Electronic Supplementary Material (ESI) for Analyst.
This journal is © The Royal Society of Chemistry 2015

Surfactant ModulatedAggregation Induced Enhancement of Emission (AIEE)– A Simple Demonstration toMaximize Sensor Activity

Rahul Bhowmick[a], Abu Saleh Musha Islam[a], Atul Katarkar[b], Keya Chaudhuri[b] and Mahammad Ali[a],*

[a]Department of Chemistry, Jadavpur University, 188, Raja Subodh Chandra Mallick Rd, Kolkata-700032, West Bengal, India, m_ali2062@yahoo.com

[b] Department of Molecular & Human Genetics Division , CSIR-Indian Institute of Chemical Biology , 4 Raja S.C. Mallick Road, Kolkata-700032, India.

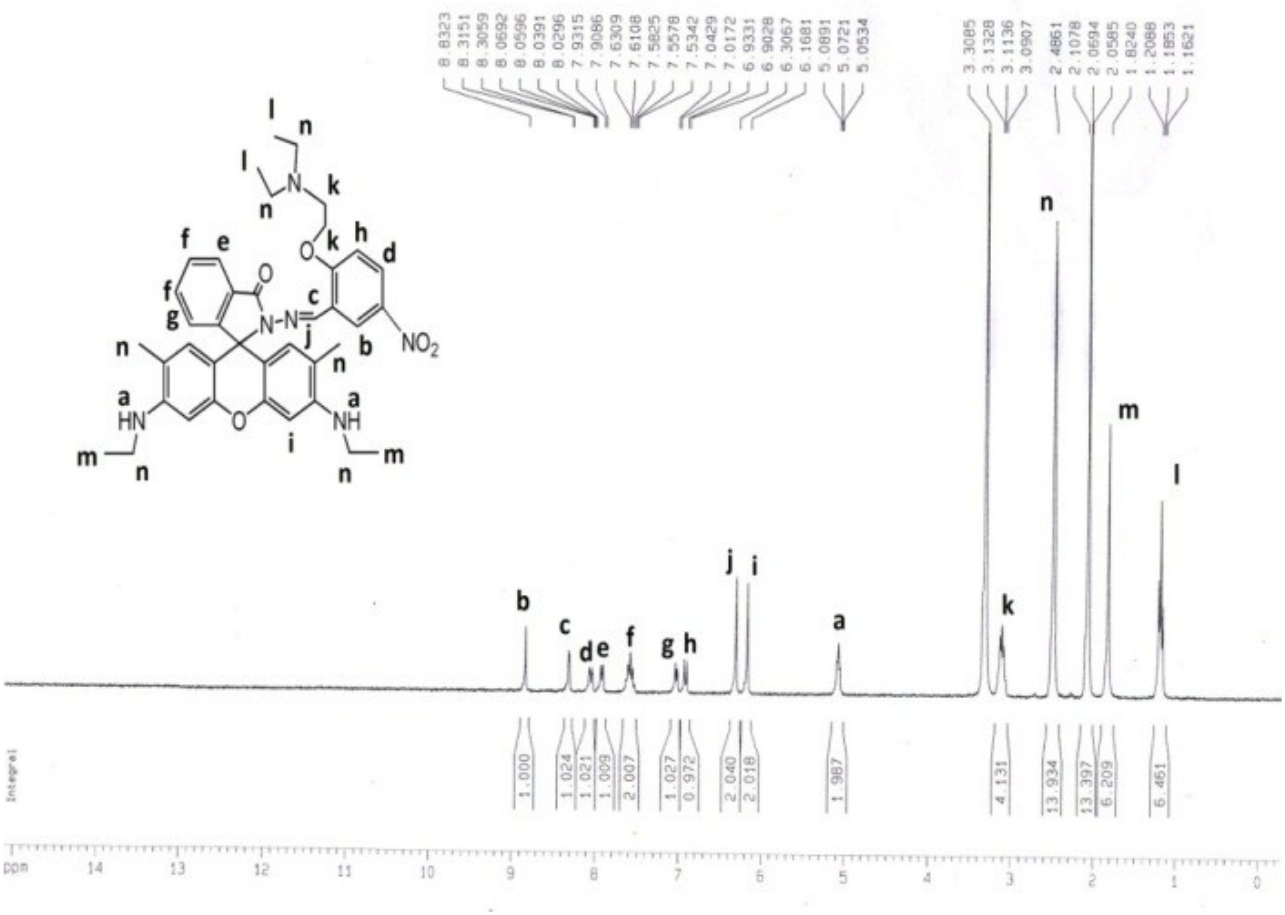

Fig. S1^{1}H NMR spectra of L^3 in $CDCl_3$.

