

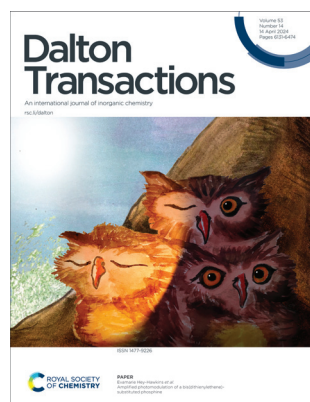
# Dalton Transactions

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ISSN 1477-9226 CODEN DTARAF 53(14) 6131–6474 (2024)



### Cover

See Evamarie Hey-Hawkins  
*et al.*, pp. 6190–6199.

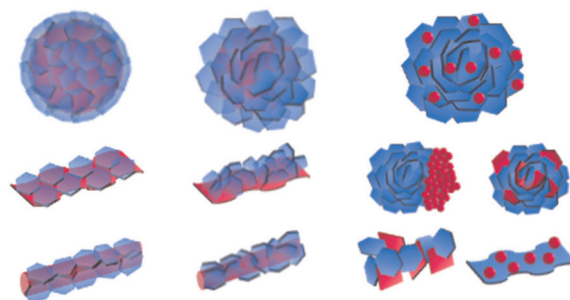
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from *Dalton Trans.*, 2024,  
**53**, 6190.

## PERSPECTIVE

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### Hybridization of layered double hydroxides with functional particles

Rattanawadee Ploy Wijitwongwan,  
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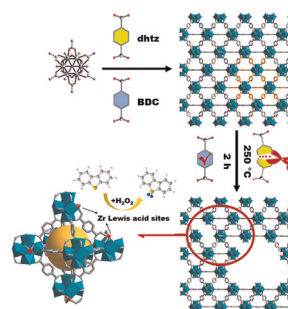


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### A linker selective retention strategy to construct hierarchical porous metal–organic frameworks with high catalytic activity for oxidative desulfurization

Xiaowen Sun, Yun-Feng Gu, Xiao-Min Zhang, Yan Shen,  
Dan-Hong Wang, Shu-Ming Zhang, Mei-Hui Yu\* and  
Ze Chang\*



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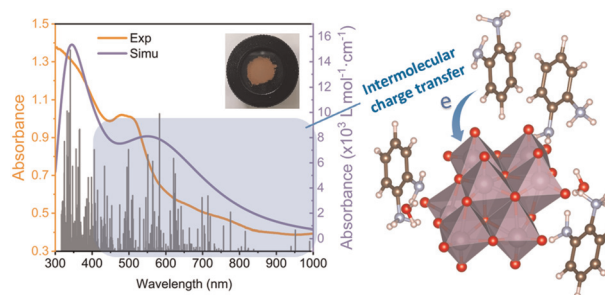
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## COMMUNICATIONS

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### The mechanism governing the formation of intermolecular charge transfer bands: a series of polyoxomolybdates as a case study

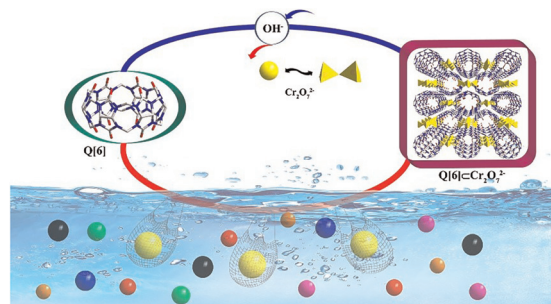
Xiao-Yue Zhang, Jin-Ai Fan, Zhe-Hong Chen, Cai Sun\* and Shou-Tian Zheng\*



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### Selective removal of $\text{Cr}_2\text{O}_7^{2-}$ in aqueous solution by nonporous pure crystals of cucurbit[6]uril

