A highly selective ratiometric fluorescent probe for the cascade detection of Zn^{2+} and $H_2PO_4^-$ and its application in living cell image

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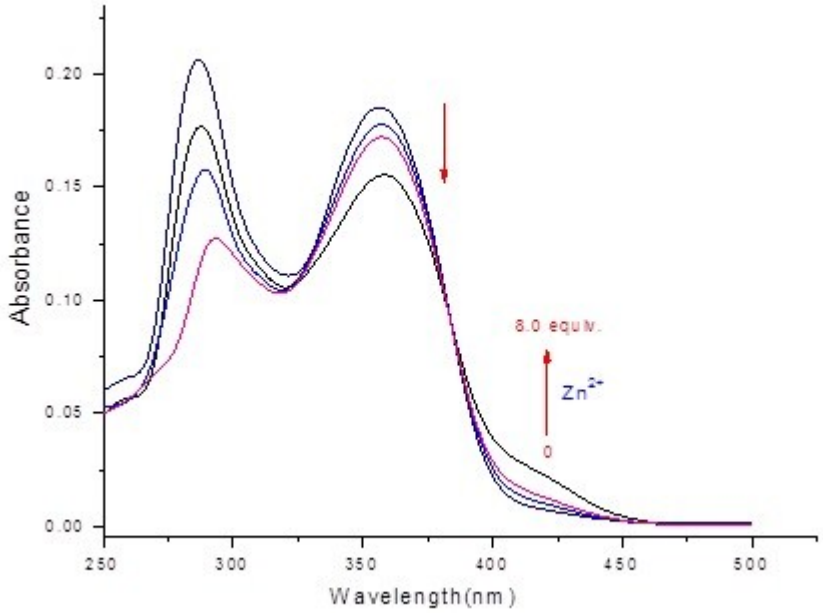

Fig. S1 The absorption spectrum of $\mathbf{L_1}$ upon addition of Zn^{2+}

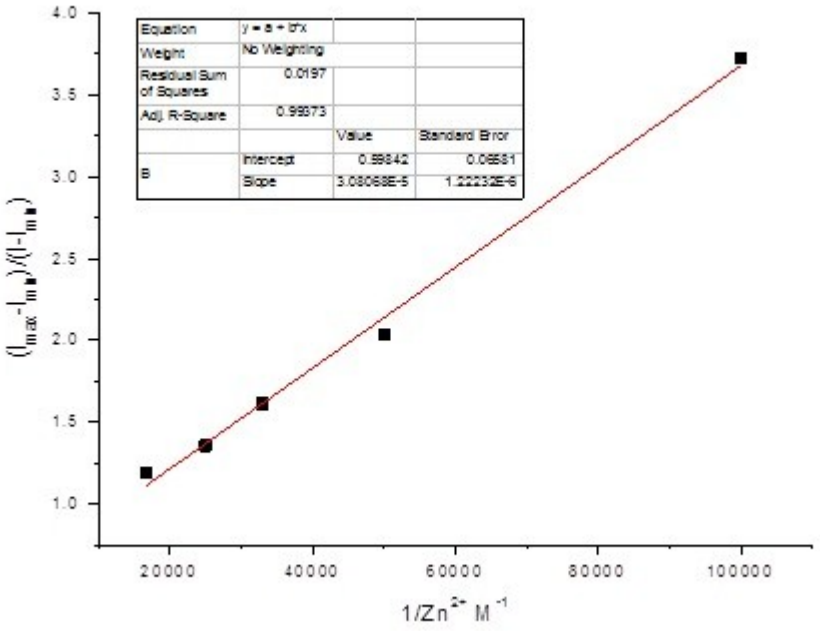

Fig. S2 Benesi-Hildebrand plot of $\mathbf{L_1}$ (5 μM) assuming a 1:1 stoichiometry for association between $\mathbf{L_1}$ and Zn^{2+} in DMF/H_2O (8/2, v/v) solution by emission spectroscopy.

