

Supplementary Information

Label-free electrochemical microfluidic chip for the antimicrobial susceptibility testing

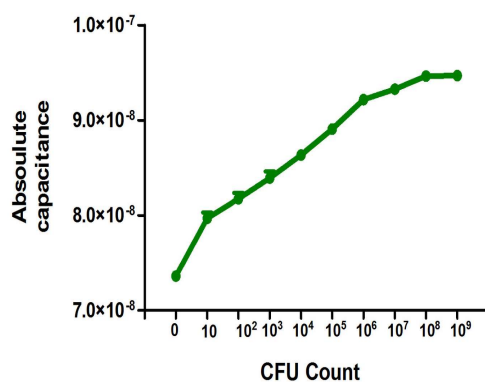
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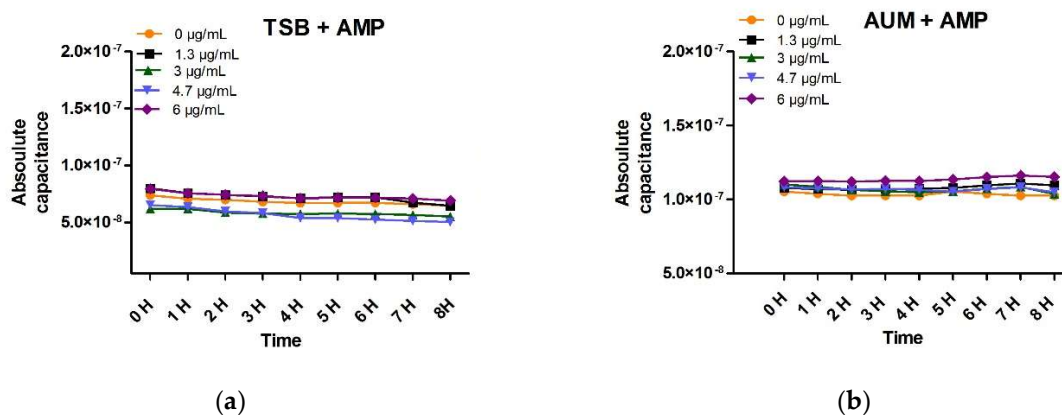
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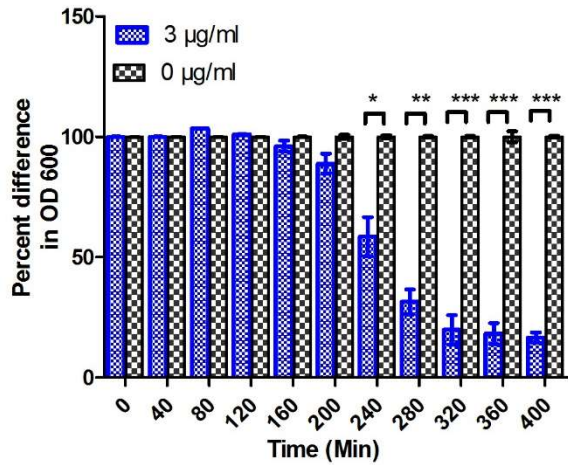
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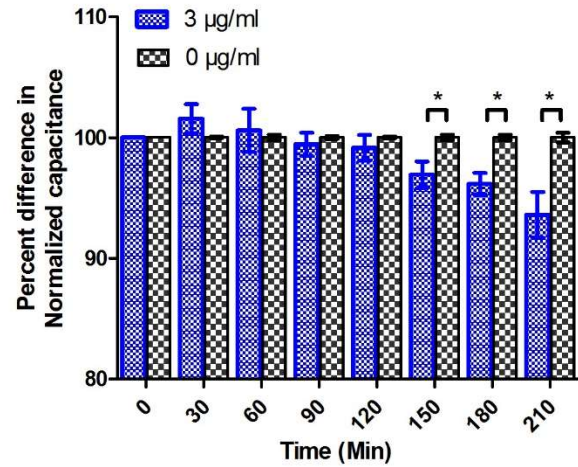
Supplementary Figure 1. Absolute capacitance (Farads) of various CFU of *E. coli*.



Supplementary Figure 2. Absolute capacitance (Farads) of various concentrations (0, 1.3, 3.0, 4.7 and 6.0 µg/mL) of ampicillin: (a) TSB media; (b) Artificial urine media (AUM).