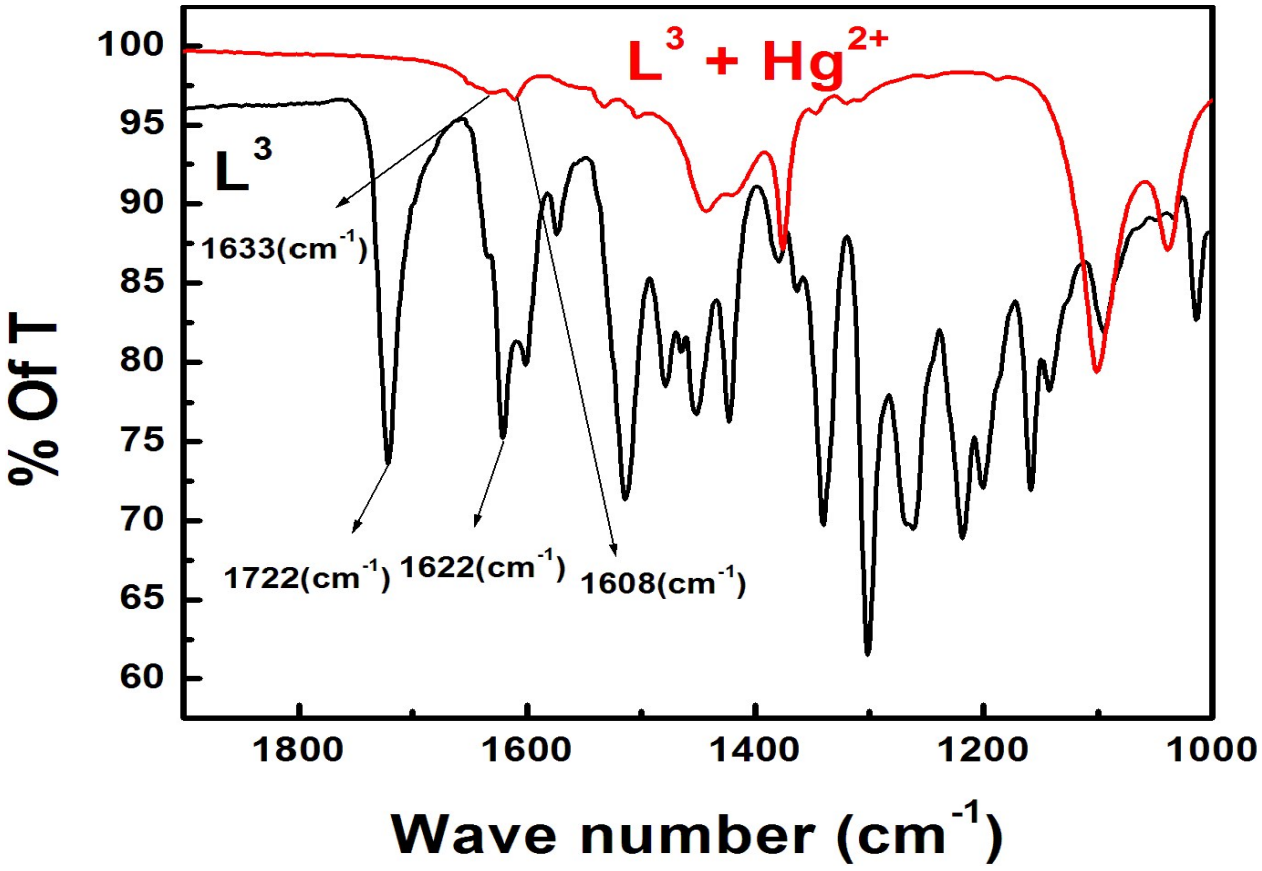

Fig. S2 IR spectra of L^3 and L^3-Hg^{2+} recorded

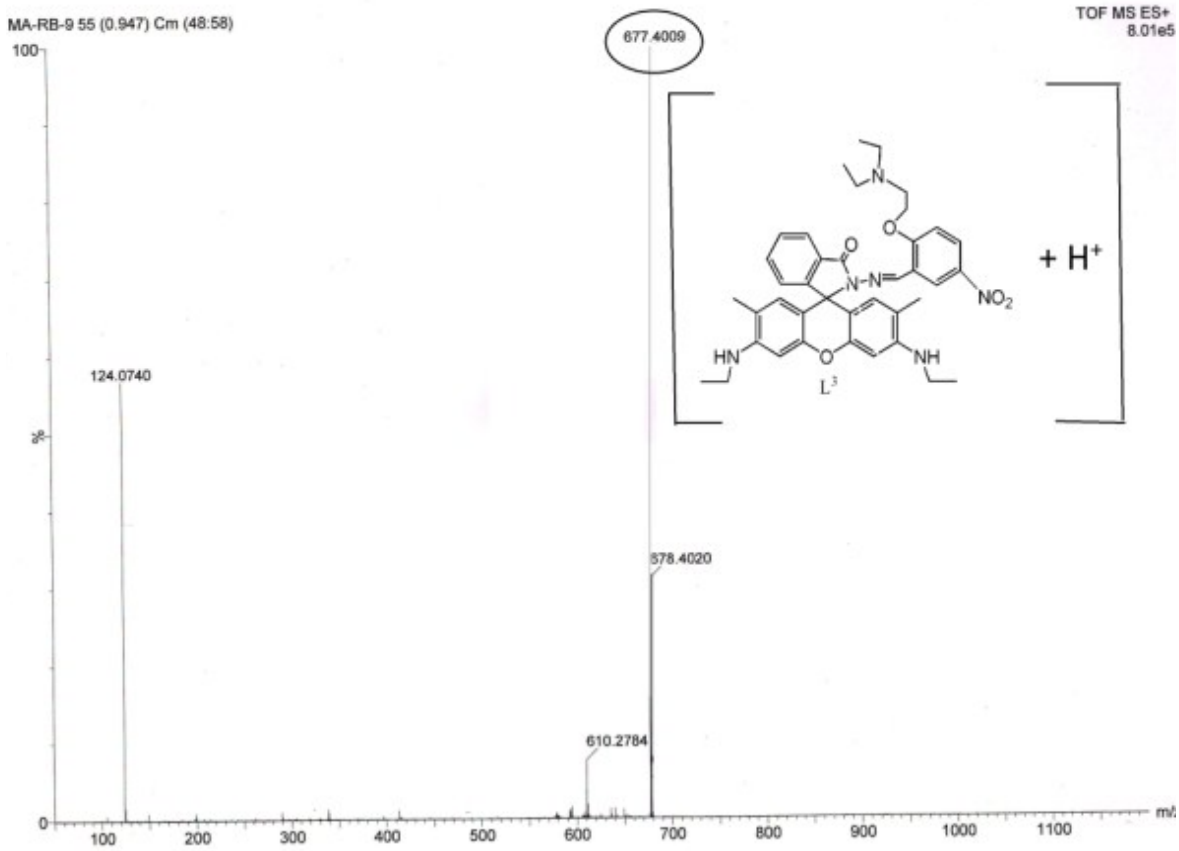

Fig. 3 Mass spectra of L^3

