

# Journal of Chemical Metrology

A scientific open access journal in the field of analytical chemistry and accreditation

Volume: 19 Year: 2025 Issue: 1 January-June



**EISSN:1307-6183**

**A C G**  
publications

## Editor-in chief

Editor-in-Chief **Mustafa Özyürek**

Editor-in-Chief **Ahmet C Goren**

Book Review and Review Article Editor **John Warren**

## Editors

Ewa **Bulska**

Mahmut **Durmuş**

Carlos A. **Gonzales**

İlhami **Gülçin**

Byungjoo **Kim**

Ivo **Leito**

Nuri **Nakiboglu**

Mustafa **Özyürek**

Kenneth W. **Pratt**

Michela **Sega**

John **Warren**

Florabela **Dias**

Andrzej **Gawor**

Ahmet C **Gören**

Jin Seog **Kim**

Turgut **Kılıç**

Bertil **Magnusson**

Masahiko **Numata**

Mehul **Patel**

Marina **Ricci**

Miloslav **Suchánek**

Steven **Westwood**

## Language Editors

John **Warren**

## Abstracting & Indexing

*Journal of Chemical Metrology* is abstracted and Indexed in: Chemical Abstracts Service; ESCI Web of Science by Clarivate Analytics (formerly Thomson Reuters); SCOPUS, Embase, Compendex, Analytical Services, Google Scholar; ProQuest; EBSCOhost, Crossref; i-Journals; i-Focus.

## Publisher

### ACG Yayıncılık Basın Yayın Sanayi ve Ticaret Limited Şirketi

Yenikent Mahallesi, Fırat Caddesi, 1/3, Gebze, Kocaeli, İstanbul, Türkiye  
+90 850 305 05 72 - www.acgpubs.org - info@acgpubs.org

2025© ACG Publications. All Rights Reserved

## Instruction For Authors

Manuscripts should be prepared in English using a word processor.

Authors **must** use double spaced text and Citations in the text by using APA style reference style. All graphics and Tables can be integrated into the manuscript where the author wishes to place them. Requested supporting information must be prepared as shown in the [supplementary material](#)

**Review Articles** are critically evaluated on the specific area in chemical metrology, analytical chemistry and accreditation. If you would like to contribute to the journal with a review article, the authors must initially contact the editorial office by email to info@acgpubs.org, as such articles are normally invited.

**Original Articles, CRM Report Articles and Discussion Articles** are manuscripts describing new chemical measurements (new CRM report for the CRM Report Articles) and also discussions on the modern analytical

techniques, results, new applications to other areas, such as bioanalytical and pharmaceutical studies. In determining the suitability of submitted articles for publication, particular scrutiny will be placed on the degree of novelty and significance of the research and the extent to which it adds to existing knowledge in analytical chemistry. Discussion papers on the fundamentals of analytical chemistry and Metrology in Chemistry and Biology including educational facilities are welcome. These manuscripts should reflect completed investigations rather than fragmentary parts of a larger study. In order to reduce manuscript length, specific experimental details, and some spectra and/or figures should be made available as [supplementary](#) material from the corresponding author. Novelty statements of manuscript must be provided and authors.

Authors **must** use double spaced text and Citations in the text by using APA style reference style. All graphics and Tables can be integrated into the manuscript where the author wishes to place them. The section order and topics should be determined by the authors for original articles and the discussion articles if it has no experimental data. Manuscripts should be compiled in the following order:

**The subtitles must be used as follows.**

**1. Introduction**

**2. Materials and Methods**

**3. Results and Discussion (Results and Discussion sections can be numbered separately as Results, Discussion, as well as under a single heading, depending on the authors' preference.)**

**4. Conclusion**

**Acknowledgement (Optional)**

**Funding Statement (If applicable should be written)**

**Author Contributions (Mandatory)**

**Availability of Data and Materials (Mandatory for research articles it is optional for Review Articles)**

**Ethics Approval (If applicable should be written)**

**Conflicts of Interest (Mandatory)**

**Supporting Information (Optional)**

**References**

**Short Report Articles are suitable for reporting the urgent results of the large study, or new application of known analytical methods. Small modifications and validation data of known methods should be prepared as a short report. Brief discussion on the chemical metrology are welcome in short report form. In order to reduce manuscript length, specific experimental details, and some spectra and/or figures should be made available as supplementary material from the corresponding author.**

Authors **must** use double spaced text and Citations in the text by using APA style reference style. All graphics and Tables can be integrated into the manuscript where the author wishes to place them.

