

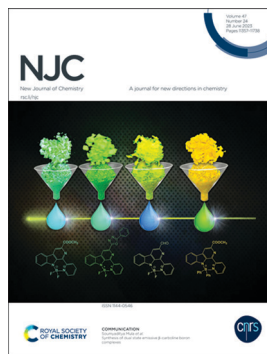
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ISSN 1144-0546 CODEN NJCHES 47(24) 11357-11738 (2023)



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### Inside cover

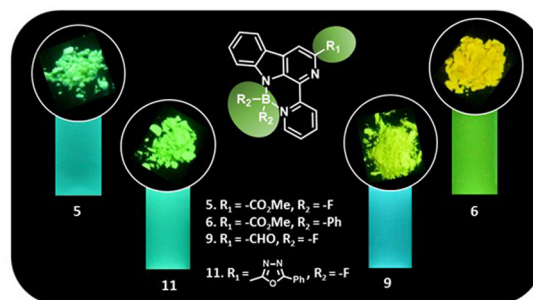
See Soumyaditya Mula *et al.*, pp. 11371–11375. Image reproduced by permission of K. H. Gharat and Soumyaditya Mula from *New J. Chem.*, 2023, 47, 11371.

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### Synthesis of dual state emissive $\beta$ -carboline boron complexes

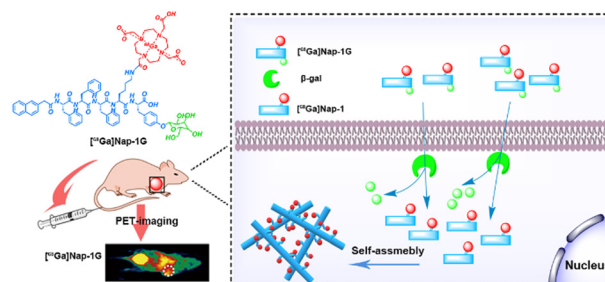
Kartik Dutta, Richa Agrawal, A. P. Wadawale, Sunita Gamre and Soumyaditya Mula\*



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Meimei Wang, Kangxia Yu, Dandan Zhu, Pei Zou, Peiyao Chen, Hongyong Wang, Yaling Liu\* and Minhao Xie\*



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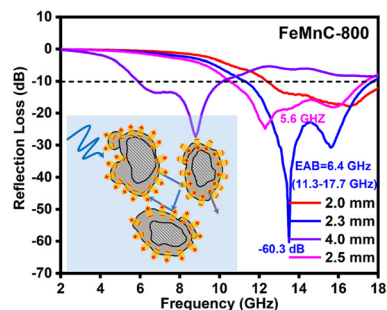


## COMMUNICATIONS

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**FeMnC complex derived from hollow FeMn PBA precursor for highly efficient microwave absorption**

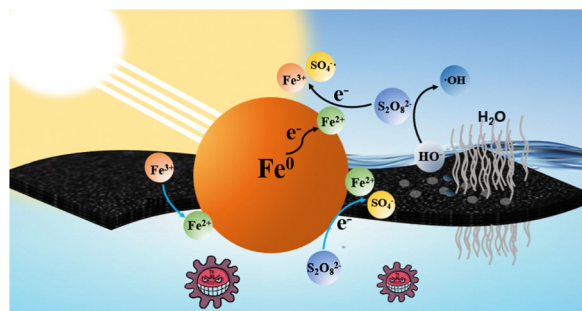
Peng Miao,\* Weixing Chen, Dong Zhou, Keji Zhu, Jianing Zhang and Jie Kong



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**Triple activation of persulfate by a polydopamine/zerovalent iron co-functionalized sponge for synergistic solar driven photocatalytic antibiotic degradation and interfacial evaporation**

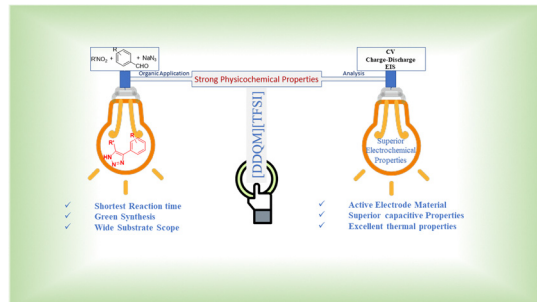
Zhonghua Bao, Fei Yang, Zixin Pan, Jinying Li, Yong Liu\* and Shengxu Luo\*



