

Supplementary Information (SI)

Diarylethene-based fluorescent chemosensor for the sequential recognition of Fe³⁺ and cysteine

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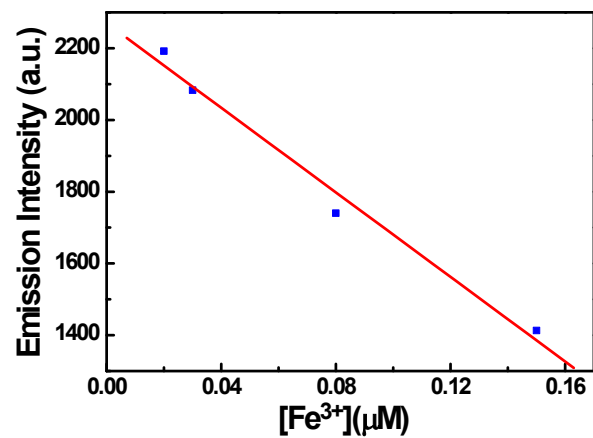
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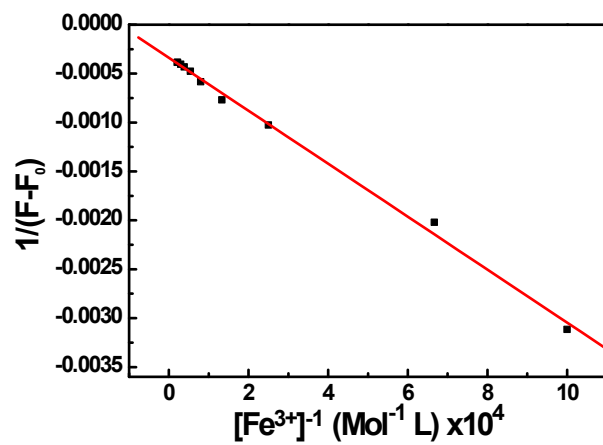
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1. Supplementary data



(A)



(B)

Fig. S1. (A) The limit of detection (LOD); and (B) Benesi–Hildebrand plot based on the 1:1 for 10.

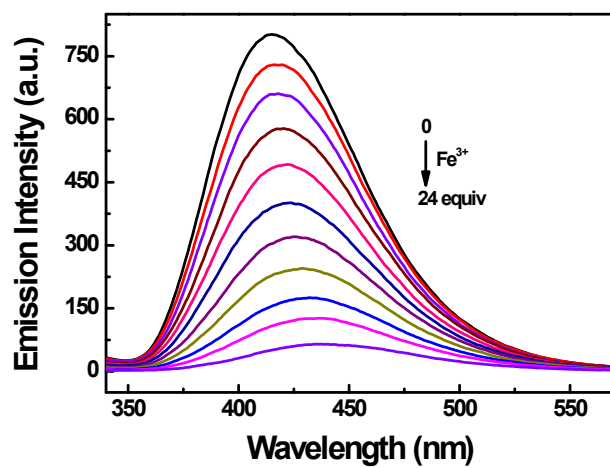
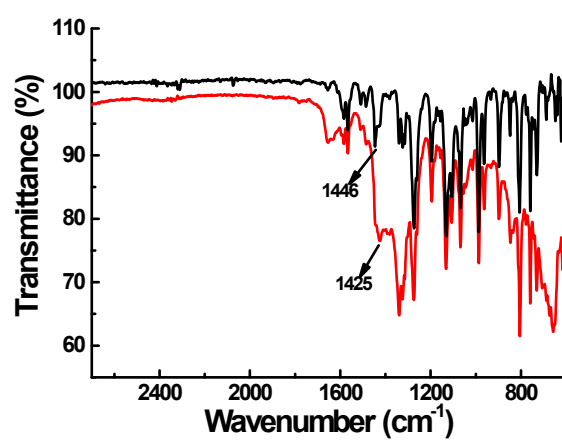
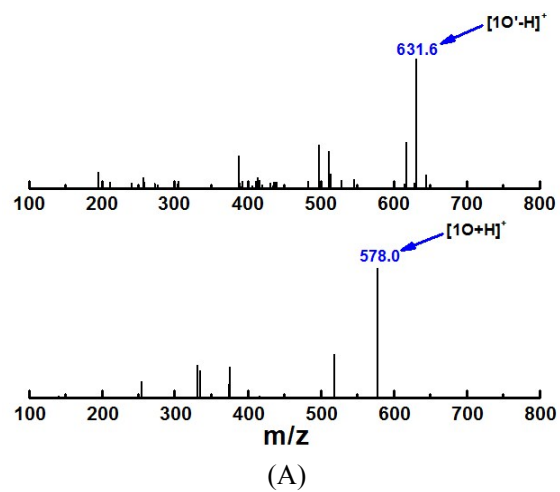


