Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Supporting Information

A multi stimuli responsive behavior material with rhodamine B and carbazole groups

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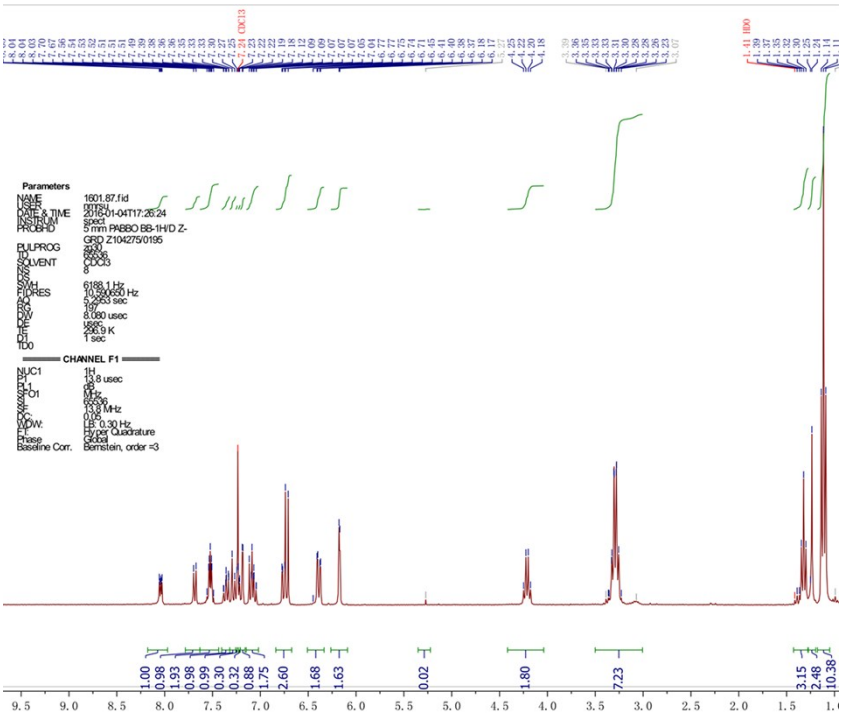

