

# ChemComm

Chemical Communications

rsc.li/chemcomm

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.

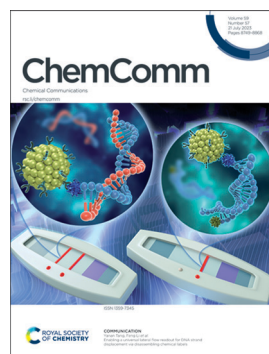
## IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 59(57) 8749-8868 (2023)



### Cover

See Krzysztof Woźniak, Mihails Arhangelis et al., pp. 8799–8802. Image reproduced by permission of Damian Trzybiński from *Chem. Commun.*, 2023, 59, 8799.



### Inside cover

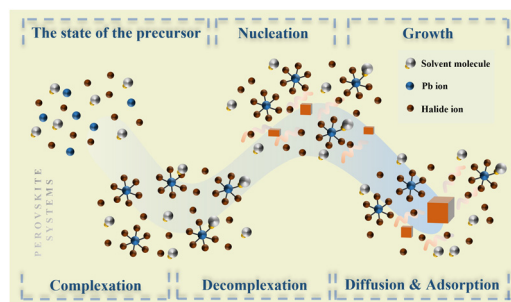
See Yanan Tang, Feng Li et al., pp. 8803–8805. Image reproduced by permission of Feng Li from *Chem. Commun.*, 2023, 59, 8803.

## HIGHLIGHT

8758

### Growth mechanism of metal halide perovskite single crystals in solution

Mingquan Liao, Mengling Xia,\* Yinsheng Xu, Ping Lu and Guangda Niu\*

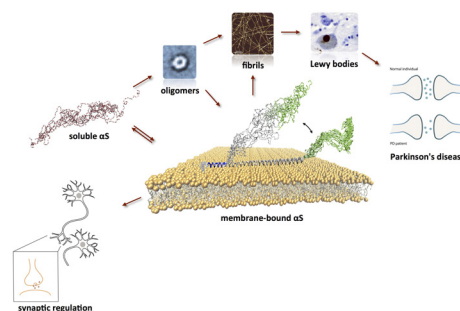


## FEATURE ARTICLES

8769

### $\alpha$ -Synuclein and biological membranes: the danger of loving too much

Silvia Mansueto, Giuliana Fusco\* and Alfonso De Simone\*



**Editorial Staff****Executive Editor**

Richard Kelly

**Deputy Editor**

Harriet Riley

**Editorial Production Manager**

Helen Saxton

**Development Editors**

Danny Andrews, Ershad Abubacker

**Senior Publishing Editor**

Becky Webb

**Publishing Editors**

Kirstine Anderson, Matthew Bown, Laura Cooper, Hannah Fielding, Clare Fitzgerald, Anoushka Handa, Claire Harding, Alan Holder, Charlie Palmer, Rosie Redwell, Donna Smith, Laura Smith

**Editorial Assistant**

Jade Holliday

**Publishing Assistant**

Natalie Ford

**Publisher**

Jeanne Andres

For queries about submitted papers, please contact Helen Saxton, Editorial Production Manager in the first instance. E-mail [chemcomm@rsc.org](mailto:chemcomm@rsc.org)

For pre-submission queries please contact Richard Kelly, Executive Editor.  
Email [chemcomm-rsc@rsc.org](mailto:chemcomm-rsc@rsc.org)

Chemical Communications (print: ISSN 1359-7345; electronic: ISSN 1364-548X) is published 100 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WE.

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 0WE, UK  
Tel +44 (0)1223 432398; E-mail [orders@rsc.org](mailto:orders@rsc.org)

2023 Annual (electronic) subscription price: £3,553 / US\$6,258. 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](http://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](mailto:advertising@rsc.org)

For marketing opportunities relating to this journal, contact [marketing@rsc.org](mailto:marketing@rsc.org)

