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Supplementary Materials for

Skiving stacked sheets of paper into test paper for rapid and multiplexed assay

Mingzhu Yang, Wei Zhang, Junchuan Yang, Binfeng Hu, Fengjing Cao, Wenshu Zheng, Yiping Chen, Xingyu Jiang

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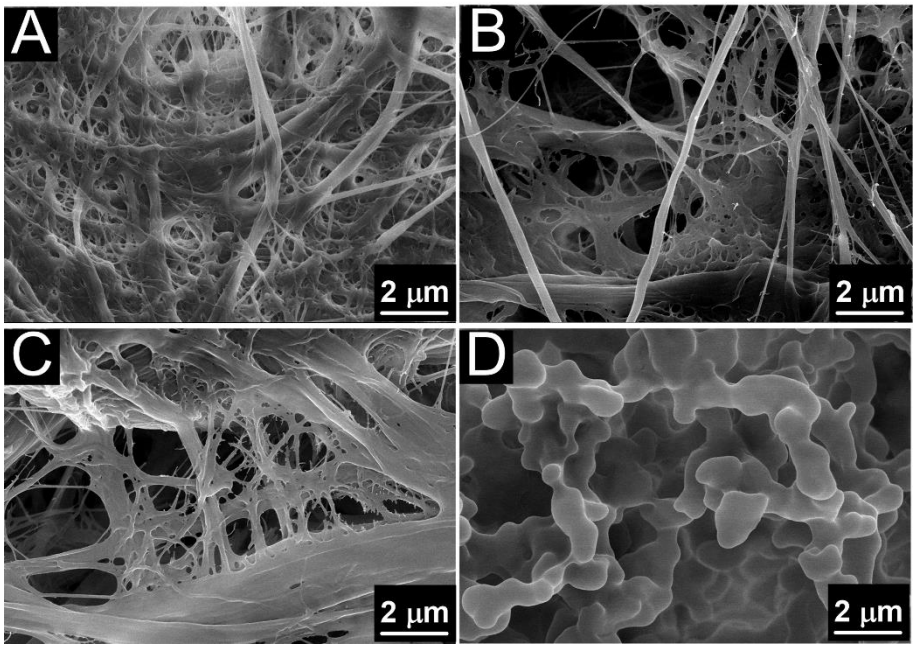


fig. S1. Characterization of the three kinds of paper (Grade 3MM Chr, Grade 1 Chr, and Grade 1). (**A**) The SEM of Grade 3MM Chr. (**B**) The SEM of Grade 1 Chr. (**C**) The SEM of Grade 1. d) The SEM of NC membrane.

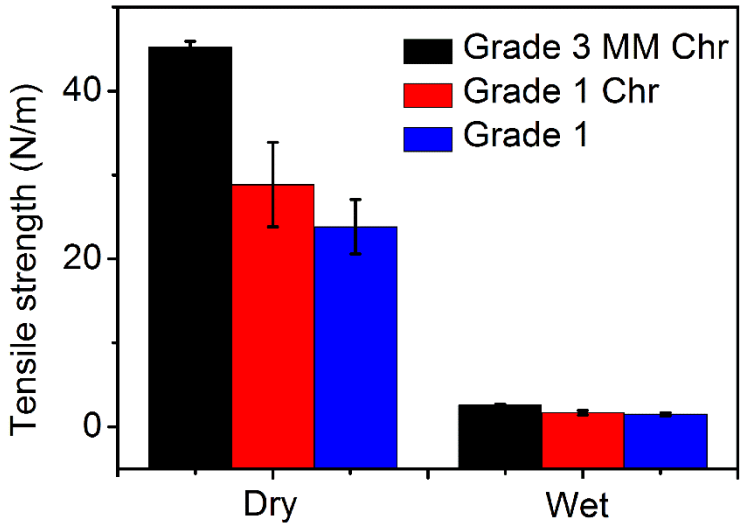
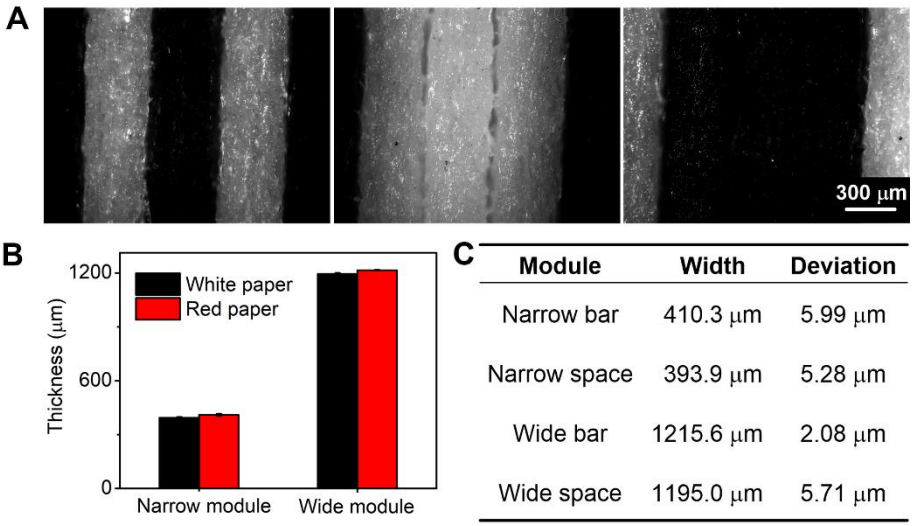


fig. S2. The dry tensile strength and wet tensile strength of the three kinds of paper (Grade 3MM Chr, Grade 1 Chr, and Grade 1).



