Electronic Supporting Information (ESI)

## Improved Performance of Schiff Based Ionophore Modified with MWCNT For Fe(II) Sensing By Potentiometry and Voltammetry Supported With DFT Studies

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## **Figure Caption:**

Fig. S1 <sup>1</sup>H NMR spectra of IFE.

Fig. S2 <sup>13</sup>C NMR spectra of IFE.

**Fig. S3** Effect of pH on the emf response of the Fe(II) selective electrode, at  $1.0 \times 10^{-4}$  mol/L concentration of iron ion without and with MWCNTs (1%)

Fig. S4: Plots of emf vs response time for Fe(II) selective electrode with and without MWCNTs

**Fig. S5:** (a) Cyclic voltammogram of IFE at different scan rates. (b) Calibration plot showing the variation of peak current with square root of scan rate (GC as working electrode,  $Ag/Ag^+$  as reference electrode and TBHP as supporting electrolyte)

**Fig. S6:** Cyclic voltammogram of (a)  $5 \times 10^{-4}$  mol/L IFE alone (b)  $5 \times 10^{-4}$  mol/L IFE and  $10^{-3}$  M Fe(II) at Glassy carbon electrode in DMSO, 0.1 mol/L TBHP. Scan rate: 50mVs<sup>-1</sup>

**Fig. S7:** Job's plot for determining the binding stoichiometry of IFE with Fe(II). Absorbance at 320 nm was plotted as a function of the molar ratio *X*. The total concentrations of Fe(II) with IFE were  $1.0 \times 10^{-4}$  mol/L



190

170

150



130

110 90 f1 (ppm) 80 70

60 50 40 30 20 10

-0.4 -0.3 -0.2

-0.1 -0.0 --0.1

0















