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Synthesis of Hydrogel Using Keratin Protein from Chicken Feather

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EXTENDED ABSTRACT

The composition and synthesis of hydrogel was developed by using keratin protein extracted from chicken feather. Keratins have been widely developed in haemostasis and wound healing applications, due to their unique characteristics of biodegradability bioactivity, natural abundance, good mechanical properties, low density, hydrophobic behaviour, biocompatibility, eco-friendly, and low cost. Keratin based on hydrogels have divided into six types of formulations. The characterization of the hydrogels was examined by Fourier transform infrared spectroscopy (FTIR), X-ray diffraction (XRD) and Scanning electron microscopy (SEM), swelling and solubility tests are carried out on the hydrogel to observe the solid content and water absorbance capacity of the hydrogel. Thus, the synthesized hydrogel excellent wound care product may have a great opening for biomedical applications and keratin from chicken feathers are shown as a novel eco-friendly material which is very beneficial and profitable.

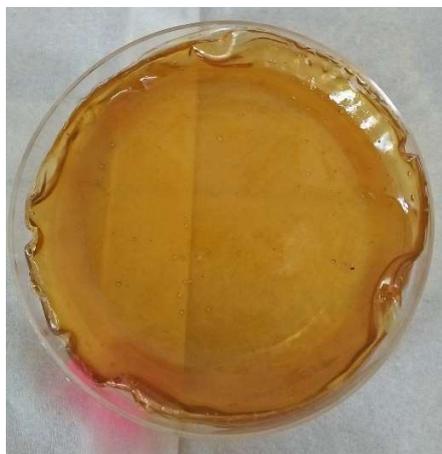


Figure Sample of hydrogel

Keywords: Hydrogel; Keratin Protein; Chicken Feather; SEM; FTIR.

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