# Supplementary Information

## Design and application of tripodal on-off type chemosensor for discriminative and selective detection of $Fe^{2+}$ ions

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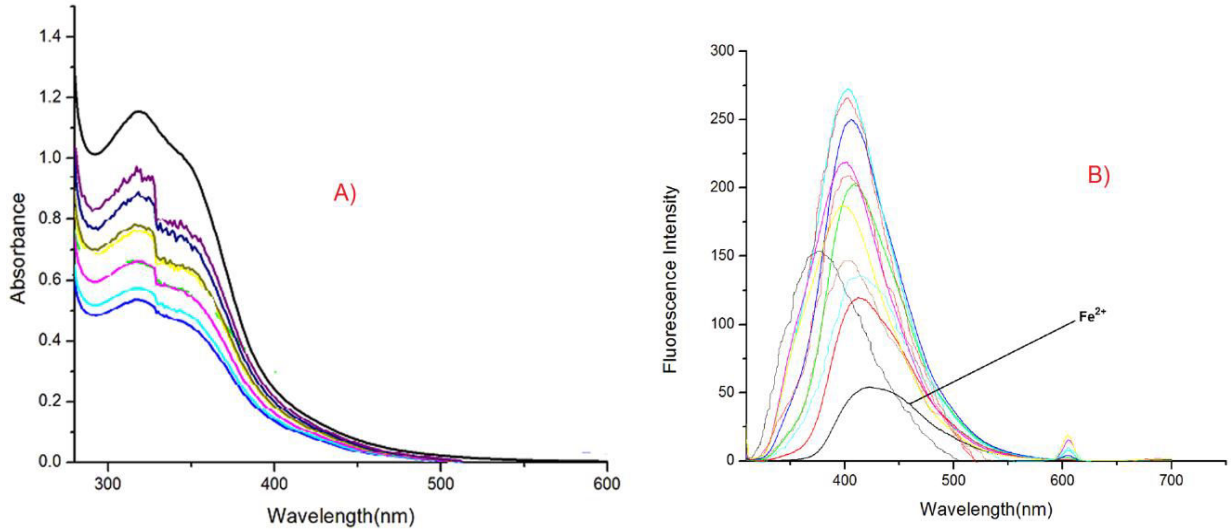


**Fig S1:** Response of chemosensor TIS in human blood serum A) Absorption spectra of TIS on continous addition of $Fe^{2+}$ ions.B) Emission spectra of TIS(20µM) and its complexation with $Fe^{2+}$ ions(2equiv.) in the presence of various other metal ions.

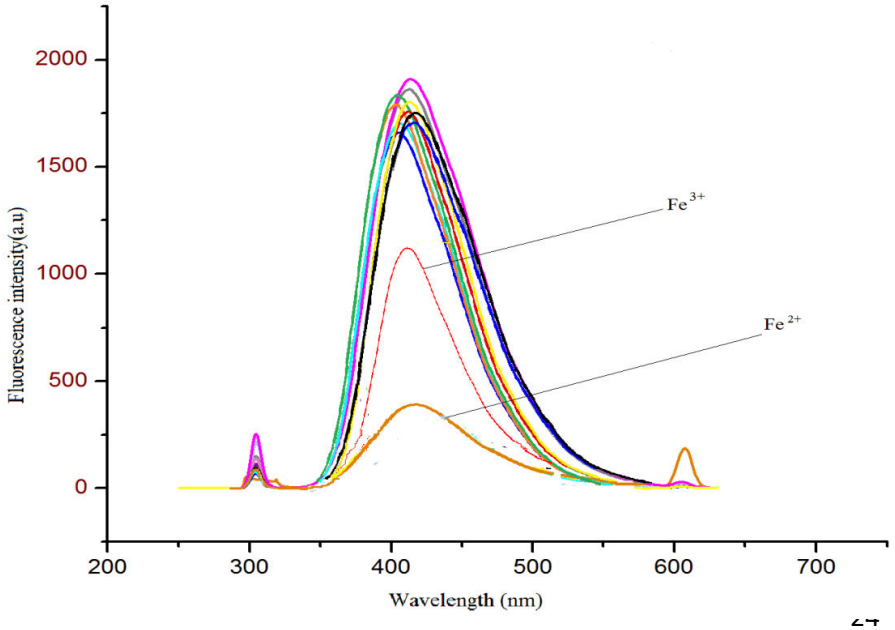


**Fig S2:** Fluorescence spectra of TIS(20µM) showing quenching phenomenon after complexation with $Fe^{2+}$ions in the presence of 15 other metal ions at room temperature.

