



## Natural and Synthetic Lactones: Isolation, Synthesis, Biotransformations and Biological Activity

Guest Editors:

**Prof. Czesław Wawrzeńczyk**

Department of Chemistry,  
Wrocław University of  
Environmental and Life Science,  
Wrocław, Poland

**Prof. Dr. Witold Gładkowski**

Department of Chemistry,  
Wrocław University of  
Environmental and Life Science,  
Wrocław, Poland

Deadline for manuscript  
submissions:

**closed (30 November 2020)**

### Message from the Guest Editors

Lactones are secondary metabolites of plants, insects, microorganisms and marine organisms. Lactones are widely distributed in foods and beverages, contributing to their specific tastes and flavors. Natural and synthetic lactones possess a broad spectrum of biological activity, including antifeedant, antimicrobial, anti-inflammatory and cytotoxic activities. Many lactones exhibit interesting odoriferous properties; they also function as pheromones in the world of animals, insects and microorganisms. In most cases, their structure is very complex—apart from various lactone ring sizes, they also contain additional functional groups, e.g., hydroxyl groups, carbonyl groups, ester groups or epoxide rings, or other structural elements like aromatic rings or halogen atoms. Lactones with isoprenoid structure represent a group of particular importance.

Contributions to this Special Issue should cover all aspects of any biological activity of new lactones (anticancer, anti-inflammatory, cytotoxic, antimicrobial) together with their isolation, chemical and chemoenzymatic synthesis and biotransformations by different biological systems.





an Open Access Journal by MDPI

## Editor-in-Chief

### Prof. Dr. Maurizio Battino

Department of  
Odontostomatologic and  
Specialized Clinical Sciences,  
Sez-Biochimica, Faculty of  
Medicine, Università Politecnica  
delle Marche, Via Ranieri 65,  
60100 Ancona, Italy

## Message from the Editor-in-Chief

The International Journal of Molecular Sciences (*IJMS*, ISSN 1422-0067) is an open access journal, which was established in 2000. The journal aims to provide a forum for scholarly research on a range of topics, including biochemistry, molecular and cell biology, molecular biophysics, molecular medicine, and all aspects of molecular research in chemistry. *IJMS* publishes both original research and review articles, and regularly publishes special issues to highlight advances at the cutting edge of research. We invite you to read recent articles published in *IJMS* and consider publishing your next paper with us.

## Author Benefits

**Open Access:** free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:** indexed within Scopus, SCIE (Web of Science), PubMed, PMC, MEDLINE, Embase, CAPlus / SciFinder, and other databases.

**Journal Rank:** JCR - Q1 (Biochemistry and Molecular Biology) / CiteScore - Q1 (Inorganic Chemistry)

## Contact Us

---

*International Journal of Molecular  
Sciences* Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
www.mdpi.com

mdpi.com/journal/ijms  
ijms@mdpi.com  
X@IJMS\_MDPI