Fig. S1 The ^{1}H NMR of CAXO in chloroform

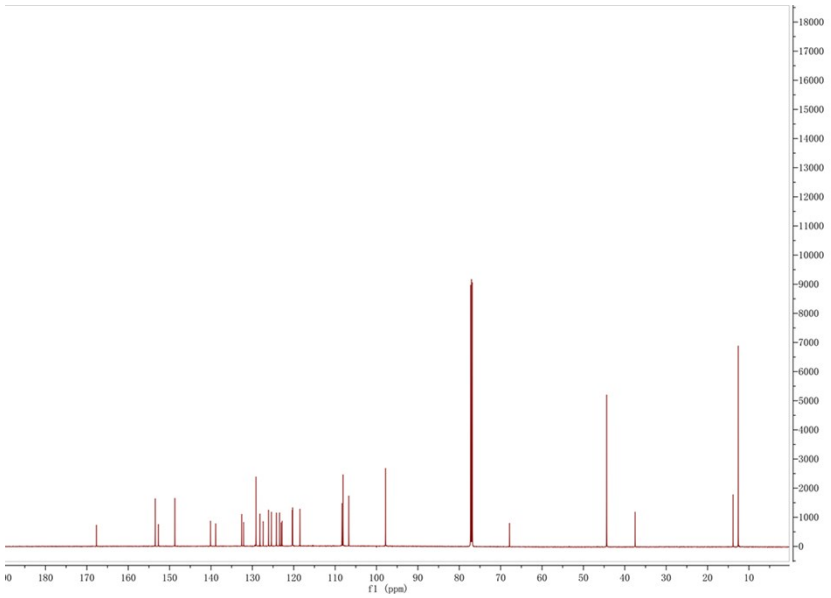

Fig. S2 The ^{13}C NMR of CAXO in chloroform

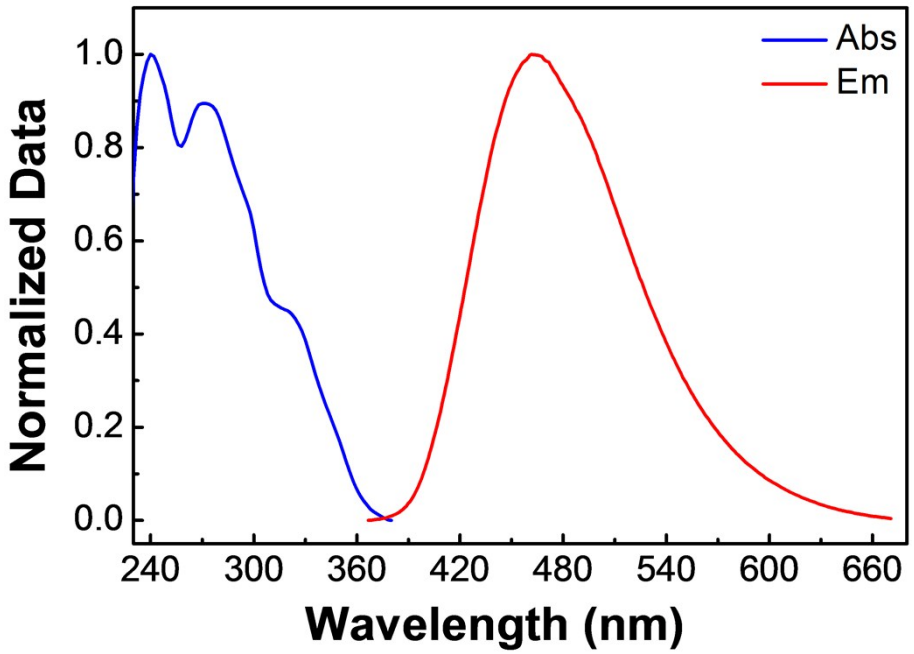

Fig.S3 The UV-Vis absorption and fluorescence emission spectra of CAXO in CH_2Cl_2.

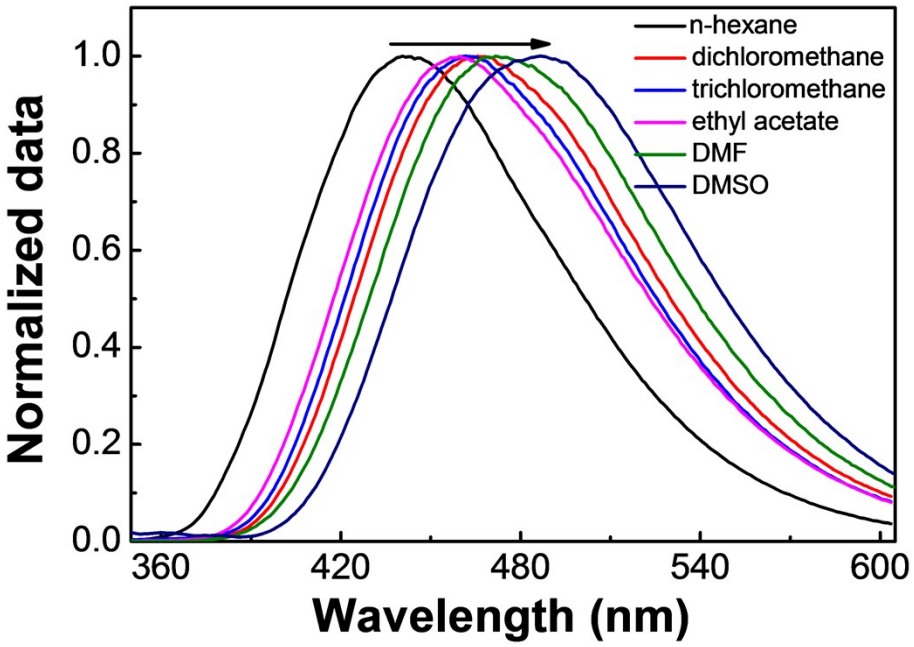

Fig.S4 The fluorescence spectra of CAXO with the increase of solvent polarity.

