Electronic Supplementary Material (ESI) for Lab on a Chip.
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Supplementary Information

A sample-to-answer, portable platform for rapid detection of pathogens with a smartphone interface

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Table S1. The sequences of the LAMP primers and aptamer for detection of H1N1 viruses and MRSA

Primer name	**Sequence (‘5→ 3’)**	**Length (bp)**
Inf A- F3	TCAGACAATGGAACGTGTT	19
Inf A- B3	CTTTCCCTTTATCATTAATGTAGGA	25
Inf A- FIP	GTCTTGGGGAATATCTCAAACCTTTATTATGAGG AGCTAAGAGAGC	46
Inf A- BIP	GTGTAACGGCAGCATGTCCTGAATTTCCTTTTTT AACTAGCCA	43
Inf A- LF	TGATGACACTGAGCTCAATT	20
Inf A- LB-1	CATGCTGGAGCAAAAAGC	18
Inf A- LB-2	GCTGGAGCAAAAAGCTTCT	19
Inf A- LB-3	CTCATGCTGGAGCAAAAAG	19
mec A-F3	TGATGCTAAAGTTCAAAAGAGT	22
mecA-B3	GTAATCTGGAACTTCTTGAGC	21
mecA-FIP	TGAAGGTGTGCTTACAAGTGCTAATCAACATGA AAAATGATTATGGCTC	49
mecA-BIP	TGACGTCTATCCATTTATGTATGGCAGGTTCTTT TTTATCTTCGGTTA	48
mecA-LF-1	AGGGTGGATAGCAGTAC	17
mecA-LF-2	GAGGGTGGATAGCAGTAC	18
mecA-LF-3	TCACCTGTTTGAGGGTGGA	19
mecA-LB	ATGAGTAACGAAGAATATAATAAAT	25
Inf A-aptamer	GGCAGGAAGACAAACAGCCAGCGTGACAGCGA CGCGTAGGGACCGGCATCCGCGGGTGGTCTGTG GTGCTGT	72

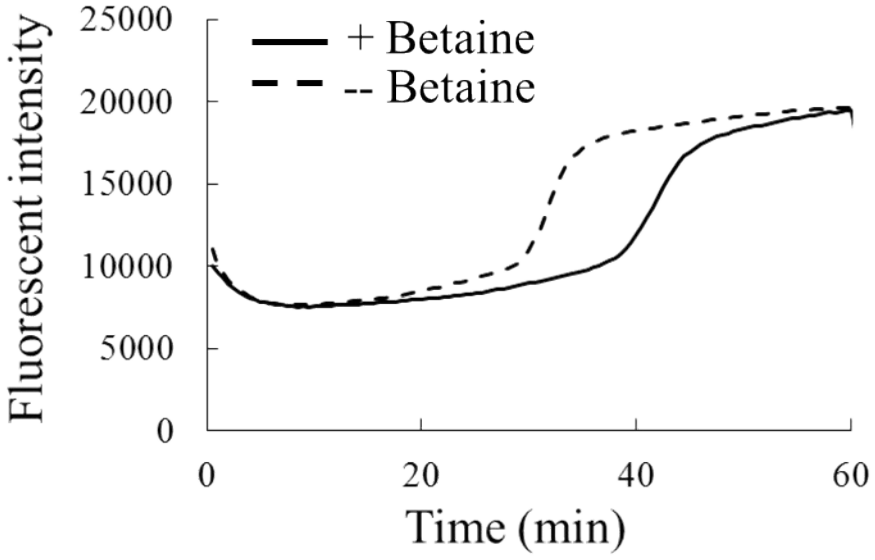

Figure S1. The effect of betaine on the real-time LAMP reaction for detection of MRSA.

