Supplementary Information

An Integrated Microfluidic Chip for Rapid and Multiple Antimicrobial Susceptibility Testing

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Table of contents

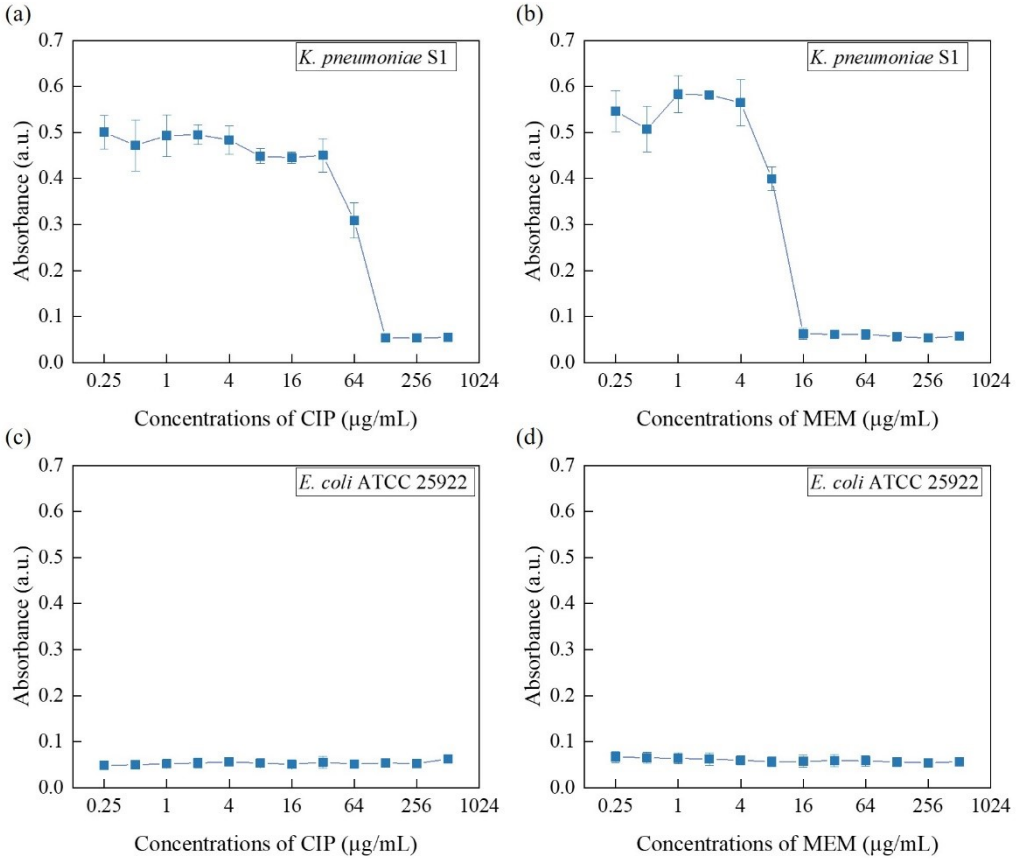

Fig. S1. AST and MICs assays off-chip using traditional broth dilution method. AST for K. pneumoniae S1 inoculated with CIP (a) and MEM (b), and E. coli ATCC 25922 inoculated with CIP (c) and MEM (d) using broth dilution method, respectively. The error bars represent the standard deviation of three replicates.

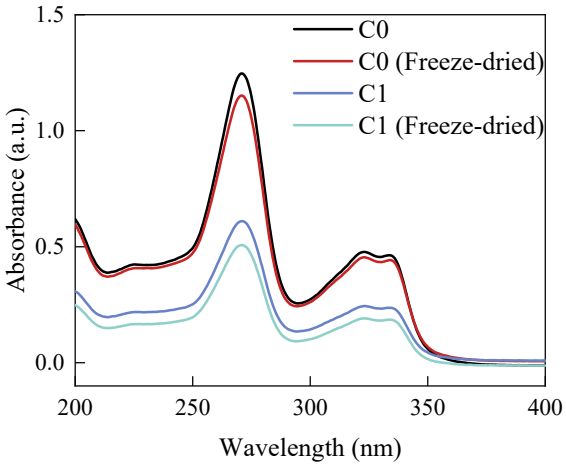

Fig. S2. Absorption spectra of CIP before and after freeze-drying. C0 and C1 represent the concentrations of 128 μg mL^{-1} and 64 μg mL^{-1} of CIP after a 10-fold dilution, respectively.

Table S1. Comparison of the integrated microfluidic chip in this work with the previously reported microfluidic platforms for AST and MIC determination.

Sample loading methods	**Label probe**	**Multiplex detection**	**MIC determination methods**	**Incubation time**	**References**
Air pressure-driven with electropneumatic controller	Label-free	Two rows of cell traps	Bacterial growth rates	Less than 30 min	1
Pump-driven	Resazurin	Seven linear channels	Relative increment of fluorescence intensity	8–9 h	2
Centrifugal force-driven	Label-free	Multiplexed drug testing	Morphological changes and number of bacteria	3 h	3
Self-partitioning SlipChip	Label-free	192 nanoliter-sized compartments	Morphological changes and number of bacteria	Within 3 hours	4
Pre-degassing and vacuum-driven	Resazurin	-	Digital resazurin assay	About 3 h	5
Self-priming and vacuum-driven	Label-free	Eight detection areas	Number of bacteria	2 h	**This work**

References

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