

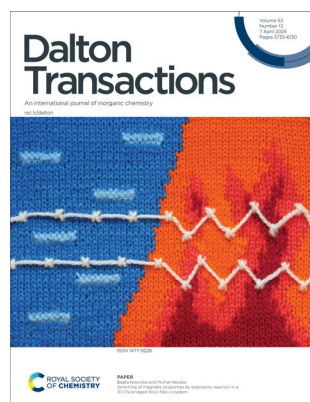
Dalton Transactions

An international journal of inorganic chemistry incorporating Acta Chemica Scandinavica
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ISSN 1477-9226 CODEN DTARAF 53(13) 5735–6130 (2024)



Cover

See Michał Heczko and Beata Nowicka, pp. 5788–5795.

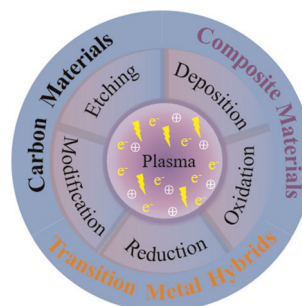
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PERSPECTIVE

5749

The application of plasma technology for the preparation of supercapacitor electrode materials

Feng Liu, Long-Hui Zhang, Zhen Zhang, Yang Zhou, Yi Zhang,* Jia-Liang Huang and Zhi Fang

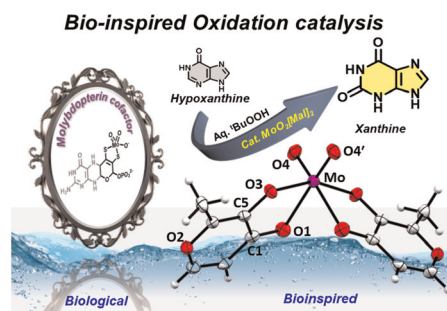


COMMUNICATIONS

5770

Molybdenum-maltolate as a molybdopterin mimic for bioinspired oxidation reaction

Swapnil S. Pawar, Rohit N. Ketkar, Pranav B. Gaware, Kaustubh U. Jagushte, Divyani Dhawne, Shreyada N. Save, Shilpy Sharma, Ganga Periyasamy, Niyamat Chimthanawala, Sadhana Sathaye, Shreerang V. Joshi and Nabanita Sadhukhan*



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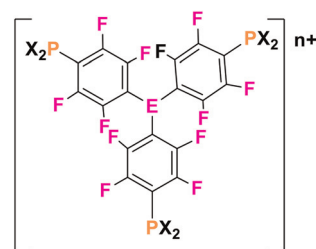
**Fundamental questions
Elemental answers**

COMMUNICATIONS

5775

Triple *para*-substitution reactions of $B(C_6F_5)_3$ and $[(C_6F_5)_3PF]^+$ with $P(SiMe_3)_3$

Jordan Thomson, Sofia Michailovich, Linkun Miao, Jeffrey M. Farrell, Jillian A. Murray, Alan Lough and Douglas W. Stephan*

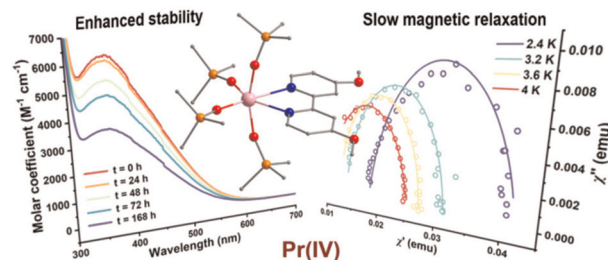


$E = B, n = 0, X = SiMe_3, H$
 $E = PF, n = 1, X = SiMe_3, H$

5779

A tetravalent praseodymium complex with field-induced slow magnetic relaxation

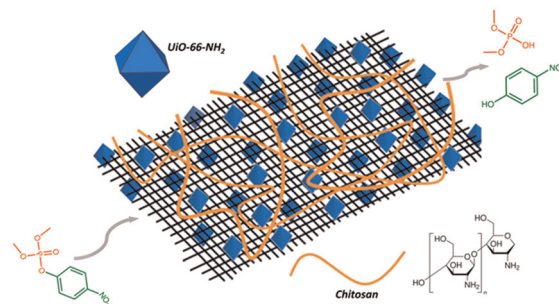
Tianjiao Xue, You-Song Ding* and Zhiping Zheng*



