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#### TITLE

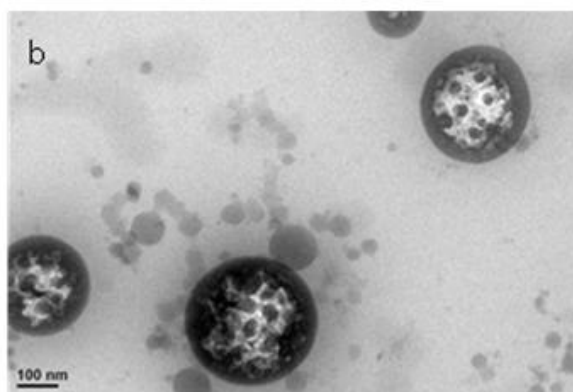
Processo di produzione di nanocapsule con proprietà antimicrobiche, nanocapsule con proprietà antimicrobiche e loro usi

#### INVENTORS

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#### DESCRIPTION

The present invention relates to antimicrobial biocompatible nanocapsules constituted of cellulose acetate and lemongrass oil, which maintain its antimicrobial action, for biomedical applications. Said nanocapsules are suitable for safer drug delivering because of their high stability in water due to the lemongrass encapsulation in cellulose acetate nanoparticles by a hemiacetal bond between the aldehydes contained in the essential oil and the OH groups of the polymer. The method for obtaining the antimicrobial nanocapsules comprises a first step where cellulose acetate and lemongrass are dissolved in appropriate amounts of acetone and a second step where they are subsequently mixed with an appropriate amount of water; during this last step the in-situ nanoprecipitation of the product occurs and the size of the nanocapsules can be optimized tuning the acetone/water ratio. Finally the acetone is removed by evaporation in air under stirring and the obtained aqueous nanocapsules can be employed as prepared or as powder which is provided using spray dry technique.



#### APPLICATIONS

Drug delivery, biomedical fields

#### KEYWORDS

Antimicrobial, nanocapsules, cellulose acetate, aqueous

#### BIBLIOGRAPHIC DATA

Antimicrobial cellulose acetate – Essential oil natural nanocapsules and uses thereof

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