Electronic Supplementary Material (ESI) for Dalton Transactions.

Supporting Information

A colorimetric sensor for the sequential detection of Cu^{2+} and CN^- in fully aqueous media: practical performance of Cu^{2+}

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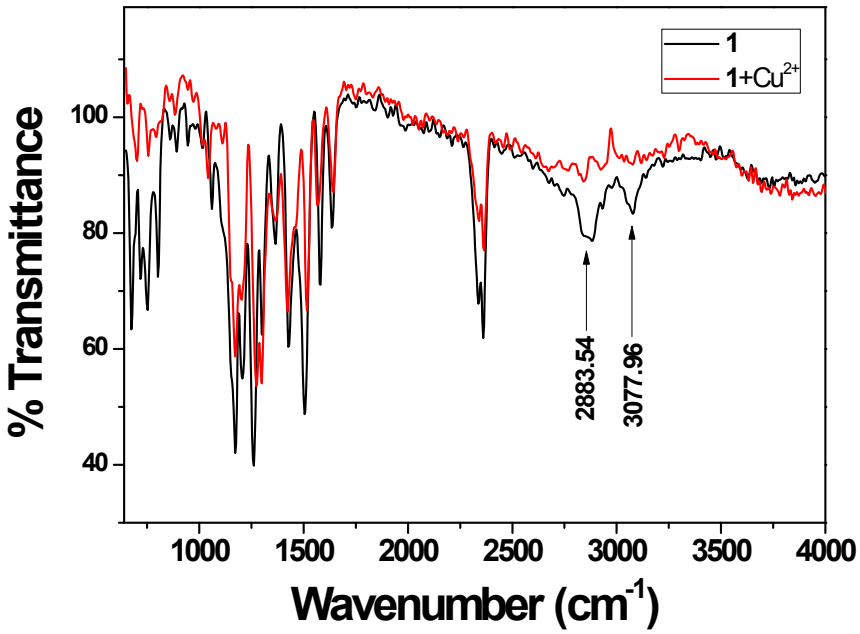

Fig. S1 FT-IR spectra of **1** and Cu^{2+}-2ↀ**1** complex.

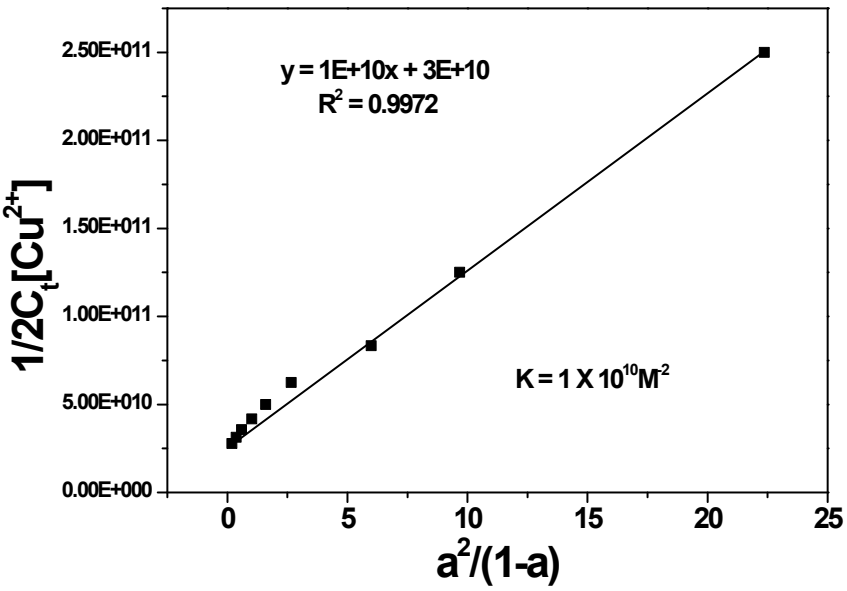

Fig. S2 Li's equation plot (absorbance at 525 nm) of **1**, assuming 2:1 stoichiometry for association between **1** and Cu^{2+}.

