

# Supplementary Materials: A Cu<sup>2+</sup>-Selective Probe Based on Phenanthro-Imidazole Derivative

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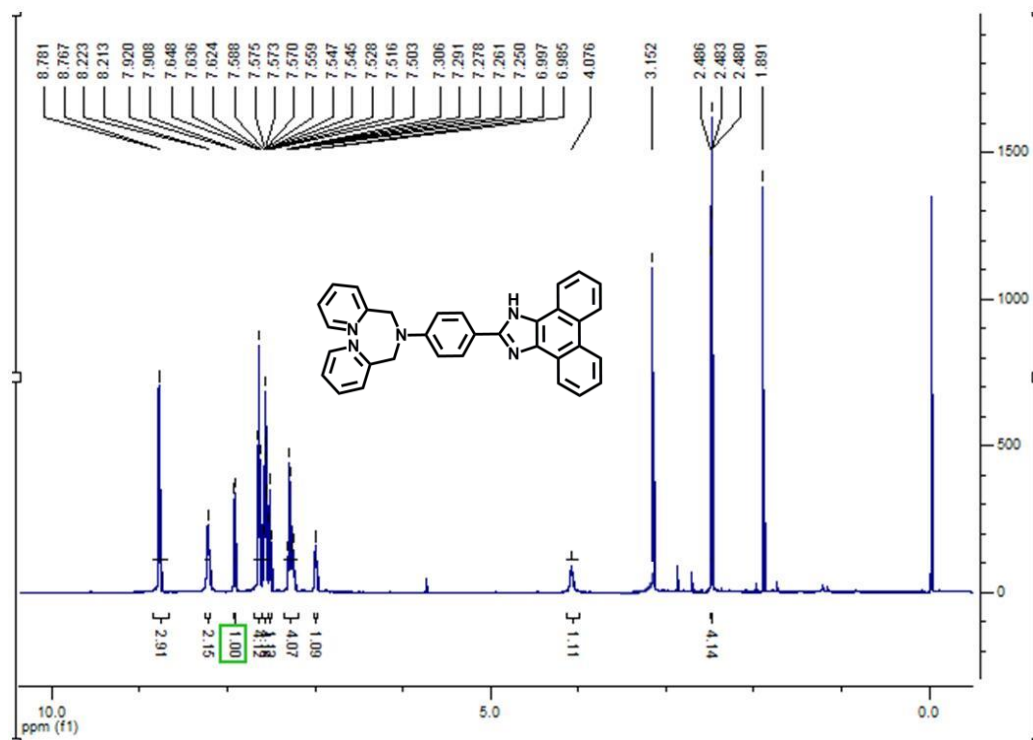


Figure S1. <sup>1</sup>H NMR (600 MHz) spectrum of compound 1 in d-DMSO.

