

Metallic copper has been widely proved as a promising antibacterial surface. This work aims to investigate the copper corrosion phenomena mostly observed in a certain type of antibacterial efficiency test, the so-called droplet method. By performing various ex-situ metallurgical methods, chemical and morphological changes on copper surfaces were characterised, with which the copper ion content and antibacterial activity were correlated. All these findings not only help to understand the origin of the antibacterial copper ion release, but also shift the research focus back on the copper surface itself, suggesting how materials research can function in antibacterial surface design.

Keywords: copper, oxide, corrosion, microstructure, antibacterial, surface