

Supporting Information

Shining Light in Blind Alleys: Deciphering Bacterial Attachment in Silicon Microstructures

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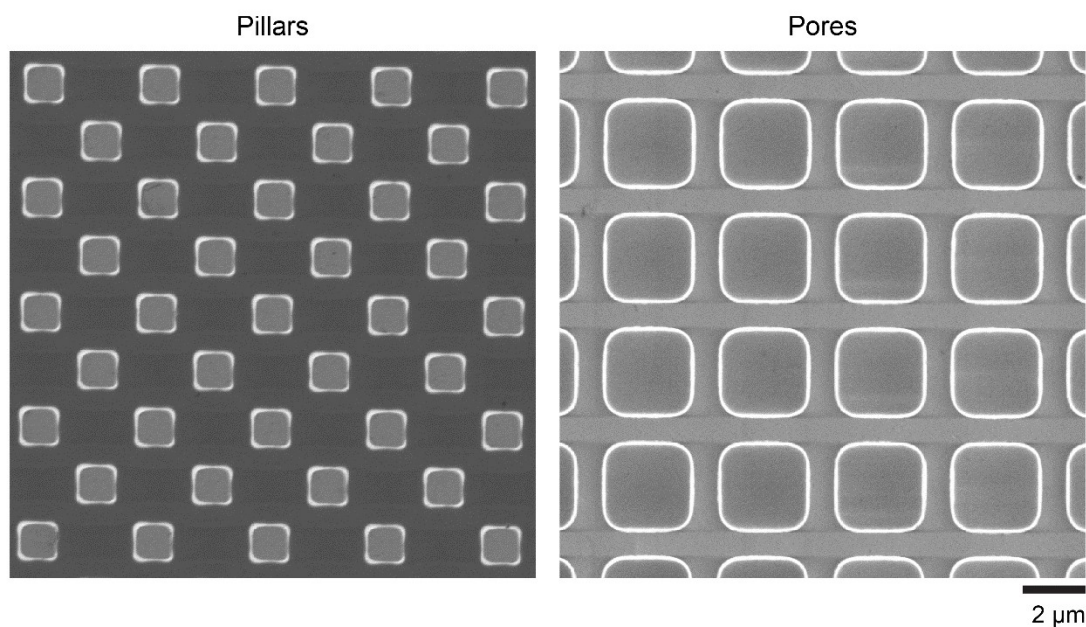


Figure S1. Plan-view SEM images of Si pillar microstructures (left) and pore microstructures (right).

