

# Dalton Transactions

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ISSN 1477-9226 CODEN DTARAF 54(15) 5957-6320 (2025)



### Cover

See Alejandro Dorazco-González *et al.*, pp. 6043–6059.

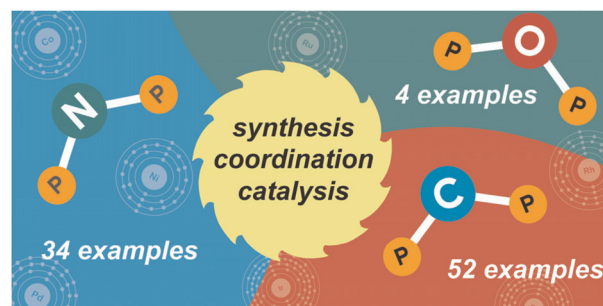
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## PERSPECTIVE

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### Chiral single-atom-bridged diphosphorus ligands: synthesis, complexation and catalysis

Javier Eusamio and Arnald Grabulosa\*

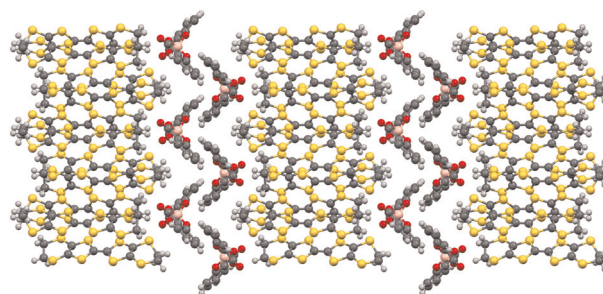


## FRONTIER

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### Chirality in molecular conductors from enantiopure or racemic coordination complexes

Lee Martin,\* John D. Wallis and Joseph O. Ogar



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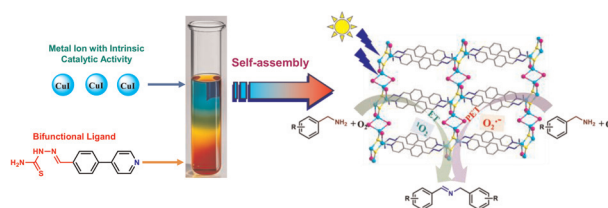
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## COMMUNICATIONS

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### Visible-light harvesting 2D copper-cluster-based MOFs as efficient ROS generators for selective oxidation of amines

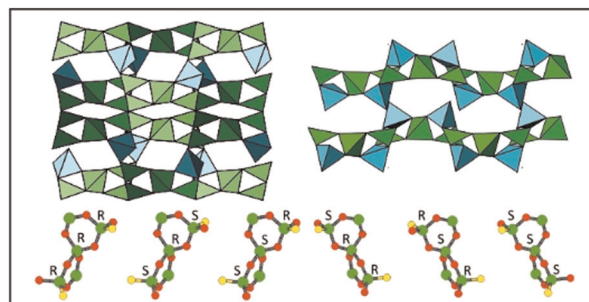
Huilin Huang,\* Qiong Yang, Kun Yao, Wenchao Geng and Xu Jing\*



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### Expanding silver fluorooxoborate crystal chemistry: $\text{Ag}_2\text{B}_5\text{O}_8\text{F}$ with 3D double interpenetrating frameworks and $\text{Ag}_3\text{B}_5\text{O}_8\text{F}_2$ with 2D layers

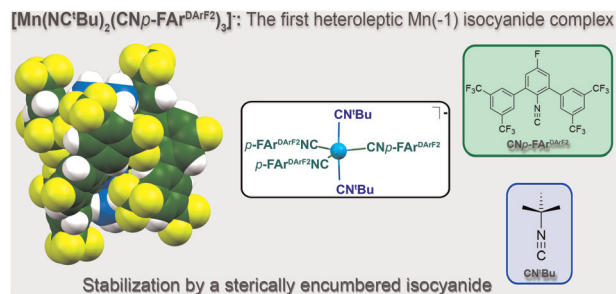
Sergey Volkov, Xia Yang, Vadim Kireev, Alexander Banaru, Shujuan Han,\* Alevtina Gosteva, Maxim Arsent'ev, Dmitri Charkin, Alexey Povolotskiy, Yevgeny Savchenko, Maria Krzhizhanovskaya, Stepan Vorobiev, Yulia Vaitieva, Sergey Aksenov and Fangfang Zhang\*



