

Supporting Information

Thermo-Tunable Colorimetric Detection of Mercury(II) Ions Driven by Temperature-Dependent Assembly and Disassembly of a Block Copolymer

Hye-Jin Kim^{a,b} and Hyung-il Lee^{a,}*

^a Department of Chemistry, University of Ulsan, Ulsan, 44776, Korea

^b Advanced Industrial Chemistry Research Center, Advanced Convergent Chemistry Division, Korea Research Institute of Chemical Technology, 45 Jongga-ro, Jung-gu, Ulsan44412, Republic of Korea

* Corresponding Author : sims0904@ulsan.ac.kr

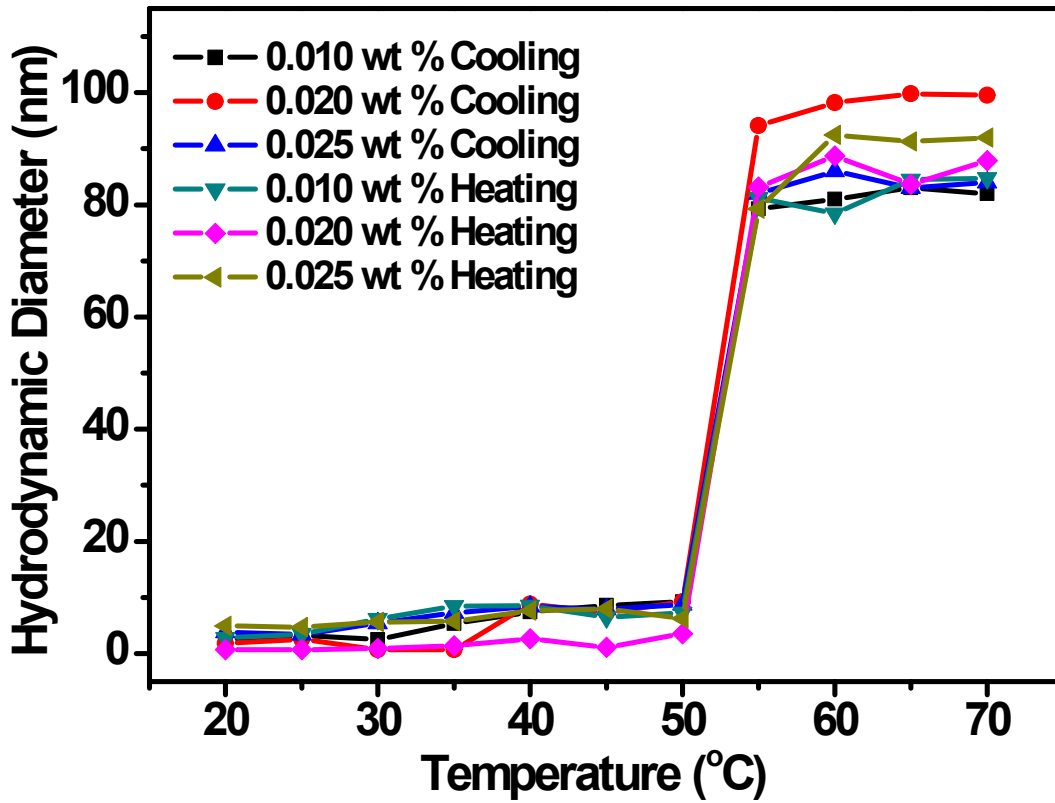


Figure S1. Average hydrodynamic diameters of 0.010 wt%, 0.020 wt%, and 0.025 wt% aqueous solution of P1 as a function of temperature.