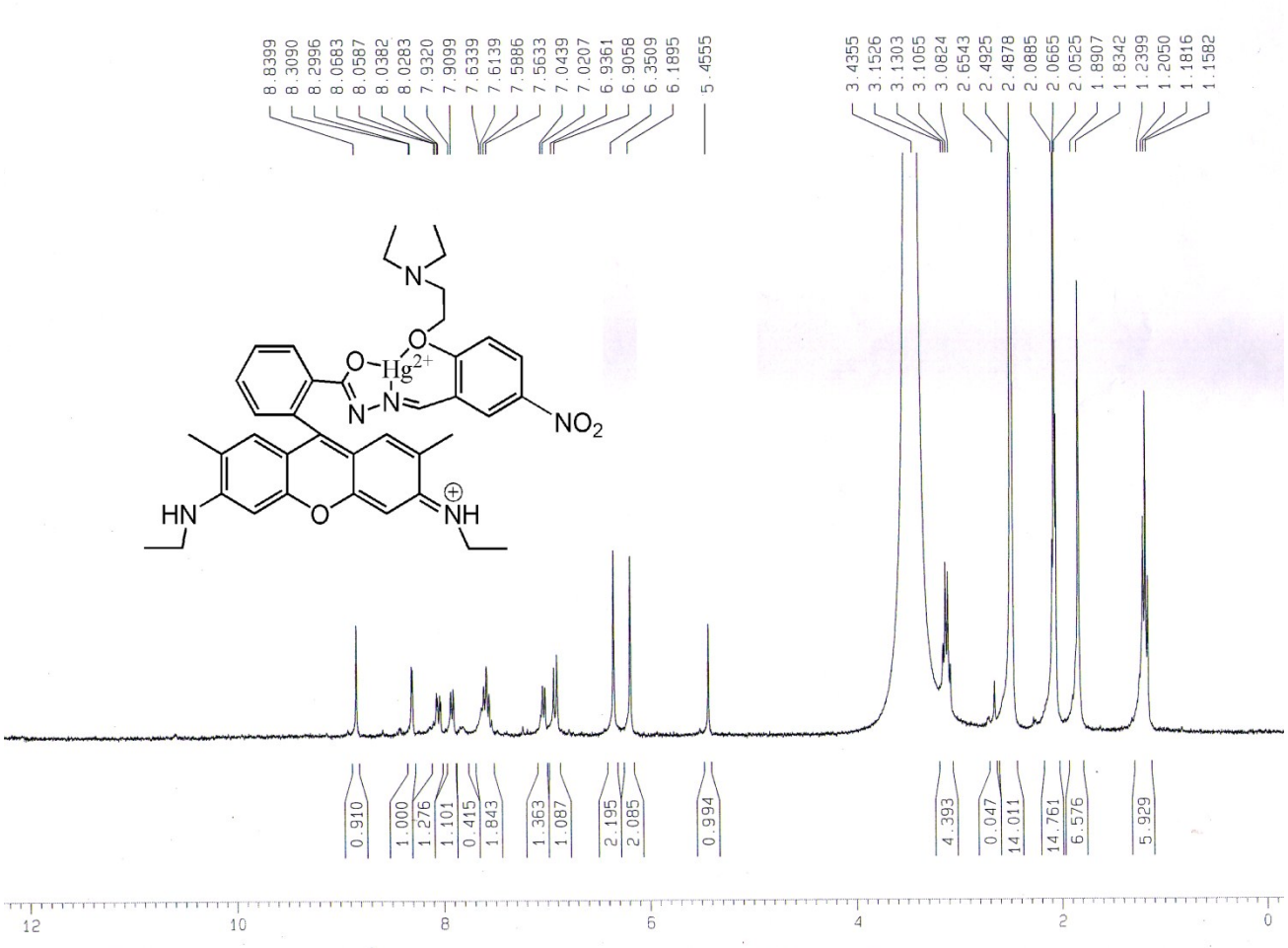

Fig. S4 ^{1}H-NMR spectra of L^{3}-Hg^{2+} in DMSO-d_6

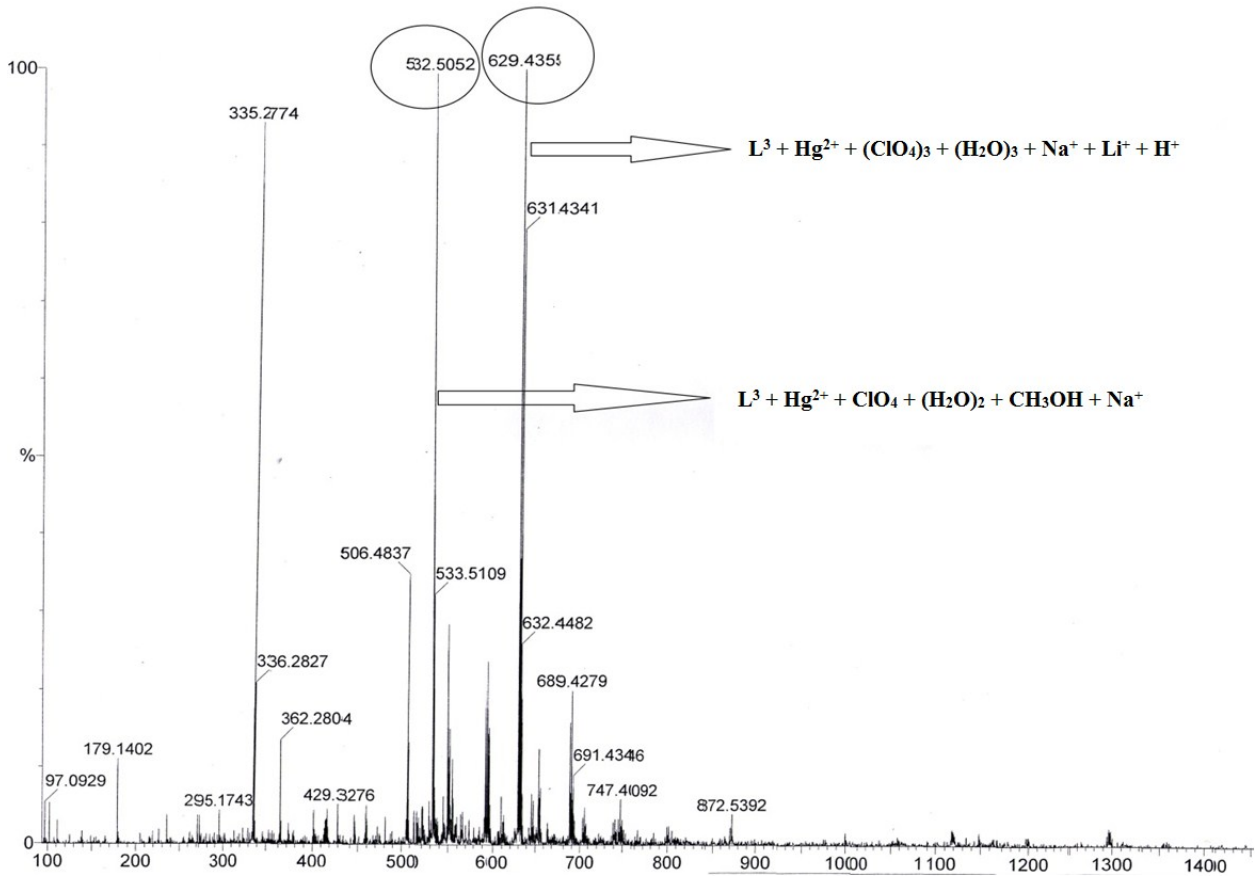

