
Enhanced Antibacterial Activity of poly (dimethylsiloxane) Membranes by Incorporating SiO₂ Microspheres Generated Silver Nanoparticles

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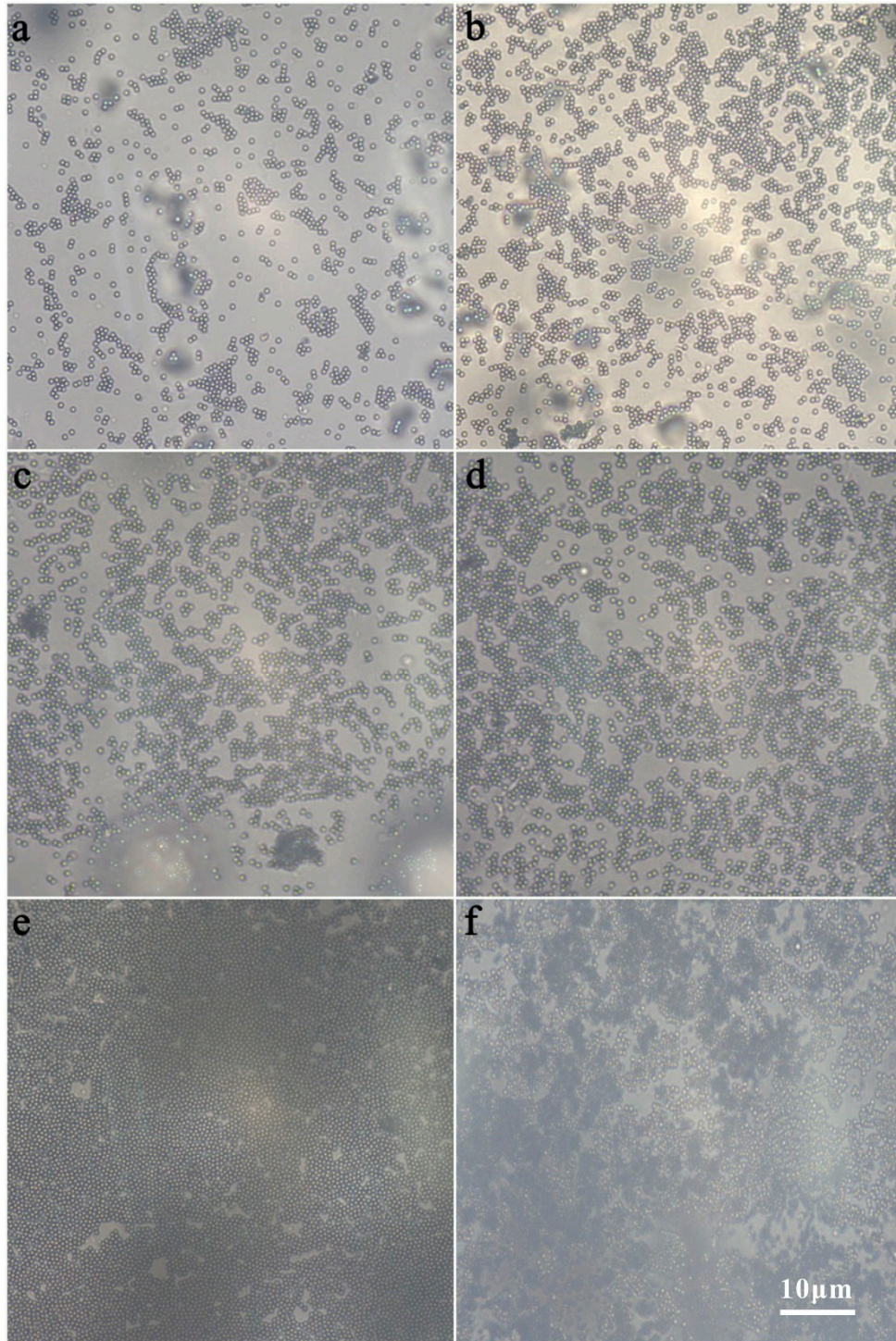


Figure 1. Optical microscope images of PDMS with different concentrations of SMs were assembled on their surface. ($\times 10^7$ particles/mL. a: 2.08 ± 0.02 ; b: 2.76 ± 0.02 ; c: 3.45 ± 0.02 ; d: 3.99 ± 0.02 ; e: 4.35 ± 0.02 ; f: 5.06 ± 0.02).