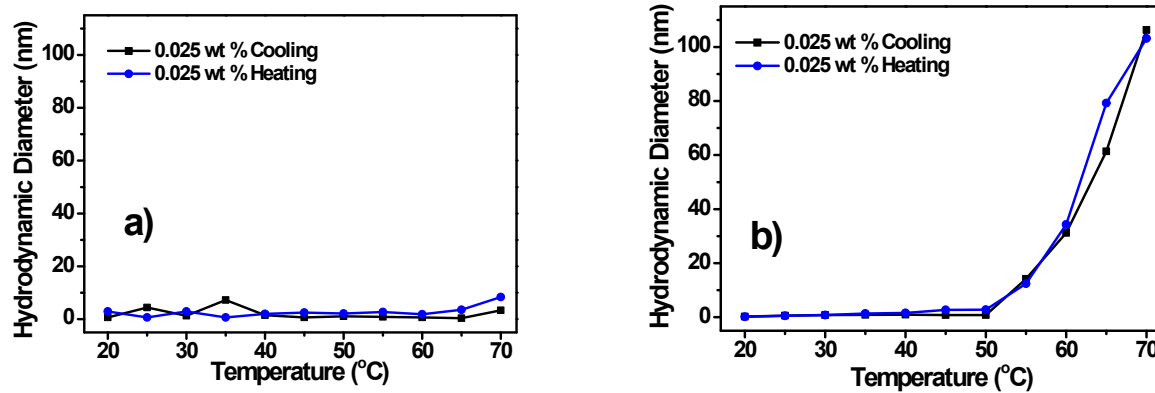


Figure S2. Average hydrodynamic diameters of 0.025 wt% aqueous solution of P1 as a function of temperature a) at pH 4.5 and b) pH 6.0.

