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## IN THIS ISSUE

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See Peter C. Junk *et al.*,  
pp. 3563–3566.

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**Inside cover**  
See Bhabatosh Banik,  
Shanta Dhar *et al.*,  
pp. 3575–3585.

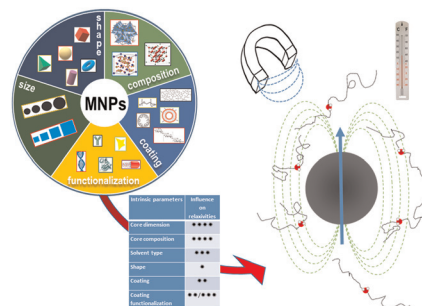
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Bapurao Surnar,  
Akash Ashokan and  
Shanta Dhar  
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2023, **52**, 3575.

## PERSPECTIVE

3551

### The effect of size, shape, coating and functionalization on nuclear relaxation properties in iron oxide core-shell nanoparticles: a brief review of the situation

Paolo Arosio,\* Francesco Orsini, Francesca Brero,  
Manuel Mariani, Claudia Innocenti, Claudio Sangregorio  
and Alessandro Lascialfari

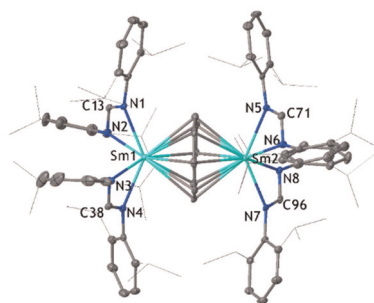


## COMMUNICATIONS

3563

### Formation of a cyclooctatetraenylsamarium(III) inverse sandwich that ring-opens tetrahydrofuran

Ramees Peedika Paramban, Zhifang Guo,  
Glen B. Deacon and Peter C. Junk\*



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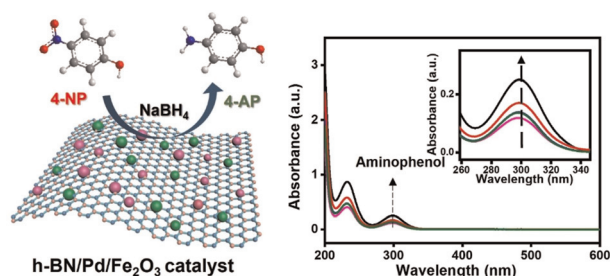


## COMMUNICATIONS

3567

### Magnetic boron nitride adorned with Pd nanoparticles: an efficient catalyst for the reduction of nitroarenes in aqueous media

Jinghan Wang, Woo Seok Cheon, Ju-Yong Lee, Wenqian Yan, Sunghoon Jung, Ho Won Jang\* and Mohammadreza Shokouhimehr\*

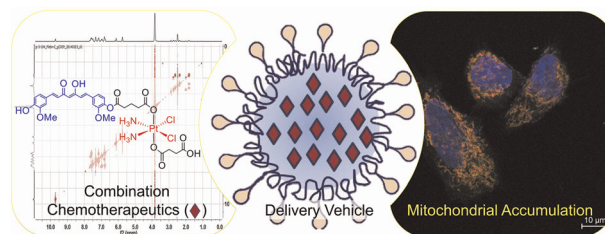


## PAPERS

3575

### Platin-C containing nanoparticles: a recipe for the delivery of curcumin–cisplatin combination chemotherapeutics to mitochondria

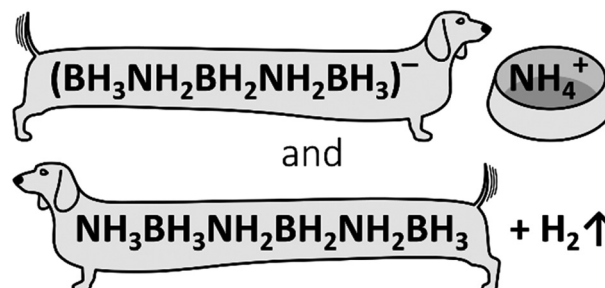
Bhabatosh Banik,\* Akash Ashokan, Joshua H. Choi, Bapurao Surnar and Shanta Dhar\*



