

Dalton Transactions

An international journal of inorganic chemistry incorporating Acta Chemica Scandinavica
rsc.li/dalton

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 1477-9226 CODEN DTARAF 55(13) 5079-5418 (2026)



Cover

See Fernando R. Xavier *et al.*
pp. 5117–5129.

Image reproduced by permission of Fernando Roberto Xavier from *Dalton Trans.*, 2026, **55**, 5117.



Inside cover

See Adoracion G. Quiroga *et al.* pp. 5130–5138.

Image reproduced by permission of Adoracion G. Quiroga, David Fabra *et al.* from *Dalton Trans.*, 2026, **55**, 5130.

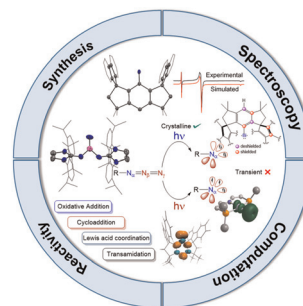
Acknowledgement:
Cover image designed by David Fabra, MOF-808 crystal structure: Yaghi *et al.*, *J. Am. Chem. Soc.*, 2014, **136**, 11, 4369–4381.

PERSPECTIVE

5090

Monocoordinated nitrenes and heavier pnictinidenes: transient to bottleable compounds

Sandeep Kumar, Kanishk Tomer, Avnish Singh and Priyabrata Ghana*

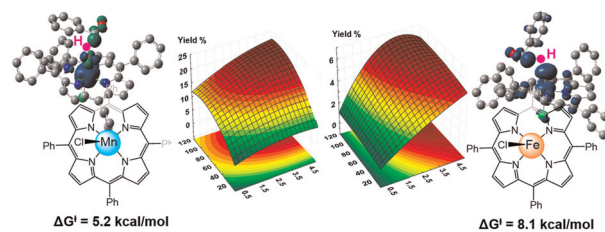


PAPERS

5117

A comprehensive experimental, multivariate statistical, and DFT computational analysis of the catalytic oxidation of benzyl alcohols mediated by Mn(III) and Fe(III) metalloporphyrins

Larissa Chimilouski, Sheetal Ranaut, William Henrique Slominski, Patrícia Salvador Tessaro, Gilson DeFreitas-Silva, Edmar Martendal, Cláudio N. Verani, Shivnath Mazumder* and Fernando Roberto Xavier*



EES Catalysis

GOLD
OPEN
ACCESS

Exceptional research on energy
and environmental catalysis

Open to everyone. Impactful for all

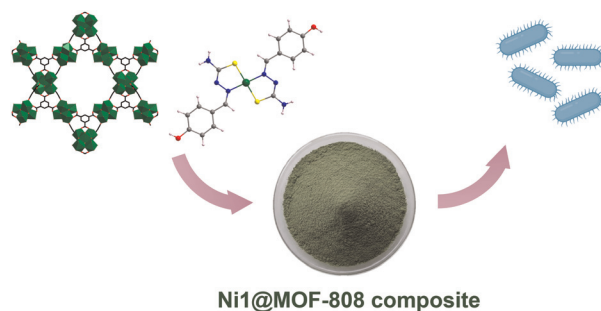
rsc.li/EESCatalysis

Fundamental questions
Elemental answers

5130

Structural features and antibacterial activity of Ni(II) thiosemicarbazones in a zirconium metal-organic framework composite

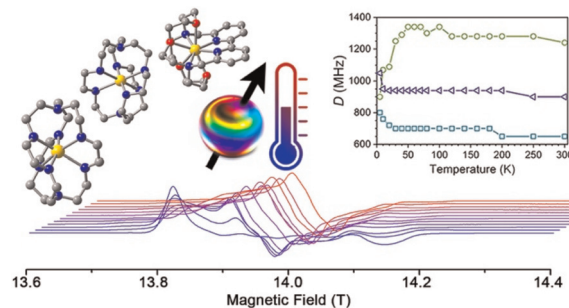
Edward Loukopoulos, David Fabra, Jorge Melones-Herrero, Ana I. Matesanz, Carmen Viciano, Ana E. Platero-Prats,* Isabel Sánchez-Pérez* and Adoracion G. Quiroga*



