Supporting Information (SI)

Real-time Detection and Imaging of Copper (II) in Cellular Mitochondria

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(1.0 equiv.) in mixed solution (water-tetrahydrofuran, 1:1, v/v).

Fig. S12：MTT assay of HepG2 cells treated with probe L at different concentrations for 24 h.

Fig. S13：Photon-bleach experiment showed L photostability over continued laser scanning.

Fig. S14: Confocal fluorescent images: a1-d1 is dark-field, a2-d2 is bright-field, a3-d3 is overlay, and the concentration of probe L from a – d is 1×10^{-5} mol/L, 5×10^{-6} mol/L，1×10^{-6} mol/L，1×10^{-7} mol/L.

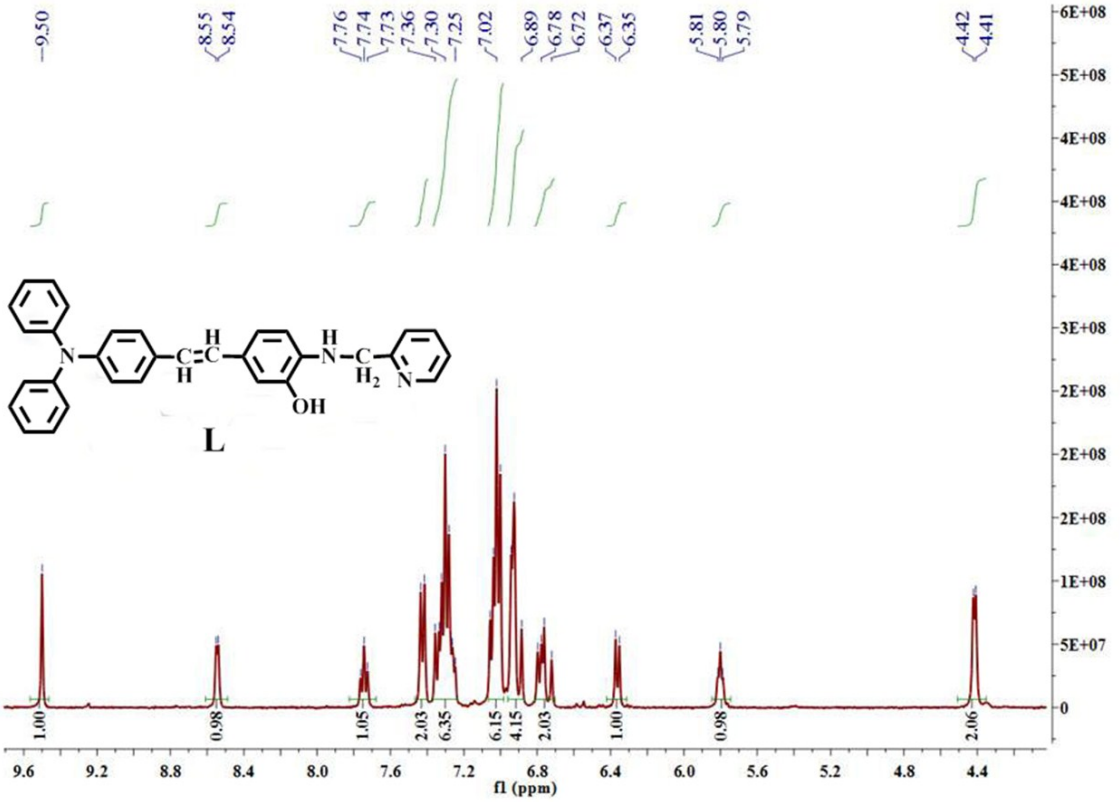

Fig. S1: ^{1}H NMR spectrum of **L** (in DMSO-d_6)