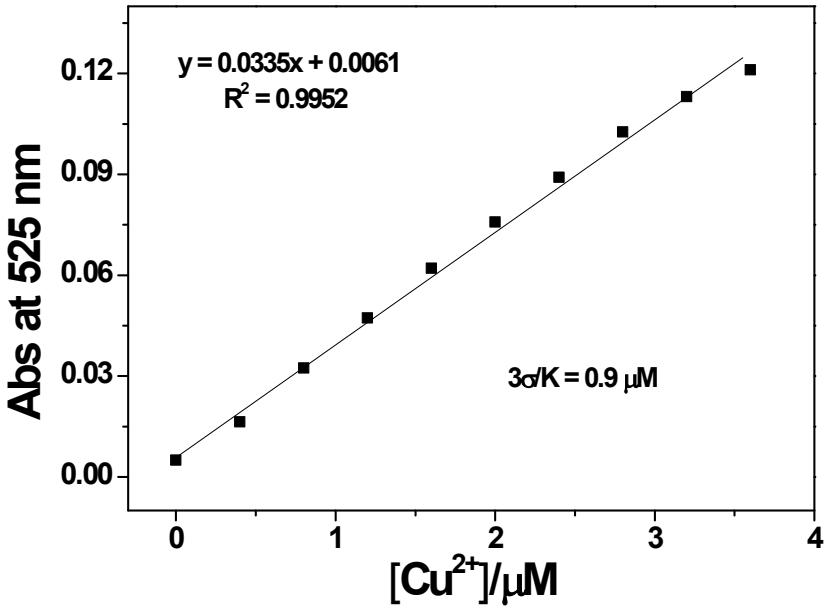

Fig. S3 Determination of the detection limit based on change in the ratio (absorbance at 525 nm) of **1** (10 μM) with Cu^{2+}.

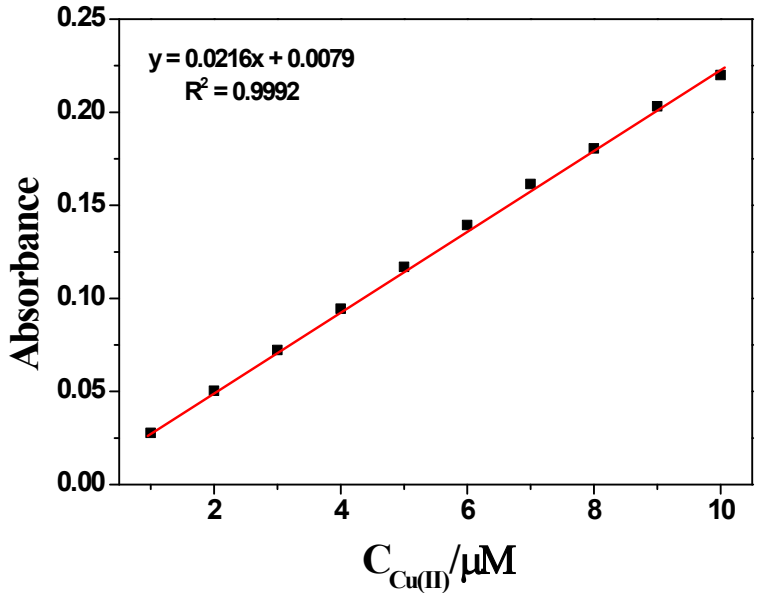

Fig. S4 Absorption intensity (at 525 nm) of **1** as a function of Cu^{2+} concentration. [**1**] = 30 μmol/L and [Cu^{2+}] = 1.00-10.00 μmol/L in 10 mM bis-tris buffer-DMSO solution (8:2, pH 7.0).

