**SUPPLEMENTARY INFORMATION**

# A Novel DLLME-Based Approach for the Spectrophotometric Determination of Mercury in Environmental Samples Using the Fe(II) Phthalocyanine Sensor

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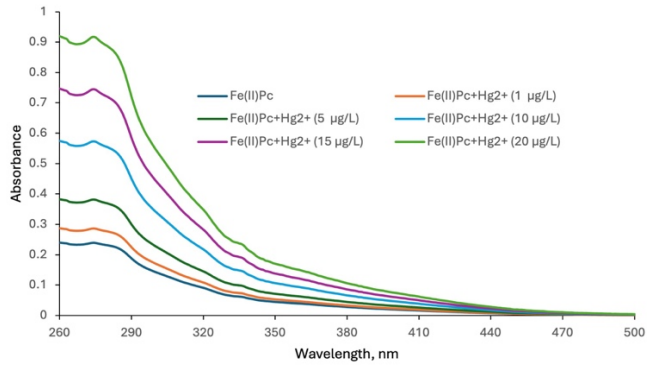
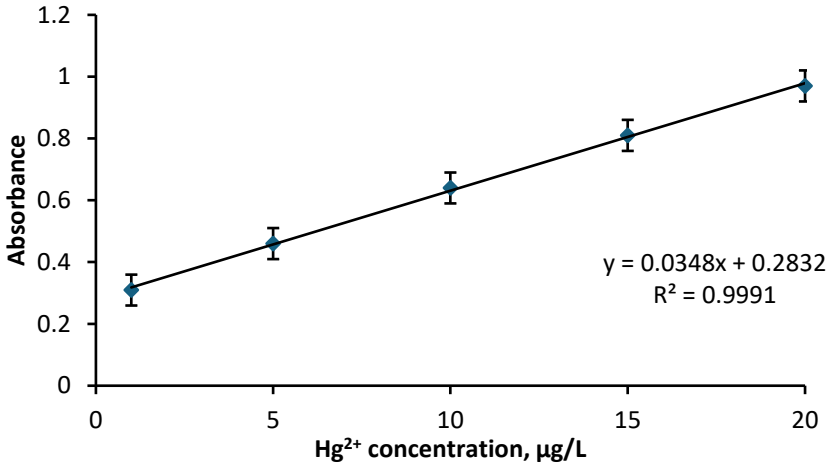
## 1. Equipment

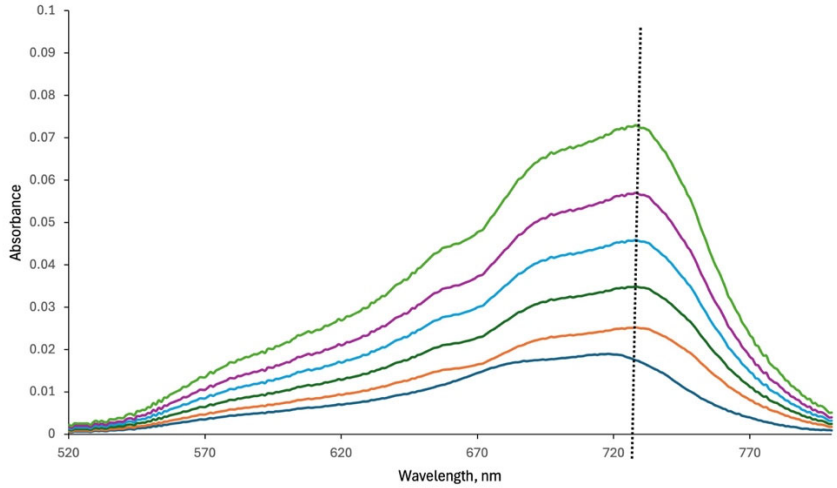
All absorbance measurements were carried out on a Thermo Scientific Evaluation Array spectrophotometer (Thermo Fisher Scientific, Waltham, MA, USA) equipped with a quartz microcuvette (250 µL capacity), with instrument control provided via an Asus computer. Phase separation from aqueous solutions was facilitated using a Benchtop Centrifuges K2015R model centrifuge. The pH values were determined with a Hanna HI 2211 pH meter (Hanna Instruments, Woonsocket, RI, USA) fitted with a glass electrode. Dissolution of the Fe(II)Pc compound was assisted by employing a Kudos SK2210 HP ultrasonic bath (Kudos Instruments Corp., New York, NY, USA).



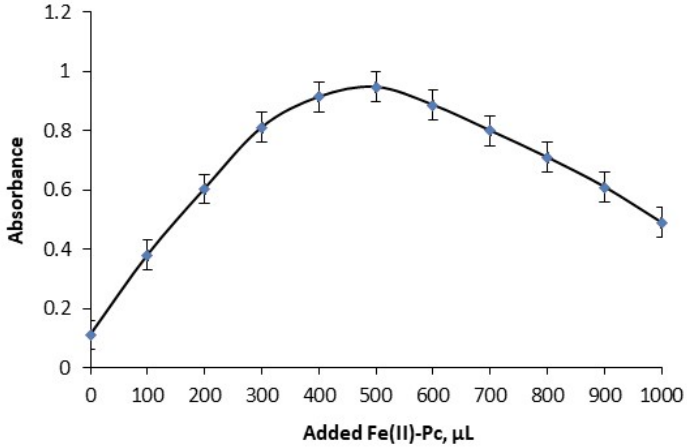

Supplementary Figure S1. Effects of $Hg^{2+}$ ions on the absorbance of the Fe(II)Pc sensor in methanol. Ligand concentration = $5.00 \times 10^{-6}$ M. $Hg^{2+}$ concentration: 1.00–20 µg/L.




Supplementary Figure S2. The linear calibration curve of $Hg^{2+}$ using the Fe(II)Pc based DLLME–Uv–Vis method.




Supplementary Figure S3. Effect of $Hg^{2+}$ ions on the Q-band absorption of the Fe(II)Pc sensor in methanol. Ligand concentration = $5.00 \times 10^{-6}$ M; $Hg^{2+}$ concentration: 1.00–20 µg/L.




Supplementary Figure S4. Job's plot for determining the stoichiometry of the $Hg^{2+}$:Fe(II)-Pc complex.