SUPPORT INFORMATION

Design of Salt-Responsive and Regenerative Antibacterial Polymer Brushes with Integrating Bacterial Resistance, Killing, and Release Properties

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Keywords: Antibacterial surface; Polymer brushes; Antifouling; Antibacterial; Bacteria release

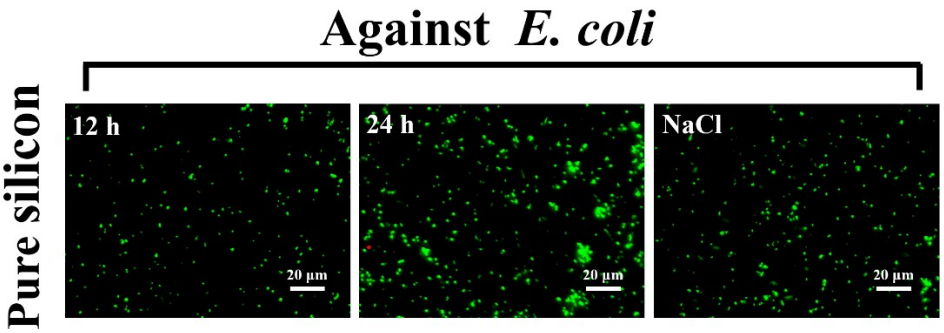

Figure S1. Fluorescence microscopy images of *E. coli* on pure silicon wafer upon different incubation times, followed by the treatment with 1.0 M NaCl solution.

