Supporting Information (SI)

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Figure S1: The characterization data, ^{1}H NMR, ^{13}C NMR, ESI-MS of the probe and probe-ClO^{-}

Figure S2: The characterization data, ^{1}H NMR, ^{13}C NMR, ESI-MS of probe-ClO^{-}

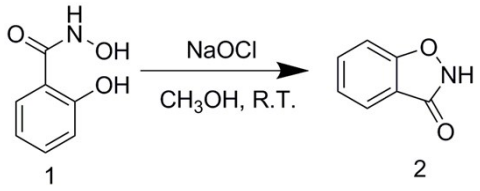
Figure S3: UV–vis spectra of 1 (25 μM) in HEPES (10 mM, pH 7.4) upon addition of various concentrations of ClO^{-}

Figure S4: The corresponding fluorescence intensity of **1** upon addition of sodium hypochlorite disinfectant.

Figure S5: Choice of pH range for the measurements

Experimental Section..

Synthesis of probe 1: The heterocyclic compound was obtained as shown in Scheme 1. Salicylhydroxamic acid (compound **1**, 1 mmol,) was dissolved in methanol (20 mL), then excess sodium hypochlorite was poured into the solution. The mixture was placed at ambient temperature for 30 s to complete the reaction. The final mixture was diluted by water (20 ml) and extracted with ethyl acetate (3×30 mL). The organic layer was concentrated under reduced pressure to give the desired product as a pale-yellow solid (compound **2**, 110 mg, 82% yield) ^{1}H NMR (300 MHz, 25 °C, DMSO-d_6): δ 7.58 (d, 1H, J=2.7), 7.23 (d, 1H, J=2.8), 7.08 (m, 2H, J=23.7), 6.61 (d, 1H, J = 8.7 Hz); ^{13}C NMR (75 MHz, DMSO-d_6): δ 168.9, 159.8 131.3, 128.9, 123.7, 121.7, 117.6, 113.8 ESI-MS m/z [probe+Na] 158.33; Elemental analysis (calcd. %) for $C_7H_5NO_2$: C, 62.22; H, 3.73; N, 10.37; Found: C, 62.35; H, 3.68; N, 10.24.



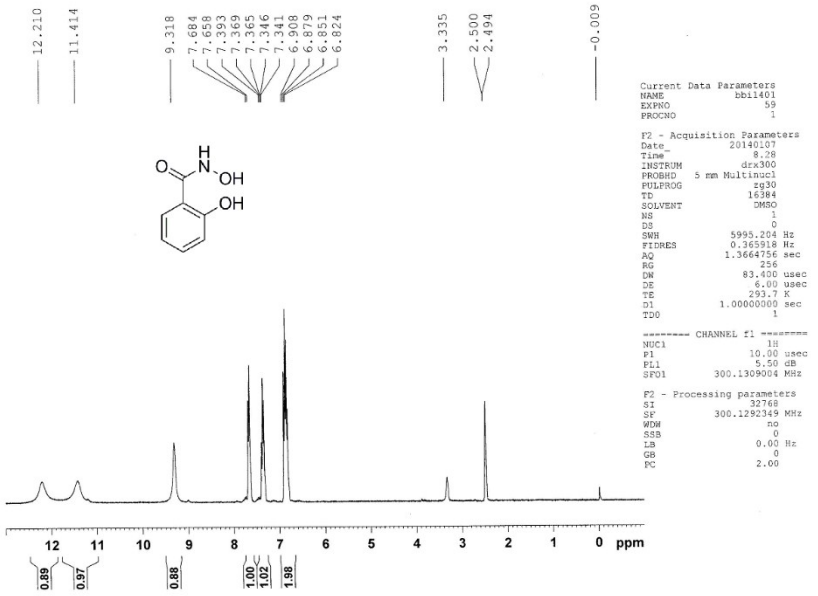
Methods. All spectroscopic measurements were performed in HEPES (10 mM, pH 7.4) buffer. HEPES buffer solutions were obtained by adding 1 M NaOH solution into 10 mM aqueous HEPES using a pH meter. The probe was dissolved in absolute CH_3OH to prepare the stock solutions with concentrations of 2.0 mM. The UV-Visible spectra and fluorescence spectra were recorded at 25 ℃.

