materials

MDPI

Supplementary Materials

DNA Polyelectrolyte Multilayer Coatings Are Antifouling and Promote Mammalian Cell Adhesion

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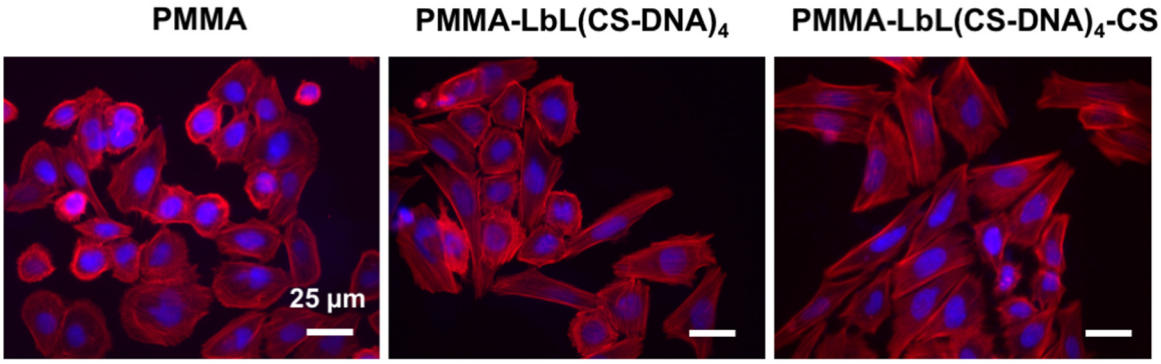

Figure S1. Fluorescence microscopic images of SaOS-2 cells after 48 h growth on PMMA, PMMA-LbL(CS-DNA)$_4$, and PMMA-LbL(CS-DNA)$_4$-CS surfaces. PMMA-LbL(CS-DNA)$_4$ are terminated with a DNA top layer and PMMA-LbL(CS-DNA)$_4$-CS are terminated with a CS top layer. SaOS-2 cells were stained with PBS containing DAPI and TRITC-phalloidin. The scale bars denote 25 µm.