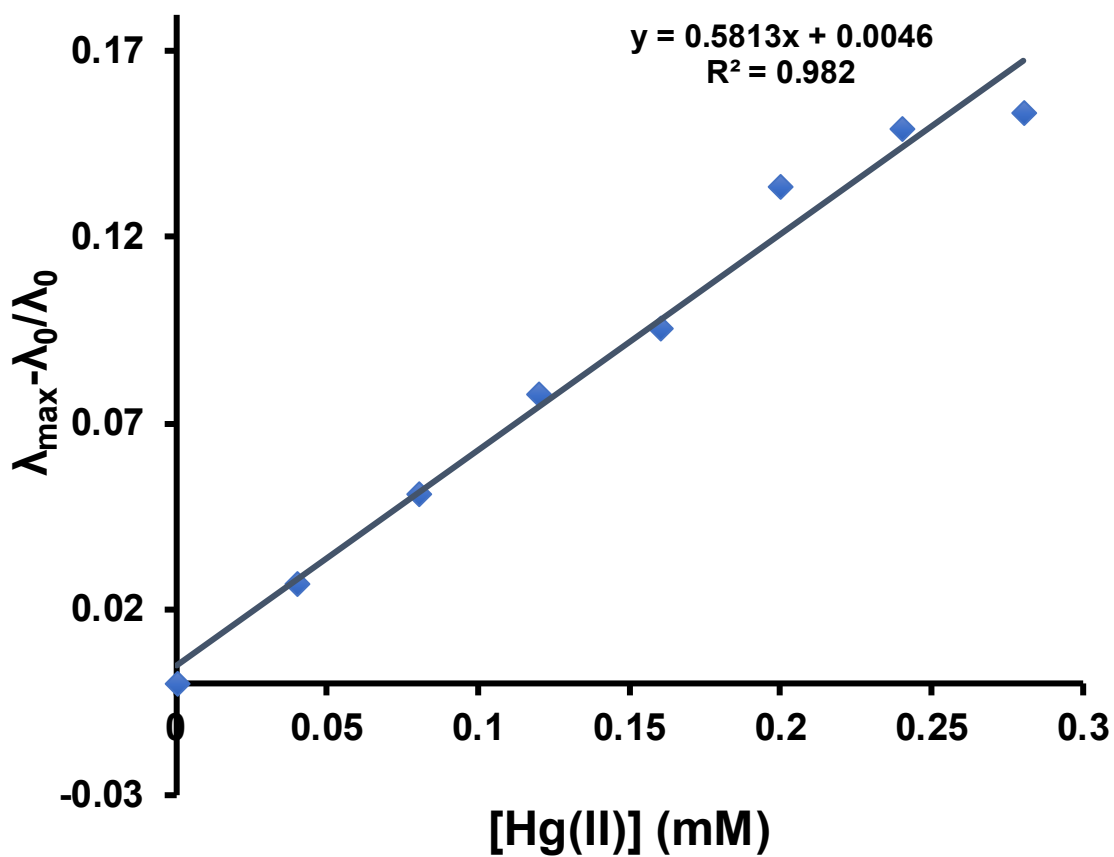


Figure S3. Linear regression curve of P1 aqueous solutions with increasing concentration of mercury(II) ions at 25 °C (LOD = 0.031 mM).

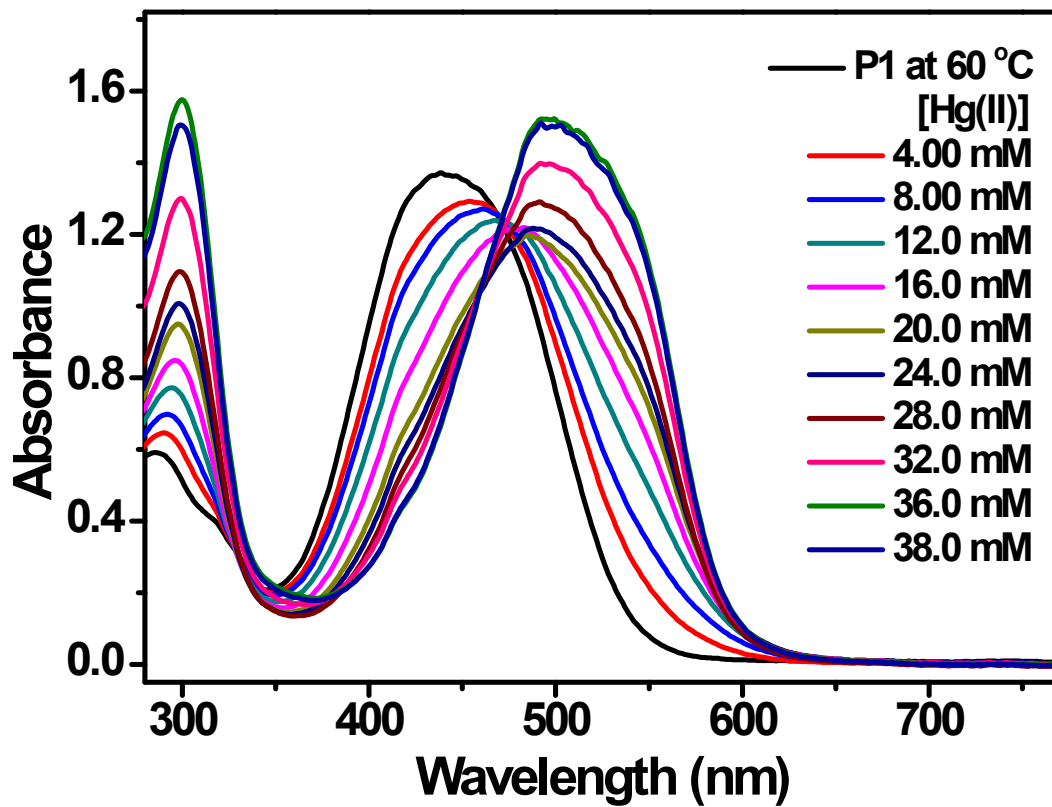


Figure S4. UV-vis absorption spectra of 0.025 wt % micellar solution of P1 (48 μM of oxime units) up to the addition of 38.0 mM of mercury(II) ions in aqueous solution at 60 °C.