Measurement procedure The UV-Vis procedures were shown as follows: into a HEPES (10 mM, pH 7.4) buffer solution containing 25 μM probe, ClO^- sample was gradually titrated. All UV-Vis spectra data were recorded at 30 s after the ClO^- addition.

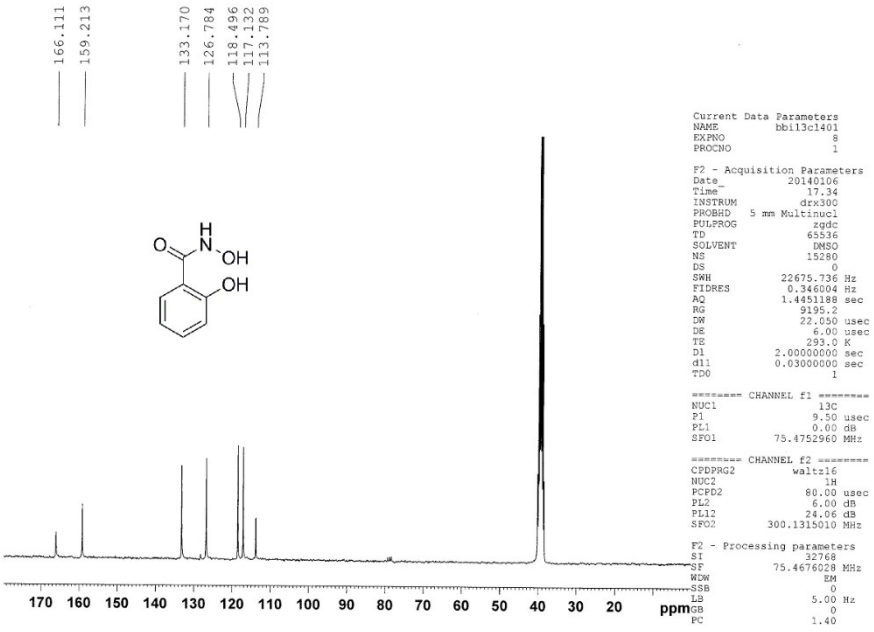
The fluorescence procedures were as follows: into a HEPES (10 mM, pH 7.4) buffer solution containing 2.5 μM probe **1**, ClO^- sample was gradually titrated. All fluorescence spectra data were recorded at 30 s after the ClO^- addition.

The HepG2 cells were grown in 1×SPP medium (1% proteose peptone, 0.2% glucose, 0.1% yeast extract, 0.003% EDTA ferric sodium salt) at 30 ℃. The HepG2 were treated with 2.5 μM of probe **1** in culture media for 30 min at 37 ℃and washed three times with phosphate-buffered saline (PBS).

Figure S1: 1D ^{1}H NMR, ^{13}C NMR, and ESI-MS of the probe



The ^{1}H NMR (300MHz) spectra of the probe in DMSO-d_6.



The ^{13}CNMR (75MHz) spectra of the probe in DMSO-d_6.

