Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Electronic Supplementary Information

Nanosensor of sulfur-nitrogen co-doped carbon dots for "off-on" sensing of hypochlorous acid and Zn(II) and its bioimaging

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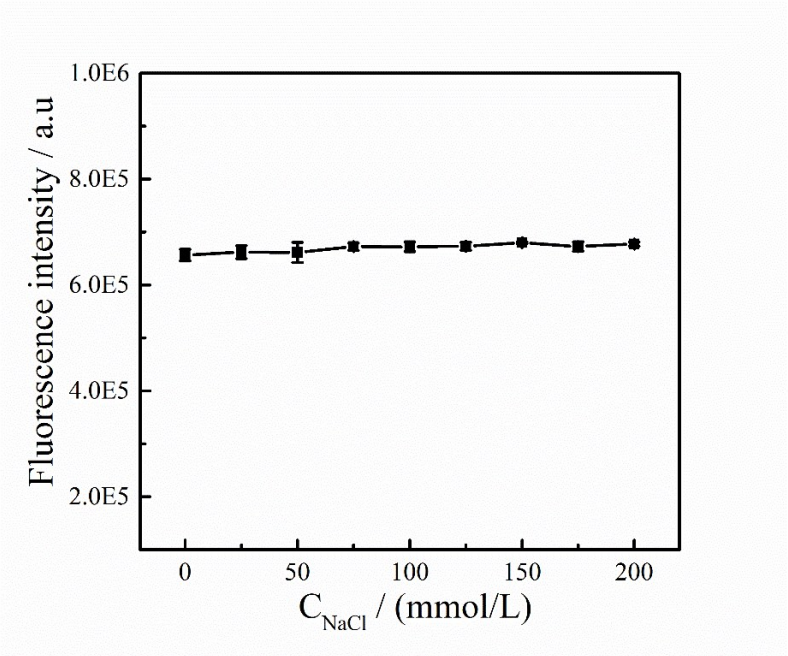

Fig. S1 Effect of ionic strengths on the fluorescence intensity of SNCDs by various concentrations of NaCl in aqueous solution.

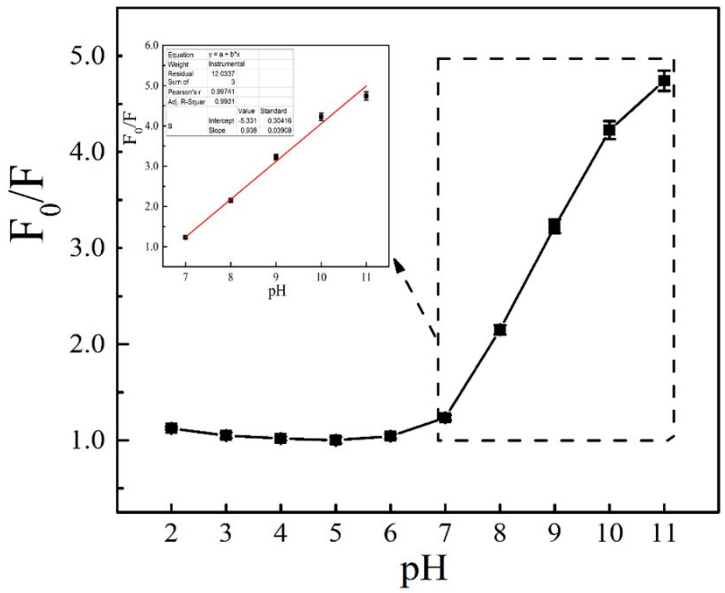

Fig. S2 Relationships between the quenching efficiency and pH value of SNCDs solution, inset: the linear response range of the pH sensor.