Fig. S5 Mass spectra of $\mathbf{L^3}$-Hg^{2+}

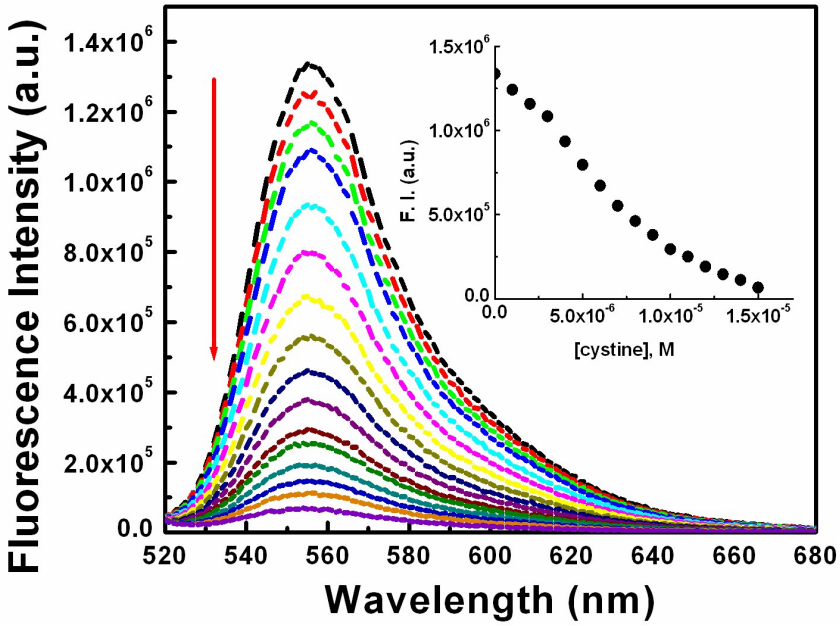

Fig. S6 Fluorescence quenching titration of L^3-Hg^{2+} (10 μM) complex by cystine. Inset