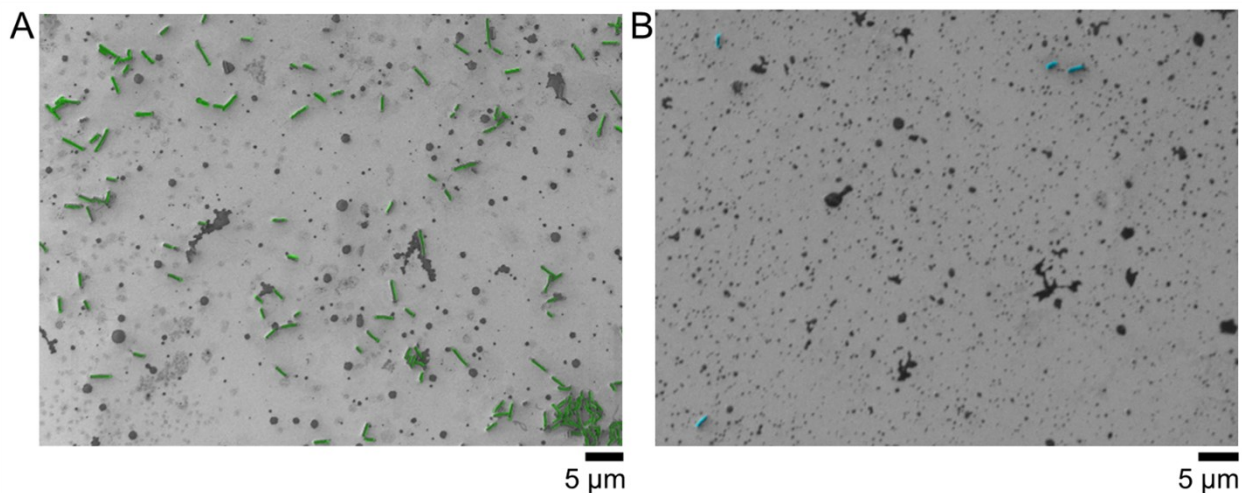


Figure S2. False-colored SEM images of (A) *E. coli* WT and (B) *E. coli* K-12 on OX planar Si. Higher degree of attachment of *E. coli* WT to the surface is observed, compared to *E. coli* K-12.

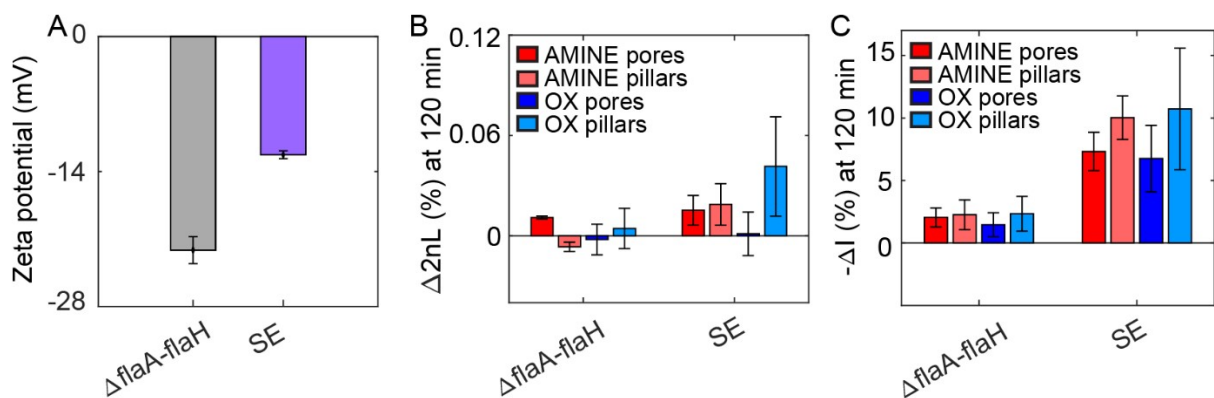


Figure S3. Comparison of non-motile strains, *E. coli* $\Delta flaA-flaH$ and *S. epidermidis*. (A) Zeta potential measurements of bacteria suspended in MB (n = 3). (B) and (C) Comparison bar graph of $\Delta 2nL$ (%) and $-\Delta I$ (%) values for OX and AMINE after 120 min of accumulation time.

Table S1. ANOVA of the effects of surface chemistry, topology, and bacteria (species or strain) on the mean values of $\Delta 2nL$ (%) acquired after 120 minutes.

Source	Sum of Squares	F Value	P Value
bacteria^a	5	84.0065	<.0001
topology	1	12.3576	0.0009
surface chemistry	1	9.6059	0.003
bacteria*surface chemistry	5	42.2832	<.0001
bacteria* topology	5	9.5203	<.0001
topology *surface chemistry	1	0.9966	0.3224
bacteria* topology *surface chemistry	5	2.6488	0.032

^aAnalysis included *S. epidermidis* and all *E. coli* strains.

Table S2. ANOVA of the effects of surface chemistry, topology, and bacteria (species or strain) on the mean values of $-AI$ (%) acquired after 120 minutes.

Source	Sum of Squares	F Value	P value
bacteria^a	5	21.6135	<.0001
topology	1	2.7904	0.1003
surface chemistry	1	0.2078	0.6502
bacteria*surface chemistry	5	0.3486	0.881
bacteria* topology	5	1.2323	0.3061
topology *surface chemistry	1	0.9794	0.3265
bacteria* topology *surface chemistry	5	0.5181	0.7615

^aAnalysis included *S. epidermidis* and all *E. coli* strains.