

# Dalton Transactions

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## IN THIS ISSUE

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**Cover**  
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pp. 10549–10557.

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Sankarasekaran Shanmugaraju  
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10549.

## PERSPECTIVES

10492

### Artificial solid electrolyte interphases by atomic and molecular layer deposition

Milad Madadi, Ville Miikkulainen and Maarit Karppinen\*

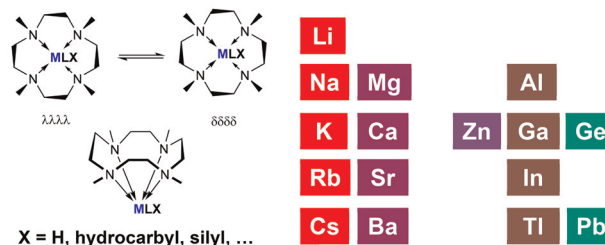


10504

### Reactive main group metal complexes of the neutral NNNN macrocycle, Me<sub>4</sub>TACD

Priyabrata Ghana, Louis J. Morris and Jun Okuda\*

#### Main Group Metal Complexes of Me<sub>4</sub>TACD



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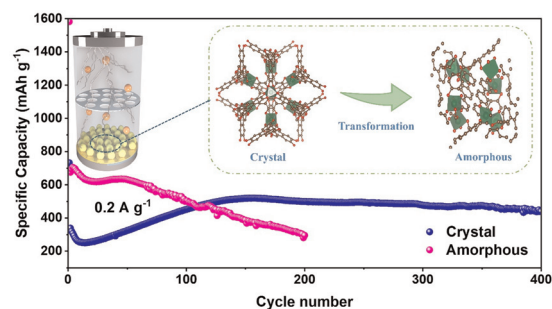
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## COMMUNICATIONS

10541

**Crystal to non-crystal transformation in a Sn-based MOF anode with long cycle life for lithium storage**

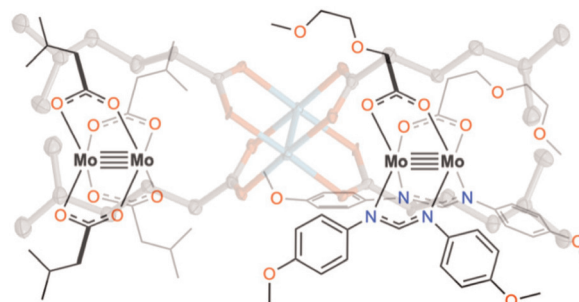
Ruoyu Wang, Yao Chen, Zaozao Wu, Qing Li, Hao Wang, Dongming Li, Zhipeng Yu, Jianhua Ding,\* Xiaolan Tong and Jianbo Xiong\*



10546

**Solubilizing dimolybdenum paddlewheel complexes for energy storage applications**

Simon G. Gersib, S. M. Supundrika Subasinghe and Neal P. Mankad\*



## PAPERS

10549

***p*-Cymene–Ru(II)–organometallic conjugates based on ‘V-shaped’ 4-amino-1,8-naphthalimide Tröger’s base scaffolds: synthesis, photophysics, bioimaging, and BSA/HSA binding studies**

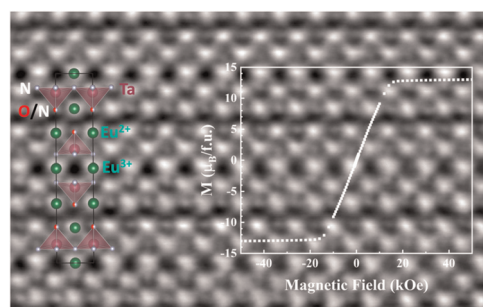
Binduja Mohan, Anna Jose, Indrajit Bhattacharjee, Raju Saravanan, Mannanchara Kunhumon Noushija, Mintu Porel, Bibhu Ranjan Sarangi and Sankarasekaran Shanmugaraju\*



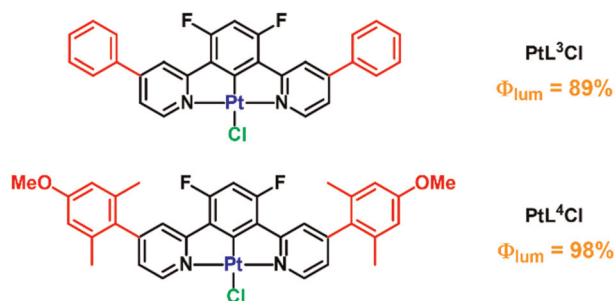
10558

**Eu<sub>3</sub>Ta<sub>2</sub>ON<sub>5</sub>: an *n* = 2 Ruddlesden–Popper ferromagnetic oxynitride with long-range ordered anion vacancies**

