

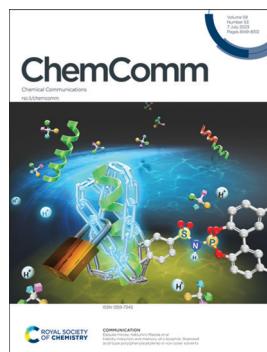
IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 59(53) 8149–8312 (2023)



Cover

See Wenjie Shi, Dичang Zhong, Tong-Bu Lu *et al.*, pp. 8222–8225.
Image reproduced by permission of Wenjie Shi, Dичang Zhong and Tong-Bu Lu from *Chem. Commun.*, 2023, **59**, 8222.



Inside cover

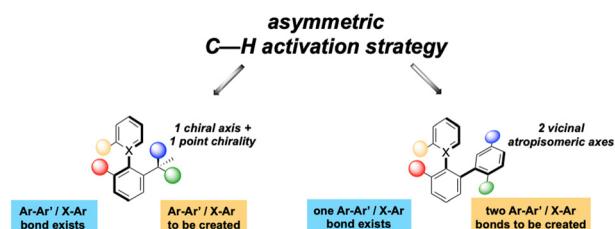
See Daisuke Hirose, Katsuhiro Maeda *et al.*, pp. 8226–8229.
Image reproduced by permission of Katsuhiro Maeda from *Chem. Commun.*, 2023, **59**, 8226.

HIGHLIGHT

8159

One reaction – double stereoinduction: C–H activation as a privileged route towards complex atropisomeric molecules

Amandine Luc and Joanna Wencel-Delord*

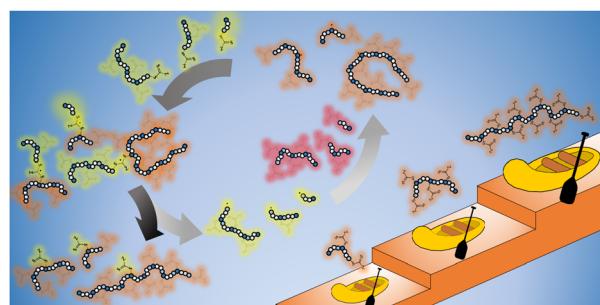


FEATURE ARTICLES

8168

Step-growth polymerization by the RAFT process

Joji Tanaka,* Jiajia Li, Samantha Marie Clouthier and Wei You*



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 Rothwell, 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

