

# Dalton Transactions

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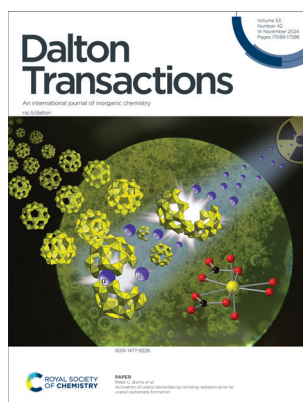
## IN THIS ISSUE

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**Cover**  
See Roland A. Fischer *et al.*,  
pp. 17162–17168.

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**Inside cover**  
See Peter C. Burns *et al.*,  
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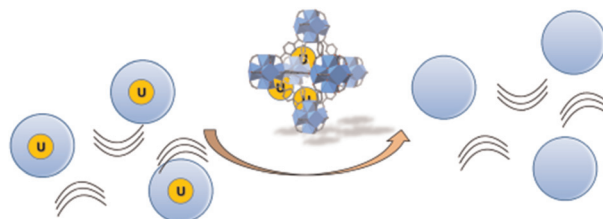
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*Dalton Trans.*, 2024, **53**,  
17169.

## PERSPECTIVE

17110

### Uranium extraction by metal–organic frameworks: advanced materials for new sorption possibilities

Mathéo Henry, Damien Rinsant, Jérôme Maynadié and  
Michaël Carboni\*

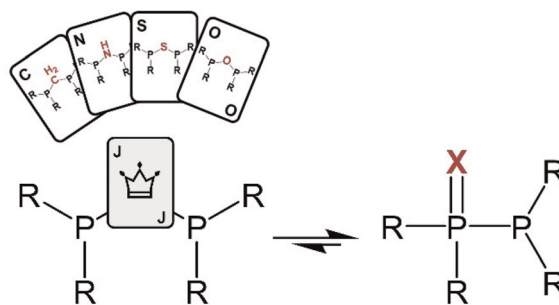


## FRONTIERS

17123

### PPX/XPX-type ligands (X = O and S) and their transition metal complexes: synthesis, properties and applications

Franziska Flecken and Schirin Hanf\*



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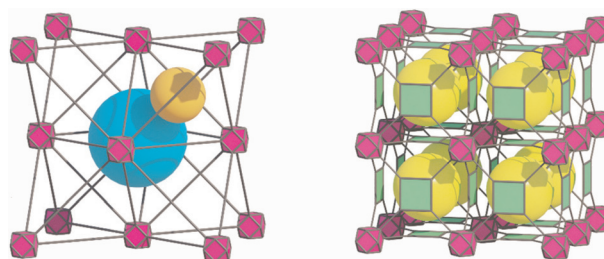
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17132

### Yttrium-based metal–organic frameworks built on hexanuclear clusters

Shenfeng Li, Tao Shen,\* Manglai Gao\* and Hao Wang\*

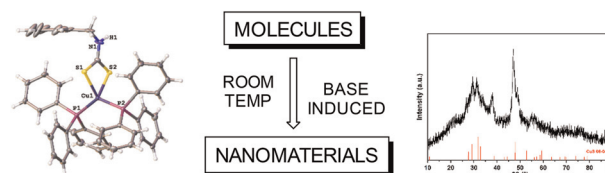


## COMMUNICATIONS

17140

### A chemically induced, room temperature, single source precursor to CuS (covellite) nanomaterials: synthesis and reactivity of $[\text{Cu}(\text{S}_2\text{CNHBz})]_n$

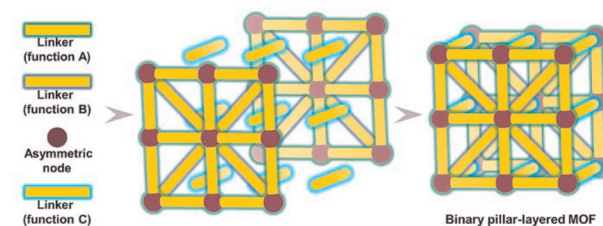
Siqiao Huang, Xiang Xu, Jagodish C. Sarker, David Pugh and Graeme Hogarth\*



