

# Dalton Transactions

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## IN THIS ISSUE

ISSN 1477-9226 CODEN DTARAF 54(41) 15349–15658 (2025)



**Cover**  
See Shigehisa Akine,  
pp. 15364–15378.

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2025, **54**, 15364.



**Inside cover**  
See Kogularamanan  
Suntharalingam,  
Alexander F. R. Kilpatrick  
*et al.*, pp. 15389–15394.

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Kogularamanan Suntharalingam  
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2025, **54**, 15389.

## EDITORIAL

15361

### Mixed-anion compounds

Teruki Motohashi, Maarit Karppinen and Simon J. Clarke

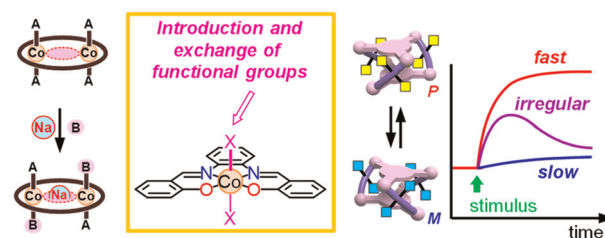


## PERSPECTIVE

15364

### Dynamic functions of bis- and tris(saloph) cobalt(III) structures based on axial coordination

Shigehisa Akine



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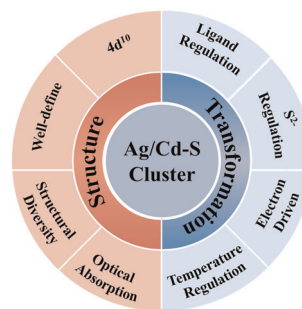
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15379

## Ligand-protected silver–sulfur and cadmium–sulfur clusters: structures and transformations

Xin-Yu Tong, Yi-Jing Zeng, Yan-Xiang Ling, Ju-Suo Zhong, Zhan-Guo Jiang\* and Cai-Hong Zhan\*

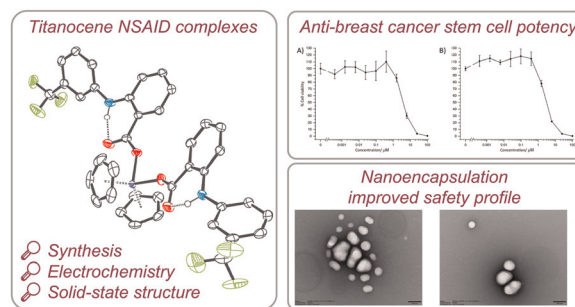


## COMMUNICATIONS

15389

### Anti-breast cancer stem cell activity of titanocene complexes of non-steroidal anti-inflammatory drugs

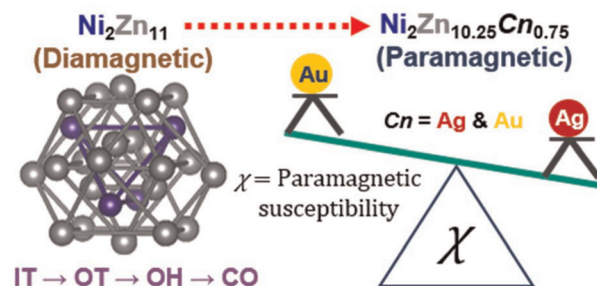
Olympia Mouriki, Ginevra Passeri, Karampal Singh, Sarah D. Lamorte, Kuldip Singh, Kogularamanan Suntharalingam\* and Alexander F. R. Kilpatrick\*



15395

### Site-specific substitution in the structure of Ni<sub>2</sub>Zn<sub>11</sub> by the coinage metals (Cn = Ag and Au) to alter the magnetism

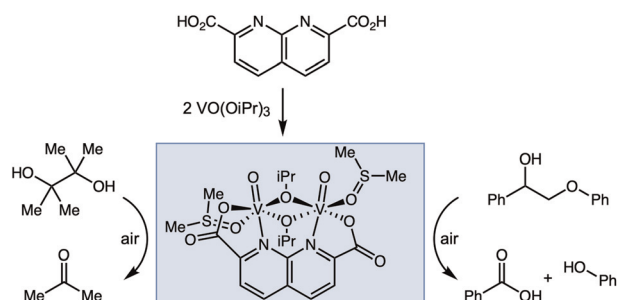
Amit Mondal, Siddha Sankalpa Sethi, Jayanta Dutta, Rahul Pan, Sandip Kumar Kuila, Weiwei Xie, Ahin Roy and Partha Pratim Jana\*



