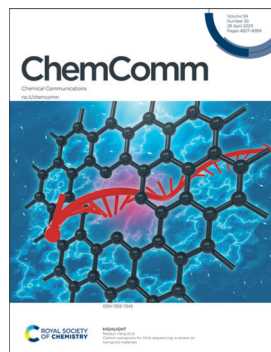


## IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 59(33) 4827-4984 (2023)



### Cover

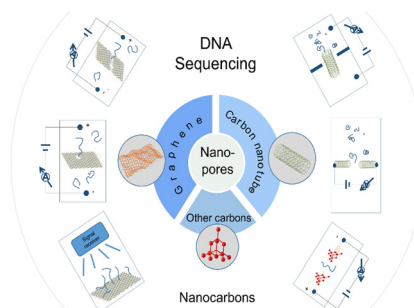
See Nianjun Yang *et al.*,  
pp. 4838–4851.  
Image reproduced  
by permission of  
Jing Xu from  
*Chem. Commun.*,  
2023, 59, 4838.

## HIGHLIGHT

4838

### Carbon nanopores for DNA sequencing: a review on nanopore materials

Jing Xu, Xin Jiang and Nianjun Yang\*

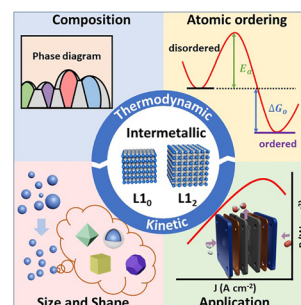


## FEATURE ARTICLES

4852

### Design principles for the synthesis of platinum–cobalt intermetallic nanoparticles for electrocatalytic applications

Siying Yu and Hong Yang\*



## Editorial Staff

### Executive Editor

Richard Kelly

### Deputy Editor

Harriet Riley

### Editorial Production Manager

Helen Saxton

### Development Editor

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 Rethwell, 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 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](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 University

Fengtao Fan, Chinese Academy of Sciences

Itaru Hamachi, Kyoto University

Michael Hardie, University of Leeds

Kim Jelfs, Imperial College London

Chao-Jun Li, McGill University

Connie 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

Paulo

Xiao-Ming Chen, Sun Yat-Sen University

Lifeng Chi, Soochow University

Arindam Chowdhury, Indian Institute of

Technology Bombay

Derrick 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 Science

Gautam R. Desiraju, Indian Institute of

Science, Bangalore

Abhishek Dey, Indian Association for the

Cultivation of Science (IACS)

Josh Figueroa, University of California, San

Diego

Lutz Gade, University of Heidelberg

Sujit Ghosh, Indian Institute of Science

Education of Research, India

Nathan Gianneschi, University of California,

San Diego

Robert Gilliard Jr., University of Virginia

David Gonzalez-Rodriguez, Autonomous

University of Madrid

Rebecca Goss, University of

St Andrews

Mike Greaney, University of Manchester

Shaojun Guo, Peking University

Michael Hardie, University of Leeds

Amanda Hargrove, Duke University

Craig Hawker, University of California, Santa

Barbara

Feihe 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)