17146

### One ligand, two roles: novel pillar-layered metal–organic frameworks built with a 3D ligand and asymmetric inorganic nodes

Chaozhuang Xue,\* Yingying Zhang, Kai Zhu, Suyun Deng, Konggang Qu, Shuwen Gong\* and Huajun Yang\*

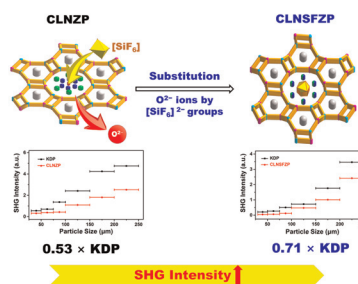


17151

### Approach for quality deep-ultraviolet nonlinear optical crystals *via* a substitution strategy of channel species in zeolite

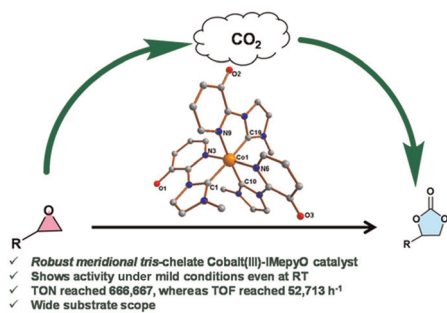
Mingfeng Liu, Jin-Xiao Mi, Yinggan Zhang, Shuaihua Wang, Shaofan Wu and Ya-Xi Huang\*

#### Optical Properties Tuned by Channel Species in Zeolite



## COMMUNICATIONS

17157

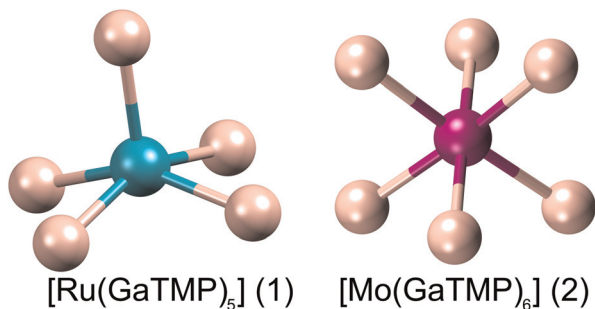


### Not so inert *mer*-tris-chelate cobalt(III) complex of a hydroxy-pyridine functionalized NHC ligand for cyclic carbonate synthesis

Rhitwika Chowdhury, Irshad Ahmad Bhat,  
Sharad Kumar Sachan and Ganapathi Anantharaman\*

## PAPERS

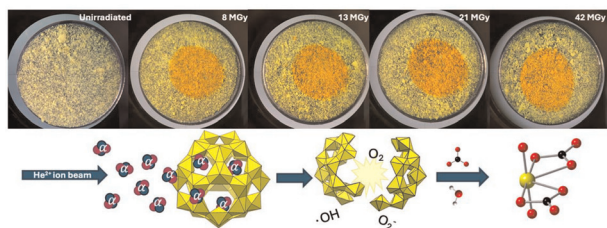
17162



### Homoleptic hexa- and penta-coordinated gallium(i) amide complexes of ruthenium and molybdenum

Raphael Bühler, Richard J. J. Weininger,  
Johannes Stephan, Maximilian Muhr, Balasai M.-T. Bock,  
Christian Gemel and Roland A. Fischer\*

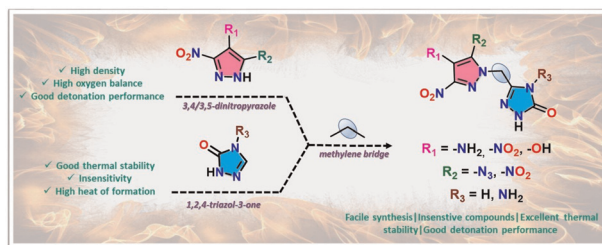
17169



### Activation of uranyl peroxides by ionizing radiation prior to uranyl carbonate formation

Zoe C. Emory, Jay A. LaVerne and Peter C. Burns\*

17179



### *N*-Methylene-*C*-linked nitropyrazoles and 1,2,4-triazol-3-one: thermally stable energetic materials with reduced sensitivity