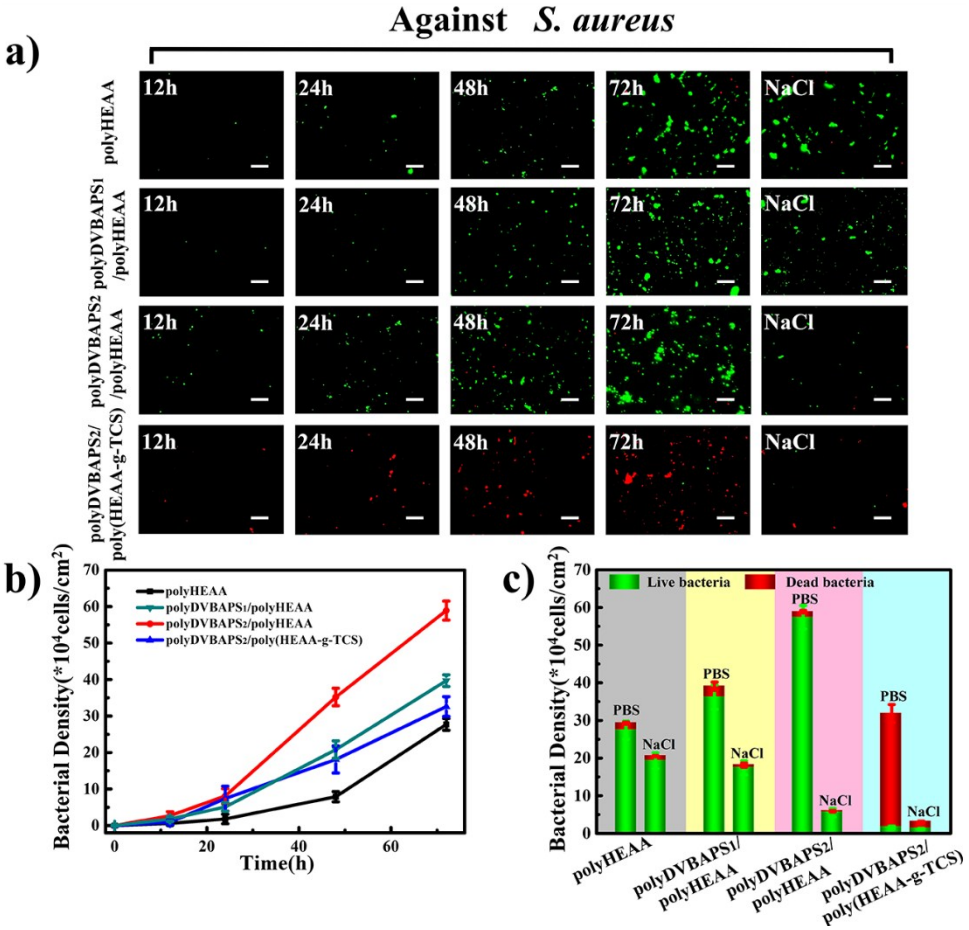

Figure S2. Overall antibacterial performance combining bacterial resistance, killing, and release of polyDVBAPS/polyHEAA-based brushes using *S. aureus*. (a) Representative fluorescence microscopy images (scale bar is 20 μm) and (b) the corresponding statistical results of *S. aureus* on polyHEAA, polyDVBAPS$_1$/polyHEAA, polyDVBAPS$_2$/polyHEAA, polyDVBAPS$_2$/poly(HEAA-g-TCS) brushes at di□erent incubation times. (c) Comparison of bacterial density before and after the treatment of 1.0 M NaCl solution to determine bacterial release ratio.

