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## Next-generation therapeutics: unlocking the power of lanthanide compounds with phosphorus-containing ligands

Kacper Kardas, Debbie C. Crans and Urszula K. Komarnicka\*

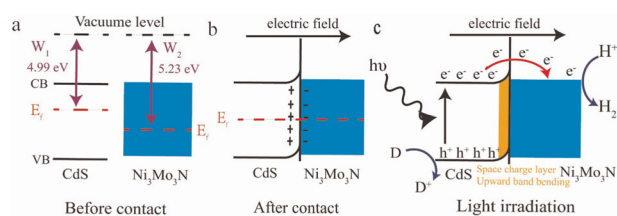


## COMMUNICATIONS

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## Integration of a metallic interstitial co-catalyst ( $\text{Ni}_3\text{Mo}_3\text{N}$ ) onto CdS nanorods accelerated charge separation and efficient photocatalytic hydrogen evolution

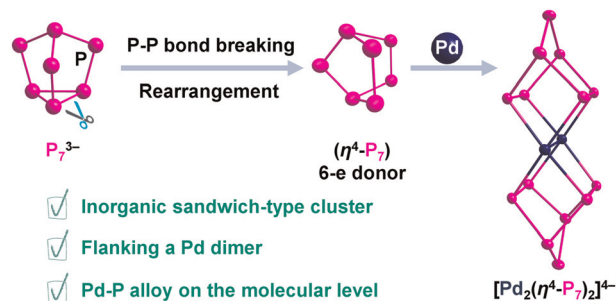
Lu Chen, Kaijie Zhang, Yule Sun, Ruowen Liang, Guiyang Yan\* and Renkun Huang\*



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## $[\text{Pd}_2(\eta^4\text{-P}_7)]^{4-}$ : a $\text{Pd}_2$ sandwiched by two anionic nortricyclane-type polyphosphides

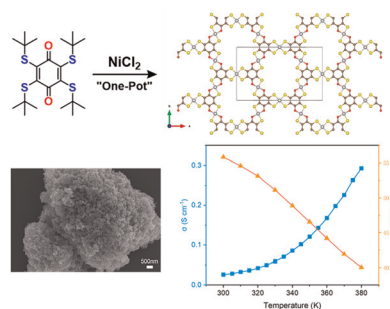
Minghao Deng, Xinyue Wang, Yu Tang\* and Fuxing Pan\*



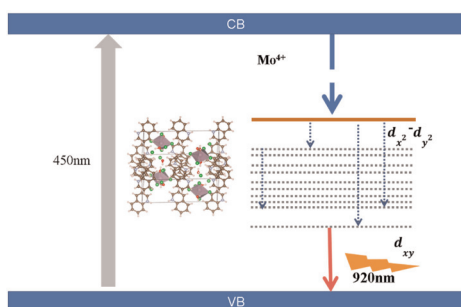
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## Synthesis of a conductive coordination polymer via a one-pot thioether deprotection process

Wenkai Liao, Siping Yin, Sha Wu and Wei Xu\*



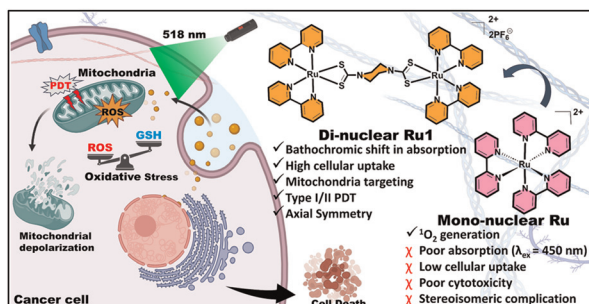
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### Near-infrared luminescence of a novel zero-dimensional organic–inorganic hybrid molybdenum-based perovskite

Chao Wang,\* Junlin Wang, Xiangfeng Cai and Zhihui Wang\*

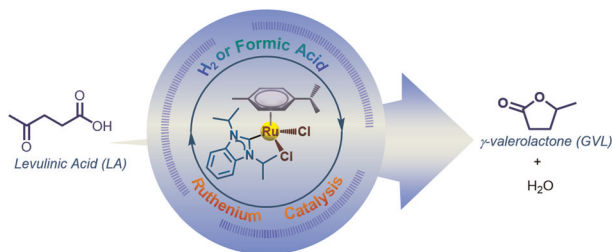
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### A mitochondria-targeted green light-activatable binuclear ruthenium(II) dithiocarbamate complex for synergistic type I/II photodynamic therapy