is the plot of FI vs. [cystine].

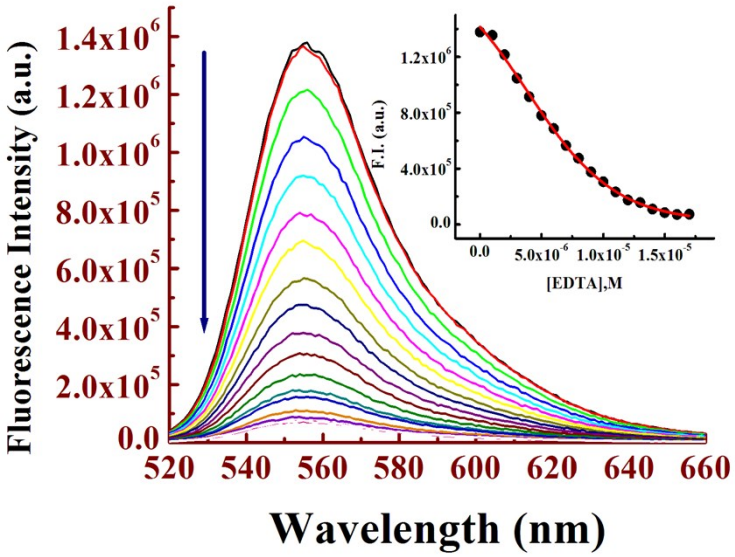

Fig. S7 (a) EDTA titrationin absence of SDS. Conditions are:[L^3] = [Hg^{2+}] 10μM.

