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High Efficiency Antimicrobial Coatings for Infection Control Applications

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Microbial infections on surfaces found in hospitals are routinely measured at levels far exceeding safe limits. This is a major cause of Hospital Acquired Infections (HAIs), which have a significant economic and social impact. Reducing the probability that surfaces could transfer harmful microbes to patients and hospital personnel has the potential to lower the level of HAIs. In addition densely populated areas present areas where cross infection could rapidly spread by surface contact. Most surfaces in an aerated environment exhibit a certain degree of antimicrobial efficacy, for example stainless steel surface could kill 90% of bacteria (Log 1). However in order to control disease propagtion higher levels would be necessary, ideally at a 99.9% (Log 3) level or higher.
A series of new PVD coatings have been developed in order to achieve Log 3 (99.9% of bacteria kill) to Log 6 (99.999% of bacterial kill) on surfaces. Novel methods for the evaluation of the antimicrobial performance have been developed. Results will be presented.

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