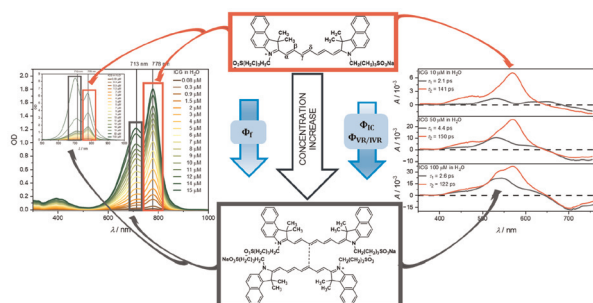
15400

### Cooperative enhancement of redox catalysis in divanadium complexes binucleated by 1,8-naphthyridine-2,7-dicarboxylate

Simran Simran, Maxym Tansky, Seth Trabulsi, Liangzi Deng, Ching-Wu Chu, Andrew Ozarowski and Robert J. Comito\*



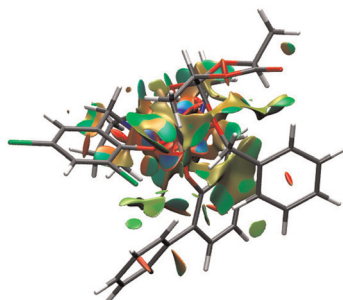
15406



### ICG revisited: excited-state dynamics as a function of dye concentration and solvent environment

Maria T. Lahm, Pascal Rauthe, Kai-Ching Fan, Claus Feldmann and Andreas-Neil Unterreiner\*

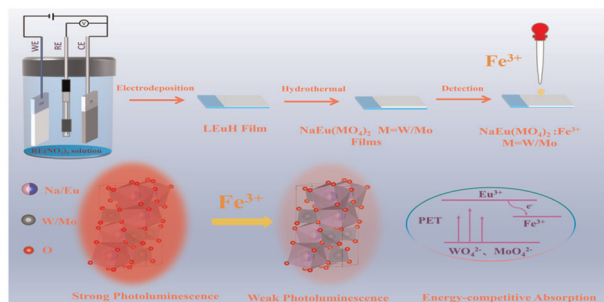
15416



### Stereoselective ring opening polymerization of lactide using chiral aluminum salan catalysts

Samuel A. Fosu and Bess Vlaisavljevich\*

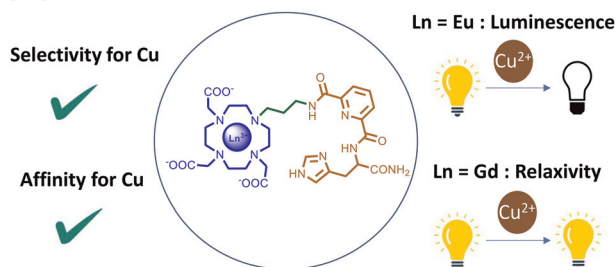
15424



### Synthesis of europium-based fluorescent films for high-sensitivity detection of iron ions via layered precursor anion exchange

Lu He, Sen Qin, Haoxuan Zeng, Ziyuan Li, Qiao Liang, Xin Hu and Xiaoli Wu\*

15432



### Lanthanide complexes bearing a bioinspired Cu<sup>II</sup> binding site with picomolar affinity: synthesis, structural, relaxometric and luminescence studies

Katharina Zimmerer, Bertrand Vileno, Agnès Pallier, Carlos Platas-Iglesias, Peter Faller, Célia S. Bonnet\* and Angélique Sour\*

