

Supporting Information

Contents:

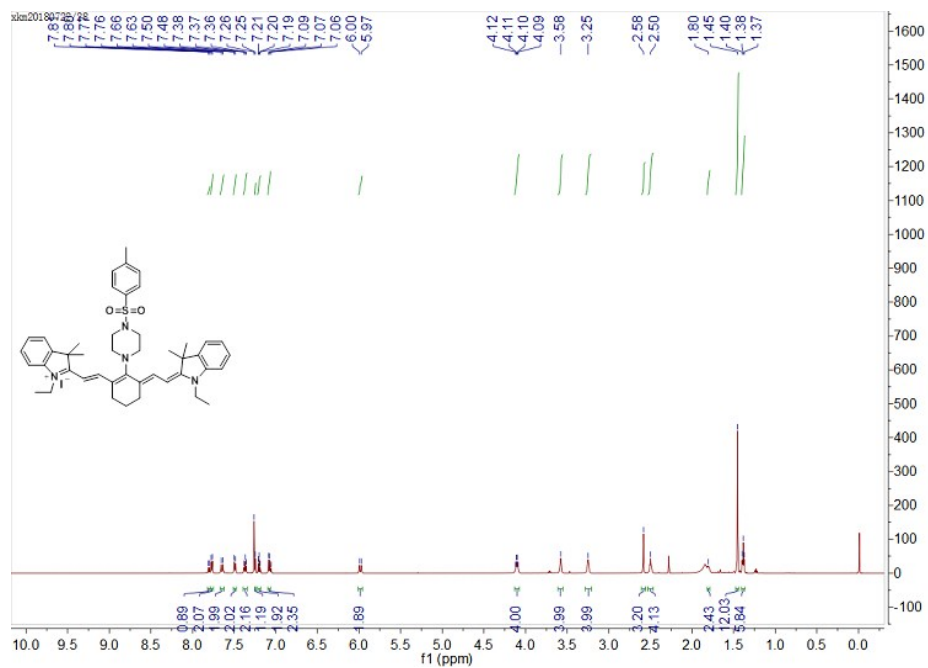
Figure S1: The characterization data, ^1H NMR, ^{13}C NMR, HRMS of probe

Figure S2: The synthesis and HRMS of product probe- ClO^- , and the partial ^1H NMR spectra comparison of probe and product probe- ClO^-

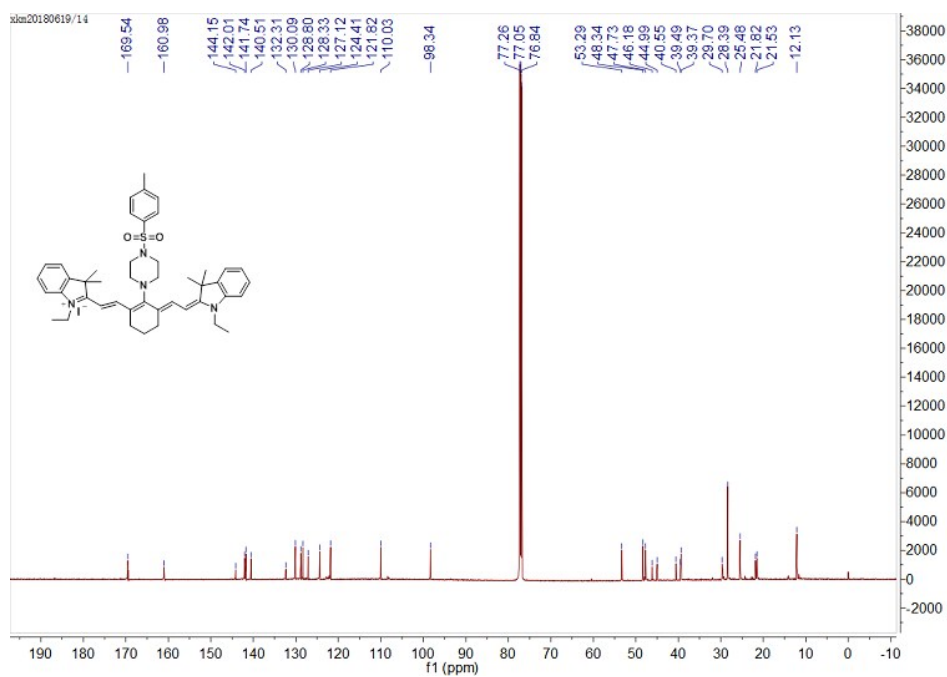
Table S1: Comparison of some representative fluorescent probes for detecting HClO

Figure S3: The UV-Vis spectra titration of probe for detecting ClO^- in 84 disinfectant

