

Supporting Information for

A novel *rhodamine-3,4-dihydro-2H-1,3-benzoxazine* conjugate as a highly sensitive and selective chemosensor for Fe³⁺ ion with cytoplasmic cell imaging possibilities

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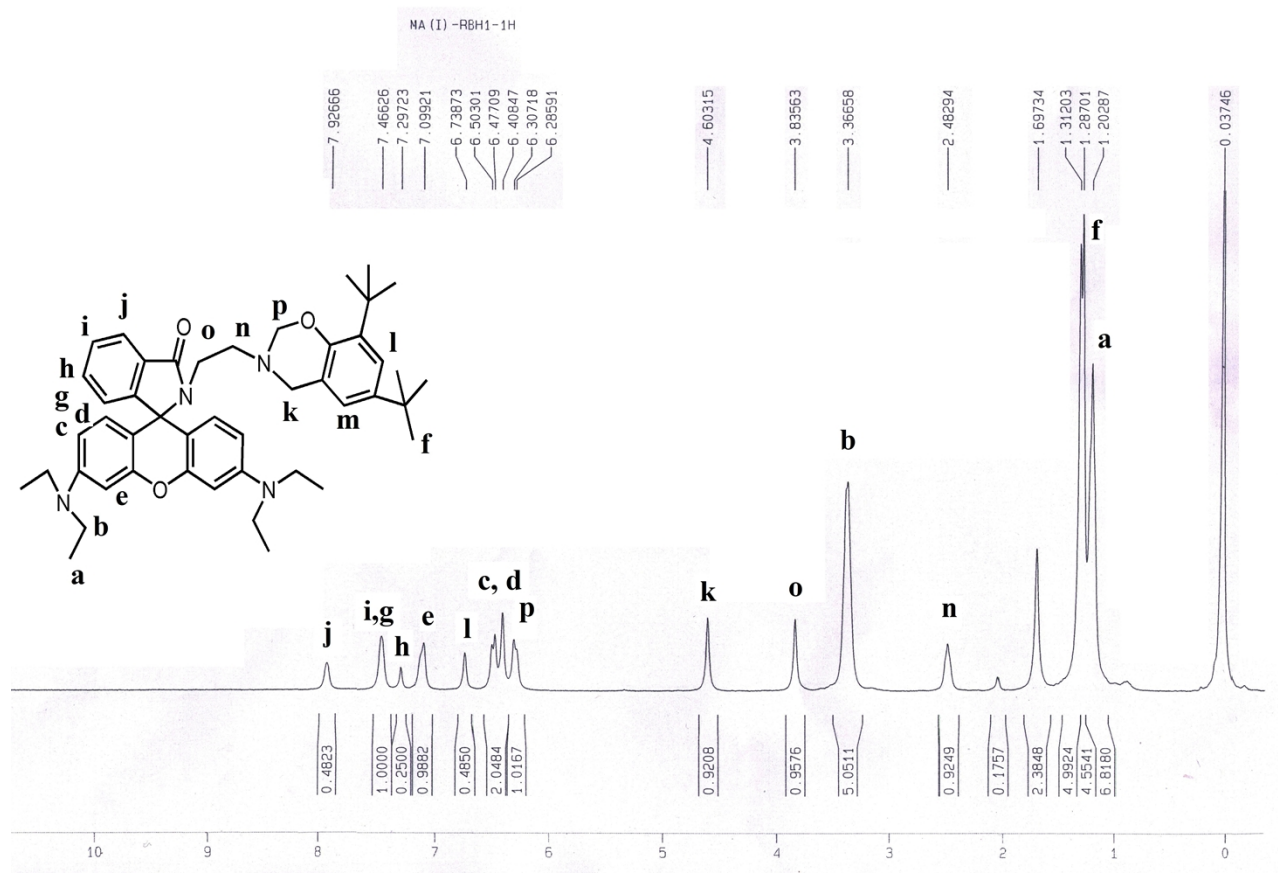


Fig S1. ^1H NMR spectrum of RH-BZN.

