Supporting information for

Magnet-actuated microfluidic array chip for high-throughput pretreatment, amplification and detection of multiple pathogens

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Table S1 Sequences of the specific genes used for pathogen detection in this paper

Bacteria	Target Gene	GeneBnak Acession	Sequences（5’-3’）
Escherichia coli	*mal B*	J01648	GCCATCTCCTGATGACGCATAGTCAGC CCATCATGAATGTTGCTGTCGATGACA GGTTGTTACAAAGGGAGAAGGGCATG GCGAGCGTACAGCTGCAAAATGTAAC GAAAGCCTGGGGCGAGGTCGTGGTAT CGAAAGATATCAATCTCGATATCCAT GAAGGTGAATTCGTGGTGTTTGTCGG ACCGTCTGGCTGCGGTAAAT
Salmonella typhimurium	*inv A*	M90846	GGCGATATTGGTGTTTATGGGGTCGTT CTACATTGACAGAATCCTCAGTTTTTC AACGTTTCCTGCGGTACTGTTAATTAC CACGCTCTTTCGTCTGGCATTATCGAT CAGTACCAGTCGTCTTATCTTGATTGA AGCCGATGCCGGTGAAATTATCGCCA CGTTCGGGCAATTCGTTATTGGCGATA GCCTGGCGGTGGGTTTTGTTGTCTTCT CTATTGTCACCGTGGTCCAGTTTATCG TT

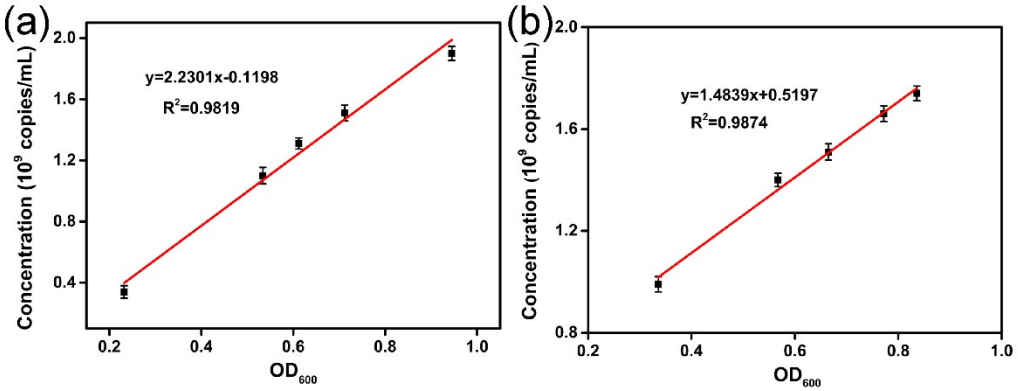

Figure S1. The Standard curve of bacteria. (a) *Salmonella typhimurium*. (b) *Escherichia coli*.