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**[DDQM][TFSI]: a room temperature ionic liquid as an active electrode material for supercapacitor devices and a catalyst for rapid synthesis of 4-aryl-NH-1,2,3-triazoles under microwave irradiation**

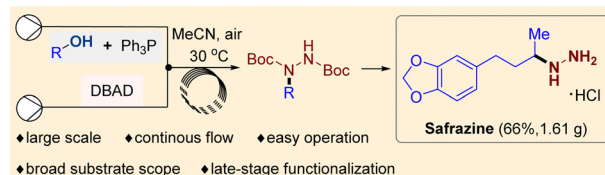
Bidyutjyoti Dutta, Priyanuj Krishnann Hazarika, Pranjal Saikia, Surajit Konwer, Lakhyajyoti Borthakur\* and Diganta Sarma\*



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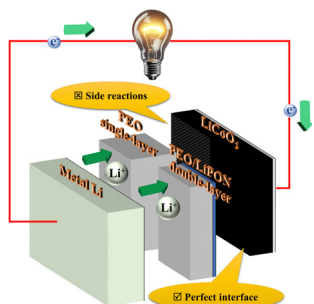
**A practical flow synthesis of hydrazine derivatives from alcohols**

Jie Ding, Ye Yang, Mingzhen Xue, Xukai Gong, Hu Cai\* and Wentao Xu\*



## COMMUNICATIONS

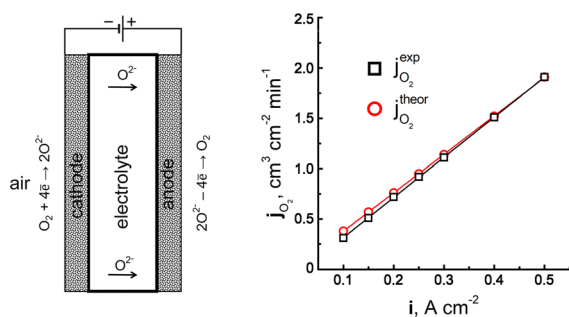
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### A stable and high-voltage-resistant inorganic/polymer double-layer electrolyte for LiCoO<sub>2</sub>-based all-solid-state Li batteries

Yuqi Yang, Hongyi Wang, Yuanyuan Zhang, Ying Wang and Jingze Li\*

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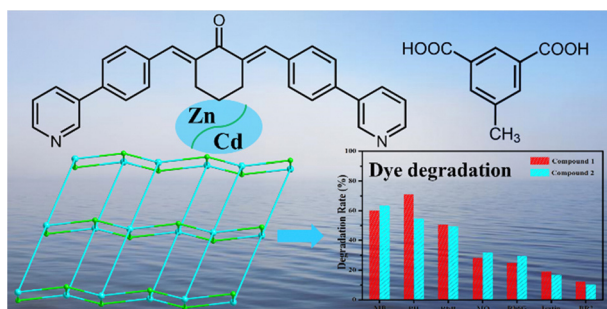


### A high performance IT-EOG cell based on a solid/molten Bi<sub>2</sub>O<sub>3</sub>–B<sub>2</sub>O<sub>3</sub> composite electrolyte

Polina E. Dergacheva, Sergey V. Fedorov and Valery V. Belousov\*

## PAPERS

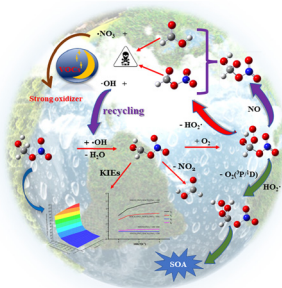
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### Two novel metal–organic frameworks constructed by pyridinyl-derived and carboxylate mixed ligands for photocatalytic dye degradation

Chixiao Ma, Junyong Zhang,\* Hao Xu, Xianghua Zeng, Chunhua Gong\* and Jingli Xie\*

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### Theoretical investigation on the atmospheric degradation mechanism, kinetics, and fate of hydroxymethyl nitrate initiated by •OH radicals

