Chem Soc Rev

Chemical Society Reviews

rsc.li/chem-soc-rev

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

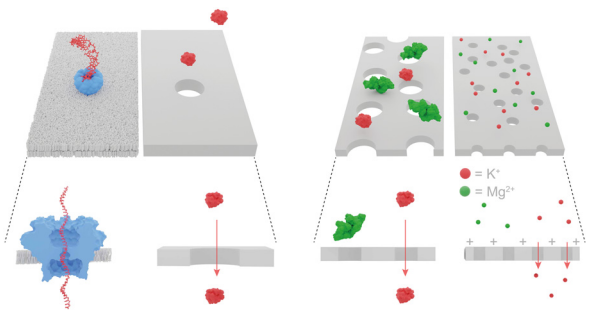
IN THIS ISSUE

ISSN 0306–0012 CODEN CSRVBR 52(6) 1977–2280 (2023)

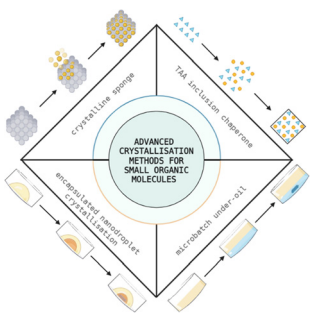
Cover
See Liang Cheng et al., pp. 2031–2081.
Image reproduced by permission of Liang Cheng from *Chem. Soc. Rev.*, 2023, **52**, 2031.

Inside cover
See Hiroyuki Furuta, Lechosław Latos-Grażyński *et al.*, pp. 2082–2144.
Image reproduced by permission of Michał Białek from *Chem. Soc. Rev.*, 2023, **52**, 2082.

VIEWPOINT



TUTORIAL REVIEWS



For queries about submitted papers, please contact Helen Saxton, Editorial Production Manager, in the first instance. E-mail: **chemsocrev@rsc.org**

For pre-submission queries, please contact Richard Kelly, Executive Editor.
E-mail: **chemsocrev-rsc@rsc.org**

Chemical Society Reviews (print: ISSN 0306-0012; electronic: ISSN 1460-4744) is published 24 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WF.

All orders, with cheques made payable to the Royal Society of Chemistry, should be sent to the Royal Society of Chemistry Order Department, Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, CB4 0WF, UK
Tel +44 (0)1223 432398; E-mail **orders@rsc.org**

2023 Annual (electronic) subscription price: £1,259; US$1997. Customers in Canada will be subject to a surcharge to cover GST. Customers in the EU subscribing to the electronic version only will be charged VAT.

If you take an institutional subscription to any Royal Society of Chemistry journal you are entitled to free, site-wide web access to that journal. You can arrange access via Internet Protocol (IP) address at **www.rsc.org/ip**

Customers should make payments by cheque in sterling payable on a UK clearing bank or in US dollars payable on a US clearing bank.

Chem Soc Rev

Chemical Society Reviews

rsc.li/chem-soc-rev

Chemical Society Reviews publishes accessible, succinct and reader-friendly articles on topics of current interest in the chemical sciences. The promotion of international and multidisciplinary awareness and cooperation is particularly encouraged. Chemical Society Reviews publishes three article types: tutorial reviews, which present an accessible introduction to the topic; review articles, which provide a deeper evaluation of the current literature; and Viewpoints, which are short, opinion-based articles

Information for Authors

Full details on how to submit material for publication in Chem Soc Rev are given in the Instructions for Authors (available from **http://www.rsc.org/authors**). Submissions should be made via the journal's homepage: **rsc.li/chem-soc-rev**

The Editorial board typically commission articles that encourage international, interdisciplinary progress in chemical research. The board welcomes proposals for new tutorial reviews or review articles. Please contact the Editorial office for further details (**chemsocrev-rsc@rsc.org**). Additional details are available from the Editorial office or **http://www.rsc.org/authors**

Authors may reproduce/republish portions of their published contribution without seeking permission from the Royal Society of Chemistry, provided that any such republication is accompanied by an acknowledgement in the form: (Original Citation)–Reproduced by permission of the Royal Society of Chemistry.

The paper used in this publication meets the requirements of ANSI/NISO Z39.48–1992 (Permanence of Paper).

