Supporting Information

Preparation of the Antimicrobial Surface by Direct Assembly of Antimicrobial Peptide with Its Surface Binding Activity

Junjian Chen,[a] Yuchen Zhu,[b] Yancheng Song,[c] Lin Wang,*[d] Jiezhao Zhan,[b] Jingcai He,[d] Jian Zheng,[b] Chunting Zhong,[d] Xuetao Shi,[a] Sa Liu,[b] Li Ren*[b] and Yingjun Wang*[a]

a. School of Materials Science and Engineering, South China University of Technology, Guangzhou 510641, China.

b. National Engineering Research Center for Tissue Restoration & Reconstruction, Guangzhou 510006, China.

c. The Third Affiliated Hospital of Southern Medical University, Guangzhou 510630, China.

d. Guangdong Province Key Laboratory of Biomedical Engineering, South China University of Technology, Guangzhou 510641, China.

*Email - wanglin3@scut.edu.cn, psrenli@163.com, imwangyj@163.com

Table S1 The density of live bacteria on the indicated titanium substrates. (n=3)

Substrates	*S. aureus* ($\times 10^3$ CFU/cm^2)	*E. coli* ($\times 10^3$ CFU/cm^2)
Ti	122.67 ± 12.34	150.67 ± 7.23
Ti-OP	119.33 ±8.33	149.33 ± 3.21
Ti-AMP	121.67 ± 4.51	149.00 ± 8.72
Ti-Anchor-AMP	4.33 ± 1.53	7.33 ± 0.58

Fig. S1 The Zeta Potential results of the plasma-treated titanium with different PH values.

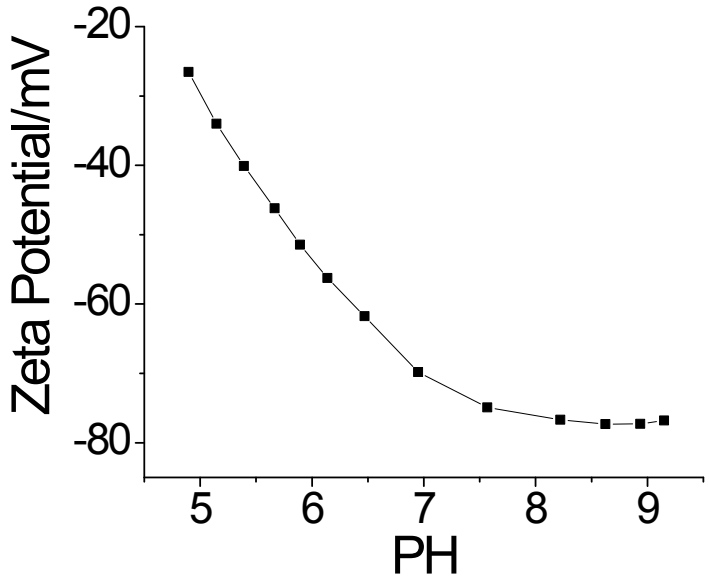

Fig. S2 The Ti2p XPS spectrum of the indicated substrates.