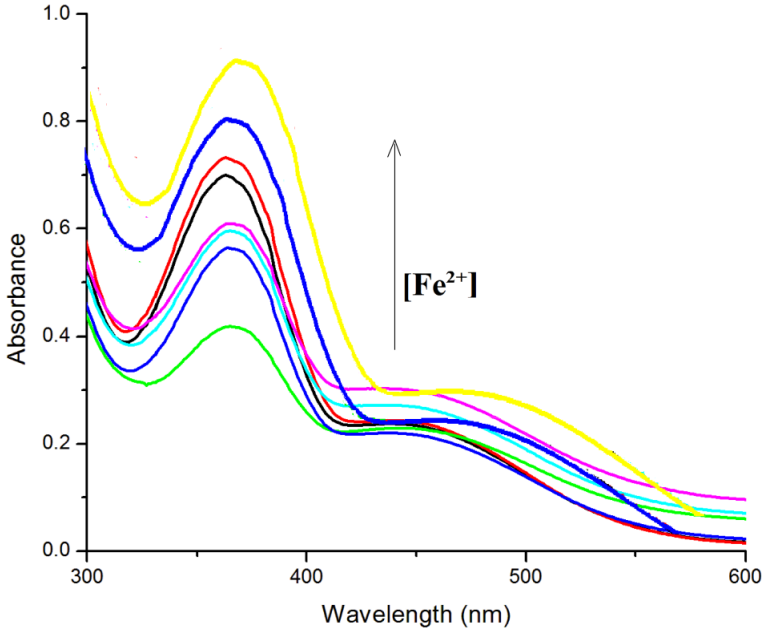


**Fig S3:** Absorption spectra of TIS(20μM) after addition of increasing concentration of $Fe^{2+}$ions (0-10equiv.) in methanol:water(1:9v/v) medium at room temperature.