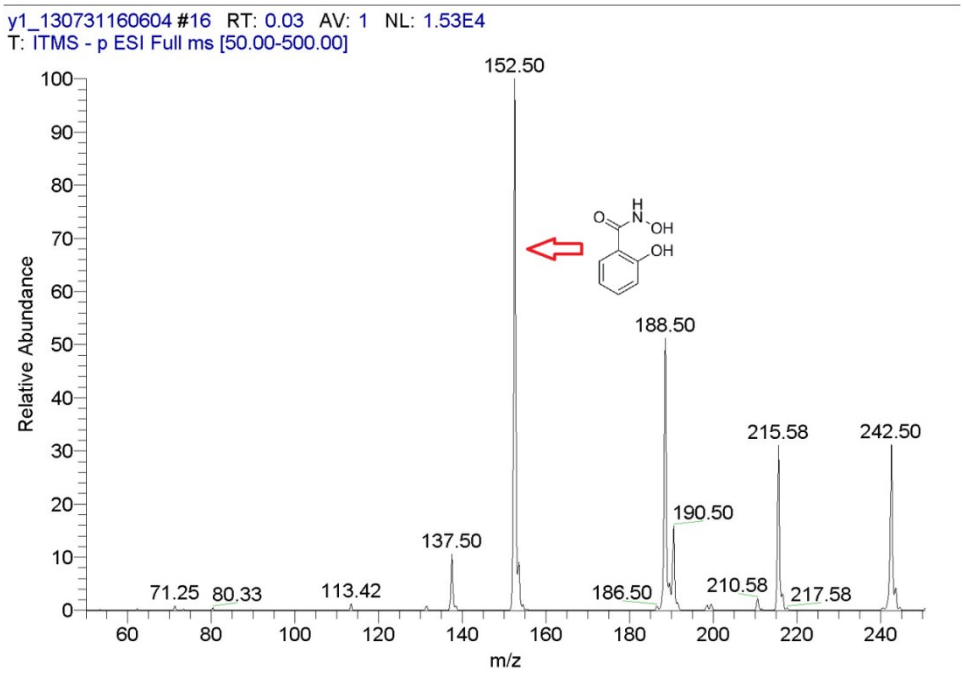
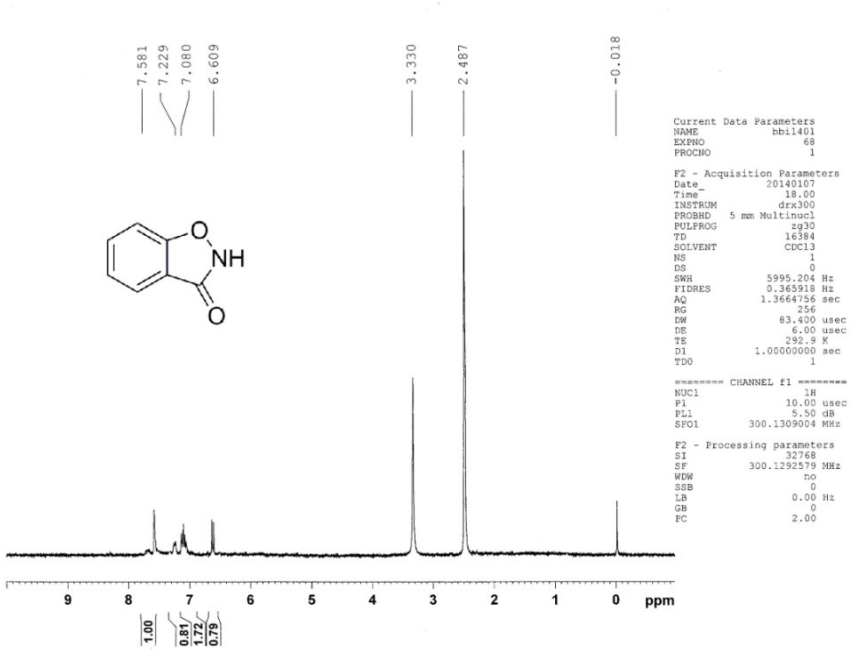
