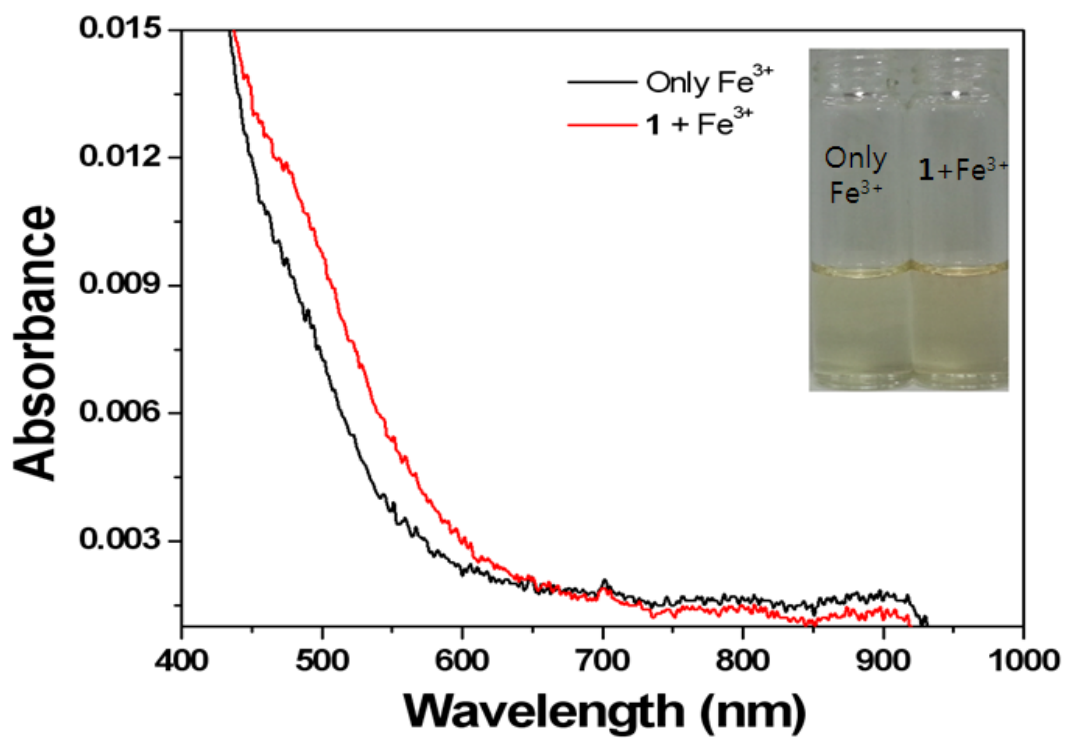


## Supporting Information

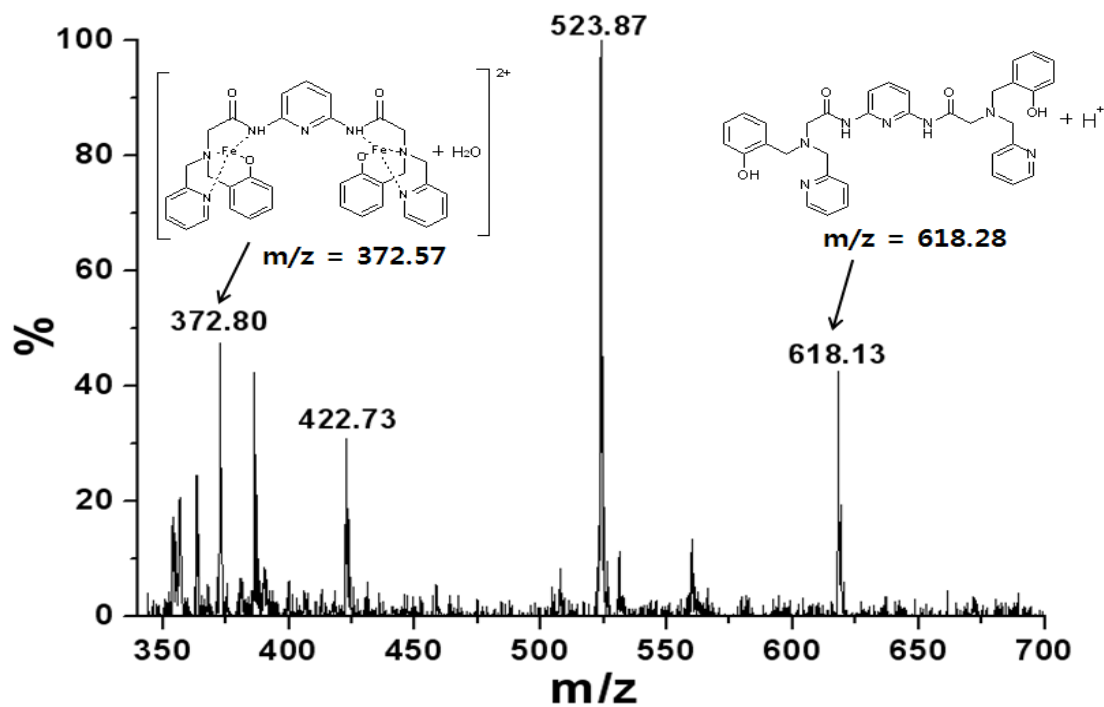
### **A single colorimetric sensor for multiple target ions: the simultaneous detection of Fe<sup>2+</sup> and Cu<sup>2+</sup> in aqueous media**

Hyun Kim, Yu Jeong Na, Eun Joo Song, Kyung Beom Kim, Jeong Mi Bae, Cheal Kim\*

