Supporting Information for

A facile ratiometric near-infrared fluorescent probe using conjugated 1,8-naphthalimide and dicyanoisophorone with a vinylene linker for detection and bioimaging of hypochlorite

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1. The preparation of PBS solution[1]

Preparation method of 0.01 M phosphate buffer.

Weight 8 g NaC1, 0.2 g KC1, 1.44 g Na_2HPO_4 and 0.24 g H_2PO_4, dissolve in 800 ml distilled water, adjust the pH value of the solution to 7.4 with HCl, and finally add distilled water to 1 L. Steam sterilization under high pressure (at least 20 minutes) and store in a refrigerator at room temperature or 4℃.

2. ^{1}H-NMR spectrum of 1

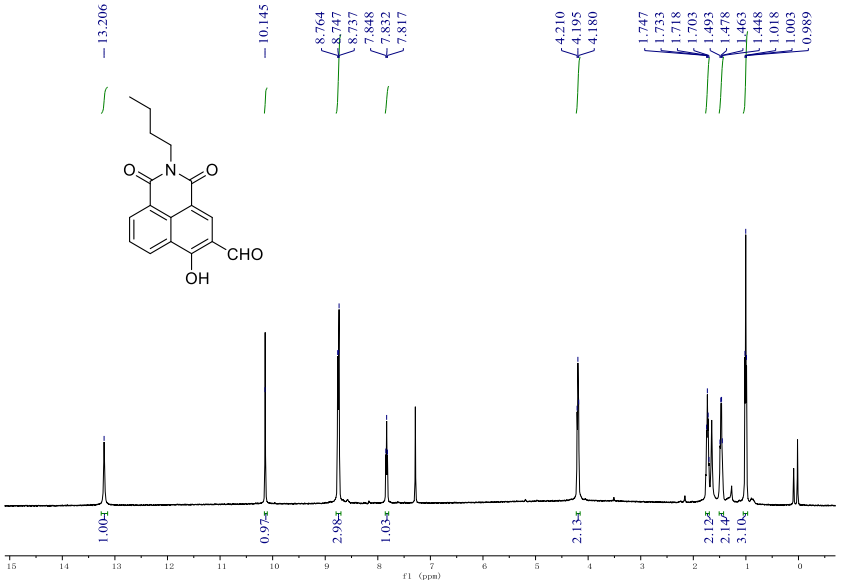

Figure S1 ^{1}H-NMR (500 MHz, $CDCl_3$) spectrum of Compound **1.**

3. ^{1}H NMR, ^{13}C NMR and LC-MS spectrum of probe 3

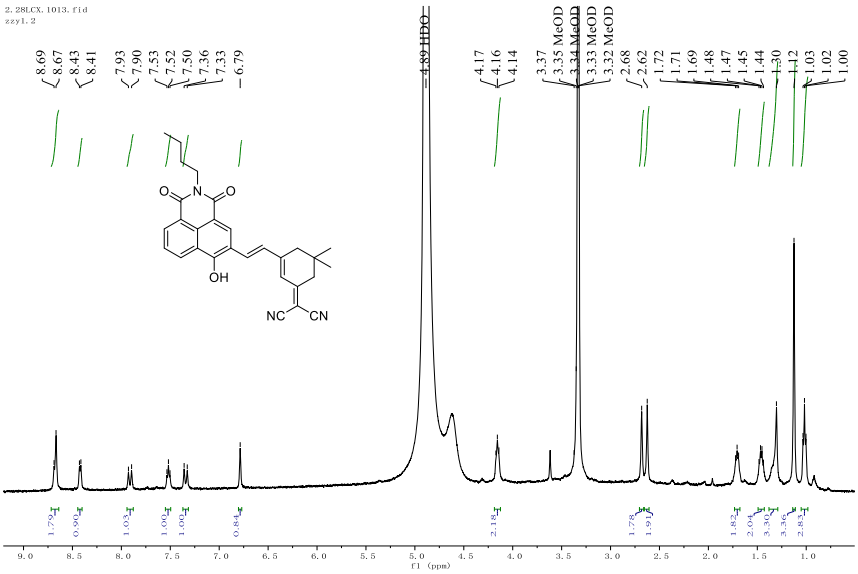

Figure S2 ^{1}H-NMR (500 MHz, Methanol-d_4) spectrum of Compound **3.**

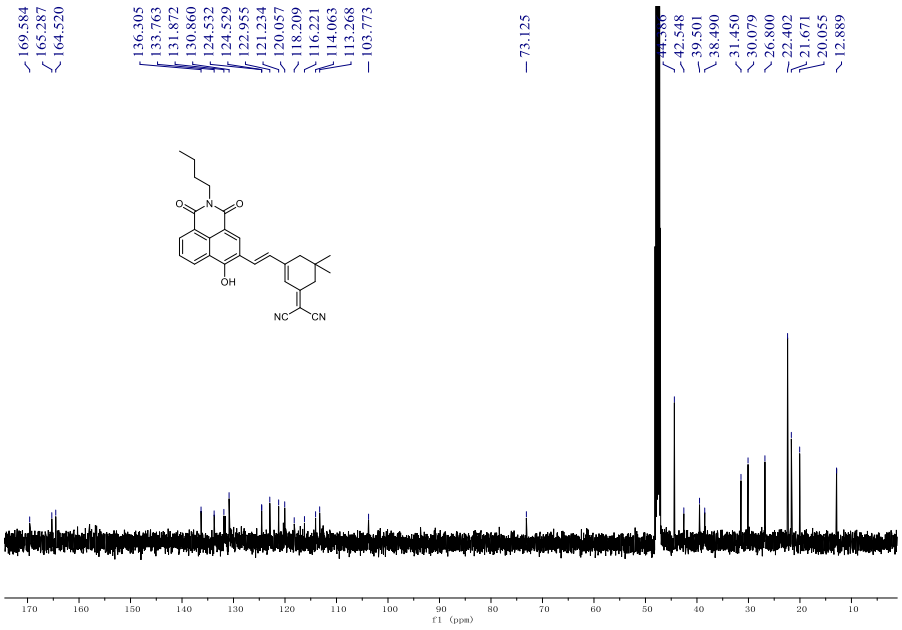

Figure S3 ^{13}C-NMR (Methanol-d_4, 125 MHz) spectrum of compound **3.**

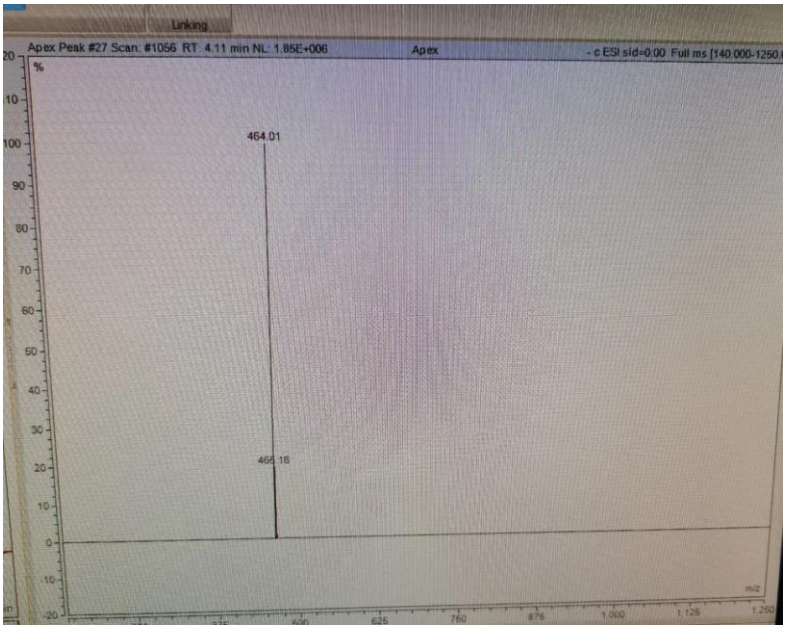

Figure S4 LC-MS spectrum of **3**.

4. Solvent effect of probe 3

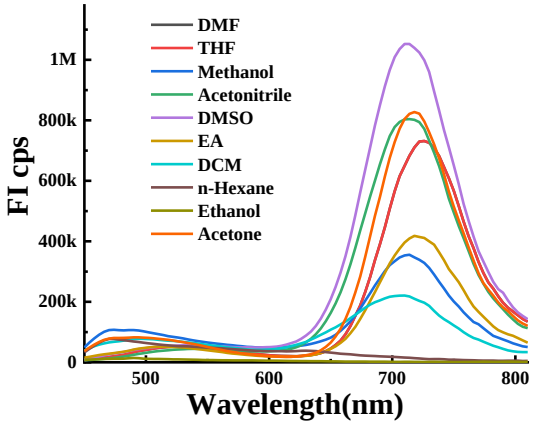

Figure S5. The emission spectra of probe **3** in various solvents (DMF, THF, Methanol, Acetonitrile, DMSO, EA, DCM, n-Hexane, Ethanol, Acetone) at 25 ℃.