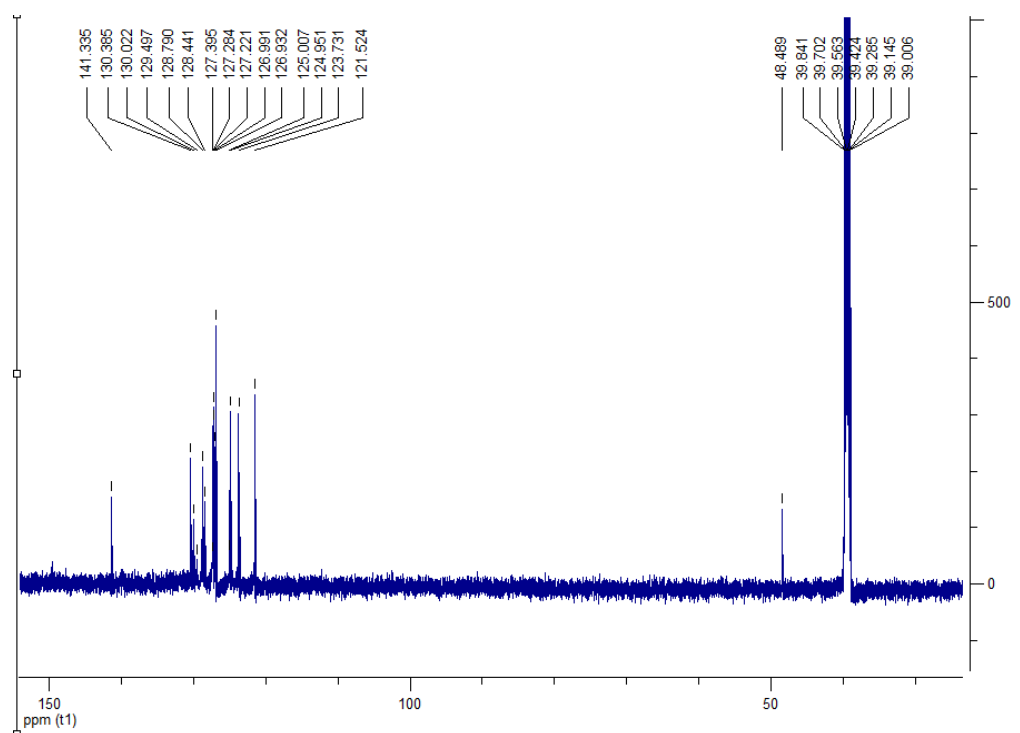
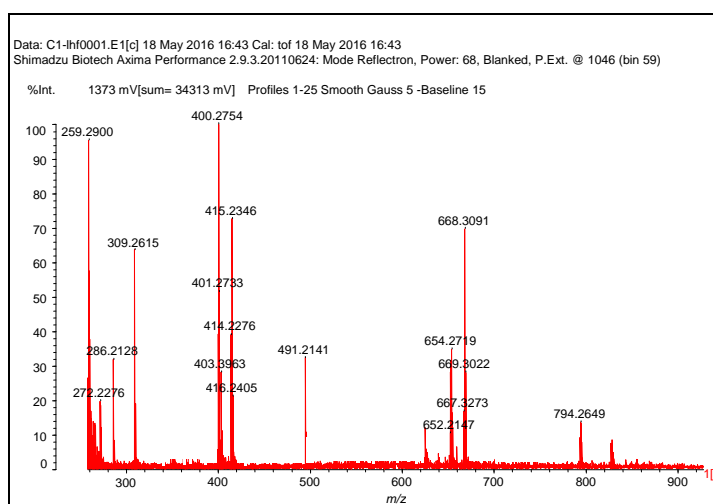
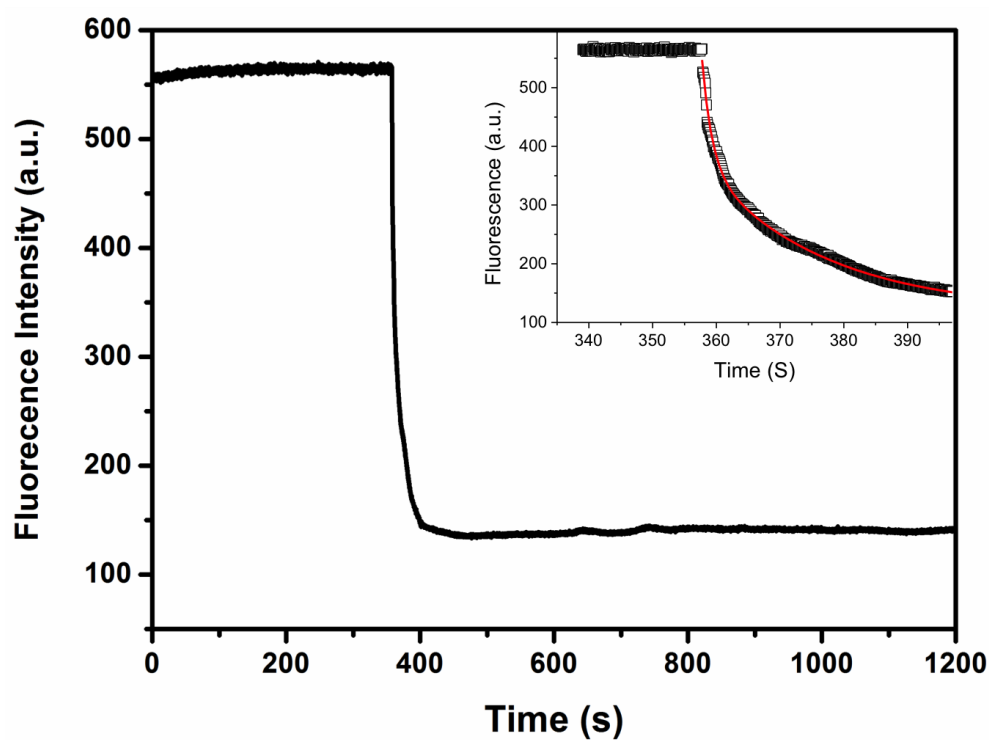


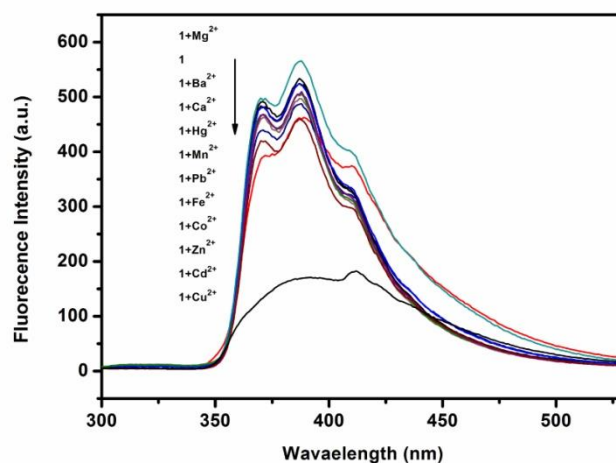
Figure S2. <sup>13</sup>C NMR (150 MHz) spectrum of compound 1 in d-DMSO.



