

Master's thesis

Process development for purification of polysaccharides

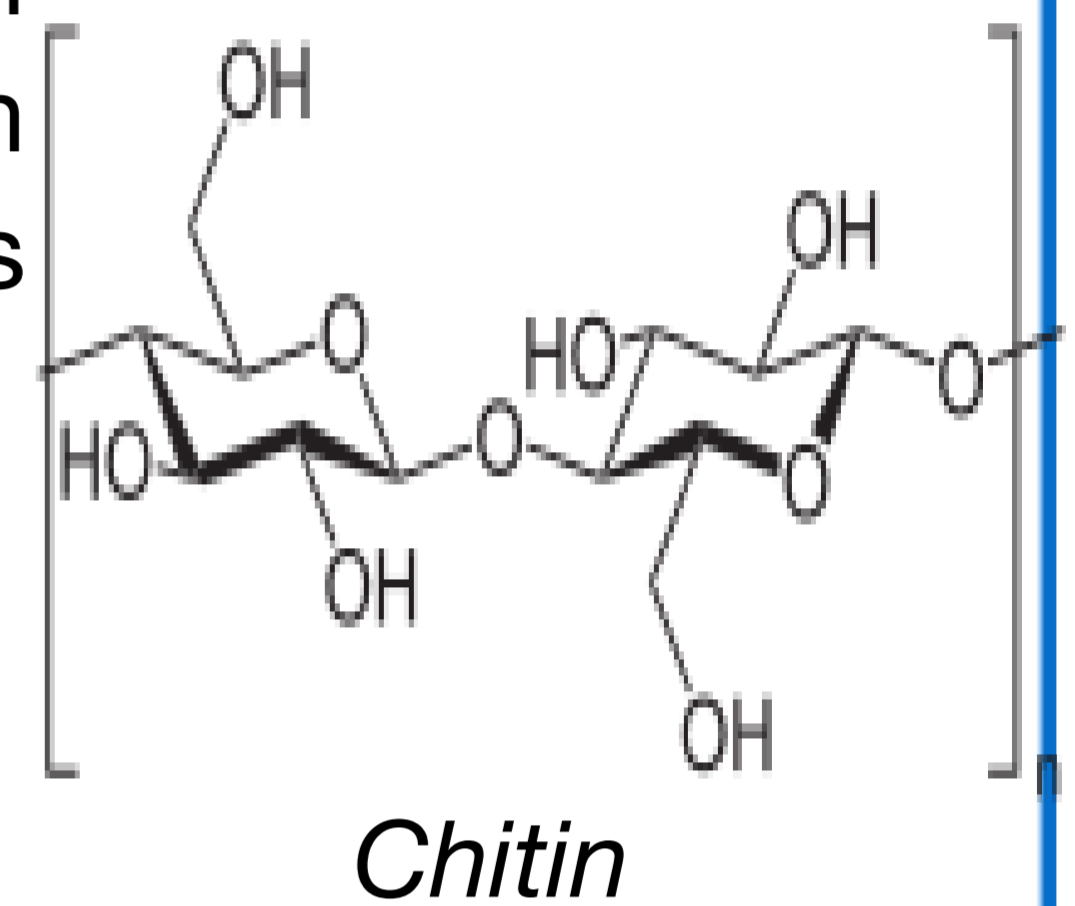
Keywords: Basidiomycetes fermentation | HPLC | polysaccharides | β -glucan | chitin

Project Description

Biomolecule such as polysaccharides play a vital role in different industry due to their various applications in pharmaceutical industry; in food or cosmetic industries. They have many functional uses in biotechnology, agriculture and biomedical industry.

Polysaccharides such as glucan, chitin from filamentous fungi are a good sources for such applications as they are present in abundant and also such fungi can be grown in ecofriendly and sustainable ways. But the extraction of polysaccharides from them is limited due to their complex nature and is only done in traditional ways.

The objective of this project is to ferment the filamentous fungi, and to develop and optimize the extraction, separation, of polysaccharides (β -glucan and chitin) from fungi, using extraction technologies as well as chromatography techniques. And to scale up the process, up to preparative chromatography.



Tasks

1. Literature review
2. Cultivation in shake flasks with the aim of a scale up to a fermenter and optimization of the process
3. Development of an HPLC method for analyses of polysaccharides : β -glucan and chitin
4. Process for extraction and separation of polysaccharide



Fermented samples used for DSP

Profile

- Structured and independent work
- Motivation to work as a team
- Master student in biotechnology (IBT, MBT), biochemistry, biology, chemistry or similar
- **Start date:** as soon as possible or in Mar
- Language: English