

Electronic Supplementary Material

Colorimetric and fluorometric dual-mode determination of hypochlorite based on redox-mediated quenching

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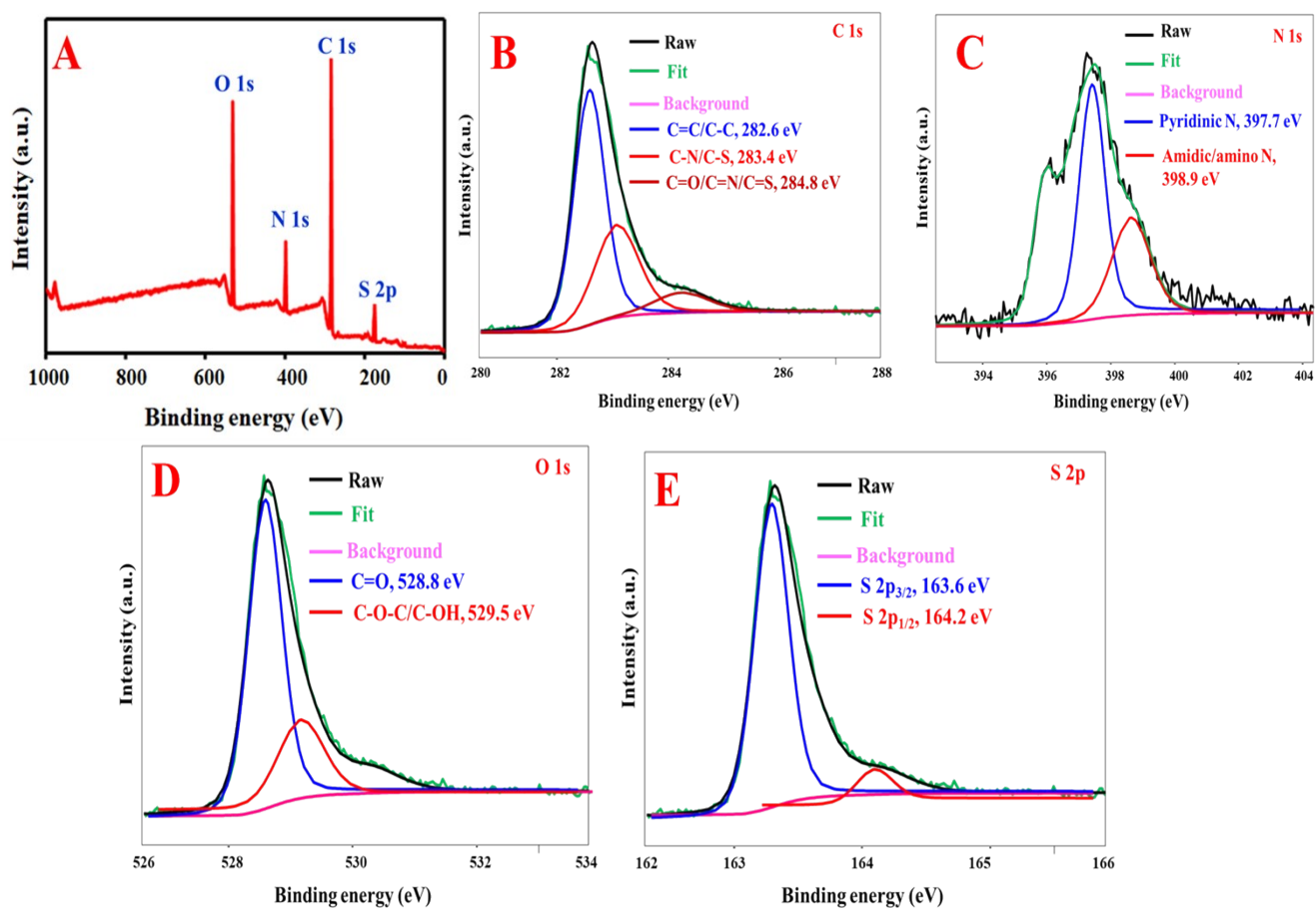


Fig.S1 (A) Full XPS spectrum of N, S@ g-CDs while (B), (C), (D), and (E) represents detailed XPS of C 1s, N 1s, O 1s, and S 2p, respectively.