Tek-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 Hill

Wonwoo Nam, Ewha Womans University

Jean-Francois Nierengarten, University of

Strasbourg

Thalappil Pradeep, Indian Institute of

Technology 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

Angeles

David 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 Beijing

Shuli 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

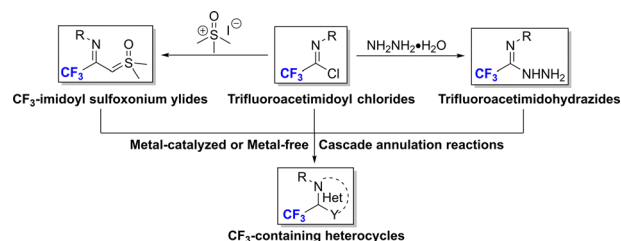


## FEATURE ARTICLES

4872

## Construction of trifluoromethyl-containing heterocycles from trifluoroacetimidoyl chlorides and derivatives

Zuguang Yang, Guangming Wei, Zhengkai Chen\* and Xiao-Feng Wu\*

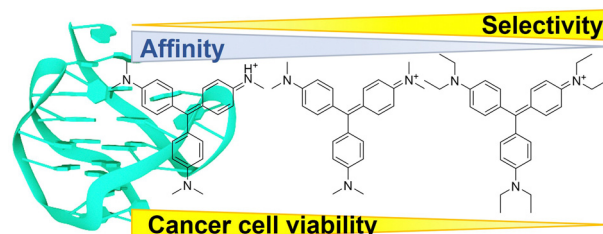


## COMMUNICATIONS

4891

## Simple and fast screening for structure-selective G-quadruplex ligands

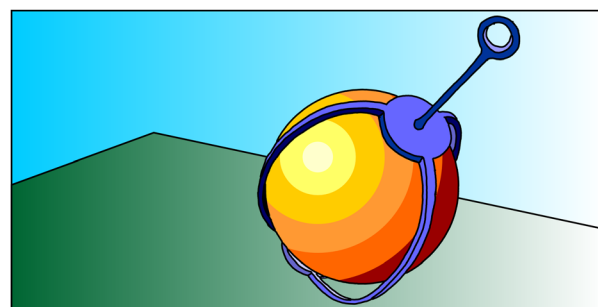
Yoshiki Hashimoto, Yoshiki Imagawa, Kaho Nagano, Ryuichi Maeda, Naho Nagahama, Takeru Torii, Natsuki Kinoshita, Nagisa Takamiya, Keiko Kawauchi, Hisae Tatesishi-Karimata, Naoki Sugimoto and Daisuke Miyoshi\*



4895

## An organic cage controlling the dimension and stability of gold nanoparticles

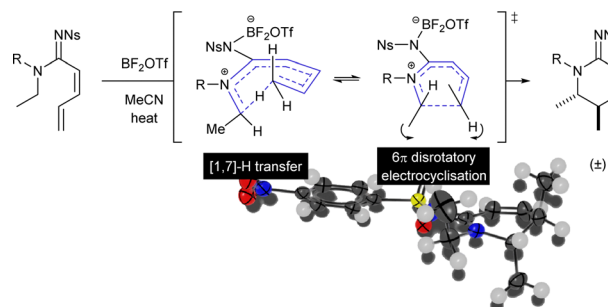
Erich Henrik Peters and Marcel Mayor\*



4899

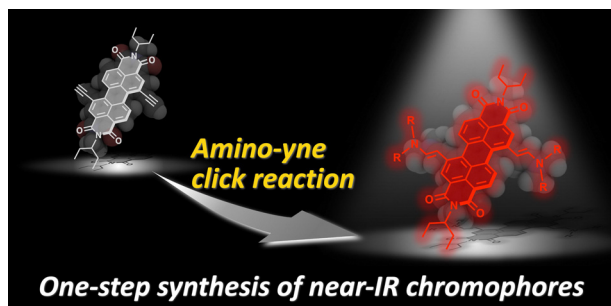
Stereodefined synthesis of cyclic amidines by domino 1,7-H shift and 6 $\pi$  electrocycloisat

Matthew L. Martin, Claire Wilson and Alistair Boyer\*



## COMMUNICATIONS

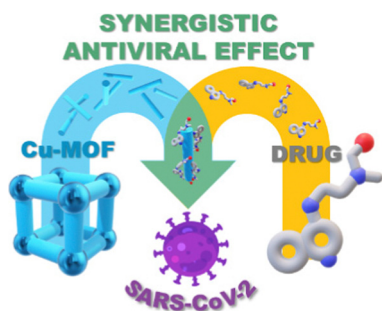
4903



**One-step synthesis of perylenediimides exhibiting near-infrared absorption and emission by amino-yne click reaction**

Haruki Sanematsu, Masayuki Takeuchi and Atsuro Takai\*

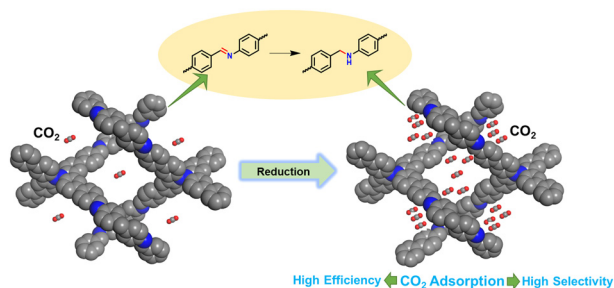
4907



**The synergistic effect of Cu-MOF nanoparticles and immunomodulatory agent on SARS-CoV-2 inhibition**

Aleksander Ejsmont, Alicja Warowicka, Justyna Broniarczyk and Joanna Goscianska\*

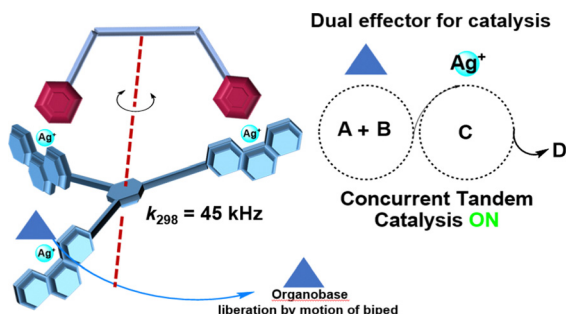
4911



**Construction of rigid amine-linked three-dimensional covalent organic frameworks for selectively capturing carbon dioxide**

