Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Supporting Information for

A Dual-Emission Fluorescence-Enhanced Probe for Imaging Copper(II) Ions in Lysosomes

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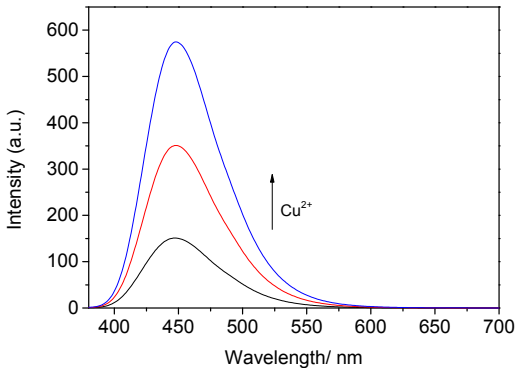

Figure S1 The fluorescence spectral changes of control compounds **4** (10 μM) upon addition of increasing concentrations of Cu^{2+} (0-20 equiv) (λ_{ex} = 360 nm) in PBS buffer, pH 4.7, containing 50 % CH_3CN as a cosolvent.

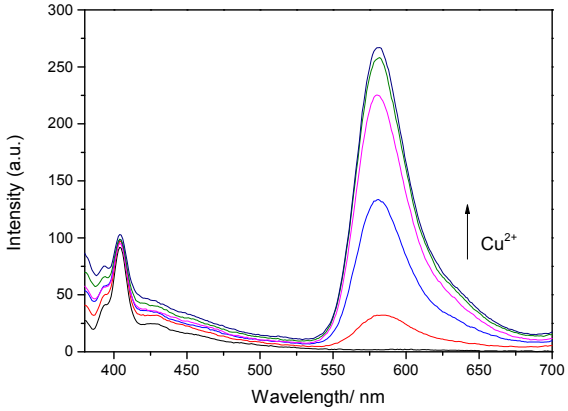

Figure S2 The fluorescence spectral changes of control compounds **5** (10 μM) upon addition of increasing concentrations of Cu^{2+} (0-20 equiv) (λ_{ex} = 360 nm) in PBS buffer, pH 4.7, containing 50 % CH_3CN as a cosolvent.

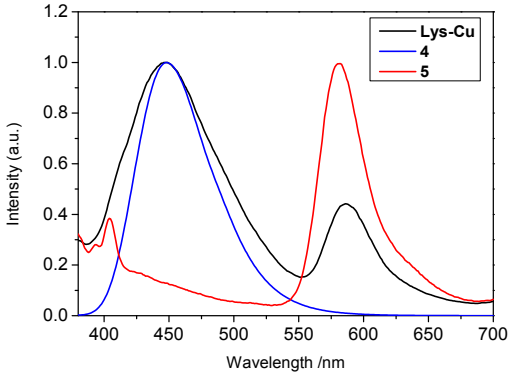

Figure S3 The comparison of normalized fluorescence spectral of **Lys-Cu**, control compound **4** and **5** upon addition of concentrations of Cu^{2+} (20 equiv) (λ_{ex} = 360 nm) in PBS buffer, pH 4.7, containing 50 % CH_3CN as a cosolvent.