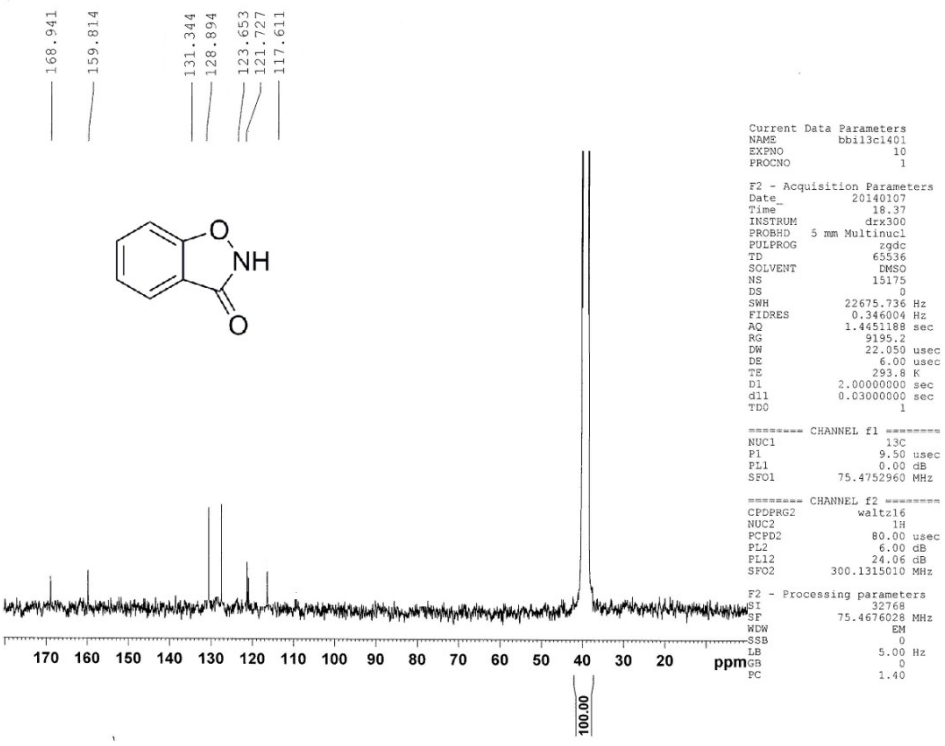