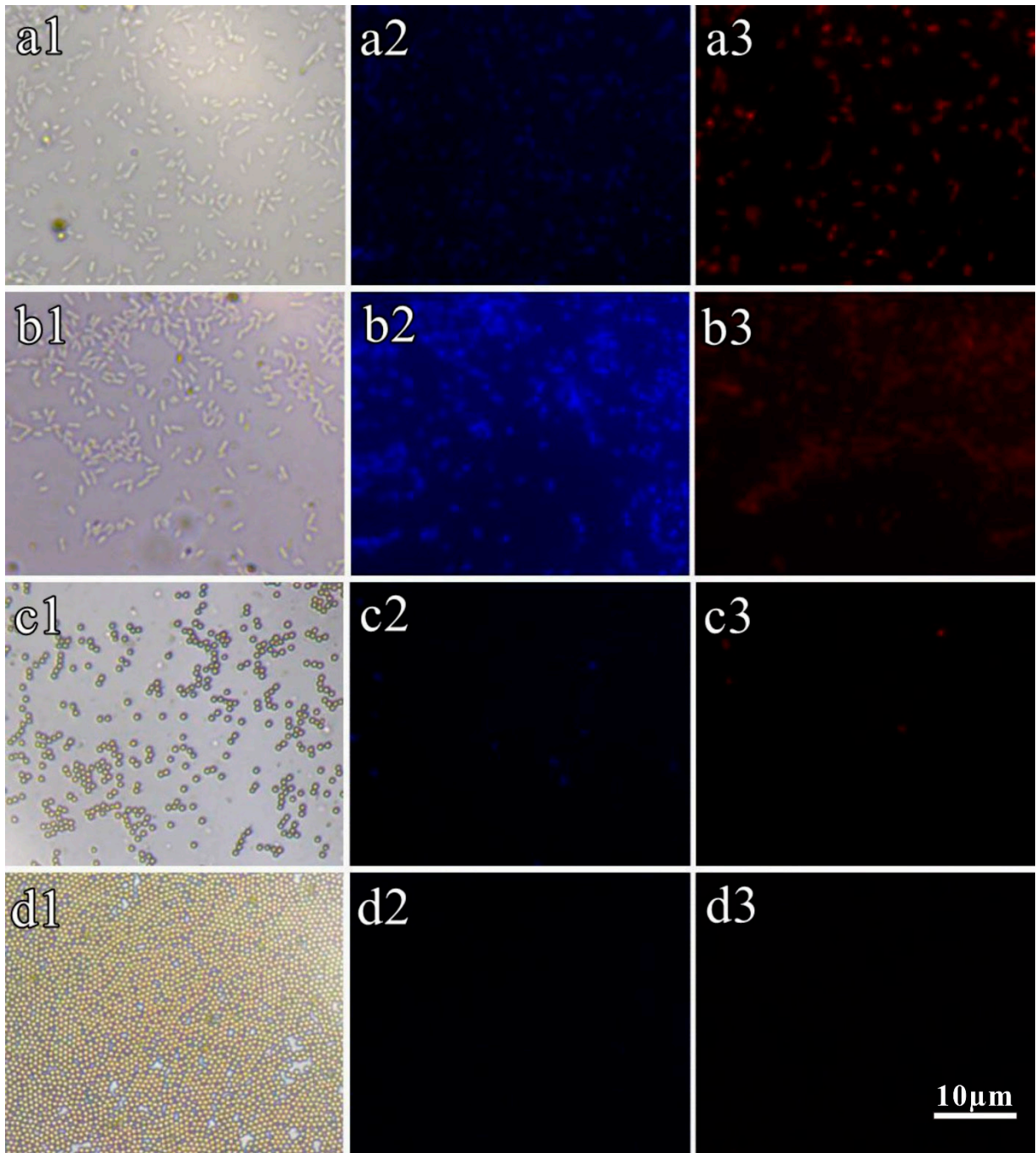


Figure 2. Growth of *E. coli* on the surface of PDMS, PDMS-SMs, PDMS-SMs-AgNPs (sparse/tight). Fluorescent microscopy images of *E. coli* after incubation with (a) PDMS; (b) PDMS-SMs; (c) Sparse AgNPs coated PDMS; (d) AgNPs coated PDMS