Electronic Supplementary Information

An Indicator-Displacement Assay for Naked-Eye Detection and Quantification of Histidine in Human Urine

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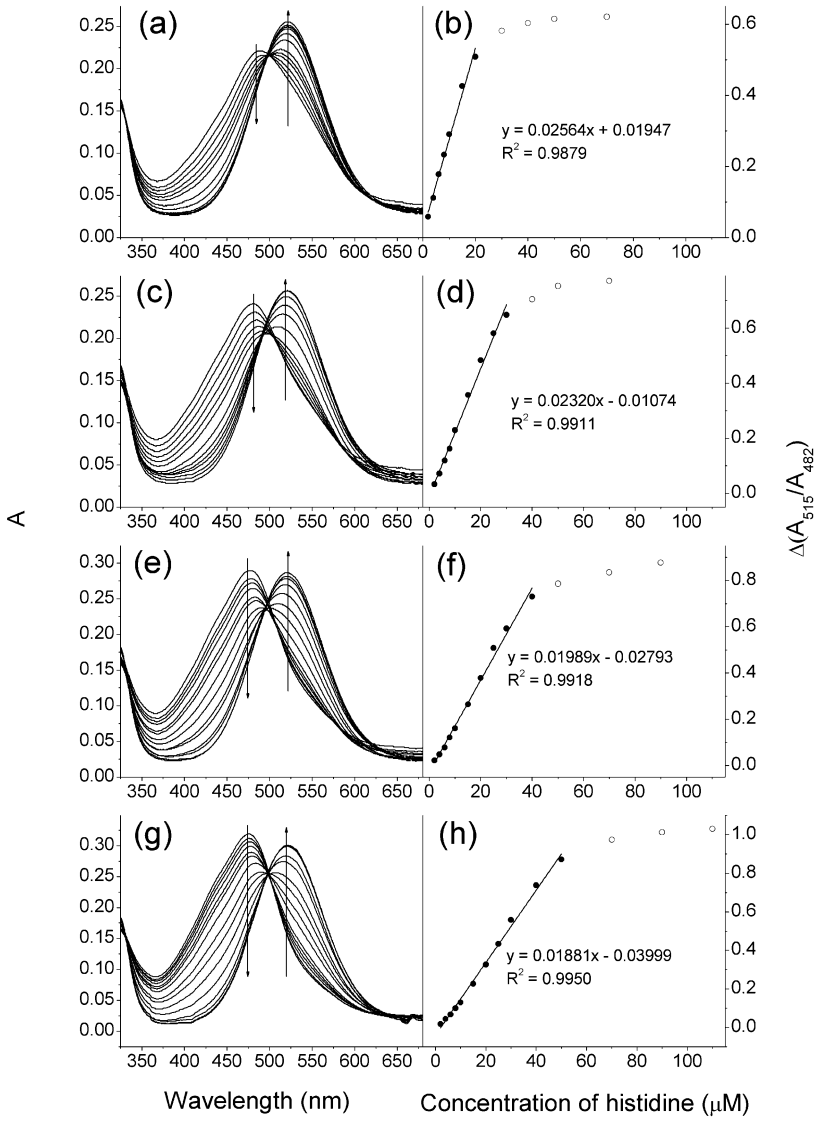

Figure S1. Effect of the molar ratio of murexide to Ni^{2+} on the UV-Vis spectra for histidine titration in Tris-HCl buffer (20 mM, pH 8.0) (a, c, e, g), and the corresponding calibration plots (b, d, f, h). Molar ratio of murexide to Ni^{2+}: (a, b) 25 μM/10 μM; (c, d) 25 μM/15 μM; (e, f) 25 μM/20 μM; (g, h) 25 μM/25 μM.

