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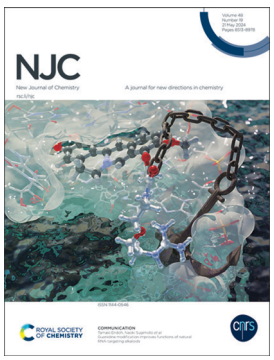
IN THIS ISSUE

ISSN 1144–0546 CODEN NJCHES 48(19) 8513–8978 (2024)



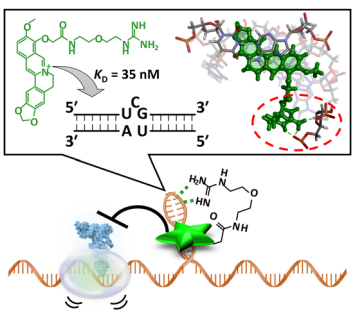
Cover
See Tamaki Endoh, Naoki Sugimoto *et al.*, pp. 8529–8533. Image reproduced by permission of Tamaki Endoh from *New J. Chem.*, 2024, **48**, 8529.

COMMUNICATION

8529

Guanidine modification improves functions of natural RNA-targeting alkaloids

Tamaki Endoh,* Sagar Satpathi, Yutong Chen, Saki Matsumoto, Tatsuya Ohyama, Peter Podbevšek, Janez Plavec, Kazumitsu Onizuka, Fumi Nagatsugi and Naoki Sugimoto*

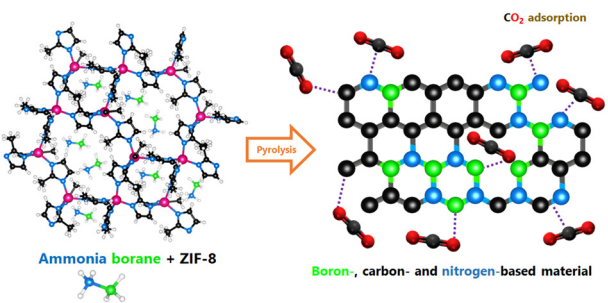


PAPERS

8534

A boron nitride–carbon composite derived from ammonia borane and ZIF-8 with promises for the adsorption of carbon dioxide

Carlos A. Castilla-Martinez,* Christophe Charmette, Jim Cartier and Umit B. Demirci



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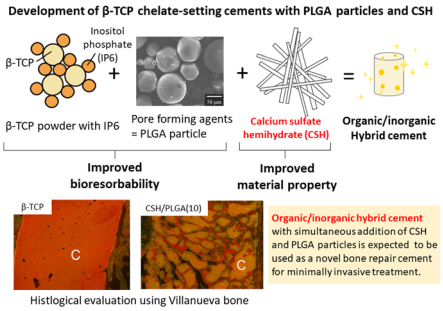
PAPERS

8545

Development of paste-like organic/inorganic artificial bones compatible with bone remodeling cycles, consisting of β-tricalcium phosphate, calcium sulfate hemihydrate, and poly(lactic-*co*-glycolic acid) particles

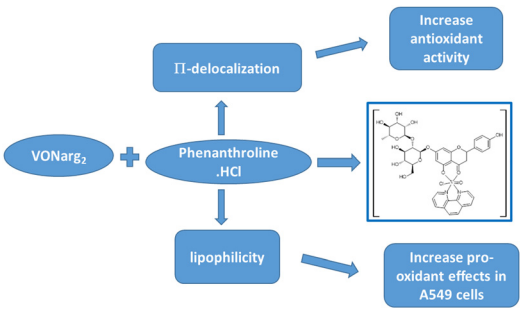
Yuki Kamaya, Akihiro Ando, Kazuto Suzuki, Kazuaki Nakano, Masaki Nagaya, Hiroshi Nagashima and Mamoru Aizawa*



8556

Influence of the secondary ligand, phenanthroline, on the antioxidant and pro-oxidant and cytotoxic effects of the oxidovanadium(IV)/naringin complex

Andrés G. Restrepo, Angel L. Huamani, Alexandra Velásquez Bravo, Pablo J. González, Luciana G. Naso,* Evelina G. Ferrer and Patricia A. M. Williams*

