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Cover

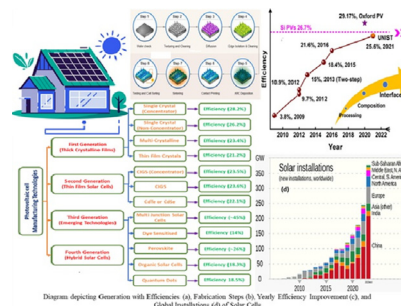
See Srikrishna Manna *et al.*, pp. 6914–6929.
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PERSPECTIVES

6861

Recent advances in solar cell technology: addressing technological challenges, scenarios, and environmental implications in the development of sustainable energy solutions

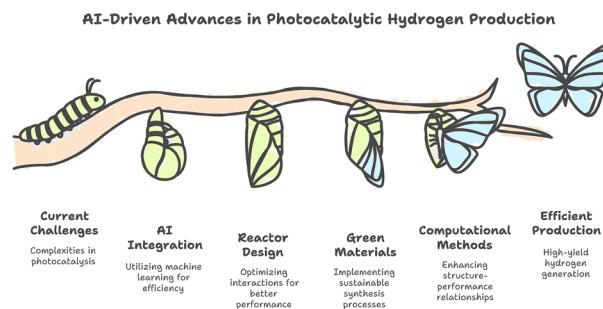
Ratneshwar Kumar Ratnesh,* Ramesh Kumar, Snigdha Singh, Ramesh Chandra and Jay Singh*



6888

Artificial intelligence-driven advances in photocatalytic hydrogen production

Leandro Goulart de Araujo* and David Farrusseng



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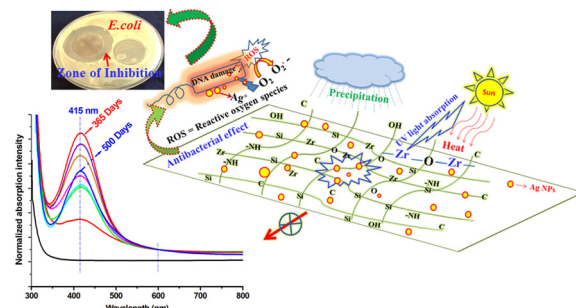
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6914

Long-term stability of Ag NPs in a room temperature cured SiO₂–ZrO₂ crosslinking hybrid robust coating towards enhanced weather resistance properties and its antibacterial applications

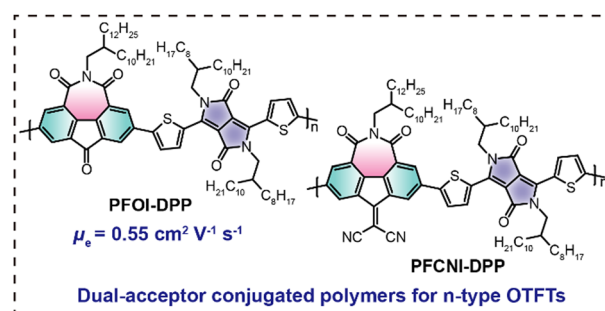
Srikrishna Manna,* Milan Kanti Naskar,
Debolina Saha, Prabir Pal and Samar Kumar Medda



6930

Fluorenone imide/cyanated fluorenone imide and diketopyrrolopyrrole-based dual-acceptor polymers for n-type organic thin-film transistors

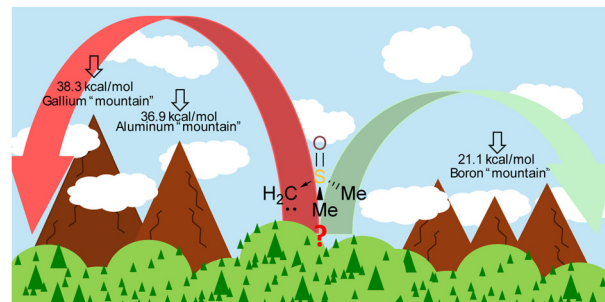
Yongxin Hou, Xiage Zhang, Tao Li, Zhicai Chen,*
Jie Yang, Shiyang Shao, Xugang Guo and Weiyu Zhou*



6936

Computational study of polyhomologation: understanding reactivity with B, Al, and Ga