**The subtitles must be used as follows.**

**1. Plant/Fungal/Microorganism Source**

**2. Previous Studies**

**3. present Study**

**Acknowledgement (Optional)**

**Funding Statement**

**Author Contributions**

**Availability of Data and Materials**

**Ethics Approval**

**Conflicts of Interest****Supporting Information (Optional)****References**

**Special Issues, Letter to Editor and Book Reviews** are collections of articles on the specific topics in areas related to aims and scope of journal published in the journal. Offers for


**Video Paper;** Journal of Chemical Metrology is pleased to publish video recordings of articles published by its authors. Please prepare 2-4 minute videos in English, including the key points of your work, introduction, experimental, results, discussion, and conclusion sections, and upload them to the supplementary materials section. Please ensure that the visuals are clear, legible, and of high quality. Please also upload a transcript of the speech along with the video. The video and audio will be professionally edited by our team and presented to you in the final printing stage. Authors can choose to have their work presented in their own voices or in the voices of ACG Publications professionals. The special topics must be applied to the editorial office.

As the manuscript language is English, any author who is not fluent enough in English is encouraged to consult a fluent colleague or a paid editing service for the preparation of the manuscripts. Manuscripts having language deficiencies, i.e. grammar, fluency, etc., create heavy problems during the review process. Such manuscripts might be returned to the authors for correcting the language deficiencies.

**Novelty statements** of submitted manuscript must be provided as MS word file item by item. The maximum item should be 6 for the novelty statement.

**A graphical abstract** must be provided during submission. The dimensions of the graphical abstract must be 6.5 cm (h) x 12.5 cm (l). Please do not use the portrait version of graphical abstract. The graphical abstract must briefly show the contents of the abstract. Only structure of compound or picture of species not allowed for the graphical abstract.

**Manuscripts submitted to ACG publications are routinely screened by a software to check the originality of the submitted articles. It should be noted that ACG publications are committed to deterring plagiarism and self-plagiarism. A plagiarism report must be uploaded during submission of manuscript.**

Title of the manuscript should be as brief as possible and typed to the template file with affiliation and addresses of all the authors, including corresponding author with an asterisk. **ORCID**  of all authors should be added as shown in template of manuscripts. The e-mail address, phone and fax numbers of the corresponding author should be provided as a footnote on the title page. Abstracts of all kinds of submissions should be prepared with a maximum 200 words.

Authors must adhere to [SI units](#). When using a word which is or is asserted to be a proprietary term or trade mark authors must use the symbol ® or TM or alternatively a footnote can be inserted using the wording below:

**References**

The reference style has changed since the 2026 issues, and references should be written according to APA spelling rules. (Kytidou et al., 2020). Sample spellings are provided below. Unpublished results and personal communications should not be in the reference list, but may be mentioned in the text. If reference is made to papers submitted or in press, authors are requested to enclose a copy of manuscript or galley proof.

The following examples illustrate the format for reference:

*Journal citation*

Kytidou, K., Artola, M., Overkleeft, H. S., & Aerts, J. M. F. G. (2020). Plant glycosides and glycosidases: A treasure trove for therapeutics. *Frontiers in Plant Science*, 11, 357.  
DOI:10.3389/fpls.2020.00357

*Chapter citation*

Ulubelen, A. and Topcu, G. (1992). Diterpenoids from *Salvia* species and their pharmacological activities, In: *Studies in Natural Products*, ed: Atta-ur Rahman, Elsevier Science, Amsterdam, Netherlands, pp.363-381.

*Book citation*

Adams, R.P (1995). Identification of essential oil components by gas chromatography/mass spectroscopy. Allured publishing Co. Carol Stream, Illinois.

**ATTENTION**

The number of authors of the reference is more than 10, names should be written up to the 10th author, and et.al should be written thereafter. When there are 10 authors or less, all authors should be written as shown in the example. While the issue number is written in bold, the parentheses should not be written in bold.