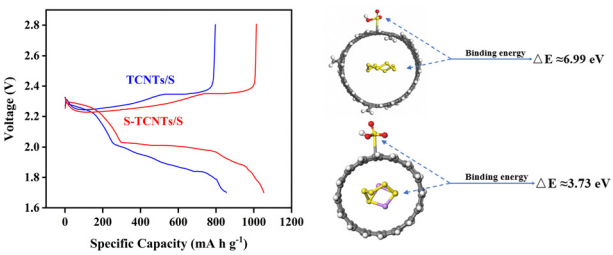


COMMUNICATIONS

8569

Sulfonic group modified carbon nanotubes: the decorative strategy for enhancing the performance of lithium-sulfur batteries

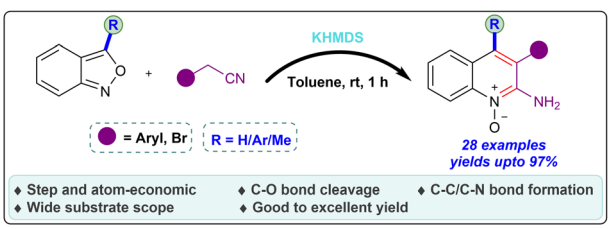
Chensong Yang, Yakun Tang,* Yue Zhang, Xingyan Zeng, Mengyao Dai and Lang Liu*



8574

KHMDS mediated ring-opening/reconstruction of anthranils with arylacetonitriles: synthesis of multisubstituted 2-aminoquinoline *N*-oxides

Ram Singh Jat, Gautami Singh and M. Bhanuchandra*



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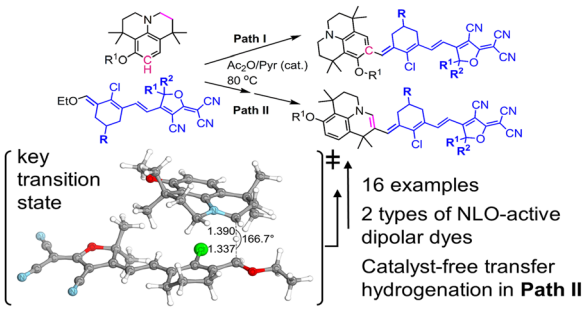
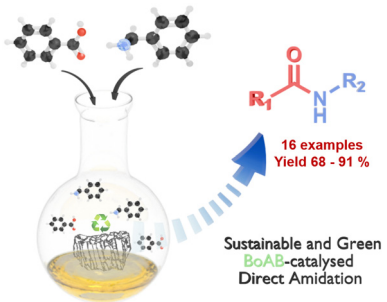


From byproducts to NLO-active dyes: catalyst-free transfer hydrogenation in the modular synthesis of merocyanines

Jie Zou, Yi Pan, Di Zhang, Jie Zhang, Weilong Chen, Hongyan Sun, Kai-Chung Lau* and Jingdong Luo*

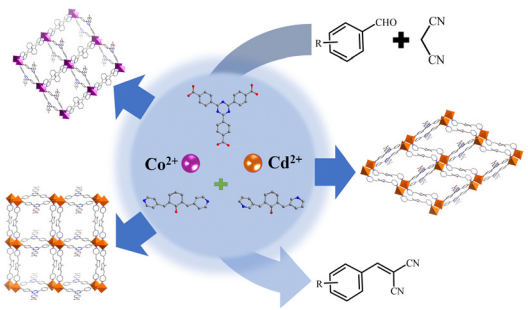
8589



Boric acid-grafted biochar (BoAB) for the direct amidation of carboxylic acids and amines

Adhish Singh and Mohit Kapoor*

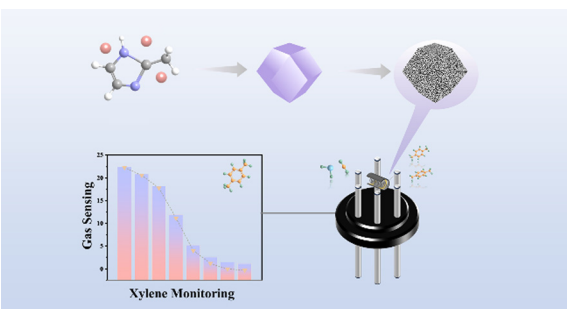
8597



Metal–organic frameworks constructed using acid–base mixed ligands, carboxylic acids and N-containing chalcone, and their catalytic performance for Knoevenagel condensation

Limin Cheng, Junyong Zhang, Caihong Zhan,* Hao Xu, Chunhua Gong* and Jingli Xie*

8603



Metal–organic framework-derived mesoporous Co_3O_4 with high specific surface area for enhanced xylene sensing

