EXPLOITABLE FOREGROUND

Development of 2nd Generation Biorefineries - Production of Dicarboxylic Acids and Bio-based Polymers Derived Thereof

Fumaric acid purification process from fermented lignocellulosic wastes

bioREFINE-2G

Explanation and Purpose

A process for the recovery and purification of fumaric acid from a complex fermentation medium containing spent sulfite liquor (SSL) as a carbon source was developed. A simple procedure, involving separation unit operations, pH and temperature manipulation and polishing, allowed for the recovery of fumaric acid with high recovery yield and with specifications meeting the requirements of the polymer industry.

Contact for Exploitable Result
Biotrend, S.A., Portugal
Dr. Bruno Sommer Ferreira
bsf@biotrend.biz

Project Coordination
The Novo Nordisk Foundation Center for Biosustainability, DTU, Denmark
Dr. Irina Borodina
irbo@biosustain.dtu.dk

Project Dissemination
WIP Renewable Energies, Germany
Dr. Rainer Janssen
rainer.janssen@wip-munich.de

www.biorefine2g.eu

Exploitation Strategy

Biotrend is a research-based company providing advanced bioprocess development services. The technology will be available for testing and implementation in different biotechnological processes producing fumaric acid or other dicarboxyic acids from complex raw materials.

IPR Measures

No patent application is planned, but the technology has potential application in the purification of other dicarboxylic acids from similar complex media. The technology will be kept as internal know-how.

Further Research

Upon the availability of robust fumaric acid producing strains at relevant scale, the purification process can be scaled-up and fully integrated, according to the existing integration proposal for swift transition to industrial application.

Impact of Exploitation

The application of this purification process will validate the possibility to produce fumaric acid using renewable resources as raw material while meeting the stringent standards of the polymer industry. It will provide a success story of production of a bio-based building block meeting the highest standards albeit being produced from complex industrial residual or side-streams.

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