

## 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 July 1st 2021 to September 30th 2021

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

Implementation of WP2 continues: Fractionation of pyrolysis condensates.

During the 5<sup>th</sup> quarter a manuscript has been partly prepared, which is supposed to be continued in cooperation with the partners from KTU. The preliminary title of the manuscript is “Challenges in determination of 1,6-anhydro- $\beta$ -D-glucose isomers in biomass pyrolysis products: iodometry, liquid chromatography, mass spectrometry”, dealing with the simultaneous determination of levoglucosan (LG) and 1,6-anhydro- $\beta$ -D-glucofuranose (AGF). It was found that in the UHPLC system, LG and AGF can be chromatographically separated with a HILIC column, but not with an amide-functionalised column, in which case the possibility of selective detection with mass spectrometry is investigated.

The post-doctorate also participated in the summer school “Overcoming challenges in science”, organised by the Association of Latvian Young Scientists. In this summer school it was possible to take part in discussions about the scientific and academic environment in Latvia, as well as improve skills, such as data visualisation, writing publications, research commercialisation. The post-doctorate prepared a report about the summer school, which was published in *Zinātnes Vēstnesis* <https://www.lza.lv/publikacijas/zinatnes-vestnesis/761-noslegusies-latvijas-jauno-zinatnieku-apvienibas-organizeta-vasaras-skola>

**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.

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