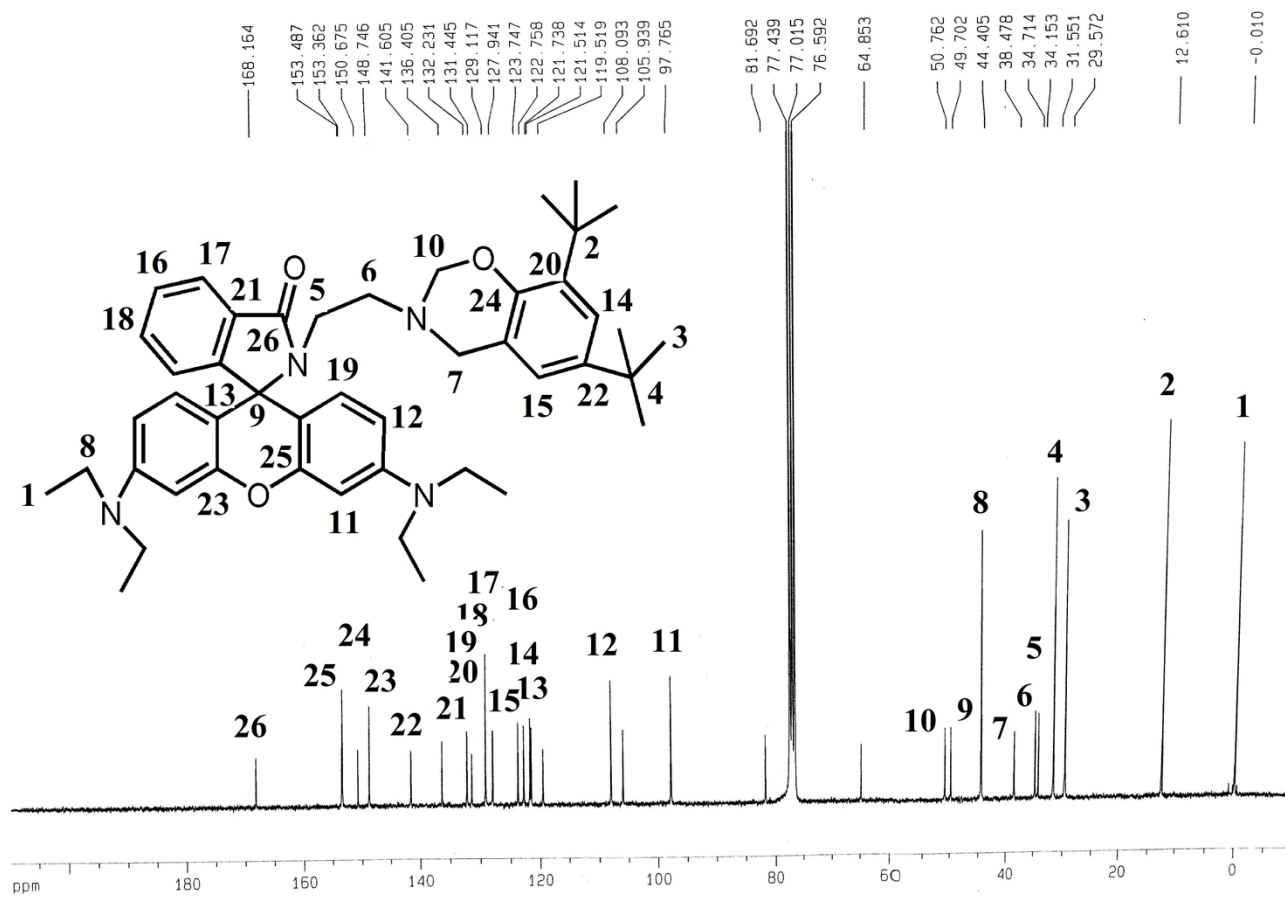


Fig S2. ^{13}C NMR spectrum of RH-BZN.

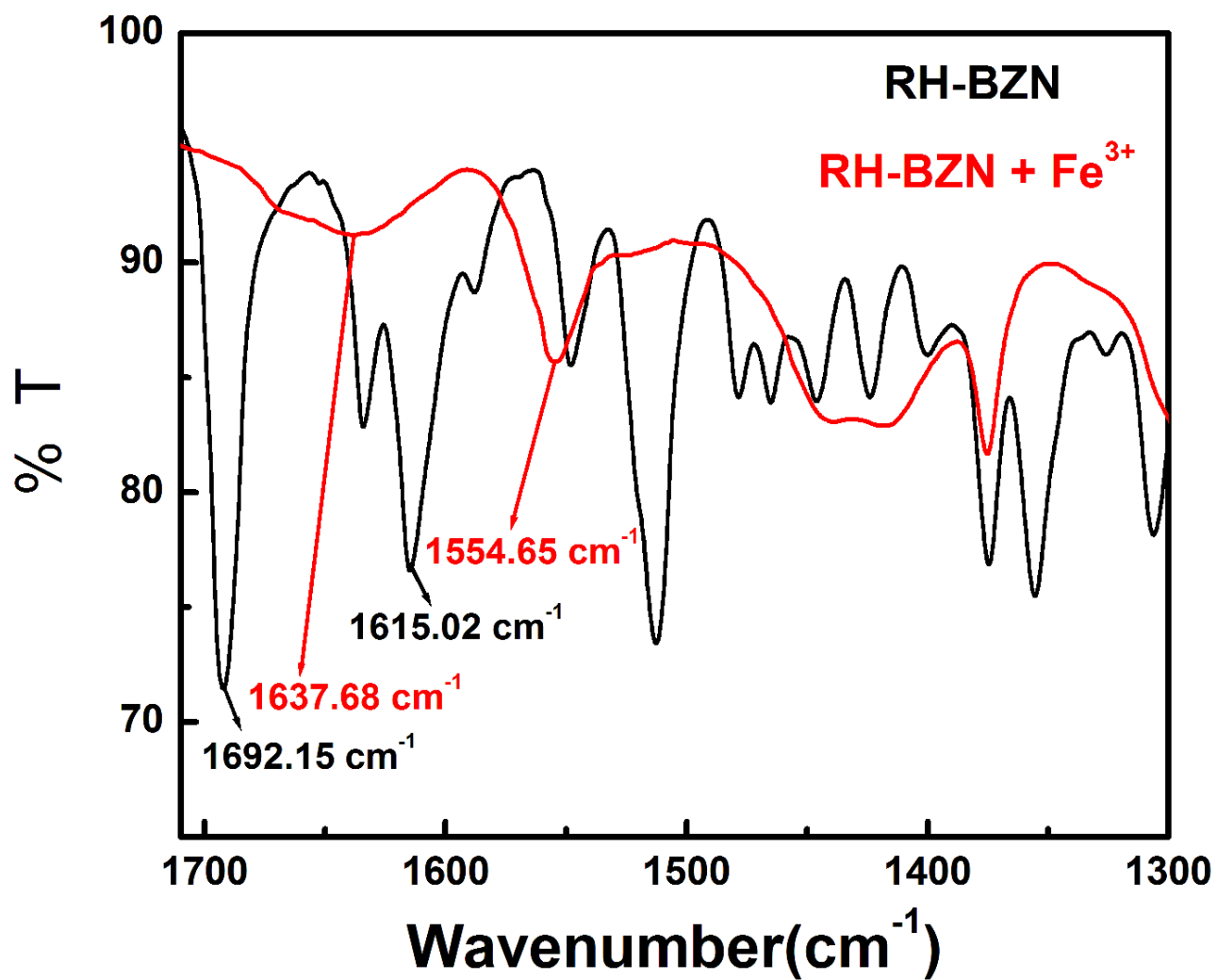


Fig S3 . IR Spectrum of **RH-BZN** (**3**) and **RH-BZN-Fe³⁺** (**4**) complex.