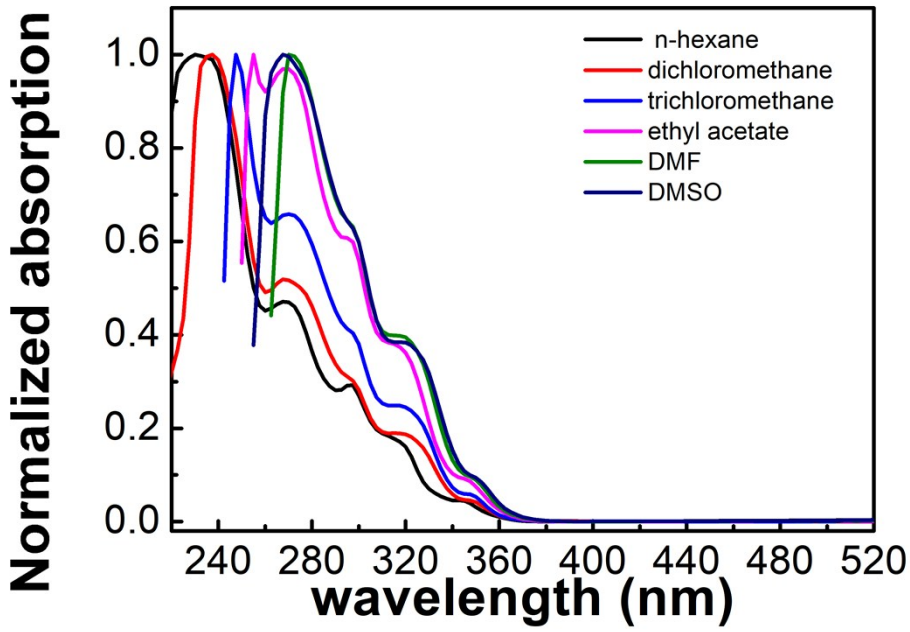

Fig.S5 The UV-Vis absorption spectra of CAXO in different polar solvents.

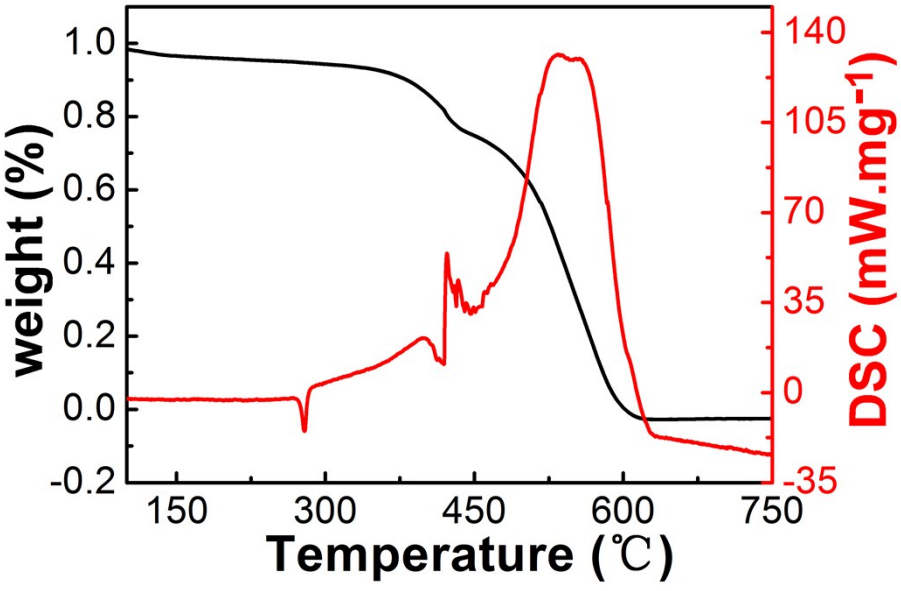

Fig.S6 TGA thermogram of CAXO with a heating rate of 5 ºC/min under nitrogen atmosphere and DSC.