6025

### A mixed isocyanide Mn(I) complex and its reduction to a metallate

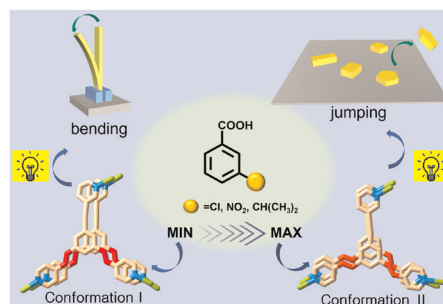
Guilhem Claude, Mathias A. Ellwanger, Adam Grippo, Ritchie Hernandez, Joshua R. Figueroa\* and Ulrich Abram\*



6029

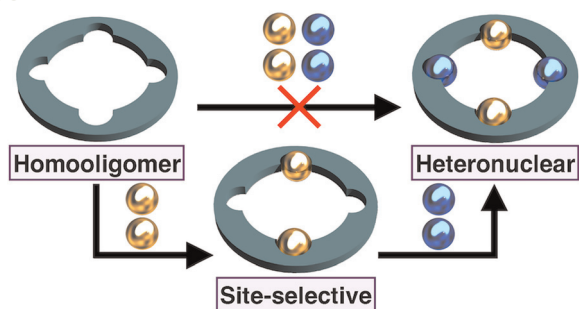
### Bulkiness effect dependent photosaltant behaviours of photoactive cadmium coordination polymers

Qing-Shu Dong, Ning Wang, David James Young, Fei-Long Hu\* and Yan Mi\*



## COMMUNICATIONS

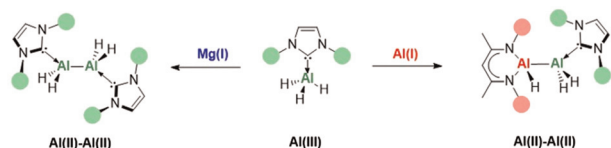
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Selective synthesis of a heterotetranuclear complex from a macrocyclic ligand with multiple identical chelating units

Kota Seki and Takashi Nakamura\*

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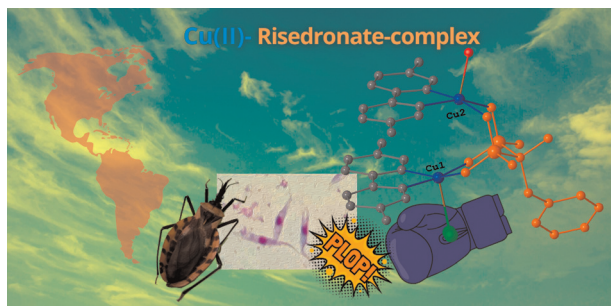


Divergent reduction chemistry of NHC-aluminium(III) hydrides

Fáinché Murphy, Alan R. Kennedy and Catherine E. Weetman\*

## PAPERS

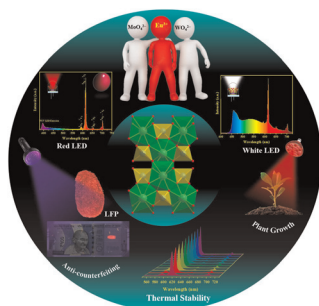
6043



Tetranuclear and dinuclear Cu(II) complexes with risedronate as *anti-Trypanosoma cruzi* and *anti-Leishmania mexicana* agents. Synthesis, crystal structures, and biological evaluation

Miguel Á. Romero-Solano, Eya Caridad Rodríguez-Pupo, Ignacio Martínez, Berenice Prestegui-Martel, Alberto Martínez-Muñoz, Bertha Espinoza,\* Diego Martínez-Otero, Víctor López-Guerrero, Alma K. Esteban Covarrubias and Alejandro Dorazco-González\*