Fig. S2. Fluorescence spectral changes of **1C** induced by Fe³⁺ in methanol (2.0×10^{-5} mol L⁻¹), excited at 298 nm.



(B)

Fig. S3. (A) Mass spectra of **1O** and **1O'**; and (B) IR spectra of **1O** (black line) and **1O'** (red line).

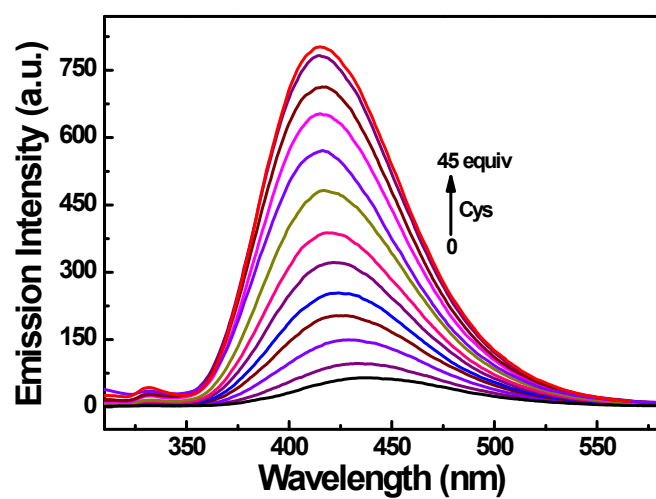
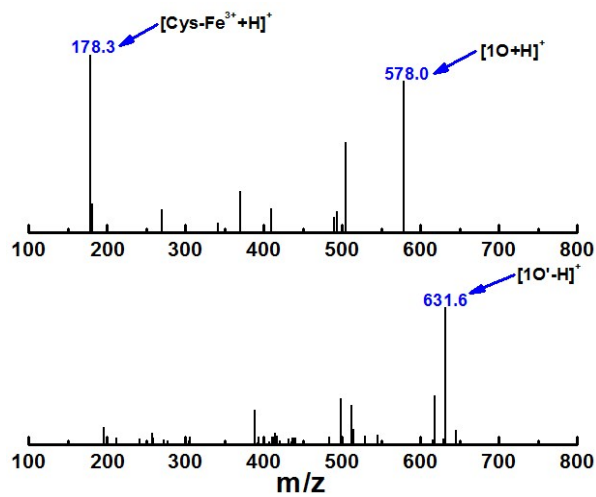
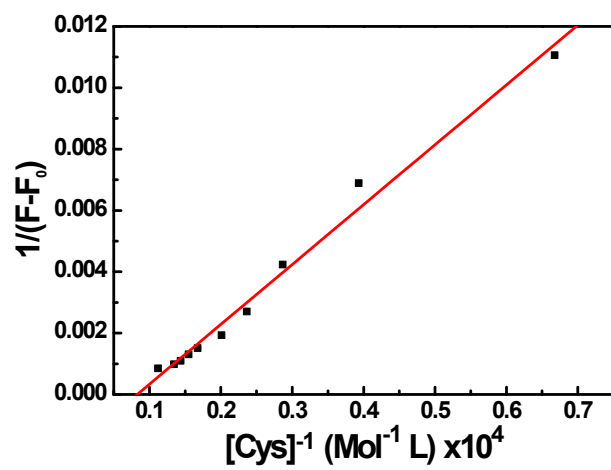


