

● Supporting Information

A Highly Sensitive Multi-responsive Chemosensor for Selective Detection of Hg^{2+} in Natural Water at Different Monitoring Environments

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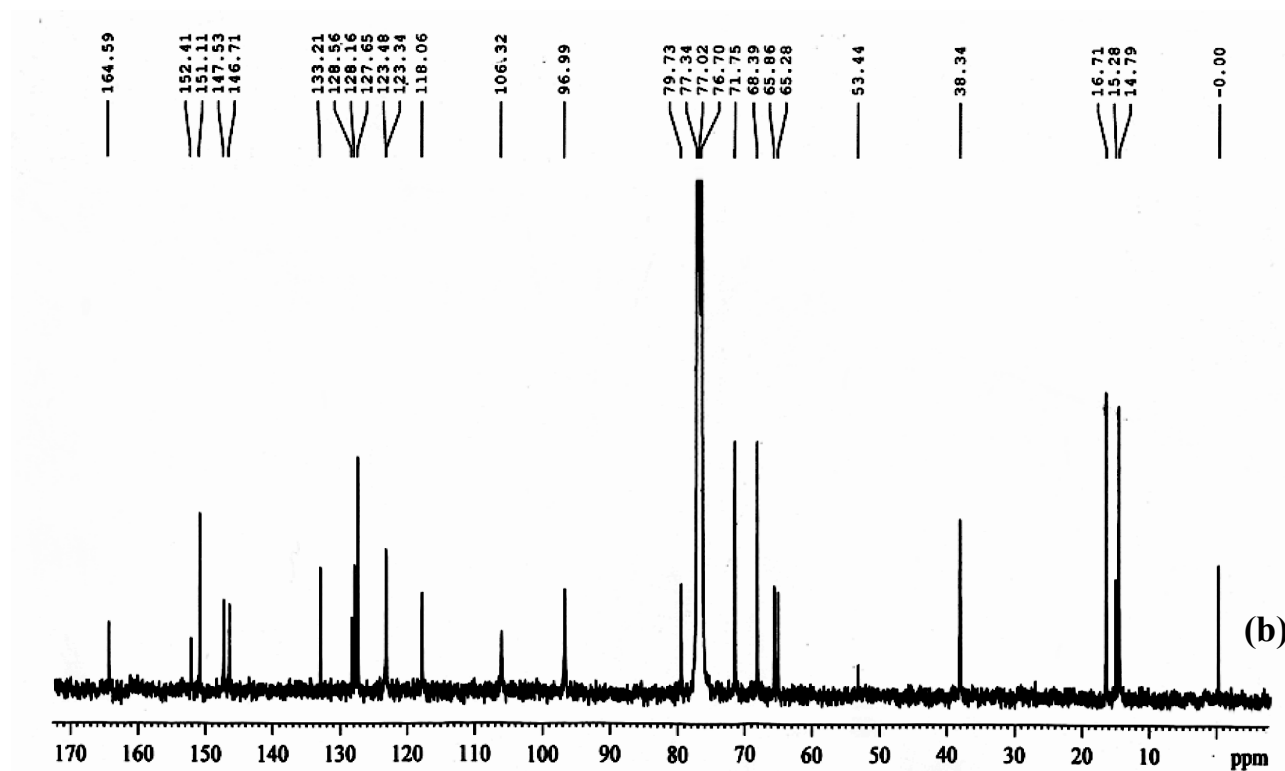
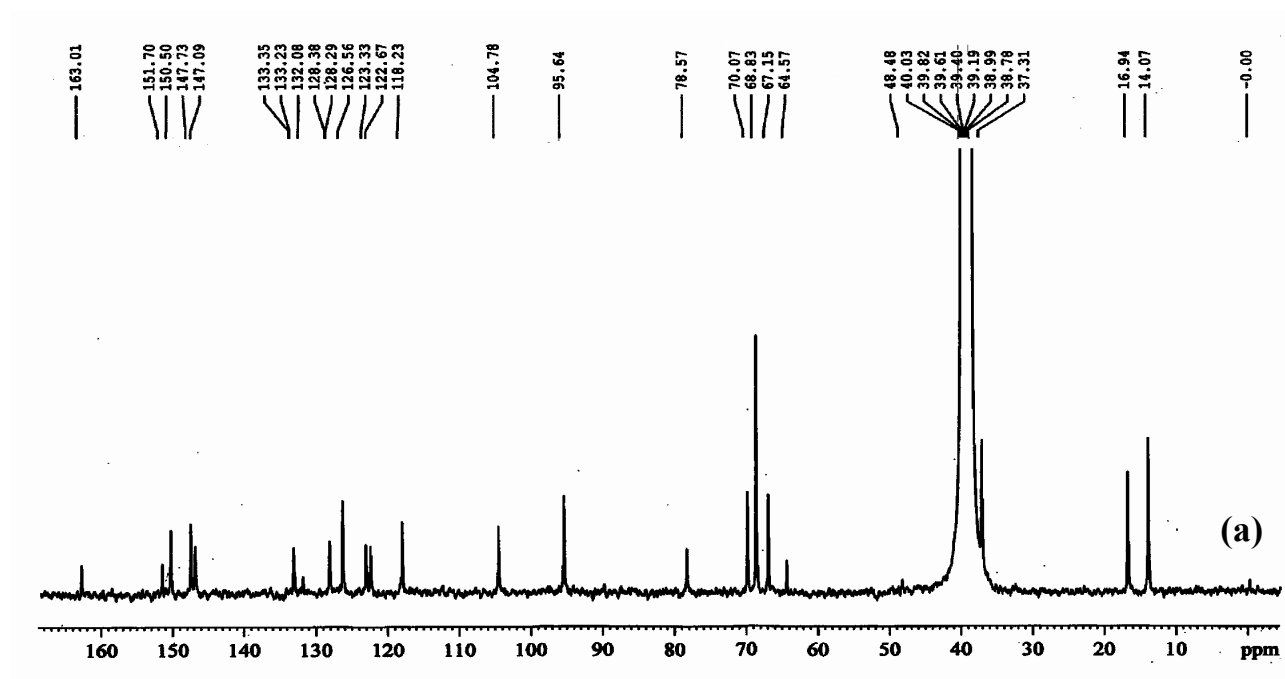