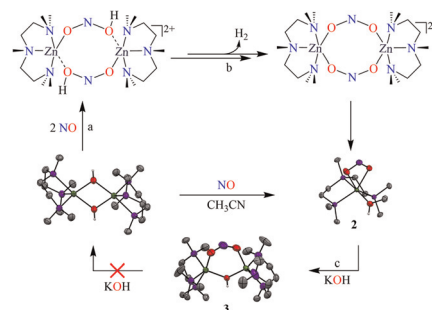
Jing Xu, Bin Li, Xiu-Du Zhang,\* Dong Wu,\* Jiang-Lin Zhao and Kai Chen\*



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### Exploring the carbonic anhydrase-mimetic $[(\text{PMDTA})_2\text{Zn}_2^{\text{II}}(\text{OH}^-)_2]^{2+}$ for nitric oxide monooxygenation

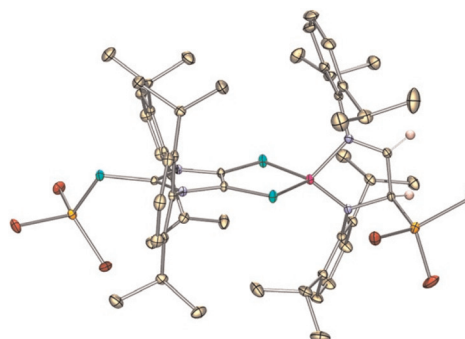
Sandip Das and Pankaj Kumar\*



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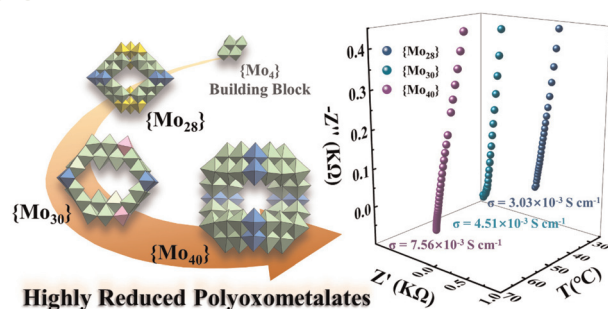
### Unusual nucleophilic reactivity of a dithiolene-based N-heterocyclic silane

Phuong M. Tran, Yuzhong Wang, Mitchell E. Lahm, Pingrong Wei, Henry F. Schaefer, III and Gregory H. Robinson\*



## COMMUNICATIONS

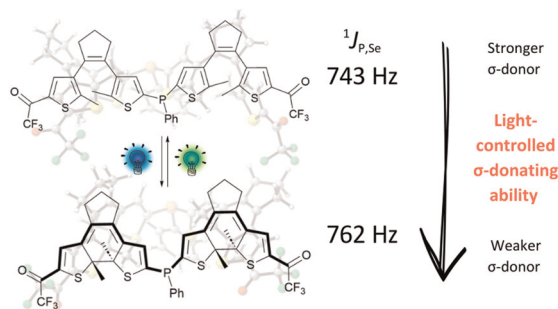
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**{Mo<sub>4</sub>}-directed structural evolution of highly reduced molybdenum red clusters for efficient proton conduction**

Bingbing Li, Yuxin Lan, Heyang Su, Jiaxin Xu, Qixin Zhao, Yubin Ma, Qi Zheng\* and Weimin Xuan\*

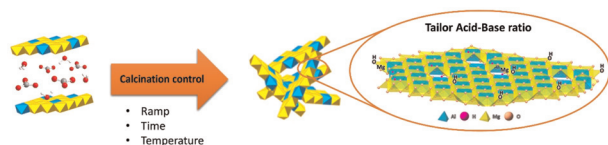
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**Amplified photomodulation of a bis(dithienylethene)-substituted phosphine**