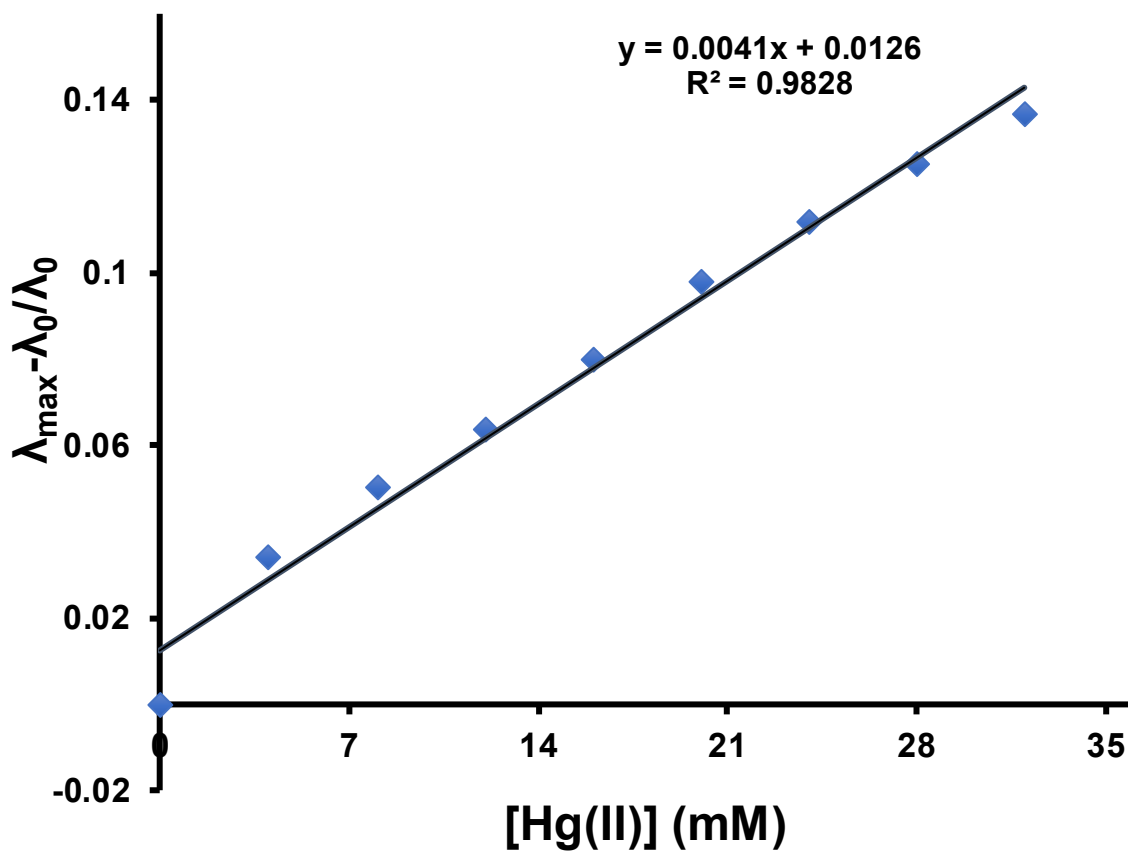
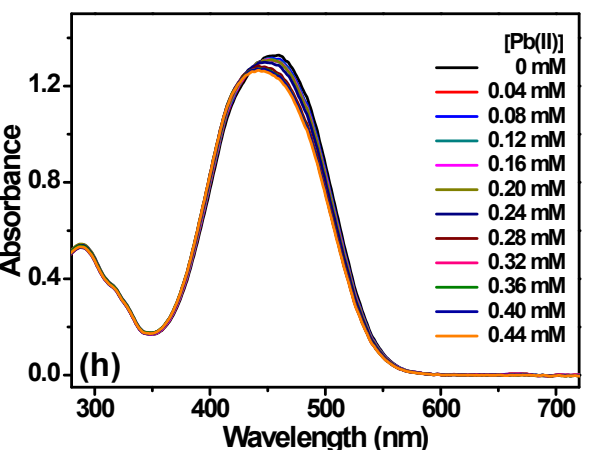
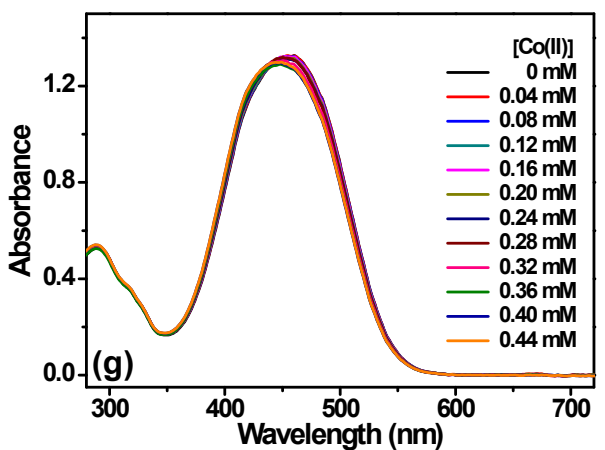
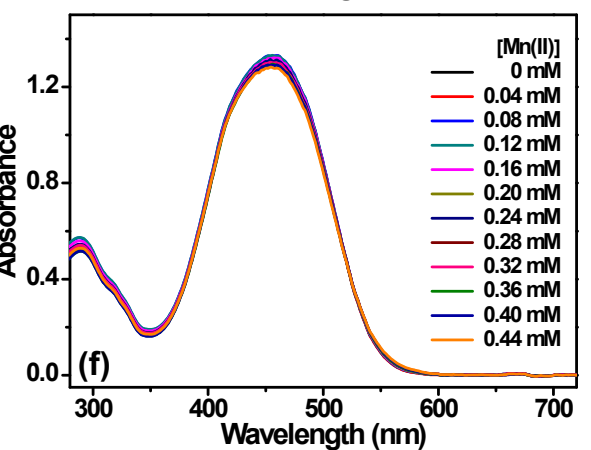
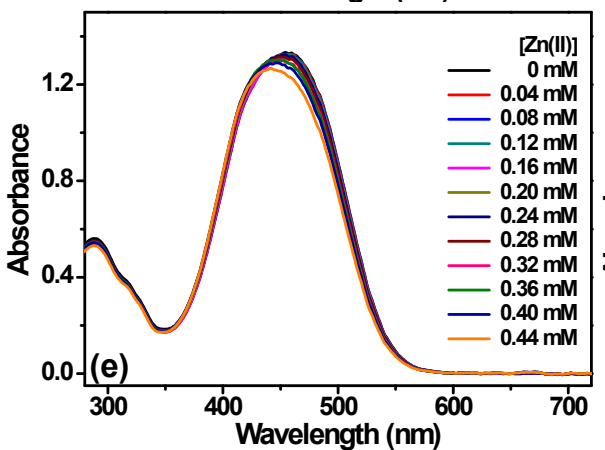
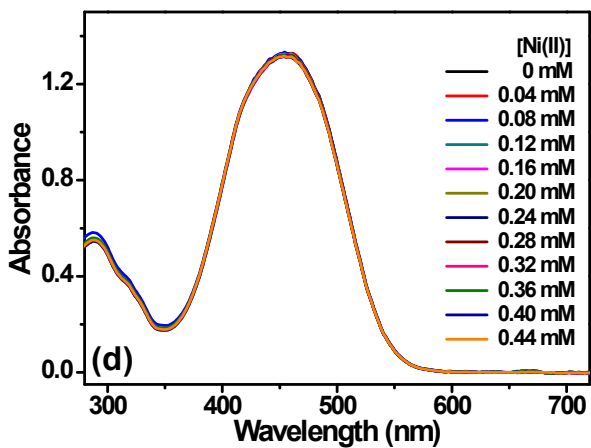