5139

Amplified electron–spin thermal sensitivity in Mn(II) complexes

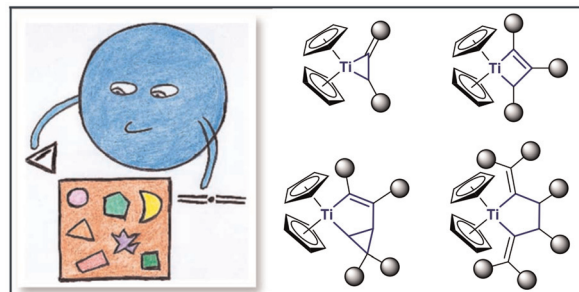
Anthony J. Campanella, Amanda Gin, Siyoung Sung, Cassidy E. Jackson, Roxanna Martinez, Ökten Üngör, Srikanth Dasari, Andrew Ozarowski, Indrani Bhowmick and Joseph M. Zadrozny*



5151

Expanding the reactivity of Rosenthal's reagent to cyclopropenes and allenes

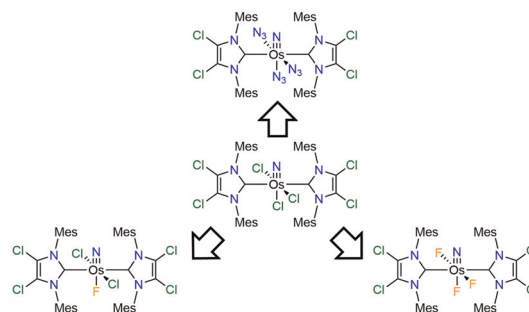
Marcel Eilers, Dennis Geik, Marc Schmidtman, Sven Doye and Rüdiger Beckhaus*



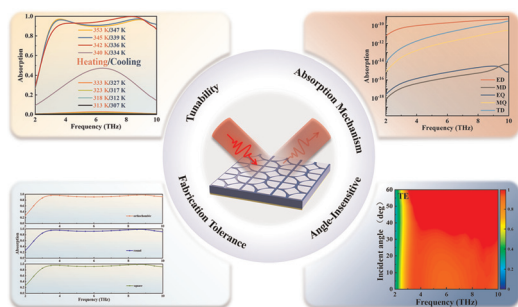
5161

Accessing osmium(VI) nitrido complexes with N-heterocyclic carbene ligands

Joshua Parche, Robin Sievers, Tim-Niclas Streit and Moritz Malischewski*



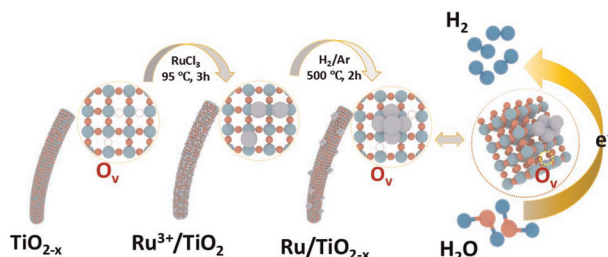
5168



An ultra-broadband and thermally tunable terahertz metamaterial absorber with high fabrication tolerance

Hao Shi, Chunlan Wang,* Tao Liu, Lichao Yang, Zekun Liu, Xiaoming Mo* and Yougen Yi*

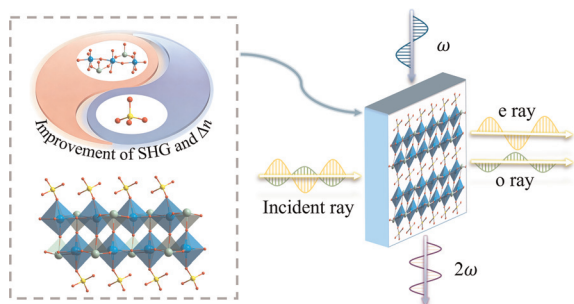
5180



Oxygen vacancies as electronic bridges to reinforce Ru–TiO₂ metal–support interactions toward efficient electrocatalytic acidic hydrogen evolution

Wanjing Lai, Xiao Yang, Hailin Jiang, Xuan Luo, Jianwei Chen, Shuwen Zhao, Yanan Sun, Linjie Zhang,* Lei Yang* and Lili Han*