3586

### Towards hydrogen-rich ionic (NH<sub>4</sub>)(BH<sub>3</sub>NH<sub>2</sub>BH<sub>2</sub>NH<sub>2</sub>BH<sub>3</sub>) and related molecular NH<sub>3</sub>BH<sub>2</sub>NH<sub>2</sub>BH<sub>2</sub>NH<sub>2</sub>BH<sub>3</sub>

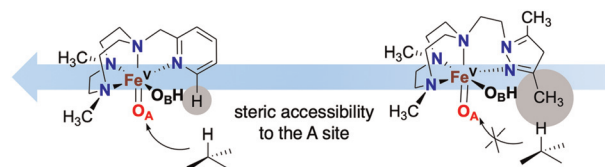
Rafał Owarzany,\* Tomasz Jaroń, Krzysztof Kazimierczuk, Przemysław J. Malinowski, Wojciech Grochala and Karol J. Fijalkowski\*



3596

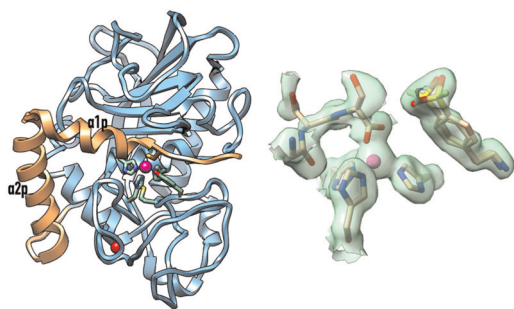
### An investigation of steric influence on the reactivity of Fe<sup>V</sup>(O)(OH) tautomers in stereospecific C–H hydroxylation

Mainak Mitra, Alexander Brinkmeier, Yong Li, Margarida Borrell, Arnau Call, Julio Lloret Fillol, Michael G. Richmond, Miquel Costas\* and Ebbe Nordlander\*



## PAPERS

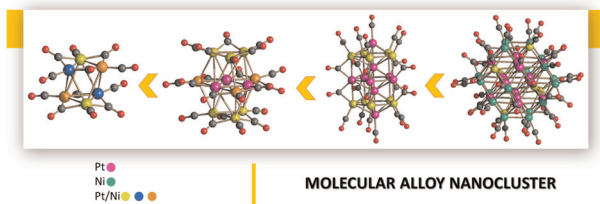
3610



### Structural insights into latency of the metallopeptidase ulilysin (lysargiNase) and its unexpected inhibition by a sulfonyl–fluoride inhibitor of serine peptidases

Arturo Rodríguez-Banqueri, Marina Moliner-Culubret, Soraia R. Mendes, Tibisay Guevara, Ulrich Eckhard\* and F. Xavier Gomis-Rüth\*

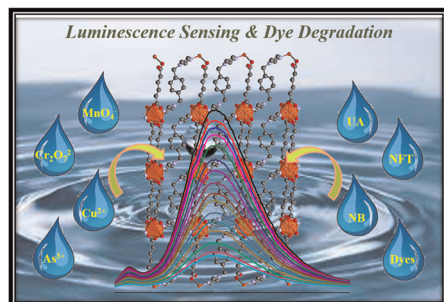
3623



### From $M_6$ to $M_{12}$ , $M_{19}$ and $M_{38}$ molecular alloy Pt–Ni carbonyl nanoclusters: selective growth of atomically precise heterometallic nanoclusters

Cristiana Cesari, Beatrice Berti, Marco Bortoluzzi, Cristina Femoni, Tiziana Funaioli, Federico Maria Vivaldi, Maria Carmela Iapalucci and Stefano Zacchini\*

