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See Rishav Das and Priyanka Paira, pp. 15365–15376.

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Inside cover
See Tokuhiisa Kawawaki and Yuichi Negishi, pp. 15152–15167.

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EDITORIAL

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Introduction to *Dalton Transactions* themed issue – New Talent: Asia-Pacific (2023)

Takashi Uemura,* Jitendra K. Bera, Sally Brooker and Li-Min Zheng

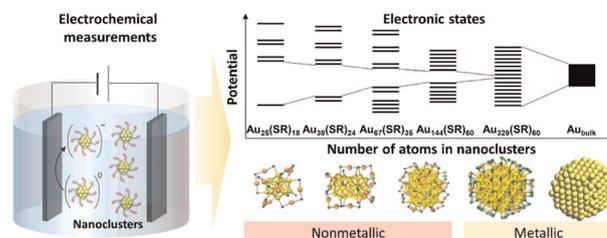


PERSPECTIVES

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Elucidation of the electronic structures of thiolate-protected gold nanoclusters by electrochemical measurements

Tokuhiisa Kawawaki* and Yuichi Negishi*



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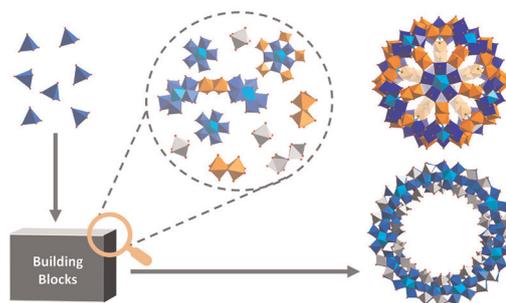


PERSPECTIVES

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Insights into the self-assembly of giant polyoxomolybdates from building blocks to supramolecular structures

Ke Li, Kai-Ling Zhu, Li-Ping Cui and Jia-Jia Chen*



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Olefin-linked covalent organic frameworks: synthesis and applications

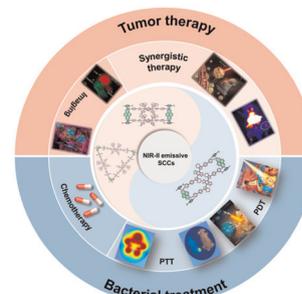
Ting Wang, Yushu Zhang, Zhifang Wang,* Yao Chen, Peng Cheng and Zhenjie Zhang*



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Recent advances on the construction of long-wavelength emissive supramolecular coordination complexes for photo-diagnosis and therapy

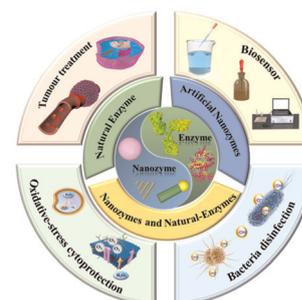
Zhipeng Zhang, Huan Ye, Fei Cai* and Yao Sun*



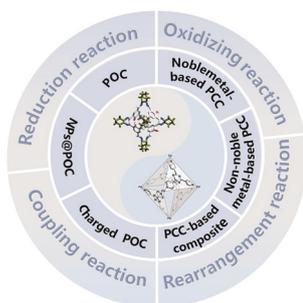
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Emerging enzyme-based nanocomposites for catalytic biomedicine

Minchao Liu, Hongyue Yu, Tiancong Zhao* and Xiaomin Li*



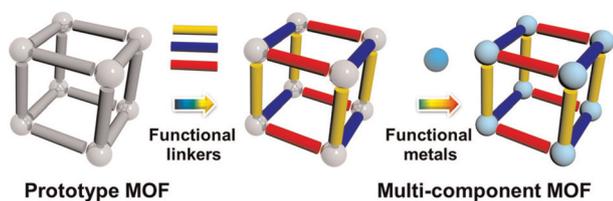
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Recent advances in porous molecular cages for photocatalytic organic conversions

Yaoyao Peng, Zhifang Su, Meng Jin, Lei Zhu,*
Zong-Jie Guan* and Yu Fang*

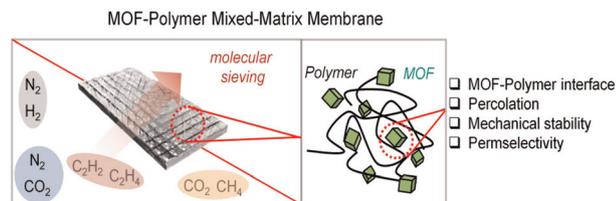
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Stepwise construction of multi-component metal–organic frameworks

