

Dear Professor Zbigniew Nadolny and whom it may concern,

Hereby my evaluation of the doctoral dissertation of M.Sc. Eng. Filip Brodowski entitled: "Lactate-based bioproduction of medium chain carboxylic acids via mixed culture fermentation".

The thesis describes the bioprocess research of Mixed Culture Fermentation (MCF) aimed at lactate-based chain extension. The doctoral research has been published in 3 peer-reviewed scientific papers. The systematic research provided new insights on how to control bioreactors with both synthetic medium and real acidic materials. The thesis reflected on the main findings of the papers provided and discussed the results taking into account the latest reports. Advanced microbial community analysis was performed to reveal the role of several identified operational taxonomic units (OTU) to classify microbial species. The thesis discusses the role of the different potential microbial species and identifies new knowledge gaps. The thesis reads excellently and offers room for a lively defence.

The fact that the research has already been published in 3 scientific peer-reviewed papers in renowned journals supports that the thesis deserves a distinction award. The precise discriminating criteria are subjective to the opinion of the reviewer. The work is socially relevant and can lead to industrial impact, while several initiatives are underway to practice chain extension based biorefineries. The author statements of the individual papers confirm that the PhD student contributed to the conceptualization of the research. The quality of work supports to provide the candidate with a PhD degree.

With kind regards,

Dr.ir.David Strik  
Associate Professor



DATE  
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