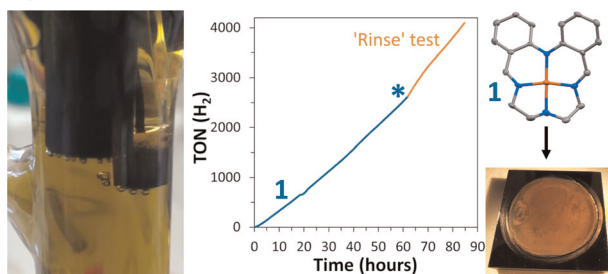
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**Optimising the acid–base ratio of Mg–Al layered double oxides to enhance CO<sub>2</sub> capture performance: the critical role of calcination conditions**

D. W. Justin Leung, Katherine R. Laney,\* Philip Kenyon, Nicholas H. Rees, Jean-Charles Buffet, Chunping Chen\* and Dermot O'Hare\*

6207

**Copper-based electrocatalyst for hydrogen evolution in water**

Abdullah M. Abudayyeh, Michael S. Bennington, Johan Hamonnet, Aaron T. Marshall\* and Sally Brooker\*



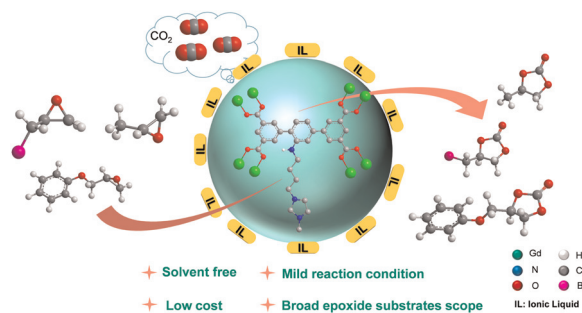


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### Ionic liquid post-modified carboxylate-rich MOFs for efficient catalytic CO<sub>2</sub> cycloaddition under solvent-free conditions

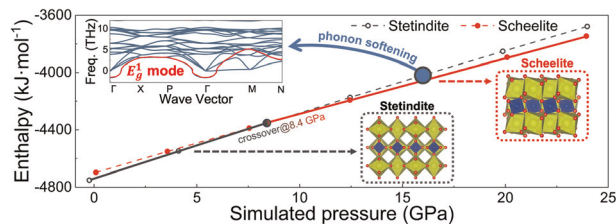
Wen-Li Bao, Jie Kuai, Hai-Yang Gao, Meng-Qi Zheng, Zhong-Hua Sun,\* Ming-Yang He, Qun Chen and Zhi-Hui Zhang\*



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### Phonon softening induced phase transition of CeSiO<sub>4</sub>: a density functional theory study

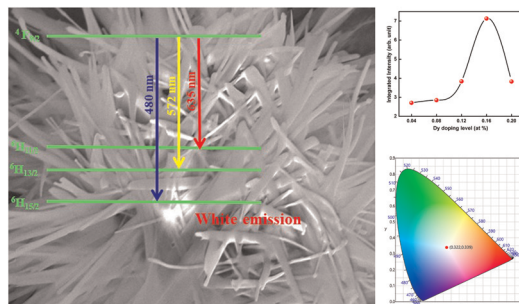
Xiaodong Zhao, Andrew C. Strzelecki, Nicolas Dacheux, Liang Qi\* and Xiaofeng Guo\*



6234

### White light-emitting ZnO:Dy<sup>3+</sup> nanophosphors: delving into the spectroscopic parameters via Judd–Ofelt analysis

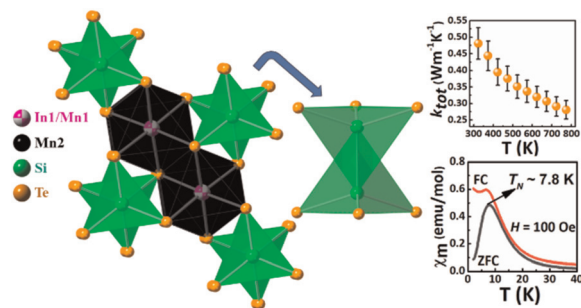
Rajendran Raji, Gopalakrishnan Jyothi, Sajesh Sasidharan and Kunnel Gopalan Gopchandran\*



