Supporting Information for

Rational design of ortho-vinylhydropyridine-assisted amino-fluorophore as hypochlorite fluorescent probe

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1. Solvent effect of probe 1a

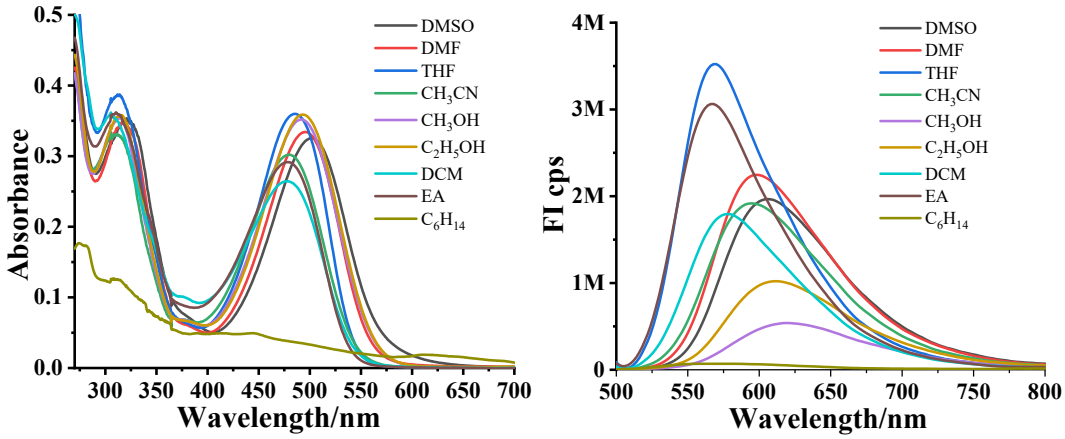


Figure S1 Absorption and emission spectral of probe **1a** (20 μM) in different solvents.