Liwen Wang, Guanghui Zhang, Ruishu Zhang, Siqi Yang, Wenjuan Huang* and Xiangbai Chen*

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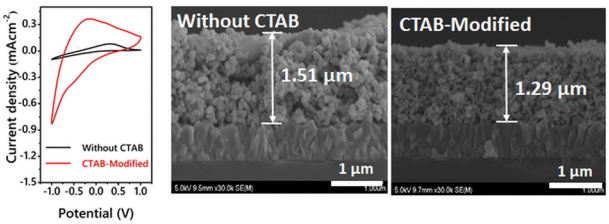
8611

Exploring the impact of a cetyltrimethylammonium bromide surfactant on the electrochemical performance of tungsten oxide thin films

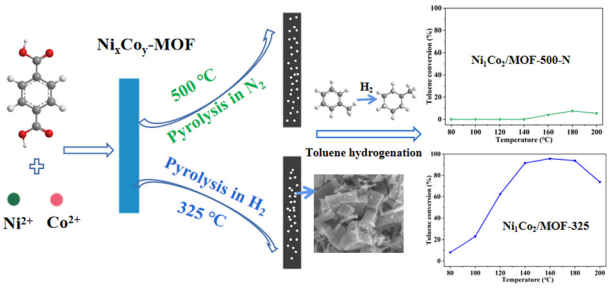
Munazza Razzaq, Muhammad Saifullah,* Ramzan Akhtar, Muhammad Jawad Khan, Zahid Imran,* Muhammad Rehan, Ahsan Jamal, Sajid Iqbal, Mohsin Ali Raza Anjum and Sheeraz Mehboob



8620

Ni–Co alloys *via* controlled pyrolysis of NiCo–MOF as heterogeneous hydrogenation catalysts

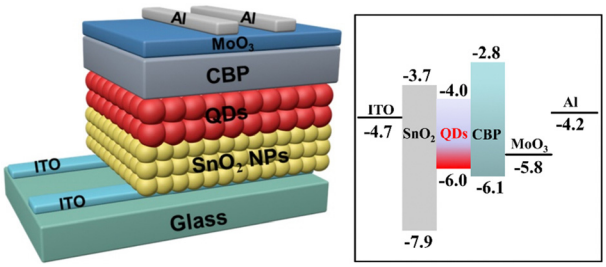
Lidan Deng,* Xingwang Liu, Chong Chen, Lu Wang, Fan Liu and Jie Zhang*



8631

Ligand-assisted solvothermal precipitation synthesis of quantum-sized SnO_2 nanoparticles and their application in quantum dot light emitting diodes

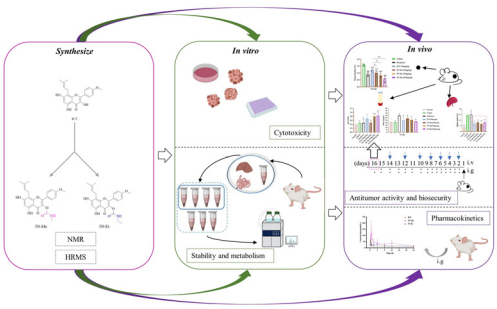
Jiaxin Gao, Mengxin Liu, Xinan Shi* and Daocheng Pan*



8638

Structural optimization of icaritin for advanced cancer: novel carbamates *via* oral administration

Fengxiao Li, Weiping Wang, Jiaqi Fan, Yixiu Zhai, Jiaming Zhang, Tianhong Zhang* and Qikun Jiang*



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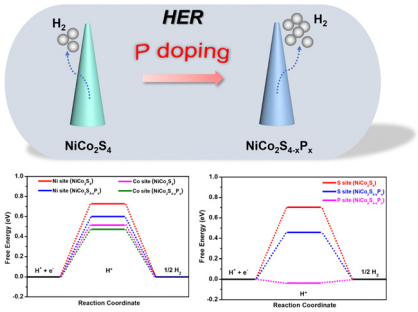
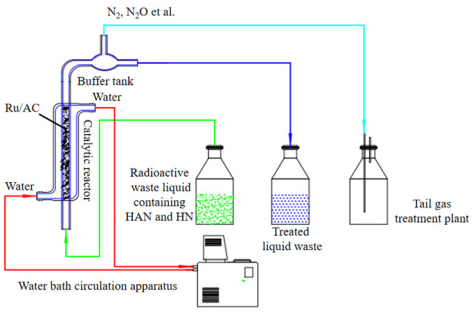


