

Electronic Supplementary Information for:

Color Manipulation through Microchip Tinting for Colorimetric Detection Using Hue Image Analysis

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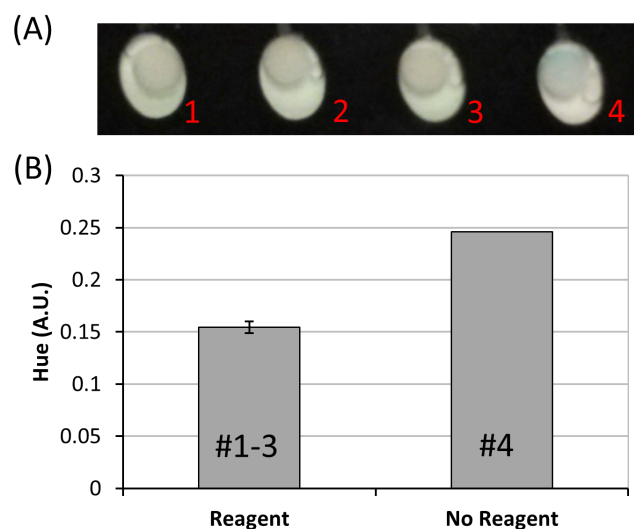


Figure S-1. Tinting reagent paper with dye. (A) Images of paper punches tinted with erioglucine before ammonium titanium oxalate reagent was added (1-3) and tinted without reagent added (4) punches. (B) Difference in hue response for the dye tinted punches in (A) with and without added reagent.

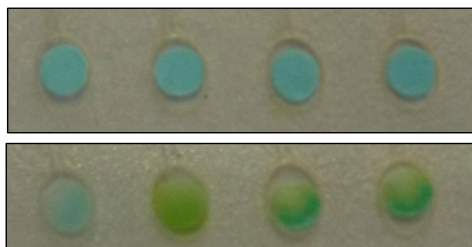


Figure S-2. Images of tinting with dye on reagent paper punches. Images of H_2O_2 reagent punches tinted blue (top) and a heterogeneous color change with 10 mg/mL H_2O_2 added to the punches (bottom).

		% Transparency							
		0	50	75	80	85	90	95	100
Pe Tint Color	Red	0.05	0.06	0.04	0.07	0.08	0.09	0.15	0.31
	Green	0.21	0.23	0.25	0.23	0.19	0.22	0.19	0.11
	Blue	0.65	0.63	0.62	0.57	0.58	0.58	0.48	0.11
	Cyan	0.53	0.51	0.53	0.47	0.50	0.47	0.36	0.11

Table S-1. Threshold values for determining a positive sample of H₂O₂ using print-based tinting. Cyan, blue, and green thresholds are [0]-3 σ . Red thresholds are [0]+3 σ .

		Voltage					
		8.0	8.2	8.4	8.6	8.8	9.0
LED Tint Color	Red	0.04	0.02	0.03	0.03	0.06	0.08
	Green	0.40	0.40	0.39	0.39	0.38	0.35
	Blue	0.61	0.60	0.59	0.59	0.59	0.59
	Cyan	0.48	0.48	0.48	0.48	0.49	0.49

Table S-2. Threshold values for determining a positive sample of H₂O₂ using external light tinting. Cyan, blue, and green thresholds are [0]-3 σ . Red thresholds are [0]+3 σ . All hue values are in A.U.