tightly. Cells with blue fluorescence represent all bacteria (2), whereas the red images are representative of dead bacteria (3).

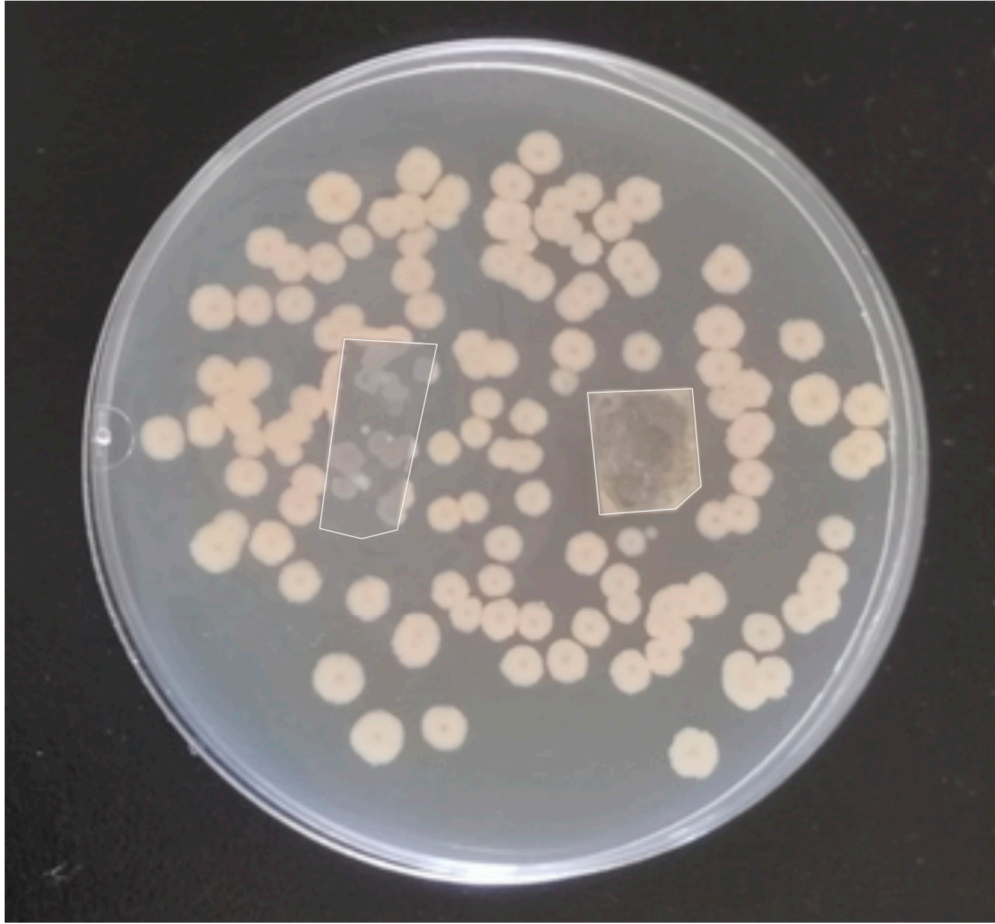


Figure 3. ZOI assay of PDMS (left) and PDMS-SMs-AgNPs (right) with *Bacillus subtilis* after 24 h incubation at 37 °C.