Construction of $NiCo_2S_{4-x}P_x$ nanowire arrays for efficient hydrogen evolution reactions in both acidic and alkaline media

Guanglei Liu, Yutong Feng, Yifan Yang, Yuan Wang, Huixiang Liu, Can Li, Mingxin Ye* and Jianfeng Shen*

8660



Catalytic decomposition of hydrazine nitrate and hydroxylamine nitrate in radioactive nitric acid waste liquid using Ru/AC catalyst

Deyan Yu, Baole Li,* Zhi Cao, Qi Chen, Chen Zuo, Tiansheng He, Taihong Yan and Weifang Zheng*

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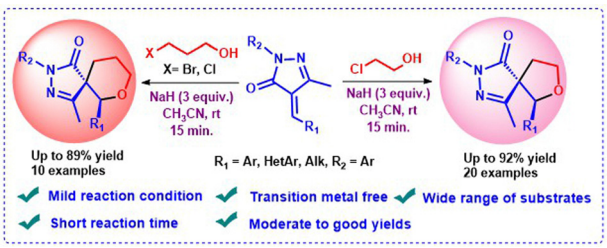

Facile synthesis of spiro-pyrazolone-tetrahydrofurans/pyrans: *ipso*-cyclization of arylidene pyrazolones with haloalcohols

Kavyashree Kuppayya Gond and Mahagundappa Rachappa Maddani*

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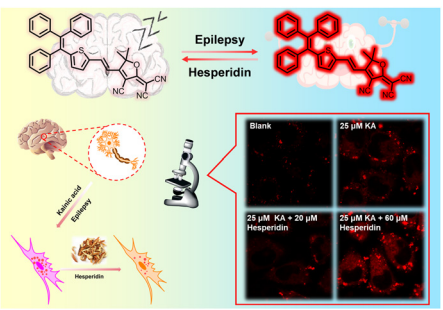

Evaluation of the antiepileptic activity of hesperidin by fluorescence imaging

Yan Yin, Wenhui Song, Yinhu Ai and Weiying Lin*

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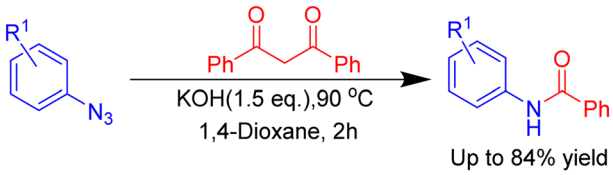
KOH-mediated synthesis of amides from azides and 1,3-dicarbonyl compounds

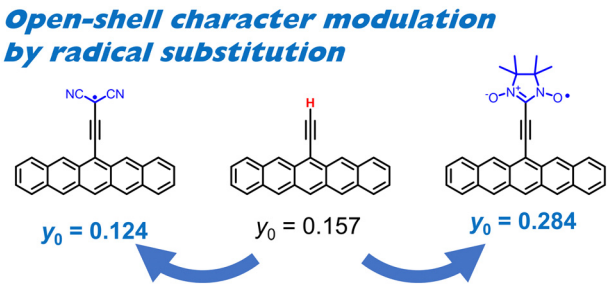
Zhuoran Yang, Yao Xu, Xiaoming Liao, Wenjun Wang, Chang Lyu* and Xiaoxiang Zhang*



8683

Theoretical investigation of the effect of radical substituents on the open-shell character of polycyclic aromatic hydrocarbons

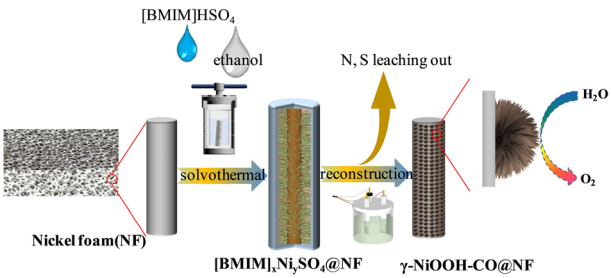
Tomohito Shinozuka, Daiki Shimizu* and Kenji Matsuda*



8690

1-Butyl-3-methylimidazolium hydrogen sulfate-induced structure modification and reconstruction of nickel foams for oxygen evolution reactions