Xinyu Xu, Lei Gao and Shuai Yuan*

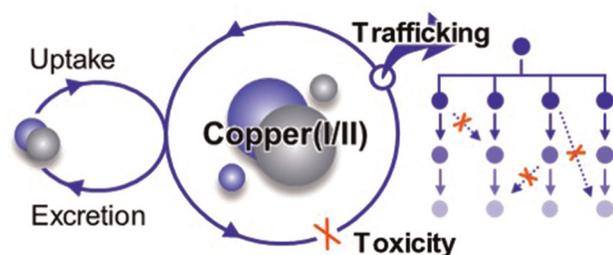
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A roadmap to enhance gas permselectivity in metal–organic framework-based mixed-matrix membranes

Susmita Kundu and Ritesh Haldar*

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Copper trafficking systems in cells: insights into coordination chemistry and toxicity

Jiyeon Han

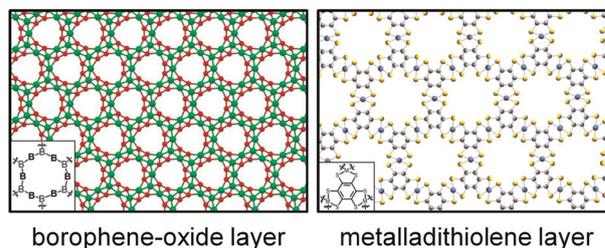


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Chemical bottom-up approach for inorganic single-atomic layers aiming beyond graphene

Tetsuya Kambe,* Hiroshi Nishihara* and Kimihisa Yamamoto*

Chemical synthesis of 2D materials



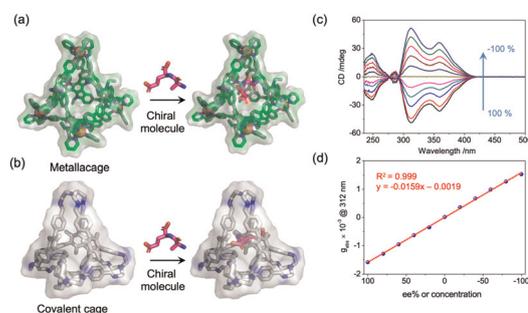
borophene-oxide layer

metalladithiolene layer

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Cage-based sensors for circular dichroism analysis

Jianjian Zhao, Chang-Yin Yang, Lianrui Hu,* Lin Xu and Wei-Tao Dou*

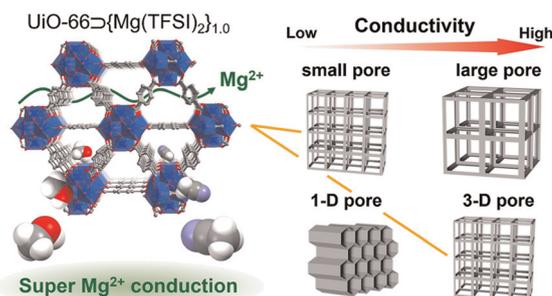


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High Mg^{2+} conduction in three-dimensional pores of a metal-organic framework under organic vapors

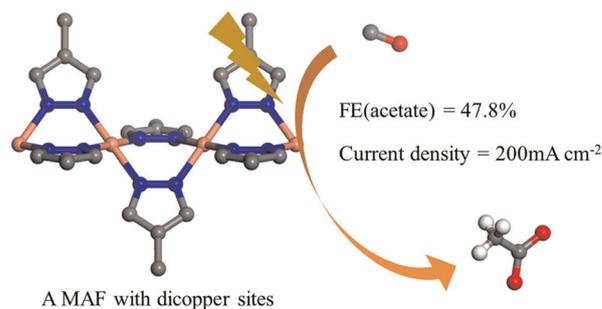
Kouhei Aoki, Kenichi Kato and Masaaki Sadakiyo*



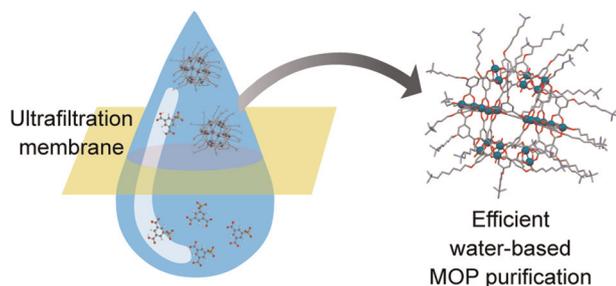
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Efficient electroreduction of CO to acetate using a metal-azolate framework with dicopper active sites