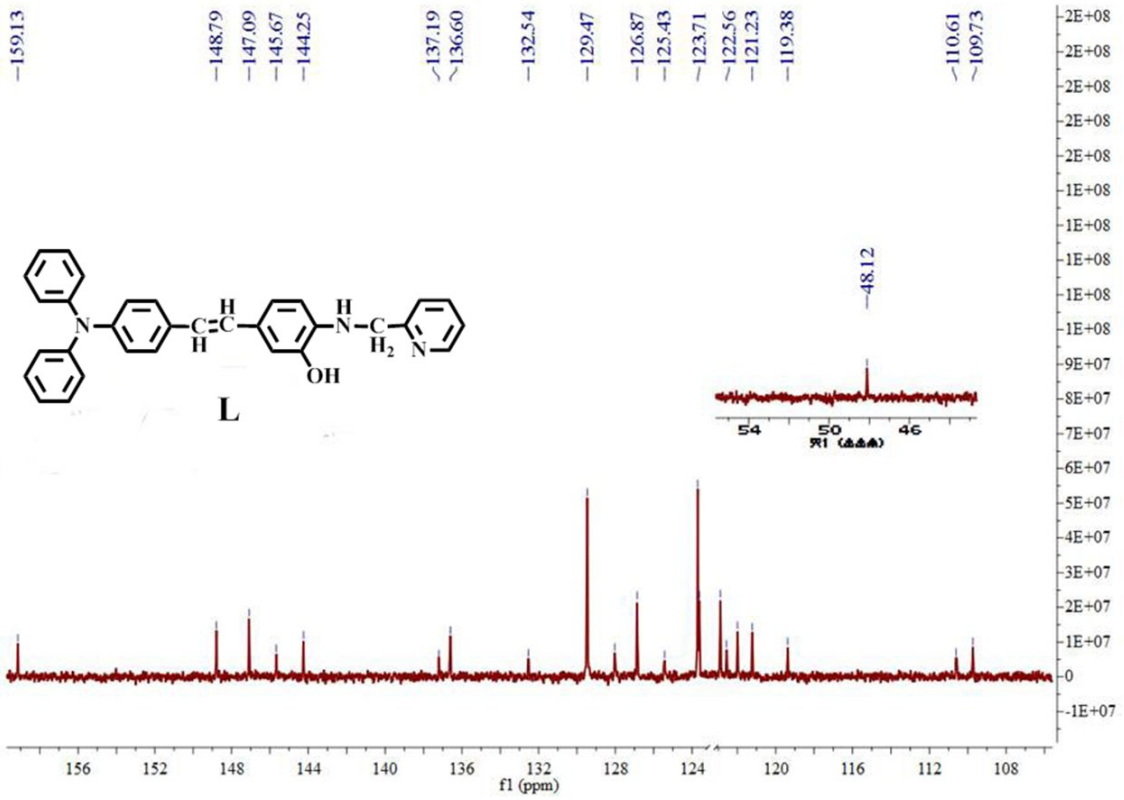

Fig. S2: ^{13}C NMR spectrum of L (in DMSO-d_6)