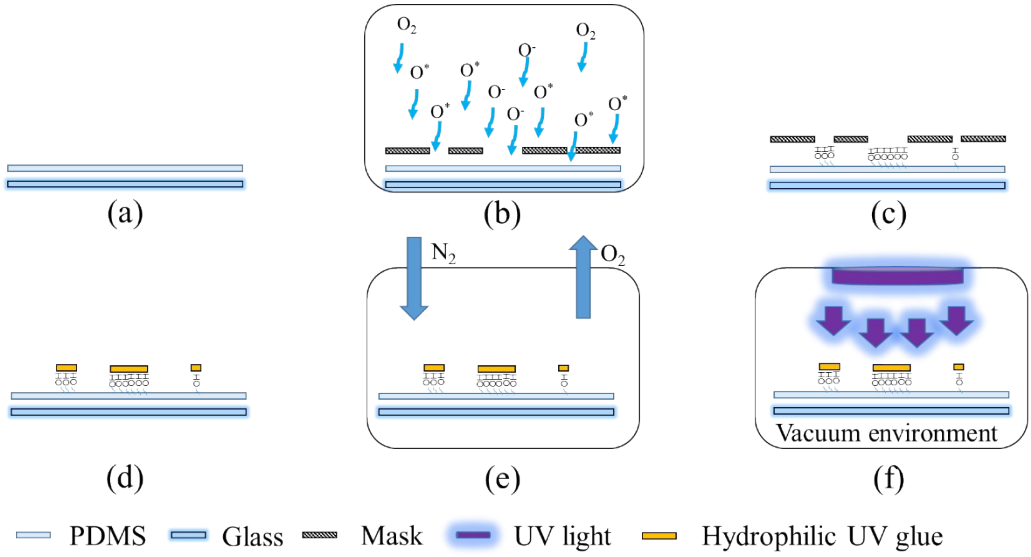

Figure S2. The fabrication process of hydrophilic pattern slide. (a) Spin-coating of PDMS. (b) Surface activation by oxygen plasma. (c) Patterning. (d) Spin-coating of a hydrophilic UV glue film. (e) Nitrogen gas purging. (e) UV irradiation.

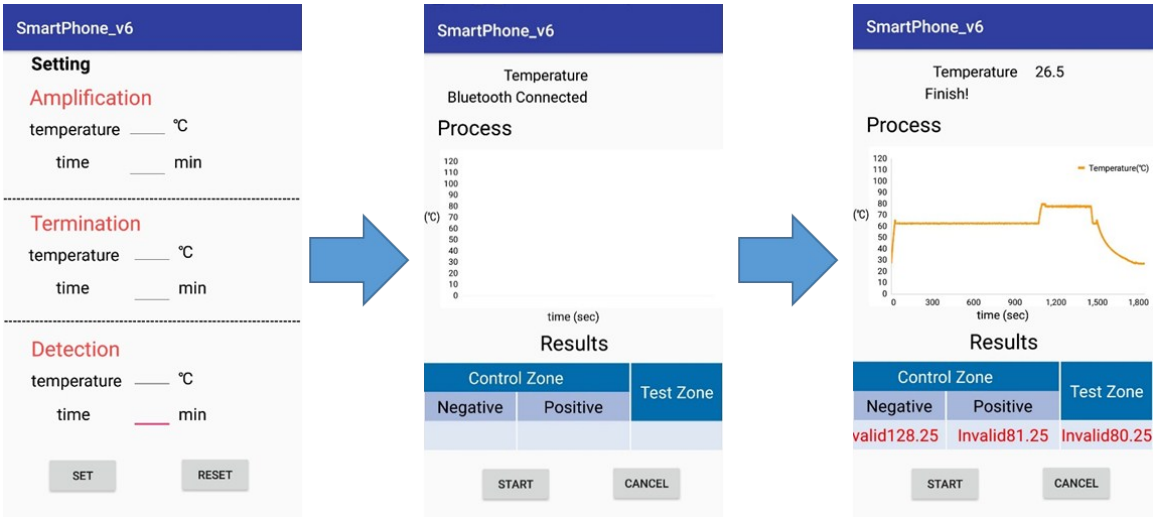

Figure S3. Schematic illustration of mobile APP interface.