Monika Negi and V. Venkatesh\*

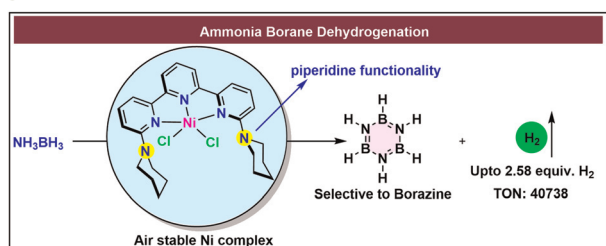
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### Dinuclear *p*-cymene ruthenium hydrido complexes as active catalysts for the hydrogenation of levulinic acid to $\gamma$ -valerolactone with formic acid as the hydrogen source

Boon Ying Tay,\* Cun Wang, Davin Tan, Shashikant U. Dighe, Ludger Paul Stubbs, Sandeep Suryabhan Gholap and Han Vinh Huynh\*

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### Dehydrogenation of ammonia borane employing an air-stable, phosphine-free molecular nickel pincer catalyst

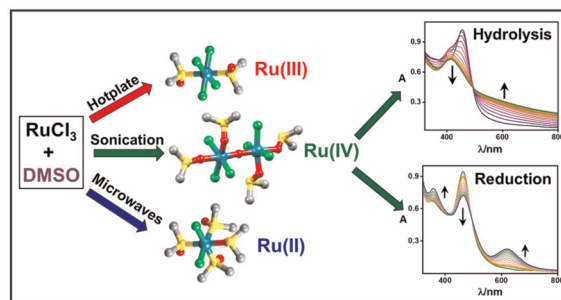
Bijan Mondal, Aisa Mohanty and Prosenjit Daw\*



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### Synthetic methods for key precursors of biologically active dimethylsulfoxide ruthenium complexes

Sreshtha Nayek, Rodrigo S. Correa,\* Ehsan Ezzatpour Ghadim,\* Juliusz A. Wolny, Volker Schünemann, Rafael Cavalieri Marchi\* and Peter J. Sadler\*

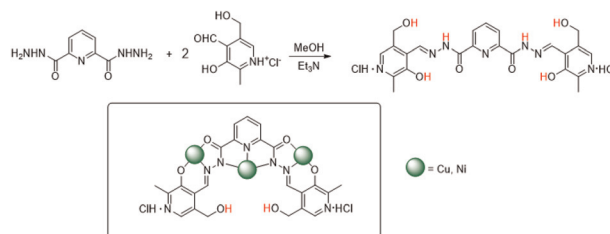


## PAPERS

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### Nickel and copper complexes of a new multidentate ligand: synthesis, characterization and magneto-structural investigations

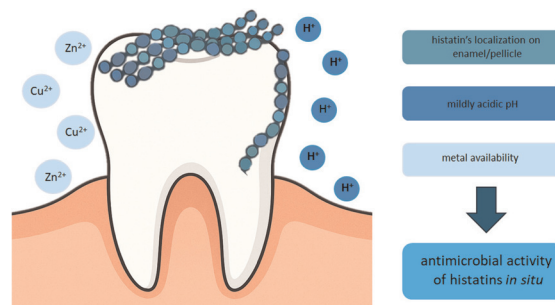
Wajid Ali, Hamed Bakhshi, Abdul Jabbar, Melanie Pilkington, Jeremy M. Rawson,\* Ahmed Al-Harrasi\* and Muhammad U. Anwar\*



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### From speciation to action: Cu(II) and Zn(II) tune histatins, but pH and enamel drive efficacy

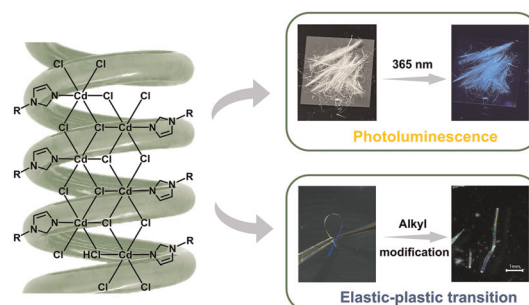
Emilia Dzień, Aleksandra Mikołajczyk-Tarnawa, Agnieszka Matera-Witkiewicz,\* Krzysztof Szewczyk, Miquel Barceló-Oliver, Lilla Pawlik-Sobecka, Joanna Wąty and Magdalena Rowińska-Żyrek\*



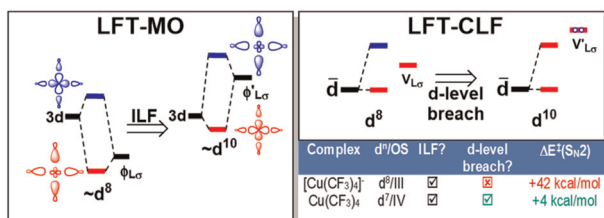
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### Fluorescent coordination-polymer single crystals with tunable elastic-plastic transformations

Jia-Hui Zhang, Yu-Xia Li, Kai-Ge Gao, Xin-Li Shi, Jie-Sheng Hu, Hui Ai, Zi-Shuo Yao\* and Jun Tao



