Supporting Information

Multifunctional Biomaterial Coating Based on Bio-Inspired Polyphosphate and Lysozyme Supramolecular Nanofilm

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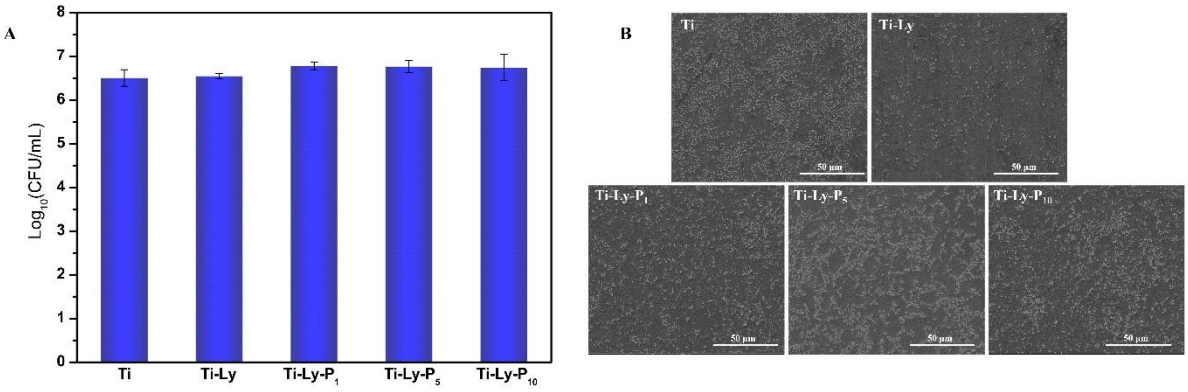

Figure S1. Antibacterial activity characterization. (A) Plate count assays and (B) ESEM images of Ti, Ti-Ly, Ti-Ly-Px (X=1, 5, 10 mg/mL) surfaces after 8-hour co-incubation with *S. aureus*.

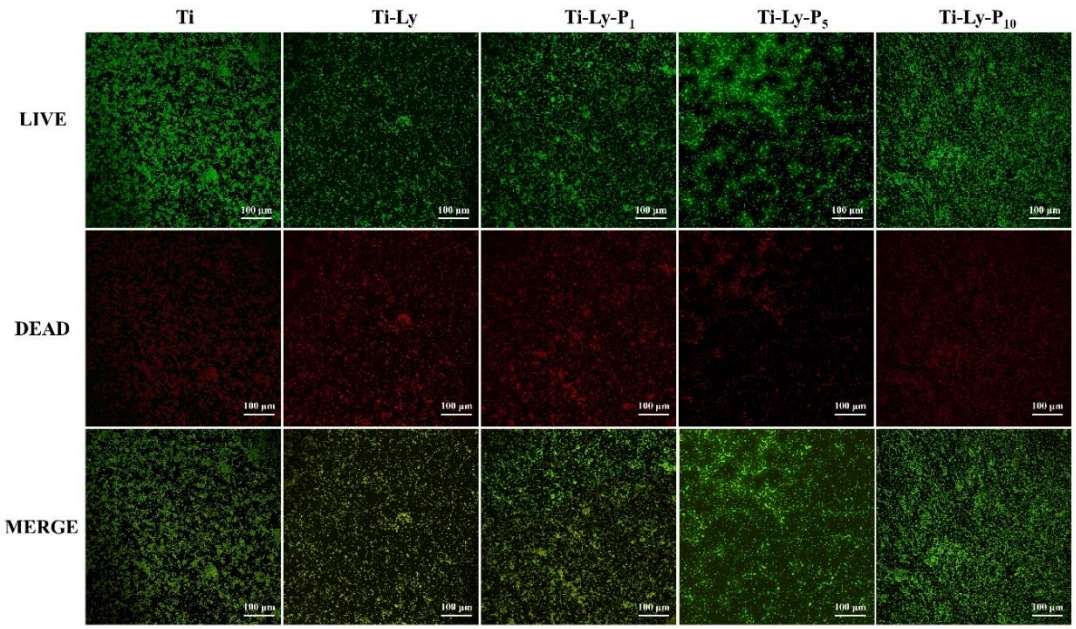

Figure S2. Fluorescence images of live/dead assays for Ti, Ti-Ly, Ti-Ly-Px (X=1, 5, 10 mg/mL) surfaces against *S. aureus*. Live bacteria were dyed green by STYO 9 and dead bacteria were dyed red by propidium iodide.

