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Electronic Supplementary Information

**Disposable multiplexed electrochemical sensors based on electro-triggered selective immobilization of probes for simultaneous detection of DNA and proteins**

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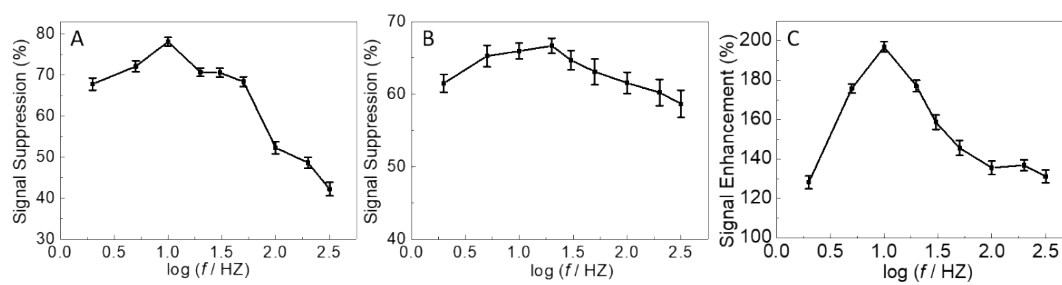


Figure S1. Effect of AC frequency on the signal responses upon target for (A) p53 sensor, (B) thrombin-aptamer sensor and (C) VEGF<sub>165</sub>-aptamer sensor. Conditions: AC amplitude, 25 mV; Phys 2 buffer, pH 7.4.

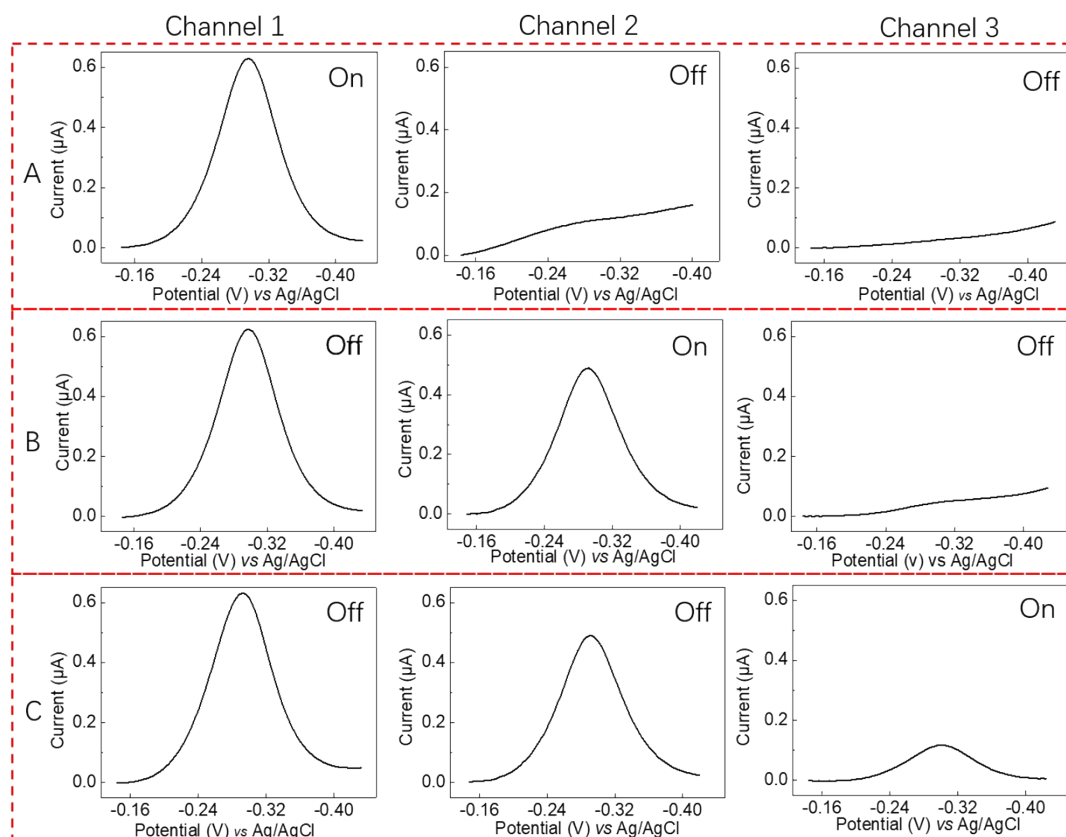


Figure S2. The initial AC voltammograms of the multiplexed sensor by controlling the electrode potential. (A) Only the working electrode in channel 1 (W1) was biased at -0.4 V (vs. Ag/AgCl), and the remaining two working electrodes (W2 and W3) were not connected (B) Only W2 was biased at -0.4 V (vs. Ag/AgCl), and the remaining two working electrodes (W1 and W3) were not connected (C) Only W3 was biased at -0.4 V (vs. Ag/AgCl), and the remaining two working electrodes (W1 and W2)

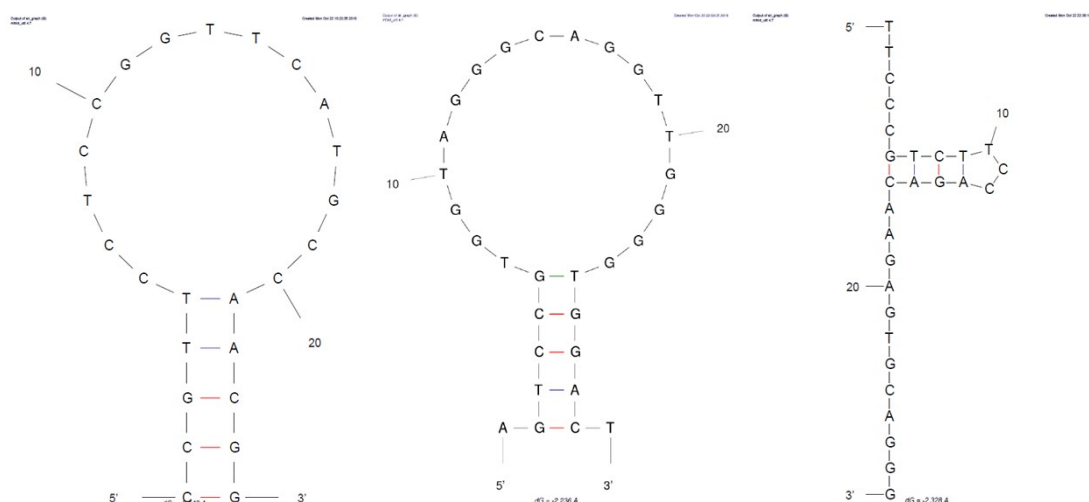


Figure S3. The lowest energy structures of the *p53* probe (left), thrombin aptamer (center) and VEGF<sub>165</sub> aptamer (right) as predicted by m-Fold. The simulation was performed at 25°C and in presence of 0.1 M Na<sup>+</sup> and 0.005 M Mg<sup>2+</sup>. As observed, the *p53* probe and thrombin aptamer have a stem-loop structure that is absent in the VEGF<sub>165</sub> aptamer. The structure mentioned above affects the initial currents in the sensor array.