Xiang-Huan Liu, Ting-Ting Meng, Feng-Yang Bai,\* Shuang Ni\* and Zhen Zhao\*



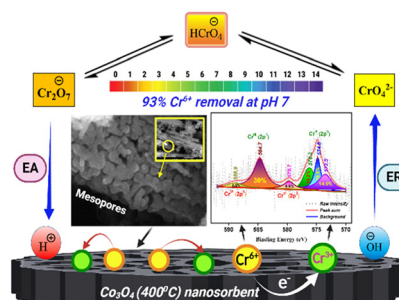


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### Temperature dependent fabrication of various rod and rhombohedral-shaped mesoporous $\text{Co}_3\text{O}_4$ crystals and their capability towards elimination of toxic $\text{Cr}(\text{VI})$ ions from the aquatic environment

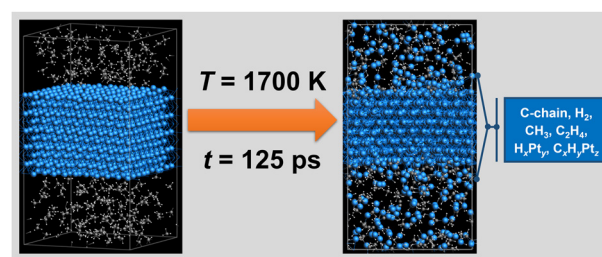
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### $\text{CH}_4$ dehydrogenation and $\text{H}_2$ formation on a $\text{Pt}(100)$ surface: an insight from the reactive molecular dynamics simulations

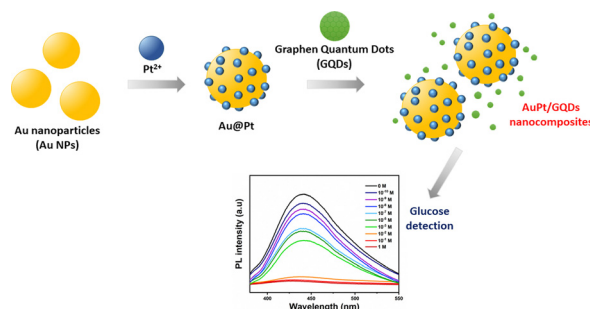
Rizal Arifin\* and Darminto



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### Synthesis of AuPt/graphene quantum dots nanocomposites for determination of glucose by photoluminescence spectroscopy

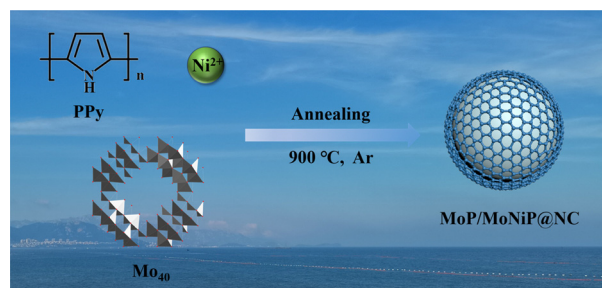
Thieu Quang Quoc Viet, Huynh Phuoc Thanh, Do Minh Khoi, Tran Thi Kieu Trinh, Ngo Nguyen Tra My, Toan Duy Pham, Luong Huynh Vu Thanh, Phuong Lan Tran-Nguyen and Tran Thi Bich Quyen\*



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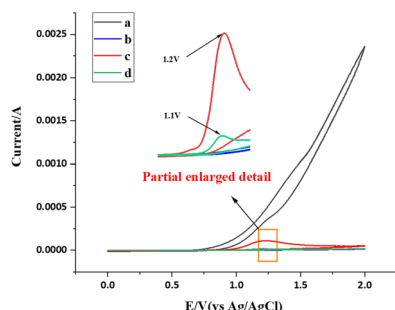
### Highly active bimetallic phosphide electrocatalysts for hydrogen evolution

Linglan Men, Yu Zhang, Xiao Li,\* Qingqing Pan, Jiao Li\* and Zhongmin Su\*



## PAPERS

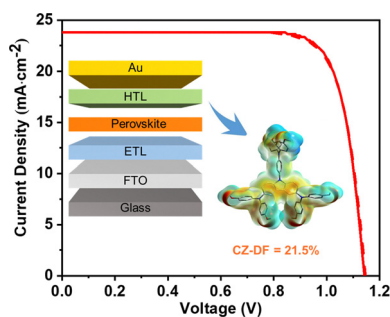
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### Electrochemically mediated fluoroalkylation/cyclization of unactivated alkenes: synthesis of polycyclic benzimidazoles containing a CF<sub>3</sub> group