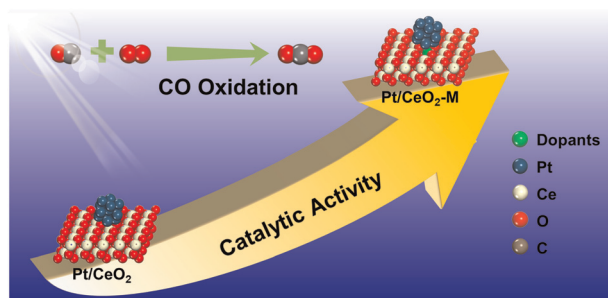
3643



### Ratiometric luminescent sensing of a biomarker for sugar consumption in an aqueous medium using a Cu(II) coordination polymer

Somnath, Musheer Ahmad and Kafeel Ahmad Siddiqui\*

3661



### Fabrication of supported Pt/CeO<sub>2</sub> nanocatalysts doped with different elements for CO oxidation: theoretical and experimental studies

Xingwen Cha, Xueying Wang, Mingzhen Huang, Dongren Cai, Kang Sun, Jianchun Jiang, Shu-feng Zhou\* and Guowu Zhan\*



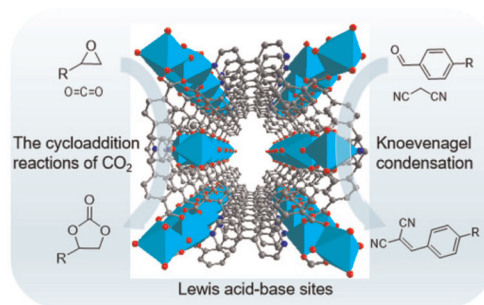


## PAPERS

3671

### Thermally activated bipyridyl-based Mn-MOFs with Lewis acid–base bifunctional sites for highly efficient catalytic cycloaddition of CO<sub>2</sub> with epoxides and Knoevenagel condensation reactions

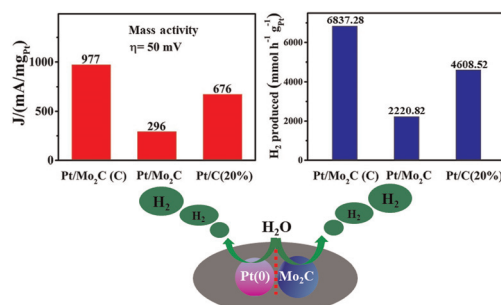
Zhen Xu, Ya-Yu Zhao, Le Chen, Cai-Yong Zhu, Peng Li, Wei Gao,\* Ji-Yang Li and Xiu-Mei Zhang\*



3682

### Mo<sub>2</sub>C promoted electrocatalysis of the Pt/Mo<sub>2</sub>C (C) heterostructure for a superior hydrogen evolution reaction

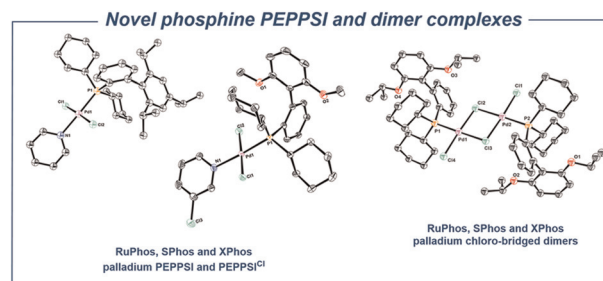
Yixiang Ye, Yuande Shi, Jiannan Cai, Zhisheng Xiao, Zhongshui Li\* and Shen Lin\*



3690

### Synthesis, characterization, and reactivity of [Pd(phosphine)(py)Cl<sub>2</sub>] (PEPPSI) and [Pd(phosphine)Cl<sub>2</sub>]<sub>2</sub> complexes

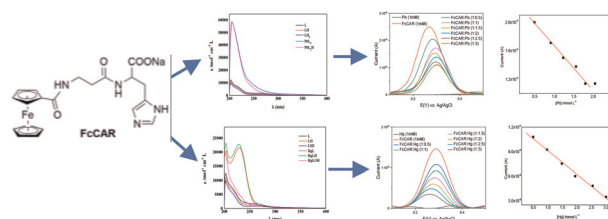
Vladislav A. Voloshkin, Yaxu Liu, Marek Beliš, Min Peng, Kristof Van Hecke, Catherine S. J. Cazin\* and Steven P. Nolan\*



