## Supporting Information

## Effect of Salts on the Self-Assembly Behavior and Antibacterial

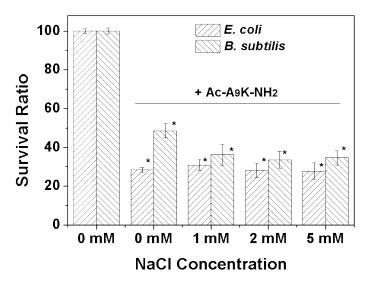
## Activity of a Surfactant-Like Peptide

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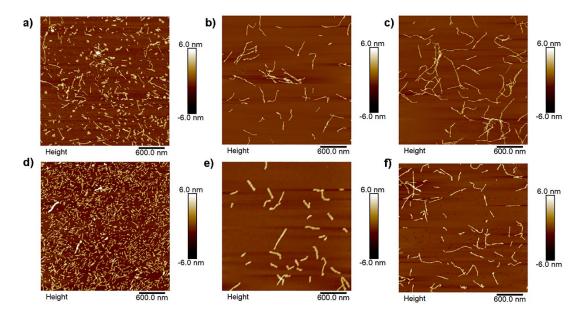
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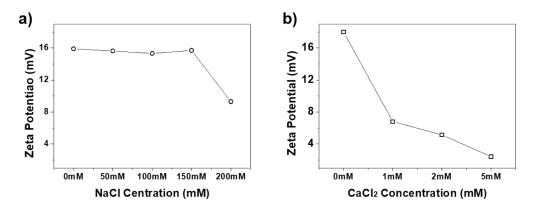
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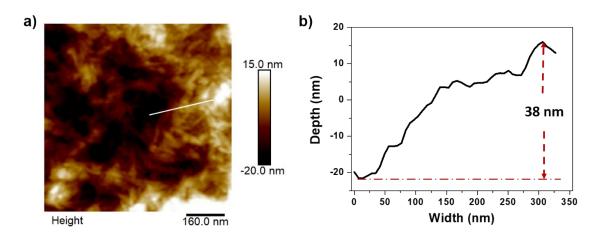
**Figure S1**. The antibacterial activity of 0.1 mM Ac-A<sub>9</sub>K-NH<sub>2</sub> against (a) *E. coli*. and (b) *B. subtilis* at different concentrations of NaCl.



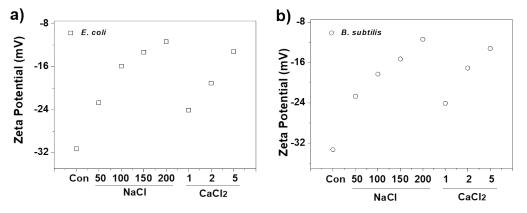
**Figure S2.** AFM height images of  $Ac-A_9K-NH_2$  in the presence of different salts at varied concentrations: (a) 0.1 mM CaCl<sub>2</sub>, (b) 1 mM CaCl<sub>2</sub>, (c) 2 mM CaCl<sub>2</sub>, (d) 0.1 mM NaCl, (e) 1 mM NaCl, and (f) 2 mM NaCl.



**Figure S3.** Zeta potential of Ac-A<sub>9</sub>K-NH<sub>2</sub> assemblies in the presence of different concentrations of (a) NaCl and (b) CaCl<sub>2</sub>.



**Figure S4.** AFM height images of *E. coli* surface after incubation with  $Ac-A_9K-NH_2$  in the presence of 200 mM NaCl. b) Corresponding cross-sectional height profiles indicated in a.



**Figure S5**. Zeta potential of (a) *E.coli* and (b) *B. subtilis* in the presence of different concentrations of NaCl and CaCl<sub>2</sub>.