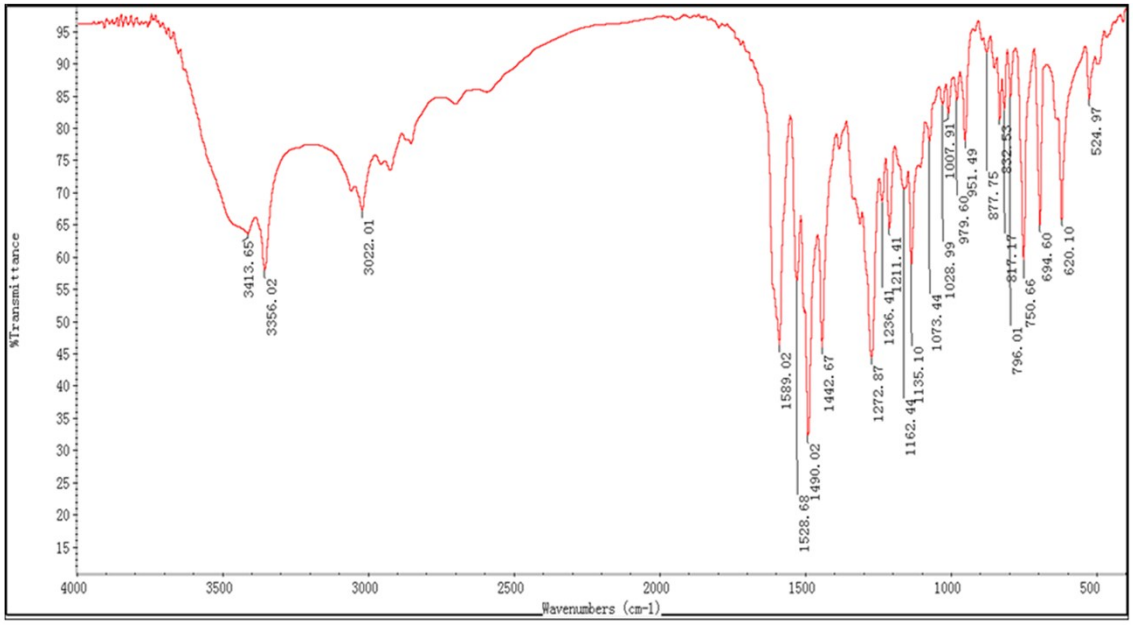

Fig. S3: FT-IR of **L** in KBr

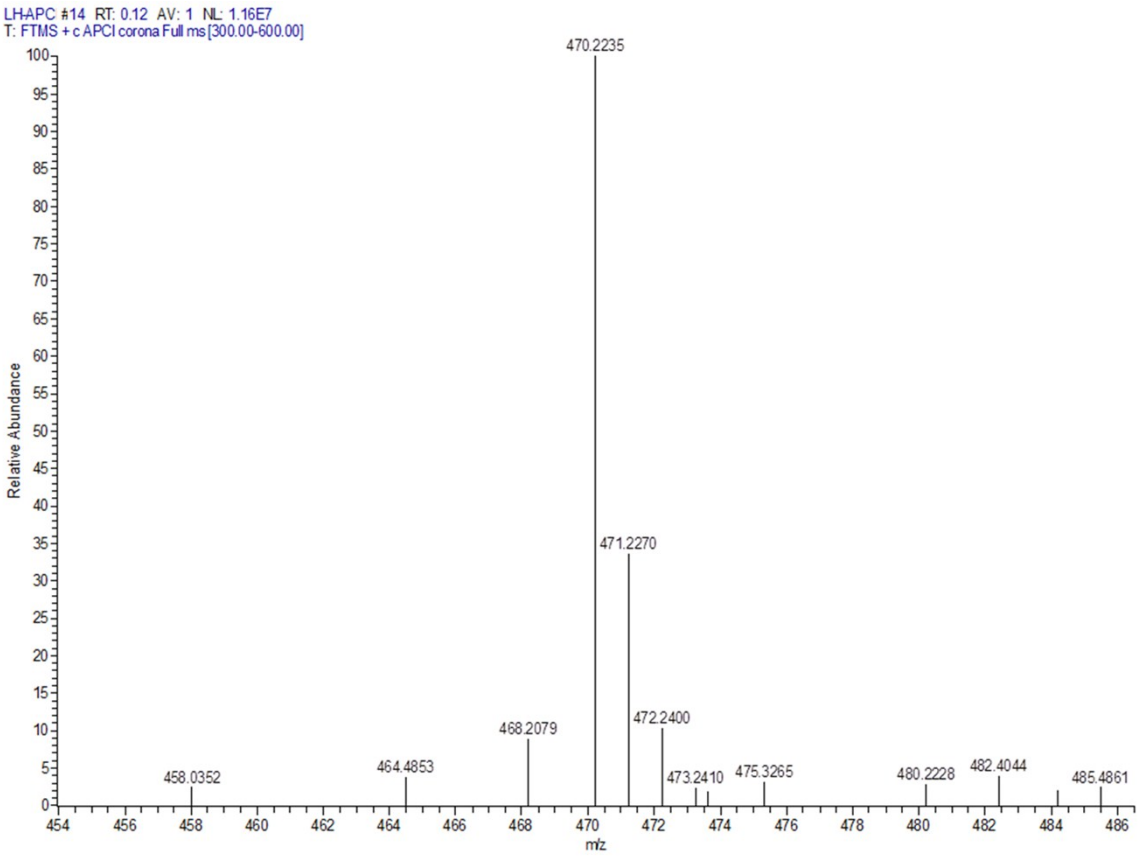

Fig. S4: APCI-Mass spectrum of L

Fig. S5: A color change photograph for Cu^{2+} and the other metal ions under visible light.

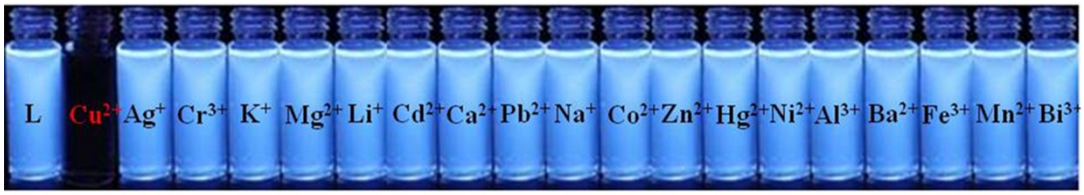

Fig. S6: A color change photograph for Cu^{2+} and the other metal ions under UV light at 365 nm.