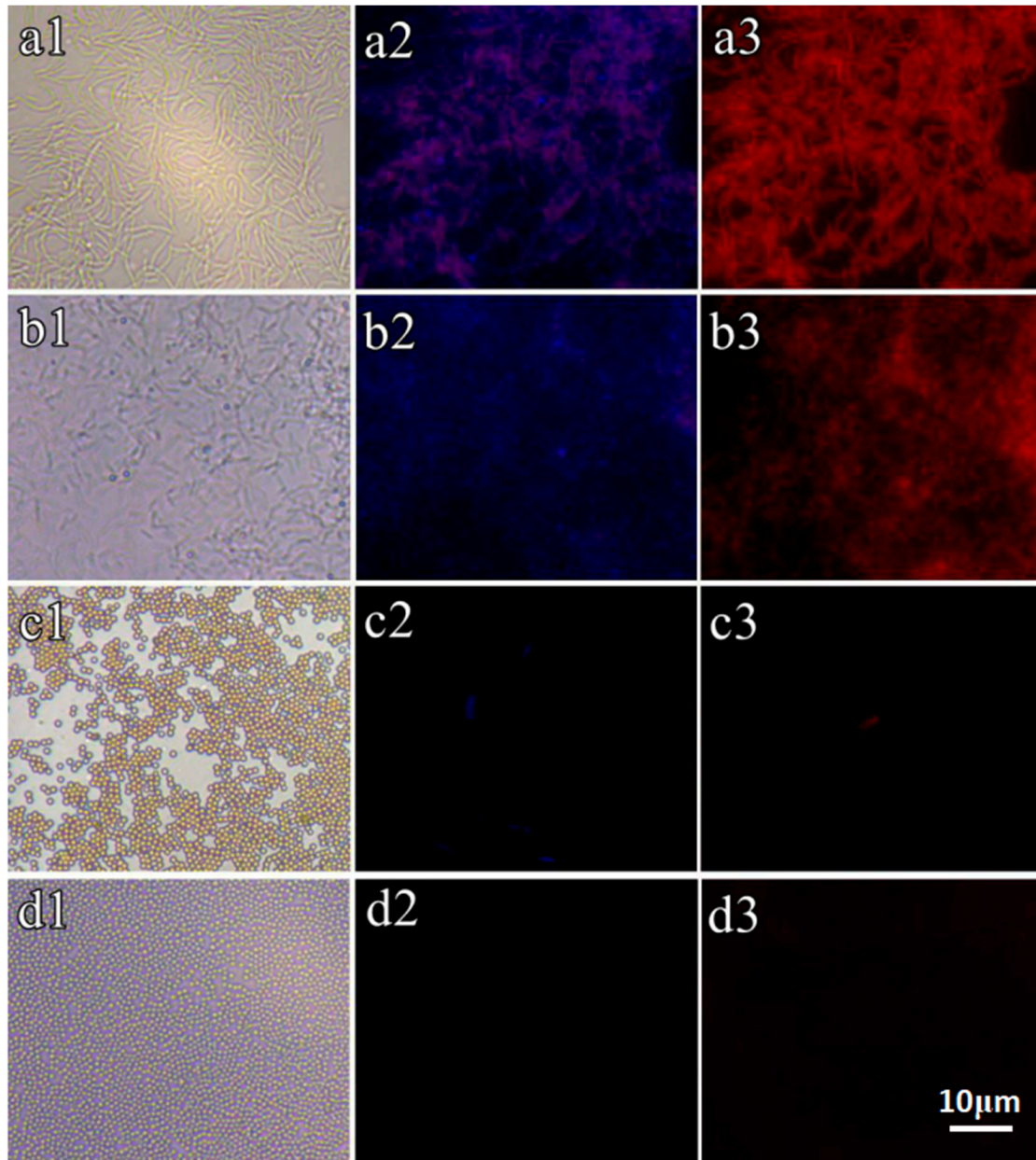


Figure S4. Bright field (1) Fluorescent microscopy (2, 3) images of *Bacillus subtilis* after incubation with (a) PDMS; (b) PDMS modified with SMs; (c) Sparse AgNPs coated PDMS; (d) AgNPs coated PDMS tightly. Cells with blue fluorescence represent all bacteria (1), whereas the red images are representative of dead bacteria (3).