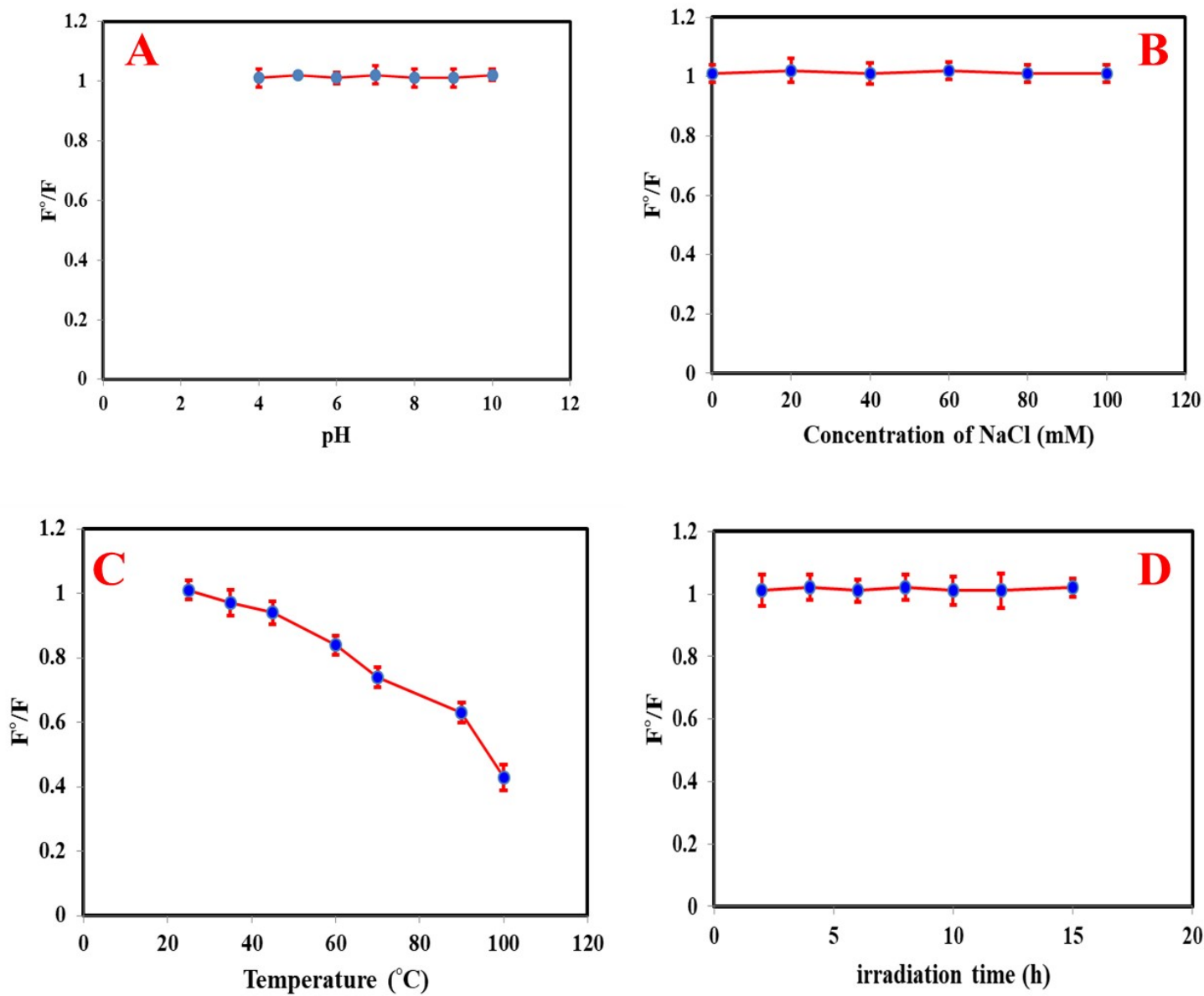


Fig.S2 The effect of pH (A), concentration of NaCl (B), temperature (C), and irradiation time (D) on the stability of N, S@g-CDs.