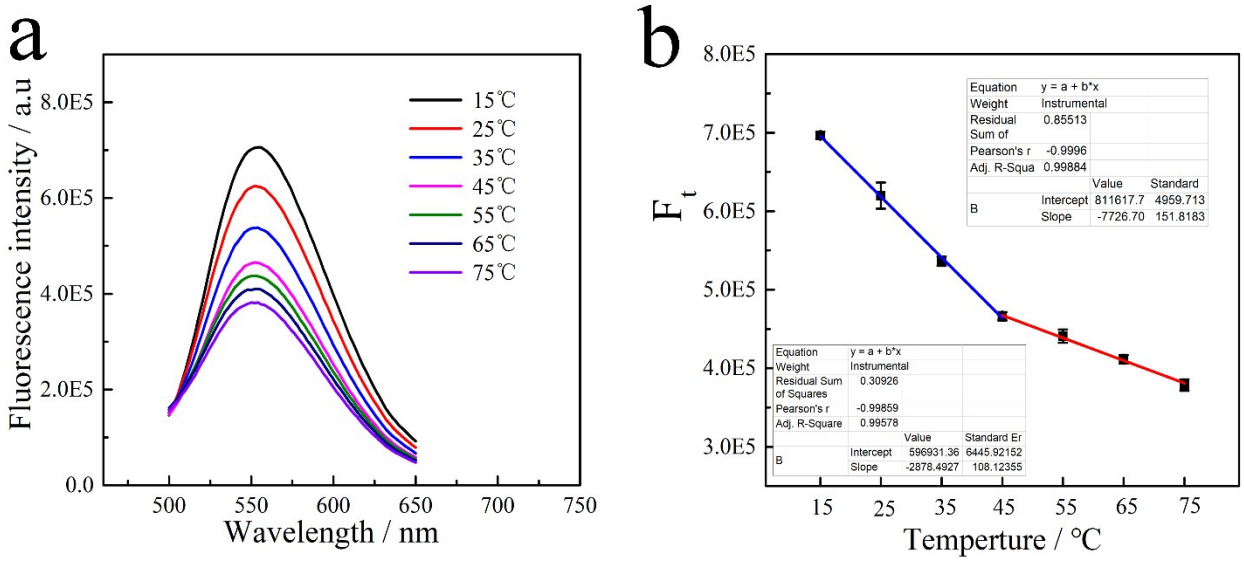

Fig. S3 Fluorescence thermosensitivity of SNCDs: (a) Fluorescence emission spectra measured in the range of 15-75 °C (from top to bottom) when excited at 420 nm; (b) The corresponding linear regression of the temperature versus F_t.

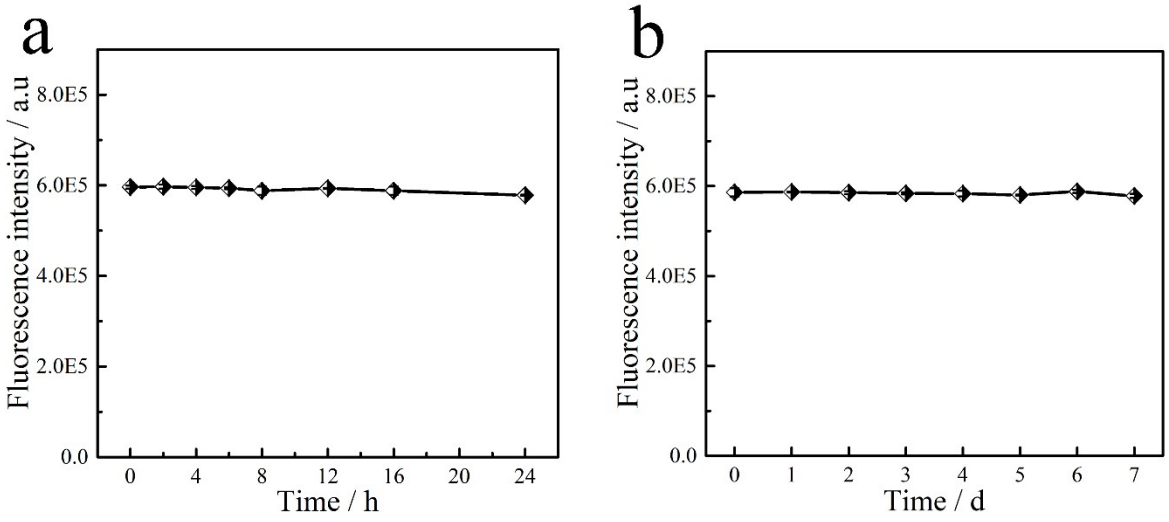

Fig. S4 Effects of time intervals of irradiation with a 3000 lux light (a) and storage time (b) on the FL intensity of SNCDs.