Lin Zhang, Danbo Wang, Minghao Cong, Xu Jia, Zhiguo Liu, Lixia He,\* Chaoqin Li\* and Yingjie Zhao\*

4915



**Concurrent tandem catalysis enabled by nanomechanical motion in heteroleptic four-component dual-catalyst machinery**

Emad Elramadi, Sohom Kundu, Debabrata Mondal and Michael Schmittl\*

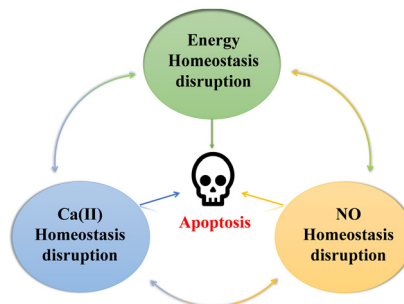


## COMMUNICATIONS

4919

### An efficient biomimetic nano-regulator inducing simultaneous calcium ion/nitric oxide/energy metabolism triple homeostasis disruption for synergetic cancer therapy

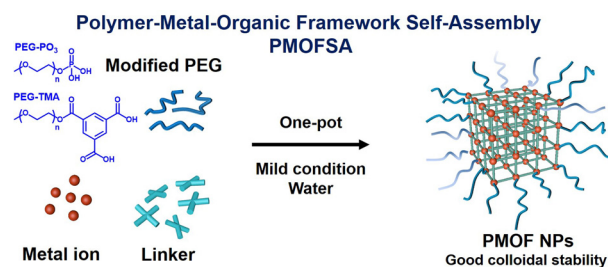
Chenchen Hu, Fan Jiang, Yixiao Li, Ruiyang Man and Zhengze Yu\*



4923

### Polymer-metal-organic framework self-assembly (PMOFSA) as a robust one-step method to generate well-dispersed hybrid nanoparticles in water

Kun Li, Zhihao Yu, Iurii Dovgaliuk, Clémence Le Coeur, Viviane Lütz-Bueno, Eric Leroy, Blandine Brissault, Yoann de Rancourt de Mimerand, Mathilde Lepoitevin, Christian Serre, Jacques Penelle and Benoit Couturaud\*

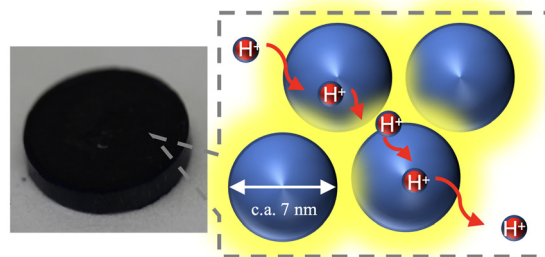


4927

### Surface modification enhances the bulk proton conductivity of Prussian blue

Akira Takahashi,\* Yasuhito Matsubayashi, Atsushi Sakurai, Yutaka Sugiyama, Keiko Noda and Tohru Kawamoto

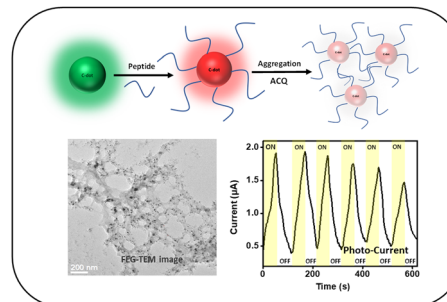
#### Surface modification enhances bulk proton conductivity



4931

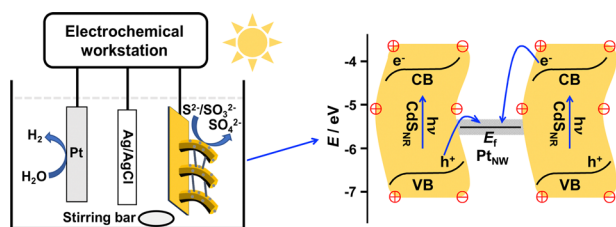
### Surface modification of carbon dots *via* peptide covalent conjugation

