Supporting Information

A Cap-Type Schiff Base Acting as Fluorescence Sensor for Zinc(II) and Colorimetric Sensor for Iron(II), Copper(II), and Zinc(II) in Aqueous Media

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Fig. S1. Job plot of a 1:1 complex of L and Zn²⁺, where the intensity at 462 nm was plotted against the mole fraction of zinc ions.
**Fig. S2.** Benesi-Hildebrand plot (absorption at 397 nm) of L, assuming a 1:1 stoichiometry for association between L and Zn$^{2+}$. 

\[ y = 3 \times 10^{-5}x - 0.2422 \]

\[ R^2 = 0.9786 \]
Fig. S3. Detection limit of L (20 µM) with Zn^{2+}.
Fig. S4. (a) Fluorescence spectra of L (10 μM) after the addition of zinc ions (1 equiv) at different pH in 10 mM HEPES buffer-CH₃OH (99:1, v/v). (b) Plot of the fluorescence intensity of L at 462 nm against pH.
**Fig. S5.** Job plot of a 1:1 complex of L and Fe$^{2+}$, where the absorption at 515 nm was plotted against the mole fraction of ferrous ions.
**Fig. S6.** Benesi-Hildebrand plot (absorption at 400 nm) of L, assuming a 1:1 stoichiometry for association between L and Fe\(^{2+}\).
Fig. S7. Detection limit of L (20 µM) with Fe²⁺.
**Fig. S8.** (a) Absorption spectra of L (20 µM) after the addition of ferrous ions (2 equiv) in 10 mM HEPES buffer and CH$_3$OH (99:1, v/v). (b) Plot of the absorbance of L at 509 nm against pH.
Fig. S9. Job plot of a 1:1 complex of \( L \) and \( \text{Cu}^{2+} \), where the absorption at 396 nm was plotted against the mole fraction of copper ions.
Fig. S10. Positive-ion electrospray ionization mass spectrum of L upon addition of 1 equiv of Cu$^{2+}$ in CH$_3$OH.
**Fig. S11.** Benesi-Hildebrand plot (absorption at 400 nm) of L, assuming a 1:1 stoichiometry for association between L and Cu²⁺.
Fig. S12. Detection limit of L (20 μM) with Cu$^{2+}$. 

\[ y = 4057.5x + 0.0072 \]

\[ R^2 = 0.9926 \]

Detection limit = 1.5 μM