Supporting Information

Metal-Organic Framework Transistors for Dopamine Sensing

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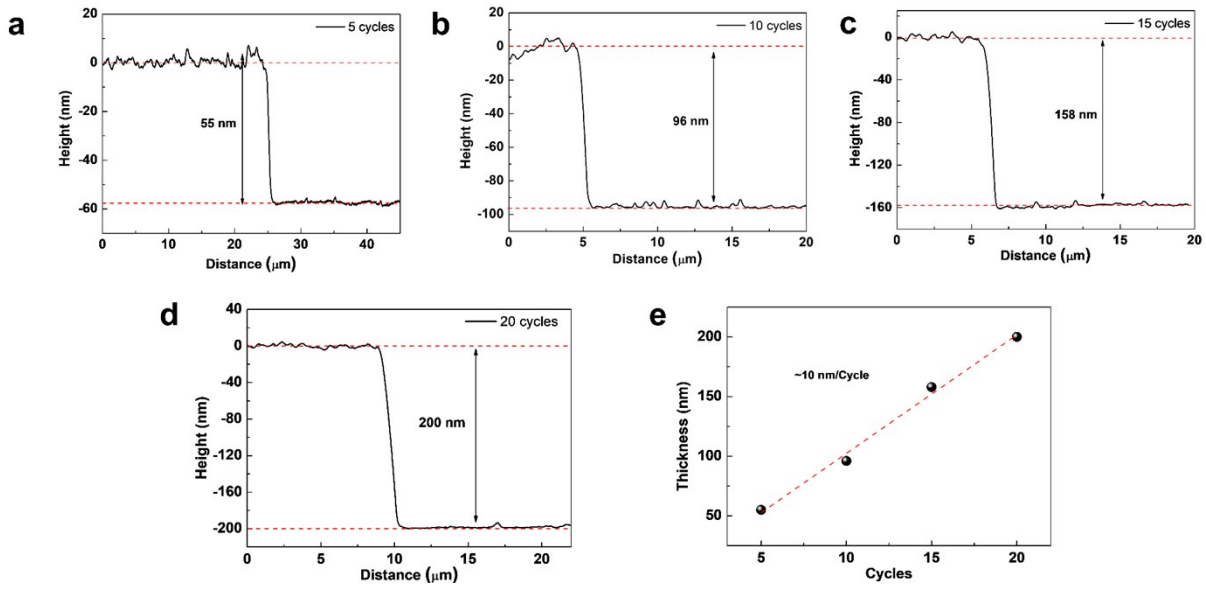

Figure S1. Thicknesses of $Cu_3(HHTP)_2$ films with different growth cycles: a) 5 cycles; b) 10 cycles; c) 15 cycles; d) 20 cycles, respectively, and e) the dependence of thickness on growth cycle.

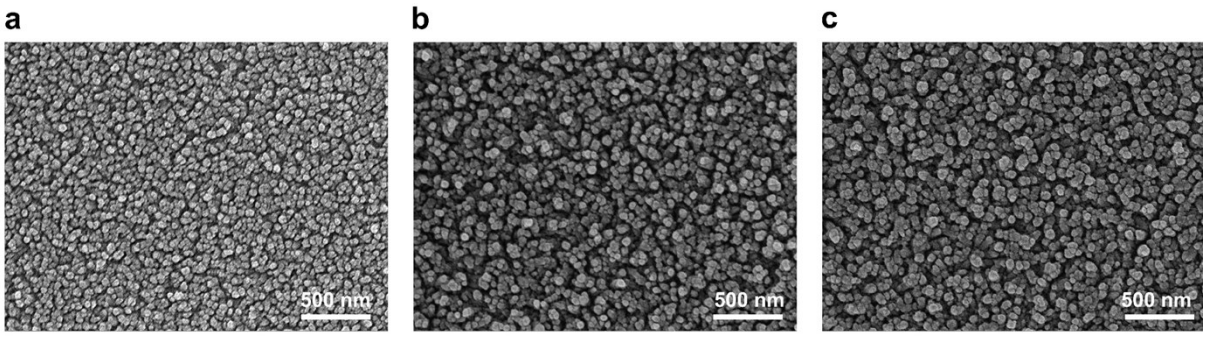

Figure S2. Top-view SEM images of $Cu_3(HHTP)_2$ films with different growth cycles: a) 5 cycles; b) 10 cycles; c) 20 cycles, respectively.