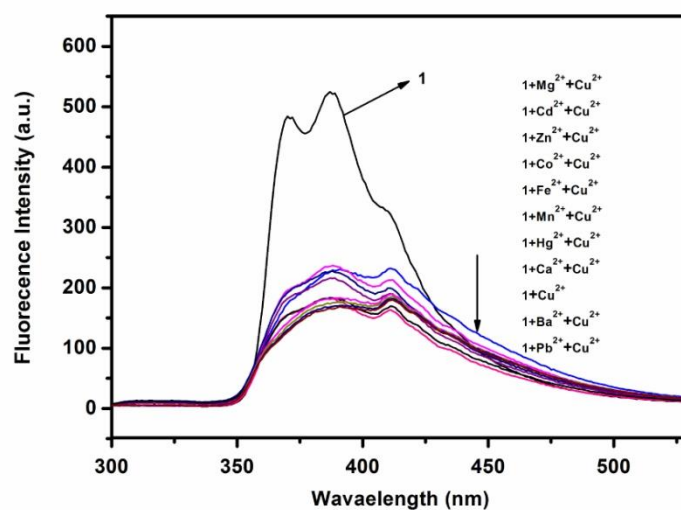
**Figure S3.** MALDI/TOF MS spectrum of compound 1.



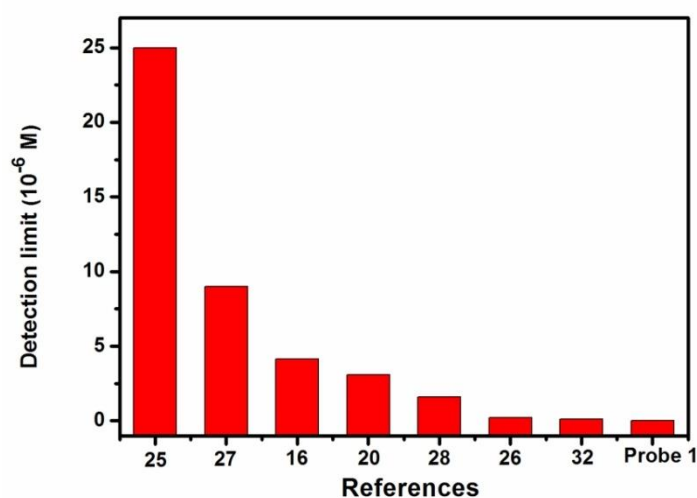
**Figure S4.** Fluorescence intensity measured at 387 nm for probe 1 in ethanol (10  $\mu$ M) as a function of time upon addition of  $\text{Cu}^{2+}$  (10  $\mu$ M). Exponential fitting of the fluorescence intensity decrease gives a response time of ca. 10 s.



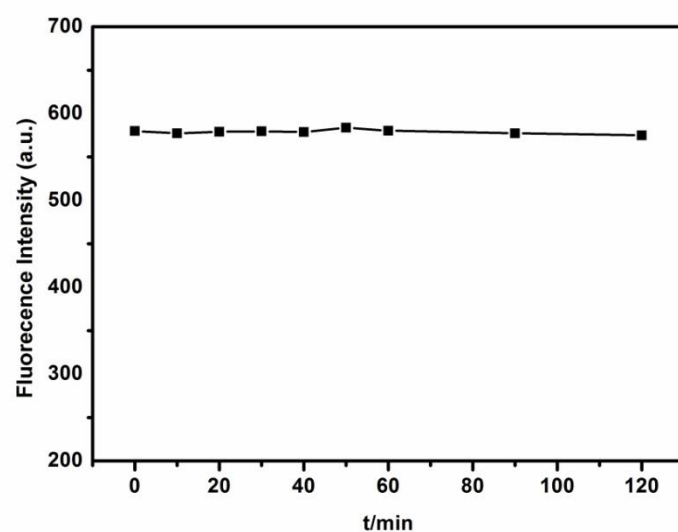
**Figure S5.** Fluorescence spectra of probe 1 in ethanol (10  $\mu$ M) in the absence and presence of various metal ions (10  $\mu$ M).



**Figure S6.** Fluorescence spectra of probe 1 in ethanol (10  $\mu$ M) in the absence and presence of various metal ions (10  $\mu$ M) plus 10  $\mu$ M of  $\text{Cu}^{2+}$ .



**Figure S7.** Comparison of the detection limit of Probe 1 with the literature reported detection limits of other sensors. Reference # marked in the horizontal axis are the same as cited in the main context.



**Figure S8.** Fluorescence intensity measured at the main peak of probe 1 in ethanol (10  $\mu$ M) for nine consecutive times over 2 h.