Hao-Lin Zhu, Yu-Xuan Han, Pei-Qin Liao* and Xiao-Ming Chen



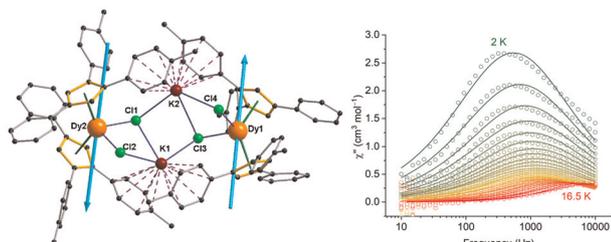
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Efficient water-based purification of metal–organic polyhedra by centrifugal ultrafiltration

Benjamin Le Ouay,* Tomo Ohara, Ryosuke Minami, Rin Kunitomo, Ryo Ohtani and Masaaki Ohba*

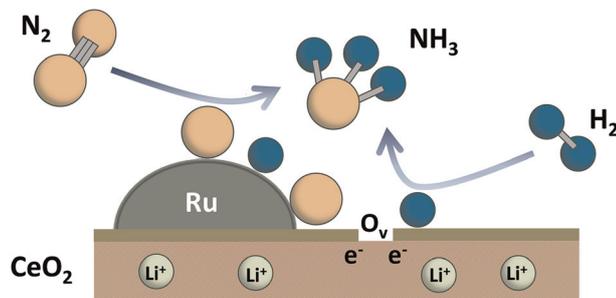
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Dipotassiumtetrachloride-bridged dysprosium metallocenes: a single-molecule magnet

Selvakumar Arumugam, Björn Schwarz,* Prathap Ravichandran, Sunil Kumar, Liviu Ungur* and Kartik Chandra Mondal*

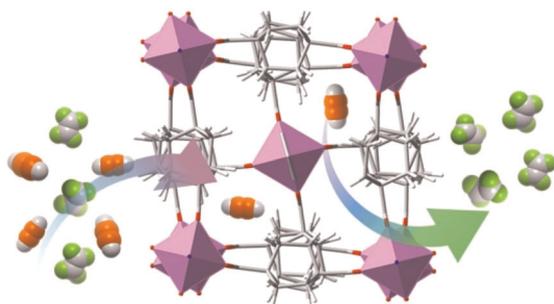
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Li-intercalated CeO₂ as an ideal substrate for boosting ammonia synthesis

Zhuoyang Gao, Xiaowei Mu, Qingchuan Xiong and Lu Li*

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An aliphatic MOF with a molecular sieving effect for efficient C₂H₂/C₂H₄ separation

Xianzhen Li, Chen Cao, Ziwen Fan, Jianfa Liu, Tony Pham, Katherine A. Forrest and Zheng Niu*

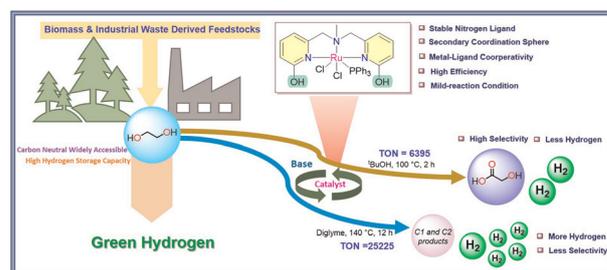


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A switchable route for selective transformation of ethylene glycol to hydrogen and glycolic acid using a bifunctional ruthenium catalyst

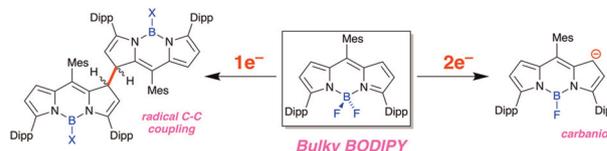
Satabdee Tanaya Sahoo, Aisa Mohanty, Raju Sharma and Prosenjit Daw*



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One- and two-electron reductions of a bulky BODIPY compound

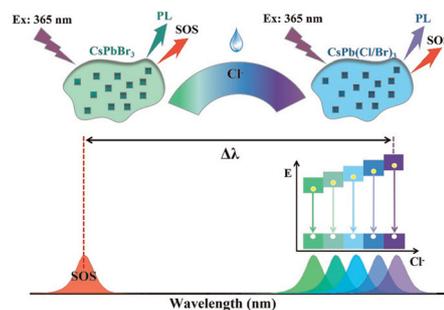
Liam M. Pascoe, Li Feng Lim, Fabian Kallmeier, Nicholas Cox, Penelope J. Brothers and Jamie Hicks*