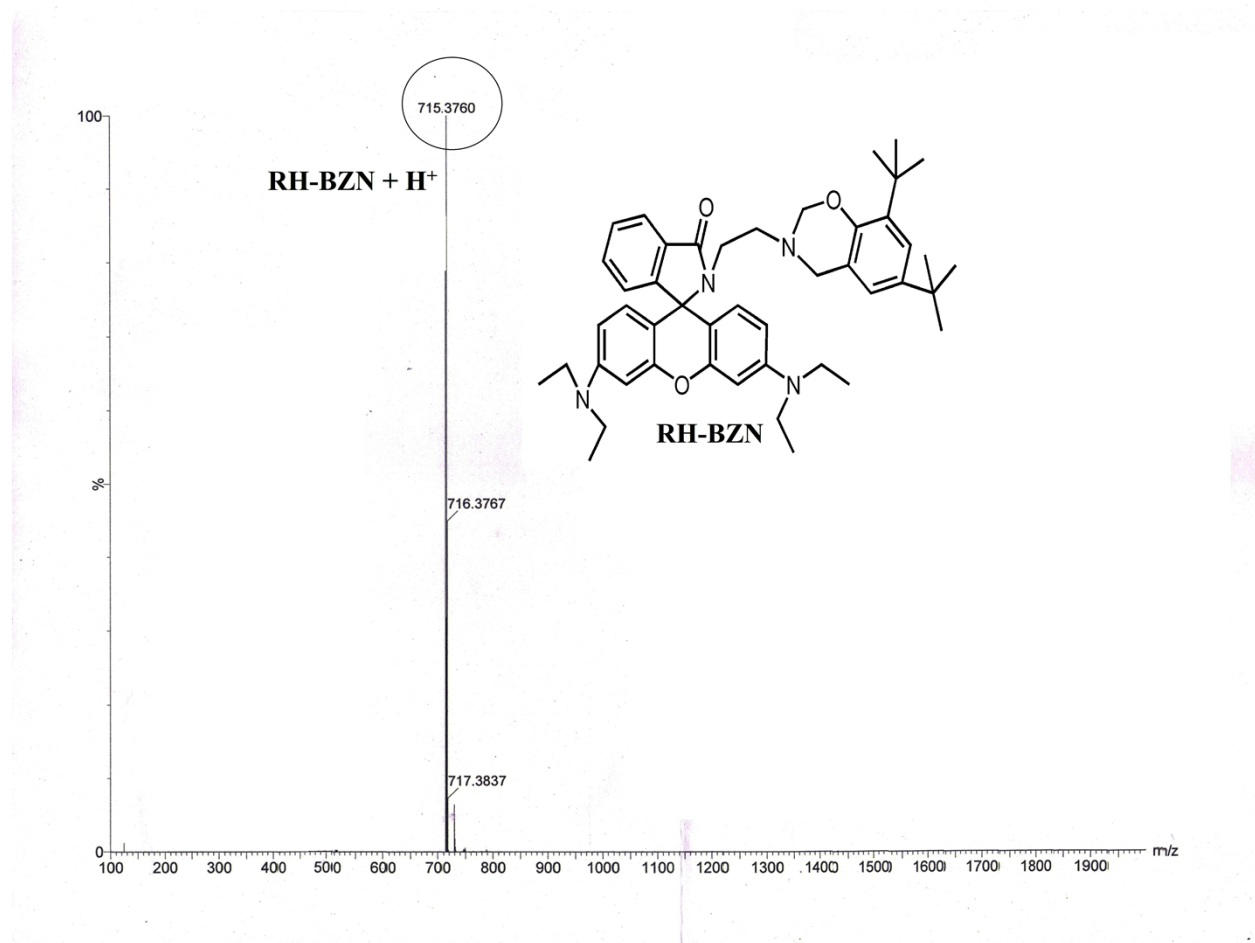


Fig S4 . Mass spectrum of RH-BZN in CH₃CN.

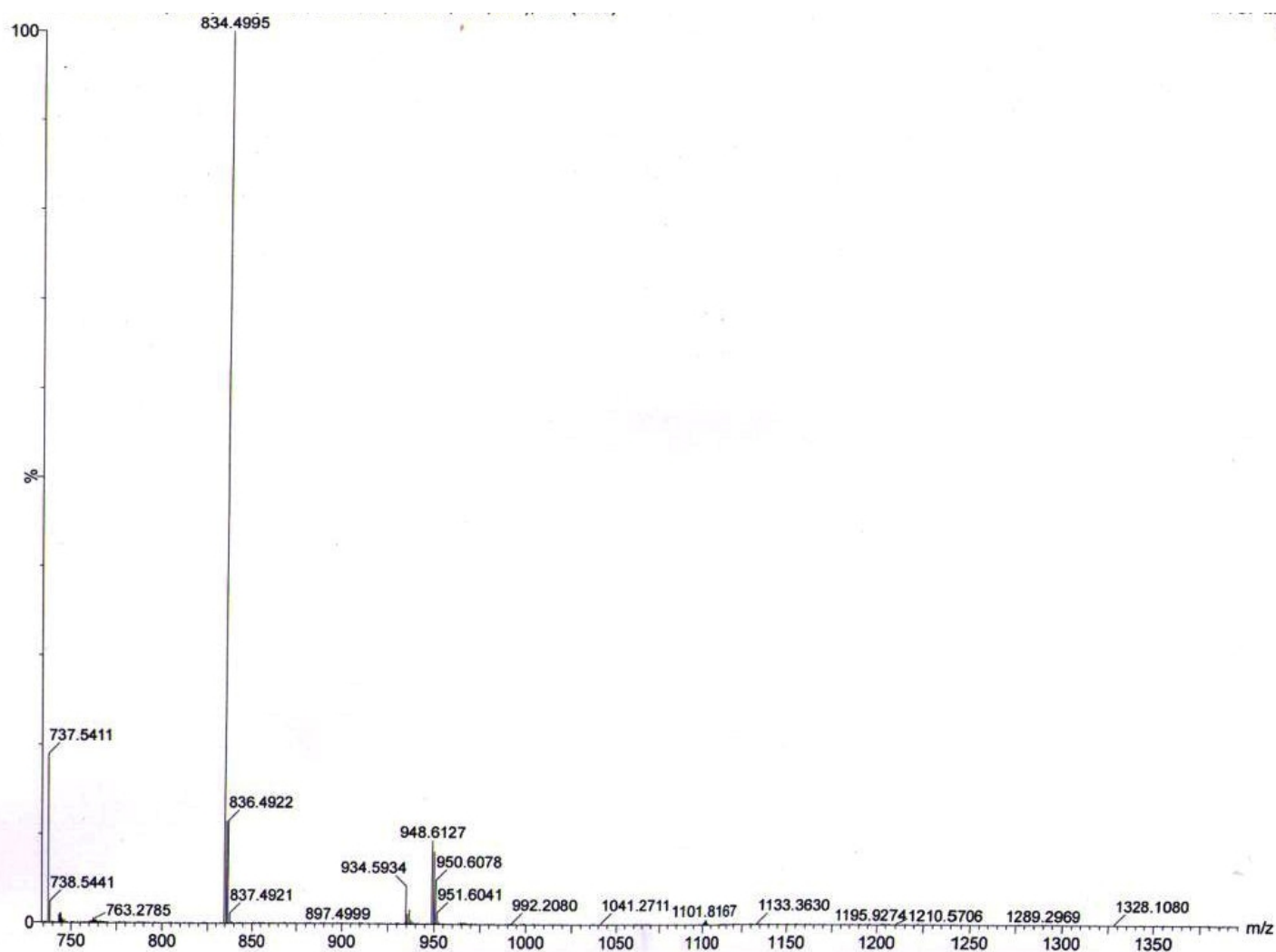


Fig S5a. Mass spectrum of RH-BZN -Fe complex in CH₃CN and simulation spectra.