Figure S1 ^{13}C NMR of compounds RF1 (a) and RF2 (b)

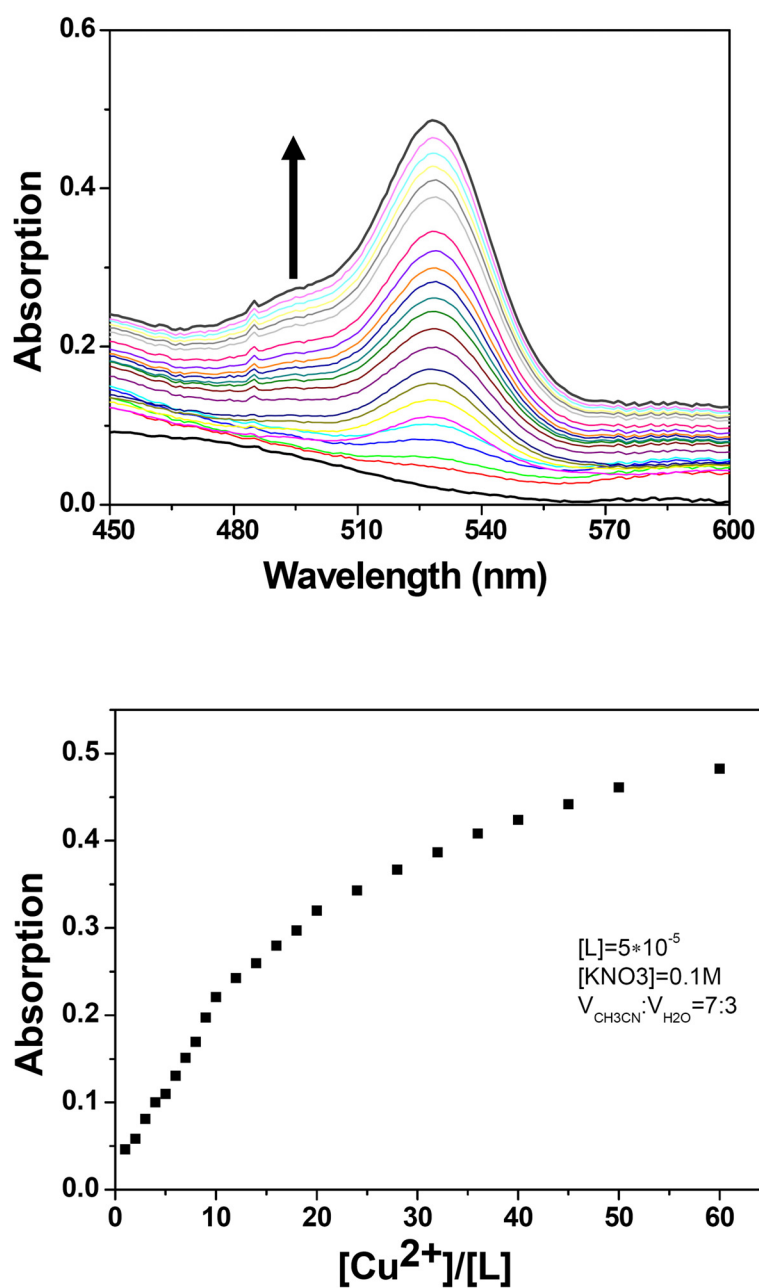


Figure S2 Top: Absorption spectra of **RF1** (50 μM), upon addition of increasing amount of Cu²⁺ in aqueous solution (from 0 to 60 eq). Bottom: The titration curve evaluated from the absorption at 535 nm (CH₃CN:H₂O, 70:30, T = 25 °C)

