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Solvent dependant Isatin-based Schiff base sensor as fluorescent switch for detection of Cu^{2+} and S^{2-} in human blood serum**Mohammad Shakir^{a*}, Ambreen Abbasi^a***^aDivision of Inorganic Chemistry, Department of Chemistry, Aligarh Muslim University, Aligarh 202002, India.***Abstract**

A isatin based Schiff base sensor, L was synthesized by simple one step condensation method and was characterized by various physico-chemical techniques. Sensor L, exhibited fluorescence turn off response to Cu^{2+} in DMSO : methanol solvent mixture which was further used to detect S^{2-} with fluorescence turn-on response. On changing solvent mixture from DMSO : methanol to DMSO : water reversal of fluorescence behaviour was observed for Cu^{2+} and S^{2-} . Also, the in-situ formed L- Cu^{2+} ensemble showed colorimetric response to S^{2-} at high concentration of sulphide ions in both solvent mixtures. Sensor, L was successfully applied to recognize Cu^{2+} and S^{2-} in human blood serum with micromolar detection limits.

Keywords: Fluorescent switch; Copper; Sulphide; Colorimetry; Human serum

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