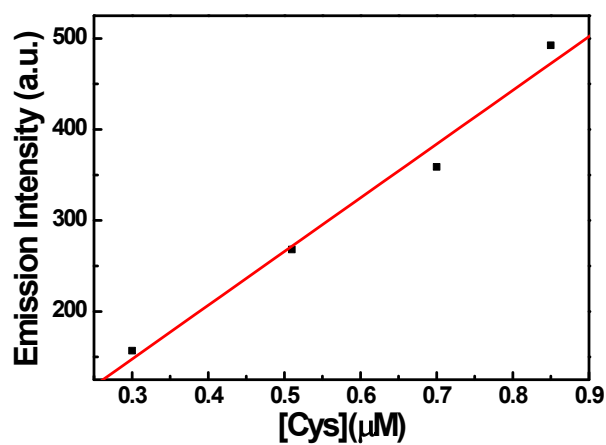
Fig. S4. Fluorescence spectral changes of **1C'** induced by Cys in methanol (2.0×10^{-5} mol L⁻¹), excited at 298 nm.



(A)



(B)



(C)

Fig. S5. (A) Mass spectra of **1O'** and **1O'** induced by the stimulation of Cys; and (B) Benesi-Hildebrand plot based on the 1:1 for **1O'**; and (C) the limit of detection (LOD).

