CHITOSAN CONVERSION INTO SPECIFIC OLIGOMERS FOR USE IN DIFFERENT APPLICATIONS

Introduction

- Chitin and chitosan are biopolymers based on N-(acetyl)glucosamine
- Industrial production from crustacean waste through harsh chemical treatment → waste
- Chitin from insects will become available in the emerging insect bioeconomy
- Chitosan has antimicrobial properties and can bind with fat, proteins, metals,…
- Chitosan applications are dependent on its molecular weight

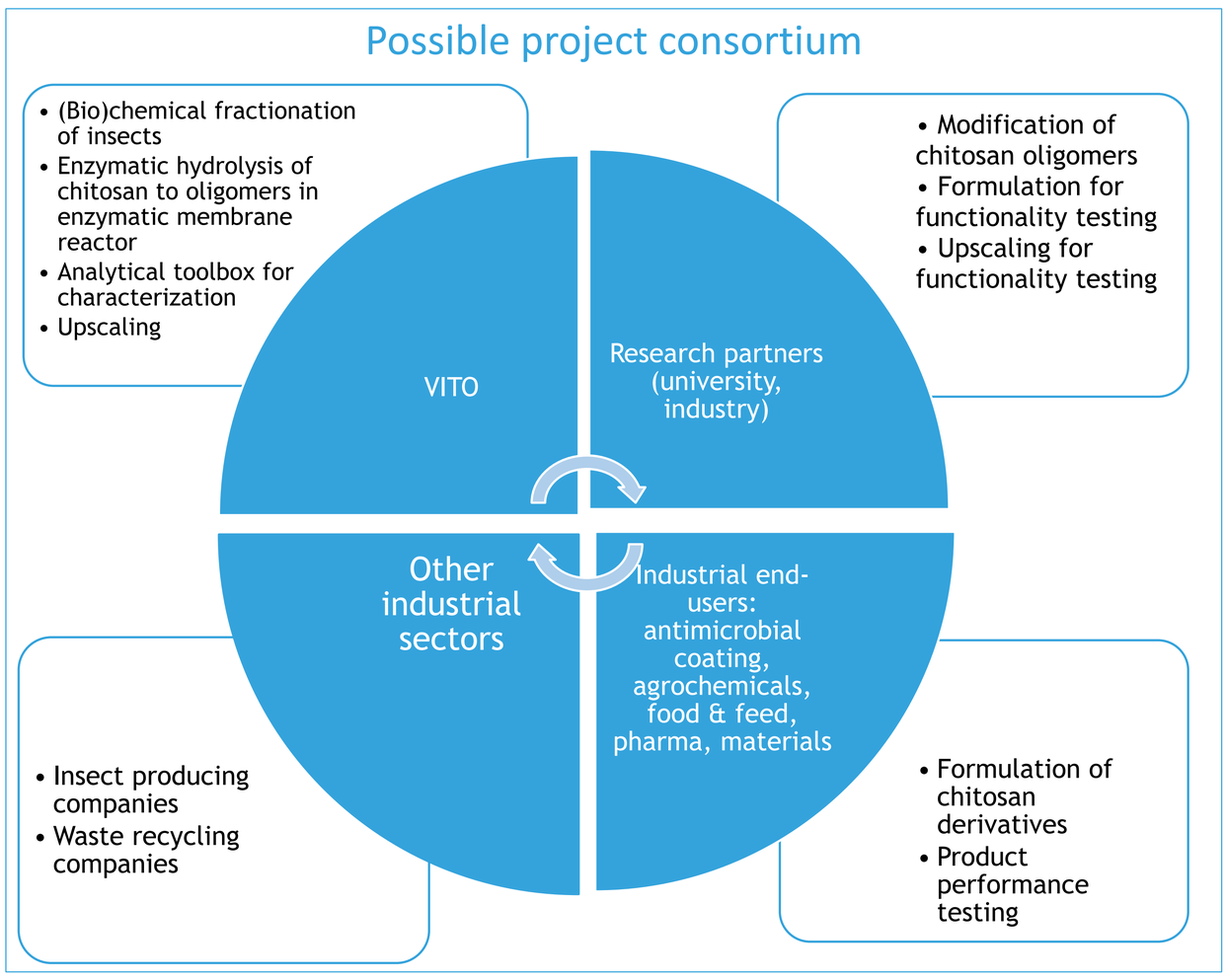
Project aim

Biotechnological production of chitosan and conversion into oligomers with specific molecular weight and purity for use in different applications

Expected benefits

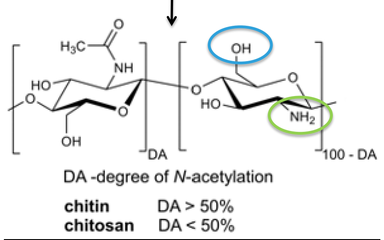
- Use of insects as alternative chitin resource
- Low waste generation
- Development of biobased oligomers with antimicrobial properties

Possible project consortium



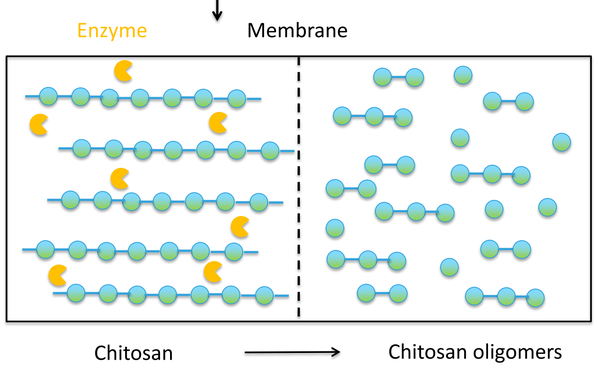
Insects

Fractionation & deacetylation



Functional groups for (bio)chemistry

Depolymerization



Conversion & formulation

Possible applications

Coating

Agrochemicals

GOOD SOURCE OF FIBER

Food & feed

Cholesterol lowering product

Wound healing

Materials

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