**Warning: The most common mistakes for the References:** Writing format of author names, not writing the reference name in lowercase letters, placing a period instead of a comma after the reference title, Journal names should not be written in their abbreviated form and with a period after the abbreviation. If the journal name consists of a single word, please do not put a period at the end.

### Plagiarism Check and Ethics

Any manuscript submitted, soon to be submitted or in press at any other journal will not be considered by Journal of Chemical Metrology (JCM), and it is authors responsibility to inform the Editor of Journal of Chemical Metrology if such event exists. If the submitted manuscript is a revised version of a previously rejected by JCM, the authors must indicate previous submission in their cover letter and explain the reason/changes that they made in the revised one.

The Ethical Guidelines for Publication in Journals and Reviews issued by the [European Association of Chemical and Molecular Sciences](#) are applied by Journal of Chemical Metrology. Authors of all the manuscripts submitted to JCM automatically accept the guidelines given in the [Ethical Guidelines for Publication and Reviews](#) and the authors have to provide the ethical board approved document informations ( the number and date and ethical board name of ethical approval) in the main text of manuscript and related data should be available in supporting information file of manuscript, if necessary or requested by the editorial office. The following studies strongly needs ethical board approval eg. any of in vivo studies on any animal and human body, studies of endangered species in nature, information about the people including any kind of survey data etc. For detail please see the COPE guidelines.

Authors are encouraged to attach an authenticated report during the submission to make sure that there is no plagiarism problem. Manuscripts submitted to JCM publications are routinely screened by a software to check the originality of the submitted articles. It should be noted that JCM publications are committed to deterring plagiarism and self-plagiarism

ACG Publications journals use iThenticate® software to check the originality of submitted manuscripts for plagiarism. If a duplication is detected by the editorial office and reviewers, the manuscript will directly be rejected. If the authors use the same sentences of their or another author's previous work with citation without quotation mark, it will still be considered as self-plagiarism and plagiarism, respectively. Journal of Chemical Metrology has the right of removing any article published in Journal of Chemical Metrology, and banning the authors submitting their studies in future if any ethical violation is identified.

### Copyright

It is a condition of publication that authors vest or license copyright in their articles, including abstracts, in ACG Publications. This enables us to ensure full copyright protection and to disseminate the article, and the Journal, to the widest possible readership in electronic formats as appropriate. Authors must accept the articles published in the journal for free all around the world. To read and download published papers is free for scientific purposes.



### Supplementary Material

Supplementary materials could be sent together with manuscript submission such as spectra, video, Picture etc.

### Publication Fee

#### APC of Journal of Chemical Metrology

The authors are charged a fee for English language corrections and/or journal format corrections requested by the authors or editorial team. These services are not considered within the free publication criteria of related journals of ACG PUBLICATIONS.

All articles in *Journal of Chemical Metrology* (ISSN 1307-6183) are published in full open access. ♦ Authors are asked to pay an article processing charge (APC) of per processed paper given below.

Current publication fees for the different kinds of articles are given below

Article Type	Number of Pages	Publication fee
Review Article	1-6	1000 USD
Book Reviews/Letter to Editors	1-2	300 USD
Original Articles	1-6	750 USD
Short Reports	1-6	700 USD

% VAT is included for foreing authors, bank commission should be applied to payments. No per-page publication fee will be

charged for articles up to six (6) pages in the final edition. However, for articles exceeding six pages, a per-page fee of \$10 must be paid separately by the authors.

**\*\*No submission fee applied by ACG Publications journal. APC is only applicable for the accepted articles.**

**\*\*\*While the fees given in the table above are valid for articles up to 6 pages, a fee of 10 USD is requested from authors for each page after 6 pages**

*Withdrawal of a Manuscript* : If you intend to withdraw your manuscript after it has been peer reviewed, or after it has been typeset, but not yet published, you will be asked to pay according to the following:

For peer review: 450 USD per article

For Accepted and typesetting: Editorial service fee of the article type must be paid by the authors. See above Table.

Considering the primary aim of JCM, waivers are available for the authors who are from the least developed countries.. To apply to those options, the corresponding author and 80 % of the authors of the concerned manuscript must be from those countries and the study must be conducted in the least developed countries. Please visit the page concerning the list of these countries; <https://www.un.org/development/desa/dpad/least-developed-country-category/ldcs-at-a-glance.html> . If you have any difficulties about this issue please contact the editorial office. APC only available for accepted articles in ACG Journals and no fee required during the submission of manuscript.