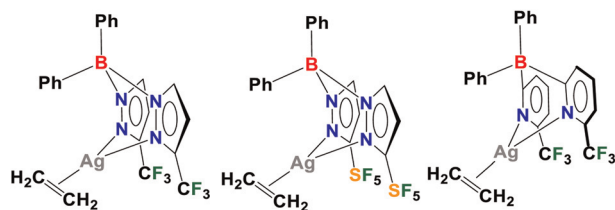
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## Inverted ligand fields: a conceptual dilemma for molecular orbital theory

Robert J. Deeth

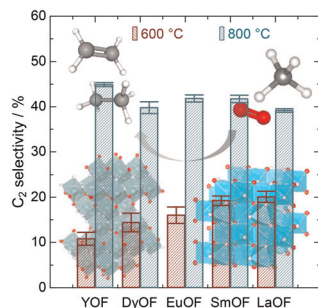
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## Fluorinated B-phenylated scorpionates as tunable platforms for stabilizing thallium(I) and silver(I)-ethylene complexes

Anurag Noonikara-Poyil, Vo Quang Huy Phan, Mukundam Vanga, Andrii Boretskyi, Pavel Mykhailiuk\* and H. V. Rasika Dias\*

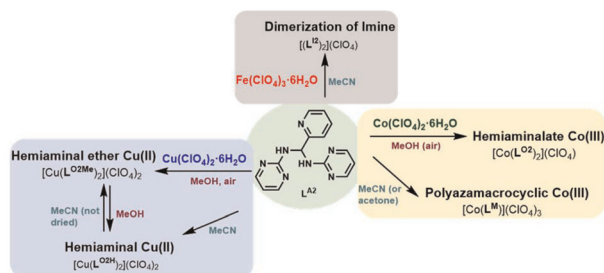
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## Catalytic oxidative coupling of methane over mixed-anion rare-earth oxyfluorides: composition/structure-activity relationships

Afif Pamungkas, Takumi Kaga, Kosaku Ohishi, Satoshi Ogawa, Miwa Saito, Satoshi Ishikawa, Wataru Ueda and Teruki Motohashi\*

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## Solvent- and metal-gated coordination diversity in a dynamic aminal ligand

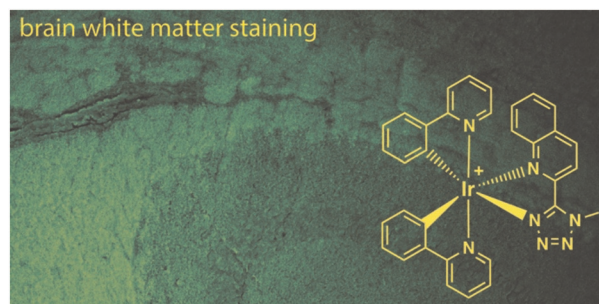
Jen-Wen Juan, Ji-Ming Ciou, Yi-Rong Hsiang and Ya-Fan Lin\*



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### Methylated regioisomers of Re(I) and Ir(III) tetrazole complexes: photophysical properties and optical imaging of brain tissue

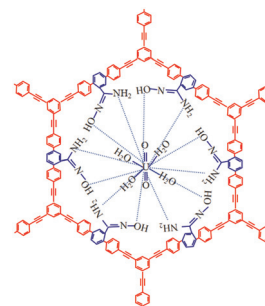
Elena Dallerba, Lee J. Cameron, Blake I. Armstrong, Gaewyn Ellison, Eva Turner, Evelyn S. Innes, Georgja L. Strickling, Joel Pangiarella, Peter Ó. Conghaile, Michael Nesbit, Stephen A. Moggach, Paolo Raiteri, Stefano Stagni, Emma L. Pearson, Mark J. Hackett\* and Massimiliano Massi\*



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### Constructing a crosslinked architecture in conjugated microporous polymers for highly efficient uranium(VI) photoreduction

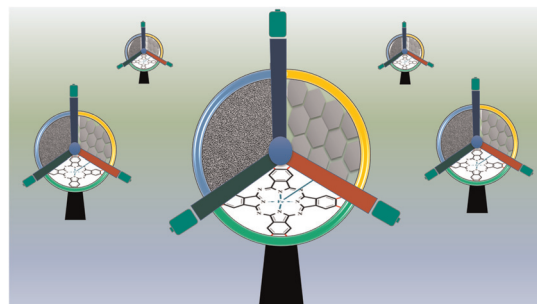
Guangyu Xu, Qi Chen, Caijuan Lu, Luxin Huang, Zhengfeng Hu\* and Muqing Qiu\*



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### Design of iron(III) phthalocyanine/reduced graphene oxide nanocomposites on nickel foam as hybrid supercapacitors

