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# Dalton Transactions

An international journal of inorganic chemistry incorporating Acta Chemica Scandinavica

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ISSN 1477-9226 CODEN DTARAF 53(24) 10023–10362 (2024)

**Cover**
See Thomas Just Sørensen *et al.*, pp. 10079–10092.

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**Inside cover**
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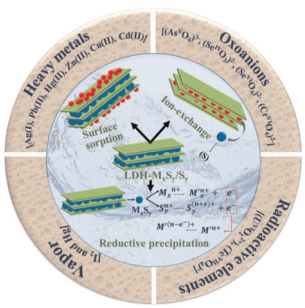

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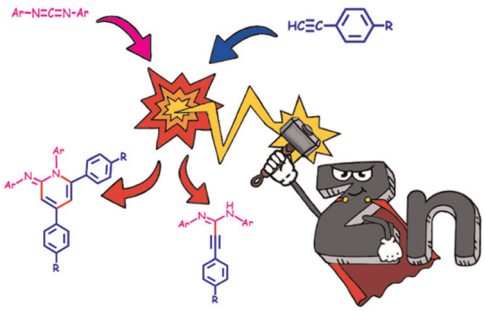
Blanca Parra-Cadenas, Carlos Ginés, Daniel García-Vivó, David Elorriaga* and Fernando Carrillo-Hermosilla*

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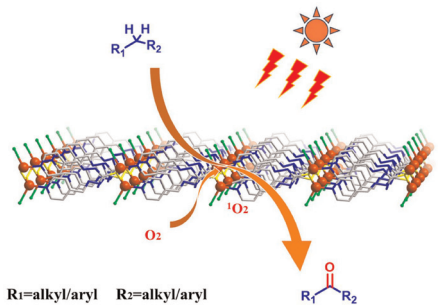
**A novel Cu(I)-based coordination polymer for efficient photocatalytic oxidation of C(sp$^3$)–H bonds**

Jiangtao Deng, Huilin Huang, Zhentao Li, Xu Jing* and Chunying Duan

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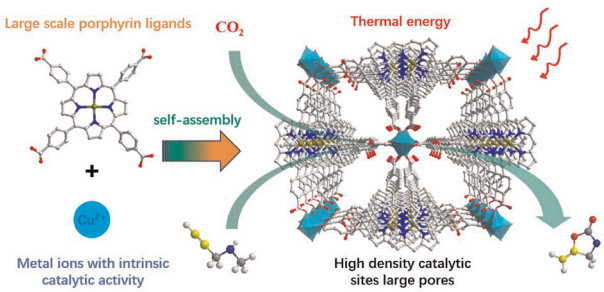
**A novel porphyrin MOF catalyst for efficient conversion of $CO_2$ with propargyl amines**

Zhitao Zhang, Kesheng Shen, Qian Zhang, Chunying Duan and Xu Jing*

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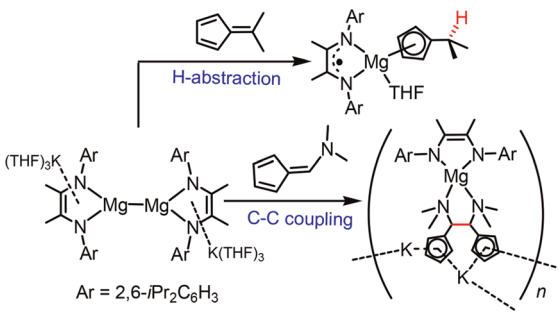
**Activation of cyclopentadiene derivatives by an α-diimine-ligated Mg–Mg-bonded compound**

Yao Qu, Zhixian Xi, Zhenzhou Sun, Li Yang, Rui Liu, Ben Dong, Biao Wu and Xiao-Juan Yang*



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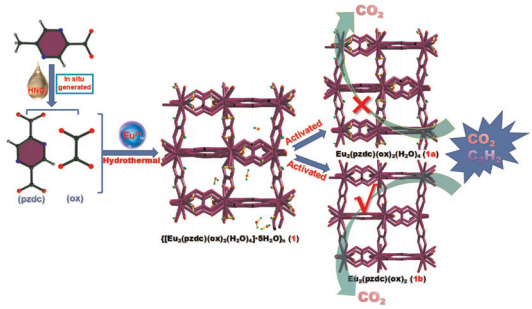
## COMMUNICATIONS