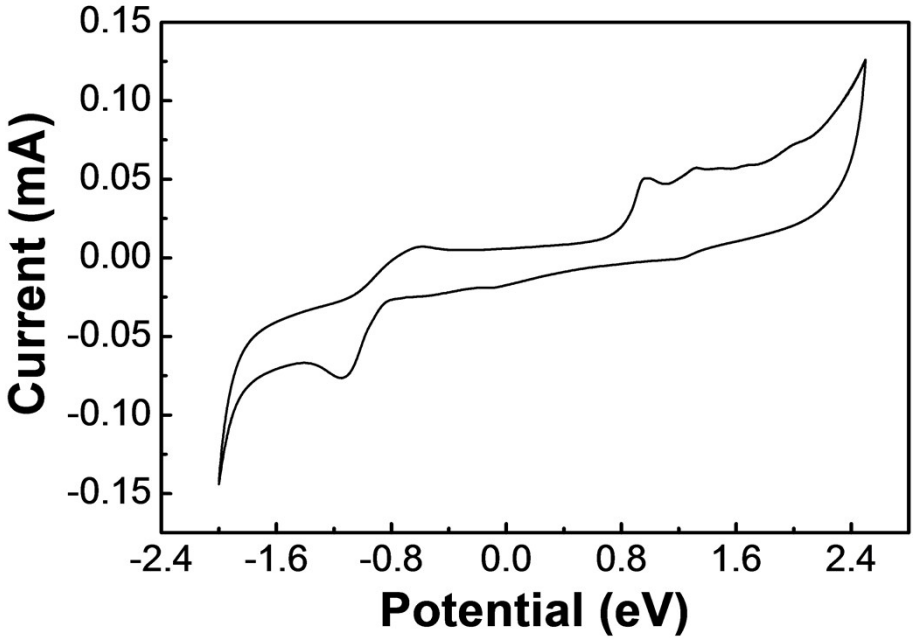

Fig.S7 Cyclic voltammogram of CAXO. The supporting electrolyte was 0.10 mol/L Bu_4NClO_4 in acetonitrile and the scan rate was 0.10 V/s.

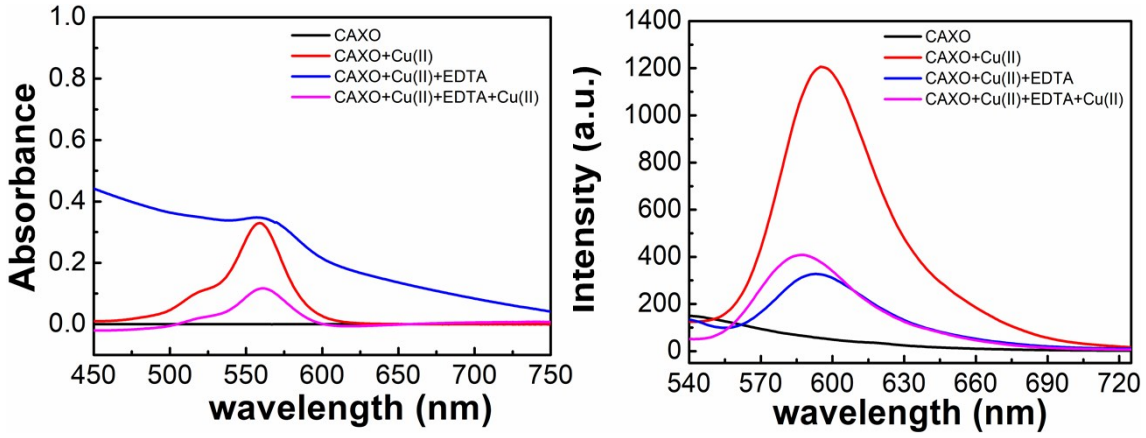

Fig.S8 The absorption and emission spectra corresponding to color change by Cu(II) and EDTA, respectively. The concentration of CAXO in acetonitrile was 3×10^{-5} mol/L, and the amount of EDTA added was 10 times the equivalent of Cu(II).