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Fluorescence wavelength shifts combined with light scattering for ratiometric sensing of chloride in the serum based on CsPbBr₃@SiO₂ perovskite nanocrystal composite halide exchanges

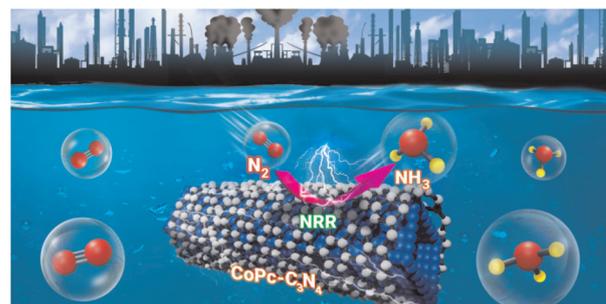
Peng Zhang, Liming Chen, Xiaoyan Cai, Binbin Luo,* Tianju Chen,* Haini Chen, Guoliang Chen and Feiming Li*



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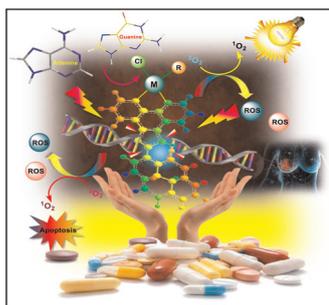
1D/2D interface engineering of a CoPc–C₃N₄ heterostructure for boosting the nitrogen reduction reaction to NH₃

Sourav Paul, Sougata Sarkar, Dependu Dolui, Debashrita Sarkar, Marc Robert and Uttam Kumar Ghorai*



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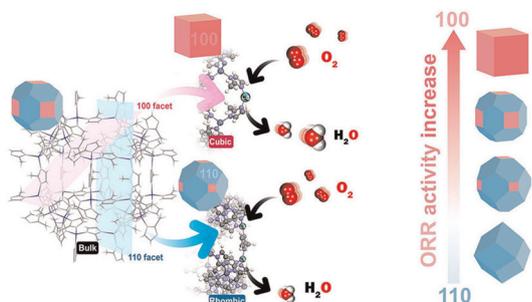
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GSH resistant, luminescent 2-(pyren-1-yl)-1*H*-imidazo[4,5-*f*][1,10]phenanthroline-based Ru(II)/Ir(III)/Re(I) complexes for phototoxicity in triple-negative breast cancer cells

Rishav Das and Priyanka Paira*

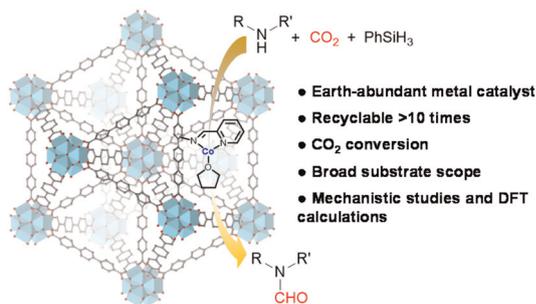
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Impact of exposed crystal facets on oxygen reduction reaction activity in zeolitic imidazole frameworks

Sorawich Pimu, Nuttapon Yodsin, Sirawee Maneewan, Jaruwat Kanthachan, Supawadee Namuangruk* and Kanokwan Kongpatpanich*

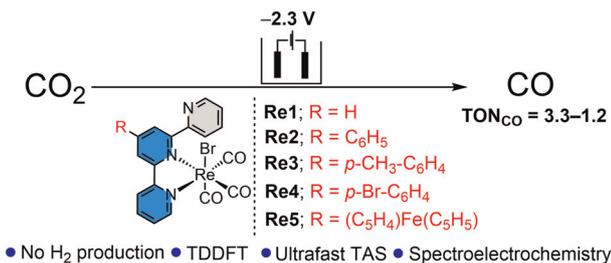
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A supported pyridylimine-cobalt catalyst for *N*-formylation of amines using CO₂

Naved Akhtar, Manav Chauhan, Poorvi Gupta, Neha Antil and Kuntal Manna*

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Electrocatalytic reduction of CO₂ to CO by a series of organometallic Re(I)-tpy complexes