Krishna Pandey, Priyanka Das, Meera Khatri and  
Dheeraj Kumar\*

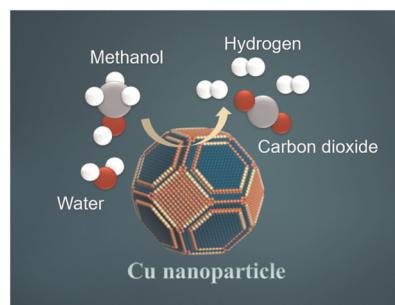


## PAPERS

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### First-principles-based microkinetic modeling of methanol steam reforming over Cu(111) and Cu(211): structure sensitive activity and selectivity

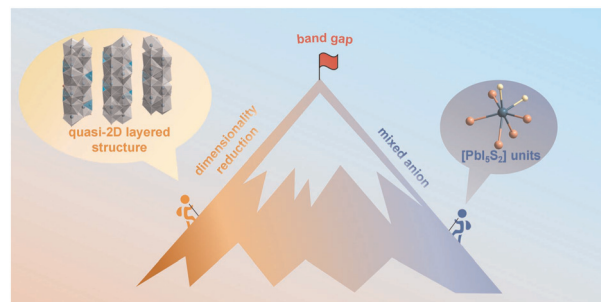
Xinyi Zhang and Bo Yang\*



17200

### Pb<sub>6</sub>Ba<sub>3</sub>Si<sub>2</sub>S<sub>8</sub>I<sub>10</sub>: a new thiohalide with a quasi-two-dimensional structure and wide band gap

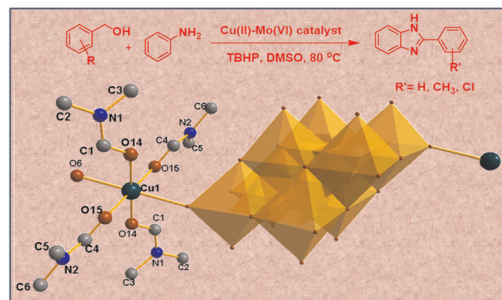
Wang Zhao, Jiazheng Zhou, Linan Wang, Wenqi Jin, Yingying Kong, Yu Chu\* and Junjie Li\*



17207

### Polyoxometalate-supported transition metal complexes for the oxidative cross-coupling of amines and alcohols

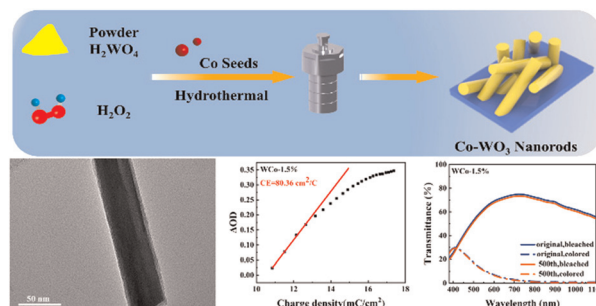
Ankita Pardiwala, Meghal A. Desai and Ritambhara Jangir\*



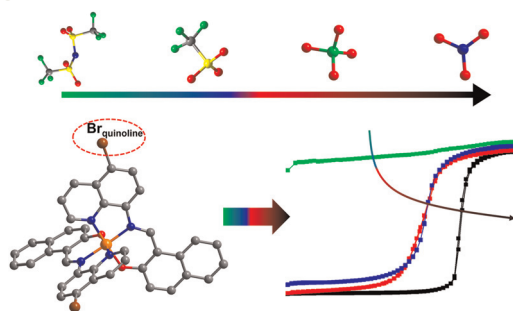
17221

### Effect of Co-doping on the electrochromic performance of hexagonal phase WO<sub>3</sub> nanorods

Zhaozhu Qu, Ankang Li, Ming Gao, Xiaohui Sun, Xuyang Zhang,\* Guohua Wu\* and Xiangwei Wang\*