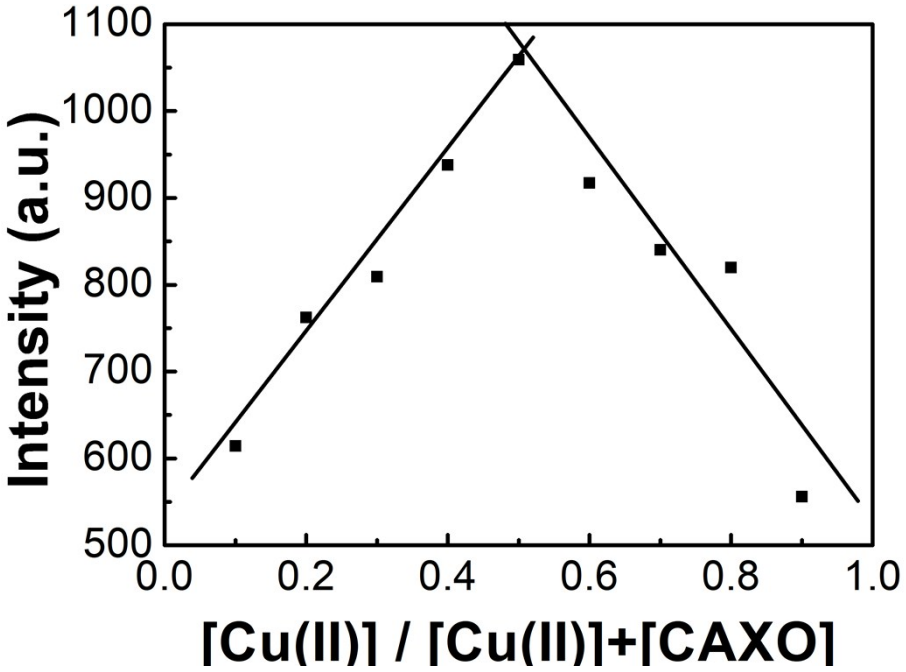

Fig.S9 Job-plot curve of CAXO with Cu(II) in $CHCl_3$. The total concentration of CAXO and Cu(II) were 3.0×10^{-5} mol/L, respectively.

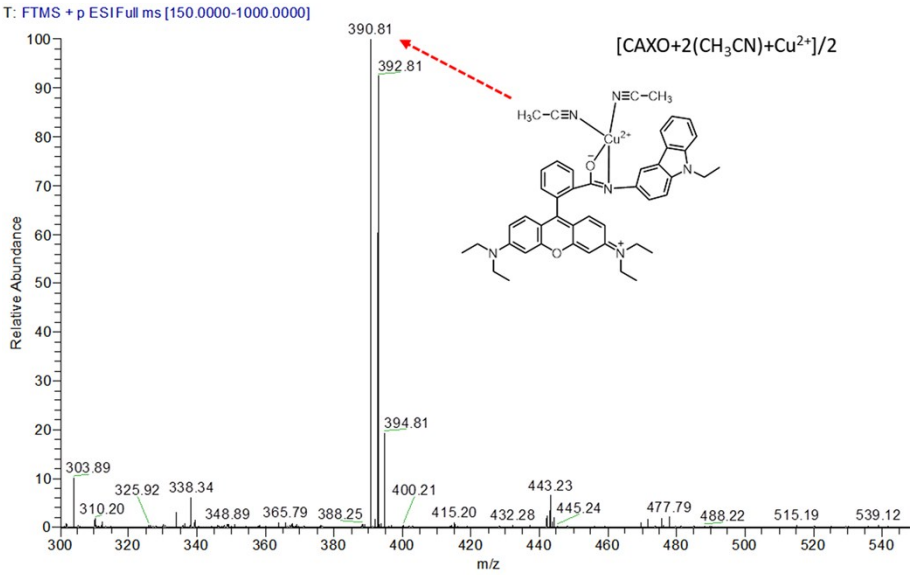

Fig.S10 ESI-MS spectrum of reaction between CAXO with Cu(II).