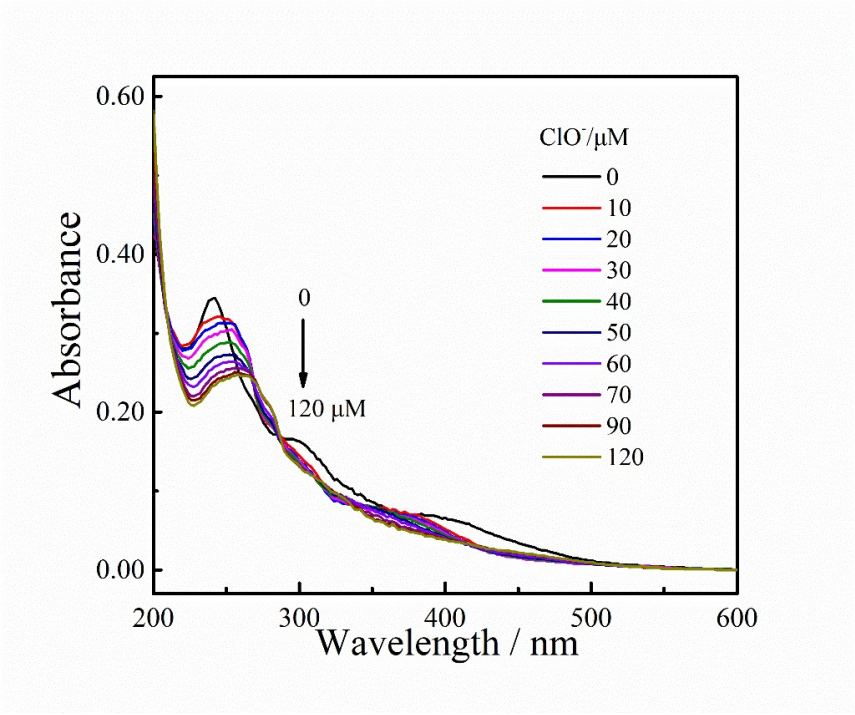

Fig. S5 UV-vis absorbance spectra of SNCDs (1.00 μg·mL^{-1}) upon addition of different concentrations of ClO^- from 0 to 120 μM.