6060



Highly efficient red/orange-red emitting  $\text{Eu}^{3+}$  and  $\text{Sm}^{3+}/\text{Eu}^{3+}$  co-doped phosphors with their versatile applications

Priyadarshini Pradhan and Sivakumar Vaidyanathan\*

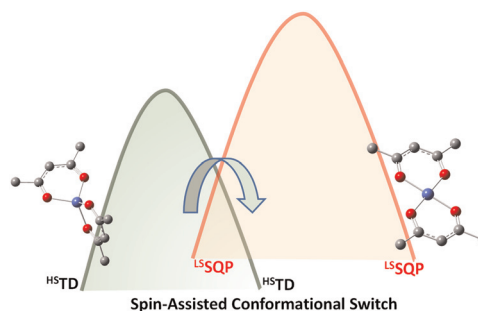


## PAPERS

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**Conformational isomerization in  $\text{Co}(\text{acac})_2$  via spin-state switch: a computational study**

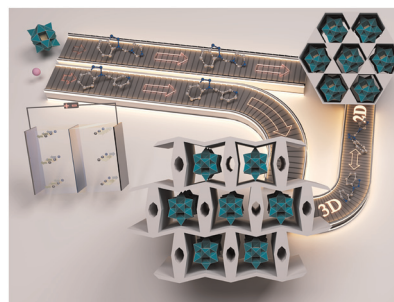
Shalini Joshi, Sabyasachi Roy Chowdhury and Sabyashachi Mishra\*



6093

**Synthesis of two new polyoxometalate-based organic complexes from 2D to 3D structures for improving supercapacitor performance**

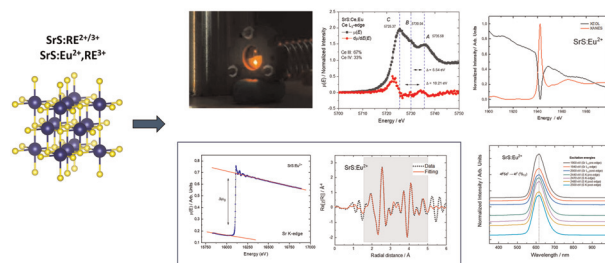
Zhe Sun, Xiaojing Yu,\* Qingfang Zhen, Tingting Yu,\* Xinming Wang, Guixin Yang, Yongbin Song and Haijun Pang\*



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**Probing structural defects and X-ray induced persistent luminescence mechanisms on rare earth-doped strontium sulfide materials**

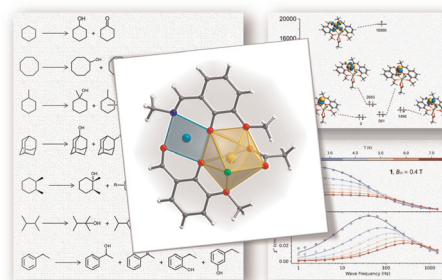
Karina T. Fonseca, Danilo O. A. Santos, Fernando A. Garcia and Lucas C. V. Rodrigues\*



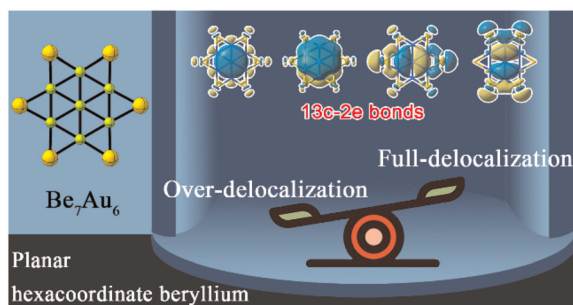
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**Heterometallic  $\text{CuCd}$  and  $\text{Cu}_2\text{Zn}$  complexes with *o*-vanillin and its Schiff-base derivative: slow magnetic relaxation and catalytic activity associated with  $\text{Cu}(\text{II})$  centres**

Olga Yu. Vassilyeva,\* Oksana V. Nesterova,\* Alina Bieńko, Urszula K. Komarnicka, Elena A. Buvaylo, Svitlana M. Vasylieva, Brian W. Skelton and Dmytro S. Nesterov\*