For pre-submission queries please contact

Richard Kelly, Executive Editor

Email 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

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

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

ChemComm

Chemical Communications

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	Rebecca Goss, University of St Andrews	Technology Madras
Polly Arnold, University of Edinburgh	Mike Greaney, University of Manchester	S Ramakrishnan, Indian Institute of Science
Louise Berben, University of California, Davis	Shaojun Guo, Peking University	Erwin Reisner, University of Cambridge
Penny Brothers, Australian National University	Michael Hardie, University of Leeds	Robin Rogers, McGill University
Wesley Browne, University of Groningen	Amanda Hargrove, Duke University	Paolo Samori, University of Strasbourg
Raffaella Buonsanti, EPFL	Craig Hawker, University of California, Santa Barbara	Ellen Sletten, University of California, Los Angeles
Luiz Henrique Catalani, University of São Paulo	Feihe Huang, Zhejiang University	David Smith, University of York
Xiao-Ming Chen, Sun Yat-Sen University	Todd Hudnall, Texas State University	Mizuki Tada, Nagoya University
Lifeng Chi, Soochow University	Illich A. Ibarra Alvarado, National University of Mexico	Christine Thomas, Ohio State University
Arindam Chowdhury, Indian Institute of Technology Bombay	Hiroshi Kageyama, Kyoto University	Zhong-Qun Tian, Xiamen University
Derrick Clive, University of Alberta	Jong Seung Kim, Korea University	Tomas Torres, Autonomous University of Madrid
Seth Cohen, University of California, San Diego	Shu Kobayashi, University of Tokyo	Helma Wennemers, ETH Zurich
Marcetta Darenbourg, Texas A&M University	Mi Hee Lim, Ulsan National Institute of Science and Technology (UNIST)	Judy Wu, University of Houston
Jyotirmayee Dash, Indian Association for the Cultivation of Science	Teck-Peng Loh, Nanyang Technological University	Yi Xie, University of Science and Technology of China
Gautam R. Desiraju, Indian Institute of Science, Bangalore	Tien-Yau Luh, National Taiwan University	Xianran Xing, University of Science and Technology Beijing
Abhishek Dey, Indian Association for the Cultivation of Science (IACS)	Doug MacFarlane, Monash University	Shuli You, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences
Josh Figueroa, University of California, San Diego	Hiromitsu Maeda, Ritsumeikan University	Atsuo Yamada, University of Tokyo
Lutz Gade, University of Heidelberg	Silvia Marchesan, University of Trieste	Qiang Zhang, Tsinghua University
Sujit Ghosh, Indian Institute of Science Education of Research, India	Nazario Martin, Complutense University of Madrid	Xi Zhang, Tsinghua University
Nathan Gianneschi, University of California, San Diego	Keiji Maruoka, Kyoto University	Wenwan Zhong, University of California, Riverside
Robert Gilliard Jr., University of Virginia	Alexander Miller, University of North Carolina at Chapel Hill	Eli Zysman-Colman, University of St. Andrews
David Gonzalez-Rodriguez, Autonomous University of Madrid	Wonwoo Nam, Ewha Womans University	
	Jean-Francois Nierengarten, University of Strasbourg	
	Thalappil Pradeep, Indian Institute of	

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

Authors may reproduce/repubish 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

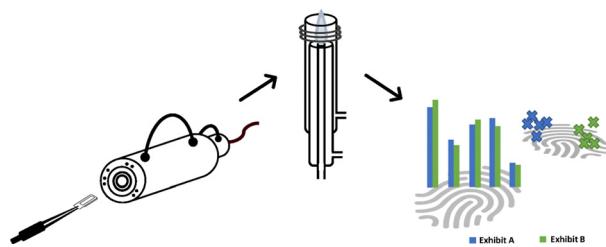


FEATURE ARTICLES

8190

Forensic analysis by solid sampling electrothermal vaporization coupled to inductively coupled plasma optical emission spectrometry

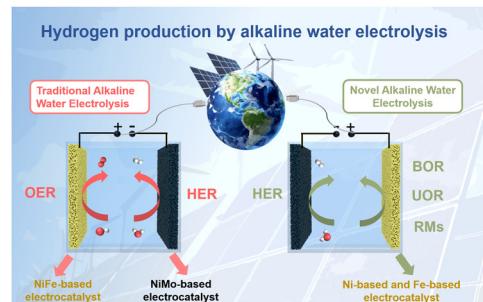
Kate Moghadam and Diane Beauchemin*



8205

Hydrogen production by traditional and novel alkaline water electrolysis on nickel or iron based electrocatalysts

Rufei Zhang, Ao Xie, Linting Cheng, Zhiqun Bai, Yang Tang* and Pingyu Wan*

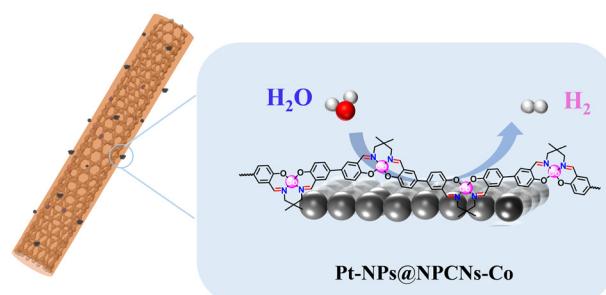


COMMUNICATIONS

8222

A cobalt metalized polymer modulates the electronic structure of Pt nanoparticles to accelerate water dissociation kinetics