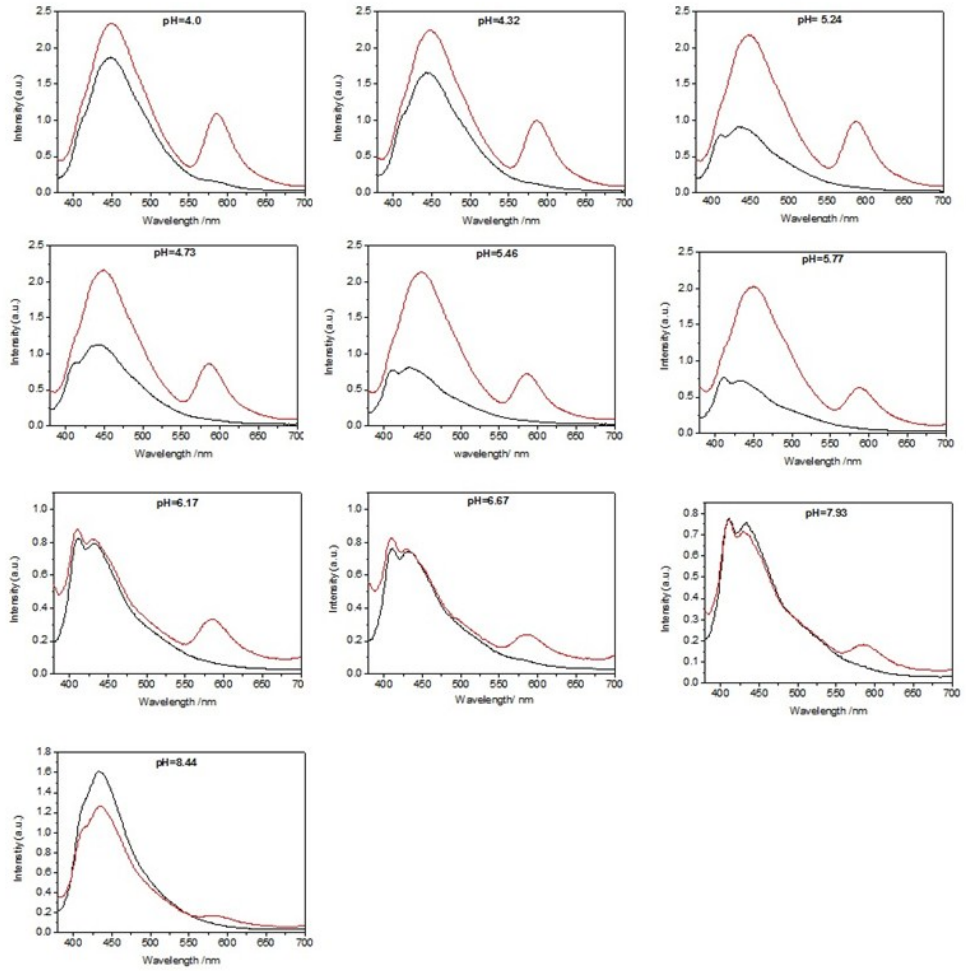

Figure S4 The emission intensity changes of **Lys-Cu** upon addition of Cu^{2+} (20 equiv) at different pH containing 50 % CH_3CN as a cosolvent (λ_{ex} = 360 nm). (Black lines represent the fluorescence spectra before added Cu^{2+}; red lines represent the fluorescence spectra after added Cu^{2+}).

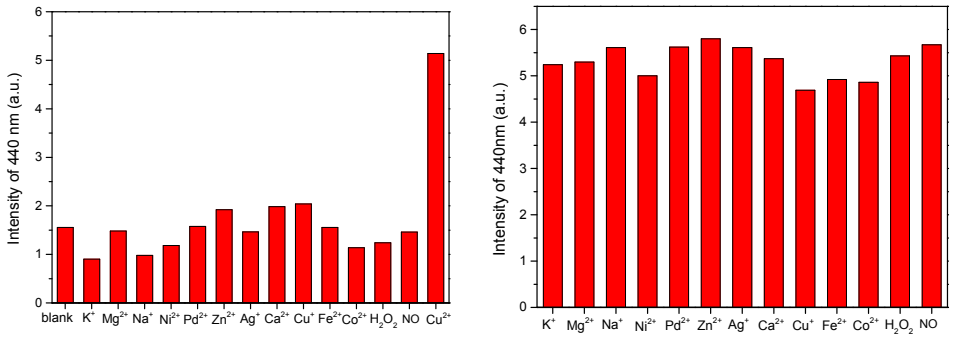

Figure S5 (A) The fluorescence intensity of probe **Lys-Cu** (10 μM) at 440 nm in the presence of various analytes (30 equiv) in PBS buffer (pH 4.7, containing 50% CH_3CN as a cosolvent). (B) The fluorescence intensity of probe **Lys-Cu** (10 μM) at 440 nm in response to Cu^{2+} in the presence of various metal species (30 equiv) in PBS buffer (pH 4.7, containing 50% CH_3CN as a cosolvent).

