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Propositions

Propositions associated with the PhD thesis

"Ecological functioning of bacterial chitinases in soil"

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1. Chitin is an important biopolymer in natural ecosystems, therefore it is promising to explore chitinases for various applications.

2. The efficiency and versatility of *Actinomycetes* to degrade different chitin resources is reflected by the complexity of their chitinolytic enzyme system.

3. The main function of chitinases for terrestrial *Proteobacteria* and *Bacilli* is their involvement in antagonism against fungi.

4. Soil type is a strong determinant of the structure of the bacterial community involved in chitin degradation.

5. Lytic polysaccharide monooxygenases (chitin-binding proteins) are an important part of the bacterial chitinolytic machinery.

6. Research on chitin degradation has been strongly biased towards marine chitin resources.

7. Bacterial communities in natural soils are less sensitive to disturbance than bacterial communities in soils stored under controlled conditions of the lab and greenhouses.
8 The fast increase of sequenced genomes provides new opportunities and approaches for genomic comparison studies; however, it is important to integrate information from different databases and to catch up with the latest updates.

9 Scientific works needs a lot of patience and courage to conquer all kinds of obstacles.