

CrystEngComm

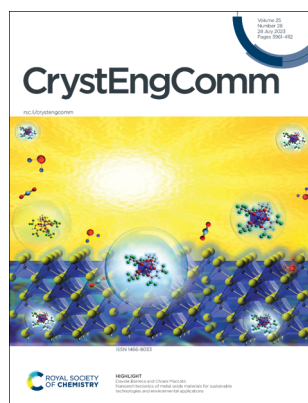
A journal at the forefront of the design and understanding of solid-state and crystalline materials

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(28) 3961-4112 (2023)



Cover

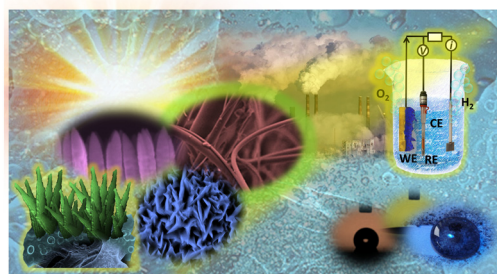
See Davide Barreca and Chiara Maccato, pp. 3968–3987. Image reproduced by permission of Davide Barreca and Chiara Maccato from *CrystEngComm*, 2023, 25, 3968.

HIGHLIGHT

3968

Nanoarchitectonics of metal oxide materials for sustainable technologies and environmental applications

Davide Barreca and Chiara Maccato*

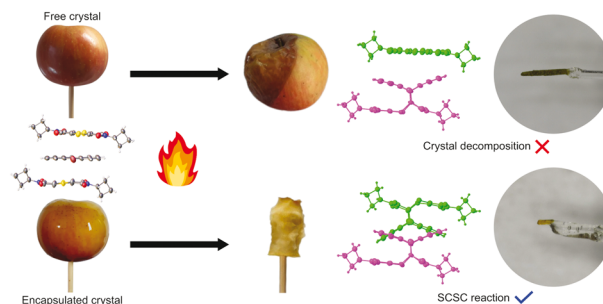


PAPERS

3988

Forced topochemistry of a solid-state Diels–Alder reaction by encapsulation in epoxy glue

T. A. Lau, S. Khorasani and M. A. Fernandes*



Editorial Staff

Executive Editor

Sally Howells

Deputy Editor

Mike Andrews

Development Editors

Samantha Apps, Michelle Canning

Editorial Production Manager

Susannah Davies

Publishing Editors

Debora Giovannelli, 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

2022 Annual (electronic) subscription price: £1268; US\$1883.
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/crystengcomm

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

Chair

Pierangelo Metrangolo, Politecnico di Milano,
Italy

Associate Editors

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

Members

Elena Boldyreva, Novosibirsk State University,
Russia
Aurora Cruz-Cabeza, Durham University, UK
Omar Farha, Northwestern University, USA
Tong-Bu Lu, Tianjin University of Technology,
China
Susan M. Reutzel-Edens, The Cambridge
Crystallographic Data Centre, UK

Advisory Board

Christer Aakeroy, 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
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
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,
Denmark
Parthapratim Munshi, Shiv Nadar University,
India
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
Concepció Rovira, Institut de Ciència de
Materials de Barcelona, Spain
Calvin Sun, University of Minnesota, USA
Wei-Yin Sun, Nanjing University, China
Jennifer Swift, Georgetown University, USA
Edward R T Tiekink, Sunway University,
Malaysia
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 2022.

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

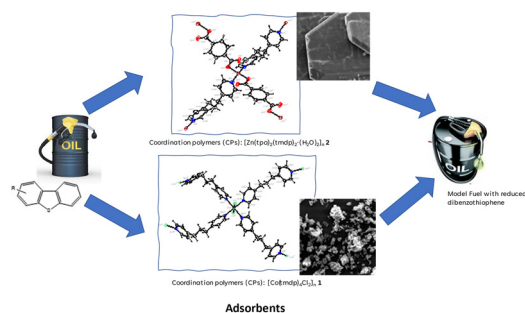


PAPERS

3998

Synthesis, crystal structures and DFT studies of Co(II) and Zn(II) coordination polymers of terephthalate and 4,4'-trimethylenedipyridyl ligands for removal of dibenzothiophene from a model fuel oil

