

**Supplementary Data****Highly selective fluorescence sensing of Cu<sup>2+</sup> ion by an arylisoxazole modified calix[4]arene**

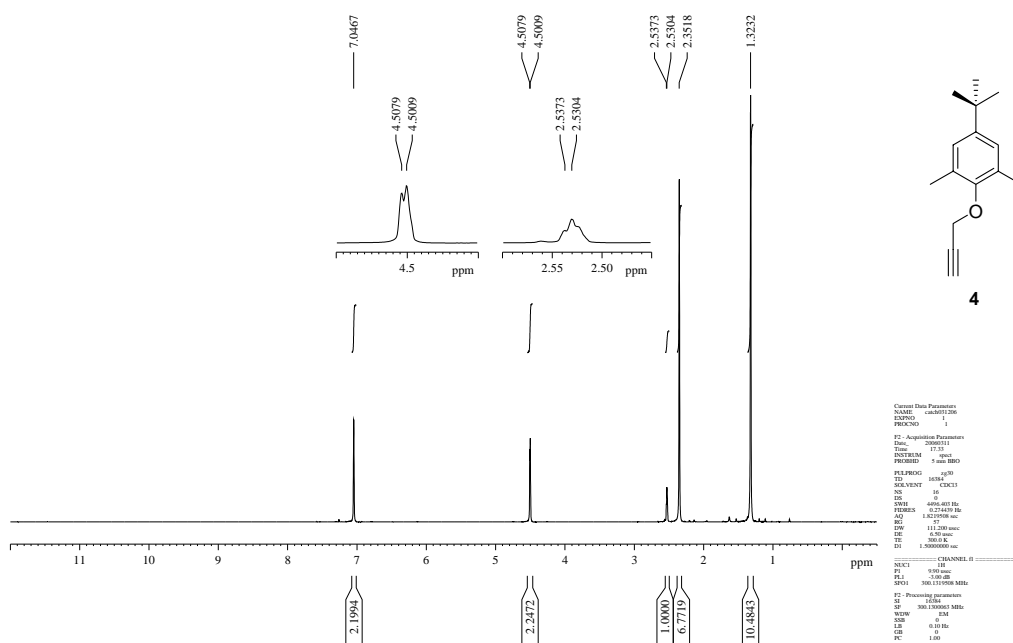
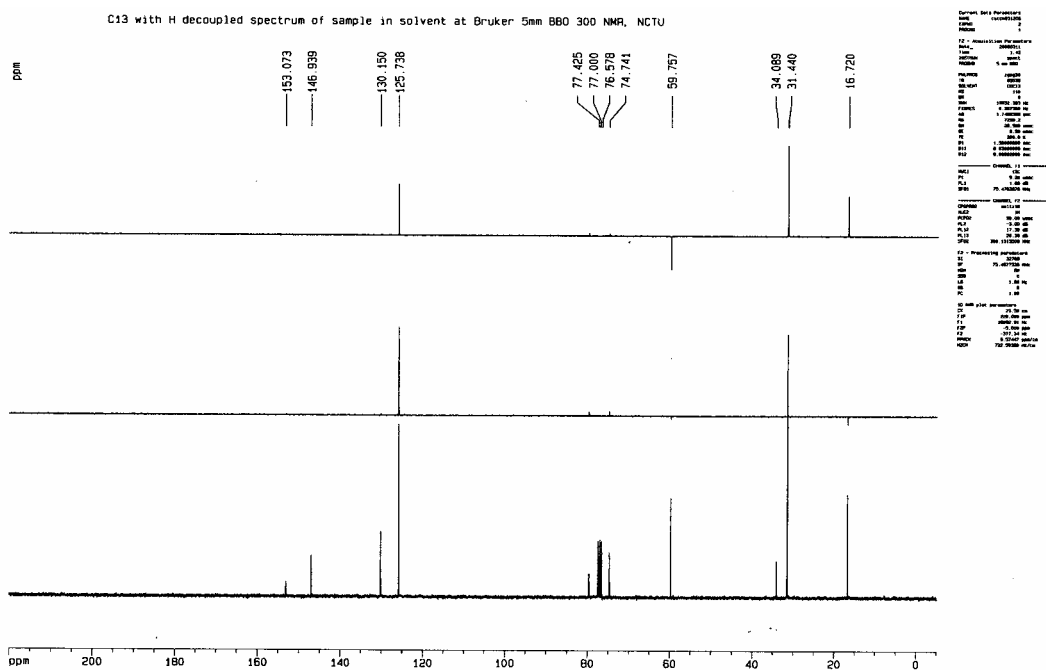
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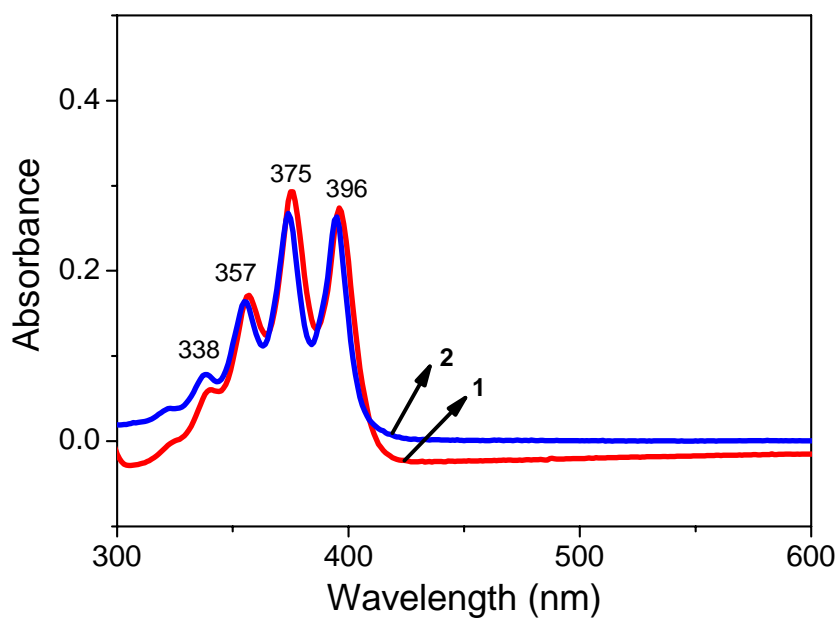
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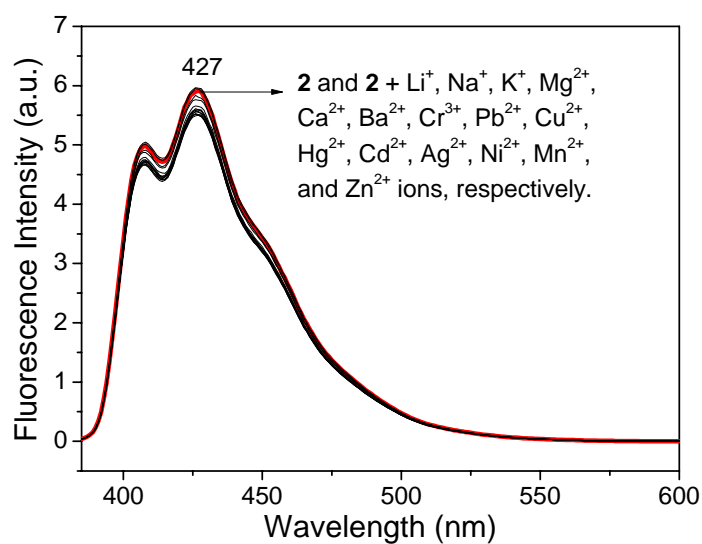




