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Biocatalysis for the production of renewable chemicals

AUTHORS
Max LUBBERINK / WAGENINGEN UNIVERSITY AND RESEARCH, BORNSE WEILANDEN 9, WAGENINGEN

PURPOSE OF THE ABSTRACT
Wageningen Food & Biobased Research (WFBR) is a research institute that conducts contract research specializing in sustainable innovations in food and biobased products. The Biobased Products division focuses on the valorization and upcycling of biomass or industrial waste streams using novel, sustainable methods. Enzymatic methods are applied in a range of projects within this domain for their high chemical selectivity and mild reaction conditions. Activities involving biocatalysis include the production of enzymes in bacterial and fungal hosts, development of biocatalysts through engineering or immobilization, and development and optimization of biocatalytic processes. Within the WFBR institute, there is a close collaboration between different expertises, like biorefinery, chemical synthesis, fermentation technology, materials science and downstream processing. The combination of these research fields allows for the development of highly streamlined and optimized processes. In this poster, various topics of research in biocatalysis within WFBR will be presented, including the production of enzymes in Pichia pastoris, the enzymatic breakdown of plastics, the enzymatic synthesis of selectively functionalised fatty acids, and the enzymatic conversion of waste-CO2 to chemicals.

FIGURES

FIGURE 1

FIGURE 2

KEYWORDS
pichia | PET | Fatty acids

BIBLIOGRAPHY