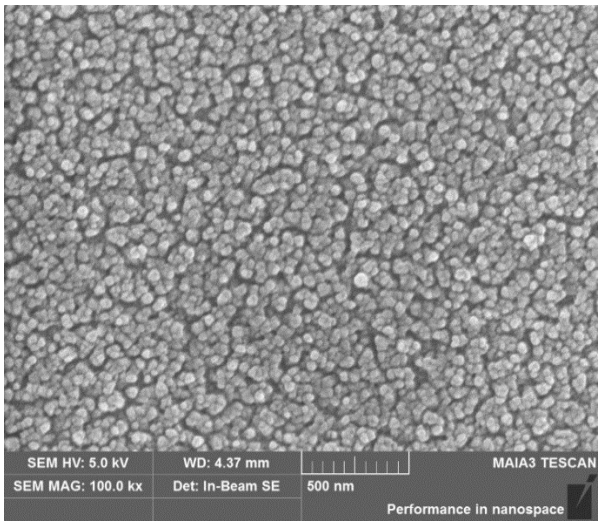

Figure S3. Top-view SEM image of a 15-cycles $Cu_3(HHTP)_2$ film on Au electrode.

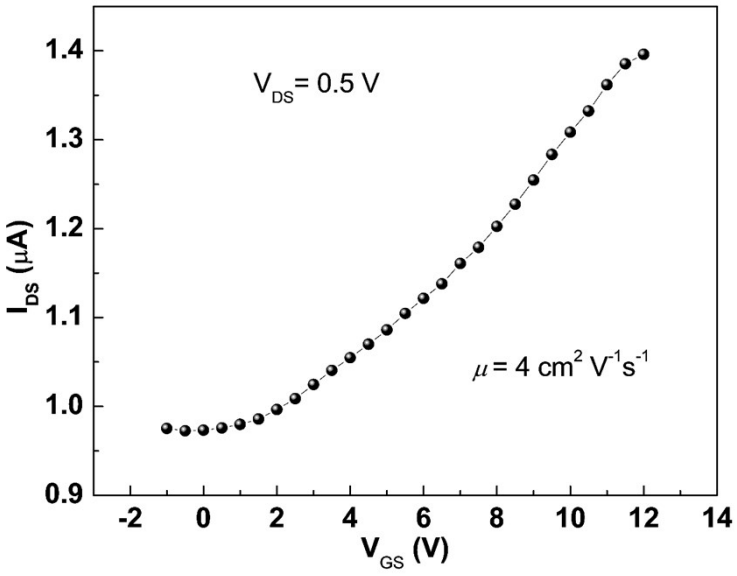

Figure S4. Transfer characteristic of a 15-cycles $Cu_3(HHTP)_2$ FET (channel width W = 0.4 mm, channel length L = 0.2 mm).

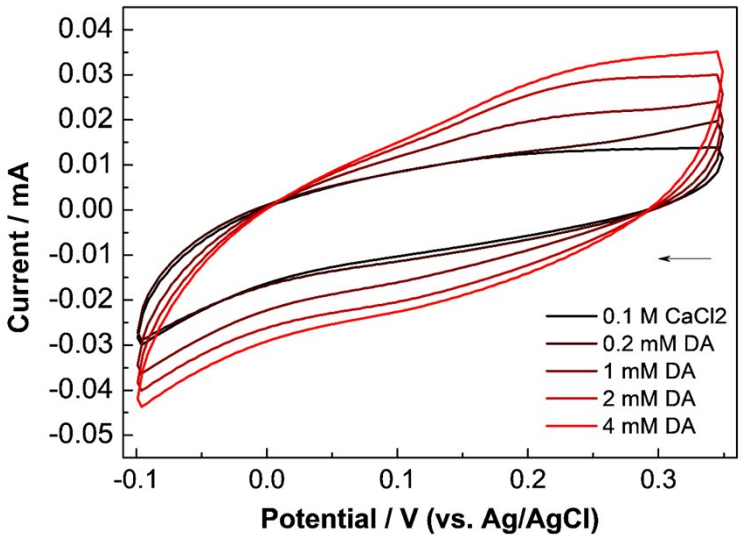

Figure S5. Cyclic voltammograms of a 15-cycles $Cu_3(HHTP)_2$ film in 0.1 M $CaCl_2$ solution before and after the additions of DA with different concentrations. The scan rate is 50 mV/s.

