## Der Pharmacia Lettre

**Abstract**

# Preparation and characterization of biocomposites: Chitosan and

# silk fibroin

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In the present study, biocomposites of chitosan and silk fibroin were prepared by varying its compositions in the presence of formaldehyde as a crosslinker. The cross linking agents formaldehyde were incorporated into the polymer blends to improve the properties such as mechanical strength, tensile strength, surface hardness, stiffness, resistance to temperature and solvent attack. The structure and physical properties of the prepared composites were analyzed by Fourier transform infrared spectroscopy. From TGA studies, it was found that the degradation temperature was changed during composite formation. From DSC analysis a single glass transition temperature, indicates that these polymers are miscible over the entire composition range and compatible. The changes in the structural properties of the polymers were investigated by X-ray diffraction (XRD) analysis. The surface morphology was studied by SEM analysis.

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