Figure S1: ^{1}H NMR (300 MHz, 25 °C, DMSO-d_6): δ 12.21 (s, 1H), 11.41 (s, 1H), 9.31(s, 1H), 7.68 (d, 1H, J = 9.9 Hz), 7.39 (m, 1H, J = 15.5 Hz), 6.91 (m, 2H, J = 25.2 Hz), ^{13}C NMR (75 MHz, DMSO-d_6): δ 166.1, 159.2, 133.1, 126.8, 145.7, 118.5, 117.1, 113.8 ESI-MS m/z 152.50; Elemental analysis (calcd. %) for $C_7H_7NO_3$: C, 54.91; H, 4.61; N, 9.15; Found: C, 54.68; H, 4.39; N, 9.21.

Figure S2: The characterization data, ^{1}H NMR, ^{13}C NMR, ESI-MS of probe-ClO^-



The ^{1}H NMR (300MHz) spectra of the probe-ClO^{-} in DMSO-d_6.



The ^{13}CNMR (75MHz) spectra of the probe-ClO^{-} in DMSO-d_6

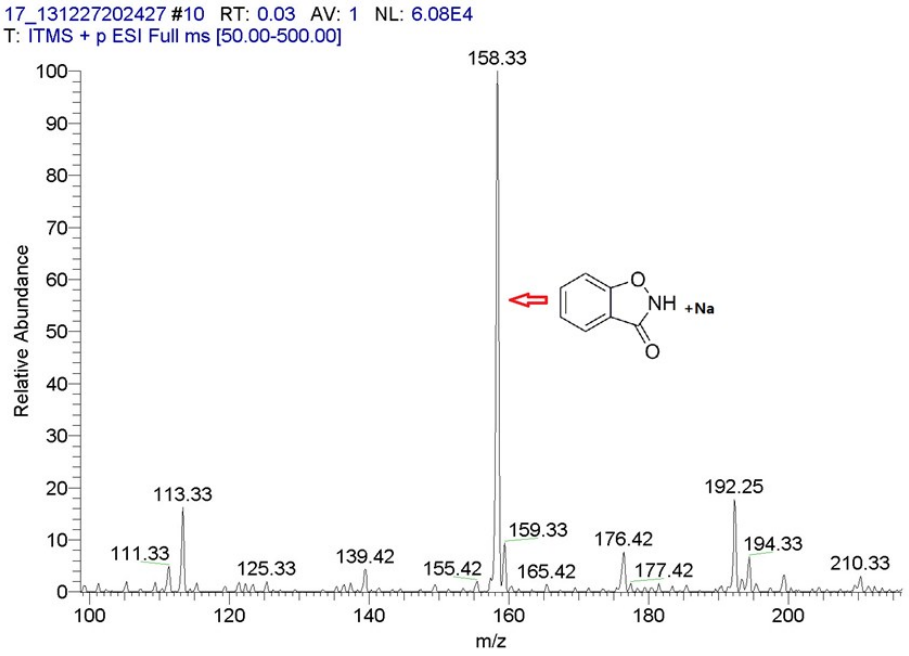


Figure S2: ^{1}H NMR (300 MHz, 25 °C, DMSO-d_6): δ 7.58 (d, 1H, J=2.7), 7.23 (d, 1H, J=2.8), 7.08(m, 2H, J=23.7), 6.61 (d, 1H, J = 8.7 Hz) ^{13}C NMR (75 MHz, DMSO-d_6): δ 168.9, 159.8 131.3, 128.9, 123.7, 121.7, 117.6, 113.8 ESI-MS m/z [probe+Na] 158.33; Elemental analysis (calcd. %) for $C_7H_5NO_2$: C, 62.22; H, 3.73; N, 10.37; Found: C, 62.35; H, 3.68; N, 10.24.

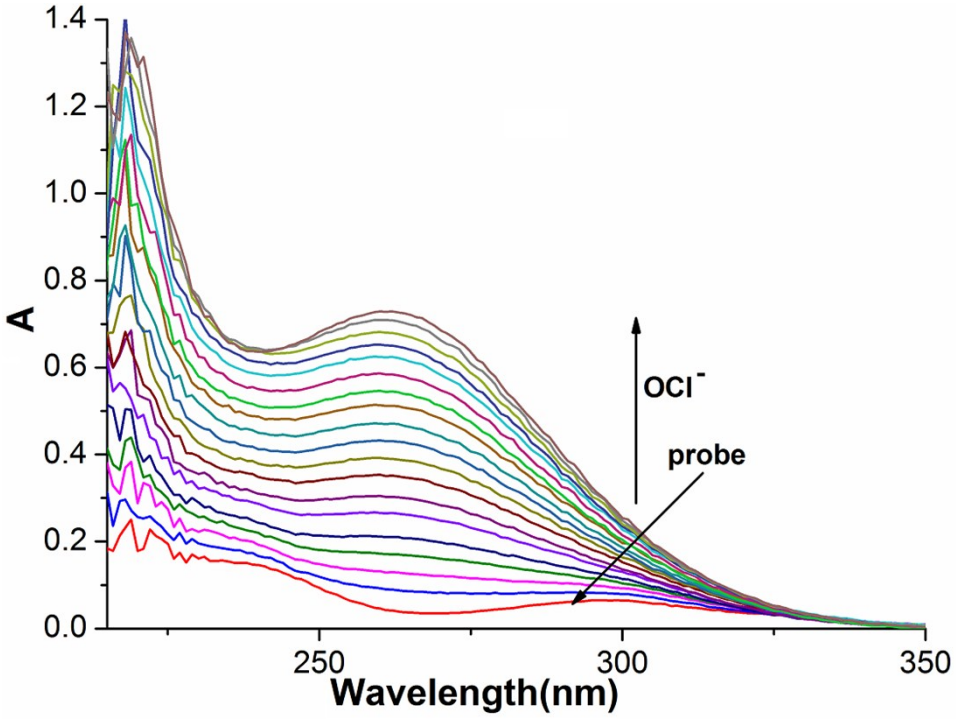


Figure S3:UV-Vis spectra of probe (25 μM) in HEPES (10 mM, pH = 7.4) upon addition of various concentrations of ClO^- (0 – 250 μM).

