

Supporting Information

A phenanthrene[9,10-*d*]imidazole-phenol-based fluorescent probe combined ESIPT and AIE for “turn-on” detection of Cu²⁺ with a green-emitting and improved stokes shift and its application

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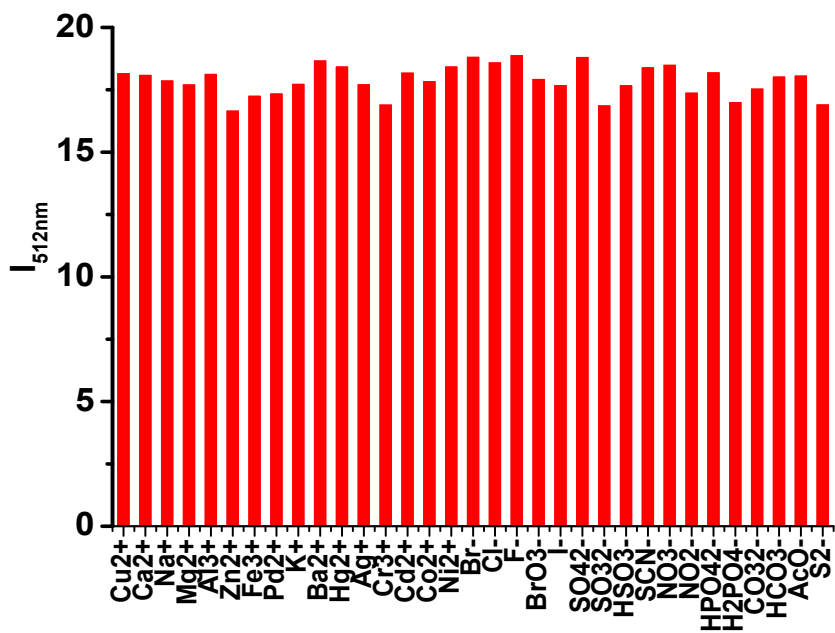


Fig. S1 Fluorescence intensities of PIA(OH)-Py in water/DMF solution with different competing metal cations or anions and Cu²⁺

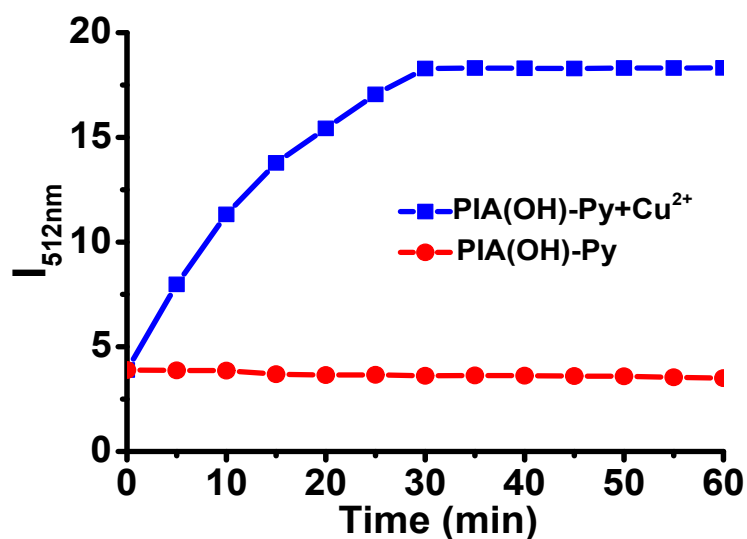


Fig. S2 Time-dependent fluorescence spectra of PIA(OH)-Py (10 μM) upon addition of Cu²⁺ (50 μM , respectively) in aqueous solution ($v_{\text{DMF}}/v_{\text{H}_2\text{O}}$, 1:1, pH=7.40). Blue: PIA(OH)-Py-Cu²⁺; Red: PIA(OH)-Py.