Judith Oró-Solé, Jhonatan Ricardo Guarín, Carlos Frontera,\* Jaime Gàzquez, Bernat Mundet, Josep Fontcuberta\* and Amparo Fuertes\*



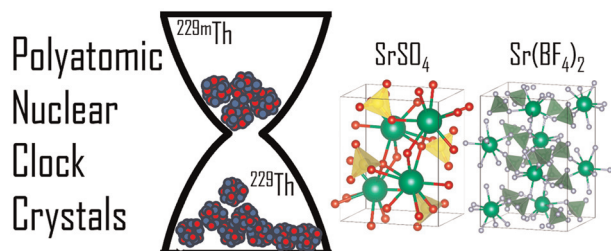
10566



### New members of the family of highly luminescent 1,3-bis(4-phenylpyridin-2-yl)-4,6-difluorobenzene platinum(II) complexes: exploring the effect of substituents on the 4-phenylpyridine unit

Giulia De Soricellis, Bertrand Carboni, Véronique Guerchais, J. A. Gareth Williams, Daniele Marinotto, Alessia Colombo, Claudia Dragonetti, Francesco Fagnani,\* Simona Fantacci and Dominique Roberto

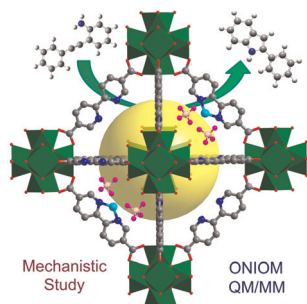
10574



### Design of new thorium nuclear clock materials based on polyatomic ions

Harry W. T. Morgan,\* Hoang Bao Tran Tan, Andrei Derevianko, Ricky Elwell, James E. S. Terhune, Eric R. Hudson and Anastassia N. Alexandrova\*

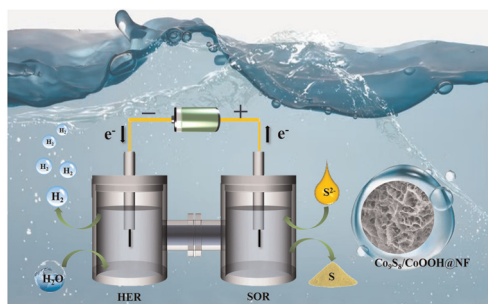
10581



### Mechanistic investigation of MOF-catalyzed intramolecular hydroamination of *o*-alkynylanilines using Zn-UiO-67-BPY as a catalyst

Taotao Liu,\* Yintong Yao, Zhipeng Pei, Yuqing Jiang, Jinshuai Song\* and Yu Lan\*

10589



### A crystalline–amorphous $\text{Co}_9\text{S}_8/\text{CoOOH}$ heterostructure enables efficient and stable SOR-coupled hydrogen evolution

Yonglong Pan, Peng Dai,\* Zelin Yang, Xuefeng Tang, Kaiwen Wang and Mingzai Wu\*

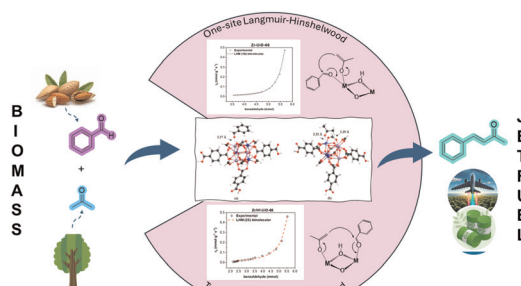


## PAPERS

10599

### Selective benzaldehyde/acetone to benzalacetone cross-aldol condensation catalyzed by UiO-66 MOFs

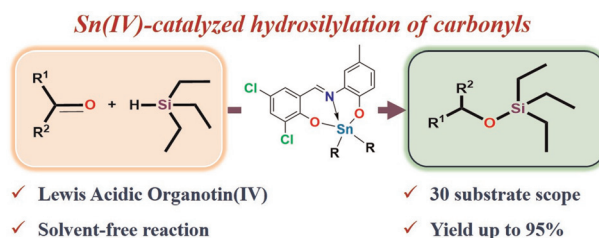
Cesar Pazo-Carballo, Esteban Camú, Yoan Hidalgo-Rosa, Jaime Llanos, Ximena Zarate, Ana Belén Dongil, Eduardo Schott\* and Nestor Escalona\*