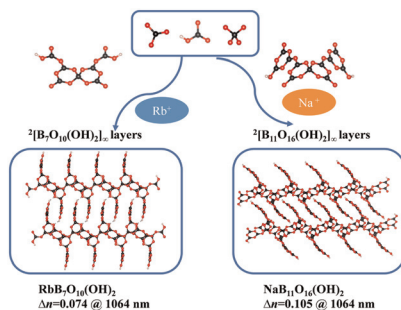
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### $\text{Be}_7\text{Au}_6$ : rare over-delocalization of valence electrons in a star-like planar hexacoordinate beryllium cluster

Bo Jin,\* Zai-Ran Wang and Ying-Jin Wang

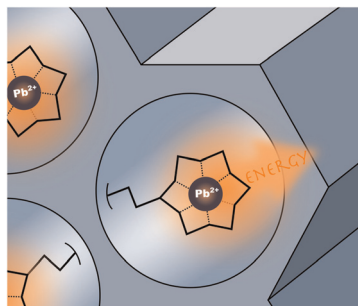
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### $\text{RbB}_{10}\text{O}_{16}(\text{OH})_2$ and $\text{NaB}_{11}\text{O}_{16}(\text{OH})_2$ : alkali metal hydroxyborates with two-dimensional layered structures and large birefringence

Yujing Zheng, Ke Li, Ling Huang\* and Fangfang Zhang\*

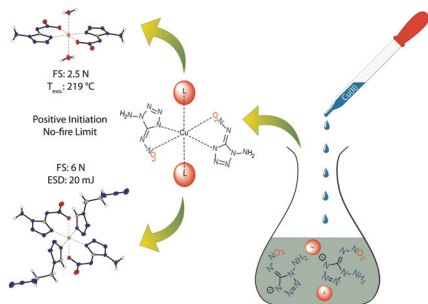
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### Constructing chelating organic macrocycles inside the pores of hybrid mesoporous silica to intensify the toxic metal recovery ability

Xiaoqing Ma\* and Mauricio A. Melo\*

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### 1-Amino-5-nitriminotetrazolate as a promising anion in safe yet powerful energetic coordination compounds

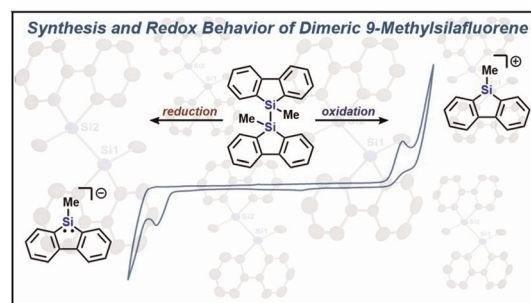
Maximilian Benz, Simon M. J. Endraß, Thomas M. Klapötke, Jörg Stierstorfer\* and Sadiq Strey



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### Synthesis and redox behavior of Si–Si dimeric 9-methylsilafluorene

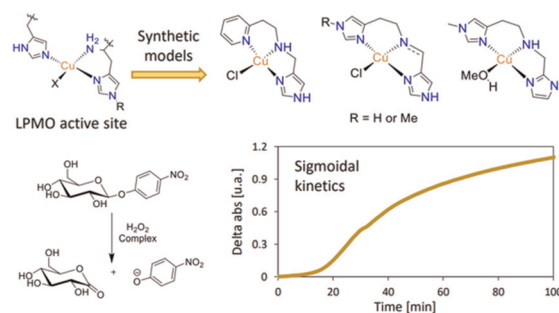
Kelsie E. Wentz,\* Andrew Molino, George Q. Jiang, Maxime A. Siegler, David J. D. Wilson, V. Sara Thoi and Rebekka S. Klausen\*



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### Influence of imidazole functionalization on the properties of small molecule models of the LPMO active site

