

## Supplementary Information:

### Phage-Mimicking Antibacterial Core-Shell Nanoparticles

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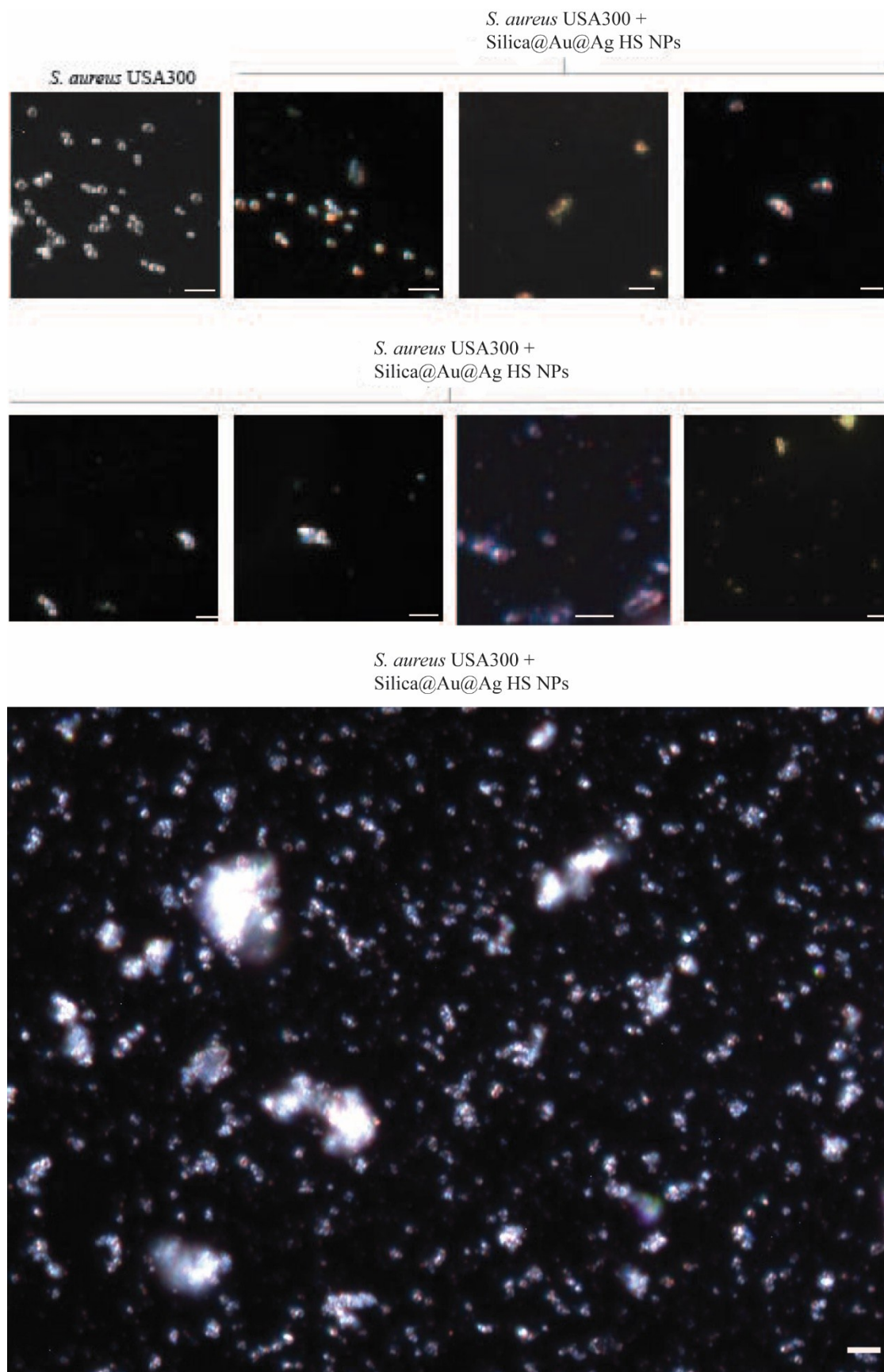
