

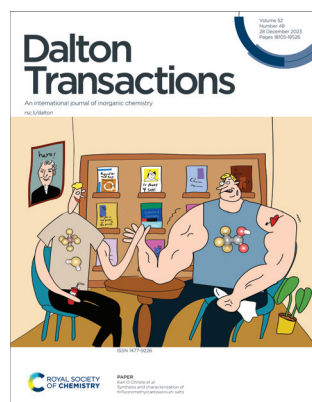
# Dalton Transactions

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ISSN 1477-9226 CODEN DTARAF 52(48) 18105–18526 (2023)



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See Karl O Christe *et al.*,  
pp. 18143–18147.

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**Inside cover**  
See Phimphaka Harding,  
David J. Harding *et al.*,  
pp. 18148–18157.

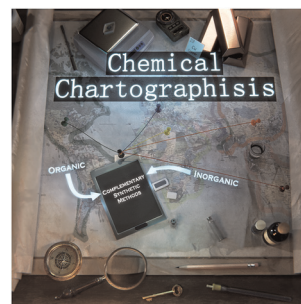
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### Chemical Chartography: a contemporary perspective in molecular design and synthesis

George E. Kostakis

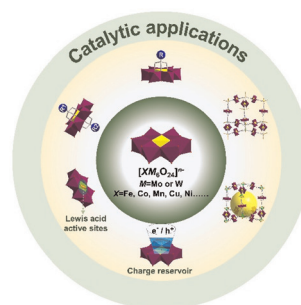


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### Anderson-type polyoxometalates for catalytic applications

Ai-Juan Li, Sheng-Li Huang\* and Guo-Yu Yang\*



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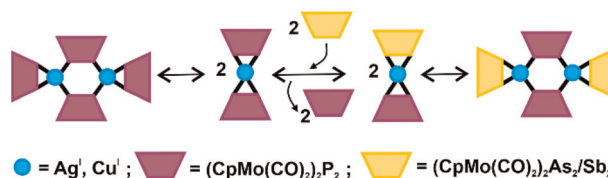


## COMMUNICATION

18137

### Novel synthetic route towards heteroleptic pnictogen-rich organometallic–inorganic coordination compounds

Pavel A. Shelyganov, Mehdi Elsayed Moussa, Michael Seidl, Lisa Zimmermann, Wagner Menezes da Silva and Manfred Scheer\*

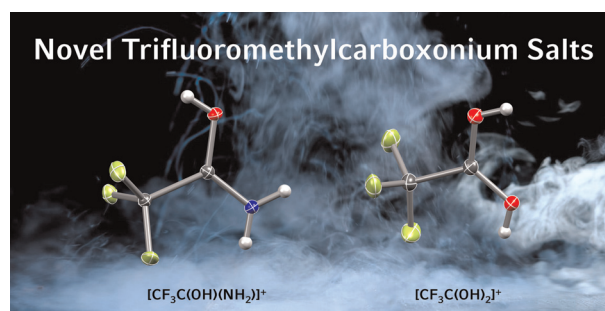


## PAPERS

18143

### Synthesis and characterization of trifluoromethylcarboxonium salts

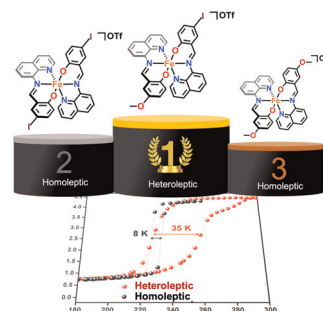
Thomas Saal, Ralf Haiges and Karl O Christe\*



18148

### Improving spin crossover characteristics in heteroleptic [Fe<sup>III</sup>(qsal-5-I)(qsal-5-OMe)]A complexes

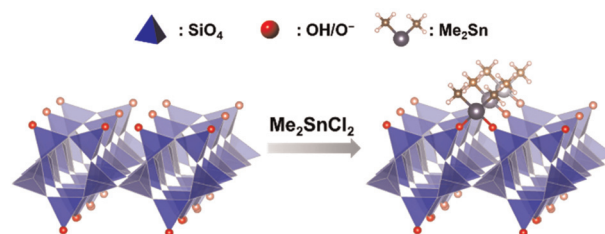
Raúl Díaz-Torres, Silvia Gómez-Coca, Eliseo Ruiz, Phimphaka Harding\* and David J. Harding\*



