

Electronic Supplementary Information For

A colorimetric and fluorescent chemosensor for copper ions in aqueous media and its application in living cells

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1 Experimental Sections

All titrations experiments were carried out in an aqueous buffer. UV-vis and fluorescence spectra were recorded on HITACHI 3010 UV-vis spectrometer and HITACHI F-4600 spectrometer, respectively. Excitation and emission slits are 5 nm. All proton and ^{13}C NMR were measured on Bruker AVANCE-400 NMR spectrometer. Confocal fluorescence microscopy was operated on Olympus FV-1000 laser scanning microscopy system equipped with a 488 nm laser head.

a Uv-vis absorption spectrum of copper complex upon addition of EDTA and TPEN

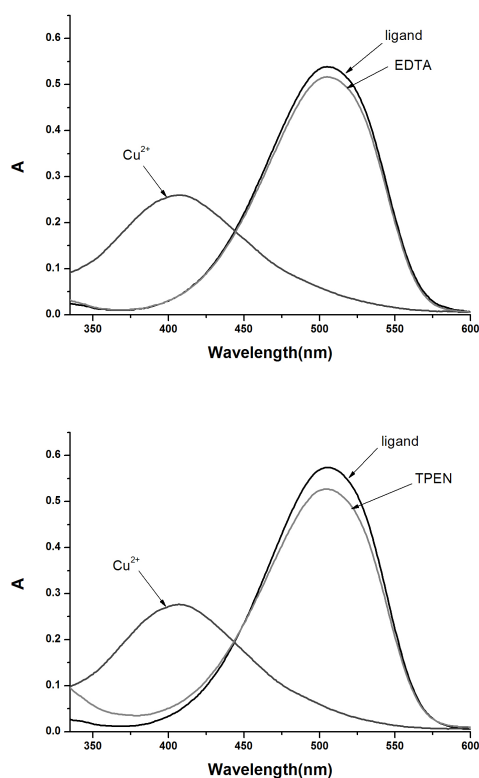


Figure S1. Uv-vis absorption of **1** ($12.5\mu\text{M}$) upon addition of 4 equiv copper ion, then treated with 4 equiv EDTA (Top) or TPEN (Bottom) respectively.

b Job's plot

A series of solutions containing **1** and $\text{Cu}(\text{NO}_3)_2$ were prepared such that the sum of the total metal and **1** concentration remained constant at $25\mu\text{M}$. The molar fraction x of **1** was varied between 0.1 and 1.0. The corrected absorbance $A_{(\text{L/M})} - A_{(\text{L})}$ at 410 nm was plotted against the molar fraction of the sample solution.

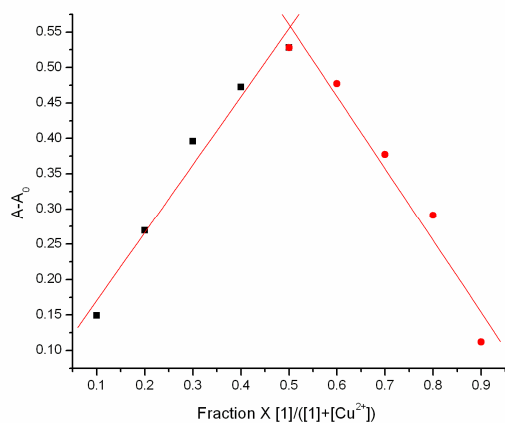


Figure S2. Job's plot of 1 in aqueous buffer.