5. The Fluorescence/absorption titration spectra of probe 3 with ClO^- in PBS:CH_3CN=1:1

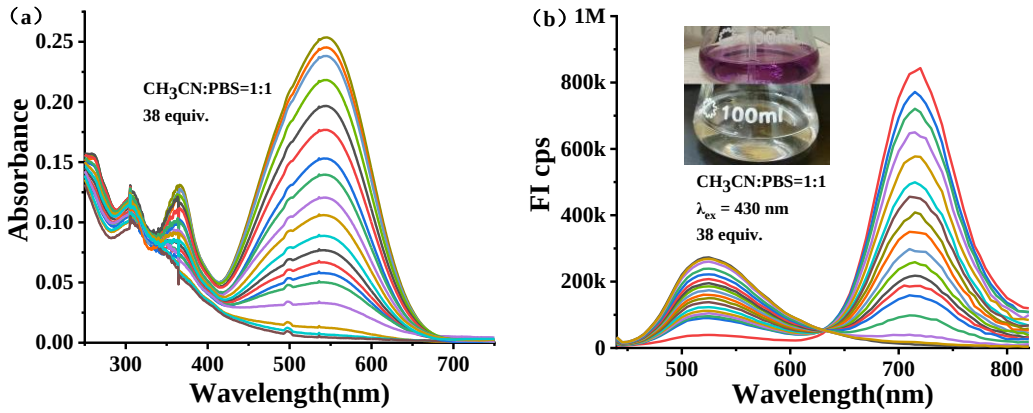

Figure S6 （a）The absorption titration spectra of probe **3** (20 μM) toward varying concentrations of ClO^- in PBS buffer (10 mM, pH = 7.4, 50% CH_3CN); (b) Fluorescence titration spectra of probe **3** (20 μM) with various concentrations of ClO^- in PBS buffer (10 mM, pH = 7.4, 50% CH_3CN), Inset: colour changes of probe **3** (38 equiv., λ_{ex} = 430 nm).

6. pH effect experiment

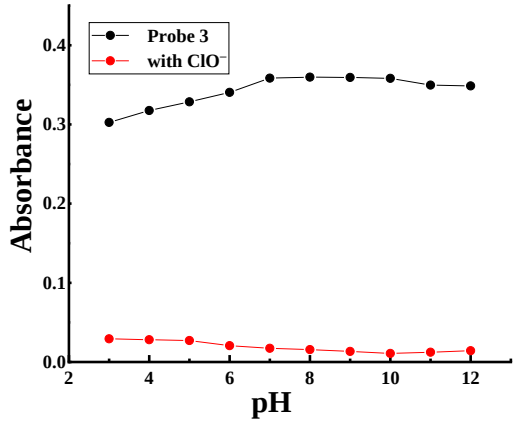

Figure S7 The pH effects on the absorption spectra of probe **3** (20 μM) in the absence/presence of ClO^- (1.4 equiv.).

7. LC-MS analysis of probe 3 + ClO^-

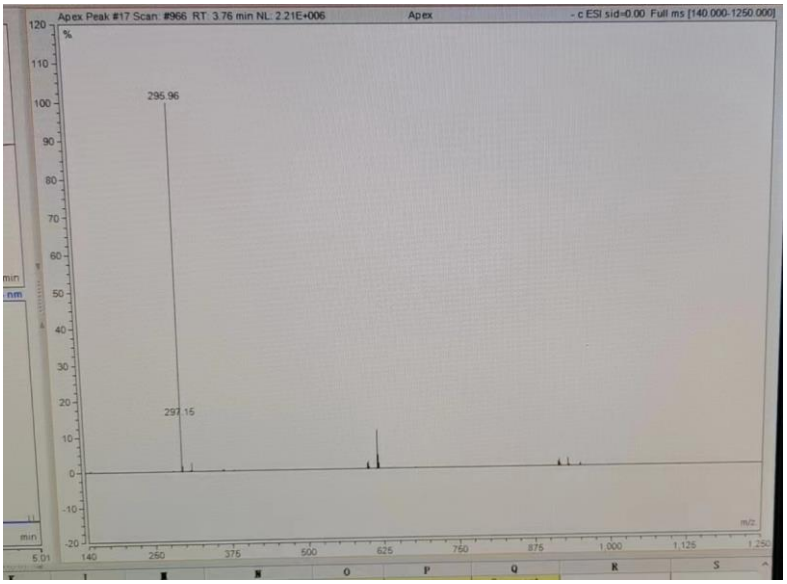

Figure S8 LC-MS analysis of probe **3** + ClO

8. References

[1]. Alpana. A. Thorat. Raj. Suryanarayanan. *Pharm. Res.*, 2019, **36**,98.