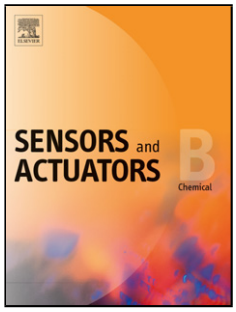

Title: Highly selective and reversible colorimetric detection of mercury ions by a hydrophilic cycloruthenated complex in water

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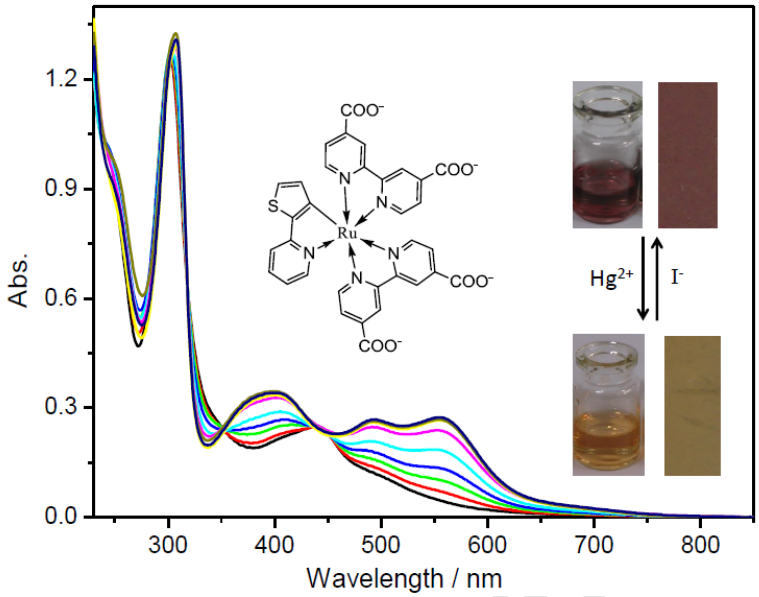
Graphic Abstract- Pictogram



A new hydrophilic cyclometallated ruthenium complex based on 2-(2-thienyl)pyridine was successfully synthesized to selectively detect mercury ion in water. Only upon addition of mercury ions, the aqueous solution of the complex exhibit very remarkable color change from red to yellow with the detection limit of 0.59 µM. Interestingly, the complex can be recovered from complex-Hg^{2+} both in solution and silica gel plates by adding I^-. Therefore, it can serve as a reusable and "naked-eye" indicator for Hg^{2+} in natural environment.