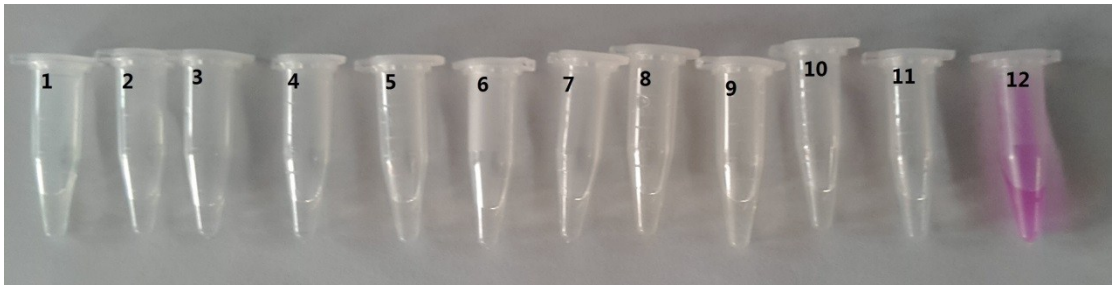

Figure S6 Visible color changes of the probe **Lys-Cu** solution (20 μM) with different metal ions (20 equiv) in PBS buffer solution (pH 4.7, containing 50% CH_3CN as a co-solvent): 1. K^+; 2. Mg^{2+}; 3. Na^+; 4. Ni^{2+}; 5. Pd^{2+}; 6. Zn^{2+}; 7. Ag^+; 8. Ca^{2+}; 9. Cu^+; 10. Fe^{2+}; 11. Co^{2+}; 12. Cu^{2+}.

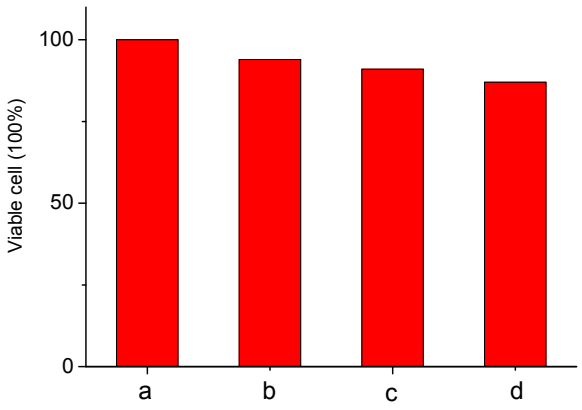

Figure S7 Cytotoxicity assays of **Lys-Cu** at different concentrations (a: 0 μM; b: 1 μM; c: 5 μM; d: 10 μM) for NIH3T3 cells

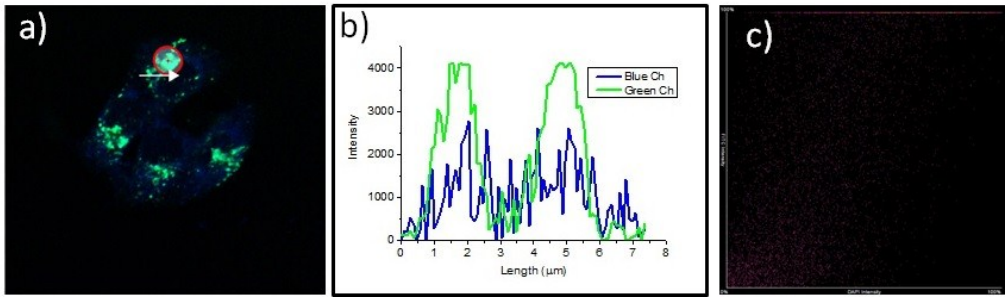

Figure S8 Fluorescence images of SiHa cells stained with the probe **Lys-Cu.** a) overlay of blue and green channels ; b) Intensity profile of linear region of interest across the SiHa cell costained with LysoTracker Green and blue channel of **Lys-Cu.** c) Intensity scatter plot of blue and green channels.

