

Special Issue

Biomedical Hydrogels: Synthesis, Design and Applications

Message from the Guest Editors

Natural, synthetic, and composite hydrogels have received great attentions for wide biomedical applications. The advances have been achieved in both physically or chemically crosslinked hydrogels. In physically crosslinked hydrogels, the interactions between polymers chains in amphiphilic block and graft copolymers are established by ionic or hydrophobic interactions. In chemically crosslinked hydrogels, the covalent bonds are formed between polymer chains. The crosslinks hydrogels can be generated by radical polymerization, chemical reaction of complementary groups and enzymes. To explore novel biomedical functions, composite hydrogels were widely designed and developed. In this special issue, we will discuss and review recent progress in synthesis, design and applications of varying types of biomedical hydrogels for drug delivery, cell encapsulation, tissue engineering and varying aspects of biomedical applications including self-healing properties.

Guest Editors

Prof. Dr. Li-Ming Zhang

Material Science and Engineering School, Sun Yat-sen (Zhongshan) University, Guangzhou 510275, China

Prof. Dr. Tze-Wen Chung

Department of Biomedical Engineering, National Yang-Ming University, Taipei 11221, Taiwan

Deadline for manuscript submissions

closed (28 February 2023)



Molecules

an Open Access Journal
by MDPI

Impact Factor 4.6
CiteScore 10.3
Indexed in PubMed



mdpi.com/si/71438

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

[mdpi.com/journal/
molecules](https://mdpi.com/journal/molecules)





Molecules

an Open Access Journal
by MDPI

Impact Factor 4.6
CiteScore 10.3
Indexed in PubMed



[mdpi.com/journal/
molecules](https://mdpi.com/journal/molecules)



About the Journal

Message from the Editor-in-Chief

As the premier open access journal dedicated to molecular chemistry, now in its 30th year of publication, the papers published in *Molecules* span from classical synthetic methodology to natural product isolation and characterization, as well as physicochemical studies and the applications of these molecules as pharmaceuticals, catalysts, and novel materials. Pushing the boundaries of the discipline, we invite papers on all major fields of molecular chemistry and multidisciplinary topics bridging chemistry with biology, physics, and materials science, as well as timely reviews and topical issues on cutting-edge fields in all of these areas.

Editor-in-Chief

Prof. Dr. Thomas J. Schmidt

Institute of Pharmaceutical Biology and Phytochemistry, University of Münster, Corrensstrasse 48, D-48149 Münster, Germany

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, MEDLINE, PMC, Reaxys, CaPlus / SciFinder, MarInLit, AGRIS, and other databases.

Journal Rank:

JCR - Q2 (Biochemistry and Molecular Biology) / CiteScore - Q1 (Organic Chemistry)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 15.1 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the second half of 2025).