

Supplementary Materials

Continuous Electrophoretic Separation of Charged Dyes in Liquid Foam

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pH Changes

Universal indicator is added to solution 4, and the device is run at 2500 V/m with volumetric flowrate of 4.71 $\mu\text{l/s}$. Time lapse images from the run are displayed below in Figure S1. In these images, green regions correspond to an approximate pH of 7, yellow regions correspond to an approximate pH of 4, and blue regions correspond to an approximate pH of 10.

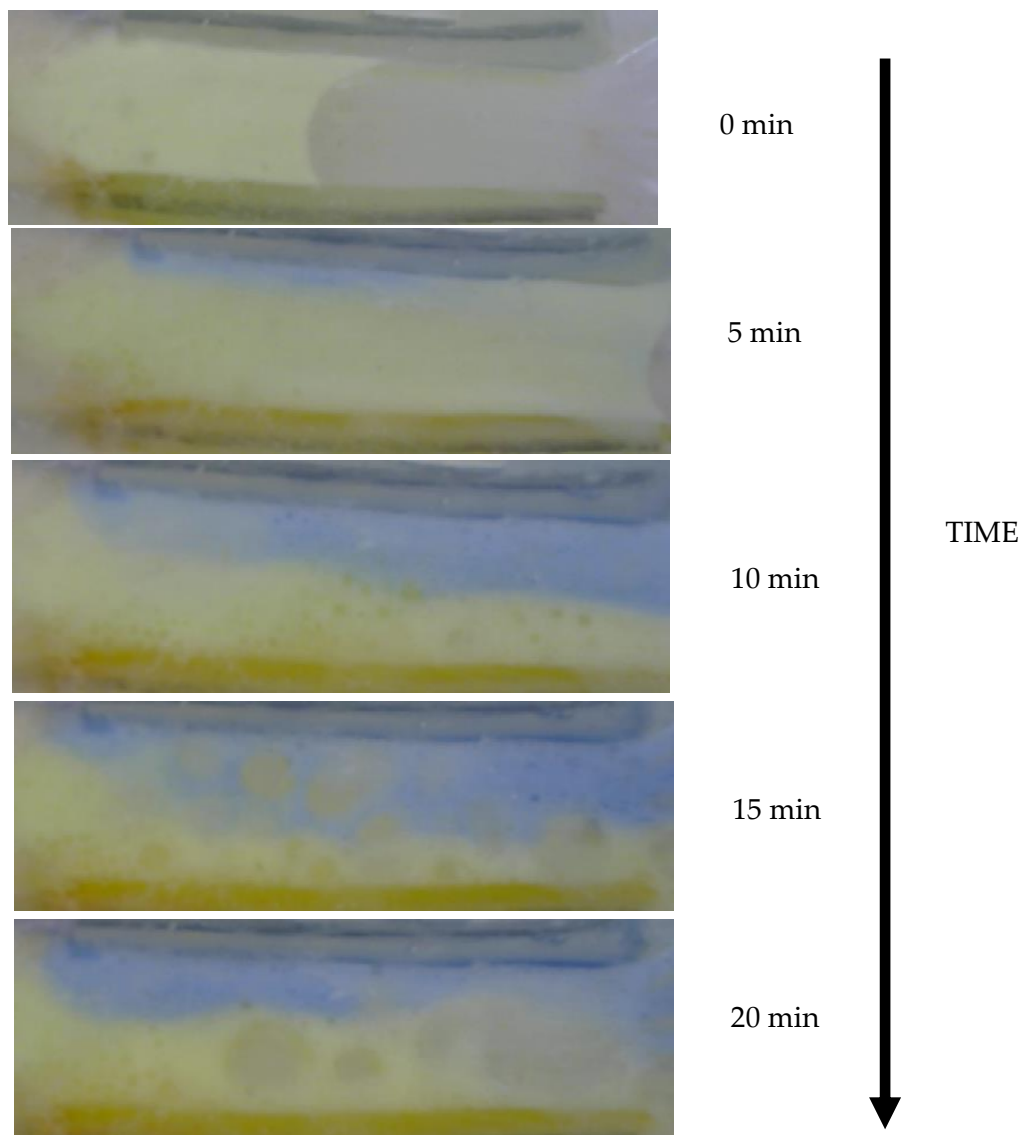


Figure S1: pH changes in Triton X-100/SDS at 2500 V/m with volumetric flowrate 4.71 $\mu\text{l/s}$. Inlet is situated on the left, with foam flowing from left to right.

Fluorescence calibration

Calibration curves for Rhodamine B and Fluorescein are presented in Figures S2 and S3. Recorded values of calibration samples are presented in Tables S1 and S2.

