Organic & Biomolecular Chemistry

An international journal of synthetic, physical and biomolecular organic chemistry

rsc.li/obc

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 1477-0520 CODEN OBCRAK 21(33) 6627-6796 (2023)

Organic & Biomolecular Chemistry

Cover See Changjun Zhang, Yuanyuan Xie *et al.*, pp. 6715–6718.

2023, 21, 6715.



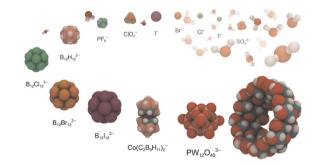
Image reproduced by permission of Yuanyuan Xie from Org. Biomol. Chem.,

REVIEWS

6636

Large anion binding in water

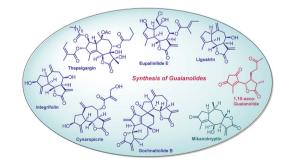
Khaleel I. Assaf* and Werner M. Nau*



6652

Recent advances in the syntheses of guaianolides

Rodney A. Fernandes,* Sanjita Moharana and Gulenur Nesha Khatun



Editorial Staff

Executive Editor Rebecca Garton

Deputy Editor

Jack Washington
Development Editor

Daniel Robertshaw

Editorial Production Manager Sarah Whitehouse

Publishing Editors

Nicola Burton, Tom Cozens, Katie Fernandez, Ryan Kean, Roxane Owen, Alex Rowles

Editorial Assistant

Amy Cook

Publishing Assistant Andrea Whiteside

Publisher

Sam Keltie

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

For pre-submission queries please contact Rebecca Garton, Executive Editor. Email: **obc-rsc@rsc.org**

Organic & Biomolecular Chemistry (electronic: ISSN 1477-0539) is published 48 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: £5164; US\$9267. 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 RSC 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.

Whilst this material has been produced with all due care, the Royal Society of Chemistry cannot be held responsible or liable for its accuracy and completeness, nor for any consequences arising from any errors or the use of the information contained in this publication. The publication of advertisements does not constitute any endorsement by the Royal Society of Chemistry or Authors of any products advertised. The views and opinions advanced by contributors do not necessarily reflect those of the Royal Society of Chemistry which shall not be liable for any resulting loss or damage arising as a result of reliance upon this material. The Royal Society of Chemistry is a charity, registered in England and Wales, Number 207890, and a company incorporated in England by Royal Charter (Registered No. RC000524), registered office: Burlington House, Piccadilly, London W1J 0BA, UK, Telephone: +44 (0) 207 4378 6556.

Advertisement sales:

Tel +44 (0) 1223 432246; Fax +44 (0) 1223 426017; E-mail **advertising@rsc.org**

For marketing opportunities relating to this journal, contact marketing@rsc.org

Organic & Biomolecular Chemistry

Rapid publication of high quality organic chemistry research

rsc.li/obc

Organic & Biomolecular Chemistry is a weekly journal for the publication of highly significant original research and reviews in all areas of organic chemistry, including organic synthesis, physical organic chemistry, and organic aspects of supramolecular chemistry and chemical biology.

Editorial Board

Chair

Anthony Davis, University of Bristol, UK Associate Editors

Christian Hackenberger, Leibniz-Institut für Molekulare Pharmakologie and Humboldt Universität zu Berlin, Germany Katrina Jolliffe, University of Sydney, Australia

Motomu Kanai, University of Tokyo, Japan

Advisory Board

Kyo Han Ahn, Pohang University of Science and Technology, Korea Igor Alabugin, Florida State University, USA Gonçalo Bernardes, University of Cambridge,

UK Shunsuke Chiba, Nanyang Technological University, Singapore

Andre Cobb, Kings College London, UK

Steven Cobb, Durham University, UK Ratmir Derda, University of Alberta, Canada Antonio Echavarren, Institute of Chemical

Research of Catalonia, Spain Ben Feringa, University of Groningen, The Netherlands

Netherlands Paolo Scrimin, University of Padova, Italy Amar Flood, Indiana University Bloomington, Oliver Seitz, Humboldt University of Berlin, USA Germany

Information for Authors

Full details on how to submit material for publication in Organic & Biomolecular Chemistry 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/obc 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.