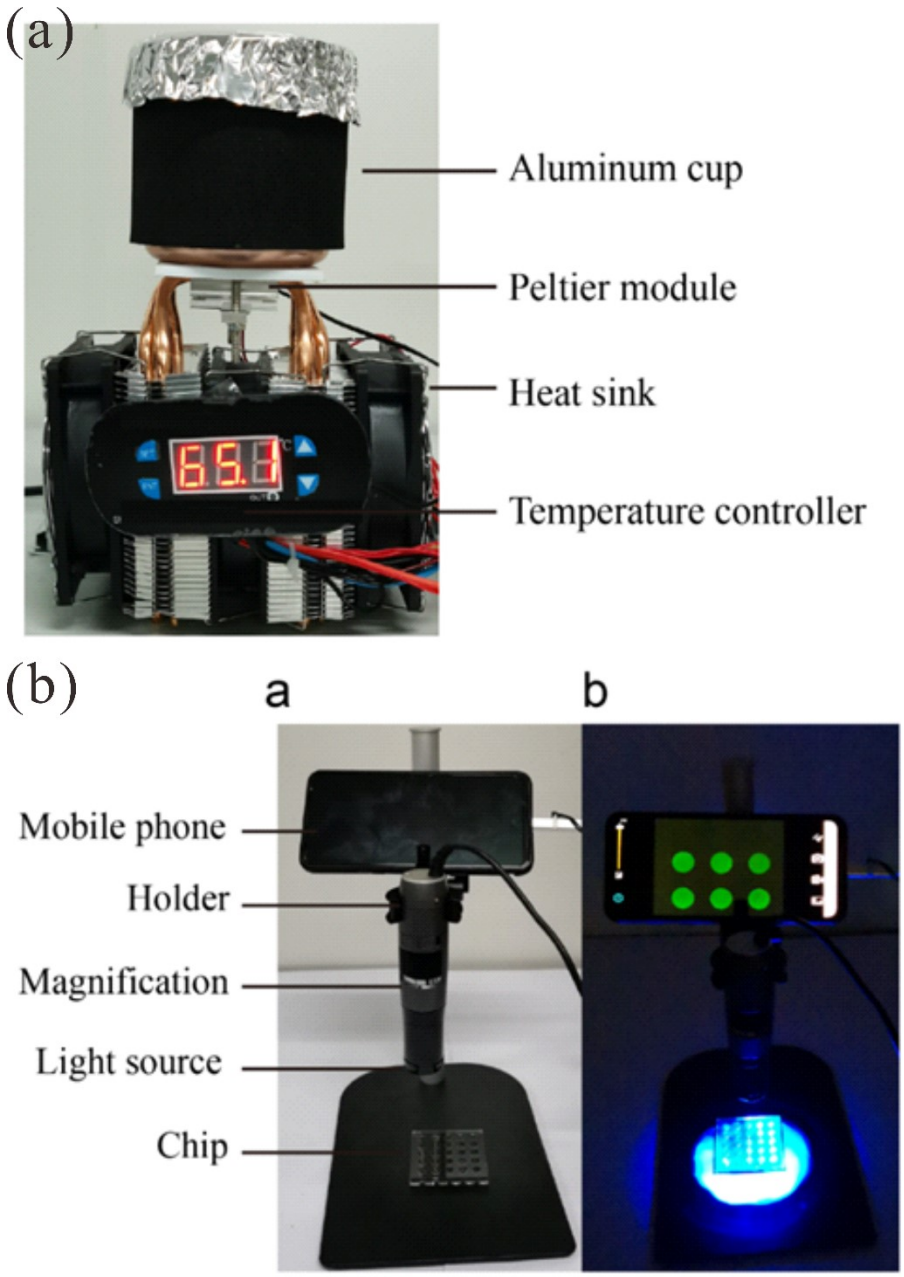

Figure S2. (a) Miniature peltier heater setup. (b)Chip imaging device.

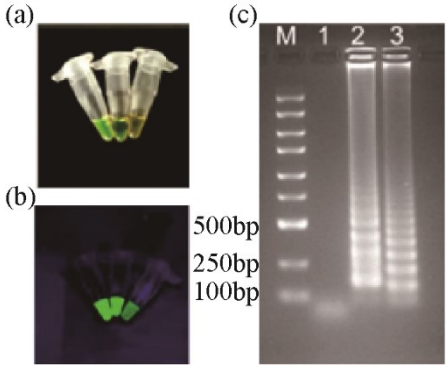

Figure S3. LAMP test for PDMS compatibility. (a) Left to right (bright field): Amplification result with mixing layer, amplification result with mixed layer-free and blank control. (b) Dark field image under UV excitation. (c) Electrophoresis of LAMP reaction. Lane M: DNA marker, lane 1: Blank control, lane 2: Amplification result with mixing layer. lane3: Amplification result mixed without mixed layer.