2. NMR spectra

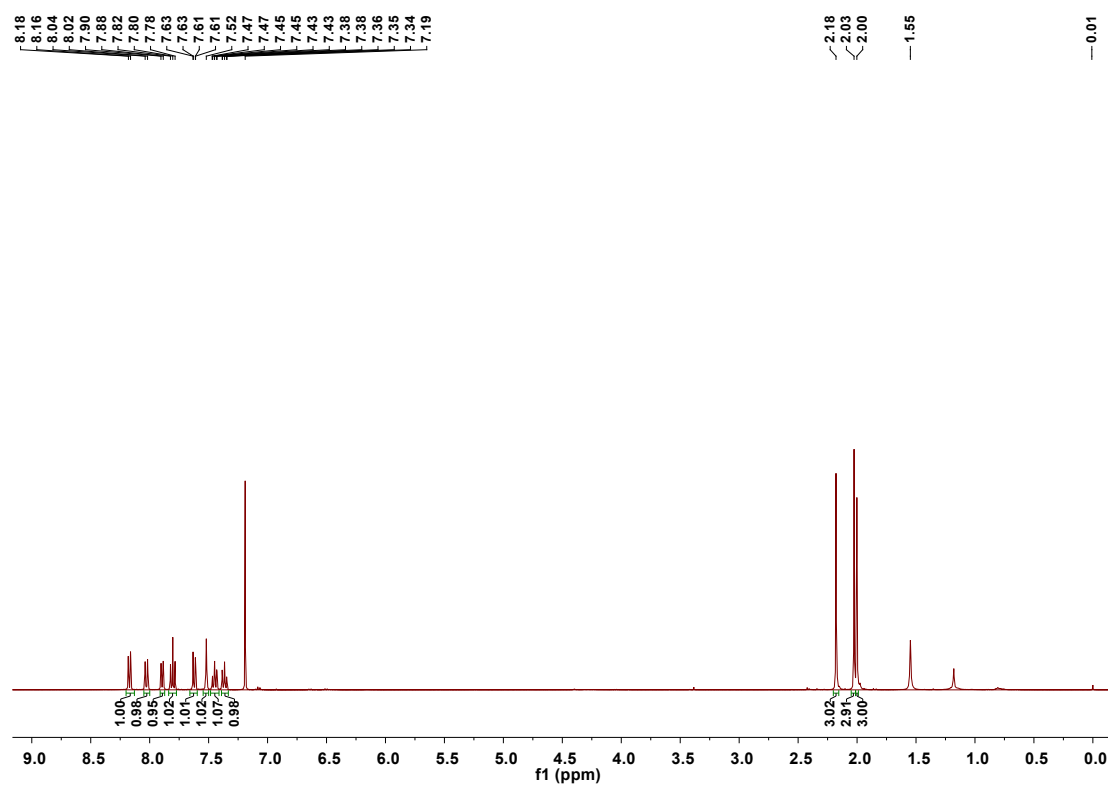


Fig. S6. ^1H NMR (400 MHz, CDCl_3) spectrum of **10**.

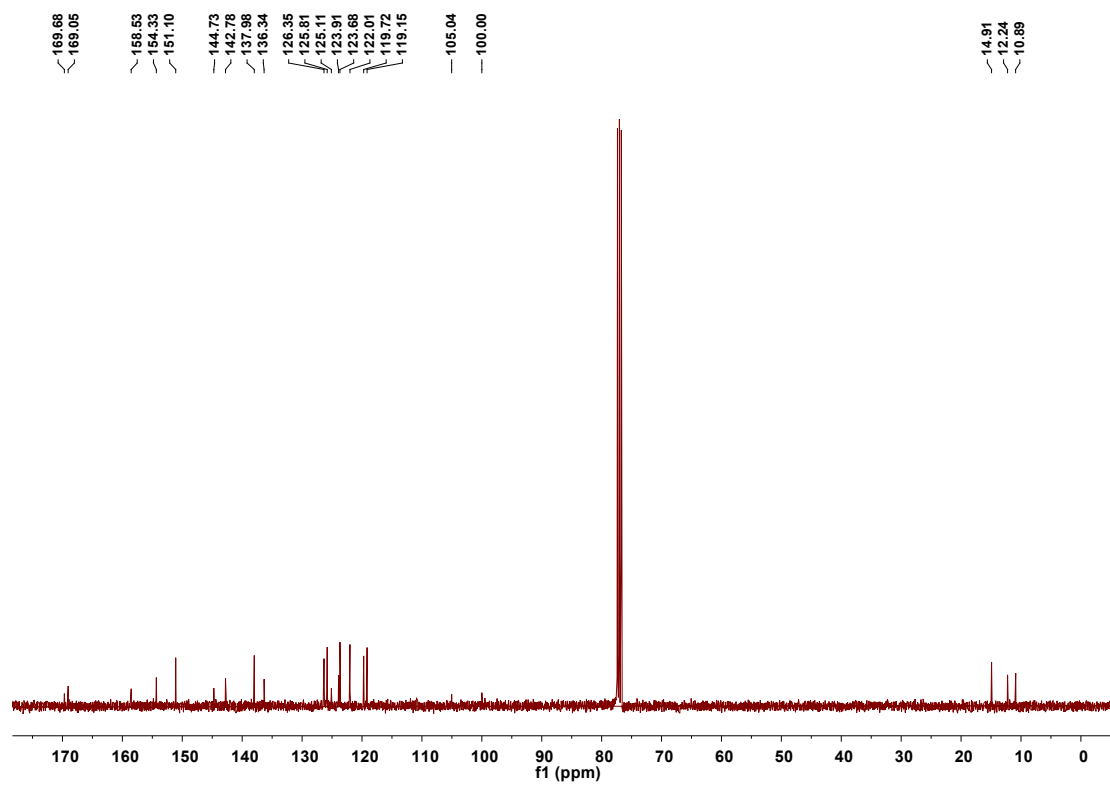


Fig. S7. ^{13}C NMR (100 MHz, CDCl_3) spectrum of **10**.