2. Linear fluorescence response of sensor 1a to ClO^-.

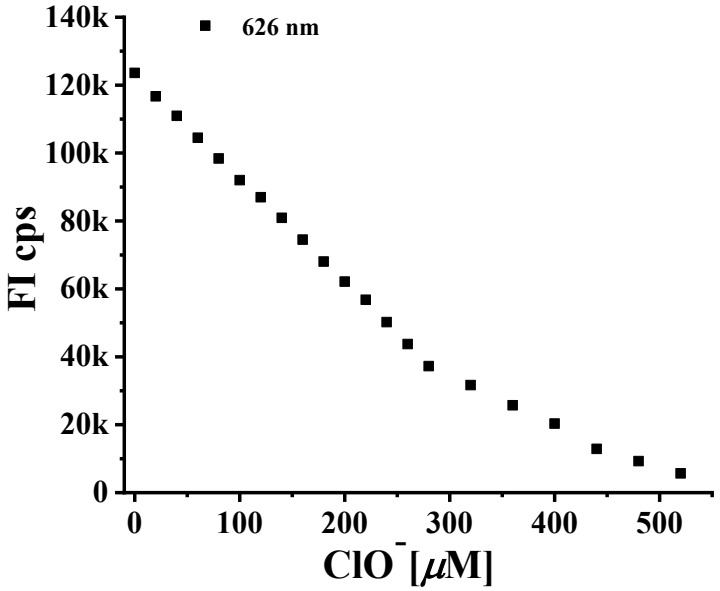
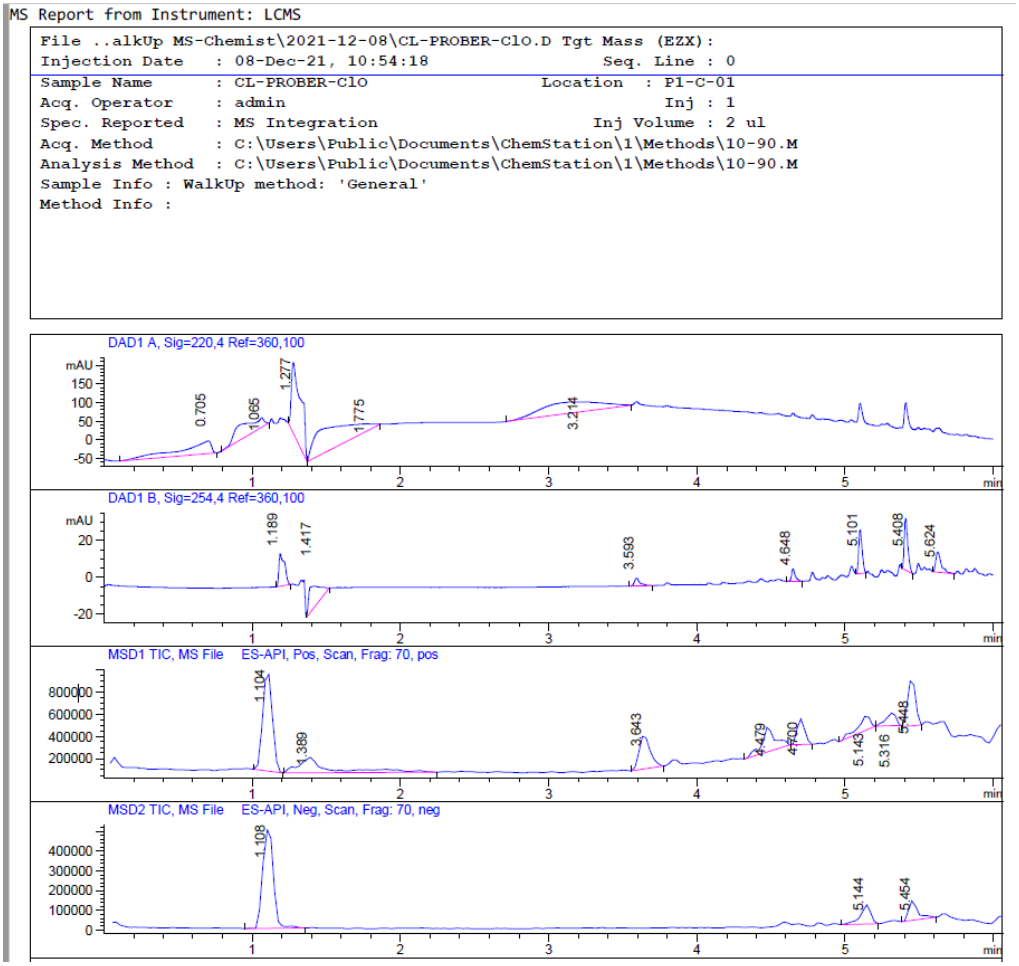


Figure S2 Fluorescence spectral changes of **1a** (20 μM) (λ_{ex} = 480 nm) upon the titration with ClO^- (0 to 25.0 equiv.) in PBS buffer (pH 7.4, with 10% CH_3CN, v/v).

3. LC-MS analysis of the probe 1a with NaClO



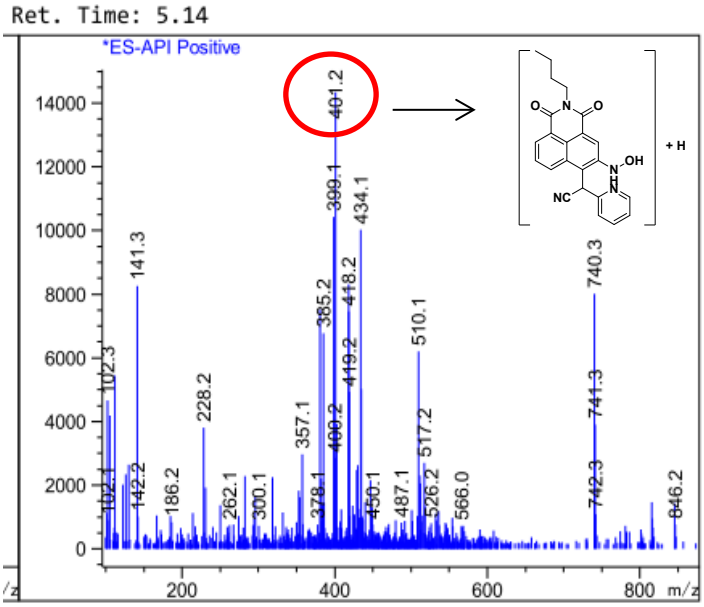


Figure S3 The LC-MS analyst of the probe **1a** (20 μM) with 25.0 equiv. NaClO in CH_3CN