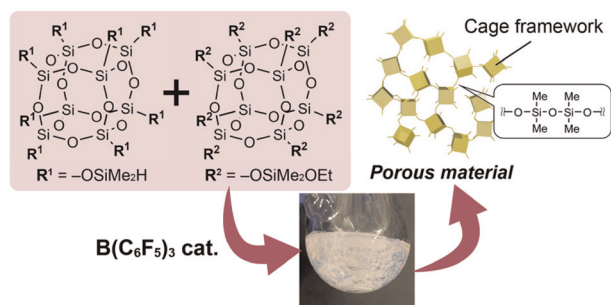
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### Low thermal conductivity in a new mixed metal telluride Mn<sub>1.8(1)</sub>In<sub>0.8(1)</sub>Si<sub>2</sub>Te<sub>6</sub>

Omair Shahid, Sweta Yadav, Kaustuv Manna, Gohil S. Thakur and Jai Prakash\*



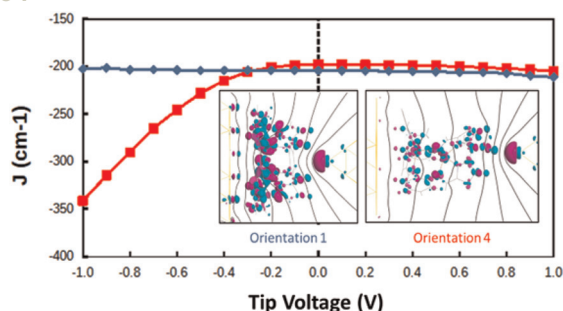
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# Direct cross-linking of silyl-functionalized cage siloxanes *via* nonhydrolytic siloxane bond formation for preparing nanoporous materials

Miharu Kikuchi, Taiki Hayashi, Takamichi Matsuno,  
Kazuyuki Kuroda and Atsushi Shimojima\*

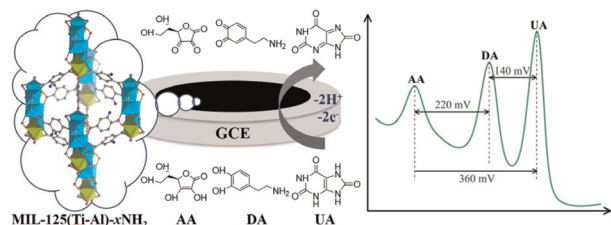
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## Voltage-induced modulation of the magnetic exchange in binuclear Fe(III) complex deposited on Au(111) surface

Nicolás Montenegro-Pohlhammer,\* Gloria Cárdenas-Jirón and Carmen J. Calzado

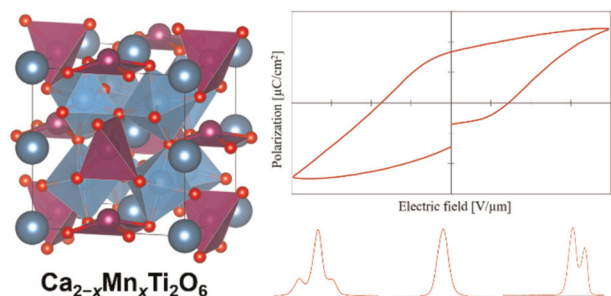
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## Heterometallic MIL-125(Ti–Al) frameworks for electrochemical determination of ascorbic acid, dopamine and uric acid

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Xian-Zheng Hu, Jia-Jia Li, Xiang-Jie Bo,  
Dong-Ying Du\* and Zhong-Min Su

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# Centrosymmetric to non-centrosymmetric transition in the $\text{Ca}_{2-x}\text{Mn}_x\text{Ti}_2\text{O}_6$ double perovskite system studied through structural analysis and dielectric properties