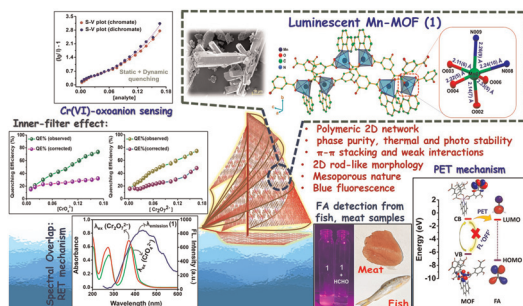
17233



### Spin crossover Fe<sup>III</sup> complexes with a substituted Hqnal ligand: effects of anions and solvents

Feng-Li Chen, Xin-Li Liu, Yue Zhao, Gang Li, Bo-Hong Gao and Xin-Yi Wang\*

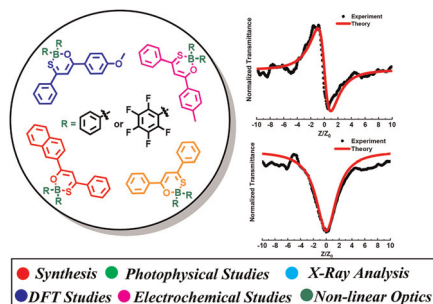
17244



### Mixed-ligand based Mn(II)-MOF for quick, sensitive, and reusable IFE-PET-RET facilitated detection of formaldehyde and Cr(VI)-oxoanions in real-field samples like food and industrial water: experimental and theoretical insights

Udayan Mondal, Somrita Nag, Rajeshwari Pal and Priyabrata Banerjee\*

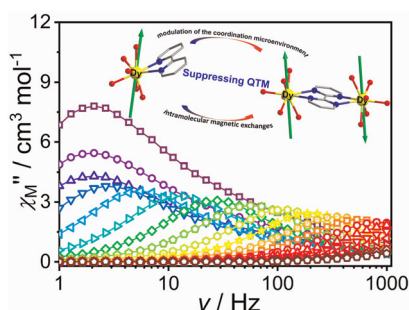
17263



### O,S-Chelated bis(pentafluorophenyl)boron and diphenylboron- $\beta$ -thioketonates: synthesis, photophysical, electrochemical and NLO properties

Anna Chandrasekar Murali, Rudrashish Panda, Ramkumar Kannan, Ritwick Das\* and Krishnan Venkatasubbaiah\*

17272



### Enhancing the single-molecule magnetic performance of $\beta$ -diketonate Dy(III) complexes by modulating the coordination microenvironment and magnetic interaction: from a mononuclear to a dinuclear structure

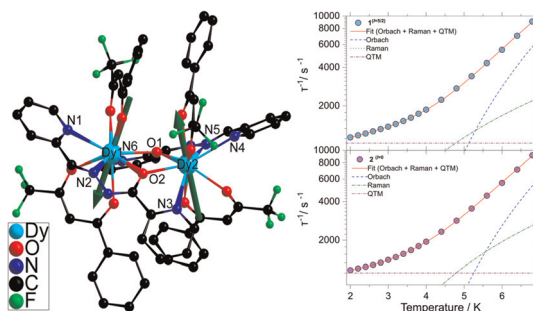
Yafu Wang, Zhaopeng Zeng, Shuchang Luo,\* Yan Guo and Xiangyu Liu\*



17281

### Modulating quantum tunnelling of magnetization in Dy isotopologue dimers

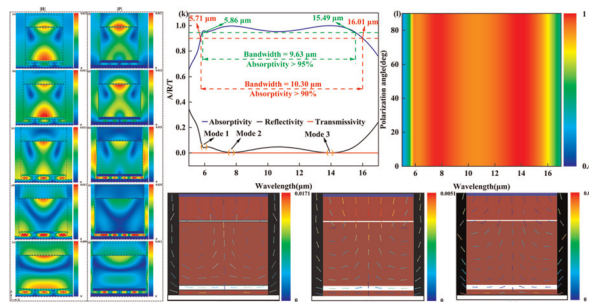
Ting-Ting Ruan, Eufemio Moreno-Pineda,\* Sagar Paul, Michael Schulze, Sören Schlittenhardt, Asato Mizuno, Wolfgang Wernsdorfer\* and Mario Ruben\*