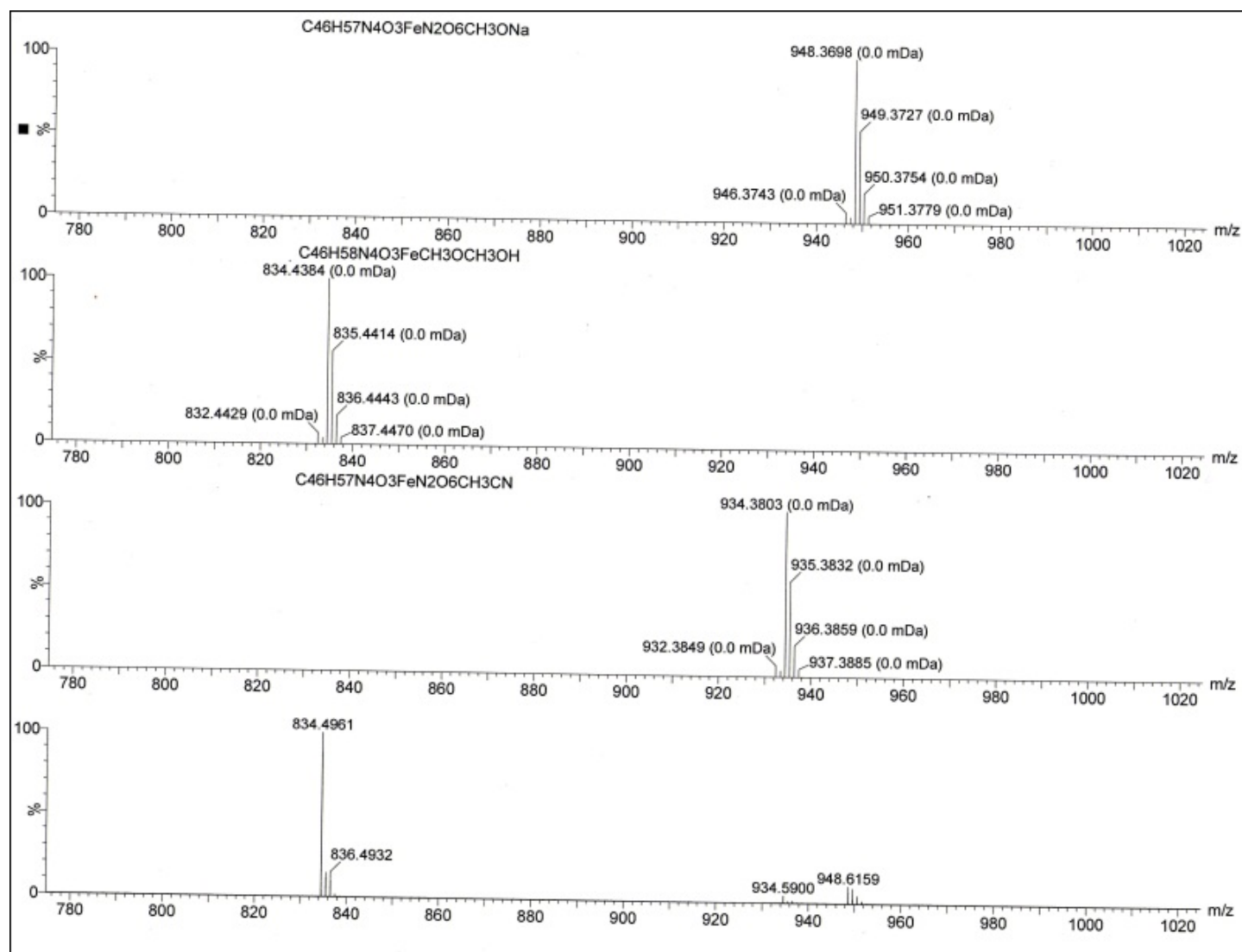


Fig S5b Mass spectrum of RH-BZN- Fe^{3+} complex in CH_3CN and corresponding simulated spectra.

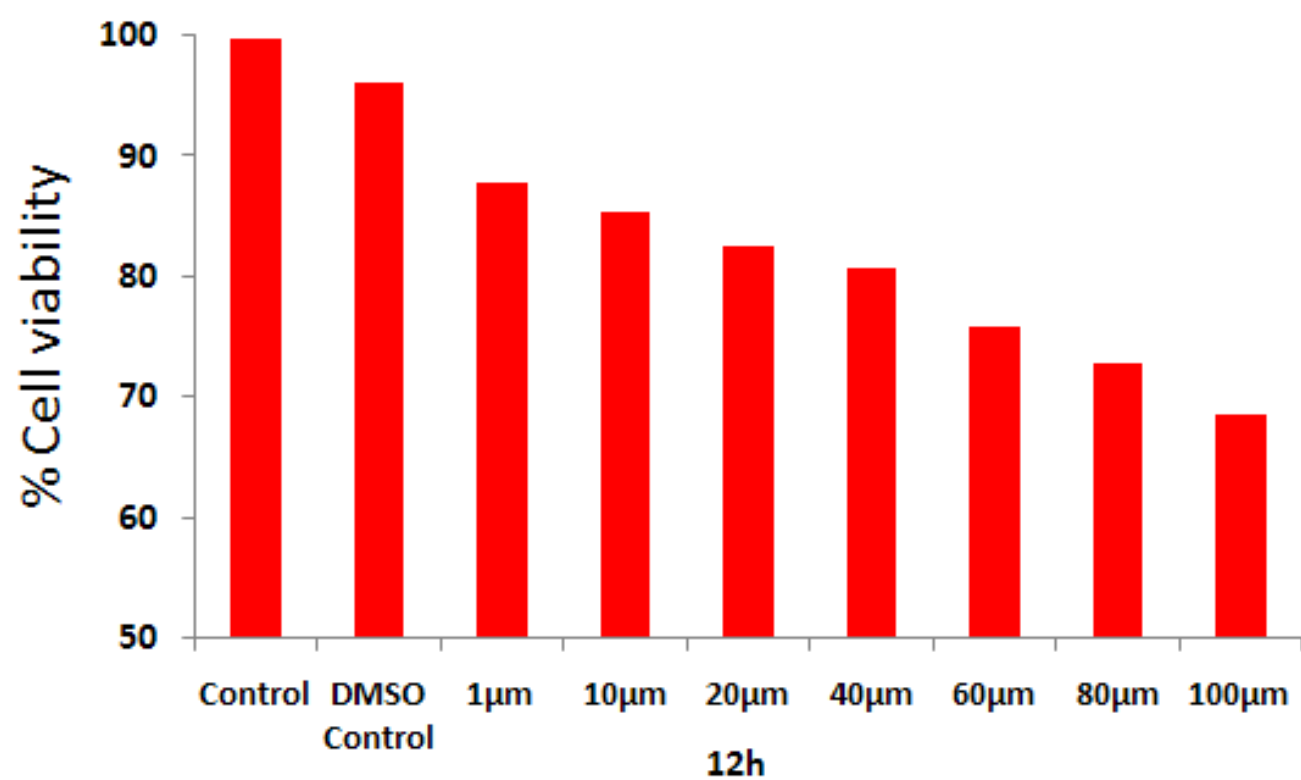


Fig S6. Cytotoxicity test of RH-BZN.