10614

### Solvent-free hydrosilylation of carbonyl compounds catalyzed by organotin(IV) compounds

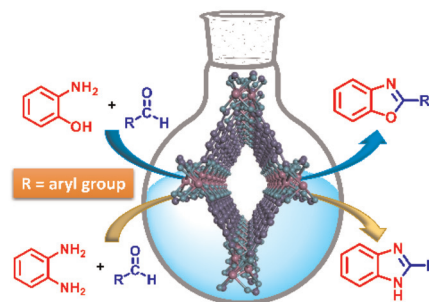
Debayan Basu, Sudipta Chakraborty, Gourav Chakraborty, Saptarshi Bhattacharya, Niladri Patra and Hari Pada Nayek\*



10627

### Facile and efficient synthesis of benzoxazoles and benzimidazoles using a Lewis acid MOF catalyst

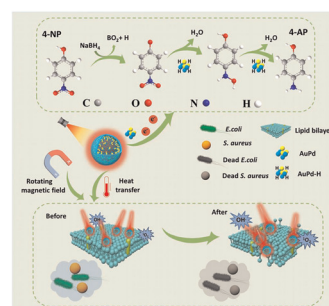
Sarita Kumari, Babita Poonia, Chhaya, Anuzolü, Sarika, Anindita Chakraborty\* and Prakash Kanoo\*



10640

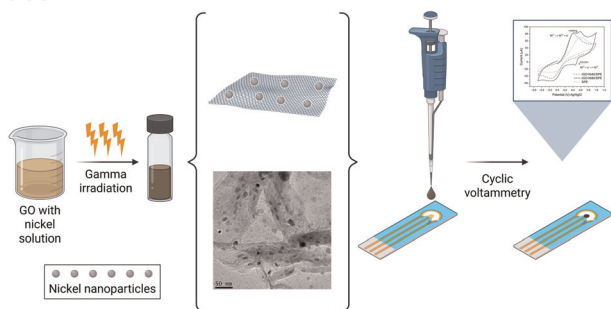
### Magnetic Fe<sub>3</sub>O<sub>4</sub>@AuPd/PDA nanospheres exhibit enhanced catalytic effects and photothermal-magnetic coupling antibacterial properties

Jie Jin,\* Haoran Li, Yunqi Xu, Qunling Fang,\* Xia Chen, Weili Kong and Shouhu Xuan\*



## PAPERS

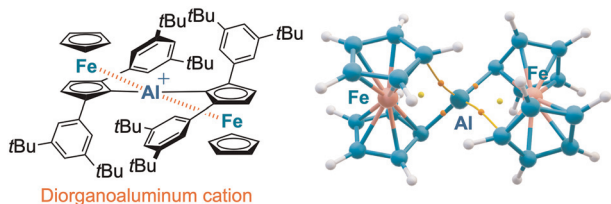
10657



### Dose-dependent gamma irradiation effects on Ni nanoparticle size in rGO–Ni nanocomposites for enhanced electrochemical performance

Raynara M. S. Jacovone, Miguel Duarte, Jaqueline J. S. Soares, Rubens N. Faria, Rafael H. L. Garcia, Lucio Angnes and Solange K. Sakata\*

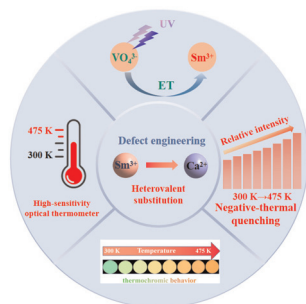
10667



### Structural characterization of a dicoordinated bis(ferrocenyl)aluminum cation

Togo Anzai, Koh Sugamata, Shogo Morisako and Takahiro Sasamori\*

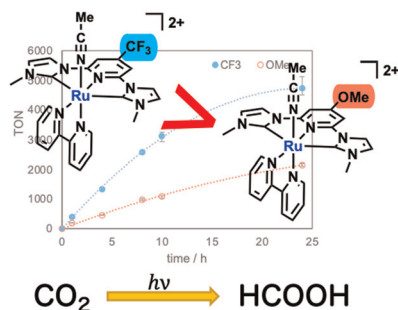
10673



### A novel negative-thermal quenching $\text{Ca}_9\text{ZnK}(\text{VO}_4)_7:\text{Sm}^{3+}$ phosphor for a sensitive optical thermometer