$Y = 0.59842 + 3.080688 \times 10^{-5} X$, $R = 0.99373$, $K = A/B = 1.94 \times 10^4$ M^{-1}

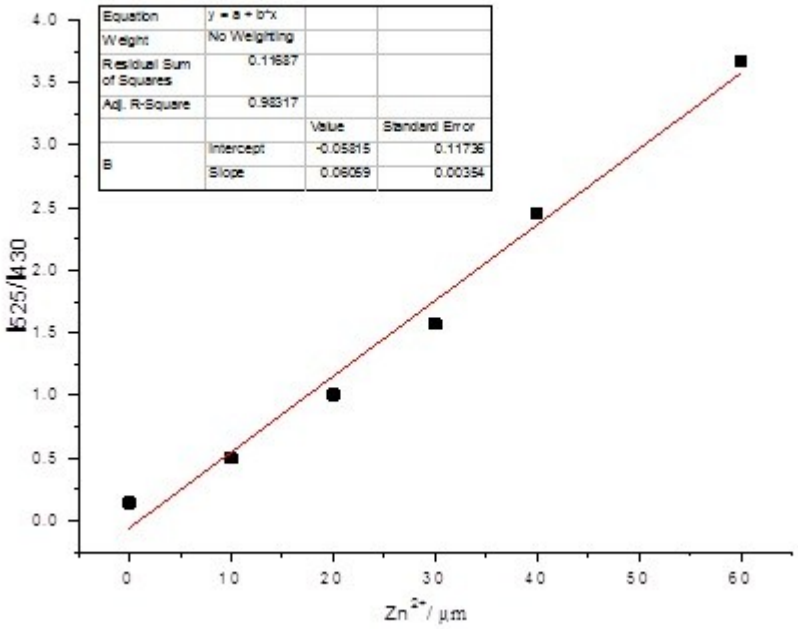

Fig. S3 The detection limit was calculated with the following equation: Detection limit = 3σ/S σ=0.000837 μm S=0.06059 Detection limit = 3σ/S=41.0 nM.