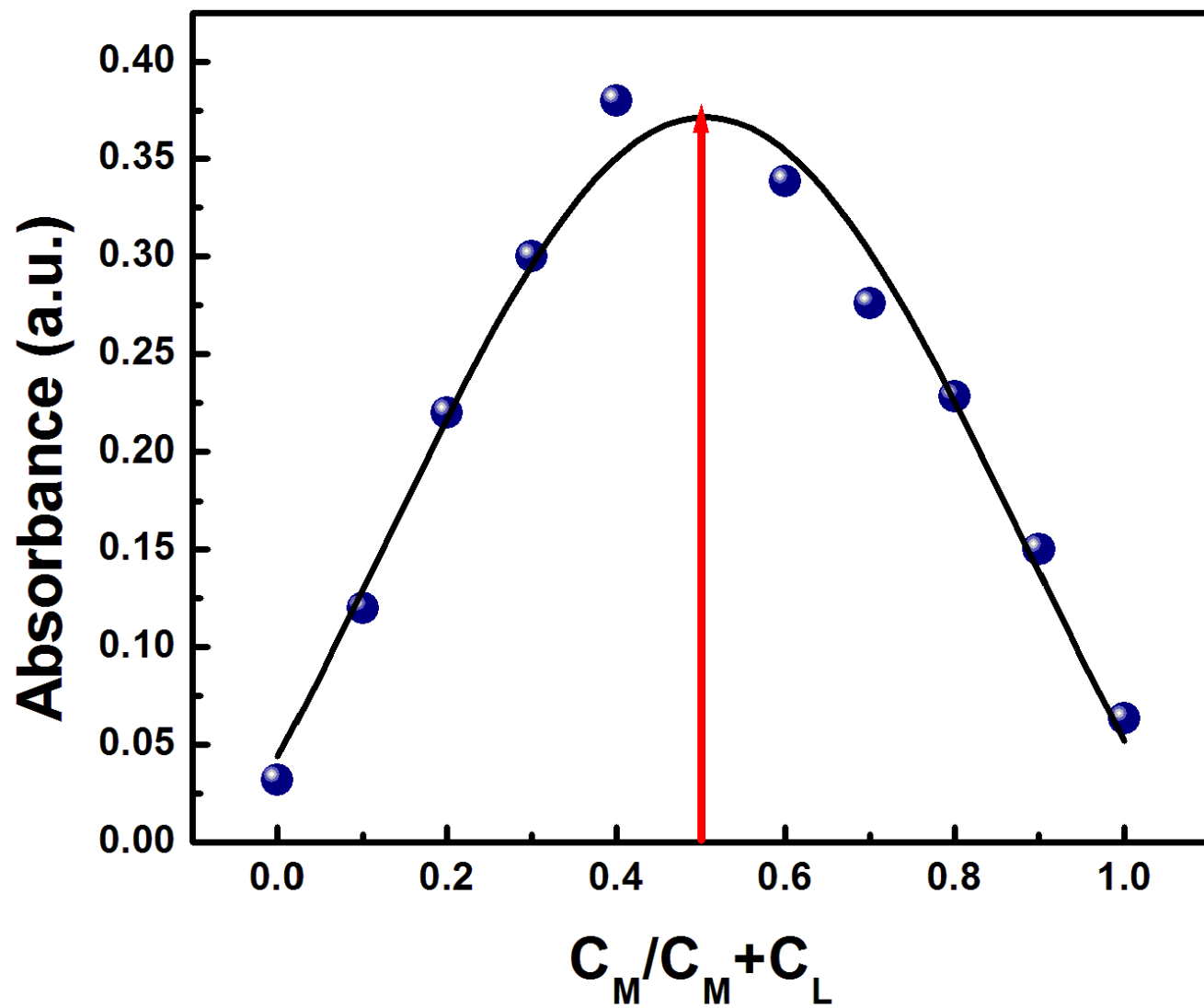


Fig S7. Jobs plot (M= Fe³⁺ and L= RH-BZN).