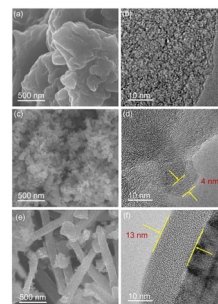
Adedibu C. Tella,* Samson O. Owalude, Olanrewaju A. Ameen, Hadley S. Clayton, Quadrat Yusuf, Tendai O. Dembaremba, Eric C. Hosten and Adeniyi S. Ogunlaja*



4011

Micropore-induced high-performance Fe-N_x/C electrocatalysts towards the oxygen reduction reaction

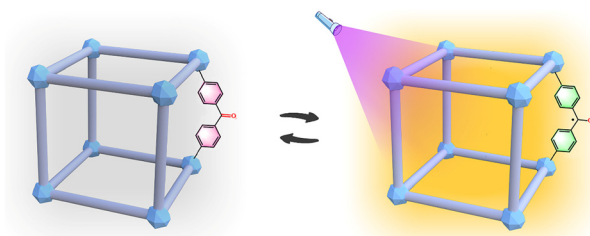
Yeshe Qin, Feng Wang, De Cheng, Chen Wen,* Jiaqiang Zhang, Sizhen Li and Jingying Bai*



4019

UV and X-ray dual-induced photochromism in a benzophenone-based metal-organic framework for inkless erasable printing

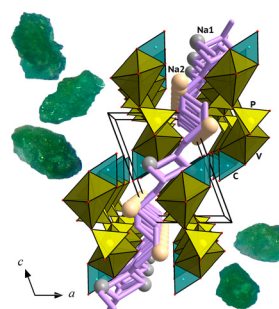
Le-Tian Zhang, Zi-Xuan Fu, Jia-Cheng Yin, Ming Liu, Yin-Qiang Zhang, Lan Lan, Na Li* and Xian-He Bu



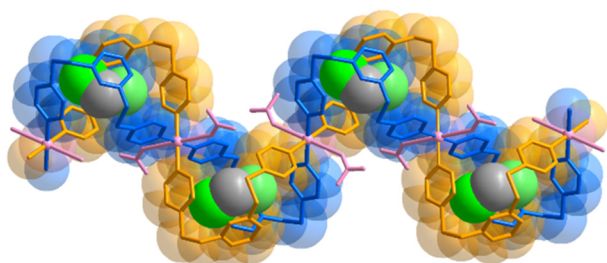
4024

Na₃(VO)(PO₄)(CO₃): a synthetic member of the bradleyite phosphate carbonate family with a new type of crystal structure

Olga Yakubovich,* Galina Kiriukhina, Sergey Simonov, Anatoly Volkov and Olga Dimitrova



4033

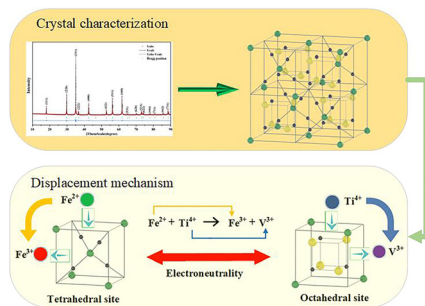


A loop chain with Cu^{II} nodes, $\{[\text{Cu}(\text{L})_2(\text{NO}_3)_2] \cdot \text{CH}_2\text{Cl}_2\}_n$

Preparation of one-dimensional coordination polymers of a flexible tripyridyl disulfide with diverse topologies