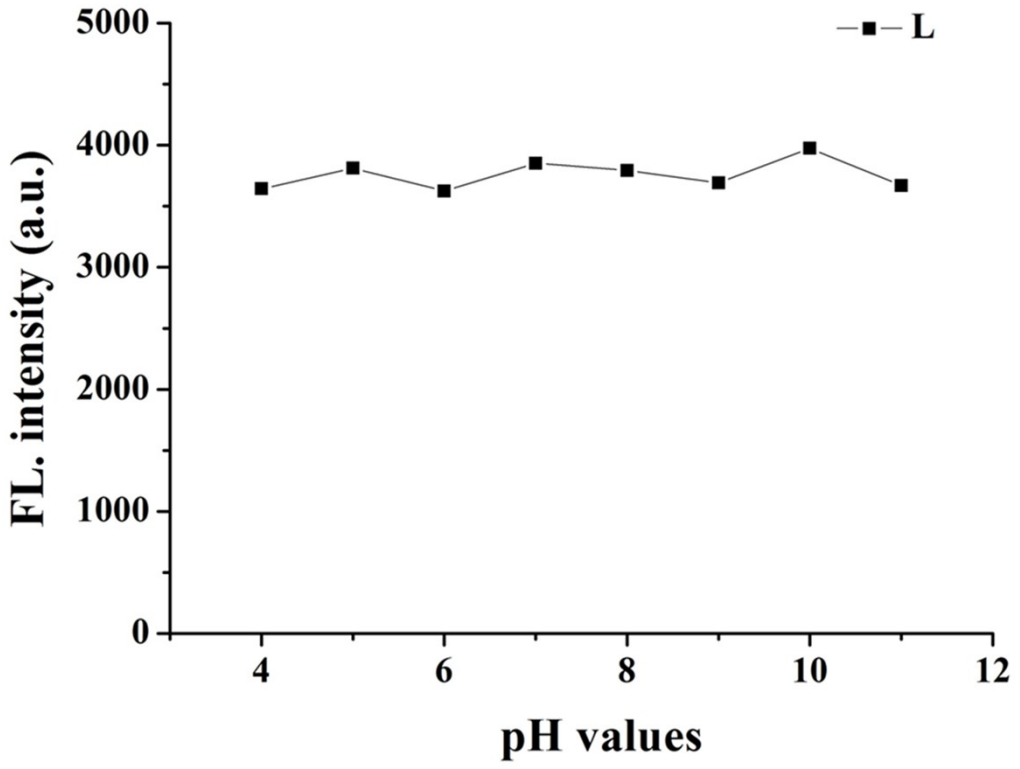

Fig. S7: Fluorescence intensity of 10 μL probe L at 450nm over a wide pH range of 4.0–11.0.