4. NMR titration experiments of 1a with ClO^-

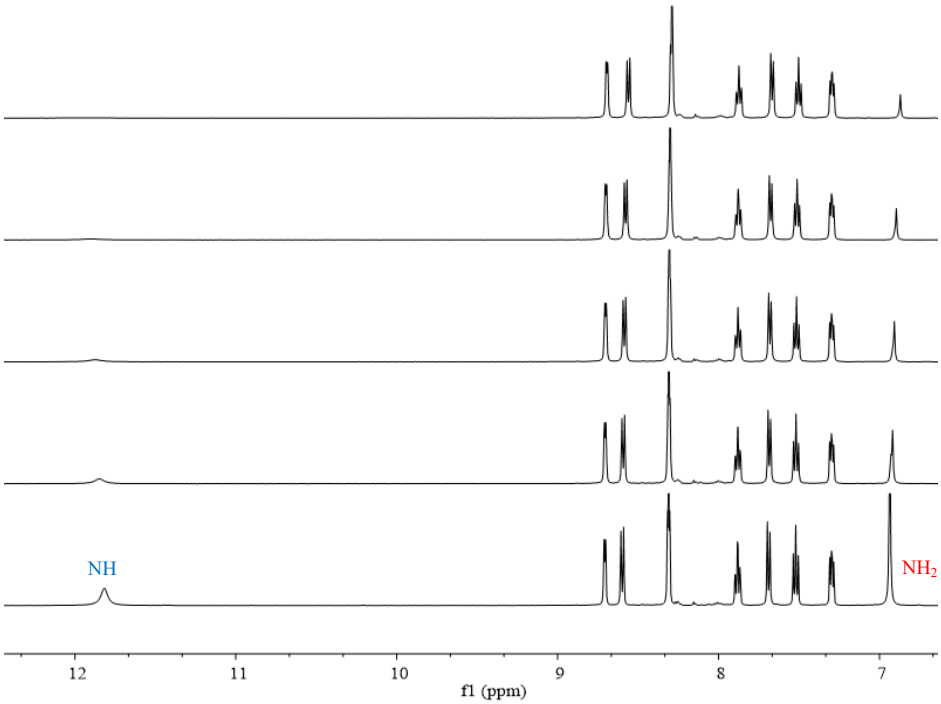


Figure S4 The NMR titration of **1a** (30.0 mM) in DMSO-d_6 with increasing concentration of ClO^- (from bottom to top, 0, 0.2, 0.4, 0.6 and 1.0 equiv.)

5. ^{1}H NMR spectra of compound 4b.