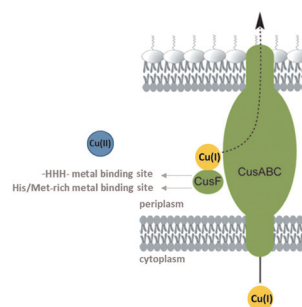


## PAPERS

15441

## Two sites, two stories: sequence-driven divergence in Cu(II) and Zn(II) binding to CusF

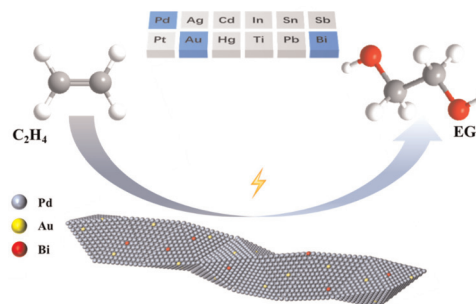
Michał Pakowski and Aleksandra Hecel\*



15455

## Regulating hydroxyl species over Pd-based nanowires towards enhanced direct electrooxidation of ethylene to ethylene glycol

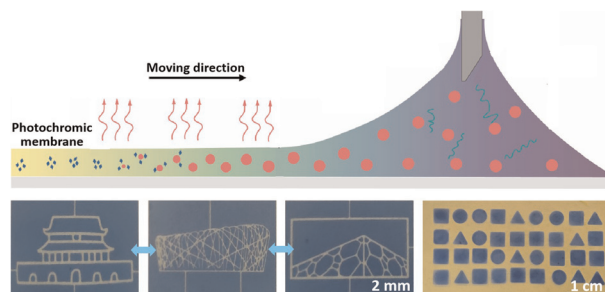
Shengyu Hu, Cuiyu Li, Hui Jin, Dandan Sun, Yachong Wang, Jie Cao, Qiaoli Chen\* and Yihan Zhu



15461

## Inkless rewritable paper enabled by a scalable photochromic membrane

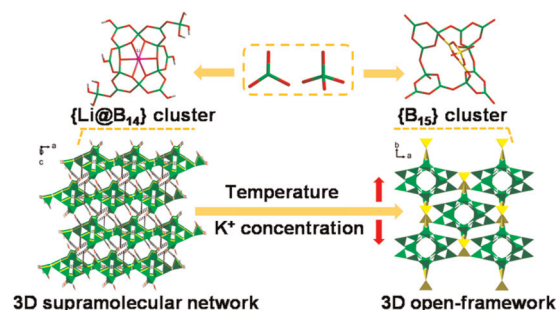
Junchao Liu,\* Chenfang Zhang, Tianyu Huang, Xusheng Guo,\* Zhenxin Kuang, Rongwei Kou, Zhong Yu, Pan Jia and Jingxia Wang\*



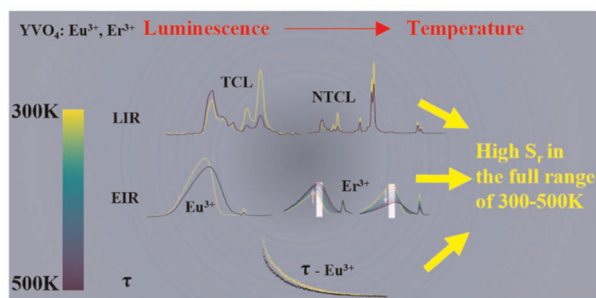
15468

Two alkali metal borates built by  $\{Li@B_{14}\}$  and  $\{B_{15}\}$  cluster units

Ming-Zhao Li, Dan Qin, Juan Chen, Qi Wei and Guo-Yu Yang\*



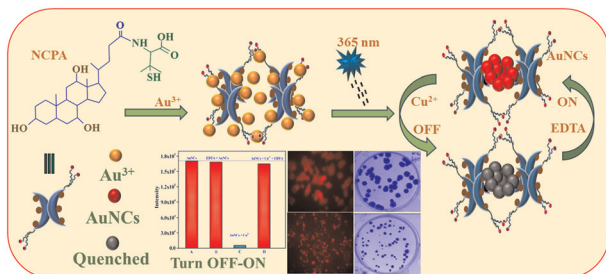
15474



### Multimodal synergistic thermometry: designing wide-range optical thermometers via $\text{Eu}^{3+}/\text{Er}^{3+}$ co-doped $\text{YVO}_4$