5784

Green synthesis of MOF-based textile composites for the degradation of a chemical warfare agent simulant

Nelly Couzon, Pauline Hardy, Manuela Ferreira, Nisrine Hammi, Jérémy Dhainaut, Frédérique Pourpoint, Sébastien Royer, Thierry Loiseau, Christine Campagne and Christophe Volkringer*

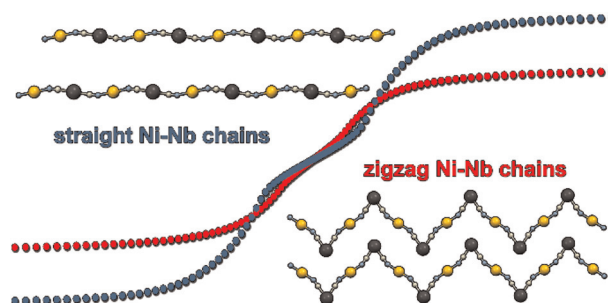


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5788

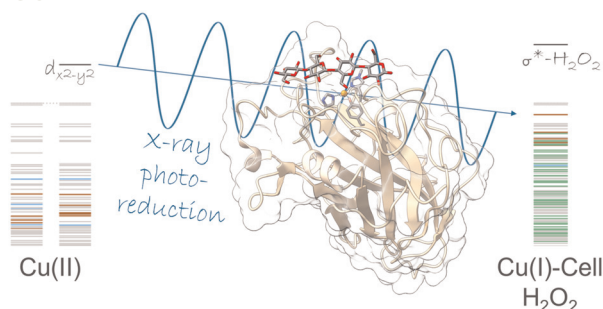
Switching of magnetic properties by topotactic reaction in a 1D CN-bridged $Ni(II)$ – $Nb(IV)$ system

Michał Heczko and Beata Nowicka*



PAPERS

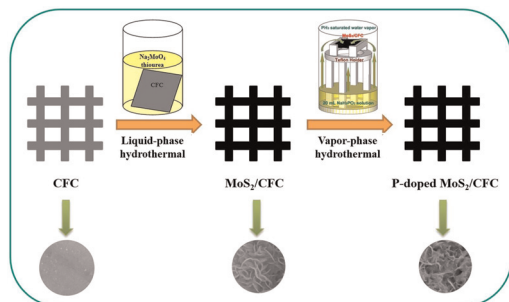
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A frontier-orbital view of the initial steps of lytic polysaccharide monooxygenase reactions

Erna Katharina Wieduwilt, Leila Lo Leggio and Erik Donovan Hedegård*

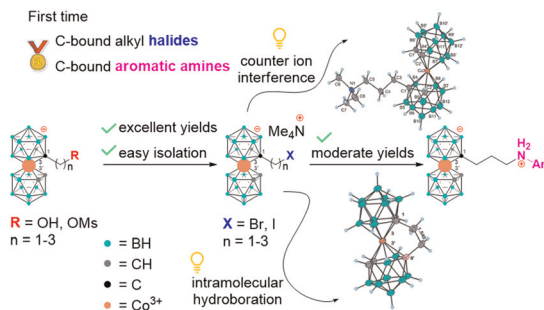
5808



Introducing phosphorus atoms into MoS₂ nanosheets through a vapor-phase hydrothermal process for the hydrogen evolution reaction