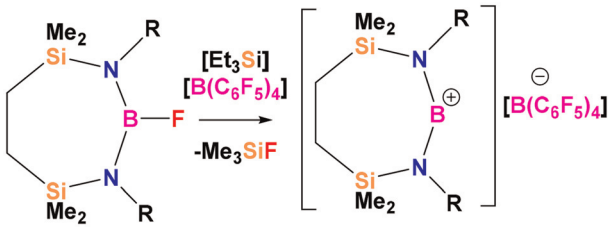
10070




### *In situ* generated 2,5-pyrazinedicarboxylate and oxalate ligands leading to a Eu-MOF for selective capture of $C_2H_2$ from $C_2H_2/CO_2$

Fenglan Liang, Deyun Ma,* Liang Qin, Qiuqun Yu, Jing Chen, Rongxi Liang, Changheng Zhong, Huanzong Liao and Zhiyi Peng

10075




### A chelated borinium cation

Christopher Major, Alan Lough and Douglas W. Stephan*

## PAPERS

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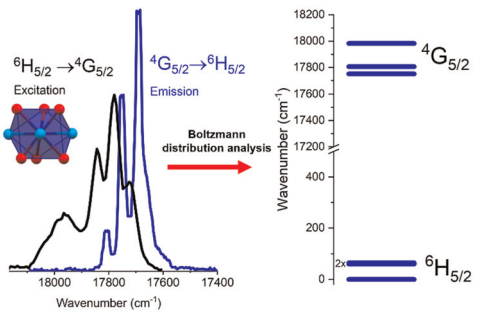


### Contrasting impact of coordination polyhedra and site symmetry on the electronic energy levels in nine-coordinated Eu(III) and Sm(III) crystals structures determined from single crystal luminescence spectra

Sabina Svava Mortensen, Villads R. M. Nielsen and Thomas Just Sørensen*

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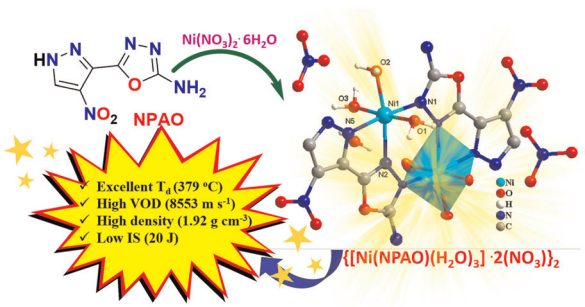


### Elevating the energetic capabilities of metal coordination compounds by incorporating nitrate anions

Abhishek Kumar Yadav, Richa Rajak and Srinivas Dharavath*


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## PAPERS

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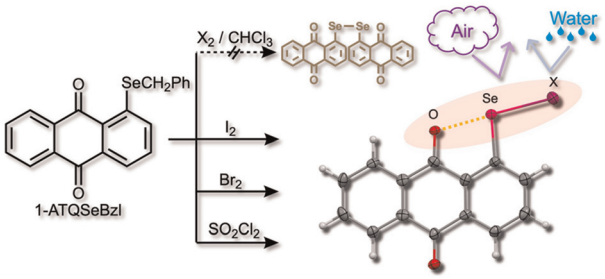
**Extremely stable system of 1-haloselanyl-anthraquinones: experimental and theoretical investigations**

Naoki Ogawa, Nobuhiro Suzuki, Yoshifumi Katsura, Mao Minoura, Waro Nakanishi and Satoko Hayashi*