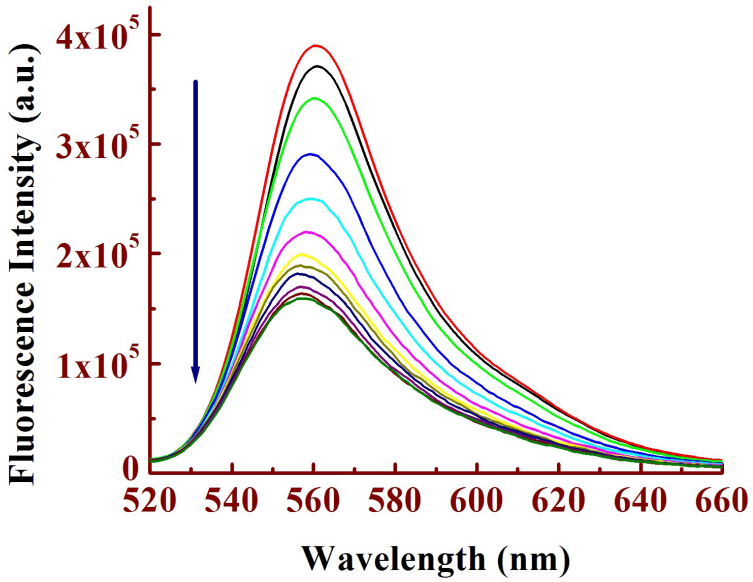

Fig. S7 (b) EDTA titration in presence of 5mM of SDS. Conditions are:[L^3] = [Hg^{2+}] 10μM.

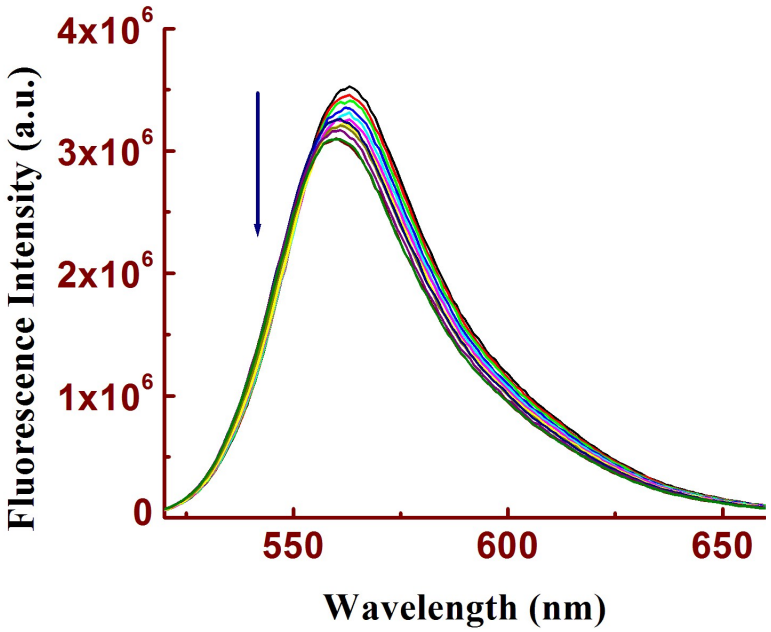

Fig. S7 (c) EDTA titration in presence of 9mM of SDS. Conditions are:$[L^3] = [Hg^{2+}]$ 10μM.

Quantum Yield Determination:

Fluorescence quantum yields (**Φ**) were estimated by integrating the area under the fluorescence curves with the equation: $\mathbf{\Phi}_{sample} = \frac{OD_{std}}{OD_{sample}} \times \frac{A_{sample}}{A_{std}} \times \mathbf{\Phi}_{std}$

where, A is the area under the fluorescence spectral curve and OD is optical density of the compound at the excitation wavelength. The standard used for the measurement of fluorescence quantum yield was rhodamine 6G$\mathbf{\Phi}_{std}$=0.94 in CH_3OH).