Huamei Yang,* Ziqin Chen, Kai Luo, Mengjun Yu and Yao Zhang*



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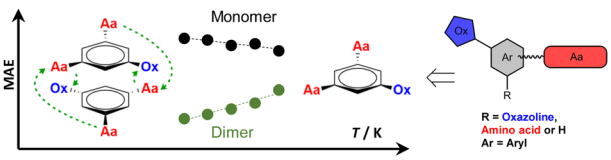
Oxazoline amino acid bioconjugates: one-pot synthesis and analysis of supramolecular interactions

Marija Bakija, Berislav Perić and Srećko I. Kirin*



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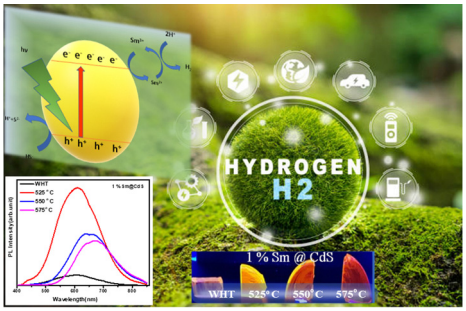
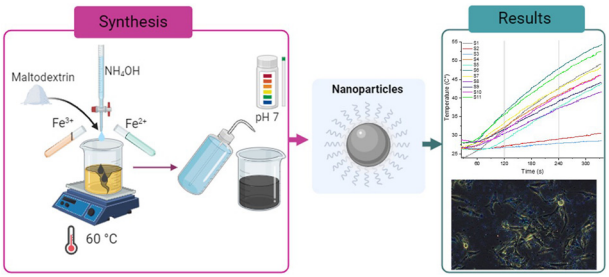


A cubic Sm@CdS Q-dot glass as a photocatalyst for solar H_2 generation

Vijay B. Autade, Rajendra P. Panmand,* Sandeep A. Arote, Reshma S. Ballal, Sonali D. Naik, Milind V. Kulkarni and Baharat B. Kale*

8727



Synthesis and characterization of magnetite coated by maltodextrin for application in magnetic hyperthermia

Yasmin Milena Loth Bueno,* Filipe Kalil da Silva Naves, Tamires Pereira Rosa, Odivaldo Cambraia Alves, Marcel Guimarães Martins, Marla Karolyne dos Santos Horta, Giane Gonçalves Lenzi, Celio Lucas Valente Rodrigues, Jéssica Dornelas da Silva and Rodrigo Brackmann

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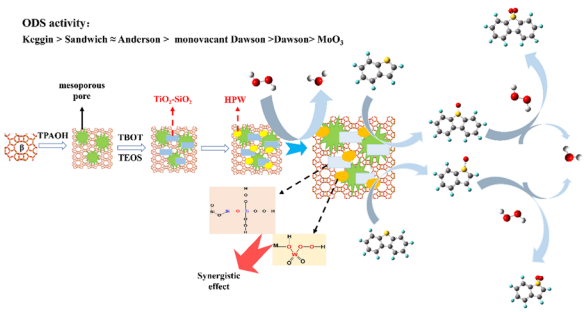
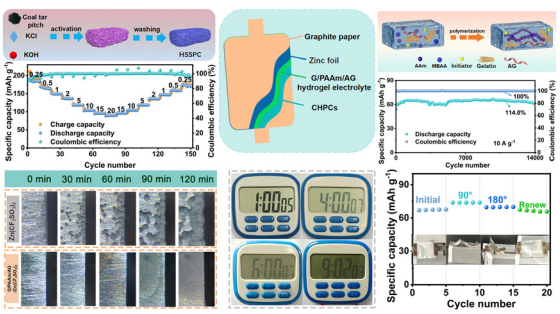


Catalytic oxidative desulfurization performance of a modified nano-sized β zeolite loaded with different structural polyoxometalates

Jinhong Li, Haonan Li, Zhimei Song, Ying Guo, Mengxiao Tai, Mei Han, Xinyao Wang, Lidong Chen* and Dongmei Ren*

8753



A robust dual-network hydrogel electrolyte coupled with a porous carbon material for flexible quasi-solid-state zinc ion hybrid supercapacitors

Chenchen Ji,* Xinhong Lin, Yang Hong, Junfeng Liu, Aoteng Liu, Yijia Yao, Sicheng Liu and Hongyu Mi*

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PAPERS

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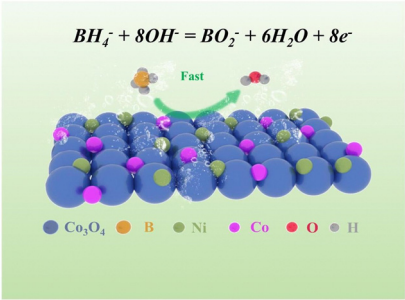
Rational design of a low-cost, simple technology and high-performance CoNi/Co_3O_4 as a catalyst in sodium borohydride electro-oxidation reaction