Registered charity number: 207890

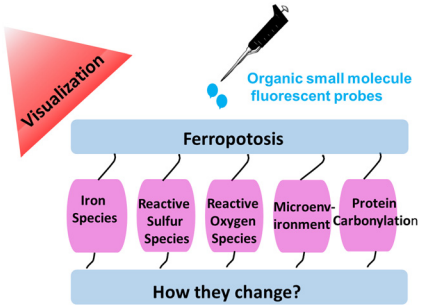
ROYAL SOCIETY OF CHEMISTRY

TUTORIAL REVIEWS

2011

Fluorescent probes for ferroptosis bioimaging: advances, challenges, and prospects

Junling Yin,* Jingting Zhan, Qingxia Hu, Shuhong Huang and Weiying Lin*

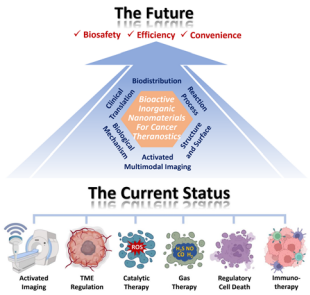


REVIEW ARTICLES

2031

Bioactive inorganic nanomaterials for cancer theranostics

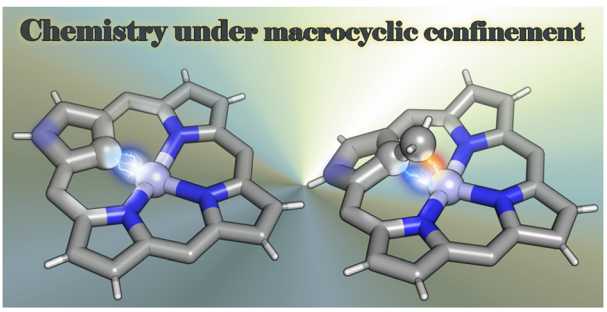
Zifan Pei, Huali Lei and Liang Cheng*



2082

Organometallic chemistry confined within a porphyrin-like framework

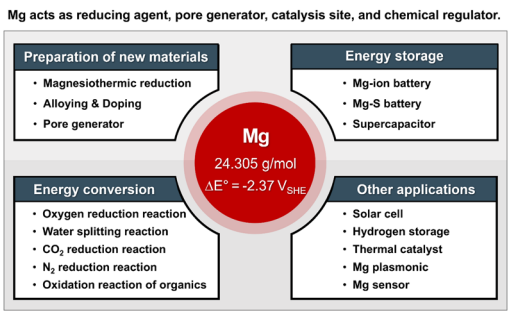
Michał J. Białek, Karolina Hurej, Hiroyuki Furuta* and Lechosław Latos-Grażyński*



2145

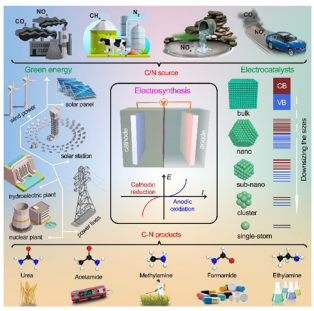
Magnesium: properties and rich chemistry for new material synthesis and energy applications

Cheol-Hwan Shin, Ha-Young Lee, Caleb Gyan-Barimah, Jeong-Hoon Yu and Jong-Sung Yu*



REVIEW ARTICLES

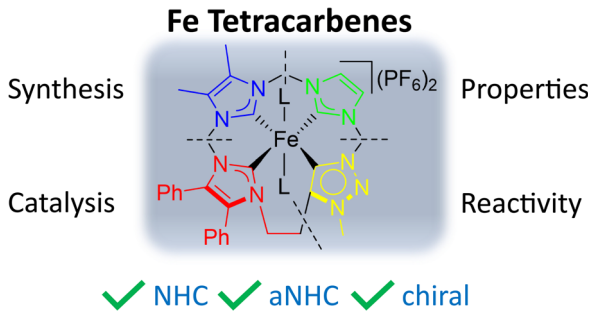
2193



Electrochemical C–N coupling of CO_2 and nitrogenous small molecules for the electrosynthesis of organonitrogen compounds

Xianyun Peng, Libin Zeng, Dashuai Wang, Zhibin Liu, Yan Li, Zhongjian Li, Bin Yang, Lecheng Lei, Liming Dai* and Yang Hou*

2238



Cyclic iron tetra N-heterocyclic carbenes: synthesis, properties, reactivity, and catalysis

Tim P. Schlachta and Fritz E. Kühn*