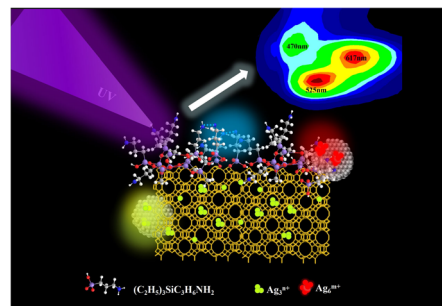
Darien I. Martínez-Valencia, Leonardo I. Lugo-Fuentes,
Gerardo González-García, J. Armando Luján-Montelongo,
Kenneth J. Shea, José E. Báez* and
J. Oscar C. Jiménez-Halla*



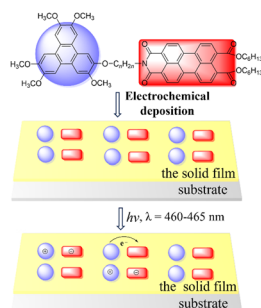
6946

Multi-color luminescent materials with potential applications in water detection based on 3-propyltriethoxysilane-modified Ag⁺-exchanged zeolites

Decui Yao,* Zhenzhen Miao, Jing Yang* and Dong Li*



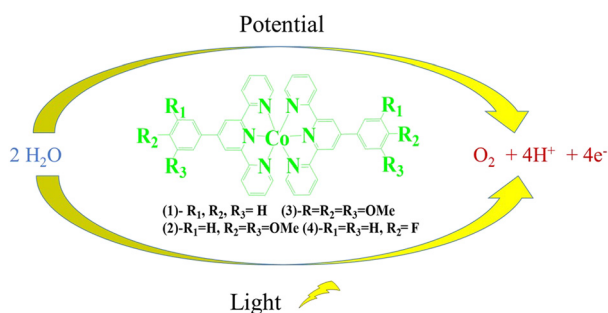
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Preparation and investigation of the optoelectronic properties of alkoxy-bridged triphenylene and perylene monoimide diester dyad films

Caiyao Wang, Mulan Gong, Liwen Miao, Jiawei Wang, Xinyu Zhang, Ke Feng, Liangfeng Wang, Fangjiang Cui, Guixia Wang* and Xiangfei Kong*

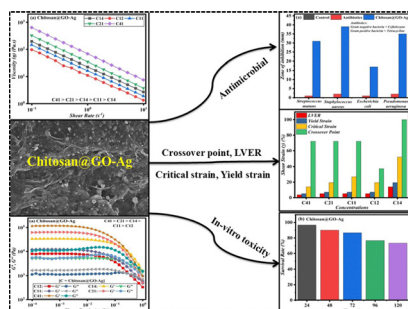
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Electrocatalytic water oxidation by molecular cobalt-terpyridine complexes in alkaline medium: experimental and theoretical study

Md. Adnan Khan, Sahanwaj Khan, Swaraj Sengupta* and Subhendu Naskar*

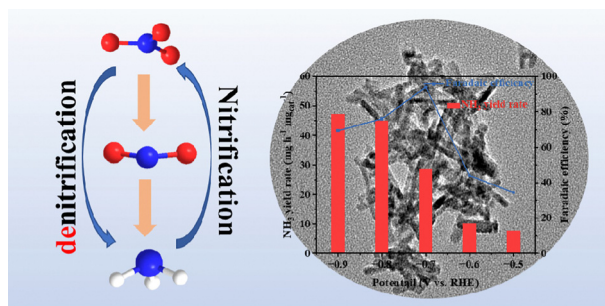
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Sustainable approach towards development of a bioinspired polymer reinforced composite hydrogel: rheological and biological aspects

Shokat Hussain and Shrikant S. Maktedar*

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CuO nanorods for high-efficiency nitrate electroreduction to ammonia

Ling-Qi Li, Xiao-Hui Wang, Ze-Nong Zhang, Si-Mian Liu, Xiao Wang* and Shu-Ni Li*



PAPERS

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Biosorption of uranium from water on polymethylmethacrylate microplastic immobilized with *Saccharomyces cerevisiae*: a sustainable approach

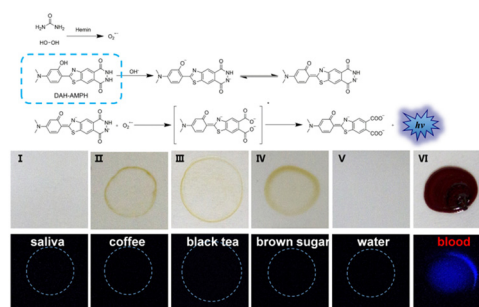
V. Dhanya, Vidya Rajesh* and N. Rajesh*



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A novel luminol-related hydroxyphenyl benzothiazole analogue chemiluminescence probe with ultrahigh sensitivity for bloodstain detection

