Electronic Supplementary Material (ESI) for Analytical Methods.

Supplementary Information

Multi-screening of β-lactam antibiotics for β-lactamase resistance by means of a paper-based analytical device with the 4-(2-pyridylazo)resorcinol (PAR)–Hg^{2+} complex

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Stability of PAR–Hg^{2+} complex in presence of β-lactam antibiotics

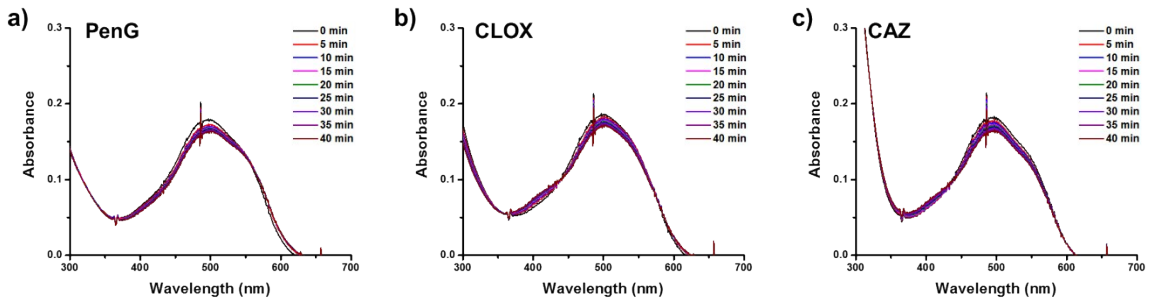

Figure S1 UV/Vis spectrum of PAR (20 μM)–Hg^{2+} (40 μM) complex containing β-lactam antibiotics substrate (100 μM), a) PenG, b) CLOX, c) CAZ in sodium phosphate buffer (pH 7.0, 20 mM).

Detection of β-lactamase resistance of β-lactam antibiotics using PAR–Hg^{2+} complex

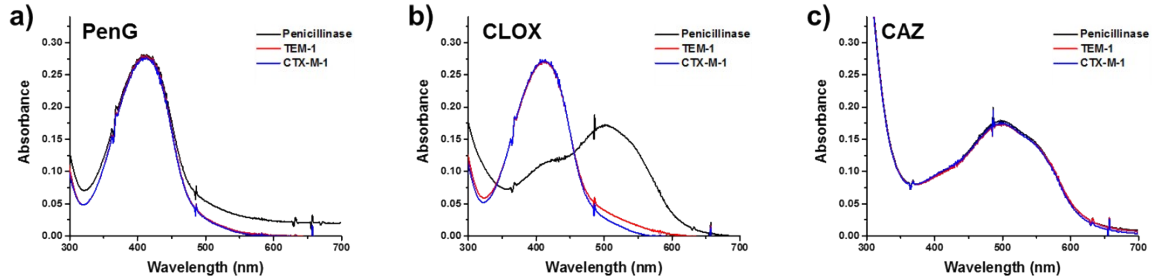

Figure S2 UV/Vis spectrum of cocktail of β-lactam antibiotics (100 μM) and PAR (20 μM)–Hg^{2+} (40 μM) complex after incubation for 20 min with each different β-lactamase (50 ng/mL).

Characterization of OTS-modified paper

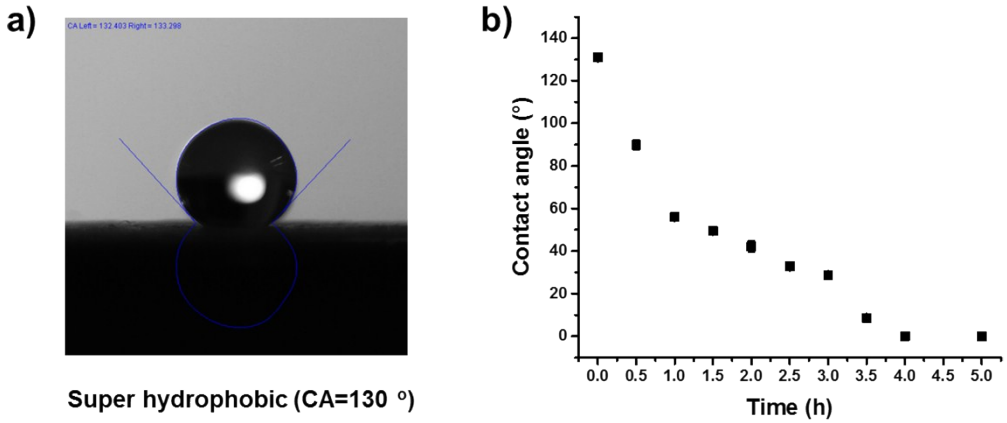

Figure S3 a) Drop of water (1 μL) on OTS-modified paper, b) effect of UV exposure time on contact angles.

Optimization of PAR–Hg^{2+} complex for paper-based colorimetric assay

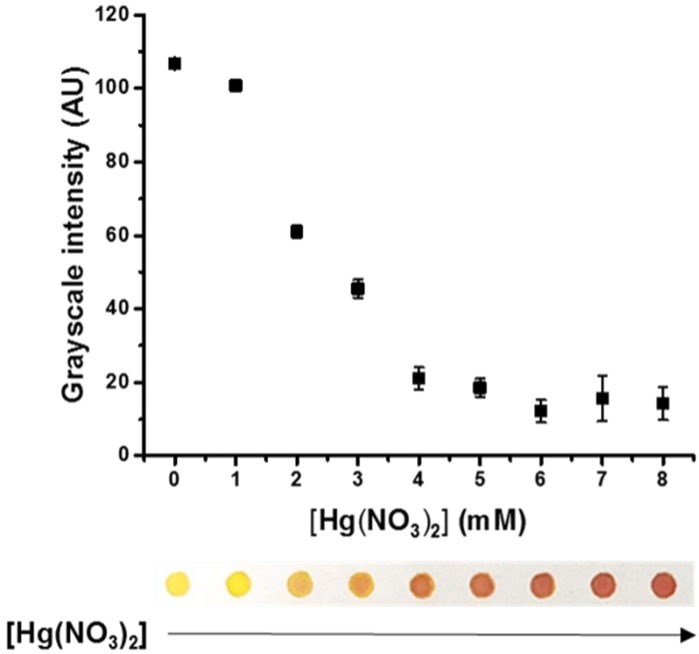

Figure S4 Plot of intensities of PAR–Hg^{2+} complex spot versus different $Hg(NO_3)_2$ concentration with fixed PAR (2 mM)..