biosensors

MDPI

Supplementary Materials

Paper-Based Airborne Bacteria Collection and DNA Extraction Kit

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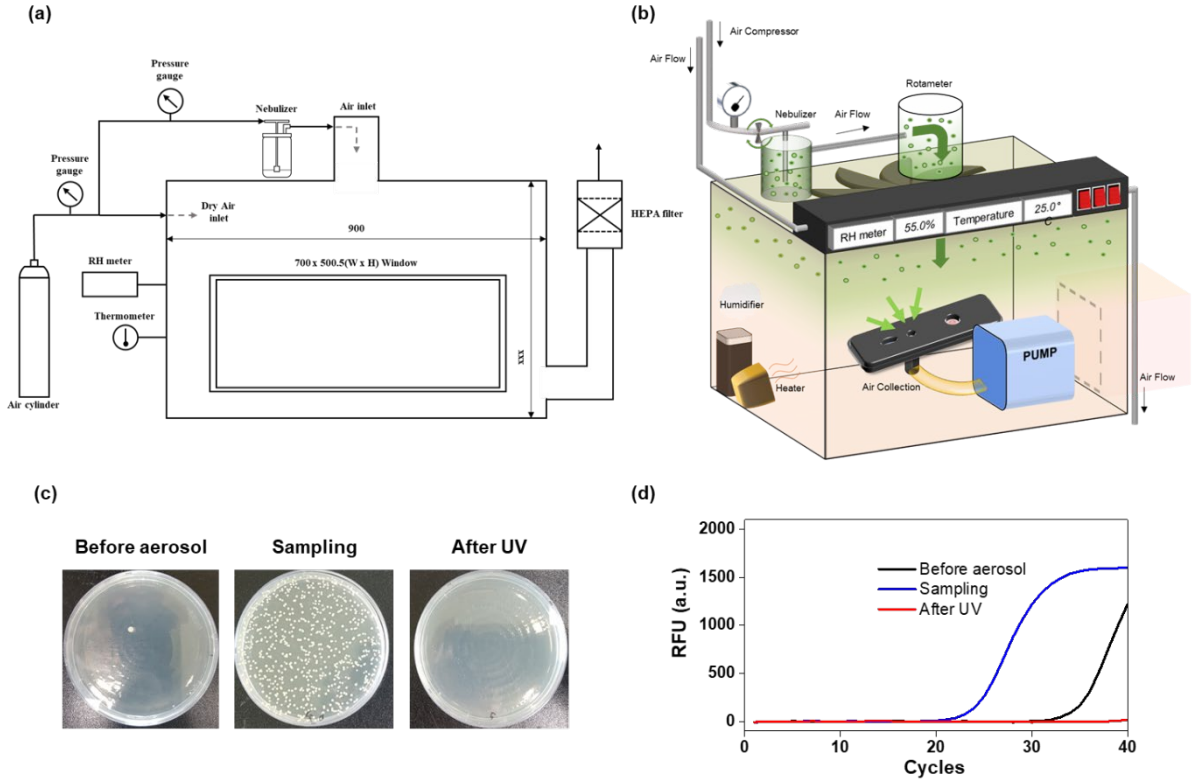

Figure S1. Cabinet system for bacterial aerosol experiments. (**a**) Drawing of the cabinet system, (**b**) schematic of overall cabinet facility, (**c**) bacteria detection result by colony counting using impactor sampler in the cabinet, and (**d**) bacteria detection result by the paper kit and qPCR in the cabinet.

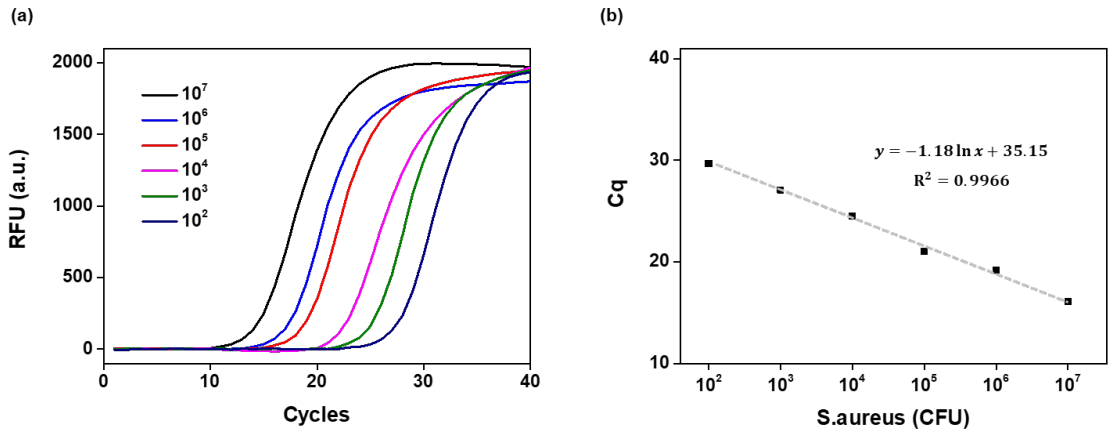

Figure S2. Quantitative real-time PCR (qPCR) analysis. (**a**) Real-time PCR curves of various ranges of *S. aureus* bacteria. (**b**) Linear regression between Cq value and quantity of *S. aureus*.