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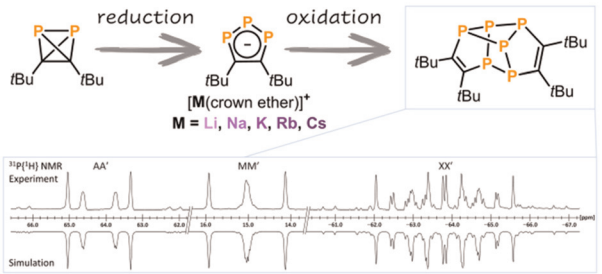
**Access to 1,2,3-triphospholide ligands by reduction of di-*tert*-butyldiphosphatetrahedrane**

Maria K. Uttendorfer, Gabriele Hierlmeier, Gábor Balázs and Robert Wolf*

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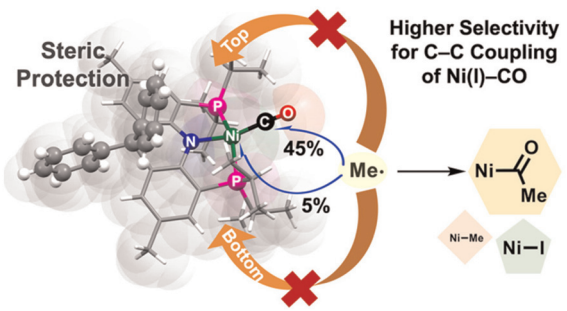
**Reactivity of low-valent nickel carbonyl species supported by acridane based PNP ligands towards iodoalkanes**

Sanha Park, Mi Sook Seo, Mingi Kim, Kang Mun Lee, Peter M. Graham* and Yunho Lee*

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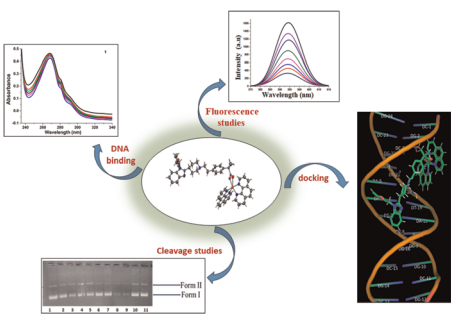
Rijwan, Farukh Arjmand and Sartaj Tabassum*



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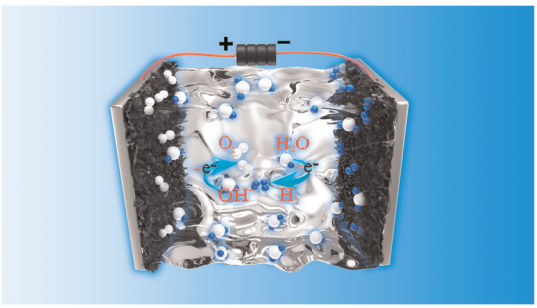


**Engineering hierarchical snowflake-like multi-metal selenide catalysts anchored on Ni foam for high-efficiency and stable overall water splitting**

Enze Fan, Shuangqi Zhou, Hanwei Zhao, Jianxin Ran, Zhuanfang Zhang,* Guohua Dong,* Wenzhi Zhang, Yu Zang, Ming Zhao, Dong-Feng Chai and Xiaoming Huang

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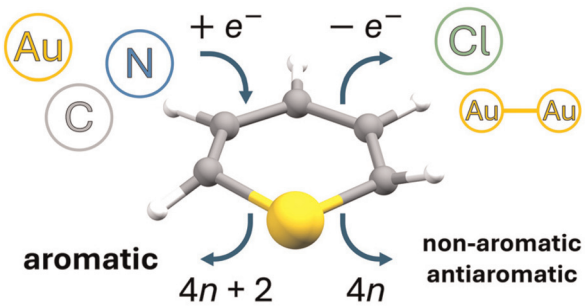


**The aromatic nature of auracycles and diauracycles based on calculated ring-current strengths**

Daniel Blasco* and Dage Sundholm*

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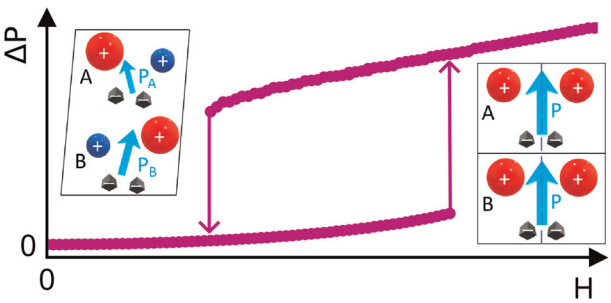