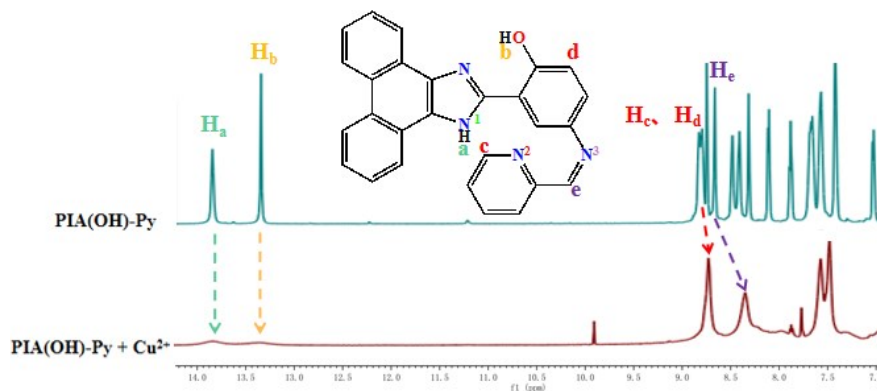


Fig. S3 ^1H NMR spectra of **PIA(OH)-Py** upon the addition of 1.0 equiv. Cu^{2+} ions in $\text{DMSO}-d_6$.

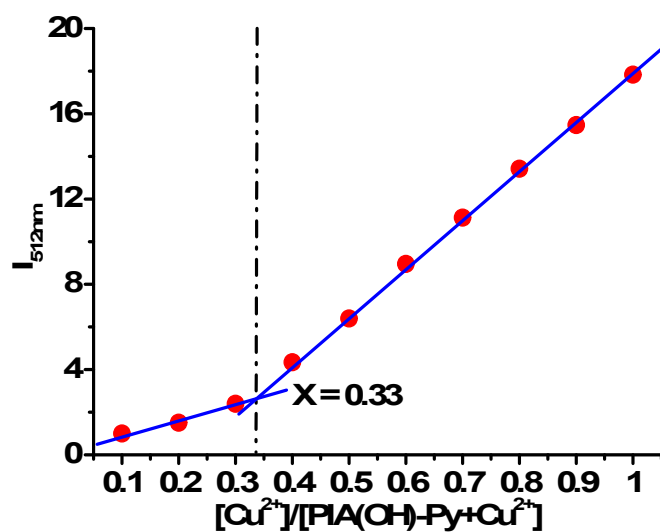


Fig. S4 Job plot for the determination of the stoichiometry of **PIA(OH)-Py** and Cu^{2+} in the complex in $\text{DMF}/\text{H}_2\text{O}$ (1:1, v/v, pH = 7.4) solution.

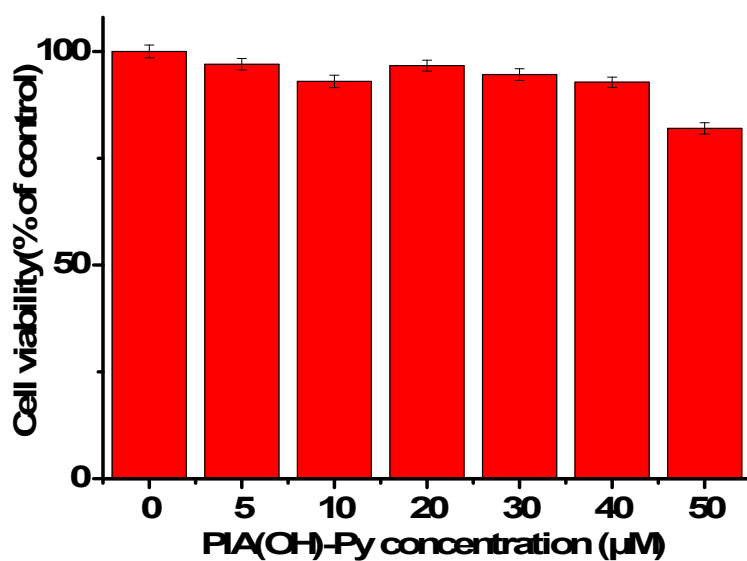


Fig. S5 Cytotoxicity of the probe at various concentrations (0 µM, 5µM, 10 µM, 20 µM, 30 µM, 40µM and 50 µM) in living Hela cells for 3 h. The results are the mean standard deviation of three separate measurements.