## Proof Corrections

**The proof corrections must be done carefully by the authors. When proof corrections are returned to Journal further corrections are not allowed.**

**Erratum or Publisher Correction.** Notification of an important error made by the journal that affects the publication record or the scientific integrity of the paper, or the reputation of the authors or of the journal.

**Corrigendum or Author Correction.** Notification of an important error made by the author(s) that affects the publication record or the scientific integrity of the paper, or the reputation of the authors or the journal.

**Retraction.** Notification of invalid results that affect the reliability of a previously published article. The original article is marked as retracted but remains available to readers, and the retraction statement notifying readers of the invalidity of the published paper is bi-directionally linked to the original published paper.

**Addendum.** Notification of additional information about a paper. Addenda are published when the editors decide that the addendum is crucial to the reader's understanding of a significant part of the published contribution. Addenda include Editorial Expression of Concern, which is an editorial statement alerting our readership to serious concerns with the published paper. Editorial Expressions of Concern are typically updated with another amendment once further information is available. The editors may request additional information after publication of the article from the authors and it can be available on the page of the article.

## Peer Review Policy

All published research articles in Journal of Chemical Metrology have undergone rigorous single blind peer review, based on initial editor screening and anonymized refereeing by expert referees.



## Contents

### Original Article

Rodrigo Martínez-Peñuñuri, Alejandro Monserrat García Alegria, Paulina Vázquez-Bustamante, Marcela Montoya-Blumenkron, Dayana Itzajara Estrada-Gonzalez, Ana María Avilés Figueroa, Trinidad Quizan-Plata and Karla Denisse Murillo-Castillo

[Validation and uncertainty estimation for multielement determination using ICP-OES according to the ASTM E2941-14 standard](#) - **p.1-22**

### Original Article

Khalid Almakhlifi, Mohamed Alfahaid, Ali Alnahdi and Adel Shehata

[Development of a new multipoint calibration method and uncertainty of a high-performance spectrophotometer for ensuring accurate water turbidity measurements](#) - **p.23-33**

### Original Article

Sinem Görür, Sema Çarıkçı and Turgut Kılıç

[An HPLC/CAD method for determination of fatty acids in metered dose inhalation products: a candidate leachable test method](#) - **p.34-43**

### Original Article

Qi Sun, Fen Liu, Jiyu Zhang, Qiang Song, Mengfei Xu, Mingfeng Chen, Xiaoqin Zhang and Lin Ni

[Sesamin and 4-hydroxy-sesamin from Cinnamomum camphora: extraction, purification and anti-inflammatory effects on the BV2 microglia by LPS-induced](#) - **p.44-62**

### Original Article

Burhan Ceylan

[Development and validation of a new HPLC-UV method for the determination of harpagoside in creams containing Devil's claw \(Harpagophytum procumbens DC. ex Meisn.\)](#) - **p.63-71**

### Original Article

Nilubon Sornkaew, Thanapich Santiwat and Nakorn Niamnont

[Microwave-assisted extraction for the determination of shanzhiside methyl ester and barlerin in Barleria prionitis L.](#) - **p.72-81**

### Original Article

Sefa Karta, Sema Çarıkçı, Tuncay Dirmenci, Turgut Kılıç and Ahmet C. Gören

[Determination of secondary metabolites of two Satureja species by LC- HRMS and evaluation of their antioxidant and anti-Alzheimer capacity](#) - **p.82-93**

### Original Article

Yeter Arten, Nurhan Metan and Şafak Şanlı

[Determination of total active oligosaccharide content of cream formulation of Triticum vulgare L. extract by ion chromatography](#) - **p.94-102**

### Original Article

Jinghui Yu, Bin Dong, Yanxin Zhao, Rong Fang, Shuoshuo Fu, Qi Sun, Lijin Guo and Lin Ni

[Process optimization and antioxidant efficacy evaluation of total flavonoids from Bougainvillea glabra leaves: an integrated approach combining ultrasonic-assisted extraction with response surface methodology](#) - **p.103-113**