Supplementary Information

Surface passivation of carbon dots with ethylene glycol and its application for high-sensitivity of Fe^{3+}

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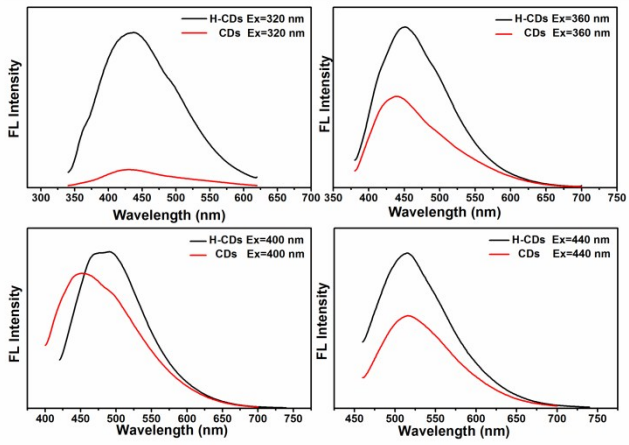

Fig. S1 the fluorescence intensity of CDs and H-CDs when excited at different wavelength

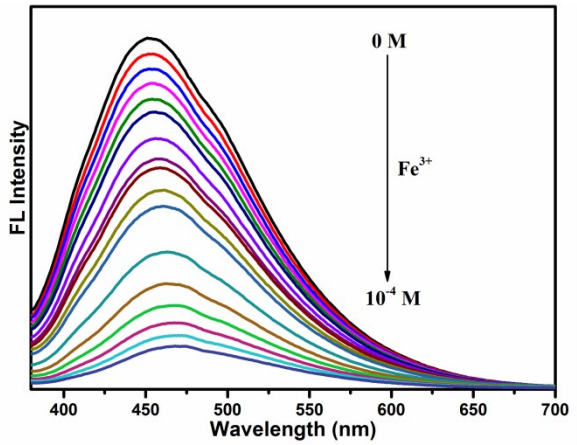

Fig. S2 the PL spectra of the CDs solutions in the presence of Fe^{3+} at different concentrations

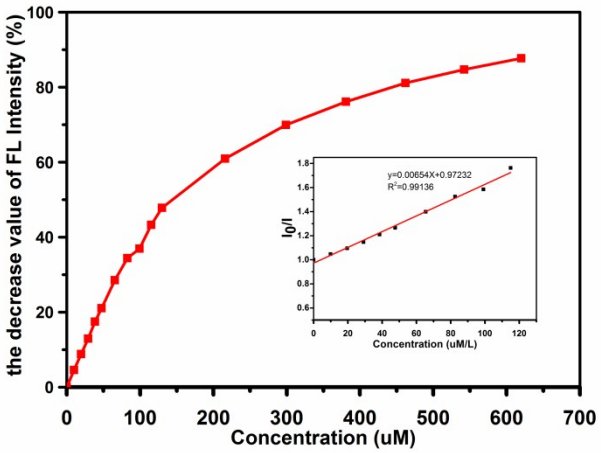

Fig. S3 the Stern-Volmer relationship of CDs between the PL intensity and the concentration, the inset displays a linear Stern-Volmer plot at low concentration rang of Fe^{3+}.

Table S1 the detection limits of 11 repeated experiments and their the standard deviation

Serial number	1	2	3	4	5	
LOD (nM)	2.557375	2.509374	2.603017	2.729994	2.5932	
Serial number	6	7	8	9	10	11
LOD (nM)	2.505455	2.7269	2.624307	2.565554	2.530483	2.634362
The standard deviation of LOD（nM）	0.0773					

Table S2 the concrete data of error bars in figure 4d

Metal ions	Ag+	Zn^{2+}	Al^{3+}	Ba^{2+}	Fe^{2+}
The standard deviation of the decrease in FL intensity	0.009	0.01	0.0086	0.008	0.009

Metal ions	Cu^{2+}	Ni^{2+}	Cr^{3+}	Pb^{2+}	Co^{2+}	Fe^{3+}
The standard deviation of the decrease in FL intensity	0.006	0.002	0.003	0.002	0.002	0.003