# ChemComm

Chemical Communications

[rsc.li/chemcomm](http://rsc.li/chemcomm)**Editorial Board****Chair**

Douglas Stephan, University of Toronto

**Associate Editors**Lutz Ackermann, University of Göttingen  
Davide Bonifazi, University of Vienna  
Rachel Caruso, RMIT UniversityFengtao Fan, Chinese Academy of Sciences  
Itaru Hamachi, Kyoto UniversityMicheale Hardie, University of Leeds  
Kim Jelfs, Imperial College London  
Chao-Jun Li, McGill University  
David Lou, City University of Hong KongConnie Lu, University of Minnesota, US  
Marinella Mazzanti, EPFL, Switzerland  
Amy Prieto, Colorado State University  
Yang Tian, East China Normal University  
Sandeep Verma, Indian Institute of Technology Kanpur**Advisory Board**Brendan Abrahams, University of Melbourne  
Polly Arnold, University of Edinburgh  
Louise Berben, University of California, Davis  
Penny Brothers, Australian National University  
Wesley Browne, University of Groningen  
Raffaella Buonsanti, EPFL  
Luiz Henrique Catalani, University of São PauloXiao-Ming Chen, Sun Yat-Sen University  
Lifeng Chi, Soochow University  
Arindam Chowdhury, Indian Institute of Technology BombayDerrick Clive, University of Alberta  
Seth Cohen, University of California, San Diego  
Marcetta Darensbourg, Texas A&M University  
Jyotirmayee Dash, Indian Association for the Cultivation of ScienceGautam R. Desiraju, Indian Institute of Science, Bangalore  
Abhishek Dey, Indian Association for the Cultivation of Science (IACS)  
Josh Figueroa, University of California, San DiegoLutz Gade, University of Heidelberg  
Sujit Ghosh, Indian Institute of Science  
Education of Research, India  
Nathan Gianneschi, University of California, San DiegoRobert Gilliard Jr., University of Virginia  
David Gonzalez-Rodriguez, Autonomous University of MadridRebecca Goss, University of St Andrews  
Mike Greaney, University of Manchester  
Shaojun Guo, Peking University  
Micheale Hardie, University of Leeds  
Amanda Hargrove, Duke University  
Craig Hawker, University of California, Santa BarbaraFeihe Huang, Zhejiang University  
Todd Hudnall, Texas State University  
Ilich A. Ibarra Alvarado, National University of Mexico  
Hiroshi Kageyama, Kyoto University  
Jong Seung Kim, Korea University  
Shu Kobayashi, University of Tokyo  
Mi Hee Lim, Ulsan National Institute of Science and Technology (UNIST)Teck-Peng Loh, Nanyang Technological University  
Tien-Yau Luh, National Taiwan University  
Doug MacFarlane, Monash University  
Hiromitsu Maeda, Ritsumeikan University  
Silvia Marchesan, University of Trieste  
Nazario Martin, Complutense University of Madrid  
Keiji Maruoka, Kyoto University  
Alexander Miller, University of North Carolina at Chapel HillWonwoo Nam, Ewha Womans University  
Jean-Francois Nierengarten, University of Strasbourg  
Thalappil Pradeep, Indian Institute ofTechnology Madras  
S Ramakrishnan, Indian Institute of Science  
Erwin Reisner, University of Cambridge  
Robin Rogers, McGill University  
Paolo Samori, University of Strasbourg  
Ellen Sletten, University of California, Los AngelesDavid Smith, University of York  
Mizuki Tada, Nagoya University  
Christine Thomas, Ohio State University  
Zhong-Qun Tian, Xiamen University  
Tomas Torres, Autonomous University of Madrid  
Helma Wennemers, ETH Zurich  
Judy Wu, University of Houston  
Yi Xie, University of Science and Technology of China  
Xianran Xing, University of Science and Technology BeijingShuli You, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences  
Atsuo Yamada, University of Tokyo  
Qiang Zhang, Tsinghua University  
Xi Zhang, Tsinghua University  
Wenwan Zhong, University of California, Riverside  
Eli Zysman-Colman, University of St. Andrews**Information for Authors**

Full details on how to submit material for publication in Chemical Communications 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/chemcomm](http://rsc.li/chemcomm)

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.

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.