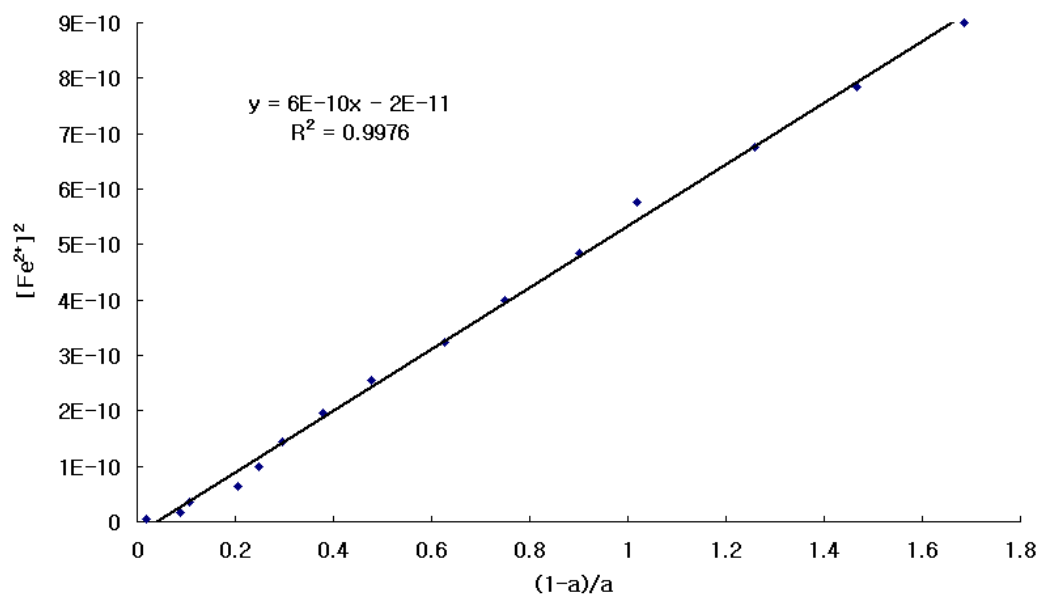
*Department of Fine Chemistry and Department of Interdisciplinary Bio IT Materials, Seoul National University of Science and Technology, Seoul 139-743, Korea. Fax: +82-2-973-9149; Tel: +82-2-970-6693; E-mail: [chealkim@seoultech.ac.kr](mailto:chealkim@seoultech.ac.kr)*