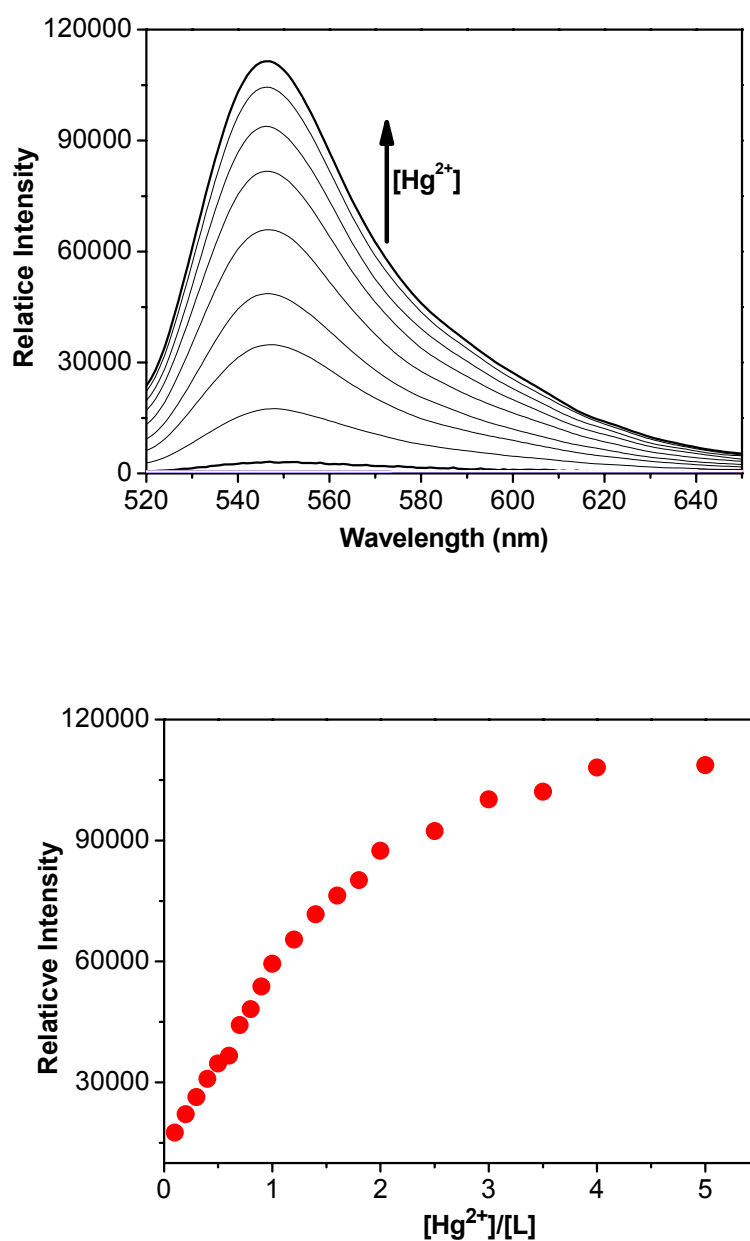


Figure S3. Fluorescent response of **RF1** (1 μM) upon addition of Hg^{2+} in an aqueous solution (0.1M KNO_3) in the presence of Cu^{2+} (10 μM) and the fluorescence titration profile around 550 nm at the excitation wavelength of 500 nm. Spectra were recorded every 4 min after adding Hg^{2+} .