Tianxing Wu* and Hanqi Meng

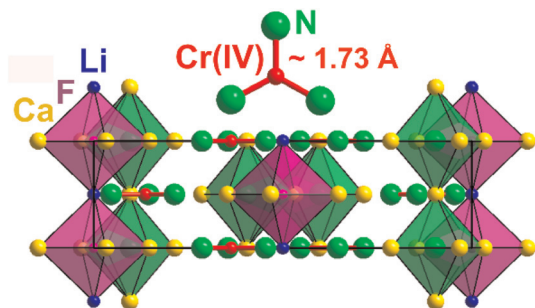
5816



Synthetic routes to carbon substituted cobalt bis(dicarbollide) alkyl halides and aromatic amines along with closely related irregular pathways

Jan Nekvinda,* Dmytro Bovol, Miroslava Litecká, Ece Zeynep Tüzün, Michal Dušek and Bohumír Gruner

5827



Nitridochromate(IV) fluoride – LiCa₈[CrN₃]₂N₂F

Natalia Gloriovova, Yurii Prots, Mitja Krnel, Ulrich Burkhardt, Marcus Schmidt, Alim Ormeci, Franziska Jach, Peter Höhn* and Yuri Grin

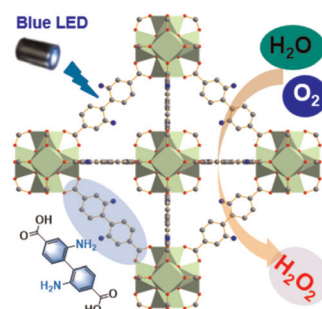


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Highly efficient photosynthesis of hydrogen peroxide by a stable Zr(IV)-based MOF with a diamino-functionalized ligand

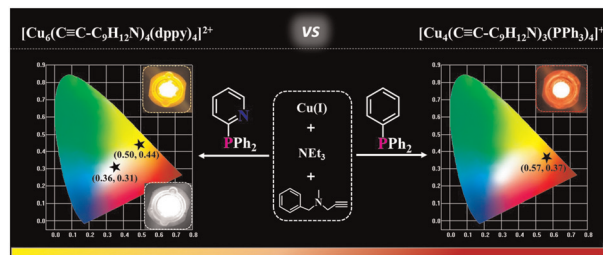
Qixiang Zhai, Yanwei Ren,* Haosen Wang, Cheng Liu, Ze Li and Huanfeng Jiang



5844

Pargyline-phosphine copper(I) clusters with tunable emission for light-emitting devices

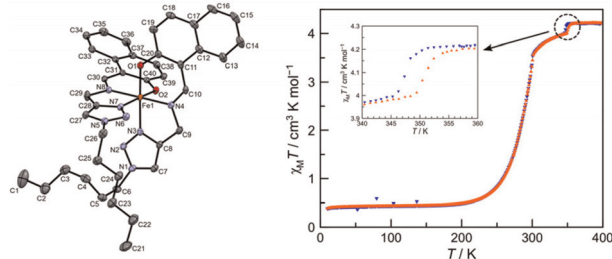
Qiu-Qin Huang, Yan-Yan Lin, Yu-Ling Wang, Jia yuan Qi, FengFu Fu and Qiao-Hua Wei*



5851

Impact of flexible hexyl chain ordering in a mononuclear spin crossover iron(III) complex

