

Tentative Outline

Special Thematic Issue for the journal

Green frontiers in the synthesis and applications of heterocycles

Guest Editors: Vitor S. C. de Andrade and Marcio C. S. de Mattos

- **Scope of the Thematic Issue:**

Heterocyclic scaffolds are widespread across naturally derived and synthetically produced bioactive compounds. The use of heterocyclic drugs in the treatment of several kinds of life-threatening diseases has a long history. Yet, there is still great interest from the scientific community, largely due to their potential to unlock novel biologically active compounds. In addition, heterocycles became industrially important as dyes, food additives, diagnostic imaging agents, and so on. Not surprisingly, new strategies for the synthesis and functionalization of heterocyclic compounds leading to new structural frameworks have been constantly reported in the literature. In parallel, significant efforts have been made in academia and industry to adopt innovative solutions based on green and sustainable approaches. This thematic issue is intended to address many aspects of sustainable synthesis and applications of heterocycles, collecting reviews on diverse topics in this fast growing area.

Keywords: cyclization, heterocyclic compounds, pot-economy synthesis, sustainable synthesis, photocatalysis, green chemistry.

Sub-topics:

The sub-topics to be covered within the issue should be provided:

- Flow synthesis
- One-pot synthesis
- Photochemistry
- Electrochemistry
- C-H functionalization

Tentative titles of the articles and list of contributors:

1) Frank Hollmann

Department of Biotechnology, Delft University of Technology, Netherlands

f.hollmann@tudelft.nl

Biocatalysis in heterocyclic synthesis

2) Norbert Hoffmann

Université de Reims Champagne-Ardenne, France

norbert.hoffmann@univ-reims.fr

Photochemical functionalization of heterocycles

3) Teresa M. V. D. Pinho e Melo

Universidade de Coimbra, Portugal

tmelo@ci.uc.pt

Continuous flow synthesis of heterocycles

4) Chhanda Mukhopadhyay

University of Calcutta, India

cmukhop@yahoo.co.in

Heterogeneous catalysis in heterocyclic construction and functionalization

5) Si P. Pang

Beijing Institute of Technology, China

pangsp@bit.edu.cn

*Heterocycles in industry: recent advances towards greener approaches
or Green synthesis of heterocyclic derived energetic materials*

6) Ravindra K. Rawal

Department of Chemistry, Maharishi Markandeshwar, Haryana, India

rawal.ravindra@gmail.com

Green synthesis of chalcogen-containing heterocycles

7) Al Postigo

Facultad de Farmacia y Bioquímica, Universidad de Buenos Aires, Argentina

apostigo@ffyb.uba.ar

Preparation of heterocycles by Photocatalysis

8) Jonathan Sperry

Centre for Green Chemical Science, School of Chemical Sciences, The University of Auckland, New Zealand

j.sperry@auckland.ac.nz

Synthesis of N-heterocycles from substrates attainable from biomass

9) Vitor S.C. de Andrade and Marcio C.S. de Mattos

Instituto de Química, Universidade Federal do Rio de Janeiro, Brazil

vitormattos@iq.ufrj.br and mmattos@iq.ufrj.br

Use of N-halo compounds in multi-component reactions

10) Antonio Salomone

Dipartimento di Scienze e Tecnologie Biologiche ed Ambientali, Università del Salento, Italy

antonio.salomone@unisalento.it

Use of deep eutectic solvents in the preparation of heterocycles

11) Khalid Bougrin

Mohammed V University of Rabat, Morocco

bougrin@fsr.ac.ma

Sonochemistry/ microwave irradiation in the synthesis of heterocycles

12) Muhammad Adnan Iqbal

University of Agriculture, Pakistan

adnan.iqbal@uaf.edu.pk

Green synthesis and applications of N-heterocyclic carbenes

13) Alirio Palma

Escuela de Química, Universidad Industrial de Santander, Bucaramanga, Colombia

apalma@uis.edu.co

Synthesis and reactions of azepines

14) Vladimir A. Petrosyan

Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences, Russian Federation

petros@ioc.ac.ru

Electrochemical functionalization of heterocycles

Schedule:

- ✧ Thematic issue submission deadline:
 - Manuscript submission deadline: May 2021
 - Peer Review Due: July 2021
 - Revision Due: July 2021
 - Announcement of acceptance by the Guest Editors: July 2021

Contacts:

Guest Editor Name: Vitor S. C. de Andrade

Affiliation: Instituto de Química, Universidade Federal do Rio de Janeiro, Brazil

Email: vitorsimoes@iq.ufrj.br

Guest Editor Name: Marcio C. S. de Mattos

Affiliation: Instituto de Química, Universidade Federal do Rio de Janeiro, Brazil

Email: mmattos@iq.ufrj.br