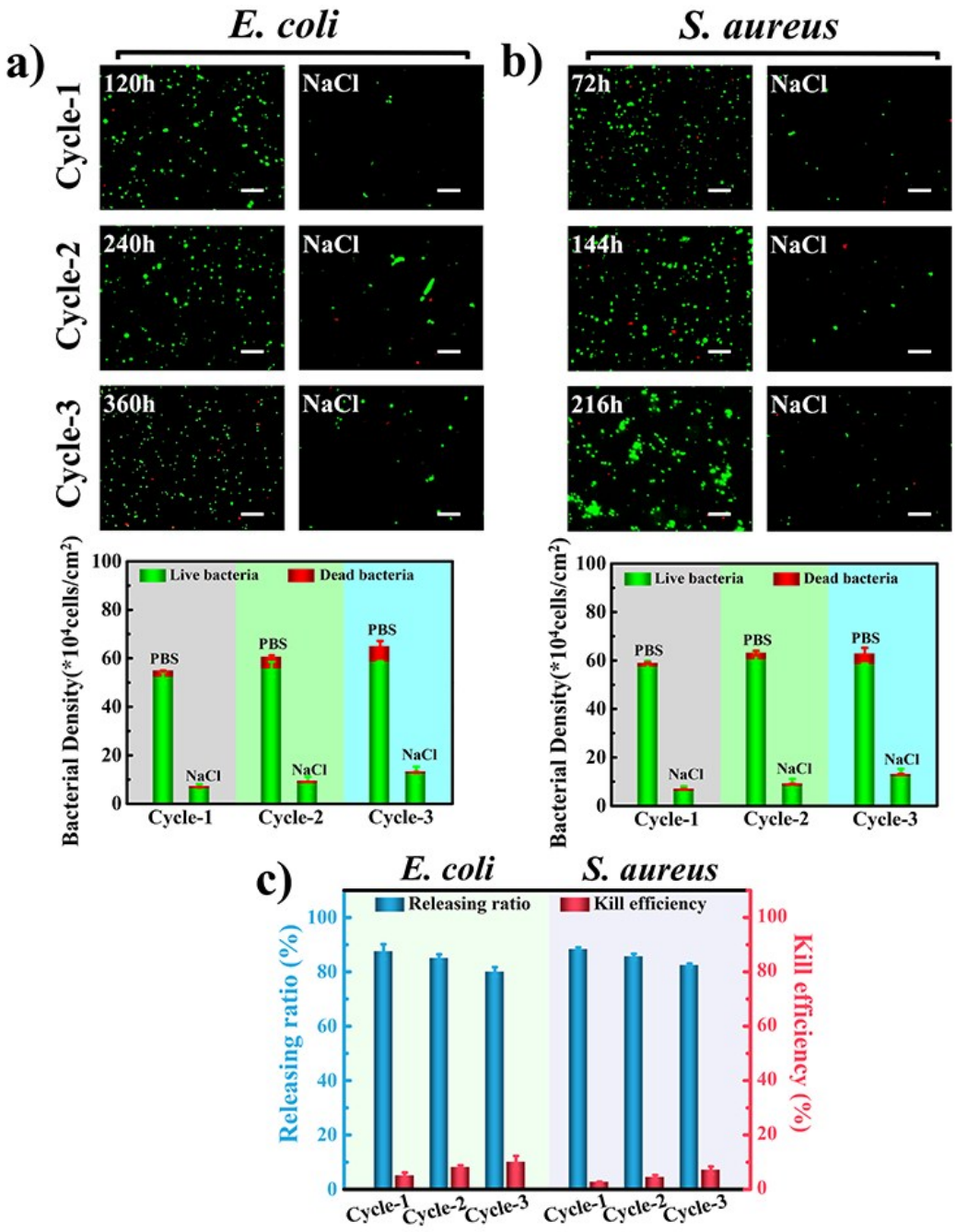

Figure S3. Overall antibacterial performance (e.g. antifouling, bactericidal, and bacteria release properties) and salt-induced surface regeneration of polyDVBAPS$_2$/polyHEAA brush in multiple and reversible cycles, as evidenced by fluorescence microscopy images (scale bar=20 μm) and the corresponding live/dead cell analysis for (a) *E. coli* and (b) *S. aureus*. (c) Cyclic bacterial killing and release of polyDVBAPS$_2$/polyHEAA brush against *E. coli* and *S. aureus* upon the treatment of 1.0 M NaCl solution.

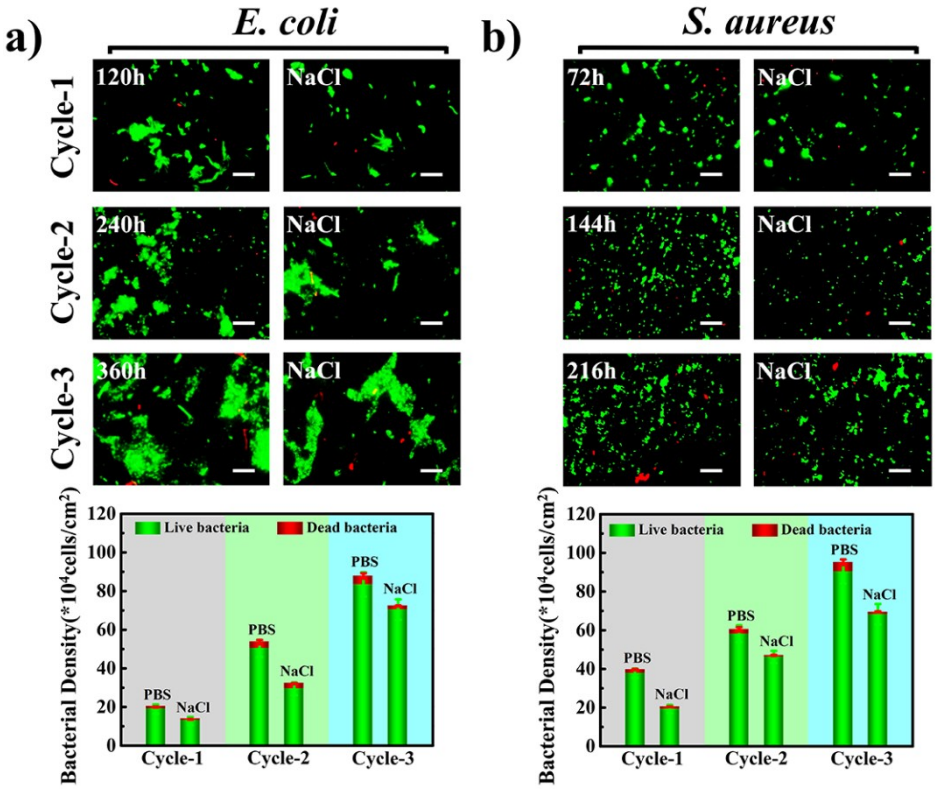

Figure S4. Overall antibacterial performance (e.g. antifouling, bactericidal, and bacteria release properties) and salt-induced surface regeneration of polyHEAA brush in multiple and reversible cycles, as evidenced by fluorescence microscopy images (scale bar=20 μm) and the corresponding live/dead cell analysis for (a) *E. coli* and (b) *S. aureus*.