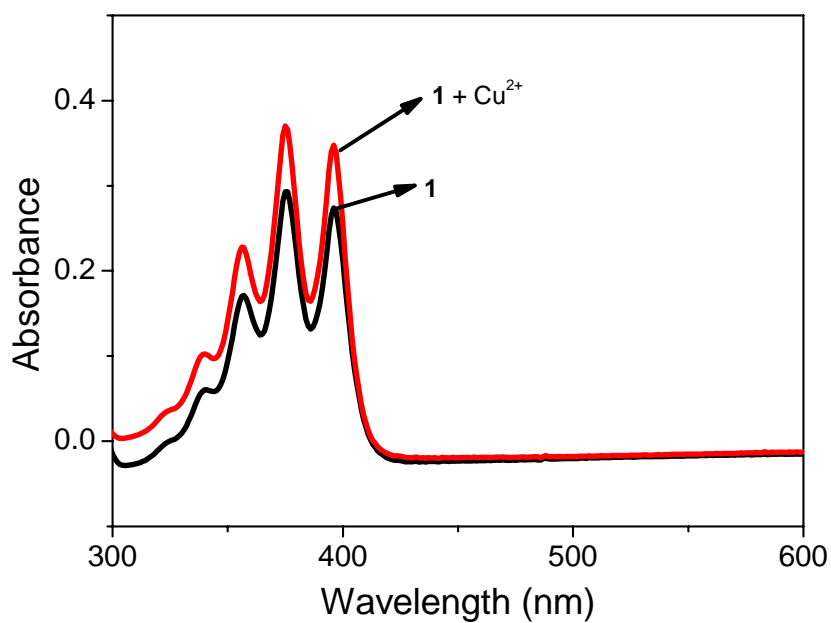
Figure S5. <sup>1</sup>H NMR (300 MHz) spectrum of **4** in CDCl<sub>3</sub>.Figure S6. <sup>13</sup>C NMR (75.4 MHz) spectrum of **4** in CDCl<sub>3</sub>.