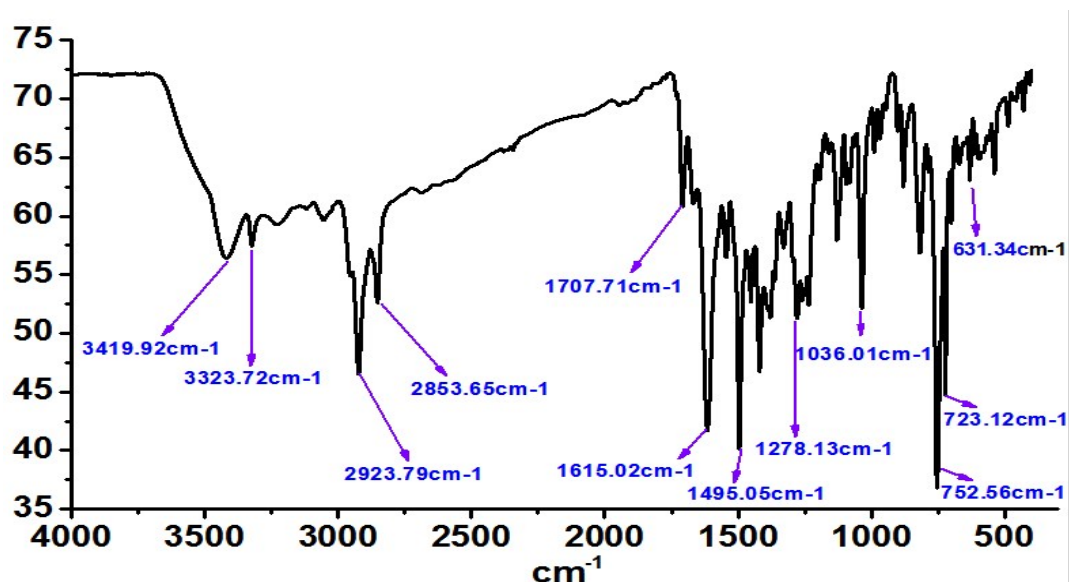


Fig. S6 Infrared spectrum of PIA(OH)-Py

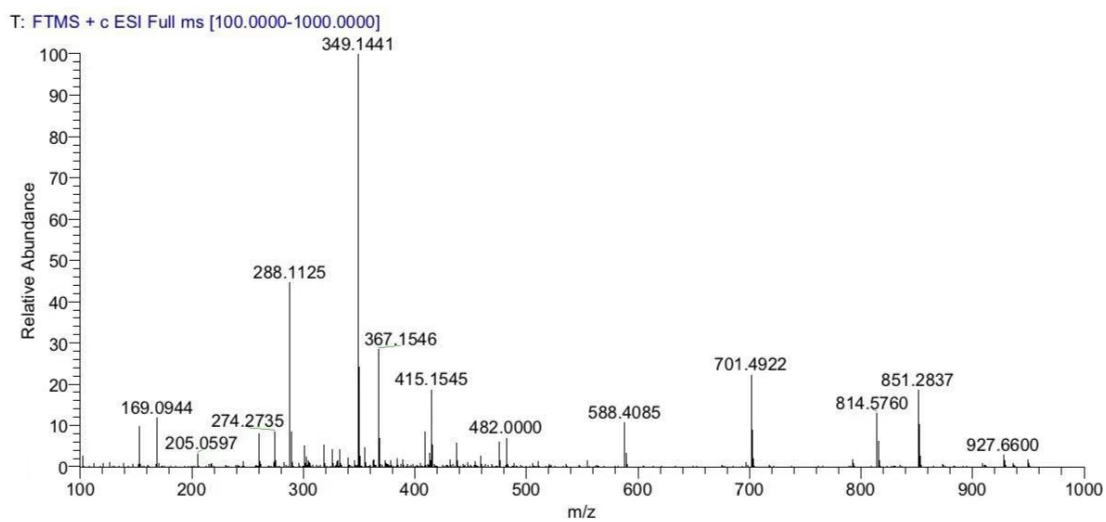


Fig. S9 ESI-MS of **PIA(OH)-Py**