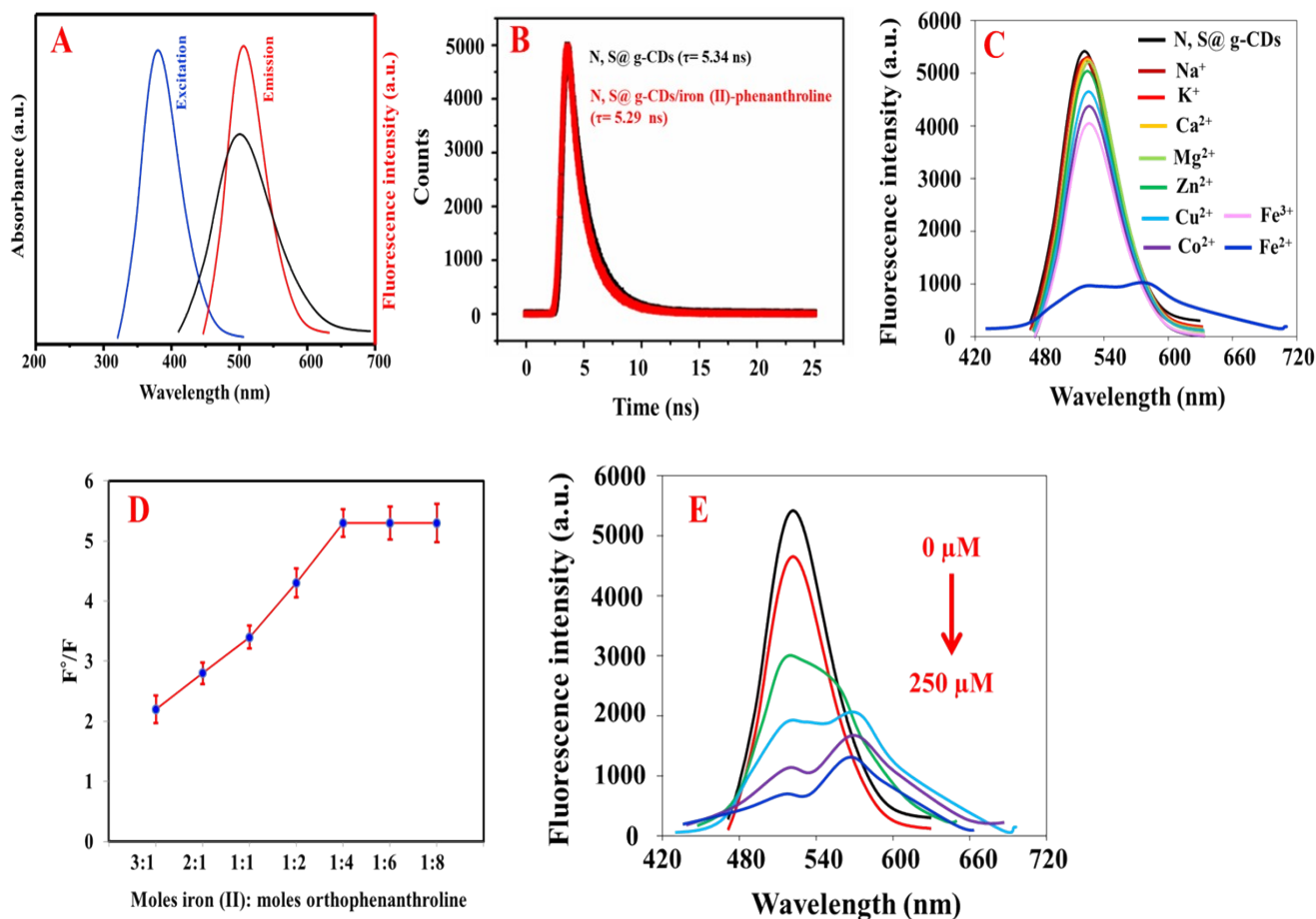


Fig.S3 (A) Absorption spectrum (black line) of iron (II)-orthophenanthroline chelate and excitation/emission spectra of N, S@ g-CDs; (B) Fluorescence lifetimes of N, S@ g-CDs before and after addition of iron (II): orthophenanthroline; (C) Specificity of orthophenanthroline towards different metal cations; (D) Effect of iron (II): orthophenanthroline ratios on the fluorescence responses of N, S@ g-CDs; (E) Effect of iron (II) concentrations on the fluorescence responses of N, S@ g-CDs.