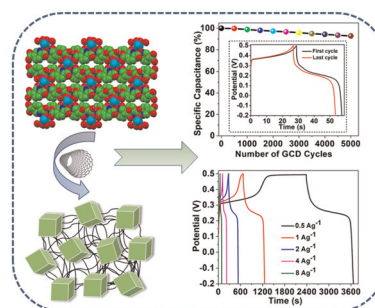
Nazlı Farajzadeh Öztürk, Hacer Yasemin Yenilmez, Özlem Budak Doğramacı, Atif Koca and Zehra Altuntaş Bayır\*



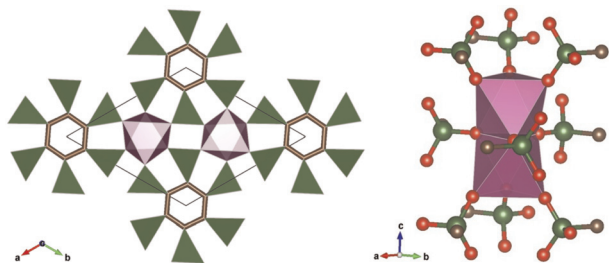
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### Enhanced pseudocapacitive performance of a Pb-based MOF/FCNT composite for high-stability supercapacitor applications: a step ahead towards energy storage

Mohammad Yasir Khan, Ahmad Husain, Sara A. Alqarni, Mohd Zeeshan, Abdullah Alarifi, Xiang Li and M. Shahid\*



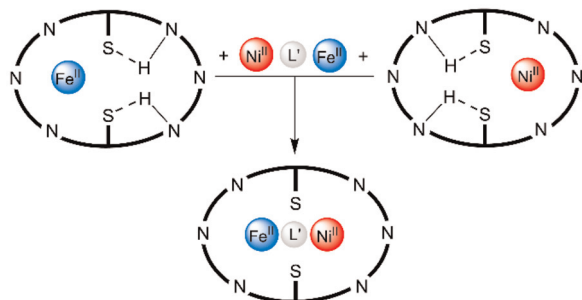
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### Isomorphous metal 1,3,5-benzenetriphosphonates MBP-1 with variable compositions: preparation, crystal structure, and electrochemical properties

Kosuke Iio, Syunya Ishii, Junya Yamaguchi, Mayu Yamaguchi, Haruka Yamashita, Akira Irie, Haruna Hatasawa, Masashi Morita, Atsushi Kondo, Naoto Kitamura, Morihiro Saito\* and Kazuyuki Maeda\*

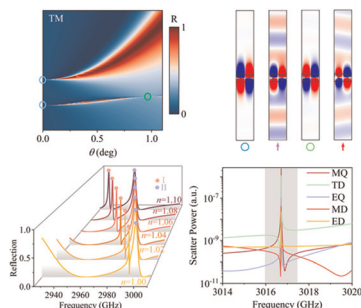
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### Mononuclear Fe<sup>II</sup> and heterobinuclear Fe<sup>II</sup>Ni<sup>II</sup> thiolate complexes derived from a compartmental hexaazadithiophenolato ligand: synthesis, structure and properties

Vanessa Stephan, Christian Zocher, Martin Börner, Jennifer Klose, Daniel Fuhrmann and Berthold Kersting\*

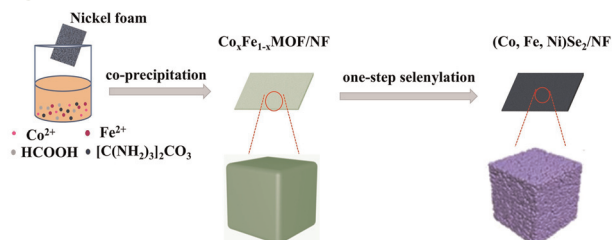
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### Active control of quasi-bound states in the continuum in VO<sub>2</sub> metasurfaces for enhanced terahertz sensing

Yanyu Zhang, Qianju Song,\* Bin Hou, Zao Yi\* and Zigang Zhou\*

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### Synergistic effect of trimetallic selenides (Co, Fe, Ni)Se<sub>2</sub>/NF for enhanced electrocatalytic oxygen evolution reaction and urea oxidation reaction

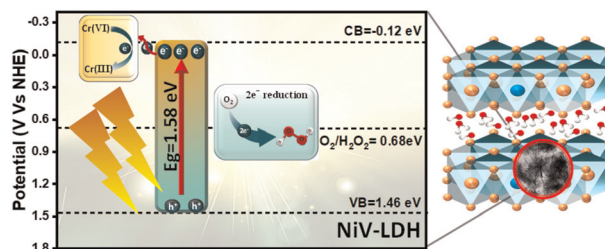
Youwen Li, Yuying Feng, Jiahui Jiang, Ting Zhao, Guancheng Xu\* and Li Zhang\*