Zhiwei Chen,\* Ziwei Li, Shuo Li, Guosong Qian and Yanyu Sun

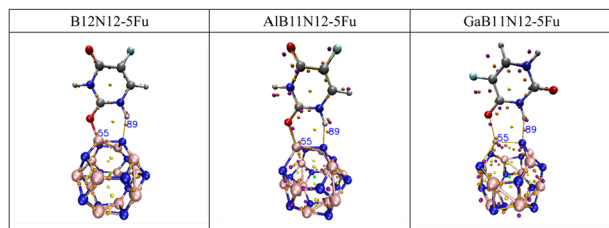
11470



### The effects of the planarity of the core building block and peripheral donor groups on the photovoltaic performance of triarylated amine-based hole transport materials

Yicheng Wang, Chuansu Yang, Jinwei Meng, Cheng Chen,\* Hao Zhuang, Haoxin Wang, Ming Zhang, Hui Xu and Ming Cheng\*

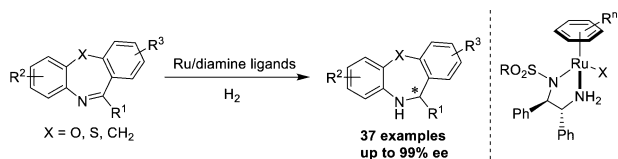
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### Investigating the drug carrying ability of Al and Ga doped B12N12 nanocages for 5-fluorouracil based on DFT

ShiQuan Wu, Li Li, QiQi Liang, HuaXu Gao, DeYuan Hu, TianYu Tang and YanLin Tang\*

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### Asymmetric hydrogenation of dibenzo-fused azepines with chiral cationic ruthenium diamine catalysts

Zi-Qi Yi, Bo-Wen Deng, Fei Chen,\* Yan-Mei He and Qing-Hua Fan\*

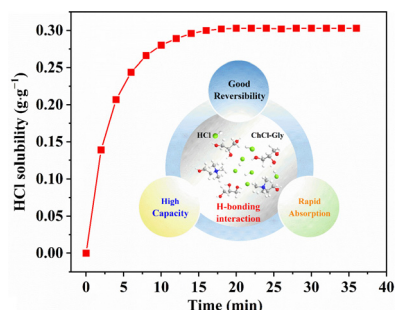


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### Choline chloride plus glycerol deep eutectic solvents as non-aqueous absorbents for the efficient absorption and recovery of HCl gas

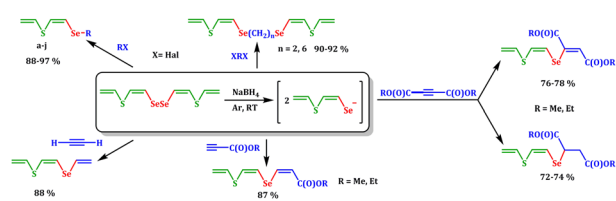
Zi-Teng Gao, Zhang-Min Li, Yan Zhou, Xue-Jun Shu, Zhao-Hui Xu and Duan-Jian Tao\*



11505

### Polyunsaturated sulfur/selenium-containing products based on regio- and stereoselective nucleophilic addition and substitution reactions of 1,2-bis[(Z)-2-(vinylsulfanyl)ethenyl] dislane

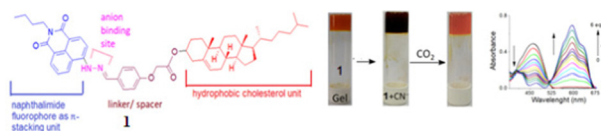
Svetlana V. Amosova,\* Andrey S. Filippov, Nataliya A. Makhaeva, Alexander I. Albanov and Vladimir A. Potapov



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### A new cholesterol-naphthalimide conjugate: aggregation and sensing of CN<sup>-</sup> and CO<sub>2</sub> under different conditions