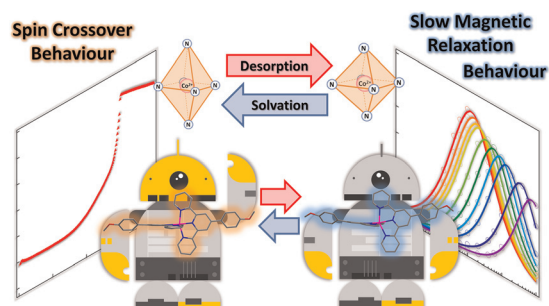
Hiroaki Hagiwara* and Kento Sonoda



5861

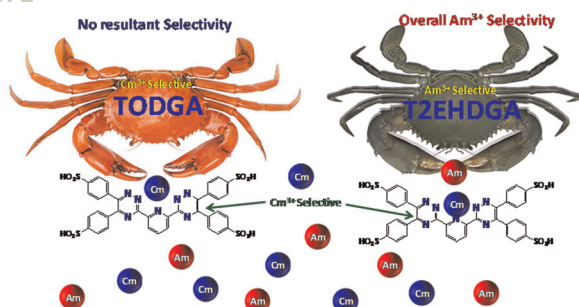
Solvation/desolvation induced reversible distortion change and switching between spin crossover and single molecular magnet behaviour in a cobalt(II) complex

Hikaru Zenno, Yoshihiro Sekine, Zhongyue Zhang and Shinya Hayami*



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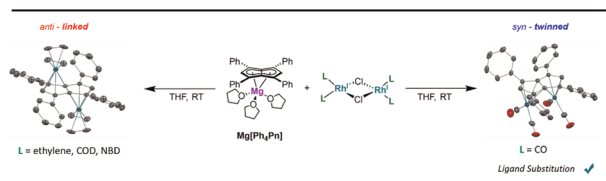
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Ligand structure and diluent nature in defining improved Am³⁺ and Cm³⁺ separation using diglycolamides: a combined solvent extraction and DFT study

A. S. Kanekar, A. Bhattacharyya* and P. K. Mohapatra*

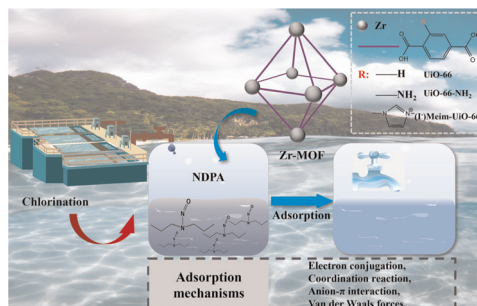
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Twinned *versus* linked organometallics - bimetallic "half-baguette" pentalenide complexes of Rh(I)

Hugh J. Sanderson, Gabriele Kociok-Köhn, Claire L. McMullin and Ulrich Hintermair*

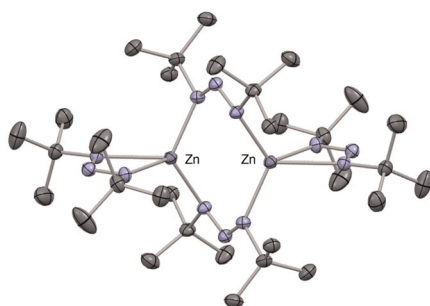
5900



Functional UiO-66 for highly selective adsorption of N-nitrosodipropylamine: adsorption performance and mechanisms

Jinfeng Chen, Ning Yao, Yi Tang, Letian Xie, Xiong Zhuo and Zhuwu Jiang*

5911



Synthesis, characterisation and reactivity of a zinc triazenide for potential use in vapour deposition

Rouzbeh Samii, Essi Barkas, David Zanders, Anton Fransson, Manu Lahtinen, Vadim Kessler, Heikki M. Tuononen, Jani O. Moilanen and Nathan J. O'Brien*

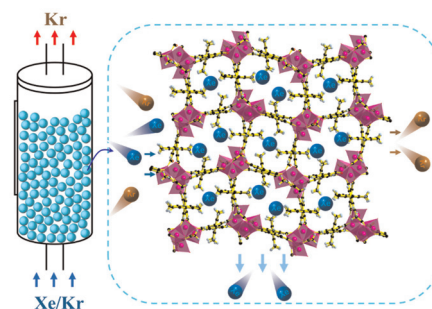


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Contracting pore channels of a magnesium-based metal–organic framework by decorating methyl groups for effective Xe/Kr separation

Liangjun Li,* Xu Zhang, Wenli Xu, Mengwei Guo, Qingying Liu, Fangru Li, Tao Liu, Tao Xing, Zhi Li, Mingqing Wang and Mingbo Wu*