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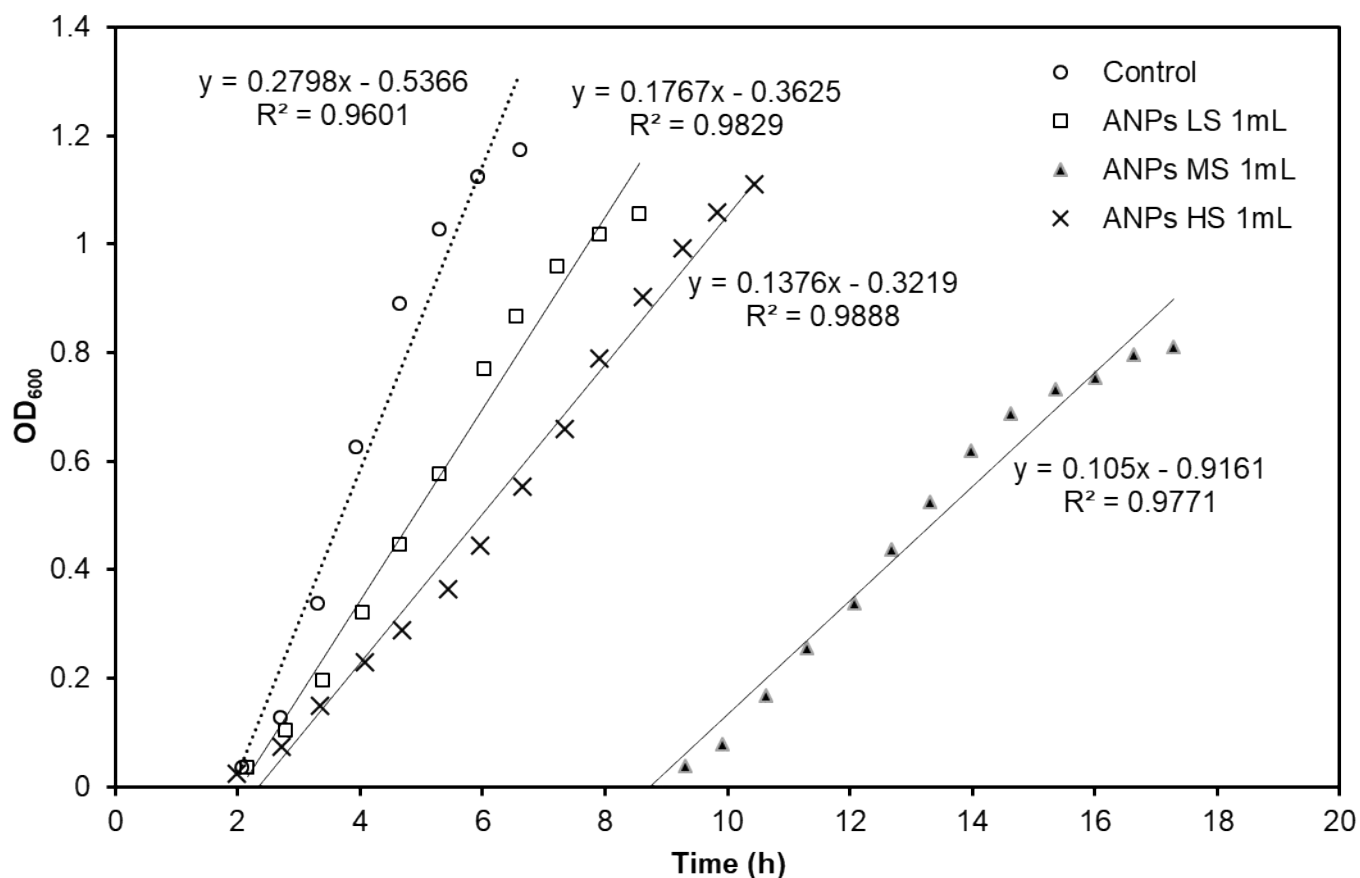
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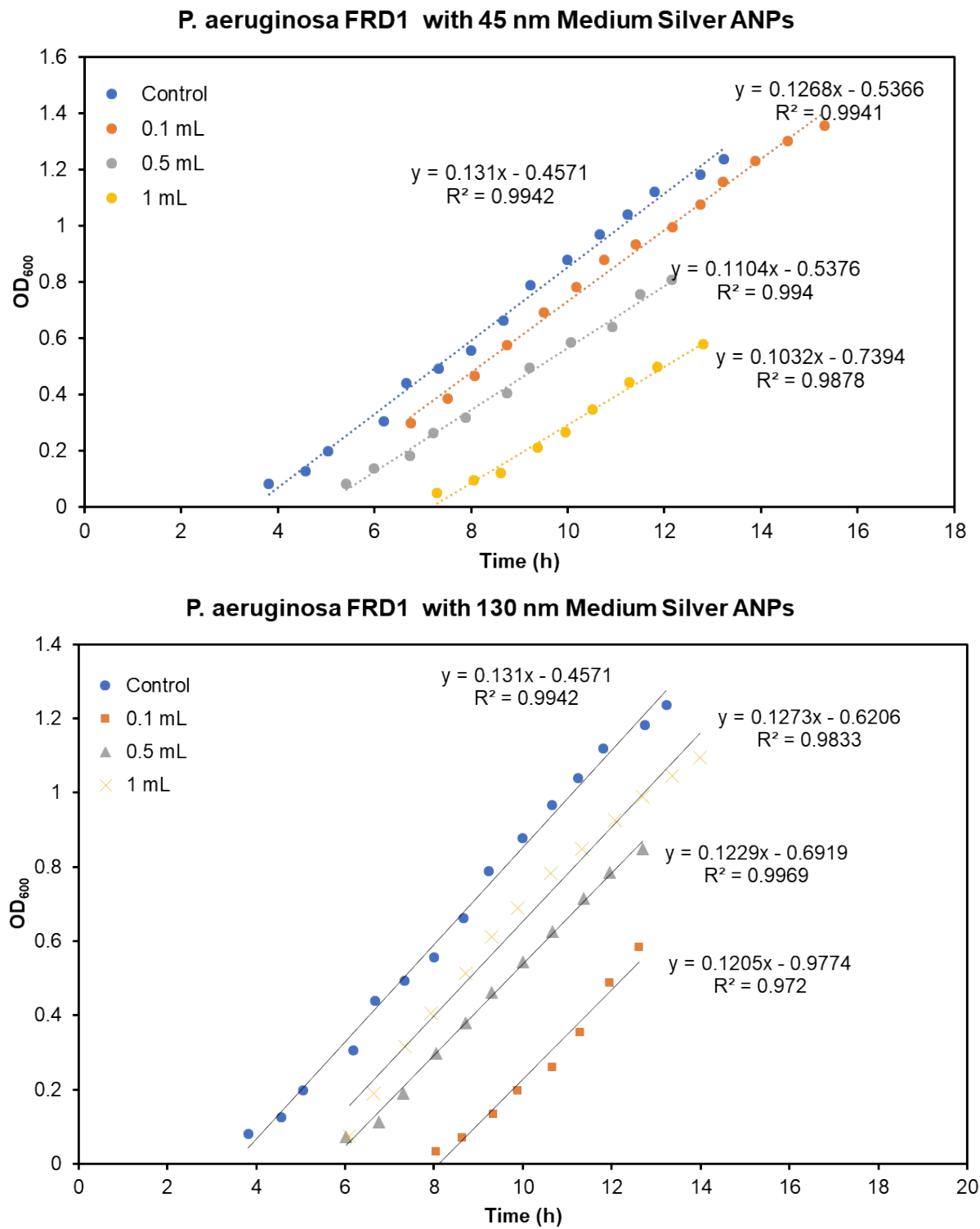
**Figure S1:** Darkfield microscopy was used to assess the effect of phage-mimicking ANPs treatment on the morphology of *S. aureus* USA300. Scale bars are 10  $\mu\text{m}$ .



