

## Special Issue

# Microwave and Ultrasound-Assisted Extraction for Plant Bioactive Compounds

### Message from the Guest Editors

Plants are a rich source of various bioactive compounds, such as polyphenols, pigments, sterols, and essential oil constituents, which possess a wide range of health-promoting effects, including antioxidant, antimicrobial, and anti-inflammatory properties. As awareness of health and nutrition grows, the demand for these bioactives in the food, pharmaceutical, and cosmetic industries has surged. To maximize the benefits of these plant bioactives, selecting a suitable extraction method is crucial. Microwave-assisted extraction (MAE) and ultrasound-assisted extraction (UAE) are two advanced techniques developed to efficiently isolate these valuable compounds. MAE employs microwave energy to rapidly heat the plant material and solvent, causing the breakdown of plant cell walls and enhancing the release of bioactives. UAE is ideal for extracting heat-sensitive plant bioactives, offering benefits such as shorter extraction times and energy efficiency. This Special Issue therefore aims at gathering the most recent contributions and findings concerning the employment of these two extraction techniques for the isolation of different plant bioactive compounds.

### Guest Editors

Dr. Ivona Elez Garofulić

Department of Food Engineering, Faculty of Food Technology and Biotechnology, University of Zagreb, Pierottijeva 6, 10000 Zagreb, Croatia

Dr. Maja Repajić

Department of Food Engineering, Faculty of Food Technology and Biotechnology, University of Zagreb, Pierottijeva 6, 10000 Zagreb, Croatia

### Deadline for manuscript submissions

closed (31 October 2025)



## Molecules

an Open Access Journal  
by MDPI

Impact Factor 4.6  
CiteScore 8.6  
Indexed in PubMed



[mdpi.com/si/220758](https://mdpi.com/si/220758)

*Molecules*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[molecules@mdpi.com](mailto:molecules@mdpi.com)

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





# Molecules

---

an Open Access Journal  
by MDPI

---

Impact Factor 4.6  
CiteScore 8.6  
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).