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### Green synthesis of oxygen-vacancy-rich NiV-LDH photocatalysts for the enhancement of photocatalytic H<sub>2</sub>O<sub>2</sub> production and Cr(vi) detoxification

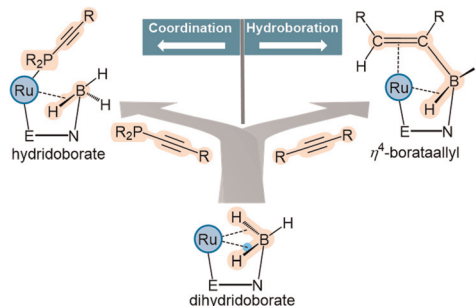
Preeti Prabha Sarangi, Jyotirmayee Sahu, Rasan Kumar Giri and Kulamani Parida\*



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### Hydroboration via metal-bound $\sigma(\text{B-H})$ bonds in Ru-( $\sigma$ -borate) complexes: a pathway to $\eta^4$ -HBCC- $\sigma,\pi$ -borataallyl complexes

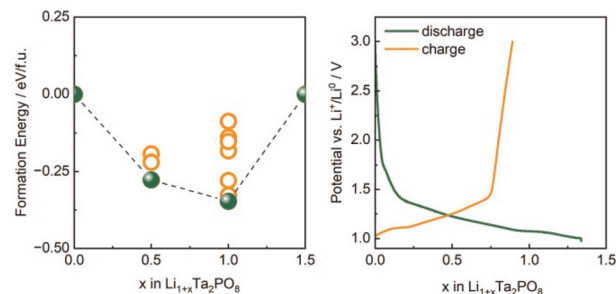
Sourav Gayen, Snigdha Satapathi, Deepak Kumar Patel and Sundargopal Ghosh\*



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### The study of electrochemical Li-ion (de)insertion in the lithium tantalum phosphate bronze LiTa<sub>2</sub>PO<sub>8</sub> structure

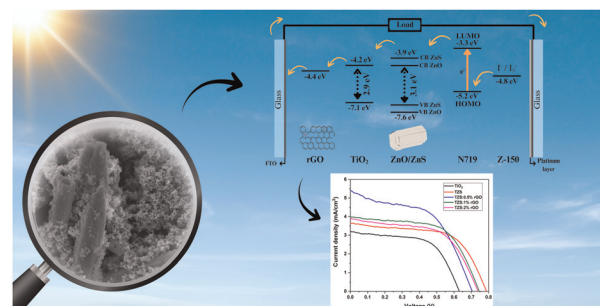
Maria G. Skachilova, Yelizaveta A. Morkhova and Alexander A. Shindrov\*



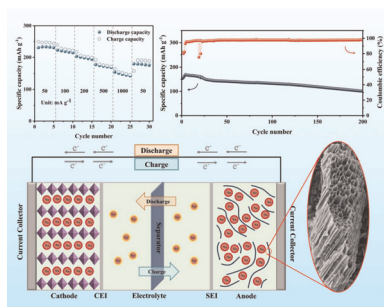
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### Insight into the development and behaviour of (TiO<sub>2</sub>)<sub>0.9</sub> + ((ZnO/ZnS):x% rGO)<sub>0.1</sub> composites as photoelectrodes in DSSCs

Thiago Kurz Pedra,\* Ramon Dadalto Carvalho, Cristian Dias Fernandes, Eduardo Ceretta Moreira, Carolina Ferreira de Matos Jauris, Elson Longo, Mateus Meneghetti Ferrer, Cristiane Wienke Raubach, Sérgio da Silva Cava, Pedro Lovato Gomes Jardim and Mario Lucio Moreira



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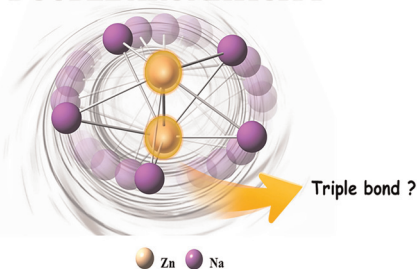


### Biomass-derived hard carbon anodes with enhanced capacity for sodium-ion batteries

Huahua Zeng, Juntao He, Jinlian Zhang, Qinxuan Zeng, Ning Li, Ming Sun\* and Lin Yu

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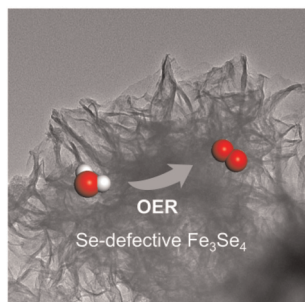
### DOUBLE AROMATICITY