Table S1. Antibacterial rate and adsorption ratio (*S. aureus*)

Sample	Antibacterial rate (%)	Adsorption ratio
Ti	31.52	1
Ti-Ly	41.44	0.62
Ti-Ly-P_1	35.60	0.89
Ti-Ly-P_5	35.95	1.15
Ti-Ly-P_{10}	35.73	1.26

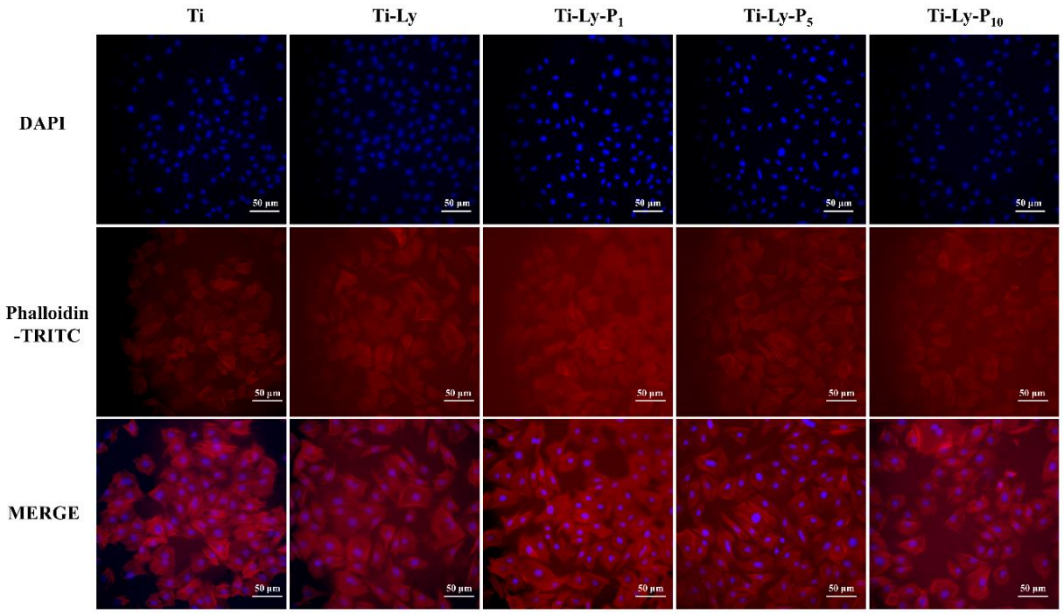

Figure S3. Fluorescence images of adherent cell on the Ti, Ti-Ly, Ti-Ly-Px (X=1, 5, 10 mg/mL) surfaces after 3h cultivation in culture medium with FBS. Cell nucleus were dyed blue by DAPI and F-actin stress fibers were dyed red by phalloidin-TRITC.