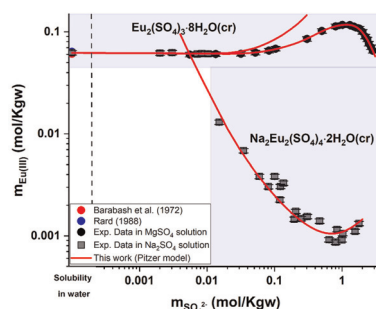
Elisabeth K. Albrecht, Tuomo Siponkoski,  
Eeva-Leena Rautama, Maarit Karppinen and  
Antti J. Karttunen\*

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# Thermodynamics of the Eu(III)–Mg–SO<sub>4</sub>–H<sub>2</sub>O and Eu(III)–Na–SO<sub>4</sub>–H<sub>2</sub>O systems. Part I: solubility experiments and the full dissociation Pitzer model

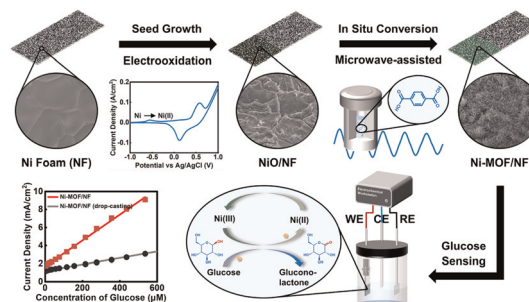
P. F. dos Santos,\* A. Lassin,\* X. Gaona, K. Garbev, M. Altmaier and B. Madé



6300

# Seamless integration of a nickel-based metal–organic framework with three-dimensional substrates for nonenzymatic glucose sensing

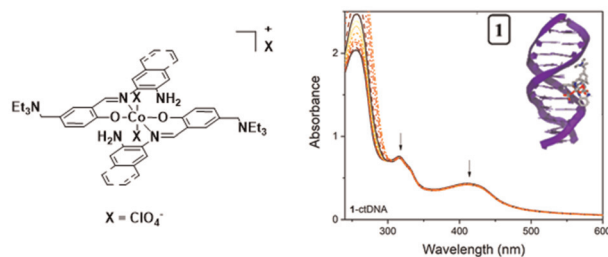
Haonan Ren, Fan Yang,\* Meng Cao, Bin Shan and Rong Chen\*



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# Novel half Salphen cobalt(III) complexes: synthesis, DNA binding and anticancer studies

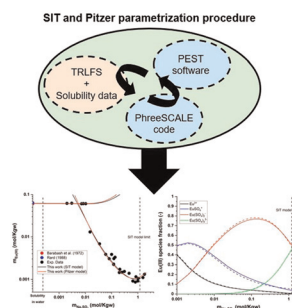
Riccardo Bonsignore,\* Elisa Trippodo, Roberto Di Gesù, Anna Paola Carreca, Simona Rubino, Angelo Spinello, Alessio Terenzi and Giampaolo Barone\*



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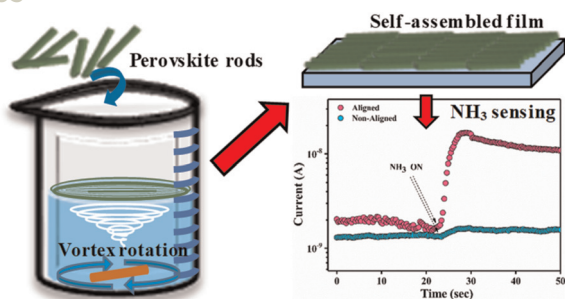
# Thermodynamics of the Eu(III)–Mg–SO<sub>4</sub>–H<sub>2</sub>O and Eu(III)–Na–SO<sub>4</sub>–H<sub>2</sub>O systems. Part II: spectroscopy experiments, complexation and Pitzer/SIT models