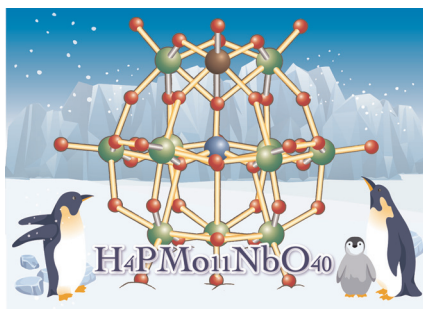
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### Immobilization of isolated dimethyltin species on crystalline silicates through surface modification of layered octosilicate

Masashi Yatomi, Takuya Hikino, Seiji Yamazoe, Kazuyuki Kuroda and Atsushi Shimojima\*



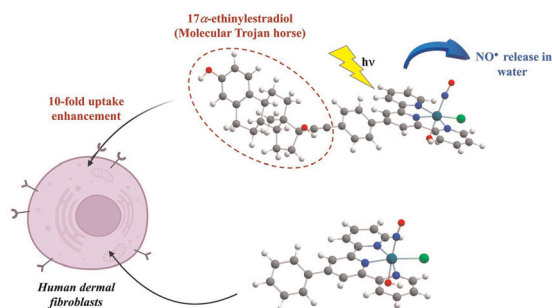
18168



### Preparation and isolation of mono-Nb substituted Keggin-type phosphomolybdic acid and its application as an oxidation catalyst for isobutylaldehyde and Wacker-type oxidation

Takashi Matono, Shinsuke Ueno, Yuki Kato, Naoya Umehara, Zhongling Lang, Yangguang Li, Wataru Ninomiya, Maher Elhallal, Edgar Osiris Gonzales-Yañez, Mickael Capron, Satoshi Ishikawa, Wataru Ueda, Tsuneji Sano and Masahiro Sadakane\*

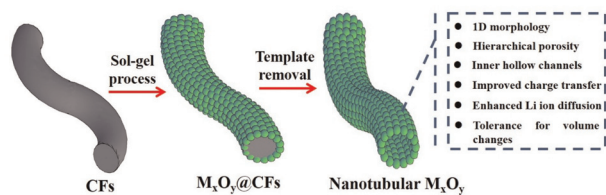
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### A Trojan horse approach for enhancing the cellular uptake of a ruthenium nitrosyl complex

Pablo Labra-Vázquez,\* Erika Rocha, Yue Xiao, Marine Tassé, Carine Duhayon, Norberto Farfán,\* Rosa Santillan, Laure Gibot, Pascal G. Lacroix and Isabelle Malfant\*

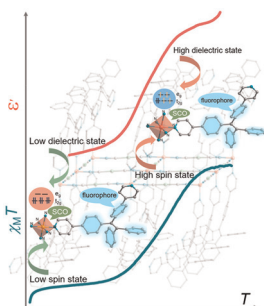
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### Nanotubular Fe<sub>2</sub>O<sub>3</sub> and Mn<sub>3</sub>O<sub>4</sub> with hierarchical porosity as high-performance anode materials for lithium-ion batteries

Zhen Li,\* Man Yang, Fengting Geng, Dashuai Zhang, Yongzheng Zhang, Xiuling Zhang, Xuliang Pang\* and Longlong Geng\*

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### Simultaneous magneto-dielectric transitions in a fluorescent Hofmann-type coordination polymer

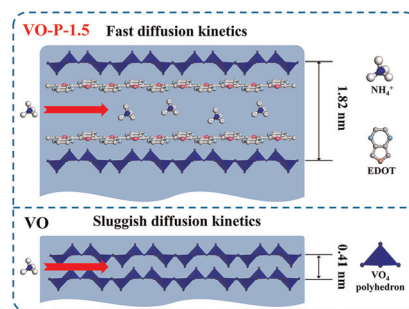
Fei-Fei Yan, Dan Liu, Rui Cai, Liang Zhao, Pan-Dong Mao, Hui-Ying Sun, Yin-Shan Meng\* and Tao Liu\*



18214

### Ultra-expanded interlayer spacing of vanadium oxide nanowires intercalated with poly(3,4-ethylene dioxythiophene) in organic ammonium ion batteries

