

Electronic supporting information for:

**The preparation of FITC-carbon dots nanocomposite and using the C-18 reverse
phase column to improve the Hg²⁺ ion sensitivity of FITC-carbon dots
ratiometric fluorescent sensor**

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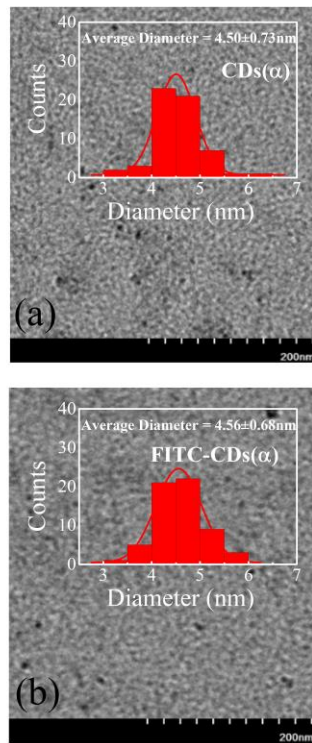


Fig. S1: The TEM images of (a) the CDs(α) and (b) the FITC-CDs(α).

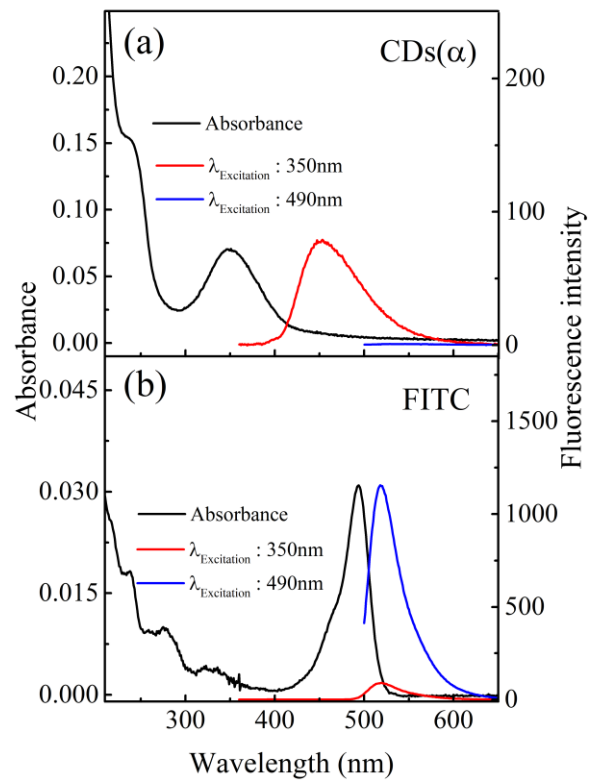


Fig. S2: The steady-state spectra of (a) the CDs(α) and (b) the FITC.

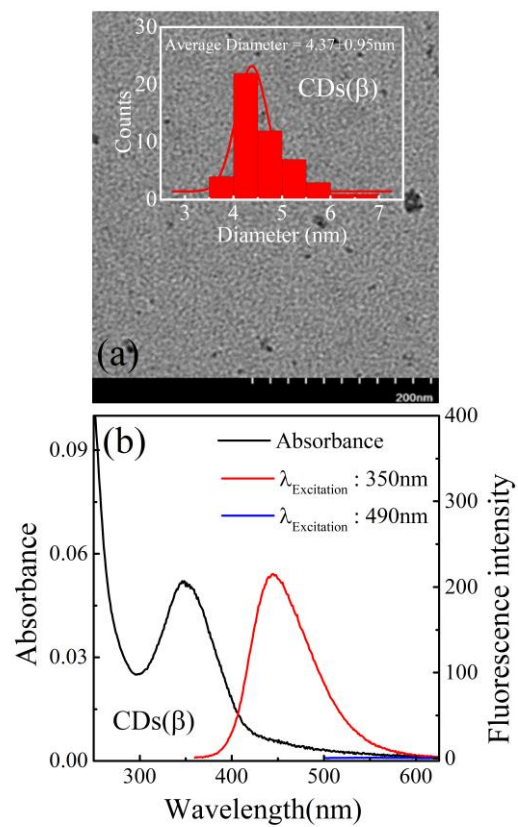


Fig. S3: (a) the TEM image and (b) the steady state spectra of CDs(β)