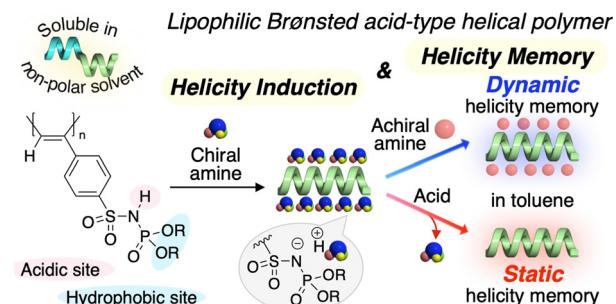
Xiaomei Hu, Weixue Tao, Wenjie Shi,* Dичang Zhong* and Tong-Bu Lu*



8226

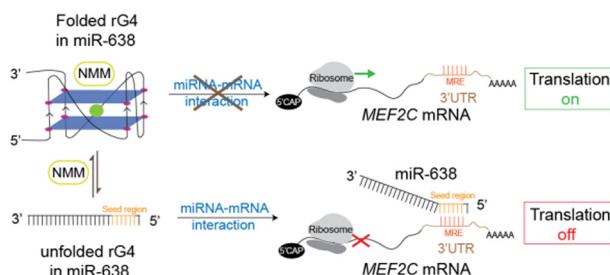
Helicity induction and memory of a lipophilic Brønsted acid-type poly(phenylacetylene) in non-polar solvents

Yuki Nishikawa, Daisuke Hirose,* Shota Sona and Katsuhiro Maeda*

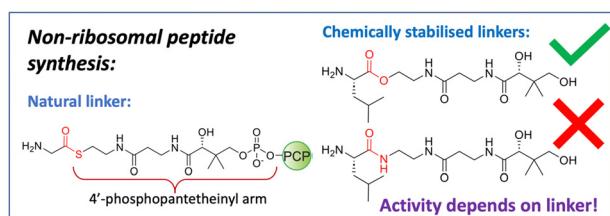


COMMUNICATIONS

8230



8234



A G-quadruplex structure in microRNA interferes with messenger RNA recognition and controls gene expression

Kaixin Lyu and Chun Kit Kwok*

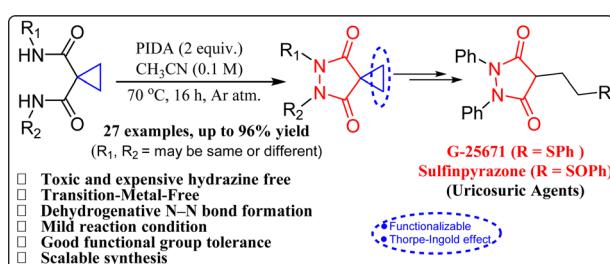
8238



Not always an innocent bystander: the impact of stabilised phosphopantetheine moieties when studying nonribosomal peptide biosynthesis

Y. T. Candace Ho, Joe A. Kaczmarski, Julien Tailhades, Thierry Izoré, David L. Steer, Ralf B. Schittenhelm, Manuela Tosin, Colin J. Jackson and Max J. Cregle*

8242



Triple ipso-defluororoetherification of (trifluoromethyl)alkenes with fluoroalkylated alcohols: access to fluoroalkylated orthoesters via C(sp³)–F bond cleavage

Jia Nie, Huanfeng Jiang and Chuanle Zhu*

PIDA-mediated N–N bond formation to access pyrazolidine-3,5-diones: a novel process for uricosuric agents G-25671 and sulfinpyrazone