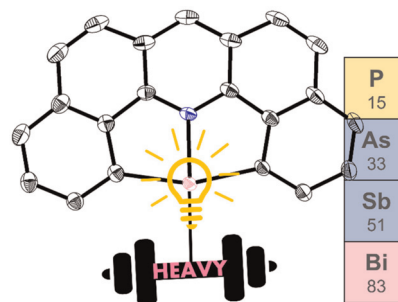
Haode Zhang, Shan Hu, Xinlei Tang, Yu Tian, Jiawen Zhao, Haohao Sun, Zelang Jian and Wen Chen\*



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### Enhanced luminescence properties through heavy ancillary ligands in [Pt(C<sup>^N</sup>^C)(L)] complexes, L = AsPh<sub>3</sub> and SbPh<sub>3</sub>

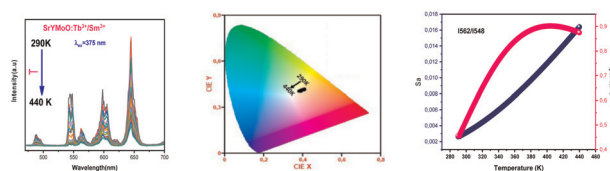
Rose Jordan, Iván Maisuls, Shruthi S. Nair, Benjamin Dietzek-Ivanšić,\* Cristian A. Strassert\* and Axel Klein\*



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### A novel optical temperature sensor and energy transfer properties based on Tb<sup>3+</sup>/Sm<sup>3+</sup> codoped SrY<sub>2</sub>(MoO<sub>4</sub>)<sub>4</sub> phosphors

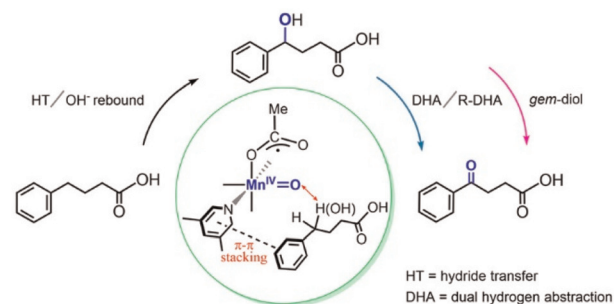
Ikhlas Kachou, Mohamed Dammak,\* Sandy Auguste, Frederic Amiard and Philippe Daniel



18247

### The elusive reaction mechanism of Mn(II)-mediated benzylic oxidation of alkylarene by H<sub>2</sub>O<sub>2</sub>: a gem-diol mechanism or a dual hydrogen abstraction mechanism?

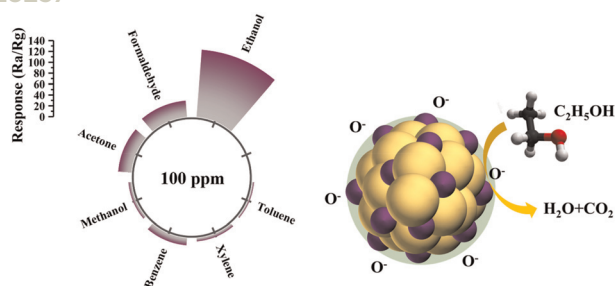
Shoujun Wang, Dongru Sun,\* Zhimin Wu, Yufen Zhao and Yong Wang\*





## PAPERS

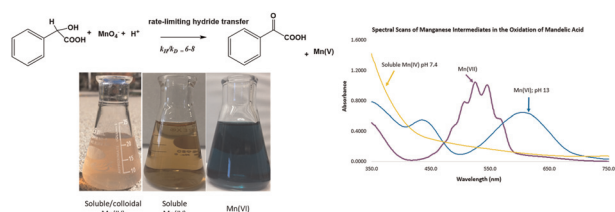
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### Hydrothermal synthesis of a bimetallic metal-organic framework (MOF)-derived $\text{Co}_3\text{O}_4/\text{SnO}_2$ composite as an effective material for ethanol detection

Yang Mu, Zhenkai Zhang, Zhiguo Yang, Chen Yue, Zhenyue Liu, Davoud Dastan, Xi-Tao Yin\* and Xiaoguang Ma\*