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

Registered charity number: 207890

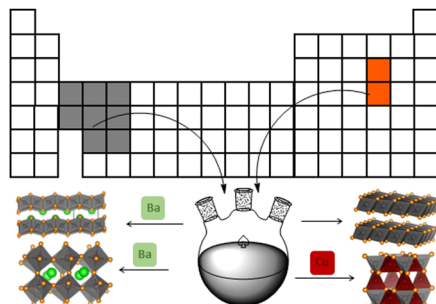


## FEATURE ARTICLES

8779

## Solution-phase synthesis of group 3–5 transition metal chalcogenide inorganic nanomaterials

Daniel Zilevu and Sidney E. Creutz\*

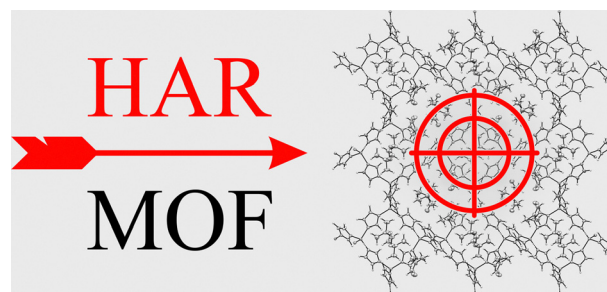


## COMMUNICATIONS

8799

## Hirshfeld atom refinement of metal–organic frameworks for accurate positioning of hydrogen atoms and disorder analysis

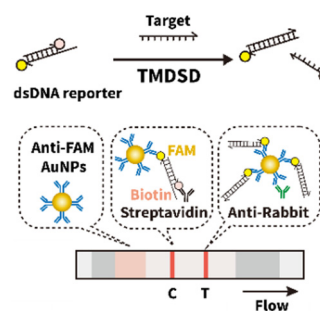
Yizhi Xu, Michał L. Chodkiewicz, Magdalena Woińska, Damian Trzybiński, Ivana Brekalo, Filip Topić, Krzysztof Woźniak\* and Mihails Arhangeliskis\*



8803

Enabling a universal lateral flow readout for DNA strand displacement *via* disassembling chemical labels

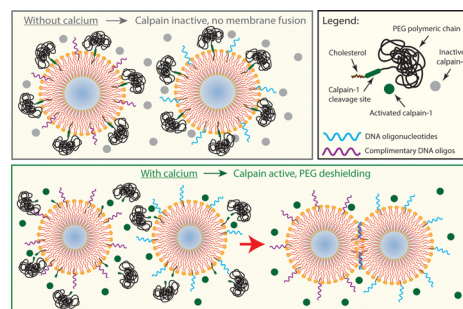
Wanting Peng, Yun Tan, Chenlan Shen, Yanan Tang\* and Feng Li\*



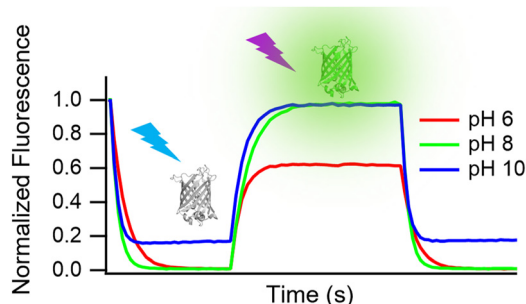
8806

## Calcium-triggered DNA-mediated membrane fusion in synthetic cells

Yen-Yu Hsu, Samuel J. Chen, Julio Bernal-Chanchavac, Bineet Sharma, Hossein Moghimianavval, Nicholas Stephanopoulos and Allen P. Liu\*



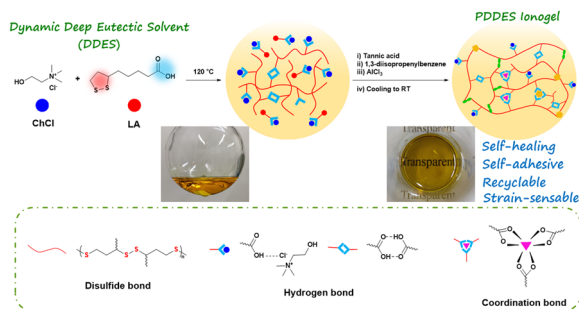
8810



### Quantitative determination of the full switching cycle of photochromic fluorescent proteins

Anaïs C. Bourges, Benjamin Moeyaert, Thi Yen Hang Bui, Franziska Bierbuesse, Wim Vandenberg and Peter Dedecker\*

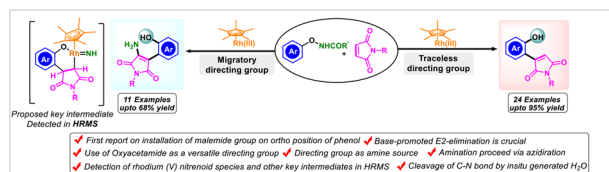
8814



### Development of multifunctional ionogels derived from a dynamic deep eutectic solvent

Jintao Li, Mingzu Zhang, Jinlin He\* and Peihong Ni

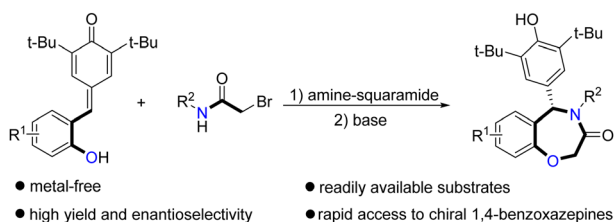
8818



### Carboamination and olefination: ortho C-H functionalization of phenoxyacetamide

Tanmayee Nanda, Shubham Kumar Dhal, Gopal Krushna Das Adhikari, Namrata Prusty and Ponneri C. Ravikumar\*