P. F. dos Santos,\* X. Gaona,\* A. Lassin, A. Skerencak-Frech, D. Fellhauer, M. Altmaier and B. Madé



## PAPERS

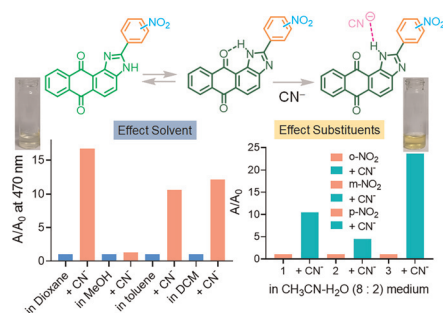
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### Vortex flow induced self-assembly in CsPbI<sub>3</sub> rods leads to an improved electrical response towards external analytes

Tufan Paul, Avisek Maity, Partha Bairi, Aditi Sahoo, Soumen Maiti, Manoj Singh, Barnali Ghosh and Rupak Banerjee\*

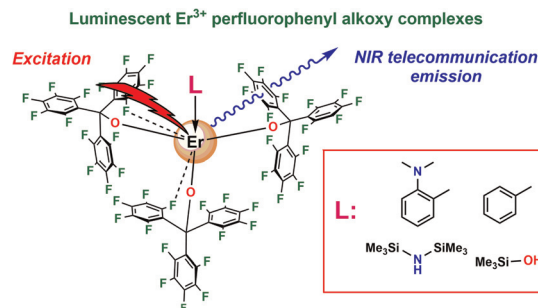
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### Tuning sensing efficacy of anthraimidazoledione-based charge transfer dyes: nitro group positioning impact

Bimal Chettri, Animesh Pal, Satadru Jha\* and Nilanjan Dey\*

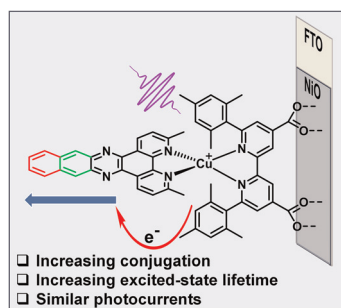
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### Luminescent Er<sup>3+</sup> based single molecule magnets with fluorinated alkoxide or aryloxy ligands

Alexander N. Selikhov, Gautier Félix, Dmitry M. Lyubov, Yulia V. Nelyubina, Anton V. Cherkasov, Saad Sene, Ilya V. Taydakov, Mikhail T. Metlin, Andrey A. Tyutyunov, Yannick Guari, Joulia Larionova\* and Alexander A. Trifonov\*

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### Effects of increasing ligand conjugation in Cu(I) photosensitizers on NiO semiconductor surfaces

Zujhar Singh, Joseph D. Chiong, Saeid Kamal and Marek B. Majewski\*



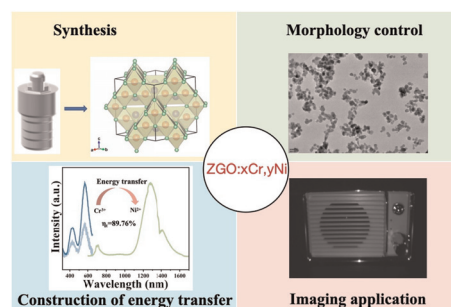


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### Hydrothermal synthesis of $\text{ZnGa}_2\text{O}_4$ nanophosphors with high internal quantum efficiency for near-infrared pc-LEDs

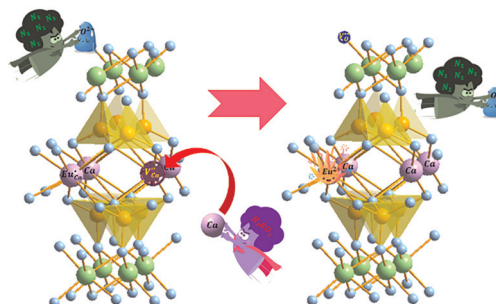
Chengping Fang, Shuoheng Wang, Shuai Wei, Qingxian Xu, Zeyu Lyu, Sida Shen, Taixing Tan\* and Hongpeng You\*