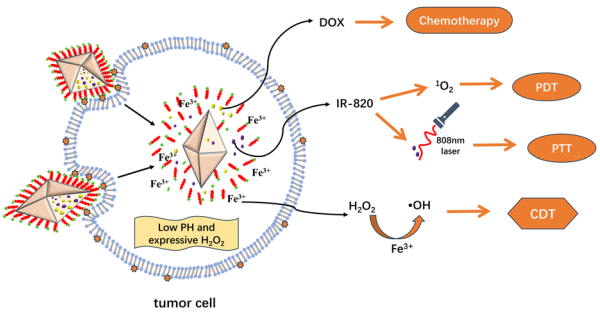
Kaixuan Liu, Borong Lu, Ronghang Cui, Jinling Yin, Kai Zhu, Guiling Wang, Dianxue Cao and Ke Ye*



8773

Metal–organic framework-based pH/NIR dual-responsive nanoparticles for combined photothermal/photodynamic therapy and chemotherapy of cancer

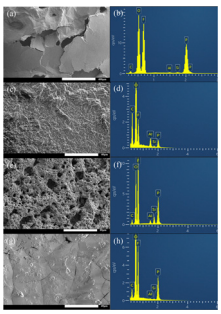
Lihua Huang, Ying Luo, Yiyang Cong, Jia Liu, Caiyan Xu, Zhaoxiang Zeng, Yihua Yin, Hao Hong* and Wenjin Xu*



8789

The study of the synergistic effect of the oxysilane and phosphite-based flame retardant additive and its application in lithium-ion batteries

YuChao Chen, Jin Liang* and Jiang Cao



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Development of robust proton exchange membranes using a sPVA–silica composite with different crosslinkers and evaluation of their fuel cell performance

Sachin Hegde, Balappa Munavalli, Divya Achari, Ranjith Gowda and Mahadevappa Kariduraganavar*

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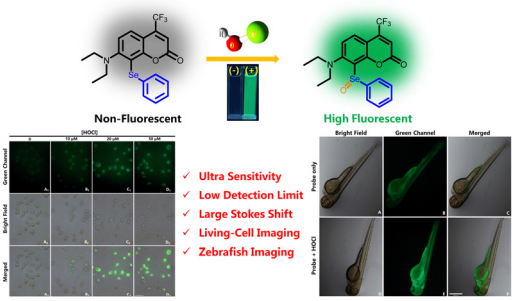

A selenide-based coumarin fluorescent probe for fluorescence imaging of hypochlorous acid in cells and zebrafish

Yan He, Taorui Yang, Bin Lin, Jiaxin Fan and Yifeng Han*

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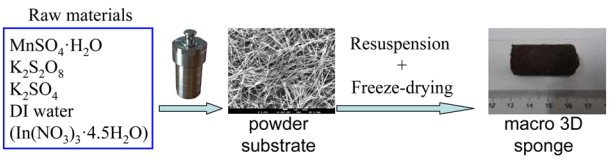
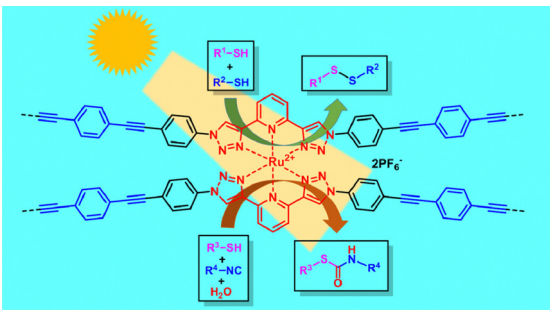


Synthesis, characterization and properties of indium-doped manganese oxide molecular sieve sponges

Zhenxin Liu, Xidong Wang, Xuehui Guo, Depeng Wu and Yu Xing*

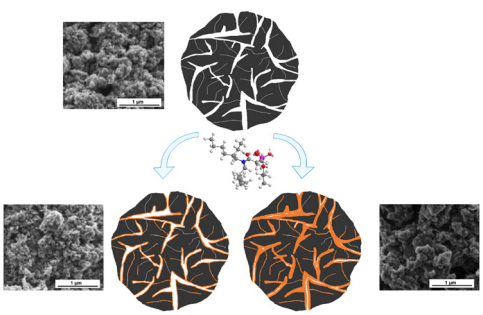
8827



2,6-Bis(1,2,3-triazol-4-yl)pyridine ruthenium(II) complex embedded porous organic polymers as efficient photocatalysts for organic transformations