5922

Molten salt-shielded synthesis of Ti_3AlC_2 as a precursor for large-scale preparation of $\text{Ti}_3\text{C}_2\text{T}_x$ MXene binder-free film electrode supercapacitors

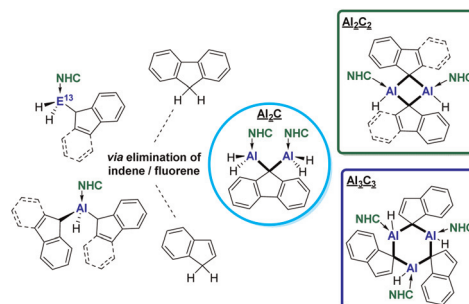
Alexey Tsyganov,* Maria Vikulova, Alexander Shindrov, Denis Zheleznov, Alexander Gorokhovskiy and Nikolay Gorshkov*



5932

NHC-ligated indenyl- and fluorenyl-substituted Alanes and Gallanes: synthons towards indenyl- and fluorenyl-bridged $(\text{AlC})_n$ -heterocycles ($n = 2, 3$)

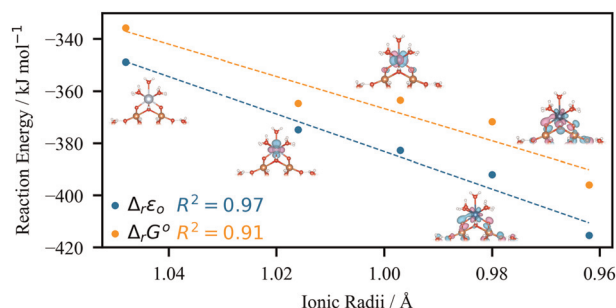
Luis Werner, Julika Hagn, Alexander Gerstner and Udo Radius*



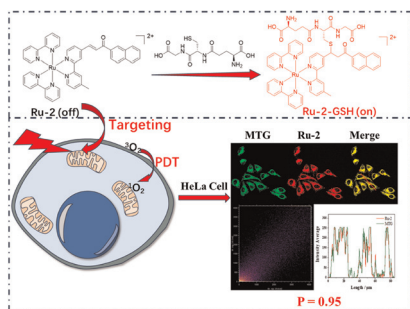
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Computational study of the interactions of tetravalent actinides ($\text{An} = \text{Th}–\text{Pu}$) with the $\alpha\text{-Fe}_{13}$ Keggin cluster

Ryan L. Dempsey and Nikolas Kaltsoyannis*



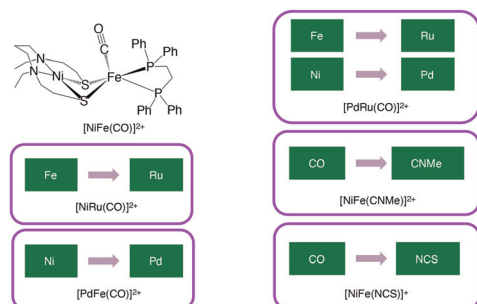
5957



Mitochondria-targeted ruthenium(II) complexes for photodynamic therapy and GSH detection in living cells

Wanqing Zhang, Weibin Chen, Fengfu Fu and Mei-Jin Li*

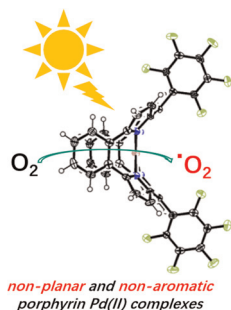
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Metal- and ligand-substitution-induced changes in the kinetics and thermodynamics of hydrogen activation and hydricity in a dinuclear metal complex