### Canonical Zn–Zn pseudo-triple bond with double aromaticity in $D_{5h}$ - $Zn_2Na_5^-$ cluster

Xinluo Wu, Xingman Liu,\* Lifang Yan, Yue Huang, Xiaomeng Wang\* and Zhongmin Su\*

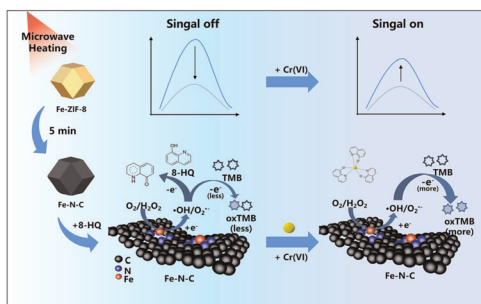
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### Unraveling the role of Se defects in $Fe_3Se_4$ for the electrocatalytic oxygen evolution reaction

Wenjuan Chen, Jinting Wu, Yunfei Zhang, Wan Liu, Zhen-Feng Huang, Ji-Jun Zou, Yong-Chao Zhang\* and Xiao-Dong Zhu\*

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### Microwave-assisted synthesis of Fe-based single-atom nanozyme: a colorimetric approach to detect Cr(vi)

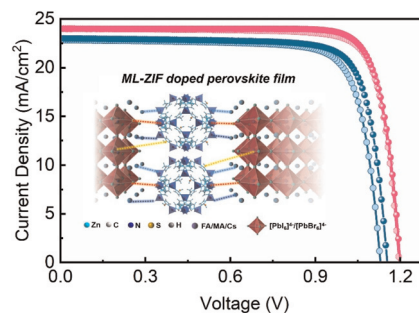
Zixiang Liao, Yue Ren, Bingzheng Yuan, Libo Li\* and Tianyan You\*



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### Mixed-ligand ZIF-doped perovskite films toward damp-heat-stable solar cells

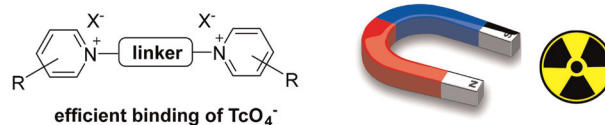
Shuaikang Chang, Zuoming Jin, Yu Wang, Siyuan Lin, Xueqian Han, Liqiang Zhang, Yuanqiang Wang, Jia Liang and Yichuan Rui\*



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### Novel hydrophilic cationic receptors for binding the pertechnetate anion in aqueous solutions. Quantum-chemical modeling, synthesis, structure and properties

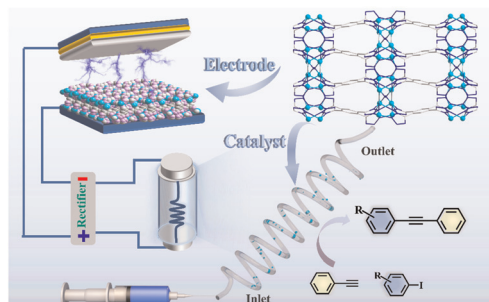
Yuri A. Ustynyuk, Igor P. Gloriov, Zoia A. Sizova, Nelly I. Zhokhova, Uliana M. Leksina, Anna Yu. Fominykh, Alexander V. Gopin, Petr I. Matveev, Vladimir G. Petrov, Victor A. Tafeenko and Valentine G. Nenajdenko\*



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### Integration of sequential chemical state transformations in bifunctional copper-based metal-organic frameworks for self-powered photocatalytic reaction systems

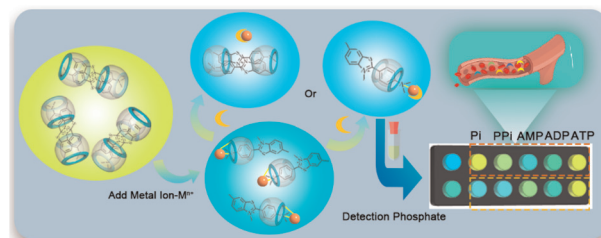
Yuanmeng Tao, Chao Huang,\* Jiaying Cui, Dandan Wang, Qi Qin, Jichao Wang\* and Zhichao Shao\*



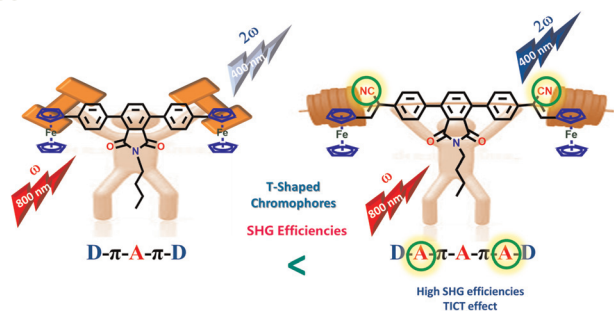
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### Cucurbit[8]uril-guest-metal ion self-assemblies as fluorescence sensor arrays for discrimination and detection of physiological phosphates