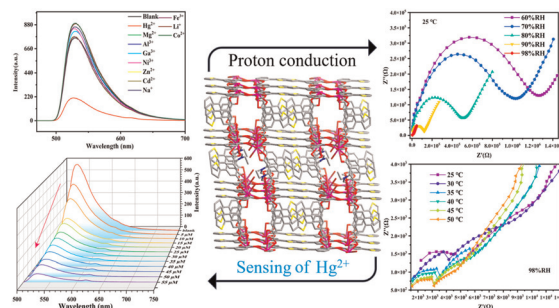
Ugo Gilbert, Xiao Mu, Yan Yu Sarah Lam, Gaël De Leener, Martin Schoenauen, Maëlle Bottin, Koen Robeyns, Michel Luhmer, Raphaël Robiette and Michael L. Singleton\*



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### A multifunctional material of a terbium-based metal–organic framework showing fluorescence detection of Hg<sup>2+</sup> and proton conductivity

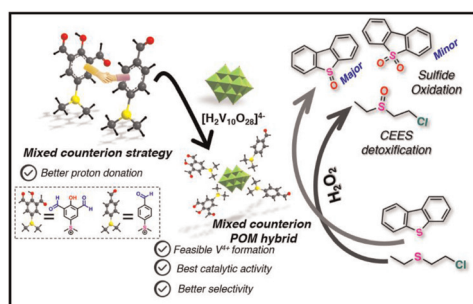
Tian-Zheng Xiong, Miao-Miao Wang, Tai-Lin Ren, Jun-Jie Hu,\* Chen Cao and He-Rui Wen\*



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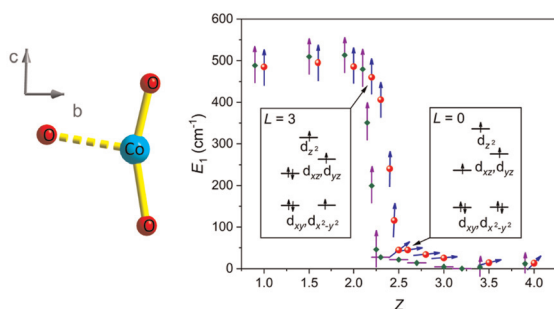
### Modulating the catalytic properties of decavanadate hybrids using a mixed counterion strategy for selective oxidation of thiophene-based sulfides and detoxification of mustard gas simulant

Kousik Routh, Aranya Kar and Chullikkattil P. Pradeep\*



## PAPERS

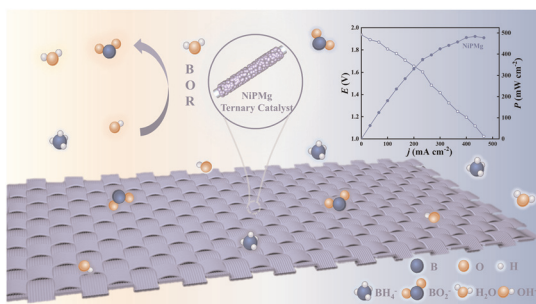
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### Dioxocobaltate(II)-anion in calcium vanadate apatite: partial ordering, magnetic anisotropy, and slow relaxation of magnetization

Timur Z. Sharifullin, Alexander V. Vasiliev, Robert E. Dinnebier, Reinhard K. Kremer, Konstantin A. Lyssenko, Stanislav I. Bezzubov, Shuqi Huang, Ivan O. Shavrin, Andrey A. Eliseev, Dmitry M. Tsymbarenko and Pavel E. Kazin\*

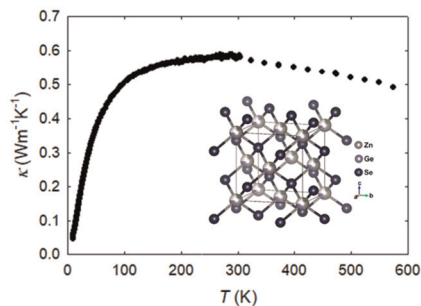
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### A high-performance NiPMg ternary anode catalyst for direct borohydride fuel cells

Caini Yi, Jinliang Cai, Qianling Song, Shaojie Jing, Hang Yang, Xiaolong Hou, Guimiao Wang, Shuo Wang, Changguo Chen, YuPing Liu, Danmei Yu\* and Xiaoyuan Zhou\*