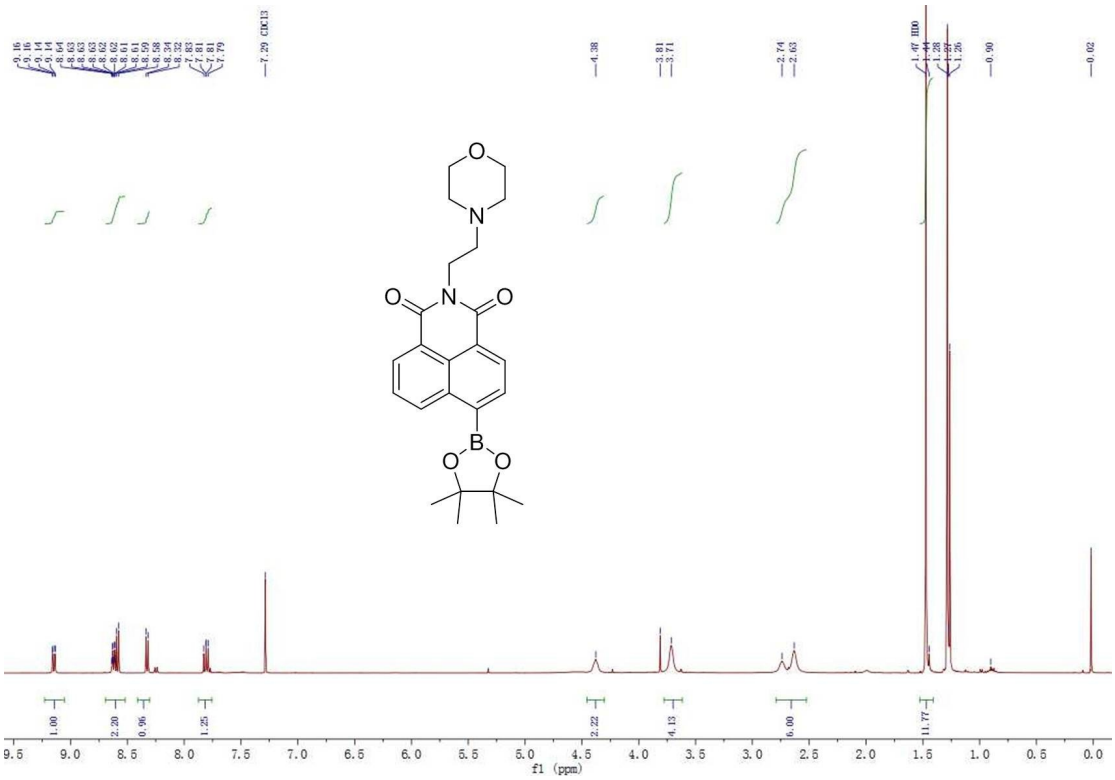

Figure S9 ^{1}H-NMR ($CDCl_3$) spectrum of compound **2**.