**Magnetoelectric and MIESST effects in spin crossover materials exhibiting symmetry-breaking**

Ricardo G. Torres Ramírez, Elzbieta Trzop and Eric Collet*

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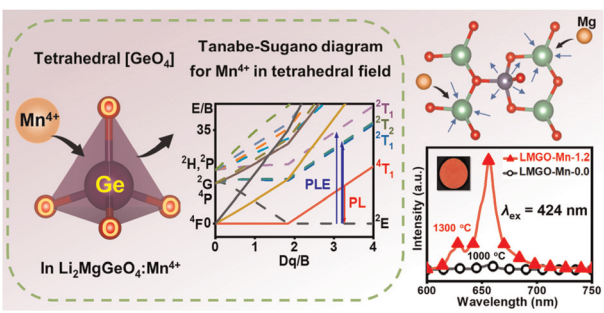


**Unveiling the luminescence property of $Li_2MgGeO_4$:$Mn^{4+}$ featuring the tetrahedral crystallographic-site occupancy of $Mn^{4+}$**

Mingshun Zhang, Anqi Sun, Xiaoniu Li, Shijie Sun, Wei Ding, Dong Fang, Baoxiu Mi* and Zhiqiang Gao*



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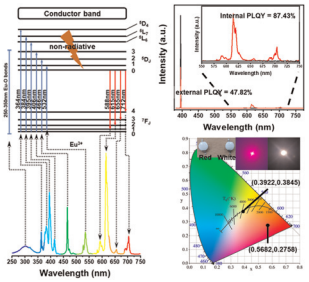
**Synthesis and photoluminescence properties of high-quality reddish-orange emitting $Ca_4Nb_2O_9$: $Eu^{3+}$ phosphors for WLEDs and anti-counterfeiting**

Weiwei Xiang and Jae Su Yu*

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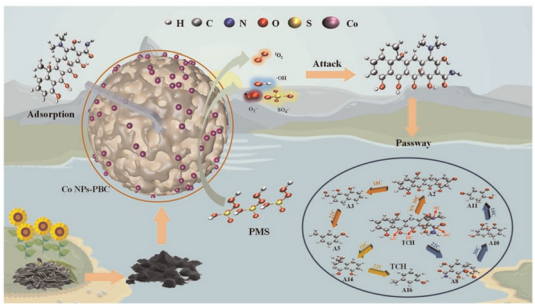
**Efficient degradation of tetracycline *via* peroxymonosulfate activation by phosphorus-doped biochar loaded with cobalt nanoparticles**

Yunpeng Wang, Ting Jiao, Peng Zhang, Wanyi Hou, Zhongping Li,* Chuan Dong, Wanying Zhang and Lei Zhang

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**Homo- and heterobimetallic transition metal cluster derived from [Cp*Fe($\eta^5$-$E_5$)] (E = P, As) – unprecedented structural motifs of the resulting polypnictogen ligands**

Sabrina B. Dinauer, Robert Szlosek, Martin Piesch, Gábor Balázs, Stephan Reichl, Lukas Prock, Christoph Riesinger, Marc D. Walter and Manfred Scheer*

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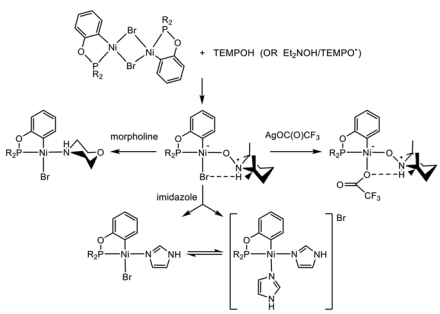
**Reactions of cyclonickelated complexes with hydroxylamines and TEMPO$^{\bullet}$: isolation of new TEMPOH adducts of Ni(II) and their reactivities with nucleophiles and oxidants**