Zibo Wang, Naijia Liu, Juanjuan Kong and Yunjian Wang\*

10683



### Visible-light-driven photocatalytic $\text{CO}_2$ reduction using ruthenium complexes having a CNC-type pincer ligand: comparison of substituent effect on a CNC ligand

Yasuhiro Arikawa,\* Momo Morinaga, Miyu Kubota, Kenichiro Omoto, Eri Sakuda and Keisuke Umakoshi

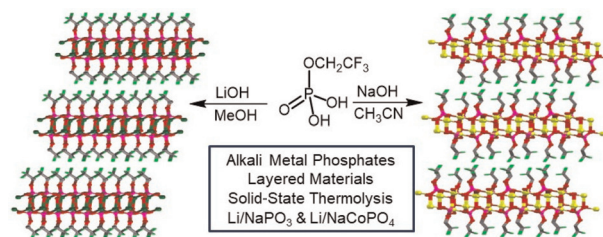


## PAPERS

10691

### Thermally labile mono-alkyl phosphates and their alkali metal derivatives: synthesis and solid-state supramolecular aggregation

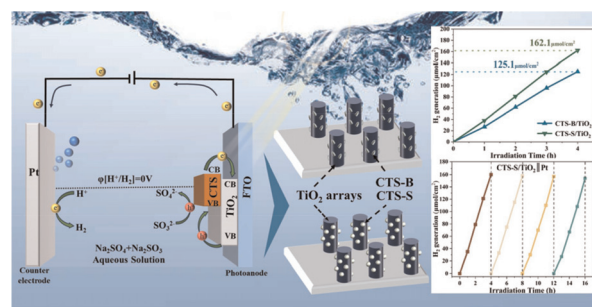
Anuj Kumar and Ramaswamy Murugavel\*



10710

### Morphology-controlled Cu<sub>2</sub>SnS<sub>3</sub> quantum dot-sensitized solar PEC cells for efficient hydrogen production

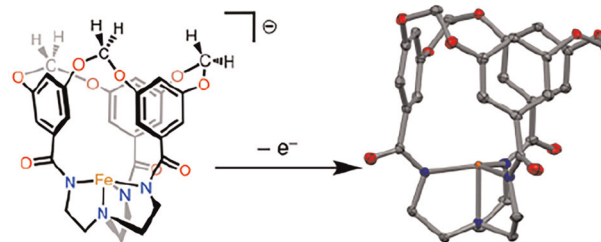
Ao Chen, Chuang Chen, Shuai Shao, Yang Lian, Yunlong Du, Yunna Gao, Jinwen Yi and Wei Zheng\*



10719

### Assessing structure and dynamics of iron complexes supported by tris(amidate)amine ligands

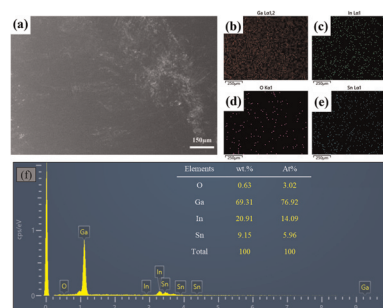
Lucy S. X. Huffman, Anjana Seshadri, Christopher D. Hastings, William W. Brennessel, Ignacio Franco and Brandon R. Barnett\*