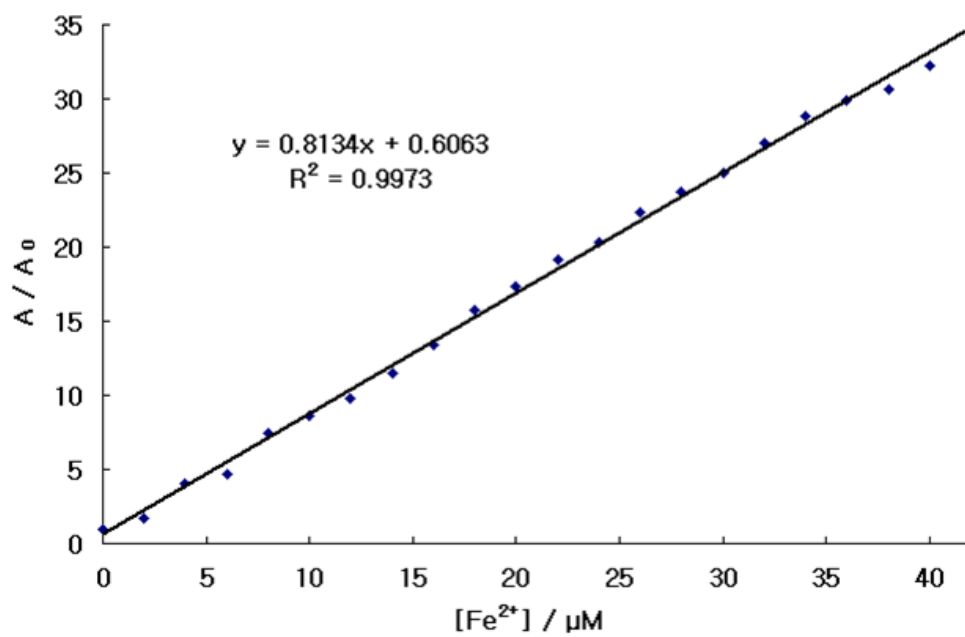
**Figure S1.** UV-vis absorption spectra of only Fe<sup>3+</sup> (60  $\mu$ M) and a mixture of **1** (20  $\mu$ M) with Fe<sup>3+</sup> (60  $\mu$ M) in Bis-tris buffer/DMF (8/2, v/v).