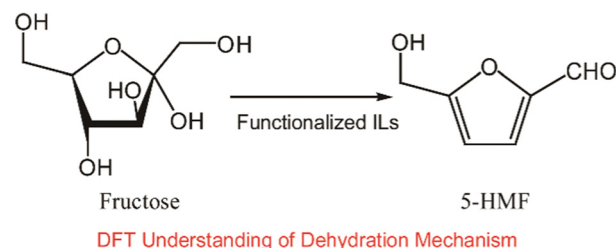
Rameez Raza, Chiranjit Pati, Nabajyoti Baildya and Kumares Ghosh\*



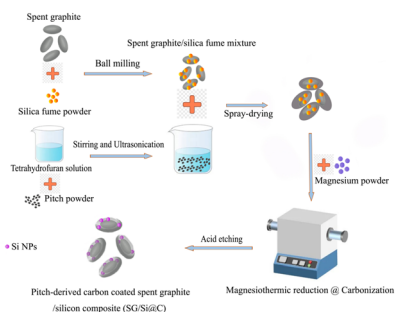
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### Dehydration mechanism of fructose to 5-hydroxymethylfurfural catalyzed by functionalized ionic liquids: a density functional theory study

Jiehao Hu, Mengting Yu,\* Yao Li, Xiaoli Shen, Shenyu Cheng, Tianyou Xu, Chengsheng Ge, Yihang Yu and Zhaoyang Ju\*



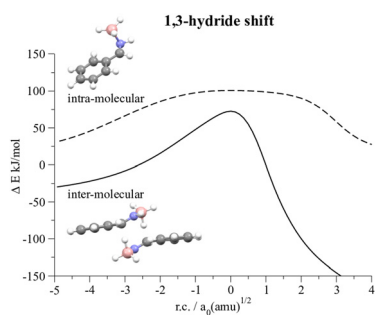
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### Scalable synthesis of porous graphite/silicon@pitch carbon nanocomposites derived from wastes of silica fume for high-performance lithium storage

Bo Wang, Yue Li,\* Nan Wu, Kun Liu, Liujie Yin and Ziyi Han

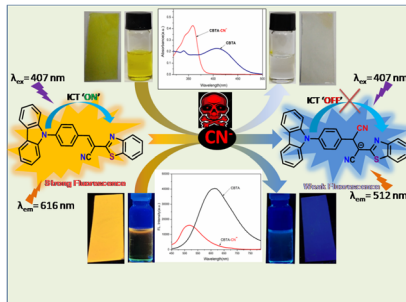
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### Hydroboration of imines: intermolecular vs. intramolecular hydride transfer

Siyuan Zhai, Dragoslav Vidović\* and Milena Petković\*

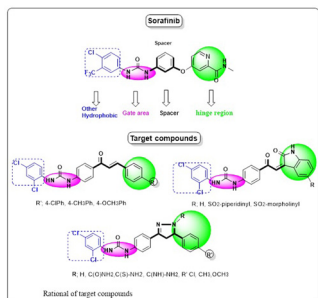
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### A novel carbazole-benzothiazole-based chemodosimeter for the chromogenic and fluorogenic recognition of $\text{CN}^-$

Atanu Maji, Amitav Biswas, Akash Das, Saswati Gharami, Krishnendu Aich and Tapan K. Mondal\*

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### Mimicry of sorafenib: novel diarylureas as VEGFR2 inhibitors and apoptosis inducers in breast cancer

Magda M. F. Ismail, Ebtehal M. Hussein\* and Mona H. Ibrahim



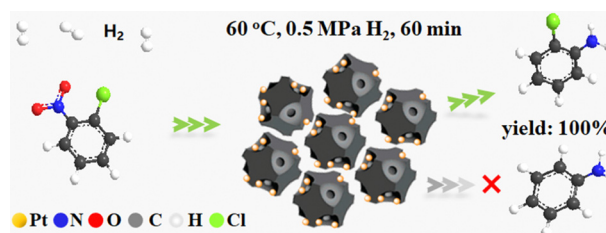


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# Regulating pore structures of carbon supports toward efficient selective hydrogenation of o-chloronitrobenzene on Pt nanoparticles