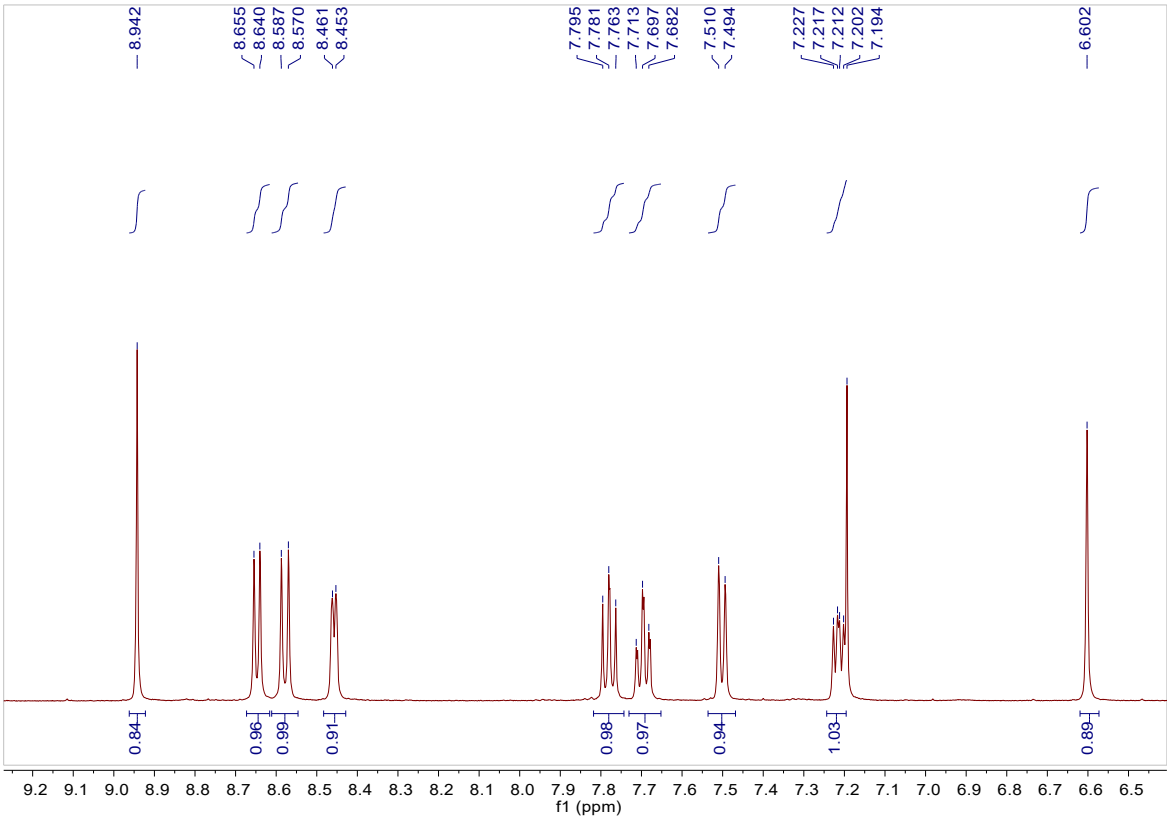


Figure S5 ^{1}H NMR ($CDCl_3$, 500 MHz) spectra of compound **4b.**

6. Comparison of UV-vis spectra of 4b with the final state of 1a with NaClO

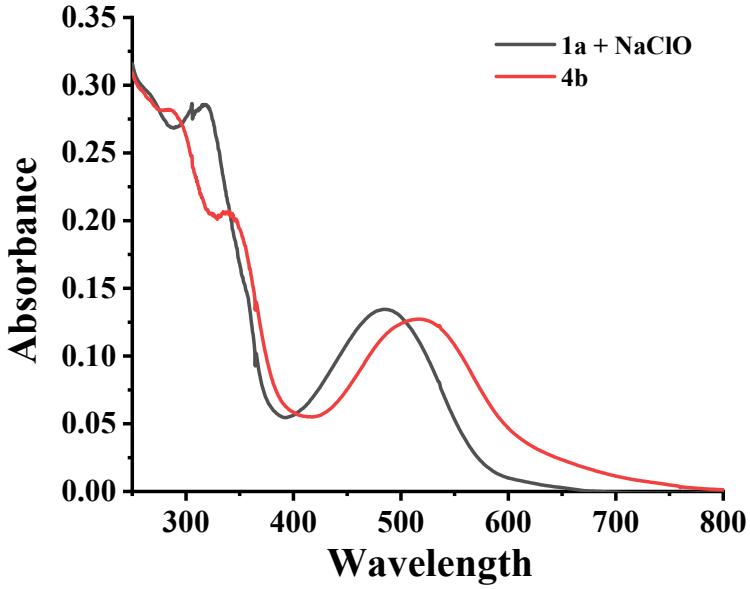


Figure S6 The UV-vis final state of probe **1a** (20 μM) with 25.0 equiv. NaClO and the UV-vis spetra of compound **4b** in CH_3CN.