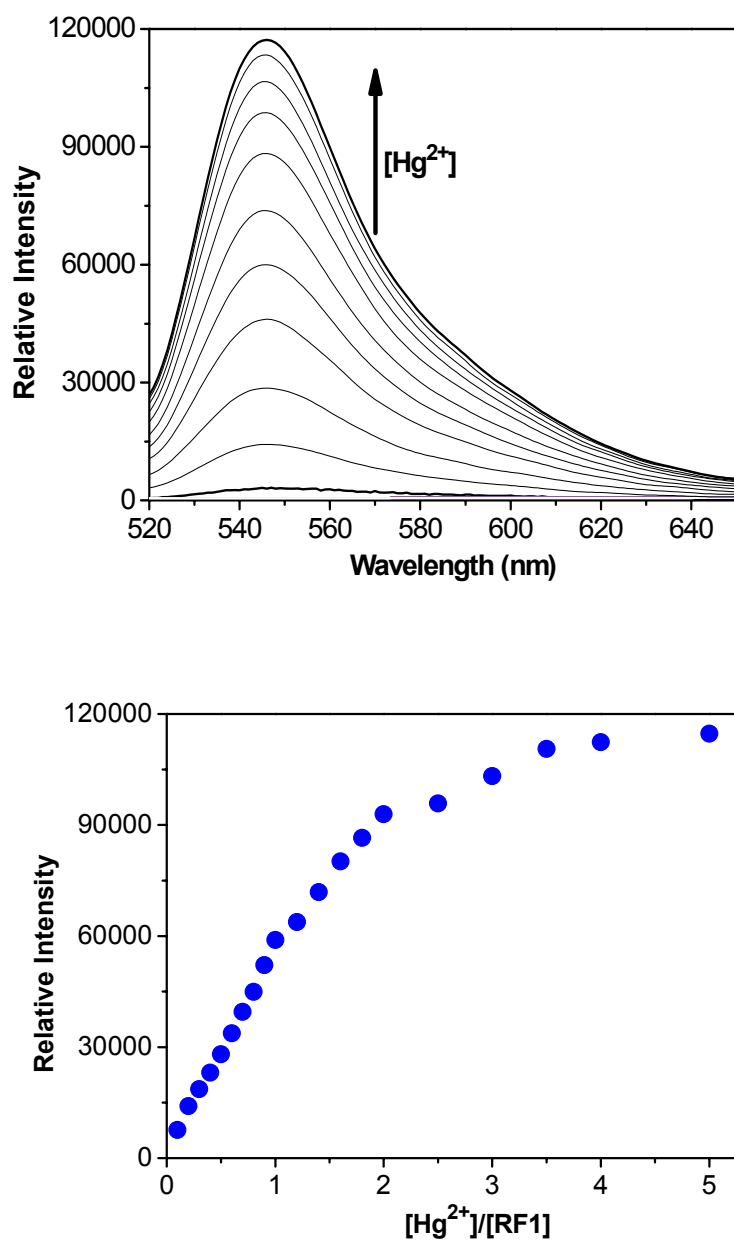


Figure S4. Fluorescent response of **RF1** (1 μM) upon addition of Hg^{2+} in an aqueous solution (0.1M KNO_3) in the presence of Cd^{2+} (10 μM) and the fluorescence titration profile around 550 nm at the excitation wavelength of 500 nm. Spectra were recorded every 4 min after adding Hg^{2+} .