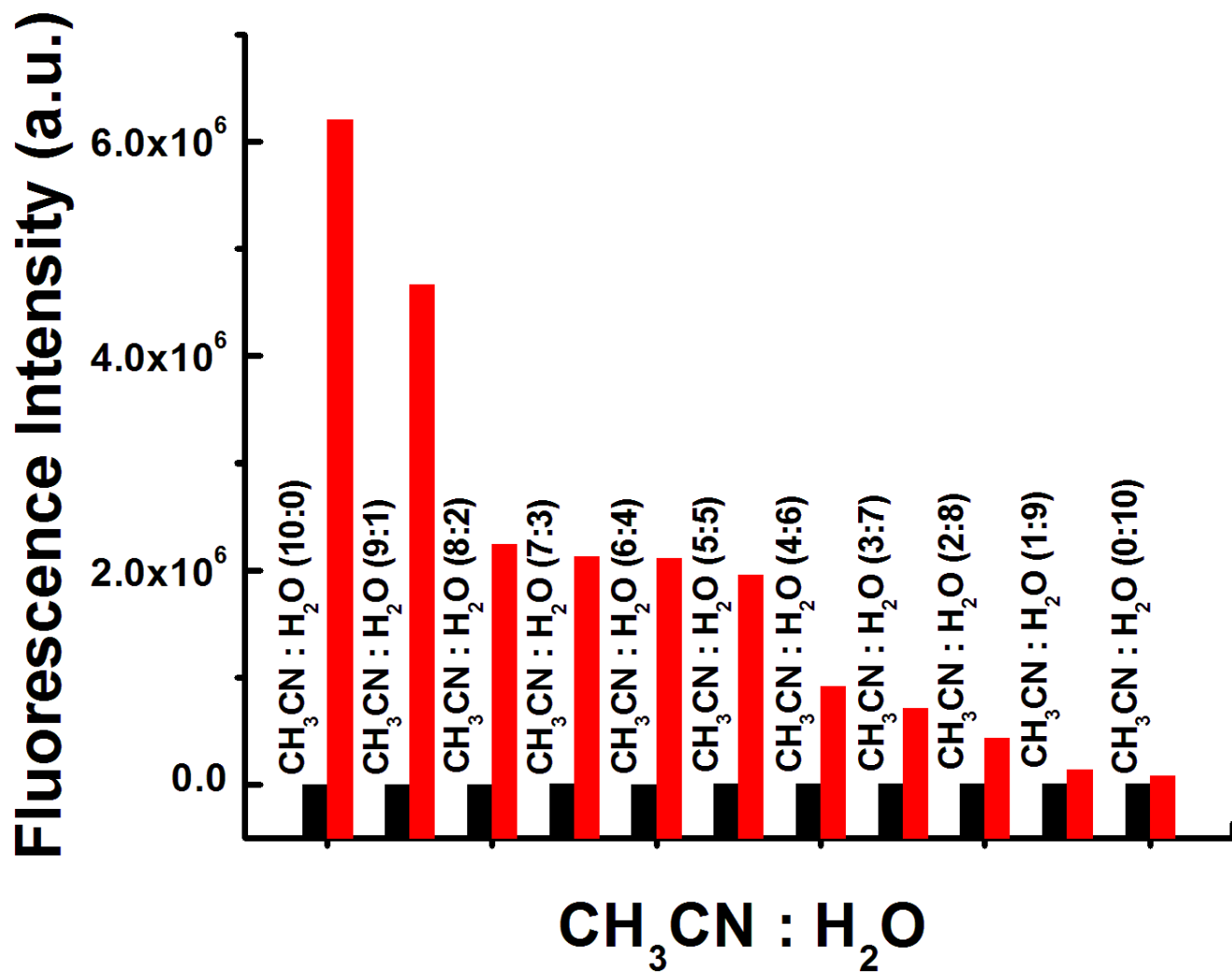


Fig S8. Fluorescence emission with varying water contain

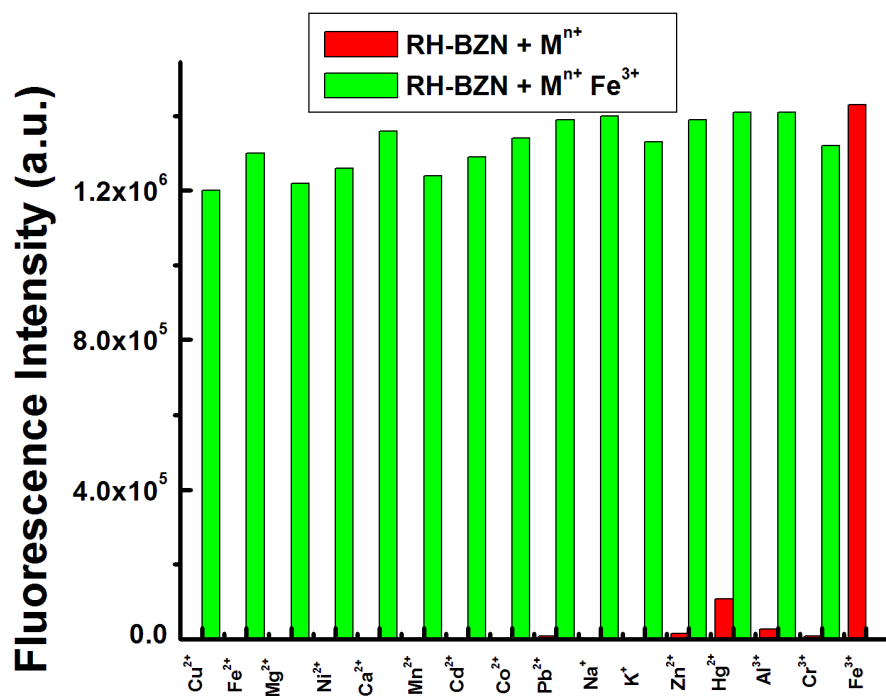
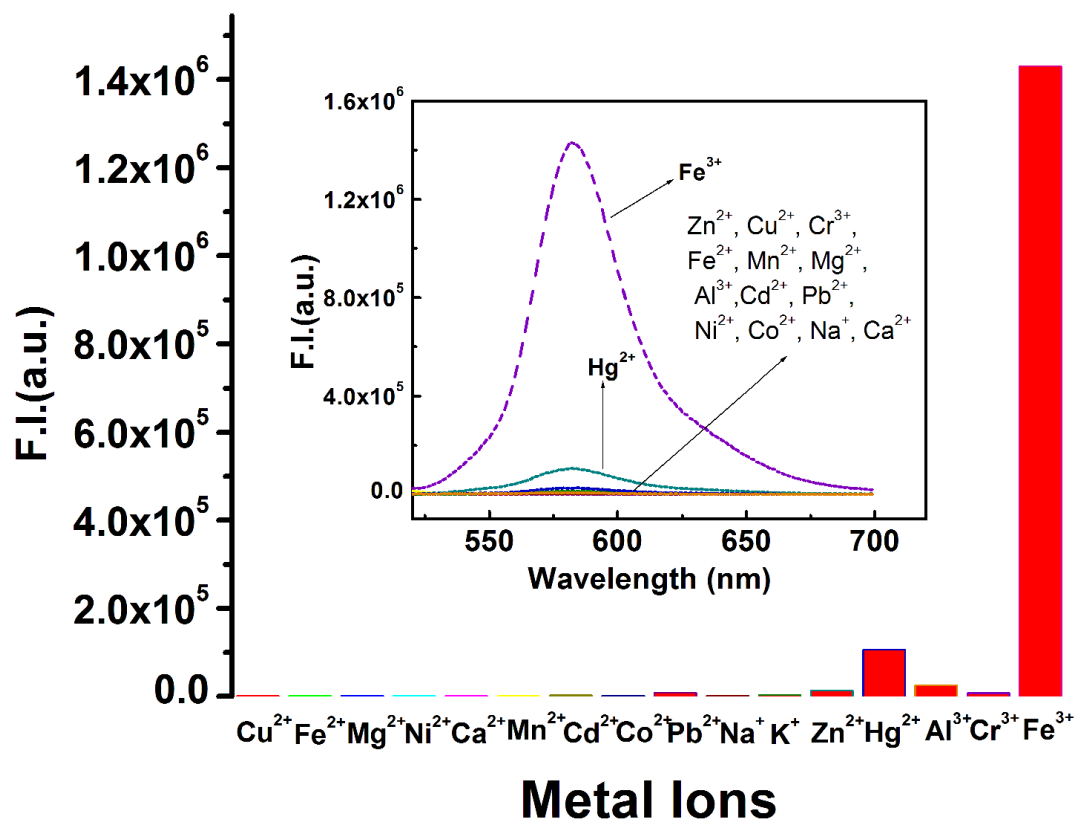


Fig S9. Fluorescence emission spectra of different metals in $\text{CH}_3\text{CN} : \text{H}_2\text{O}$ (7:3) medium.