Rajib K. Sarker and Davit Zargarian*



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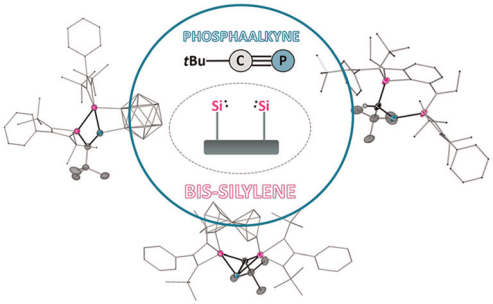


**Reactivities of phosphaalkynes towards diverse bis-silylenes**

Xiaofei Sun, Da Jin, Stefanie Maier, Alexander Hinz and Peter W. Roesky*

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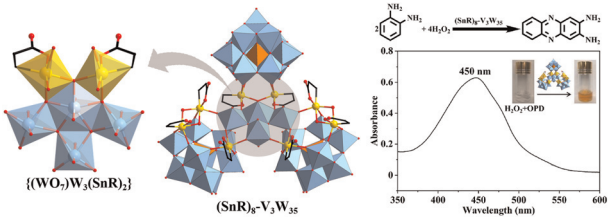


**Self-assembly of a unique triangle-like tungstovanadate containing pentagonal $\{(WO_7)W_3(SnR)_2\}$ cluster**

Hao-Tian Zhu, Yang Sun, Fang Su,* Ya-Jun Zhang, Xiao-Jing Sang, Jing Ren and Lan-Cui Zhang*

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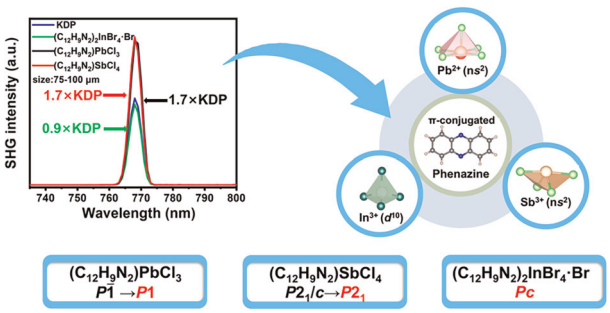


**Advancing nonlinear optics: discovery and characterization of new non-centrosymmetric phenazine-based halides**

Yibo Cui, Jindong Cao, Jiawei Lin, Chunxiao Li, Jiyong Yao, Kunjie Liu, An Hou, Zhongnan Guo, Jing Zhao* and Quanlin Liu*

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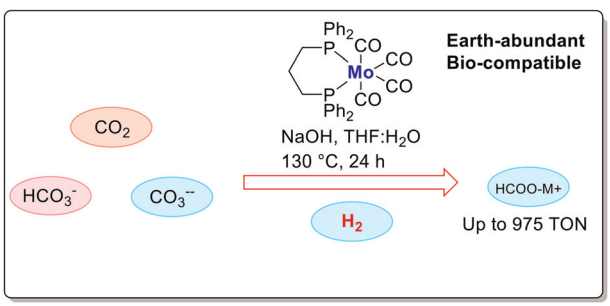


**Molybdenum-catalyzed hydrogenation of carbon dioxide, bicarbonate, and inorganic carbonates to formates**

Tushar Singh and Subrata Chakraborty*



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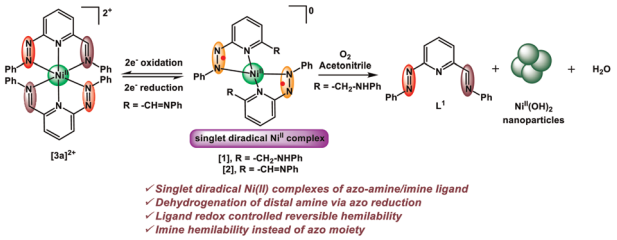
**Ligand redox controlled amine dehydrogenation and imine hemilability in singlet diradical azo-aromatic Ni(II) complexes: characterization of the electron transfer series of azo-imine complexes of Ni(II)**

Bappaditya Goswami, Manas Khatua, Ambika Devi, Shivali Hans, Robindo Chatterjee and Subhas Samanta*

