

Abstract Submitted
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A materials science and biological study of antimicrobial activity of plasma deposited zinc acetylacetonate¹ LUIS DUQUE, Max Planck Institute for Polymer Research, GERALDINE MUELLEY, A.T.A. JENKINS, University of Bath, RENATE FOERCH, Max Planck Institute for Polymer Research, EMBEK1 COLLABORATION — Antibacterial and non-cytotoxic implant coatings have been subject of increasing interest because of the toxic effects of biocide release coatings based on different heavy metals that are bioaccumulabe. Herein, a concept for antimicrobial coatings is developed on the basis of the bactericidal and cell friendly effects of Zinc. In this work, Zn-doped composite films were deposited from an organometallic precursor (Zinc acetylacetonate) by plasma enhanced chemical vapor deposition (PECVD). Chemical composition and antibacterial properties of the Zinc-organic composite thin films deposited under various conditions are reported. Results showed that the bactericidal effect was enhanced by increasing the amount of Zn in the coating, being more effective against Gram positive bacteria.

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