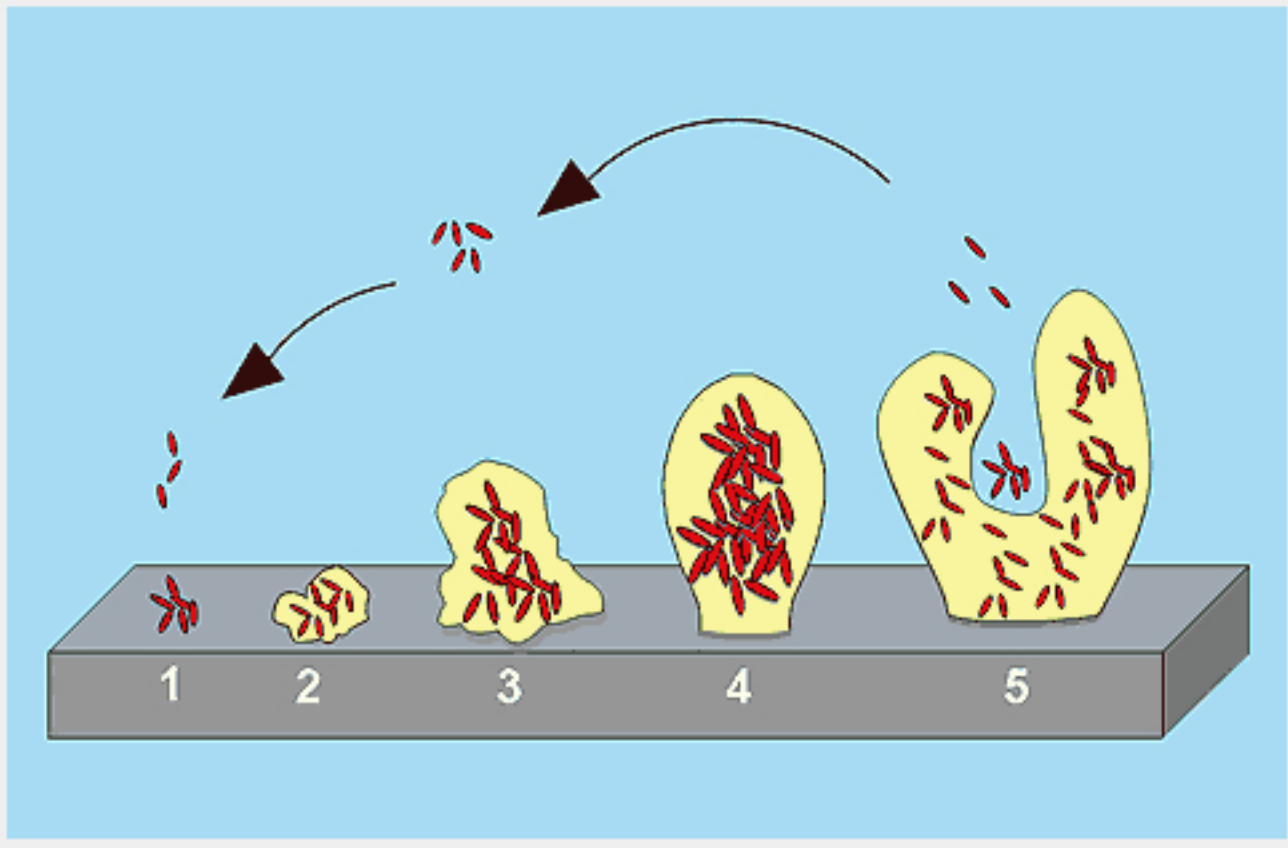
ECOMETAL

BIOFILM

Biofilm: organized microbial system of layers of microbial cells embedded in a polysaccharide matrix of microbial origin adherent to surfaces. Process of formation of gram negative bacteria biofilms.

Floating planktonic cells adhere to the solid surface (1) and form a polysaccaride layer (2) where micro colonies of bacteria develop (3) and proliferate (4) up to the stage of mature biofilm when new planktonic cells are released (5).



Pseudomonas aeruginosa is an ubiquitous bacterium, responsible for pneumonia linked to cystic fibrosis. Biofilms grow slowly as well as also infections often do. Biofilms are cause of acute infections that are even resistant to antibiotic conventional therapies.

WETTABILITY

One drop of water on a clean surface of stainless steel or of the tested electroplated coating forms a contact angle of about 70°.

When a bacterial biofilm has taken root on the same surface, the contact angle reduces to about 25° and the wet surface increases substantially further supporting the biofilm growth.