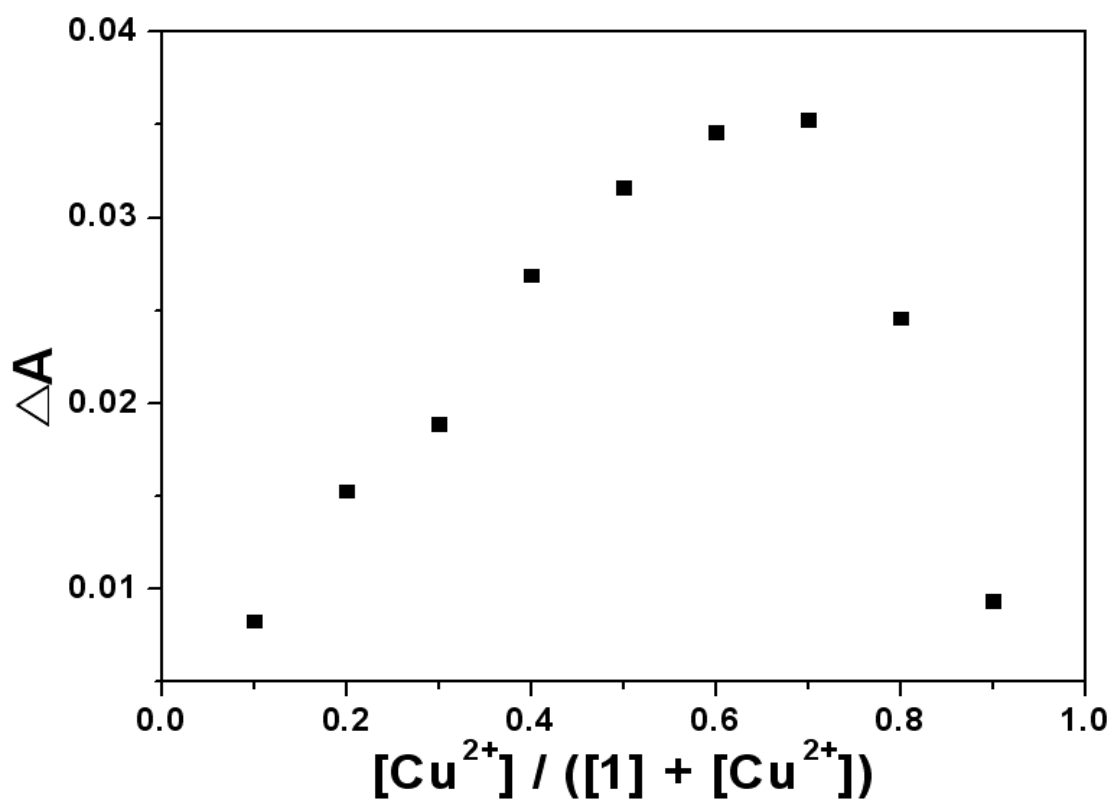
**Figure S2.** Positive-ion electrospray ionization mass spectrum of **1** ( $1.0 \times 10^{-4}$  M) upon addition of **2** equiv of  $\text{Fe}^{2+}$ .



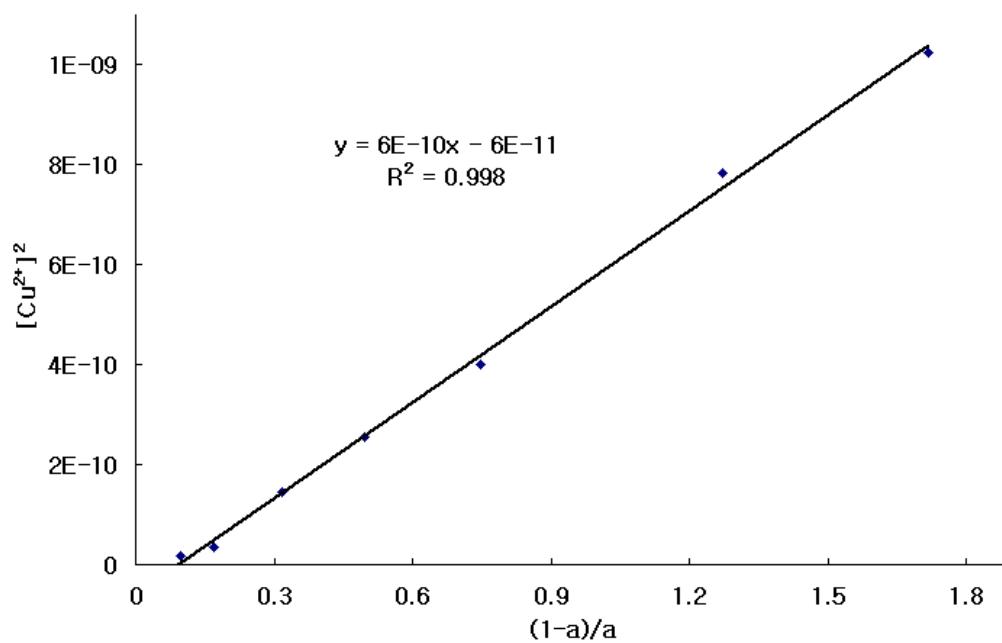
**Figure S3.** Li's equation plot of **1**, assuming 1:2 stoichiometry for association between **1** and  $Fe^{2+}$ .