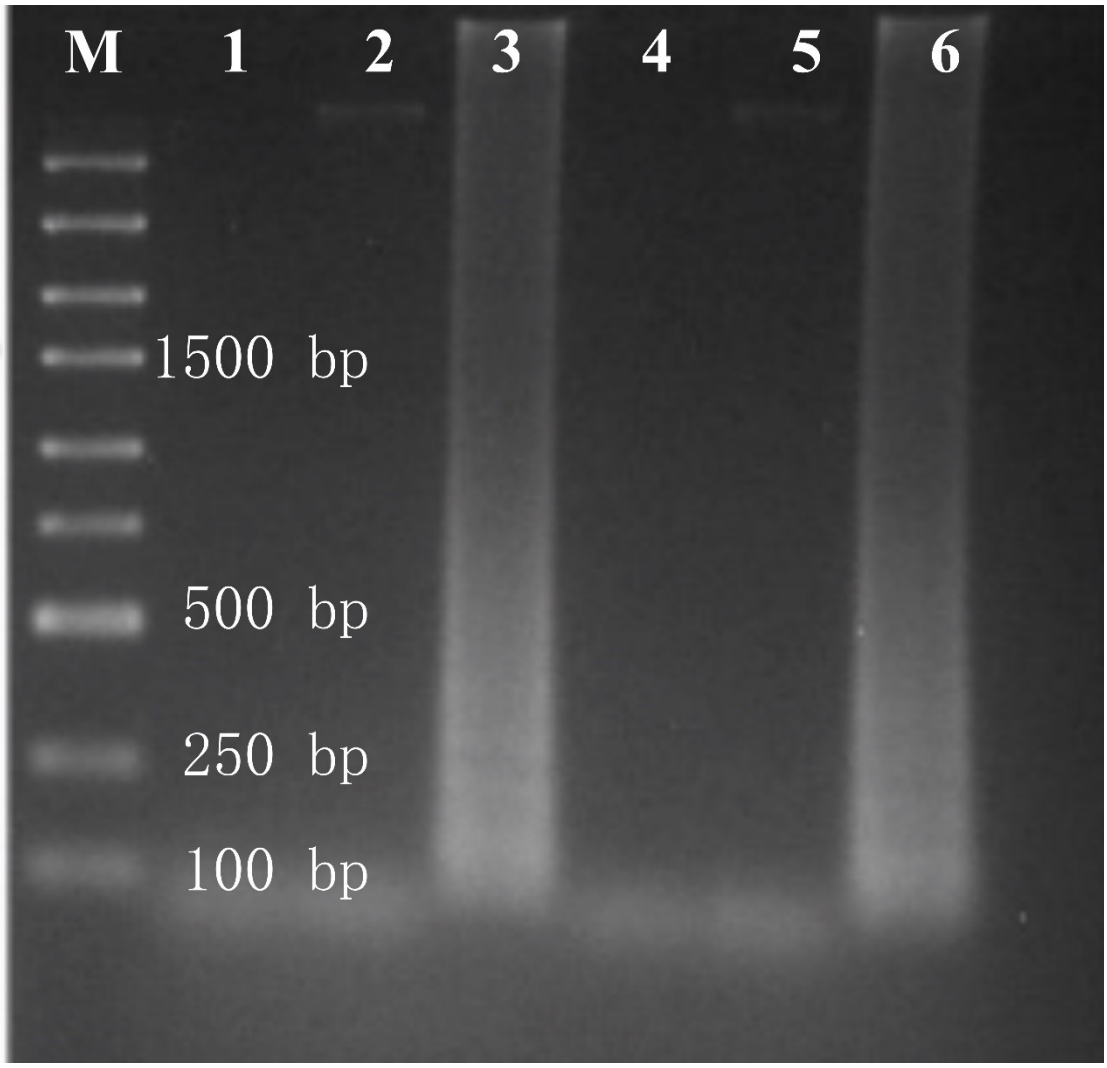

Figure S4. Specificity of LAMP reaction in the amplification tube. lane M: DNA marker, lane 1-3: *invA* primer test results. Lane 1: blank control, lane 2: *malB* template, lane 3: *invA* template. Lane 4-6: *malB* primer test results. Lane 4: blank control, lane 5: *invA* template, lane 6: malB template.