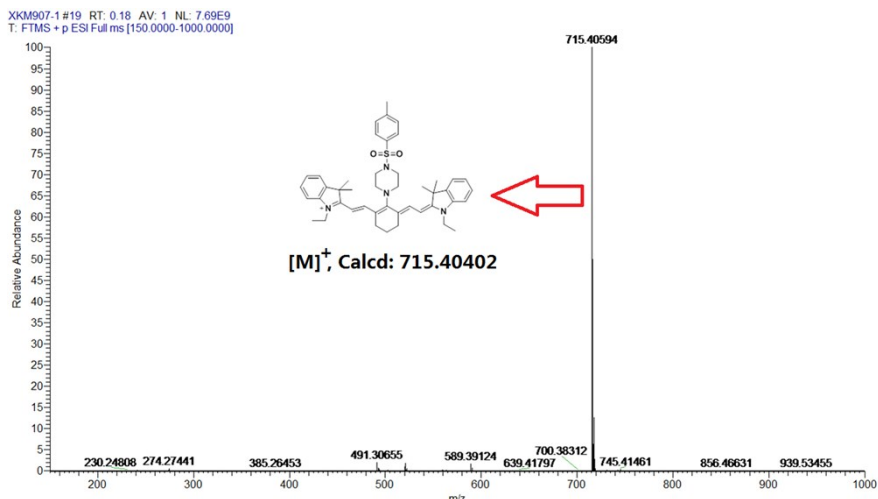
References



The ^1H NMR (600MHz) spectra of probe in CDCl_3 .

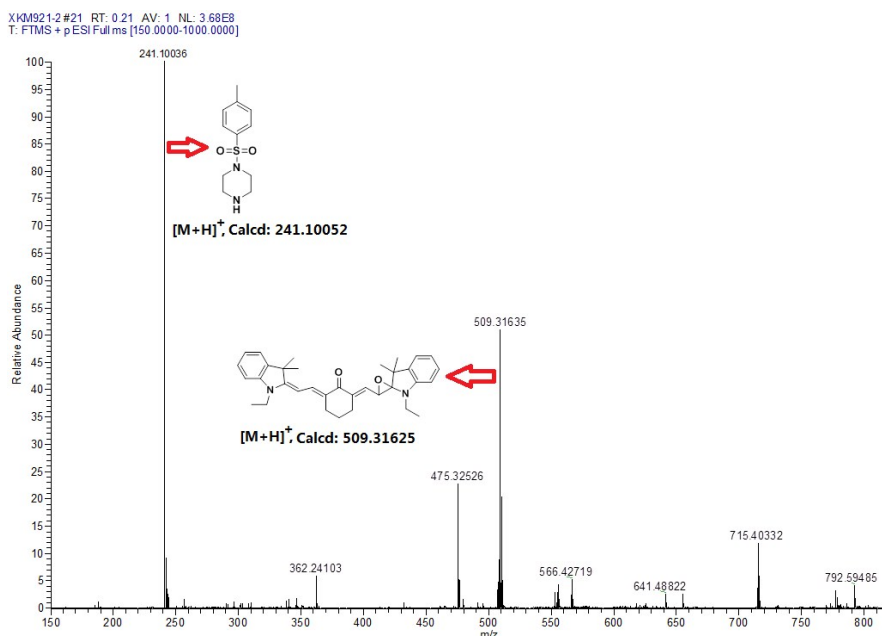


The ^{13}C NMR (150MHz) spectra of probe in CDCl_3 .

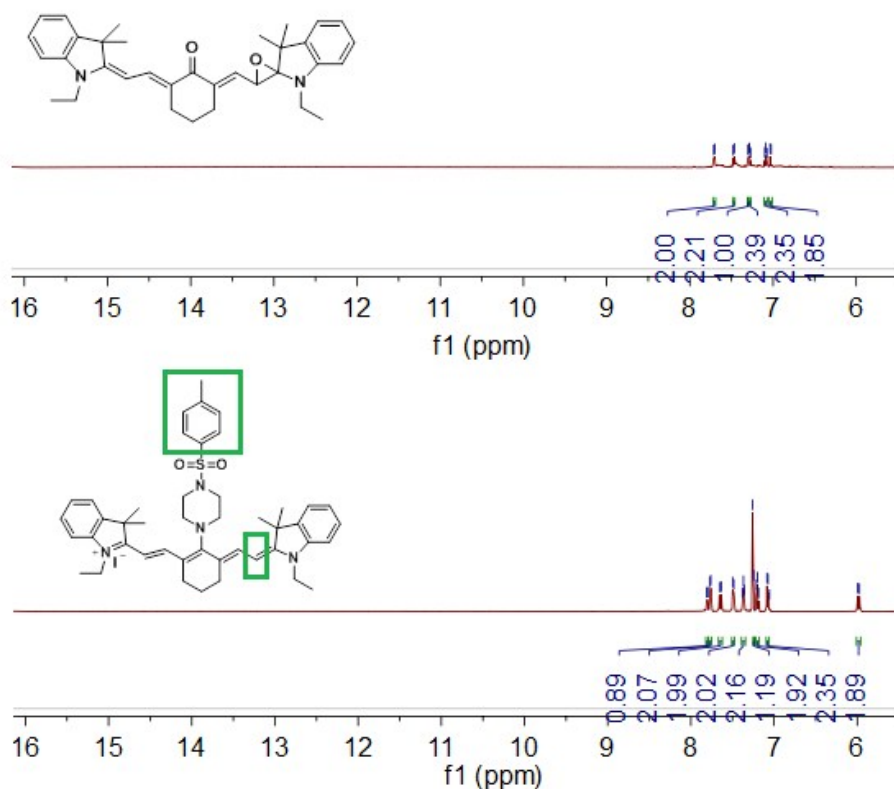


HRMS spectra of probe.

