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Study on the morphological and biocompatible properties of chitosan grafted silk fibre reinforced PVA films for tissue engineering applications

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ABSTRACT

The current study delineates the preparation of novel chitosan grafted silk fibre reinforced Poly (vinyl alcohol) (PVA) composite films with desirable properties. Although silk fibroin has been extensively used for various biomedical applications, its properties could be further re-tailored for its suitability in the field of regenerative medicine. Chitosan was successfully grafted over silk, via acylation with succinic anhydride and thereby the fibres were incised and used for the preparation of the films. The grafted silk fibre reinforced PVA films were subjected to FTIR studies, microscopic analysis by Atomic Force Microscopy (AFM) and optical microscopy techniques, X-ray diffraction (XRD) analysis and further evaluated for *in vitro* biocompatibility studies. The composite films

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