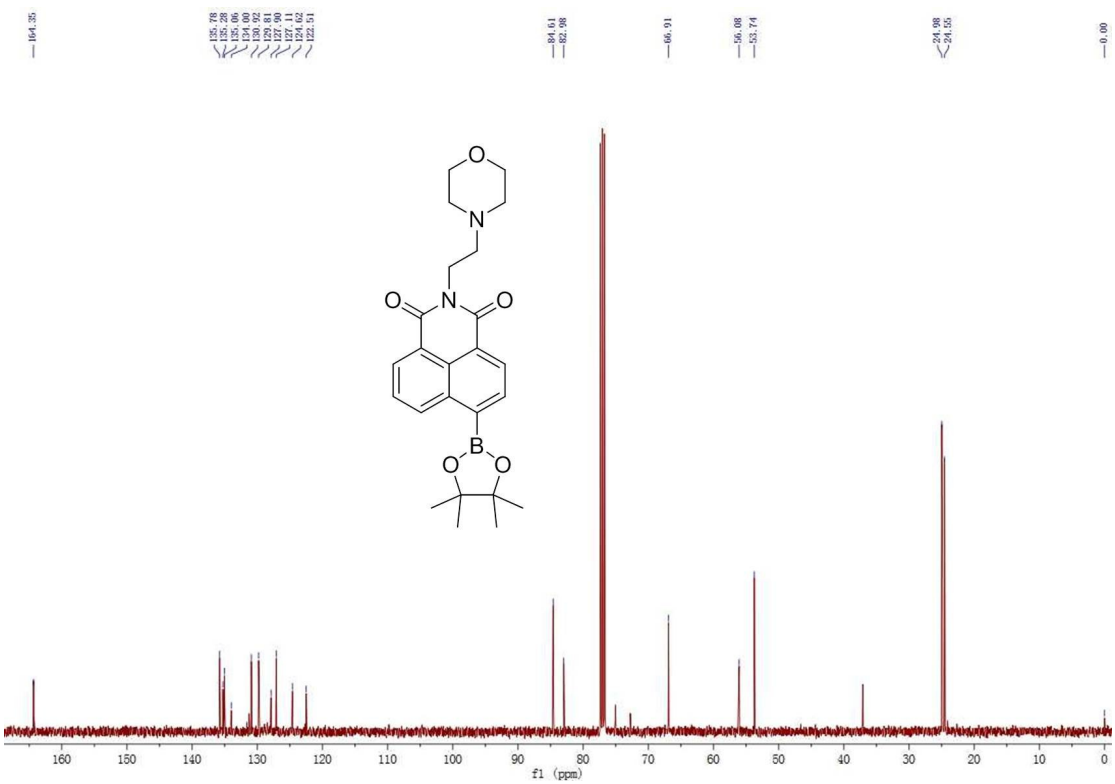

Figure S10 ^{13}C-NMR ($CDCl_3$) spectrum of compound **2**.

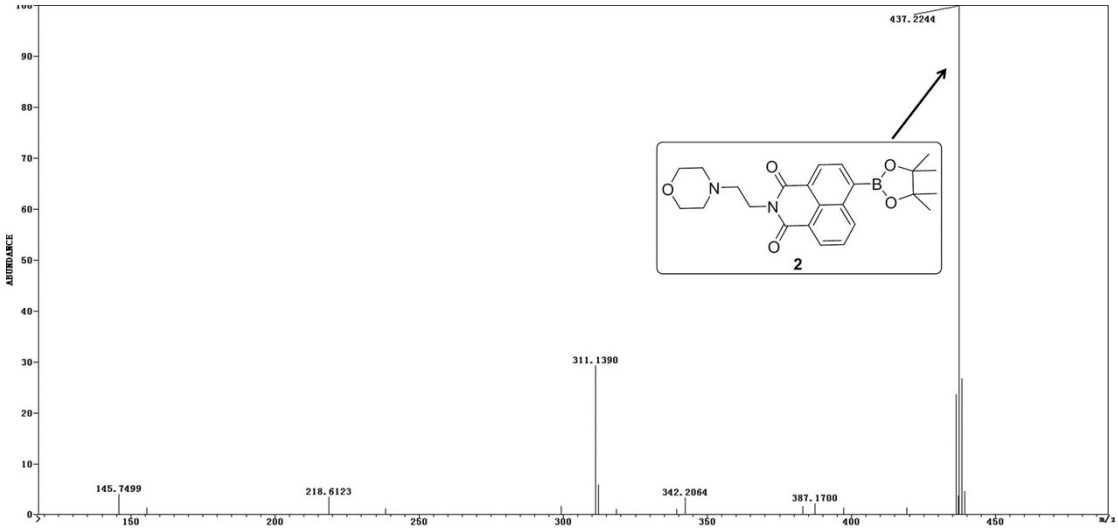

Figure S11 HRMS (ESI) spectrum of compound **2**.