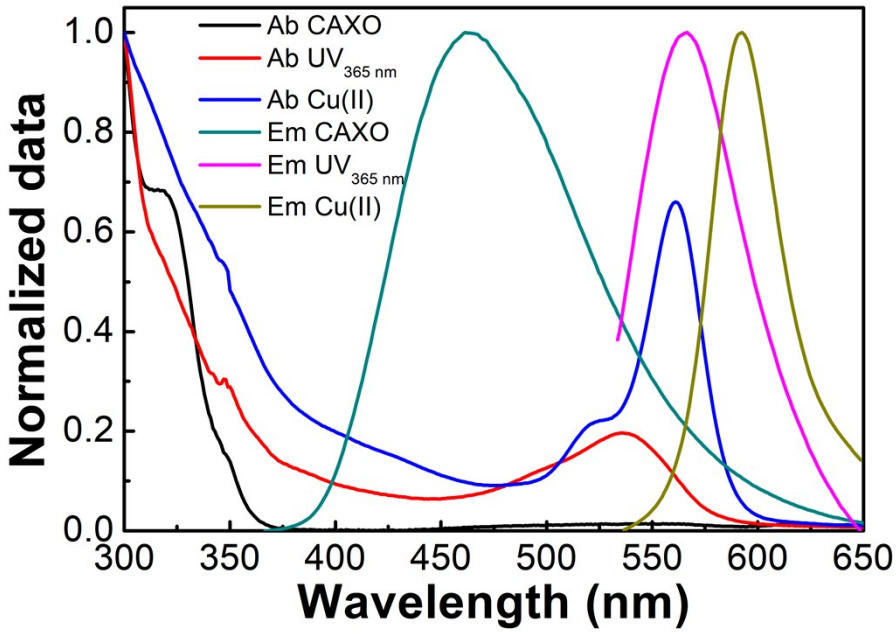

Fig.S11 The UV-vis absorption and fluorescence emission spectra of CAXO in $CHCl_3$ solution, in the present of metal ions and under UV light irradiation, respectively.

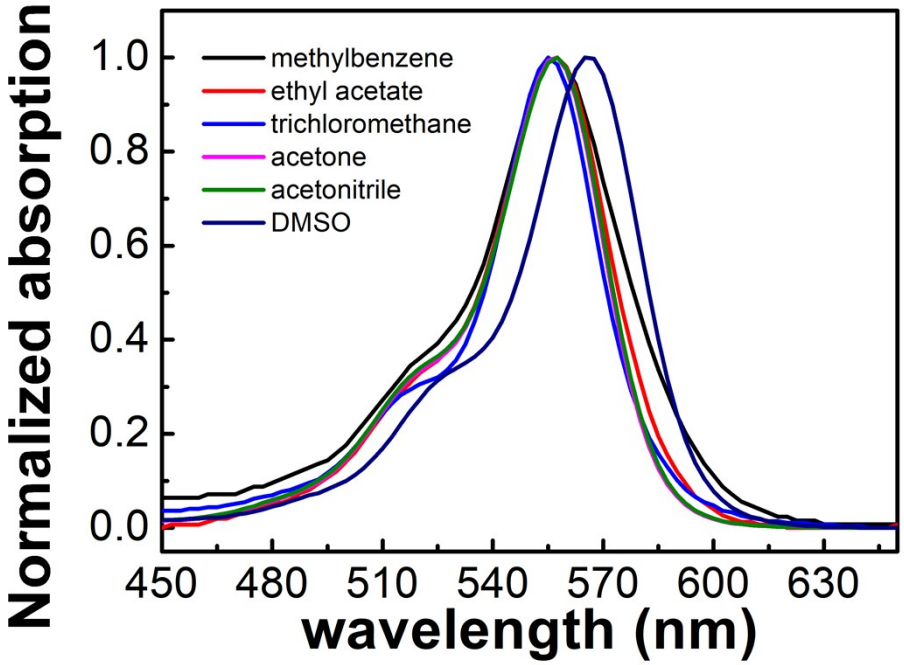

Fig.S12 the absorption spectra of CAXO-Cu(II) in different polar solvents.