Niladri Hazra, Soumyajit Hazra, Subir Paul and Arindam Banerjee\*





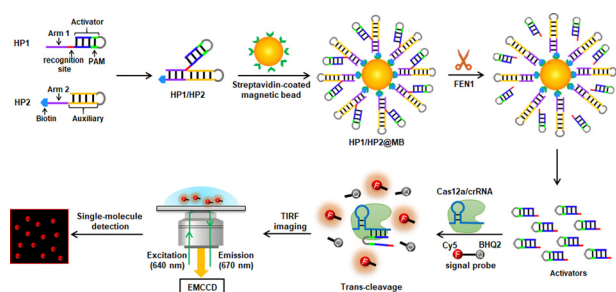
4935



### Photoelectrochemistry hydrogen production based on a Pt nanowires-bridged CdS nanorods array of piezoelectricity-triggered Z-scheme junctions

Jun Cheng, Chenpu Chen, Mingjian Chen and Qingji Xie\*

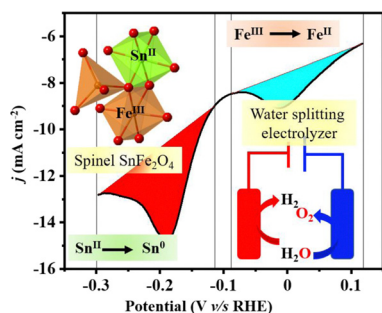
4939



### CRISPR/Cas12a-enhanced single-molecule counting for sensitive detection of flap endonuclease 1 activity at the single-cell level

Ning-ning Zhao, Xiaorui Tian, Fei Ma\* and Chun-yang Zhang\*

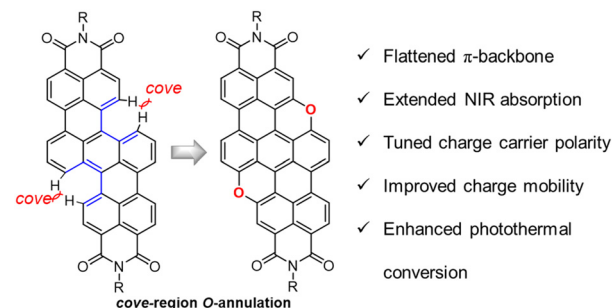
4943



### Redox-active Sn(II) to lead to SnFe<sub>2</sub>O<sub>4</sub> spinel as a bi-functional water splitting catalyst

Anubha Rajput, Amit Anand Pandey, Avinava Kundu and Biswarup Chakraborty\*

4947



### Cove-region O-annulation of arylene diimide enables ambipolar transport of a polycyclic aromatic hydrocarbon with strong NIR absorption

Kaihua Zhang, Jing Guo, Hao Liu, Xiaofeng Wang, Yifan Yao, Kun Yang and Zebing Zeng\*

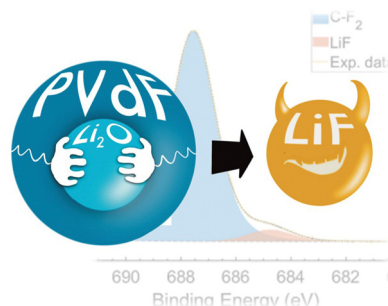


## COMMUNICATIONS

4951

**Residual  $\text{Li}_2\text{O}$  degrades PVdF during the preparation of NMC811 slurries for Li-ion batteries**

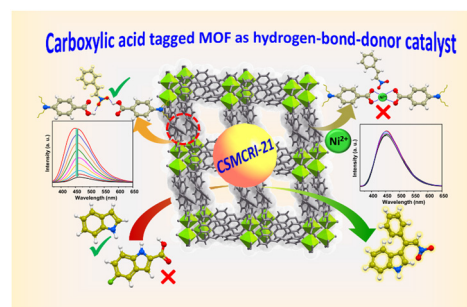
Angelica Laurita,\* Liang Zhu, Pierre-Etienne Cabelguen, Jérémie Auvergniot, Dominique Guyomard, Philippe Moreau and Nicolas Dupré\*



4954

**Dangling carboxylic-acid functionality in a fish-bone-shaped 2D framework as a hydrogen-bond-donating catalyst in Friedel–Crafts alkylation**

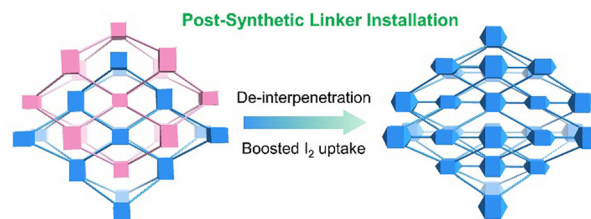
Nilanjan Seal and Subhadip Neogi\*



4958

**Post-synthetic linker installation: an unprecedented strategy to enhance iodine adsorption in metal–organic frameworks**

