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## **TEXTURAL AND MORPHOLOGICAL CHARACTERIZATION OF CHITOSAN/BENTONITE NANOCOMPOSITE**

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### **Abstract**

In order to obtain clay-nanocomposite materials, intercalants should possess opposite charge with clay surface so that the cation-intercalant ion-exchange reaction between clay layers took place. It was shown that chitosan, a natural biopolymeric cation, is a promising candidate to modify montmorillonite as absorbent. Chitosan is extensively used in bio-related applications due to its biocompatibility and biodegradability. The present paper deals with a novel technique for intercalation of bentonite with chitosan using different acids as synthesis pH modelator in view of biological uses. The textural and morphological properties were studied. Factors such as: the strength of hydrogen bond between chitosan and clay, clay loading, thermal stability, the nature of acids used as synthesis pH modelators and other physico-chemical properties of materials that may have influence in the preparation of nanocomposites, that may influence the method of preparation, will be considered.

*Key words:* bentonite, chitosan, nanocomposite

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