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### Controlling the europium oxidation state in diopside through flux concentration

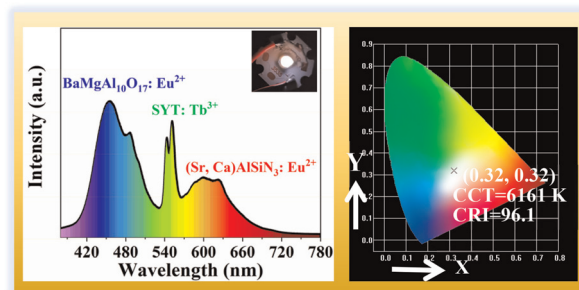
N. Górecka, T. Leśniewski, S. Mahlik, M. Łapiński, Y.-T. Tsai, A. Bielicka-Gietdoń and K. Szczodrowski\*



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### Luminescence properties and Judd–Ofelt analysis of $\text{Tb}^{3+}$ doped $\text{Sr}_2\text{YTaO}_6$ double perovskite phosphors for white LED applications

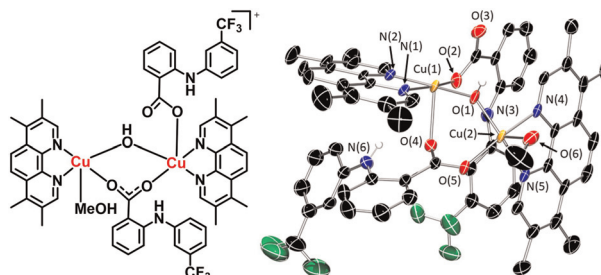
Li Wang, Yuhang Zhang,\* Duan Gao, Xuezhu Sha, Xin Chen, Yanqiu Zhang, Jinsu Zhang, Xizhen Zhang, Yongze Cao, Yichao Wang, Xiangping Li, Sai Xu, Hongquan Yu and Baojiu Chen\*



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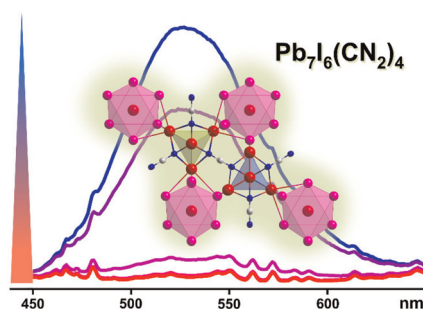
### An immunogenic anti-cancer stem cell bi-nuclear copper(II)-flufenamic acid complex

Yue Li, Jiaxin Fang, Kuldip Singh, Fabrizio Ortu\* and Kogularamanan Suntharalingam\*



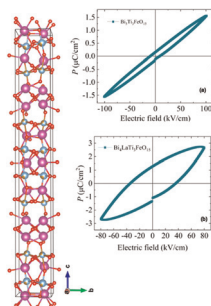
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The luminescent semiconductor  $\text{Pb}_7\text{I}_6(\text{CN}_2)_4$ 

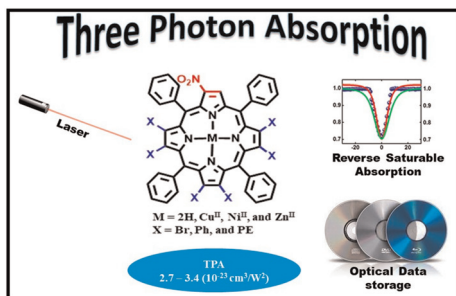
Albert T. Schwarz, Markus Ströbele, Carl P. Romao, David Ensling, Thomas Jüstel and H.-Jürgen Meyer\*

6423

Resilience of the Aurivillius structure upon La and Cr doping in a  $\text{Bi}_5\text{Ti}_3\text{FeO}_{15}$  multiferroic