Shriya Saha, Thomas Doughty, Dibyendu Banerjee, Sunil K. Patel, Dibyendu Mallick,* E. Siva Subramaniam Iyer, Souvik Roy* and Raja Mitra*

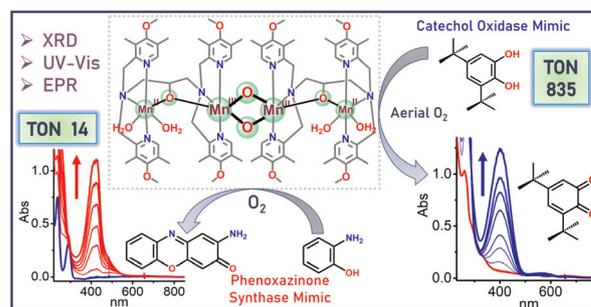


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A tetranuclear Mn-diamond core complex as a functional mimic of both catechol oxidase and phenoxazinone synthase enzymes

Rakesh Kumar, Rahul Keshri, Koushik Prodan, Kanchan Shaikh and Apparao Draksharapu*

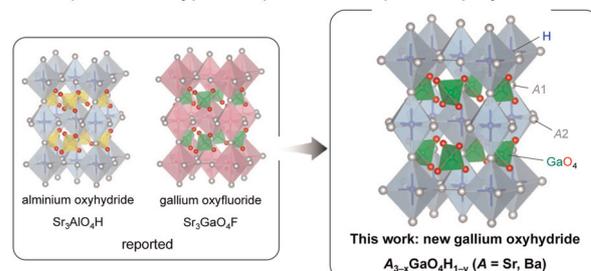


15420

A new family of anti-perovskite oxyhydrides with tetrahedral GaO₄ polyanions

Nur Ika Puji Ayu, Fumitaka Takeiri,* Takafumi Ogawa, Akihide Kuwabara, Masato Hagihala, Takashi Saito, Takashi Kamiyama and Genki Kobayashi*

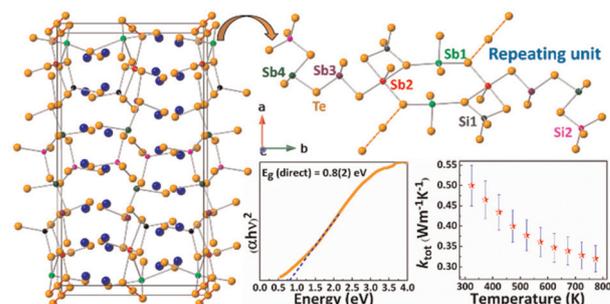
Anti-perovskite type compounds with p-metal polyanions



15426

Ba₁₄Si₄Sb₈Te₃₂(Te₃): hypervalent Te in a new structure type with low thermal conductivity

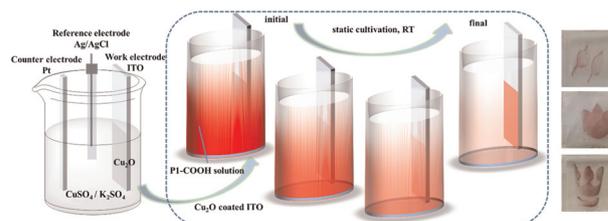
Subhendu Jana, Sweta Yadav, Swati, Manish K. Niranjan and Jai Prakash*



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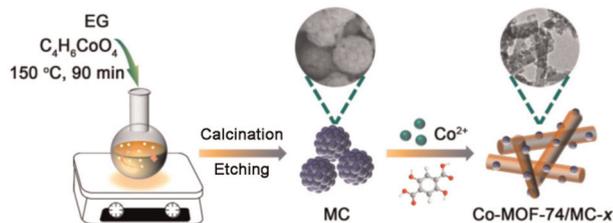
Soluble polymer facilely self-grown *in situ* on conducting substrates at room temperature towards electrochromic applications

Xiongchao Shao, Yuhua Yang, Qidi Huang, Dacheng Dai, Haichang Fu, Guohua Gong, Cheng Zhang, Mi Ouyang,* Weijun Li and Yujie Dong*



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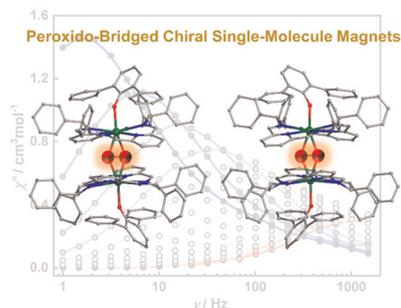
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A non-enzymatic glucose sensor based on a mesoporous carbon sphere immobilized Co-MOF-74 nanocomposite