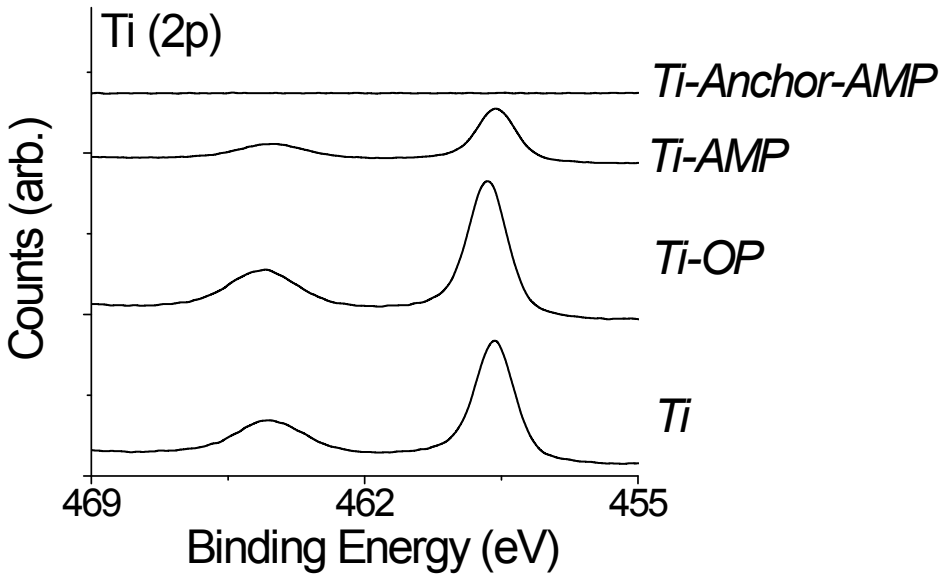

Fig. S3 (a) The antimicrobial assay of against *E. coli* and *S. aureus* with different Anchor-AMP concentration onto Ti surface. n=4, & denotes significant differences ($p < 0.01$), and * denotes significant differences ($p < 0.001$). (b)-(f) The agar plate photos of the indicated surfaces.

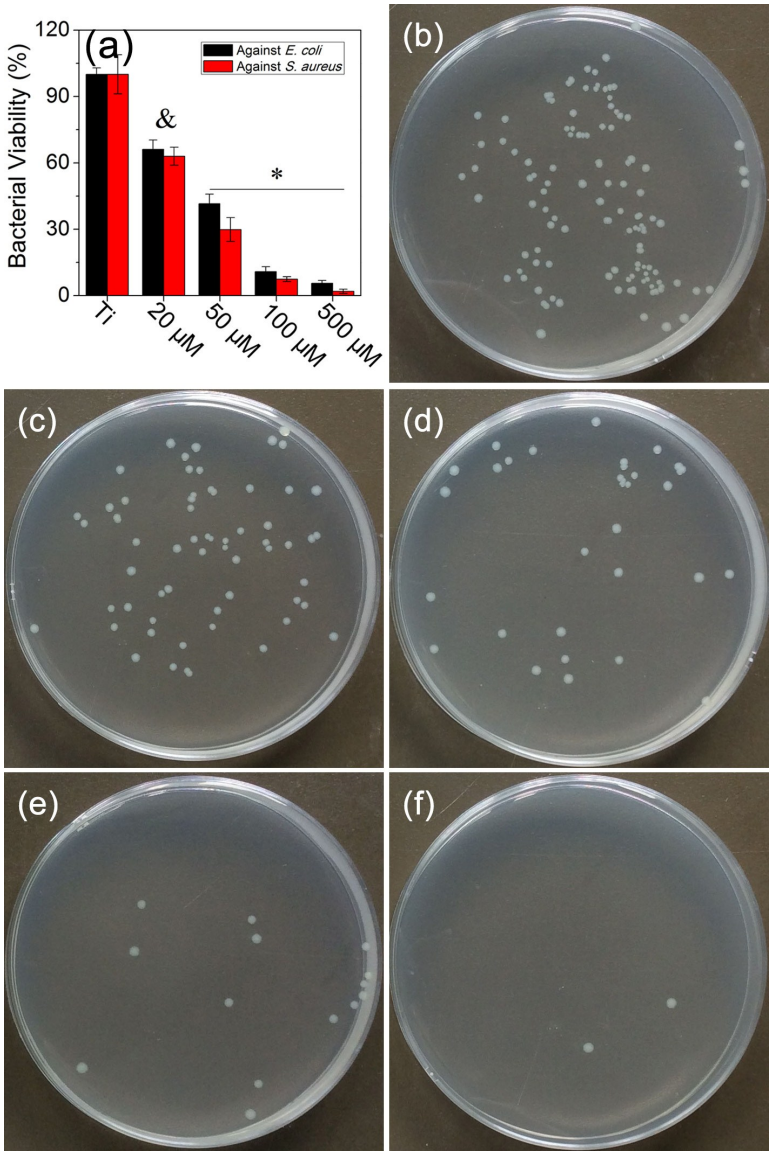

Fig. S4 The antimicrobial assay of against *E. coli* and *S. aureus* with different Anchor-AMP concentration onto different surface, (a) Au, (b) PMMA, (c) HA. n=4, & denotes significant differences ($p < 0.01$), and * denotes significant differences ($p < 0.001$).