Ziyuan Li, Qiao Liang, Lu He and Xiaoli Wu\*

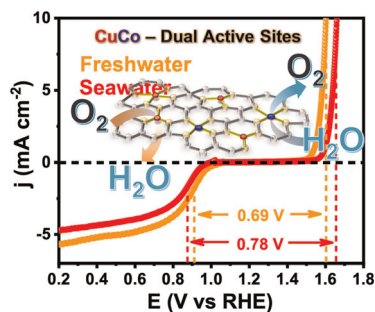
15483



### NCPA-templated red-emitting gold nanoclusters: a turn-off-on fluorescent probe for rapid and selective detection of $\text{Cu}^{2+}$ ions in live cells and evaluation of anticancer activity

Manikandan Elumalai, Gopinath Nagaraj, Sankar Ganesh Ramaraj,\* Elangovan Vellaichamy, Hitoshi Tabata and Nagappan Rajendiran\*

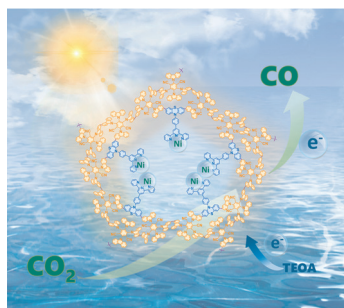
15500



### Atomically dispersed Co–Cu dual active sites in carbon networks as an efficient oxygen electrocatalyst

Nibedita Sinha, Chandni Das, Santanu Pal, Rajashri R. Urkude, Tanbir Ahmed, Biplab Ghosh and Poulomi Roy\*

15512



### Porous organic polymers containing organic photosensitizers and metal–terpyridine molecules for efficient aqueous $\text{CO}_2$ photoreduction

Youting Fang,\* Linfeng Sun, Yilin Xue and Duobin Chao\*

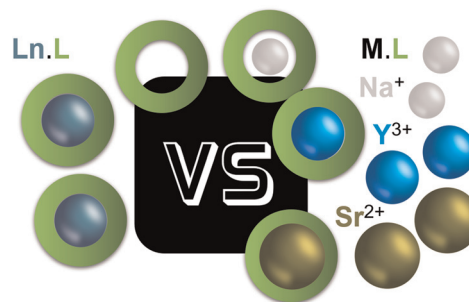


## PAPERS

15519

### Investigating lanthanide complex stability through kinetic and thermodynamic competition with metal ions and DTPA

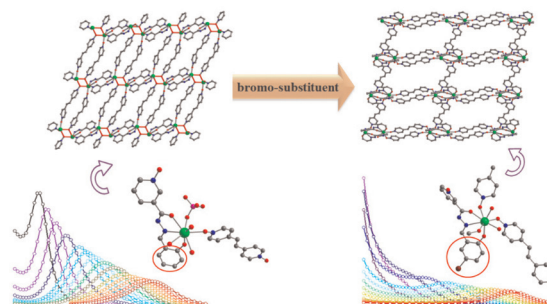
Vasileios Mouchtouris and Thomas Just Sørensen\*



15529

### Effect of a bromo-substituent on the magnetization dynamics of dysprosium coordination polymers constructed using a hybrid-ligand concept

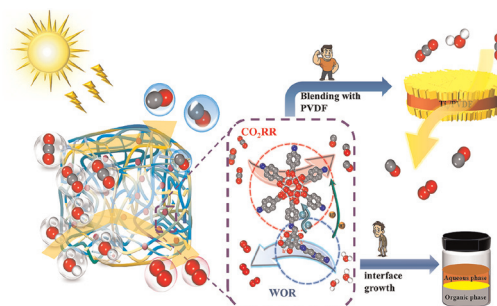
Fang Ma, Lei Zhang, Chan Yang, Zhen-Na Huang, XiaoXiao Huang\* and Hao-Ling Sun\*



15537

### Design of titanium-oxide cluster-based metal-covalent organic frameworks for efficient photocatalytic CO<sub>2</sub> reduction

