

# **Spongy materials based on collagen, piroxicam and ciprofloxacin for surgical applications**

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## **ABSTRACT**

In this doctoral thesis, collagen-based materials and their functionalization with ciprofloxacin and piroxicam were studied. The purpose of this study was to combine the properties and implicitly the benefits of collagen and two medicinal substances, namely an antibiotic and an anti-inflammatory, ciprofloxacin and piroxicam that can be released locally, at the surgical site for more effective local tissue regeneration and an optimal local healing.

Several tests were performed to demonstrate the viability of these collagen based materials with an antibiotic or/and anti-inflammatory as well as the beneficial interaction between these compounds.

The aim of this research was therefore the design, creation, realization and characterization of these spongy materials based on collagen, anti-inflammatory and antibiotic, these materials being created to have a beneficial role in the healing process and with applications especially in Oro-Maxillo-Facial Surgery, but also in other surgical specialties.