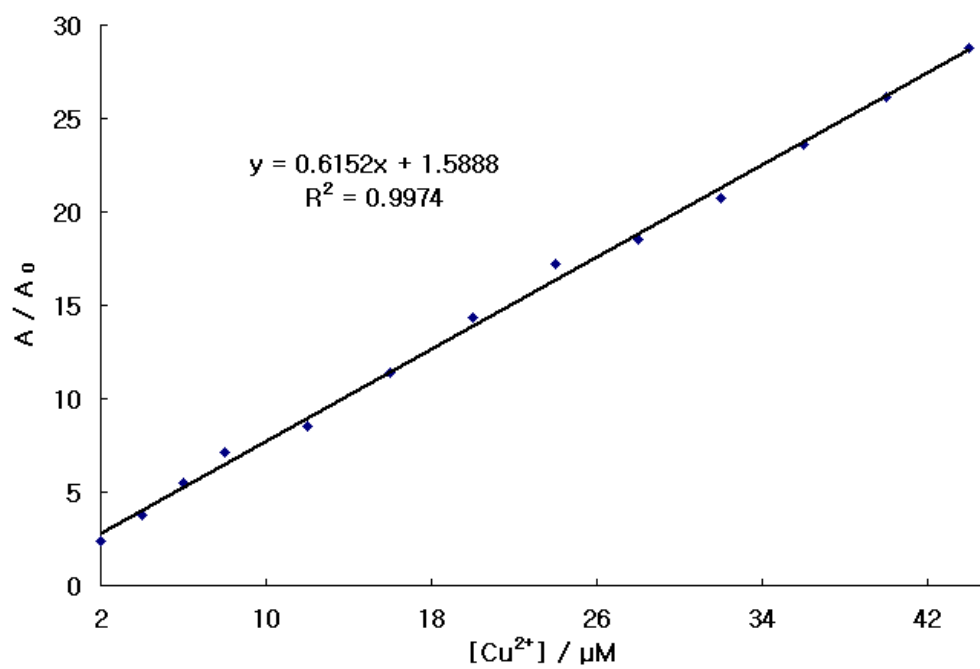
**Figure S4.** Change in the ratio of absorption intensity of **1** with  $Fe^{2+}$ .



**Figure S5.** Job plot of  $Cu^{2+}$  complex formation. The total concentration of **1** with  $Cu^{2+}$  was 40  $\mu M$ .

