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(54) Title: BIOCONVERSION OF ZIRCONIUM ADDED FLUOROPHOSPHATE GLASS AND METHOD OF MAKING THEREOF

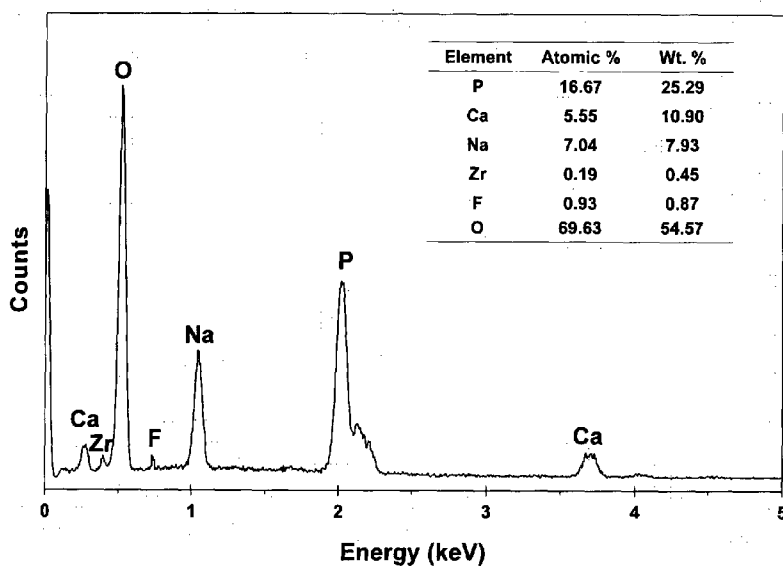


Fig. 6

(57) Abstract: The present invention discloses different composition of zirconium added fluorophosphate glasses prepared using melt-quench method. The physico-chemical and bio conversion of zirconium added fluorophosphate glasses were accessed using density measurements, ultrasonic measurements to determine elastic moduli, XRD patterns, FTIR spectra, XPS spectrograph, pH variations during 21 days of in vitro studies in SBF solution, SEM images and EDS spectra. Bioconversion was also accessed by in vivo studies of implantation of the optimized glass into animal bone for 10 weeks followed by SEM images, EDS spectra and CLSM images. The result obtained before, after in vitro and in vivo studies are discussed in terms of structure, stability, mechanical properties, bone bonding ability and bioconversion of the prepared glass samples. The sample ZrFP3 is found to be more ideal and better than other samples for future clinical use.



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