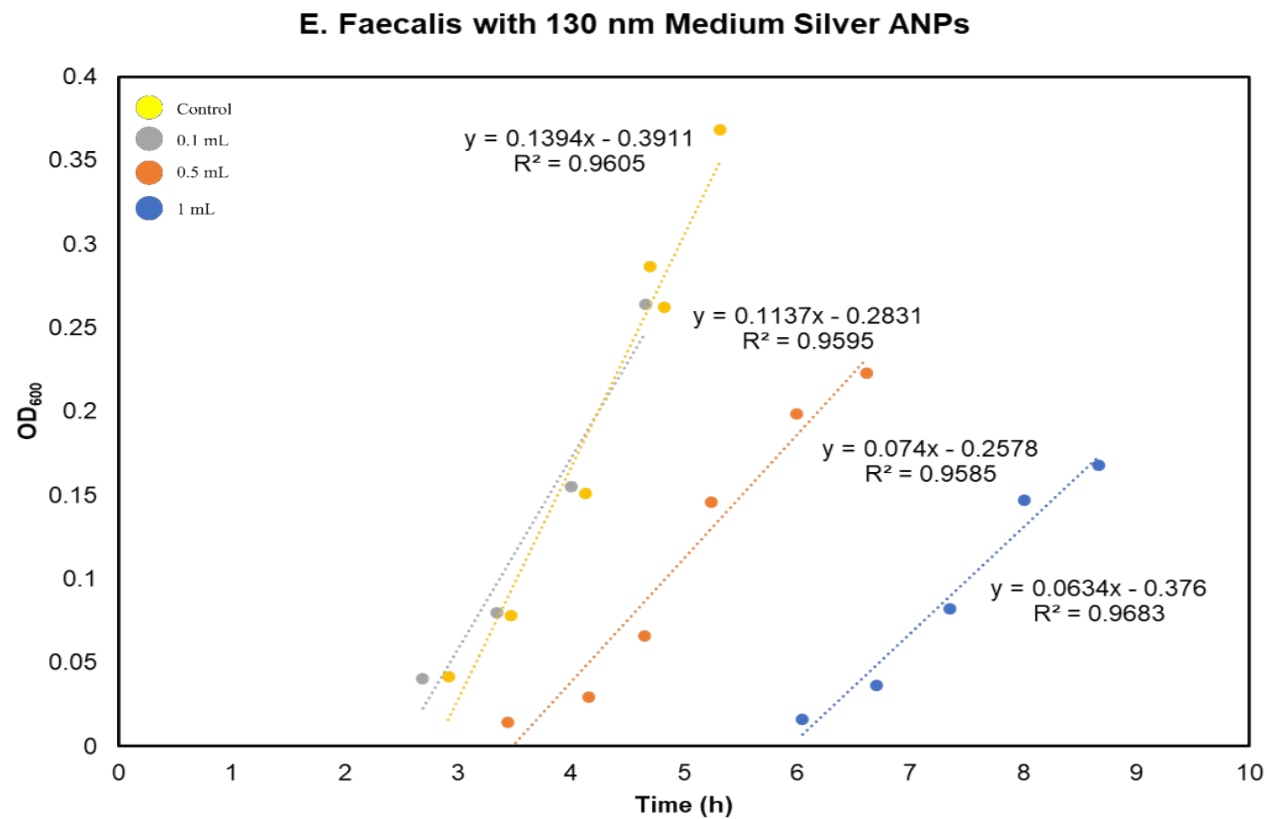
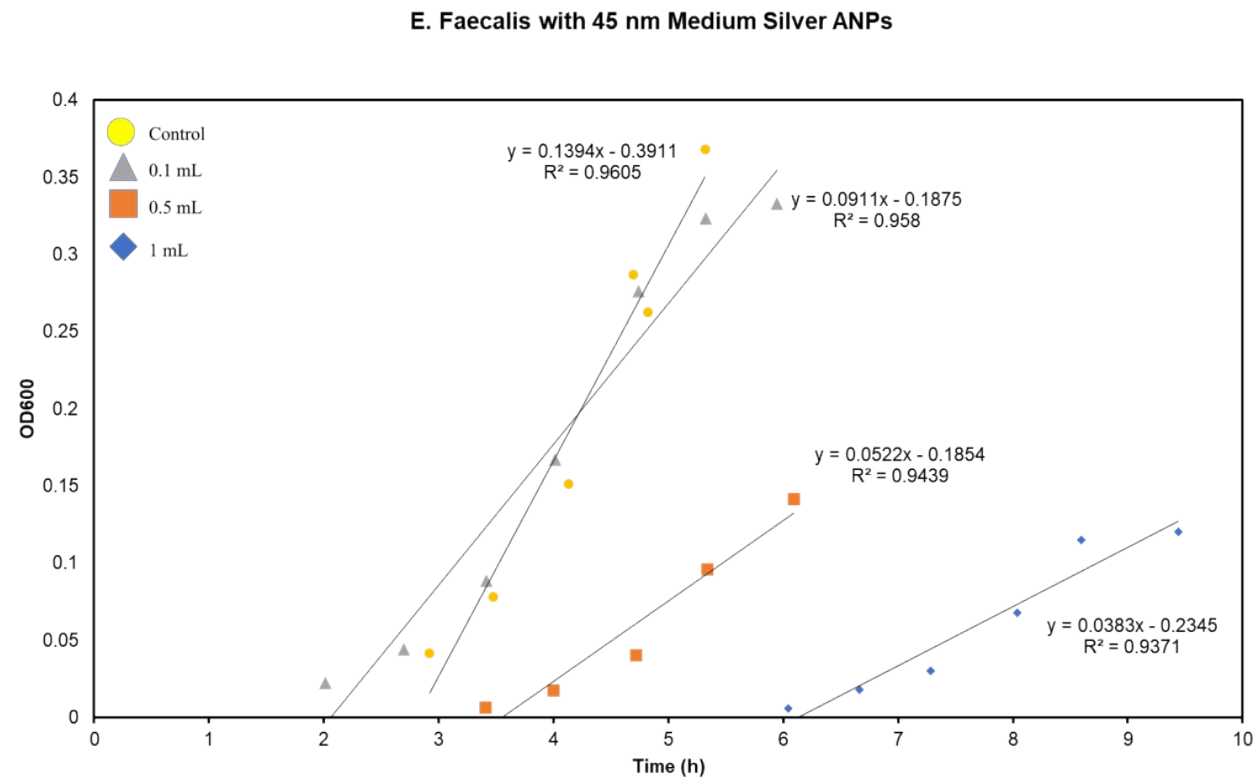
**Figure S2:** Representative linear slopes of the log phase of *S. aureus* USA300 in the presence of 1 ml of phage-mimicking ANPs LS, phage-mimicking ANPs MS, phage-mimicking ANPs HS and 0 ml of phage-mimicking ANPs. The core diameter of the phage-mimicking ANPs was 45 nm. The log phase of the growth curves was fitted linearly, and the linear slope of each curve was determined to compare the silver coverage-dependent antimicrobial effect of phage-mimicking ANPs on *S. aureus* USA300. A similar analysis was used to determine the antimicrobial effect of phage-mimicking ANPs on *P. aeruginosa* FRD1, *C. striatum* and *E. faecalis*.



**Figure S3:** Representative linear slopes of the log phase of *P. aeruginosa* FRD1 in the presence of either 0 ml or 0.1 ml or 0.5 ml or 1 ml of phage-mimicking ANPs MS. The phage-mimicking ANPs MS had core diameters of either 45 nm or 130 nm.



**Figure S4:** Representative linear slopes of the log phase of *E. faecalis* in the presence of either 0 ml, or 0.1 ml or 0.5 ml or 1 ml of phage-mimicking ANPs MS. The phage-mimicking ANPs MS had core diameters of either 45 nm or 130 nm.



**Figure S5:** Representative linear slopes of the log phase of *C. Striatum* in the absence of phage-mimicking ANPs and in the presence of 1 ml of either LS, or MS, or HS phage-mimicking ANPs. The phage-mimicking ANPs had core diameters of either 45 nm or 130 nm.