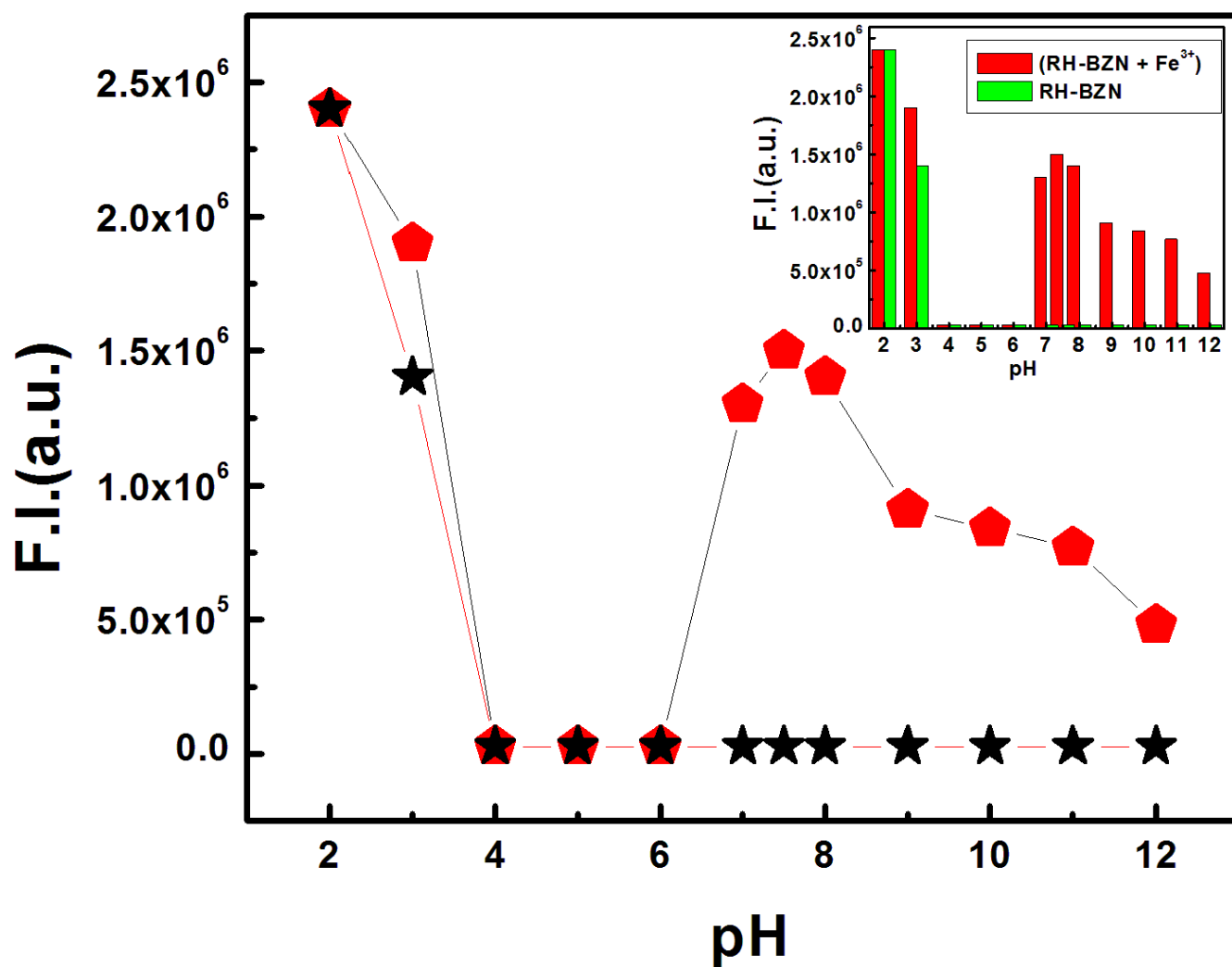


Fig S10. Effect of pH on the fluorescence of free **RH-BZN** and **RH-BZN-Fe³⁺** complex.

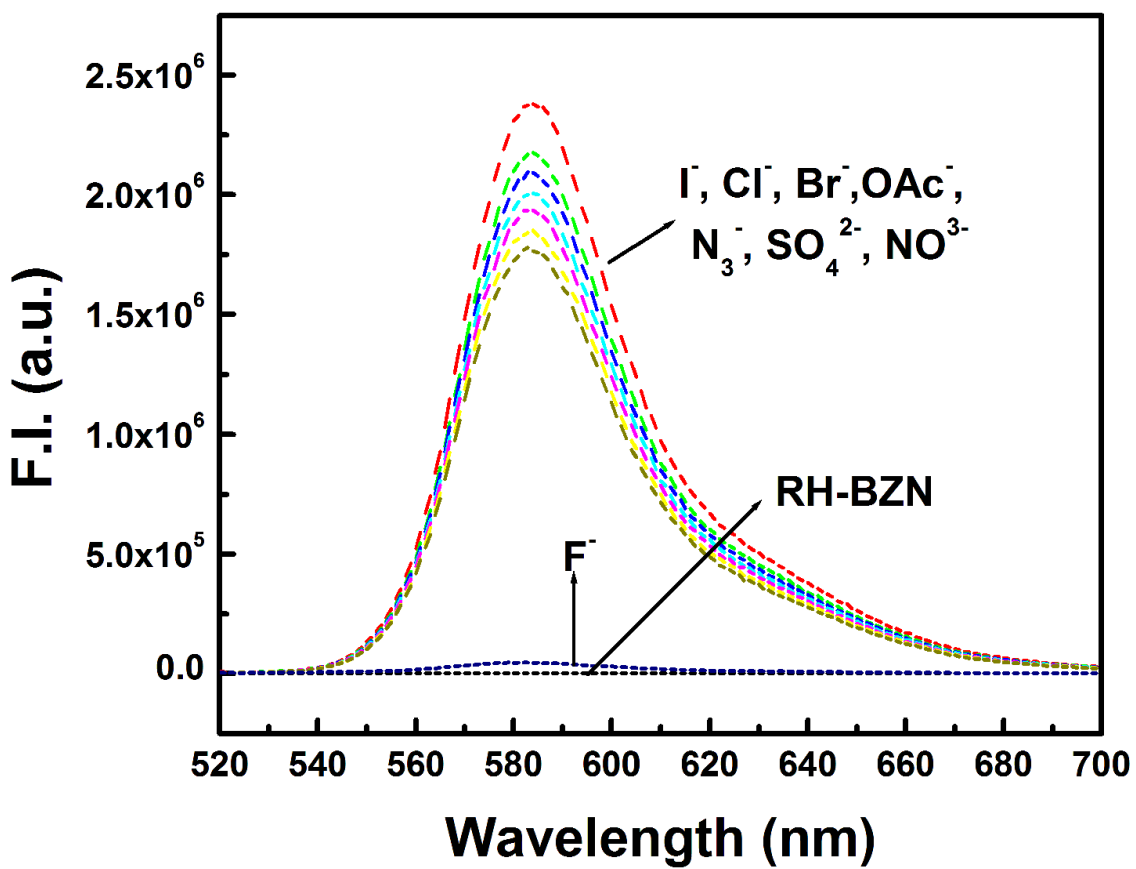


Fig S11. Fluorescence emission spectra of different anions in $\text{CH}_3\text{CN} : \text{H}_2\text{O}$ (7:3) medium.