Hyeong-Hwan Lee, Jihye Oh, Shim Sung Lee and In-Hyeok Park*

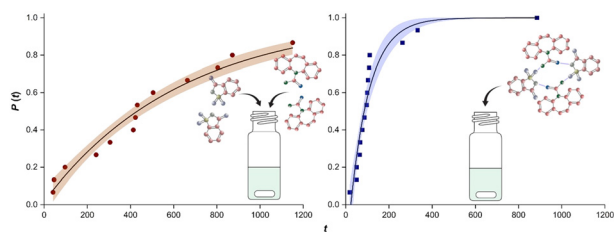
4039



Crystallization behavior and crystal characterization of V-spinel in vanadium slag via *in situ* separation: displacement mechanism of V and Ti

Guoliang Feng, Jintao Gao,* Xi Lan, Yu Li and Zhancheng Guo*

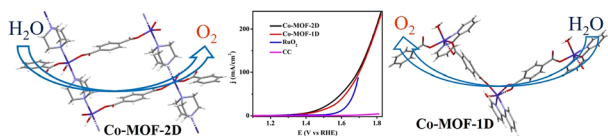
4048



Mesoscale clusters in multicomponent systems: the effect of solution preparation and pre-treatment on primary nucleation of a carbamazepine-saccharin cocrystal

Jordan Crutzen, Lai Zeng and Michael Svärd*

4058



Water coordinated Co-MOFs with 1D/2D network structure and highly enhanced electrocatalytic OER activity

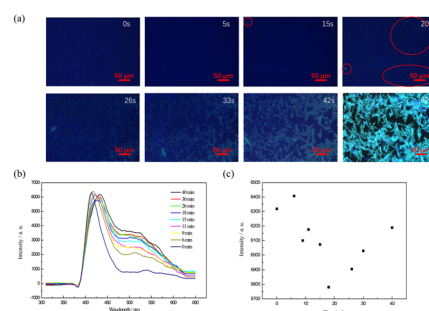
Pandi Muthukumar, Gunasekaran Arunkumar, Mehboobali Pannipara, Abdullah G. Al-Sehemi, Dohyun Moon* and Savarimuthu Philip Anthony*



4064

Real-time fluorescence visualization of the evaporation crystallization process based on the AIEE mechanism

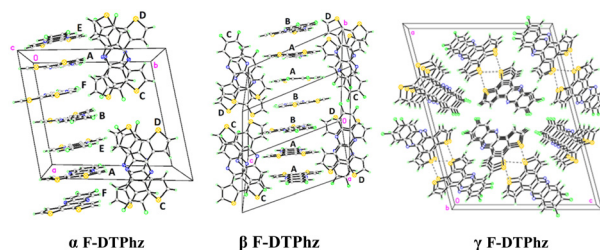
Lijie Gao, Meng Wang, Shuyu Li, Kui Chen, Lina Zhou, Xin Li, Na Wang,* Xin Huang, Hongxun Hao and Ting Wang*



4076

Additive controlled packing polymorphism in a series of halogen-substituted dithieno[3,2-a:2',3'-c]phenazine derivatives

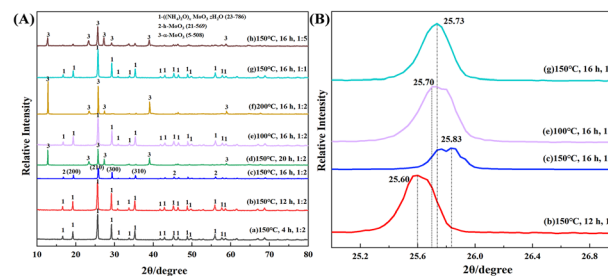
Boris B. Averkiev, Raúl Castañeda, Marina S. Fonari, Evgheni V. Jucov and Tatiana V. Timofeeva*



4089

Controllable synthesis and formation mechanism of pure and Fe-doped h-MoO₃ microrods under hydrothermal reaction conditions

Hong-Xiao Li, Lu Wang* and Feng-Jiao Du



4100

Controlled long-term sustained release of poly(lactic acid) composite microspheres with dual-responsive cellulose nanocrystals

Mingxin Wang, Somia Yassin Hussain Abdalkarim, Ruixin Gong, Haibin Ji, Zhiming Chen, Yunfei Shen, Ying Zhou, Jiayuan Shen and Hou-Yong Yu*