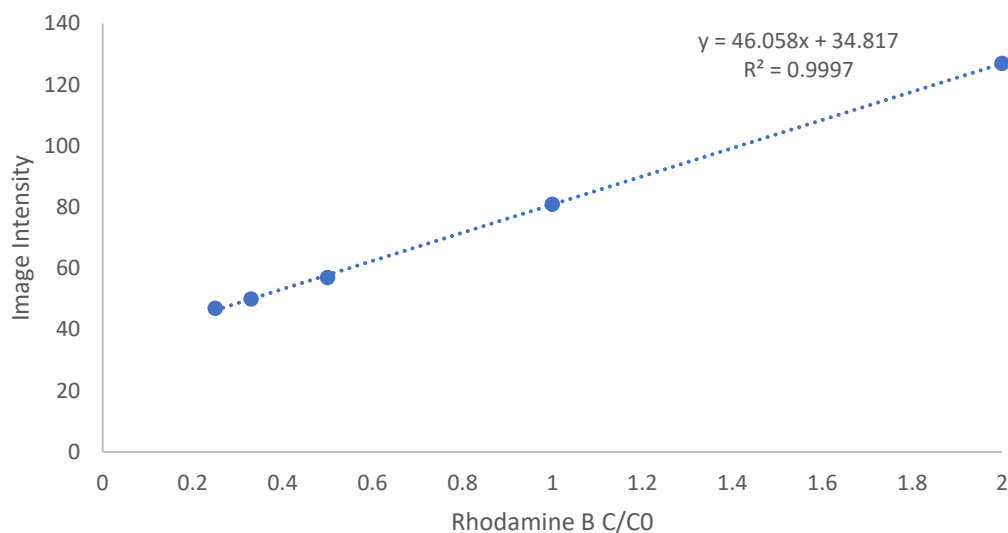


Figure S2: Image intensity of Rhodamine B samples against concentration relative to inlet concentration (C₀=0.1 mM)

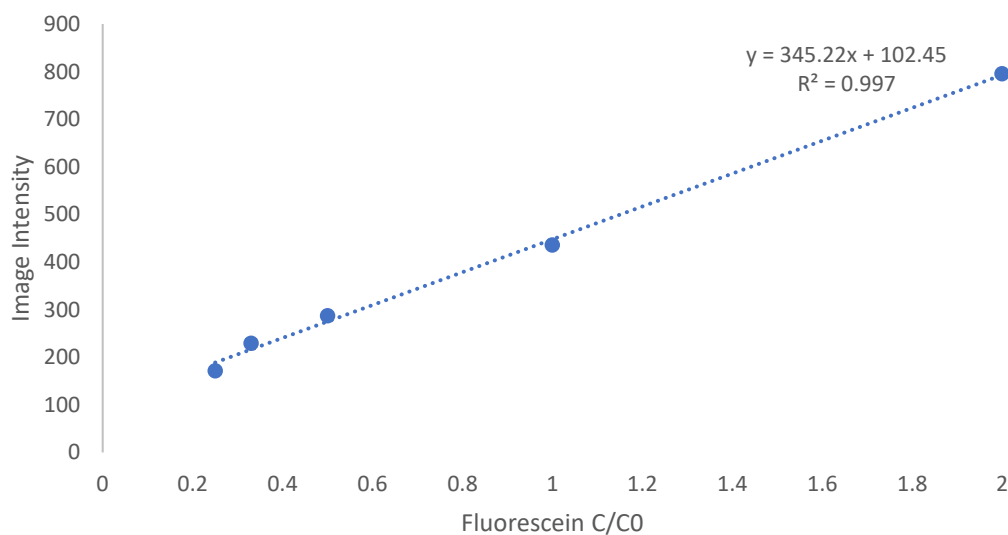


Figure S3: Image intensity of Fluorescein samples against concentration relative to inlet concentration (C₀=0.5 mM)

Table S1: Image intensity of Rhodamine B samples.

C/C_{inlet}	Intensity					Standard deviation
	1	2	3	4	Average	
2	127	126	128	127	127	0.816
1	81	81	81	81	81	0
0.5	57	57	57	57	57	0
0.33	50	50	50	50	50	0
0.25	47	47	47	47	47	0

Table S2: Image intensity of Rhodamine B samples.

C/C_{inlet}	Intensity					Standard deviation
	1	2	3	4	Average	
2	796	795	797	794	795.5	1.291
1	436	438	433	437	436	2.160
0.5	283	289	289	289	287.5	3.000
0.33	221	231	240	227	229.75	7.974
0.25	172	172	172	172	172	0.000