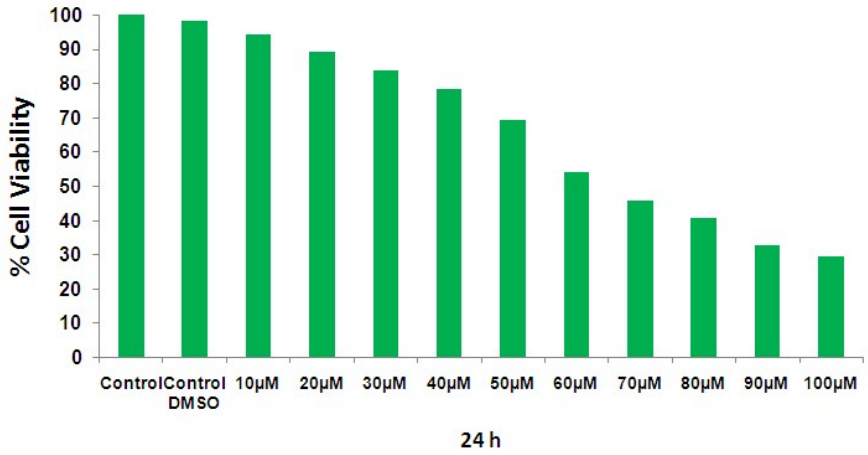

Fig. S8 Cell viability assay performed by using ligand $\mathbf{L^3}$

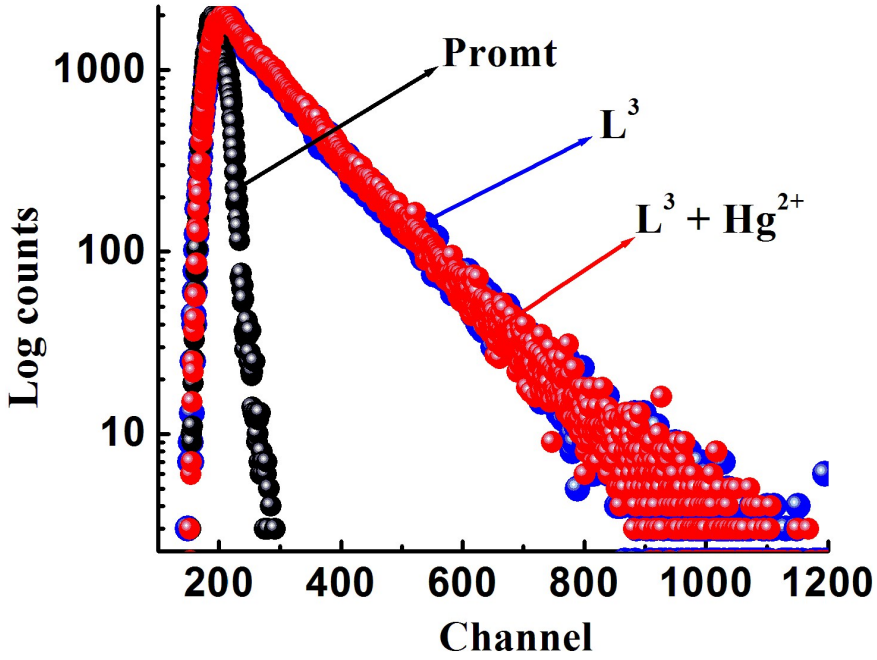

Fig. S9(a) Fluorescence decay curves of free **L³** ligand (10 μM) and in presence of Hg^{2+} (1 equivalent) in H_2O at 25 °C.