Xianliang Li,* Diwei Deng, Lufang He and Yan Xu

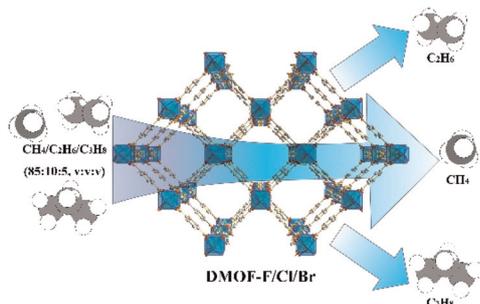
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Peroxi-bridged chiral double-decker dysprosium macrocycles

Chen Zhao, Tingting Wang, Xiaodong Liu, Zhenhua Zhu,* Xu Ying, Xiao-Lei Li and Jinkui Tang*

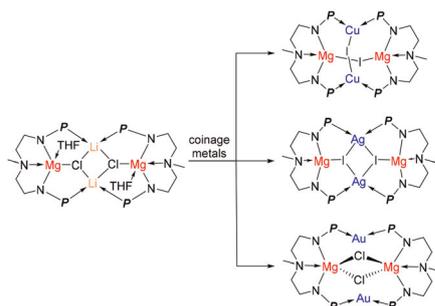
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Halogen-modified metal–organic frameworks for efficient separation of alkane from natural gas

Zhirong Song, Yanchun Zheng, Yiqi Chen, Youlie Cai, Rong-Jia Wei and Junkuo Gao*

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Magnesium complexes supported by a dianionic double layer nitrogen–phosphorus ligand: a synthesis and reactivity study

Yafei Li, Pengfei Chen, Qin Zhu* and Congqing Zhu*

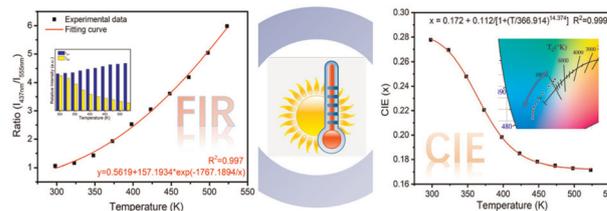


PAPERS

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White-emitting orthosilicate phosphor α - Sr_2SiO_4 : $\text{Ce}^{3+}/\text{Eu}^{2+}/\text{K}^+$: a bimodal temperature sensor with excellent optical thermometric sensitivity

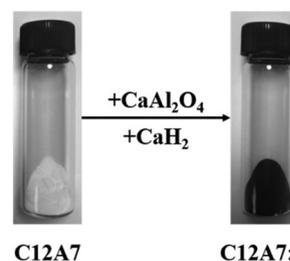
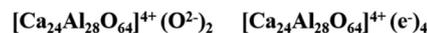
Bin Hui, Kai Zhao, Han Si, Xinlin Tong, Xinyi Wu, Li Yin and Saifang Huang*



15484

A simplified and facile preparation method for the $[\text{Ca}_{24}\text{Al}_{28}\text{O}_{64}]^{4+}(\text{e}^-)_4$ electride

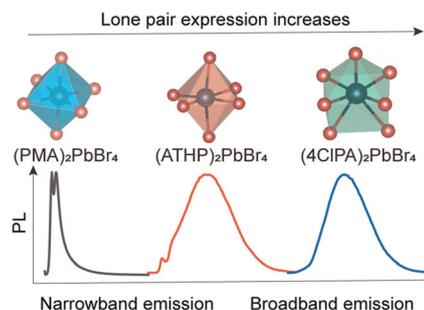
Xiangyu Zhang, Yunlei Chen, Yongfang Sun, Fei Wang, Xiao-Dong Wen* and Tian-Nan Ye*



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Broadband emission originating from the stereochemical expression of $6s^2$ lone pairs in two-dimensional lead bromide perovskites

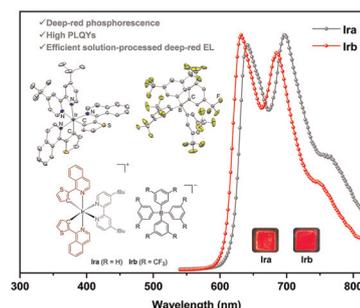
Xiaofan Jiang, Yu Tao, Jiazhen Gu, Leyang Jin, Chen Li, Wenkai Zhang* and Yongping Fu*



