

A biorefinery approach to the separation and application of the products of lignocellulose pyrolysis

Project contract No. 1.1.1.2/16/I/001

Project number: 1.1.1.2/VIAA/3/19/388

Operational Programme “Growth and Employment”

Activity 1.1.1.2 “Post-doctoral Research Aid”

Project progress over-view from October 1st 2020 to December 31th 2020

Implementation of WP1 continues: Comprehensive analysis of pyrolysis condensates obtained from lignocellulose.

Implementation of WP2 has begun: Fractionation of pyrolysis condensates.

According to the project plan, WP1 is continuing by characterisation of pyrolysis products and their fractions with different analytical methods. The obtained data will be necessary in further work to develop pyrolysis product separation and purification methods.

Implementation of WP2 has begun, related to separation of the pyrolysis liquid products (condensate) into various fractions, and the evaluation of these fractions for further purification and application. A manuscript “Separation and characterisation of lignocellulose pyrolysis by-products” has been prepared for submission to a scientific journal, dealing mostly with aromatic compounds, obtained in fast pyrolysis as the residue after separation of levoglucosenone (the main product). The aromatic compounds were separated into fractions based on their chemical properties, polarity and molecular geometries. The obtained fractions exhibited differing properties, such as, antioxidant activity, but more work is necessary to identify individual compounds.

Leading partner – Latvian State Institute of Wood Chemistry

Cooperation partner – Kaunas University of Technology, the Department of Food Science and Technology

Project duration: 36 months.

Project implementer: *Dr.chem.* Kristīne Meile (kristine.meile@inbox.lv)

Scientific consultant: *Dr.sc.ing.* Aivars Žūriņš

Project leader: *Dr.sc.ing.* Uģis Cābulis (cabulis@edi.lv).

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