The purpose of this study is to examine the effect of UV radiation on the microstructure, chemical structure and bioactivity properties of Chitosan/Extract of Mimosa Tenuiflora/ MWCNT composites scaffolds produced by thermally induced phase separation. The composites were irradiated and observed to undergo radiation-induced degradation through chain scission. Morphology, bioactivity properties and effects on chemical and semi-crystalline structures were obtained by scanning electronic microscopy (SEM), FT-IR analysis and X-ray Diffraction. The in vitro bioactivity of the composites was investigated by incubation in simulated body fluid (SBF). The variation in porous morphology was studied and the Ca/P ratio of the samples evaluated. X-ray Diffraction was used to confirm the presence of apatite in the samples. The porosity and bioactivity produced in the samples by our experiments could be appropriate for proliferation process of cells like fibroblasts and osteoblasts. Also, the cumulative results obtained from IR spectra suggests that interactions exist between the components of the composite, and so a partial miscibility between them.

Keywords: Chitosan, Mimosa Tenuiflora, In vitro bioactivity

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