CrystEngComm

A journal at the forefront of the design and understanding of solid-state and crystalline materials

rsc.li/crystengcomm

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 1466-8033 CODEN CRECF4 25(16) 2341-2494 (2023)



See Teng-Fei Zheng, Shu-Li Yao, Sui-Jun Liu et al., pp. 2366-2371. Image reproduced by permission of Sui-Jun Liu from CrystEngComm, 2023, 25, 2366.

COMMUNICATIONS

2349

A molecular sponge that exclusively adsorbs acetonitrile

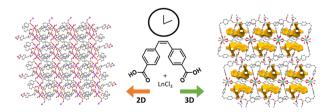
Yoichi Habata,* Ayumi Wada, Eunji Lee, Huieyong Ju, Yuki Yoshiba, Hiroki Horita, Jun-ichi Ishii, Mari Ikeda and Shunsuke Kuwahara



2353

(Z)-4,4'-Stilbene dicarboxylic acid, the overlooked metal-organic framework linker

Lucy R. Hunter,* Joshua K. G. Karlsson, Jonathan D. Sellars and Michael R. Probert*



Editorial Staff

Executive Editor

Sally Howells

Deputy Editor

Mike Andrews

Development Editors

Michelle Canning, Emily Cuffin-Munday

Editorial Production Manager

Susannah Davies

Publishing Editors

Debora Giovanelli, Helen Lunn, Samuel Oldknow, Kate Tustain

Editorial Assistant

Daphne Houston

Publishing Assistant

Huw Hedges

Publisher

Jeanne Andres

For queries about submitted articles please contact Susannah Davies, Editorial Production Manager in the first instance. E-mail crystengcomm@rsc.org

For pre-submission queries please contact Sally Howells, Editor.

Email crystengcomm-rsc@rsc.org

CrystEngComm (electronic: ISSN 1466-8033) 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: £1349; US\$2003. 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

CrystEngComm

A journal at the forefront of the design and understanding of solid-state and crystalline materials

rsc.li/crvstengcomm

CrystEngComm is the forum for the design and understanding of crystalline materials. We welcome studies on the investigation of molecular behaviour within crystals, control of nucleation and crystal growth, engineering of crystal structures, and construction of crystalline materials with tuneable properties and functions.

Editorial Board

Pierangelo Metrangolo, Politecnico di Milano, Italy

Associate Editors

Australia

Susan Bourne, University of Cape Town, South Africa Christian Doonan, The University of Adelaide

Kwangyeol Lee, Korea University, South Korea C. Malla Reddy, IISER Kolkata, India Dongfeng Xue, Multiscale Crystal Materials Research Center of Shenzhen Institute of

Advanced Technology of CAS, China

Elena Boldyreva, Novosibirsk State University, Russia

Aurora Cruz-Cabeza, Durham University, UK Susan M. Reutzel-Edens, The Cambridge Crystallographic Data Centre, UK Changquan Calvin Sun, University of Minnesota, USA Bin Zhao, Nankai University, China

Advisory Board

Christer Aakerov, Kansas State University, USA Srinivasulu Aitipamula, Institute of Chemical and Engineering Sciences, Singapore Alessia Bacchi, University of Parma, Italy Rahul Banerjee, IISER Kolkata, India Leonard Barbour, University of Stellenbosch, South Africa Andrew Bond, University of Cambridge, UK Paola Ceroni, University of Bologna, Italy Deepak Chopra, IISER Bhopal, India Jack Clegg, University of Queensland, Australia Simon Coles, University of Southampton, UK Richard Cooper, University of Oxford, UK Franziska Emmerling, Federal Institute for Materials Research and Testing in Berlin, Germany Paolo Falcaro, TU Graz, Austria

Omar Farha, Northwestern University, USA Sylvie Ferlay, Institut Le Bel, France Antonio Frontera, University of the Balearic Islands, Spain

Georg Garnweitner, TU Braunschweig. Germany David Harding, Walailak University, Thailand Chris Hawes, University of Keele, UK Delia Haynes, University of Stellenbosch, South Africa Kristin Hutchins, Texas Tech University, USA Christoph Janiak, University of Dusseldorf, Germany Franca Jones, Curtin University, Australia

Bart Kahr, New York University, USA Andrzej Katrusiak, Adam Mickiewicz University, Poland Niveen Khashab, KAUST, Saudi Arabia Jing Li, Rutgers University, USA Tong-Bu Lu, Tianjin University of Technology,

