Special Issue

Enzyme Engineering—the Core of Biocatalysis

Message from the Guest Editors

Enzyme engineering is a pivotal aspect of biocatalysis, focusing on modifying enzymes to enhance their efficiency for industrial, medical, and environmental applications. In organic synthesis, enzymes offer significant advantages over traditional chemical catalysts. Directed evolution mimics natural selection by creating enzyme variants through random mutations and selecting those with desirable traits, while rational design involves introducing targeted changes based on detailed knowledge of enzyme structure and function. Engineered enzymes are instrumental in the development of sustainable technologies, enabling the efficient production of valuable chemicals while minimizing environmental impact. This special issue aims to collect papers presenting studies where enzymes have been engineered, characterized, and eventually applied for organic synthesis.

- enzyme engineering
- biocatalysis
- directed evolution
- rational design
- enzyme modification
- industrial applications
- catalytic efficiency
- sustainable technologies
- renewable chemicals
- green chemistry

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