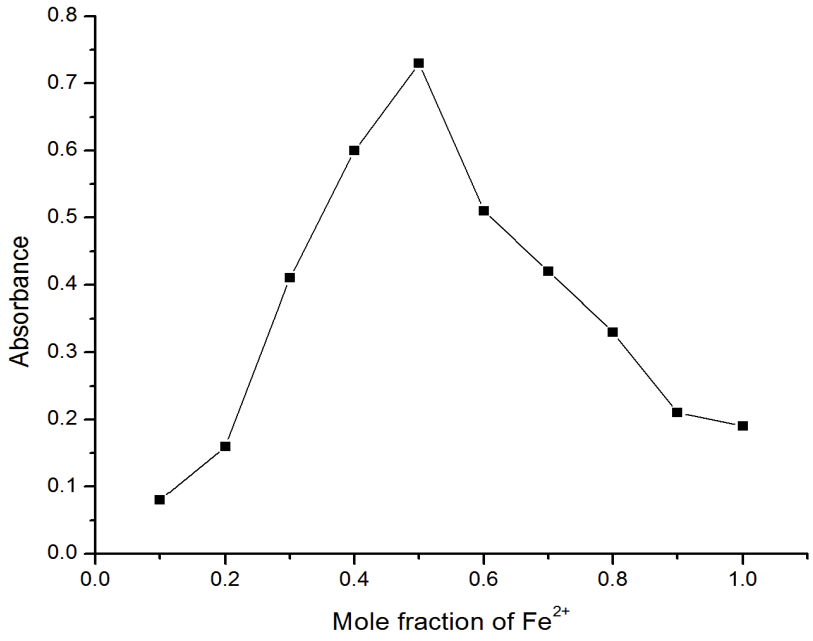


**Fig S4:** Job's plot of 1:1 complex of chemosensor TIS and $Fe^{2+}$ ions.

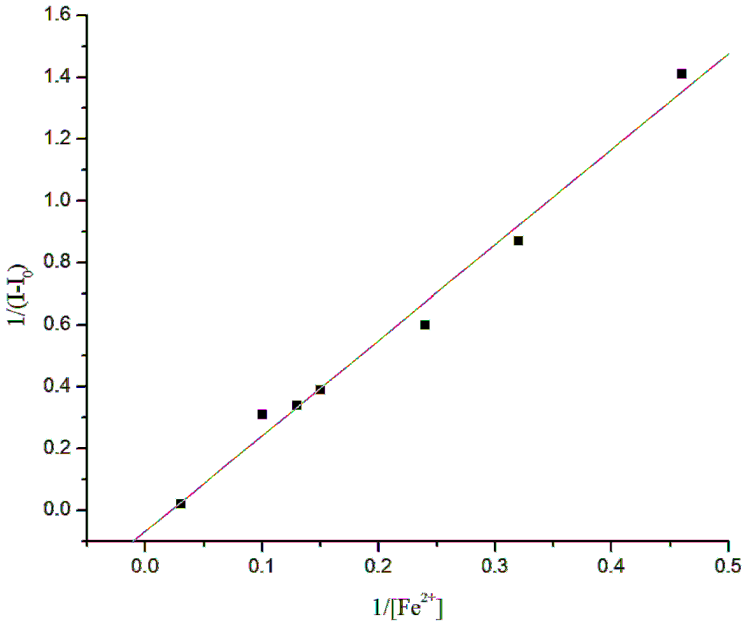


**Fig S5 :** Benesi-Hildebrand plot of TIS assuming 1:1 stoichiometry for association between TIS and $Fe^{2+}$ ions.

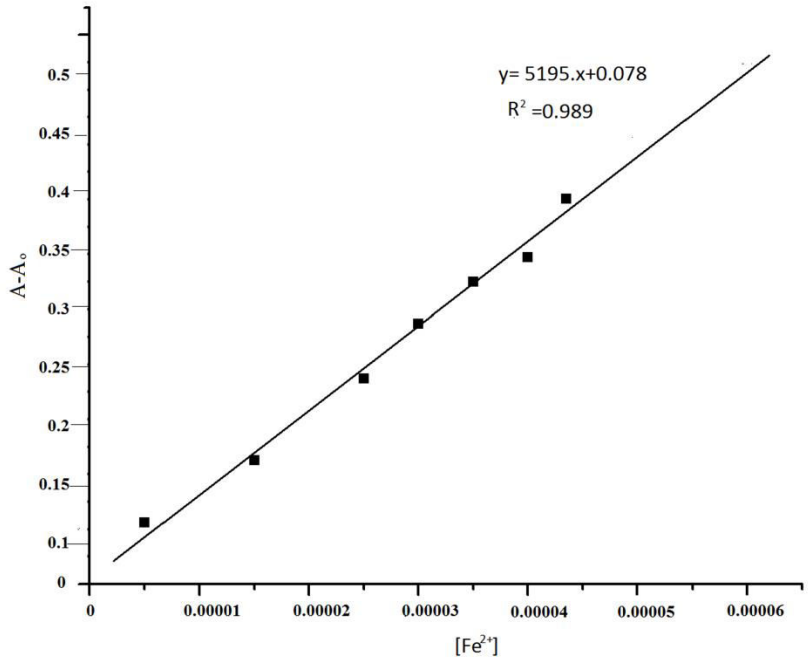