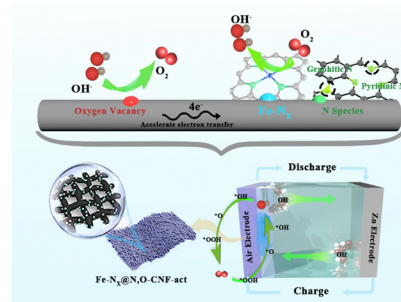
Xueru Zhang, Jiarong Guo, Wei Tang* and Xinrui Duan*



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Nitrogen and oxygen co-doped Fe–N_x catalysts with enhanced bifunctional electrocatalytic properties for zinc–air battery applications

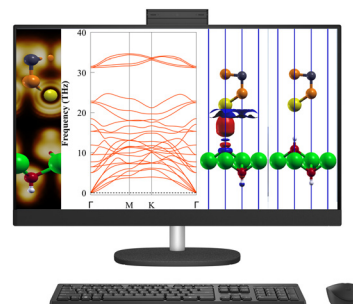
Chengxiao Xu, Daming Li, Shuaiquan Zhao, Yuchen Zhang, Yuzheng Li, Jinjie Zhang, Bo Liu and Peipei Huo*



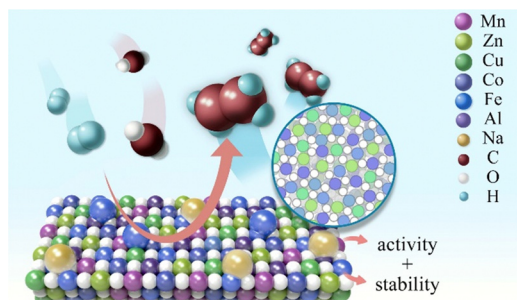
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Theoretical study on vertical B₂CSe/Mg(OH)₂ van der Waals heterostructures with high solar-to-hydrogen efficiency

Francis Opoku,* Eric Selorm Agorku, Samuel Osei-Bonsu Oppong, Edward Ebow Kwaansa-Ansah, Noah Kyame Asare-Donkor and Penny Poomani Govender*



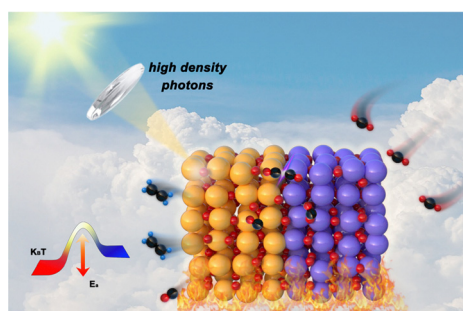
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Promoting CO₂ hydrogenation to light olefins over high-entropy oxide-supported Fe-based catalysts by tuning the strong metal–support interaction

Zhijiang Ni,* Hanyu Shen, Lin Su, Xiaoyu Chen, Yunlong Jiang, Cheng Feng and Chaochuang Yin*

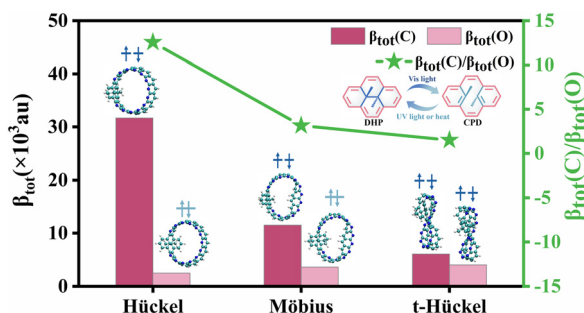
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The photothermal coupling effect boosts the conversion of CO₂ to C₂H₄ over CeO₂/WO₃ heterojunctions under concentrated solar irradiation

Junhai Wang, Ruoxuan Peng, Yuan-Hao Zhu, Changjun You, Yuan Yin, Boyi Yang, Yitao Si* and Jiangcheng Zhou*

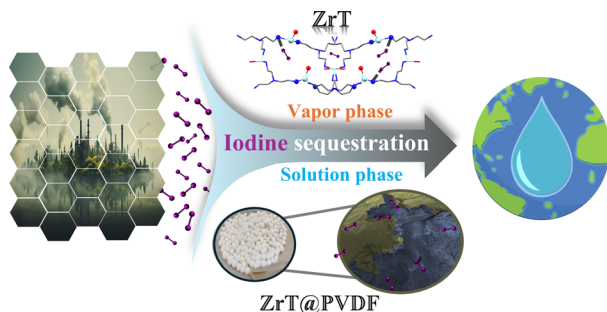
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Theoretical study of the topological effect on the nonlinear optical properties of a dimethyldihydropyrene/cyclophanediene photoswitch