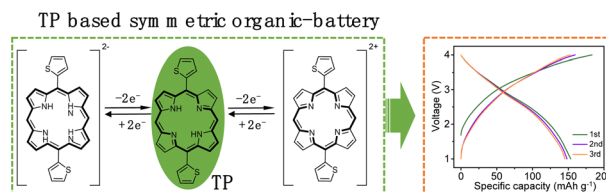
Zi-Jian Li, Yu Ju, Jie Qiu, Zhi-Hui Zhang, Linjuan Zhang, Ming-Yang He, Jian-Qiang Wang and Jian Lin\*



4962

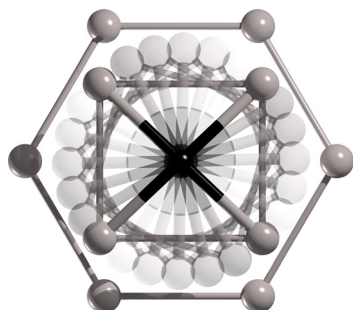
**A bipolar porphyrin molecule for stable dual-ion symmetric batteries with high potential**

Youlian Zeng, Jiarong Zhou, Jiahao Zhang, Yao Liao, Caihong Sun, Yachao Su, Ping Gao\* and Songting Tan\*



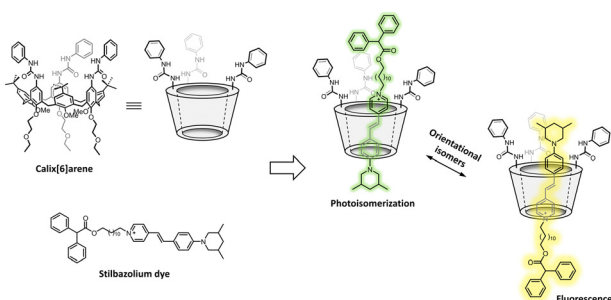
## COMMUNICATIONS

4966

**CA<sub>11</sub><sup>−</sup>: a molecular rotor with a quasi-planar tetracoordinate carbon**

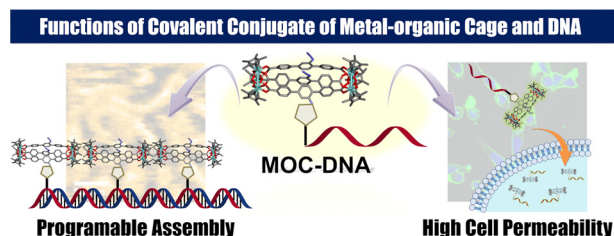
Li-Xia Bai, Jorge Barroso, Mesías Orozco-Ic, Filiberto Ortiz-Chi, Jin-Chang Guo\* and Gabriel Merino\*

4970

**Selective enhancement of organic dye properties through encapsulation in rotaxane orientational isomers**

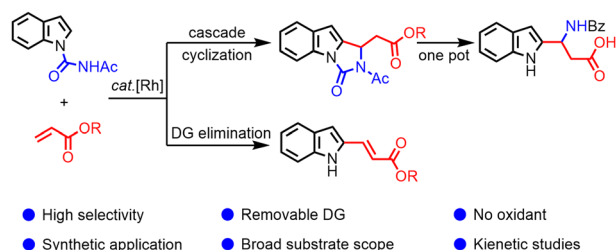
Leonardo Andreoni, Federica Cester Bonati, Jessica Groppi, Davide Balestri, Gianpiero Cera, Alberto Credi, Andrea Secchi\* and Serena Silvi\*

4974

**Creation of single molecular conjugates of metal–organic cages and DNA**

Toshinobu Nakajo, Shinpei Kusaka, Haruka Hiraoka, Kohei Nomura, Noriaki Matsubara, Rintaro Baba, Yuki Yoshida, Kosuke Nakamoto, Masakazu Honma, Hiroaki Iguchi, Takayuki Uchihashi, Hiroshi Abe and Ryotaro Matsuda\*

4978

**Rh(III)-catalyzed regioselective versatile indole derivatization: delivering potential of rare β-(1*H*-indol-2-yl)-β-amino acids in one pot**

Shuaizhong Zhang, Jinquan Zhang and Hongbin Zou\*





## CORRECTION

4982

**Correction: Study of highly stable electrochemiluminescence from  $[\text{Ru}(\text{bpy})_3]^{2+}$ /dicyclohexylamine and its application in visualizing sebaceous fingerprint**

Mathavan Sornambigai, Lingagauder Jaijanarathanan, Shekar Hansda and Shanmugam Senthil Kumar\*

