



COST ACTION GREENERING – DATA COLLECTION

First name, Family Name: IVANA RADOJČIĆ REDOVNIKOVIC

Type (Academic or Industrial): Academic

Country: CROATIA

Leadership position in the COST: -

Working Group in which you are involved: Work Group 1&2

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Laboratory/Company:

University of Zagreb, Faculty of Food Technology and Biotechnology, Department of Biochemical Engineering, **Laboratory for Cell Culture Technology and Biotransformations**, Pierottijeva 6, 10000 Zagreb, Croatia

Laboratory/Company info (limited to 400 characters):

Current scientific research of the Laboratory for Cell Culture Technology and Biotransformations includes: preparation, characterization and implementation of deep eutectic solvents in food technology, biotechnology, pharmacy and chemical technology; biocatalysis in obtaining enantiomeric pure compounds; assessment of protein hydrolysates of plant origin as partial substituent of proteins contained in animal serum.

Link to the home page of the Laboratory/Company:

http://www.pbf.unizg.hr/en/departments/department_of_biochemical_engineering/laboratory_for_cell_culture_technology_and_biotransformations

Fields of expertise (limited to 400 characters):

- Implementation of green chemistry principles into biotechnological processes (green solvents, biocatalysis and alternative energy sources)
- Preparation and characterisation of ionic liquids and deep eutectic solvents
- Extraction and identification of biologically active compounds
- Enantioselective biocatalysis using whole cells and isolated enzymes

5 Main publications or patents:

- Manuela, P., Drakula, S., Cravotto, G., Verpoorte, R., Hruškar, M., Radojčić Redovniković, I., Radošević, K. (2020) *Biological activity and sensory evaluation of cocoa by-products NADES extracts used in food fortification*, *Innov. Food Sci. Emerg. Technol.*, 66, 102514.
- Pavoković, D., Košpić, K., Panić, M., Radojčić Redovniković, I., Cvjetko Bubalo, M. (2020) *Natural deep eutectic solvents are viable solvents for plant cell culture-assisted stereoselective biocatalysis*, *Process Biochem.*, 93, 69-76.
- Panić, M., Gunjević, V., Cravotto, G. Radojčić Redovniković, I. *Enabling technologies for the extraction of grape-pomace anthocyanins using natural deep eutectic solvents in up-to-half-litre batches extraction of grape-pomace anthocyanins using NADES* (2019) *Food Chem.*, 2019, 300, 125185



- Panić, M., Radić Stojković, M., Kraljić, K., Škevin, D., Radojčić Redovniković, I.c.a, Gaurina Srček, V., Radošević, K. (2019) *Ready-to-use green polyphenolic extracts from food by-products*, Food Chem., 283, 628-636. Q1
- Radosevic, K., Bubalo Cvjetko, M.; Srcek Gaurina, V.; et al. (2015) *Evaluation of toxicity and biodegradability of choline chloride based deep eutectic solvents*. Ecotoxicol. Environ. Saf. 112, 46-53.

Collaborations:

- Prof. Wolfgang Kroutil, Bilateral Austrian (Universität Graz)-Croatian scientific project "Natural deep eutectic solvents for the preparation of chiral synthons using alcohol dehydrogenases" - team member (2020-2022)
- Jufen Yan, Ph.D., Bilateral Chinese (School of Chemistry and Chemical Engineering, Anhui University of Technology)-Croatian scientific project "Phenolic compounds green extraction from plant-endophytes using natural deep eutectic solvents" (2020-2022)
- Vio Chemicals AG, Zürich, Switzerland (collaborators at Croatian Science Foundation project "Rational design of deep eutectic solvents for chiral drug preparation" 2020-2024)
- prof. Giancarlo Cravotto from Dipartimento di Scienza e Tecnologia del Farmaco, University of Turin, Italy (collaborators at Croatian Science Foundation project "Rational design of deep eutectic solvents for chiral drug preparation" 2020-2024)

Facilities:

- Equipment for cultivation of animal cell cultures (incubators, laminar flow chamber, inverted microscope, microscope, Muse[®] Cell Analyzer as simple flow cytometry, orbital shakers)
- Analytical equipment (HPLC-DAD, GCMS, spectrophotometer, spectrofluorimeter)
- Equipment for performing biocatalytic reactions (laminar flow chamber, incubators, shaker, enzymes, whole cells)
- Equipment for extraction (microwave-ultrasound reactor, shakers)
- Software (Biovia COSMOSuite)