Miho Isegawa

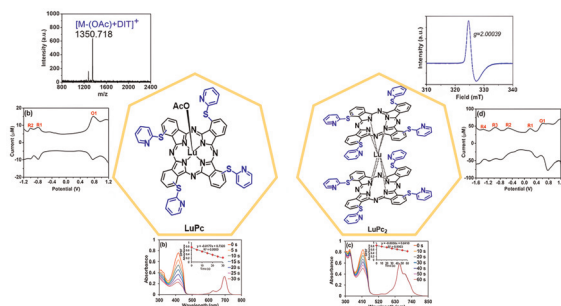
5979



Porphyrin(2.1.2.1) organopalladium complexes as efficient singlet oxygen sensitizers

Xiaojuan Lv, Yuting Dong, Jinrong Wu, Tao Jiang, Feng Chen,* Tao Zhang, Fengxian Qiu and Songlin Xue*

5985



Novel non-peripheral mercaptopyridine-substituted mono- and double-decker lutetium(III) phthalocyanines: synthesis, photophysical and electrochemical properties

İpek Ömeroğlu

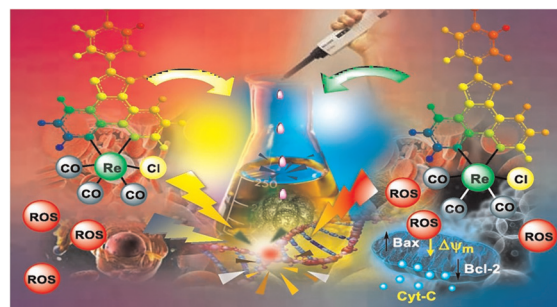


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Re(I)[2-aryl-1*H*-imidazo[4,5-*f*][1,10]phenanthroline] tricarbonyl chloride complexes for selective cancer therapy via a potential DNA damage mechanism

Lavanya Thilak Babu, Utpal Das, Rishav Das, Binoy Kar and Priyanka Paira*

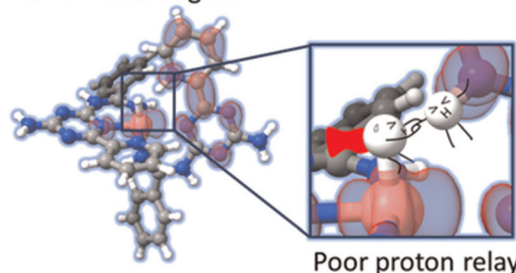


6006

Mechanisms of hydrogen evolution by six-coordinate cobalt complexes: a density functional study on the role of a redox-active pyridinyl-substituted diaminotriazine benzamidine ligand as a proton relay

Kittimeth Thammanatpong and Panida Surawatanawong*

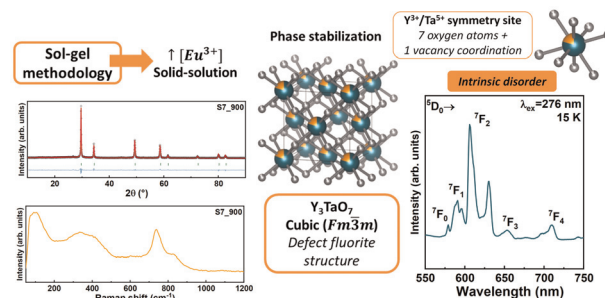
Redox-active ligand



6020

Refined structural studies on the fluorite-related polymorphs of sol-gel undoped and Eu³⁺-doped yttrium tantalates

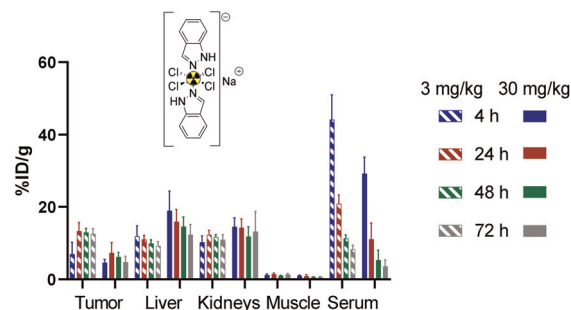
Fernanda Hediger Borges, Maria Vitória Guidorzi, Hayra do Prado Labaki, Rute A. S. Ferreira and Rogéria Rocha Gonçalves*