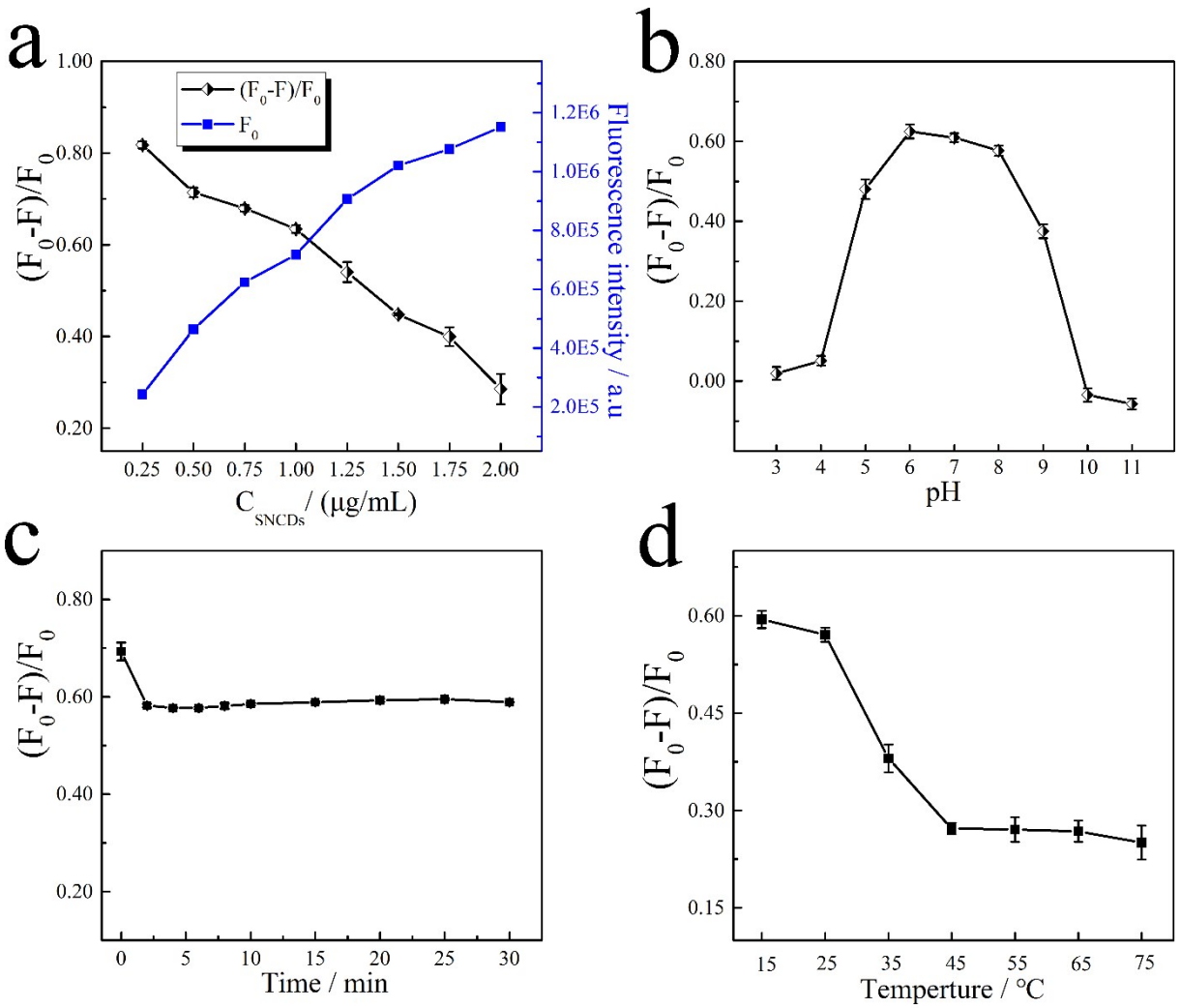

Fig. S6 Fluorescence "turn-off" process: (a) Effects of different SNCDs concentrations on the FL intensities and fluorescence quenching rates (left to right: 0.25, 0.50, 0.75, 1.00, 1.25, 1.50, 1.75 and 2.00 μg·mL^{-1}) after addition of HOCl; (b) Effects of pH values on the fluorescence quenching rates (1.00 μg·mL^{-1} of SNCDs upon addition of 2.50 μM of HOCl); (c) Effects of incubation time on the fluorescence quenching rates (1.00 μg·mL^{-1} of SNCDs upon addition of 2.50 μM of HOCl); (d) Effects of incubation temperture on the fluorescence quenching rates (1.00 μg·mL^{-1} of SNCDs upon addition of 2.50 μM of HOCl).