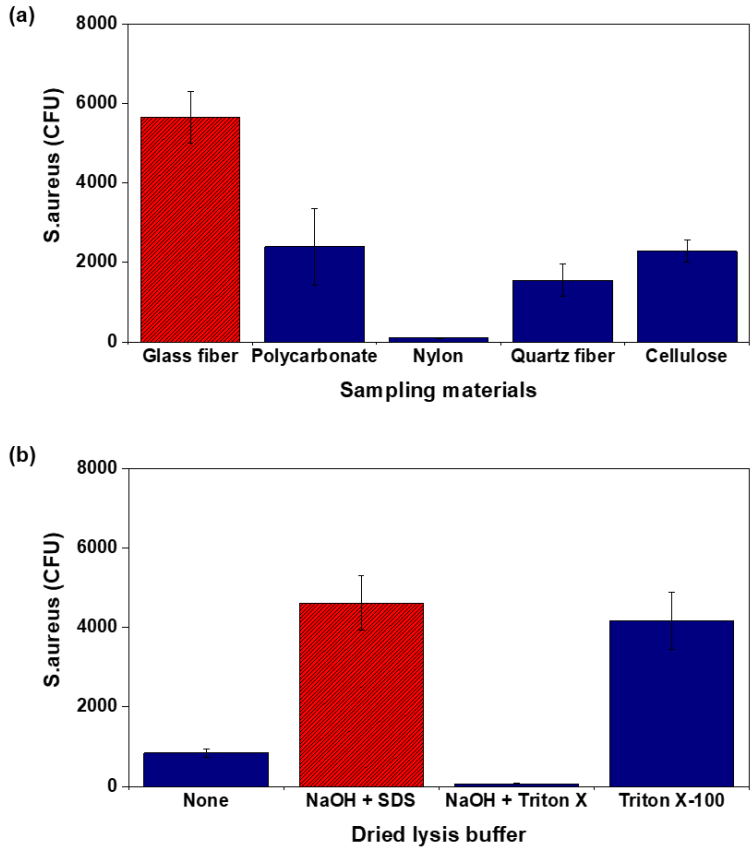

Figure S3. (**a**) Collection results of airborne bacteria on the sampling pad in the kit using various materials. (**b**) Comparison of DNA extraction results for lysis buffer component dried on the sampling pad. All CFU values were measured by qPCR (N = 3).

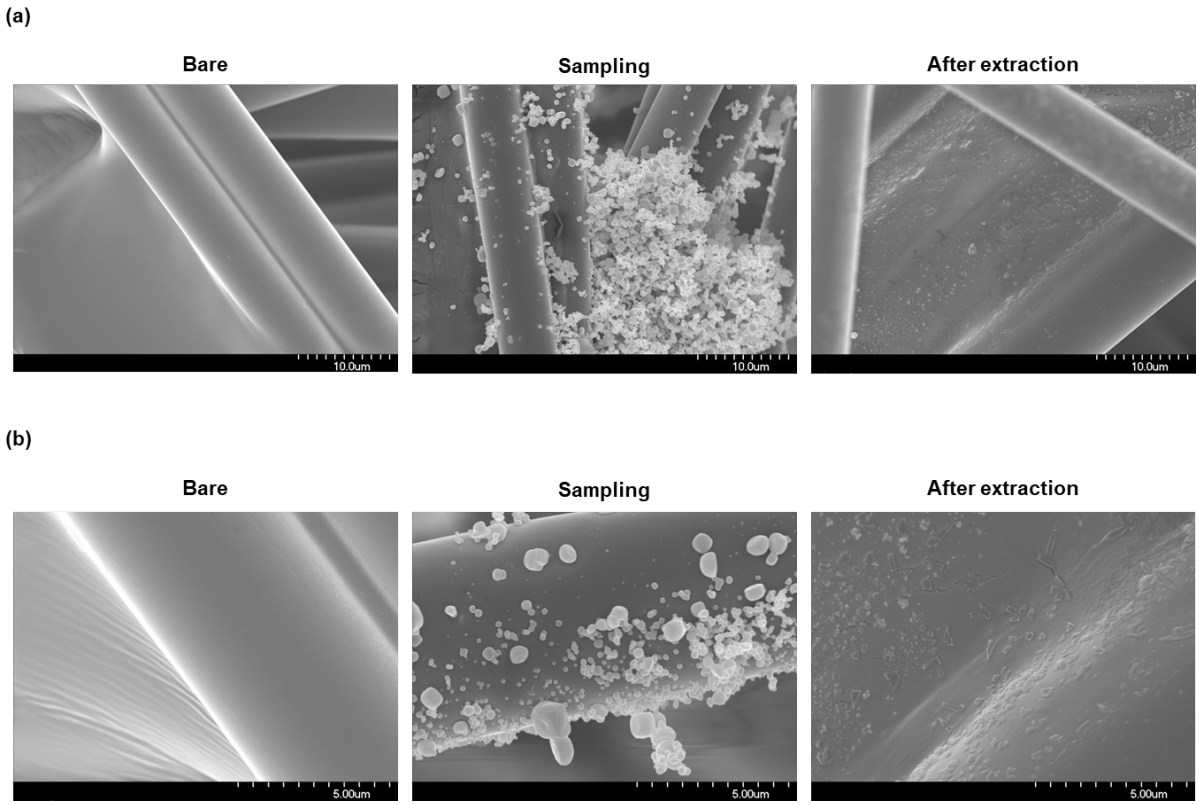

Figure S4. SEM images of sampling pad on the paper kit. Microscopic image of pad surface was captured without any treatment (Bare), for air sampling of 10^4 CFU *S. aureus* aerosolized condition (Sampling), and after whole extraction process (After extraction). (**a**) 3000 times enlarged, and (**b**) 10,000 times enlarged.