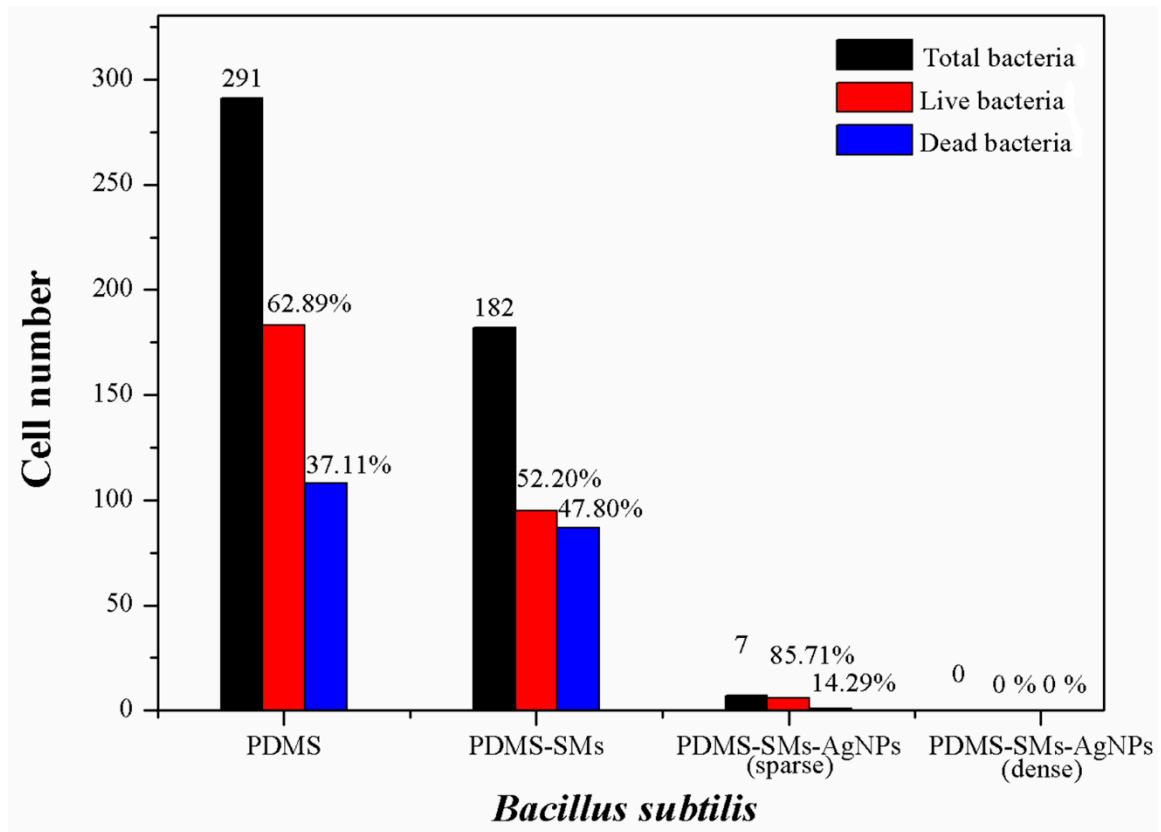


Figure S5. Cell numbers of *Bacillus subtilis* growing on the PDMS, PDMS-SMs, sparse/tight SMs-AgNPs modified PDMS. There is no *Bacillus subtilis* observed on the tight PDMS-SMs-AgNPs.