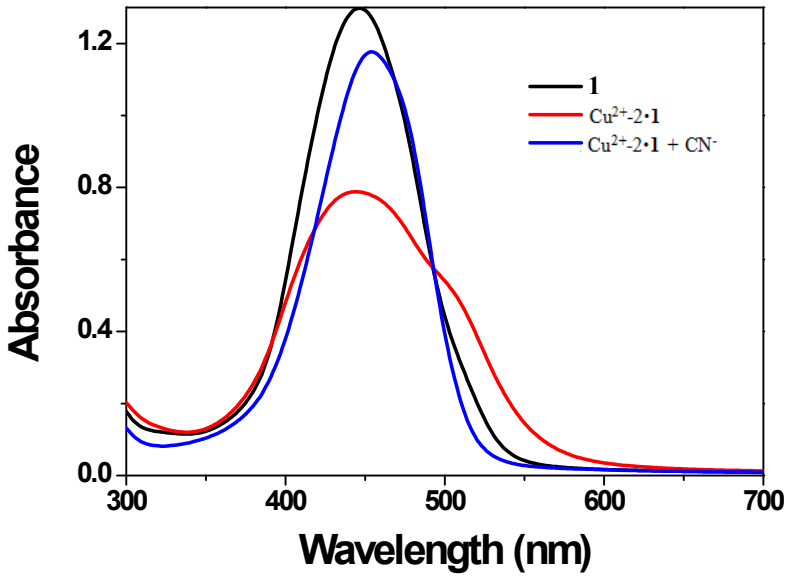

Fig. S5 UV-vis spectra of **1** (30 μM), Cu^{2+}-2ↀ**1** (Cu^{2+} = 15 μM), and Cu^{2+}-2ↀ**1** + CN^- (200 equiv) in bis-tris buffer solution.

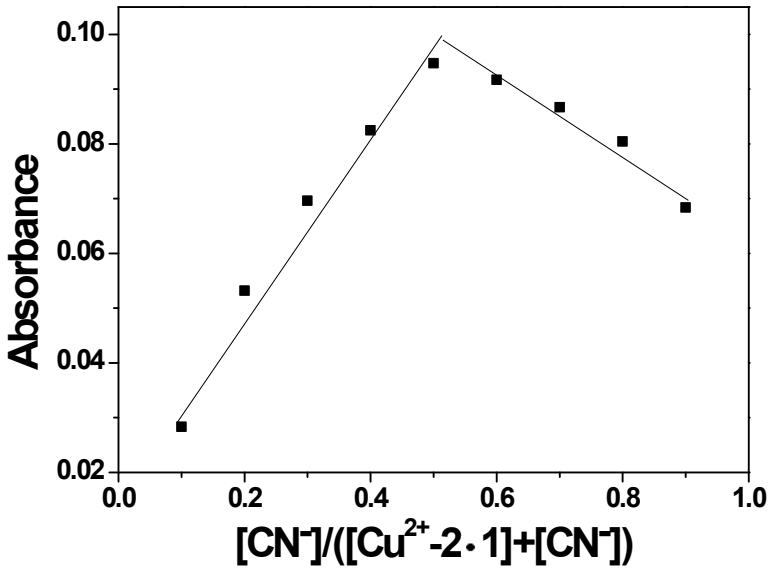

Fig. S6 Job plot of Cu^{2+}-2ↀ**1** complex and CN^-, where the intensity at 454 nm was plotted against the mole fraction of CN^-. The total concentrations of CN^- with Cu^{2+}-2ↀ**1** complex were 100 μM.