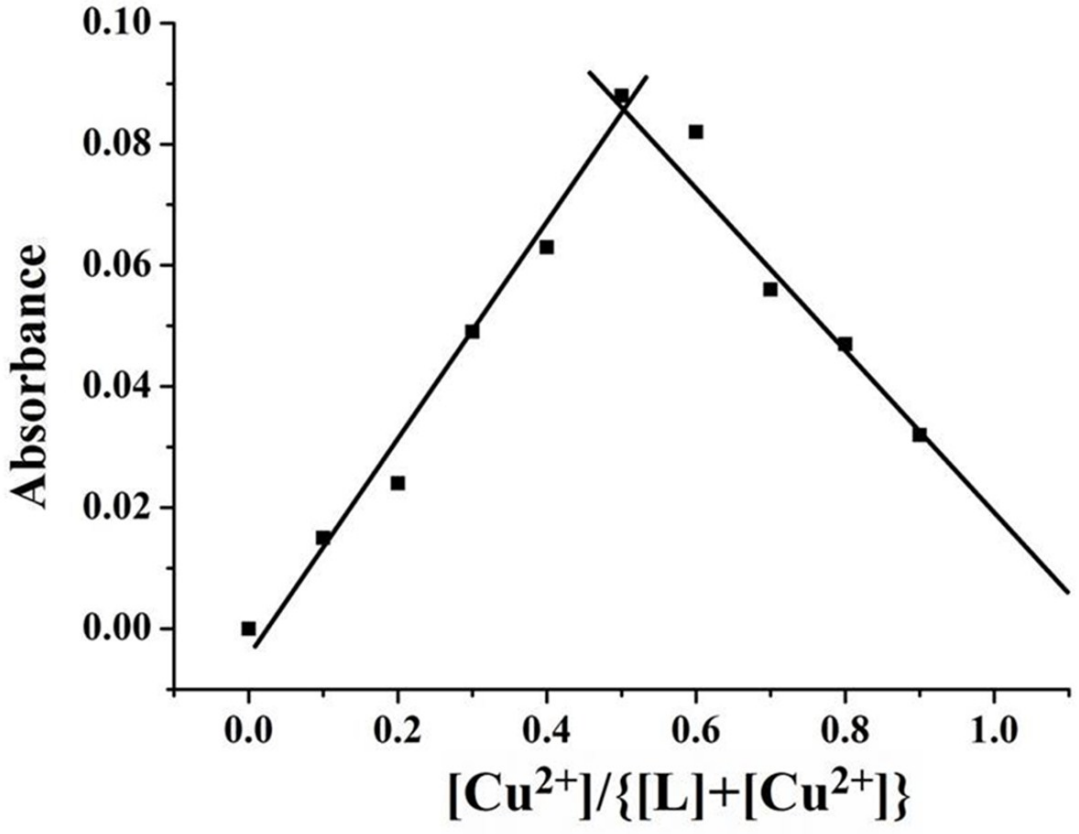

Fig. S8: Job's plot of the complexation between the probe L and Cu^{2+}. The total concentration of probe L and Cu^{2+} was 50 μM.

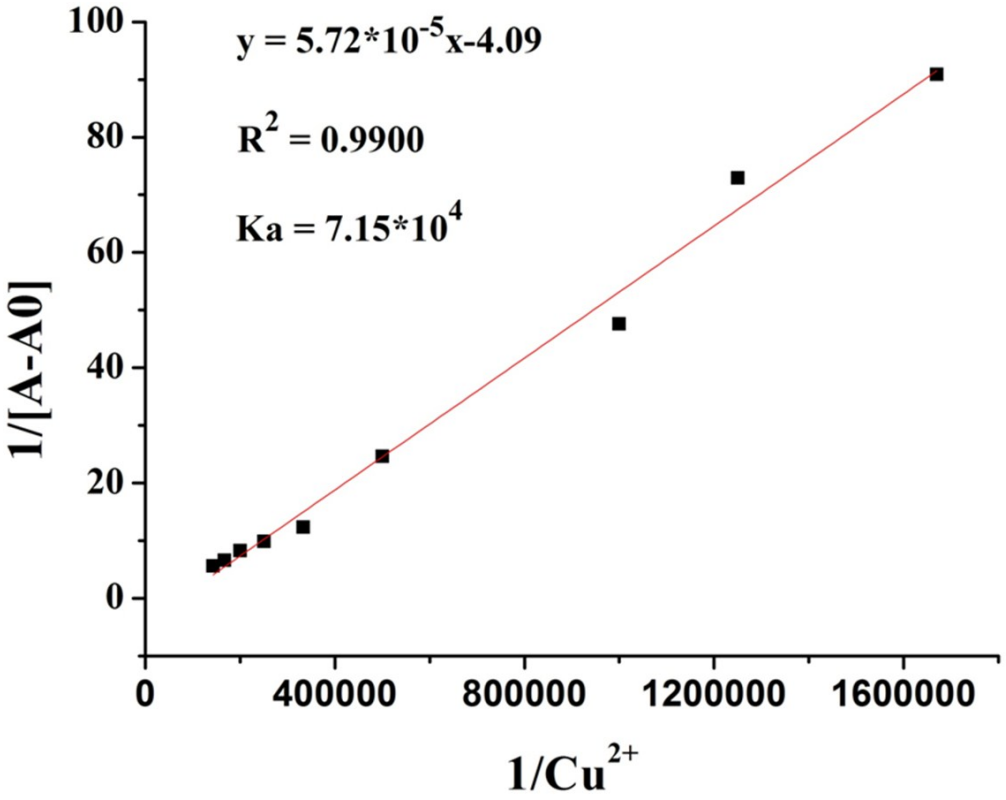

Fig. S9: Benesi-Hildebrand plot of L-Cu^{2+} complexe in mixed solution (water-tetrahydrofuran ,1:1,v/v).