7. Solvent effect of compound 4b

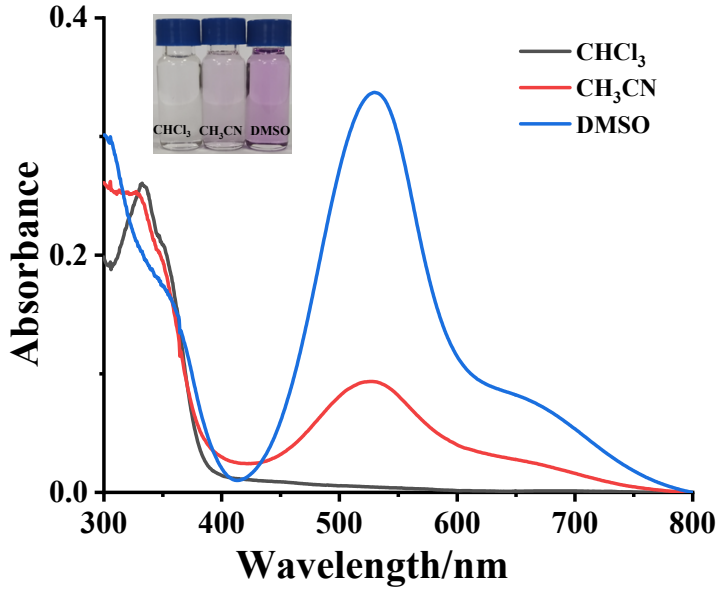


Figure S7. Variation of absorption spectrum and color of compound **4b** (20μM) in different solvents.

8. The fluorescence titration of compound 4b with ClO^-

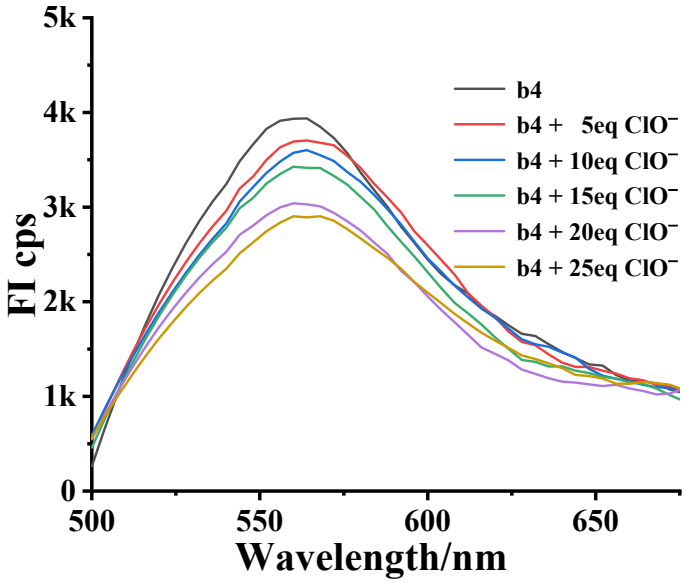


Figure S8 Fluorescence spectral changes of **4b** (20 μM) (λ_{ex} = 480 nm) upon the titration with ClO^- (0 to 25.0 equiv.) in PBS buffer (pH 7.4, with 10% CH_3CN, v/v).

9. Relative Cell Viability

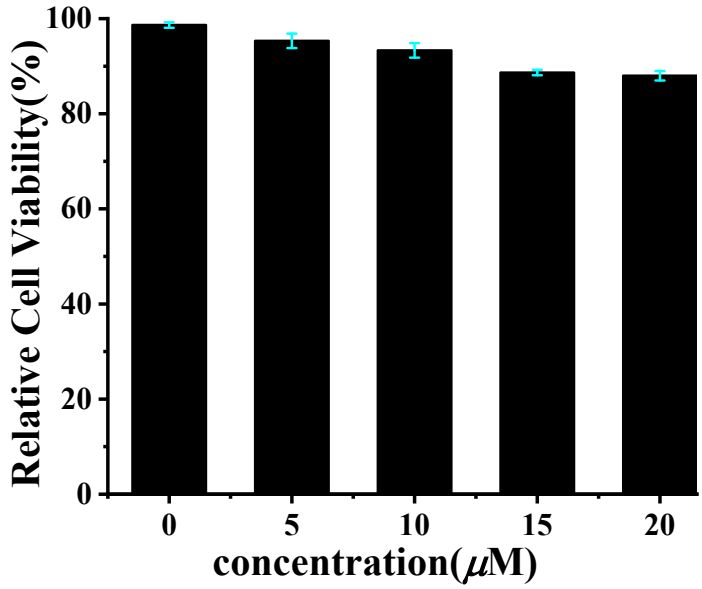


Figure S9 Effects of the probe **1a** with various concentrations (0-20 μM) on the viability of the PANC cells in PBS buffer (pH 7.4).

