

Special Issue

Heterocyclic Compounds: Synthesis, Characterization, and Validation

Message from the Guest Editor

This Special Issue highlights interdisciplinary research on heterocyclic compounds, which play a key role in organic chemistry, medicinal chemistry, molecular biology, and medical sciences. This Special Issue aims to present the latest advances in the following areas: Innovative synthetic methods, encompassing both classical approaches and strategies utilizing catalysis, flow chemistry, electrochemical methods, photochemical methods, and microwave- or ultrasound-assisted synthesis. Structural and spectroscopic characterization, employing techniques such as NMR, MS, IR, UV-Vis, X-ray structural analysis, and computational methods (DFT and molecular docking), supporting the analysis of physicochemical properties. Biological and medical applications, including the design and evaluation of potential anticancer, antibacterial, antiviral, anti-inflammatory, and neuroprotective drugs, as well as compounds used in imaging diagnostics. Biological and pharmacological validation, including in vitro and in vivo studies, assessment of toxicity, bioavailability, selectivity of action, molecular mechanisms, and translational potential for preclinical and clinical studies.

Guest Editor

Dr. Monika Pitucha

Independent Radiopharmacy Unit, Faculty of Pharmacy, Medical University of Lublin, 20-093 Lublin, Poland

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Biomolecules
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
biomolecules@mdpi.com

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Message from the Editorial Board

Biomolecules is a multidisciplinary open-access journal that reports on all aspects of research related to biogenic substances, from small molecules to complex polymers. We invite manuscripts of high scientific quality that pertain to the diverse aspects relevant to organic molecules, irrespective of the biological question or methodology. We aim for a competent, fair peer review and rapid publication. Please look at some of the exciting work that has been published in *Biomolecules* so far. We would be delighted to welcome you as one of our authors.

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Department of Cellular and Molecular Medicine, Faculty of Health and Medical Sciences, University of Copenhagen, Blegdamsvej 3C, DK-2200 Copenhagen, Denmark

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