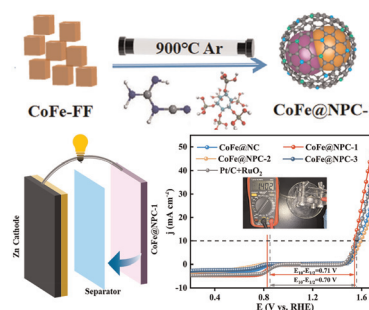
Teng Liu, Yao-Mei Fu, Xing Meng,\* Li Xue, Hai-Ning Wang and Zhong-Min Su



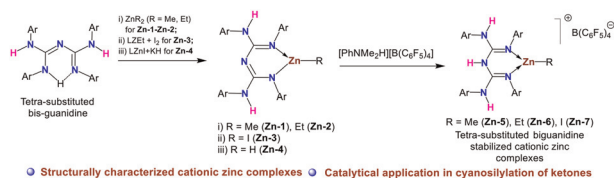
15544

### CoFe-FF derived CoFe alloy@N,P-doped carbon composites: preparation and zinc–air battery performance evaluation

Feng Wen, Qihao Wu, Heju Gao, Chunyan Wu, Guancheng Xu\* and Li Zhang\*



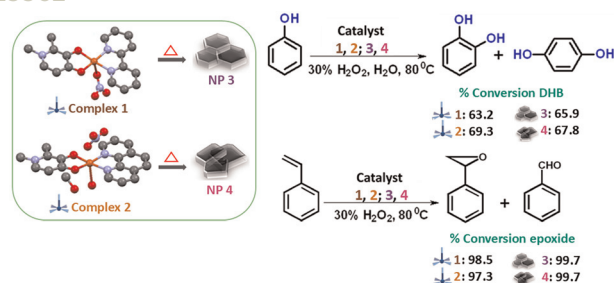
15554



### Bulky bis-guanidine ligand-based neutral and cationic zinc alkyl, halide, and hydride complexes: synthesis, characterization, and catalytic application

Rajata Kumar Sahoo, Sayantan Mukhopadhyay, Sagrika Rajput, Achintya Jana and Sharanappa Nembenna\*

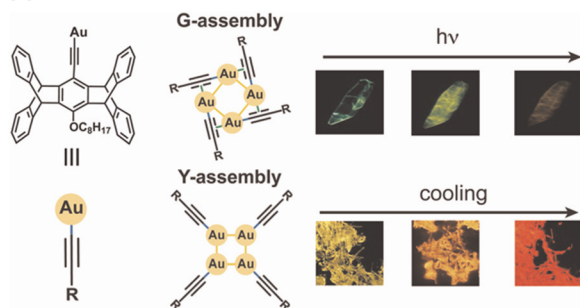
15561



### Mixed ligand Cu(II) complexes as new precursors for the synthesis of CuO nanomaterials: development of homogeneous and heterogeneous catalysts for styrene epoxidation and phenol hydroxylation under mild conditions

Mitu Sharma,\* Mukesh Sharma, Sazida Yasmin Sultana, Mallayan Palaniandavar\* and Nashreen S. Islam\*

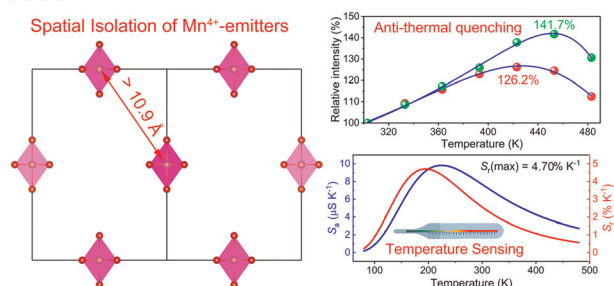
15581



### Assembly-dependent thermo- and photochromic luminescence in pentiptycene-based homoleptic gold(I) alkynyl clusters $[(AuC\equiv CR)_n]$

Ying-Feng Hsu, Shih-Ying Cheng, Che-An Cheng, Yu-Hsuan Kang, Yi-Hung Liu, Kien Voon Kong\* and Jye-Shane Yang\*

15588



### $(Sr_3Ca_4)(Ca_2Ga_6)O_{18}:Mn^{2+}$ : crystallographic spatial isolation enables high doping levels, exceptional anti-thermal quenching, and promising temperature sensing applications