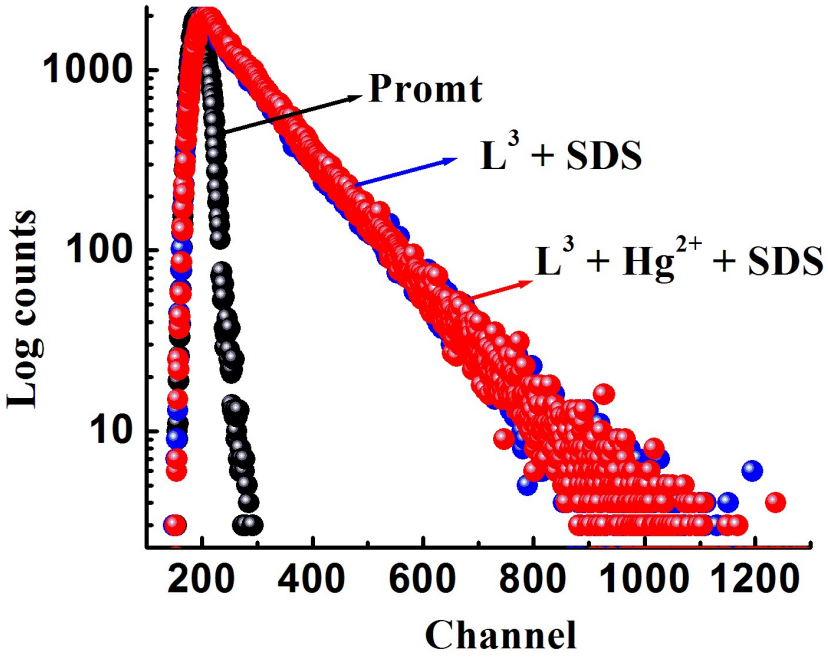

Fig. S9(b) Fluorescence decay curves of free **L³** ligand (10 μM) and in presence of Hg^{2+} (1 equivalent) in H_2O in presence of SDS of 9 mM concentration at 25 °C.

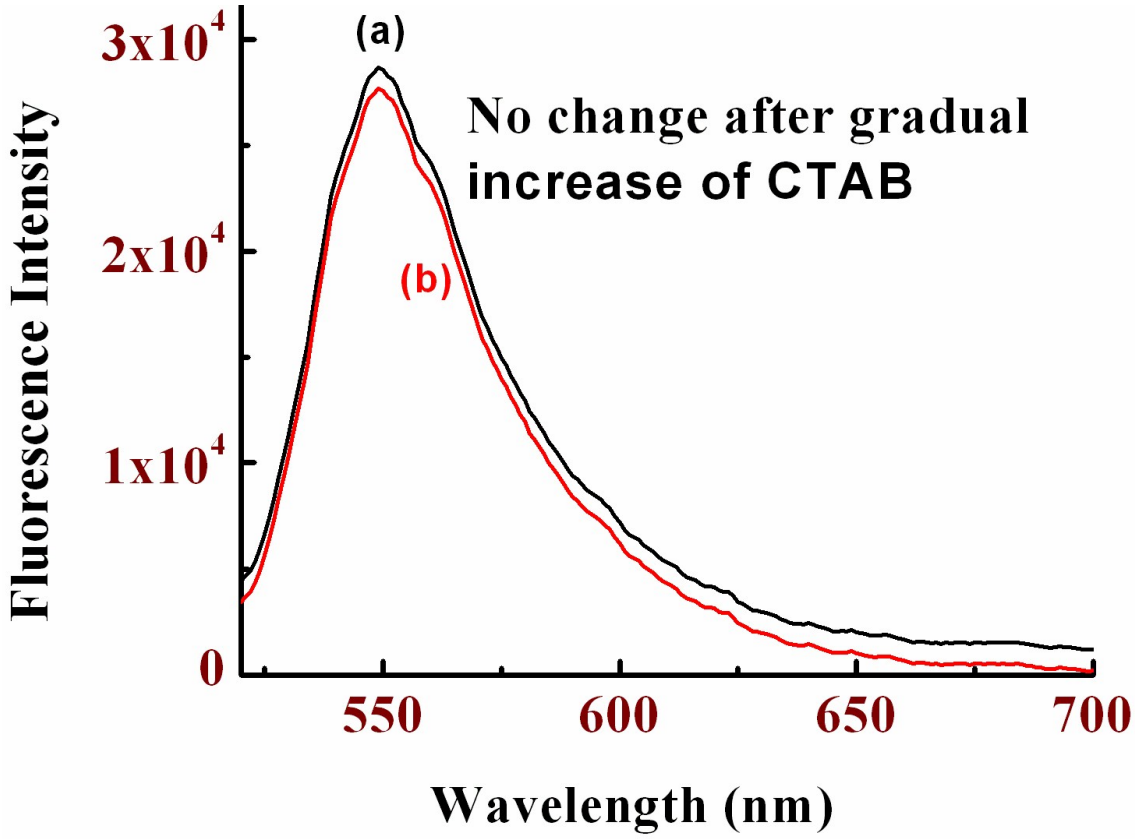

Fig. S10 Dependence of fluorescence intensity on [CTAB]. (a) 10 μM L^3-Hg^{2+}only; (b) 10 μM L^3-Hg^{2+}in presence of 10 mM CTAB.