Yan Zeng, Yujie Zhang, Jingwen Luo and Junqi Nie*

8834



Functionalized graphene nanoplatelets: a promising adsorbent for solid-phase uranium extraction

Aline Dressler, Antoine Leydier* and Agnès Grandjean

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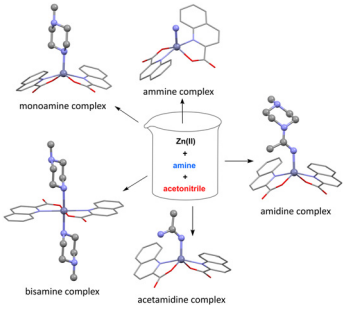
8844

Piperidine and piperazine analogs in action: zinc(II)-mediated formation of amidines

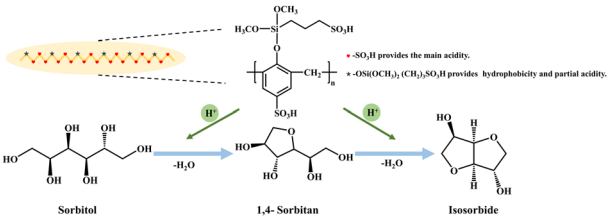
Nina Podjed, Janez Košmrlj and Barbara Modec*



8860

Catalytic dehydration of sorbitol to isosorbide over sulfonated phenolic resins with surface hydrophobic modification

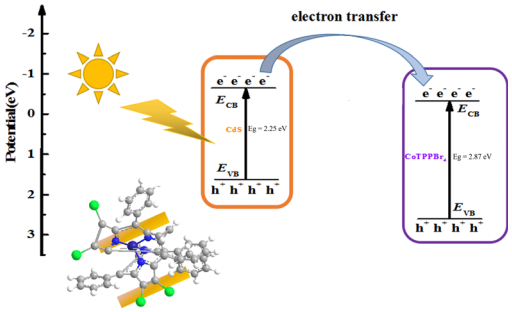
Kaizhe Zhang, Kang Wang* and Xitao Wang*



8868

Enhancing the photocatalytic hydrogen production performance of CdS by introducing a co-catalyst $CoTPPBr_4$ (7,8,17,18-tetrabromo-5,10,15,20-tetraphenylporphyrin)

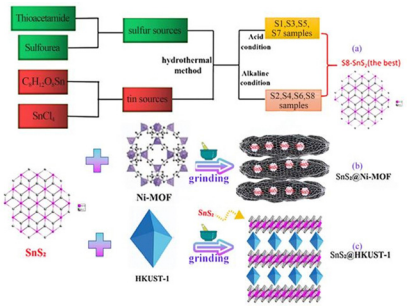
Zong Wang, Xinxin Wang, Kelai Chen, Haojun Yin, Huangsheng Su, Yundang Wu, Chunlin Ni* and Wei Liu*



8877

Facile grinding method synthesis of SnS_2@HKUST-1 and SnS_2@Ni-MOF for electrocatalytic hydrogen evolution

Hongtao Cui, Lige Gong, Hongyan Lv, Limin Dong,* Jihua Wang, Jingyu Zhang, Yitong Mu, Yunhao Gu, Hui Li, Binghe Yang and Meijia Wang



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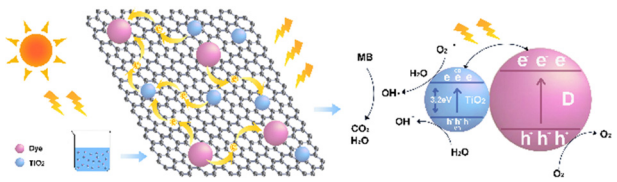
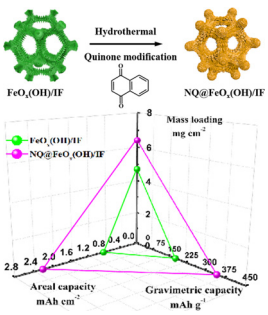
8886



Visible light active dye-sensitizing titanium dioxide/graphene composites with excellent photocatalytic activity