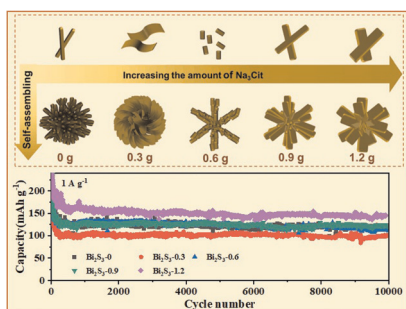
3699

### Thermodynamic and voltammetric study on carnosine and ferrocenyl-carnosine

Chiara Abate, Anna Piperno, Alex Fragoso, Ottavia Giuffrè, Antonino Mazzaglia, Angela Scala and Claudia Foti\*



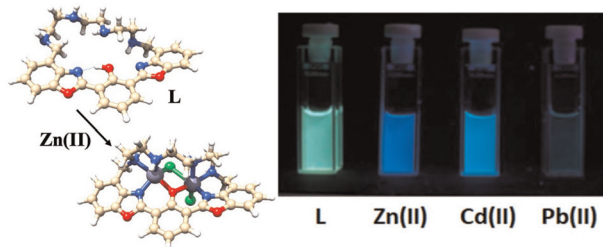
3709



### Trisodium citrate as a modulation additive to increase the cycling capability of a $\text{Bi}_2\text{S}_3$ cathode in a zinc-ion battery

Lei Gou,\* Lin Zhu, Wen-Yan Wang, Kai Liang, Xiao-Yong Fan\* and Dong-Lin Li

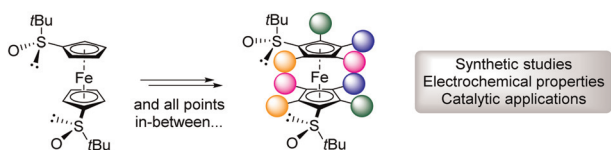
3716



### A novel 2,6-bis(benzoxazolyl)phenol macrocyclic chemosensor with enhanced fluorophore properties by photoinduced intramolecular proton transfer

Daniele Paderni, Giampaolo Barone,\* Luca Giorgi,\* Mauro Formica, Eleonora Macedi and Vieri Fusi

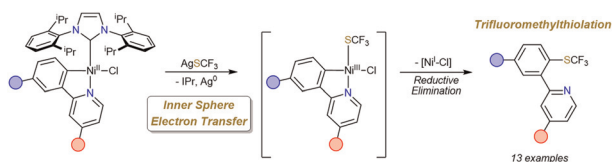
3725



### From ferrocene to deca-substituted enantiopure ferrocene-1,1'-disulfide derivatives

Min Wen, William Erb,\* Florence Mongin, Jean-Pierre Hurvois, Yury S. Halauko,\* Oleg A. Ivashkevich, Vadim E. Matulis, Marielle Blot and Thierry Roisnel

3738



### Investigating the mechanism of Ni-mediated trifluoromethylthiolation of aryl halides using $\text{AgSCF}_3$

Weiling Chiu, Ben E. Nadeau, Brian O. Patrick and Jennifer A. Love

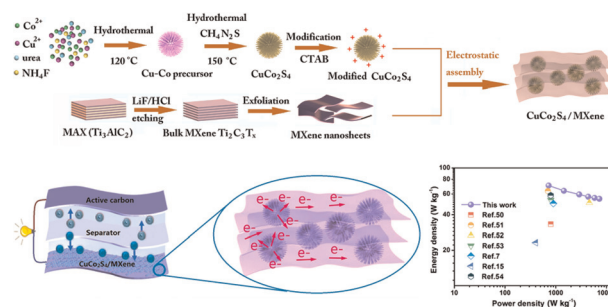


## PAPERS

3746

# Construction of $\text{Ti}_3\text{C}_2\text{T}_x$ MXene wrapped urchin-like $\text{CuCo}_2\text{S}_4$ microspheres for high-performance asymmetric supercapacitors