Lei Liu, Tsinghua University, China Xiaohua Liu, Sichuan University, China Santanu Mukherjee, Indian Institute of Science, Bangalore, India Scott Silverman, University of Illinois at Urbana-Champaign, USA Cristina Trujillo, University of Manchester, UK

Carmen Galan, University of Bristol, UK

Australia

Australia

York, USA

Hyderabad, India

Jason Harper, University of New South Wales,

Elizabeth Krenske, University of Queensland,

Mahesh Lakshman, The City College of New

Geraldine Masson, Institut de Chimie des

Dhevalapally B. Ramachary, University of

Elizabeth New, University of Sydney, Australia

Substances Naturelles (CNRS), France

Shih-Yuan Liu, Boston College, USA

Members

Ivan Huc, Ludwig-Maximilian University of Munich, Germany S.S.V Ramasastry, Indian Institute of Science Education and Research Mohali, India Corinna Schindler, University of Michigan, USA

Judy I-Chia Wu, University of Houston, USA

Jay Siegel, University of Zürich, Switzerland Corey Stephenson, University of Michigan, USA Dean Tantillo, University of California Davis, USA Mark Taylor, University of Toronto, Canada Georgios Vassilikogiannakis, University of

Crete, Greece Helma Wennemers, ETH Zürich, Switzerland Peter Wipf, University of Pittsburgh, USA Shuli You, Shanghai Institute of Organic Chemistry, China

Jian Zhou, East China Normal University, China

This journal is © The Royal Society of Chemistry 2023. Apart from fair dealing for the purposes of research or private study for non-commercial purposes, or criticism or review, as permitted under the Copyright, Designs and Patents Act 1988 and the Copyright and Related Rights Regulation 2003, this publication may only be reproduced, stored or transmitted, in any form or by any means, with the prior permission in writing of the Publishers or in the case of reprographic reproduction in accordance with the terms of licences issued by the Copyright Licensing Agency in the UK. US copyright law is applicable to users in the USA.

Registered charity number: 207890

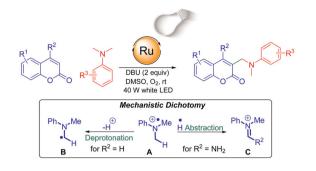


COMMUNICATIONS

6671

Visible-light mediated, oxygen-promoted regioselective cross-dehydrogenative coupling of coumarins and dimethylanilines

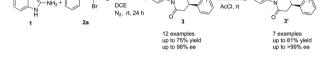
Tavinder Singh, Ganesh Chandra Upreti, Shivani Arora, Himanshu Chauhan and Anand Singh*



6675

N-Heterocyclic carbene-catalyzed enantioselective annulation of 2-amino-1*H*-indoles and bromoenals for the synthesis of chiral 2-aryl-2,3-dihydropyrimido [1,2-*a*]indol-4 (1*H*)-ones

Jianbo Zhao, Min Wu, Jiamin Luo, Lei Shi and Hao Li*



Et₃N, DCM

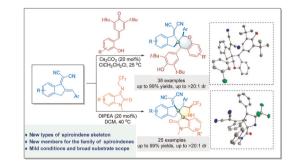
NHC (20 mol%) K₂CO₃

(2.0 equiv)

6681

Regio- and diastereoselective synthesis of diverse spirocyclic indenes by cyclization with indene-dienes as two carbon building blocks

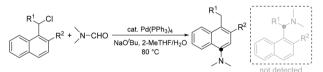
Yi-Hang Deng, Wen-Li Xu, Lei Wang, Cheng-Yang Tang, Ji-Ya Fu* and Chuan-Bao Zhang*