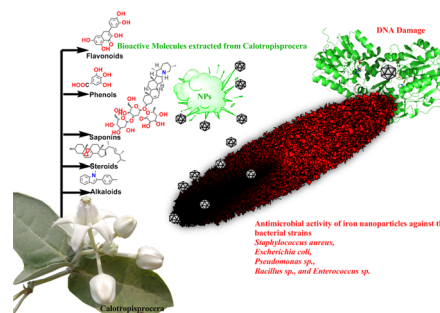
Yun Peng Lv, Fang Yu, Zhi Peng Wang,\* Hai Wei Liu, Li Yan Wang, Jian Song,\* Yu Li, Gui Qiu Huang\* and Jian Cui



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# Calotropis procera flower extract for the synthesis of double edged octahedral $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> nanoparticles via a greener approach: an insight into its structure property relationship for *Escherichia coli*

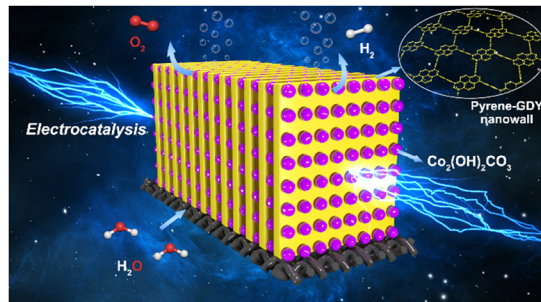
Karuvelan Murugan,\* Rajakannu Subashini, Udayadasan Sathiskumar and Greeshma Odukkathil



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# Cobalt carbonate hydroxides anchored on nanoscale pyrenely-graphdiyne nanowalls toward bifunctional electrocatalysts with high performance and stability for overall water splitting

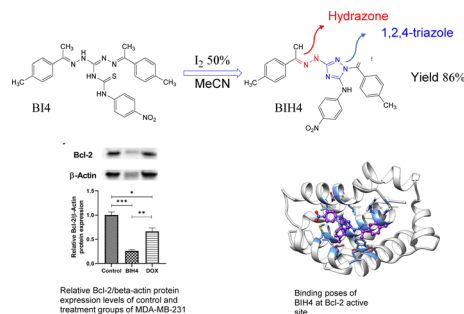
Xiaomei Xu, Yongchun Wang, Wenhui Shang, Fei Wang, Qiang Zhang, Kai Li, Mei Wu and Zhiyu Jia\*



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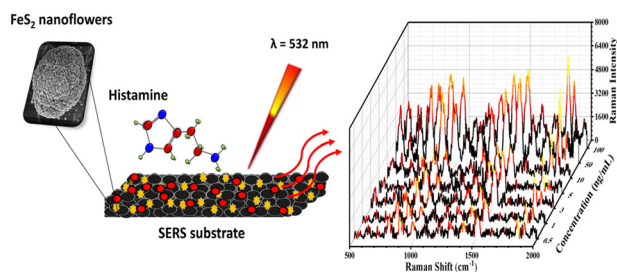
# Design, synthesis, molecular docking and biological evaluation of 1,2,4-triazole derivatives possessing a hydrazone moiety as anti-breast cancer agents

Michael Tapera, Hüseyin Kekeçmuhammed, Cansu Umrhan Tunc, Aybuke Ulku Kutlu, İsmail Çelik, Yunus Zorlu, Omer Aydin and Emin Sarıpinar\*



## PAPERS

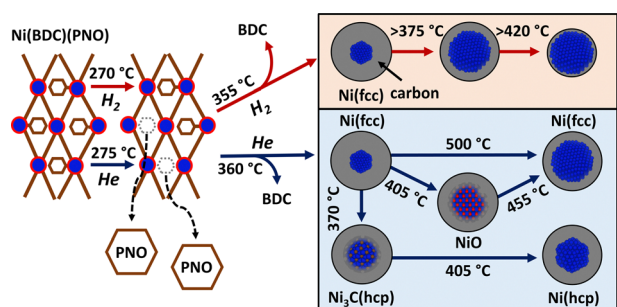
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### FeS<sub>2</sub>-based aerogel as a flexible low-cost substrate for rapid SERS detection of histamine in biofluids