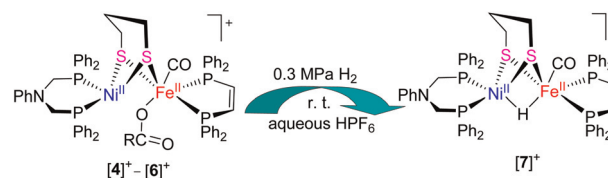
Xiaobo Chen,\* Huiran Ge, Wen Yang and Peizhi Yang\*



3755

# Functionalized nickel(II)–iron(II) dithiolates as biomimetic models of $[\text{NiFe}]\text{-H}_2\text{ases}$

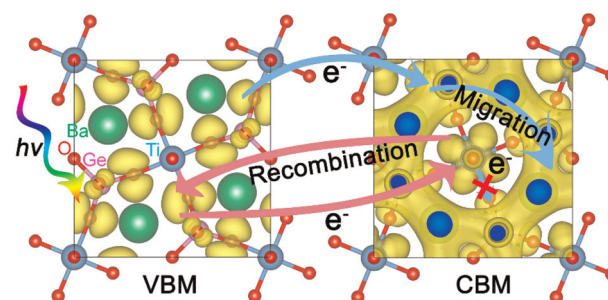
Li-Cheng Song,\* Yin-Peng Wang, Yi-Xiong Dong and Xi-Yue Yang



3769

# Deciphering the photocatalytic hydrogen generation process of Fresnoite $\text{Ba}_2\text{TiGe}_2\text{O}_8$ by electronic structure and bond analyses

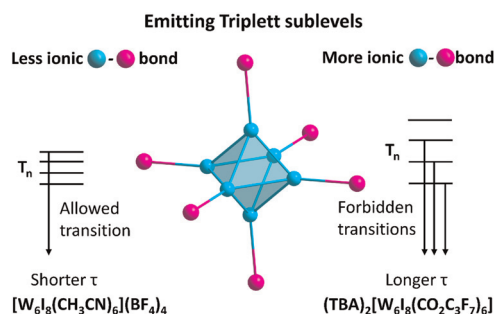
Guangxiang Lu and Tao Yang\*



3777

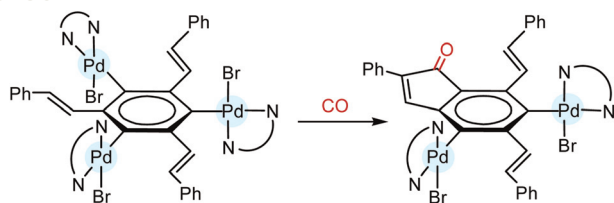
# Preparation, photoluminescence and excited state properties of the homoleptic cluster cation $[(\text{W}_6\text{I}_8)(\text{CH}_3\text{CN})_6]^{4+}$

Florian Pachel, Philipp Frech, Markus Ströbele, David Enseling, Carl P. Romao, Thomas Jüstel, Marcus Scheele and Hans-Jürgen Meyer\*



## PAPERS

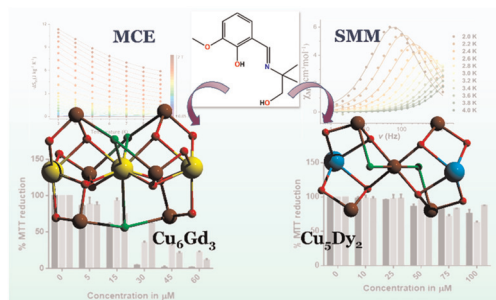
3786



### Synthesis of mono-, di- and tripalladated 1,3,5-benzenetriptyryl complexes. CO insertion to give a dipalladated indenone