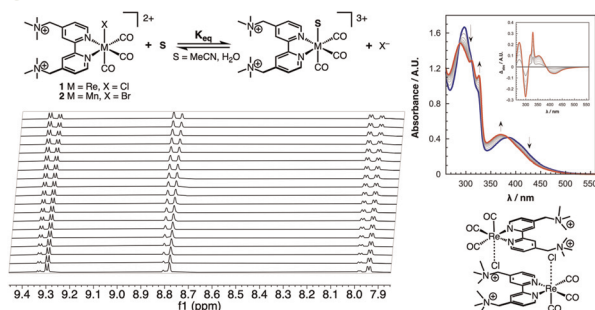
5189



Double second-order Jahn–Teller strategy driven NLO response in sulfate crystal Nb₂O₂(TeO₃)₂(SO₄) with a large birefringence

Jingsha Xu, Xiaofeng Zhang, Shanshan Chen, Weiyi Wang, Wenbo Qiu, Weizhao Cai* and Liujiang Zhou*

5197



Pendant-cation assisted spontaneous axial halide substitution in group 7 M(L)(CO)₃X complexes

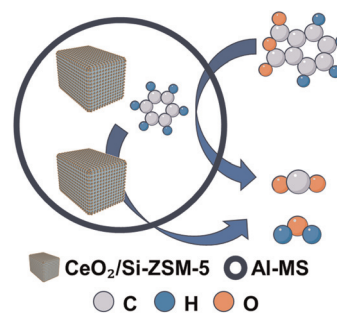
Wesley W. Kramer,* Thomas R. Sheridan, Jorge Pérez-Vázquez, Christophe A. Boivin, Amanda M. Browne, Catherine G. Logan and Brian C. Sanders



5210

Cracking–oxidation of dibutyl phthalate: core–shell catalyst, decarboxylation mechanism, and process cost

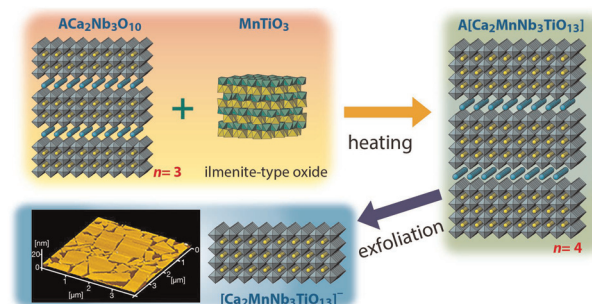
Guoqing Zhang, Tao Wei, Shangpu Zhuang, Jihai Tang, Mifen Cui, Xu Qiao and Zhuxiu Zhang*



5217

Synthesis of Mn-bearing layered perovskite-type niobate and its delaminated nanosheet

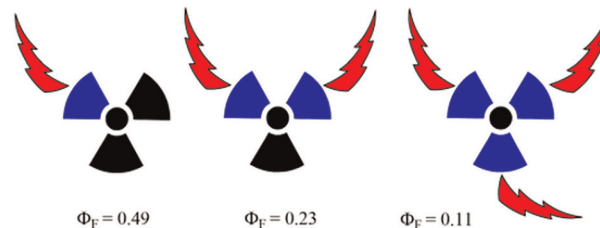
Yasuo Ebina,* Yuichi Michiue, Nobuyuki Sakai and Takayoshi Sasaki



5224

A systematic series of BODIPY–cyclotriphosphazene conjugates: exploring the effect of BODIPY numbers on photophysical properties

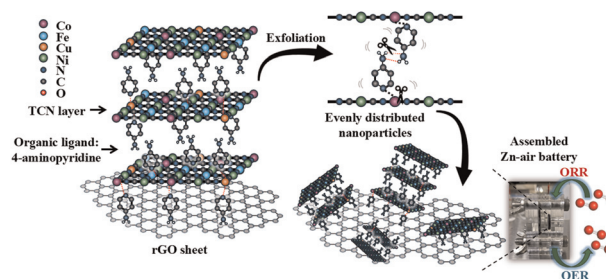
Yacinthe Mariole Mache, Semiha Yıldırım Sarıkaya* and Husniye Ardic Alidagi