17291

### Three peak metamaterial broadband absorbing materials based on ZnSe-Cr-InAs stacked disk arrays

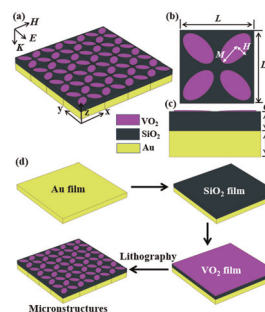
Boyi Chen, Can Ma, Tangyou Sun, Qianju Song, Liang Bian, Zao Yi,\* Zhiqiang Hao, Chaojun Tang, Pinghui Wu and Qingdong Zeng



17299

### Temperature-tunable terahertz metamaterial device based on VO<sub>2</sub> phase transition principle

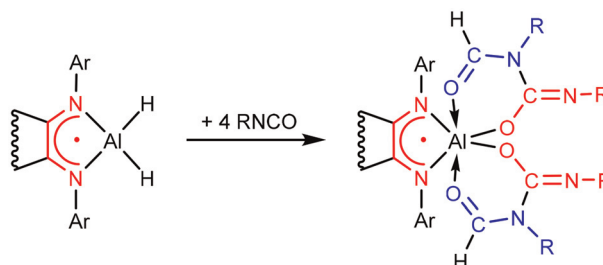
Hao Sun, Tangyou Sun, Qianju Song, Liang Bian, Zao Yi,\* Jianguo Zhang, Zhiqiang Hao, Chaojun Tang, Pinghui Wu and Qingdong Zeng



17308

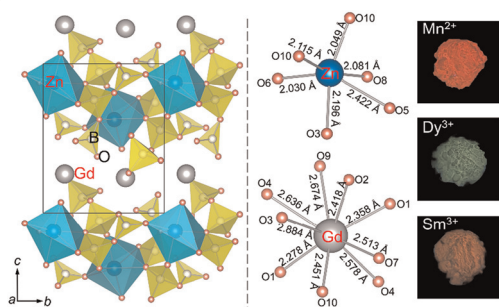
### Hydro-coupling of isocyanates promoted by 1,2-bis(arylimino)acenaphthene aluminum hydrides

Tatyana S. Koptseva, Alexandra A. Skatova, Mikhail V. Moskalev, Roman V. Rumyantsev and Igor L. Fedushkin\*



## PAPERS

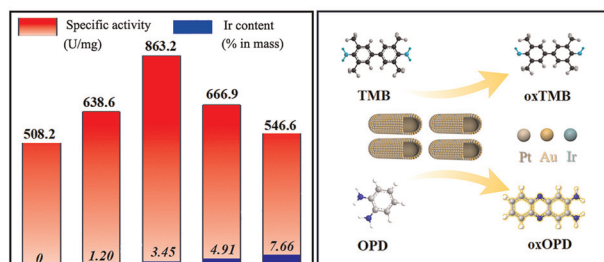
17313



### Host-sensitized borate phosphors ZnGdB<sub>5</sub>O<sub>10</sub>: Mn<sup>2+</sup>/Dy<sup>3+</sup>/Sm<sup>3+</sup>

Yu Chen, Yan Gao, Rihong Cong\* and Tao Yang\*

17324

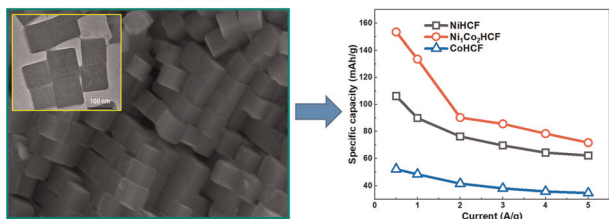


### A low iridium content greatly improves the peroxidase-like activity of noble metal nanozymes for sensitive colorimetric detection

Jian Hao, Rui Shang, Miaotian Shi,\* Jincheng Yuan, Yi Tan, Jiawei Liu\* and Kai Cai\*

