COST ACTION GREENERING – DATA COLLECTION

First name, Family Name: Mária Mastihubová
Type (Academic or Industrial): Academic
Country: Slovakia
Leadership position in the COST: MC member on CA18224
Working Group in which you are involved: WG1
E-mail: maria.mastihubova@savba.sk

Laboratory/Company:
Laboratory of Biocatalysis and Organic Synthesis (LoBOS)
Institute of Chemistry, Slovak Academy of Sciences, Bratislava, Slovakia

Laboratory/Company info (limited to 400 characters):
LoBOS is a team of organic chemists and biotechnologists oriented on combining processes of biocatalysis and standard organic synthesis synthesis of saccharides and their derivatives. LoBOS operates within the Institute of Chemistry, which deals with all aspects of sugar chemistry (synthesis, isolation, structural characterisation, macromolecular chemistry, material science, microbiology, biochemistry, immunochemistry and glycomics. The Institute has also a pilot plant for production of rare saccharides on commercial basis.

Link to the home page of the Laboratory/Company:
http://www.biocatalysis.sav.sk/, http://chem.sk/

Fields of expertise (limited to 400 characters):
- Biocatalysis (use of glycosidases, lipases, esterases, proteases and oxidoreductases in organic synthesis)
- Organic synthesis (use of green solvents and non-conventional energies)
- Chemical or biocatalytical synthesis of conjugates of saccharides and natural phenolics or their analogues for pharmacological purposes.
- Preparation of rare saccharides and their derivatives either by chemoenzymatic synthesis or by processing of natural materials and agroindustrial wastes
- Synthesis of fine chemicals (enzyme probes, chiral building blocks, aroma substances)

5 Main publications or patents:
- E. Karnišová Potocká, M. Mastihubová, V. Mastihuba (2019). Enzymatic synthesis of tyrosol and hydroxytyrosol β-D-fructofuranosides. Biocatalysis and Biotransformation 37: 18-24.
- V. Mastihuba, M. Mastihubová, M. Belák, J. Dudíková, E. Karnišová Potocká, L. Petruš (2017). Preparation of α-galactooligoglycosides by cell walls from *Cryptococcus laurentii* using a novel α-galactosyl donor. Tetrahedron Asymmetry 28: 1089-1094.
- M. Mastihubová, M. Poláková (2016). A selective and mild glycosylation method of natural phenolic alcohols. Beilstein Journal of Organic Chemistry 12: 524-530.

- A. Chyba, V. Mastihuba, M. Mastihubová (2016). Effective enzymatic caffeoylation of natural glucopyranosides. Bioorganic and Medicinal Chemistry Letters 26: 1567-1570.
- E. Potocká, M. Mastihubová, V. Mastihuba (2015). Enzymatic synthesis of tyrosol glycosides. Journal of Molecular Catalysis B: Enzymatic 113: 23-28.

Collaborations:
Institute of Chemical and Environmental Engineering, Slovak University of Technology, Bratislava, Slovakia, Institute of Biotechnology, Slovak University of Technology, Bratislava, Slovakia, Faculty of Agriculture, University of South Bohemia, České Budějovice, Czech Republic.

Facilities:
- Modern laboratory equipment for organic synthesis and biocatalysis, reaction monitoring, product purification and characterisation
- Small volume SC CO_2 extractor
- Small microwave reactor
- Access to 400 and 600 MHz NMR, HRMS, GC-MS, etc.