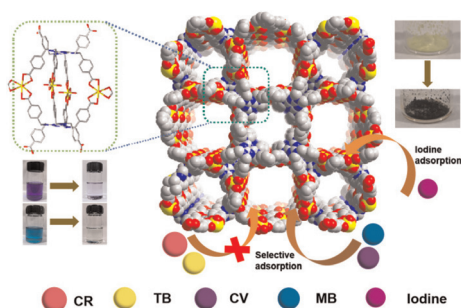
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### Thermal properties and ultra-low thermal conductivity of Zn<sub>2</sub>GeSe<sub>4</sub>

Oluwagbemiga P. Ojo, Wilarachchige D. C. B. Gunatilleke, Adam J. Bicchi, Hsin Wang and George S. Nolas\*

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### A uranyl-based metal–organic framework featuring an eight-connected U<sub>4</sub>L<sub>2</sub> cage for guest capture

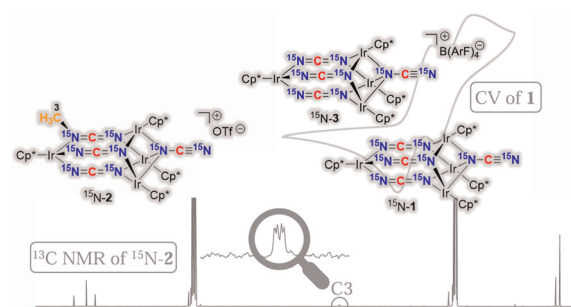
Shuang Deng, Zhi-Wei Huang, Xuan Fu, Zhi-Heng Zhou, Zhi-Ren Guo, Lei Mei, Ji-Pan Yu, Yan-Qiu Zhu, Nan-Nan Wang,\* Kong-Qiu Hu\* and Wei-Qun Shi\*



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### Synthesis and characterization of $^{15}\text{N}$ -labeled tetranuclear Ir complexes via $\text{Li}_2\text{C}^{15}\text{N}_2$

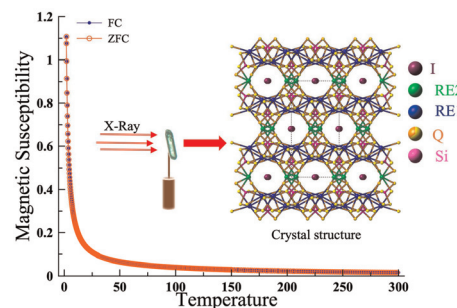
Xuechao Yan, Shu-Xiao Ji, Shengyuan Zhang, Qianru Wang,\* Jianping Guo, Ping Chen, Zhenfeng Xi and Junnian Wei\*



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### Synthesis of a series of rare-earth-based multi-anion chalcogenide iodides $\text{RE}_3\text{Si}_2\text{Se}_x\text{S}_{8-x}\text{I}$ (RE = La, Ce, Pr, and Nd) using the flux-assisted boron–chalcogen mixture method

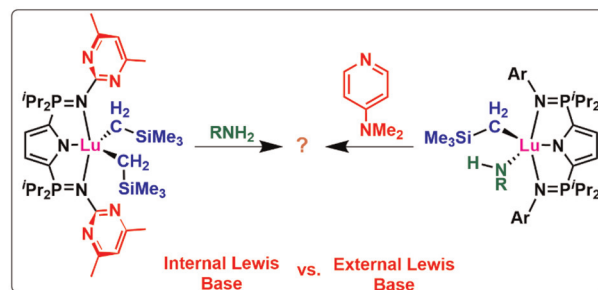
Gopabandhu Panigrahi, Habiba Binte Kashem, Gregory Morrison and Hans-Conrad zur Loye\*



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### Alkylamido lutetium complexes as prospective lutetium imido precursors: synthesis, characterization and ligand design