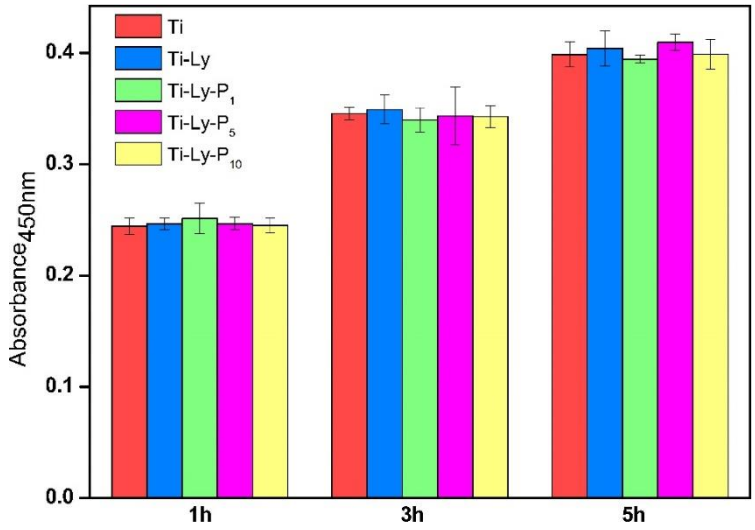

Figure S4. Cell adhesion after 1, 3, 5h cultivation in culture medium with FBS on the Ti, Ti-Ly, Ti-Ly-Px (X=1, 5, 10 mg/mL) surfaces.

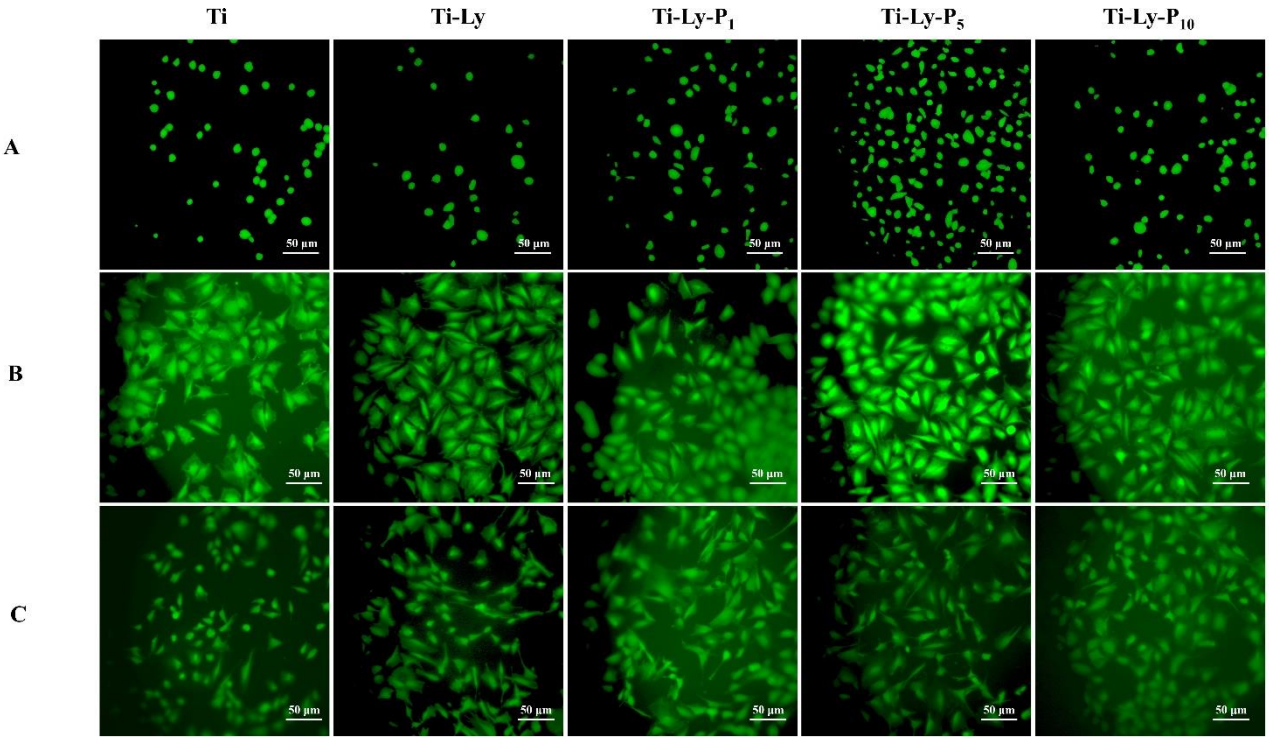

Figure S5. FDA stained cells on the Ti, Ti-Ly, Ti-Ly-Px (X=1, 5, 10 mg/mL) surfaces after culture for (A) 3 h in the absence of FBS, and (B) 3 h / (C) 24 h in the presence of FBS.