

Supporting Materials

A Sugar-Quinoline Fluorescent Chemosensor For Highly Selective

Detection of Hg²⁺ Ion in Natural Water

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Experimental

Reagents and methods. All reagents used were analytical pure. ¹H NMR spectra were recorded on a Bruker spectrometer using d₆-DMSO and D₂O with TMS as an internal standard. The electrospray mass spectra (ESI-MS) were determined on a Finnigan LCQ mass spectrometer, methanol or water as mobile phase. Fluorescence emission spectra were obtained using AB-series2 luminescence spectrometer. Fluorescence determination was done in water solution. The perchloride or nitrate salts of metal ions were used. The fluorescence quantum yields were determined by using 1×10^{-5} M [Ru(2,2'-bipyridine)₃]perchlorate acetonitrile solution as reference ($\Phi = 0.059$) excitation at 450nm. ¹H NMR titration was completed in the d₆-DMSO and D₂O mixed solution (V : V = 1:1).

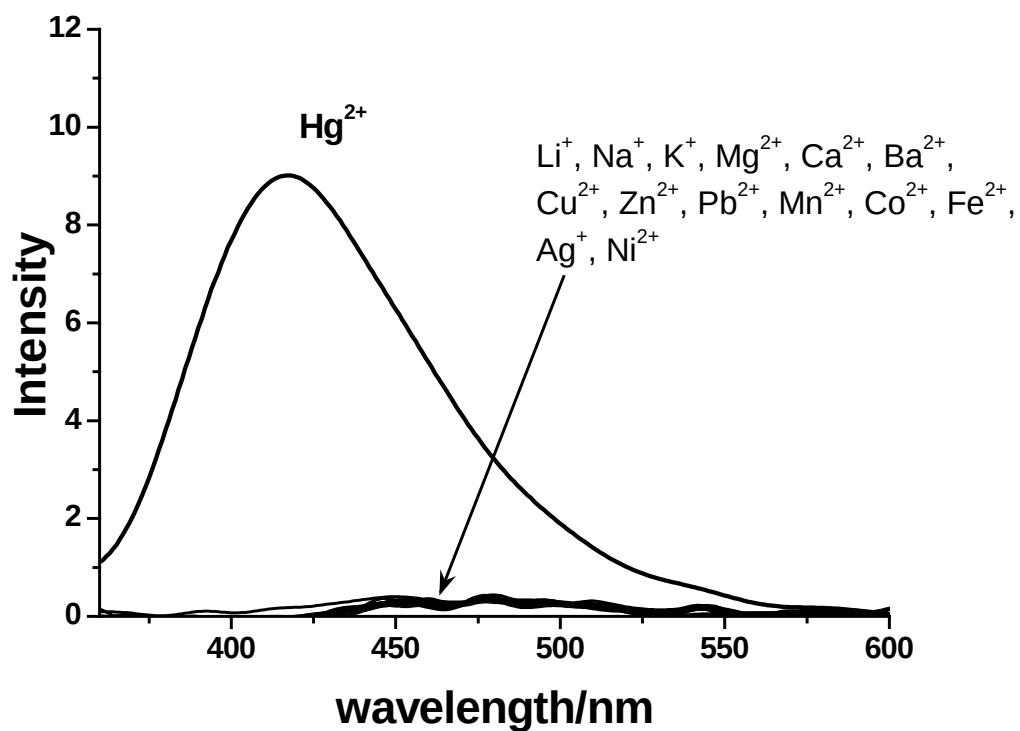


Figure S1. Fluorescence spectra of QG with ten equiv. cations in aqueous solution, $[\text{QG}] = 1 \times 10^{-5} \text{ M}$, excitation at 315nm.