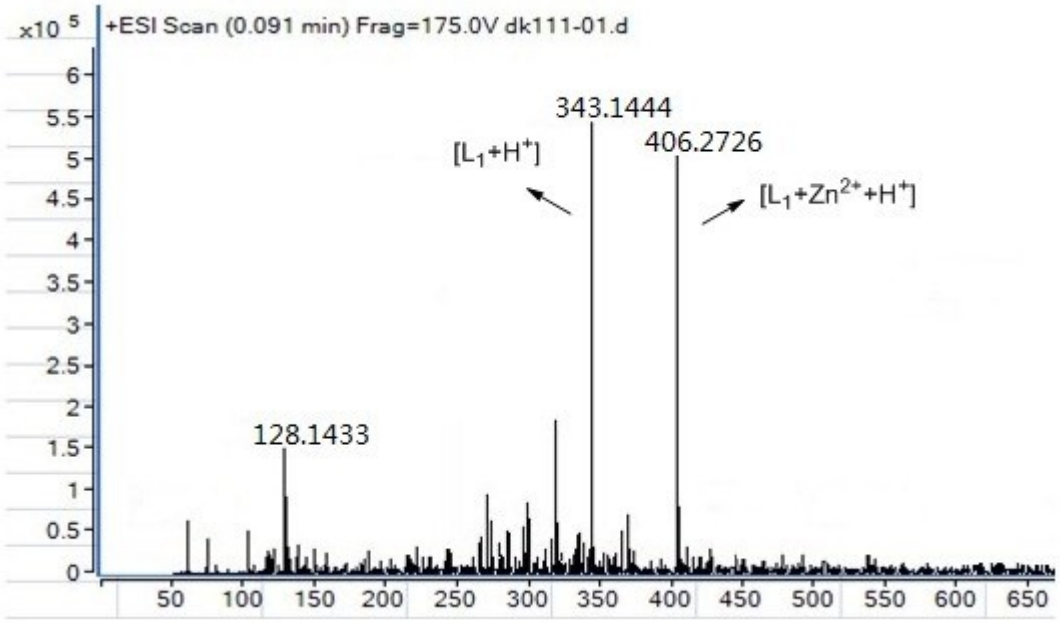

Fig. S4 The mass spectra of $\mathbf{L_1}$ and $\mathbf{L_1}$-Zn complex

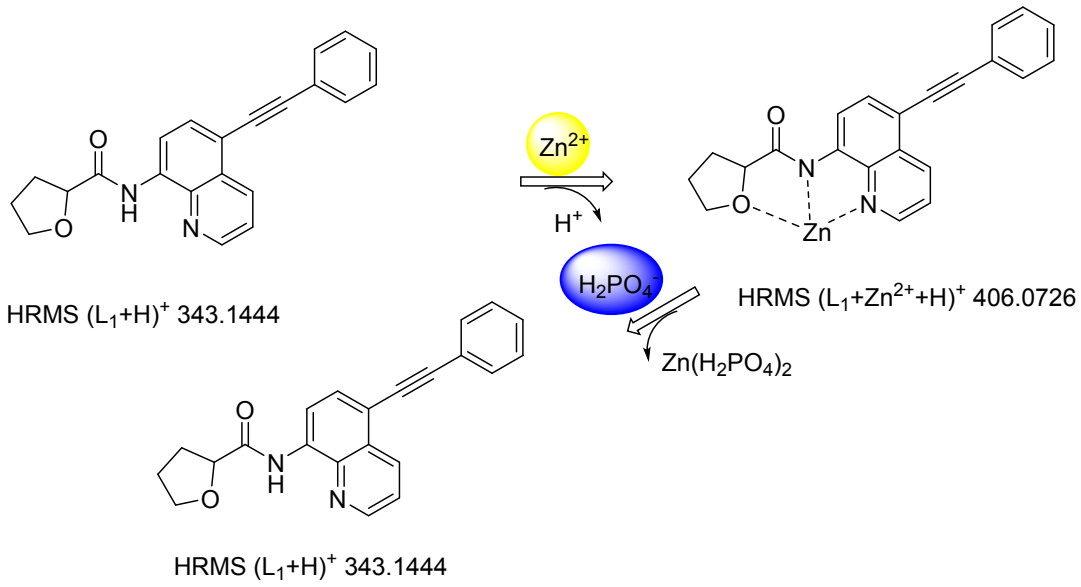

Fig. S5 The proposed mechanism of **L_1** for the cascade detection of Zn^{2+} and $H_2PO_4^-$