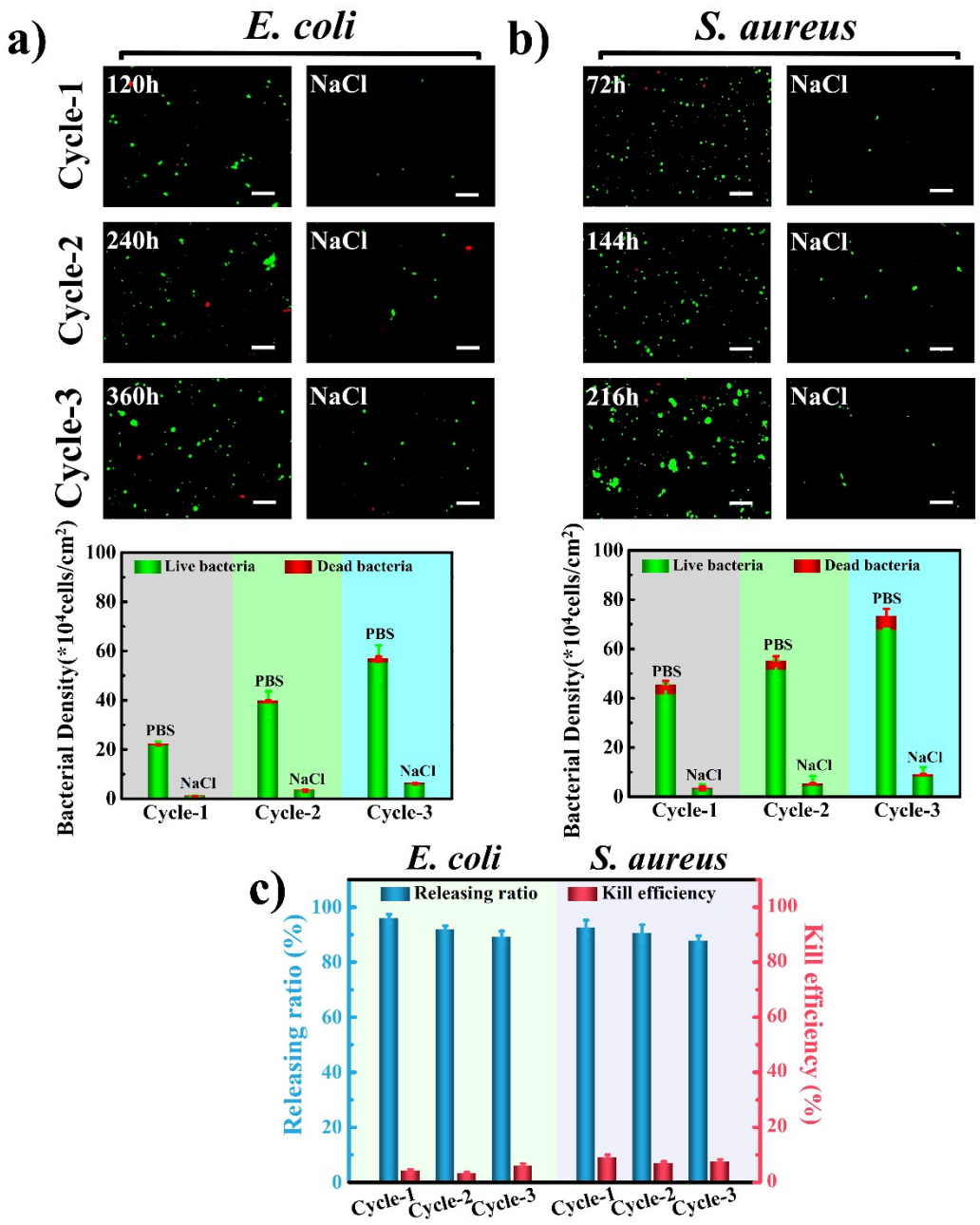

Figure S5. Overall antibacterial performance (e.g. antifouling, bactericidal, and bacteria release properties) and salt-induced surface regeneration of poly(DVBAP-b-HEAA) brush in multiple and reversible cycles, as evidenced by fluorescence microscopy images (scale bar=20 μm) and the corresponding live/dead cell analysis for (a) *E. coli* and (b) *S. aureus*. (c) Cyclic bacterial killing and release of poly(DVBAP-b-HEAA) brush against *E. coli* and *S. aureus* upon the treatment of 1.0 M NaCl solution.