



Metabolic Engineering for the Bioconversion and Biorefinery of C1 Compounds

Guest Editor:

Dr. Pau Ferrer

Department of Chemical,
Biological and Environmental
Engineering, Universitat
Autònoma de Barcelona, 08193
Cerdanyola del Vallès, Spain

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Message from the Guest Editor

The bioconversion and biorefining of one-carbon (C1) compounds (CO₂, CO/syngas, methane, methanol, and formic acid) using microorganisms is envisioned as an attractive approach for the sustainable biomanufacturing of a wide range of chemicals, fuels, and materials. This offers the potential to develop biorefinery routes that are decoupled from the use of sugars and, ultimately, of biomass. Thus, further progress in engineering native C1-utilizing microorganisms and providing the conventional chassis cell factories with synthetic C1-utilizing capacities are essential for translating laboratory-scale developments into industrial applications.

We aim at promoting fundamental knowledge on microbial cells able to naturally assimilate C1 compounds, as well as translational research in synthetic and systems biology and the metabolic engineering of microbial cell factories (either native C1-utilizing or with synthetic C1-utilizing capabilities) for the efficient bioconversion of C1 compounds. This includes the development and optimization of enzymes, pathways, chassis cells, and systems for the improved conversion of C1 compounds into biofuels, biochemicals, biomaterials, and biomass.





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Dr. Nico Jehmlich

Department of Molecular
Systems Biology, UFZ-Helmholtz
Centre for Environmental
Research, 04318 Leipzig,
Germany

Message from the Editor-in-Chief

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Microorganisms Editorial Office
MDPI, Grosspeteranlage 5
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