Keyu Li, Miaoqing Liang, Fanglan Guan, Mei Zhang, Jinmei Nie and Lihong Bao*

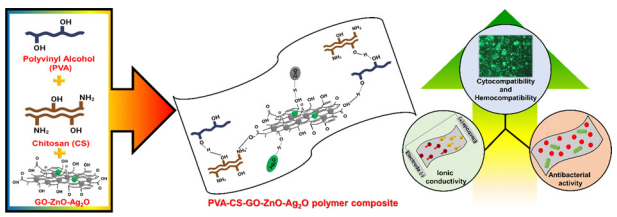
8896



Improved electrochemical performance of the $FeO_x(OH)$/IF electrode *via in situ* surface modification with organic naphthoquinone molecules

Zongyi Shang, Jiayu Li, Yu Chen, Zhigang Zhao* and Caixia Zhou*

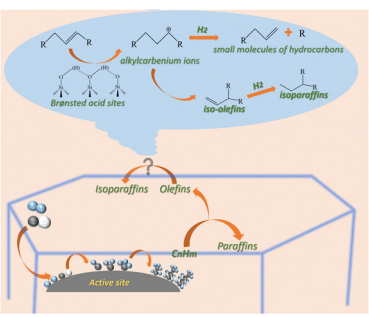
8908



PVA–CS polymeric system conjugated with GO–ZnO–Ag_2O ternary composite – a multifunctional nanocomposite for wound healing applications

Gayathri Unnikrishnan, Anjumol Joy, M. Megha, Jibu Thomas, M. Haris, Elayaraja Kolanthai* and Senthilkumar Muthuswamy*

8926



Silicalite zeolite-supported iron catalysts for enhancing isoparaffin selectivity from CO hydrogenation

Wuqiang Si, Xuangan Liu, Zhiren Xu, Chunyang Zeng, Mingquan Li, Chuang Xing, Bin Huang,* Peng Wang, Yan Xu and Shuai Wei*

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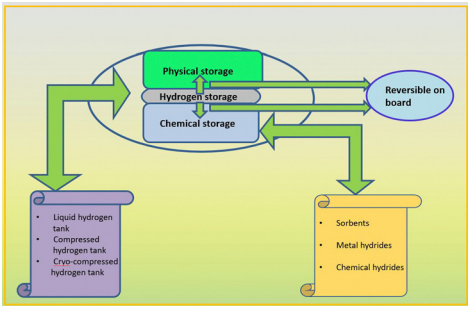
Nanomaterial-based energy conversion and energy storage devices: a comprehensive review

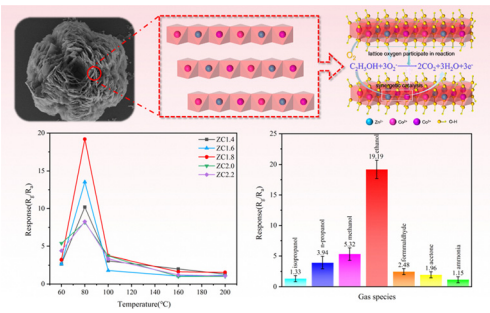
Nosheen Farooq,* Zohaib ur Rehman, Muhammad Imran Khan,* Saira Asghar, Maryam Saleem, Ravia Irshad, Azka Sheikh, Abdallah Shanableh, Suryyia Manzoor and Zaib Ullah Khan



8963

Effect of laminate structure on morphology and ethanol sensing properties of hierarchical zinc–cobalt layered double hydroxides

Zijin Fu, Jing Lu,* Jingjing Zhu, Rongrong Wang and Liangliang Feng



CORRECTIONS

8974

Correction: Improved the CO_2 adsorption performance in cobalt oxide nanoparticles in the presence of DES

Narmin Noorani,* Amin Moghaddasfar, Abbas Mehrdad and Masih Darbandi

8975

Correction and removal of expression of concern: Deep eutectic solvent mediated synthesis and fabrication of a WO_3–MgO nanocomposite as an electrode material for energy storage applications

C. Joel, R. Biju Bennie,* A. Jerold Antony, A. Nirmal Paul Raj and G. Selvakumar

CORRECTIONS

8976

Correction: Design and synthesis of few-layer molybdenum oxide selenide encapsulated in a 3D interconnected nitrogen-doped carbon anode toward high-performance sodium storage

Yonghong Qin, Shahriman Zainal Abidin,* Azhari Bin Md Hashim, Oskar Hasdinor Hassan and Xiaojun Zhao*

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