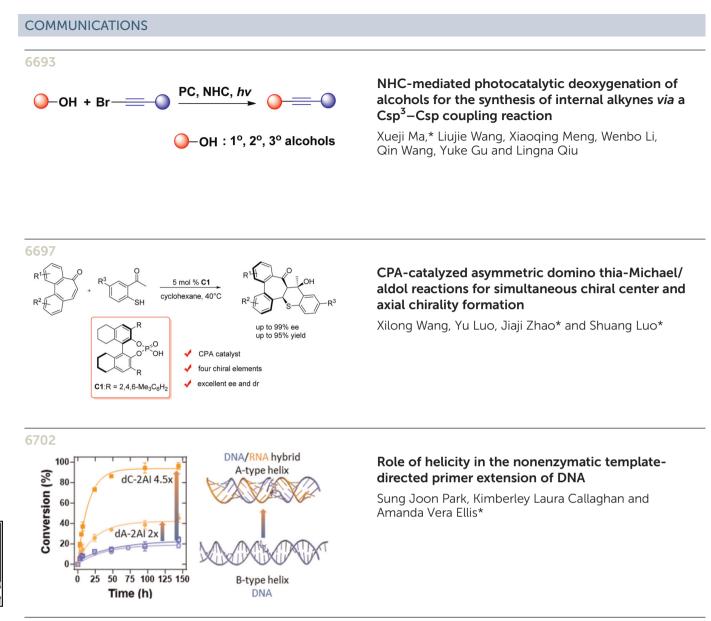
6687

Palladium-catalyzed C–H dimethylamination of 1-chloromethyl naphthalenes with *N*,*N*-dimethylformamide as the dimethyl amino source

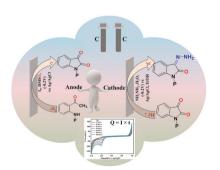
Sheng Zhang,* Ziyang Wang, Ya Gao, Masahiko Yamaguchi and Ming Bao*



Remote C-H dimethylamination of 1-chloromethylnaphthalenes with DMF



6707



Electro-organic synthesis of isatins and hydrazones through C–N cross-coupling and $C(sp^2)-H/C(sp^3)-H$ functionalization

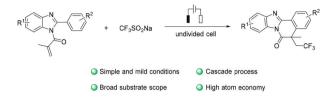
Neetu Verma, Rajdeep Tyagi, Ashish Khanna, Manisha Malviya* and Ram Sagar*

PAPERS

6715

Metal-free electrochemistry promoted radical cascade cyclization to access CF₃-containing benzimidazo[2,1-*a*]isoquinolin-6(5*H*)-ones

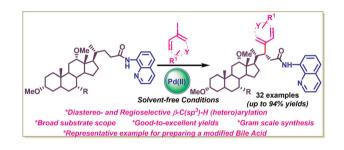
Changjun Zhang,* Zhichen Yu, Yuxin Ding, Yuan Shi and Yuanyuan Xie*



6719

Synthesis of modified bile acids *via* palladiumcatalyzed C(sp³)–H (hetero)arylation

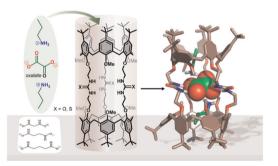
Somnath Arjun Borade, Sushma Naharwal, Himanshi Bhambri, Sanjay K. Mandal, Kiran Bajaj, Deepak Chitkara and Rajeev Sakhuja*



6730

Selective binding of oxalate by a tris-ureido calix[6] tube in a protic environment

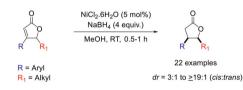
Roy Lavendomme, Steven Moerkerke, Gaëlle Mariaule and Ivan Jabin*