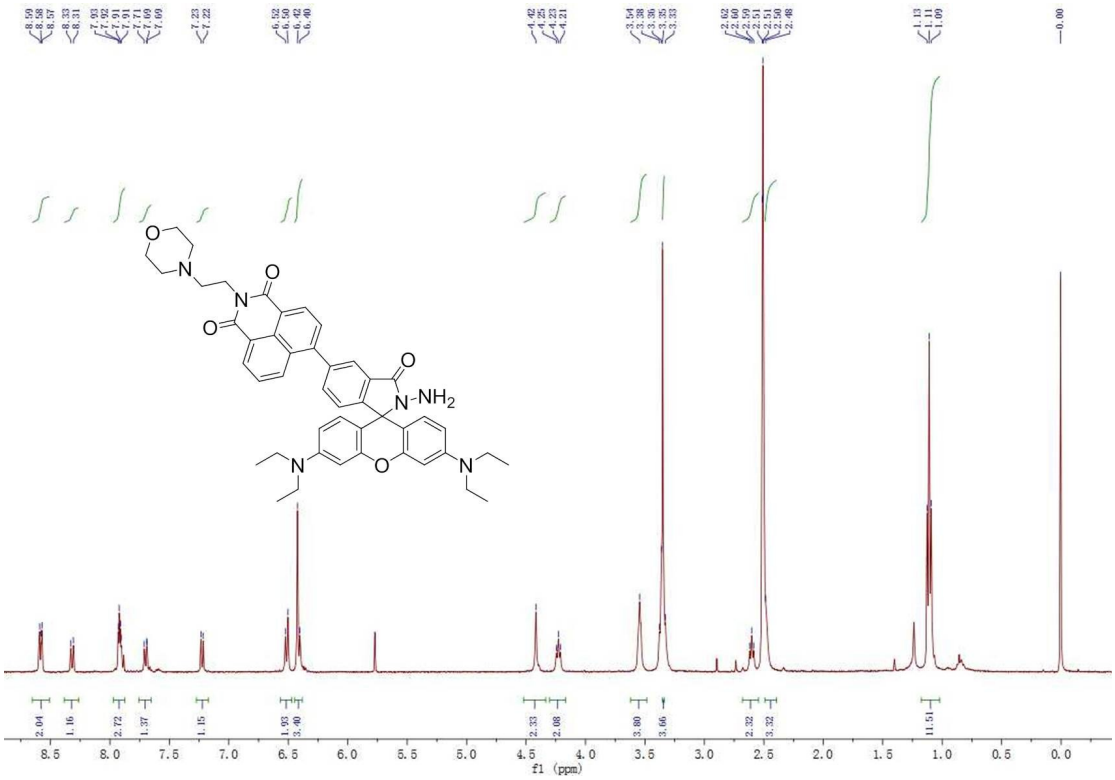

Figure S12 ^{1}H-NMR (DMSO-d_6) spectrum of compound **Lys-Cu**.

