

ABSTRACT

THIN FILM DEPOSITED AMORPHOUS INORGANIC METAL OXIDE AS A SELECTIVE SUBSTRATE FOR MAMMALIAN CELL CULTURE AND AS AN IMPLANT COATING

Disclosed herein is a material that may be useful as a coating for optical slides and medical implants. The material may aid or restrict growth of cells on a coating of the composite material. As such, there is provided a composite material having a substrate on the surface of which a coating layer of an amorphous metal oxide is formed by using Pulsed Laser Deposition (PLD) Continuous Composition Spread Technique. The metal oxide may be one or more of $\text{Ag}_{22}\text{TiO}_{25}$, CuO , and Y_2O_3 and the coating layer may be from 5 to 100 nm thick and have a root mean square roughness of the coating surface is from 0.1 to 0.7 nm.

FIG. 4a – 4c