8822



### Metal-free and enantioselective synthesis of 1,4-benzoxazepines from para-quinone methide derivatives and $\alpha$ -bromohydroxamates

Suo-Suo Qi, Xin Luo, Xiao-Ping Sun, Jing-Jing Zhai, Ming-Ming Chu,\* Jin Chen,\* Yi-Feng Wang\* and Dan-Qian Xu\*

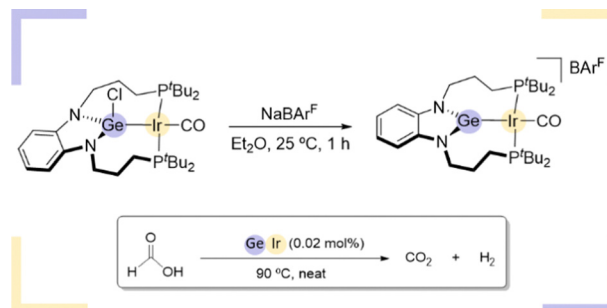


## COMMUNICATIONS

8826

**A genuine germylene PGeP pincer ligand for formic acid dehydrogenation with iridium**

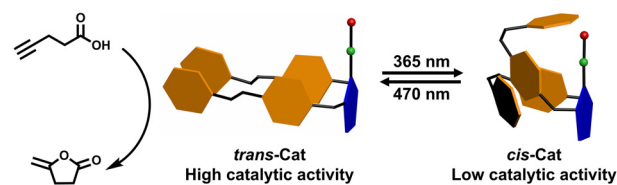
Marta Fernández-Buenestado, Rosie J. Somerville, Joaquín López-Serrano\* and Jesús Campos\*



8830

**A photoresponsive gold catalyst based on azobenzene-functionalized NHC ligands**

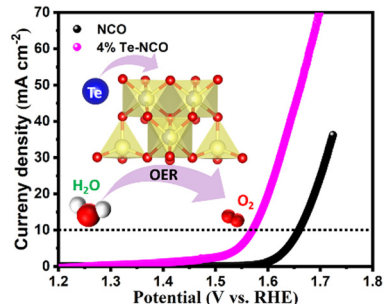
Jianghua Liu, Eduard O. Bobylev, Bas de Bruin and Joost N. H. Reek\*



8834

**Tellurium-induced defect engineering for boosting the oxygen evolution reaction of spinel oxide**

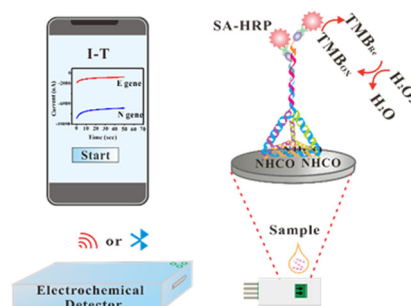
Shu-Fang Li,\* Xin Li and Dong Yan\*



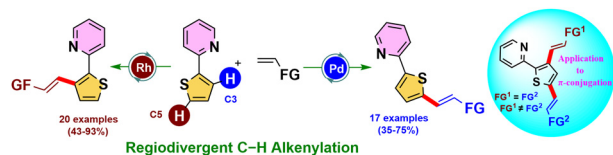
8838

**A DNA framework-based dual signal amplification biosensor for portable detection of SARS-CoV-2 and its mutations**

Yanzhi Dou, ZiYue Huang, Tie Li, Nokuzola Maboyi, Xianting Ding, Shiping Song\* and Jing Su\*