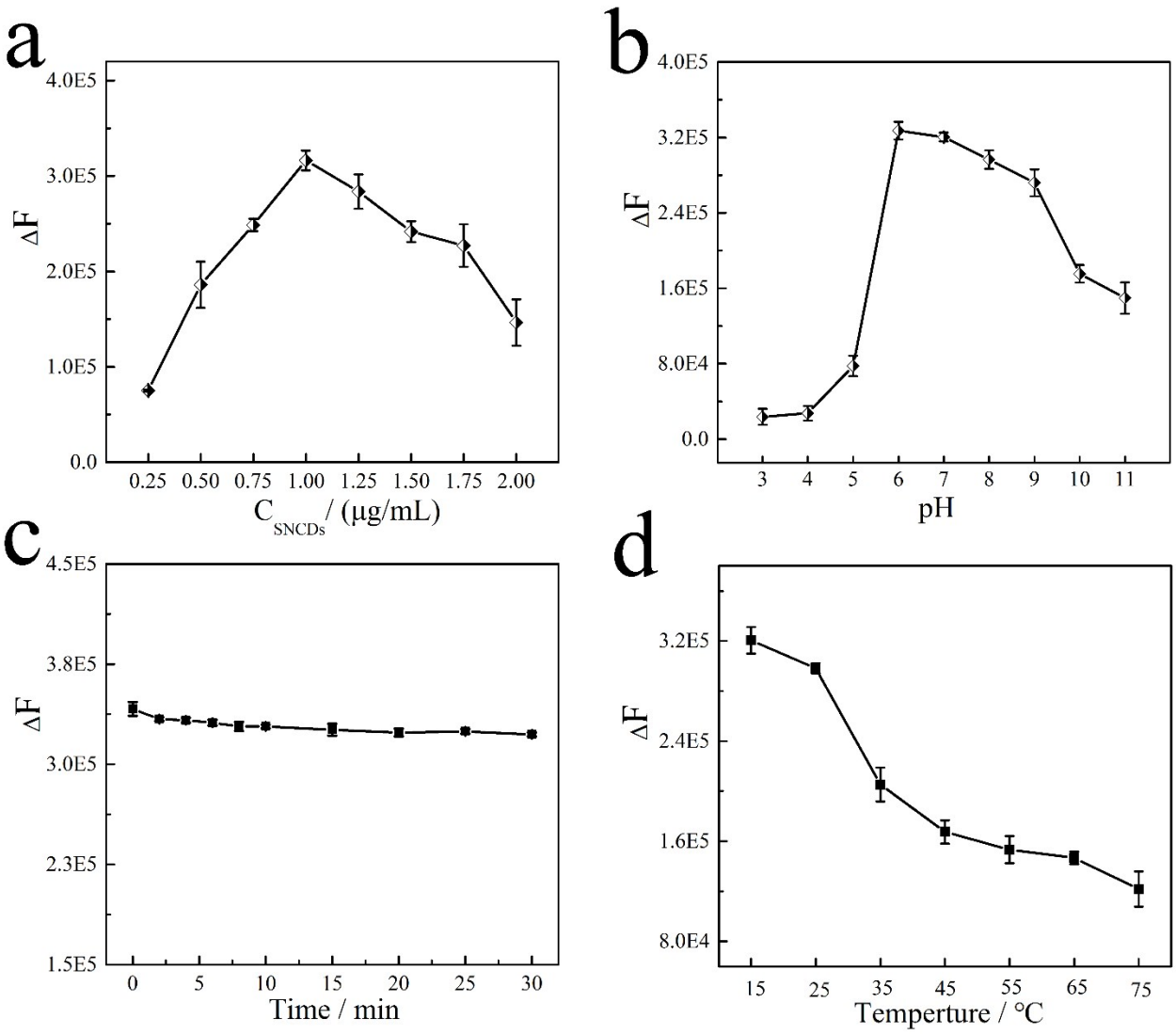

Fig. S7 Fluorescence "turn-on" process: (a) Effects of different SNCDs concentrations on the fluorescence recovery rates (left to right: 0.25, 0.50, 0.75, 1.00, 1.25, 1.50, 1.75 and 2.00 μg·mL^{-1}) after addition of Zn^{2+}; (b) Effects of pH values on the fluorescence recovery rates (1.00 μg·mL^{-1} of SNCDs and 2.50 μM of HOCl upon addition of 1.00 μg·mL^{-1} of Zn^{2+}); (c) Effects of incubation time on the fluorescence recovery rates (1.00 μg·mL^{-1} of SNCDs and 2.50 μM of HOCl upon addition of 1.00 μg·mL^{-1} of Zn^{2+}); (d) Effects of incubation temperture on the fluorescence recovery rates (1.00 μg·mL^{-1} of SNCDs and 2.50 μM of HOCl upon addition of 1.00 μg·mL^{-1} of Zn^{2+}).