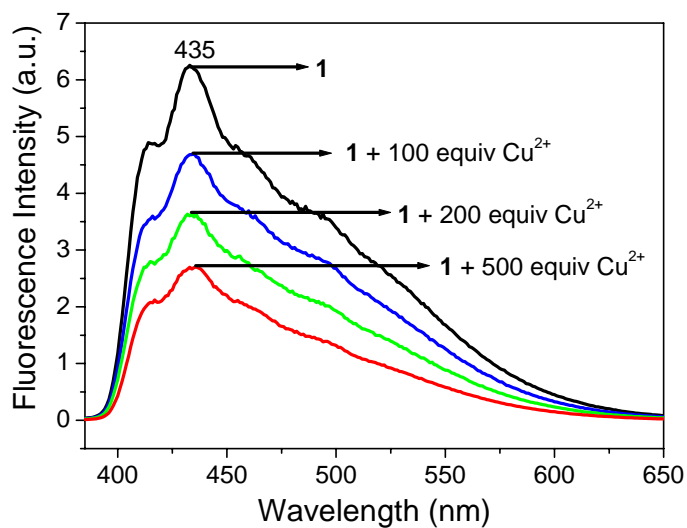
**Figure S7.** UV/vis spectra of **1** and **2** (20  $\mu$ M) in  $\text{CH}_3\text{CN}/\text{CHCl}_3$  (v/v = 1000:4).



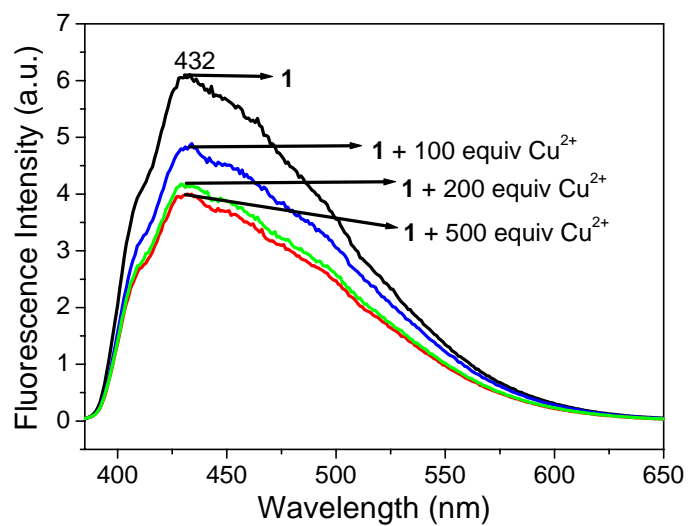
**Figure S8.** Changes in fluorescence emission spectra of **2** (20  $\mu$ M) before and after adding 200  $\mu$ M concentration of various metal perchlorates in  $\text{CH}_3\text{CN}/\text{CHCl}_3$  (v/v = 1000:4).