17333

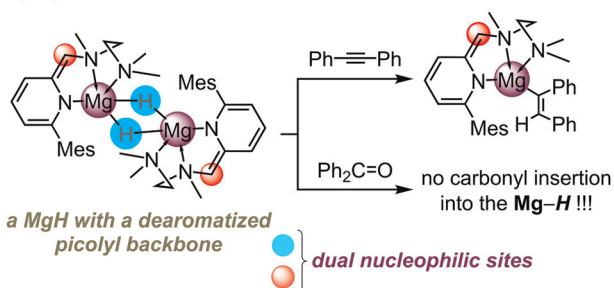
#### Mixed Ni/Co PBA: Synergistically enhanced electrochemical performance



### Novel mixed nickel/cobalt hexacyanoferrate microcubes with synergistic effects for aqueous hybrid supercapacitors

Vu Van Thuy, Nguyen Si Hieu and Tran Viet Thu\*

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### Synthesis and reactivity of a heteroleptic magnesium hydride on a dearomatized picolyl-based NNN-chelator

Chhotan Mandal, Subham Sarkar, Sourav Panda, Dibyendu Mallick\* and Debabrata Mukherjee\*

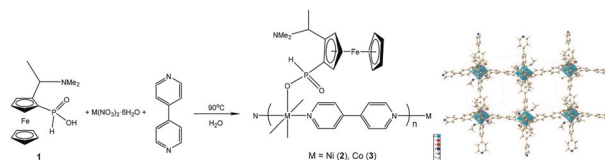


## PAPERS

17351

### Ugi's amine based coordination polymers as synergistic catalysts for the electrocatalytic reduction of carbon dioxide

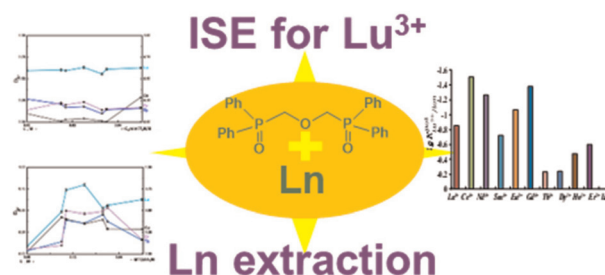
Mikhail N. Khrizanforov,\* Farida F. Naileva, Kamil A. Ivshin, Almaz A. Zagidullin, Anastasiia P. Samorodnova, Polina V. Milyukova, Ruslan P. Shekurov, Artem I. Laskin, Alexander S. Novikov and Vasily A. Miluykov



17361

### Effect of the stability of 1,3-bis(diphenylphosphoryl)-2-oxapropane complexes on the separation of lanthanide ions and their detection

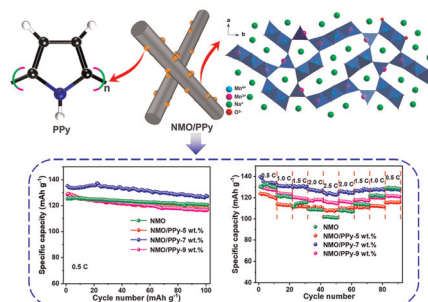
Serafima S. Slobodskaja,\* Galina S. Tsebrikova, Vitaly P. Solov'ev, Irina S. Ivanova, Elena N. Pyatova, Vladimir E. Baulin, Alfiya M. Safiulina and Aslan Yu. Tsivadze



17370

### Boosting sodium storage performance of Na<sub>0.44</sub>MnO<sub>2</sub> through surface modification with conductive polymer PPy utilizing sonication-assisted dispersion

Lingling Xie,\* Xinwei Wang, Changle Xia, Huilin Huang, Limin Zhu, Qing Han, Xuejing Qiu and Xiaoyu Cao



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### Exploring improved strategies for therapeutic studies and biological activities of novel zinc and indium phthalocyanines

Kevser Celep, Göknur Yaşa Atmaca,\* Pelin Demir Aydoğmuş, Kumsal Eroğlu, Ömer Tahir Günkara, Gülay Giray, Gülşah Tollu, Sadin Özdemir and Ali Erdoğan