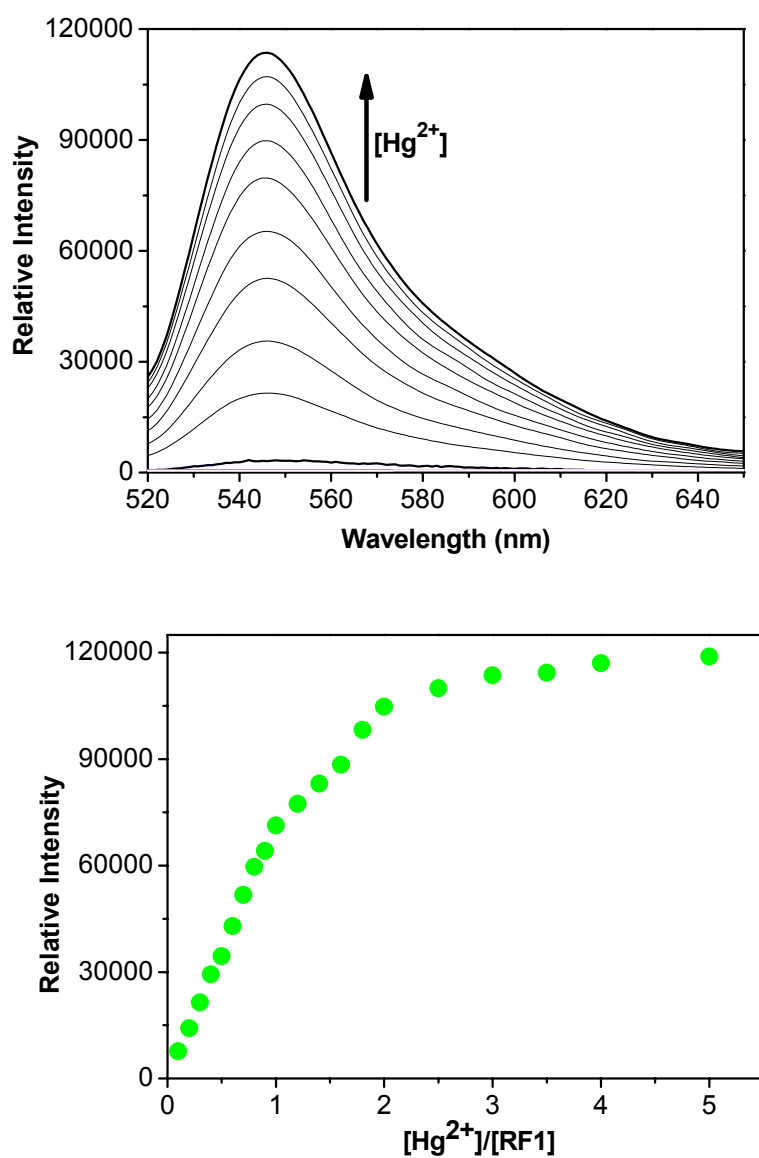


Figure S5. Fluorescent response of **RF1** (1 μM) upon addition of Hg^{2+} in an aqueous solution (0.1M KNO_3) in the presence of Pb^{2+} (10 μM) and the fluorescence titration profile around 550 nm at the excitation wavelength of 500 nm. Spectra were recorded every 4 min after adding Hg^{2+} .