Module	Width	Deviation
Narrow bar	410.3 μm	5.99 μm
Narrow space	393.9 μm	5.28 μm
Wide bar	1215.6 μm	2.08 μm
Wide space	1195.0 μm	5.71 μm

fig. S3. Characterization of the widths of the modules in the wet PBCs. (**A**) The pictures of the wet PBCs taken by microscopes. (**B**) The thickness of the narrow modules and the wide modules in the wet PBCs. (**C**) The table of the width and deviation of the narrow bar, the narrow space, the wide bar and the wide space.

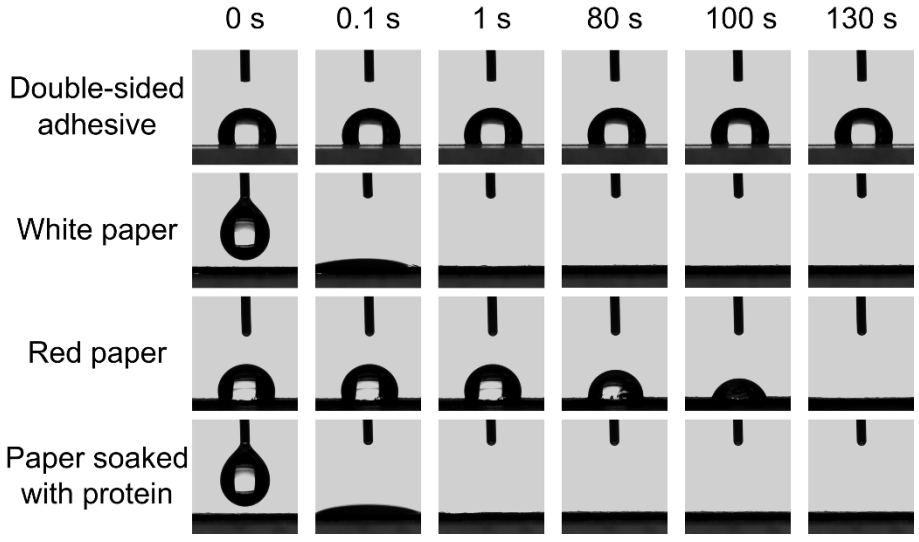


fig. S4. Wetting behavior of the double-sided adhesive, the white paper, the red paper, and the paper soaked with protein. The white paper, the red paper, and the paper soaked with protein are hydrophilic, and the double-sided adhesive is hydrophobic.

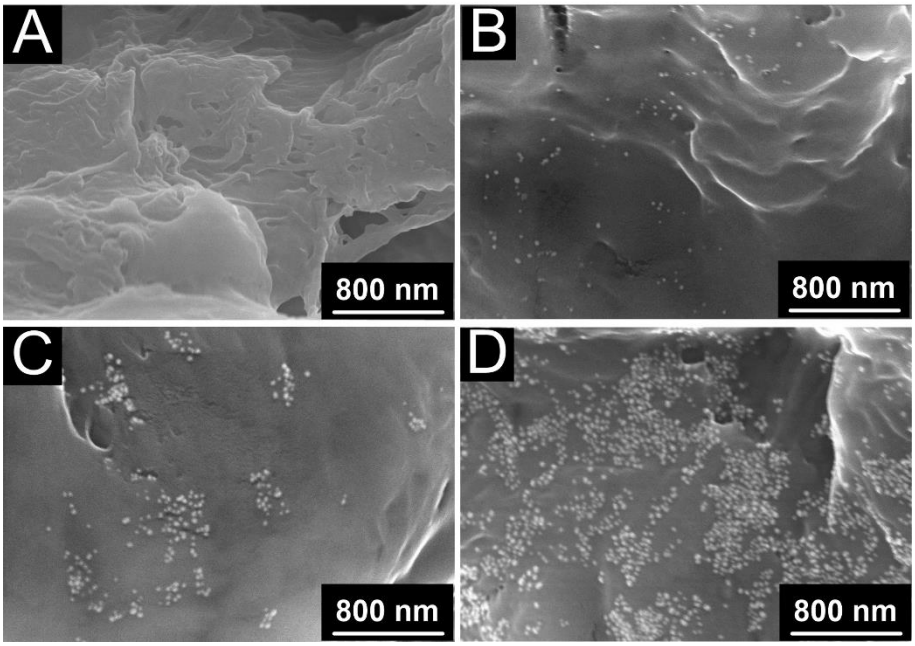


fig. S5. Characterization of the reaction regions on paper after the immunoassay. The SEM of the reaction regions where the concentration of cocaine are 300 ng mL^{-1} (**A**), 18.8 ng mL^{-1} (**B**), 9.4 ng mL^{-1} (**C**), and 2.4 ng mL^{-1} (**D**).