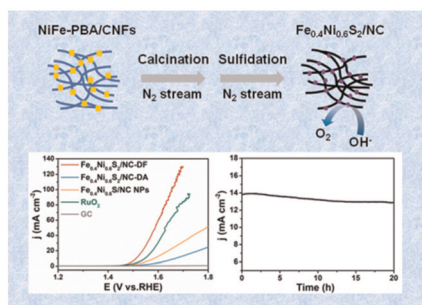
6031

Synthesis and preclinical evaluation of BOLD-100 radiolabeled with ruthenium-97 and ruthenium-103

B. Happl, T. Balber, P. Heffeter, C. Denk, J. M. Welch, U. Köster, C. Alliot, A.-C. Bonraisin, M. Brandt, F. Haddad, J. H. Sterba, W. Kandjoller, M. Mitterhauser, M. Hacker, B. K. Keppler and T. L. Mindt*



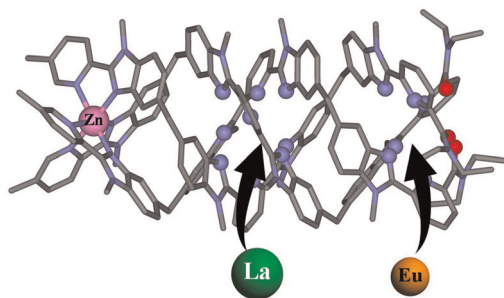
6041



Bimetallic sulfide/N-doped carbon composite derived from Prussian blue analogues/cellulose nanofibers film toward enhanced oxygen evolution reaction

Zhengping Li,* Feiyang Chen, Chunlong Li, Zhiliang Zhang, Fangong Kong, Xipeng Pu and Qifang Lu

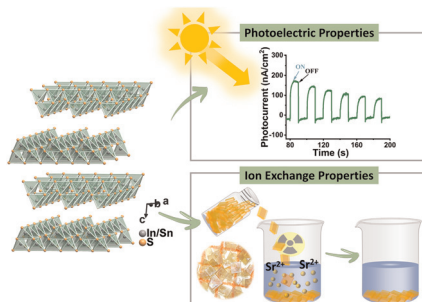
6050



Programming heterometallic 4f–4f' helicates under thermodynamic control: the circle is complete

Charlotte Egger, Laure Guénée, Neel Deorukhkar and Claude Piguet*

6063

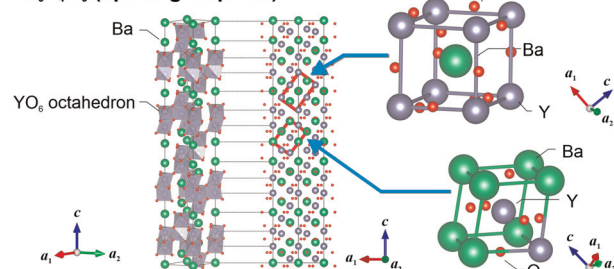


(C₆H₁₅N₃)_{1.3}(NH₄)_{1.5}H_{1.5}In₃SnS₈: a layered metal sulfide based on supertetrahedral T2 clusters with photoelectric response and ion exchange properties

Lu Yang, Xin Wen, Tian Yang, Qian-Qian Hu, Jia-Ting Liu, Hai-Yan Yin, Abdusalam Ablez, Mei-Ling Feng* and Xiao-Ying Huang*

6070

Ba₃Y₄O₉ (space group $R\bar{3}c$)



Comprehensive understanding of the crystal structure of perovskite-type Ba₃Y₄O₉ with Zr substitution: a theoretical and experimental study

Katsuhiro Ueno,* Atsunori Hashimoto, Kazuaki Toyoura,* Naoyuki Hatada, Shigeo Sato and Tetsuya Uda