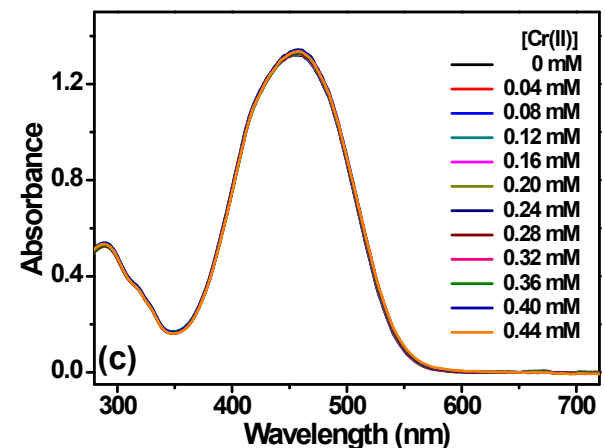
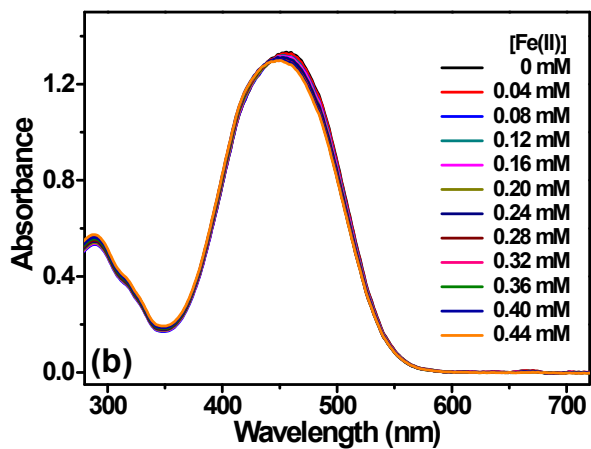
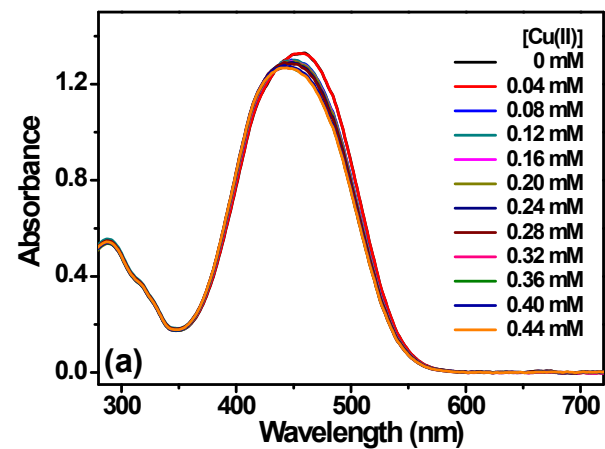


Figure S5. Linear regression curve of P1 aqueous solutions with increasing concentration of mercury(II) at 60 °C (LOD = 3.13 mM).



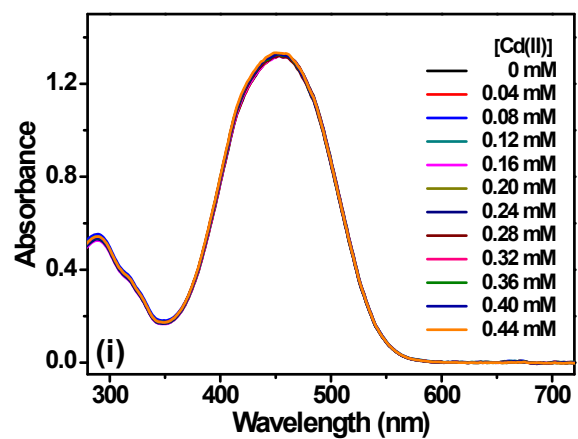


Figure S6. (a~i) UV-vis absorption spectra of aqueous solutions of P1 (48 μM) with various concentrations of different metal cations (0.44 mM) at 25 $^{\circ}\text{C}$.