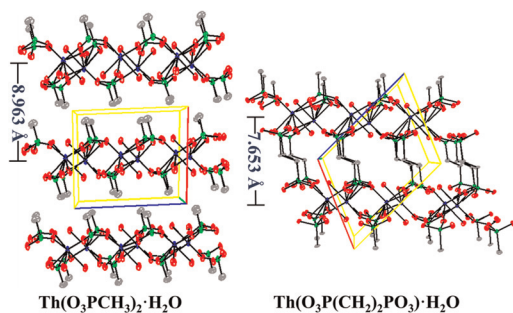
5233

Modulation of the electrocatalytic performance of rGO/CoCuFe[Ni(CN)₄] pillared with pyridine derivatives in zinc–air batteries

E. Arturo Quintanilla-Serrano,* Próspero Acevedo-Peña,* Marlene González and Edilso Reguera*



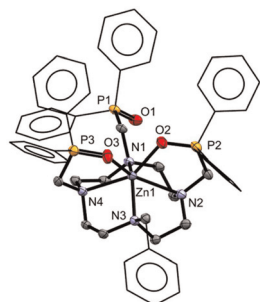
5250



Syntheses and characterization of non-molecular phenyl- and methyl-phosphonates and ethylenediphosphonates of thorium and cerium

Rupansha Mehra and Kanamaluru Vidyasagar*

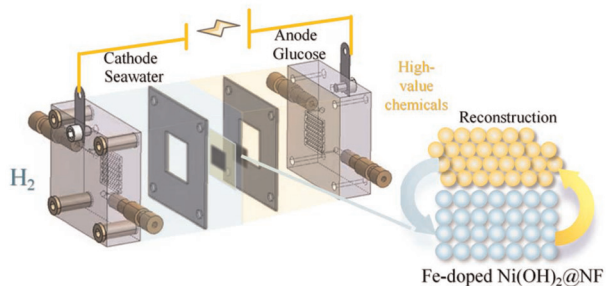
5266



Transition metal complexes with phosphine oxide appended aza-macrocycles – effects of ring size and denticity

Julie M. Herniman, George P. Keeling, Rhys P. King,*
Mark E. Light, Navya Kandathil Sintho, Kate Snowsill and Gillian Reid*

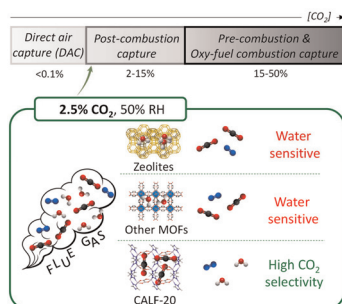
5276



In situ reconstruction-regulated Fe-doped $\text{Ni}(\text{OH})_2$ for glucose oxidation electrocatalytic-enhanced seawater electrolysis

Yan Sun, Yifei Su, Zhibin Liang, Yuexia Li, Hairui Guo and Xin Jiao*

5283



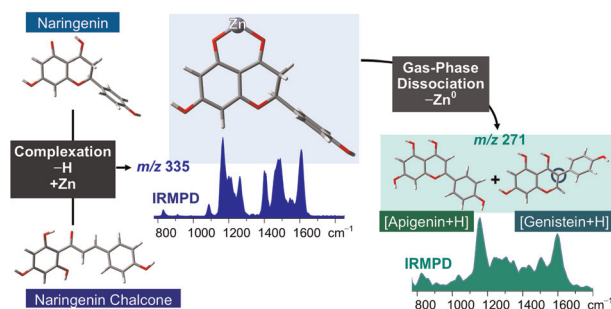
Scalable metal–organic frameworks for efficient low concentration CO_2 capture under humid flue gas conditions

Thibaud Aumond, Mickaele Bonneau,*
Corentin Collomb, Cécile Daniel and David Farrusseng

5290

Zn(II) complexation promotes isomerization and oxidative rearrangements of naringenin: evidence from IR ion spectroscopy and DFT calculations

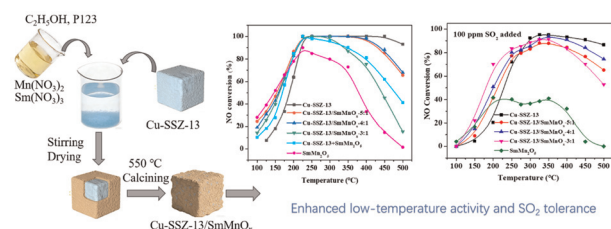
Lucretia Rotari, Valeria Vergine, Giel Berden, Jos Oomens, Barbara Chiavarino,* Davide Corinti* and Maria Elisa Crestoni