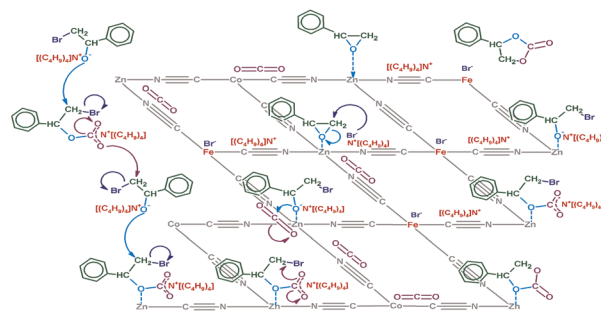


PAPERS

6087

Unraveling the role of internal–external metal substitution in $\text{Zn}_3[\text{Co}(\text{CN}_6)]_2$ for the styrene oxide– CO_2 cycloaddition reaction

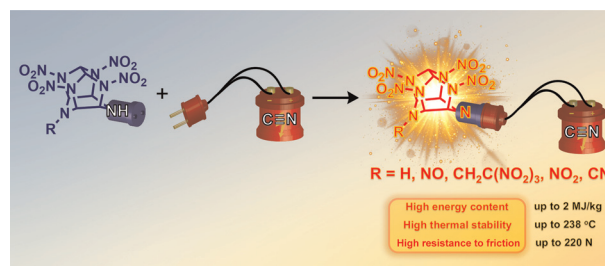
Erik J. Del Angel-Gómez, Omar Reséndiz-Hernández, Jesús Vega-Moreno, Oscar Morelos-Santos, Adela Lemus-Santana* and Benjamín Portales-Martínez*



6100

Highly energetic *N*-cyano-substituted CL-20 analogues: challenging the stability limits of polynitro hexaazaisowurtzitane

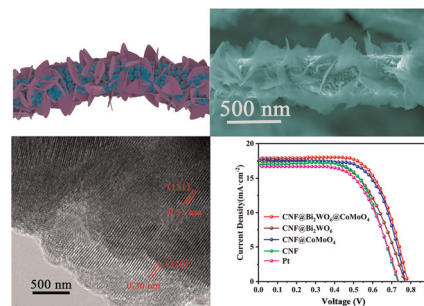
Vladimir V. Parakhin,* Galina V. Pokhvisneva, Nina I. Shlykova, Aida I. Samigullina, Sergei V. Nikitin, Gennady A. Smirnov, Pavel B. Gordeev, Tatyana S. Kon'kova, David B. Lempert and Alla N. Pivkina



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In situ grown $\text{Bi}_2\text{WO}_6@\text{CoMoO}_4$ layered cladding structure on carbon nanofibers by a two-step solvothermal method and Ti mesh substrate as advanced counter electrodes for dye-sensitized solar cells

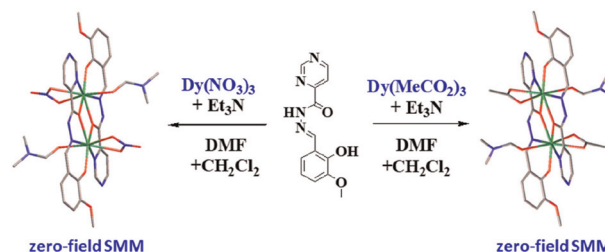
Xiaoyu Zhang, Xueyan Peng, Xuan Wang, Qian Zhang, Zixin Wang and Ling Li*



6120

Effect of coordinated anions on ferromagnetically coupled Dy_2 zero-field single-molecule magnets

Cai-Ming Liu,* Xiang Hao, Dong-Mei Zhu* and Yi-Quan Zhang



CORRECTION

6128

Correction: Acridine-based copper(i) PNP pincer complexes: catalysts for alkyne hydroboration and borylation of aryl halides

Angus Olding, Nigel. T. Lucas, Curtis C. Ho* and Alex C. Bissember*