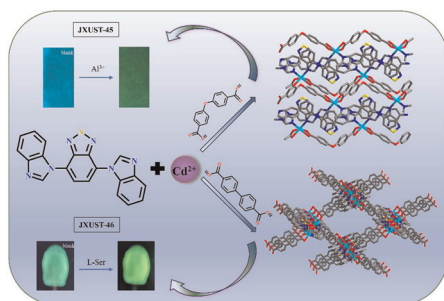
10725

### Liquid metal/ionic liquid lubricants: rational design and tribological performance evaluation

Chuan Li, Wenyang Huang, Xu Tan, Wenqi Zhang, Enzhu Hu\* and Xingkai Ding\*



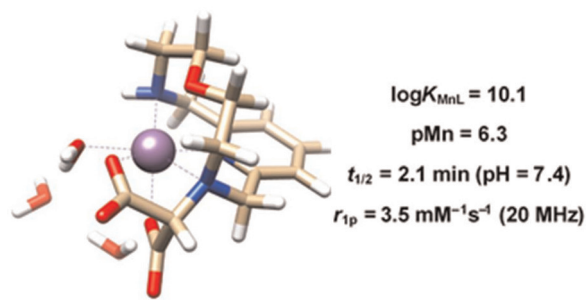
10742



### Aromatic dicarboxylates induced structural diversity of Cd<sup>II</sup> metal–organic frameworks from a 2D layer to a 3D pillar-layer network for fluorescence sensing of cations, anions and L-serine

Hong-Li Yang, Rui-Jie Zhang, Teng-Fei Zheng, Chen Cao, Yan Peng, Jing-Lin Chen, He-Rui Wen and Sui-Jun Liu\*

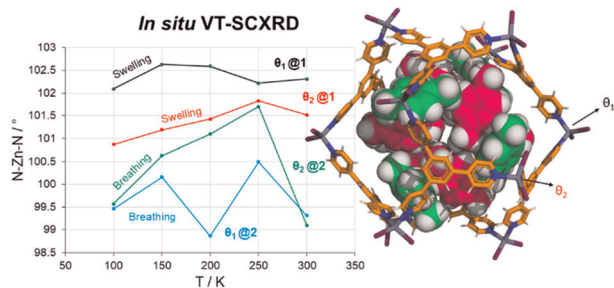
10751



### Stability and relaxometric characterization of a manganese(II) based macrocyclic complex containing malonate pendant

Abraham Estifanos Debretson, Szilvia Bunda,\* Norbert Lihi, Zoltán Garda,\* Sabine Van Doorslaer, Emese Kun, Tibor Csupász, Gyula Tircsó, Éva Tóth and Ferenc Krisztián Kálmán\*

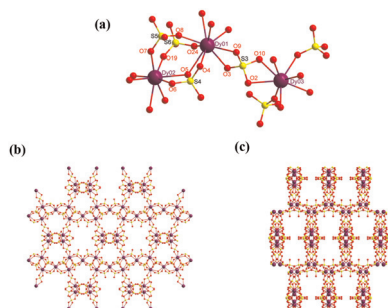
10761



### *In situ* X-ray study of breathing-like effect in interlocked metal–organic nanocages

Javier Martí-Rujas,\* Stefano Elli and Antonino Famulari

10769



### Cumulative enhancement effect of proton conductivity in the possible hydrogen fuel cell material dysprosium sulfate

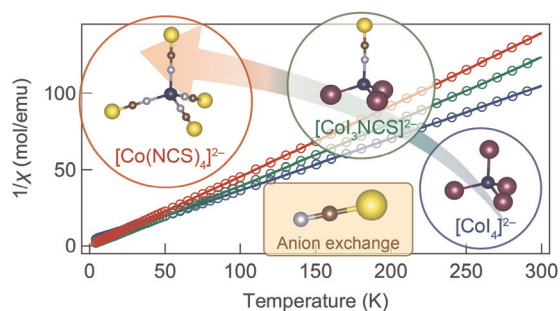
Jinxiang Yang, Jiasheng Wang, Bo Li,\* Yuqing Yan,\* Zhiwu Qiao, Haibo Liu and Yicong Zhu



10773

### Effects of the anion exchange between $\text{I}^-$ and $\text{NCS}^-$ coordinated to $\text{Co}^{2+}$ -centered tetrahedra in the organic–inorganic hybrid halides

Takuya Ohmi, Ryuju Ito, Sergey A. Nikolaev, Kotaro Fujii, Iain W. H. Oswald, Koki Matsushima, Yuiga Nakamura, James R. Neilson, Masatomo Yashima, Masaki Azuma and Takafumi Yamamoto\*



10781

### Thermal activation of g- $\text{C}_3\text{N}_4$ -tourmaline to drive the Fenton reaction in the dark: promoting carrier migration through a polarization electric field and a heterojunction structure

Xiao Zhou, Tao Yang, Yu Zhang, Lan Yang and Chunfang Du\*