Anjali Sreekumar, Lignesh Durai, Minu Thomas and Sushmee Badhulika\*

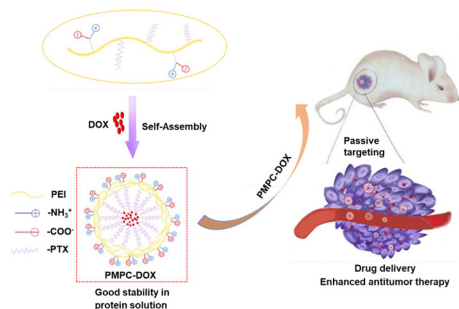
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### Structural transitions during Ni nanoparticle formation by decomposition of a Ni-containing metal–organic framework using *in situ* total scattering

Nils Prinz, Sven Strübbe, Matthias Bauer and Mirjam Zobel\*

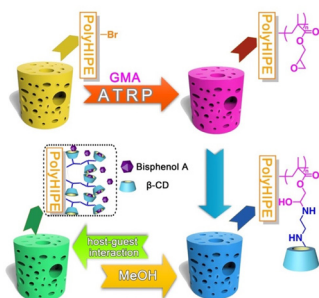
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### Zwitterionic doxorubicin loaded micelles based on polyethyleneimine for enhanced antitumor therapy *in vivo*

Xiaolei Guo, Yuzhen Xue, Ruixue Zheng, Shengfu Chen, Weili Xue, Xifa Lan,\* Longgang Wang\* and Haiyan Xiao\*

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### Macroporous polyHIPE modified with β-cyclodextrin for the removal of bisphenol A from water

Chunyao Wang, Xiangnan Chen, Weizhong Yuan\* and Mengdie Zhou\*

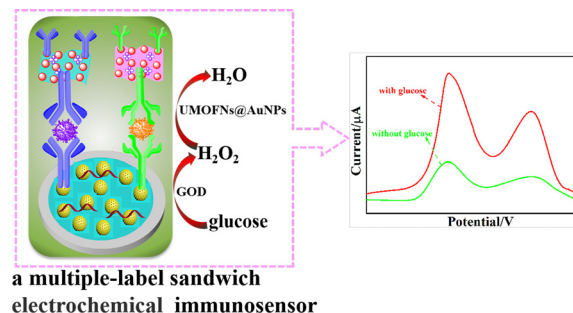


## PAPERS

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### Simultaneous detection of two tumor markers using electrochemical immunosensor based on ultrathin metal–organic framework derived nanosheets as redox probes

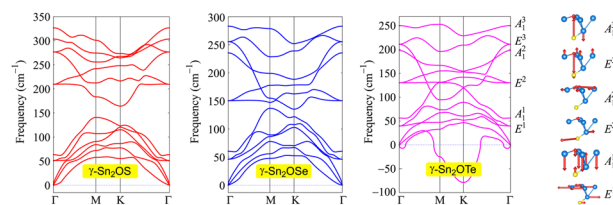
Xiaomei Huang, Xiang Deng,\* Zihe Deng, Chaoqin Huang, Xiaoyu Zhu and Li Sun



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### Strong out-of-plane piezoelectricity and Rashba-type spin splitting in asymmetric structures: first-principles study for Janus $\gamma$ - $\text{Sn}_2\text{OX}$ ( $\text{X} = \text{S}, \text{Se}, \text{Te}$ ) monolayers

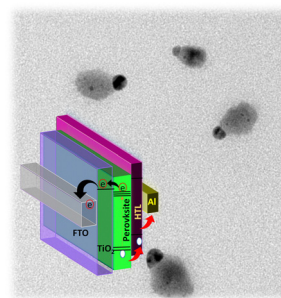
Tuan V. Vu, Nguyen P.Q. Anh, Huynh V. Phuc, A. I. Kartamyshev and Nguyen N. Hieu\*



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### Preparation of nano dumbbell-shaped silver bismuth iodide perovskite hybrids and their enhanced photocurrent properties

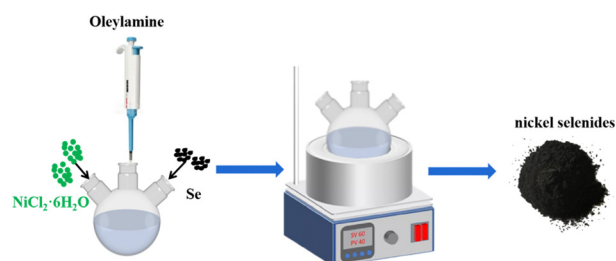
Sellan Premkumar,\* Thankappan Thrupthika, Maheswari Palanivel, Dan Liu,\* Devaraj Nataraj, Wei Lei and Jianzhou Gui\*