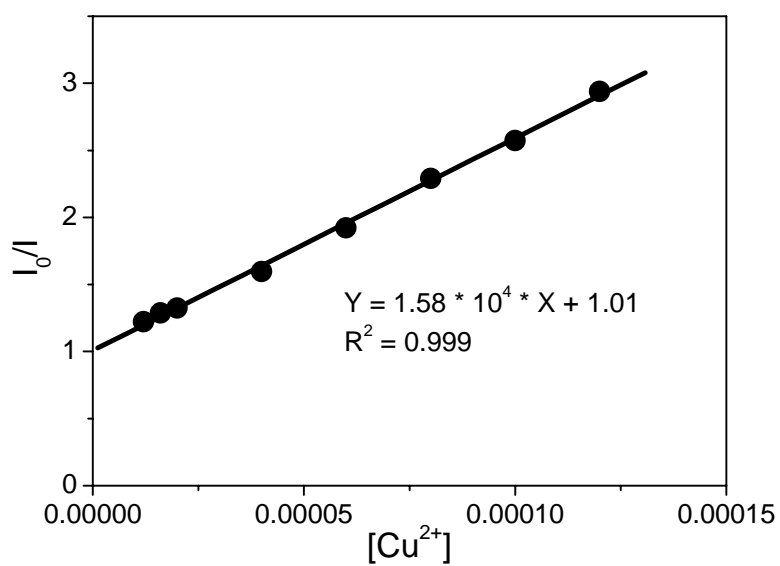
**Figure S9.** UV/vis spectra of **1** (20  $\mu$ M) before and after adding a 200  $\mu$ M concentration of  $\text{Cu}(\text{ClO}_4)_2$  in  $\text{CH}_3\text{CN}/\text{CHCl}_3$  (v/v = 1000:4).



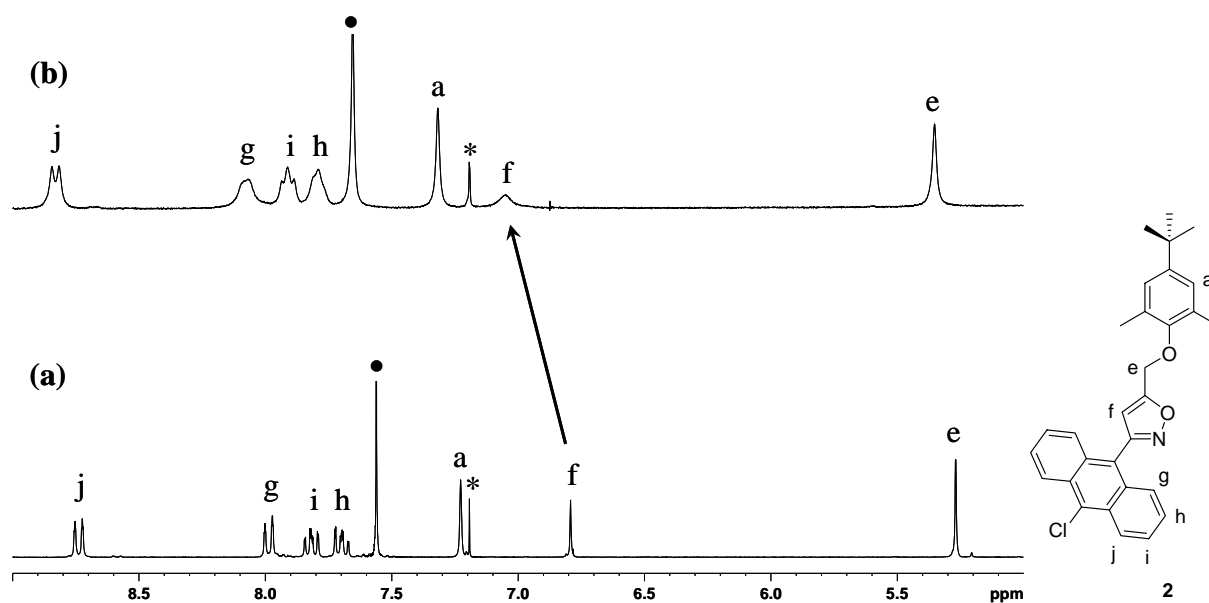
**Figure S10.** Fluorescence emission spectra of **1** (20  $\mu$ M) upon addition of various equiv of  $\text{Cu}(\text{ClO}_4)_2$  in DMSO.