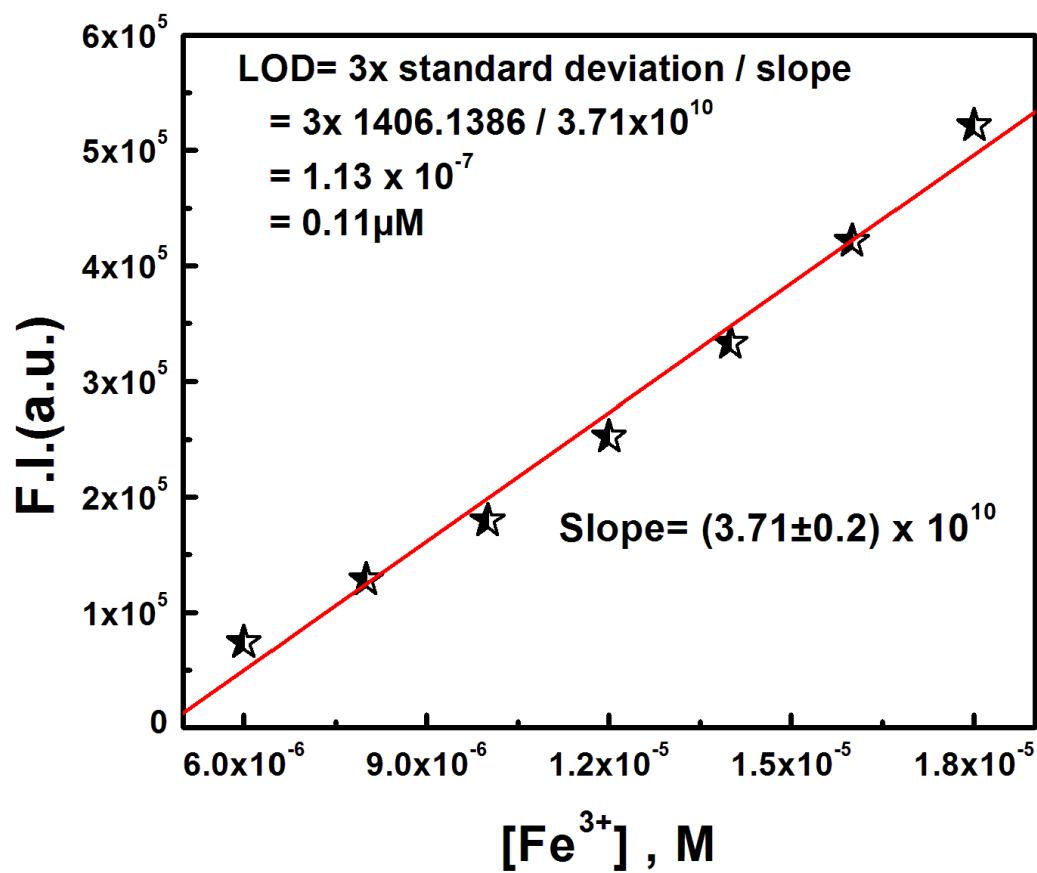


Fig S12. Limit of detection (LOD) calculation.

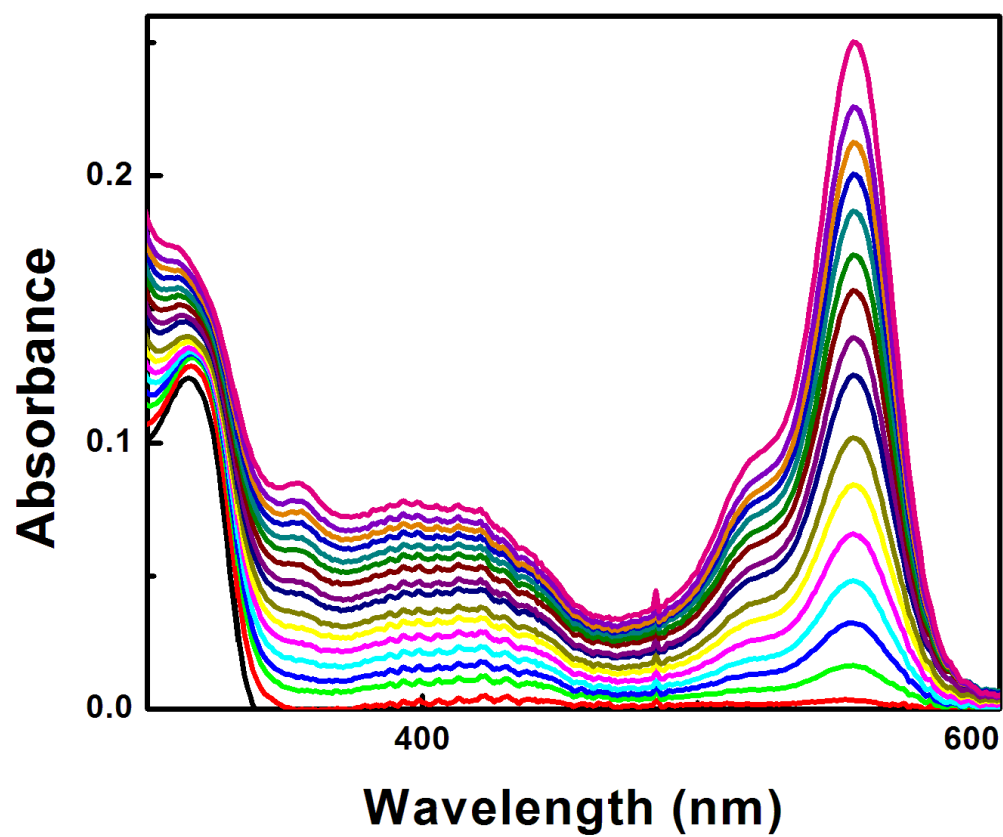


Fig. S13 Re-establishment of spirolactam ring by absorption spectra (decreasing spectra).