Sijun Lu, Fengyi Zhang,* Hongliang Xu, Xiang Huang, Kun Zhang, Yaxin Wang, Yongjun Zhang and Xiaoyu Zhao*

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Iodine sequestration from solution and vapor phase systems using Zr-based inorganic and hybrid polymeric granules

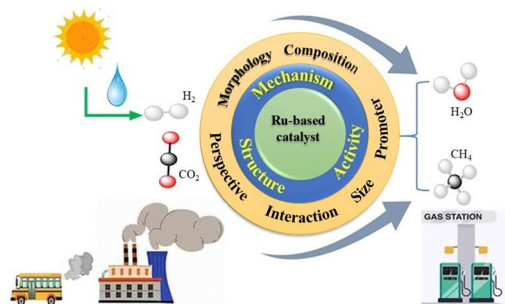
Meet Patel and Kalpana Maheria*



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Relationship between catalyst structure and activity in CO₂ methanation of Ru-based catalysts: recent progress and future prospects

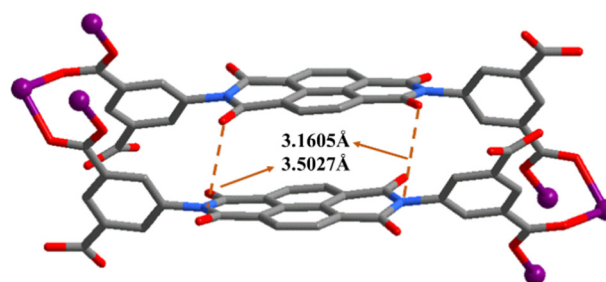
Shakir Ullah, Xiaoli Yang, Zaheen Ullah Khan, Shaukat Aziz, Waqas Haider and Haoxi Ben*



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A novel naphthalene diimide cobalt coordination polymer: synthesis, photo/electric/dehydration discoloration, amine sensing, and magnetism

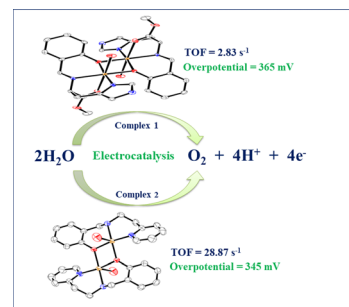
Yu-Ling Mao, Jia Yu, Bo-Yu Shan, Xin-Xin Liu, Jing-Ying Chu, Xin-Yue Ma, Miao Li, Yi-Meng Zheng, Bai-Li Zhu, Ming-Hui Zuo* and Shu-Xin Cui*



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Electrocatalytic water oxidation activity of phenolate-bridged dinuclear copper(II) complexes in alkaline phosphate buffer

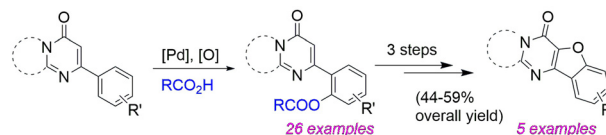
Swati Basak, Pranjal Das, Hemrupa Kuilya, Diganta Choudhury* and Apurba Kalita*



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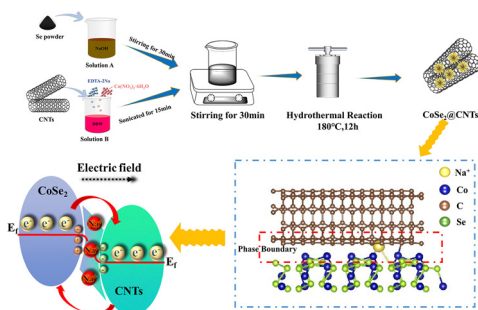
Palladium-catalyzed *ortho*-acyloxylation of 2-aryl-4*H*-pyrido[1,2-*a*]pyrimidin-4-ones: synthesis of benzo[*b*]furano-pyridopyrimidinones