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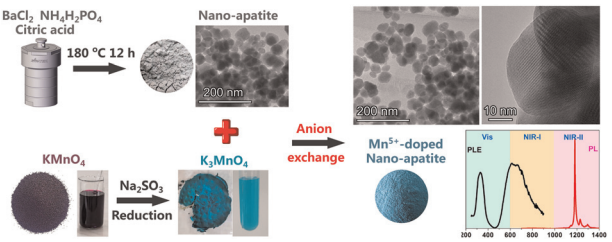
**Hydrothermal and anion exchange synthesis of Mn(V)-doped $Ba_5(PO_4)_3Cl$ nano-apatite toward NIR-II temperature sensing**

Wenjing Huang, Jiahui Zhang, Yuchuan Zheng, Linyun Zeng, Wei Liu, Zafari Umar, Mubiao Xie, Yuliya Bokshyts, Jialiang Pan* and Xinguo Zhang*

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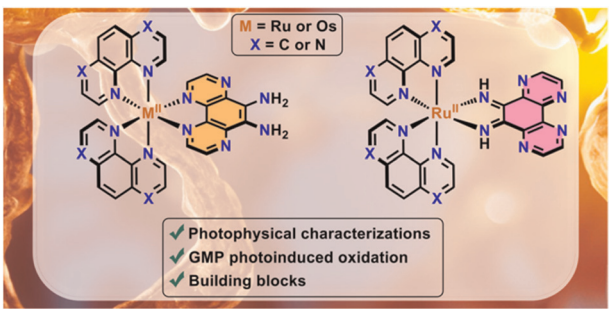
**Synthesis of Ru(II) and Os(II) photosensitizers bearing one 9,10-diamino-1,4,5,8-tetraazaphenanthrene scaffold**

Simon De Kreijger, Emilie Cauët, Benjamin Elias* and Ludovic Troian-Gautier*

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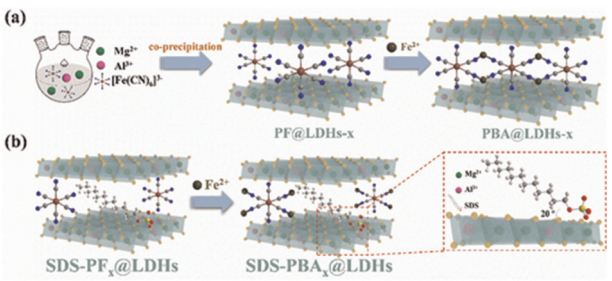
**Enhanced dispersion of prussian blue *via* intercalation into layered double hydroxides for efficient solar seawater evaporation**

Weixin Mo, Qianqian Hu, Jun Guan, Yu Jiang, Weiliang Tian, Huiyu Li,* Fabrice Leroux and Yongjun Feng*



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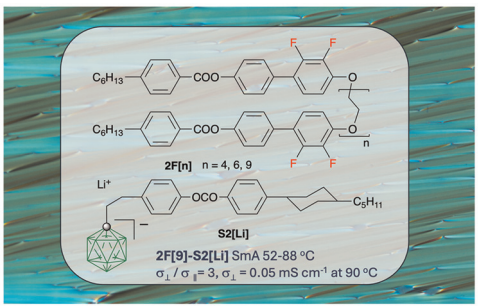
10293




### Lithium salt of a pro-mesogenic [*closo*-$CB_{11}H_{12}$]$^-$ derivative: anisotropic $Li^+$ ion transport in liquid crystalline electrolytes

Litwin Jacob, Leszek Niedzicki, Rafał Jakubowski, Damian Pociecha and Piotr Kaszyński*

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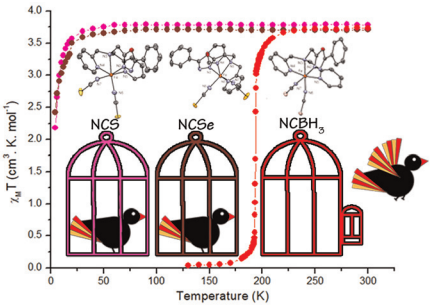