Rashmi V. Shenoy, Peter G. Jones, José Vicente and Eloisa Martínez-Viviente\*

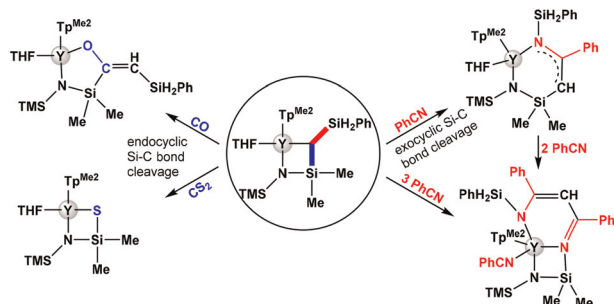
3795



### Synthesis and characterization of two self-assembled $[\text{Cu}_6\text{Gd}_3]$ and $[\text{Cu}_5\text{Dy}_2]$ complexes exhibiting the magnetocaloric effect, slow relaxation of magnetization, and anticancer activity

Avik Bhanja, Sangeeta Roy Chaudhuri, Angelos B. Canaj, Shachi Pranjal Vyas, Fabrizio Ortu, Lucy Smythe, Mark Murrie, Ritobrata Goswami and Debashis Ray\*

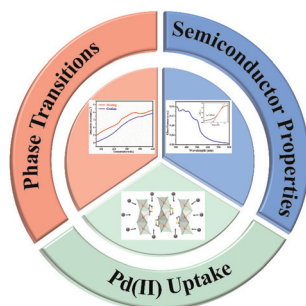
3807



### Selective Si-C( $\text{sp}^3$ ) bond cleavage of a silyl-bridged amido alkyl ligand in an yttrium complex

Jiamin Cai, Jie Zhang\* and Xigeng Zhou\*

3815



### Effect of Pd(II) uptake on high-temperature phase transitions in a hybrid organic-inorganic perovskite semiconductor

Yan Xu, Ke Xu, Lei He, Jie Mu, Ti-Jian Yin, Jin-Tao Men and Qiong Ye\*



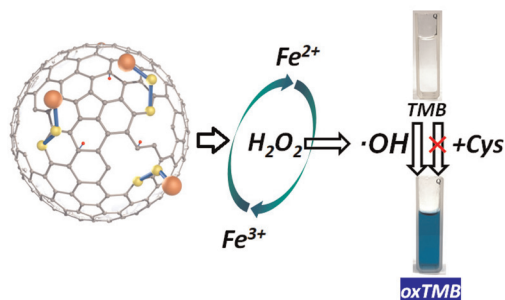


## PAPERS

3821

### Peroxidase-like activity of hollow sphere-like FeS<sub>2</sub>/SC boosted by synergistic action of defects and S–C bonding

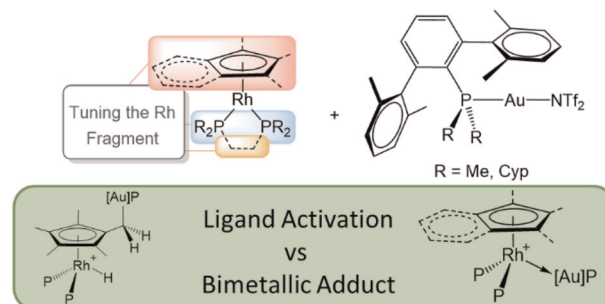
Hao Tan and Zhaodong Nan\*



3835

### Polarized Au(i)/Rh(i) bimetallic pairs cooperatively trigger ligand non-innocence and bond activation

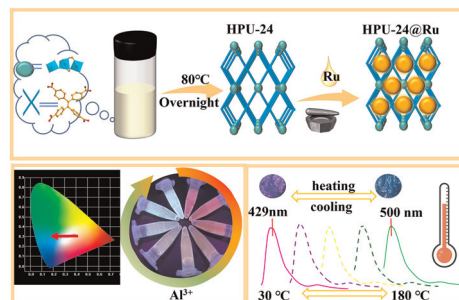
Macarena G. Alf  rez, Juan J. Moreno, Celia Maya and Jes  s Campos\*



3846

### A dual-function [Ru(bpy)<sub>3</sub>]<sup>2+</sup> encapsulated metal organic framework for ratiometric Al<sup>3+</sup> detection and anticounterfeiting application