**Fig S6 :** Plot for evaluating limit of detection of TIS(20μM) with $Fe^{2+}$.

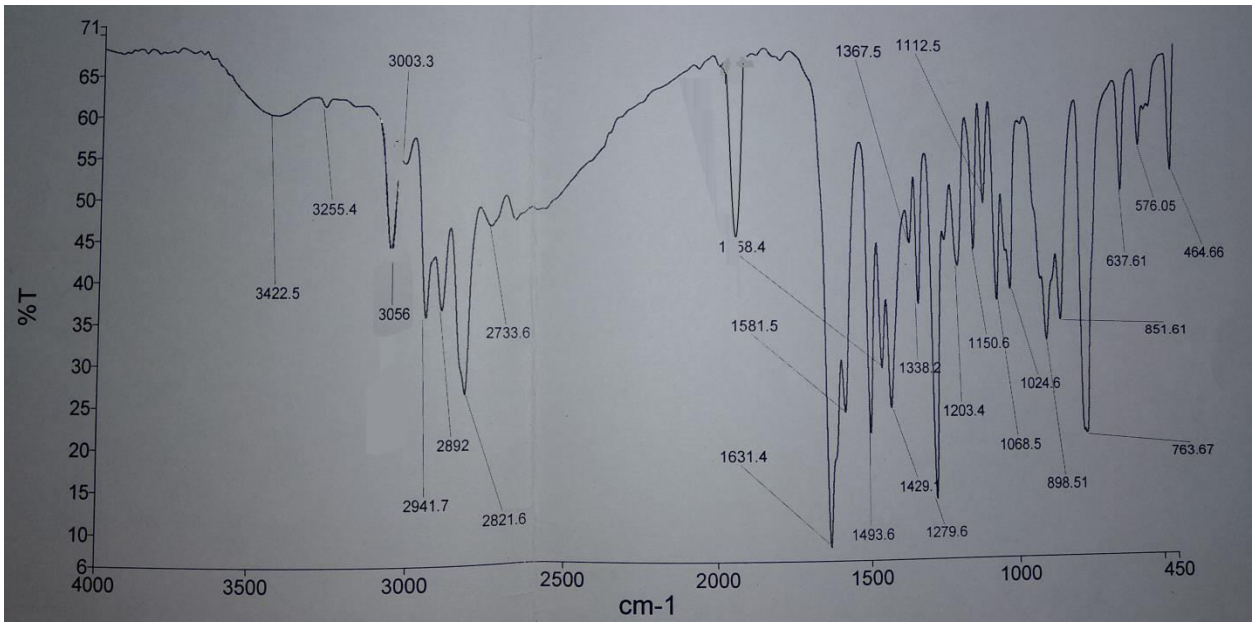


**Fig S7 :** IR spectra of chemosensor TIS.

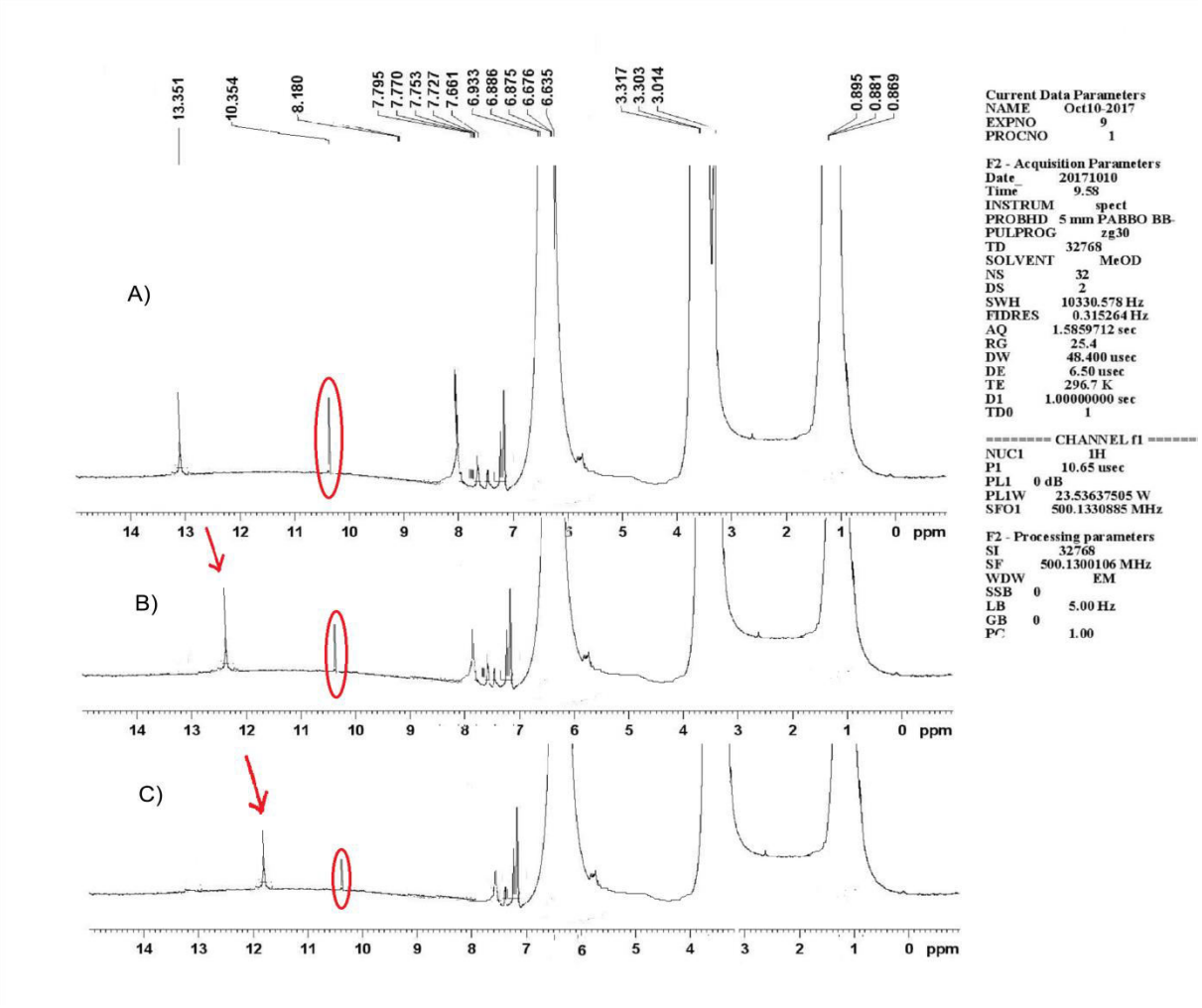


**Fig S8 :** $^{1}$HNMR spectra of A) TIS B) TIS-$Fe^{2+}$(60µM) C) TIS-$Fe^{2+}$(120 µM).

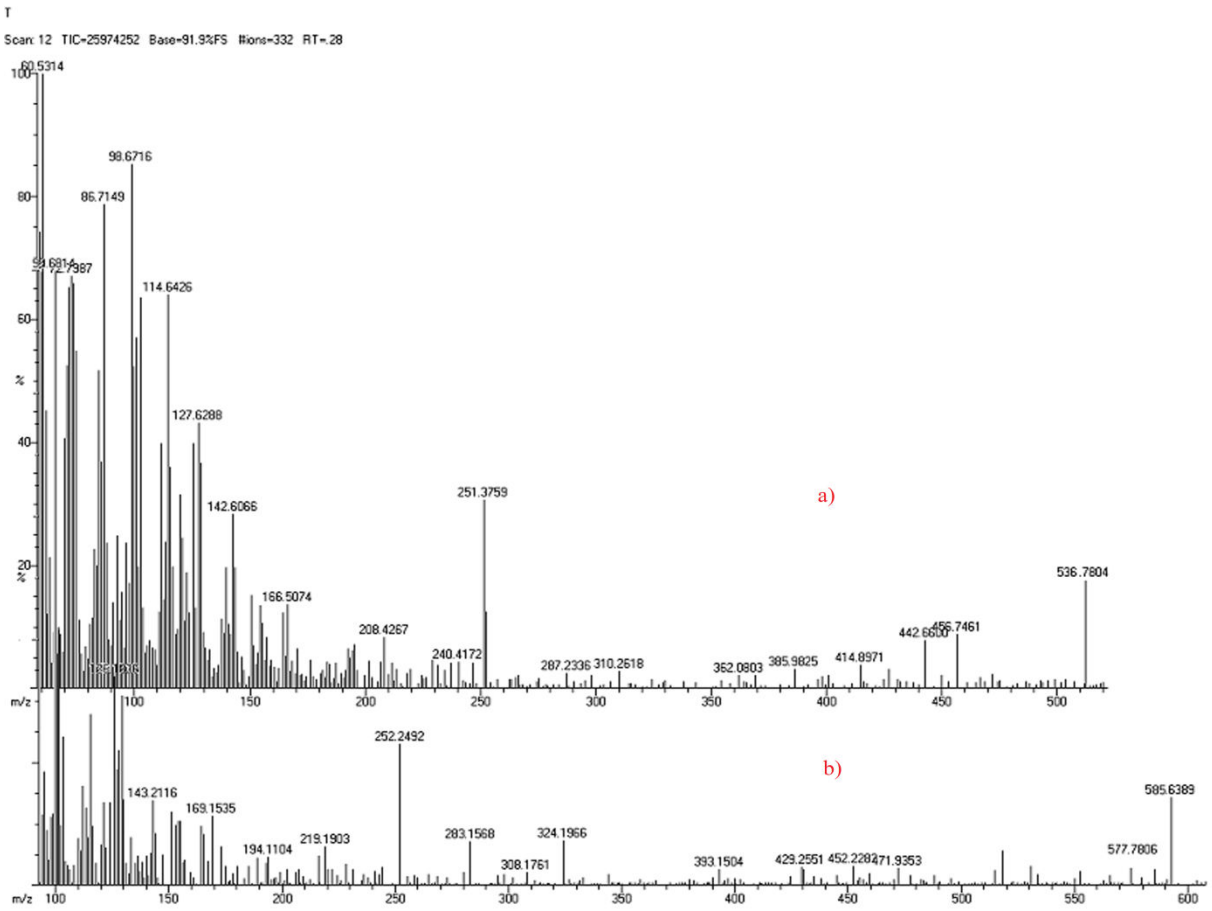