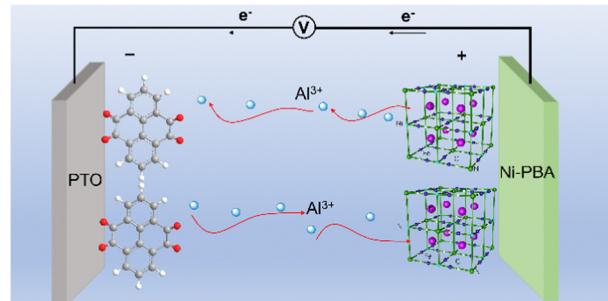
Priyanka Halder and Santosh B. Mhaske*

COMMUNICATIONS

8246

A rocking-chair aqueous aluminum-ion battery based on an organic/inorganic electrode

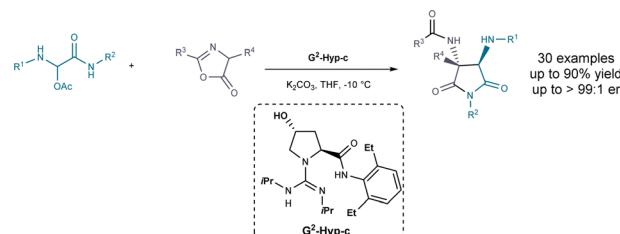
Beibei Yang, Yongkang Wang, Haifeng Bian, Yulin Zhang, Yanyan Du, Hongbin Lu* and Duan Bin*



8250

Asymmetric [3+2]-cyclization of α -imino amide surrogates to construct 3,4-diaminopyrrolidine-2,5-diones

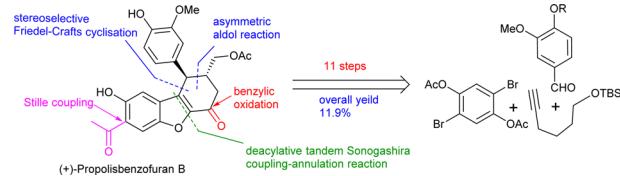
Peiran Ruan, Cefei Zhang, Jin Wu, Fengnan Xiao, Yongyan Zhang, Qingfa Tan, Zhishan Su, Xiaoming Feng and Xiaohua Liu*



8254

Asymmetric total synthesis of (+)-propolisbenzofuran B

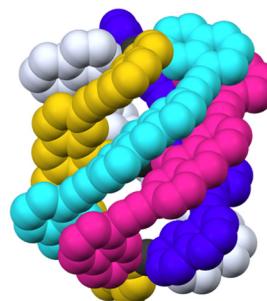
Biswajit Sen, Mainak Bera, Maya Shankar Singh and Saumen Hajra*



8258

A five-stranded heterometallic helicate

Sylvain Sudan, Farzaneh Fadaei-Tirani and Kay Severin*

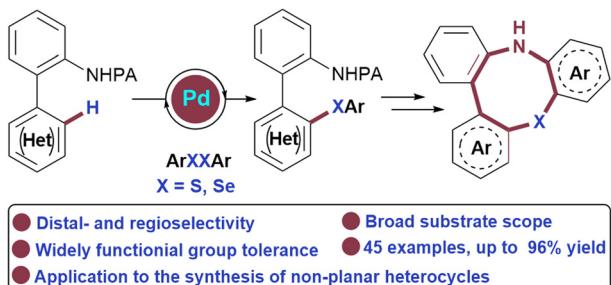


- five-stranded helicate
- 2x Pd^{2+} , 1x La^{3+}
- low symmetry
- dynamic



COMMUNICATIONS

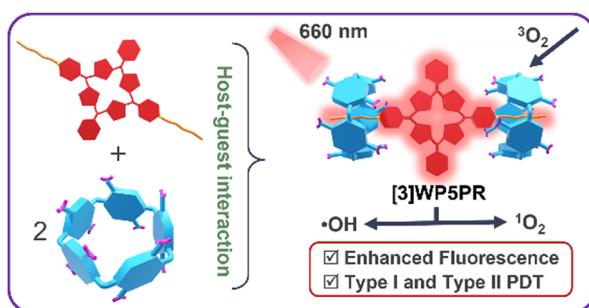
8262



Palladium-catalyzed distal selective C–H chalcogenation of biphenyl amines

Yunhao Zhou, Tao Zheng, Yue Xu, Bo Li, Yuchi Wang, Ruhuai Mei, Linghui Gu* and Wenbo Ma*