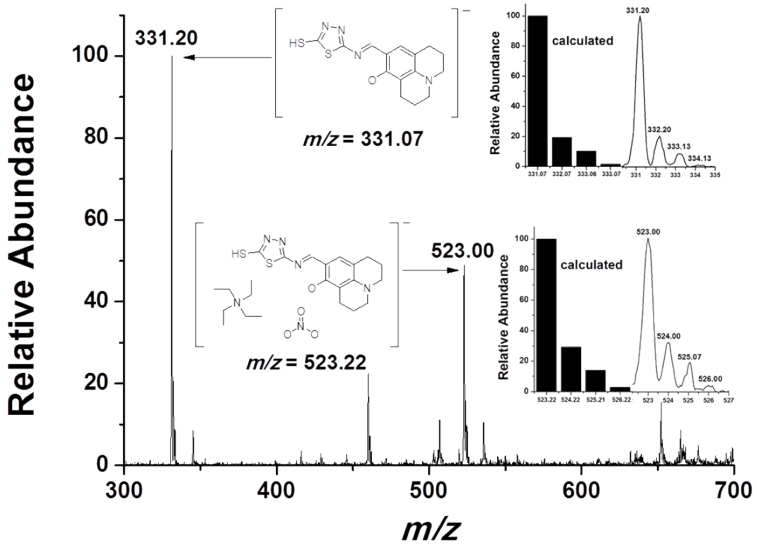

Fig. S7 Negative-ion electrospray ionization mass spectrum of Cu^{2+}-2ↀ**1** (0.1 mM) upon addition of CN^- (1 equiv).

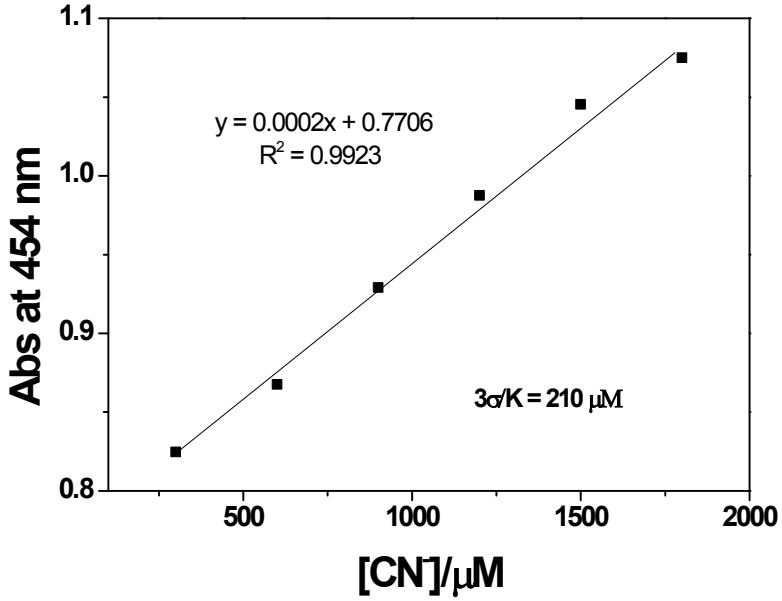

Fig. S8 Determination of the detection limit based on change in the ratio (absorbance at 454 nm) of Cu^{2+}-2ග**1** (15 μM) with CN^-.

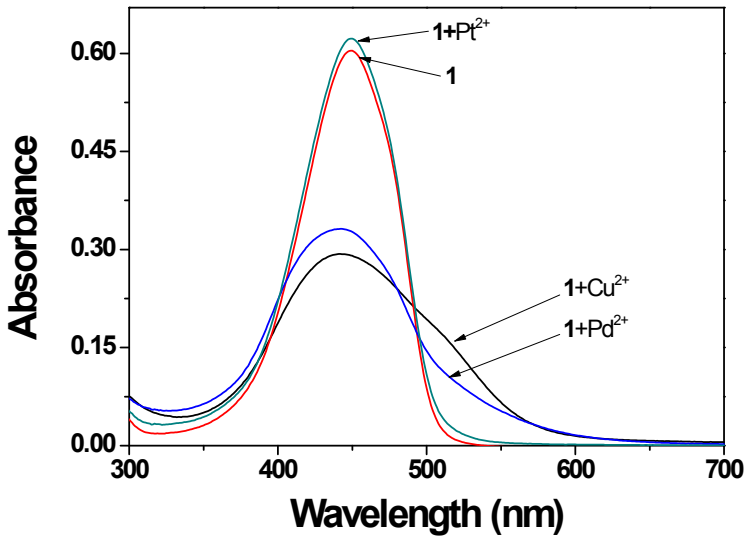

Fig. S9 UV-vis spectra of **1** (10 μM), **1**+Cu^{2+}, **1**+Pd^{2+} and **1**+Pt^{2+} (0.5 equiv) in bis-tris buffer solution.