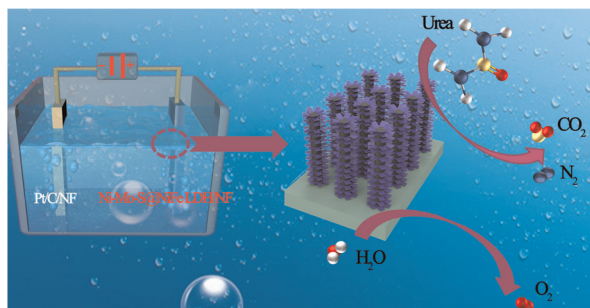
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### Pathways in permanganate oxidation of mandelic acid: reactivity and selectivity of intermediate manganese species

Tanden A. Hovey, Disha Mishra, Manveer Singh, Grecia Anaya, Chantele Owusu, Nicole C. Barvian, Kellen J. Sorauf, Mata Dambarudhar Patro, Akhil K. Panigrahi and Surendra N. Mahapatro\*

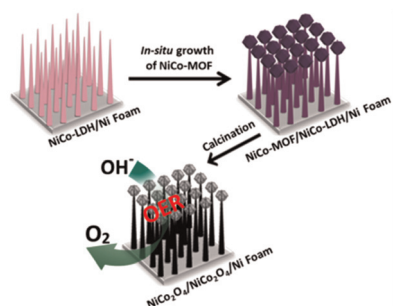
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### 1D/2D core-shell structure Ni-Mo-S@NiFe LDH grown on nickel foam: a bifunctional electrocatalyst for efficient oxygen evolution and urea oxidation reactions

Tengfei Zhang, Dan Xu, Ping Liu, Huan Liu, Long Chen, Tiantian Gu, Feng Yu, Yanyan Liu\* and Gang Wang\*

18295



### *In situ* growth of NiCo-MOF and the derived $\text{NiCo}_2\text{O}_4/\text{NiCo}_2\text{O}_4/\text{Ni}$ foam composite with a wire-penetrated-cage hierarchical architecture for an efficient oxygen evolution reaction

Xianchun Liu and Yan Xing\*

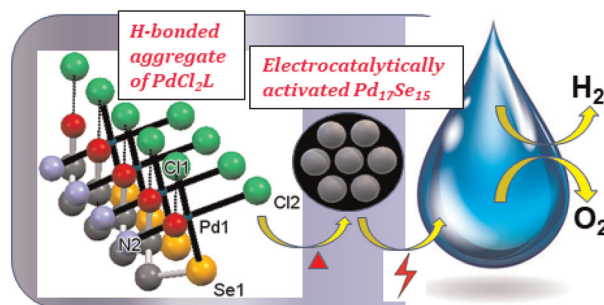


## PAPERS

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### Hydrogen-bonded linear chain assemblies of palladium(II)-selenoether complexes: solid state aggregates as templates for nano-structural Pd<sub>17</sub>Se<sub>15</sub> leading to efficient electrocatalytic activity

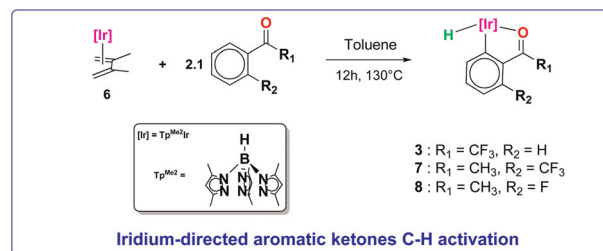
Liladhar B. Kumbhare,\* Anu Prathap M. Udayan, Hardik Singla, Shilpa N. Sawant, Priyanka Ruz, Amey Wadawale and Jitendra Bahadur



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### CH bond activation in aromatic ketones mediated by iridium-tris(pyrazolyl)borate complexes

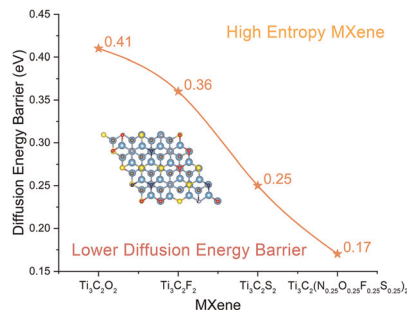
M. Ortiz-Hernández, V. Salazar-Pereda,\* D. Mendoza-Espinosa,\* M. A. Gomez-Bonilla, C. Cristobal, M. C. Ortega-Alfaro, A. Suárez and C. I. Sandoval-Chavez