Chiara Maccato, Padova University, Italy Leonard MacGillivray, University of Iowa, USA Yuji Matsumoto, Tohoku University, Japan Sharmarke Mohamed, Khalifa University, UAE Abel Moreno, National Autonomous University

of Mexico, Mexico Anja-Verena Mudring, Aarhus University

Parthapratim Munshi, Shiv Nadar University,

Ashwini Nangia, University of Hyderabad,

India Lars Öhrström, Chalmers University of

Technology, Sweden Simon Parsons, University of Edinburgh, UK Cynthia Pereira, Universidade Federal de

Minas Gerais- UFMG, Brazil Concepcio Rovira, Institut de Ciència de Materials de Barcelona, Spain Wei-Yin Sun, Nanjing University, China Jennifer Swift, Georgetown University, USA Edward R T Tiekink, Sunway University,

Ali Trabolsi, NYU Abu Dhabi, UAE Hongjie Zhang, Changchun Institute of Applied Chemistry, China

Information for Authors

Full details on how to submit material for publication in CrystEngComm 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/crystengcomm. Submissions: The journal welcomes submissions of manuscripts for publication as Full Papers, Communications and Highlights. Full Papers and Communications should describe original work of high quality and impact on the design and understanding of crystalline materials. We welcome studies that highlight the novel properties or applications (or potential properties/ applications) of the materials studied.

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.

Malaysia

Registered charity number: 207890

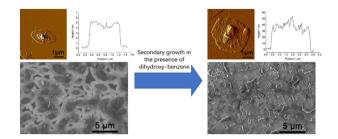


COMMUNICATIONS

2359

Twin suppression effect of dihydroxy-benzene isomers during the secondary growth of b-oriented zeolite MFI nanosheet films

Ruilan Xu, Yong Peng,* Peng Lu, Yurun Miao, Xuekui Duan, Dennis T. Lee, Rui Wang, Zhengbao Wang* and Michael Tsapatsis*

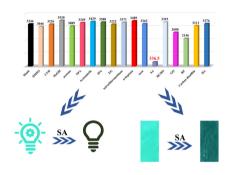


PAPERS

2366

A highly stable and efficient benzothiadiazole-based fluorescence sensor for salicylaldehyde in aqueous solution

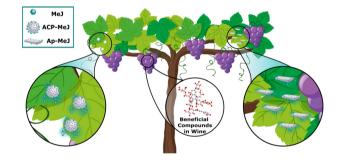
Xiao-Long Yan, Xiao-Qin Cao, Cheng-Rui Deng, Teng-Fei Zheng,* Shu-Li Yao* and Sui-Jun Liu*



2372

Amorphous vs. nanocrystalline calcium phosphate as efficient nanocarriers of elicitors in vineyards

Belén Parra-Torrejón, Marta Salvachúa-de la Fuente, Maria J. Giménez-Bañón, Juan D. Moreno-Olivares, Diego F. Paladines-Quezada, Juan A. Bleda-Sánchez, Rocío Gil-Muñoz, Gloria B. Ramírez-Rodríguez* and José M. Delgado-López*



2379

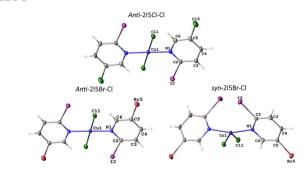
Solvates of a dianisyl-substituted donor-acceptortype benzothiadiazole: mechanochromic, vapochromic, and acid-responsive multicolor luminescence

Takumi Yagi, Takashi Tachikawa and Suguru Ito*



PAPERS

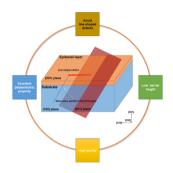
2390



Halogen bond and polymorphism in trans-bis(2iodo-5-halopyridine)dihalocopper(II) complexes: crystallographic, theoretical and magnetic studies

Firas F. Awwadi,* Manal I. Alwahsh, Mark M. Turnbull and Christopher P. Landee

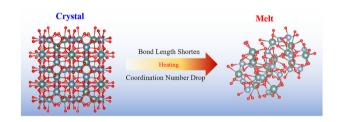
2404



Growth and characterization of the β -Ga₂O₃ (011) plane without line-shaped defects