**Fig S9 :** Mass Spectra of a) TIS and b) TIS-$Fe^{2+}$ complex.

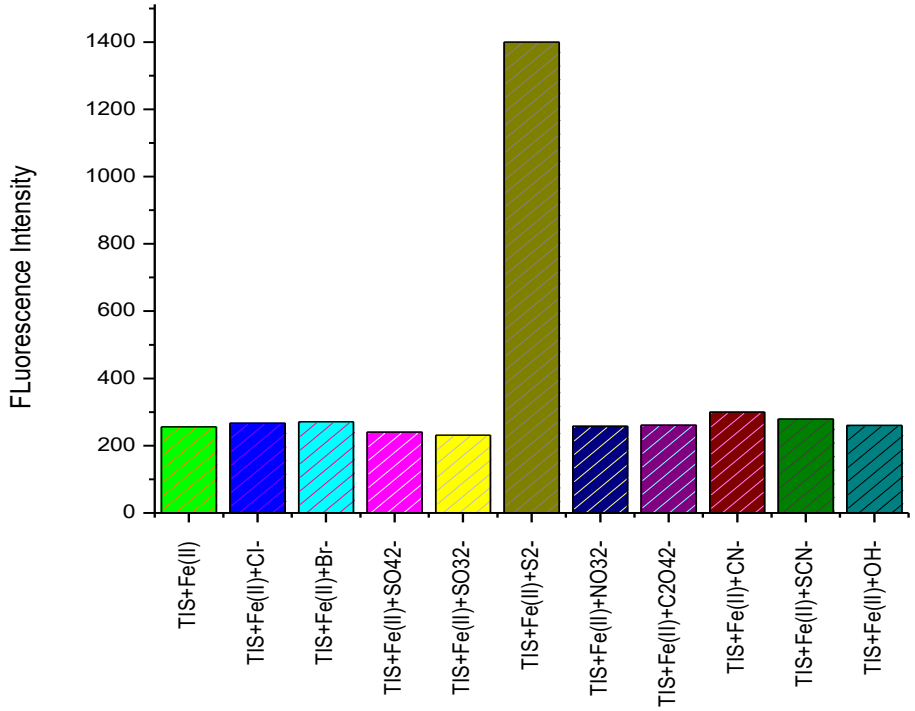


**Fig S10 :** Fluorescence emission response of TIS-$Fe^{2+}$ (100µM) in the presence of different anions (10equiv.) in methanol:water (1:9v/v) medium at pH 7, $\lambda_{ex}$=300nm.

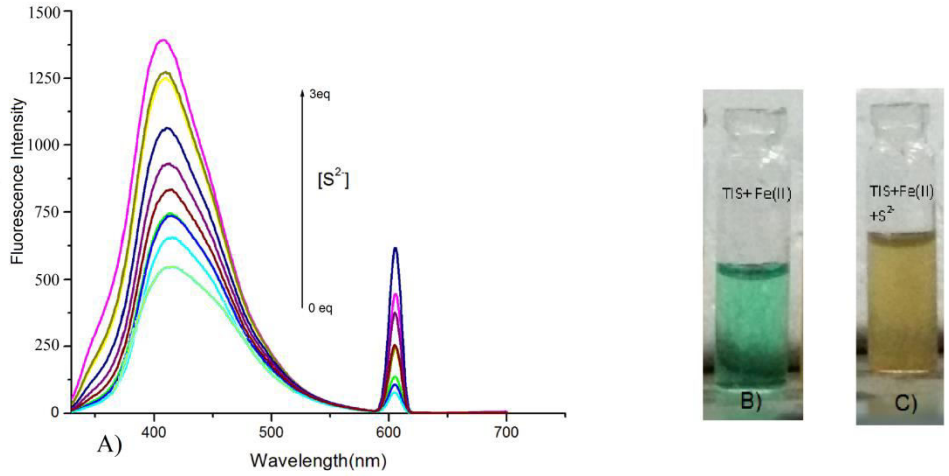


**Fig S11:** Reversibility of sensor A) Fluorescence emission spectra of TIS-$Fe^{2+}$ on introducing increasing amount of sulphide ions(0-3 equiv.) in methanol:water(1:9v/v) media and $\lambda_{ex}$=300nm. B) and C) Regeneration of color of TIS-$Fe^{2+}$ complex after the addition of sulphide ions.