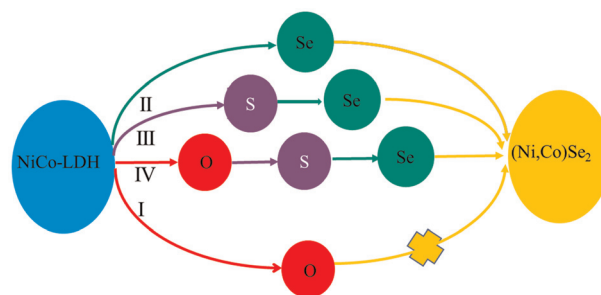
Yaxin Xu, Xiangxiang Jing, Jia Yang, Zien Cheng, Rihong Cong, Tao Yang\* and Pengfei Jiang\*



15601

### Using a sequential synthesis approach to fabricate (Ni,Co)Se<sub>2</sub> electrodes for high-performance supercapacitors

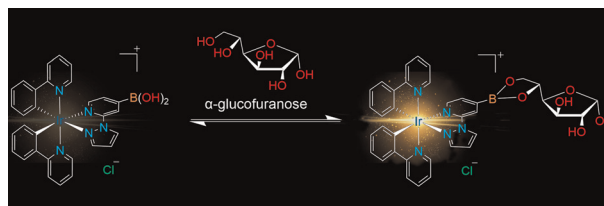
Yi Wang, Sicong Zhang, Qingfeng Zhan, Jingce Bi, Ningning Liu, Xia Zhang, Zhuopeng Wang and Yide Han\*



15609

### Luminescent iridium(III) complexes bearing boronic acid groups: potential sensors for carbohydrates

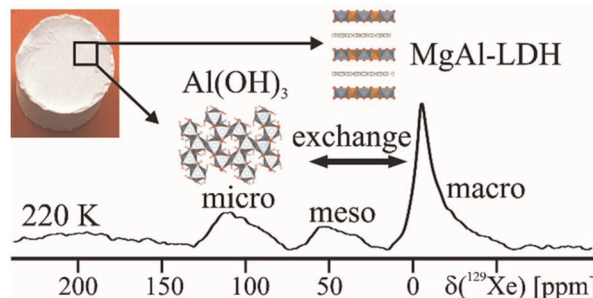
Rahad Rahman, Nurul H. Quazi, Keith F. White, Nicolau Saker Neto, Yuning Hong, Marcel Maeder, David J. D. Wilson and Peter J. Barnard\*



15623

### Phosphate recovery using porous monolith MgAl-LDH: insights from NMR spectroscopy, physisorption and microscopy

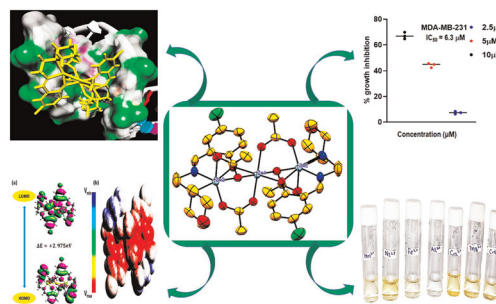
Kamilla Thingholm Bünning, Per Morgen, Claude Forano, Vanessa Prevot, Anne Selent, Ville-Veikko Telkki, Anu M. Kantola\* and Ulla Gro Nielsen\*



15637

### An acetate bridged centrosymmetric trinuclear Zn(II) cluster: structural insights, biomolecular interactions, sensing and cytotoxic activity

Imtiyaz Ahmad Mantoo, Masrat Bashir, Mushtaq Ahmad Nengroo, Shahnawaz Ali Bhat and Imtiyaz Yousuf\*



## CORRECTION

15655

**Correction: Collapse or capture? Guest-induced response of two structurally distinct pillared-MOFs upon exposure to pyridines and quinolines**

Dario Giovanardi, Giorgio Cagossi, Pavel N. Zolotarev, Paolo P. Mazzeo, Alessia Bacchi, Lucia Carlucci, Davide M. Proserpio and Paolo Pelagatti\*

