Electronic Supporting Information (ESI)

MWCNT Incorporated Imine-Amine Ionophore for Electrochemical Sensing of Copper Ions

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Figure Caption:

Fig. S1 ¹H NMR spectra of ICU.

Fig. S2 ¹³C NMR spectra of ICU.

Fig. S3 Effect of pH on the emf response of the Cu^{2+} selective electrode, at 1.0×10^{-4} M concentration of copper ion without and with MWCNTs (1%)

Fig. S4 Plots of emf vs response time for Cu²⁺ selective electrode with and without MWCNTs

Fig. S5 (a) Cyclic voltammogram of ICU 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 Anodic DPV of 5.0×10^{-4} M ICU in the presence of increasing amount of Cu (II) ions in DMSO; electrolyte 0.1 M TBHP; Pulse amplitude of 0.05 V; scan rate 0.05 Vs⁻¹ with in potential range of 0.50 - 0.80 V vs. Ag/Ag⁺.

Fig. S7 DFT computed HOMO and LUMO Diagram of (a) ICU and its (b) ICU–Cu²⁺ Complex

Fig. S8 HF computed HOMO and LUMO Diagram of (a) ICU and its (b) ICU–Cu²⁺ Complex

Fig. S9 Job's plot for determining the binding stoichiometry of ICU with Cu^{2+} . Absorbance at 340 nm was plotted as a function of the molar ratio *X*. The total concentrations of Cu^{2+} with ICU were 4.0×10^{-4} M





