10. The application of probe 1a in test paper

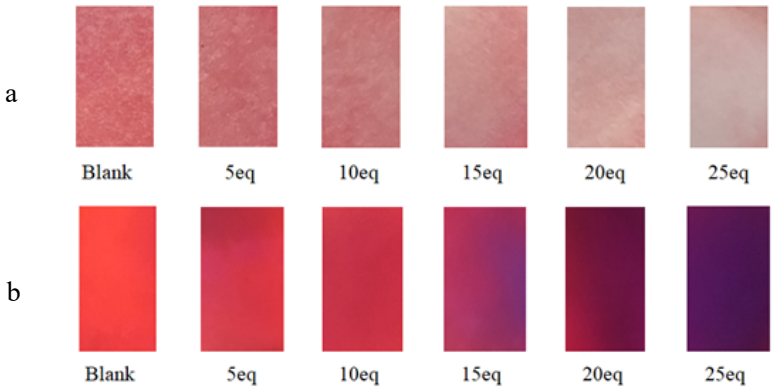


Figure S10 (a) Bright photos of the test strip loaded with probe **1a** (1.0 mM) were utilized to sense ClO^-. (b) The fluorescence color change of adding different concentrations of ClO^- to the test strip with probe **1a** (1.0 mM) under 365 nm UV light.

11. ^{1}H NMR spectra of the probe 1a

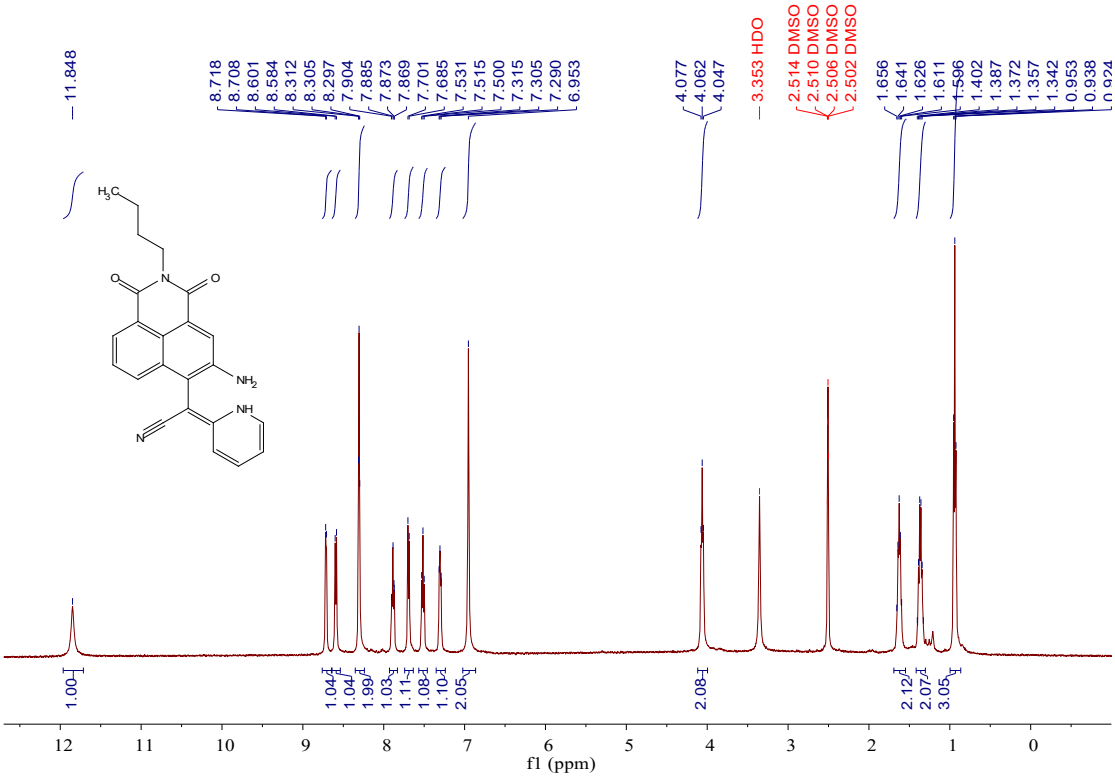
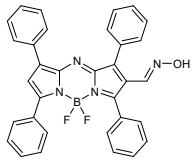
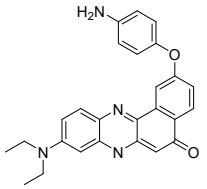
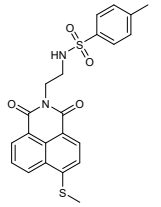
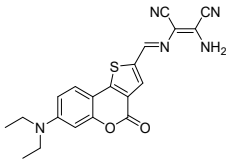
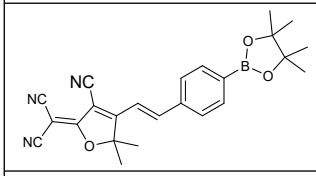
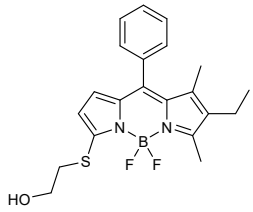
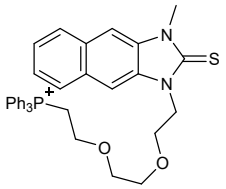
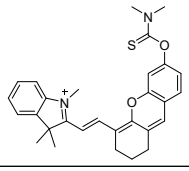
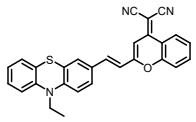
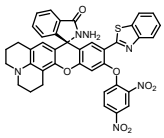
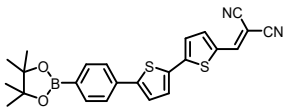
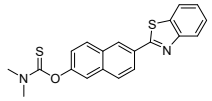
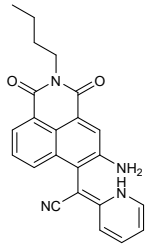


