

Supplementary Material

BACTERIA-SURFACE INTERACTIONS: ROLE OF IMPACTING BACTERIA-LADEN DROPLETS

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S1. LIST OF SUPPORTING MOVIES

Movie S1. Movie shows bacterial droplet impact phenomena on a glass substrate (S1) for different Weber numbers. The movie also shows the variation of the colony forming units for surface S1 for the corresponding Weber number. Base implies a dilution of around 1:20. 1X implies an overall dilution of 1:400. 2X imply a dilution of 1:8000.

Movie S2. Movie shows bacterial droplet impact phenomena on an antimicrobial substrate (S2) for different Weber numbers. The movie also shows the variation of the colony forming units for surface S2 for the corresponding Weber number. Base implies a dilution of around 1:20. 1X implies an overall dilution of 1:400. 2X imply a dilution of 1:8000.

Movie S3. Movie shows bacterial droplet impact phenomena on an antimicrobial substrate (S3) for different Weber numbers. The movie also shows the variation of the colony-forming units for surface S3 for the corresponding Weber number. Base implies a dilution of around 1:20. 1X implies an overall dilution of 1:400. 2X imply a dilution of 1:8000.

S2. CHEMICAL STRUCTURE OF THE ANTIBACTERIAL COATING

The antimicrobial coating is a suspension containing silane quats and TiO₂ nanoparticles. The chemical structure is shown in Fig. S1.

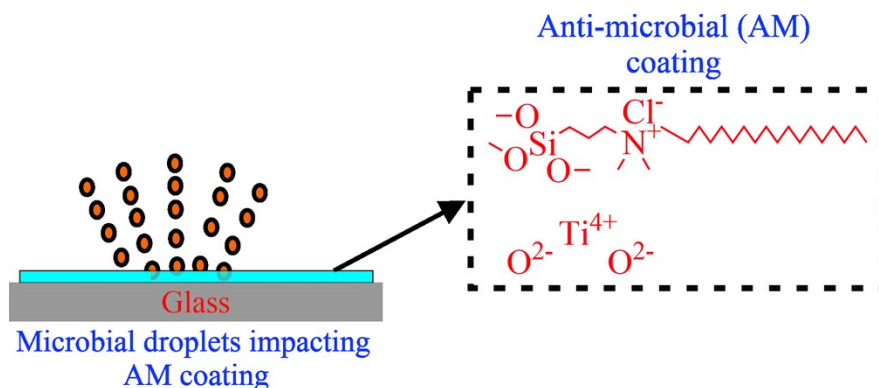


Fig. S1. Figure shows the antimicrobial coating (AM) applied on top of a glass substrate. Figure also shows the chemical structure of the antimicrobial coating.

S3 PARTICLE SIZE OF THE ANTIBACTERIAL SOLUTION

The nanoparticle in the antimicrobial (AM) solution, as measured using the dynamic light scattering method (Zetasizer (Nano)), has a size of around 200 nm, as can be observed from Fig. S2.

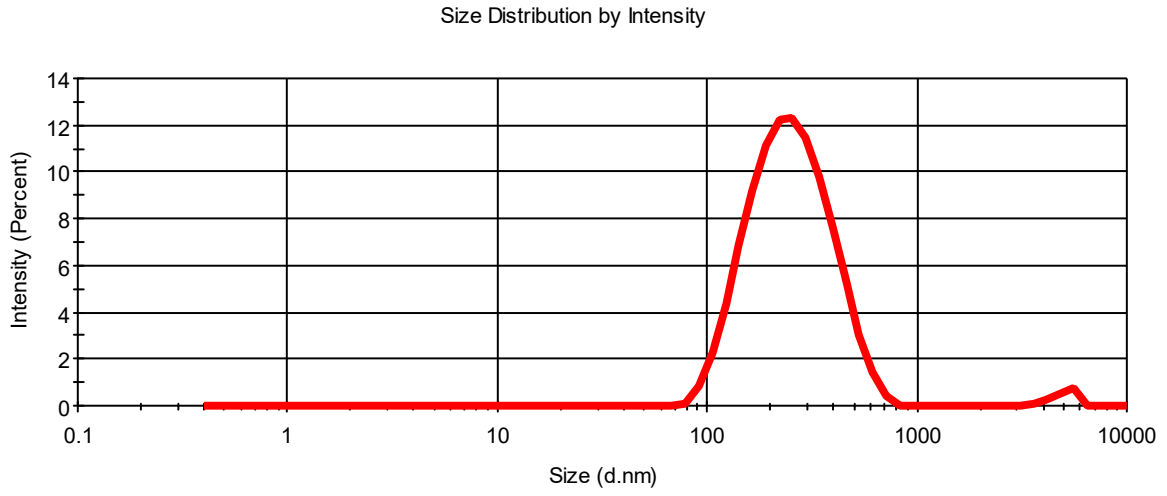


Fig. S2. Dynamic light scattering measurement of the particle size in the antibacterial coating.