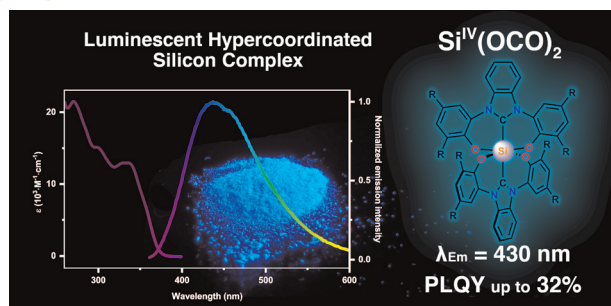
Omar Alejandro Salas, Yohannes W. Getahun, H. Cein Mandujano, Felicia Manciu, Mariana Castellanos, Jorge Lopez, Raquel Garza Hernández, Volodymir B. Buturlim, Krzysztof Gofryk, Dhanpal Bairwa, Suja Elizabeth and Harikrishnan S. Nair\*

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Third-order nonlinear optical properties of highly electron deficient, nonplanar push–pull porphyrins:  $\beta$ -nitro-hexa-substituted porphyrins bearing bromo, phenyl, and phenylethynyl groups

Renu K. Rohal, Dipanjan Banerjee, Nivedita Rana, Venugopal Rao Soma\* and Muniappan Sankar\*

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## A stable and true-blue emissive hexacoordinate Si(IV) N-heterocyclic carbene complex and its use in organic light-emitting diodes

Thibault Thierry, Valerio Giuso, Federico Polo, Pierluigi Mercandelli, Yi-Ting Chen, Chih-Hao Chang, Matteo Mauro\* and Stéphane Bellemin-Laponnaz\*

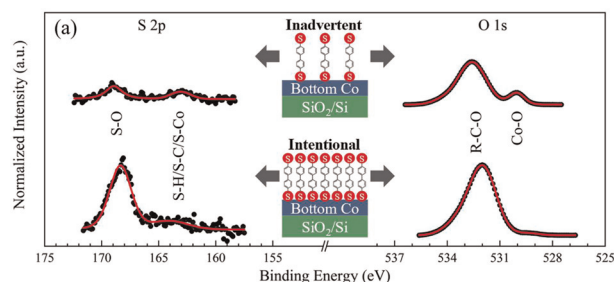


## PAPERS

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# Molecularly-induced roughness and oxidation in cobalt/organodithiol/cobalt nanolayers synthesized by sputter-deposition and molecular sublimation

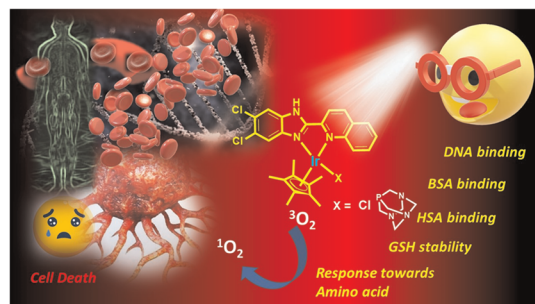
Collin Rowe, Sathish Kumar Shanmugham, Grzegorz Greczynski, Lars Hultman, Arnaud le Febvrier, Per Eklund\* and Ganpati Ramanath\*



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# Exploring the phototoxicity of GSH-resistant 2-(5,6-dichloro-1H-benzo[d]imidazol-2-yl)quinoline-based Ir(III)-PTA complexes in MDA-MB-231 cancer cells

Utpal Das and Priyanka Paira\*



## CORRECTION

6472

# Correction: (TeCl<sub>4</sub>)<sub>4</sub>(TiCl<sub>4</sub>) with isolated Te<sub>4</sub>Cl<sub>16</sub> and TiCl<sub>4</sub> molecules and second-harmonic-generation

Maxime A. Bonnin, Klaus Beier, Lkhamsuren Bayarjargal, Björn Winkler\* and Claus Feldmann\*