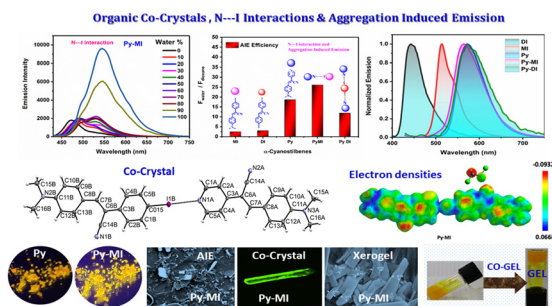
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### Composition regulation of nickel selenide and its effects on the catalytic activity in the oxygen reduction reaction

Huachen Zhang, Shengbiao Zheng,\* Jing Tang, Rui Chen, Jingjing Yang, Wenjing Tong and Jiahao Guo\*



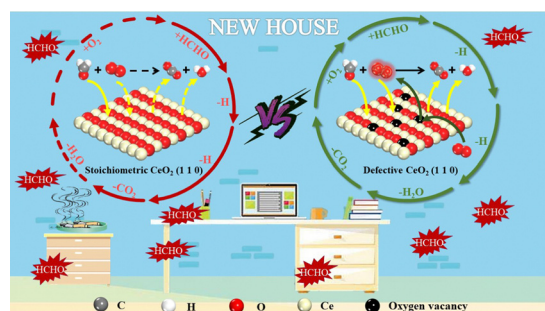
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## Halogen-bonded co-crystals with AIE-active $\alpha$ -cyanostilbenes

Rahul Dahiwadkar, Gurudutt Dubey, Althaf Shaik, Palash Jana, Vijay Thiruvengadam and Sriram Kanvah\*

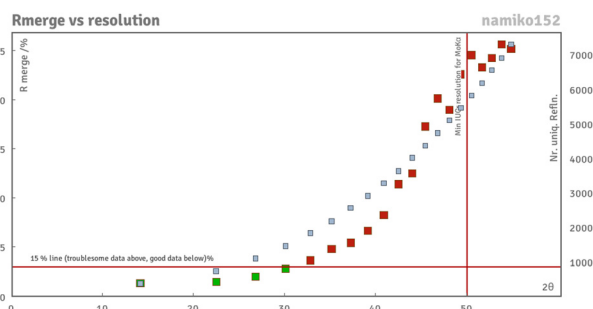
11697



## Theoretical study of oxidative removal on the $\text{CeO}_2(110)$ surface for formaldehyde: in-depth investigation of oxygen vacancy and chemisorbed oxygen

Yichao Xu, Ye Jiang,\* Guomeng Zhang, Zhengda Yang, Congcong Su and Yinsheng Jiang

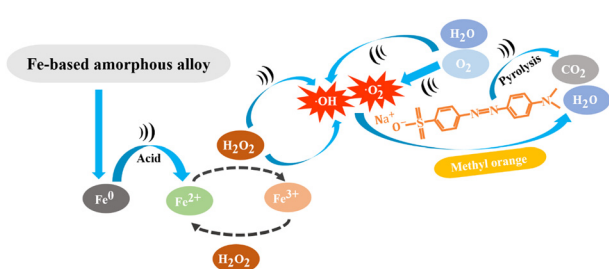
11708



## Synthesis, crystallographic structure, theoretical analysis, molecular docking studies, electronic properties and biological activity evaluation of ruthenium-complex bearing N-heterocyclic carbene ligand

I. Slimani, Nasser Amri, Yousef E. Mukhrish, Nevin Gurbuz, Ismail Özdemir, Houcine Ghalla, Namik Özdemir, Lamjed Mansour and Naceur Hamdi\*

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## Degradation of methyl orange by an ultrasonic Fenton-like process with Fe-based amorphous alloy powders

Ling Tan, Xiaoyan Wang, Shaoke Wang, Xiaorui Qin, Linfeng Xiao, Chunling Li,\* Shuangqing Sun and Songqing Hu