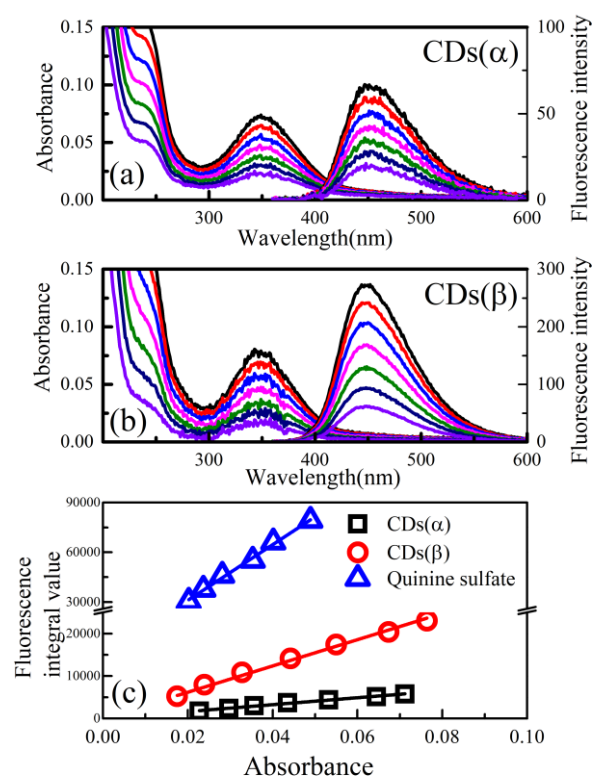


Fig. S4: The steady-state spectra of (a) the CDs(α) and (b) the CDs(β) at various concentrations.

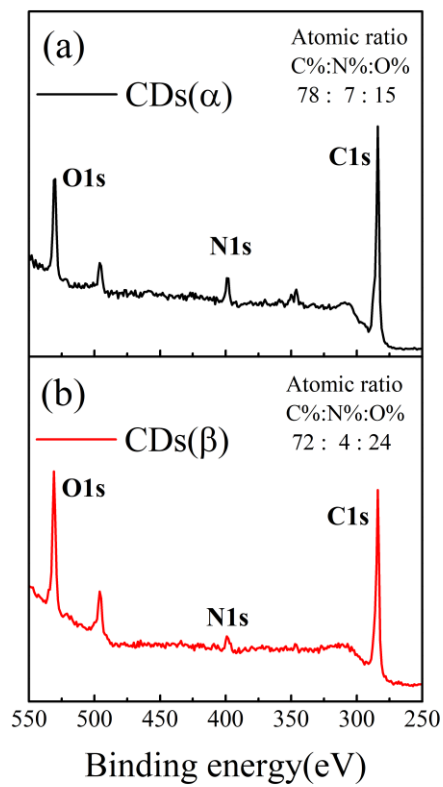


Fig. S5: The XPS survey scan for (a) the CDs(α) and (b) the CDs(β).