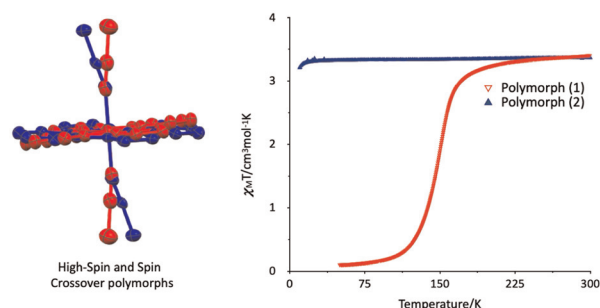
Jackson P. Knott, Shou-Jen Hsiang and Paul G. Hayes\*



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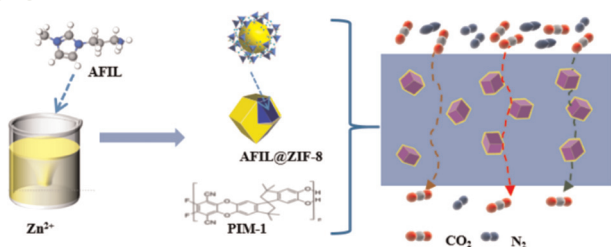
### Angle-dependent spin crossover properties in polymorphic iron(II) complexes based on pyridine–triazole derivatives

Emmelyne Cuza,\* Nicolas Delsuc, Jérôme Marrot, William Shepard, Clotilde Policar, Christian Serre and Antoine Tissot\*



## PAPERS

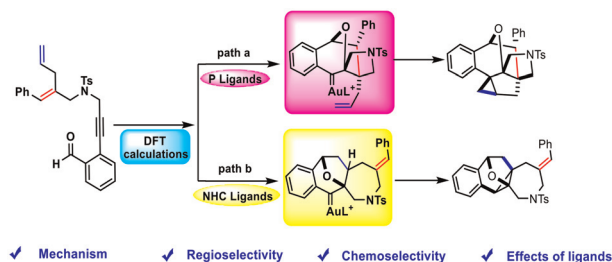
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### Amino-ionic liquid-assisted highly compatible mixed matrix membranes of ZIF-8 and PIM-1 for efficient CO<sub>2</sub>/N<sub>2</sub> separation

Zhaojie Wang, Xinle Sun, Qinglong Liu, Caifeng Xia, Qikang Yin, Siyuan Liu, Xiaoqing Lu and Hongyu Chen\*

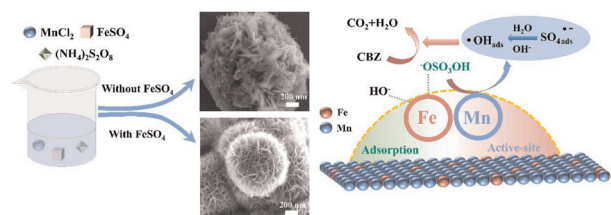
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### Exploring the role of ligands in gold(I)-catalyzed cyclizations: insights from density functional theory

Yanyun Dong, Simeng Qi, Jiacheng Fan, Lizi Yang\* and Ran Fang\*

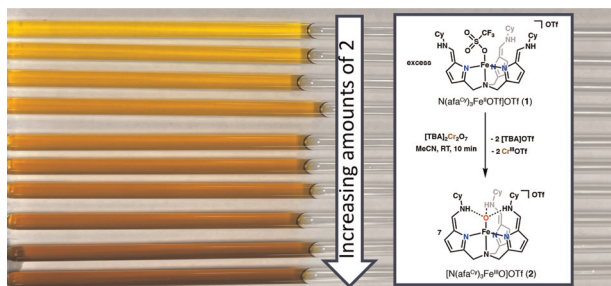
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### Metal ion-modulated synthesis of $\gamma$ -MnO<sub>2</sub> nanosheet for catalytic oxidative degradation of clomipazole

Jinlian Zhang, Yu Xie, Xinli Zhang, Yuanhong Zhong, Ming Sun\* and Lin Yu

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### A biologically inspired iron complex for the homogeneous reduction of Cr(VI) to Cr(III)

Kelly L. Gullett, Jewelianna M. Moore, Courtney L. Ford and Alison R. Fout\*