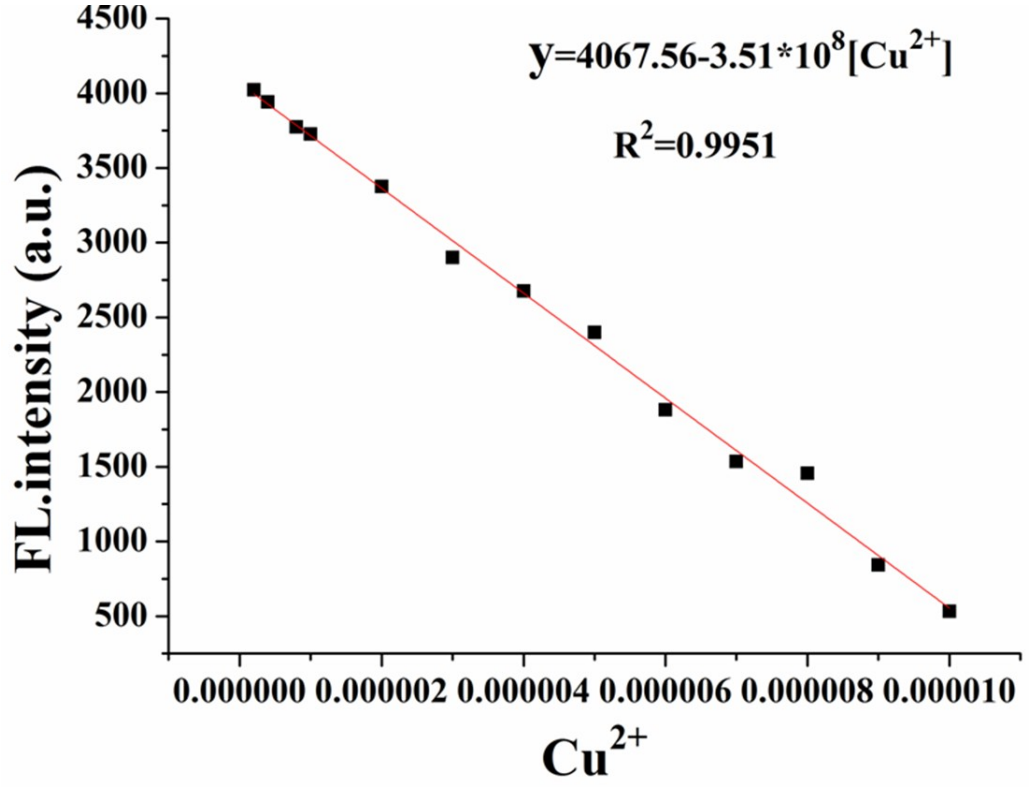

Fig. S10: Fluorescence titration of L-Cu^{2+} in mixed solution (tetrahydrofuran- water ,1:1,v/v) at 450nm.

