t/\tau_1\right)} + B_2 e^{\left(-t/\tau_2\right)}$					
	τ_1	τ_2	B_1	B_2	χ^2	τ_{ave}
CDs-1	15.85 (11.50%)	47.23 (88.50%)	277.46	716.10	0.91	43.62 ns
CDs-2	13.59 (8.74%)	60.20 (91.26%)	261.44	616.78	0.93	56.34 ns
CDs-3	14.41 (10.09%)	59.00 (89.91%)	304.33	662.48	0.94	54.50 ns

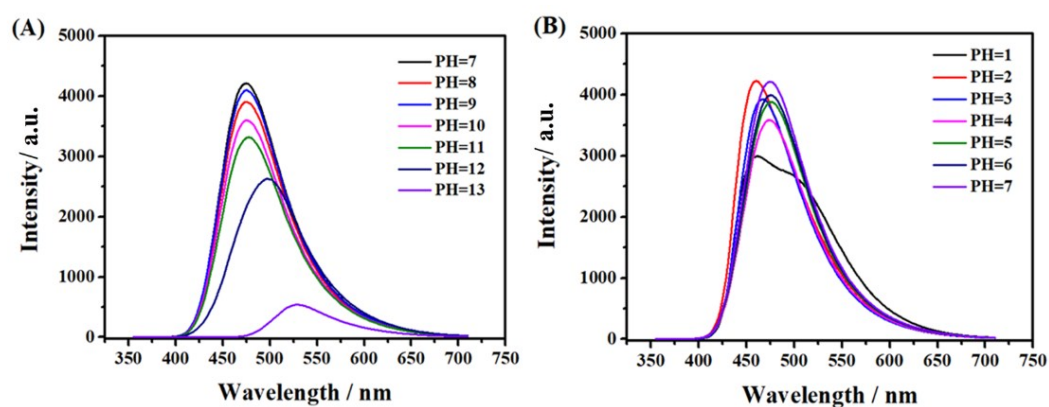


Fig. S5 Fluorescence spectra of CDs-2 with varying pH including (A) acid solution (pH = 1~7) and (B) basic solution (pH = 7~13).

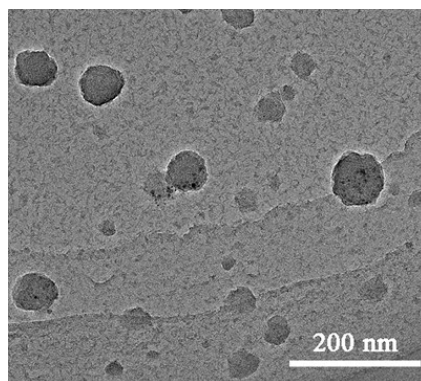


Fig. S6 TEM image of CDs-3 mixed with Fe^{2+} .

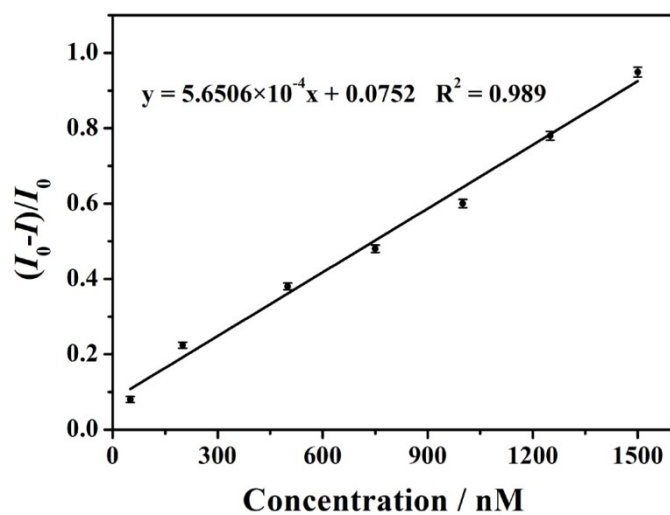


Fig. S7 Linear relationship of a spot of $(I_0 - I)/I_0$ versus the concentration of Fe^{2+} in the range of 50–1500 nM.