Sandip Kumar Gupta and Niranjana Panda*



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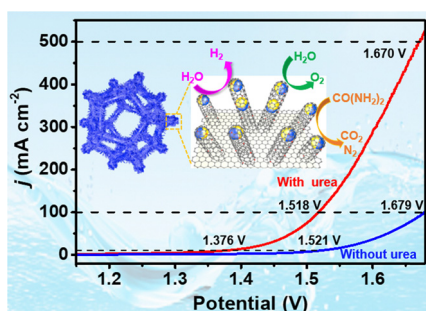
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Investigating the interfacial interactions in CoSe₂@CNTs for improved sodium storage performance

Chao Liu, Yanyan Jiang, Yuan Wei, Yuhui Gao, Yulan Zhang, Tiantian Wang, Gaofeng Shi* and Guoying Wang*

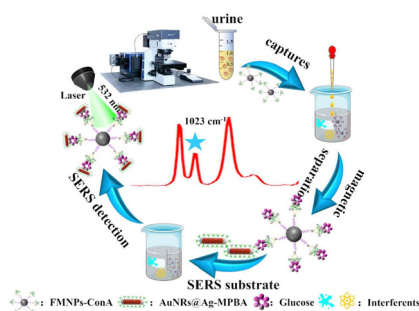
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Three birds with one stone: Ni–MoN nano-heterostructures encapsulated in NCNTs for efficient hydrogen production via overall water splitting and urea electrolysis

Yumei Liao, Zhimin He, Wei Hong, Qin Dong, Xinglong Gou* and Rong Li*

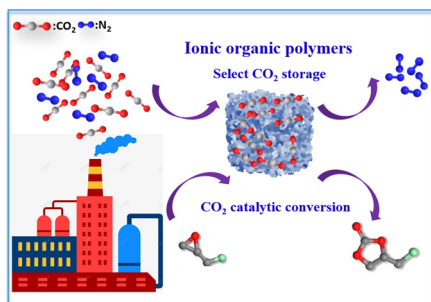
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Synergistic effect of boric acid affinity magnetic materials and multi-hotspot SERS substrates for high sensitivity detection of glucose

Zhiyuan Sun, Gege Zhao, Ming Guan,* Huixian Li, Fang Mi, Xiaobo Ma, Yajun Zhao and Han Song*

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One-pot synthesis of bromine anion-rich ionic porous organic polymers for CO₂ catalytic conversion

Yafei Sang,* Xiaolong Jia, Pengpeng Wu, Xiangquan Yan, Xiaotao Kuang, Quan Feng, Jiahao Qiao, Min Chen, Jian Zhang, Xiuli Yan* and Tao Chang*

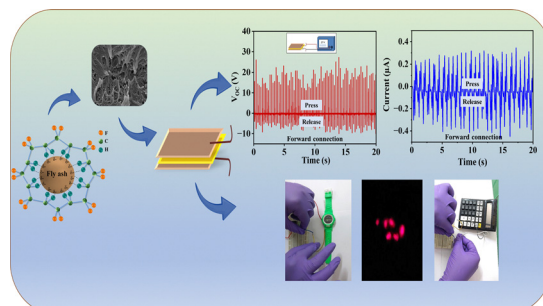


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Waste-to-energy utilization by using a PVDF-based flexible piezoelectric nanogenerator for efficient energy harvesting applications

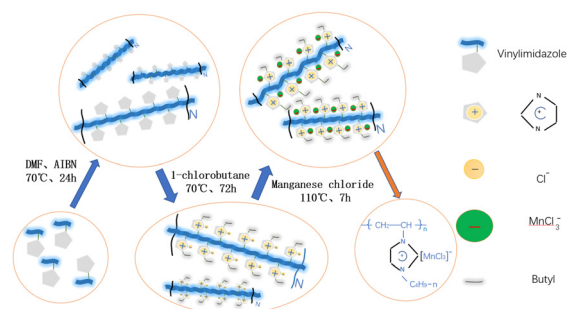
Nil Lohit Sengupta, Suparna Ojha, Parna Maity, Sumanta Bera and Bhanu Bhusan Khatua*



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Manganese-based poly(ionic liquid)-catalyzed oxidative desulfurization

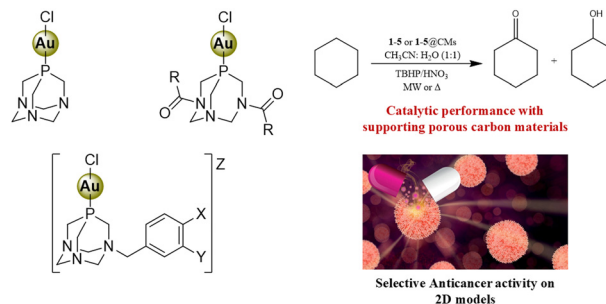
Bingbing Zhang, Hang Xu,* Fengmin Wu,* Yuan Zhao and Xiaoyan Gao



