

SUPPORTING INFORMATION

Two Orders of Magnitude Electrokinetic Stacking of Protein in One Minute on a Simple Paper Fluidic Channel

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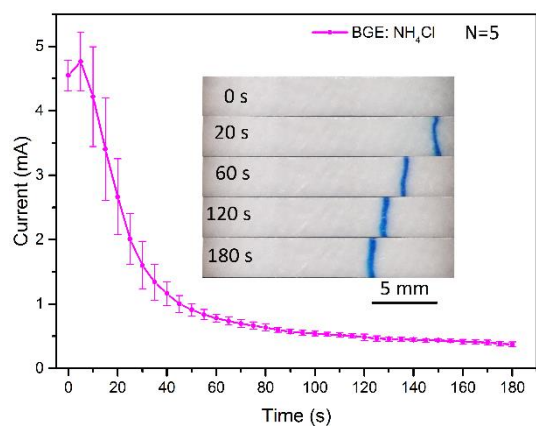


Fig. S1 Current-time response taking 100 mM NH₄Cl as BGE. Insert pictures show a typical stacking process. The error bars represent the standard deviation for five parallel measurements. Sample solution was 10 µg/mL brilliant blue FCF (BBF) prepared with deionized water. The paper fluidic channel was 35 mm long by 3 mm and the applied voltage was 300 V.

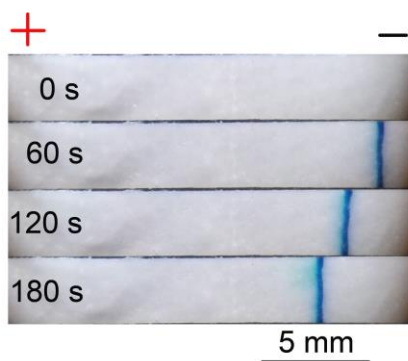


Fig. S2 Stacking of BBF (initial concentration: 10 µg/mL) using the BGE of 100 mM Tris-HCl with the pH of 4.0. Other experimental parameters were the same as in Fig. S1.



Fig. S3 pH change in the cathode sample reservoir. (a) For deionized water, it is bluish green in the presence of the acid-base indicator, bromothymol blue (BTB). (b) After an electric connection for 180 s, with the addition of BTB, the color changes to blue in response to the increase in pH caused by water electrolysis. Note that the active indication range of BTB is from a pH of 6.0 (yellow) and 7.6 (blue), while it is bluish green in neutral solution. BGE was 100 mM NH_4Cl . Other experimental parameters were the same as in Fig. S1.

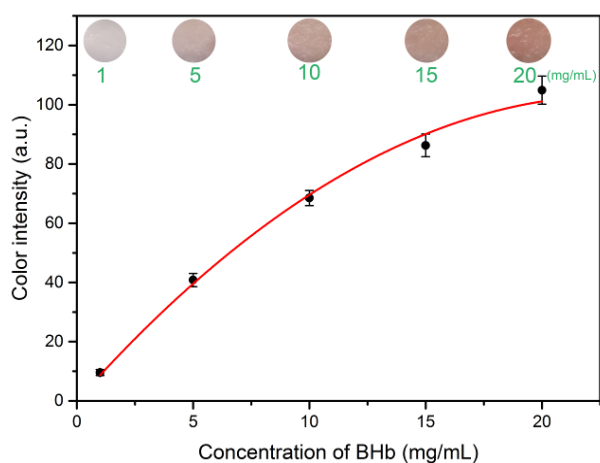


Fig. S4 Calibration curve for the quantitative assessment of the enrichment factor for bovine hemoglobin (BHb). Error bars represent the standard deviation for four parallel measurements.



Fig. S5 Images of the stacking band of BHB at different time points. The band was still on the paper channel with sight dispersion even the stacking lasted 20 min.