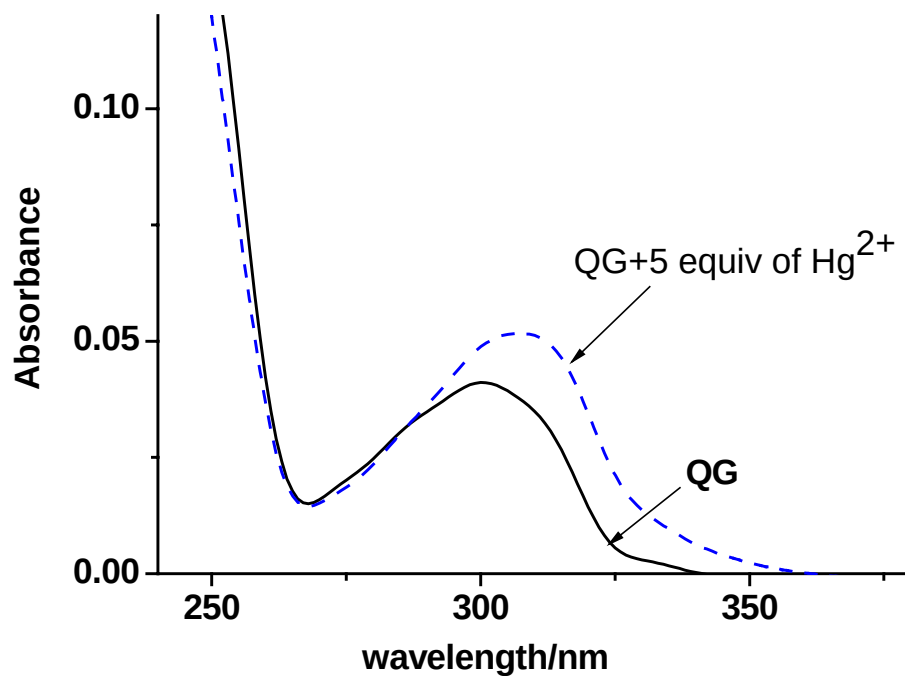


Figure S2. UV-vis spectra of QG and QG with 5 equiv of Hg^{2+} , $[\text{QG}] = 1 \times 10^{-5} \text{ M}$.

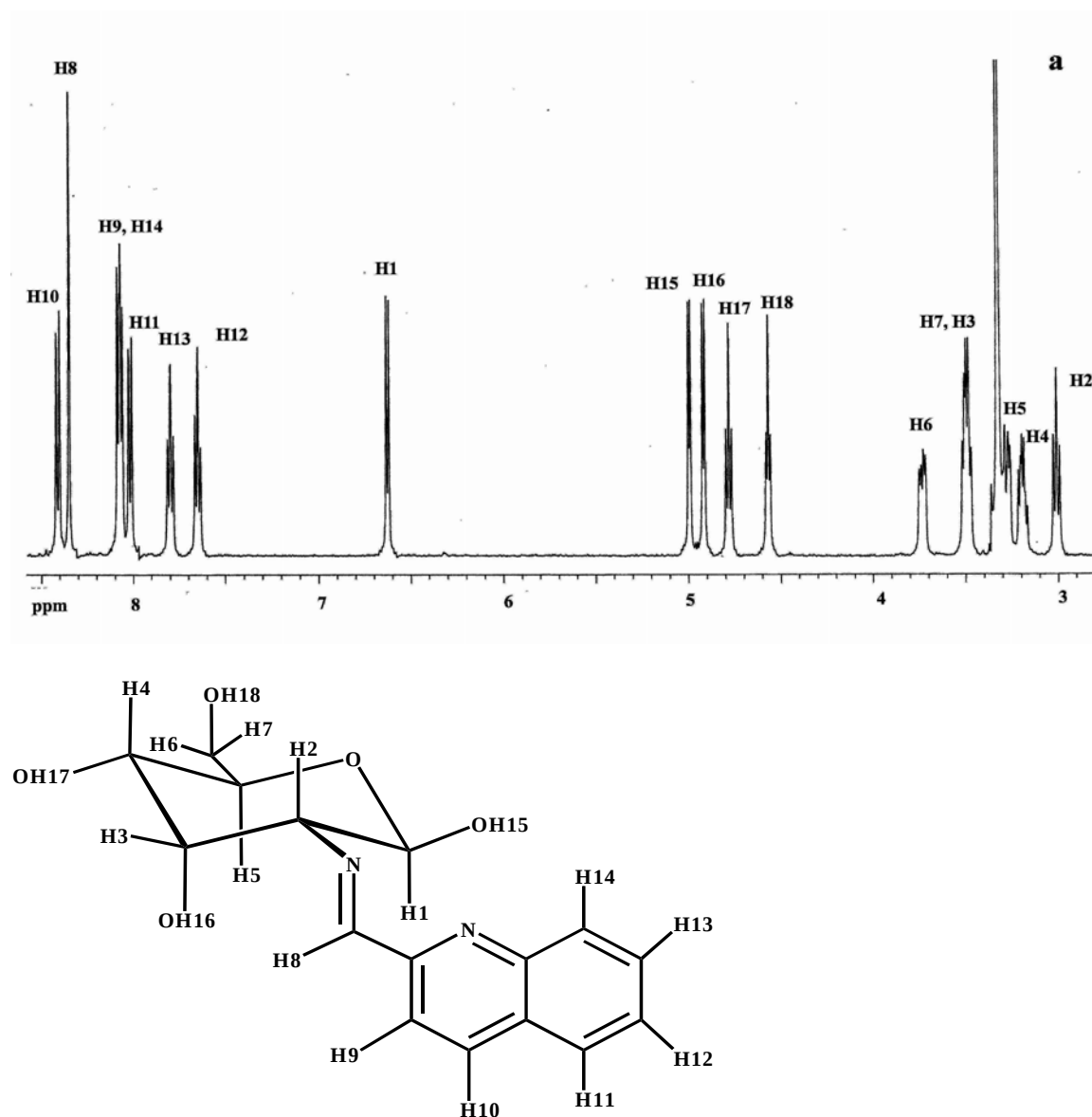


Figure S3. ^1H NMR spectra of QG ($1.0 \times 10^{-3}\text{M}$) in $\text{d}_6\text{-DMSO}$