Ru-Pei Yang, Hong-Xue Wang, Qing Tang, Jian-Hang Hu, Hong-Ling Yi, Hong-Yuan Hu, Zhu Tao and Ying Huang\*



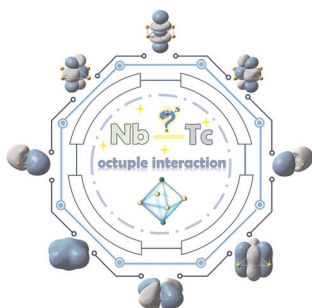
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### Enhancement of second harmonic generation (SHG) in ferrocene-appended T-shaped chromophores: impact of the cyanovinylene moiety with the TICT effect and theoretical insights

Vengidusamy Srinivasan Subiksha, P. P. Sanak Archana and Nallasamy Palanisami\*

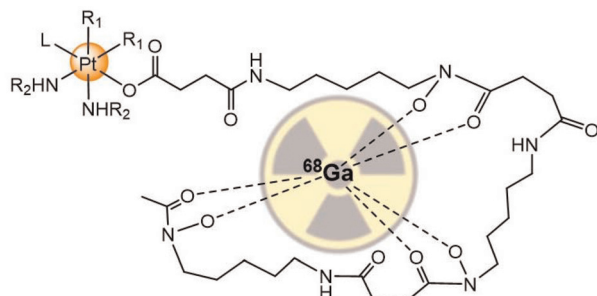
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### Cubic aromaticity in octahedral NbTcAu<sub>4</sub> featuring a stable Nb–Tc quadruple bond plus four additional delocalized interactions

Yue Huang, Xingman Liu,\* Lifang Yan, Jianyu Wei, Xinluo Wu, Xiaomeng Wang,\* Yingtao Liu and Zhongmin Su\*

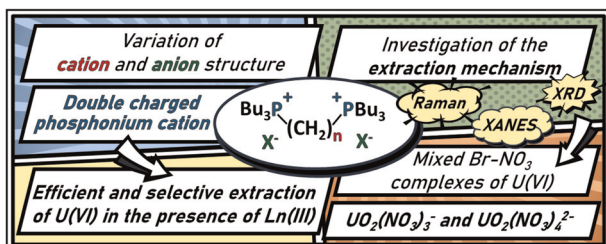
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### <sup>68</sup>Ga radiolabeling strategies in Pt(IV)-deferoxamine scaffolds for potential theranostic application

Giulia Ferrari, Ines Lopez-Martinez, Mohamad Saqawa, Eithne Demspey, Thomas Wanek, Irena Pashkunova-Martic, Silvia Panseri, Marcus Hacker, Monica Montesi,\* Claudia Kuntner\* and Diego Montagner\*

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### Diphosphonium salts as effective extractants for the separation of uranium(VI) from nitric acid media

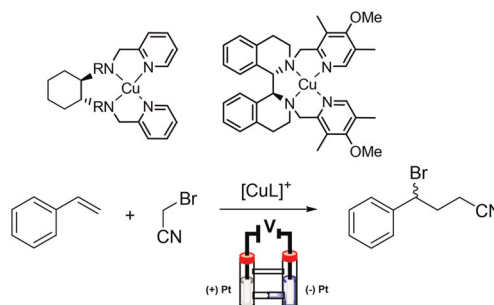
Anna Yu. Fominykh,\* Mikhail A. Gerasimov, Tatiana Poliakova, Daniil Novichkov, Paulina Kalle, Alexey Averin, Anna D. Krot, Natalia E. Borisova and Petr I. Matveev



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### Exploring asymmetric electrochemical atom transfer radical addition with chiral copper complexes

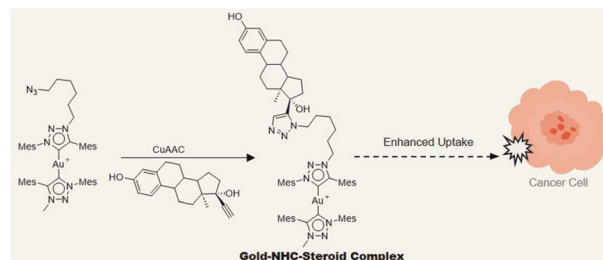
Jawed El Batti, Masnun Naher, Craig M. Williams\* and Paul V. Bernhardt\*



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### Oestradiol post-functionalized gold(i) bis(1,2,3-triazol-5-ylidene) complex exhibits high activity for ER $\alpha$ -positive breast cancer cells (MCF-7)