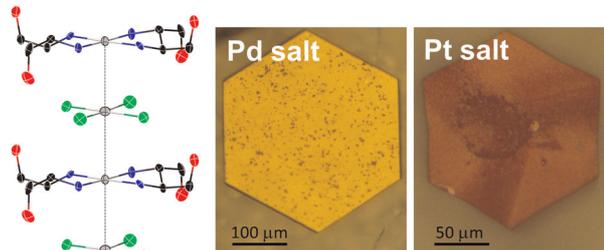
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Efficient 1-(thiophen-2-yl)isoquinoline-based ionic iridophosphors with bulky counterions for solution-processed deep-red electroluminescence

Peng Tao,* Xiao-Kang Zheng, He Jiang, Xinghao Sheng, Yongjing Deng, Yuk Yin Ian Chan, Qiang Zhao* and Wai-yeung Wong*



15503

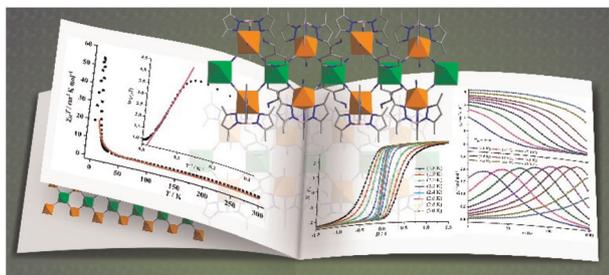


Hexagonal and Largest Single Crystals in Magnus-Type Salt

Hexagonal crystalline Magnus' green salt analogues prepared from hydroxy-functionalised Pt and Pd complexes

Mohammad Rasel Mian,* Unjila Afrin, Shinya Takaishi, Brian K. Breedlove, Masahiro Yamashita* and Hiroaki Iguchi*

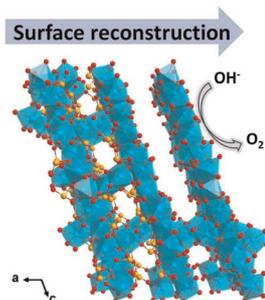
15510



Ferromagnetically coupled single-chain magnets exhibiting a magnetic hysteresis of 0.42 Tesla in cyano-bridged $\text{Fe}_2^{\text{III}}\text{M}^{\text{II}}$ ($\text{M} = \text{Ni}, \text{Fe}$) coordination polymers

Jin-Hua Wang, Mohammad Khurram Javed, Jia-Xin Li, Yi-Quan Zhang, Zhao-Yang Li* and Masahiro Yamashita

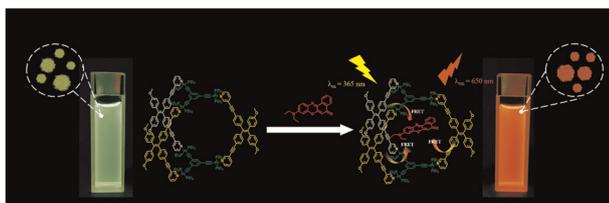
15518



A layered CoSeO_3 pre-catalyst for electrocatalytic water oxidation

Ting Wang, Shujiao Yang, Haoquan Zheng, Wei Zhang* and Rui Cao*

15524



A supramolecular artificial light-harvesting system based on a luminescent platinum(II) metallacage

Ning Wang, Weiao Yang, Lei Feng, Xing-Dong Xu* and Shengyu Feng*

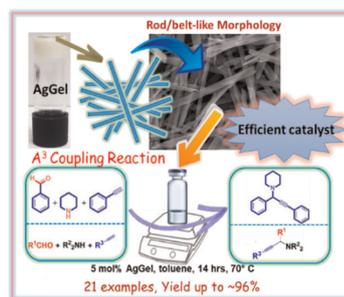


PAPERS

15530

Exploring amine-rich supramolecular silver(i) metallogels for autonomous self-healing and as catalysts for a three component coupling reaction

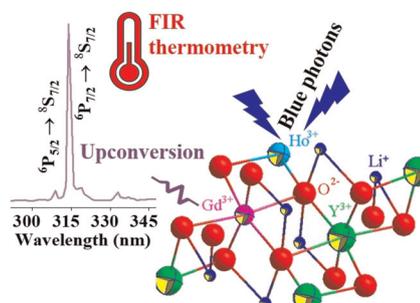
Ekata Saha, Ajjur Rahaman, Sukalyan Bhadra* and Joyee Mitra*