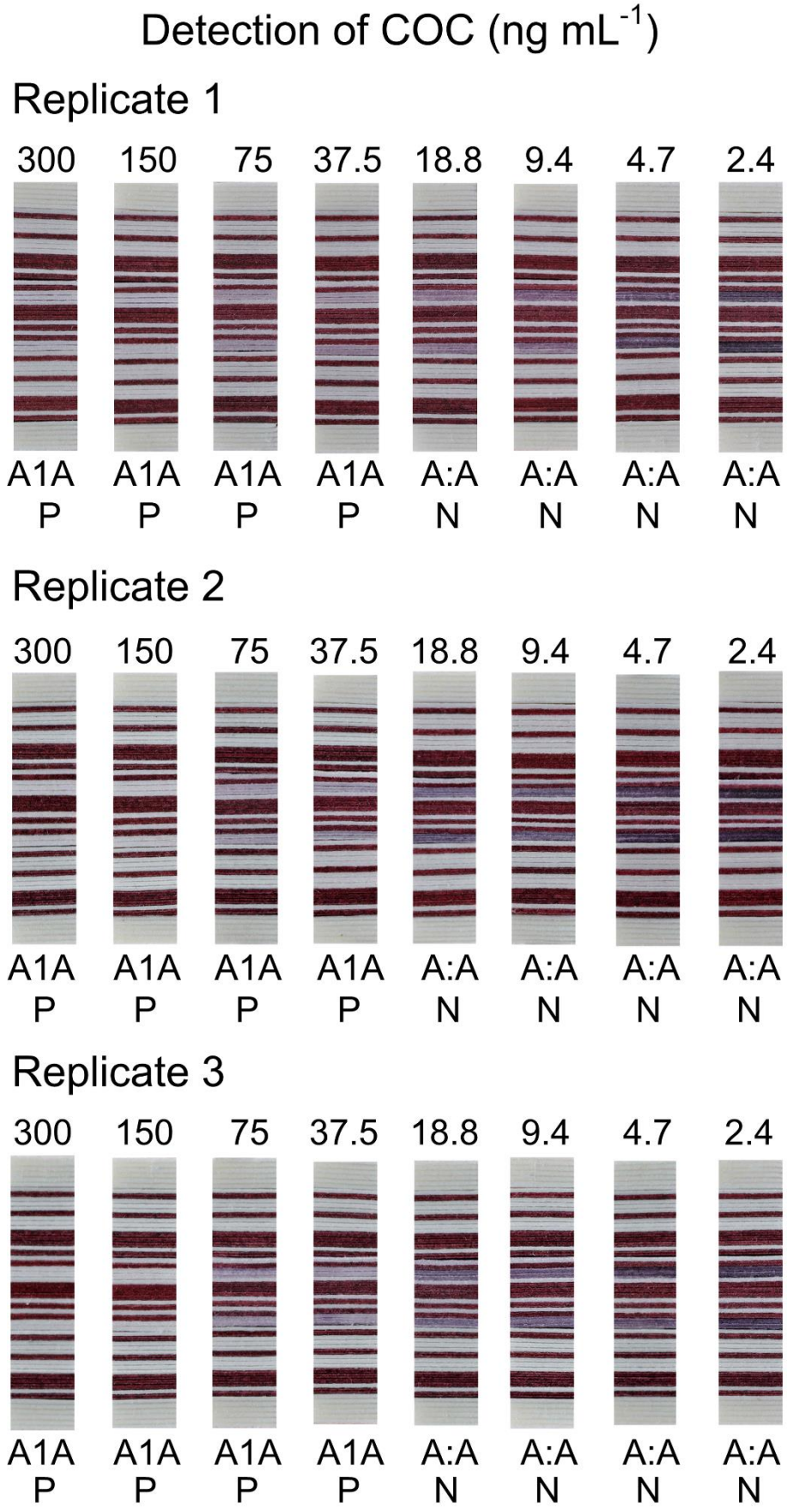


fig. S6. The repeatability of the PBAS. Three groups of cocaine with the concentration from 300 ng mL^{-1} to 2.4 ng mL^{-1} are tested.

table S1. The detection of COC with the PBCs stored for 1 to 60 days.

Time (days)	Positive	Readout	Negative	Readout
1		A1A		A:A
7		A1A		A:A
30		A1A		A:A
60		A1A		A:A