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Biocatalytic Resolution of Chiral Molecules

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Message from the Guest Editors

Natural catalysts such as enzymes often outperform synthetic catalysts, both kinetically and in terms of selectivity (e.g., enantioselectivity). Biocatalysis can usually be carried out under mild conditions (e.g., ambient temperature and pressure, aqueous and organic solutions), and the catalysts used are generally biodegradable, biocompatible, and renewable, making these catalytic systems highly attractive for environmentally benign processes. A major application of enzymes, which has already gained industrial importance, are kinetic resolutions of racemic substrates.

This Special Issue will discuss recent developments in the preparation of enantiopure substances by means of enantioselective enzymatic resolutions and will include strategies that involve enzymatic catalysis in combination with chemical, photochemical, mechanochemical, and other types of non-traditional activation. A further focus of this special Issue will also be on dynamic kinetic resolution processes combining enzymatic resolutions with novel types of chemocatalytic or enzymatic racemization steps.

Deadline for manuscript submissions:
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