Figure S1. ^1H NMR (600 MHz, Chloroform-*d*) δ 7.80 (d, $J = 8.1$ Hz, 1H), 7.77 (d, $J = 8.0$ Hz, 2H), 7.65 (d, $J = 13.7$ Hz, 2H), 7.49 (d, $J = 8.0$ Hz, 2H), 7.37 (t, $J = 7.5$ Hz, 2H), 7.25 (s, 1H), 7.22 – 7.18 (m, 2H), 7.08 (d, $J = 8.0$ Hz, 2H), 5.98 (d, $J = 13.7$ Hz, 2H), 4.10 (q, $J = 6.8$ Hz, 4H), 3.58 (s, 4H), 3.25 (s, 4H), 2.58 (s, 3H), 2.50 (t, $J = 5.9$ Hz, 4H), 1.81 (d, $J = 6.0$ Hz, 2H), 1.45 (s, 12H), 1.38 (t, $J = 7.1$ Hz, 6H). ^{13}C NMR (150 MHz, Chloroform-*d*): δ : 169.5, 161.0, 144.2, 142.0, 141.7, 140.5, 132.3, 130.1, 128.8, 128.3, 127.1, 124.4, 121.8, 110.0, 98.3, 53.3, 48.3, 47.7, 46.2, 45.0, 40.6, 39.5, 39.4, 29.7, 28.4, 25.5, 21.8, 21.5, 12.1. HRMS m/z : $[M]^+$ calculated for $\text{C}_{45}\text{H}_{55}\text{N}_4\text{O}_2\text{S}^+$: 715.40402; measured: 715.40594.



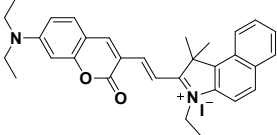
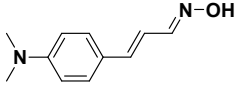
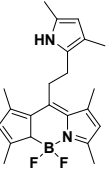
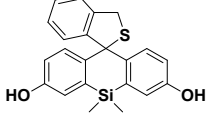
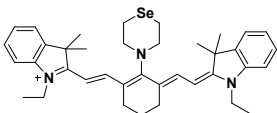
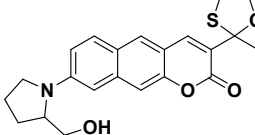
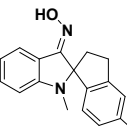
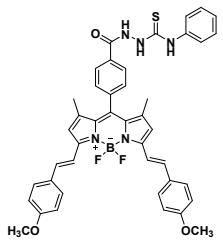
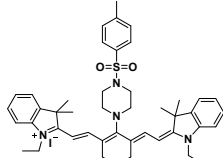
HRMS spectra of product probe- ClO^- .



The partial ¹H NMR spectra comparison of probe in CDCl₃ and probe-ClO⁻ in CD₃OD.

Figure S2. The probe (15 μM) was dissolved in CH₃OH (5 ml), and NaClO (147 μM) was poured into the solution. The mixture was stirred at ambient temperature for 5 min to complete the reaction. Then the final mixture was diluted by water (5 ml) and extracted with CH₂Cl₂ (10 ml). The organic layer was concentrated under reduced pressure evaporation to give the product probe-ClO⁻. HRMS m/z: [M+H]⁺ calculated for C₃₄H₄₁N₂O₂⁺: 509.31625; measured: 509.31635.

Table S1. Comparison of some representative fluorescent probes for detecting HClO

Probes	Response time	Emission wavelength/nm	NIR ratiometric fluorescent	Ref.
	90 s	475, 658	Yes	1
	35 minutes	556	No	2
	1 s	505	No	3
	80 s	606	No	4
	dozens of seconds	786	No	5
	---	598, 633	Yes	6
	1 minute	470, 520	No	7
	10 minutes	656, 688	Yes	8
	20 s	608, 735	Yes	This work

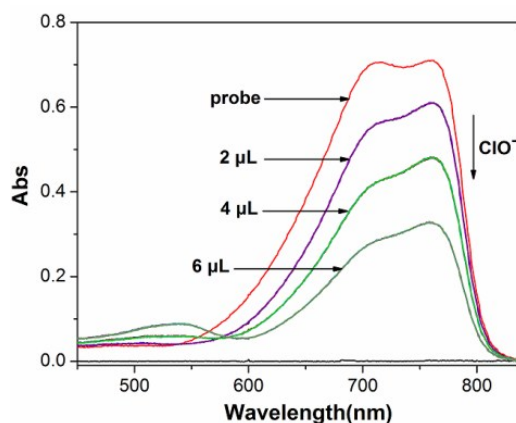


Figure S3. 84 disinfectant was purchased from a local supermarket (Taiyuan, P.R. China). In 2 mL solution of H₂O/CH₃OH= 1/1 (v/v) containing the probe (15 μM), different volumes: 2, 4, 6 μL of 84 disinfectant samples were added in the same solution system, respectively.

References

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