

Imino-chitosan Hydrogels - Promising Biomaterials for *Candida* Infections' Treatment

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Biocompatible hydrogels were synthesized from chitosan and 2-formylphenylboronic acid (2-FPBA), by the acid condensation reaction of chitosan's amine groups and aldehyde group of 2-FPBA. FTIR and NMR spectroscopy demonstrated that the hydrogelation is a consequence of the formation of reversible imine linkages between the reagents, while wide angle X-ray diffraction proved the highly ordered supramolecular architecture of the obtained hydrogels. The viscoelastic behavior of the hydrogels was evaluated by rheological measurements, performed at human body temperature. The hydrogels were highly elastic, stiff and strong, with a quite high resistance to deformation and a high recovery degree. The morphology investigation by scanning electron microscopy revealed the samples' porosity, forming sponges-like microstructures, with quite uniform pores size distribution. The antifungal activity of the synthesized hydrogels was evaluated on two *Candida* strains and the obtained results recommend these materials for the treatment of *Candida* infections.