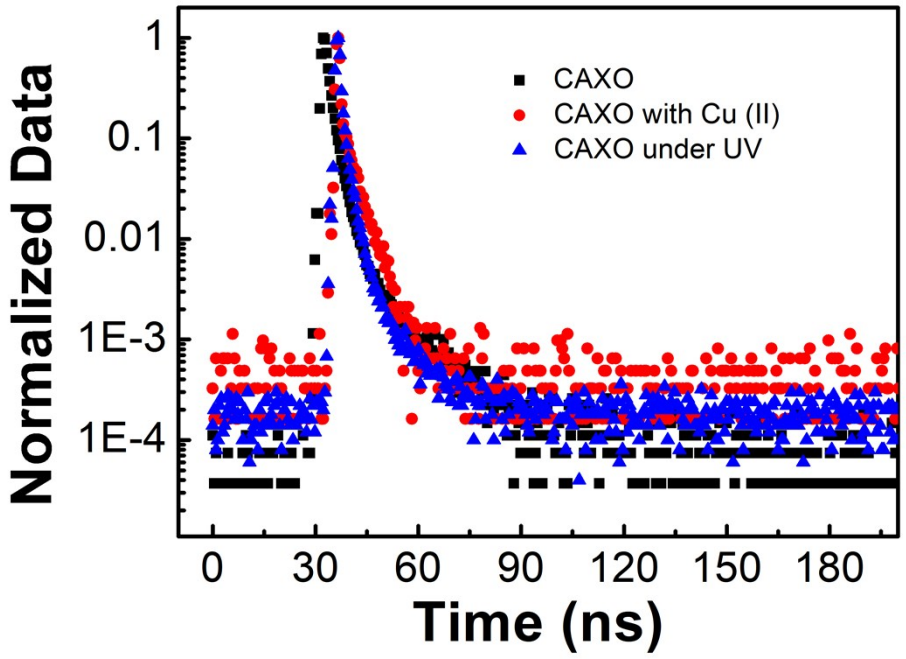

Fig.S13 The fluorescence lifetime decay curve of CAXO, CAXO with Cu(II) and CAXO under UV in $CHCl_3$.

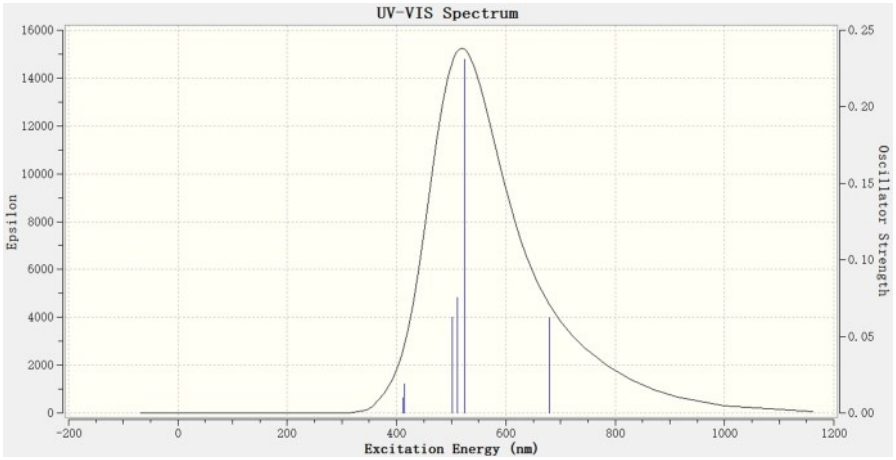

Fig. S14 The absorption spectrum by theoretical calculation, in chloroform using G09 program package. The molecular orbital were calculated by TD-DFT, with the hybrid B3LYP functional and the 6-31G (d,p) basis set.