c Binding constant

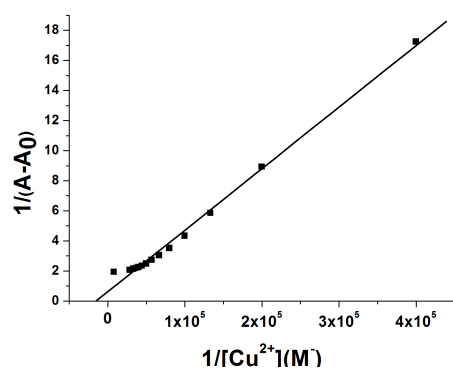
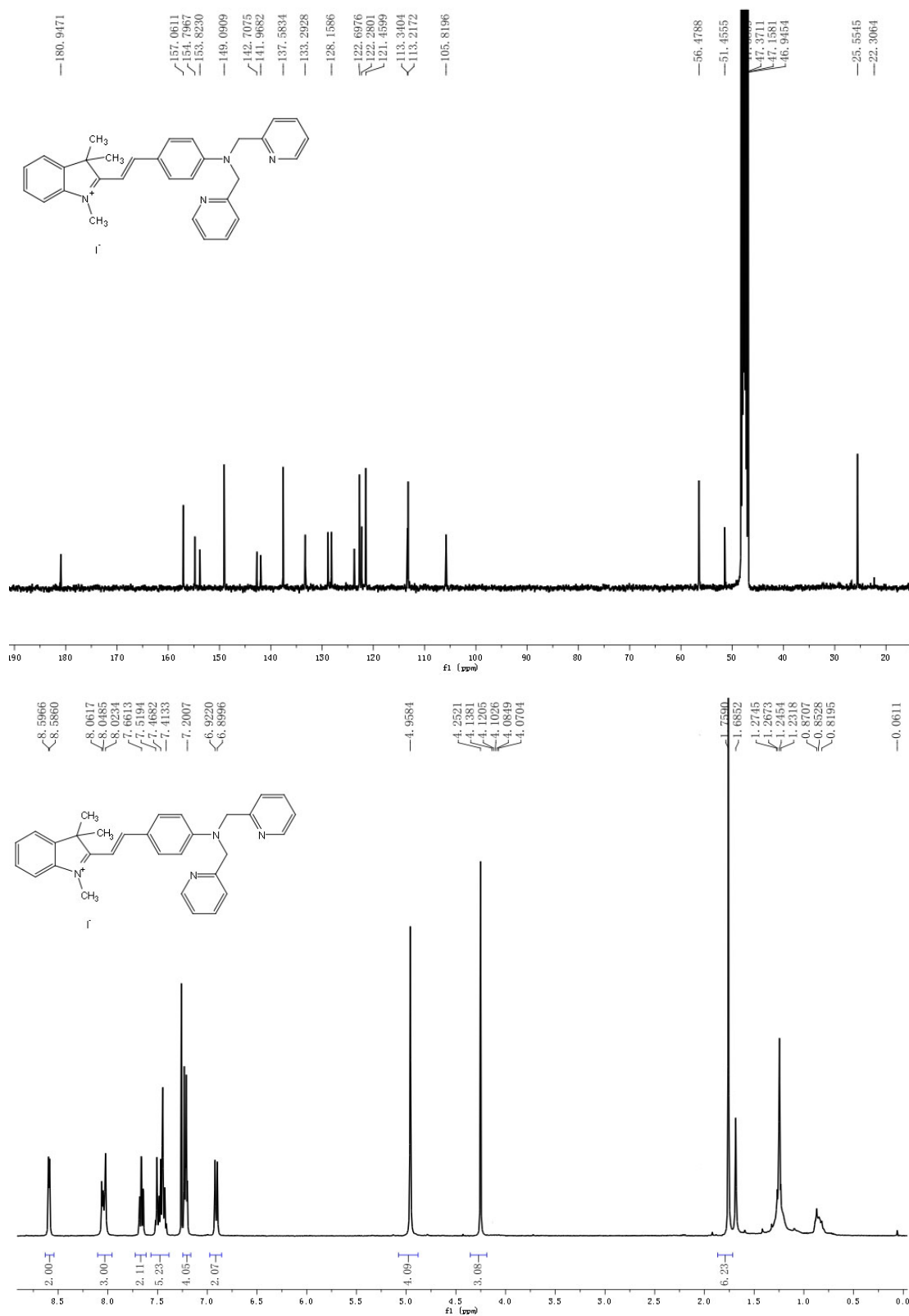


Figure S3. Benesi-hillbrand plot according to Uv-vis absorbance at 410 nm.

2 NMR spectra and HRMS analysis report of 1



Peking University Mass Spectrometry Sample Analysis Report

Analysis Info

Analysis Name 0912204_20091214_000001.d
 Sample F-DPA
 Comment ESI Positive

Acquisition Date 12/14/2009 4:49:23 PM
 Instrument Bruker Apex IV FTMS
 Operator Peking University