### A combined theoretical and experimental approach to determine the right choice of co-ligand to impart spin crossover in Fe(II) complexes based on 1,3,4-oxadiazole ligands

Sriram Sundaresan, Julian Eppelsheimer, Esha Gera, Lukas Wiener, Luca M. Carrella, Kuduva R. Vignesh* and Eva Rentschler*

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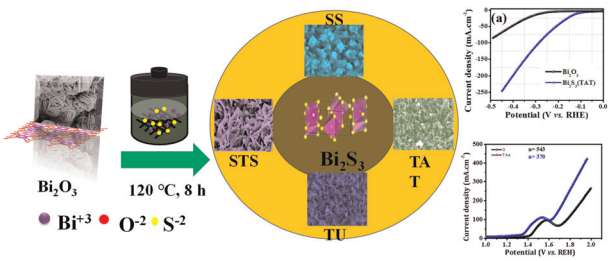


### Sulfur ion-exchange strategy to obtain $Bi_2S_3$ nanostructures from $Bi_2O_3$ for better water splitting performance

Hamdan M. Danamah, Tariq M. Al-Hejri, Vijakumar V. Jadhav, Zeenat A. Shaikh, T. A. J. Siddiqui, Shoyebmohamad F. Shaikh* and Rajaram S. Mane*

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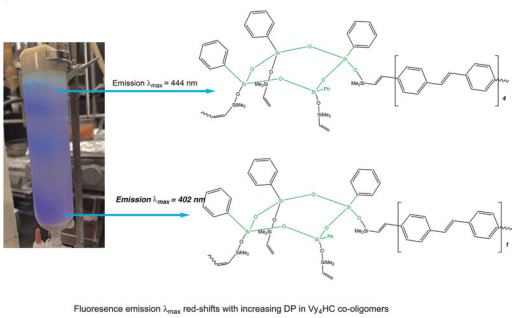


### Conjugation through Si–O–Si bonds, silsesquioxane (SQ) half cage copolymers, extended examples *via* $SiO_{0.5}/SiO_{1.5}$ units: multiple emissive states in violation of Kasha's rule

Zijing Zhang, Jose Jonathan Rubio Arias, Hana Kaehr, Yujia Liu, Ryoga Murata, Masafumi Unno, Nuttapon Yodsin, Pimjai Pimbaotham, Siriporn Jungsuttiwong, Matt Rammo, Jung-Moo Heo, Jinsang Kim, Aleksander Rebane and Richard M. Laine*


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## PAPERS

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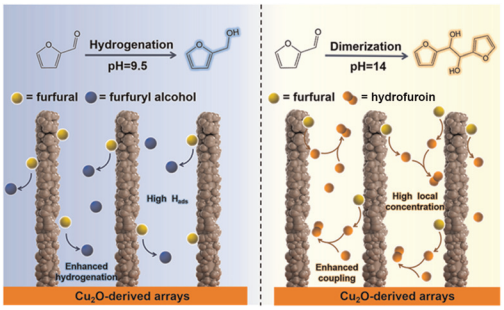
**Switchable selectivity to electrocatalytic reduction of furfural over $Cu_2O$-derived nanowire arrays**

Li Ma, Huiling Liu* and Cheng Wang*

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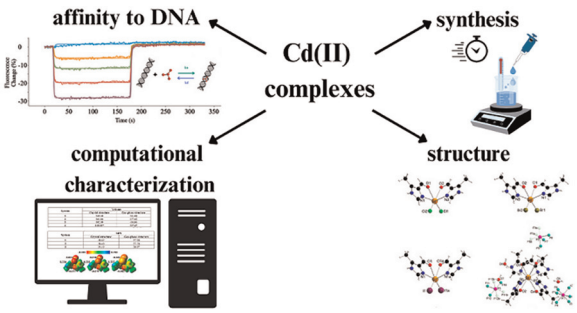
**Exploring novel Cd(II) complexes with 5-methyl-4-imidazolecarboxaldehyde: synthesis, structure, computational insights, and affinity to DNA through switchSense methodology**

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