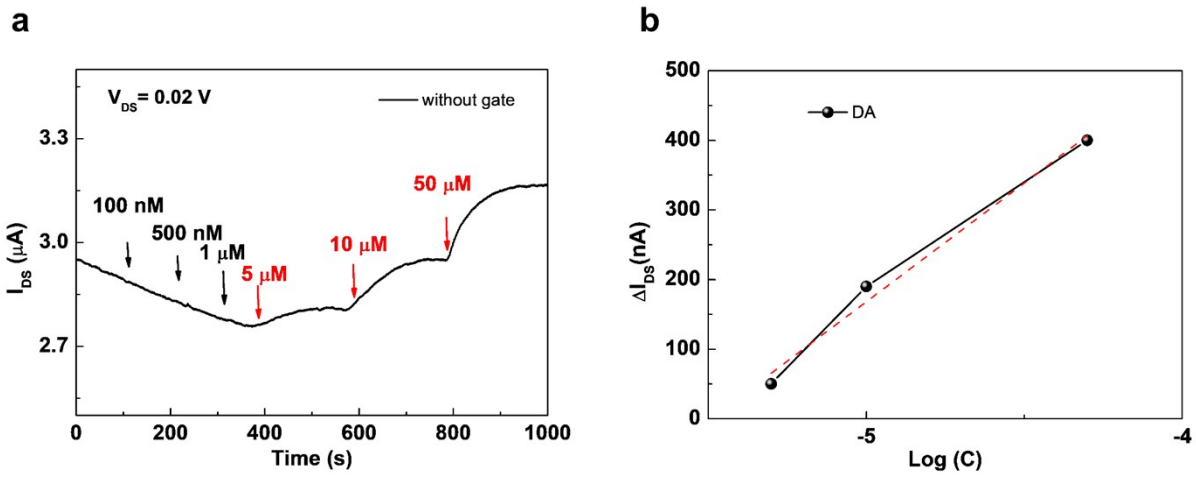

Figure S6. a) Real-time response of a $Cu_3(HHTP)_2$-based chemiresistor (without gate) to additions of DA with a series of concentrations. b) Current change (ΔI_{DS}) as a function of DA concentration.

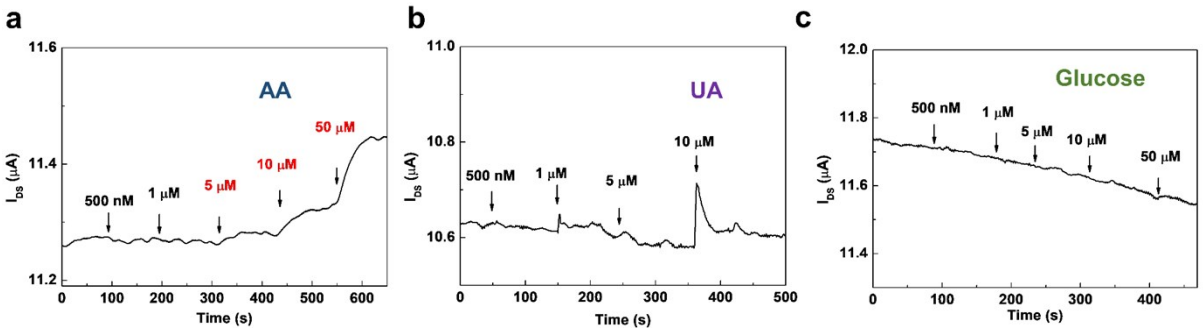

Figure S7. Real-time response (I_{DS} ~ time, V_{DS} = 20 mV, V_{GS} = 40 mV) of $Cu_3(HHTP)_2$-based SGMTs to additions of a) AA, b) UA and c) glucose with different concentrations.