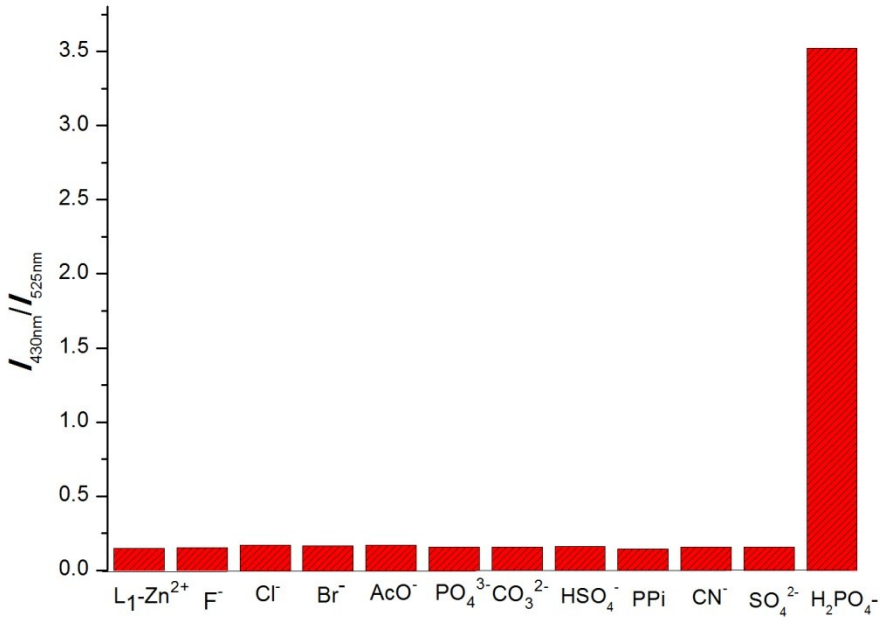

Fig. S6 Selectivity of the $\mathbf{L_1}$–Zn^{2+} complex to the anions

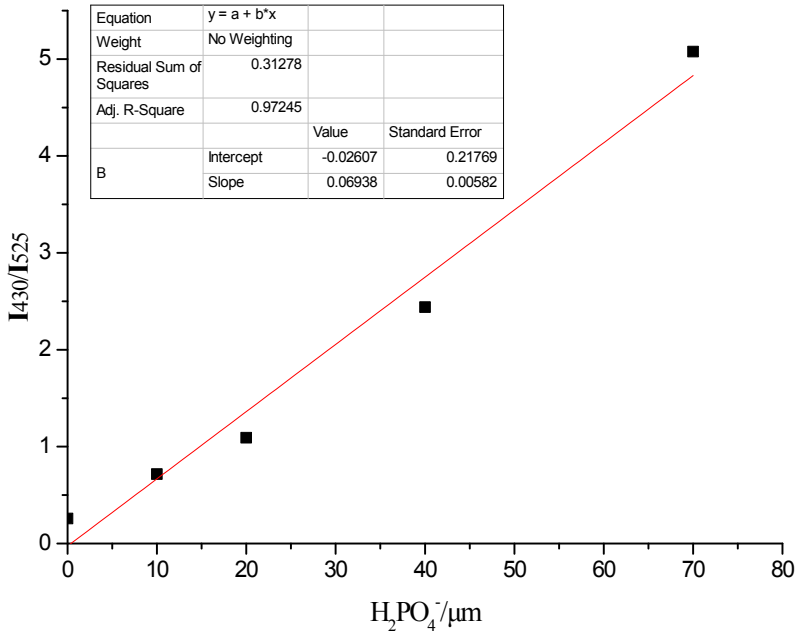

Fig. S7 The detection limit was calculated with the following equation: Detection limit = 3σ/S σ=0.00114 μm S=0.06938 Detection limit = 3σ/S=49.0 nM.

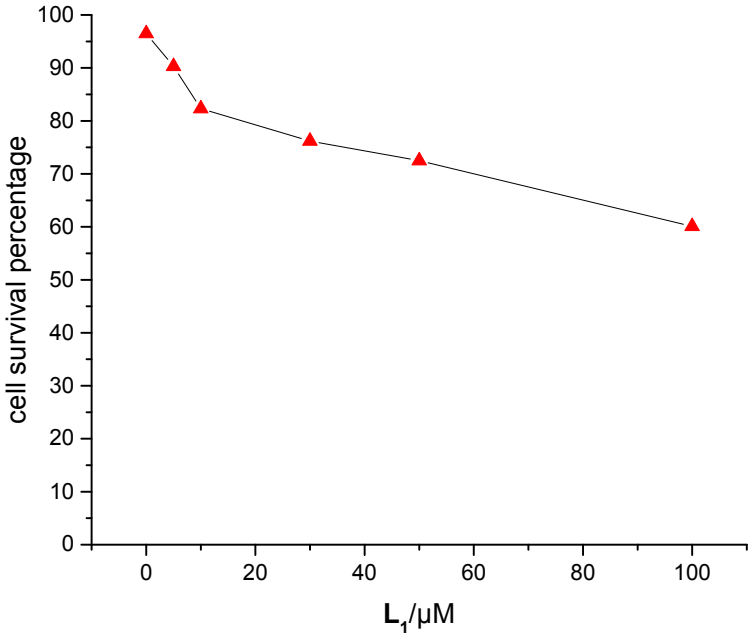

Fig. S8 Cytotoxicity of the $\mathbf{L_1}$ applied to HepG-2 cells treatment with different concentration.