5301

Enhanced low-temperature NH₃-SCR activity and SO₂ tolerance by Cu-SSZ-13/R(Sm, Pr, Y or La) MnO_x coupled catalysts

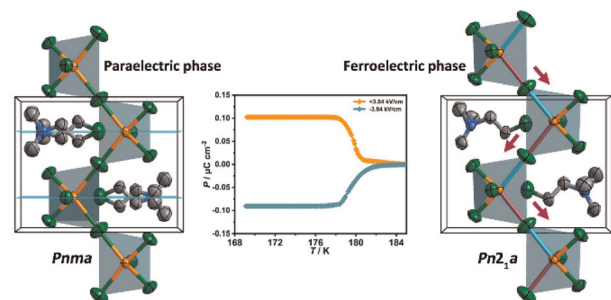
Wenting Lv,* Xuliang Jiang, Guangmei Wei, Ruochen Wei, Fengmin Sun, Ruihua Zhang, Yanlu Guo, Xiaojuan Chai, Weiyong Jiao* and Baoliang Lv*



5313

A one-dimensional hybrid ferroelectric exhibiting lone pair stereoactivity based on square pyramids

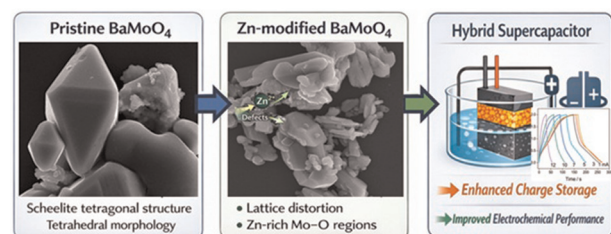
Ya-Juan Li, Yu-Qiao Tong, Shi-Qing Yin, Qian-Jun Gu, Peng-Peng Gong, Yi Guo, Bo Huang* and Ai-Xin Zhu*



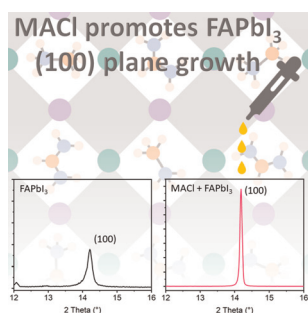
5319

Structural evolution of BaMoO₄ upon Zn doping and its influence on electrochemical behavior in hybrid supercapacitors

Galey Dorji, Manickam Minakshi,* Sabina Shahi, Rob Aughterson, Katsuhiko Ariga and Lok Kumar Shrestha*



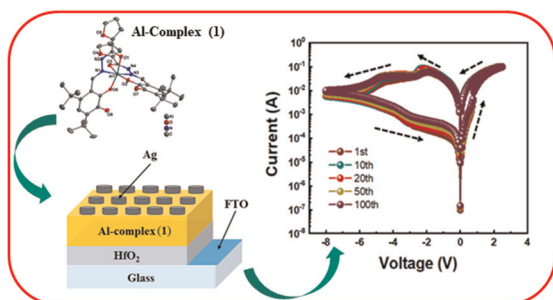
5336



Experimental and theoretical insights into the incorporation of MACl in FAPbI₃ perovskite films

Nazlıcan Şahin Sütçü,* Pelin Kavak, Ayşenur Corcor Özbay, İrem Topal, Neşe Güngör, Emrah Çakmakçı, Kadir Eşmer, Caner Değer, İlhan Yavuz and Mustafa Alevli*

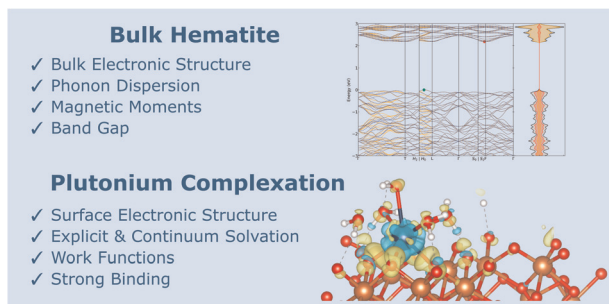
5345



Solution-processable homoleptic aluminum(III) catecholaldimine complex as an active material for RRAM switching device