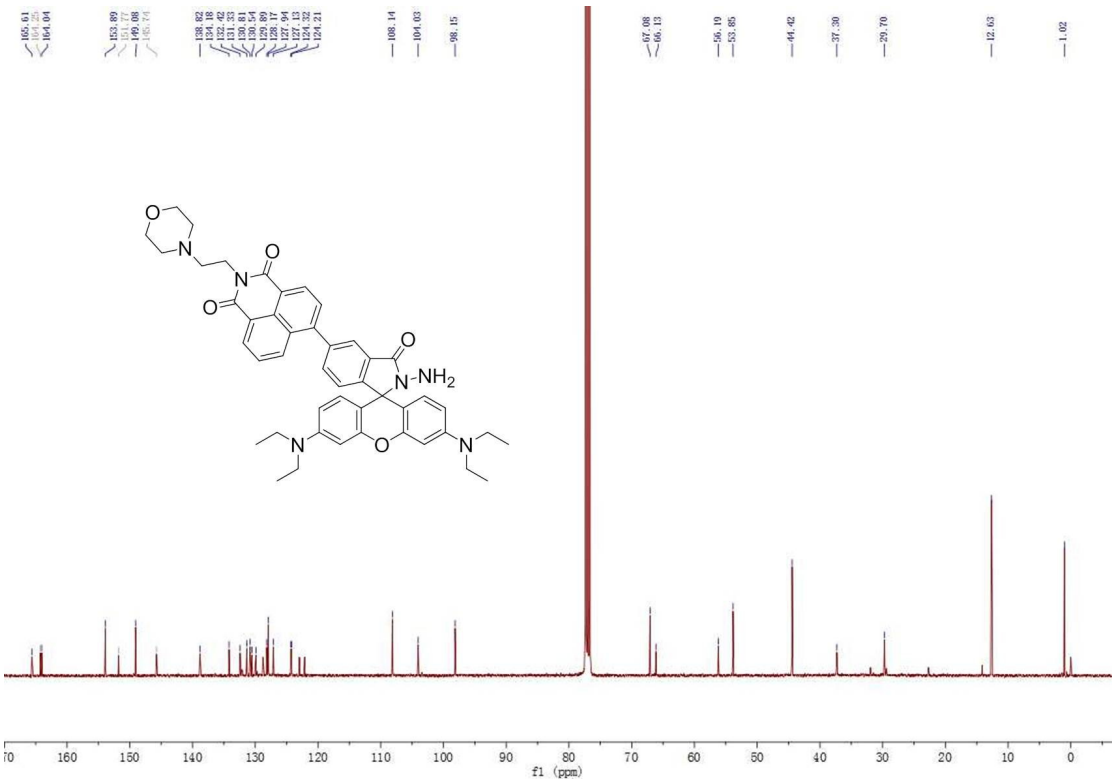

Figure S13 ^{13}C-NMR ($CDCl_3$) spectrum of compound **Lys-Cu**.

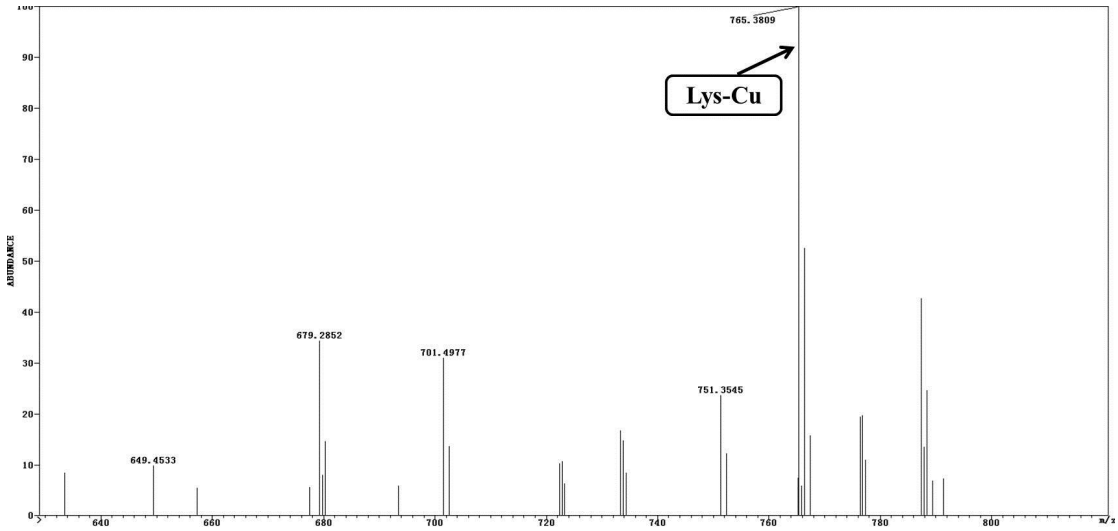

Figure S14 HRMS (ESI) spectrum of compound **Lys-Cu**.