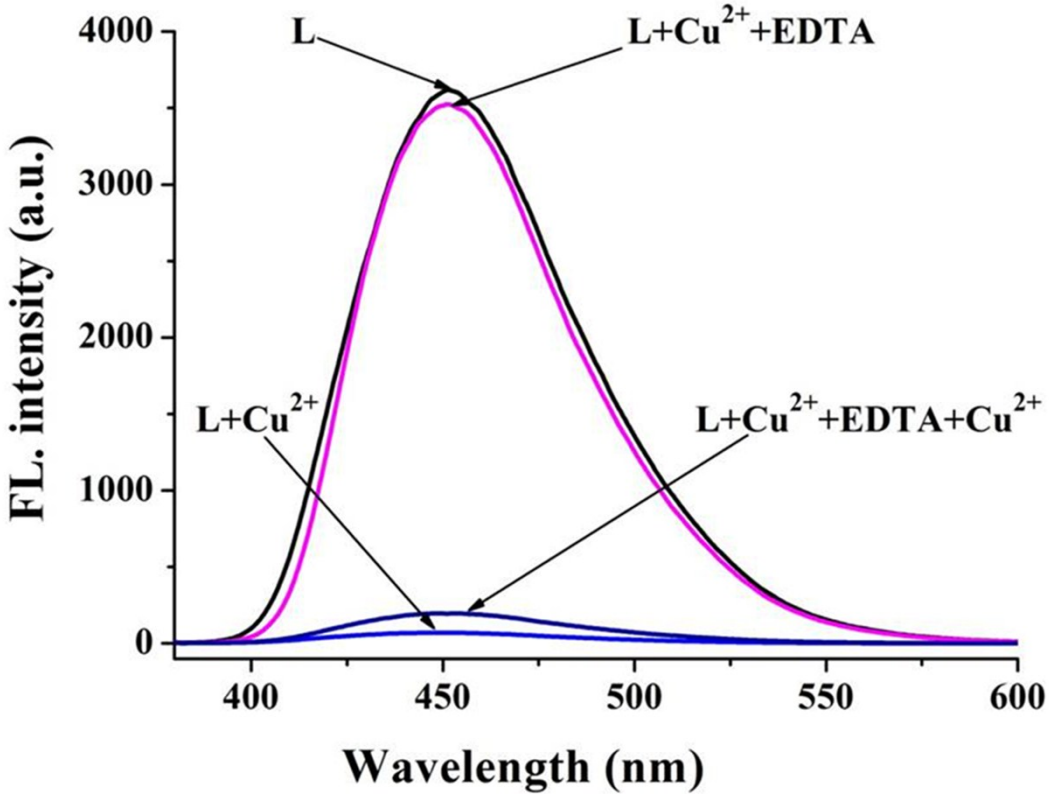

Fig. S11: Fluorescence spectra of L (10 μM) in the presence of Cu^{2+} (1.0 equiv.) and EDTA

(1.0 equiv.) in mixed solution (water-tetrahydrofuran,1:1,v/v).

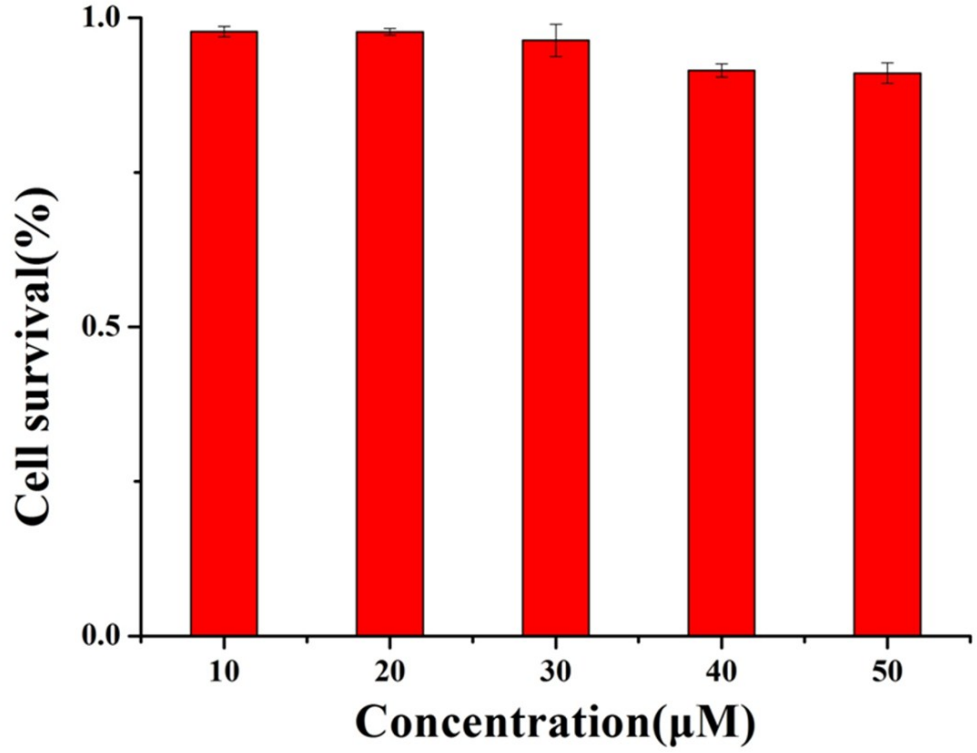

Fig. S12: MTT assay of HepG2 cells (TCHu 72) treated with probe L at different concentrations for 24 h.