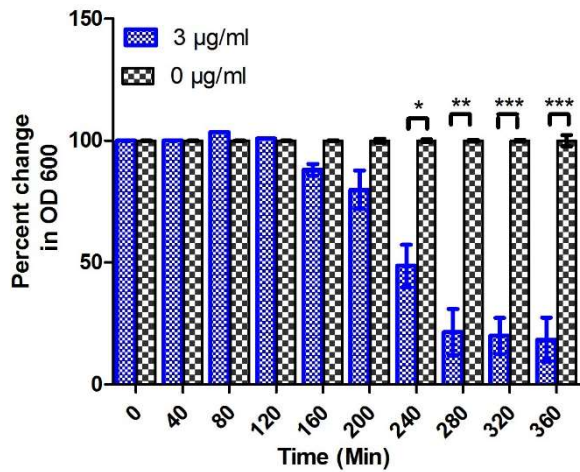


(a)

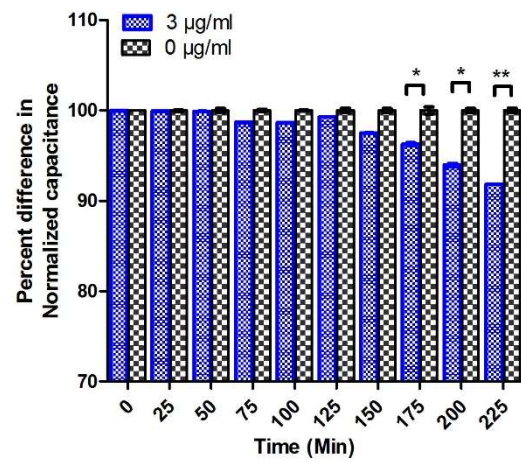


(b)

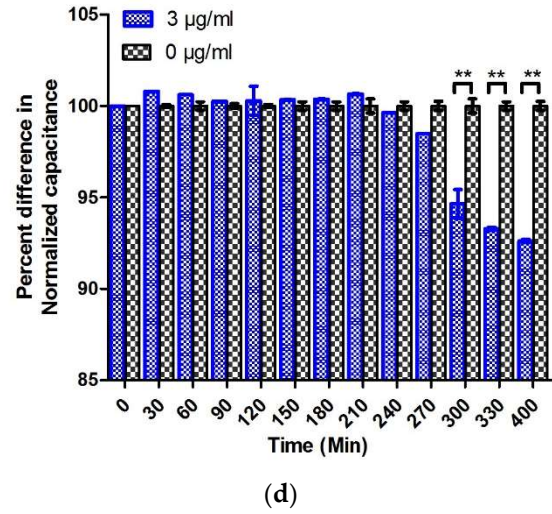
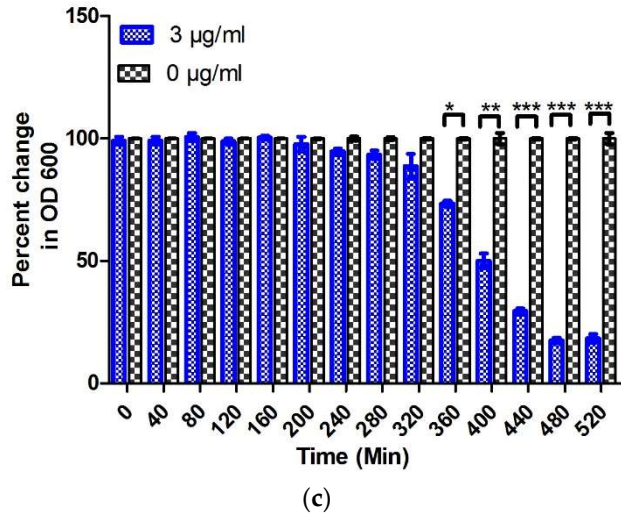
Supplementary Figure 3. Graphs are representing AST in TSB using 3.0 µg/mL ampicillin: (a) The percentage change in the OD600 between control and antibiotic-treated 10^6 CFU/mL *E. coli* samples; (b) The percentage change in the normalized capacitance between control and antibiotic-treated 10^6 CFU/mL *E. coli* samples. Error bars represent the standard deviation from the mean values of three experiments (significance indicators: * $p < 0.05$, ** $p < 0.01$, and *** $p < 0.001$).



(a)



(b)



Supplementary Figure 4. Graphs are representing AST in the artificial urine samples using 3.0 µg/mL ampicillin: (a) The percentage change in the OD600 between control and antibiotic-treated 10^6 CFU/mL *E. coli* samples, (b) The percentage change in the normalized capacitance between control and antibiotic-treated 10^6 CFU/mL *E. coli* samples, (c) The percentage change in OD600 between control and antibiotic-treated in 10^4 CFU/mL *E. coli* samples; (d) The percentage change in the normalized capacitance between control and antibiotic-treated 10^4 CFU/mL *E. coli* samples. Error bars represent the standard deviation from the mean values of three experiments (significance indicators: * $p < 0.05$, ** $p < 0.01$, and *** $p < 0.001$).