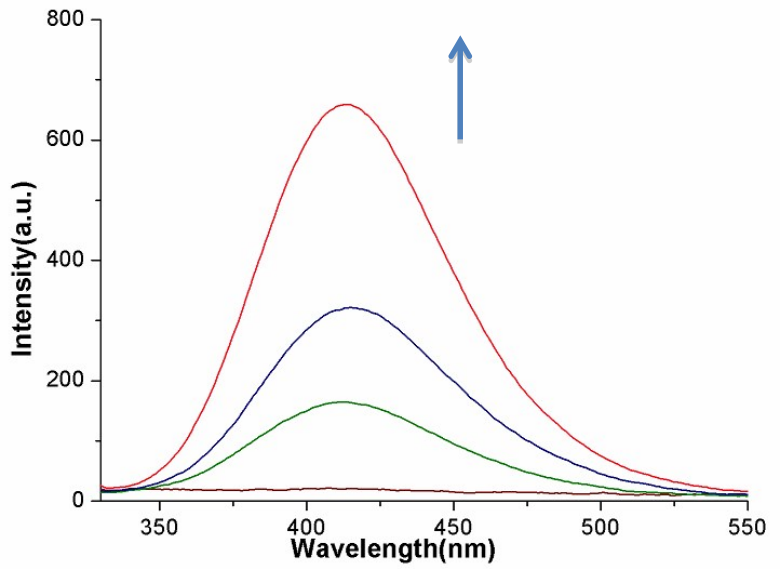


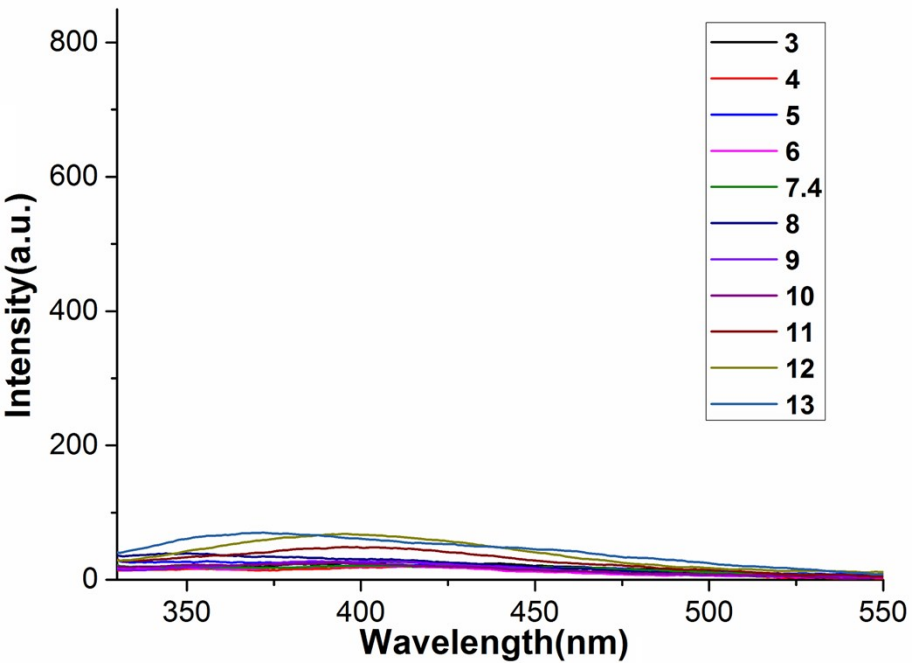
Figure S4: The corresponding fluorescence intensity of 1 upon addition of sodium hypochlorite disinfectant with different volumes: 0, 7, 12, 29 μL, respectively.

Table S1. [a]