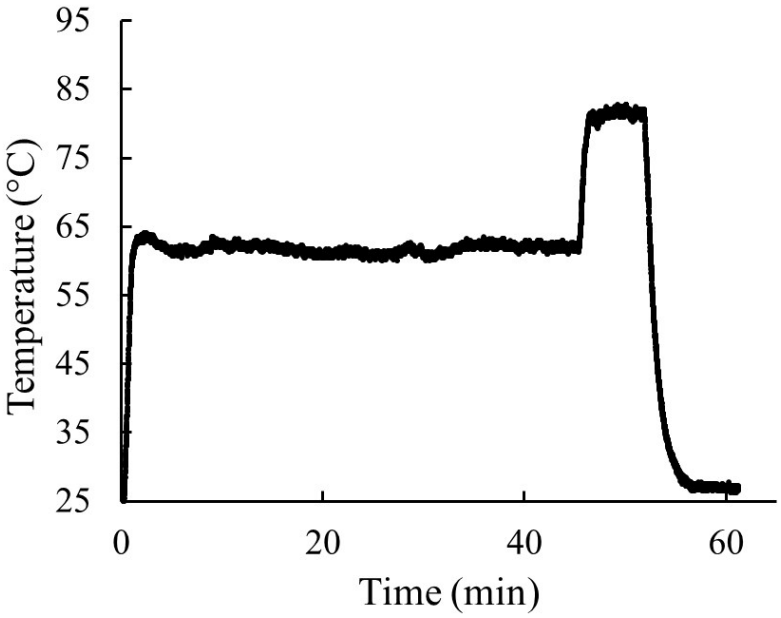

Figure S4. The heating profile of the temperature control module, which demonstrated high precision across a range of temperatures (<1.5°C fluctuation).

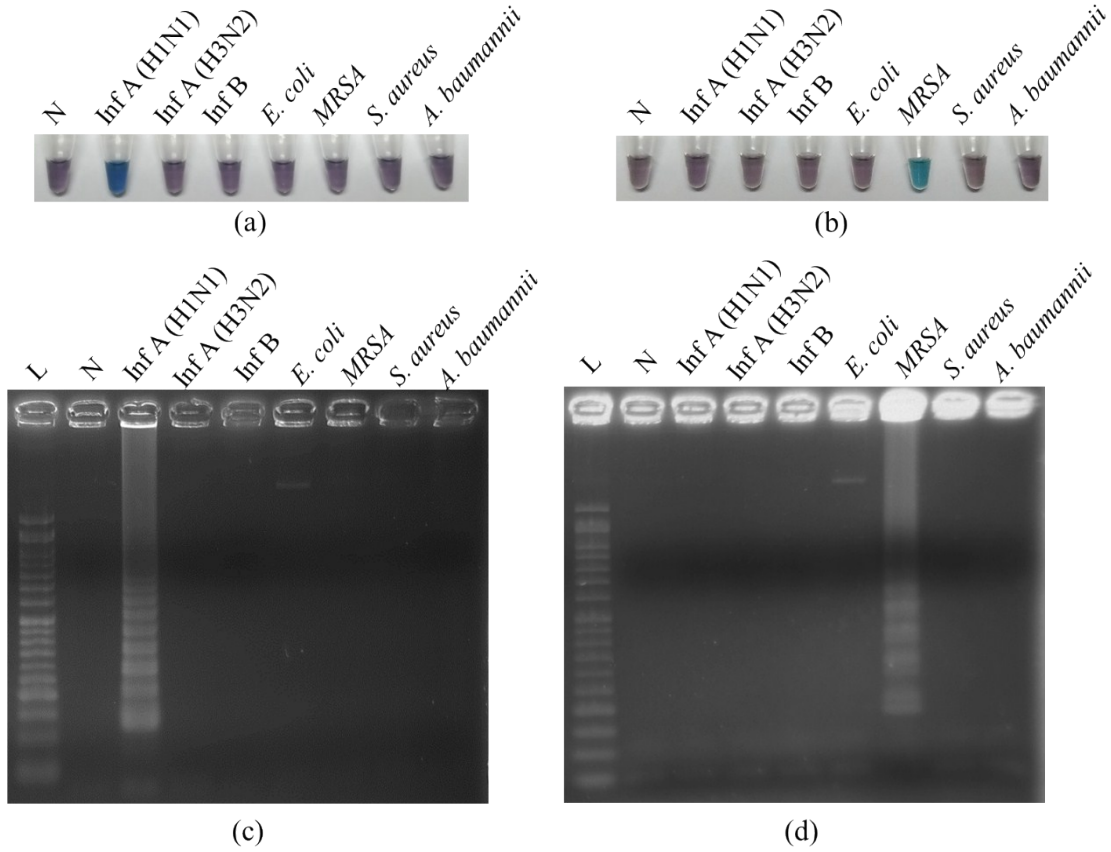

Figure S5. The specificity of the colorimetric LAMP assay for detection of (a) influenza A (H1N1) virus and (b) MRSA. (c) Agarose gel electrophoresis analysis of the colorimetric LAMP products from (a). (d) Agarose gel electrophoresis analysis of the colorimetric LAMP products from (b). L=50-bp DNA ladder, N=negative control (distilled water).