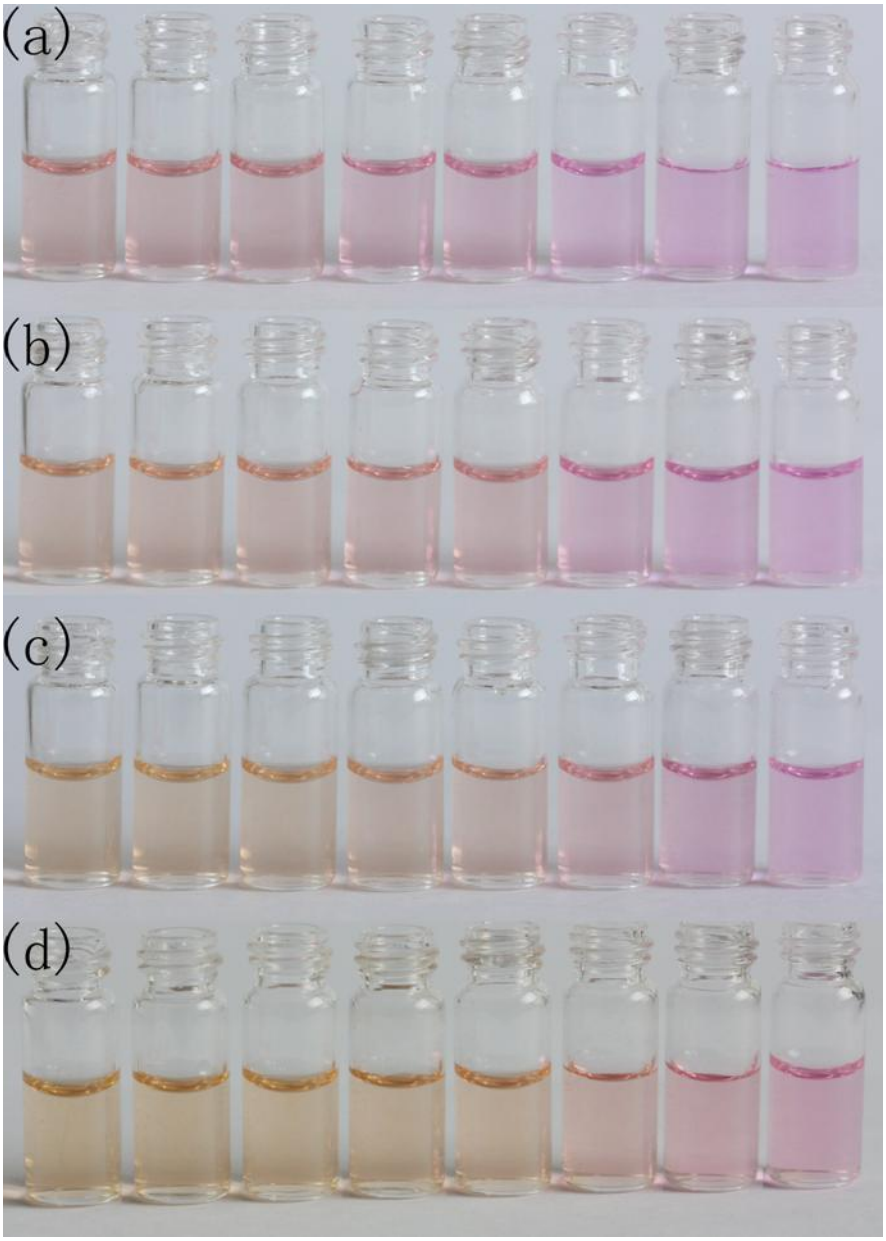

Figure S2. Effect of the concentration of Ni^{2+} on the color change (from yellow to purple) of murexide (25 μM) upon addition of Ni^{2+} (0-40 μM) in Tris-HCl buffer (20 mM, pH 8.0). Concentration of Ni^{2+} (μM): (a) 10; (b) 15; (c) 20; (d) 25.

Table S1. Effect of Co-existing Substances on the Determination of 25 μM Histidine by the Proposed Sensor

substances	concentration (μM)	response change (%)
Na^+	100000	-6.0
K^+	80000	1.9
Ca^{2+}	50	5.9
Mg^{2+}	20	2.6
Fe^{3+}	2	2.1
Zn^{2+}	1	-9.2
Glucose	1000000	2.0
Urea	100	3.0
Uric acid	5	-0.1
Ascorbic acid	200	3.5
HSA	1.25 (mg L^{-1})	3.5