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### First-principles calculation on the lithium storage properties of high-entropy MXene Ti<sub>3</sub>C<sub>2</sub>(N<sub>0.25</sub>O<sub>0.25</sub>F<sub>0.25</sub>S<sub>0.25</sub>)<sub>2</sub>

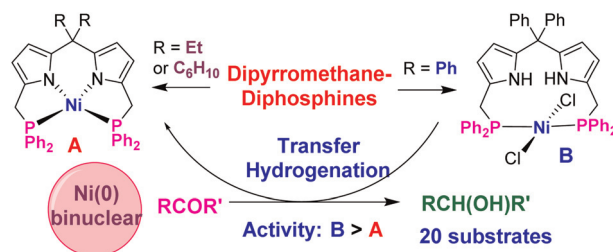
Kechen Li, Pengju Hao, Qian Zhang,\* Jianbo Zhang, Sydorov Dmytro and Yang Zhou\*



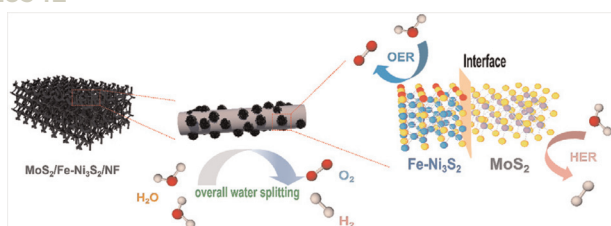
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### Dipyrromethane–diphosphine: the effect of meso substituents on the formation of nickel complexes and on their performance in the transfer hydrogenation of ketones

Rohit Gupta, Ashok Kumar and Ganesan Mani\*



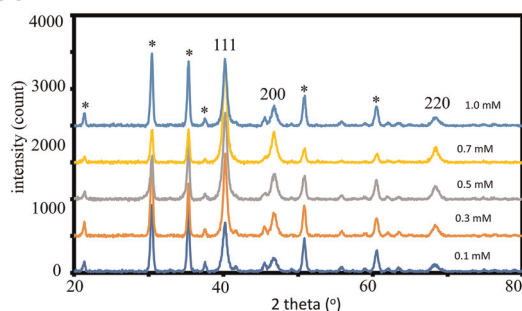
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### Ni(OH)<sub>2</sub>-derived lamellar MoS<sub>2</sub>/Ni<sub>3</sub>S<sub>2</sub>/NF with Fe-doped heterojunction catalysts for efficient overall water splitting

Minghao Dou, Mengjie Yao, Kai Ding, Yuye Cheng, Hongyu Shao, Shenjie Li\* and Yanyan Chen\*

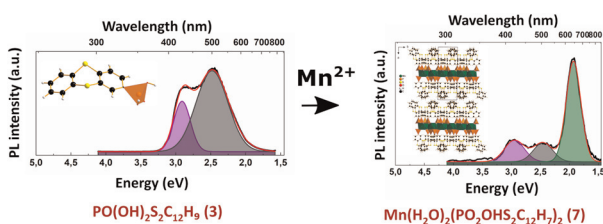
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### Iridium–palladium binary alloy as a counter electrode in dye-sensitized solar cells

N. A. S. Aziz, M. Y. A. Rahman,\* A. A. Umar and E. R. Mawarnis

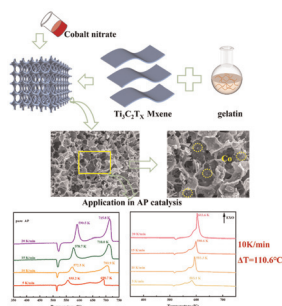
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### A new series of magnetic and luminescent layered hybrid materials obtained from thianthrene phosphonic acid: M(H<sub>2</sub>O)PO<sub>3</sub>-S<sub>2</sub>C<sub>12</sub>H<sub>7</sub> (M = Cu, Zn) and M(H<sub>2</sub>O)<sub>2</sub>(PO<sub>2</sub>OH-S<sub>2</sub>C<sub>12</sub>H<sub>7</sub>)<sub>2</sub> (M = Mn, Co)

Geoffrey Letheux, Parameshwari Ganesan, Fabien Veillon, Julien Varignon, Olivier Perez, Julien Cardin, Christophe Labbé, Guillaume Rogez, Mathilde Ligeour, Paul-Alain Jaffrès\* and Jean-Michel Rueff\*

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### Gelatin-modified Mxene carbon aerogels for ammonium-perchlorate-catalyzed thermal decomposition