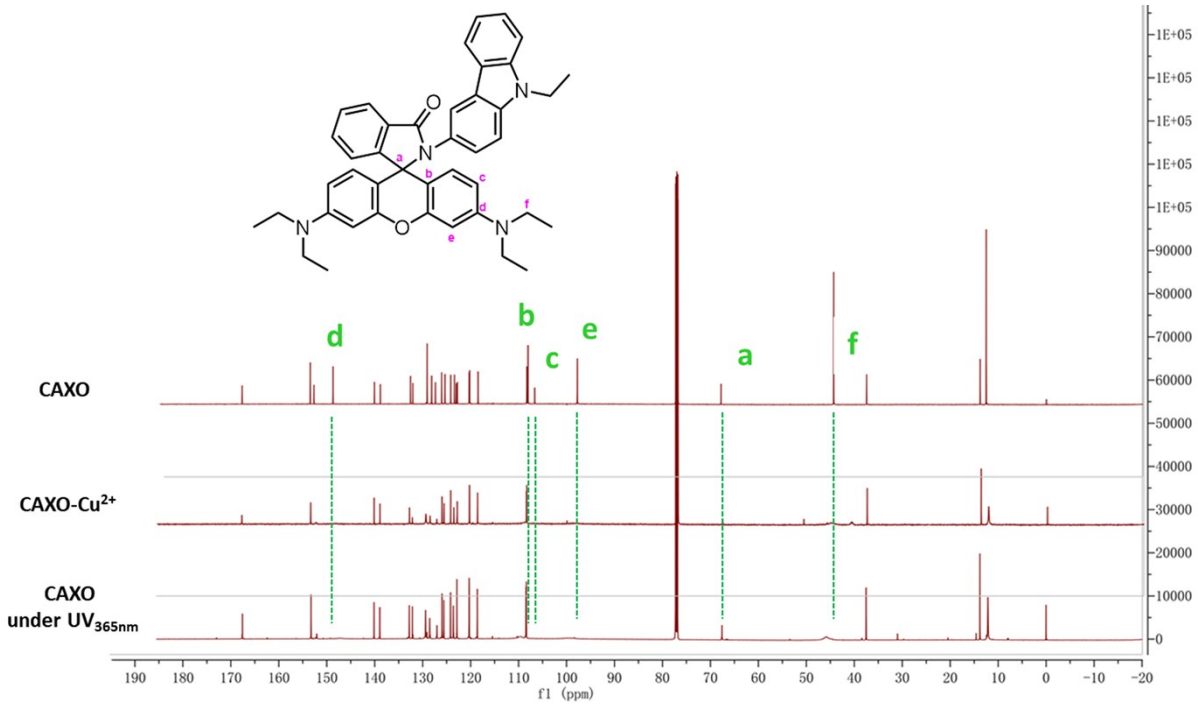

Fig. S15 The^{13}C NMR of CAXO, CAXO with Cu(II) and CAXO under UV in $CHCl_3$, respectively.

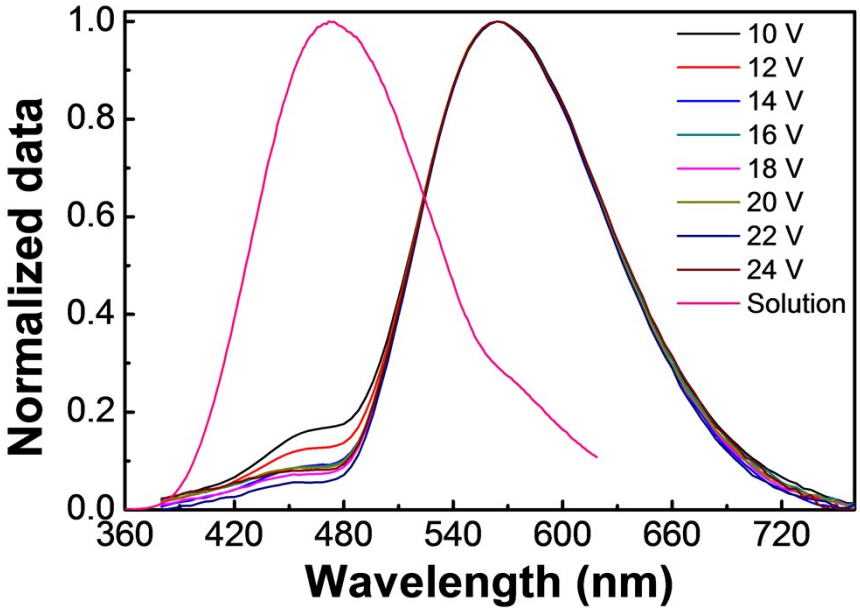

Fig. S16 Fluorescence emission and electroluminescence spectra of CAXO in solution and different voltages, respectively.

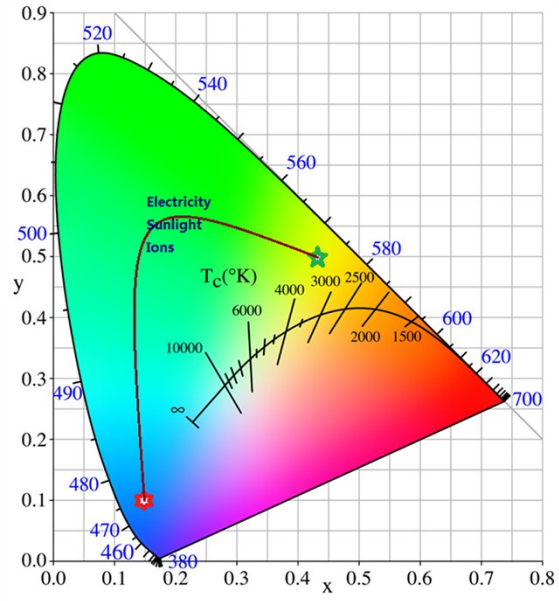

Fig .S17 CIE chromaticity diagram of CAXO before and after interaction with ions, electrons and photons, respectively.