15539

UVB upconversion of $\text{LiYO}_2:\text{Ho}^{3+}, \text{Gd}^{3+}$ for application in luminescence thermometry

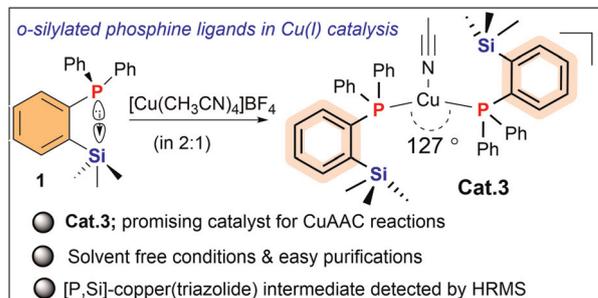
Shanshan Zhao, Benchun Li, Tiantian Shen, Fang Fang, Songlin Zhuang, Dawei Zhang and Dechao Yu*



15549

New cationic coinage metal complexes featuring silyl group functionalized phosphine: syntheses, structures and catalytic studies in alkyne-azide cycloaddition reactions

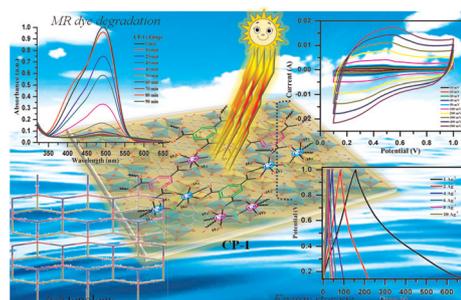
Amiya Kumar Sahoo, Ashish Kumar Sahoo, Bhagyashree Das, Subhra Jyoti Panda, Chandra Shekhar Purohit and Adinarayana Doddi*



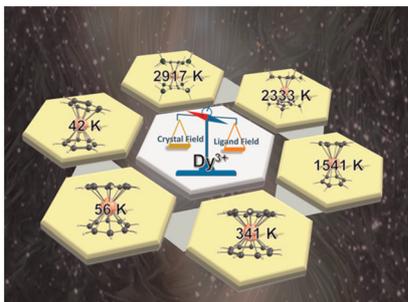
15562

Bifunctional Cu(II)-based 2D coordination polymer and its composite for high-performance photocatalysis and electrochemical energy storage

Arif Ali, Waris, Basree, Mohammad Zain Khan, Necmi Dege, Musheer Ahmad* and M. Shahid*



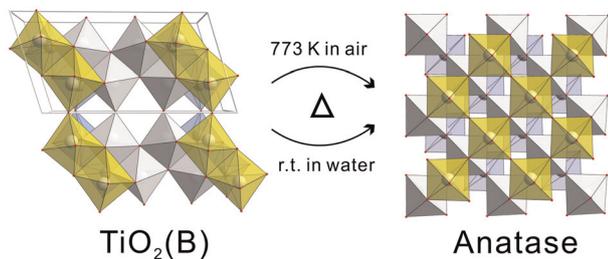
15576



Understanding electrostatics and covalency effects in highly anisotropic organometallic sandwich dysprosium complexes $[\text{Dy}(\text{C}_m\text{R}_m)_2]$ (where $\text{R} = \text{H}$, SiH_3 , CH_3 and $m = 4$ to 9): a computational perspective

Ibtesham Tarannum, Shruti Moorthy and Saurabh Kumar Singh*

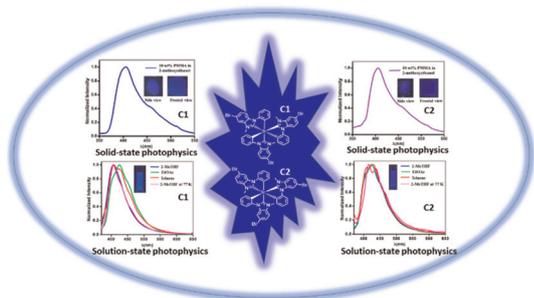
15590



Phase transition behaviour and mechanism of 2D $\text{TiO}_2(\text{B})$ nanosheets through water-mediated removal of surface ligands

Shirui Xie, Lijing Fan, Yanxin Chen, Jiliang Cai, Fan Wu, Kecheng Cao* and Pengxin Liu*

15597



Effect of substitution on deep-blue $\text{Ir}(\text{III})$ N-heterocyclic carbene (NHC) emitters

Rahat Gupta, Priya Sahnii, Salil K. Jana, Anshul Negi and Amlan K. Pal*