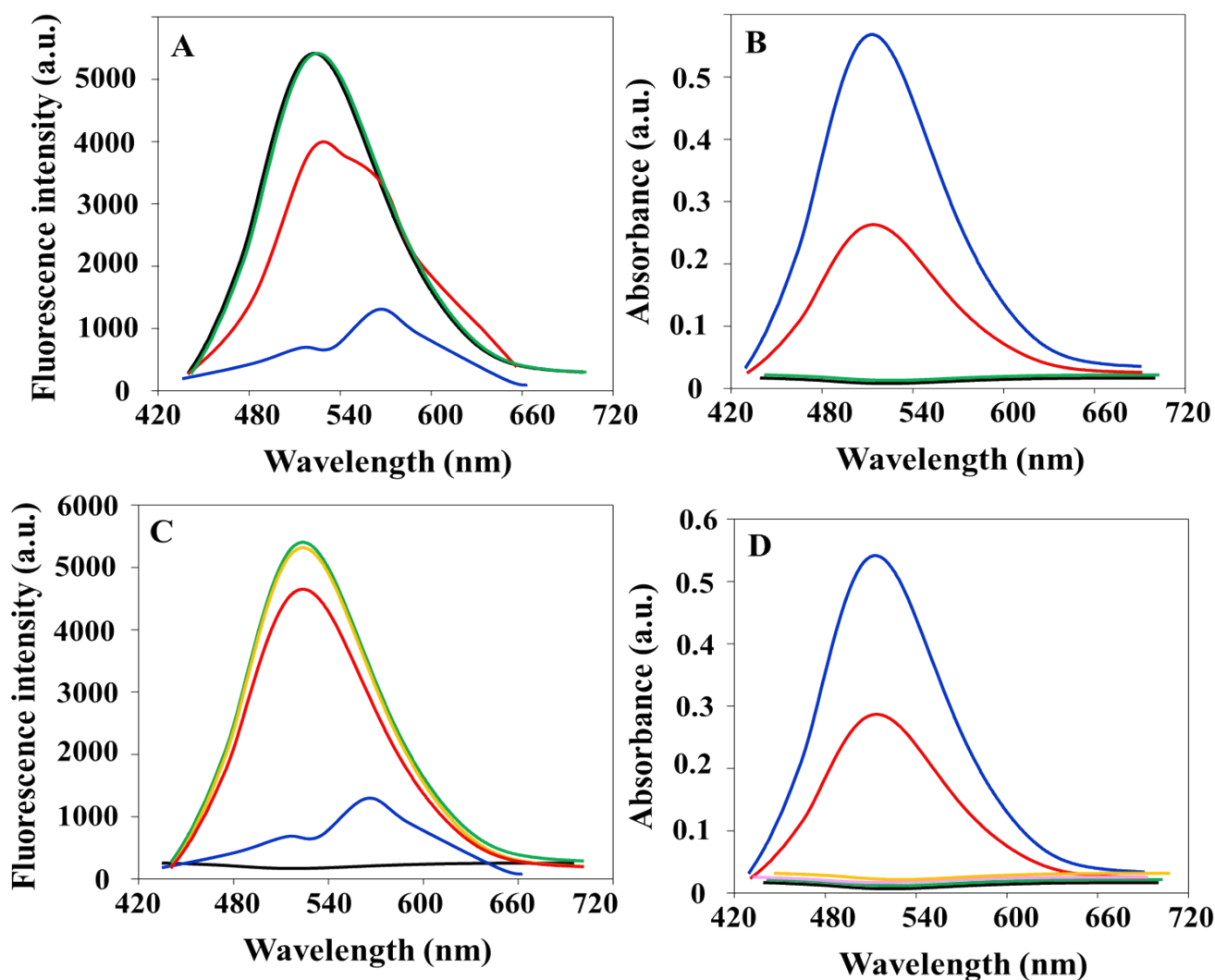


Fig.S4 (A) Fluorescence spectra of N, S@ g-CDs (black), orthophenanthroline/ N, S@ g-CDs (green), iron (II)- orthophenanthroline/ N, S@ g-CDs (blue), iron (II)+ ClO⁻+orthophenanthroline/ N, S@ g-CDs (red); (B) Fluorescence spectra of iron (II)- orthophenanthroline (black), N, S@ g-CDs (green), N, S@ g-CDs/ orthophenanthroline (orange), iron (II)/ N, S@ g-CDs (red), iron (II)- orthophenanthroline/ N, S@ g-CDs (blue); (C) Absorption spectra of N, S@ g-CDs (black), orthophenanthroline/ N, S@ g-CDs (green), iron (II)- orthophenanthroline/ N, S@ g-CDs (blue), iron (II)+ ClO⁻+orthophenanthroline/ N, S@ g-CDs (red); (D) Absorption spectra of orthophenanthroline (black), iron (III)- orthophenanthroline (green), iron (II)- orthophenanthroline (blue), iron (II)+ ClO⁻+orthophenanthroline (red), iron (III)+ ClO⁻+orthophenanthroline (orange).

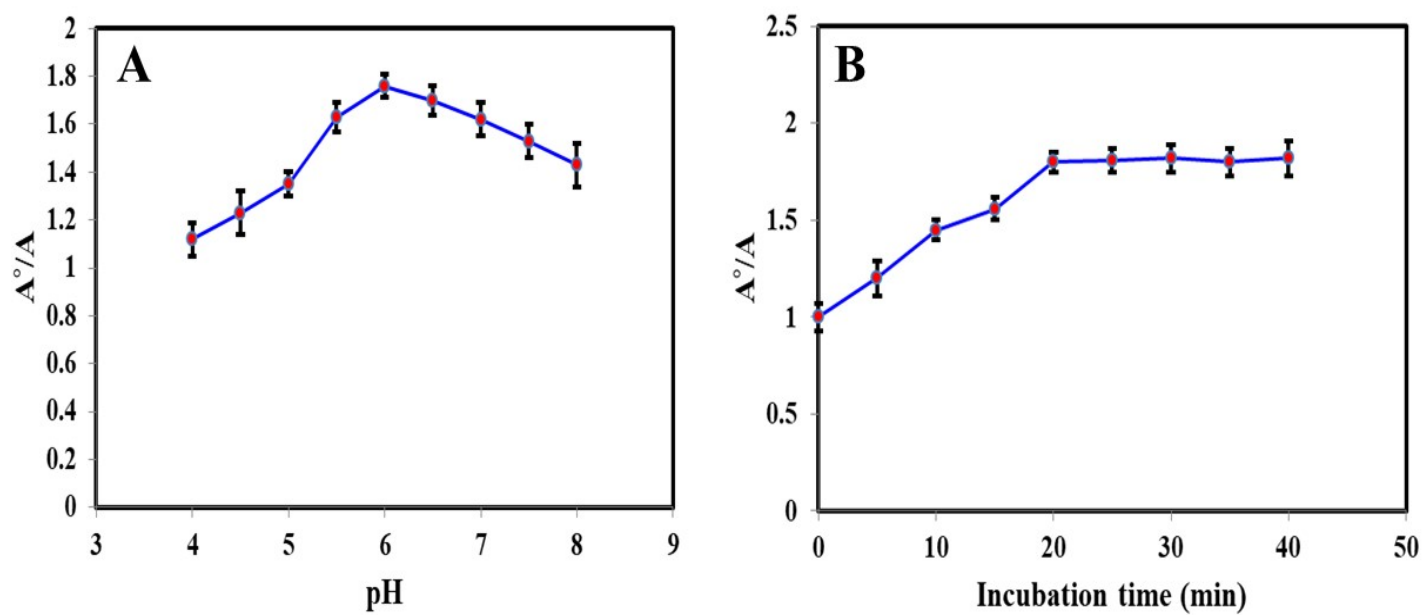


Fig.S5 The effect of pH (A) and incubation time (B) on the colorimetric determination of 50 μM ClO^- anion.