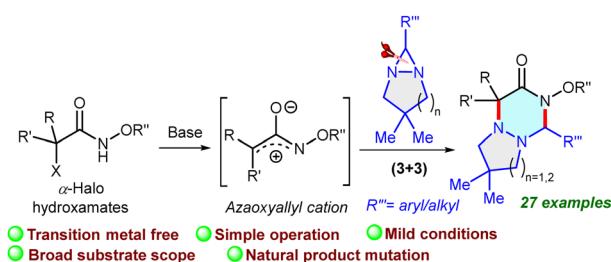
8266



Pillar[5]arene based water-soluble [3]pseudorotaxane with enhanced fluorescence emission for cell imaging and both type I and II photodynamic cancer therapy

Yue Zhang, Yang Wang,* Tingting Chen, Ying Han,* Chaoguo Yan, Jin Wang, Bing Lu, Longtao Ma,* Yue Ding and Yong Yao*

8270

Expedient (3+3)-annulation of *in situ* generated azaoxyallyl cations with diaziridines

Pallab Karjee, Santu Mandal, Bijoy Debnath, Nirali Namdev and Tharmalingam Punniyamurthy*

8274

Synthesis of *N*-(acyloxy)-*N*-alkynylamides via generation of “C₂” from hypervalent alkynyl iodide and a weak base

Kentaro Kagami, Xueying Liang, Nanako Ishibashi, Sayaka Ohrui, Masanori Tayu and Nozomi Saito*

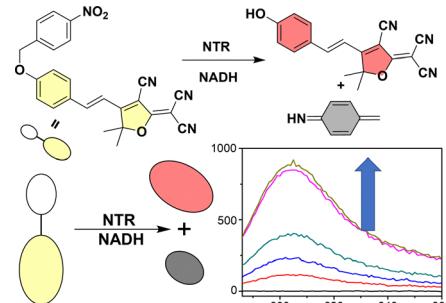


COMMUNICATIONS

8278

A TCF-based fluorescent probe to determine nitroreductase (NTR) activity for a broad-spectrum of bacterial species

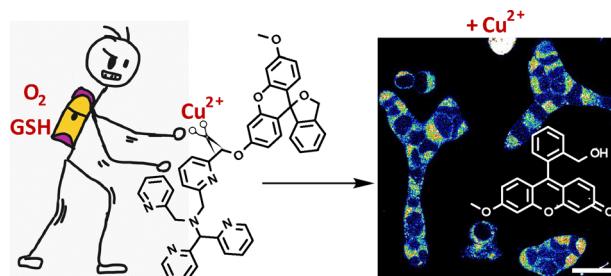
Kai-Cheng Yan, Jordan E. Gardiner, Adam C. Sedgwick, Naing Thet, Rachel A. Heylen, Tony D. James,* A. Toby A. Jenkins* and Xiao-Peng He*



8282

An activity-based fluorescent sensor with a penta-coordinate N-donor binding site detects Cu ions in living systems

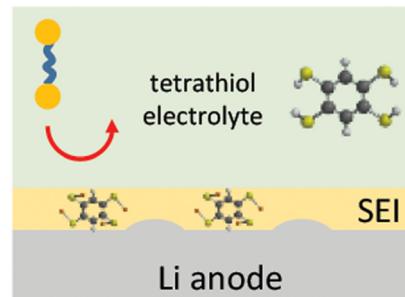
Kunika Gupta and Ankona Datta*



8286

Molecular regulation of electrolytes for enhancing anode interfacial stability in lithium–sulfur batteries