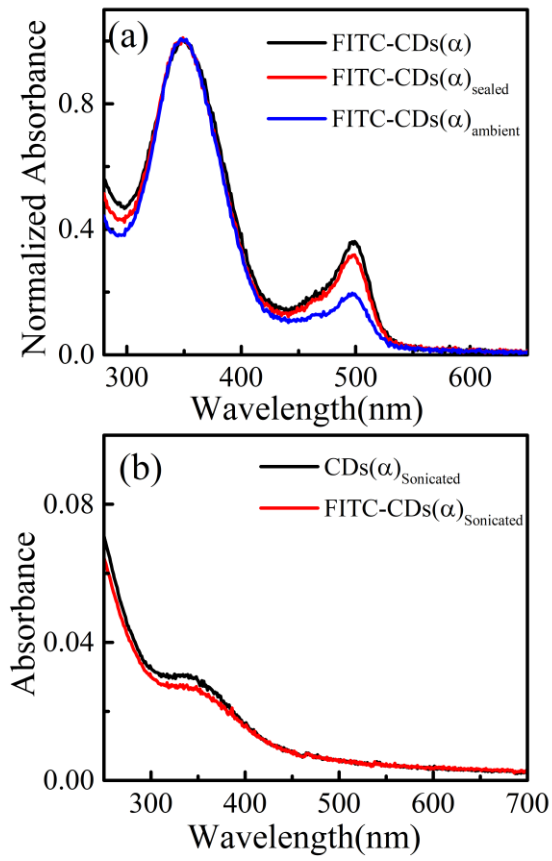


Fig. S6: (a) the steady-state absorption spectra of the FITC labelled on the CDs(α), the CDs(α)_{ambient} and the CDs(α)_{sealed}.(b) the steady state spectra of the CDs(α)_{sonicated} and the FITC-CDs(α)_{sonicated}.

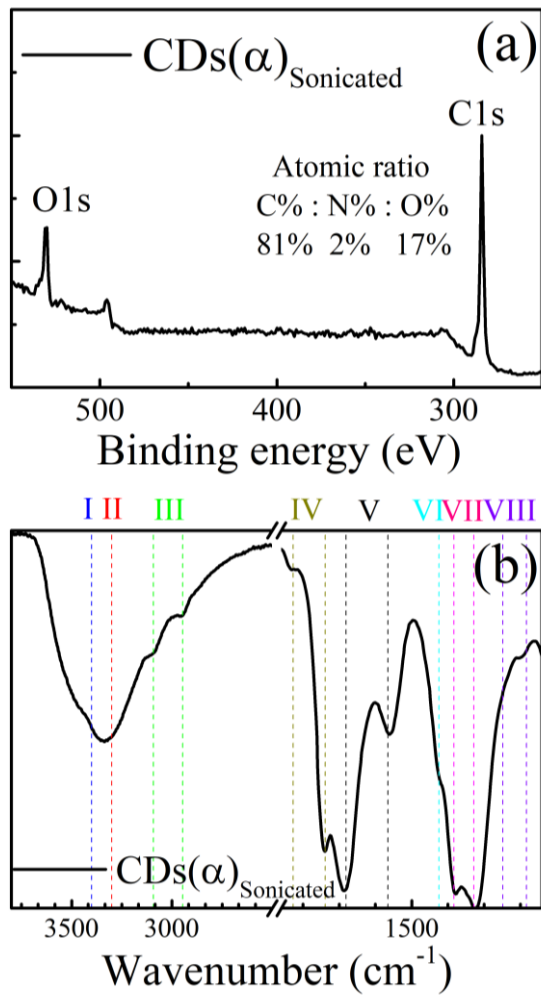


Fig. S7: (a) the XPS survey scan and (b) the FTIR spectra of the $\text{CDs}(\alpha)_{\text{sonicated}}$.

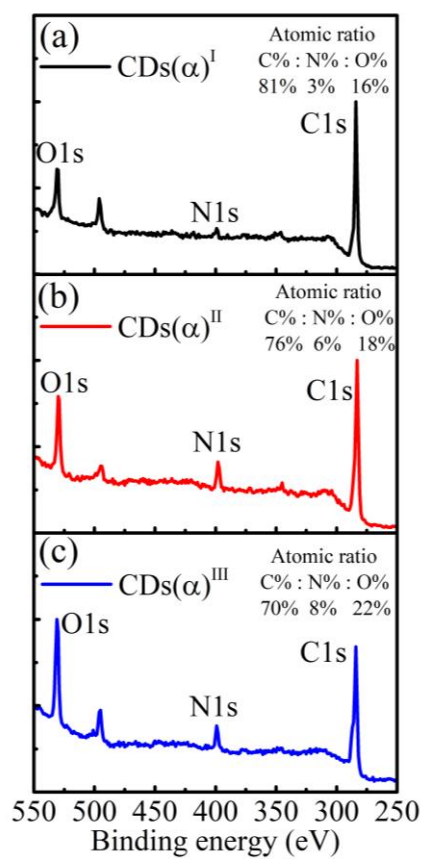


Fig. S8: The XPS spectra of (a) the CDs(α)^I, (b) the CDs(α)^{II} and (c) the CDs(α)^{III}