Yujie Yan, Bo Jin\* and Rufang Peng

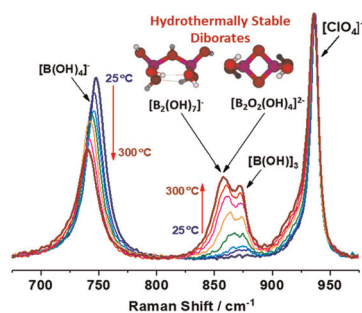




18391

### A Raman spectroscopic and *ab initio* investigation of aqueous boron speciation under alkaline hydrothermal conditions: evidence for the structure and thermodynamic stability of the diborate ion

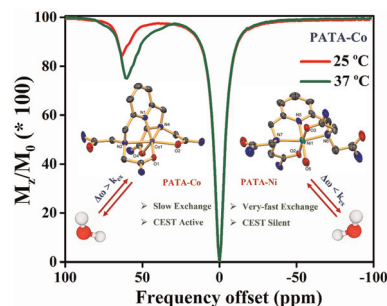
Swaroop Sasidharanpillai, Jenny S. Cox, Cory C. Pye and Peter R. Tremaine\*



18407

### Study of paraCEST response on six-coordinated Co(II) and Ni(II) complexes of a pyridine-tetraamide-based ligand

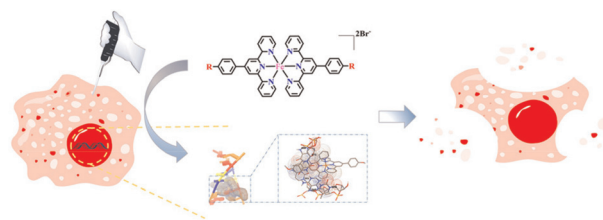
Suvam Kumar Panda, Ankit Rai and Akhilesh Kumar Singh\*



18416

### Fe(II) complexes of 2,2':6',2''-terpyridine ligands functionalized with substituted-phenyl groups: synthesis, crystal structures and anticancer potential

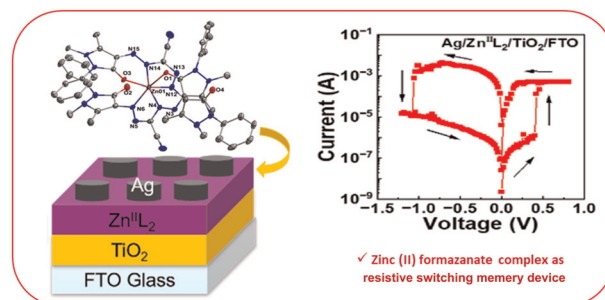
Dameng Sun, Xin Huang, Ruojun Man, Xinjie Jia, Xinluan Song, Sihan Wang, Xingyong Xue,\* Hongming Liu\* and Zhen Ma\*



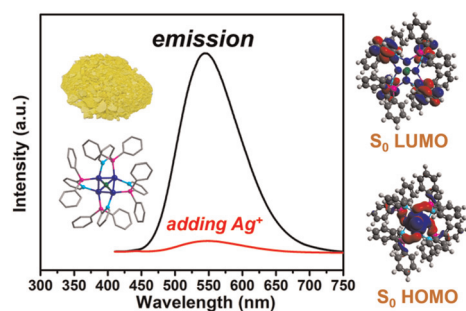
18429

### Design and synthesis of a solution-processed redox-active bis(formazanate) zinc complex for resistive switching applications

Sunita Birara, Shalu Saini, Moumita Majumder,\* Prem Lama, Shree Prakash Tiwari\* and Ramesh K. Metre\*



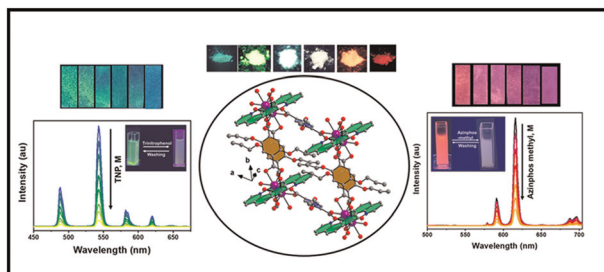
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### Large-scale synthesis, mechanism, and application of a luminescent copper hydride nanocluster