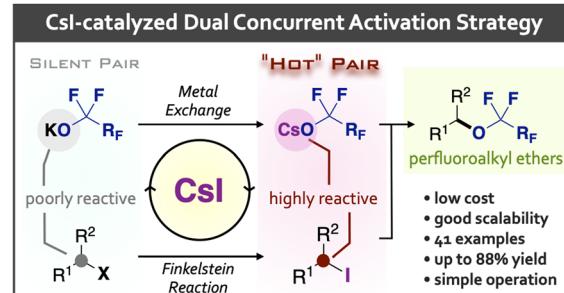
Tianhong Zhou, Yan Zhao, Patrick W. Fritz, Timur Ashirov, Dominika Baster, Mario El Kazzi and Ali Coskun*



8290

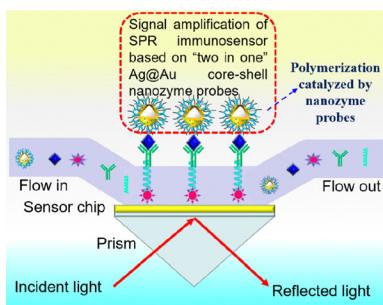
Perfluoroalkylation reaction via dual concurrent catalysis

Shota Fujioka, Keiichi Hirano,* Naoyuki Hoshiya, Akiyoshi Yamauchi, Yosuke Kishikawa and Masanobu Uchiyama*



COMMUNICATIONS

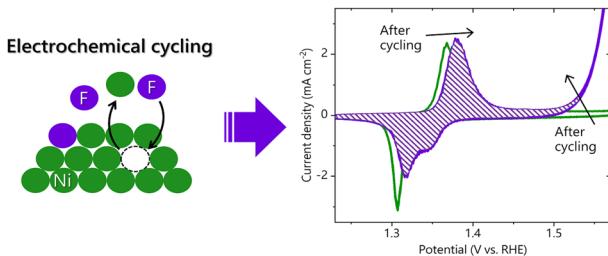
8294



“Two-in-one” core–shell nanzyme probes with double signal amplification for high-performing surface plasmon resonance immunosensing

Feng Shi, Fei Yan, Xinyi Zhang, Ruixin Liu, Guomin Jiang, Juan Li,* Alexander Malinick, Quan Cheng* and Zhanjun Yang*

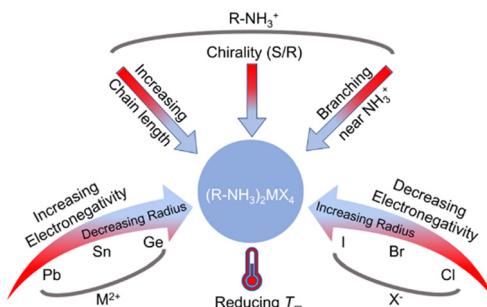
8298



Facile route of fluorine incorporation into nickel (oxy)hydroxide for improving the oxygen evolution reaction

Yeongeun Jang, Seungjoon Ha, Hyung-Tae Lim and Seunghwa Lee*

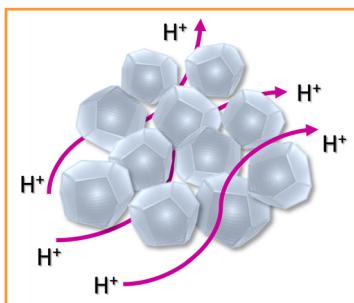
8302



A two-dimensional lead-free hybrid perovskite semiconductor with reduced melting temperature

Akash Singh, Ethan Crace, Yi Xie and David B. Mitzi*

8306



Thermally stable proton conductivity from nanodiamond oxide

Lutfia Isna Ardhayanti, Md. Saidul Islam, Masahiro Fukuda, Xinyao Liu, Zhongyue Zhang, Yoshihiro Sekine and Shinya Hayami*