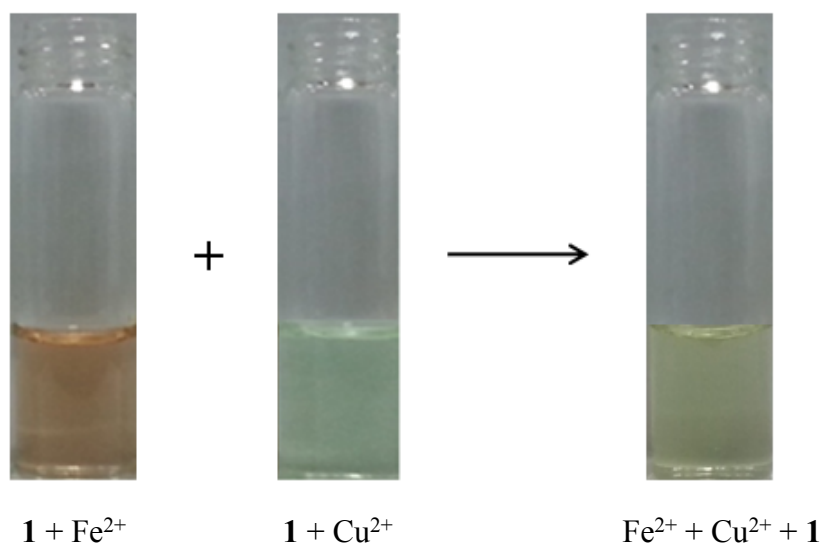


**Figure S6.** Li's equation plot of **1**, assuming 1:2 stoichiometry for association between **1** and  $Cu^{2+}$ .

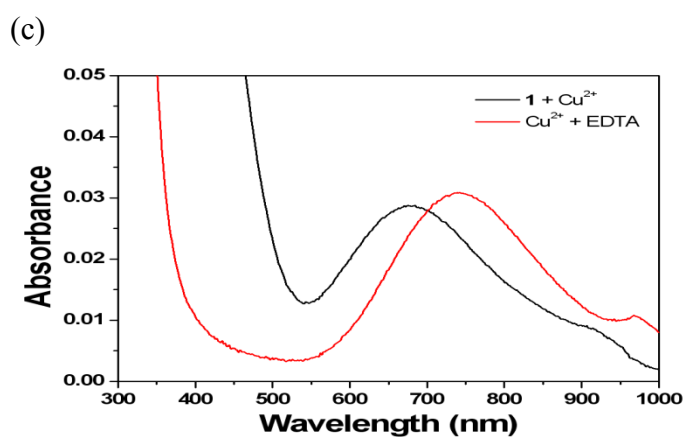
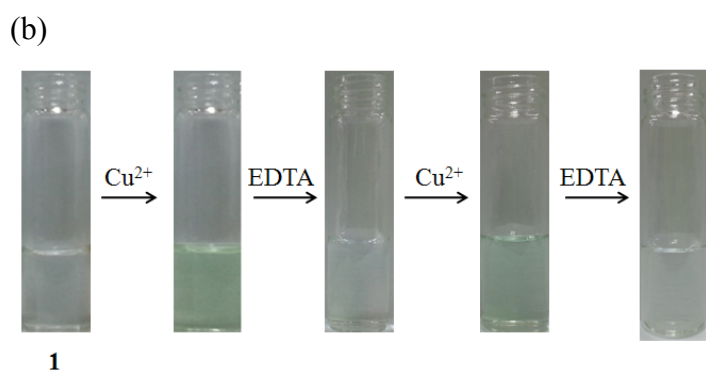
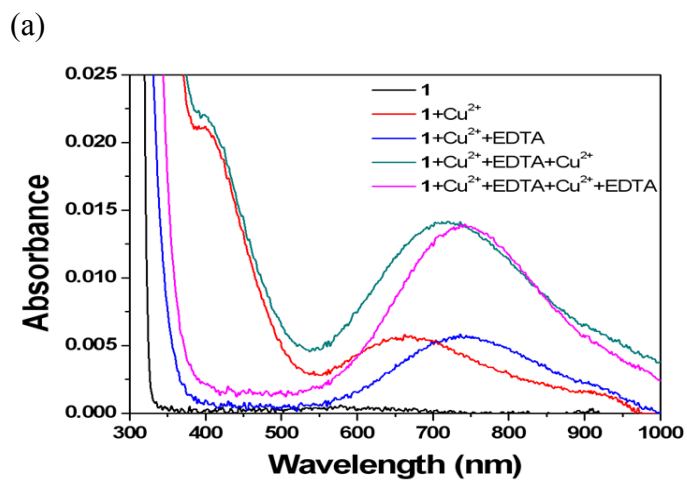


**Figure S7.** Change in the ratio of absorption intensity of **1** with  $Cu^{2+}$ .





**Figure S8.** Color of **1** (20  $\mu\text{M}$ ) in the presence of both  $\text{Fe}^{2+}$  (60  $\mu\text{M}$ ) and  $\text{Cu}^{2+}$  (60  $\mu\text{M}$ ).



**Figure S9.** (a) Reversible changes in absorbance of **1** after the sequential addition of  $\text{Cu}^{2+}$  and EDTA in Bis-tris buffer/DMF (8/2, v/v). (b) Reversible color changes of **1** after the sequential addition of  $\text{Cu}^{2+}$  and EDTA in Bis-tris buffer/DMF (8/2, v/v). (c) UV-vis absorption spectra of  $1\text{-Cu}^{2+}$  and  $\text{Cu}^{2+}\text{-EDTA}$ , respectively.