

Supporting information

Paper spray ionization mass spectrometry for rapid quantification of illegal beverage dyes

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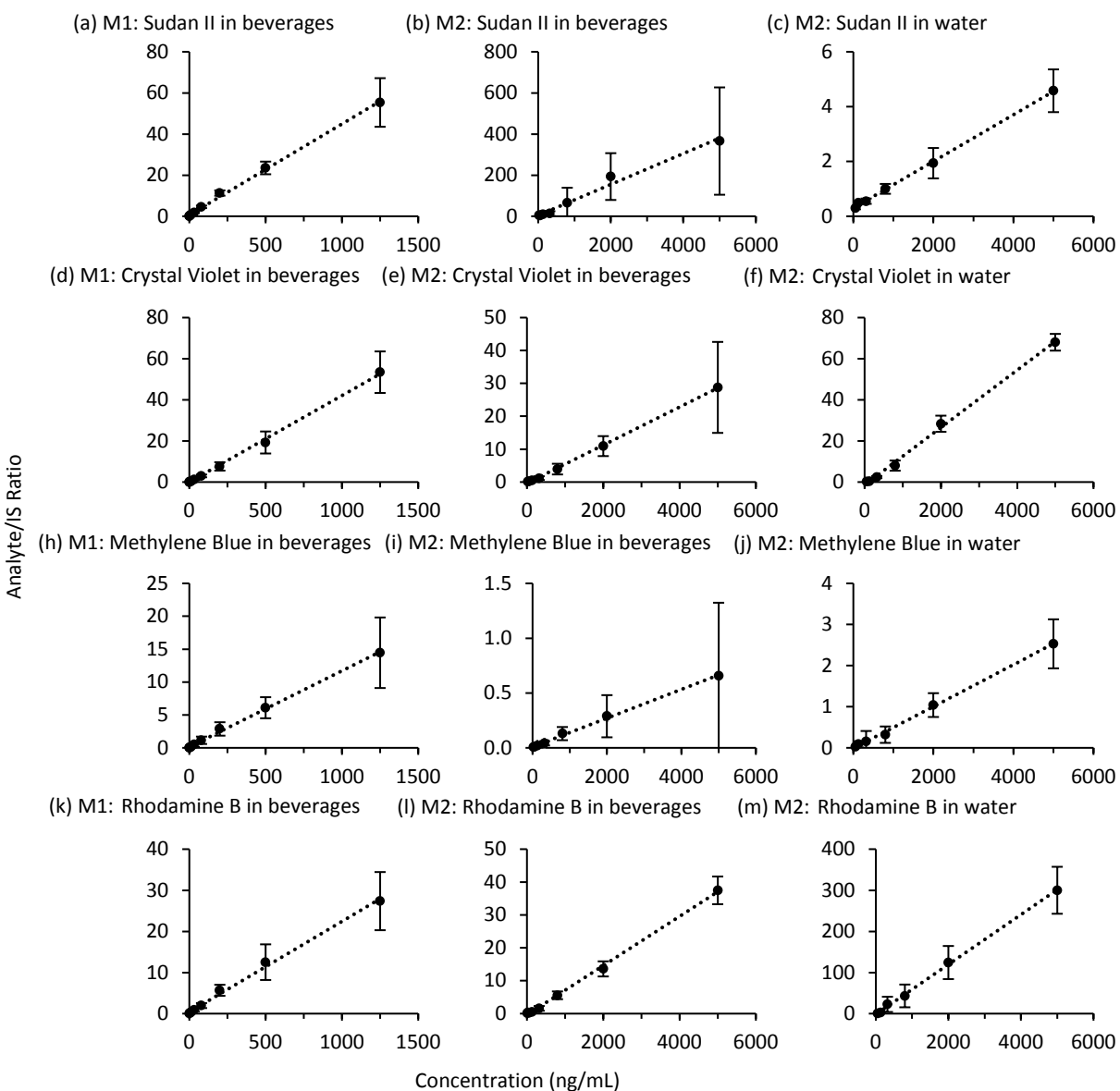


Figure S1. Comparison results for dyes Sudan II (a) – (c), Crystal Violet (d) – (f), Methylene Blue (h) – (j) and Rhodamine B (k) – (m) as judged by slopes and standard deviations of analyte/IS response ratio in beverage and water matrices, respectively. Error bars are based on six measurements. Sudan II, Crystal Violet and Methylene Blue performed poorly in the beverage matrix when using M2 compared to M1; Rhodamine B Malachite Green performed well by both methods.