Vivek Sharma, Anupam Chetia, Rishabh Raj Upadhyay, Purva Dua, Satyajit Sahu* and Ramesh K. Metre*

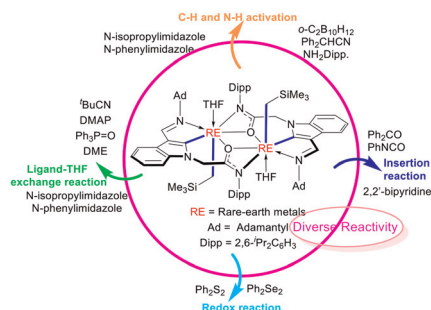
5359



The interaction of Pu(IV) with the hematite (001) terminations: a periodic boundary condition DFT study

Ryan L. Dempsey and Nikolas Kaltsoyannis*

5369



Reactivity of homodinuclear rare-earth metal complexes with an indol-2-yl-based pincer ligand toward nitrogen- and oxygen-containing compounds

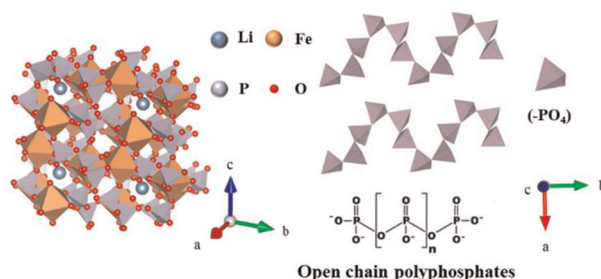
Jianwu Wen, Fuxiang Chai, Yonghu Bao, Mengxin Tao, Zeming Huang, Xiancui Zhu,* Qingbing Yuan and Shaowu Wang*



5382

Uncovering lithium iron metaphosphate as a cathode material through organophosphate-assisted one-pot synthesis

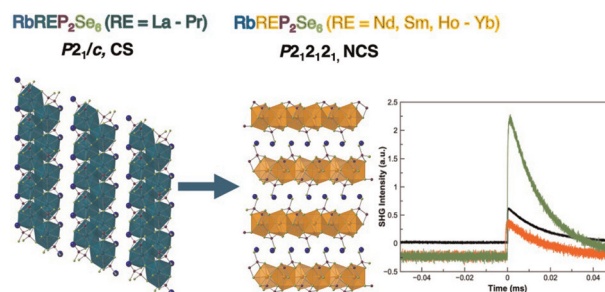
Yongda Guo, Jingbo Huang, Junzhen Wei, Yating Hu,*
Shaomin Huang* and Ximeng Liu*



5388

Centrosymmetric to noncentrosymmetric structure transition of the $\text{RbREP}_2\text{Se}_6$ (RE = La–Nd, Sm, Ho–Yb) series: crystal growth, magnetic and optical properties

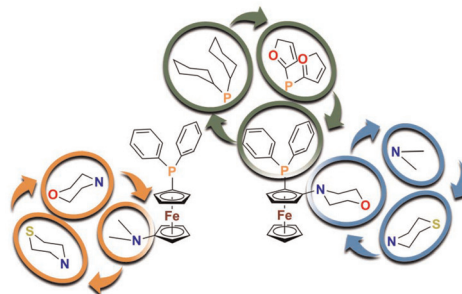
Habiba Binte Kashem, Md Abdullah Al Muhit,
Hope Eden Smith, Eric A. Gabilondo,
P. Shiv Halasyamani and Hans-Conrad zur Loye*



5397

Synthesis of hybrid phosphinoferrocene ligands bearing amine pendants and catalytic evaluation of their gold(i) complexes

David Rezazgui, Ivana Císařová, Petr Štěpnička and
Jiří Schulz*



5408

Cubane lanthanoid complexes with tridentate [O, P=O, O] coordination using tris(5-*tert*-butyl-2-hydroxyphenyl)-phosphine oxide ligands: synthesis, characterisation, and magnetic behaviour

Patrick Mangundu, Curtis C. Ho, Richard A. Mole,
Marcus Korb* and Rebecca O. Fuller*