7216

Exploring the catalytic and anticancer activity of gold(I) complexes bearing 1,3,5-triaza-7-phosphaadamantane (PTA) and related ligands

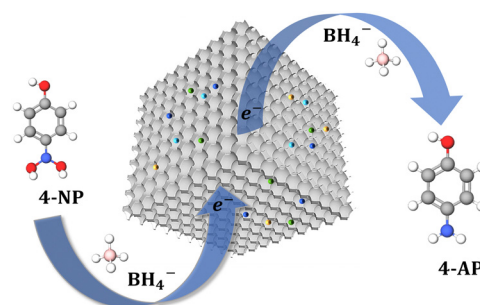
Nuno Reis Conceição,* Abdallah G. Mahmoud, Martin C. Dietl, Isabella Caligiuri, Flavio Rizzolio, Sónia A. C. Carabineiro,* Matthias Rudolph, M. Fátima C. Guedes da Silva, Armando J. L. Pombeiro, A. Stephen K. Hashmi and Thomas Scattolin*



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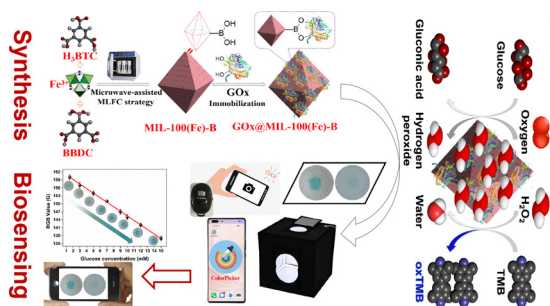
FeCoMnMoNb with multi-atom active sites in N-doped porous carbon for synergistic catalytic removal of 4-nitrophenol from wastewater

Fang-Min Tian, Xiao-Yan Chen, Jiu-Ju Feng, Liang Wu* and Ai-Jun Wang*



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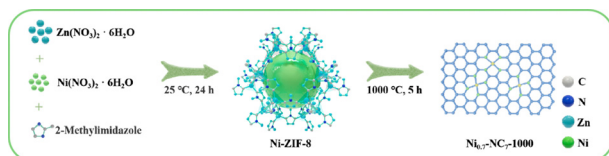
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A glucose oxidase-integrated boron-doped MIL-100(Fe) nanozyme with enhanced peroxidase-like activity for portable glucose biosensing

Hongbing Mao, Huijun Wang, Yanyan Xing,*
Deyong Wang, Xiujun Cao, Jie Yu and Junya Yan

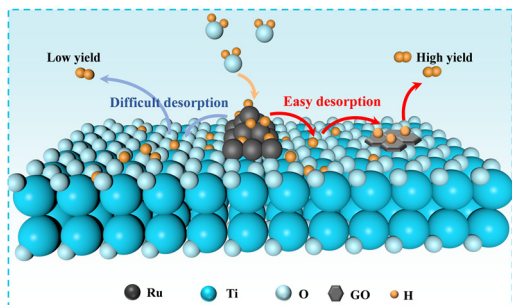
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An imidazolate framework-derived single-atom nickel catalyst for the reduction of CO₂ to CO

Yuting Li, Dandan Wang, Yuqin Ma, Fangbin Liu,*
Hongji Li,* Qigming Xu* and Haijiao Xie

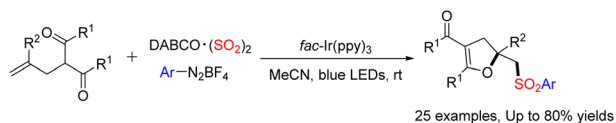
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Secondary hydrogen spillover enhanced photocatalytic hydrogen evolution activity in Ru/TiO₂-GO

Yanfang Nie, Ye Tian, Ni Wang, Yunfan He, Yawen Wang,
Yunfang Wang, Rui Li, Lulu Zhang* and Jianxin Liu*

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Photoredox-catalyzed synthesis of sulfonated dihydrofurans from olefinic carbonyls through the insertion of sulfur dioxide

Lidan Sun, Mengze Xu, Yurou Feng, Qianjie Lin,
Xiaolan Xie,* Jinhai Shen* and Zhichao Chen*