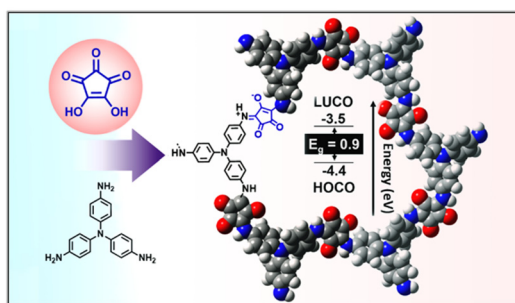
8842



### Catalyst-controlled regiodivergent C–H bond alkenylation of 2-pyridylthiophenes

Qiang Zhang, Pengfei Zhou, Yaokun Zhao, Yeran Liu, Taoyuan Liang, Jun Jiang\* and Zhuan Zhang\*

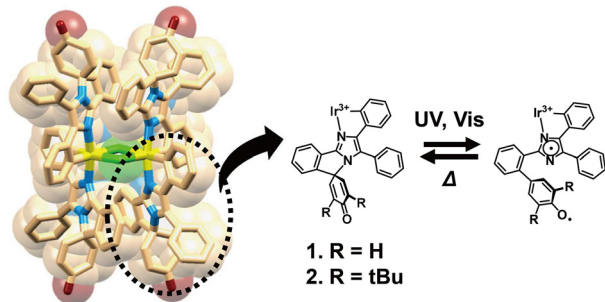
8846



### A croconic acid-derived narrow band gap conjugated microporous polymer

S. Enoch, Atul B. Nipate, Vellanki Lakshmi\* and Rajeswara Rao Malakalapati\*

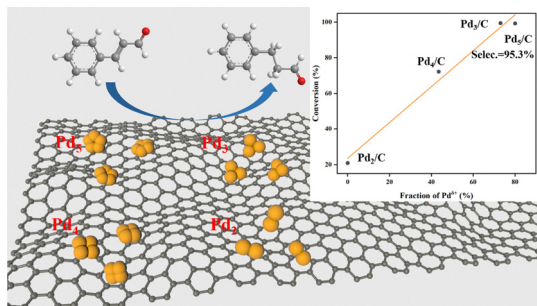
8850



### Photochromic dinuclear iridium(III) complexes having phenoxyl-imidazolyl radical complex derivatives

Yoshinori Okayasu, Takuya Miyahara, Rintaro Shimada, Yuki Nagai, Akira Sakamoto, Jiro Abe\* and Yoichi Kobayashi\*

8854



### Electronic structure modulation of Pd<sub>n</sub> (n = 2–5) nanoclusters in the hydrogenation of cinnamaldehyde

Jie Tang, Tingting Ge, Wenxuan Wang, Chao Liu\* and Jiahui Huang\*

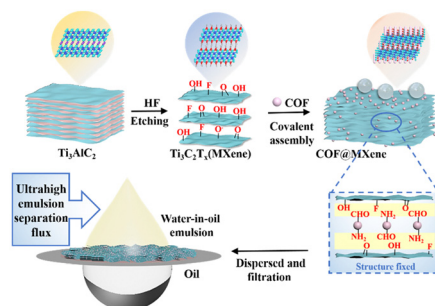


## COMMUNICATIONS

8858

### A robust COF@MXene membrane for ultra-high flux of water-in-oil emulsion separation

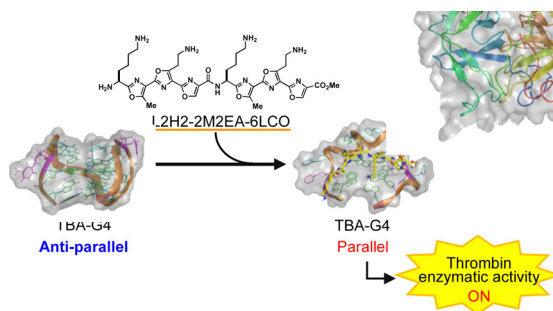
Jing Wang, Xiangqian Xu, Yujian Zhou, Wen Ma, Fushan Wang, Yongjun Zhou and Xuehu Men\*



8862

### Regulation of thrombin activity by ligand-induced topological alteration in a thrombin-binding aptamer

Shogo Sasaki, Yue Ma, Takatsugu Hirokawa, Kazunori Ikebukuro, Masayuki Tera\* and Kazuo Nagasawa\*



## CORRECTION

8866

### Correction: Pyrrolopyrrole aza-BODIPY near-infrared photosensitizer for dual-mode imaging-guided photothermal cancer therapy

Chaolong Wu, Xiaoyu Huang, Yunyun Tang, Wanyue Xiao, Ligu Sun,\* Jinjun Shao\* and Xiaochen Dong\*