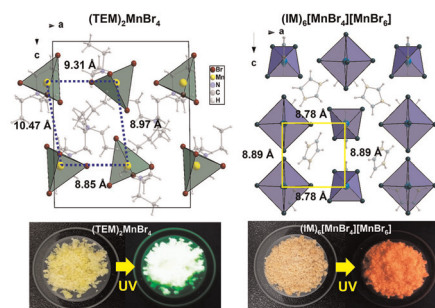
Huijun Li,\* Yanan Wang, Fengjiao Jiang, Manman Li and Zhouqing Xu\*



3855

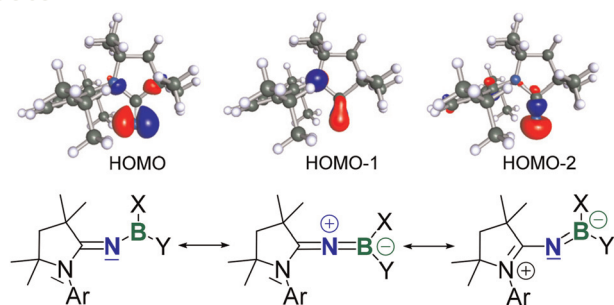
### Long-lived spin-triplet excitons in manganese complexes for room-temperature phosphorescence

Mi-Hee Jung



## PAPERS

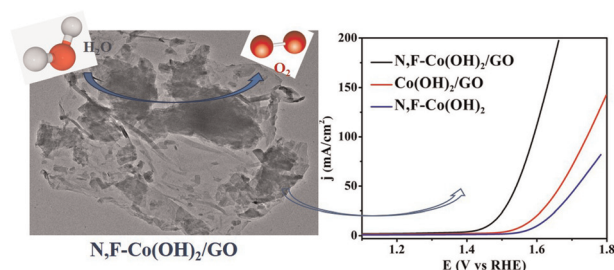
3869



### Cyclic alkyl(amino)iminates (CAAls) as strong $2\sigma,4\pi$ -electron donor ligands for the stabilisation of boranes and diboranes(4): a synthetic and computational study

Silvia Huynh, Merle Arrowsmith, Lukas Meier, Maximilian Dietz, Marcel Härterich, Maximilian Michel, Annalena Gärtner and Holger Braunschweig\*

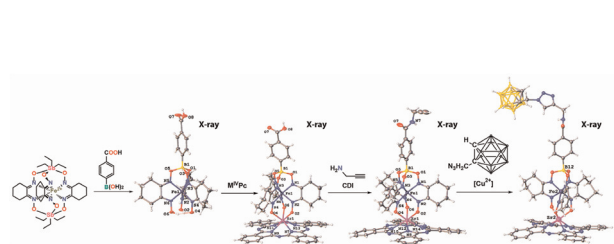
3877



### Enhancing the oxygen evolution reaction of cobalt hydroxide by fabricating nanocomposites with fluorine-doped graphene oxide

Pandi Muthukumar, Periyappan Nantheeswaran, Mariappan Mariappan, Mehboobali Pannipara, Abdullah G. Al-Sehemi and Savarimuthu Philip Anthony\*

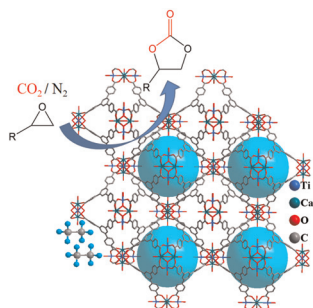
3884



### Multistep synthesis and X-ray structures of carboxyl-terminated hybrid iron(II) phthalocyaninatoclathrochelates and their postsynthetic transformation into polytopic carboranyl-containing derivatives

Alexander S. Chuprin, Alexander A. Pavlov, Anna V. Vologzhanina, Pavel V. Dorovatovskii, Anton V. Makarenkov, Valentina A. Ol'shevskaya, Semyon V. Dudkin and Yan Z. Voloshin\*

3896



### A robust and porous titanium metal-organic framework for gas adsorption, CO<sub>2</sub> capture and conversion

Xuze Pan, Xuezheng Si, Xiaoying Zhang, Qingxia Yao,\* Yunwu Li, Wenzeng Duan, Yi Qiu,\* Jie Su and Xianqiang Huang\*