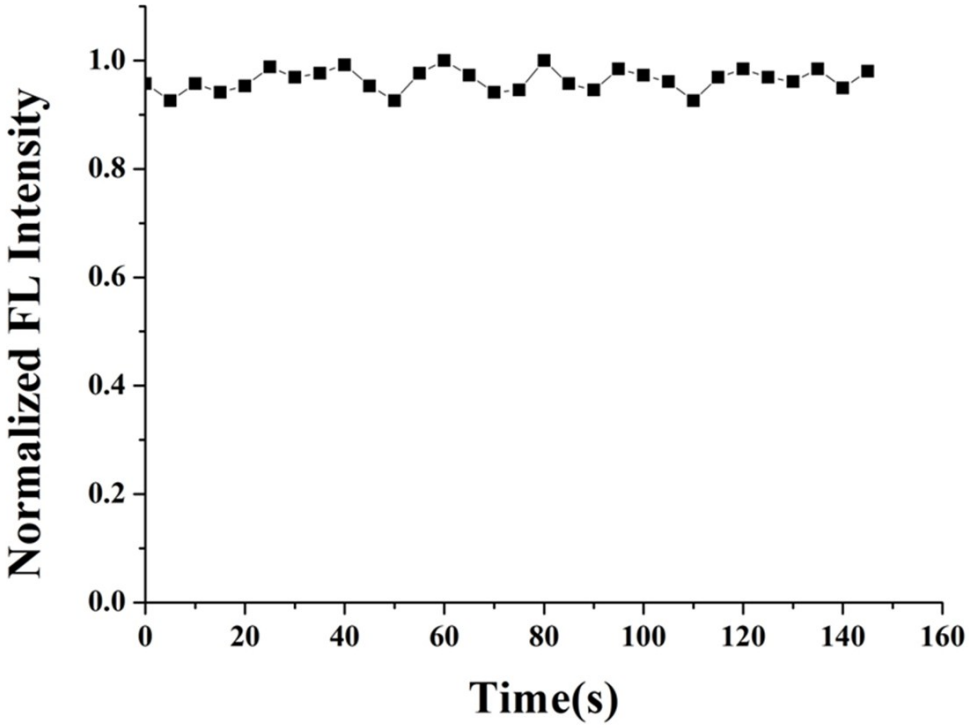

Fig. S13: Photon-bleach experiment showed L photostability over continued laser scanning.

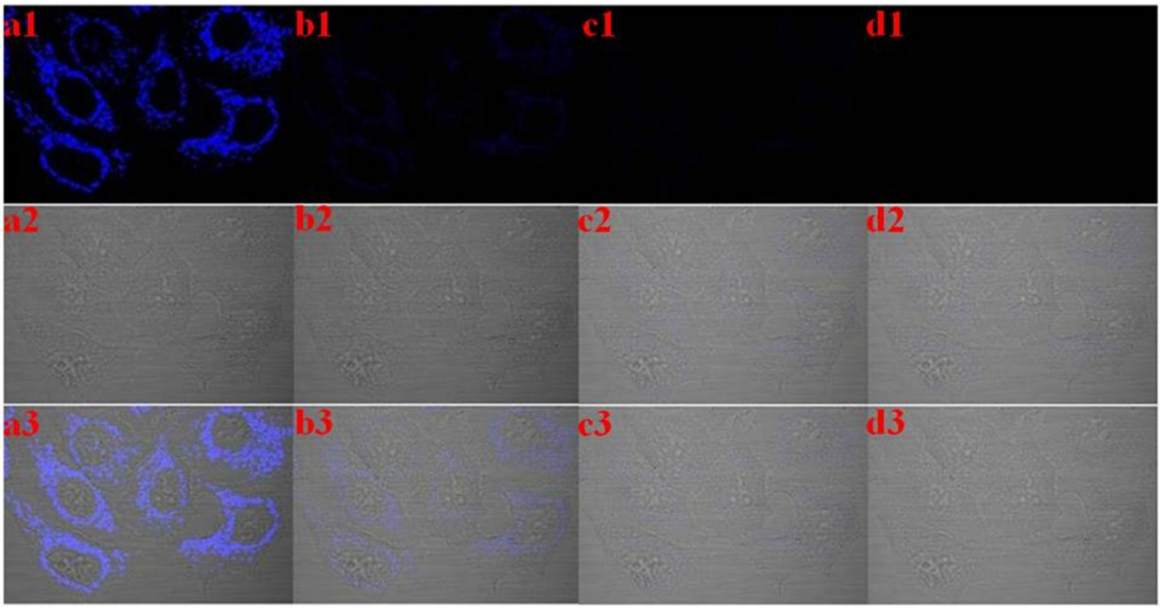

Fig. S14: Confocal fluorescent images: a1-d1 is dark-field, a2-d2 is bright-field, a3-d3 is overlay, and the concentration of probe L from a – d is 1×10^{-5} mol/L, 5×10^{-6} mol/L，1×10^{-6} mol/L，1×10^{-7} mol/L.