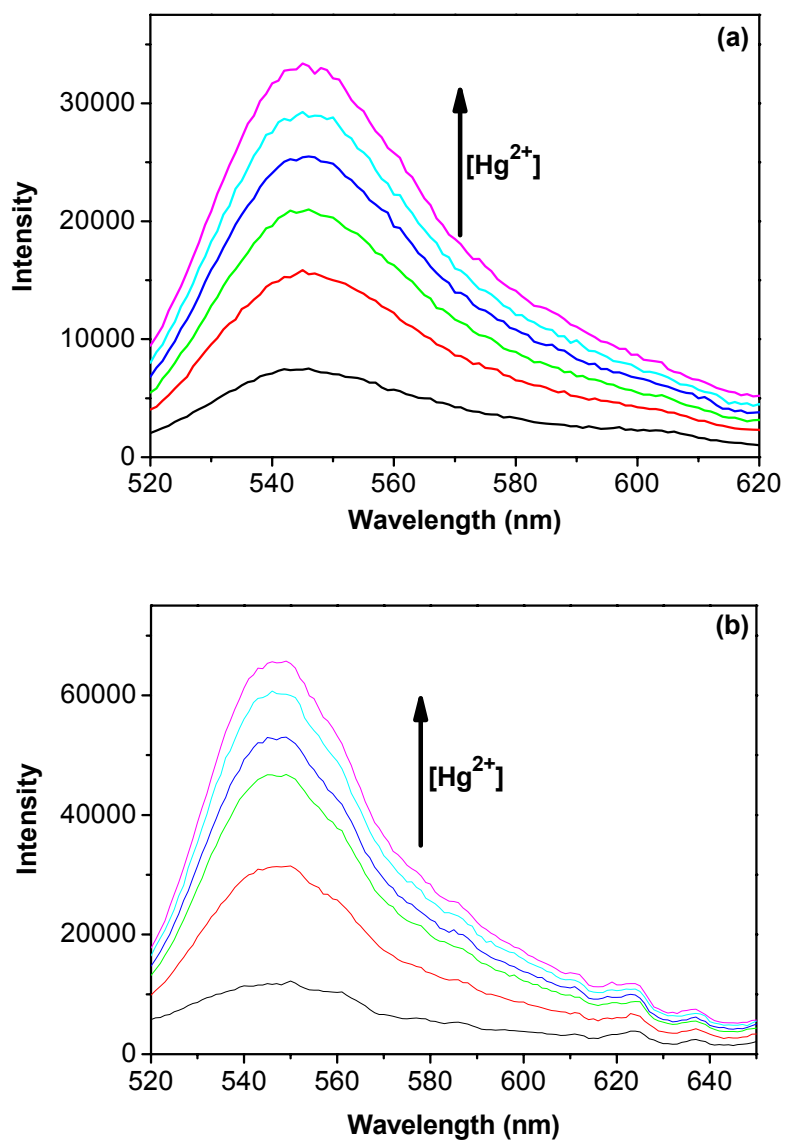


Figure S6 The fluorescence responses of **RF1** (0.1 μM) in natural water samples: (a) reservoir fresh water and (b) seawater upon addition of Hg^{2+} by 1 *ppb*, respectively. The samples were excited at 500 nm, spectra were recorded every 4 min after adding of Hg^{2+} .

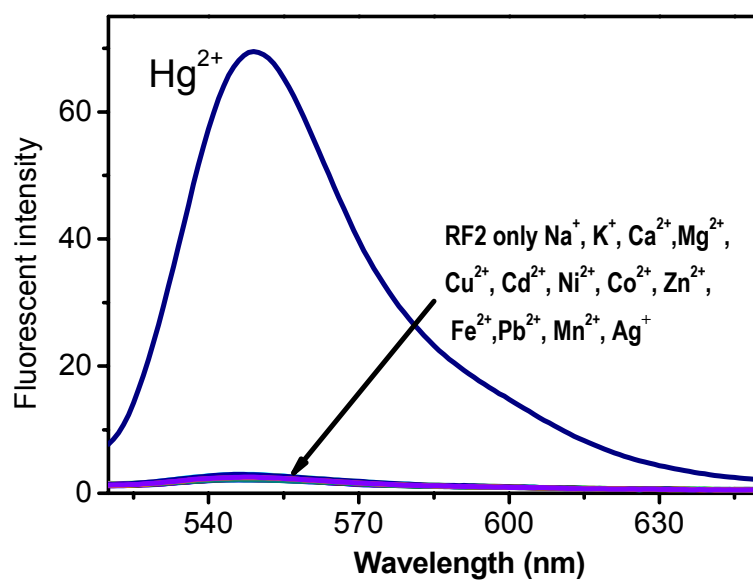


Figure S7. Emission spectra of **RF2** (10uM) in aqueous solution in the presence various cations, respectively..