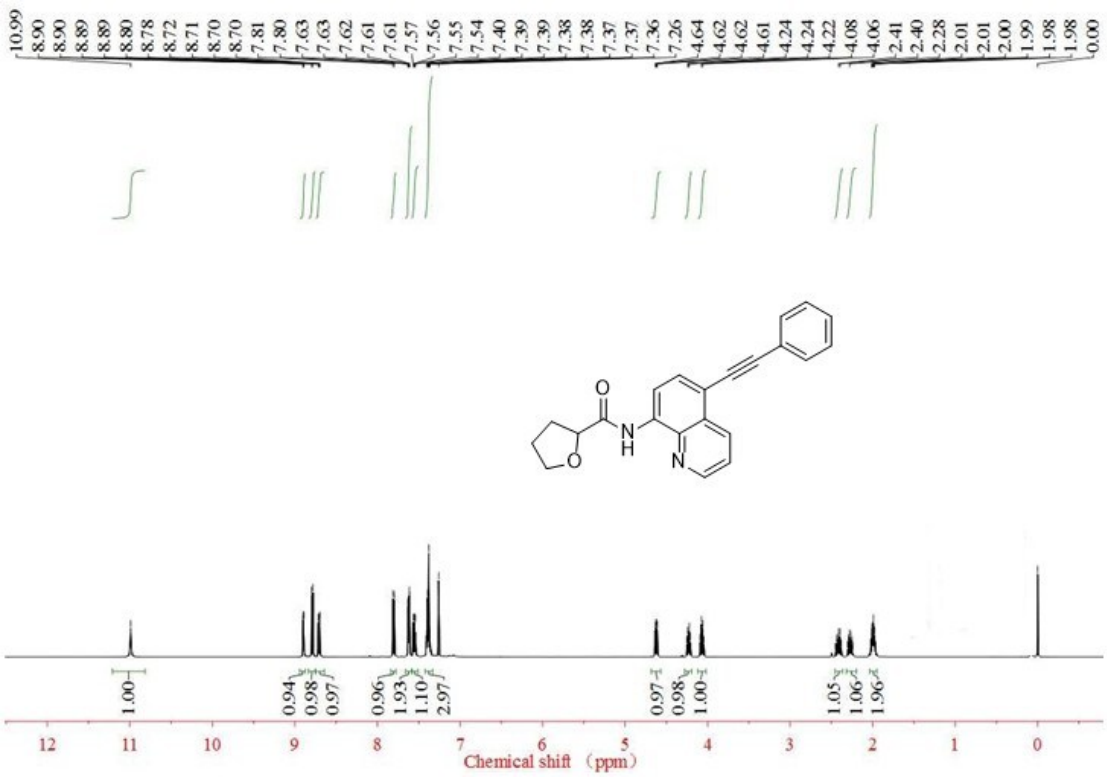

Fig. S9 ^{1}H NMR spectrum of $\mathbf{L_1}$

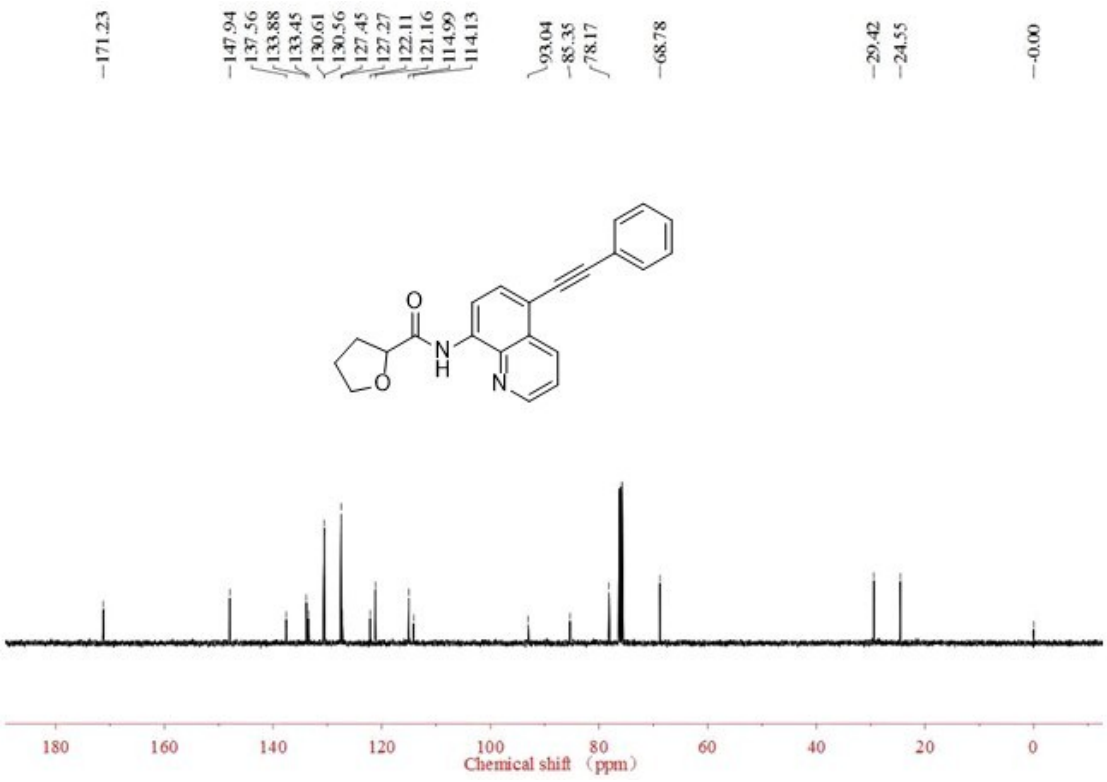

Fig. S10 ^{13}C NMR spectrum of $\mathbf{L_1}$