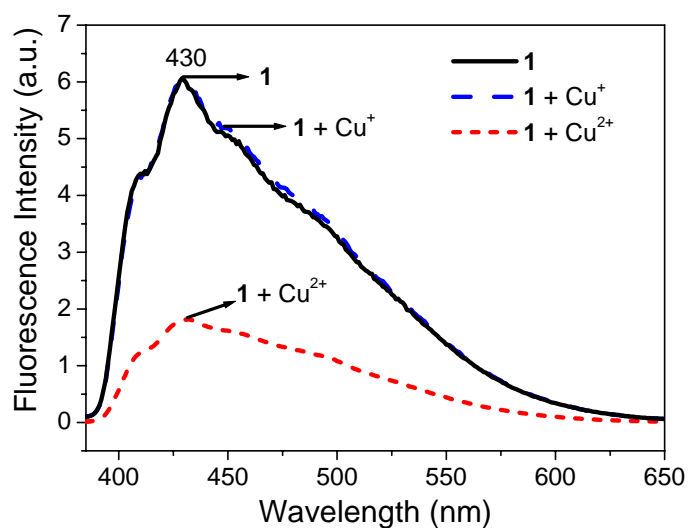
**Figure S11.** Fluorescence emission spectra of **1** (20  $\mu\text{M}$ ) upon addition of various equiv of  $\text{Cu}(\text{ClO}_4)_2$  in  $\text{MeOH}/\text{CHCl}_3$  ( $v/v = 1000:4$ ).



**Figure S12.** Stern-Volmer plot of **1** with  $\text{Cu}(\text{ClO}_4)_2$ .

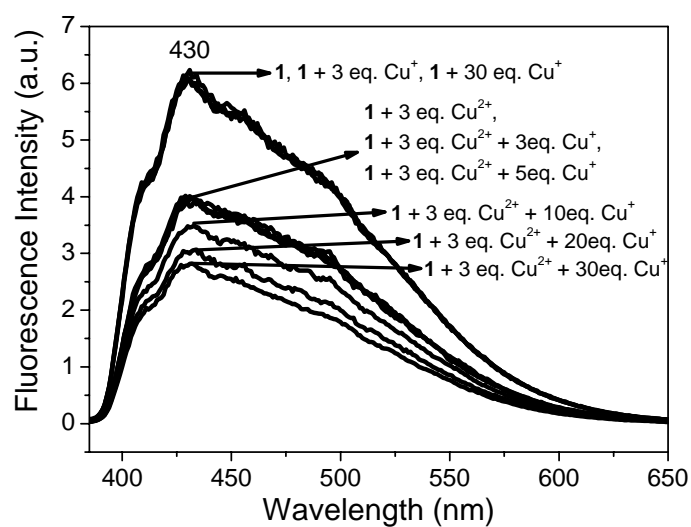


**Figure 13.**  $^1\text{H}$  NMR spectra of **2** (5.0 mM) in  $\text{CDCl}_3/\text{CD}_3\text{CN}$  (3/1) (a) and in the presence of 25 mM (5.0 equiv) of  $\text{Cu}(\text{ClO}_4)_2$  (b), where \* denotes an external standard  $\text{CHCl}_3$ .



**Figure S14.** Changes in fluorescence emission spectra of **1** (20  $\mu\text{M}$ ) before and after adding 200  $\mu\text{M}$  concentration of  $[(\text{CH}_3\text{CN})_4\text{Cu}]\text{PF}_6$  (dash blue curve) and  $\text{Cu}(\text{ClO}_4)_2$  (short-dash curve) in  $\text{CH}_3\text{CN}/\text{CHCl}_3$  ( $v/v = 1000:4$ ).





**Figure S15.** Fluorescence emission changes for the **1** (20  $\mu\text{M}$ ) with 3 equiv of  $\text{Cu}(\text{ClO}_4)_2$  in  $\text{CH}_3\text{CN}/\text{CHCl}_3$  (v/v = 1000:4) upon addition of various amounts of  $[(\text{CH}_3\text{CN})_4\text{Cu}]\text{PF}_6$ .