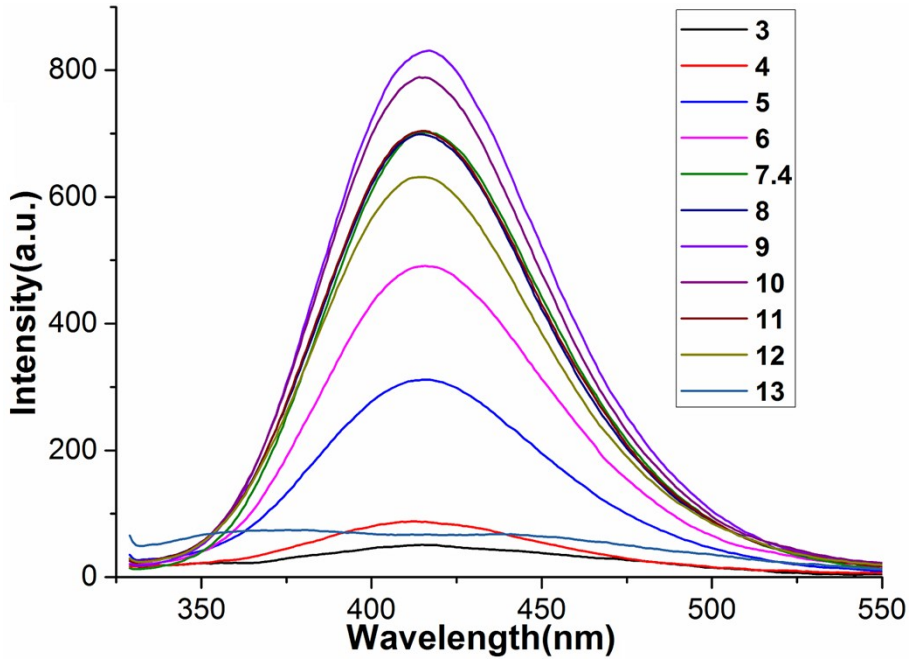
	Added ClO^- (μM) [b]	Found ClO^- (μM)[c]	% Recovery
1	.2	1.23±0.01	98.4
2	.5	1.50±0.03	96.8
3	8	1.86±0.02	100.5

[a]Initial solution contained 100,000 fold diluted disinfectant, 2.5 μM probe in 10 mM HEPES, pH 7.4. [b]Concentration of pure NaOCl solution added. [c]Calculated by fluorescence.

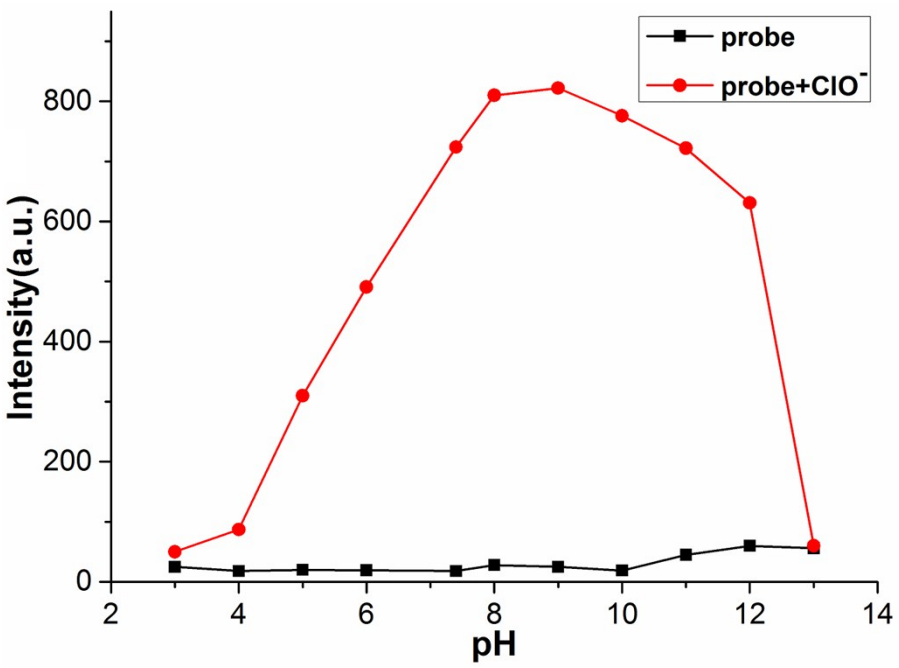
Figure S5: Choice of pH range for the measurements



(a)



(b)



(c)

Figure S5: (a) Fluorescence intensity of free probe (2.5 μM) under different pH conditions. b) Fluorescence intensity of free probe+ClO^- under different pH conditions. (c) The fluorescence intensity of probe at 415 nm in the absence and presence of Cys under different pH (λex = 300 nm; Slit: 5nm/5 nm).