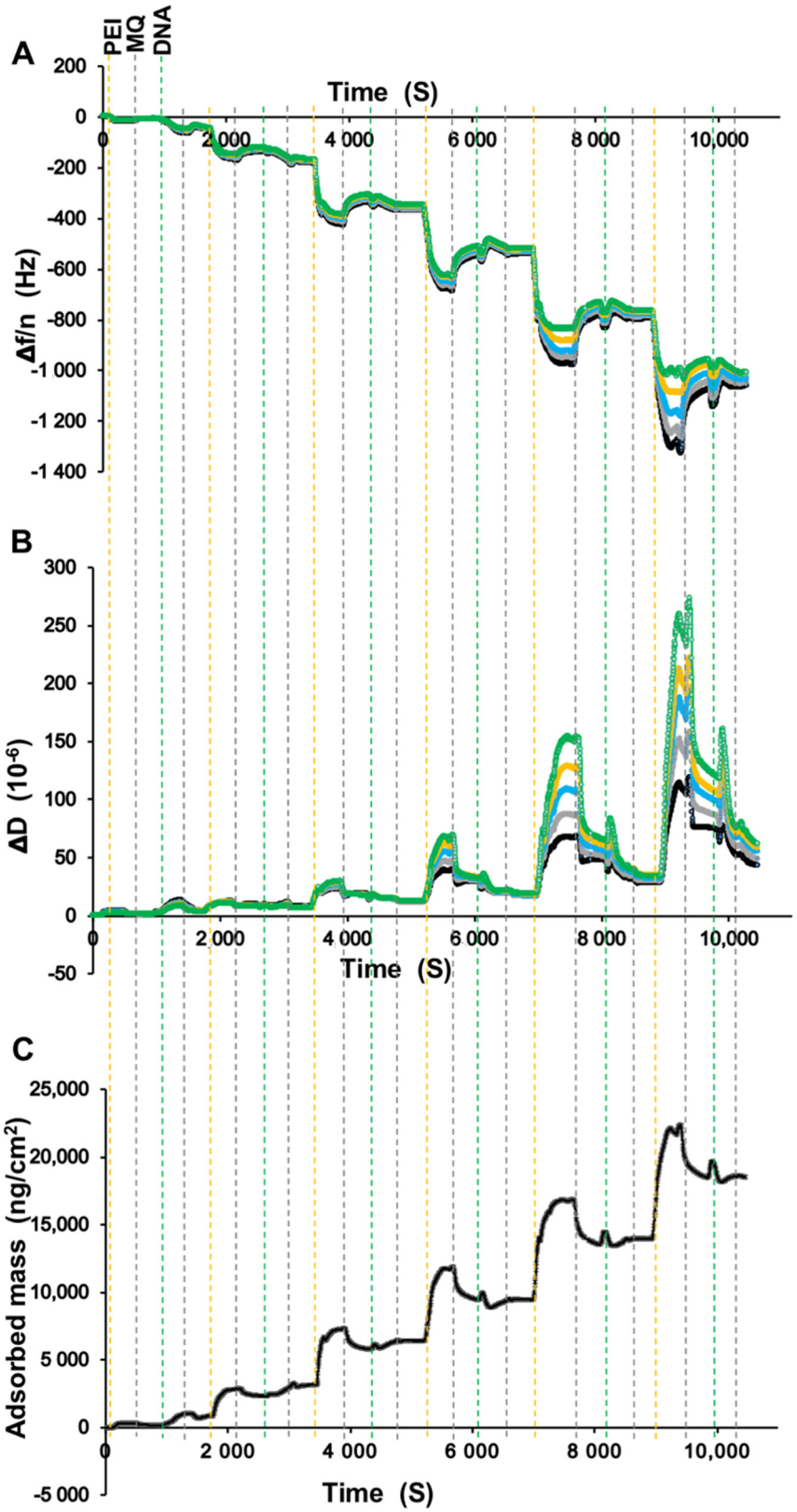

Figure S2. (**A**) QCM-D data showing the evolution of the frequency shift, Δf⁄n, and (**B**) dissipation ΔD during the film build-up for the overtones n = 3. 5, 7, 9, and 11. The Δf⁄n decrease observed after each successive layer of polyelectrolytes PEI (yellow dashed lines) and DNA (green) shows a representative example of the film build-up. The Δf⁄n increase observed after injection of Milli-Q water (grey dashed lines) indicates the removal of weakly adsorbed excess polymer. The ΔD increased rapidly in tandem with the decrease in Δf⁄n during layer adsorption. The increase in ΔD was reversed during

rinsing, removing loosely bound polymer. C) The adsorbed mass of the film calculated according to the Sauerbrey equation as a function of time.

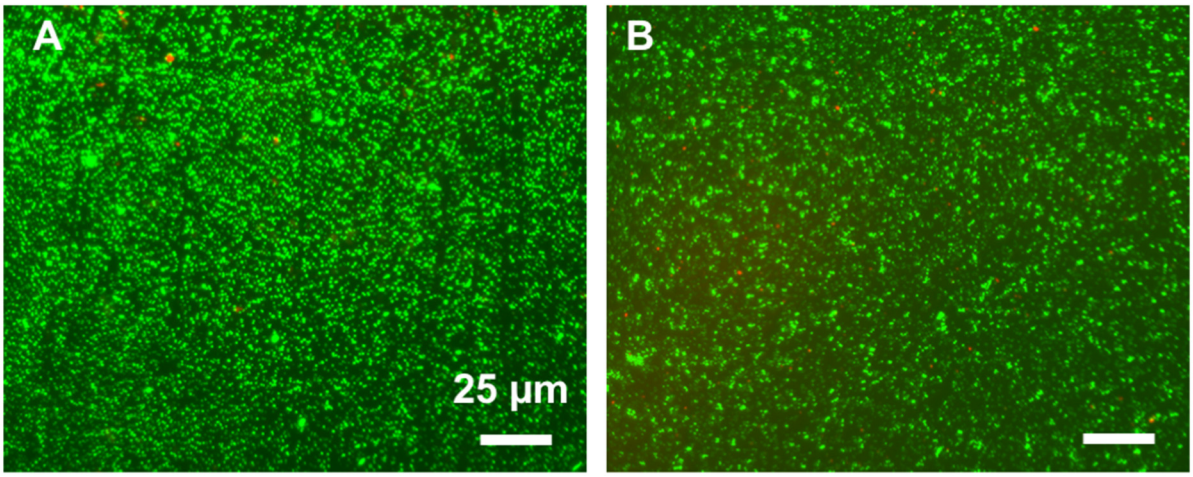

Figure S3. Representative fluorescence microscope images of adherent S. aureus ATCC 12598 on (**A**) PMMA and (**B**) PMMA-LbL(PEI-PSS)3-CS surfaces after incubation at 37 °C for 24 h. Bacteria were stained using vitality staining solution (3.34 mM SYTO 9 and 20 mM propidium iodide in PBS) and incubated for 15 min in the dark at room temperature. The scale bar denotes 25 µm.