

# CHEMICALLY MODIFIED BACTERIAL POLYMER CORE-SHELL MICROPARTICLES AND THEIR USE FOR THE ENCAPSULATION OF BIOACTIVE ELEMENTS

## The Need

Production of micro- and nano-particles as renewable and sustainable drug delivery system.

## The Solution

The present invention discloses novel core-shell microparticles based on bacterial raw materials for encapsulating bioactive cargos to be used as drug delivery systems.

## Innovative Aspects

Microparticles based on this combination of bacterial raw materials have not been reported so far. In this invention, two biopolymers of different nature, one hydrophobic and other hydrophilic, were specifically chosen for the development of microparticles for potential application in encapsulation of bioactive cargos.

The used bacterial biopolymers possess very good properties such as a high tensile strength, mechanical stability, non-toxicity, high crystallinity, high water-holding capacity, a remarkable permeability to gases and liquids and a great compatibility with living organisms. These biodegradable matrices provide a relatively slow release rate and extended release time. These microparticles are spherical, reproducible and stable.

The invention describes the process to obtain these microparticles.

## Stage of Development:

Proof of concept by encapsulating cargo

## Intellectual Property

European patent application (Priority date: September 12, 2022)

Suitable for international extension (PCT application)

Available for:  
Licensing



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