6738

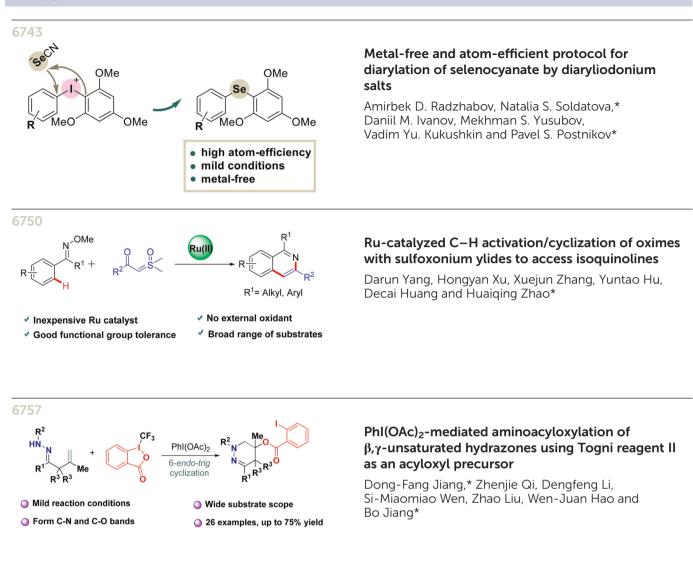
Expeditious access to cis- β -aryl, γ -alkyl disubstituted (\pm)- γ -butyrolactones via nickel-hydride catalysis

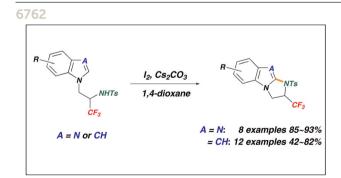
O. Stephen Ojo,* Hannah J. Steel and Haralampos N. Miras



- ✓ Economical and practical
- Easy and quick access to disubstituted y-butyrolactones
- ✓ cis-product selective
- ✓ in-situ generated Nickel-hydride

PAPERS





Iodine-promoted synthesis of CF₃-substituted dihydroimidazobenzimidazole and CF₃-dihydroimidazoindole *via* C–N bond formation

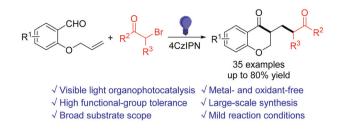
Daiki Komatsu, Kasumi Yamada and Takeshi Hanamoto*

8

PAPERS

6772

Visible light-induced radical cascade acylmethylation/cyclization of 2-(allyloxy) arylaldehydes with α-bromo ketones: access to cyclic 1,5-dicarbonyl-containing chroman-4-one skeletons

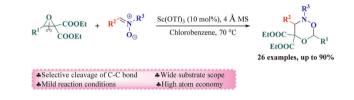


Xiao-Hong Huang, Feng-Lin Liu, Ting-Feng Fu, Xiao Hu, Ya-Yu Wang, Bo Liu, Ming-Yu Teng and Guo-Li Huang*

6778

Cycloaddition of *N*-arylnitrones with donor– acceptor oxiranes *via* C–C bond cleavage to construct 1,5,2-dioxazinanes

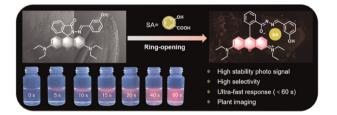
Wenhui Li, Jianying Lin, Shuangping Huang, Qiang Liu, Wenlong Wei and Xing Li*



6783

Rhodamine-based fluorescent sensors for the rapid and selective off-on detection of salicylic acid and their use in plant cell imaging

Jie-Ying Chen, Ping Yang, Hou-Yun Huang, A-Ling Tang, Mei-Hong Ge, Wei Niu, Shi-Tao Liu, Shuai Tan, Wen-Jing Ma, Xiang Zhou,* Li-Wei Liu and Song Yang*



6789

A cis- β -iron(III) SALPN catalyst for hydrogen atom transfer reductions and olefin cross couplings

Michael Ricca, Shaolei Yao, Tommy Le, Jonathan M. White, Paul S. Donnelly and Mark A. Rizzacasa*