Boyang Chen, Wenxiang Mu,* Yiyuan Liu, Pei Wang, Xu Ma, Jin Zhang, Xuyang Dong, Yang Li,* Zhitai Jia and Xutang Tao

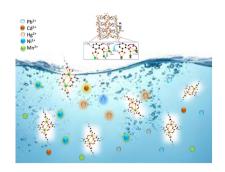
2410



Molecular dynamic simulations of the liquid structure and fast growth of Y₃Al₅O₁₂

Xianjie Zhang, Feng Liu, Kunfeng Chen, Guilin Zhuang, Chao Peng and Dongfeng Xue*

2418



Selective and efficient detection of Pb2+ in aqueous solution by lanthanoid-organic frameworks bearing pyridine-3,4-dicarboxylic acid and glutaric acid

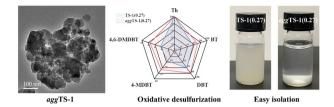
Zaib ul Nisa, Nargis Akhter Ashashi, Richa Singhaal, Musheer Ahmad, Rosa M. Gomila, Antonio Frontera and Haq Nawaz Sheikh*

PAPERS

2441

Facile and template-free synthesis of robust, highly active and easily recyclable submicrometer-sized hierarchical TS-1 aggregates composed of ultrasmall nanocrystallites (<50 nm)

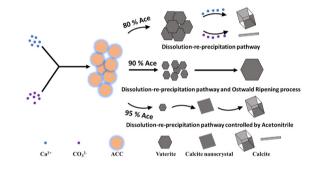
Linghao Li, Wei Wang, Jian Huang,* Rongmin Dun, Bowen Lu, Yiwei Liu, Jingxian Wu, Siyu Yang and Zile Hua*



2448

Phase transformation of calcium carbonate in acetonitrile/H2O mixed solvents: effects of water content and dielectric constant

Wenwu Zou, Zhenze Xie and Chang Du*



2456

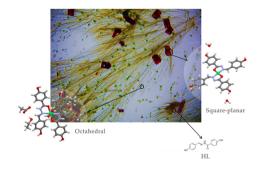
One-step synthesis of magnetic covalent organic framework composite for the adsorption of marine toxin okadaic acid

Vanesa Romero, Soraia P. S. Fernandes, Liliana P. L. Gonçalves, Orlando Oliveira, Maria Meledina, Karol Strutyński, Manuel Melle-Franco, Yury V. Kolen'ko, Begoña Espiña* and Laura M. Salonen*

One-step synthesis of mTpBD-Me₂ Crystalline Tp:BD-Me₂ (1:1.25) Okadaic acid adsorption Iron oxide NPs

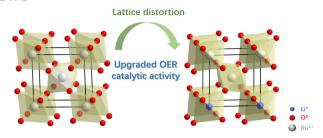
Square-planar and octahedral nickel complexes of an acylhydrazone ligand and the serendipitous isolation of a potential octahedral nickel acylhydrazone precursor

Rosa Carballo, Ana Belén Lago, * María Vázguez-Toirán, Laura Estévez and Ezequiel M. Vázquez-López*



PAPERS

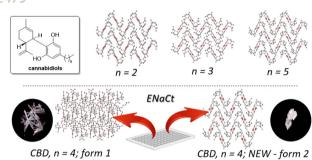
2473



Alkali metal doped ruthenium dioxide nanosheets with lattice distortion as highly active oxygen evolution electrocatalysts in acidic media

Hai Tang, Ming Kong, Wenwen Cao, Wenguang Ma, Jianjun Ding, Chuanxin Shi,* Xiaodong Yang,* Qi Shen* and Yiqiang Sun

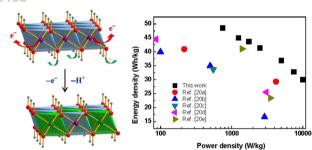
2479



Polymorph prediction through observed structural isomorphism leading to a new crystalline form of cannabidiol

Hannah E. Straker,* Lynn McMillan,* Lina Mardiana, Glen R. Hebberd, Elle Watson, Paul G. Waddell, Michael R. Probert* and Michael J. Hall*

2485



Ce³⁺ ion regulated CoNi-hydroxides for ultrahigh charge rate supercapacitors

Fei Liu, Mengying Zhao, Kunfeng Chen,* Mei Hu* and Dongfeng Xue*