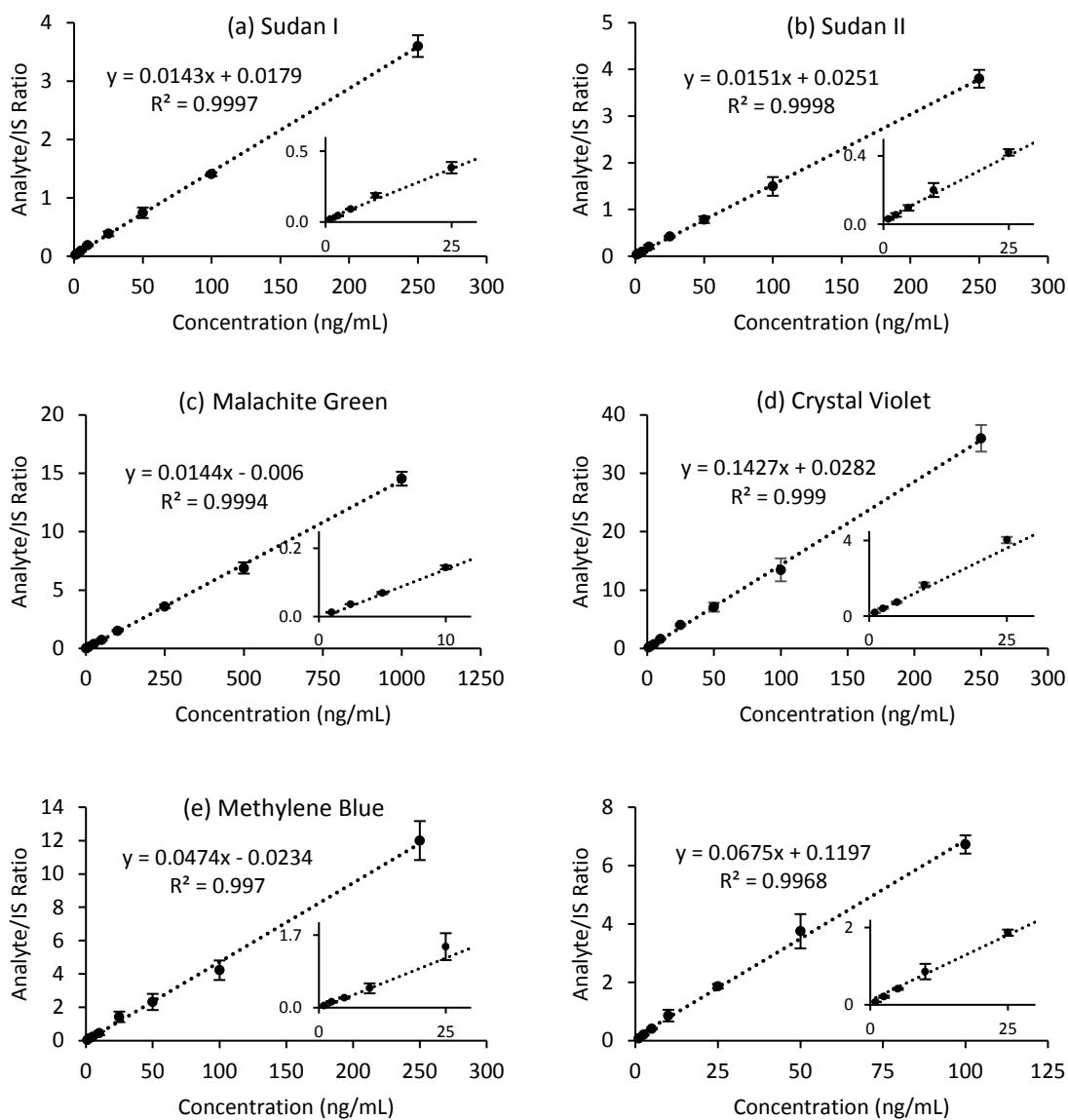


Figure S2. Matrix-matched calibration curves of Sudan I (a), Sudan II (b), Malachite Green (c), Crystal Violet (d), Methylene Blue (e) and Rhodamine B (f) as well as IS in water (n=4). Error bars denote the standard deviation (SD). The equation, coefficient of variation (R^2), and zoomed-in calibration curves are shown.

Table S1. Screening results of real sample detection

Sample #	Sudan I	Sudan II	Malachite Green	Rhodamine B	Crystal Violet	Methylene Blue
1	N/A	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A	N/A