Figure S11 ^{1}H NMR (DMSO-d_6, 500 MHz) spectra of compound **1a.**

12. Comparison of the this work with reported HClO probes

Table S1. Comparison of analytical parameters of representative fluorescent probes for HClO

Probe structures	LOD	Solvent	Reaction time	Ref.
	2.33μM	HEPES / CH_3CN (1 / 1, v/v, 10 mM, pH=7.2)	-	*Spectrochim. Acta. A Mol. Biomol. Spectrosc.* **2019**, 206, 190-196.
	4.37 μM	DMSO / PBS (5 / 95, v/v, 10 mM, pH=7.4)	60s	*Dyes and Pigments* **2020**, 174, 108113.
	120 nM	DMSO / PBS (1 / 99, v/v, 10 mM, pH=7.4)	150s	*Spectrochim. Acta. A Mol. Biomol. Spectrosc.* **2020**, 229, 117992.
	94 nM	PBS buffer (10 mM, pH = 7.4)	60s	*New J. Chem.,* **2020**, 44, 6232-6237.
	0.4 μM	PBS buffer (20 mM, pH = 7.4)	60s	*Sensors Actuators B: Chem.* **2015**, 221 1130-1136.
	0.43 μM	EtOH / PBS(1 / 9 , v/v, 10 mM, pH = 7.4)	20s	*Anal. Chim. Acta.* **2016**, 911 114-120
	0.21 μM	PBS buffer (50 mM, pH = 7.4, DMF 0.2%)	<180s	*Anal. Chem.* **2016**, 88 6615−6620
	0.131 μM	CH_3CN / PBS (2 / 8, v/v, 10 mM, pH = 7.4,)	5 s	*Sensors Actuators B: Chem.* **2021**, 327, 128884

	0.72 μM	EtOH / PBS (1:1, v/v, 10 mM, pH = 7.4).	-	*Sensors and Actuators B* **2018**, 255, 963-969.
	84 nM	DMF / PBS (1 / 9, v/v, 10 mM, pH = 7.4,)	660 s	*Chemical Science.* **2021**, 12, 13483-13491.
	50 μM	THF / PBS(1 / 1, v/v, 10 mM ,pH = 7.4)	15 s	*Chinese Chemical Letters* **2018**, 29 139-142
	37.56 nM	C_2H_5OH / PBS (1 / 1, v/v, 10 mM, pH=7.4),	< 30s	*RSC Adv.*, **2022**, 12, 777–784
	36.01 nM	CH_3CN/PBS (1/9, v/v, 10 mM, pH=7.4)	1.2 s	This work