Tingting Xu, Endong Wang, Shuai Liu, Zhezhen Wei, Peiqun Yin, Jianan Sun, Wen Wu Xu\* and Yongbo Song\*

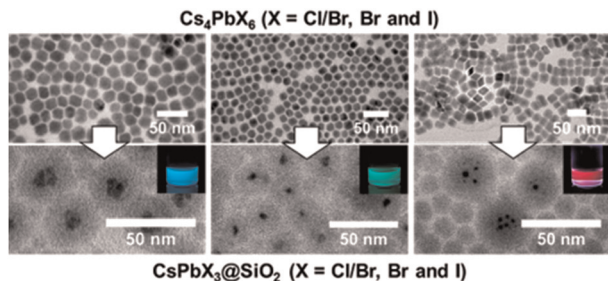
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### Turn-off luminescence sensing, white light emission and magnetic studies of two-dimensional lanthanide MOFs

Krishna Manna, Jean-Pascal Sutter\* and Srinivasan Natarajan\*

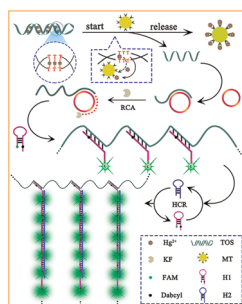
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### Water-assisted synthesis of stable and multicolored CsPbX<sub>3</sub>@SiO<sub>2</sub> core-shell nanoparticles as fluorescent probes for biosensing

Cynthia Collantes, William Teixeira, Victoria González-Pedro,\* María-José Bañuls, Pedro Quintero-Campos, Sergi Morais and Ángel Maquieira

18473



### A metal ion-coordinated DNA probe for sensitive fluorescence detection of metallothionein via a dual nucleic acid amplification strategy

Zihao Yin, Shunmei Li, Xiaoju Liu, Ruo Yuan and Yun Xiang\*

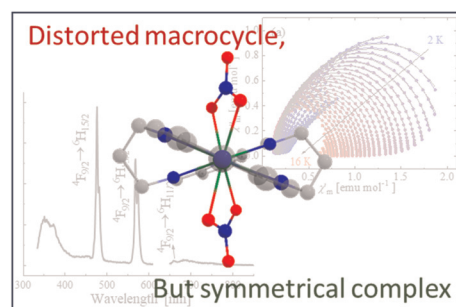


## PAPERS

18480

### Influence of symmetry on the magneto-optical properties of a bifunctional macrocyclic Dy<sup>III</sup> complex

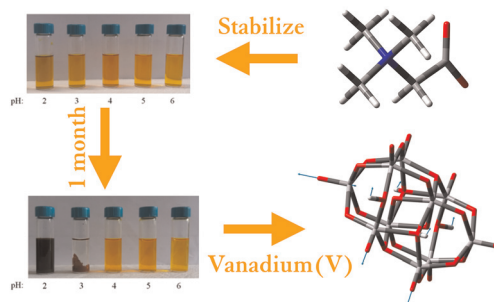
Yolimar Gil,\* Ricardo Costa de Santana, Andrés Vega, Daniel Aravena\* and Evgenia Spodine



18489

### Betaine mediated enhancement of thermal stability and acidity tolerance of vanadium(v) solutions

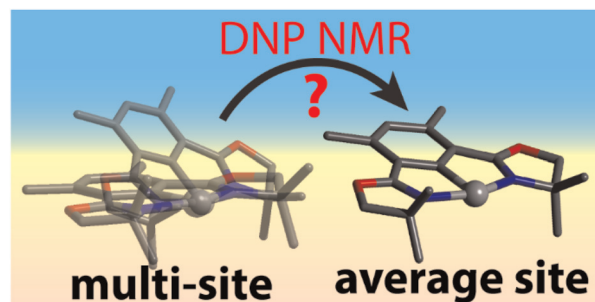
Luca Guglielmo,\* Andrea Mezzetta, Felicia D'Andrea, Lorenzo Guazzelli and Christian Silvio Pomelli\*



18502

### On the use of NMR distance measurements for assessing surface site homogeneity

Frédéric A. Perras\* and Damien B. Culver



18513

### Trigonal prismatic coordination geometry imparted by a macrocyclic ligand: an approach to large axial magnetic anisotropy for Co(II)

Eva Zahradníková, Jean-Pascal Sutter,\* Petr Halaš and Bohuslav Drahoš\*

