

## Special Issue

# Advances in Drug Synthesis Reactions: From Bench to Breakthroughs

### Message from the Guest Editor

This Special Issue spotlights recent breakthroughs in organic synthesis aimed at developing novel small molecules (both prodrugs and active drugs) transforming the drug discovery landscape. It brings together innovative synthetic methodologies that enable the efficient generation of chemical diversity, facilitate late-stage functionalization, and unlocks access to previously unattainable pharmacophores that hold potential for therapeutic development. Particular emphasis is given to cost-efficient and methodically optimized synthesis strategies that facilitate large-scale production while aligning with principles of sustainability.

This issue further explores how modern tools such as bio-orthogonal reactions, flow chemistry, and machine learning are being integrated into drug synthesis to enhance precision and innovation. This issue welcomes contributions from researchers working at the interface of synthetic chemistry, chemical biology, and pharmacology, aiming to highlight how advances in synthesis can accelerate the path from molecule design to therapeutic application.

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### Guest Editor

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## International Journal of Molecular Sciences

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### Message from the Editor-in-Chief

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