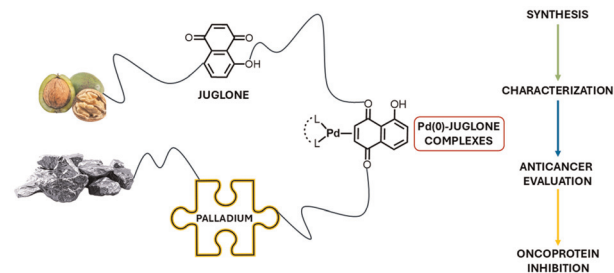
Melanie E. Hoffmann, Fernanda Marques, João D. G. Correia and Fritz E. Kühn\*



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### Palladium(0) and Juglone: a new alliance in the fight against ovarian cancer

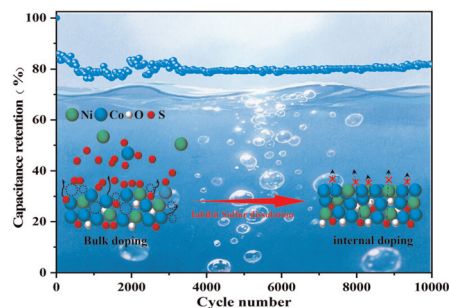
Giovanni Tonon, Anna Rafaniello, Matteo Mauceri, Nicola Demitri, Thomas Scattolin,\* Flavio Rizzolio\* and Fabiano Visentin\*



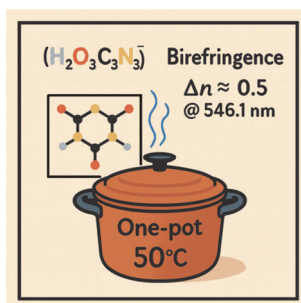
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### Enhanced electrochemical performance of NiCo-LDH by inner sulfur doping design

Yujiao Li, Zhaoshun Liu, Zhongning Shi, Hongbin Sun and Junli Xu\*



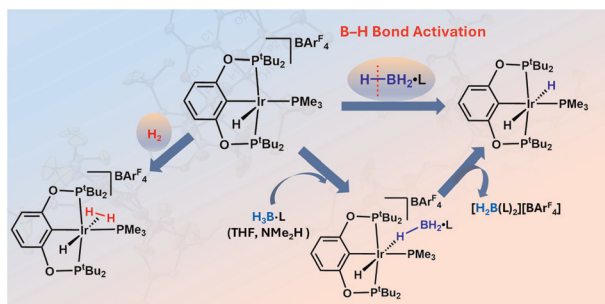
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### A one-pot method in water to synthesize a new cyanurate $\text{K}(\text{H}_2\text{C}_3\text{N}_3\text{O}_3) \cdot \text{H}_2\text{O}$ with large birefringence

Bingheng Ji, Chu Chu, Bingbing Zhang\* and Jian Wang\*

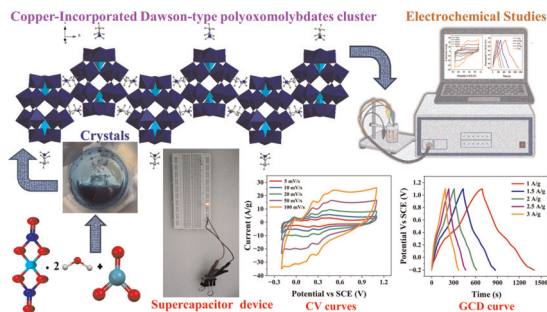
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### Heterolytic cleavage of the B–H bond in $\text{H}_3\text{B}\cdot\text{L}$ ( $\text{L} = \text{THF}, \text{NMe}_2\text{H}$ ) by an electrophilic $\text{Ir}(\text{III})$ pincer complex $[\text{Ir}(\text{H})(\text{PMe}_3)(^t\text{Bu}_4\text{POCOP})][\text{BARF}_4]$

Mitarani Pradhan, Zeel Y. Surati, Apurba Kumar Pal, Kumar Vanka\* and Balaji R. Jagirdar\*

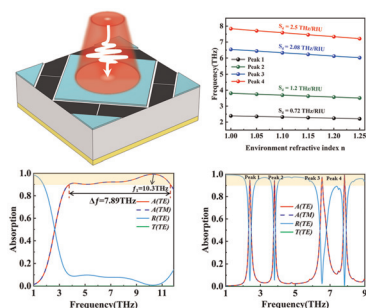
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### Redox-active modification of Dawson-type copper molybdate cluster for advanced supercapacitor applications

Ankita Pardiwala, Ravi Rajan Pandey, Anshu Andola, Rakesh K. Pandey\* and Ritambhara Jangir\*

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### A dynamically switchable three-layer terahertz metasurface based on a $\text{VO}_2$ –graphene hybrid for ultra-broadband and quad-narrowband absorption

Zhihan Chen, Shengyuan Wang, Hao Chen,\* Xinyao Wu, Shenglan Pu and Bo Dai\*

